Commercial refrigeration solutions

Everything you need for your refrigeration and cooling applications

Standard Refrigeration

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The information contained herein is correct at the time of issue but may be subject to change without prior notice.

Condensers

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Chiller Builder kits

Pressure Vessel construction and certification Information

Size of vessel	Construction and Certification generally acceptable, furnished unless otherwise specified
Under six inches ID	UL Listing
Six inches or greater ID, but less than 1.5 cubic feet net internal volume	ASME Code Construction with UM Certification and UL Recognition
Six inches or greater ID, with over 1.5 cubic feet net internal volume	ASME Code Construction with U Certification and National Board Registration

Notes

UL Listing may be obtained for a vessel, typical samples of which can withstand five times the marked working pressure without failure for the gas side and three times the marked working pressure without failure for the fluid side. Initial tests are made at Underwriters Laboratory and re-examination tests are made under UL supervision, at the manufacturer's plant.

ASME Code Construction is the same whether UM or U certified. Essentially, the vessel must have a calculated design strength capable of withstanding the maximum allowable working pressure (MAWP) and tested pneumatically to 1.1 times the MAWP or hydrostatically to 1.3 times the MAWP. Certain details of construction must be observed, and chemical and physical test certification for all material must be on file. Welding procedures, equipment, and personnel must be qualified by performance tests. UM Certification means that the manufacturer's personnel have performed the necessary inspection and tests. The letters UM appear in the ASME cloverleaf stamp on the tag. Only when requested, a certificate (Form U–3) is furnished, signed by the manufacturer.

UL Recognition of UM vessels. Their testing and re-examination procedure is identical to that for listing. This recognition requirement is because UL takes the position that someone other than the manufacturer should check the construction. The recognition list is not published —as is the listing— the records are kept by UL and generally used only when granting listing to an assembly that includes the vessel.

National Board Registration means that in addition to the ASME construction, an independent, licensed inspector has monitored the procedures, fabrication and testing of the vessel. The letter U appears in the ASME cloverleaf stamp on the tag. We recommend referring to Nat. Bd., rather than U–stamp, to avoid confusion between U and UM.

Underwriters Laboratory will automatically accept a National Board registered vessel when listing an assembly, because it has been inspected by an independent agent, to specifications stricter than their own.

A National Board certified vessel is accepted by all states and municipal codes in the United States. Most other countries will accept them also.

Certain government or military requirements essentially parallel the ASME code, but may specify approval and/or certification by inspectors from a government agency in addition to, or in place of ASME code, or UL requirements.

International Code Stamps

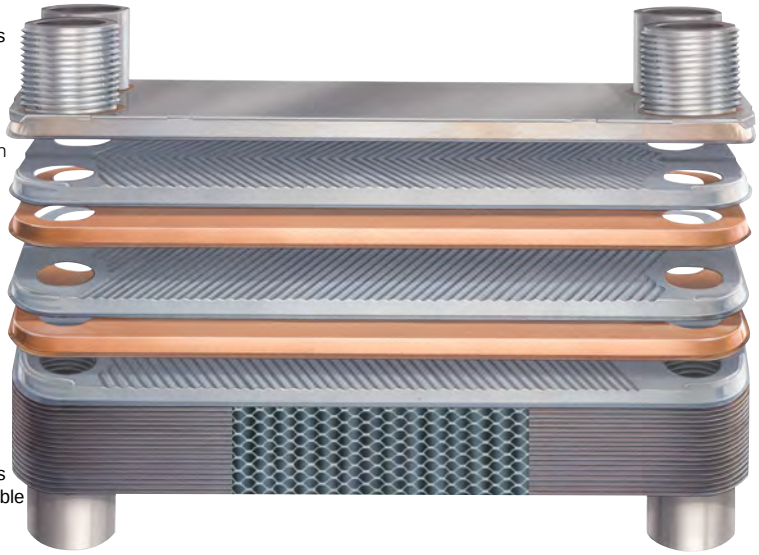
CRN Canadian registration is available on cataloged and custom models. CRN or special code requests must be made at time of order.

Other international codes possibly available upon request include New Zealand, Australia, Japan, China and Europe (CE).

The Brazed Heat Exchanger – less is more

The brazed plate heat exchanger is the most compact heat exchanger on the market today. Its high heat transfer efficiency in combination with its compact design equals a compact heat exchanger for a wide range of heating, cooling, evaporating and condensing duties. The brazed heat exchanger consists of thin corrugated stainless steel plates brazed together with copper to form a self-contained unit. Brazing the plates together eliminates the need for a frame, gaskets, bolts and the carrying bar. The result is a heat exchanger that costs less, weighs less, holds less refrigerant and takes up less space.

Brazed Heat Exchangers



How to Read Alfa Laval Part Numbers

Example: Part # ACH-500 DQ - 70H - F

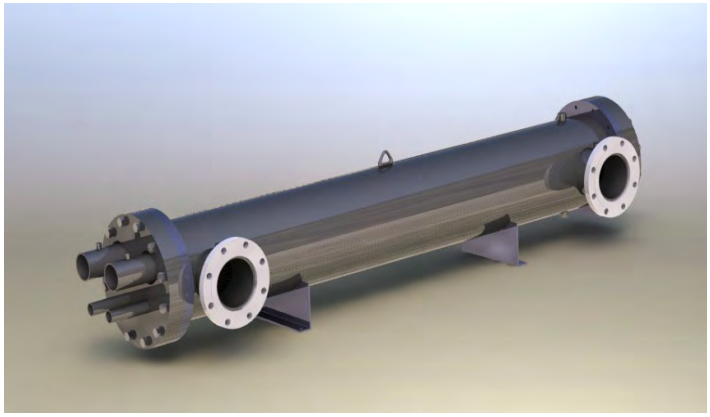
Model Series ACH500	Features DQ	# of Plates 70	Channel Type H	Special Features	Material Combination F
Brazing Material: "AC" = Copper-Brazed (AlfaChill™) "ACH" = Copper-Brazed High Pressure (AlfaChill) "AN HP" = Alfa Nova High Pressure "CB" = Copper-Brazed "AN" = Alfa Nova Model type indicated by the numbers 14, 27, 30, 52, 70, 76, 120, 230, 500	X = Integral Distributor for Evaporative Duties EQ = Equalancer Refrigerant Distribution System - Single Circuit DQ = Equalancer Refrigerant Distribution System - Dual Circuit		A = Combination Extra High and High Theta E = Extra High Theta H = High Theta L = Low Theta M = Medium Theta (combination High and Low Theta)	A = ASME "UM" certification (CB52 and CB76 models only) B = Frame and Press Plate Stud Bolt Mounting with Integral Distributor C = Frame and Press Plate Stud Bolt Mounting without Integral Distributor S = Frame Plate Stud Bolt Mounting without Integral Distributor T = Pressure Plate Stud Bolt Mounting without Integral Distributor U = Without Integral Distributor and without Mounting Feet Y = Frame Plate Stud Bolt Mounting with Integral Distributor Z = Pressure Plate Stud Bolt Mounting with Integral Distributor	None = Channel plate: 316 Frame/Pressure plate: 316 Connection: 316 F = Channel plate: 316 Frame/Pressure plate: 304 Connection: 304 G = Channel plate: 304 Frame/Pressure plate: 304 Connection: 304 C = Channel plate: 254 (SM0) Frame/Pressure plate: 316 Connection: 316

Shell and Tube Heat Exchanger Advantages

Shell and tube heat exchangers have been around for a long time but still offer many benefits over alternative heat exchangers. Its durability and versatility, with a wide range of material choices give the heat exchanger many advantages to meet application needs. The vessel can easily be customized with regards to nozzle sizes and locations, and the mounting brackets can be set to match existing equipment.

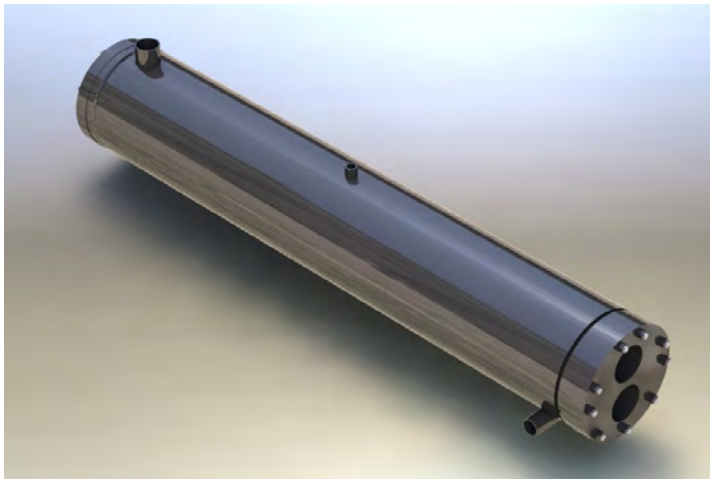
Evaporators

Shell and tube heat evaporators have larger passages, which give the unit the capability to handle dirty fluids, and also have the ability to be flushed for onsite cleaning. It can also be easily repaired (by tube plugging, tube replacement or head replacement) without the need to replace the entire unit.



Condensers

The shell side of the condenser provides additional pumpdown capacity with the internal shell fluid inventory. Its larger passages also offer a greater control in fluid pressure drop that can be optimized when used with viscous liquids and/or high flow rate conditions. The waterside of the condenser can easily be cleaned to ensure many years of consistent performance.



Selecting the Right Condenser

Sizing a Condenser

A properly sized condenser will have a heat transfer rate (or capacity) equal to the system cooling load plus the energy added to the refrigerant during the compression process. The total of these two quantities is called the Total Heat Rejection (THR). In the IP unit system, THR is usually specified in Btu/hr. For most applications, the condenser capacity will not exactly match the THR, so a condenser with the smallest excess capacity is normally chosen.

1THR (Btu/hr) = cooling load (Btu/hr) + compressor power input (Btu/hr)

Where:

Compressor power input (Btu/hr) = compressor power input (kW) * 3413 Btu/hr/W

Sizing by Nominal hp

Often, the exact THR is not known, and it has to be estimated. A rule of thumb for an air-conditioning system operating at standard conditions is that for 1 ton (12,000 Btu/hr) of evaporator load, approximately 3000 Btu/hr is required by the compressor. "Standard conditions" assume that the evaporator is operating at a Saturated Suction Temperature (SST) of approximately 35°F with less than 10°F superheat, while the condenser is operating at a Saturated Condensing Temperature (SCT) of approximately 105°F. Thus, the condenser has to reject 15,000 Btu/hr for each 12,000 Btu/hr (or ton) of evaporator load.

Compressors are usually rated by horsepower (HP). By strict definition, 1 HP = 2545 Btu/hr. However, for rule-of-thumb purposes, one can "round up" and assume that 1 HP is approximately 3000 Btu/hr, which happens to be the same as the 3000 Btu/hr of compression power required for 1 ton of evaporator load at standard conditions discussed above.

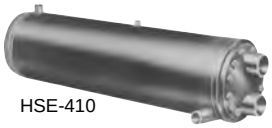
Thus, as a rule-of-thumb, a condenser must reject 15,000 Btu/hr for each 1 HP of compressor power at standard conditions.

For convenience, most Standard condensers in the following tables are rated by nominal horsepower (HP), where 1 HP is defined to be 15,000 Btu/hr. Thus, for standard conditions, one can choose a condenser that has a rating similar to the HP rating of the compressor. For example, if the system has a 15 HP compressor, one can select a 15 HP condenser to match. The condenser ratings using water (or sea water) as the cooling fluid are based on entering fluid temperature (EFT), leaving fluid temperature (LFT), SCT, and the entering refrigerant temperature (ERT). The EFT, LFT, SCT, and ERT that serve as the basis for the condenser rating are listed below each table.

Sizing by Total Heat of Rejection

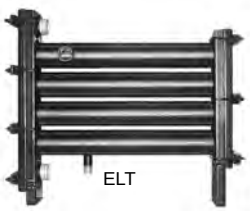
While the above method of selecting a condenser is convenient, it can only be used when the actual evaporator and condenser operating conditions are close to standard conditions. If this stipulation is not met, using the rule-of-thumb will result in the selection of an oversized or undersized condenser, and the system will not operate properly. In this case, a more rigorous method must be used to determine THR. Compressor performance data tables or software will be required to determine the actual compressor power input and compressor capacity for the design conditions, so that an accurate THR can be computed. The calculated THR (Btu/hr) can then be divided by 15,000 Btu/hr/HP to determine the required compressor HP. In addition, if the actual EFT, LFT, SCT and ERT are not the same as the values that serve as the basis for the table, if a refrigerant is used which is not included in the table, or if a fluid other than water is used to cool the condenser; the condenser capacity will not be the same as that shown in the table. In this case, the Standard Refrigeration software must be used to select a condenser for the actual operating conditions.

Additional Considerations


HSE-410


SST


HP


ELT


VSE

Pulldown

When a system is initially started, the evaporator load may be significantly higher than the design load for a period of time, as the process being cooled is taken from its higher initial temperature to the design temperature. As a result, the THR will be higher during this period. In many cases, the compressor capacity can be reduced (by compressor unloading or throttling the suction valve), thus preventing a higher THR. However, if compressor capacity cannot be reduced because a short pulldown time is needed, the condenser may need to be oversized in order to prevent high condensing pressure faults and/or to prevent the high side relief valve from opening. As a rule-of-thumb, an additional 10% capacity can be added to accommodate pulldown. However, a more rigorous calculation involving compressor data should be done.

Pumpdown capacity

The pumpdown capacity of a condenser is based on 80% of the available shell side volume and is the amount of refrigerant that the condenser can safely store. This value is listed in the capacity tables. Upon shutdown, many systems pump most of the refrigerant into the condenser for storage. Also, during servicing, it is common to store the refrigerant in the condenser. In these situations, if the system is not equipped with a liquid receiver, the condenser must be capable of holding the entire system charge. Packaged systems operating at standard conditions usually require about 3 lb of refrigerant per ton of refrigerating capacity. However, split systems, low temperature systems, and other industrial systems may require up to 7 lb/ton or more.

Subcooling and system charge

The capacities in the rating tables include approximately 5°F of subcooling. After the condenser is installed, the system charge can be adjusted to obtain the desired subcooling. At a minimum, enough charge must be added to the system to keep the condenser liquid outlet nozzle covered, so that uncondensed gas does not escape the condenser. If additional subcooling is required, more charge can be added to the system. However, as subcooling is increased, the capacity of the condenser decreases. If more than 5°F of subcooling is required, the selection software should be used to size the condenser. If more than 10°F of subcooling is required, a special condenser design is required.

Fouling

Over time, the fluid side of the condenser may become coated with mineral deposits and other debris. This is known as fouling, and decreases the capacity of the condenser. The capacities in the rating tables include an industry accepted fouling factor of 0.00025 hr*ft^2*°F/Btu. This fouling factor is adequate for well-maintained fluid systems. Most condenser models have removable heads, and the inside of the tubes can be periodically cleaned to remove the fouling. However, if the cooling water is dirty or if it has a high mineral content, a higher fouling factor may be needed, and the software should be used to select a condenser. When the condenser is new and the surfaces are clean, the condenser will have a slightly higher capacity until the level of fouling reaches the design value.

We can build customized condensers if an application calls for a modified condenser with additional valves, water or refrigerant fittings, special mounting brackets, or other accessories.

Condenser sizing and selection software can be downloaded from www.stanref.com.

CA

MSE

SCH/SCS

Copper-Brazed (CND-CB)

AlfaChill (CND-ACH)

AlfaNova (CND-AN)

Alfa Laval Standard HSE condenser

Shell-and-tube horizontal water-cooled condenser

HSE condensers engineered design provides a compact, durable and cost-effective solution.

Standard Designs
HSE condensers are available in standard designs for water duty. The models feature high-efficiency tube surfaces and they are available in 23 catalog models from 2 to 500 horsepower (HP). They are optimized with a smaller footprint which results in less space requirement and refrigerant charge. For glycol duty please consult ProSuite or contact the factory.

Tube Materials
HSE condensers are manufactured with enhanced 3/4” diameter copper tubing to provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Customization
As standard these units offer a horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client. Condensers can be made with stainless steel for increased life with poor quality cooling water or when operating in a corrosive environment.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance enhanced designed tubing. Other tubing materials are available for corrosive duties upon request.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing. Tube sheets are epoxy coated to prevent pitting caused by galvanic action.

Tube Supports
Quality steel tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined steel heads. Custom connection versions are available upon request. The inside of the heads are epoxy coated to prevent pitting caused by galvanic action.

Connections
All water side connections are FNPT. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available upon request.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Standard Refrigeration

Maximum Allowable Working Pressures:
400 psi. Shell Side (Refrigerant) @ 150°F
150 psi. Tube Side (Water/Fluid) @ 150°F

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal HP by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow
Water velocities of eight feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this catalog section are limited to flow velocities below eight feet per second.

Approved Refrigerants
R22, R134a. Units shorter than three feet in length R407C/ R407F.

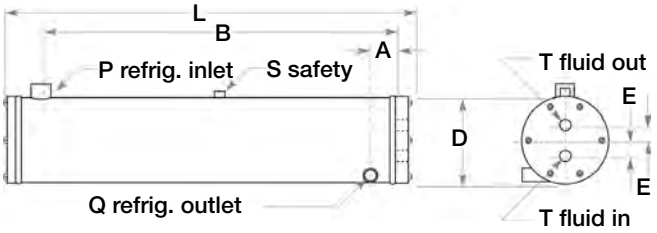
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. R404A, R410A & R507A due to recommended operating pressures. Units longer than three feet, R407C/R407F are not approved due to the risk of refrigerant separation. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Alfa Laval before use.

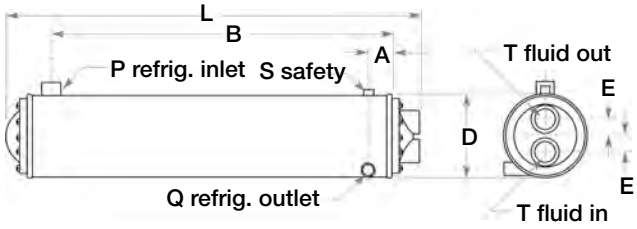
Alternative Options
For higher pressure refrigerants use HSE-MP units. For greater pumpdown capacity use SST units. For salt water applications use MSE or MST units. For clean water applications use a brazed CND-CB or for higher pressure refrigerants use a CND-ACH.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

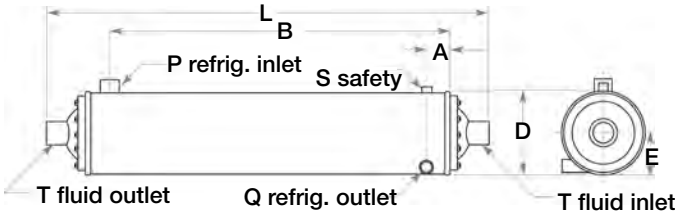
HSE 2 - 50



HSE 60 - 70 - 80



HSE 100 - 500



Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard HSE condenser

Technical specifications

Models	R22 Nominal HP*	R134a Nominal HP*	Dimensions (inches)					Connections (inches)			
			D	L	A	B	E	P (IDS)	Q (IDS)	S (FNPT)	T (FNPT)
HSE2	3.0	2.9	5 4/7	27.13	2.00	22.00	1.13	5/8	1/2	3/8	3/4
HSE3	3.9	3.8	6 5/8	27.38	2.00	22.00	2.00	7/8	5/8	3/8	3/4
HSE5	5.1	5.0	6 5/8	27.38	2.50	21.50	2.00	1 1/8	5/8	1/2	1
HSE7	7.1	7.0	6 5/8	33.38	2.50	27.50	2.00	1 3/8	7/8	1/2	1 1/4
HSE10	11.5	9.8	6 5/8	33.38	2.50	27.50	2.00	1 3/8	7/8	1/2	1 1/4
HSE15	18.2	16.2	8 5/8	33.38	3.00	27.00	2.13	1 5/8	1 1/8	1/2	2
HSE20A	22.3	21.8	8 5/8	52.75	3.00	45.00	2.13	1 5/8	1 1/8	1/2	2
HSE25A	29.2	26.0	8 5/8	52.75	3.00	45.00	2.13	2 1/8	1 3/8	1/2	2
HSE30A	33.6	31.6	10 3/4	53.00	3.00	45.00	2.13	2 1/8	1 3/8	1/2	2 1/2
HSE40A	43.4	40.7	10 3/4	65.25	3.00	57.00	2.06	2 1/8	1 3/8	1/2	3
HSE50A	54.4	51.3	10 3/4	65.25	3.00	57.00	2.06	2 5/8	1 5/8	1/2	3
HSE60	68.5	61.9	12 3/4	66.81	3.50	56.50	2.75	2 5/8	1 5/8	1/2	4
HSE70	79.6	72.5	12 3/4	66.81	3.50	56.50	2.75	3 1/8	2 1/8	1/2	4
HSE80	88.1	82.6	12 3/4	66.81	3.50	56.50	2.75	3 1/8	2 1/8	1/2	4
HSE100	109.8	101.0	12 3/4	107.63	3.50	92.50	—	3 1/8	2 1/8	3/4	5
HSE125	143.2	130.4	12 3/4	107.63	3.50	92.50	—	3 5/8	2 1/8	3/4	5
HSE150	166.4	156.4	14	113.75	5.38	90.63	10.88	3 5/8	2 5/8	3/4	6" Flange
HSE200	225.6	205.4	16	114.00	5.38	90.63	11.88	4 1/8	3 1/8	3/4	8" Flange
HSE250	281.7	258.7	18	116.00	5.38	90.63	12.88	4 1/8	3 1/8	3/4	8" Flange
HSE300	337.9	312.7	20	116.00	5.75	90.25	13.88	4 1/8	3 5/8	3/4	10" Flange
HSE350	389.7	359.1	20	116.00	5.75	90.25	13.88	5 1/8	3 5/8	3/4	10" Flange
HSE400	446.8	410.3	24	123.00	5.88	90.13	15.88	5 1/8	4 1/8	3/4	12" Flange
HSE500	550.0	504.4	24	123.00	5.88	90.13	15.88	6 1/8	4 1/8	3/4	12" Flange

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
ProSuite software values are the most accurate
Tubing has high performance enhanced surface
HP = 15,000 Btu/hr.

Standard Refrigeration

Models	Pumpdown Capacity (lbs.)		Water Flow (gpm)		Water Pressure Drop (psi)		Shipping Weight (lbs.)	Gaskets Article #		Endplates Article #	
	R22*	R134a*	Min.	Max.	R22	R134a		Front	Rear	Front	Rear
HSE2	12	12	1.3	13	2.9	2.8	36	20001	20018	6986	30
HSE3	18	19	1.3	13	3.7	3.5	48	22171	22188	7246	5026
HSE5	22	22	2.7	27	2.8	2.7	66	3170	3718	6229	76
HSE7	26	27	2.4	23	5.2	5.0	96	3170	3718	5552	76
HSE10	24	25	3.4	34	6.9	5.1	89	3170	3718	5552	76
HSE15	43	43	4.7	47	6.0	4.9	143	445	247	5495	21
HSE20A	73	74	10.7	107	2.6	2.5	184	2584	2953	5707	4047
HSE25A	68	69	12.1	121	3.4	2.7	193	2584	2953	5707	4047
HSE30A	109	110	15	154	2.6	2.3	291	1741	2984	5583	4180
HSE40A	145	147	15	154	4.6	4.1	348	1741	2984	6900	4180
HSE50A	135	137	19	188	4.9	4.4	355	1741	2984	6900	4180
HSE60	206	209	22	221	4.9	4.1	461	111	120	247	238
HSE70	189	191	25	255	5.0	4.2	480	111	120	247	238
HSE80	187	190	29	295	4.8	4.3	518	111	120	247	238
HSE100	308	313	51	509	2.0	1.7	751	120	120	2245	2245
HSE125	280	284	64	643	2.4	2.0	785	120	120	2245	2245
HSE150	334	339	86	858	2.0	1.8	1300	2254	2254	H1039+	H1039+
HSE200	440	447	114	1139	1.9	1.6	1600	2263	2263	H1048+	H1048+
HSE250	554	562	143	1434	2.1	1.8	2000	1679	1679	H1057+	H1057+
HSE300	703	714	170	1702	1.9	1.6	2600	1688	1688	H1066+	H1066+
HSE350	653	663	194	1944	2.0	1.7	2800	1688	1688	H1066+	H1066+
HSE400	1040	1055	228	2279	1.9	1.6	3300	2290	2290	H1921+	H1921+
HSE500	515	522	286	2855	1.9	1.7	3700	2290	2290	H1921+	H1921+

*Pumpdown capacities are based upon 90% of the shell open volume
+H indicates that the unit uses heads instead of endplates
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge

Model HSE2

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	2	1.2	0.2	11,084	14,940	18,862	22,841	26,929	31,041
	4	2.1	0.6	19,907	26,572	33,301	39,997	46,701	53,377
	6	3.2	1.3	26,732	35,575	44,351	53,021	61,648	70,192
	8	4.3	2.3	31,815	42,169	52,388	62,539	72,490	82,393
	9	4.8	2.9	33,919	44,912	55,735	66,383	76,934	87,352
	11	5.9	4.1	37,513	49,538	61,333	72,977	84,425	95,708
	13	7.0	5.7	40,499	53,376	66,025	78,398	90,658	102,571
	15	8.0	7.5	43,071	56,673	69,975	83,064	95,958	108,579
R134a	2	1.2	0.2	11,066	14,923	18,831	22,789	26,860	30,950
	4	2.1	0.6	19,810	26,435	33,116	39,756	46,425	53,056
	6	3.2	1.3	26,530	35,275	43,930	52,562	61,093	69,545
	8	4.3	2.3	31,491	41,734	51,866	61,805	71,603	81,390
	9	4.8	2.9	33,547	44,414	55,081	65,570	75,923	86,222
	11	5.9	4.2	37,003	48,911	60,536	71,950	83,216	94,299
	13	7.0	5.7	39,911	52,653	65,042	77,212	89,245	100,968
	15	8.0	7.5	42,424	55,794	68,890	81,703	94,297	106,597

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE3

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	3	1.3	0.3	15,703	21,102	26,526	32,101	37,696	43,335
	5	2.1	0.7	25,127	33,562	42,027	50,452	58,909	67,257
	8	3.4	1.8	35,295	46,871	58,380	69,737	81,071	92,224
	10	4.3	2.7	40,346	53,513	66,370	79,183	91,771	104,311
	12	5.1	3.8	44,528	58,918	73,006	86,947	100,688	114,149
	14	6.0	5.1	48,104	63,502	78,570	93,446	108,104	122,591
	17	7.3	7.4	52,597	69,295	85,636	101,751	117,457	132,955
	19	8.1	9.2	55,186	72,621	89,614	106,302	122,660	138,759
R134a	3	1.3	0.3	15,672	21,053	26,455	31,989	37,567	43,165
	5	2.1	0.7	25,008	33,369	41,776	50,143	58,534	66,870
	8	3.4	1.8	34,983	46,487	57,815	69,104	80,269	91,254
	10	4.3	2.7	39,969	52,917	65,703	78,380	90,822	103,057
	12	5.1	3.8	44,040	58,194	72,129	85,909	99,309	112,611
	14	6.0	5.1	47,493	62,681	77,539	92,198	106,573	120,778
	17	7.3	7.4	51,890	68,265	84,291	100,032	115,564	130,707
	19	8.1	9.2	49,969	71,399	88,183	104,543	120,634	136,382

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE5

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	4	1.2	0.2	21,165	28,462	35,863	43,350	50,900	58,507
	7	2.1	0.6	35,805	47,769	59,789	71,769	83,768	95,679
	10	3.1	1.3	46,701	62,104	77,374	92,521	107,617	122,510
	14	4.3	2.4	57,523	76,206	94,660	112,786	130,823	148,492
	17	5.2	3.4	63,946	84,447	104,691	124,557	144,214	163,337
	20	6.1	4.6	69,303	91,434	113,118	134,385	155,355	175,933
	23	7.0	6.0	73,907	97,425	120,286	142,795	164,983	186,553
	26	7.9	7.6	73,813	102,575	126,665	150,191	173,155	195,964
R134a	4	1.2	0.2	21,113	28,362	35,721	43,183	50,687	58,312
	7	2.1	0.6	35,608	47,502	59,449	71,356	83,209	94,992
	10	3.1	1.3	46,337	61,587	76,713	91,673	106,632	121,362
	14	4.3	2.4	54,294	75,466	93,603	111,516	129,167	146,714
	17	5.2	3.4	60,042	83,495	103,317	122,985	142,202	161,177
	20	6.1	4.6	64,902	85,667	111,494	132,465	153,039	173,167
	23	7.0	6.0	69,152	90,993	118,512	140,517	162,247	183,581
	26	7.9	7.6	72,763	95,688	118,081	147,614	170,268	192,442

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE7

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	4	1.2	0.2	23,672	31,807	40,043	48,362	56,751	65,223
	7	2.1	0.6	40,210	53,708	67,247	80,734	94,242	107,744
	10	3.1	1.3	53,190	70,827	88,309	105,732	123,006	140,219
	14	4.3	2.4	66,619	88,493	109,949	131,238	152,358	173,101
	17	5.2	3.4	74,781	98,964	122,901	146,377	169,654	192,488
	20	6.1	4.6	81,594	107,873	133,721	159,165	184,243	208,822
	23	7.0	5.9	87,603	115,670	143,121	170,184	196,629	222,854
	26	7.9	7.5	93,060	122,546	151,537	179,987	207,890	235,283
R134a	4	1.2	0.2	23,633	31,718	39,951	48,239	56,603	65,044
	7	2.1	0.6	40,051	53,468	66,864	80,328	93,776	107,145
	10	3.1	1.3	52,861	70,307	87,672	104,942	122,090	139,085
	14	4.3	2.4	63,282	87,593	108,926	129,906	150,673	171,184
	17	5.2	3.4	70,656	97,896	121,449	144,774	167,548	189,945
	20	6.1	4.6	76,886	106,708	132,101	156,950	181,652	205,887
	23	7.0	5.9	82,380	108,566	141,256	167,628	193,827	219,363
	26	7.9	7.5	87,105	114,827	149,261	177,004	204,500	231,356

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE10

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	5	1.2	0.2	32,307	43,453	53,633	66,230	76,369	87,871
	10	2.1	0.7	58,127	77,619	97,086	114,090	136,121	155,475
	15	3.2	1.4	79,708	106,044	132,180	158,106	183,898	209,583
	19	4.1	2.2	90,747	124,034	154,339	184,223	213,811	243,036
	24	5.1	3.4	104,129	142,339	176,837	210,726	244,032	277,112
	28	6.0	4.6	113,351	149,866	191,948	228,269	264,356	299,482
	33	7.1	6.2	123,157	162,422	208,068	247,108	285,832	323,577
	37	7.9	7.7	129,926	171,410	212,005	260,407	300,715	340,338
R134a	5	1.2	0.2	32,223	43,363	54,643	64,765	76,212	89,311
	10	2.1	0.7	57,880	77,204	96,655	115,986	135,325	154,688
	15	3.2	1.4	77,059	102,509	131,200	156,913	182,523	207,777
	19	4.1	2.2	90,066	119,433	148,606	182,518	211,784	240,657
	24	5.1	3.4	103,192	136,582	169,626	201,904	234,008	273,755
	28	6.0	4.6	108,047	148,059	183,404	218,328	252,750	286,492
	33	7.1	6.2	117,056	160,448	198,553	235,628	272,450	308,649
	37	7.9	7.7	123,383	168,961	208,790	247,753	286,253	323,994

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE15

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	10	1.3	0.2	59,363	79,673	100,287	121,073	141,950	163,016
	15	2.0	0.5	87,411	116,703	146,191	175,809	205,313	234,802
	25	3.3	1.4	127,842	173,225	215,943	258,163	300,249	342,205
	30	4.0	2.0	144,247	195,296	242,891	290,215	336,978	383,284
	40	5.3	3.4	171,076	231,184	286,988	341,763	395,940	449,216
	45	6.0	4.2	182,126	240,926	305,030	362,974	420,240	476,268
	55	7.4	6.1	201,518	265,794	336,140	399,377	461,551	522,660
	60	8.0	7.2	209,860	276,721	349,858	415,472	479,854	543,223
R134a	10	1.3	0.2	59,252	79,517	100,022	120,646	141,602	162,488
	15	2.0	0.5	87,126	116,341	145,604	174,877	204,312	233,579
	25	3.3	1.4	127,078	168,890	214,267	256,364	297,993	339,160
	30	4.0	2.0	140,252	189,962	236,315	287,495	333,811	379,261
	40	5.3	3.4	165,758	224,057	277,964	330,946	383,091	443,454
	45	6.0	4.2	176,118	237,923	294,839	350,882	406,024	460,312
	55	7.4	6.1	189,431	256,313	324,016	384,989	444,985	503,422
	60	8.0	7.2	196,924	266,379	336,675	399,837	461,514	522,386

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE20A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.5	0.3	107,288	146,861	184,309	222,102	259,971	298,277
	30	2.3	0.6	153,481	204,791	261,422	313,516	365,565	417,591
	50	3.8	1.5	219,227	290,896	362,082	432,036	501,536	570,069
	60	4.6	2.1	243,701	322,932	401,005	477,772	553,459	628,315
	70	5.3	2.8	257,321	350,193	434,033	516,338	597,651	677,787
	80	6.1	3.6	275,002	373,800	462,546	549,710	635,573	719,973
	100	7.6	5.5	304,705	413,188	510,337	605,155	699,370	791,019
R134a	20	1.5	0.3	106,928	143,418	180,257	221,253	259,070	296,877
	30	2.3	0.6	152,712	203,623	254,550	305,420	356,251	407,007
	50	3.8	1.5	211,686	280,915	358,439	427,615	496,079	564,086
	60	4.6	2.1	234,862	311,033	385,970	472,099	546,882	620,734
	70	5.3	2.8	246,858	336,476	416,760	509,684	589,740	668,686
	80	6.1	3.6	263,485	358,563	443,298	527,103	626,625	709,637
	100	7.6	5.5	291,150	395,015	487,884	578,745	668,296	777,915

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE25A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.3	0.2	107,337	146,491	184,215	222,603	261,179	300,175
	40	2.5	0.8	201,900	269,179	336,167	402,804	469,294	535,549
	50	3.1	1.2	232,186	315,150	392,583	469,351	545,735	621,260
	70	4.4	2.2	285,674	387,073	480,324	572,273	663,303	752,883
	80	5.0	2.8	307,347	406,692	515,611	613,324	710,547	805,489
	100	6.3	4.3	343,636	453,678	561,517	681,878	788,790	892,981
	110	6.9	5.1	359,415	474,070	585,516	711,044	821,698	929,708
	130	8.2	7.1	377,623	508,605	628,609	745,397	879,845	994,966
R134a	20	1.3	0.2	107,074	143,971	181,298	219,069	257,020	295,598
	40	2.5	0.8	196,950	262,580	333,912	400,000	465,793	531,282
	50	3.1	1.2	225,653	306,421	382,176	465,527	540,986	615,205
	70	4.4	2.2	276,814	374,554	465,427	554,478	642,700	729,348
	80	5.0	2.8	296,980	393,163	498,108	593,270	686,849	778,734
	100	6.3	4.3	322,772	437,512	553,624	657,703	759,714	860,344
	110	6.9	5.1	337,146	456,241	577,170	685,202	791,094	895,441
	130	8.2	7.1	362,183	488,864	602,766	732,915	845,545	955,615

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE30A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	23	1.2	0.1	123,421	164,869	207,803	251,267	295,467	339,912
	40	2.0	0.5	208,001	281,624	352,504	423,304	493,811	564,622
	60	3.1	1.0	282,777	376,025	475,940	569,098	661,785	753,028
	80	4.1	1.7	339,249	450,003	559,097	666,842	785,648	892,172
	100	5.1	2.6	377,428	508,060	629,962	749,759	867,605	984,180
	120	6.1	3.6	413,249	555,659	687,269	816,951	944,845	1,070,413
	140	7.1	4.8	443,692	585,331	735,977	873,896	1,009,619	1,143,171
	160	8.1	6.1	470,808	619,290	778,093	923,286	1,065,785	1,204,532
R134a	23	1.2	0.1	121,604	164,347	207,092	250,660	294,469	338,738
	40	2.0	0.5	206,937	276,268	345,830	415,481	491,309	561,266
	60	3.1	1.0	276,364	367,394	465,001	555,952	646,457	735,921
	80	4.1	1.7	324,316	438,273	544,487	660,086	764,839	868,516
	100	5.1	2.6	366,161	493,759	611,772	728,239	856,534	971,041
	120	6.1	3.6	400,079	528,129	666,327	792,299	914,868	1,053,605
	140	7.1	4.8	420,782	565,648	712,527	845,293	977,071	1,105,245
	160	8.1	6.1	445,023	597,401	737,029	891,664	1,029,547	1,164,126

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE40A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	22	1.2	0.1	130,375	177,262	223,294	269,767	316,830	364,054
	40	2.1	0.5	232,993	311,119	389,332	467,699	545,654	623,928
	60	3.2	1.1	314,962	425,840	530,829	634,969	738,764	841,462
	80	4.3	1.9	381,570	506,479	640,104	764,011	886,446	1,007,390
	90	4.8	2.3	409,438	543,025	674,972	817,575	947,878	1,076,747
	110	5.9	3.3	449,849	606,391	751,786	895,337	1,054,046	1,195,136
	130	7.0	4.5	490,276	660,534	816,628	971,280	1,122,302	1,294,128
	150	8.0	5.9	525,459	706,177	873,039	1,036,661	1,197,155	1,355,343
R134a	22	1.2	0.1	130,110	174,964	220,355	266,478	312,884	359,937
	40	2.1	0.5	228,750	305,670	387,428	465,193	542,975	620,326
	60	3.2	1.1	307,699	416,487	519,322	621,191	722,961	835,431
	80	4.3	1.9	371,824	492,949	623,430	744,796	863,297	981,837
	90	4.8	2.3	390,799	528,141	667,446	795,681	922,342	1,047,154
	110	5.9	3.3	436,263	588,399	728,861	883,637	1,023,246	1,159,665
	130	7.0	4.5	474,137	639,162	790,393	939,293	1,106,546	1,253,635
	150	8.0	5.9	507,195	667,939	842,360	1,000,714	1,156,646	1,332,497

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE50A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.3	0.2	180,026	241,657	304,110	366,833	430,196	494,259
	50	2.1	0.5	289,675	390,585	488,590	586,669	684,660	782,527
	80	3.4	1.3	410,685	552,817	688,665	824,103	958,168	1,103,307
	100	4.3	2.0	475,313	638,751	794,408	948,368	1,100,413	1,250,912
	120	5.1	2.8	529,690	701,475	883,319	1,052,208	1,218,277	1,383,533
	140	6.0	3.7	567,901	762,716	958,368	1,140,336	1,320,022	1,496,307
	170	7.3	5.2	627,224	840,683	1,039,549	1,251,604	1,446,693	1,638,747
	190	8.1	6.4	660,975	885,480	1,093,265	1,298,725	1,519,699	1,720,919
R134a	30	1.3	0.2	177,951	239,030	303,274	365,914	429,228	492,687
	50	2.1	0.5	285,176	384,860	481,628	578,436	675,187	771,332
	80	3.4	1.3	402,370	542,478	675,505	817,485	950,104	1,081,908
	100	4.3	2.0	464,428	616,497	777,391	927,993	1,075,875	1,237,657
	120	5.1	2.8	508,910	684,376	861,875	1,026,805	1,189,188	1,350,268
	140	6.0	3.7	552,938	742,801	920,394	1,110,944	1,285,736	1,457,668
	170	7.3	5.2	599,239	802,686	1,009,135	1,198,134	1,406,157	1,593,080
	190	8.1	6.4	629,994	844,525	1,061,075	1,258,253	1,476,462	1,669,626

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE60

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	33	1.2	0.1	195,402	264,905	333,888	403,221	473,507	544,817
	60	2.1	0.5	349,490	466,375	584,006	701,045	824,752	942,526
	90	3.2	1.1	475,010	632,212	795,652	952,457	1,107,853	1,262,581
	120	4.3	1.8	568,687	763,623	949,744	1,145,841	1,329,214	1,510,563
	140	5.0	2.4	623,746	836,594	1,038,770	1,238,227	1,450,025	1,647,105
	170	6.1	3.4	694,021	918,301	1,151,682	1,369,895	1,586,471	1,798,795
	200	7.1	4.6	745,294	995,947	1,247,092	1,482,294	1,713,535	1,940,047
	220	7.8	5.5	780,507	1,041,637	1,287,121	1,547,467	1,788,556	2,025,216
R134a	33	1.2	0.1	195,281	262,370	330,707	399,690	469,343	543,069
	60	2.1	0.5	341,579	460,499	576,034	697,898	813,998	930,529
	90	3.2	1.1	461,831	621,118	782,499	936,073	1,088,758	1,240,641
	120	4.3	1.8	557,413	748,103	930,660	1,109,995	1,301,979	1,479,822
	140	5.0	2.4	603,057	808,851	1,016,095	1,210,545	1,402,917	1,610,142
	170	6.1	3.4	669,591	896,947	1,110,720	1,337,001	1,546,757	1,753,224
	200	7.1	4.6	716,487	957,403	1,200,364	1,442,361	1,667,621	1,888,745
	220	7.8	5.5	748,577	1,000,343	1,253,708	1,488,068	1,738,242	1,967,145

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE70

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	40	1.2	0.2	238,979	320,946	405,992	490,648	575,603	661,223
	70	2.1	0.5	406,309	546,060	683,466	820,870	957,629	1,094,230
	100	3.1	1.0	533,989	716,448	893,452	1,077,594	1,254,744	1,429,145
	140	4.3	1.9	669,121	888,520	1,114,859	1,330,655	1,543,600	1,755,381
	170	5.2	2.7	743,392	994,820	1,234,731	1,486,317	1,720,908	1,954,148
	200	6.1	3.6	811,950	1,086,372	1,345,317	1,601,870	1,870,646	2,121,847
	230	7.0	4.6	862,685	1,152,200	1,440,893	1,712,616	1,980,204	2,266,817
	260	7.9	5.8	915,293	1,220,220	1,524,571	1,810,241	2,091,355	2,392,863
R134a	40	1.2	0.2	236,741	320,255	402,874	486,581	570,996	656,217
	70	2.1	0.5	398,064	535,942	675,639	811,298	946,887	1,082,233
	100	3.1	1.0	525,585	705,644	879,795	1,054,089	1,236,423	1,407,992
	140	4.3	1.9	649,889	871,023	1,083,882	1,305,765	1,515,125	1,721,769
	170	5.2	2.7	720,484	964,203	1,208,976	1,440,076	1,685,149	1,911,539
	200	6.1	3.6	776,179	1,049,501	1,300,843	1,564,323	1,809,295	2,072,017
	230	7.0	4.6	832,365	1,111,607	1,390,582	1,669,528	1,931,203	2,186,150
	260	7.9	5.8	881,304	1,175,182	1,468,823	1,744,921	2,036,141	2,304,038

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE80

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	44	1.2	0.1	262,228	352,520	443,795	536,586	629,921	724,270
	80	2.1	0.5	465,707	621,462	777,393	938,906	1,095,452	1,251,949
	120	3.2	1.1	634,032	843,185	1,059,218	1,267,172	1,474,343	1,679,321
	150	4.0	1.7	731,027	978,464	1,216,648	1,466,013	1,700,685	1,932,870
	190	5.1	2.6	835,890	1,117,075	1,398,631	1,665,709	1,930,420	2,208,705
	230	6.2	3.7	927,742	1,238,292	1,534,199	1,839,250	2,127,847	2,411,638
	260	7.0	4.6	977,743	1,316,568	1,629,392	1,951,386	2,254,615	2,553,712
	300	8.0	6.1	1,046,689	1,395,083	1,740,668	2,065,404	2,405,100	2,721,100
R134a	44	1.2	0.1	260,148	349,492	440,518	535,294	628,480	722,625
	80	2.1	0.5	457,226	614,554	769,226	928,974	1,083,771	1,238,264
	120	3.2	1.1	620,000	831,557	1,036,308	1,248,003	1,452,326	1,654,322
	150	4.0	1.7	712,296	954,579	1,197,137	1,430,264	1,658,798	1,899,198
	190	5.1	2.6	811,886	1,086,190	1,360,271	1,633,348	1,892,131	2,148,051
	230	6.2	3.7	890,560	1,199,998	1,500,754	1,784,170	2,082,840	2,360,308
	260	7.0	4.6	945,588	1,262,273	1,575,422	1,889,454	2,183,508	2,497,404
	300	8.0	6.1	1,000,200	1,345,214	1,678,981	2,013,811	2,325,179	2,628,722

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE100

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	74	1.2	0.1	396,132	532,591	671,463	812,168	954,205	1,097,850
	150	2.4	0.5	752,869	1,017,286	1,272,427	1,526,846	1,798,082	2,052,071
	200	3.1	0.8	929,647	1,253,036	1,562,983	1,868,259	2,172,304	2,473,401
	250	3.9	1.2	1,058,743	1,424,915	1,795,472	2,142,892	2,486,814	2,825,282
	300	4.7	1.7	1,176,733	1,581,951	1,963,160	2,368,329	2,742,744	3,113,074
	400	6.3	2.8	1,347,484	1,804,995	2,263,201	2,691,205	3,111,981	3,568,704
	450	7.1	3.5	1,423,920	1,904,058	2,385,658	2,834,431	3,276,307	3,706,361
	500	7.9	4.3	1,493,052	1,994,757	2,497,854	2,962,912	3,420,583	3,869,947
R134a	74	1.2	0.1	390,762	525,869	662,865	801,691	951,852	1,094,305
	150	2.4	0.5	737,747	999,100	1,249,173	1,499,388	1,769,039	2,017,043
	200	3.1	0.8	896,688	1,211,735	1,531,332	1,831,084	2,127,873	2,421,483
	250	3.9	1.2	1,018,143	1,374,773	1,732,467	2,068,494	2,428,681	2,762,234
	300	4.7	1.7	1,131,755	1,523,757	1,915,052	2,282,392	2,642,696	3,040,024
	400	6.3	2.8	1,290,493	1,730,306	2,172,792	2,617,288	3,027,295	3,428,676
	450	7.1	3.5	1,363,221	1,825,283	2,287,638	2,716,720	3,182,072	3,603,220
	500	7.9	4.3	1,406,381	1,909,384	2,391,519	2,839,518	3,321,511	3,753,347

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE125

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	100	1.2	0.1	535,453	719,500	906,506	1,102,969	1,294,779	1,488,731
	200	2.5	0.6	994,226	1,337,880	1,671,690	2,005,232	2,356,795	2,688,840
	250	3.1	0.9	1,168,250	1,554,481	1,957,868	2,341,499	2,721,367	3,097,225
	350	4.4	1.6	1,428,325	1,915,270	2,377,821	2,860,614	3,314,830	3,766,480
	400	5.0	2.1	1,520,600	2,038,651	2,554,780	3,040,533	3,553,633	4,028,575
	500	6.2	3.1	1,705,167	2,276,487	2,847,939	3,384,126	3,913,632	4,433,818
	550	6.8	3.7	1,764,406	2,379,492	2,943,357	3,530,749	4,079,085	4,618,027
	650	8.1	5.1	1,901,764	2,531,764	3,160,165	3,786,290	4,371,082	4,945,146
R134a	100	1.2	0.1	524,503	711,588	895,877	1,082,900	1,281,374	1,471,966
	200	2.5	0.6	966,915	1,304,406	1,645,897	1,975,038	2,300,061	2,623,938
	250	3.1	0.9	1,121,655	1,511,021	1,904,915	2,300,015	2,674,101	3,044,304
	350	4.4	1.6	1,366,343	1,835,208	2,304,223	2,773,289	3,215,492	3,652,529
	400	5.0	2.1	1,470,237	1,971,819	2,470,344	2,942,259	3,441,003	3,902,696
	500	6.2	3.1	1,625,082	2,172,543	2,719,940	3,267,866	3,779,328	4,323,975
	550	6.8	3.7	1,699,728	2,269,212	2,835,317	3,406,034	3,933,213	4,498,477
	650	8.1	5.1	1,809,871	2,436,313	3,041,286	3,608,111	4,208,243	4,760,232

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE150

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	114	1.2	0.1	603,343	817,722	1,030,022	1,245,228	1,463,123	1,683,471
	200	2.1	0.4	1,039,639	1,388,743	1,752,360	2,105,030	2,458,099	2,806,817
	300	3.1	0.8	1,392,407	1,868,558	2,350,424	2,810,554	3,266,175	3,719,935
	400	4.1	1.4	1,657,584	2,220,393	2,782,102	3,344,066	3,879,742	4,403,962
	500	5.1	2.0	1,877,773	2,509,101	3,134,635	3,732,537	4,322,919	4,939,829
	600	6.2	2.8	2,042,159	2,719,742	3,395,668	4,071,397	4,707,527	5,332,984
	700	7.2	3.7	2,196,300	2,918,304	3,638,442	4,321,219	5,028,942	5,694,700
	800	8.2	4.8	2,308,733	3,090,102	3,849,662	4,563,134	5,311,398	6,003,554
R134a	114	1.2	0.1	593,338	804,129	1,014,243	1,234,721	1,450,479	1,668,793
	200	2.1	0.4	1,007,768	1,359,970	1,716,745	2,062,653	2,425,888	2,771,836
	300	3.1	0.8	1,358,069	1,822,091	2,292,374	2,742,692	3,214,591	3,656,134
	400	4.1	1.4	1,597,065	2,159,662	2,707,906	3,229,119	3,774,391	4,289,085
	500	5.1	2.0	1,788,847	2,415,460	3,020,630	3,622,998	4,193,308	4,798,759
	600	6.2	2.8	1,958,824	2,639,799	3,293,966	3,914,507	4,558,713	5,167,968
	700	7.2	3.7	2,082,508	2,799,954	3,492,608	4,181,195	4,867,969	5,505,070
	800	8.2	4.8	2,208,599	2,960,522	3,688,215	4,414,596	5,094,569	5,802,476

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE200

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	200	1.6	0.2	1,066,234	1,437,872	1,813,384	2,186,183	2,558,111	2,934,811
	300	2.3	0.4	1,513,125	2,031,559	2,553,530	3,063,730	3,574,035	4,075,375
	500	3.9	1.1	2,129,746	2,847,434	3,564,854	4,278,095	4,963,612	5,637,517
	600	4.7	1.5	2,353,100	3,141,404	3,921,482	4,699,313	5,445,457	6,212,782
	700	5.4	2.0	2,538,963	3,402,612	4,242,080	5,078,600	5,872,415	6,660,520
	800	6.2	2.6	2,715,523	3,630,947	4,518,577	5,372,382	6,248,893	7,073,156
	1000	7.8	3.8	2,989,243	3,989,219	4,950,899	5,911,818	6,825,204	7,760,853
R134a	200	1.6	0.2	1,049,556	1,416,091	1,788,293	2,153,853	2,522,583	2,891,773
	300	2.3	0.4	1,465,080	1,981,811	2,492,353	3,009,601	3,511,919	4,004,501
	500	3.9	1.1	2,055,205	2,766,857	3,466,815	4,157,377	4,821,753	5,511,792
	600	4.7	1.5	2,264,105	3,046,917	3,831,278	4,561,462	5,311,394	6,025,581
	700	5.4	2.0	2,437,664	3,294,282	4,111,807	4,919,683	5,693,198	6,485,317
	800	6.2	2.6	2,602,075	3,488,966	4,346,221	5,197,819	6,047,474	6,877,038
	1000	7.8	3.8	2,836,997	3,819,759	4,782,168	5,705,045	6,588,772	7,495,721
	130	7.0	4.5	472,934	637,245	788,334	937,058	1,103,504	1,250,588
	150	8.0	5.9	505,692	666,543	839,920	997,471	1,152,619	1,330,211

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE250

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	200	1.2	0.1	1,062,909	1,435,844	1,815,122	2,193,720	2,574,199	2,958,919
	400	2.5	0.5	1,982,560	2,670,062	3,337,585	4,020,215	4,680,128	5,337,876
	500	3.1	0.8	2,317,943	3,116,136	3,905,662	4,669,820	5,448,991	6,206,625
	700	4.4	1.5	2,847,505	3,797,876	4,739,801	5,681,199	6,586,540	7,512,882
	800	5.0	1.9	3,051,330	4,063,530	5,092,597	6,059,803	7,055,274	8,000,890
	1000	6.2	2.8	3,397,123	4,542,391	5,642,533	6,747,177	7,801,592	8,878,097
	1100	6.8	3.3	3,534,978	4,743,121	5,865,033	6,998,075	8,131,518	9,246,016
	1300	8.1	4.5	3,791,397	5,070,956	6,297,579	7,504,907	8,712,126	9,854,258
R134a	200	1.2	0.1	1,050,629	1,420,054	1,795,074	2,168,486	2,547,323	2,927,517
	400	2.5	0.5	1,949,579	2,600,393	3,267,368	3,938,729	4,586,136	5,255,013
	500	3.1	0.8	2,251,176	3,029,259	3,798,803	4,564,971	5,306,405	6,068,028
	700	4.4	1.5	2,740,485	3,681,732	4,616,301	5,532,771	6,412,592	7,319,001
	800	5.0	1.9	2,932,385	3,954,477	4,923,847	5,897,679	6,862,358	7,780,969
	1000	6.2	2.8	3,240,116	4,356,715	5,452,167	6,510,692	7,567,572	8,618,802
	1100	6.8	3.3	3,386,361	4,548,188	5,683,141	6,790,228	7,881,390	8,923,880
	1300	8.1	4.5	3,626,570	4,856,092	6,059,879	7,226,109	8,386,811	9,530,830

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE300

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	227	1.2	0.1	1,198,546	1,593,914	2,055,300	2,484,604	2,917,986	3,359,161
	400	2.1	0.3	2,031,659	2,775,786	3,488,853	4,205,605	4,910,470	5,609,524
	600	3.1	0.7	2,783,061	3,734,467	4,678,722	5,616,578	6,552,780	7,459,798
	800	4.1	1.2	3,324,561	4,434,440	5,560,025	6,654,997	7,718,909	8,803,293
	1000	5.1	1.8	3,749,538	4,991,737	6,242,105	7,457,915	8,668,941	9,826,843
	1200	6.2	2.5	4,096,280	5,461,693	6,782,343	8,098,610	9,400,262	10,653,104
	1400	7.2	3.3	4,383,138	5,832,601	7,234,225	8,627,832	10,007,477	11,366,018
	1600	8.2	4.2	4,634,439	6,171,455	7,650,215	9,115,313	10,558,895	11,942,223
R134a	227	1.2	0.1	1,186,962	1,596,488	1,982,340	2,453,538	2,884,109	3,327,283
	400	2.1	0.3	2,015,028	2,718,218	3,430,396	4,123,886	4,833,543	5,521,610
	600	3.1	0.7	2,711,135	3,641,364	4,562,910	5,480,906	6,397,432	7,284,921
	800	4.1	1.2	3,207,911	4,314,408	5,411,454	6,475,109	7,513,627	8,562,476
	1000	5.1	1.8	3,590,540	4,847,319	6,059,281	7,239,442	8,410,463	9,539,625
	1200	6.2	2.5	3,913,625	5,268,535	6,574,502	7,846,335	9,107,531	10,360,421
	1400	7.2	3.3	4,180,519	5,619,031	6,998,664	8,382,192	9,721,842	10,998,755
	1600	8.2	4.2	4,411,515	5,914,731	7,363,963	8,807,300	10,200,073	11,582,221

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE350

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	300	1.3	0.1	1,594,818	2,109,683	2,726,981	3,292,557	3,860,398	4,433,835
	500	2.2	0.4	2,539,827	3,410,760	4,280,621	5,157,121	6,012,595	6,864,925
	700	3.1	0.8	3,221,420	4,333,624	5,424,699	6,510,269	7,582,954	8,628,346
	1000	4.5	1.5	4,004,340	5,351,742	6,665,633	7,975,574	9,266,118	10,559,165
	1200	5.3	2.0	4,401,781	5,868,068	7,300,515	8,714,472	10,114,728	11,510,649
	1400	6.2	2.7	4,734,609	6,328,332	7,821,322	9,362,031	10,862,617	12,298,665
	1600	7.1	3.4	5,020,847	6,696,383	8,298,900	9,894,063	11,458,746	13,010,635
	1800	8.0	4.2	5,268,330	7,013,600	8,722,435	10,378,139	12,018,685	13,588,026
R134a	300	1.3	0.1	1,574,367	2,129,981	2,685,969	3,251,214	3,815,702	4,378,679
	500	2.2	0.4	2,497,153	3,333,376	4,199,111	5,057,505	5,904,548	6,760,449
	700	3.1	0.8	3,148,997	4,235,803	5,302,548	6,363,867	7,399,252	8,446,226
	1000	4.5	1.5	3,852,714	5,193,540	6,494,910	7,762,992	9,026,159	10,249,634
	1200	5.3	2.0	4,226,445	5,684,327	7,095,340	8,470,692	9,835,376	11,184,313
	1400	6.2	2.7	4,524,784	6,068,107	7,593,362	9,051,870	10,543,275	11,937,816
	1600	7.1	3.4	4,793,328	6,412,100	8,012,692	9,590,387	11,106,183	12,605,649
	1800	8.0	4.2	5,023,914	6,739,108	8,378,061	10,015,786	11,594,607	13,160,115

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE400

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	300	1.2	0.1	1,583,033	2,104,129	2,706,948	3,271,544	3,845,233	4,421,732
	500	2.0	0.3	2,564,123	3,506,871	4,404,967	5,306,503	6,201,384	7,086,413
	800	3.1	0.7	3,697,471	4,950,185	6,213,782	7,448,581	8,678,355	9,882,268
	1000	3.9	1.1	4,250,936	5,684,337	7,109,578	8,508,797	9,901,348	11,251,165
	1300	5.1	1.7	4,903,497	6,540,411	8,162,057	9,732,882	11,306,717	12,864,173
	1500	5.9	2.2	5,259,081	7,024,958	8,729,500	10,411,557	12,061,929	13,715,070
	1800	7.0	3.1	5,701,006	7,613,442	9,445,904	11,292,896	13,061,675	14,791,430
	2000	7.8	3.8	5,973,929	7,947,077	9,884,810	11,755,325	13,618,338	15,431,089
R134a	300	1.2	0.1	1,562,386	2,113,663	2,672,568	3,239,999	3,807,937	4,378,433
	500	2.0	0.3	2,544,706	3,438,809	4,316,175	5,204,787	6,100,106	6,975,431
	800	3.1	0.7	3,595,542	4,847,051	6,067,648	7,281,121	8,482,969	9,660,969
	1000	3.9	1.1	4,111,516	5,540,619	6,937,097	8,299,145	9,628,482	10,974,469
	1300	5.1	1.7	4,712,094	6,329,438	7,929,064	9,495,497	11,030,872	12,507,111
	1500	5.9	2.2	5,029,297	6,769,348	8,464,114	10,132,775	11,747,957	13,360,977
	1800	7.0	3.1	5,455,240	7,326,242	9,147,077	10,939,561	12,665,813	14,389,001
	2000	7.8	3.8	5,677,938	7,630,926	9,524,728	11,375,985	13,174,859	14,939,475

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE500

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	400	1.3	0.1	2,123,308	2,813,648	3,620,805	4,381,191	5,140,172	5,907,521
	700	2.2	0.4	3,556,002	4,782,345	6,009,272	7,233,968	8,431,206	9,632,994
	1000	3.1	0.8	4,582,391	6,164,591	7,724,591	9,254,818	10,775,976	12,267,359
	1300	4.1	1.3	5,412,822	7,199,123	9,010,805	10,770,646	12,520,166	14,249,498
	1600	5.0	1.8	6,043,478	8,051,403	10,022,083	11,980,463	13,907,884	15,811,163
	2000	6.3	2.7	6,709,674	8,980,021	11,108,922	13,254,730	15,389,438	17,413,539
	2300	7.2	3.5	7,138,649	9,535,599	11,805,993	14,051,113	16,280,076	18,476,080
	2500	7.9	4.1	7,391,456	9,858,999	12,230,408	14,537,072	16,799,698	19,038,921
R134a	400	1.3	0.1	2,094,931	2,813,573	3,577,764	4,329,426	5,084,868	5,843,395
	700	2.2	0.4	3,471,436	4,671,262	5,888,518	7,085,999	8,288,408	9,456,433
	1000	3.1	0.8	4,475,447	6,017,051	7,545,507	9,044,419	10,524,221	12,007,273
	1300	4.1	1.3	5,223,563	7,031,166	8,784,492	10,527,684	12,209,366	13,891,291
	1600	5.0	1.8	5,805,787	7,806,837	9,746,838	11,660,343	13,564,279	15,376,302
	2000	6.3	2.7	6,426,179	8,637,103	10,763,580	12,888,996	14,928,225	16,951,428
	2300	7.2	3.5	6,814,894	9,131,213	11,402,539	13,636,473	15,787,608	17,944,302
	2500	7.9	4.1	7,043,864	9,454,471	11,764,938	14,064,457	16,312,583	18,485,352

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard HSE-MP condenser

Shell-and-tube horizontal multiple-purpose water-cooled condenser

HSE multiple purpose condensers engineered design provides a compact, durable and cost-effective solution. They are designed to work with both higher and standard pressure refrigerants.

Standard Designs
HSE-MP condensers are available in standard designs for water duty. The models feature high-efficiency tube surfaces and they are available in 16 catalog models from 2 to 125 horsepower (HP). They are optimized with a smaller footprint which results in less space requirement. Recommended model for R404A and R410A. For glycol duty please consult ProSuite or contact the factory.

Tube Materials
HSE-MP condensers are manufactured with enhanced 3/4" diameter copper tubing to provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Customization
As standard these units offer a horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client. Condensers can be made with stainless steel for increased life with poor quality cooling water or when operating in a corrosive environment.

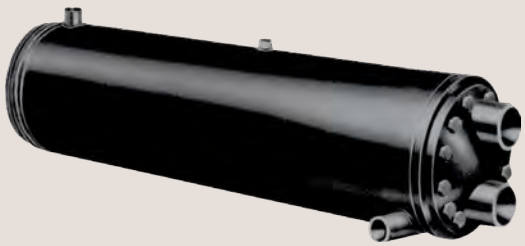
Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance enhanced designed tubing. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing. Tube sheets are epoxy coated to prevent pitting caused by galvanic action.

Standard Refrigeration



Tube Supports
Quality steel tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined steel heads. Custom connection versions are available. The inside of the heads are epoxy coated to prevent pitting caused by galvanic action.

Connections
All water side connections are FNPT. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Working Pressures:
600 psi. Shell Side (Refrigerant) @ 150°F
150 psi. Tube Side (Water/Fluid) @ 150°F

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal HP by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow
Water velocities of eight feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this catalog section are limited to flow velocities below eight feet per second.

Approved Refrigerants
R22, R134a, R404A, R410A & R507A. Units shorter than three feet in length R407C/R407F.

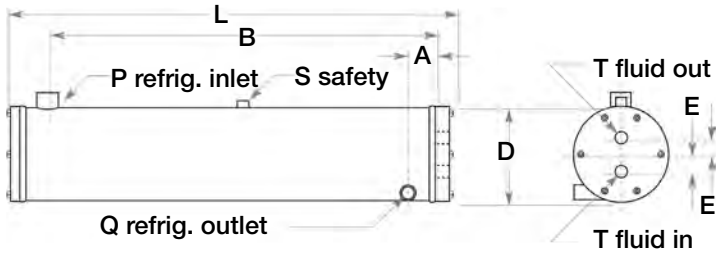
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. Units longer than three feet, R407C/R407F are not approved due to the risk of refrigerant separation. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

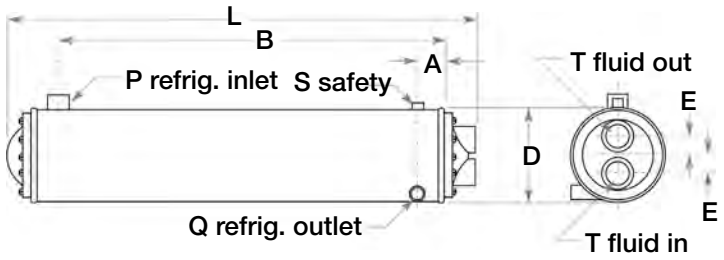
Alternative Options
For greater pumpdown capacity use SST-MP units. For salt water applications use MSE-MP units. For clean water applications use a brazed CND-ACH.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

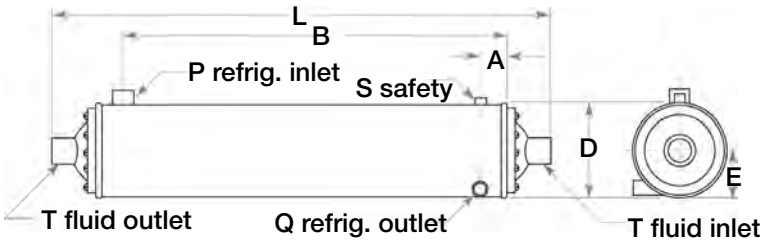
HSE-MP 2 - 50



HSE-MP 60 - 70 - 80



HSE-MP 100 - 125



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Alfa Laval Standard HSE-MP condenser

Technical specifications

Models	R22 Nominal HP*	R134a Nominal HP*	R410a Nominal HP*	Dimensions (inches)					Connections (inches)			
				D	L	A	B	E	P (IDS)	Q (IDS)	S (FNPT)	T (FNPT)
HSE2MP	3.0	2.9	2.8	5 4/7	27.13	2.00	22.00	1.13	5/8	1/2	3/8	3/4
HSE3MP	3.7	3.6	3.5	6 5/8	27.38	2.00	22.00	2.00	7/8	5/8	3/8	3/4
HSE5MP	5.2	5.0	5.0	6 5/8	27.38	2.50	21.50	2.00	1 1/8	5/8	1/2	1
HSE7MP	7.4	7.1	7.2	6 5/8	33.38	2.50	27.50	2.00	1 3/8	7/8	1/2	1 1/4
HSE10MP	10.6	10.3	10.3	6 5/8	33.38	2.50	27.50	2.00	1 3/8	7/8	1/2	1 1/4
HSE15MP	16.9	16.2	16.2	8 5/8	33.38	3.00	27.00	2.13	1 5/8	1 1/8	1/2	2
HSE20MP	22.7	22.1	22.1	8 5/8	52.75	3.00	45.00	2.13	1 5/8	1 1/8	1/2	2
HSE25MP	28.1	27.0	26.9	8 5/8	52.75	3.00	45.00	2.13	2 1/8	1 3/8	1/2	2
HSE30MP	34.1	33.2	33.1	10 3/4	53.00	3.00	45.00	2.13	2 1/8	1 3/8	1/2	2 1/2
HSE40MP	45.3	43.5	43.4	10 3/4	65.25	3.00	57.00	2.06	2 1/8	1 3/8	1/2	3
HSE50MP	56.7	54.3	55.0	10 3/4	65.25	3.00	57.00	2.06	2 5/8	1 5/8	1/2	3
HSE60MP	68.0	65.2	65.0	12 3/4	66.81	3.50	56.50	2.75	2 5/8	1 5/8	1/2	4
HSE70MP	79.3	76.1	75.9	12 3/4	66.81	3.50	56.50	2.75	3 1/8	2 1/8	1/2	4
HSE80MP	90.6	86.9	86.7	12 3/4	66.81	3.50	56.50	2.75	3 1/8	2 1/8	1/2	4
HSE100MP	117.5	112.9	112.7	12 3/4	107.63	3.50	92.50	—	3 1/8	2 1/8	3/4	5
HSE125MP	147.5	141.7	141.3	12 3/4	107.63	3.50	92.50	—	3 5/8	2 1/8	3/4	5

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
ProSuite software values are the most accurate
Tubing has high performance enhanced surface
HP = 15,000 Btu/hr

Standard Refrigeration

Models	Pumpdown Capacity (lbs.)			Water Flow (gpm)		Water Pressure Drop (psi)			Ship-ping Weight (lbs.)	Gaskets Article #		Endplates Article #	
	R22*	R134a*	R410a*	Min.	Max.	R22	R134a	R410a		Front	Rear	Front	Rear
HSE2MP	14	14	15	1.3	13.0	2.8	2.6	2.6	38	20001	20018	6986	30
HSE3MP	21	21	21	1.3	13.0	3.1	2.9	2.9	50	3718	3170	6162	76
HSE5MP	19	19	20	2.7	27.0	2.8	2.7	2.7	69	3718	3170	6229	76
HSE7MP	23	24	24	2.4	23.0	5.4	5.0	5.2	101	3718	3170	5552	76
HSE10MP	21	22	22	3.4	34.0	5.9	5.6	5.6	93	3718	3170	5552	76
HSE15MP	38	39	40	4.7	47.0	5.4	4.9	4.9	129	445	247	5495	21
HSE20MP	74	75	77	10.7	107	2.7	2.6	2.6	193	2584	2953	5707	4047
HSE25MP	61	62	63	12.1	121	3.1	2.9	2.9	203	2584	2953	5707	4047
HSE30MP	104	106	108	15.0	154	2.6	2.5	2.5	306	1741	2984	5583	4180
HSE40MP	133	135	138	15.0	154	5.0	4.6	4.6	365	1741	2984	6900	4180
HSE50MP	124	126	128	19.0	188	5.3	4.8	5.0	373	1741	2984	6900	4180
HSE60MP	189	192	195	22.0	221	4.8	4.5	4.5	484	111	120	247	238
HSE70MP	179	182	185	25.0	255	5.0	4.6	4.6	504	111	120	247	238
HSE80MP	170	172	175	29.0	295	5.1	4.7	4.7	544	111	120	247	238
HSE100MP	294	298	304	51	509	2.3	2.1	2.1	789	120	120	2245	2245
HSE125MP	266	270	275	64	643	2.5	2.3	2.3	853	120	120	2245	2245

*Pumpdown capacities are based upon 90% of the shell open volume
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Model HSE2MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	2	1.2	0.2	11,084	14,940	18,862	22,841	26,929	31,041
	4	2.1	0.6	19,907	26,572	33,301	39,997	46,701	53,377
	6	3.2	1.3	26,732	35,575	44,351	53,021	61,648	70,192
	8	4.3	2.3	31,815	42,169	52,388	62,539	72,490	82,393
	9	4.8	2.9	33,919	44,912	55,735	66,383	76,934	87,352
	11	5.9	4.1	37,513	49,538	61,333	72,977	84,425	95,708
	13	7.0	5.7	40,499	53,376	66,025	78,398	90,658	102,571
	15	8.0	7.5	43,071	56,673	69,975	83,064	95,958	108,579
R134a	2	1.2	0.2	11,066	14,923	18,831	22,789	26,860	30,950
	4	2.1	0.6	19,810	26,435	33,116	39,756	46,425	53,056
	6	3.2	1.3	26,530	35,275	43,930	52,562	61,093	69,545
	8	4.3	2.3	31,491	41,734	51,866	61,805	71,603	81,390
	9	4.8	2.9	33,547	44,414	55,081	65,570	75,923	86,222
	11	5.9	4.2	37,003	48,911	60,536	71,950	83,216	94,299
	13	7.0	5.7	39,911	52,653	65,042	77,212	89,245	100,968
	15	8.0	7.5	42,424	55,794	68,890	81,703	94,297	106,597
R404A	2	1.2	0.2	10,986	14,779	18,690	22,632	26,620	30,661
	4	2.1	0.6	19,530	26,039	32,574	39,050	45,551	52,016
	6	3.2	1.3	25,984	34,482	42,879	51,179	59,400	67,535
	8	4.3	2.3	30,662	40,578	50,292	59,804	69,205	78,443
	9	4.8	2.9	32,575	43,066	53,264	63,253	73,126	82,816
	11	5.9	4.2	35,874	47,233	58,281	69,108	79,708	90,143
	13	7.0	5.7	38,514	50,589	62,345	73,824	85,036	96,117
	15	8.0	7.5	40,822	53,506	65,834	77,837	89,656	101,137
R410A	2	1.2	0.2	11,067	14,902	18,820	22,837	26,887	30,991
	4	2.1	0.6	19,755	26,396	33,063	39,704	46,338	52,963
	6	3.2	1.3	26,461	35,179	43,824	52,394	60,896	69,269
	8	4.3	2.3	31,405	41,612	51,601	61,519	71,292	80,934
	9	4.8	2.9	33,416	44,217	54,790	65,227	75,491	85,661
	11	5.9	4.2	36,856	48,658	60,116	71,456	82,623	93,648
	13	7.0	5.7	39,716	52,301	64,610	76,604	88,470	100,138
	15	8.0	7.5	42,201	55,432	68,344	81,018	93,474	105,713

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE3MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	3	1.3	0.3	15,703	21,102	26,526	32,101	37,696	43,335
	5	2.1	0.7	25,127	33,562	42,027	50,452	58,909	67,257
	8	3.4	1.8	35,295	46,871	58,380	69,737	81,071	92,224
	10	4.3	2.7	40,346	53,513	66,370	79,183	91,771	104,311
	12	5.1	3.8	44,528	58,918	73,006	86,947	100,688	114,149
	14	6.0	5.1	48,104	63,502	78,570	93,446	108,104	122,591
	17	7.3	7.4	52,597	69,295	85,636	101,751	117,457	132,955
	19	8.1	9.2	55,186	72,621	89,614	106,302	122,660	138,759
R134a	3	1.3	0.3	15,672	21,053	26,455	31,989	37,567	43,165
	5	2.1	0.7	25,008	33,369	41,776	50,143	58,534	66,870
	8	3.4	1.8	34,983	46,487	57,815	69,104	80,269	91,254
	10	4.3	2.7	39,969	52,917	65,703	78,380	90,822	103,057
	12	5.1	3.8	44,040	58,194	72,129	85,909	99,309	112,611
	14	6.0	5.1	47,493	62,681	77,539	92,198	106,573	120,778
	17	7.3	7.4	51,890	68,265	84,291	100,032	115,564	130,707
	19	8.1	9.2	49,969	71,399	88,183	104,543	120,634	136,382
R404A	3	1.3	0.3	15,530	20,852	26,213	31,661	37,133	42,654
	5	2.1	0.7	24,633	32,852	41,054	49,244	57,362	65,472
	8	3.4	1.8	34,192	45,354	56,343	67,207	77,889	88,455
	10	4.3	2.7	38,889	51,414	63,705	75,765	87,649	99,334
	12	5.1	3.8	42,703	56,302	69,616	82,650	95,474	108,041
	14	6.0	5.1	42,451	60,459	74,628	88,365	101,992	115,308
	17	7.3	7.4	46,032	65,561	80,689	95,514	109,958	124,153
	19	8.1	9.2	48,094	68,478	84,223	99,535	114,571	129,162
R410A	3	1.3	0.3	15,650	21,013	26,489	31,999	37,558	43,156
	5	2.1	0.7	24,970	33,308	41,706	50,025	58,406	66,702
	8	3.4	1.8	34,874	46,296	57,629	68,756	79,907	90,843
	10	4.3	2.7	39,772	52,719	65,356	77,896	90,240	102,492
	12	5.1	3.8	43,865	57,909	71,659	85,282	98,564	111,815
	14	6.0	5.1	47,262	62,303	77,009	91,496	105,689	119,743
	17	7.3	7.4	51,527	67,835	83,659	99,162	114,429	129,420
	19	8.1	9.2	54,041	70,916	87,418	103,544	119,444	134,943

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE5MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	4	1.2	0.2	21,165	28,462	35,863	43,350	50,900	58,507
	7	2.1	0.6	35,805	47,769	59,789	71,769	83,768	95,679
	10	3.1	1.3	46,701	62,104	77,374	92,521	107,617	122,510
	14	4.3	2.4	57,523	76,206	94,660	112,786	130,823	148,492
	17	5.2	3.4	63,946	84,447	104,691	124,557	144,214	163,337
	20	6.1	4.6	69,303	91,434	113,118	134,385	155,355	175,933
	23	7.0	6.0	73,907	97,425	120,286	142,795	164,983	186,553
	26	7.9	7.6	73,813	102,575	126,665	150,191	173,155	195,964
R134a	4	1.2	0.2	21,113	28,362	35,721	43,183	50,687	58,312
	7	2.1	0.6	35,608	47,502	59,449	71,356	83,209	94,992
	10	3.1	1.3	46,337	61,587	76,713	91,673	106,632	121,362
	14	4.3	2.4	54,294	75,466	93,603	111,516	129,167	146,714
	17	5.2	3.4	60,042	83,495	103,317	122,985	142,202	161,177
	20	6.1	4.6	64,902	85,667	111,494	132,465	153,039	173,167
	23	7.0	6.0	69,152	90,993	118,512	140,517	162,247	183,581
	26	7.9	7.6	72,763	95,688	118,081	147,614	170,268	192,442
R404A	4	1.2	0.2	20,941	28,140	35,404	42,753	50,158	57,675
	7	2.1	0.6	35,083	46,778	58,396	70,006	81,548	93,050
	10	3.1	1.3	43,483	60,173	74,854	89,353	103,625	117,847
	14	4.3	2.4	52,822	69,937	90,633	107,711	124,575	141,127
	17	5.2	3.4	58,257	76,776	94,957	118,217	136,448	154,429
	20	6.1	4.6	62,721	82,490	101,851	120,743	146,153	165,069
	23	7.0	6.0	66,577	87,437	107,729	127,500	146,729	174,213
	26	7.9	7.6	69,963	91,660	112,776	133,332	153,503	173,292
R410A	4	1.2	0.2	21,093	28,365	35,726	43,173	50,685	58,279
	7	2.1	0.6	35,542	47,415	59,276	71,089	82,890	94,684
	10	3.1	1.3	46,180	61,395	76,375	91,293	106,053	120,685
	14	4.3	2.4	56,716	75,086	93,072	110,820	128,259	145,604
	17	5.2	3.4	62,804	82,935	102,714	122,062	141,047	159,752
	20	6.1	4.6	68,008	89,578	110,618	131,253	151,611	171,432
	23	7.0	6.0	72,454	95,197	117,465	139,043	160,497	181,518
	26	7.9	7.6	72,352	100,104	123,292	146,013	168,214	190,069

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE7MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	4	1.2	0.2	23,672	31,807	40,043	48,362	56,751	65,223
	7	2.1	0.6	40,210	53,708	67,247	80,734	94,242	107,744
	10	3.1	1.3	53,190	70,827	88,309	105,732	123,006	140,219
	14	4.3	2.4	66,619	88,493	109,949	131,238	152,358	173,101
	17	5.2	3.4	74,781	98,964	122,901	146,377	169,654	192,488
	20	6.1	4.6	81,594	107,873	133,721	159,165	184,243	208,822
	23	7.0	5.9	87,603	115,670	143,121	170,184	196,629	222,854
	26	7.9	7.5	93,060	122,546	151,537	179,987	207,890	235,283
R134a	4	1.2	0.2	23,633	31,718	39,951	48,239	56,603	65,044
	7	2.1	0.6	40,051	53,468	66,864	80,328	93,776	107,145
	10	3.1	1.3	52,861	70,307	87,672	104,942	122,090	139,085
	14	4.3	2.4	63,282	87,593	108,926	129,906	150,673	171,184
	17	5.2	3.4	70,656	97,896	121,449	144,774	167,548	189,945
	20	6.1	4.6	76,886	106,708	132,101	156,950	181,652	205,887
	23	7.0	5.9	82,380	108,566	141,256	167,628	193,827	219,363
	26	7.9	7.5	87,105	114,827	149,261	177,004	204,500	231,356
R404A	4	1.2	0.2	23,464	31,537	39,650	47,855	56,134	64,472
	7	2.1	0.6	39,567	52,723	65,952	79,115	92,242	105,357
	10	3.1	1.3	50,039	68,975	85,898	102,676	119,214	135,696
	14	4.3	2.4	61,771	81,796	105,851	126,065	145,957	165,574
	17	5.2	3.4	68,679	90,831	117,625	139,718	161,385	182,785
	20	6.1	4.6	74,531	98,235	121,480	151,048	174,238	197,039
	23	7.0	5.9	79,618	104,804	129,115	153,264	185,197	209,092
	26	7.9	7.5	84,048	110,363	135,895	160,951	185,387	219,734
R410A	4	1.2	0.2	23,623	31,734	39,950	48,225	56,580	64,994
	7	2.1	0.6	39,995	53,364	66,741	80,122	93,479	106,911
	10	3.1	1.3	52,718	70,161	87,366	104,513	121,557	138,543
	14	4.3	2.4	65,782	87,167	108,392	129,193	149,800	170,174
	17	5.2	3.4	73,563	97,392	120,744	143,684	166,258	188,544
	20	6.1	4.6	80,313	106,035	131,060	155,910	180,084	204,056
	23	7.0	5.9	86,057	113,391	140,003	166,248	192,021	217,133
	26	7.9	7.5	91,106	119,896	147,942	175,225	202,322	228,656

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE10MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	5	1.2	0.2	32,307	43,453	53,633	66,230	76,369	87,871
	10	2.1	0.7	58,127	77,619	97,086	114,090	136,121	155,475
	15	3.2	1.4	79,708	106,044	132,180	158,106	183,898	209,583
	19	4.1	2.2	90,747	124,034	154,339	184,223	213,811	243,036
	24	5.1	3.4	104,129	142,339	176,837	210,726	244,032	277,112
	28	6.0	4.6	113,351	149,866	191,948	228,269	264,356	299,482
	33	7.1	6.2	123,157	162,422	208,068	247,108	285,832	323,577
	37	7.9	7.7	129,926	171,410	212,005	260,407	300,715	340,338
R134a	5	1.2	0.2	32,223	43,363	54,643	64,765	76,212	89,311
	10	2.1	0.7	57,880	77,204	96,655	115,986	135,325	154,688
	15	3.2	1.4	77,059	102,509	131,200	156,913	182,523	207,777
	19	4.1	2.2	90,066	119,433	148,606	182,518	211,784	240,657
	24	5.1	3.4	103,192	136,582	169,626	201,904	234,008	273,755
	28	6.0	4.6	108,047	148,059	183,404	218,328	252,750	286,492
	33	7.1	6.2	117,056	160,448	198,553	235,628	272,450	308,649
	37	7.9	7.7	123,383	168,961	208,790	247,753	286,253	323,994
R404A	5	1.2	0.2	32,067	43,061	54,281	65,599	77,014	88,568
	10	2.1	0.7	55,873	74,518	95,296	114,275	133,229	152,066
	15	3.2	1.4	75,666	100,572	125,115	149,557	173,730	197,617
	19	4.1	2.2	88,005	116,535	144,778	172,487	199,882	226,727
	24	5.1	3.5	96,948	132,683	164,275	195,174	225,634	255,613
	28	6.0	4.6	104,775	143,272	177,009	210,083	242,526	274,447
	33	7.1	6.2	113,143	148,779	190,692	225,976	260,377	294,198
	37	7.9	7.7	118,876	156,463	200,006	236,850	272,603	308,023
R410A	5	1.2	0.2	32,245	42,422	53,564	64,797	76,226	87,717
	10	2.1	0.7	57,748	77,063	96,461	113,349	132,260	151,289
	15	3.2	1.4	78,902	104,911	130,623	156,211	181,567	206,721
	19	4.1	2.2	89,752	122,467	152,054	181,291	210,212	238,963
	24	5.1	3.4	102,791	135,924	173,795	206,729	239,056	271,208
	28	6.0	4.6	111,406	147,346	188,006	223,476	258,176	292,570
	33	7.1	6.2	120,952	159,309	196,975	241,298	278,522	315,135
	37	7.9	7.7	127,381	167,806	207,149	245,688	292,596	330,941

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE15MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	10	1.3	0.2	59,363	79,673	100,287	121,073	141,950	163,016
	15	2.0	0.5	87,411	116,703	146,191	175,809	205,313	234,802
	25	3.3	1.4	127,842	173,225	215,943	258,163	300,249	342,205
	30	4.0	2.0	144,247	195,296	242,891	290,215	336,978	383,284
	40	5.3	3.4	171,076	231,184	286,988	341,763	395,940	449,216
	45	6.0	4.2	182,126	240,926	305,030	362,974	420,240	476,268
	55	7.4	6.1	201,518	265,794	336,140	399,377	461,551	522,660
	60	8.0	7.2	209,860	276,721	349,858	415,472	479,854	543,223
R134a	10	1.3	0.2	59,252	79,517	100,022	120,646	141,602	162,488
	15	2.0	0.5	87,126	116,341	145,604	174,877	204,312	233,579
	25	3.3	1.4	127,078	168,890	214,267	256,364	297,993	339,160
	30	4.0	2.0	140,252	189,962	236,315	287,495	333,811	379,261
	40	5.3	3.4	165,758	224,057	277,964	330,946	383,091	443,454
	45	6.0	4.2	176,118	237,923	294,839	350,882	406,024	460,312
	55	7.4	6.1	189,431	256,313	324,016	384,989	444,985	503,422
	60	8.0	7.2	196,924	266,379	336,675	399,837	461,514	522,386
R404A	10	1.3	0.2	58,857	78,967	99,241	119,597	140,312	161,077
	15	2.0	0.5	84,781	113,275	143,735	172,486	201,225	230,060
	25	3.3	1.4	122,292	165,513	205,831	245,945	285,351	324,821
	30	4.0	2.0	137,222	185,333	230,218	274,407	317,834	360,702
	40	5.3	3.4	157,156	212,632	268,800	319,232	368,846	417,753
	45	6.0	4.2	166,691	225,353	278,577	337,638	389,575	440,986
	55	7.4	6.1	183,189	246,899	304,137	360,572	424,673	479,823
	60	8.0	7.2	189,933	255,973	315,383	373,471	439,197	496,168
R410A	10	1.3	0.2	59,238	79,509	99,947	120,619	141,430	162,457
	15	2.0	0.5	86,915	116,120	145,353	174,560	203,816	233,039
	25	3.3	1.4	126,772	171,367	213,336	254,988	296,445	337,215
	30	4.0	2.0	142,624	192,716	239,647	285,928	331,711	377,002
	40	5.3	3.4	168,377	222,655	281,725	335,107	387,767	440,074
	45	6.0	4.2	179,228	236,754	299,175	355,489	410,864	465,573
	55	7.4	6.1	197,628	260,662	321,803	389,967	449,902	508,951
	60	8.0	7.2	205,764	270,907	334,125	404,607	466,764	527,879

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE20MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.5	0.3	107,288	146,861	184,309	222,102	259,971	298,277
	30	2.3	0.6	153,481	204,791	261,422	313,516	365,565	417,591
	50	3.8	1.5	219,227	290,896	362,082	432,036	501,536	570,069
	60	4.6	2.1	243,701	322,932	401,005	477,772	553,459	628,315
	70	5.3	2.8	257,321	350,193	434,033	516,338	597,651	677,787
	80	6.1	3.6	275,002	373,800	462,546	549,710	635,573	719,973
	100	7.6	5.5	304,705	413,188	510,337	605,155	699,370	791,019
	100	7.6	5.5	304,705	413,188	510,337	605,155	699,370	791,019
R134a	20	1.5	0.3	106,928	143,418	180,257	221,253	259,070	296,877
	30	2.3	0.6	152,712	203,623	254,550	305,420	356,251	407,007
	50	3.8	1.5	211,686	280,915	358,439	427,615	496,079	564,086
	60	4.6	2.1	234,862	311,033	385,970	472,099	546,882	620,734
	70	5.3	2.8	246,858	336,476	416,760	509,684	589,740	668,686
	80	6.1	3.6	263,485	358,563	443,298	527,103	626,625	709,637
	100	7.6	5.5	291,150	395,015	487,884	578,745	668,296	777,915
	100	7.6	5.5	291,150	395,015	487,884	578,745	668,296	777,915
R404A	20	1.5	0.3	106,000	141,981	178,170	214,595	251,284	288,008
	30	2.3	0.6	147,053	200,368	250,188	299,660	349,075	398,425
	50	3.8	1.5	201,137	273,855	339,720	404,806	468,936	545,235
	60	4.6	2.1	221,922	301,940	373,988	444,460	513,740	582,679
	70	5.3	2.8	239,553	325,679	402,446	477,395	551,340	623,709
	80	6.1	3.6	254,822	336,015	426,523	505,900	583,079	659,734
	100	7.6	5.5	280,211	367,717	466,921	552,035	635,827	718,147
	100	7.6	5.5	280,211	367,717	466,921	552,035	635,827	718,147
R410A	20	1.5	0.3	106,938	146,120	183,262	220,676	258,398	296,177
	30	2.3	0.6	152,508	203,269	254,133	304,712	355,438	405,761
	50	3.8	1.5	216,390	287,153	356,949	425,442	493,154	560,555
	60	4.6	2.1	234,091	317,747	394,149	469,158	543,157	616,364
	70	5.3	2.8	253,320	343,944	425,961	506,005	584,759	663,028
	80	6.1	3.6	270,375	366,510	452,912	537,327	620,893	702,646
	100	7.6	5.5	298,363	392,804	497,553	590,266	680,487	769,099
	100	7.6	5.5	298,363	392,804	497,553	590,266	680,487	769,099

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE25MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.3	0.2	107,337	146,491	184,215	222,603	261,179	300,175
	40	2.5	0.8	201,900	269,179	336,167	402,804	469,294	535,549
	50	3.1	1.2	232,186	315,150	392,583	469,351	545,735	621,260
	70	4.4	2.2	285,674	387,073	480,324	572,273	663,303	752,883
	80	5.0	2.8	307,347	406,692	515,611	613,324	710,547	805,489
	100	6.3	4.3	343,636	453,678	561,517	681,878	788,790	892,981
	110	6.9	5.1	359,415	474,070	585,516	711,044	821,698	929,708
	130	8.2	7.1	377,623	508,605	628,609	745,397	879,845	994,966
R134a	20	1.3	0.2	107,074	143,971	181,298	219,069	257,020	295,598
	40	2.5	0.8	196,950	262,580	333,912	400,000	465,793	531,282
	50	3.1	1.2	225,653	306,421	382,176	465,527	540,986	615,205
	70	4.4	2.2	276,814	374,554	465,427	554,478	642,700	729,348
	80	5.0	2.8	296,980	393,163	498,108	593,270	686,849	778,734
	100	6.3	4.3	322,772	437,512	553,624	657,703	759,714	860,344
	110	6.9	5.1	337,146	456,241	577,170	685,202	791,094	895,441
	130	8.2	7.1	362,183	488,864	602,766	732,915	845,545	955,615
R404A	20	1.3	0.2	104,589	142,799	179,586	216,864	254,330	292,435
	40	2.5	0.8	190,099	257,845	321,547	384,975	447,834	510,420
	50	3.1	1.2	221,330	299,748	372,793	445,139	516,540	587,132
	70	4.4	2.2	262,824	356,302	441,149	535,919	619,783	702,578
	80	5.0	2.8	281,126	380,524	470,951	571,377	660,153	747,092
	100	6.3	4.3	312,264	421,377	519,603	615,637	709,750	820,987
	110	6.9	5.1	325,492	438,539	540,079	639,437	736,828	832,684
	130	8.2	7.1	348,011	456,431	575,868	681,094	783,282	884,031
R410A	20	1.3	0.2	107,090	143,965	181,265	218,791	256,958	295,314
	40	2.5	0.8	200,413	266,854	332,963	398,663	464,017	529,394
	50	3.1	1.2	230,002	311,500	387,758	463,064	537,845	612,270
	70	4.4	2.2	281,731	373,374	472,196	562,184	650,714	738,090
	80	5.0	2.8	302,743	400,087	495,526	601,273	695,327	787,578
	100	6.3	4.3	337,495	445,027	549,407	652,601	753,788	869,687
	110	6.9	5.1	344,078	464,295	572,422	679,143	783,951	886,640
	130	8.2	7.1	369,256	497,106	612,646	725,663	836,750	945,091

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE30MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	23	1.2	0.1	123,421	164,869	207,803	251,267	295,467	339,912
	40	2.0	0.5	208,001	281,624	352,504	423,304	493,811	564,622
	60	3.1	1.0	282,777	376,025	475,940	569,098	661,785	753,028
	80	4.1	1.7	339,249	450,003	559,097	666,842	785,648	892,172
	100	5.1	2.6	377,428	508,060	629,962	749,759	867,605	984,180
	120	6.1	3.6	413,249	555,659	687,269	816,951	944,845	1,070,413
	140	7.1	4.8	443,692	585,331	735,977	873,896	1,009,619	1,143,171
	160	8.1	6.1	470,808	619,290	778,093	923,286	1,065,785	1,204,532
R134a	23	1.2	0.1	121,604	164,347	207,092	250,660	294,469	338,738
	40	2.0	0.5	206,937	276,268	345,830	415,481	491,309	561,266
	60	3.1	1.0	276,364	367,394	465,001	555,952	646,457	735,921
	80	4.1	1.7	324,316	438,273	544,487	660,086	764,839	868,516
	100	5.1	2.6	366,161	493,759	611,772	728,239	856,534	971,041
	120	6.1	3.6	400,079	528,129	666,327	792,299	914,868	1,053,605
	140	7.1	4.8	420,782	565,648	712,527	845,293	977,071	1,105,245
	160	8.1	6.1	445,023	597,401	737,029	891,664	1,029,547	1,164,126
R404A	23	1.2	0.1	120,790	161,240	203,126	248,406	291,651	332,202
	40	2.0	0.5	201,323	268,549	340,394	408,410	476,034	543,870
	60	3.1	1.0	266,433	359,531	447,639	534,850	620,299	715,271
	80	4.1	1.7	316,529	418,608	528,820	628,802	728,148	825,877
	100	5.1	2.6	348,426	469,516	580,025	701,786	810,035	916,657
	120	6.1	3.6	379,275	509,600	628,314	745,155	875,401	990,012
	140	7.1	4.8	396,758	532,586	669,085	792,176	912,681	1,050,752
	160	8.1	6.1	418,801	560,469	704,108	832,733	957,811	1,080,966
R410A	23	1.2	0.1	123,155	164,371	207,039	250,285	294,245	338,611
	40	2.0	0.5	206,680	279,512	349,710	419,604	489,435	559,234
	60	3.1	1.0	279,976	372,180	463,424	554,003	643,992	732,645
	80	4.1	1.7	329,379	443,581	550,430	656,034	759,719	863,072
	100	5.1	2.6	371,181	499,507	618,208	734,821	850,026	962,842
	120	6.1	3.6	406,100	535,921	673,128	798,479	921,744	1,044,126
	140	7.1	4.8	435,307	572,982	718,878	852,152	983,556	1,111,505
	160	8.1	6.1	451,752	605,428	746,081	897,852	1,035,645	1,169,491

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE40MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	22	1.2	0.1	130,375	177,262	223,294	269,767	316,830	364,054
	40	2.1	0.5	232,993	311,119	389,332	467,699	545,654	623,928
	60	3.2	1.1	314,962	425,840	530,829	634,969	738,764	841,462
	80	4.3	1.9	381,570	506,479	640,104	764,011	886,446	1,007,390
	90	4.8	2.3	409,438	543,025	674,972	817,575	947,878	1,076,747
	110	5.9	3.3	449,849	606,391	751,786	895,337	1,054,046	1,195,136
	130	7.0	4.5	490,276	660,534	816,628	971,280	1,122,302	1,294,128
	150	8.0	5.9	525,459	706,177	873,039	1,036,661	1,197,155	1,355,343
R134a	22	1.2	0.1	130,110	174,964	220,355	266,478	312,884	359,937
	40	2.1	0.5	228,750	305,670	387,428	465,193	542,975	620,326
	60	3.2	1.1	307,699	416,487	519,322	621,191	722,961	835,431
	80	4.3	1.9	371,824	492,949	623,430	744,796	863,297	981,837
	90	4.8	2.3	390,799	528,141	667,446	795,681	922,342	1,047,154
	110	5.9	3.3	436,263	588,399	728,861	883,637	1,023,246	1,159,665
	130	7.0	4.5	474,137	639,162	790,393	939,293	1,106,546	1,253,635
	150	8.0	5.9	507,195	667,939	842,360	1,000,714	1,156,646	1,332,497
R404A	22	1.2	0.1	127,657	173,979	218,968	264,535	310,682	357,198
	40	2.1	0.5	223,088	301,851	377,170	452,840	528,008	603,527
	60	3.2	1.1	302,513	402,013	508,043	607,449	705,185	803,098
	80	4.3	1.9	356,481	480,474	596,476	710,978	823,167	949,661
	90	4.8	2.3	381,050	513,580	636,584	757,375	875,991	993,300
	110	5.9	3.3	415,177	558,591	704,364	835,744	965,400	1,091,944
	130	7.0	4.5	449,234	604,055	745,183	900,330	1,038,613	1,174,345
	150	8.0	5.9	478,423	642,244	791,319	955,457	1,101,242	1,243,008
R410A	22	1.2	0.1	130,147	175,004	220,350	266,483	312,846	359,888
	40	2.1	0.5	231,664	309,329	387,101	464,402	541,681	618,904
	60	3.2	1.1	312,338	415,303	524,961	627,919	729,564	830,790
	80	4.3	1.9	377,085	500,011	620,744	740,994	871,651	990,043
	90	4.8	2.3	404,159	535,092	664,608	791,528	916,929	1,040,375
	110	5.9	3.3	443,008	596,022	738,535	877,333	1,015,378	1,150,415
	130	7.0	4.5	481,647	647,630	799,667	949,542	1,096,135	1,241,323
	150	8.0	5.9	514,494	678,067	852,488	1,010,716	1,165,933	1,318,936

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE50MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.3	0.2	180,026	241,657	304,110	366,833	430,196	494,259
	50	2.1	0.5	289,675	390,585	488,590	586,669	684,660	782,527
	80	3.4	1.3	410,685	552,817	688,665	824,103	958,168	1,103,307
	100	4.3	2.0	475,313	638,751	794,408	948,368	1,100,413	1,250,912
	120	5.1	2.8	529,690	701,475	883,319	1,052,208	1,218,277	1,383,533
	140	6.0	3.7	567,901	762,716	958,368	1,140,336	1,320,022	1,496,307
	170	7.3	5.2	627,224	840,683	1,039,549	1,251,604	1,446,693	1,638,747
	190	8.1	6.4	660,975	885,480	1,093,265	1,298,725	1,519,699	1,720,919
R134a	30	1.3	0.2	177,951	239,030	303,274	365,914	429,228	492,687
	50	2.1	0.5	285,176	384,860	481,628	578,436	675,187	771,332
	80	3.4	1.3	402,370	542,478	675,505	817,485	950,104	1,081,908
	100	4.3	2.0	464,428	616,497	777,391	927,993	1,075,875	1,237,657
	120	5.1	2.8	508,910	684,376	861,875	1,026,805	1,189,188	1,350,268
	140	6.0	3.7	552,938	742,801	920,394	1,110,944	1,285,736	1,457,668
	170	7.3	5.2	599,239	802,686	1,009,135	1,198,134	1,406,157	1,593,080
	190	8.1	6.4	629,994	844,525	1,061,075	1,258,253	1,476,462	1,669,626
R404A	30	1.3	0.2	174,996	237,420	298,615	360,023	422,123	484,854
	50	2.1	0.5	282,182	376,457	470,551	570,107	664,450	759,230
	80	3.4	1.3	389,546	524,312	660,775	788,862	916,326	1,041,384
	100	4.3	2.0	447,529	600,758	746,240	888,972	1,042,856	1,182,811
	120	5.1	2.8	487,579	655,045	823,669	978,840	1,131,126	1,282,724
	140	6.0	3.7	527,776	707,865	887,673	1,053,736	1,216,634	1,377,129
	170	7.3	5.2	578,327	773,935	954,279	1,147,350	1,323,317	1,495,451
	190	8.1	6.4	596,179	797,747	999,096	1,182,154	1,384,243	1,562,564
R410A	30	1.3	0.2	179,593	240,947	303,218	365,764	428,586	492,009
	50	2.1	0.5	288,016	384,660	480,884	582,885	679,453	775,989
	80	3.4	1.3	407,170	546,997	681,498	814,030	946,346	1,076,037
	100	4.3	2.0	469,656	622,712	782,809	933,670	1,082,232	1,229,487
	120	5.1	2.8	522,292	691,303	857,986	1,032,645	1,195,097	1,356,361
	140	6.0	3.7	559,021	749,818	928,253	1,102,891	1,290,801	1,462,632
	170	7.3	5.2	615,024	823,788	1,017,080	1,206,820	1,393,179	1,577,443
	190	8.1	6.4	647,974	865,916	1,068,567	1,266,493	1,460,975	1,651,972

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE60MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	33	1.2	0.1	195,402	264,905	333,888	403,221	473,507	544,817
	60	2.1	0.5	349,490	466,375	584,006	701,045	824,752	942,526
	90	3.2	1.1	475,010	632,212	795,652	952,457	1,107,853	1,262,581
	120	4.3	1.8	568,687	763,623	949,744	1,145,841	1,329,214	1,510,563
	140	5.0	2.4	623,746	836,594	1,038,770	1,238,227	1,450,025	1,647,105
	170	6.1	3.4	694,021	918,301	1,151,682	1,369,895	1,586,471	1,798,795
	200	7.1	4.6	745,294	995,947	1,247,092	1,482,294	1,713,535	1,940,047
	220	7.8	5.5	780,507	1,041,637	1,287,121	1,547,467	1,788,556	2,025,216
R134a	33	1.2	0.1	195,281	262,370	330,707	399,690	469,343	543,069
	60	2.1	0.5	341,579	460,499	576,034	697,898	813,998	930,529
	90	3.2	1.1	461,831	621,118	782,499	936,073	1,088,758	1,240,641
	120	4.3	1.8	557,413	748,103	930,660	1,109,995	1,301,979	1,479,822
	140	5.0	2.4	603,057	808,851	1,016,095	1,210,545	1,402,917	1,610,142
	170	6.1	3.4	669,591	896,947	1,110,720	1,337,001	1,546,757	1,753,224
	200	7.1	4.6	716,487	957,403	1,200,364	1,442,361	1,667,621	1,888,745
	220	7.8	5.5	748,577	1,000,343	1,253,708	1,488,068	1,738,242	1,967,145
R404A	33	1.2	0.1	192,406	260,822	328,362	396,778	466,046	535,624
	60	2.1	0.5	338,015	450,741	568,139	682,342	795,331	908,285
	90	3.2	1.1	454,072	603,142	758,107	905,923	1,053,186	1,197,594
	120	4.3	1.8	538,351	721,531	895,329	1,078,443	1,247,949	1,415,486
	140	5.0	2.4	579,219	776,384	974,787	1,158,408	1,339,684	1,533,439
	170	6.1	3.4	640,673	856,194	1,058,637	1,272,569	1,469,341	1,663,224
	200	7.1	4.6	682,355	911,309	1,138,880	1,366,641	1,576,137	1,782,071
	220	7.8	5.5	711,957	948,666	1,185,370	1,404,262	1,637,637	1,851,246
R410A	33	1.2	0.1	195,306	264,317	332,906	402,144	472,191	542,825
	60	2.1	0.5	344,398	464,057	580,088	696,602	812,531	928,379
	90	3.2	1.1	470,874	626,150	779,776	940,917	1,095,083	1,246,345
	120	4.3	1.8	561,895	753,627	936,077	1,116,383	1,294,298	1,470,264
	140	5.0	2.4	615,237	814,197	1,021,320	1,216,789	1,408,455	1,598,277
	170	6.1	3.4	675,356	902,033	1,129,660	1,342,065	1,551,661	1,757,475
	200	7.1	4.6	731,808	975,911	1,205,163	1,448,053	1,670,748	1,891,644
	220	7.8	5.5	764,997	1,020,026	1,257,901	1,492,457	1,741,431	1,970,458

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE70MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	40	1.2	0.2	238,979	320,946	405,992	490,648	575,603	661,223
	70	2.1	0.5	406,309	546,060	683,466	820,870	957,629	1,094,230
	100	3.1	1.0	533,989	716,448	893,452	1,077,594	1,254,744	1,429,145
	140	4.3	1.9	669,121	888,520	1,114,859	1,330,655	1,543,600	1,755,381
	170	5.2	2.7	743,392	994,820	1,234,731	1,486,317	1,720,908	1,954,148
	200	6.1	3.6	811,950	1,086,372	1,345,317	1,601,870	1,870,646	2,121,847
	230	7.0	4.6	862,685	1,152,200	1,440,893	1,712,616	1,980,204	2,266,817
	260	7.9	5.8	915,293	1,220,220	1,524,571	1,810,241	2,091,355	2,392,863
R134a	40	1.2	0.2	236,741	320,255	402,874	486,581	570,996	656,217
	70	2.1	0.5	398,064	535,942	675,639	811,298	946,887	1,082,233
	100	3.1	1.0	525,585	705,644	879,795	1,054,089	1,236,423	1,407,992
	140	4.3	1.9	649,889	871,023	1,083,882	1,305,765	1,515,125	1,721,769
	170	5.2	2.7	720,484	964,203	1,208,976	1,440,076	1,685,149	1,911,539
	200	6.1	3.6	776,179	1,049,501	1,300,843	1,564,323	1,809,295	2,072,017
	230	7.0	4.6	832,365	1,111,607	1,390,582	1,669,528	1,931,203	2,186,150
	260	7.9	5.8	881,304	1,175,182	1,468,823	1,744,921	2,036,141	2,304,038
R404A	40	1.2	0.2	233,684	316,207	397,967	480,434	563,532	647,570
	70	2.1	0.5	393,527	529,369	661,796	794,199	925,695	1,057,061
	100	3.1	1.0	512,076	686,867	855,140	1,022,589	1,197,789	1,363,659
	140	4.3	1.9	622,411	841,403	1,044,375	1,256,202	1,455,039	1,650,397
	170	5.2	2.7	692,820	926,126	1,160,201	1,377,279	1,593,115	1,822,499
	200	6.1	3.6	744,409	1,004,056	1,241,303	1,488,779	1,718,739	1,945,672
	230	7.0	4.6	795,168	1,059,416	1,322,049	1,584,199	1,825,703	2,063,116
	260	7.9	5.8	828,538	1,116,037	1,392,460	1,647,584	1,919,421	2,167,299
R410A	40	1.2	0.2	238,444	320,236	402,851	486,442	570,775	655,964
	70	2.1	0.5	404,313	539,061	674,578	814,327	950,370	1,085,000
	100	3.1	1.0	529,372	709,708	884,794	1,058,774	1,231,604	1,402,756
	140	4.3	1.9	655,113	876,872	1,089,251	1,311,140	1,519,385	1,725,131
	170	5.2	2.7	732,679	979,041	1,215,251	1,445,739	1,672,146	1,897,434
	200	6.1	3.6	790,395	1,056,307	1,319,483	1,567,875	1,813,737	2,054,045
	230	7.0	4.6	847,343	1,129,543	1,409,869	1,672,554	1,932,241	2,187,530
	260	7.9	5.8	897,062	1,195,005	1,473,727	1,766,099	2,036,462	2,303,552

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE80MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	44	1.2	0.1	262,228	352,520	443,795	536,586	629,921	724,270
	80	2.1	0.5	465,707	621,462	777,393	938,906	1,095,452	1,251,949
	120	3.2	1.1	634,032	843,185	1,059,218	1,267,172	1,474,343	1,679,321
	150	4.0	1.7	731,027	978,464	1,216,648	1,466,013	1,700,685	1,932,870
	190	5.1	2.6	835,890	1,117,075	1,398,631	1,665,709	1,930,420	2,208,705
	230	6.2	3.7	927,742	1,238,292	1,534,199	1,839,250	2,127,847	2,411,638
	260	7.0	4.6	977,743	1,316,568	1,629,392	1,951,386	2,254,615	2,553,712
	300	8.0	6.1	1,046,689	1,395,083	1,740,668	2,065,404	2,405,100	2,721,100
R134a	44	1.2	0.1	260,148	349,492	440,518	535,294	628,480	722,625
	80	2.1	0.5	457,226	614,554	769,226	928,974	1,083,771	1,238,264
	120	3.2	1.1	620,000	831,557	1,036,308	1,248,003	1,452,326	1,654,322
	150	4.0	1.7	712,296	954,579	1,197,137	1,430,264	1,658,798	1,899,198
	190	5.1	2.6	811,886	1,086,190	1,360,271	1,633,348	1,892,131	2,148,051
	230	6.2	3.7	890,560	1,199,998	1,500,754	1,784,170	2,082,840	2,360,308
	260	7.0	4.6	945,588	1,262,273	1,575,422	1,889,454	2,183,508	2,497,404
	300	8.0	6.1	1,000,200	1,345,214	1,678,981	2,013,811	2,325,179	2,628,722
R404A	44	1.2	0.1	257,089	345,438	437,706	528,480	620,325	713,280
	80	2.1	0.5	448,621	602,626	753,814	909,158	1,060,731	1,210,795
	120	3.2	1.1	598,861	808,737	1,006,850	1,202,574	1,407,305	1,601,318
	150	4.0	1.7	690,794	923,100	1,155,888	1,378,323	1,597,274	1,812,425
	190	5.1	2.6	782,561	1,043,834	1,305,738	1,551,033	1,809,575	2,049,783
	230	6.2	3.7	853,739	1,137,352	1,419,093	1,699,194	1,961,422	2,218,620
	260	7.0	4.6	904,644	1,203,235	1,498,638	1,794,134	2,067,293	2,338,352
	300	8.0	6.1	952,415	1,279,435	1,591,368	1,884,169	2,189,200	2,474,987
R410A	44	1.2	0.1	260,179	351,397	442,512	535,126	628,220	721,671
	80	2.1	0.5	459,771	617,526	772,079	926,696	1,080,960	1,235,281
	120	3.2	1.1	623,456	835,111	1,040,172	1,242,946	1,455,734	1,656,362
	150	4.0	1.7	722,823	958,846	1,200,298	1,433,485	1,660,699	1,888,111
	190	5.1	2.6	824,105	1,099,238	1,365,209	1,635,797	1,891,818	2,147,713
	230	6.2	3.7	912,650	1,215,374	1,503,704	1,787,507	2,065,191	2,354,403
	260	7.0	4.6	960,484	1,278,075	1,593,897	1,891,642	2,182,827	2,472,261
	300	8.0	6.1	1,026,115	1,364,311	1,697,548	2,013,508	2,321,437	2,626,366

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE100MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	74	1.2	0.1	396,132	532,591	671,463	812,168	954,205	1,097,850
	150	2.4	0.5	752,869	1,017,286	1,272,427	1,526,846	1,798,082	2,052,071
	200	3.1	0.8	929,647	1,253,036	1,562,983	1,868,259	2,172,304	2,473,401
	250	3.9	1.2	1,058,743	1,424,915	1,795,472	2,142,892	2,486,814	2,825,282
	300	4.7	1.7	1,176,733	1,581,951	1,963,160	2,368,329	2,742,744	3,113,074
	400	6.3	2.8	1,347,484	1,804,995	2,263,201	2,691,205	3,111,981	3,568,704
	450	7.1	3.5	1,423,920	1,904,058	2,385,658	2,834,431	3,276,307	3,706,361
	500	7.9	4.3	1,493,052	1,994,757	2,497,854	2,962,912	3,420,583	3,869,947
R134a	74	1.2	0.1	390,762	525,869	662,865	801,691	951,852	1,094,305
	150	2.4	0.5	737,747	999,100	1,249,173	1,499,388	1,769,039	2,017,043
	200	3.1	0.8	896,688	1,211,735	1,531,332	1,831,084	2,127,873	2,421,483
	250	3.9	1.2	1,018,143	1,374,773	1,732,467	2,068,494	2,428,681	2,762,234
	300	4.7	1.7	1,131,755	1,523,757	1,915,052	2,282,392	2,642,696	3,040,024
	400	6.3	2.8	1,290,493	1,730,306	2,172,792	2,617,288	3,027,295	3,428,676
	450	7.1	3.5	1,363,221	1,825,283	2,287,638	2,716,720	3,182,072	3,603,220
	500	7.9	4.3	1,406,381	1,909,384	2,391,519	2,839,518	3,321,511	3,753,347
R404A	74	1.2	0.1	378,870	516,806	658,308	795,943	935,345	1,075,438
	150	2.4	0.5	718,781	971,075	1,213,501	1,454,760	1,696,220	1,955,769
	200	3.1	0.8	868,285	1,171,049	1,458,830	1,764,246	2,048,277	2,331,322
	250	3.9	1.2	982,170	1,321,862	1,665,096	1,982,989	2,325,340	2,638,640
	300	4.7	1.7	1,085,872	1,458,178	1,831,246	2,176,808	2,516,380	2,853,954
	400	6.3	2.8	1,230,193	1,647,175	2,060,455	2,444,267	2,857,644	3,233,475
	450	7.1	3.5	1,297,012	1,731,172	2,164,609	2,563,500	2,993,976	3,385,272
	500	7.9	4.3	1,333,563	1,806,106	2,256,361	2,670,622	3,073,672	3,518,065
R410A	74	1.2	0.1	391,668	532,234	670,402	810,419	952,149	1,094,662
	150	2.4	0.5	748,875	1,010,362	1,262,664	1,515,653	1,766,050	2,015,611
	200	3.1	0.8	921,354	1,226,009	1,528,210	1,846,860	2,146,553	2,441,311
	250	3.9	1.2	1,047,187	1,408,330	1,749,925	2,087,566	2,420,097	2,749,177
	300	4.7	1.7	1,161,283	1,539,004	1,931,959	2,299,493	2,662,457	3,020,069
	400	6.3	2.8	1,324,185	1,772,393	2,189,193	2,633,427	3,041,015	3,441,896
	450	7.1	3.5	1,397,884	1,865,953	2,304,216	2,768,876	3,192,625	3,612,923
	500	7.9	4.3	1,465,274	1,950,329	2,406,756	2,852,462	3,328,340	3,763,280

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HSE125MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	100	1.2	0.1	535,453	719,500	906,506	1,102,969	1,294,779	1,488,731
	200	2.5	0.6	994,226	1,337,880	1,671,690	2,005,232	2,356,795	2,688,840
	250	3.1	0.9	1,168,250	1,554,481	1,957,868	2,341,499	2,721,367	3,097,225
	350	4.4	1.6	1,428,325	1,915,270	2,377,821	2,860,614	3,314,830	3,766,480
	400	5.0	2.1	1,520,600	2,038,651	2,554,780	3,040,533	3,553,633	4,028,575
	500	6.2	3.1	1,705,167	2,276,487	2,847,939	3,384,126	3,913,632	4,433,818
	550	6.8	3.7	1,764,406	2,379,492	2,943,357	3,530,749	4,079,085	4,618,027
	650	8.1	5.1	1,901,764	2,531,764	3,160,165	3,786,290	4,371,082	4,945,146
R134a	100	1.2	0.1	524,503	711,588	895,877	1,082,900	1,281,374	1,471,966
	200	2.5	0.6	966,915	1,304,406	1,645,897	1,975,038	2,300,061	2,623,938
	250	3.1	0.9	1,121,655	1,511,021	1,904,915	2,300,015	2,674,101	3,044,304
	350	4.4	1.6	1,366,343	1,835,208	2,304,223	2,773,289	3,215,492	3,652,529
	400	5.0	2.1	1,470,237	1,971,819	2,470,344	2,942,259	3,441,003	3,902,696
	500	6.2	3.1	1,625,082	2,172,543	2,719,940	3,267,866	3,779,328	4,323,975
	550	6.8	3.7	1,699,728	2,269,212	2,835,317	3,406,034	3,933,213	4,498,477
	650	8.1	5.1	1,809,871	2,436,313	3,041,286	3,608,111	4,208,243	4,760,232
R404A	100	1.2	0.1	515,560	700,576	882,149	1,065,346	1,250,529	1,437,805
	200	2.5	0.6	942,145	1,269,843	1,584,869	1,918,657	2,231,324	2,545,404
	250	3.1	0.9	1,089,243	1,463,458	1,843,419	2,201,945	2,555,082	2,906,811
	350	4.4	1.6	1,316,452	1,764,330	2,212,948	2,631,387	3,075,597	3,486,808
	400	5.0	2.1	1,395,816	1,890,332	2,363,655	2,807,928	3,246,706	3,713,138
	500	6.2	3.1	1,552,946	2,073,948	2,588,020	3,098,653	3,574,200	4,043,827
	550	6.8	3.7	1,602,135	2,159,535	2,692,577	3,188,355	3,714,386	4,197,923
	650	8.1	5.1	1,718,978	2,283,497	2,841,899	3,397,804	3,913,136	4,462,591
R410A	100	1.2	0.1	530,112	718,312	904,374	1,092,019	1,281,843	1,473,636
	200	2.5	0.6	987,690	1,316,731	1,659,238	1,989,852	2,314,794	2,639,326
	250	3.1	0.9	1,146,599	1,540,396	1,920,303	2,295,152	2,665,831	3,035,386
	350	4.4	1.6	1,395,302	1,869,472	2,341,599	2,789,113	3,228,960	3,666,871
	400	5.0	2.1	1,499,994	2,008,438	2,486,711	2,985,547	3,454,901	3,914,467
	500	6.2	3.1	1,658,418	2,211,740	2,762,767	3,278,268	3,784,950	4,325,656
	550	6.8	3.7	1,733,591	2,308,681	2,880,034	3,414,283	3,941,061	4,459,944
	650	8.1	5.1	1,863,877	2,475,060	3,083,007	3,652,374	4,208,378	4,758,569

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Alfa Laval Standard SST condenser

Shell-and-tube condenser with high pumpdown capacity

The industry's most widely used and trusted model. SST condensers provide generous pumpdown capacities, helping eliminate the need for receiver tanks. They offer a level of durabilty that will ensure many years of reliable performance.

Standard Designs
SST condensers are available in standard designs for water duty. The models feature high-efficiency tube surfaces and they are available in 28 catalog models from 2 to 200 horsepower (HP). They are designed to provide generous pumpdown capacity to your system, eliminating the need for receiver tanks and additional piping. For glycol duty please consult ProSuite or contact the factory.

Tube Materials
SST condensers are manufactured with enhanced 3/4" diameter copper tubing to provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Customization
As standard these units offer a horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client. Condenser can be made with stainless steel for increased life with poor quality cooling water.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance enhanced designed tubing. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing. Tube sheets are epoxy coated to prevent pitting caused by galvanic action.

Tube Supports
Quality steel tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined steel heads. Custom connection versions are available. The inside of the heads are epoxy coated to prevent pitting caused by galvanic action.

Connections
All water side connections are FNPT. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

Standard Refrigeration

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Working Pressures:
450 psi. Shell Side (Refrigerant) @ 150°F
150 psi. Tube Side (Water/Fluid) @ 150°F

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal horsepower by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow
Water velocities of eight feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this catalog section are limited to flow velocities below eight feet per second.

Approved Refrigerants
R22, R134a, R404A & R507A. Units shorter than three feet in length R407C/R407F.

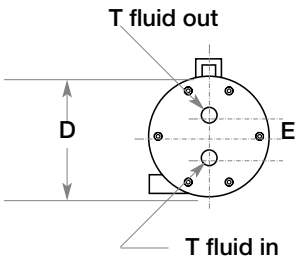
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. R410A due to recommended operating pressures. Units longer than three feet, R407C/R407F are not approved due to the risk of refrigerant separation. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Alfa Laval before use.

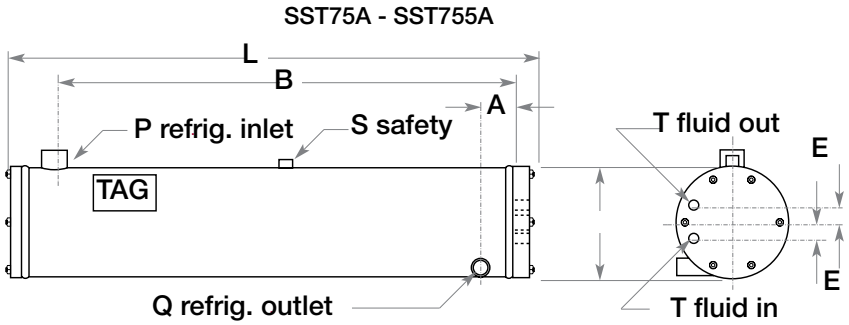
Alternative Options
For higher pressure refrigerants use SST-MP units. For less pumpdown capacity use HSE units. For salt water applications use MST units. SST units can be used in conjunction with a HR or UR receivers for even greater pumpdown capacity. For clean water applications use a brazed CND-CB or for higher pressure refrigerants use a CND-ACH, this will require a HR or UR receiver to obtain pumpdown capacity.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1×10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

SST100 only



SST75A - SST755A



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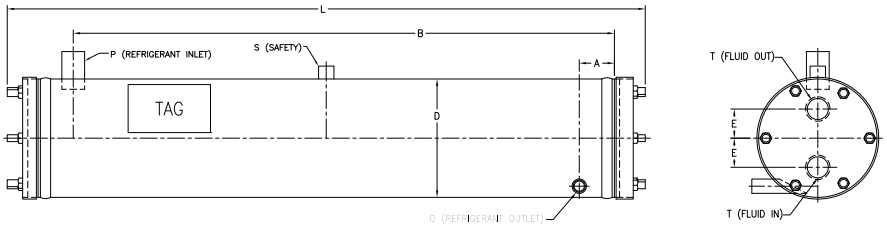

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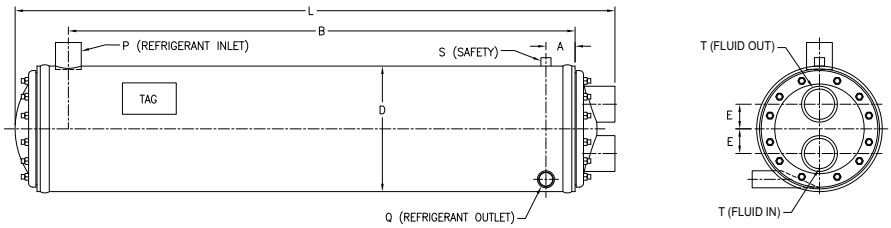

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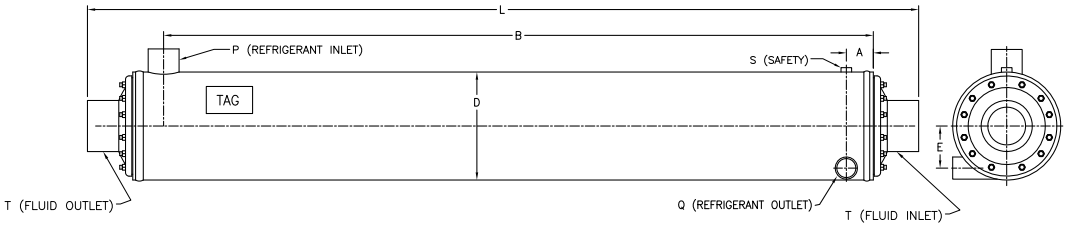


Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard SST condenser

Technical specifications

Models	R22 Nominal HP*	R134a Nominal HP*	Dimensions (inches)					Connections (inches)			
			D	L	A	B	E	P (IDS)	Q (IDS)	S (FNPT)	T (FNPT)
SST75A	0.67	0.65	5	21.12	2.00	16.00	1.63	1/2	1/2	3/8	3/8
SST100A	1.62	1.58	6	21.50	2.13	15.88	1.88	5/8	1/2	3/8	1/2
SST200A	2.96	2.89	6 5/8	21.38	2.06	15.94	1.00	7/8	5/8	3/8	3/4
SST300A	4.78	4.66	6 5/8	27.38	2.06	21.94	1.00	7/8	5/8	3/8	3/4
SST500A	6.57	6.41	8 5/8	28.00	2.63	21.56	1.50	1 1/8	5/8	1/2	1 1/4
SST750A	9.61	9.37	8 5/8	28.50	2.50	21.50	1.50	1 3/8	7/8	1/2	1 1/4
SST755A	14.0	13.6	8 5/8	40.50	2.56	33.44	1.50	1 3/8	7/8	1/2	1 1/4
SST1000A	13.2	12.9	8 5/8	46.50	2.56	39.44	2.13	1 3/8	7/8	1/2	1 1/4
SST1500A	19.9	19.5	8 5/8	52.00	2.50	45.44	2.13	1 3/8	1 1/8	1/2	1 1/2
SST1555A	19.6	19.1	10 3/4	53.25	3.00	44.75	2.50	1 5/8	1 1/8	1/2	1 1/2
SST2005A	26.9	26.2	10 3/4	65.25	3.00	56.50	2.50	2 1/8	1 1/8	1/2	2
SST2026A	26.6	25.9	12 3/4	65.25	3.25	56.50	2.50	2 1/8	1 1/8	1/2	2
SST2505A	34.5	33.5	12 3/4	65.50	3.00	56.50	2.13	2 1/8	1 3/8	1/2	2 1/2
SST2527A	34.0	33.1	10 3/4	65.50	3.25	56.50	2.13	2 1/8	1 3/8	1/2	2 1/2
SST3005A	40.4	39.3	10 3/4	65.50	3.00	56.50	2.13	2 5/8	1 3/8	1/2	2 1/2
SST3028A	39.9	38.8	12 3/4	65.50	3.25	56.50	2.13	2 5/8	1 3/8	1/2	2 1/2
SST3505A	44.5	43.5	12 3/4	65.50	3.25	56.50	2.13	2 5/8	1 3/8	1/2	2 1/2
SST4005A	44.9	43.7	14	66.88	3.25	56.50	2.75	2 5/8	1 3/8	1/2	3
SST4505A	57.9	56.3	14	66.88	3.25	56.50	2.75	2 5/8	1 5/8	1/2	3
SST5005A	62.8	61.1	14	66.81	3.25	56.50	2.75	3 1/8	1 5/8	1/2	4
SST5505A	66.0	64.2	14	66.81	3.25	56.00	2.75	3 1/8	1 5/8	1/2	4
SST6005A	73.5	71.5	14	66.81	3.25	56.75	2.75	3 1/8	2 1/8	1/2	4
SST7005A	86.3	83.9	14	66.69	3.25	56.00	2.75	3 1/8	2 1/8	1/2	4
SST8005A	97.2	94.5	14	66.69	3.25	56.00	2.75	3 1/8	2 1/8	1/2	4
SST1001408A	127.1	124.1	14	107.75	3.50	92.00	5.56	3 1/8	2 5/8	3/4	5
SST1201408A	154.3	150.4	14	107.75	3.50	92.00	5.56	3 5/8	2 5/8	3/4	5
SST1501410A	185.3	180.8	14	131.75	3.50	115.50	5.56	3 5/8	2 5/8	3/4	5
SST2001412A	271.0	263.0	14	159.00	4.00	139.00	5.56	4 1/8	3 1/8	3/4	6" Flange

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
ProSuite software values are the most accurate
Tubing has high performance enhanced surface
HP = 15,000 Btu/hr

Standard Refrigeration

Models	Pumpdown Capacity (lbs.)		Water Flow (gpm)		Water Pressure Drop (psi)		Shipping Weight (lbs.)	Gaskets Article #		Endplates Article #	
	R22*	R134a*	Min.	Max.	R22	R134a	E	Front	Rear	Front	Rear
SST75A	11	11	0.7	2.6	0.8	0.8	28	3156	346	4304	30
SST100A	15	15	0.7	5.0	4.0	3.8	39	3163	3149	5040	5026
SST200A	16	17	2.0	18.0	1.5	1.4	52	3101	3170	5819	76
SST300A	22	23	2.0	16.0	4.1	3.9	71	3101	3170	5819	76
SST500A	40	40	2.7	26.8	3.1	2.9	90	3118	2584	5938	4047
SST750A	37	37	4.0	30.0	3.4	3.2	109	3118	2584	5938	4047
SST755A	59	59	3.4	20	11.0	10.4	144	3118	2584	5938	4047
SST1000A	69	70	6.7	67	2.8	2.7	159	1723	2953	6605	4047
SST1500A	76	77	8.0	70	3.8	3.6	180	1723	2953	5576	4047
SST1555A	127	129	8.0	80.4	3.6	3.5	272	2591	2984	5907	4180
SST2005A	160	163	8.0	80.4	5.3	5.0	313	2591	2984	5914	4180
SST2026A	231	235	8.0	80.4	5.2	4.9	428	2591	2984	5914	4180
SST2505A	155	157	10.1	100.5	5.2	5.0	345	2591	2984	6205	4180
SST2527A	226	229	10.1	100.5	5.1	4.9	413	2591	2984	6205	4180
SST3005A	149	151	12.1	100.1	5.2	5.0	350	2591	2984	6205	4180
SST3028A	220	223	12.1	100.1	5.1	4.9	448	2591	2984	6205	4180
SST3505A	216	219	13.4	111.2	5.3	5.1	400	2591	2984	6205	4180
SST4005A	268	272	14.8	122.3	4.9	4.6	489	111	120	210	238
SST4505A	256	260	17.4	144.6	5.2	4.9	519	111	120	210	238
SST5005A	253	256	18.8	187.7	4.7	4.5	527	111	120	247	238
SST5505A	249	252	20.1	201.1	4.6	4.3	521	111	120	247	238
SST6005A	243	246	22.1	221.2	4.7	4.5	542	111	120	247	238
SST7005A	231	235	26.1	261.4	4.9	4.6	548	111	120	247	238
SST8005A	222	225	29.5	294.9	5.0	4.8	596	111	120	247	238
SST1001408A	376	381	52.3	522.8	2.2	2.1	1136	120	120	2245	2245
SST1201408A	347	352	64.3	643.4	2.4	2.3	1176	120	120	2245	2245
SST1501410A	460	467	56.3	563	4.6	4.4	1298	120	120	2245	2245
SST2001412A	525	533	64.3	643.4	7.6	7.1	1505	120	120	CALL	CALL

*Pumpdown capacities are based upon 90% of the shell open volume
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Model SST75A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1	1.2	0.2	4,124	5,565	7,038	8,536	10,064	11,615
	2	2.1	0.8	7,446	9,946	12,453	14,958	17,450	19,923
	3	3.2	1.8	9,768	13,006	16,175	19,313	22,411	25,497
	4	4.3	3.2	11,388	15,089	18,696	22,273	25,800	29,266
	5	5.3	4.9	12,611	16,646	20,601	24,503	28,322	32,074
	6	6.4	7.0	13,605	17,892	22,108	26,270	30,359	34,322
	7	7.5	9.5	14,417	18,973	23,403	27,734	32,012	36,281
R134a	1	1.2	0.2	4,122	5,564	7,038	8,541	10,062	11,621
	2	2.1	0.8	7,410	9,896	12,384	14,867	17,352	19,794
	3	3.2	1.8	9,697	12,886	16,026	19,146	22,215	25,249
	4	4.3	3.2	11,285	14,923	18,501	22,039	25,522	28,929
	5	5.3	4.9	12,469	16,442	20,342	24,174	27,945	31,634
	6	6.4	7.0	13,431	17,666	21,817	25,885	29,885	33,802
	7	7.5	9.5	14,222	18,669	23,028	27,300	31,508	35,607

*Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST100A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1	1.2	0.2	5,683	7,661	9,679	11,725	13,808	15,919
	2	2.1	0.7	10,241	13,678	17,111	20,560	23,991	27,423
	3	3.2	1.6	13,808	18,348	22,860	27,347	31,777	36,231
	4	4.3	2.7	16,469	21,814	27,084	32,310	37,486	42,627
	5	5.3	4.2	18,548	24,505	30,396	36,159	41,926	47,547
	6	6.4	5.9	20,260	26,713	33,064	39,352	45,491	51,587
	7	7.5	7.9	21,726	28,634	35,340	42,003	48,537	54,953
R134a	1	1.2	0.2	5,682	7,657	9,672	11,718	13,793	15,889
	2	2.1	0.7	10,196	13,622	17,040	20,459	23,875	27,277
	3	3.2	1.6	13,699	18,213	22,678	27,119	31,512	35,871
	4	4.3	2.7	16,289	21,618	26,833	31,974	37,063	42,165
	5	5.3	4.2	18,358	24,248	30,025	35,710	41,361	46,907
	6	6.4	5.9	20,049	26,401	32,622	38,752	44,879	50,844
	7	7.5	7.9	21,436	28,206	34,829	41,372	47,773	54,062

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST200A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	3	1.2	0.2	14,095	18,965	23,933	28,965	34,066	39,296
	6	2.1	0.7	25,334	33,796	42,285	50,746	59,148	67,505
	9	3.2	1.5	33,513	44,499	55,398	66,103	76,720	87,164
	11	3.9	2.2	37,595	49,851	61,800	73,620	85,283	96,844
	14	5.0	3.5	42,470	56,122	69,412	82,467	95,378	108,089
	17	6.1	5.0	46,361	61,032	75,380	89,442	103,286	116,959
	20	7.1	6.9	49,545	65,137	80,334	95,283	109,893	124,240
	22	7.8	8.3	51,419	67,471	83,268	98,619	113,686	128,510
R134a	3	1.2	0.2	14,060	18,927	23,862	28,864	33,949	39,166
	6	2.1	0.7	25,188	33,569	41,954	50,322	58,695	66,990
	9	3.2	1.5	33,273	44,100	54,827	65,444	75,867	86,254
	11	3.9	2.2	37,195	49,245	61,062	72,734	84,241	95,562
	14	5.0	3.5	41,915	55,375	68,531	81,303	93,999	106,546
	17	6.1	5.0	45,676	60,165	74,298	88,076	101,688	115,054
	20	7.1	6.9	48,808	64,104	78,962	93,572	107,932	122,041
	22	7.8	8.3	50,652	66,380	81,827	96,908	111,634	126,076

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST300A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	3	1.2	0.2	16,962	22,845	28,829	34,904	41,058	47,272
	6	2.1	0.7	30,521	40,708	50,943	61,158	71,406	81,567
	9	3.2	1.7	41,077	54,580	68,009	81,304	94,522	107,621
	11	3.9	2.4	46,582	61,797	76,801	91,641	106,277	120,775
	14	5.0	3.8	53,238	70,441	87,340	103,996	120,351	136,606
	17	6.1	5.5	58,663	77,485	95,893	113,989	131,762	149,245
	20	7.1	7.5	63,324	83,380	102,889	122,147	141,134	159,784
	22	7.8	9.0	66,001	86,833	107,107	127,013	146,620	165,870
R134a	3	1.2	0.2	16,933	22,798	28,763	34,818	40,964	47,125
	6	2.1	0.7	30,372	40,495	50,652	60,833	70,956	81,086
	9	3.2	1.7	40,810	54,153	67,475	80,620	93,717	106,580
	11	3.9	2.4	46,195	61,181	76,009	90,686	105,167	119,429
	14	5.0	3.8	52,720	69,662	86,289	102,691	118,905	134,768
	17	6.1	5.5	57,951	76,467	94,551	112,343	129,831	147,003
	20	7.1	7.5	62,355	82,148	101,474	120,311	138,887	157,212
	22	7.8	9.0	65,074	85,478	105,433	124,978	144,193	163,082

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST750A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	7	1.2	0.2	36,577	49,169	62,048	75,077	88,220	101,501
	10	1.8	0.4	52,199	69,934	87,640	105,541	123,379	141,376
	20	3.6	1.7	88,064	116,921	145,514	173,747	201,777	229,517
	25	4.5	2.6	100,421	132,992	165,236	196,706	228,083	258,833
	30	5.3	3.6	110,580	146,241	181,233	215,580	249,588	282,925
	35	6.2	4.8	115,219	157,432	194,772	231,519	267,680	302,909
	40	7.1	6.2	122,625	167,069	206,339	245,170	283,398	320,355
	45	8.0	7.7	128,936	175,486	216,607	257,048	296,792	335,517
R134a	7	1.2	0.2	36,497	49,070	61,843	74,813	87,935	101,170
	10	1.8	0.4	52,015	69,634	87,198	104,974	122,765	140,566
	20	3.6	1.7	84,789	115,827	144,172	172,168	199,728	227,294
	25	4.5	2.6	96,420	131,527	163,342	194,495	225,348	255,808
	30	5.3	3.6	105,823	139,955	178,841	212,856	246,099	279,176
	35	6.2	4.8	113,889	150,310	191,899	228,085	263,665	298,533
	40	7.1	6.2	116,600	159,169	203,340	241,298	278,654	315,339
	45	8.0	7.7	122,295	167,006	206,127	252,988	291,875	329,932

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST755A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	5	1.2	0.2	34,089	45,850	57,721	69,756	81,982	94,233
	10	2.1	0.7	61,375	81,918	102,669	123,331	144,087	164,752
	15	3.2	1.6	85,144	113,344	141,486	169,537	197,351	225,068
	19	4.1	2.5	100,747	133,769	166,791	199,285	231,673	263,923
	24	5.1	3.8	116,935	155,065	192,746	230,104	267,026	303,556
	28	6.0	5.0	127,971	169,547	210,488	250,883	290,662	330,221
	33	7.1	6.8	140,075	185,288	229,678	273,495	316,445	359,001
	37	7.9	8.5	148,685	196,501	243,172	289,044	334,451	379,192
R134a	5	1.2	0.2	34,053	45,764	57,638	69,661	81,870	94,055
	10	2.1	0.7	61,182	81,695	102,302	122,912	143,413	164,118
	15	3.2	1.6	84,738	112,721	140,639	168,416	196,146	223,584
	19	4.1	2.5	100,001	132,896	165,337	197,706	229,743	261,605
	24	5.1	3.8	115,949	153,681	191,063	227,778	264,352	300,213
	28	6.0	5.0	126,774	167,677	208,171	248,163	287,445	326,109
	33	7.1	6.8	133,499	183,039	226,904	269,794	312,223	354,072
	37	7.9	8.5	141,377	193,876	239,808	285,152	329,765	373,657

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST1000A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	11	1.2	0.2	54,624	71,266	90,002	109,198	128,481	148,116
	20	2.1	0.7	97,674	130,262	163,051	195,557	228,079	252,947
	30	3.2	1.6	126,390	174,076	216,584	258,964	300,558	342,018
	40	4.3	2.8	149,722	198,503	255,664	304,441	352,958	400,661
	45	4.8	3.5	159,357	210,885	271,751	323,373	374,030	424,476
	55	5.9	5.1	175,918	232,130	287,286	354,832	410,178	464,637
	65	7.0	7.0	189,468	249,753	308,560	381,051	439,851	497,883
	75	8.0	9.3	201,342	264,961	326,592	387,639	465,388	526,351
R134a	11	1.2	0.2	54,475	73,345	92,523	111,896	131,652	151,615
	20	2.1	0.7	93,858	125,343	161,933	194,333	226,607	258,956
	30	3.2	1.6	125,307	166,522	207,421	247,883	297,671	338,619
	40	4.3	2.8	148,333	196,339	243,791	290,390	336,499	381,882
	45	4.8	3.5	150,982	208,558	258,335	307,613	356,027	403,932
	55	5.9	5.1	166,037	228,962	283,270	336,579	389,141	440,713
	65	7.0	7.0	178,739	246,123	303,958	360,579	416,312	471,252
	75	8.0	9.3	189,473	260,555	321,343	380,973	439,673	496,890

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST1500A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	13	1.2	0.2	70,518	94,838	117,021	141,751	166,736	192,027
	20	1.8	0.5	108,430	144,936	181,720	218,572	255,417	292,464
	40	3.6	1.7	178,885	237,547	304,154	363,415	421,589	479,508
	50	4.5	2.7	204,359	270,626	336,502	401,244	478,151	543,128
	60	5.3	3.7	225,400	298,184	369,570	440,063	509,609	595,192
	70	6.2	5.0	243,193	321,389	397,753	472,617	547,067	619,601
	80	7.1	6.4	258,942	341,461	422,115	501,275	579,507	655,859
	90	8.0	8.1	263,323	359,147	443,739	526,231	608,027	687,854
R134a	13	1.2	0.2	70,343	94,627	119,276	144,341	169,718	195,383
	20	1.8	0.5	105,199	140,866	180,806	217,549	254,154	291,075
	40	3.6	1.7	171,919	235,587	293,039	350,235	406,522	462,447
	50	4.5	2.7	195,799	267,937	332,783	396,433	459,497	521,724
	60	5.3	3.7	215,475	285,113	365,126	434,414	502,507	569,880
	70	6.2	5.0	232,160	306,587	392,532	466,190	538,644	610,566
	80	7.1	6.4	246,623	325,042	415,760	493,714	570,298	645,506
	90	8.0	8.1	249,429	341,387	421,447	518,305	598,047	675,792

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST1555A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	13	1.2	0.2	70,081	94,267	116,241	140,842	165,777	190,830
	20	1.8	0.5	107,644	144,028	180,481	217,150	253,834	290,545
	40	3.6	1.7	177,282	235,499	301,521	360,159	417,722	474,991
	50	4.5	2.7	202,481	268,193	332,962	396,960	473,126	537,328
	60	5.3	3.7	223,180	295,204	365,680	435,223	503,696	587,888
	70	6.2	5.0	240,576	318,026	393,183	467,400	540,149	611,925
	80	7.1	6.4	256,148	337,367	416,921	495,098	572,069	647,494
	90	8.0	8.1	260,104	354,978	437,847	519,752	599,573	678,389
R134a	13	1.2	0.2	69,920	94,068	118,582	143,407	168,589	194,043
	20	1.8	0.5	104,515	139,918	179,542	215,970	252,547	288,814
	40	3.6	1.7	170,202	233,403	290,436	347,029	402,631	457,638
	50	4.5	2.7	193,884	265,195	329,298	392,201	454,843	516,064
	60	5.3	3.7	213,133	282,056	361,166	429,271	496,935	563,389
	70	6.2	5.0	229,623	303,049	387,781	460,579	532,483	602,980
	80	7.1	6.4	243,755	321,377	410,762	487,177	562,519	637,245
	90	8.0	8.1	246,825	337,259	416,063	510,763	589,668	667,004

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST2005A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	13	1.2	0.1	78,046	105,011	129,625	156,984	184,567	212,276
	20	1.8	0.4	119,622	160,016	200,362	241,028	276,401	316,524
	40	3.6	1.5	202,509	269,410	344,387	411,809	478,568	544,571
	50	4.5	2.2	233,914	310,174	385,669	473,027	548,584	623,310
	60	5.3	3.0	260,125	344,440	427,578	509,813	606,997	688,913
	70	6.2	4.0	282,937	373,983	463,296	551,244	638,181	744,459
	80	7.1	5.1	302,515	399,474	494,475	587,705	679,542	769,902
	90	8.0	6.4	320,358	422,258	522,301	620,245	716,683	811,434
R134a	13	1.2	0.1	77,906	104,776	132,013	159,496	187,348	215,392
	20	1.8	0.4	116,596	159,308	199,579	240,157	280,771	321,325
	40	3.6	1.5	201,008	267,412	332,838	398,113	463,127	527,019
	50	4.5	2.2	224,792	307,180	382,090	455,767	528,761	600,948
	60	5.3	3.0	249,392	340,632	422,866	503,733	583,221	662,180
	70	6.2	4.0	270,478	357,684	457,271	544,124	629,721	713,690
	80	7.1	5.1	288,750	381,505	487,567	579,292	669,860	758,567
	90	8.0	6.4	305,097	402,412	514,446	610,738	704,675	797,783

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST2026A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	13	1.2	0.1	77,760	104,655	129,114	156,424	183,847	211,594
	20	1.8	0.4	119,207	159,317	199,749	240,165	275,507	315,575
	40	3.6	1.5	201,586	268,201	342,532	409,918	476,185	541,633
	50	4.5	2.2	232,736	308,688	383,881	470,529	545,958	620,143
	60	5.3	3.0	258,621	342,807	425,529	507,032	603,444	684,786
	70	6.2	4.0	281,230	371,884	460,818	548,658	634,885	739,878
	80	7.1	5.1	300,977	397,521	491,728	584,458	676,008	765,912
	90	8.0	6.4	318,461	419,930	519,306	616,603	712,232	806,331
R134a	13	1.2	0.1	77,571	104,348	131,493	159,042	186,707	214,687
	20	1.8	0.4	116,176	158,721	198,974	239,281	279,644	319,986
	40	3.6	1.5	200,327	266,022	331,481	396,316	460,857	524,288
	50	4.5	2.2	223,670	305,905	380,089	453,874	526,350	598,024
	60	5.3	3.0	247,987	339,079	420,759	500,945	580,411	658,406
	70	6.2	4.0	269,239	355,828	454,870	541,104	626,115	710,253
	80	7.1	5.1	287,352	379,113	484,876	576,443	665,920	754,061
	90	8.0	6.4	303,512	400,245	511,291	607,174	701,171	793,668

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST2527A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.4	0.2	120,530	161,461	202,704	244,464	286,127	328,364
	30	2.1	0.5	172,698	230,654	293,388	352,248	410,798	469,353
	50	3.6	1.4	254,808	338,602	421,846	504,653	586,520	667,539
	60	4.3	1.9	286,639	380,477	473,182	564,795	655,342	745,464
	70	5.0	2.5	306,957	416,385	517,543	616,796	714,984	812,105
	90	6.4	4.0	351,989	476,859	590,802	702,962	813,090	921,308
	100	7.1	4.9	370,633	502,869	622,086	738,970	853,966	967,589
	110	7.8	5.8	388,181	512,346	650,081	772,335	891,914	1,009,563
R134a	20	1.4	0.2	118,281	158,702	199,401	243,619	285,458	327,353
	30	2.1	0.5	171,956	229,533	287,135	344,940	402,642	460,329
	50	3.6	1.4	247,430	328,767	418,263	500,144	581,664	661,190
	60	4.3	1.9	277,688	368,623	468,967	559,599	649,183	737,713
	70	5.0	2.5	296,624	402,838	500,435	610,514	707,098	801,929
	90	6.4	4.0	338,991	459,691	569,086	676,721	782,795	909,055
	100	7.1	4.9	356,931	483,656	597,973	710,901	821,006	953,330
	110	7.8	5.8	373,334	505,185	624,055	740,973	856,137	969,107

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST2505A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.4	0.2	120,852	162,060	203,444	245,200	287,087	329,338
	30	2.1	0.5	173,377	235,195	294,436	353,416	412,354	471,243
	50	3.6	1.4	256,003	340,162	423,723	507,050	589,030	670,646
	60	4.3	1.9	288,099	382,419	475,376	567,756	658,976	749,232
	70	5.0	2.5	308,578	418,944	520,694	620,163	719,115	816,360
	90	6.4	4.0	354,004	479,921	594,585	707,164	818,056	927,197
	100	7.1	4.9	373,502	505,567	625,608	743,487	859,268	973,671
	110	7.8	5.8	390,666	515,877	653,851	777,150	897,564	1,016,189
R134a	20	1.4	0.2	118,783	159,198	200,129	244,598	286,412	328,320
	30	2.1	0.5	172,535	230,332	288,212	346,366	404,189	461,719
	50	3.6	1.4	248,611	330,574	420,599	502,550	584,140	664,731
	60	4.3	1.9	279,168	370,422	471,244	562,584	652,753	741,424
	70	5.0	2.5	298,293	405,068	503,013	613,891	711,163	806,667
	90	6.4	4.0	340,776	462,581	572,318	680,863	787,624	913,764
	100	7.1	4.9	358,894	486,196	601,474	714,811	826,198	959,078
	110	7.8	5.8	375,885	508,205	627,629	745,533	861,629	975,558

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST3005A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.2	0.2	118,346	161,131	202,885	245,350	288,023	330,898
	40	2.4	0.7	228,514	304,626	380,978	457,514	533,366	609,148
	50	3.0	1.0	271,632	361,723	451,584	540,662	629,476	718,151
	70	4.2	1.9	335,928	454,257	565,238	675,180	783,386	891,199
	90	5.3	3.0	390,187	516,660	653,814	778,719	902,244	1,023,868
	100	5.9	3.6	412,950	546,929	691,814	823,068	952,737	1,080,817
	120	7.1	5.1	453,772	599,212	741,713	899,695	1,040,265	1,178,391
	130	7.7	5.9	461,427	622,763	769,524	914,255	1,078,730	1,220,859
R134a	20	1.2	0.2	118,173	158,858	200,102	242,010	284,141	326,759
	40	2.4	0.7	223,815	303,286	379,061	455,091	530,408	605,585
	50	3.0	1.0	265,610	353,440	441,294	537,038	624,882	712,544
	70	4.2	1.9	326,747	442,075	550,247	656,840	762,602	881,821
	90	5.3	3.0	378,173	500,839	634,300	755,599	874,832	993,270
	100	5.9	3.6	390,989	529,186	669,607	797,230	922,381	1,046,673
	120	7.1	5.1	428,347	578,815	715,721	868,938	1,004,790	1,137,850
	130	7.7	5.9	444,731	600,497	741,870	900,487	1,040,251	1,177,966

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST3028A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.2	0.2	117,918	160,614	202,298	244,494	286,915	329,827
	40	2.4	0.7	227,735	303,682	379,828	455,577	531,258	607,166
	50	3.0	1.0	270,832	360,354	449,591	538,414	626,757	714,772
	70	4.2	1.9	334,522	452,397	562,374	671,835	780,045	886,423
	90	5.3	3.0	387,931	514,312	650,497	775,175	897,823	1,019,269
	100	5.9	3.6	410,968	543,904	674,276	819,100	947,862	1,074,612
	120	7.1	5.1	451,466	596,282	737,591	895,185	1,034,073	1,171,748
	130	7.7	5.9	458,498	619,375	765,155	909,576	1,072,239	1,214,536
R134a	20	1.2	0.2	117,746	158,346	199,480	241,127	283,339	325,712
	40	2.4	0.7	223,017	302,023	377,671	453,173	528,579	603,634
	50	3.0	1.0	264,606	352,122	439,334	534,727	622,676	709,776
	70	4.2	1.9	325,165	440,292	547,801	654,142	758,643	877,776
	90	5.3	3.0	376,558	497,917	631,138	751,417	870,529	987,522
	100	5.9	3.6	388,741	526,311	666,111	792,850	917,744	1,040,389
	120	7.1	5.1	425,949	575,160	711,632	864,471	998,879	1,130,859
	130	7.7	5.9	442,205	596,670	737,738	895,671	1,034,515	1,171,722

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST3505A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	22	1.2	0.2	129,926	176,695	222,438	268,830	315,615	362,900
	40	2.1	0.6	232,186	310,012	387,856	465,787	543,583	621,416
	60	3.2	1.2	313,560	423,673	528,366	632,107	735,877	837,935
	80	4.3	2.1	379,519	503,687	637,011	760,036	881,569	1,002,492
	90	4.8	2.6	407,305	540,541	671,548	813,839	942,491	1,071,063
	110	5.9	3.7	447,361	603,465	747,638	890,190	1,047,754	1,187,856
	130	7.0	5.0	487,262	656,532	811,879	965,474	1,115,443	1,287,185
	150	8.0	6.6	521,767	701,549	868,001	1,030,002	1,189,433	1,346,288
R134a	22	1.2	0.2	129,623	174,242	219,655	265,531	311,969	358,744
	40	2.1	0.6	227,958	304,429	385,967	463,688	540,961	617,772
	60	3.2	1.2	306,272	414,691	516,535	618,136	719,452	831,151
	80	4.3	2.1	369,721	490,511	620,466	740,983	859,291	976,243
	90	4.8	2.6	388,657	525,025	664,089	791,317	917,254	1,040,941
	110	5.9	3.7	433,734	584,969	724,907	878,588	1,017,049	1,153,167
	130	7.0	5.0	471,468	635,111	785,009	934,270	1,099,604	1,245,698
	150	8.0	6.6	503,976	664,325	837,592	994,622	1,147,674	1,325,046

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST4005A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	22	1.2	0.1	129,964	176,735	222,688	268,890	315,674	363,021
	40	2.1	0.5	232,325	310,187	388,065	466,343	544,249	622,463
	60	3.2	1.1	314,105	424,672	529,105	633,316	736,515	839,307
	80	4.3	1.9	380,206	504,684	638,347	762,290	883,979	1,005,028
	90	4.8	2.3	408,345	540,985	672,911	815,424	945,036	1,073,765
	110	5.9	3.3	448,553	604,885	749,908	892,640	1,050,695	1,192,569
	130	7.0	4.5	488,656	657,987	814,536	968,346	1,119,906	1,290,671
	150	8.0	5.9	523,556	703,985	870,027	1,033,224	1,194,063	1,351,456
R134a	22	1.2	0.1	129,661	174,462	219,732	265,768	312,065	358,878
	40	2.1	0.5	228,056	304,754	386,528	464,243	541,627	618,893
	60	3.2	1.1	306,810	415,103	517,643	619,343	720,755	832,628
	80	4.3	1.9	370,564	491,673	621,816	742,465	861,649	978,811
	90	4.8	2.3	389,757	526,183	665,537	793,673	919,758	1,044,292
	110	5.9	3.3	434,825	586,332	727,248	881,221	1,019,861	1,156,373
	130	7.0	4.5	472,934	637,245	788,334	937,058	1,103,504	1,250,588
	150	8.0	5.9	505,692	666,543	839,920	997,471	1,152,619	1,330,211

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST4505A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	22	1.2	0.1	129,964	176,735	222,688	268,890	315,674	363,021
	40	2.1	0.5	232,325	310,187	388,065	466,343	544,249	622,463
	60	3.2	1.1	314,105	424,672	529,105	633,316	736,515	839,307
	80	4.3	1.9	380,206	504,684	638,347	762,290	883,979	1,005,028
	90	4.8	2.3	408,345	540,985	672,911	815,424	945,036	1,073,765
	110	5.9	3.3	448,553	604,885	749,908	892,640	1,050,695	1,192,569
	130	7.0	4.5	488,656	657,987	814,536	968,346	1,119,906	1,290,671
	150	8.0	5.9	523,556	703,985	870,027	1,033,224	1,194,063	1,351,456
R134a	22	1.2	0.1	129,661	174,462	219,732	265,768	312,065	358,878
	40	2.1	0.5	228,056	304,754	386,528	464,243	541,627	618,893
	60	3.2	1.1	306,810	415,103	517,643	619,343	720,755	832,628
	80	4.3	1.9	370,564	491,673	621,816	742,465	861,649	978,811
	90	4.8	2.3	389,757	526,183	665,537	793,673	919,758	1,044,292
	110	5.9	3.3	434,825	586,332	727,248	881,221	1,019,861	1,156,373
	130	7.0	4.5	472,934	637,245	788,334	937,058	1,103,504	1,250,588
	150	8.0	5.9	505,692	666,543	839,920	997,471	1,152,619	1,330,211

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST4505A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.2	0.2	238,732	240,485	302,693	365,488	428,980	493,166
	50	2.1	0.5	400,182	392,149	490,622	589,519	688,022	786,363
	80	3.3	1.2	521,220	558,229	695,562	832,176	968,369	1,113,873
	100	4.1	1.9	619,990	646,242	804,355	960,145	1,114,720	1,266,973
	120	4.9	2.6	693,819	711,344	895,292	1,067,141	1,237,093	1,404,321
	150	6.2	3.9	761,036	802,839	993,943	1,199,571	1,387,529	1,572,377
	170	7.0	4.9	819,432	854,738	1,056,813	1,255,993	1,472,619	1,667,467
	190	7.8	6.0	860,813	899,984	1,112,209	1,320,820	1,547,771	1,752,088
R134a	30	1.2	0.2	236,469	237,788	301,918	364,572	428,016	491,602
	50	2.1	0.5	394,806	386,314	483,984	581,263	678,539	775,701
	80	3.3	1.2	512,735	547,657	682,707	816,541	960,216	1,094,098
	100	4.1	1.9	601,700	624,515	786,640	939,839	1,090,466	1,239,158
	120	4.9	2.6	671,070	694,620	874,751	1,041,883	1,206,218	1,369,517
	150	6.2	3.9	735,204	781,406	967,763	1,167,204	1,349,721	1,530,028
	170	7.0	4.9	779,988	818,373	1,026,801	1,219,898	1,429,926	1,620,046
	190	7.8	6.0	827,293	861,110	1,079,113	1,281,884	1,480,838	1,699,965

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST5005A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	31	1.2	0.1	184,499	247,965	312,370	377,392	442,937	509,751
	60	2.3	0.6	343,743	458,402	573,664	694,662	809,271	924,844
	80	3.1	1.0	425,261	571,866	713,155	854,022	993,704	1,132,790
	110	4.2	1.8	526,801	699,361	879,761	1,050,296	1,218,777	1,385,429
	130	5.0	2.4	574,952	772,280	958,800	1,155,412	1,338,762	1,521,070
	160	6.1	3.4	644,668	863,961	1,071,353	1,273,358	1,491,525	1,690,257
	180	6.9	4.3	684,201	904,449	1,133,488	1,348,473	1,558,044	1,786,064
	210	8.0	5.7	726,273	972,957	1,217,639	1,446,138	1,671,659	1,891,238
R134a	31	1.2	0.1	182,453	245,275	308,990	376,435	441,926	508,113
	60	2.3	0.6	338,884	452,094	570,381	684,685	798,908	911,550
	80	3.1	1.0	417,740	562,028	701,264	839,589	976,721	1,123,856
	110	4.2	1.8	509,109	684,367	851,584	1,028,719	1,193,937	1,356,085
	130	5.0	2.4	561,819	754,496	936,559	1,129,815	1,309,339	1,485,866
	160	6.1	3.4	619,691	831,097	1,043,669	1,241,026	1,435,623	1,647,546
	180	6.9	4.3	657,038	879,852	1,103,656	1,311,771	1,516,541	1,717,594
	210	8.0	5.7	695,031	944,139	1,166,687	1,403,783	1,622,228	1,834,565

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST5505A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	33	1.2	0.1	194,739	264,069	332,621	402,060	472,155	542,596
	60	2.1	0.5	348,354	465,072	581,920	698,684	821,655	938,769
	90	3.2	1.1	472,815	629,491	792,464	948,194	1,102,633	1,256,200
	120	4.3	1.8	566,281	759,397	945,215	1,140,122	1,322,063	1,503,042
	140	5.0	2.4	620,330	831,801	1,033,673	1,231,475	1,442,011	1,637,412
	170	6.1	3.4	690,525	913,198	1,145,603	1,361,977	1,577,042	1,788,577
	200	7.1	4.6	740,705	990,160	1,239,794	1,473,009	1,702,681	1,929,646
	220	7.8	5.5	775,041	1,034,874	1,279,448	1,538,367	1,776,991	2,012,069
R134a	33	1.2	0.1	194,435	261,517	329,425	398,257	467,998	537,970
	60	2.1	0.5	340,172	458,901	573,944	694,969	810,967	926,732
	90	3.2	1.1	459,806	618,478	778,853	931,782	1,084,602	1,235,368
	120	4.3	1.8	555,183	744,018	925,274	1,104,342	1,294,934	1,471,500
	140	5.0	2.4	599,819	804,168	1,009,817	1,203,764	1,394,788	1,600,648
	170	6.1	3.4	665,047	891,455	1,104,657	1,329,091	1,537,682	1,742,254
	200	7.1	4.6	711,607	952,161	1,193,484	1,433,823	1,657,189	1,876,444
	220	7.8	5.5	743,447	993,654	1,244,868	1,479,074	1,726,779	1,954,537

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST6005A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	40	1.3	0.2	238,732	320,659	405,858	489,503	573,984	659,337
	70	2.3	0.6	400,182	538,336	673,152	807,845	941,791	1,076,765
	100	3.2	1.1	521,220	700,020	872,405	1,052,966	1,225,371	1,394,704
	130	4.2	1.8	619,990	831,485	1,034,050	1,234,394	1,432,489	1,642,423
	160	5.2	2.6	693,819	929,299	1,165,764	1,388,087	1,609,165	1,826,302
	190	6.2	3.6	761,036	1,019,061	1,261,473	1,517,130	1,755,893	1,990,659
	220	7.1	4.7	819,432	1,095,508	1,354,459	1,610,915	1,882,350	2,132,277
	250	8.1	5.9	860,813	1,150,142	1,436,903	1,706,284	1,991,291	2,254,123
R134a	40	1.3	0.2	236,469	319,699	402,240	485,141	569,240	653,605
	70	2.3	0.6	394,806	531,283	664,575	797,320	930,544	1,062,386
	100	3.2	1.1	512,735	688,661	858,136	1,036,079	1,204,656	1,372,119
	130	4.2	1.8	601,700	806,896	1,014,754	1,210,344	1,403,686	1,596,128
	160	5.2	2.6	671,070	909,089	1,128,040	1,358,544	1,572,977	1,785,098
	190	6.2	3.6	735,204	983,588	1,231,970	1,465,284	1,714,066	1,942,095
	220	7.1	4.7	779,988	1,055,797	1,321,363	1,569,241	1,813,508	2,076,921
	250	8.1	5.9	827,293	1,104,213	1,381,300	1,658,924	1,917,147	2,167,743

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST7005A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	43	1.2	0.1	255,165	343,187	432,082	522,524	613,422	705,696
	80	2.2	0.6	461,952	616,464	776,209	931,545	1,086,034	1,241,804
	110	3.0	1.0	588,083	789,101	983,866	1,178,611	1,371,853	1,562,869
	150	4.1	1.8	720,079	963,841	1,198,857	1,443,910	1,674,306	1,904,412
	190	5.2	2.7	821,167	1,097,344	1,374,469	1,636,321	1,895,440	2,168,809
	220	6.0	3.6	888,978	1,187,211	1,485,208	1,766,754	2,042,810	2,316,546
	260	7.1	4.8	967,361	1,289,914	1,595,172	1,912,878	2,210,088	2,504,269
	290	8.0	5.9	1,008,354	1,343,777	1,677,589	2,010,930	2,320,877	2,626,223
R134a	43	1.2	0.1	253,251	340,462	431,233	521,198	612,021	703,419
	80	2.2	0.6	453,170	609,310	761,986	921,292	1,073,931	1,227,779
	110	3.0	1.0	575,420	771,692	970,167	1,160,876	1,351,267	1,539,588
	150	4.1	1.8	701,165	938,712	1,177,463	1,405,817	1,631,243	1,869,403
	190	5.2	2.7	796,749	1,065,299	1,334,095	1,603,407	1,858,096	2,108,113
	220	6.0	3.6	861,494	1,149,543	1,437,908	1,709,941	1,998,096	2,264,371
	260	7.1	4.8	926,844	1,233,813	1,541,719	1,849,942	2,137,027	2,443,556
	290	8.0	5.9	974,394	1,296,108	1,617,470	1,940,456	2,238,323	2,534,032

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST8005A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	50	1.2	0.2	296,703	400,973	504,756	609,515	715,871	822,649
	90	2.2	0.6	518,234	695,872	870,462	1,044,818	1,219,024	1,392,429
	130	3.2	1.1	685,041	917,232	1,143,523	1,377,321	1,602,665	1,825,571
	170	4.1	1.9	813,599	1,087,648	1,363,262	1,627,245	1,887,864	2,145,944
	210	5.1	2.7	922,901	1,232,643	1,530,251	1,835,540	2,125,637	2,413,957
	250	6.1	3.7	1,006,383	1,342,346	1,676,764	1,995,920	2,323,396	2,635,051
	290	7.0	4.9	1,084,773	1,445,644	1,802,914	2,142,773	2,476,989	2,825,168
	330	8.0	6.2	1,143,247	1,534,566	1,896,347	2,271,593	2,621,481	2,968,101
R134a	50	1.2	0.2	294,596	397,858	501,046	605,232	710,606	816,425
	90	2.2	0.6	509,291	684,010	861,254	1,033,709	1,205,990	1,378,046
	130	3.2	1.1	670,100	898,487	1,127,442	1,350,028	1,570,664	1,798,694
	170	4.1	1.9	793,637	1,061,973	1,331,033	1,588,675	1,856,760	2,110,828
	210	5.1	2.7	890,031	1,190,128	1,489,831	1,786,724	2,069,590	2,367,994
	250	6.1	3.7	968,192	1,303,401	1,629,172	1,936,686	2,258,607	2,560,175
	290	7.0	4.9	1,041,831	1,387,615	1,730,894	2,075,693	2,419,070	2,740,044
	330	8.0	6.2	1,095,205	1,471,639	1,833,039	2,196,494	2,535,145	2,893,552

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST100-1408A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	100	1.4	0.2	536,082	719,879	912,764	1,101,323	1,291,786	1,482,806
	150	2.1	0.4	775,462	1,046,812	1,310,529	1,574,449	1,838,405	2,101,427
	250	3.4	1.0	1,120,052	1,507,119	1,877,216	2,242,274	2,629,787	2,992,955
	300	4.1	1.4	1,239,220	1,665,563	2,093,431	2,495,112	2,894,675	3,288,148
	400	5.5	2.4	1,453,182	1,945,096	2,408,152	2,898,980	3,353,765	3,800,861
	450	6.2	2.9	1,520,752	2,035,704	2,549,073	3,063,871	3,542,305	4,012,678
	550	7.5	4.2	1,670,820	2,225,951	2,785,748	3,306,288	3,858,176	4,363,102
	600	8.2	5.0	1,736,273	2,312,752	2,887,246	3,422,887	3,951,348	4,518,315
R134a	100	1.4	0.2	528,737	710,254	902,012	1,088,266	1,276,425	1,465,074
	150	2.1	0.4	753,977	1,019,977	1,290,426	1,550,595	1,811,130	2,069,196
	250	3.4	1.0	1,084,833	1,459,896	1,840,528	2,198,630	2,553,182	2,903,918
	300	4.1	1.4	1,197,799	1,610,832	2,024,613	2,442,994	2,831,329	3,217,349
	400	5.5	2.4	1,382,881	1,876,074	2,323,543	2,795,627	3,236,258	3,707,492
	450	6.2	2.9	1,465,362	1,958,939	2,454,146	2,951,431	3,412,805	3,864,700
	550	7.5	4.2	1,584,582	2,139,739	2,676,681	3,176,183	3,710,388	4,199,256
	600	8.2	5.0	1,646,214	2,217,724	2,771,890	3,287,103	3,839,693	4,338,517

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST120-1408A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	105	1.2	0.1	553,351	750,774	946,023	1,144,577	1,344,115	1,546,145
	200	2.2	0.5	1,019,989	1,373,428	1,716,366	2,062,255	2,404,776	2,746,243
	300	3.3	1.1	1,358,627	1,822,960	2,271,750	2,716,006	3,178,095	3,617,014
	350	3.9	1.4	1,483,633	1,987,955	2,495,989	2,977,614	3,454,322	3,955,436
	450	5.0	2.3	1,695,145	2,287,554	2,837,913	3,405,609	3,945,657	4,472,313
	550	6.1	3.3	1,878,276	2,505,841	3,127,573	3,719,336	4,335,588	4,910,620
	650	7.2	4.4	2,010,988	2,703,032	3,339,383	3,996,329	4,615,534	5,270,251
	700	7.8	5.1	2,078,203	2,764,983	3,447,652	4,124,792	4,757,512	5,383,219
R134a	105	1.2	0.1	548,262	736,820	936,818	1,132,696	1,331,663	1,531,624
	200	2.2	0.5	986,284	1,341,302	1,678,207	2,032,398	2,370,895	2,706,449
	300	3.3	1.1	1,308,768	1,759,075	2,214,728	2,666,407	3,096,997	3,523,079
	350	3.9	1.4	1,440,648	1,933,294	2,427,175	2,896,695	3,386,713	3,847,832
	450	5.0	2.3	1,641,970	2,199,455	2,751,567	3,307,500	3,828,693	4,341,557
	550	6.1	3.3	1,796,997	2,399,567	2,998,401	3,598,434	4,199,664	4,753,932
	650	7.2	4.4	1,920,589	2,585,752	3,223,982	3,865,469	4,461,560	5,094,539
	700	7.8	5.1	1,985,710	2,664,795	3,326,090	3,983,866	4,597,986	5,196,279

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST150-1410A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	100	1.3	0.2	591,319	801,419	1,007,508	1,215,140	1,425,842	1,637,241
	200	2.5	0.7	1,111,403	1,482,108	1,871,755	2,244,885	2,617,143	2,987,953
	250	3.2	1.1	1,303,472	1,753,384	2,188,619	2,622,631	3,075,969	3,504,755
	350	4.5	2.0	1,615,083	2,169,308	2,726,097	3,252,190	3,772,533	4,287,750
	400	5.1	2.5	1,750,190	2,348,175	2,915,324	3,511,048	4,069,870	4,619,917
	500	6.4	3.7	1,958,221	2,621,573	3,282,641	3,907,093	4,567,077	5,178,239
	550	7.0	4.4	2,057,053	2,750,454	3,440,319	4,091,704	4,733,352	5,416,126
	650	8.3	6.0	2,207,484	2,976,794	3,681,268	4,416,536	5,102,858	5,774,721
R134a	100	1.3	0.2	585,232	786,104	997,565	1,203,097	1,411,686	1,620,775
	200	2.5	0.7	1,070,665	1,460,148	1,825,871	2,211,561	2,579,060	2,944,842
	250	3.2	1.1	1,265,378	1,706,157	2,152,289	2,578,515	2,998,423	3,416,684
	350	4.5	2.0	1,565,154	2,103,059	2,645,300	3,154,324	3,697,633	4,203,903
	400	5.1	2.5	1,673,830	2,274,347	2,823,861	3,401,429	3,944,797	4,521,976
	500	6.4	3.7	1,890,940	2,533,555	3,171,781	3,774,771	4,411,845	5,004,421
	550	7.0	4.4	1,960,663	2,652,863	3,320,149	3,949,105	4,617,401	5,227,283
	650	8.3	6.0	2,126,438	2,834,640	3,544,307	4,255,076	4,916,586	5,622,103

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST200-1412A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	105	1.2	0.1	661,962	889,123	1,125,874	1,358,225	1,591,562	1,827,565
	200	2.2	0.6	1,227,977	1,639,812	2,069,124	2,482,996	2,900,986	3,315,016
	300	3.3	1.2	1,691,415	2,253,106	2,835,938	3,397,478	3,953,927	4,504,694
	350	3.9	1.6	1,875,150	2,517,109	3,140,693	3,787,813	4,400,911	5,011,514
	450	5.0	2.6	2,196,549	2,945,329	3,696,505	4,408,709	5,118,718	5,865,331
	550	6.1	3.7	2,480,621	3,321,475	4,119,055	4,950,031	5,734,189	6,509,421
	650	7.2	4.9	2,699,020	3,604,360	4,504,582	5,407,744	6,255,155	7,092,733
	700	7.8	5.6	2,805,531	3,746,606	4,679,253	5,562,751	6,487,940	7,354,981
R134a	105	1.2	0.1	656,647	880,583	1,116,349	1,347,733	1,580,072	1,814,007
	200	2.2	0.6	1,201,277	1,621,151	2,028,702	2,436,658	2,867,183	3,278,677
	300	3.3	1.3	1,634,632.	2,199,917	2,770,261	3,321,851	3,895,904	4,439,385
	350	3.9	1.6	1,826,741	2,454,775	3,090,537	3,696,759	4,296,191	4,932,127
	450	5.0	2.6	2,135,244	2,864,921	3,596,947	4,293,818	5,019,889	5,707,531
	550	6.1	3.7	2,381,868	3,192,479	3,998,837	4,809,741	5,569,912	6,371,109
	650	7.2	4.9	2,585,092	3,492,333	4,366,195	5,192,827	6,068,991	6,876,650
	700	7.8	5.6	2,686,767	3,625,757	4,530,887	5,386,564	6,288,852	7,128,692

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

AC16 / ACH16

Brazed pate heat exchanger

General information
Alfa Laval introduced its first brazed plate heat exchanger in 1977 and has since continuously developed and optimized its performance and reliability.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates, which makes the heat exchanger compact and saves material. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. Using advanced design technologies and extensive verification guarantees the highest performance and longest possible service lifetime.

The AlfaChill (AC) brazed plate heat exchangers are specifically designed for heat transfer in air conditioning, refrigeration and heat pump applications.

Innovative features for this single circuit heat exchanger include a patented asymmetric plate design. The plate design provides the flexibility to select the best configuration for optimized evaporation temperature and/or condensation temperature in order to keep the brine/water pressure drop at the desired level.

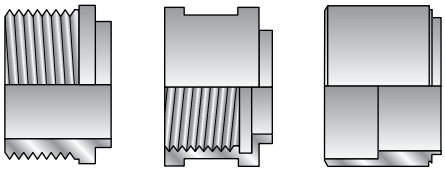
Typical applications
- Container refrigeration
- Small heat pumps and chiller systems
- Oil cooling

The standard design supports a wide variety of HFC refrigerants such as R407C, R404A, R507, R134a. The high-pressure version is suitable for R410A, R32 and natural refrigerants (CO2 - propane).

Capacity range
AC16/ACH16 cover capacities from 1 kW up to 5 kW. Based on standard components and a modular concept, each unit is custom-designed for each specific installation.

Request for quotation
To receive a quotation for brazed plate heat exchangers that meet your requirements, please provide Alfa Laval representatives with:
- Required flow rates or heat load
- Temperature program (inlet and outlet
- Brine and refrigerant type
- Desired working pressure
- Maximum permitted water/brine pressure drop
- Connection types

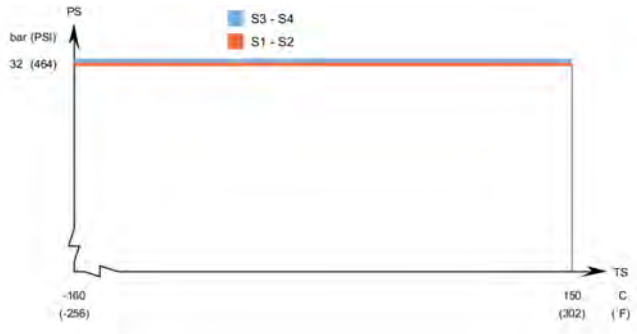
Examples of connections*



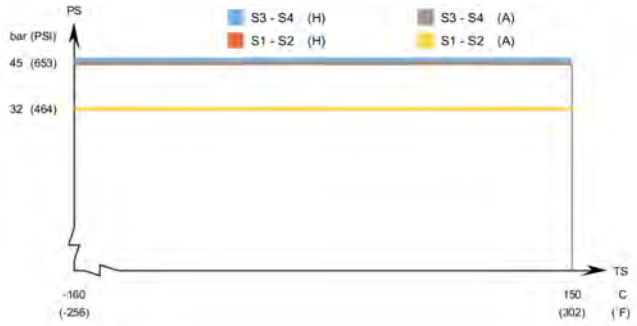
External threaded | Internal threaeded | Soldering

* More connections are available on request.

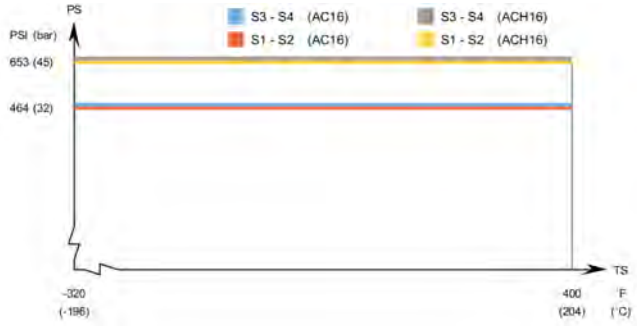
AC16 - PED approval pressure/temperature graph



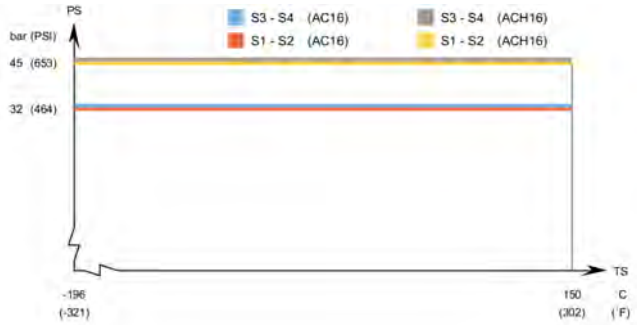
ACH16 - PED approval pressure/temperature graph



AC16 / ACH16 - UL approval pressure/temperature graph



AC16 / ACH16 - CRN approval pressure/temperature graph



Standard dimensions and weight

AC16 / ACH16

A measure mm	=	8.5 + (2.16 * n) (±2 mm or ±2.5 %)
A measure inch	=	0.33 + (0.09 * n) (±0.08 inch or ±2.5 %)
Weight** kg	=	0.27 + (0.04 * n)
Weight** lb	=	0.59 + (0.09 * n)

(n = number of plates)
** Excluding connections

Standard data

Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel H, litres (ga)	0.027 (0.007)
Volume per channel A, litres (ga)	0.030 (0.008) 0.024 (0.006)
Max. flowrate* m^3/h (gpm)	4.1 (18)
Min. nbr of plates	4
Max. nbr of plates	60

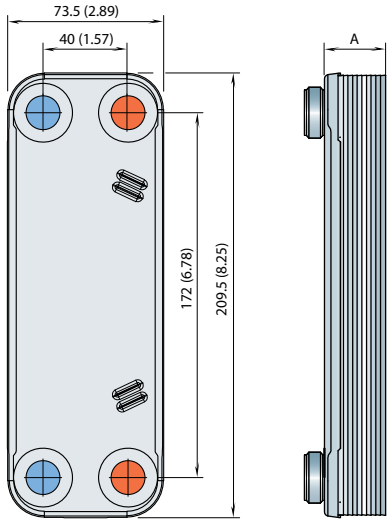
* Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing filler	Copper

Standard dimensions

mm (inch)



For exact values please contact your local Alfa Laval representative

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

CB30 / CBH30

Brazed plate heat exchanger

General information
Alfa Laval introduced its first brazed plate heat exchanger (BHE) in 1977 and has since continuously developed and optimized its performance and reliability.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. The plate design guarantees the longest possible life.

The design options of the brazed heat exchanger are extensive. Different plate patterns are available for various duties and performance specifications. You can choose a standard configuration BHE, or a unit designed according to your own specific needs. The choice is entirely yours.

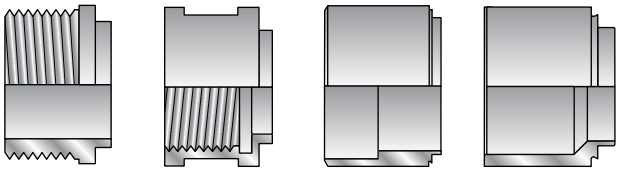
Typical applications
- HVAC heating/cooling
- Refrigerant applications
- Industrial cooling/heating
- Oil cooling

Working principles
The heating surface consists of thin corrugated metal plates stacked on top of each other. Channels are formed between the plates and corner ports are arranged so that the two media flow through alternate channels, usually in countercurrent flow for the most efficient heat transfer process.

Standard design
The plate pack is covered by cover plates. Connections are located in the front or rear cover plate. To improve the heat transfer design, the channel plates are corrugated.

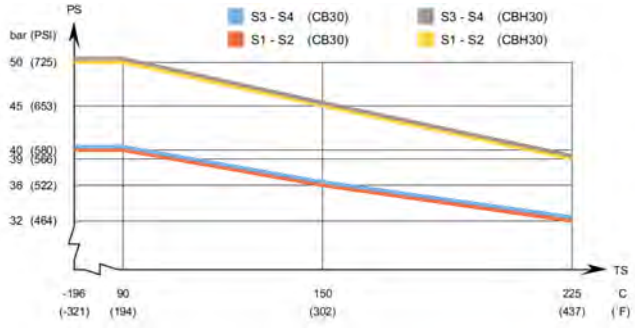
Particulars required for quotation
To enable Alfa Laval's representative to make a specific quotation, specify the following particulars in your enquiry:
- Required flow rates or heat load
- Temperature program
- Physical properties of liquids in question
- Desired working pressure
- Maximum permitted pressure drop

Examples of connections

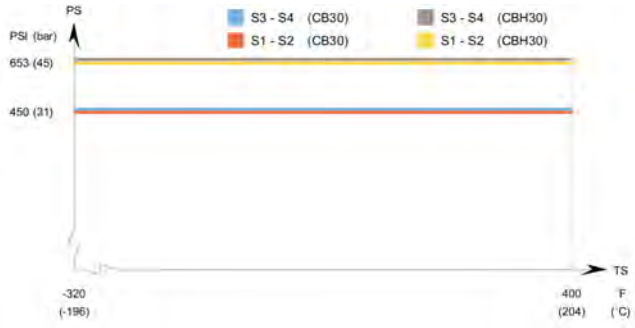


* More connections are available on request.

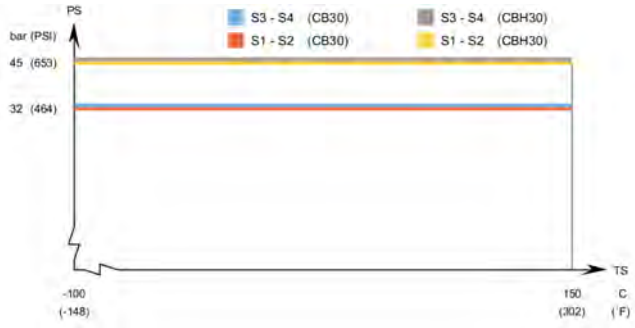
CB30 / CBH30 - PED approval pressure/temperature graph



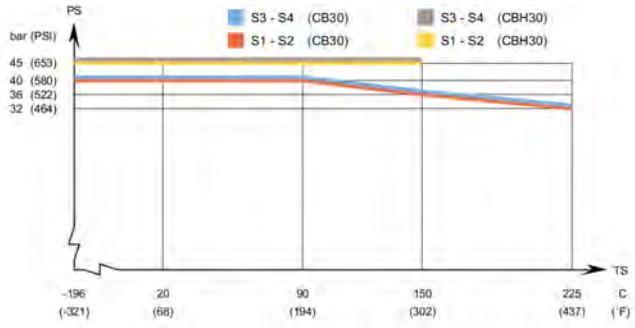
CB30 / CBH30 - UL approval pressure/temperature graph



CB30 / CBH30 - KHK and KRA approval pressure/temperature graph



CB30 / CBH30 -CRN approval pressure/temperature graph



Standard data

Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel, litres (ga)	0.054 (0.014)
Max. particle size mm (inch)	1 (0.04)
Max. flowrate* m^3/h (gpm)	14 (61.6)
Min. nbr of plates	4
Max. nbr of plates	150

* Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing filler	Copper

Standard dimensions and weight

CB30

A measure mm	=	13 + (2.31 * n) (±2 mm or ±1.5 %)
A measure inch	=	0.51 + (0.09 * n) (±0.08 inch or ±1.5 %)
Weight** kg	=	1.2 + (0.11 * n)
Weight** lb	=	2.65 + (0.24 * n)

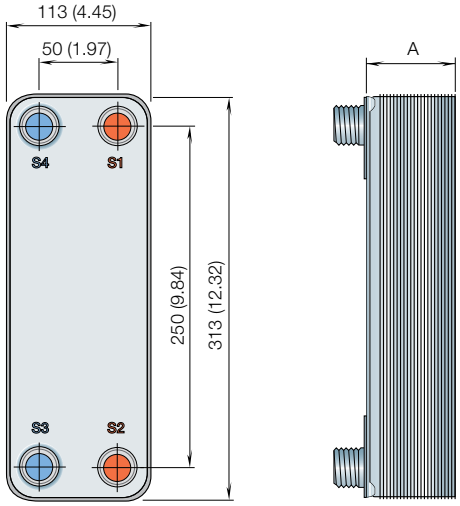
CBH30

A measure mm	=	15 + (2.31 * n) ±1.5 %
A measure inch	=	0.59 + (0.09 * n) ±0.06 %
Weight** kg	=	1.35 + (0.11 * n)
Weight** lb	=	2.98 + (0.24 * n)

(n = number of plates)
** Excluding connections

Standard dimensions

mm (inch) for exact values please contact your local Alfa laval representive



Marine approvals

CBM30 can be delivered with marine classification certificate (ABS, BV, CCS, Class NK, DNV, GL, LR, RINA, RMRS).

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

CB60 / CBH60

Brazed plate heat exchanger

General information
Alfa Laval introduced its first brazed plate heat exchanger (BHE) in 1977 and has since continuously developed and optimized its performance and reliability.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. The plate design guarantees the longest possible life.

The design options of the brazed heat exchanger are extensive. Different plate patterns are available for various duties and performance specifications. You can choose a standard configuration BHE, or a unit designed according to your own specific needs. The choice is entirely yours.

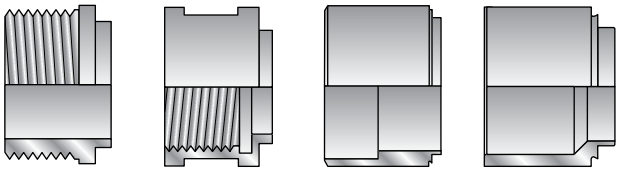
Typical applications
- HVAC heating/cooling
- Refrigerant applications
- Industrial cooling/heating
- Oil cooling

Working principles
The heating surface consists of thin corrugated metal plates stacked on top of each other. Channels are formed between the plates and corner ports are arranged so that the two media flow through alternate channels, usually in countercurrent flow for the most efficient heat transfer process.

Standard design
The plate pack is covered by cover plates. Connections are located in the front or rear cover plate. To improve the heat transfer design, the channel plates are corrugated.

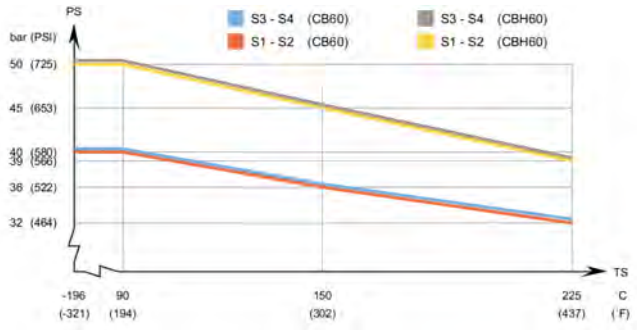
Particulars required for quotation
To enable Alfa Laval's representative to make a specific quotation, specify the following particulars in your enquiry:
- Required flow rates or heat load
- Temperature program
- Physical properties of liquids in question
- Desired working pressure
- Maximum permitted pressure drop

Examples of connections



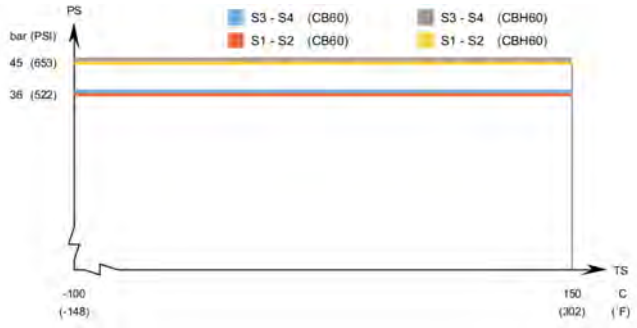
* More connections are available on request.

CB60 and CBH60 - PED approval pressure/temperature graph*

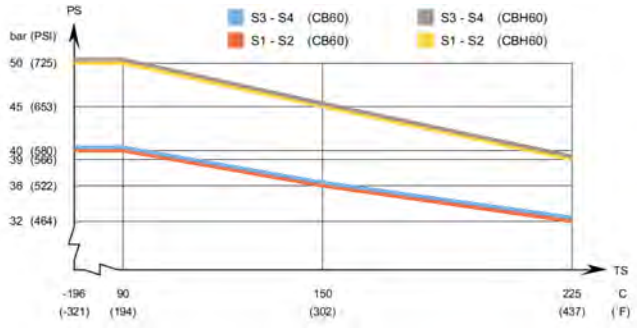


CB60 and CBH60 - UL approval pressure/temperature graph*

CB60 / CBH60 - KHK and KRA approval pressure/temperature graph*



CB60 / CBH60 - CRN approval pressure/temperature graph*



Standard data

Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel, litres (ga)	0.10 (0.027)
Max. particle size mm (inch)	1 (0.04)
Max. flowrate* m^3/h (gpm)	14 (61.6)
Min. nbr of plates	4
Max. nbr of plates	150

* Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing filler	Copper

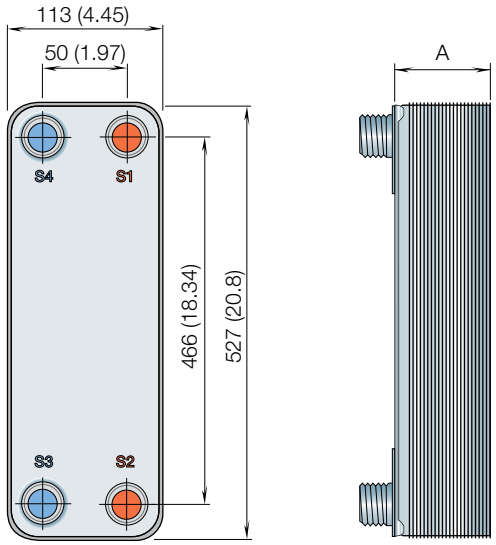
Standard dimensions and weight*

A measure mm	=	13 + (2.32 * n) (±2 mm or ±1.5 %)
A measure inch	=	0.51 + (0.09 * n) (±0.08 inch or ±1.5 %)
Weight** kg	=	2.1 + (0.18 * n)
Weight** lb	=	4.63 + (0.4 * n)

(n = number of plates)
* Excluding connections

Standard dimensions

mm (inch)



For exact values please contact your local Alfa Laval representative

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

CB110 / CBH110

Brazed plate heat exchanger

General information
Alfa Laval introduced its first brazed plate heat exchanger (BHE) in 1977 and has since continuously developed and optimized its performance and reliability.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. The plate design guarantees the longest possible life.

The design options of the brazed heat exchanger are extensive. Different plate patterns are available for various duties and performance specifications. You can choose a standard configuration BHE, or a unit designed according to your own specific needs. The choice is entirely yours.

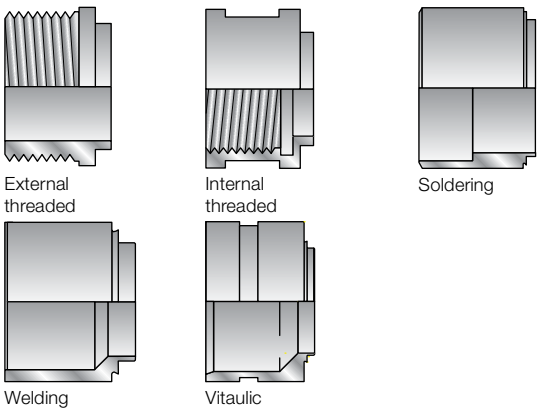
Typical applications
- HVAC heating/cooling
- Industrial heating/cooling
- Condensing
- Tap water
- Oil cooling
- Air dryer
- Solar heating

Working principles
The heating surface consists of thin corrugated metal plates stacked on top of each other. Channels are formed between the plates and corner ports are arranged so that the two media flow through alternate channels, usually in countercurrent flow for the most efficient heat transfer process.

Standard design
The plate pack is covered by cover plates. Connections are located in the front or rear cover plate. To improve the heat transfer design, the channel plates are corrugated.

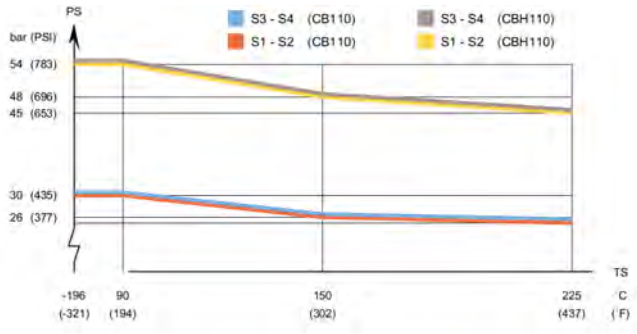
Particulars required for quotation
To enable Alfa Laval's representative to make a specific quotation, specify the following particulars in your enquiry:
- Required flow rates or heat load
- Temperature program
- Physical properties of liquids in question
- Desired working pressure
- Maximum permitted pressure drop

Examples of connections*

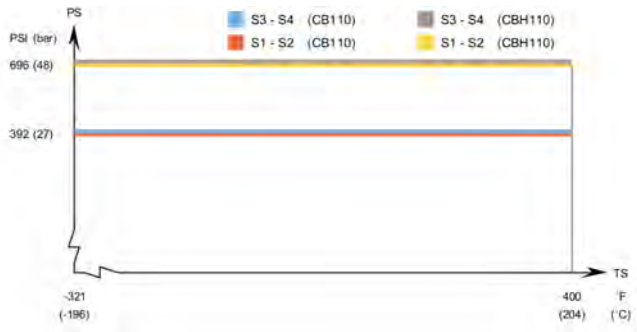


* More connections are available on request.

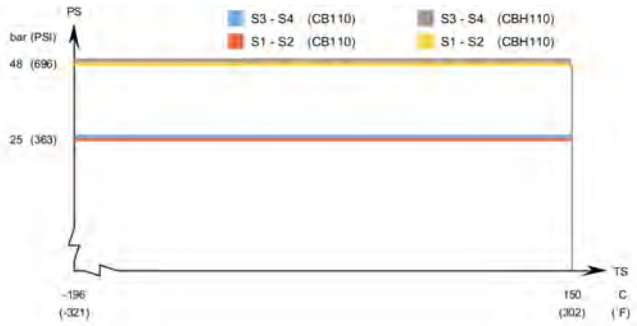
CB110 / CBH110 - PED approval pressure/temperature graph



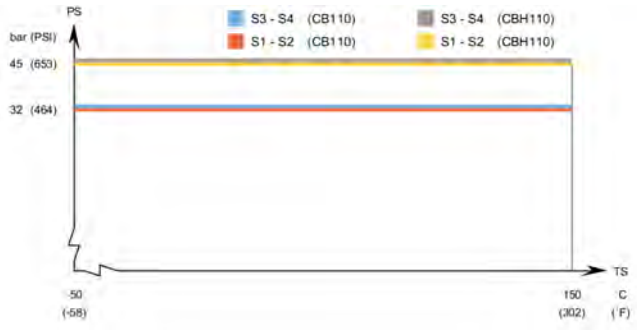
CB110 / CBH110 - UL approval pressure/temperature graph



CB110 / CBH110 - CRN approval pressure/temperature graph



CB110 / CBH110 - KHK and KRA approval pressure/temperature graph



Standard dimensions and weight*

CB110

A measure mm	=	15 + (2.56 * n) (±2 mm or ±1.5 %)
A measure inch	=	0.59 + (0.1 * n) (±0.08 inch or ±1.5 %)
Weight* kg	=	4.82 + (0.32 * n)
Weight* lb	=	10.63 + (0.71 * n)

CBH110

A measure mm	=	15 + (2.56 * n) (±2 mm or ±1.5 %)
A measure inch	=	0.59 + (0.1 * n) (±0.08 inch or ±1.5 %)
Weight* kg	=	5.68 + (0.32 * n)
Weight* lb	=	12.52 + (0.71 * n)

(n = number of plates)

* Excluding connections

Standard data

Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel H, L, M, litres (ga)	0.21 (0.05)
Max. particle size mm (inch)	1.2 (0.05)
Max. flowrate* m^3/h (gpm)	51 (224)
Min. nbr of plates	10
Max. nbr of plates	240

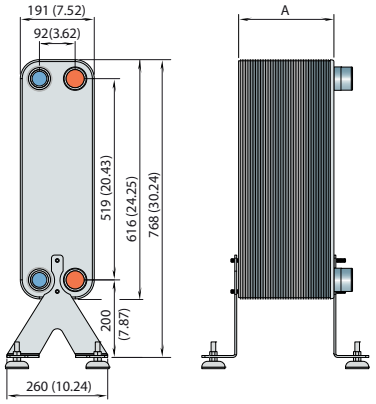
* Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing filler	Copper

Standard dimensions

mm (inch) For exact values please contact your local Alfa Laval representative



Marine approvals

CBM110 can be delivered with marine classification certificate (ABS, BV, CCS, Class NK, DNV, GL, LR, RINA, RMRS).

How to contact Alfa Laval

Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

CBXP27

Brazed plate heat exchanger

General information
Alfa Laval introduced its first brazed plate heat exchanger (BHE) in 1977 and has since continuously developed and optimized its performance and reliability.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. The plate design guarantees the longest possible life.

The design options of the brazed heat exchanger are extensive. Different plate patterns are available for various duties and performance specifications. You can choose a standard configuration BHE, or a unit designed according to your own specific needs. The choice is entirely yours.

Typical applications
- HVAC heating/cooling
- Refrigerant applications
- Industrial cooling/heating
- Oil cooling

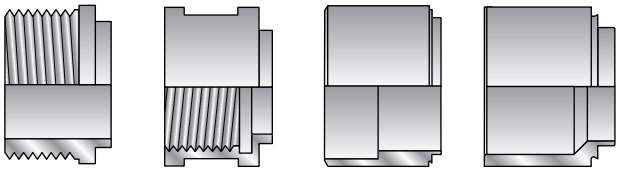
CO_2 refrigerant applications
- Suction gas heating
- Oil cooling
- Evaporating
- Economizing
- Sub cooling
- Condensing

Working principles
The heating surface consists of thin corrugated metal plates stacked on top of each other. Channels are formed between the plates and corner ports are arranged so that the two media flow through alternate channels, usually in countercurrent flow for the most efficient heat transfer process.

Standard design
The plate pack is covered by cover plates. Connections are located in the front or rear cover plate. To improve the heat transfer design, the channel plates are corrugated.

Particulars required for quotation
To enable Alfa Laval's representative to make a specific quotation, specify the following particulars in your enquiry:
- required flow rates or heat load
- temperature program
- physical properties of liquids in question
- desired working pressure
- maximum permitted pressure drop

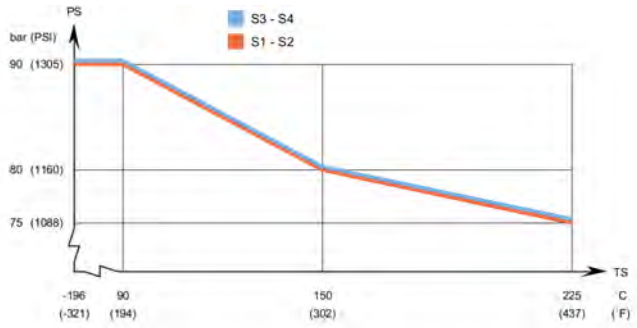
Examples of connections



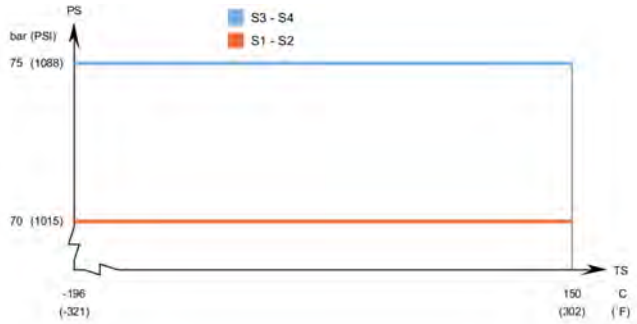
External threaded | Internal threaeded | Soldering | Welding

* More connections are available on request.

CBXP27 - PED approval pressure/temperature graph

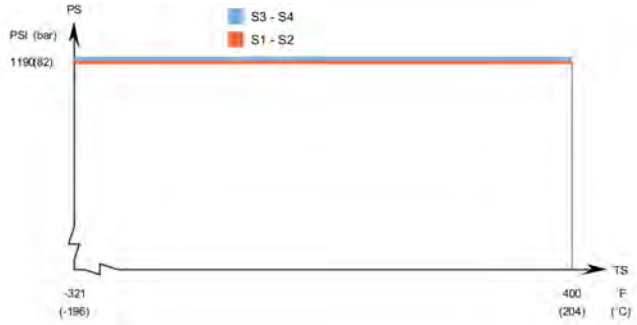


CBXP27 - KHK 150°C (302°F) approval pressure/temperature graph



CBXP27 - CRN approval pressure/temperature graph

CBXP27 - UL approval pressure/temperature graph



Standard dimensions and weight*

A measure mm	=	13 + (2.4 * n) ±3 mm
A measure inch	=	0.51 + (0.09 * n) ±0.12 inch
Weight* kg	=	2 + (0.13 * n)
Weight* lb	=	4.41 + (0.29 * n)

(n = number of plates)
* Excluding connections

Standard data

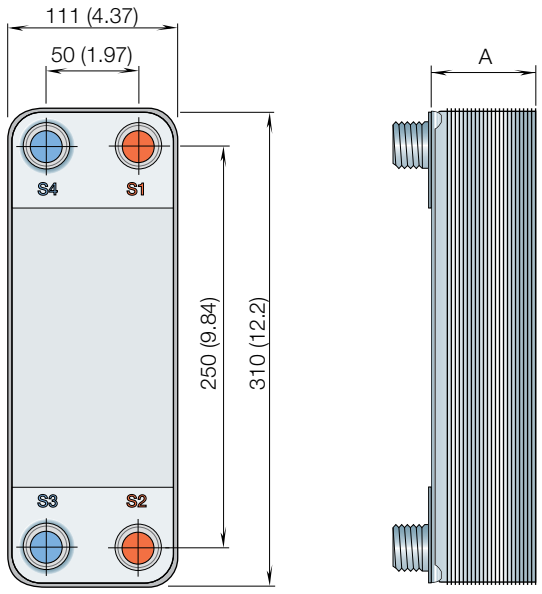
Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel, litres (ga)	0.05 (0.013)
Max. particle size mm (inch)	1.2 (0.05)
Max. flowrate* m^3/h (gpm)	14 (61.6)
Min. nbr of plates	6
Max. nbr of plates	150

* Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing filler	Copper

Standard dimensions
mm (inch)



For exact values please contact your local Alfa Laval representative

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Alfa Laval Standard ACH copper-brazed PHE - compact condensers

Technical specifications

Model	Part Number	Nominal HP R22	Nomnal HP R410A	Description	Ref Inlet/ Outlet	Water Inlet/ outlet	Ship-ping Wt lbs	Depth D in	A in	B in	C in
Frame Size 8.3" H x 2.9" W					**Working pressure 653 psig**						
CND-03S-CB*	3287133204	0.25	0.25	ACH16-10H S15	5/8"	5/8"	2.5	1.40	0.95	1.57	6.78
CND-05S-CB*	3287133205	0.4	0.4	ACH16-14H S15	5/8"	5/8"	3.3	1.70	0.95	1.57	6.78
Frame Size 12.3" H x 4.4" W (includes studbolts)					**Working pressure 450 psig**						
CND-1M-CB*	3287099352	0.75		CB 30 - 12H S15	5/8"	5/8"	6.5	1.60	0.95	1.97	9.84
CND-1.5M-CB*	3287000712	1.5		CB 27- 18H S33	7/8"	7/8"	7.8	2.15	0.95	1.97	9.84
CND-1.5M-CB*	3287099353	1.5		CB 30 - 18H S33	7/8"	7/8"	7.8	2.15	0.95	1.97	9.84
CND-2M-CB*	3287099358	2		CB 30- 24H S33	7/8"	7/8"	9.1	2.69	0.95	1.97	9.84
CND-3M-CB*	3287099359	3		CB 30- 34H S52	1-1/8"	1-1/8"	11.4	3.60	0.95	1.97	9.84
CND-4M-CB*	3287099360	4		CB 30- 44H S52	1-1/8"	1-1/8"	13.5	4.51	0.95	1.97	9.84
CND-5M-CB*	3287099361	5		CB 30- 54H S52	1-1/8"	1-1/8"	15.6	5.42	0.95	1.97	9.84
CND-6M-CB*	3287099363	6		CB 30- 64H S52	1-1/8"	1-1/8"	17.8	6.33	0.95	1.97	9.84
Frame Size 20.7" H x 4.4" W (includes studbolts)					**Working pressure 653 psig**						
CND-4L-CB*	3287103910	4	5.3	CBH60- 16H S52	1-1/8"	1-1/8"	11.0	2.00	0.95	1.97	18.35
CND-6L-CB*	3287103911	6	6.7	CBH60-24H S52	1-1/8"	1-1/8"	14.2	2.70	0.95	1.97	18.35
CND-7.5L-CB*	3287103912	7.5	7.5	CBH60- 30H S52	1-1/8"	1-1/8"	16.5	3.30	0.95	1.97	18.35
CND-10L-CB*	3287103913	10	10	CBH60- 40H S52	1-1/8"	1-1/8"	20.4	4.20	0.95	1.97	18.35
CND-12.5L-CB*	3287103914	12.5	13	CBH60- 48H S52	1-1/8"	1-1/8"	23.5	5.00	0.95	1.97	18.35
CND-14L-CB*	3287103915	14	14	CBH60- 62H S52	1-1/8"	1-1/8"	28.9	6.30	0.95	1.97	18.35
Frame Size 24.3" H x 7.5" W (includes studbolts)					**Working pressure 656 psig**						
CND-10XL-CB*	3287133774	10	13	CBH110-24H S89	2-1/8"	2-1/8"	36.2	2.61	1.58	3.62	20.43
CND-15XL-CB*	3287133775	15	18	CBH110-34H S89	2-1/8"	2-1/8"	45.9	3.72	1.58	3.62	20.43
CND-20XL-CB*	3287133776	20	24	CBH110-44H S89	2-1/8"	2-1/8"	55.6	4.83	1.58	3.62	20.43
CND-25XL-CB*	3287133777	25	31	CBH110-56H S89	2-1/8"	2-1/8"	65.3	5.94	1.58	3.62	20.43
CND-30XL-CB*	3287133778	30	36	CBH110-66H S89	2-1/8"	2-1/8"	75.0	7.05	1.58	3.62	20.43
CND-45XL-CB*	3287133779	45	45	CBH110-84H S89	2-1/8"	2-1/8"	94.4	9.27	1.58	3.62	20.43
CND-60XL-CB*	3287133780	60	60	CBH110-104H S89	2-1/8"	2-1/8"	113.8	11.49	1.58	3.62	20.43

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

AC70X / ACH70X

Brazed plate heat exchanger

General information
Alfa Laval introduced its first brazed plate heat exchanger in 1977 and has since continuously developed and optimized its performance and reliability.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates, which makes the heat exchanger compact and saves material. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. Using advanced design technologies and extensive verification guarantees the highest performance and longest possible service lifetime.

The AlfaChill (AC) brazed plate heat exchangers are specifically designed for heat transfer in air conditioning, refrigeration and heat pump applications.

Innovative features for this single circuit heat exchanger include a patented distributor integrated in the plate design.

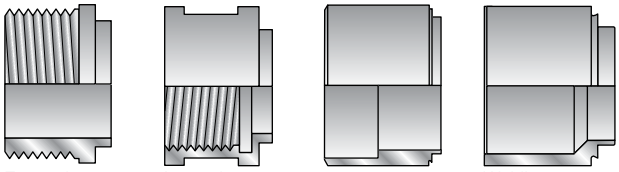
Applications
- Evaporator and condenser in chillers and heat pumps
- Economizer in chillers and heat pumps

The standard design supports a wide variety of HFC refrigerants such as R407C, R404A, R507, R134a. The high-pressure version is suitable for R410A and natural refrigerants (CO2 - propane).

Capacity range
AC70X/ACH70X cover capacities from 10 up to 80 kW for chillers and 5 kW to 40 kW for heat pumps. Based on standard components and a modular concept, each unit is custom-designed for each specific installation.

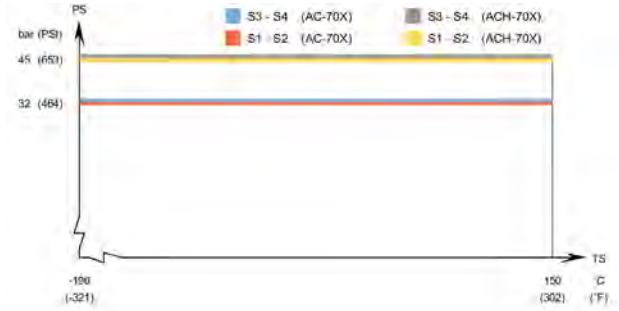
Request for quotation
To receive a quotation for brazed plate heat exchangers that meet your requirements, please provide Alfa Laval representatives with:
- Required flow rates or heat load
- Temperature program (inlet and outlet
- Brine and refrigerant type
- Desired working pressure
- Maximum permitted water/brine pressure drop
- Connection types

Examples of connections

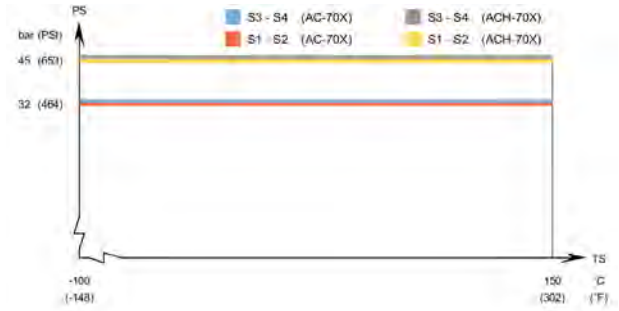


* More connections are available on request.

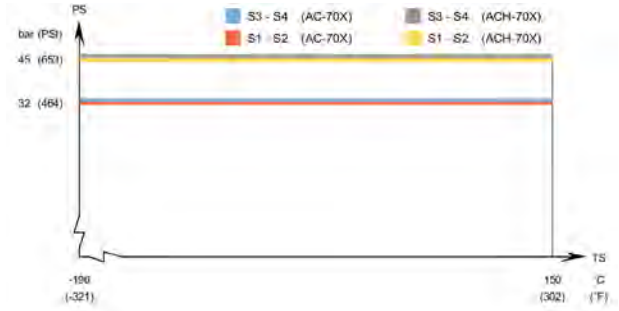
AC70X / ACH70X – PED approval pressure/temperature graph



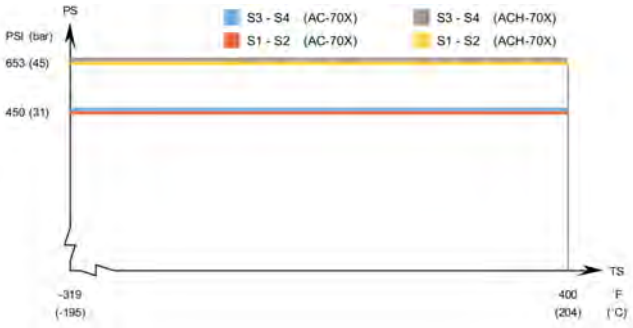
AC70X / ACH70X – KHK and KRA approval pressure/temperature graph



AC70X / ACH70X – CRN approval pressure/temperature graph



AC70X / ACH70X – UL approval pressure/temperature graph



Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing filler	Copper

Standard data

Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel, litres (ga)	0.0950.095 (NaN)
Max. flowrate* m^3/h (gpm)	14 (61.6)
Min. nbr of plates	4
Max. nbr of plates	124

*) Water at 5 m/s (16.4 ft/s) (connection velocity)

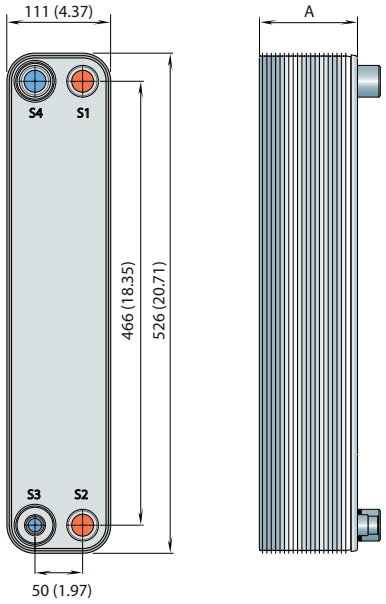
Standard dimensions

A measure mm	=	11 + (2.3 * n) ±4 %
A measure inch	=	0.43 + (0.09 * n) ±0.16 %
Weight kg	=	1.9 + (0.18 * n)
Weight lb	=	4.19 + (0.4 * n)

(n = number of plates)

Standard dimensions

mm (inch)



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Alfa Laval Standard ACH copper-brazed PHE - compact condensers

Technical specifications

Catalog Number	Part Number	Nominal HP R410A	Nominal HP R22	Alfa Laval Model Number	Ref Inlet/Outlet
Single Circuit - Frame Size 12.4” H x 3” W				**Working pressure 653 psig**	
CND-0.5M-ACH*	3287130117	1	0.5	ACH18-10H R53	5/8", 3/8"
Single Circuit - Frame Size 12.8” H x 3.7” W (includes studbolts)				**Working pressure 653 psig**	
CND-0.75M-ACH*	3287084893	1	0.75	ACH-30EQ-10H R52	7/8", 3/8"
CND-1.5M-ACH*	3287084894	1.5	1.5	ACH-30EQ-20H R52	7/8", 3/8"
CND-3M-ACH*	3287084895	3	3	ACH-30EQ-30H S09	7/8", 1/2"
CND-4M-ACH*	3287084896	4	4	ACH-30EQ-40H S09	7/8", 1/2"
CND-5M-ACH*	3287084897	5	5	ACH-30EQ-50H S21	1-1/8", 5/8"
CND-6M-ACH*	3287084898	6	6	ACH-30EQ-60H S21	1-1/8", 5/8"

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Catalog Number	Water Inlet/ outlet	Shipping Wt lbs	Depth D in	A in	B in	C in
Single Circuit - Frame Size 12.4” H x 3” W				**Working pressure 653 psig**		
CND-0.5M-ACH*	5/8"	4.2	1.2	0.5	1.6	11
Single Circuit - Frame Size 12.8” H x 3.7” W (includes studbolts)				**Working pressure 653 psig**		
CND-0.75M-ACH*	7/8"	4.2	0.9	0.95	1.54	10.6
CND-1.5M-ACH*	7/8"	6.2	1.5	0.95	1.54	10.6
CND-3M-ACH*	7/8"	8.2	2.1	0.95	1.54	10.6
CND-4M-ACH*	7/8"	10.2	2.7	0.95	1.54	10.6
CND-5M-ACH*	1-1/8"	12.2	3.3	0.95	1.54	10.6
CND-6M-ACH*	1-1/8"	14.2	3.9	0.95	1.54	10.6

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Custom units are also available, please consult with sales

Catalog Number	Part Number	Nominal HP R410A	Nominal HP R22	Alfa Laval Model Number	Ref Inlet/Outlet
Single Circuit - Frame Size 20.7” H x 4.4” W (includes studbolts)				Working pressure 653 psig	
CND-3L-ACH*	3287126488	3	3	ACH-70X-14M S21	1-1/8", 5/8"
CND-3.5L-ACH*	3287126487	3.5	3.5	ACH-70X-18M S21	1-1/8", 5/8"
CND-5L-ACH*	3287083717	5	4.5	ACH-70X-22M S21	1-1/8", 5/8"
CND-6L-ACH*	3287083718	6	5.5	ACH-70X-26M S21	1-1/8", 5/8"
CND-7.5L-ACH*	3287083719	7.5	7	ACH-70X-32M S21	1-1/8", 5/8"
CND-10L-ACH*	3287083720	10	9.5	ACH-70X-42M S24	1-3/8", 5/8"
CND-12L-ACH*	3287083721	12	11	ACH-70X-50M S24	1-3/8", 5/8"
CND-15L-ACH*	3287083723	15	14	ACH-70X-62M S25	1-3/8", 5/8"
CND-20L-ACH*	3287083725	20	18	ACH-70X-78M R49	1-3/8", 7/8"
CND-22L-ACH*	3287083726	22	21	ACH-70X-90M R49	1-3/8", 7/8"
CND-25L-ACH*	3287083727	25	23	ACH-70X-100M R49	1-3/8", 7/8"

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Custom units are also available, please consult with sales

Catalog Number	Water Inlet/ outlet	Shipping Wt lbs	Depth D in	A in	B in	C in
Single Circuit - Frame Size 20.7” H x 4.4” W (includes studbolts)				Working pressure 653 psig		
CND-3L-ACH*	1-1/8"	11.3	1.7	0.95	1.97	18.35
CND-3.5L-ACH*	1-1/8"	13	2.1	0.95	1.97	18.35
CND-5L-ACH*	1-1/8"	13.3	2.4	0.95	1.97	18.35
CND-6L-ACH*	1-1/8"	14.9	2.8	0.95	1.97	18.35
CND-7.5L-ACH*	1-1/8"	15.3	3.3	0.95	1.97	18.35
CND-10L-ACH*	1-1/8"	21.3	4.2	0.95	1.97	18.35
CND-12L-ACH*	1-1/8"	24.5	5	0.95	1.97	18.35
CND-15L-ACH*	1-1/8"	29.3	6.1	0.95	1.97	18.35
CND-20L-ACH*	1-3/8"	35.7	7.5	0.95	1.97	18.35
CND-22L-ACH*	1-3/8"	40.5	8.6	0.95	1.97	18.35
CND-25L-ACH*	1-3/8"	42.4	10.4	0.95	1.97	18.35

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Catalog Number	Part Number	Nominal HP R410A	Nominal HP R22	Alfa Laval Model Number	Ref Inlet/Outlet
Single Circuit - Frame Size 24.3” H x 7.6” W (includes studbolts)				**Working pressure 653 psig**	
CND-12.5XL-ACH*	3287083729	12.5	12.5	ACH-120EQ-30H S46	2-1/8", 7/8"
CND-20XL-ACH*	3287083731	20	20	ACH-120EQ-46H S62	2-1/8", 1-1/8"
CND-25XL-ACH*	3287083732	25	25	ACH-120EQ-60H S62	2-1/8", 1-1/8"
CND-30XL-ACH*	3287083733	30	30	ACH-120EQ-76H S62	2-1/8", 1-1/8"
CND-40XL-ACH*	3287083734	40	40	ACH-120EQ-90H S62	2-1/8", 1-1/8"
CND-45XL-ACH*	3287083735	45	45	ACH-120EQ-106H S62	2-1/8", 1-1/8"
CND-50XL-ACH*	3287083736	50	50	ACH-120EQ-124H S62	2-1/8", 1-1/8"
CND-60XL-ACH*	3287083737	60	60	ACH-120EQ-150H S62	2-1/8", 1-1/8"
CND-65XL-ACH*	3287083738	65	65	ACH-120EQ-180H S76	2-1/8", 1-1/8"
Single Circuit - Frame Size 29" H x 13" W (includes liftings lugsAnd feet)				**Working pressure 653 psig**	
CND-50XXL-ACH*	3287084411	50	50	ACH-500EQ-70H Y55	2-5/8", 1-3/8"
CND-60XXL-ACH*	3287084412	60	60	ACH-500EQ-80H Y55	2-5/8", 1-3/8"
CND-75XXL-ACH*	3287084414	75	75	ACH-500EQ-100H Y55	2-5/8", 1-3/8"
CND-100XXL-ACH*	3287084415	100	100	ACH-500EQ-130H Y55	2-5/8", 1-3/8"

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Custom units are also available, please consult with sales

Catalog Number	Water Inlet/ outlet	Shipping Wt lbs	Depth D in	A in	B in	C in
Single Circuit - Frame Size 24.3” H x 7.6” W (includes studbolts)				**Working pressure 653 psig**		
CND-12.5XL-ACH*	2-1/8"	45.9	3.3	0.95, 1.6, 1.6	3.62	20.43
CND-20XL-ACH*	2-1/8"	61.4	4.7	0.95, 1.6, 1.6	3.62	20.43
CND-25XL-ACH*	2-1/8"	75	6.1	0.95, 1.6, 1.6	3.62	20.43
CND-30XL-ACH*	2-1/8"	90.5	7.6	0.95, 1.6, 1.6	3.62	20.43
CND-40XL-ACH*	2-1/8"	104.1	8.9	0.95, 1.6, 1.6	3.62	20.43
CND-45XL-ACH*	2-1/8"	119.6	10.4	0.95, 1.6, 1.6	3.62	20.43
CND-50XL-ACH*	2-1/8"	137.1	12.1	0.95, 1.6, 1.6	3.62	20.43
CND-60XL-ACH*	2-1/8"	159.4	14.3	0.95, 1.6, 1.6	3.62	20.43
CND-65XL-ACH*	2-1/8"	188.5	17.1	0.95, 1.6, 1.6	3.62	20.43
Single Circuit - Frame Size 29" H x 13" W (includes liftings lugsAnd feet)				**Working pressure 653 psig**		
CND-50XXL-ACH*	3" Victualic	162.7	7.7	1.2, 2, 2	8.07	24.88
CND-60XXL-ACH*	3" Victualic	181.2	8.7	1.2, 2, 2	8.07	24.88
CND-75XXL-ACH*	3" Victualic	218.2	10.8	1.2, 2, 2	8.07	24.88
CND-100XXL-ACH*	3" Victualic	273.7	13.8	1.2, 2, 2	8.07	24.88

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Catalog Number	Part Number	Nominal HP R410A	Nominal HP R22	Alfa Laval Model Number	Ref Inlet/Outlet
Dual Circuit - Frame Size 19" H x 10" W (includes studbolts)				**Working pressure 653 psig**	
CND-12.5L-ACH2*	3287084565	12.5	12.5	ACH-230DQ-30H	1-1/8", 7/8"
CND-20L-ACH2*	3287084567	20	20	ACH-230DQ-50H	1-3/8", 7/8"
CND-30L-ACH2*	3287084569	30	30	ACH-230DQ-70H	1-3/8", 7/8"
CND-40L-ACH2*	3287084570	40	40	ACH-230DQ-90H	1-5/8", 7/8"
CND-50L-ACH2*	3287084571	50	50	ACH-230DQ-110H	1-5/8", 1-1/8"
CND-60L-ACH2*	3287084572	60	60	ACH-230DQ-138H	2-1/8", 1-1/8"
CND-70L-ACH2*	3287084573	70	70	ACH-230DQ-170H	2-1/8", 1-1/8"
CND-80L-ACH2*	3287084574	80	80	ACH-230DQ-202H	2-1/8", 1-1/8"
Dual Circuit - Frame Size 29" H x 13" W (includes liftings lugsAnd feet)				**Working pressure 653 psig**	
CND-100XXL-ACH2*	3287084579	100	100	ACH-500DQ-110H	2-5/8", 1-3/8"
CND-120XXL-ACH2*	3287084581	120	120	ACH-500DQ-138H	2-5/8", 1-3/8"
CND-140XXL-ACH2*	3287084583	140	140	ACH-500DQ-170H	2-5/8", 1-3/8"
CND-150XXL-ACH2*	3287084584	150	150	ACH-500DQ-190H	2-5/8", 1-3/8"
CND-160XXL-ACH2*	3287084585	160	160	ACH-500DQ-206H	2-5/8", 1-3/8"

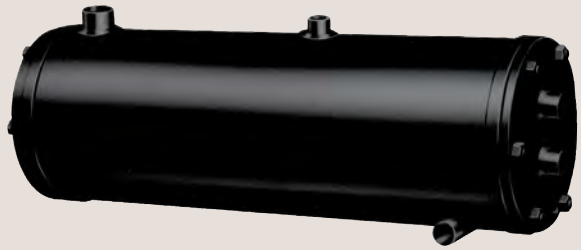
*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Catalog Number	Water Inlet/ outlet	Shipping Wt lbs	Depth D in	A in	B in	C in
Dual Circuit - Frame Size 19" H x 10" W (includes studbolts)				**Working pressure 653 psig**		
CND-12.5L-ACH2*	2"Victualic	38	3.9	0.95, 1.2, 1.9	6.1	15.75, 14.53
CND-20L-ACH2*	2" Victaulic	56	6.2	0.95, 1.2, 1.9	6.1	15.75, 14.53
CND-30L-ACH2*	2" Victaulic	73	8.6	0.95, 1.2, 1.9	6.1	15.75, 14.53
CND-40L-ACH2*	2-1/2" Victualic	93	10.9	0.95, 1.2, 1.9	6.1	15.75, 14.53
CND-50L-ACH2*	2-1/2" Victualic	109	13.2	0.95, 1.2, 1.9	6.1	15.75, 14.53
CND-60L-ACH2*	2-1/2" Victualic	134	16.5	0.95, 1.57, 1.9	6.1	15.75, 14.53
CND-70L-ACH2*	2-1/2" Victualic	162	20.2	0.95, 1.57, 1.9	6.1	15.75, 14.53
CND-80L-ACH2*	2-1/2" Victualic	190	23.9	0.95, 1.57, 1.9	6.1	15.75, 14.53
Dual Circuit - Frame Size 29" H x 13" W (includes liftings lugsAnd feet)				**Working pressure 653 psig**		
CND-100XXL-ACH2*	3" Victualic	238	11.8	1.2, 2, 2	8.07	24.87, 22.36
CND-120XXL-ACH2*	3" Victualic	290	14.7	1.2, 2, 2	8.07	24.87, 22.36
CND-140XXL-ACH2*	3" Victualic	349	17.9	1.2, 2, 2	8.07	24.87, 22.36
CND-150XXL-ACH2*	3" Victualic	386	20	1.2, 2, 2	8.07	24.87, 22.36
CND-160XXL-ACH2*	3" Victualic	416	21.6	1.2, 2, 2	8.07	24.87, 22.36

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Alfa Laval Standard SST-MP condenser

Shell-and-tube horizontal multiple-purpose water-cooled condenser



SST-MP condensers provide generous pumpdown capacities, helping eliminate the need for receiver tanks. They offer a level of durabilty that will ensure many years of reliable performance. They are designed to work with standard and higher pressure refrigerants.

Standard Designs

SST-MP condensers are available in standard designs for water duty. The models feature high-efficiency tube surfaces and they are available in 9 catalog models from 2 to 30 horsepower (HP). They are designed to provide generous pumpdown capacity to your system, eliminating the need for receiver tanks and additional piping. Recommended model for R404A and R410A. For glycol duty please consult ProSuite or contact the factory.

Tube Materials

SST-MP condensers are manufactured with enhanced 3/4" diameter copper tubing to provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Customization

As standard these units offer a horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client. Condenser can be made with stainless steel for increased life with poor quality cooling water.

Features

Shells

ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes

Copper high performance enhanced designed tubing. Other tubing materials are available for corrosive duties.

Tube Sheets

ASME specification steel tube sheets, precision machined for excellent sealing. Tube sheets are epoxy coated to prevent pitting caused by galvanic action.

Tube Supports

Quality steel tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads

ASME specification precision machined steel heads. Custom connection versions are available. The inside of the heads are epoxy coated to prevent pitting caused by galvanic action.

Connections

All water side connections are FNPT. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

Standard Refrigeration

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Working Pressures:
600 psi. Shell Side (Refrigerant) @ 150°F
150 psi. Tube Side (Water/Fluid) @ 150°F

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal horsepower by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow
Water velocities of eight feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this catalog section are limited to flow velocities below eight feet per second.

Approved Refrigerants
R22, R134a, R404A, R410A & R507A. Units shorter than three feet in length R407C/R407F.

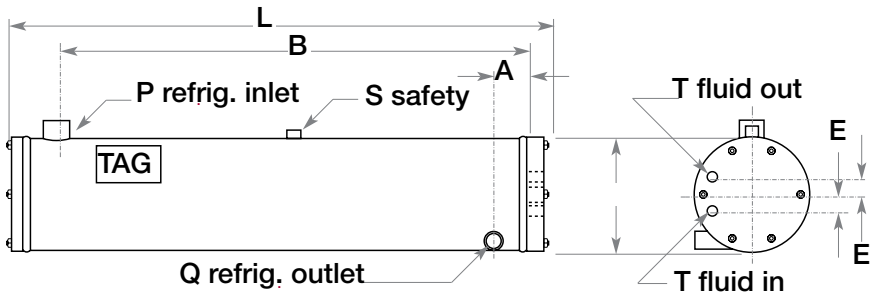
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. Units longer than three feet R407C/R407F, due to refrigerant separation. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Alternative Options
For less pumpdown capacity use HSE-MP units. For salt water applications use MSE-MP units. Can be used in conjunction with a HR-MP or UR-MP receiver for even greater pumpdown capacity. For clean water applications use a brazed CND-CB or for higher pressure refrigerants use a CND-ACH, this will require a HR-MP or UR-MP receiver to obtain pumpdown capacity.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

SST200MP to SST3005MP



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard SST-MP condenser

Technical specifications

Models	R22 Nominal HP*	R134a Nominal HP*	R410a Nominal HP*	Dimensions (inches)					Connections (inches)			
				D	L	A	B	E	P (IDS)	Q (IDS)	S (FNPT)	T (FNPT)
SST200MP	2.8	2.7	2.7	6 5/8	21.38	2.06	15.94	1.00	7/8	5/8	3/8	3/4
SST500MP	6.3	5.7	6.1	8 5/8	28.00	2.62	21.56	1.50	1 1/8	5/8	1/2	1 1/4
SST750MP	9.3	9.1	9.0	8 5/8	28.50	2.50	21.50	1.50	1 3/8	7/8	3/8	1 1/4
SST755MP	13.8	13.4	13.2	8 5/8	40.50	2.56	33.44	1.50	1 3/8	7/8	1/2	1 1/4
SST1000MP	13.0	12.7	12.6	8 5/8	46.50	2.56	39.44	2.13	1 3/8	7/8	1/2	1 1/4
SST1500MP	19.7	19.1	19.0	8 5/8	52.00	2.56	45.44	2.13	1 3/8	1 1/8	1/2	1 1/2
SST2005MP	26.6	25.8	25.6	10 3/4	65.25	3.00	56.50	2.13	2 1/8	1 3/8	3/8	2
SST2505MP	34.0	31.5	32.8	10 3/4	65.50	3.00	56.50	2.13	2 1/8	1 3/8	3/8	2 1/2
SST3005MP	39.9	37.2	38.4	10 3/4	65.50	3.00	56.50	2.13	2 5/8	1 3/8	1/2	2 1/2

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
ProSuite software values are the most accurate
Tubing has high performance enhanced surface
HP = 15,000 Btu/hr

Models	Pumpdown Capacity (lbs.)			Water Flow (gpm)		Water Pressure Drop (psi)			Ship-ping Weight (lbs.)	Gaskets Article #		Endplates Article #	
	R22*	R134a*	R410a*	Min.	Max.	R22	R134a	R410a		Front	Rear	Front	Rear
SST200MP	14	15	15	2.0	18.0	1.3	1.3	1.2	69	3101	3170	3101	3170
SST500MP	37	38	38	2.7	26.8	2.9	2.3	2.7	112	3118	2584	3118	2584
SST750MP	34	35	35	4.0	30.0	3.2	3.0	3.0	132	3118	2584	3118	2584
SST755MP	55	56	57	3.4	20.0	10.6	10.0	9.8	174	3118	2584	3118	2584
SST1000MP	64	65	66	6.7	67.0	2.7	2.6	2.5	193	1723	2953	1723	2953
SST1500MP	71	72	73	8.0	70.0	3.7	3.5	3.4	218	1723	2953	1723	2953
SST2005MP	153	155	158	8.0	80.4	5.2	4.9	4.8	372	2591	2984	2591	2984
SST2505MP	147	149	152	10.1	100.5	5.1	4.4	4.8	404	2591	2984	2591	2984
SST3005MP	141	143	146	12.1	100.1	5.1	4.5	4.8	409	2591	2984	2591	2984

*Pumpdown capacities are based upon 90% of the shell open volume
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Standard Refrigeration

SST200MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	3	1.2	0.2	13,810	18,579	23,447	28,371	33,391	38,493
	6	2.1	0.7	24,841	33,117	41,446	49,682	57,898	66,124
	9	3.2	1.5	32,814	43,534	54,152	64,650	75,028	85,263
	11	3.9	2.2	36,783	48,687	60,394	71,934	83,322	94,562
	14	5.0	3.5	41,432	54,712	67,764	80,529	93,101	105,464
	17	6.1	5.0	45,154	59,512	73,469	87,249	100,718	114,058
	20	7.1	6.9	48,305	63,499	78,309	92,851	107,070	121,007
	22	7.8	8.3	50,118	65,808	81,049	96,100	110,742	125,191
R134a	3	1.2	0.2	13,766	18,532	23,372	28,281	33,250	38,334
	6	2.1	0.7	24,681	32,903	41,121	49,318	57,477	65,607
	9	3.2	1.5	32,494	43,145	53,609	63,925	74,200	84,286
	11	3.9	2.2	36,355	48,197	59,719	71,095	82,345	93,304
	14	5.0	3.5	41,006	54,036	66,787	79,346	91,743	103,848
	17	6.1	5.0	44,565	58,648	72,399	85,870	99,111	112,120
	20	7.1	6.9	47,614	62,422	77,025	91,269	105,283	118,833
	22	7.8	8.3	49,374	64,650	79,685	94,355	108,773	122,842
R404A	3	1.2	0.2	13,647	18,337	23,105	27,981	32,904	37,868
	6	2.1	0.7	24,227	32,279	40,262	48,232	56,094	63,917
	9	3.2	1.5	31,688	41,966	52,065	61,961	71,733	81,376
	11	3.9	2.2	35,329	46,624	57,678	68,513	79,135	89,613
	14	5.0	3.5	39,629	52,113	64,216	76,111	87,712	99,106
	17	6.1	5.0	42,904	56,379	69,270	81,924	94,387	106,565
	20	7.1	6.9	45,673	59,811	73,456	86,819	99,702	112,463
	22	7.8	8.3	43,994	61,775	75,883	89,438	102,838	115,814
R410A	3	1.2	0.2	13,748	18,513	23,342	28,242	33,285	38,331
	6	2.1	0.7	24,610	32,803	41,000	49,144	57,266	65,314
	9	3.2	1.5	32,303	42,928	53,338	63,601	73,739	83,744
	11	3.9	2.2	36,185	47,825	59,309	70,534	81,673	92,562
	14	5.0	3.5	40,699	53,633	66,251	78,682	90,849	102,891
	17	6.1	5.0	44,292	58,199	71,703	84,944	98,017	110,849
	20	7.1	6.9	47,272	61,900	76,215	90,202	103,977	117,489
	22	7.8	8.3	48,911	64,124	78,911	93,221	107,261	121,204

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST500MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	4	1.2	0.2	22,617	30,429	38,398	46,475	54,665	62,997
	8	2.1	0.6	40,684	54,250	67,847	81,492	95,112	108,681
	12	3.2	1.2	54,734	72,768	90,607	108,319	125,845	143,177
	15	4.0	1.8	62,907	83,386	103,623	123,504	143,300	162,731
	19	5.1	2.8	71,649	94,759	117,347	139,619	161,627	183,270
	23	6.2	4.1	78,822	103,946	128,537	152,595	176,484	199,793
	26	7.0	5.1	83,381	109,737	135,648	161,007	185,916	210,422
	30	8.0	6.7	88,753	116,758	143,914	170,680	197,027	222,643
R134a	4	1.2	0.2	22,557	30,379	38,309	46,339	54,543	62,790
	8	2.1	0.6	40,458	53,980	67,519	81,023	94,531	107,929
	12	3.2	1.2	54,357	72,156	89,902	107,430	124,783	141,889
	15	4.0	1.8	62,305	82,570	102,620	122,261	141,733	160,819
	19	5.1	2.8	70,818	93,600	115,978	137,898	159,592	180,862
	23	6.2	4.1	77,850	102,582	126,771	150,520	173,812	196,921
	26	7.0	5.1	82,259	108,290	133,627	158,463	183,155	207,141
	30	8.0	6.7	87,320	114,822	141,701	167,876	193,715	218,830
R404A	4	1.2	0.2	22,406	30,119	37,966	45,917	53,985	62,122
	8	2.1	0.6	39,863	53,091	66,347	79,454	92,608	105,740
	12	3.2	1.2	53,188	70,491	87,652	104,542	121,122	137,615
	15	4.0	1.8	60,720	80,296	99,447	118,339	136,799	155,117
	19	5.1	2.8	68,772	90,620	112,010	132,706	153,221	173,366
	23	6.2	4.1	75,096	98,773	121,832	144,142	165,984	187,614
	26	7.0	5.1	79,255	104,027	127,835	151,540	174,322	196,588
	30	8.0	6.7	84,042	110,044	135,240	159,642	183,600	207,011
R410A	4	1.2	0.2	22,538	30,325	38,249	46,335	54,493	62,753
	8	2.1	0.6	40,354	53,816	67,250	80,767	94,162	107,523
	12	3.2	1.2	54,164	71,850	89,427	106,828	123,898	140,945
	15	4.0	1.8	62,005	82,100	101,896	121,400	140,565	159,600
	19	5.1	2.8	70,515	92,986	115,129	136,783	158,076	179,104
	23	6.2	4.1	77,259	101,678	125,625	149,027	172,009	194,636
	26	7.0	5.1	81,654	107,328	132,454	156,807	180,994	204,467
	30	8.0	6.7	86,749	113,839	140,155	165,943	191,129	215,861

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST750MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	7	1.2	0.2	36,135	48,591	61,324	74,172	87,165	100,293
	10	1.8	0.4	51,612	69,080	86,675	104,249	121,940	139,622
	20	3.6	1.7	86,843	115,299	143,383	171,341	198,804	226,200
	25	4.5	2.6	98,816	130,977	162,634	193,763	224,624	254,845
	30	5.3	3.6	108,839	143,930	178,177	212,074	245,403	278,386
	35	6.2	4.8	113,467	154,584	191,412	227,602	263,048	297,918
	40	7.1	6.2	120,484	164,306	202,949	240,720	278,261	314,937
	45	8.0	7.7	126,725	172,720	212,971	252,540	291,423	329,647
R134a	7	1.2	0.2	36,043	48,490	61,158	73,901	86,872	99,968
	10	1.8	0.4	51,432	68,731	86,259	103,784	121,248	138,901
	20	3.6	1.7	83,613	114,227	142,108	169,575	196,941	223,809
	25	4.5	2.6	94,878	129,597	160,936	191,645	221,792	251,803
	30	5.3	3.6	104,151	137,664	176,013	209,350	242,169	274,311
	35	6.2	4.8	112,030	147,757	188,706	224,178	258,999	293,564
	40	7.1	6.2	114,459	156,453	193,134	237,073	273,698	309,664
	45	8.0	7.7	120,095	164,108	202,500	248,279	286,536	324,068
R404A	7	1.2	0.2	35,753	48,085	60,595	73,247	85,971	98,915
	10	1.8	0.4	50,850	67,938	85,048	102,195	119,427	136,554
	20	3.6	1.7	81,635	108,244	138,277	164,819	190,991	216,534
	25	4.5	2.6	92,318	121,916	150,957	185,131	214,002	242,321
	30	5.3	3.6	97,498	133,154	164,441	195,130	232,358	262,908
	35	6.2	4.8	104,478	142,385	175,705	208,227	247,625	279,649
	40	7.1	6.2	110,448	150,335	185,129	219,072	252,307	294,298
	45	8.0	7.7	115,632	157,223	193,442	228,642	263,389	297,222
R410A	7	1.2	0.2	36,040	48,508	61,164	73,989	86,872	99,979
	10	1.8	0.4	51,392	68,710	86,104	103,647	121,170	138,642
	20	3.6	1.7	85,786	113,818	141,537	168,748	195,789	222,431
	25	4.5	2.6	97,571	128,868	159,967	190,454	220,300	250,068
	30	5.3	3.6	107,073	141,305	175,075	207,660	240,284	272,337
	35	6.2	4.8	115,109	151,599	187,474	222,353	256,665	290,730
	40	7.1	6.2	118,052	160,682	198,203	234,818	271,052	306,587
	45	8.0	7.7	123,920	168,501	207,585	245,950	283,592	320,320

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST755MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	5	1.2	0.2	33,901	45,586	57,436	69,412	81,612	93,806
	10	2.1	0.7	61,054	81,488	102,123	122,659	143,217	163,846
	15	3.2	1.6	84,504	112,610	140,546	168,319	196,019	223,663
	19	4.1	2.5	99,891	132,756	165,511	197,818	230,027	261,702
	24	5.1	3.8	115,989	153,777	191,221	228,200	264,743	300,814
	28	6.0	5.0	126,854	168,042	208,771	248,486	287,995	327,263
	33	7.1	6.8	138,829	183,487	227,454	270,771	313,318	355,415
	37	7.9	8.5	147,315	194,408	240,804	286,282	331,180	375,237
R134a	5	1.2	0.2	33,880	45,559	57,361	69,312	81,447	93,630
	10	2.1	0.7	60,847	81,242	101,735	122,247	142,745	163,239
	15	3.2	1.6	84,109	111,995	139,738	167,290	194,824	222,141
	19	4.1	2.5	99,270	131,779	164,107	196,297	227,929	259,415
	24	5.1	3.8	114,918	152,360	189,415	225,952	261,985	297,668
	28	6.0	5.0	125,672	166,280	206,263	245,971	284,767	323,209
	33	7.1	6.8	132,232	181,206	224,768	267,269	309,154	350,541
	37	7.9	8.5	140,012	191,820	237,358	282,428	326,253	369,777
R404A	5	1.2	0.2	33,713	45,292	57,074	68,955	80,991	93,071
	10	2.1	0.7	60,222	80,413	100,604	120,763	140,897	161,042
	15	3.2	1.6	82,807	110,118	137,151	164,079	190,846	217,312
	19	4.1	2.5	94,256	129,069	160,334	191,427	222,101	252,519
	24	5.1	3.8	108,428	148,364	184,143	219,103	253,702	287,755
	28	6.0	5.0	117,979	161,414	199,822	237,657	274,584	311,034
	33	7.1	6.9	128,181	168,834	216,573	257,040	296,633	335,722
	37	7.9	8.5	135,435	178,175	228,303	270,489	312,204	353,028
R410A	5	1.2	0.2	33,857	45,530	57,344	69,394	81,476	93,761
	10	2.1	0.7	60,745	81,184	101,602	122,087	142,571	162,960
	15	3.2	1.6	83,951	111,700	139,382	166,895	194,349	221,405
	19	4.1	2.5	98,901	131,396	163,626	195,513	227,084	258,340
	24	5.1	3.8	114,514	151,726	188,396	224,804	260,534	295,904
	28	6.0	5.0	125,109	165,518	205,131	244,246	282,894	320,908
	33	7.1	6.8	136,537	180,323	223,257	265,138	306,784	347,803
	37	7.9	8.5	144,677	190,632	235,771	279,941	323,520	366,241

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST1000MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	11	1.2	0.2	54,272	70,801	89,336	108,345	127,565	147,008
	20	2.1	0.7	97,003	129,349	161,815	194,125	226,656	251,123
	30	3.2	1.6	125,340	172,646	214,842	256,821	298,208	339,227
	40	4.3	2.8	148,405	196,682	253,507	302,005	349,624	397,059
	45	4.8	3.5	157,950	209,115	269,097	320,397	371,027	420,354
	55	5.9	5.1	174,197	229,741	284,559	351,469	406,248	459,948
	65	7.0	7.0	187,677	247,144	305,550	377,375	436,030	492,909
	75	8.0	9.3	199,270	261,849	323,483	383,491	460,690	520,911
R134a	11	1.2	0.2	54,071	72,807	91,868	111,178	130,736	150,517
	20	2.1	0.7	93,154	124,435	160,712	192,914	225,094	257,106
	30	3.2	1.6	124,378	165,270	205,583	245,809	295,356	335,861
	40	4.3	2.8	146,955	194,602	241,639	287,758	333,392	378,457
	45	4.8	3.5	149,603	206,672	256,085	304,773	352,896	400,226
	55	5.9	5.1	164,459	226,950	280,590	333,390	385,558	436,747
	65	7.0	7.0	177,076	243,557	301,002	357,273	412,665	466,547
	75	8.0	9.3	187,575	257,923	318,152	377,070	435,095	492,222
R404A	11	1.2	0.2	52,044	72,274	91,033	110,045	129,321	148,867
	20	2.1	0.7	91,814	122,443	153,039	183,583	213,951	244,060
	30	3.2	1.6	121,539	161,300	200,552	239,085	277,377	315,005
	40	4.3	2.8	137,159	188,972	233,925	277,905	321,552	364,233
	45	4.8	3.5	145,353	200,114	247,411	293,531	339,083	384,065
	55	5.9	5.1	159,302	209,549	269,779	319,778	368,588	416,547
	65	7.0	7.0	170,654	223,998	288,110	341,198	392,373	443,312
	75	8.0	9.3	180,361	236,507	290,677	358,786	412,752	465,533
R410A	11	1.2	0.2	54,107	72,835	89,345	108,164	127,360	146,789
	20	2.1	0.7	96,233	128,331	160,393	192,272	224,237	256,168
	30	3.2	1.6	124,015	170,498	211,987	253,015	293,567	333,655
	40	4.3	2.8	146,488	193,842	249,153	296,266	342,906	388,996
	45	4.8	3.5	155,492	205,582	254,699	313,739	362,781	410,875
	55	5.9	5.1	171,097	225,638	278,842	330,997	382,421	448,411
	65	7.0	7.0	184,077	242,157	298,806	353,982	408,483	462,162
	75	8.0	9.3	194,854	256,005	315,533	373,632	430,753	486,871

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST1500MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	13	1.2	0.2	70,104	94,400	116,364	140,910	165,840	191,098
	20	1.8	0.5	107,783	144,098	180,720	217,292	253,993	290,758
	40	3.6	1.7	177,644	236,079	302,141	360,926	418,896	476,275
	50	4.5	2.7	202,859	268,866	334,133	398,211	474,561	538,852
	60	5.3	3.7	223,754	296,010	366,847	436,603	505,437	590,283
	70	6.2	5.0	241,466	318,845	394,596	469,157	542,614	614,389
	80	7.1	6.4	257,038	338,526	418,675	497,136	574,545	650,126
	90	8.0	8.1	261,342	356,310	440,044	521,822	602,929	681,920
R134a	13	1.2	0.2	69,944	94,104	118,629	143,563	168,831	194,295
	20	1.8	0.5	104,660	140,015	179,816	216,451	252,745	289,364
	40	3.6	1.7	170,679	233,983	291,145	347,816	403,825	458,941
	50	4.5	2.7	194,307	266,069	330,371	393,452	456,271	517,893
	60	5.3	3.7	213,775	283,049	362,249	430,916	498,793	565,841
	70	6.2	5.0	230,246	304,261	389,193	462,449	534,603	605,557
	80	7.1	6.4	244,864	322,602	412,515	489,524	565,769	640,006
	90	8.0	8.1	247,739	338,500	417,858	513,555	592,879	670,536
R404A	13	1.2	0.2	67,804	91,289	117,665	142,373	167,224	192,363
	20	1.8	0.5	103,557	138,407	173,334	208,449	243,606	278,741
	40	3.6	1.7	166,938	221,588	283,597	338,046	392,016	445,105
	50	4.5	2.7	189,288	250,287	310,312	380,861	440,213	498,810
	60	5.3	3.7	207,522	273,833	338,506	402,008	479,121	542,403
	70	6.2	5.0	214,754	293,664	361,973	429,117	495,413	578,138
	80	7.1	6.4	227,564	310,213	382,075	452,633	521,561	589,542
	90	8.0	8.1	238,527	324,828	399,811	473,101	544,500	614,815
R410A	13	1.2	0.2	69,937	94,093	118,604	143,429	168,606	194,047
	20	1.8	0.5	107,257	143,351	179,523	215,899	252,116	288,667
	40	3.6	1.7	175,691	233,102	290,313	346,451	402,028	457,290
	50	4.5	2.7	200,084	265,094	328,692	391,451	453,242	514,367
	60	5.3	3.7	220,219	291,011	360,167	427,945	495,144	561,192
	70	6.2	5.0	237,309	313,124	386,449	458,844	530,177	600,443
	80	7.1	6.4	243,591	331,768	409,430	485,643	559,890	633,847
	90	8.0	8.1	255,785	348,233	429,165	508,605	586,393	663,105

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST2005MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	13	1.2	0.1	77,760	104,655	129,103	156,411	183,836	211,581
	20	1.8	0.4	119,207	159,337	199,749	240,185	275,507	315,352
	40	3.6	1.5	201,586	268,169	342,740	409,918	476,185	542,128
	50	4.5	2.2	232,688	308,415	383,800	470,570	546,047	620,231
	60	5.3	3.0	258,621	342,552	425,432	506,877	603,560	684,892
	70	6.2	4.0	281,230	371,650	460,705	548,051	634,393	739,878
	80	7.1	5.1	300,848	397,521	491,598	584,174	675,266	765,783
	90	8.0	6.4	318,315	419,930	518,565	616,283	711,913	806,040
R134a	13	1.2	0.1	77,571	104,361	131,505	159,042	186,706	214,687
	20	1.8	0.4	116,164	158,721	198,973	239,299	279,664	320,195
	40	3.6	1.5	200,098	266,022	331,449	396,252	460,793	524,224
	50	4.5	2.2	223,597	305,824	380,008	453,310	525,882	597,846
	60	5.3	3.0	247,987	338,982	420,643	500,848	579,786	658,193
	70	6.2	4.0	268,892	355,480	454,757	540,991	625,811	709,266
	80	7.1	5.1	287,006	378,996	484,592	575,703	665,791	753,777
	90	8.0	6.4	303,382	399,682	510,921	606,434	701,026	792,503
R404A	13	1.2	0.1	75,541	103,742	130,683	157,874	185,298	213,043
	20	1.8	0.4	115,167	153,827	192,967	231,971	271,197	310,208
	40	3.6	1.5	190,634	260,505	323,797	386,797	448,653	510,122
	50	4.5	2.2	218,424	289,149	369,330	440,029	509,374	577,973
	60	5.3	3.0	241,223	318,720	394,957	483,871	558,796	633,343
	70	6.2	4.0	260,720	343,718	425,093	520,194	600,877	679,600
	80	7.1	5.1	268,529	365,665	450,957	534,357	636,451	718,639
	90	8.0	6.4	283,051	384,249	473,799	560,769	646,147	753,803
R410A	13	1.2	0.1	77,651	104,353	131,492	158,919	183,615	211,243
	20	1.8	0.4	118,651	158,656	198,661	238,898	279,182	319,492
	40	3.6	1.5	199,621	265,426	330,488	404,364	469,683	534,124
	50	4.5	2.2	229,691	304,484	378,472	451,510	523,208	594,695
	60	5.3	3.0	254,999	337,406	418,423	497,835	576,351	653,541
	70	6.2	4.0	276,631	365,268	452,010	537,051	621,034	703,679
	80	7.1	5.1	295,312	389,784	481,024	571,108	659,754	747,266
	90	8.0	6.4	312,180	410,727	507,077	601,244	693,761	784,665

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST2505MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.4	0.2	120,530	161,461	202,704	244,464	286,127	328,364
	30	2.1	0.5	172,698	230,654	293,388	352,248	410,798	469,353
	50	3.6	1.4	254,808	338,602	421,846	504,653	586,520	667,539
	60	4.3	1.9	286,639	380,477	473,182	564,795	655,342	745,464
	70	5.0	2.5	306,957	416,385	517,543	616,796	714,984	812,105
	90	6.4	4.0	351,989	476,859	590,802	702,962	813,090	921,308
	100	7.1	4.9	370,633	502,869	622,086	738,970	853,966	967,589
	110	7.8	5.8	388,181	512,346	650,081	772,335	891,914	1,009,563
R134a	20	1.4	0.2	118,281	158,702	199,401	243,619	285,458	327,353
	30	2.1	0.5	171,956	229,533	287,135	344,940	402,642	460,329
	50	3.6	1.4	247,430	328,767	418,263	500,144	581,664	661,190
	60	4.3	1.9	277,688	368,623	468,967	559,599	649,183	737,713
	70	5.0	2.5	296,624	402,838	500,435	610,514	707,098	801,929
	90	6.4	4.0	338,991	459,691	569,086	676,721	782,795	909,055
	100	7.1	4.9	356,931	483,656	597,973	710,901	821,006	953,330
	110	7.8	5.8	373,334	505,185	624,055	740,973	856,137	969,107
R404A	20	1.4	0.2	117,538	157,490	197,741	238,336	278,983	319,936
	30	2.1	0.5	166,894	226,660	283,277	340,056	396,415	452,753
	50	3.6	1.4	242,677	322,028	400,307	478,153	555,027	643,403
	60	4.3	1.9	265,325	359,367	446,398	531,837	615,635	698,516
	70	5.0	2.5	289,044	391,667	485,486	576,700	666,975	756,066
	90	6.4	4.0	328,495	433,290	548,542	650,150	750,424	848,820
	100	7.1	4.9	344,904	454,122	574,757	680,737	785,158	887,684
	110	7.8	5.8	350,206	473,451	583,482	708,456	815,568	921,467
R410A	20	1.4	0.2	118,304	160,790	202,061	243,473	284,969	326,567
	30	2.1	0.5	171,879	229,292	287,000	344,441	401,830	459,448
	50	3.6	1.4	252,292	335,113	417,052	498,102	578,833	658,656
	60	4.3	1.9	283,254	375,615	467,019	556,762	645,374	733,137
	70	5.0	2.5	303,068	410,525	509,548	606,701	702,146	796,689
	90	6.4	4.0	346,247	456,949	578,982	687,841	794,841	899,965
	100	7.1	4.9	364,743	480,811	608,562	722,206	833,983	943,869
	110	7.8	5.8	381,457	502,231	634,918	753,110	868,886	982,552

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model SST3005MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.2	0.2	117,901	160,633	202,298	244,494	286,914	329,827
	40	2.4	0.7	227,557	303,682	379,828	455,543	531,189	607,097
	50	3.0	1.0	270,484	360,311	449,548	538,376	626,617	714,686
	70	4.2	1.9	334,148	452,397	562,314	671,714	779,274	886,182
	90	5.3	3.0	387,931	513,827	650,497	774,342	897,668	1,018,435
	100	5.9	3.6	410,968	543,543	687,344	818,304	947,593	1,074,247
	120	7.1	5.1	451,272	596,282	737,398	894,255	1,033,635	1,171,542
	130	7.7	5.9	458,498	618,515	765,155	908,673	1,071,764	1,212,940
R134a	20	1.2	0.2	117,746	158,348	199,461	241,127	283,319	325,695
	40	2.4	0.7	222,817	301,984	377,637	453,096	528,222	603,565
	50	3.0	1.0	264,275	352,025	439,334	534,684	622,590	709,652
	70	4.2	1.9	325,044	440,292	547,072	654,029	758,530	877,536
	90	5.3	3.0	376,025	497,917	630,964	751,272	869,679	987,290
	100	5.9	3.6	388,741	525,931	665,950	792,689	916,985	1,040,227
	120	7.1	5.1	425,781	575,160	710,983	863,554	998,686	1,130,666
	130	7.7	5.9	442,023	596,474	737,486	894,812	1,033,862	1,170,209
R404A	20	1.2	0.2	117,144	157,286	198,211	239,388	281,085	323,245
	40	2.4	0.7	220,174	293,174	366,442	439,252	511,946	583,994
	50	3.0	1.0	255,556	345,735	431,052	515,471	599,086	682,330
	70	4.2	1.9	317,912	421,421	532,977	635,650	735,538	835,007
	90	5.3	3.0	357,849	483,210	598,690	711,044	838,195	950,014
	100	5.9	3.6	377,447	509,480	629,816	747,584	863,501	996,786
	120	7.1	5.1	411,795	542,075	683,828	810,553	934,856	1,056,453
	130	7.7	5.9	426,417	561,009	707,341	837,552	965,440	1,091,492
R410A	20	1.2	0.2	117,765	158,355	201,687	243,619	286,106	328,595
	40	2.4	0.7	226,243	301,454	376,920	452,010	526,633	601,583
	50	3.0	1.0	264,099	357,218	445,326	532,602	620,261	706,454
	70	4.2	1.9	330,541	438,314	554,812	662,037	767,201	871,863
	90	5.3	3.0	382,499	506,109	627,634	760,080	879,237	997,727
	100	5.9	3.6	404,471	534,242	662,102	786,472	926,579	1,050,269
	120	7.1	5.1	433,771	584,677	721,537	856,661	989,631	1,120,899
	130	7.7	5.9	449,742	605,878	748,040	887,497	1,024,141	1,158,830

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Alfa Laval Standard HP condenser

Shell-and-tube horizontal water-cooled condenser

HP units have specially designed removable end plates and gaskets providing a 300 psi waterside working pressure.

Standard Designs
HP condensers are available in standard designs for water duty. The models feature high-efficiency tube surfaces and they are available in 8 catalog models from 10 to 80 horsepower (HP). For glycol duty please consult ProSuite or contact the factory.

Tube Materials
HP condensers are manufactured with enhanced 3/4" diameter copper tubing to provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Customization
As standard these units offer a horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client. Condenser can be made with stainless steel for increased life with poor quality cooling water.

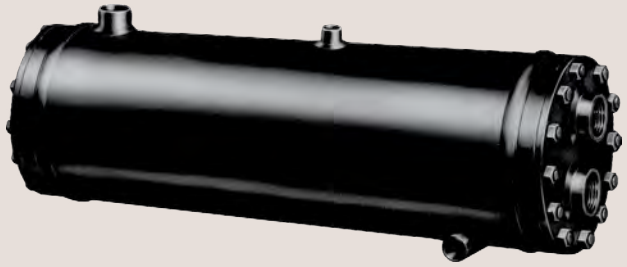
Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance enhanced designed tubing. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing. Tube sheets are epoxy coated to prevent pitting caused by galvanic action.

Tube Supports
Quality steel tube supports are manufactured to close tolerances to minimize the risk of vibration.



Heads
ASME specification precision machined steel heads. Custom connection versions are available. The inside of the heads are epoxy coated to prevent pitting caused by galvanic action.

Connections
All water side connections are FNPT. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.
Working Pressures:
400 psi. Shell Side (Refrigerant) @ 150°F
300 psi. Tube Side (Water/Fluid) @ 150°F

Standard Refrigeration

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal HP by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow
Water velocities of eight feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this catalog section are limited to flow velocities below eight feet per second.

Approved Refrigerants
R22, R134a. Units shorter than three feet in length R407C/ R407F.

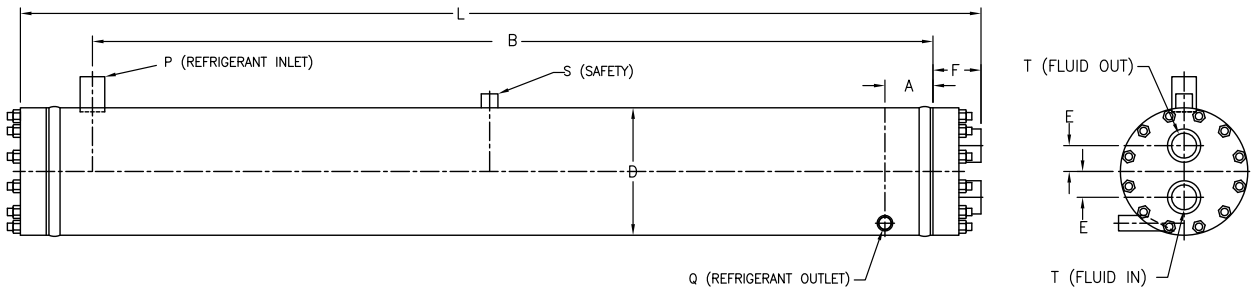
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. R404A, R410A & R507A due to recommended operating pressures. Units longer than three feet R407C/R407F, due to refrigerant separation. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Alternative Options
For higher pressure refrigerants use HP-MP units. For greater pumpdown capacity use a custom SST unit. For salt water applications use a custom MSE unit.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

HP-10 to HP80A



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard HP condenser

Technical specifications

Models	R22 Nominal HP*	R134a Nominal HP*	Dimensions (inches)					Connections (inches)			
			D	L	A	B	E	P (IDS)	Q (IDS)	S (FNPT)	T (FNPT)
HP10	16.9	15.5	8 5/8	41.75	3.25	32.63	1.38	1 3/8	7/8	1/2	1 1/2
HP15	19.7	17.9	8 5/8	53.88	3.25	44.63	1.63	1 3/8	7/8	1/2	1 1/2
HP20	27.1	24.7	8 5/8	65.88	3.25	56.63	1.63	1 3/8	7/8	1/2	1 1/2
HP30A	45.4	42.1	10 3/4	77.25	3.50	68.63	2.38	2 5/8	1 5/8	1/2	2
HP40A	62.4	58.6	10 3/4	77.25	3.50	68.63	2.38	2 5/8	1 5/8	1/2	2
HP50A	76.5	70.2	10 3/4	77.75	3.50	68.63	2.63	2 5/8	1 5/8	1/2	3
HP60A	79.6	73.4	12 3/4	77.50	3.50	68.63	2.63	2 5/8	1 5/8	1/2	3
HP80A	107.0	99.8	14	79.13	3.50	68.63	2.88	3 1/8	2 1/8	1/2	4

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
ProSuite software values are the most accurate
Tubing has high performance enhanced surface
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
HP = 15,000 Btu/hr

Models	Pumpdown Capacity (lbs.)		Water Flow (gpm)		Water Pressure Drop (psi)		Shipping Weight (lbs.)	Gaskets Article #		Endplates Article #	
	R22*	R134a*	Min.	Max.	R22	R134a		Front	Rear	Front	Rear
HP10	55	56	4.0	40.0	10.6	9.0	125	22757	22757	22757	22757
HP15	75	76	8.0	80.0	3.7	3.1	145	22757	22757	22757	22757
HP20	94	96	8.0	80.0	7.4	6.2	205	22757	22757	22757	22757
HP30A	184	187	12.0	121	10.4	9.0	375	3499	3501	3499	3501
HP40A	170	173	16.0	161	12.7	11.3	435	3499	3501	3499	3501
HP50A	246	250	20.0	201	9.2	7.8	555	3475	3482	3475	3482
HP60A	244	247	21.0	214	9.4	8.0	575	3475	3482	3475	3482
HP80A	284	288	29.0	295	8.6	7.5	755	3518	3525	3518	3525

*Pumpdown capacities are based upon 90% of the shell open volume
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Standard Refrigeration

Model HP10

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	7	1.2	0.2	43,958	59,016	74,262	89,736	105,255	120,937
	10	1.8	0.5	62,645	83,733	105,051	126,422	147,720	169,139
	20	3.6	1.9	110,541	147,036	183,279	219,567	255,282	290,841
	25	4.5	2.8	128,752	170,866	212,727	253,951	295,198	335,538
	30	5.3	3.9	144,054	190,971	237,439	283,344	328,247	372,960
	35	6.2	5.2	157,637	208,645	258,881	308,434	357,190	405,516
	40	7.1	6.7	169,478	223,865	277,551	330,295	382,015	433,378
	45	8.0	8.3	174,422	237,765	294,388	349,923	404,657	458,442
R134a	7	1.2	0.2	43,880	58,911	74,154	89,537	105,036	120,714
	10	1.8	0.5	62,460	83,509	104,773	126,008	147,256	168,652
	20	3.6	1.9	109,860	146,076	182,220	217,895	253,450	288,882
	25	4.5	2.8	124,416	169,479	210,824	251,667	292,491	332,584
	30	5.3	3.9	138,979	189,175	235,065	280,313	324,966	369,096
	35	6.2	5.2	151,462	200,591	256,011	304,832	352,722	400,182
	40	7.1	6.7	162,659	214,727	273,974	326,147	377,157	427,515
	45	8.0	8.3	172,357	227,564	290,275	344,665	399,021	451,283

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HP15

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	13	1.2	0.2	70,104	94,400	116,364	140,910	165,840	191,098
	20	1.8	0.5	107,783	144,098	180,720	217,292	253,993	290,758
	40	3.6	1.7	177,644	236,079	302,141	360,926	418,896	476,275
	50	4.5	2.7	202,859	268,866	334,133	398,211	474,561	538,852
	60	5.3	3.7	223,754	296,010	366,847	436,603	505,437	590,283
	70	6.2	5.0	241,466	318,845	394,596	469,157	542,614	614,389
	80	7.1	6.4	257,038	338,526	418,675	497,136	574,545	650,126
	90	8.0	8.1	261,342	356,310	440,044	521,822	602,929	681,920
R134a	13	1.2	0.2	69,944	94,104	118,629	143,563	168,831	194,295
	20	1.8	0.5	104,660	140,015	179,816	216,451	252,745	289,364
	40	3.6	1.7	170,679	233,983	291,145	347,816	403,825	458,941
	50	4.5	2.7	194,307	266,069	330,371	393,452	456,271	517,893
	60	5.3	3.7	213,775	283,049	362,249	430,916	498,793	565,841
	70	6.2	5.0	230,246	304,261	389,193	462,449	534,603	605,557
	80	7.1	6.4	244,864	322,602	412,515	489,524	565,769	640,006
	90	8.0	8.1	247,739	338,500	417,858	513,555	592,879	670,536

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HP20

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	13	1.2	0.2	78,109	105,053	129,729	157,096	184,705	212,550
	20	1.8	0.5	119,655	160,067	200,663	241,347	282,182	317,097
	40	3.6	1.9	202,869	269,836	344,922	412,665	479,495	545,996
	50	4.5	2.9	234,369	310,946	386,562	474,420	550,163	625,494
	60	5.3	4.1	260,756	345,217	429,036	510,949	609,255	690,924
	70	6.2	5.5	283,425	374,821	464,881	553,443	640,516	747,492
	80	7.1	7.1	303,236	400,945	496,075	590,053	682,354	772,972
	90	8.0	8.8	321,305	423,725	523,912	622,177	719,617	814,688
R134a	13	1.2	0.2	77,980	104,823	132,060	159,645	187,508	215,664
	20	1.8	0.5	116,648	159,485	199,901	240,494	281,124	321,750
	40	3.6	1.9	201,446	267,837	333,638	399,211	464,121	528,478
	50	4.5	2.9	225,190	307,944	383,229	457,135	530,307	603,046
	60	5.3	4.1	250,062	341,715	424,334	505,306	585,428	664,162
	70	6.2	5.5	271,279	359,048	458,881	545,959	632,055	716,750
	80	7.1	7.1	289,915	382,864	489,630	581,638	672,465	761,792
	90	8.0	8.8	306,452	403,767	516,377	612,846	707,783	802,067

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HP30A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.3	0.3	129,270	173,294	217,691	262,406	307,251	352,560
	30	2.0	0.6	188,265	255,172	319,336	383,577	448,120	512,329
	50	3.3	1.6	286,466	381,058	475,440	569,253	673,267	767,164
	60	4.0	2.3	326,475	433,891	540,448	646,475	751,481	855,123
	80	5.3	3.8	384,752	521,300	648,110	773,308	896,414	1,018,878
	90	6.0	4.7	412,691	558,703	693,510	826,474	957,414	1,086,665
	110	7.4	6.8	460,592	609,293	772,214	918,395	1,062,888	1,205,132
	120	8.0	8.1	482,140	636,848	806,757	959,370	1,108,605	1,256,687
R134a	20	1.3	0.3	127,380	170,719	217,133	261,813	306,614	351,488
	30	2.0	0.6	187,609	250,892	314,208	377,610	441,021	504,380
	50	3.3	1.6	279,528	378,981	472,301	565,501	658,415	750,466
	60	4.0	2.3	317,775	422,722	536,158	641,295	745,236	848,252
	80	5.3	3.8	373,292	505,453	628,246	749,464	887,194	1,007,447
	90	6.0	4.7	399,521	540,656	671,645	800,287	946,535	1,073,790
	110	7.4	6.8	444,778	601,711	745,349	885,937	1,025,596	1,162,174
	120	8.0	8.1	465,187	613,974	777,178	923,575	1,068,285	1,210,587

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HP40A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	24	1.2	0.2	153,226	207,760	261,057	315,107	369,597	424,501
	40	1.9	0.7	253,696	338,953	424,355	510,091	595,826	682,015
	60	2.9	1.5	353,406	476,522	594,882	712,938	830,341	947,565
	80	3.9	2.6	437,142	581,442	733,114	877,106	1,019,772	1,160,852
	100	4.9	3.9	506,841	672,442	836,949	1,012,795	1,174,944	1,335,569
	120	5.8	5.4	557,240	749,955	931,991	1,110,413	1,286,587	1,480,765
	140	6.8	7.2	607,864	817,544	1,013,262	1,205,805	1,395,848	1,582,956
	160	7.8	9.3	652,074	861,786	1,085,263	1,290,047	1,491,380	1,689,209
R134a	24	1.2	0.2	153,021	205,566	258,608	312,293	366,410	420,720
	40	1.9	0.7	250,266	337,961	423,177	508,320	593,920	678,969
	60	2.9	1.5	347,018	468,664	585,080	700,735	816,250	941,940
	80	3.9	2.6	428,242	569,214	718,864	859,778	999,263	1,137,116
	100	4.9	3.9	486,666	656,967	816,759	989,093	1,147,623	1,304,102
	120	5.8	5.4	542,748	730,912	907,891	1,080,599	1,271,980	1,442,322
	140	6.8	7.2	579,811	781,390	984,388	1,171,490	1,355,862	1,561,756
	160	7.8	9.3	621,543	835,761	1,052,534	1,250,556	1,445,333	1,637,940

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HP50A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.2	0.2	192,113	257,938	324,074	391,402	458,961	527,018
	50	2.0	0.5	315,025	424,358	531,337	638,073	745,463	852,150
	80	3.2	1.3	465,328	619,954	773,141	926,023	1,087,406	1,240,498
	100	4.0	2.0	541,494	727,623	906,324	1,083,247	1,259,630	1,433,894
	130	5.1	3.2	642,636	852,505	1,070,617	1,278,639	1,481,979	1,684,083
	150	5.9	4.1	690,811	926,918	1,150,773	1,386,833	1,606,749	1,822,789
	180	7.1	5.8	763,603	1,024,164	1,268,782	1,509,631	1,767,952	2,003,504
	200	7.9	7.0	807,485	1,081,342	1,338,331	1,591,180	1,861,045	2,109,758
R134a	30	1.2	0.2	190,386	255,631	323,795	390,765	458,004	525,960
	50	2.0	0.5	311,439	419,816	525,406	631,138	737,478	843,169
	80	3.2	1.3	453,150	610,085	761,771	919,861	1,070,844	1,221,193
	100	4.0	2.0	531,484	714,527	889,724	1,064,019	1,237,004	1,421,425
	130	5.1	3.2	620,258	833,694	1,048,925	1,251,592	1,451,764	1,647,233
	150	5.9	4.1	674,667	905,668	1,123,580	1,355,471	1,570,288	1,781,856
	180	7.1	5.8	733,942	984,428	1,236,562	1,469,357	1,722,918	1,954,023
	200	7.9	7.0	773,975	1,037,463	1,301,537	1,547,250	1,787,559	2,052,270

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model HP60A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	31	1.2	0.2	198,479	266,602	335,366	404,759	474,705	544,879
	60	2.3	0.7	371,768	496,426	625,565	750,769	875,802	1,000,815
	80	3.1	1.3	469,946	625,900	781,134	935,499	1,098,901	1,253,388
	110	4.2	2.2	585,430	785,904	977,989	1,169,519	1,359,053	1,546,390
	130	5.0	3.0	652,389	865,068	1,088,670	1,299,072	1,506,540	1,712,041
	160	6.1	4.4	729,579	978,225	1,214,588	1,463,705	1,695,341	1,923,416
	180	6.9	5.5	778,971	1,042,485	1,293,615	1,539,008	1,802,834	2,044,332
	210	8.0	7.3	843,779	1,115,833	1,397,366	1,660,262	1,921,612	2,204,132
R134a	31	1.2	0.2	196,704	264,005	334,784	403,812	474,002	543,795
	60	2.3	0.7	367,189	494,336	618,240	742,136	865,919	988,911
	80	3.1	1.3	458,183	616,440	769,540	930,407	1,082,797	1,235,916
	110	4.2	2.2	567,980	763,103	960,698	1,147,515	1,333,504	1,516,996
	130	5.0	3.0	631,546	847,828	1,053,930	1,272,010	1,475,390	1,676,573
	160	6.1	4.4	703,281	944,454	1,185,259	1,412,296	1,655,000	1,877,813
	180	6.9	5.5	750,156	1,005,602	1,260,521	1,500,351	1,735,360	1,992,240
	210	8.0	7.3	811,987	1,086,125	1,360,742	1,616,497	1,868,124	2,116,448

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

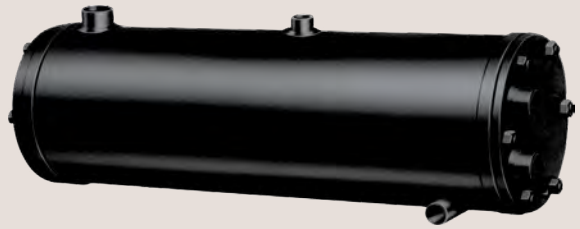
Model HP80A

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	42	1.2	0.2	268,375	360,311	455,461	549,688	644,665	739,959
	80	2.3	0.7	496,750	667,429	834,705	1,001,280	1,168,352	1,335,405
	110	3.1	1.2	639,170	857,286	1,069,890	1,289,344	1,502,111	1,712,938
	150	4.2	2.1	798,587	1,060,856	1,330,879	1,589,872	1,848,531	2,102,443
	180	5.1	2.9	890,074	1,190,894	1,480,422	1,781,737	2,066,054	2,347,331
	220	6.2	4.2	992,851	1,327,939	1,663,108	1,979,704	2,311,055	2,622,730
	250	7.0	5.3	1,065,607	1,422,933	1,778,839	2,115,807	2,448,029	2,800,006
	280	7.9	6.5	1,130,482	1,508,818	1,883,581	2,239,223	2,586,958	2,930,660
R134a	42	1.2	0.2	266,595	359,598	452,473	546,227	640,731	735,862
	80	2.3	0.7	492,014	656,760	826,560	991,930	1,157,922	1,322,880
	110	3.1	1.2	631,344	846,728	1,056,414	1,265,486	1,482,611	1,690,523
	150	4.2	2.1	779,253	1,044,093	1,298,864	1,564,735	1,819,332	2,067,444
	180	5.1	2.9	866,220	1,159,756	1,453,414	1,735,159	2,028,150	2,303,222
	220	6.2	4.2	963,899	1,300,212	1,613,546	1,937,804	2,245,283	2,544,298
	250	7.0	5.3	1,032,344	1,378,324	1,722,866	2,049,681	2,394,230	2,712,605
	280	7.9	6.5	1,082,739	1,459,759	1,821,634	2,164,199	2,526,023	2,862,756

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Alfa Laval Standard CA condenser

Shell-and-tube horizontal water-cooled condenser



CA utilize all stainless steel components on the waterside, making them suitable for pulp and paper mill applications.

Standard Designs
CA condensers are available in standard designs for water duty. The models feature high-efficiency tube surfaces and they are available in 6 catalog models from 5 to 30 horsepower (HP). For glycol duty please consult ProSuite or contact the factory.

Tube Materials
CA condensers are manufactured with enhanced 3/4" diameter stainless steel tubing to provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Customization
As standard these units offer horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client. Condenser can be custom built with stainless steel shells for increased durability in harsh environments.

Features

Shells
ASME specification carbon steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Stainless steel high performance enhanced designed tubing. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification stainless steel tube sheets, precision machined for excellent sealing.

Tube Supports
Quality steel tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined stainless steel heads. Custom connection versions are available.

Connections
All water side connections are FNPT. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Working Pressures:
400 psi. Shell Side (Refrigerant) @ 150°F
150 psi. Tube Side (Water/Fluid) @ 150°F

Standard Refrigeration

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.
Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal HP by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow
Water velocities of fifteen feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this catalog section are limited to flow velocities below fifteen feet per second.

Approved Refrigerants
R22, R134a. Units shorter than three feet in length R407C/ R407F.

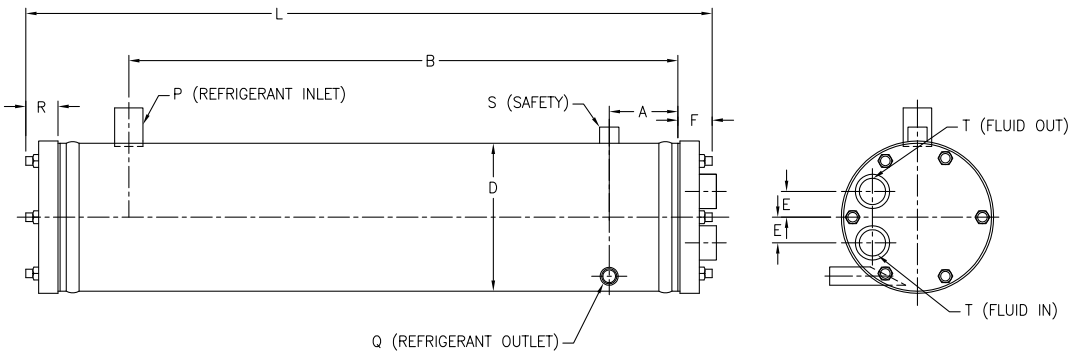
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717. R404A, R410A & R507A due to recommended operating pressures. Units longer than three feet R407C/R407F, due to refrigerant separation. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Alternative Options
For higher pressure refrigerants use CA-MP units. For greater pumpdown capacity use a custom stainless steel SST units, please consult the factory for design and quote. For salt water applications use MSE or MST units. For clean water applications use a brazed CND-AN.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

CA050 to CA300



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard CA condenser

Technical specifications

Models	R22 Nominal HP*	R134a Nominal HP*	Dimensions (inches)					Connections (inches)			
			D	L	A	B	E	P (IDS)	Q (IDS)	S (FNPT)	T (FNPT)
CA050	5.8	5.7	6 5/8	39.44	4.00	32.00	1.13	1.125	0.875	0.5	0.75
CA075	7.6	7.5	8 5/8	40.00	4.00	32.00	1.50	1.375	0.875	0.5	1.25
CA100	9.8	9.5	8 5/8	40.00	4.00	32.00	1.50	1.375	0.875	0.5	1.25
CA150	14.5	14.1	10 3/4	40.06	4.00	32.00	2.50	1.625	1.125	0.5	1.5
CA200	20.1	19.6	8 5/8	76.25	4.00	68.00	2.13	2.125	1.125	0.5	1.5
CA300	29.9	29.1	10 3/4	76.56	4.00	68.00	2.50	2.625	1.375	0.5	2.5

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
ProSuite software values are the most accurate
Tubing has high performance enhanced surface
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
HP = 15,000 Btu/hr

Models	Pumpdown Capacity (lbs.)		Water Flow (gpm)		Water Pressure Drop (psi)		Shipping Weight (lbs.)	Gaskets Article #		Endplates Article #	
	R22*	R134a*	Min.	Max.	R22	R134a		Front	Rear	Front	Rear
CA050	20	21	2.2	32.8	8.6	8.2	115	355	355	2876	2885
CA075	51	52	2.9	43.7	6.7	6.4	175	238	238	2911	2902
CA100	47	48	3.6	55	7.3	7.0	190	238	238	2911	2902
CA150	75	76	5.5	82	7.3	7.0	265	256	265	2920	2948
CA200	96	97	7.3	109	6.6	6.3	305	445	247	2894	2902
CA300	152	155	10.9	164	5.4	5.1	450	23417	1741	2939	6755

*Pumpdown capacities are based upon 90% of the shell open volume
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Standard Refrigeration

Model CA050

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	5	1.8	0.8	29,004	38,703	48,441	58,153	67,851	77,652
	10	3.7	2.9	48,000	63,654	79,273	94,786	110,069	125,383
	15	5.5	6.4	60,964	80,504	99,871	118,957	137,729	156,396
	20	7.3	11.1	70,218	92,714	114,474	136,108	157,199	178,057
	25	9.2	17.0	77,371	101,650	125,505	148,857	171,776	194,174
	30	11.0	24.2	82,911	108,817	134,128	158,631	183,087	206,641
	40	14.6	42.2	91,259	119,208	146,394	173,016	199,231	224,536
R134a	5	1.8	0.8	28,931	38,613	48,294	57,969	67,650	77,391
	10	3.7	2.9	47,646	63,209	78,585	93,978	109,146	124,302
	15	5.5	6.4	60,401	79,602	98,700	117,514	136,140	154,482
	20	7.3	11.1	69,397	91,256	112,978	134,133	155,033	175,630
	25	9.2	17.0	76,331	100,183	123,449	146,402	169,066	191,046
	30	11.0	24.2	81,697	107,051	131,844	155,943	179,801	203,062
	40	14.6	42.2	89,487	116,889	143,781	169,782	195,201	220,565

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 15.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model CA075

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	5	1.4	0.4	30,720	41,013	51,373	61,746	72,137	82,607
	10	2.7	1.4	53,216	70,694	88,185	105,608	122,891	140,143
	20	5.5	5.1	82,387	108,717	134,783	160,268	185,422	210,378
	25	6.9	7.9	92,299	121,513	150,038	178,353	205,970	233,382
	35	9.6	14.9	106,908	140,111	172,601	204,378	235,827	266,280
	40	11.0	19.3	112,253	147,170	180,915	214,139	246,646	278,329
	50	13.7	29.6	121,066	158,266	194,377	229,637	263,746	297,595
	55	15.1	35.5	124,557	162,638	199,766	235,800	270,713	304,956
R134a	5	1.4	0.4	30,637	40,944	51,263	61,630	71,940	82,381
	10	2.7	1.4	52,923	70,285	87,570	104,854	122,066	139,105
	20	5.5	5.1	81,418	107,441	133,035	158,273	183,254	207,602
	25	6.9	7.9	91,028	119,829	147,978	175,857	203,096	229,800
	35	9.6	14.9	105,185	137,721	169,772	200,906	231,719	261,498
	40	11.0	19.3	110,558	144,588	177,930	210,442	242,082	273,240
	50	13.7	29.6	118,795	155,261	190,756	224,882	258,657	291,507
	55	15.1	35.5	122,096	159,423	195,329	231,069	265,489	298,979

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 15.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model CA100

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	5	1.1	0.3	31,659	42,356	53,083	63,829	74,647	85,494
	15	3.3	2.0	76,020	100,811	125,340	149,839	174,113	198,088
	25	5.5	5.3	103,655	136,738	169,323	201,386	233,160	264,273
	30	6.6	7.6	113,919	150,022	185,289	220,058	254,180	287,894
	40	8.8	13.1	129,661	170,402	210,019	248,581	286,355	323,586
	50	11.0	20.1	141,400	185,312	227,930	269,503	310,232	349,708
	60	13.2	28.6	150,529	196,756	241,703	285,336	328,097	369,508
	70	15.4	38.4	158,098	205,791	252,663	298,112	342,127	385,208
R134a	5	1.1	0.3	31,634	42,257	52,970	63,776	74,512	85,275
	15	3.3	2.0	75,326	100,045	124,340	148,602	172,575	196,481
	25	5.5	5.3	102,573	135,073	167,368	198,978	230,106	260,774
	30	6.6	7.6	112,484	147,865	182,720	216,892	250,628	283,698
	40	8.8	13.1	127,812	167,391	206,503	244,447	281,747	318,140
	50	11.0	20.1	139,084	182,005	223,534	264,482	304,239	343,355
	60	13.2	28.6	148,026	193,035	236,874	279,671	321,651	362,518
	70	15.4	38.4	154,731	201,702	247,614	291,758	334,898	377,129

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 15.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model CA150

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	10	1.5	0.4	61,414	81,905	102,524	123,033	143,771	164,293
	20	2.9	1.6	105,690	140,304	174,712	208,982	242,826	276,515
	40	5.9	6.1	162,304	213,587	264,095	313,879	362,768	410,879
	50	7.3	9.4	181,205	238,032	293,591	348,172	401,642	454,120
	60	8.8	13.3	196,480	257,477	317,077	375,173	432,096	488,005
	80	11.7	23.2	219,442	286,794	352,172	415,164	477,773	538,266
	90	13.2	29.1	228,130	298,035	365,456	431,032	494,883	557,328
	100	14.6	35.6	235,439	308,066	376,695	443,434	509,878	573,862
R134a	10	1.5	0.4	61,278	81,645	102,182	122,646	143,232	163,807
	20	2.9	1.6	104,961	139,443	173,320	207,129	240,873	274,228
	40	5.9	6.1	160,312	210,914	260,586	309,599	357,652	404,915
	50	7.3	9.4	178,698	234,272	289,087	342,594	395,309	446,614
	60	8.8	13.3	193,364	252,989	311,546	368,617	424,599	479,523
	80	11.7	23.2	215,312	280,943	345,649	407,250	468,449	528,039
	90	13.2	29.1	223,982	291,686	358,232	422,675	484,614	546,296
	100	14.6	35.6	231,245	300,609	369,241	435,430	498,782	561,220

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 15.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model CA200

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	10	1.1	0.2	63,766	85,269	106,895	128,536	150,214	172,095
	30	3.3	1.8	153,582	203,862	253,689	303,104	352,464	401,036
	50	5.5	4.6	210,200	277,324	343,577	408,737	472,888	536,115
	60	6.6	6.5	231,304	304,480	376,123	446,836	516,240	584,208
	80	8.8	11.2	263,738	346,249	426,492	505,333	582,826	658,171
	100	11.0	17.1	287,904	376,940	463,333	548,322	631,018	711,652
	120	13.2	24.2	306,706	400,668	491,962	580,938	667,697	752,341
	140	15.4	32.4	321,388	419,629	514,590	606,951	696,887	784,656
R134a	10	1.1	0.2	63,656	85,154	106,678	128,294	149,945	171,652
	30	3.3	1.8	152,580	202,356	251,498	300,514	349,442	397,576
	50	5.5	4.6	207,805	274,204	339,137	403,626	467,108	528,999
	60	6.6	6.5	228,352	300,285	370,832	440,364	508,961	575,922
	80	8.8	11.2	259,687	340,942	419,453	496,993	572,770	646,985
	100	11.0	17.1	283,151	370,160	454,865	538,164	619,366	698,606
	120	13.2	24.2	301,054	392,291	482,581	569,531	654,870	738,274
	140	15.4	32.4	315,459	410,905	503,612	594,456	682,369	768,888

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 15.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model CA300

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	14	1.0	0.2	90,339	120,797	151,304	181,935	212,771	243,648
	40	2.9	1.2	213,997	283,908	353,372	422,508	491,343	559,666
	70	5.1	3.3	306,091	403,917	500,280	595,034	688,831	780,591
	100	7.3	6.5	368,649	483,594	597,147	707,607	816,049	923,215
	120	8.8	9.2	399,765	523,613	644,799	763,197	879,773	992,834
	150	11.0	13.9	436,814	570,349	700,425	828,772	952,476	1,073,886
	180	13.2	19.7	464,450	606,916	743,791	878,217	1,008,361	1,135,440
	200	14.6	24.0	480,264	626,537	767,905	905,497	1,038,847	1,169,164
R134a	14	1.0	0.2	90,151	120,478	150,980	181,554	212,342	242,999
	40	2.9	1.2	212,467	281,854	350,934	419,297	487,501	555,049
	70	5.1	3.3	302,679	399,066	494,402	587,588	680,082	770,806
	100	7.3	6.5	363,072	476,872	587,649	696,966	804,254	908,827
	120	8.8	9.2	393,349	515,024	633,873	750,049	864,166	976,338
	150	11.0	13.9	428,792	559,158	687,655	812,571	934,453	1,053,534
	180	13.2	19.7	455,961	594,070	729,041	860,213	987,991	1,112,495
	200	14.6	24.0	470,383	613,297	751,500	885,923	1,016,873	1,144,866

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 15.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Alfa Laval Standard CA-MP condenser

Shell-and-tube horizontal multi-purpose water-cooled condenser

CA-MP utilize all stainless steel components on the waterside, making them suitable for pulp and paper mill applications. They are designed to work with standard and higher pressure refrigerants.

Standard Designs
CA condensers are available in standard designs for water duty. The models feature high-efficiency tube surfaces and they are available in 6 catalog models from 5 to 30 horsepower (HP). For glycol duty please consult ProSuite or contact the factory.

Tube Materials
CA condensers are manufactured with enhanced 3/4" diameter copper tubing to provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Customization
As standard these units offer horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client. Condenser can be custom built with stainless steel shells for increased durability in harsh environments.

Features

Shells
ASME specification carbon steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Stainless steel high performance enhanced designed tubing. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification stainless steel tube sheets, precision machined for excellent sealing.

Tube Supports
Quality steel tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined stainless steel heads. Custom connection versions are available.

Connections
All water side connections are FNPT. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Standard Refrigeration

Working Pressures:
600 psi. Shell Side (Refrigerant) @ 150°F
150 psi. Tube Side (Water/Fluid) @ 150°F

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal HP by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow
Water velocities of fifteen feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this catalog section are limited to flow velocities below fifteen feet per second.

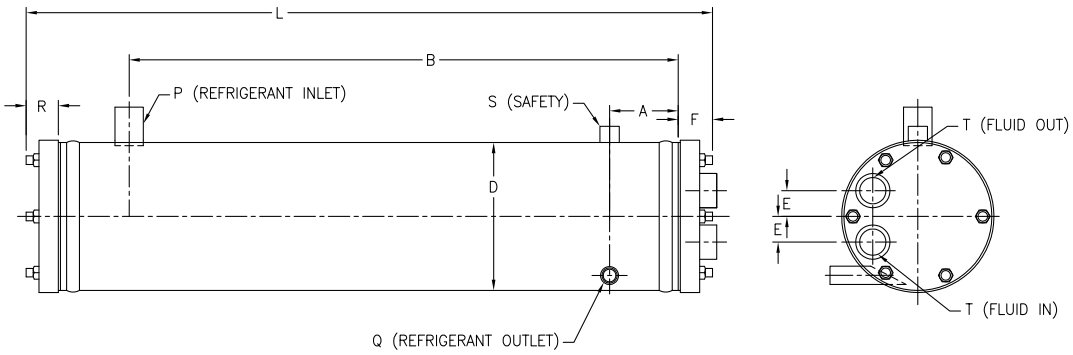
Approved Refrigerants
R22, R134a, R404A, R410A & R507A. Units shorter than three feet in length R407C/R407F.
Non-Approved Refrigerants Unless Cleared by the Factory "Ammonia/R717. Units longer than three feet R407C/R407F, due to refrigerant separation. Custom units are available for these refrigerants."

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Alternative Options
For greater pumpdown capacity use a custom stainless steel SST-MP unit, please consult the factory for design and quote. For salt water applications use MSE-MP units. For clean water applications use a brazed CND-AN.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

CA050MP to CA300MP



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard CA-MP condenser

Technical specifications

Models	R22 Nominal HP*	R134a Nominal HP*	R410a Nominal HP*	Dimensions (inches)					Connections (inches)			
				D	L	A	B	E	P (IDS)	Q (IDS)	S (FNPT)	T (FNPT)
CA050MP	5.7	5.6	5.9	6 5/8	39.44	4.00	32.00	1.06	1 1/8	7/8	1/2	3/4
CA075MP	7.5	7.3	7.8	8 5/8	40.00	4.00	32.00	1.50	1 3/8	7/8	1/2	1 1/4
CA100MP	9.6	9.3	10.0	8 5/8	40.00	4.00	32.00	1.50	1 3/8	7/8	1/2	1 1/4
CA150MP	13.9	13.6	14.5	10 3/4	40.50	4.00	32.00	2.50	1 5/8	1 1/8	1/2	1 1/2
CA200MP	19.9	19.4	20.7	8 5/8	76.25	4.00	68.00	2.13	2 1/8	1 1/8	1/2	1 1/2
CA300MP	29.2	28.6	30.4	10 3/4	76.56	4.00	68.00	2.50	2 5/8	1 3/8	1/2	2 1/2

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
ProSuite software values are the most accurate
Tubing has high performance enhanced surface
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
HP = 15,000 Btu/hr

Models	Pumpdown Capacity (lbs.)			Water Flow (gpm)		Water Pressure Drop (psi)			Ship-ping Weight (lbs.)	Gaskets Article #		Endplates Article #	
	R22*	R134a*	R410a*	Min.	Max.	R22	R134a	R410a		Front	Rear	Front	Rear
CA050MP	24	24	24	2.2	32.8	8.3	7.9	8.9	122	355	355	2876	2885
CA075MP	48	49	49	2.9	43.7	6.5	6.2	7.0	185	238	238	2911	2902
CA100MP	44	45	46	3.6	54.7	7.0	6.7	7.6	200	238	238	2911	2902
CA150MP	69	70	71	5.5	82.0	6.7	6.4	7.3	280	256	265	8001	8032
CA200MP	89	91	92	7.3	109.3	6.5	6.2	7.0	315	445	247	8320	8337
CA300MP	145	147	150	10.9	164	5.2	5.0	5.6	465	23417	1741	8344	8351

*Pumpdown capacities are based upon 90% of the shell open volume
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Standard Refrigeration

Model CA050MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	5	1.8	0.8	28,820	38,484	48,116	57,761	67,429	77,139
	10	3.7	2.9	47,606	63,151	78,564	93,917	109,142	124,258
	15	5.5	6.4	60,376	79,646	98,886	117,714	136,347	154,827
	20	7.3	11.1	69,626	91,623	113,297	134,593	155,586	176,231
	25	9.2	17.0	76,561	100,540	124,129	147,142	169,841	192,134
	30	11.0	24.2	81,949	107,518	132,560	156,918	180,735	204,269
	40	14.6	42.2	90,216	117,821	144,828	171,015	196,885	221,786
R134a	5	1.8	0.8	28,751	38,338	47,976	57,587	67,166	76,838
	10	3.7	2.9	47,288	62,651	77,884	93,144	108,177	123,137
	15	5.5	6.4	59,791	78,754	97,719	116,355	134,739	152,835
	20	7.3	11.1	68,685	90,302	111,755	132,564	153,343	173,678
	25	9.2	17.0	75,517	99,027	122,148	144,863	167,150	188,953
	30	11.0	24.2	80,806	105,740	130,231	154,122	177,531	200,679
	40	14.6	42.2	88,453	115,747	141,914	167,731	192,793	217,711
R404A	5	1.8	0.8	28,393	37,777	47,182	56,641	65,997	75,369
	10	3.7	2.9	46,027	60,843	75,545	90,035	104,327	118,447
	15	5.5	6.4	57,583	75,806	93,653	111,194	128,407	145,206
	20	7.3	11.1	65,823	86,137	106,110	125,730	144,832	163,435
	25	9.2	17.0	71,715	93,990	115,429	136,344	156,884	176,870
	30	11.0	24.2	76,412	99,888	122,295	144,574	165,806	186,895
	40	14.6	42.2	83,411	108,414	132,826	156,072	179,051	201,535
R410A	5	1.8	0.8	29,017	38,725	48,479	58,197	68,047	77,848
	10	3.7	2.9	48,196	63,932	79,712	95,332	110,782	126,114
	15	5.5	6.4	61,324	81,231	100,748	120,154	139,032	157,953
	20	7.3	11.1	71,111	93,691	115,785	137,660	159,216	180,433
	25	9.2	17.0	78,418	103,086	127,175	150,968	174,090	197,137
	30	11.0	24.2	84,062	110,515	136,095	161,040	185,723	209,831
	40	14.6	42.2	92,593	121,030	149,220	176,239	202,777	228,733

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 15.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model CA075MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	5	1.4	0.4	30,543	40,795	51,063	61,378	71,715	82,127
	10	2.7	1.4	52,772	70,200	87,509	104,737	121,956	138,976
	20	5.5	5.1	81,587	107,577	133,314	158,598	183,584	208,214
	25	6.9	7.9	91,353	120,162	148,618	176,571	203,799	230,845
	35	9.6	14.9	105,678	138,502	170,539	202,067	232,863	263,008
	40	11.0	19.3	110,912	145,403	178,997	211,895	243,654	274,997
	50	13.7	29.6	119,637	156,327	192,012	226,791	260,775	293,729
	55	15.1	35.5	123,177	160,646	197,220	232,929	267,309	301,488
R134a	5	1.4	0.4	30,474	40,712	50,952	61,252	71,516	81,856
	10	2.7	1.4	52,477	69,757	86,895	104,079	121,097	138,081
	20	5.5	5.1	80,592	106,355	131,672	156,751	181,415	205,606
	25	6.9	7.9	89,950	118,634	146,622	173,796	200,903	227,278
	35	9.6	14.9	103,995	136,162	167,699	198,566	228,862	258,504
	40	11.0	19.3	109,337	142,955	175,594	207,833	239,089	269,870
	50	13.7	29.6	117,520	153,533	188,045	222,345	255,672	287,953
	55	15.1	35.5	120,552	157,249	193,133	228,065	262,090	294,988
R404A	5	1.4	0.4	30,186	40,301	50,381	60,545	70,662	80,788
	10	2.7	1.4	51,426	68,238	84,858	101,293	117,665	133,845
	20	5.5	5.1	77,739	102,264	126,152	149,527	172,577	195,213
	25	6.9	7.9	86,349	113,212	139,331	164,852	189,839	214,270
	35	9.6	14.9	98,834	128,813	158,133	186,360	214,222	241,147
	40	11.0	19.3	103,496	134,695	165,243	194,486	223,174	251,177
	50	13.7	29.6	110,678	143,795	175,736	206,916	237,285	266,468
	55	15.1	35.6	113,602	147,673	179,938	212,246	242,311	272,555
R410A	5	1.4	0.4	30,687	40,998	51,347	61,775	72,141	82,619
	10	2.7	1.4	53,275	70,878	88,397	105,898	123,204	140,555
	20	5.5	5.1	82,848	109,523	135,693	161,566	187,100	212,204
	25	6.9	7.9	92,974	122,556	151,523	179,920	208,126	235,695
	35	9.6	14.9	107,963	141,771	174,619	206,984	238,561	269,777
	40	11.0	19.3	113,712	149,092	183,383	217,073	249,967	282,225
	50	13.7	29.6	122,799	160,443	197,220	233,224	268,123	302,310
	55	15.1	35.5	126,618	165,208	202,882	239,700	275,386	310,281

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 15.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model CA100MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	5	1.1	0.3	31,508	42,142	52,825	63,513	74,231	85,050
	15	3.3	2.0	75,346	99,980	124,306	148,620	172,599	196,613
	25	5.5	5.3	102,658	135,383	167,591	199,264	230,869	261,624
	30	6.6	7.6	112,757	148,442	183,387	217,806	251,535	284,712
	40	8.8	13.1	128,374	168,417	207,662	245,602	283,243	319,870
	50	11.0	20.1	139,869	183,192	225,296	266,134	306,288	345,608
	60	13.2	28.6	148,867	194,479	238,968	281,743	324,114	365,113
	70	15.4	38.4	156,232	203,251	249,646	294,340	337,966	380,416
R134a	5	1.1	0.3	31,492	42,080	52,711	63,389	74,097	84,883
	15	3.3	2.0	74,921	99,146	123,290	147,370	171,088	194,730
	25	5.5	5.3	101,576	133,804	165,529	196,775	227,808	258,077
	30	6.6	7.6	111,203	146,379	180,652	214,540	247,785	280,630
	40	8.8	13.1	126,302	165,925	204,147	241,463	278,620	314,839
	50	11.0	20.1	137,604	180,054	221,226	261,184	300,855	339,196
	60	13.2	28.6	146,059	190,540	233,958	276,535	317,527	357,782
	70	15.4	38.4	152,750	199,438	244,483	287,828	330,972	372,446
R404A	5	1.1	0.3	31,278	41,759	52,313	62,868	73,428	83,996
	15	3.3	2.0	72,972	96,545	119,736	142,633	165,419	187,671
	25	5.5	5.3	97,865	128,307	158,457	187,699	216,365	244,585
	30	6.6	7.6	106,908	139,856	172,070	203,480	234,396	264,638
	40	8.8	13.1	120,196	157,019	192,723	227,203	261,038	293,871
	50	11.0	20.1	130,249	169,332	207,565	244,469	280,286	315,028
	60	13.2	28.6	137,588	179,141	218,740	257,351	294,725	330,912
	70	15.4	38.4	143,870	186,109	227,667	267,134	305,831	343,397
R410A	5	1.1	0.3	31,633	42,303	53,014	63,778	74,580	85,399
	15	3.3	2.0	76,178	101,063	125,776	150,368	174,611	198,782
	25	5.5	5.3	104,267	137,614	170,491	202,794	234,645	266,099
	30	6.6	7.6	114,779	151,011	186,706	221,829	256,426	290,253
	40	8.8	13.1	131,057	172,104	211,807	251,429	289,730	327,044
	50	11.0	20.1	143,318	187,315	230,366	272,681	313,830	354,059
	60	13.2	28.5	152,378	199,238	244,975	289,695	332,634	374,618
	70	15.4	38.4	159,923	209,328	256,080	302,427	347,131	391,175

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 15.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model CA150MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	10	1.5	0.4	60,691	80,990	101,322	121,700	141,988	162,493
	20	2.9	1.6	104,118	138,117	172,025	205,346	238,853	271,991
	40	5.9	6.1	158,983	209,477	258,721	307,508	355,445	402,226
	50	7.3	9.4	177,532	232,903	287,351	340,721	392,917	444,055
	60	8.8	13.3	192,247	251,758	309,741	366,918	422,659	476,862
	80	11.7	23.2	214,470	279,546	343,409	405,946	466,263	525,171
	90	13.2	29.1	222,925	290,640	356,443	420,515	482,715	543,542
	100	14.6	35.6	230,356	299,775	367,733	433,312	497,448	559,384
R134a	10	1.5	0.4	60,528	80,719	101,064	121,300	141,560	161,805
	20	2.9	1.6	103,410	137,006	170,592	203,806	236,953	269,756
	40	5.9	6.1	157,044	206,714	255,220	302,961	350,251	396,738
	50	7.3	9.4	174,803	229,636	282,854	335,114	386,283	436,688
	60	8.8	13.4	188,582	247,418	304,465	360,274	415,169	468,607
	80	11.7	23.2	210,101	274,214	336,842	397,635	457,073	515,211
	90	13.2	29.1	218,504	284,713	349,444	411,989	473,118	532,621
	100	14.6	35.6	225,213	293,174	359,526	424,191	486,830	547,824
R404A	10	1.5	0.4	59,927	79,780	99,635	119,595	139,323	159,152
	20	2.9	1.7	101,097	133,748	166,004	197,979	229,359	260,589
	40	5.9	6.2	150,887	197,708	243,515	288,344	331,953	374,728
	50	7.3	9.4	167,053	218,298	267,849	316,539	363,881	409,862
	60	8.8	13.4	179,908	234,328	286,920	338,729	388,575	437,165
	80	11.7	23.2	198,423	257,943	315,226	370,793	424,327	477,485
	90	13.2	29.1	205,678	266,701	326,082	382,937	438,169	491,617
	100	14.6	35.6	212,100	274,740	334,794	393,147	449,513	504,632
R410A	10	1.5	0.4	60,944	81,371	101,842	122,269	142,740	163,276
	20	2.9	1.6	105,009	139,332	173,548	207,517	241,184	274,712
	40	5.9	6.1	161,540	212,706	263,168	312,536	361,071	409,124
	50	7.3	9.4	180,487	237,232	292,832	347,105	400,033	452,463
	60	8.8	13.3	195,750	256,707	315,947	374,062	431,155	486,786
	80	11.7	23.2	218,940	286,208	351,204	414,995	477,238	537,491
	90	13.2	29.1	227,514	297,485	365,413	430,559	494,728	556,937
	100	14.6	35.6	235,128	307,244	376,797	444,088	509,948	573,822

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 15.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model CA200MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	10	1.1	0.2	63,580	85,051	106,647	128,191	149,898	171,682
	30	3.3	1.8	153,026	203,061	252,688	301,955	351,022	399,652
	50	5.5	4.6	209,235	276,090	341,873	406,906	470,376	533,468
	60	6.6	6.5	230,088	302,864	374,403	444,442	513,642	581,822
	80	8.8	11.2	262,404	344,203	424,527	502,454	579,044	654,593
	100	11.0	17.1	286,417	374,802	460,921	544,798	627,432	708,123
	120	13.2	24.2	304,560	398,156	489,035	577,658	663,823	748,050
	140	15.4	32.4	319,911	416,430	511,507	602,949	692,749	779,893
R134a	10	1.1	0.2	63,544	84,925	106,429	127,930	149,630	171,367
	30	3.3	1.8	151,978	201,456	250,660	299,381	348,019	395,761
	50	5.5	4.6	207,032	272,807	337,592	401,637	464,538	526,315
	60	6.6	6.5	226,881	298,812	368,861	438,200	506,402	573,474
	80	8.8	11.2	258,374	338,563	417,242	494,172	569,625	643,881
	100	11.0	17.1	281,314	368,068	452,448	534,566	616,012	694,728
	120	13.2	24.2	299,245	390,552	479,277	566,327	650,484	733,319
	140	15.4	32.4	313,530	408,635	500,848	590,540	678,330	763,960
R404A	10	1.1	0.2	63,159	84,303	105,621	126,901	148,313	169,610
	30	3.3	1.8	148,403	196,287	243,468	290,360	336,491	382,073
	50	5.5	4.6	199,426	262,013	323,142	383,289	442,067	499,708
	60	6.6	6.5	217,983	285,787	351,221	415,827	478,928	540,622
	80	8.8	11.2	246,029	321,167	394,511	465,102	534,233	601,900
	100	11.0	17.1	266,430	346,984	424,824	500,243	573,984	646,104
	120	13.2	24.2	282,323	366,545	448,075	527,270	604,163	678,592
	140	15.4	32.4	294,190	382,149	466,918	548,457	627,334	704,334
R410A	10	1.1	0.2	63,836	85,408	106,977	128,716	150,625	172,419
	30	3.3	1.8	154,630	205,322	255,418	305,482	355,169	404,039
	50	5.5	4.6	212,584	280,640	347,486	413,354	478,553	542,659
	60	6.6	6.5	234,015	308,580	381,068	452,780	523,174	592,549
	80	8.8	11.2	267,809	351,640	433,347	513,675	592,346	669,105
	100	11.0	17.1	292,963	383,538	472,153	558,231	642,419	725,008
	120	13.2	24.2	312,524	408,530	501,348	592,391	681,322	768,179
	140	15.4	32.4	328,298	428,234	525,229	619,590	712,125	801,738

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 15.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model CA300MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	14	1.0	0.2	89,887	120,166	150,584	181,206	211,767	242,557
	40	2.9	1.2	212,378	281,815	350,767	419,491	487,571	555,491
	70	5.1	3.3	303,247	399,949	495,476	589,539	682,138	772,869
	100	7.3	6.5	364,267	478,773	590,497	700,011	807,498	913,329
	120	8.8	9.2	395,144	517,825	638,088	755,125	869,389	981,516
	150	11.0	13.9	431,467	564,010	693,141	818,644	941,612	1,061,135
	180	13.2	19.7	459,887	598,727	735,309	867,390	996,921	1,122,110
	200	14.6	24.0	475,090	617,730	758,268	894,286	1,026,126	1,154,204
R134a	14	1.0	0.2	89,805	119,953	150,341	180,839	211,354	241,888
	40	2.9	1.2	210,987	279,863	348,284	416,322	483,713	550,862
	70	5.1	3.3	300,004	395,163	489,280	581,935	673,118	763,206
	100	7.3	6.5	359,546	471,522	581,733	689,512	794,852	899,153
	120	8.8	9.2	388,834	509,743	626,888	741,276	854,886	965,474
	150	11.0	13.9	423,555	553,855	679,768	802,957	923,394	1,041,513
	180	13.2	19.7	450,757	587,296	720,677	850,099	975,603	1,099,021
	200	14.6	24.0	465,707	605,027	742,473	875,375	1,004,917	1,130,627
R404A	14	1.0	0.2	89,241	119,163	149,237	179,300	209,417	239,744
	40	2.9	1.2	206,507	273,138	339,176	404,441	468,758	532,695
	70	5.1	3.3	289,418	380,293	468,821	555,907	641,268	725,026
	100	7.3	6.5	343,576	448,903	551,651	651,016	748,780	843,716
	120	8.8	9.2	370,411	482,654	591,391	696,918	800,351	901,004
	150	11.0	13.9	400,912	521,118	637,775	750,448	860,098	966,015
	180	13.2	19.7	424,378	550,614	672,982	790,855	904,208	1,015,912
	200	14.6	24.0	437,738	566,869	692,201	811,670	928,153	1,041,685
R410A	14	1.0	0.2	90,199	120,515	151,138	181,695	212,483	243,125
	40	2.9	1.2	214,189	284,198	353,985	423,474	492,330	560,547
	70	5.1	3.3	307,780	405,983	502,748	598,324	692,062	785,108
	100	7.3	6.5	370,763	487,482	601,428	713,762	823,106	930,798
	120	8.8	9.2	402,961	528,255	650,692	770,713	887,961	1,002,210
	150	11.0	13.9	440,149	576,824	707,998	837,431	962,868	1,086,054
	180	13.2	19.7	470,158	612,909	753,429	888,205	1,020,017	1,149,401
	200	14.6	24.0	486,316	633,427	777,856	916,610	1,052,388	1,184,421

Tube side velocities below 2.0 ft/s have an increased risk of fouling
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For performance data with other refrigerants and conditions use ProSuite or contact the factory

Alfa Laval Standard MSE Marine condenser

Shell-and-tube horizontal water-cooled condenser

MSE condensers provide a compact design with tube side materials that offer greater corrosion resistance for a longer service life. All models utilize corrosion resistant materials on the water side to ensure a greater operating life over epoxy coated steel versions.

Standard Designs

MSE condensers are available in standard designs for salt and fresh water duty. The models feature high-efficiency tube surfaces and they are available in 18 catalog models from 1 to 120 horsepower (HP). All units feature dual refrigerant outlets for shipboard use. For glycol duty please consult ProSuite or contact the factory.

Tube Materials

MSE marine condensers are manufactured with enhanced 3/4" diameter 90/10 cupronickel tubing to provide reliable performance and ease of service from commonly available tube cleaning devices.

Customization

As standard these units offer horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client.

Features

Shells

ASME specification carbon steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes

90/10 Cupronickel high performance enhanced designed tubing is standard. 70/30 Cupronickel is available upon request.

Tube Sheets

All MSE units utilize ASME specification solid 90/10 cupronickel tube sheets as standard, which ensures an extended unit life compared to epoxy coated steel. Tube sheets can be epoxy coated for additional protection.

Tube Supports

Tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads

All MSE units utilize ASME specification naval brass water plates as standard, ensuring longer durability and service life over epoxy coated steel. As additional protection the inside of the heads can be epoxy coated. Custom connection versions are available.

Connections

All water side connections are FNPT. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations, sizes and locations are available.

Finish

Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Standard Refrigeration

Working Pressures:
400 psi. Shell Side (Refrigerant) @ 150°F
150 psi. Tube Side (Water/Fluid) @ 150°F

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal horsepower by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow
Velocities of ten feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this shown on the dimension tables are limited to flow velocities below ten feet per second. Water flow rates for shallow water applications need to be below seven feet per second due to higher risk of premature impingement corrosion or tube failure, units should not be used without upstream filtration to lower failure risks.

Approved Refrigerants
R22, R134a. Units shorter than three feet in length R407C/R407F.

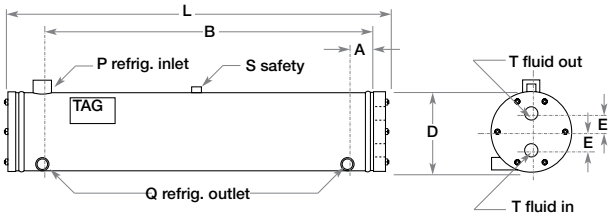
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper content. R404A, R410A & R507A due to recommended operating pressures. Units longer than three feet R407C/R407F, due to refrigerant separation. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Alfa Laval before use.

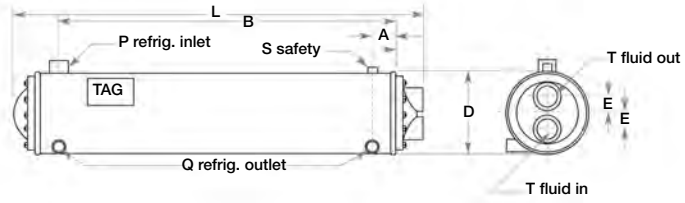
Alternative Options
For higher pressure refrigerants use MSE-MP units. For greater pumpdown capacity use MST units.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

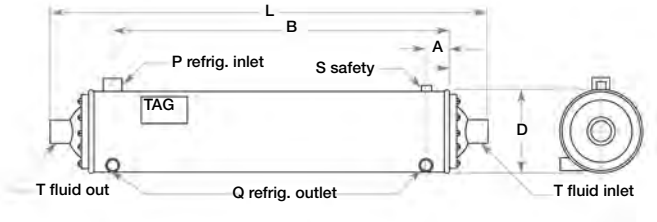
MSE100 through MSE5005



MSE6505 and MSE7505



MSE100HP and MSE120HP



Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard MSE marine condenser

Technical specifications

Models	R22 Nominal HP*	R134a Nominal HP*	Dimensions (inches)					Connections (inches)			
			D	L	A	B	E	P (IDS)	Q (IDS)	S (FNPT)	T (FNPT)
MSE100	0.8	0.8	6	21.63	1.63	16.38	1.88	5/8	1/2	3/8	1/2
MSE200	1.9	1.8	6	21.63	1.63	16.38	1.88	7/8	5/8	3/8	1/2
MSE300	3.2	3.1	6 5/8	22.00	2.00	16.00	1.00	7/8	5/8	3/8	3/4
MSE500	4.4	4.2	6 5/8	22.00	2.06	15.94	1.00	1 1/8	5/8	3/8	3/4
MSE750	7.2	7.0	6 5/8	34.25	2.00	28.00	2.00	1 3/8	7/8	3/8	3/4
MSE1005	9.3	9.0	6 5/8	40.25	2.00	33.00	2.00	1 3/8	7/8	3/8	1 1/4
MSE1500	14.9	14.4	8 5/8	40.00	2.50	33.50	2.13	1 5/8	1 1/8	1/2	2
MSE2005	22.8	20.7	8 5/8	64.50	3.00	57.00	2.13	2 1/8	1 1/8	1/2	2
MSE2505	27.3	25.0	8 5/8	64.50	3.00	57.00	2.13	2 1/8	1 3/8	1/2	2
MSE3006	30.5	29.5	8 5/8	76.50	3.00	69.00	2.00	2 5/8	1 3/8	1/2	2 1/2
MSE3305	35.2	32.7	10 3/4	65.00	3.00	56.50	2.13	2 5/8	1 3/8	1/2	2 1/2
MSE4005	37.1	34.4	10 3/4	65.00	3.00	56.50	2.13	2 5/8	1 5/8	1/2	2 1/2
MSE4505	42.8	40.7	10 3/4	77.00	3.00	68.50	2.13	2 5/8	1 5/8	1/2	2 1/2
MSE5005	47.3	43.9	10 3/4	77.00	3.00	68.50	2.13	2 5/8	1 5/8	1/2	2 1/2
MSE6505	60.8	57.1	12 3/4	78.69	3.50	68.50	2.75	3 1/8	2 1/8	1/2	4
MSE7505	69.1	64.2	12 3/4	78.69	3.50	68.50	2.75	3 1/8	2 1/8	1/2	4
MSE100HP	109.3	100.8	12 3/4	133.38	3.50	116.50	—	3 1/8	2 1/8	1/2	5" MPT
MSE120HP	118.4	109.4	12 3/4	133.50	3.50	115.75	—	3 5/8	2 1/8	1/2	5" MPT

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
ProSuite software values are the most accurate
Tubing has high performance enhanced surface
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
HP = 15,000 Btu/hr

Standard Refrigeration

Models	Pumpdown Capacity (lbs.)		Water Flow (gpm)		Water Pressure Drop (psi)		Shipping Weight (lbs.)	Gaskets Article #		Endplates Article #	
	R22*	R134a*	Min.	Max.	R22	R134a		Front	Rear	Front	Rear
MSE100	15	15	0.7	7.4	1.2	1.1	35		3149	6436	300
MSE200	13	13	1.5	14.8	2.5	2.4	49	175	184	6436	300
MSE300	15	15	1.7	16.6	4.7	4.4	58	355	364	6386	337
MSE500	13	13	2.2	22.2	5.1	4.8	77	355	364	6386	337
MSE750	22	23	4.4	44.3	2.3	2.2	107	436	364	6281	4461
MSE1005	27	28	4.4	44.3	3.9	3.7	121	436	364	6281	4461
MSE1500	47	48	7.4	74	3.3	3.1	181	445	2584	5752	4104
MSE2005	83	85	13.3	124	2.3	1.9	254	1723	2953	5752	4104
MSE2505	75	77	16.2	162	2.5	2.2	265	1723	2953	5752	4104
MSE3006	101	103	14.8	148	3.1	2.9	286	1723	2953	6467	4104
MSE3305	130	132	21	207	2.3	2.0	338	1741	2984	6481	5114
MSE4005	127	128	22	222	2.3	2.0	343	1741	2984	6481	5114
MSE4505	157	159	21	207	3.6	3.3	388	1741	2984	6481	5114
MSE5005	152	155	22	222	3.9	3.4	394	1741	2984	6481	5114
MSE6505	228	231	29	288	3.0	2.7	517	111	120	2542	5233
MSE7505	206	209	32	325	3.1	2.7	533	111	120	2542	5233
MSE100HP	347	353	65	500	2.3	2.0	1133	120	120	4085	4085
MSE120HP	332	337	71	709	1.8	1.5	1158	120	120	5790	5790

*Pumpdown capacities are based upon 90% of the shell open volume
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Model MSE100

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1	1.1	0.2	4,683	6,299	7,939	9,606	11,295	12,993
	2	2.2	0.8	8,352	11,087	13,805	16,505	19,207	21,868
	3	3.2	1.6	10,323	13,663	16,950	20,219	23,446	26,638
	5	5.4	4.2	12,745	16,821	20,814	24,785	28,688	32,533
	6	6.5	6.0	13,638	17,979	22,277	26,432	30,568	34,684
	7	7.6	8.0	14,413	18,989	23,466	27,866	32,212	36,543
	8	8.6	10.2	15,055	19,820	24,467	29,040	33,549	38,077
	9	9.7	12.8	15,628	20,507	25,329	30,027	34,670	39,312
R134a	1	1.1	0.2	4,668	6,278	7,911	9,574	11,250	12,938
	2	2.2	0.8	8,278	10,985	13,682	16,355	19,017	21,652
	3	3.2	1.6	10,194	13,484	16,734	19,943	23,132	26,277
	5	5.4	4.2	12,554	16,539	20,472	24,358	28,180	31,952
	6	6.5	6.0	13,428	17,643	21,837	25,986	29,997	34,042
	7	7.6	8.0	14,155	18,603	23,015	27,300	31,568	35,751
	8	8.6	10.2	14,781	19,411	23,946	28,470	32,878	37,277
	9	9.7	12.8	15,280	20,107	24,753	29,369	33,945	38,431

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE200

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	2	1.1	0.3	9,881	13,276	16,718	20,180	23,700	27,233
	4	2.2	1.2	17,683	23,450	29,160	34,858	40,555	46,160
	7	3.8	3.7	23,595	31,143	38,593	46,021	53,319	60,547
	9	4.9	5.9	26,252	34,569	42,822	50,982	59,000	66,940
	12	6.5	10.2	29,399	38,652	47,792	56,837	65,745	74,481
	14	7.6	13.7	31,102	40,810	50,515	59,964	69,275	78,529
	16	8.6	17.7	32,560	42,700	52,800	62,624	72,287	81,852
	19	10.3	24.8	34,284	44,907	55,489	65,734	75,906	85,745
R134a	2	1.1	0.3	9,842	13,217	16,639	20,099	23,583	27,092
	4	2.2	1.2	17,516	23,223	28,873	34,495	40,144	45,657
	7	3.8	3.7	23,285	30,678	38,021	45,296	52,455	59,637
	9	4.9	5.9	25,821	34,008	42,042	50,093	58,024	65,782
	12	6.5	10.2	28,827	37,857	46,889	55,740	64,432	72,998
	14	7.6	13.7	30,451	39,999	49,397	58,764	67,818	76,828
	16	8.6	17.7	31,851	41,779	51,662	61,236	70,744	80,015
	19	10.3	24.8	33,474	43,977	54,149	64,203	74,121	83,852

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE300

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	2	1.0	0.2	12,025	16,140	20,318	24,537	28,803	33,068
	5	2.4	1.3	25,499	33,790	42,037	50,245	58,389	66,454
	7	3.4	2.5	31,051	41,095	51,015	60,847	70,592	80,197
	10	4.8	4.9	37,148	49,014	60,714	72,314	83,742	95,065
	13	6.2	7.9	41,737	55,015	68,117	80,990	93,717	106,222
	15	7.2	10.3	44,351	58,306	72,173	85,731	99,162	112,243
	18	8.6	14.5	47,447	62,398	77,110	91,550	105,731	119,706
	21	10.1	19.5	49,846	65,649	80,950	95,948	110,736	125,149
R134a	2	1.0	0.2	11,978	16,074	20,232	24,443	28,681	32,955
	5	2.4	1.3	25,252	33,474	41,620	49,745	57,833	65,816
	7	3.4	2.5	30,717	40,587	50,362	60,031	69,671	79,158
	10	4.8	4.9	36,596	48,293	59,814	71,187	82,404	93,549
	13	6.2	7.9	41,025	54,046	66,932	79,523	92,016	104,255
	15	7.2	10.3	43,475	57,273	70,734	84,071	97,249	110,145
	18	8.6	14.5	46,550	61,048	75,570	89,551	103,439	117,144
	21	10.1	19.5	48,868	64,163	79,088	93,900	108,287	122,493

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE500

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	3	1.1	0.3	17,553	23,568	29,627	35,758	41,932	48,159
	7	2.5	1.5	35,416	47,003	58,415	69,722	81,013	92,198
	10	3.6	3.0	43,387	57,320	71,176	84,832	98,328	111,654
	14	5.0	5.7	51,095	67,389	83,513	99,429	115,061	130,605
	17	6.1	8.1	55,796	73,470	90,961	108,076	125,173	141,925
	21	7.6	12.1	60,897	80,202	99,012	117,687	135,986	154,103
	24	8.6	15.5	64,288	84,335	104,058	123,435	142,650	161,531
	28	10.1	20.8	67,590	88,703	109,496	129,696	149,685	169,434
R134a	3	1.1	0.3	17,489	23,471	29,502	35,598	41,751	47,921
	7	2.5	1.5	35,094	46,510	57,834	69,036	80,193	91,268
	10	3.6	3.0	42,868	56,623	70,260	83,654	96,976	110,250
	14	5.0	5.7	50,304	66,330	82,158	97,834	113,217	128,539
	17	6.1	8.1	54,780	72,176	89,310	106,238	122,912	139,232
	21	7.6	12.1	59,765	78,624	97,144	115,275	133,352	151,025
	24	8.6	15.5	62,764	82,676	101,908	120,933	139,704	158,142
	28	10.1	20.8	66,098	86,783	107,170	126,997	146,452	165,513

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE750

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	6	1.1	0.2	32,692	43,910	55,222	66,664	78,250	89,825
	15	2.7	1.1	67,760	89,670	111,397	132,957	154,267	175,423
	20	3.6	1.9	78,679	104,025	128,980	153,732	178,006	202,187
	25	4.5	2.9	87,289	115,152	142,665	169,816	196,715	223,201
	35	6.3	5.3	100,862	132,722	164,005	195,188	225,625	255,711
	40	7.2	6.8	106,283	139,780	172,849	205,319	237,236	268,648
	50	9.0	10.3	115,389	151,416	186,991	221,704	255,994	289,729
	55	9.9	12.3	118,901	155,957	192,495	227,953	263,139	297,492
R134a	6	1.1	0.2	32,586	43,713	54,955	66,337	77,861	89,438
	15	2.7	1.1	66,954	88,609	110,089	131,343	152,428	173,290
	20	3.6	1.9	77,649	102,519	127,097	151,433	175,521	199,173
	25	4.5	2.9	86,066	113,410	140,395	167,034	193,550	219,415
	35	6.3	5.3	98,965	130,286	161,100	191,256	221,322	250,698
	40	7.2	6.8	104,358	137,164	169,520	201,131	232,572	263,181
	50	9.0	10.3	112,807	148,195	182,793	217,050	250,278	283,064
	55	9.9	12.3	116,483	152,617	188,104	222,994	257,299	291,094

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE1005

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	6	1.1	0.2	35,733	47,951	60,270	72,771	85,317	98,009
	15	2.7	1.3	75,683	100,279	124,717	148,865	172,898	196,630
	20	3.6	2.1	89,115	117,864	146,283	174,426	202,223	229,855
	25	4.5	3.2	99,795	131,817	163,425	194,652	225,446	256,037
	35	6.3	5.8	116,687	153,776	190,351	226,269	261,817	296,789
	40	7.2	7.4	123,564	162,596	201,110	239,061	276,433	313,248
	50	9.0	11.2	134,919	177,171	218,789	259,780	299,698	339,368
	55	9.9	13.4	139,340	183,089	225,860	267,834	309,034	349,689
R134a	6	1.1	0.2	35,642	47,791	60,093	72,505	85,032	97,565
	15	2.7	1.3	75,006	99,276	123,379	147,388	171,074	194,648
	20	3.6	2.1	88,042	116,437	144,375	172,146	199,575	226,845
	25	4.5	3.2	98,505	129,954	161,057	191,827	222,117	252,245
	35	6.3	5.8	114,764	151,034	186,746	222,131	257,091	291,487
	40	7.2	7.4	121,211	159,702	197,287	234,386	271,203	307,053
	50	9.0	11.2	132,100	173,400	214,223	254,166	293,442	332,551
	55	9.9	13.4	136,409	178,989	220,930	261,858	302,263	342,107

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE1500

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	6	1.1	0.2	35,733	47,951	60,270	72,771	85,317	98,009
	15	2.7	1.3	75,683	100,279	124,717	148,865	172,898	196,630
	20	3.6	2.1	89,115	117,864	146,283	174,426	202,223	229,855
	25	4.5	3.2	99,795	131,817	163,425	194,652	225,446	256,037
	35	6.3	5.8	116,687	153,776	190,351	226,269	261,817	296,789
	40	7.2	7.4	123,564	162,596	201,110	239,061	276,433	313,248
	50	9.0	11.2	134,919	177,171	218,789	259,780	299,698	339,368
	55	9.9	13.4	139,340	183,089	225,860	267,834	309,034	349,689
R134a	6	1.1	0.2	35,642	47,791	60,093	72,505	85,032	97,565
	15	2.7	1.3	75,006	99,276	123,379	147,388	171,074	194,648
	20	3.6	2.1	88,042	116,437	144,375	172,146	199,575	226,845
	25	4.5	3.2	98,505	129,954	161,057	191,827	222,117	252,245
	35	6.3	5.8	114,764	151,034	186,746	222,131	257,091	291,487
	40	7.2	7.4	121,211	159,702	197,287	234,386	271,203	307,053
	50	9.0	11.2	132,100	173,400	214,223	254,166	293,442	332,551
	55	9.9	13.4	136,409	178,989	220,930	261,858	302,263	342,107

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE1500

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	10	1.1	0.2	59,443	79,724	100,390	121,091	141,983	163,035
	20	2.2	0.7	108,691	144,352	179,918	215,058	250,327	285,087
	30	3.2	1.6	139,857	185,098	229,949	274,197	318,219	361,843
	50	5.4	4.0	177,387	238,515	295,419	351,932	407,224	462,215
	60	6.5	5.5	192,497	258,393	319,739	380,384	440,311	499,308
	70	7.6	7.2	205,333	275,546	340,657	404,814	468,005	530,234
	80	8.6	9.1	215,999	284,487	358,289	425,296	491,450	556,272
	90	9.7	11.4	225,423	296,035	372,782	442,295	510,499	577,904
R134a	10	1.1	0.2	59,253	79,444	99,983	120,548	141,394	162,273
	20	2.2	0.7	106,541	143,280	178,349	213,349	248,077	282,699
	30	3.2	1.6	136,084	180,158	227,192	270,949	314,317	357,516
	50	5.4	4.0	171,513	230,659	285,826	345,807	400,262	454,472
	60	6.5	5.5	185,506	249,240	308,602	367,122	432,314	490,002
	70	7.6	7.2	197,509	265,274	328,164	390,022	450,993	519,754
	80	8.6	9.1	207,977	278,586	344,313	409,218	472,865	544,954
	90	9.7	11.4	216,254	289,857	357,989	424,872	490,804	555,900

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE2005

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.2	0.2	111,688	149,475	187,559	225,894	264,518	303,197
	40	2.4	0.8	190,566	252,956	314,782	381,739	443,174	504,697
	60	3.6	1.8	238,010	314,791	390,624	465,263	539,651	623,128
	80	4.8	3.0	272,167	359,296	444,923	529,917	613,248	696,811
	110	6.6	5.3	304,512	409,949	507,452	603,502	698,065	790,982
	130	7.8	7.2	324,927	437,491	540,775	642,068	742,473	841,153
	150	9.0	9.4	341,786	460,251	568,242	673,994	778,670	881,125
	170	10.2	11.9	355,768	478,454	590,061	699,615	807,437	913,335
R134a	20	1.2	0.2	109,514	146,638	184,197	224,684	263,005	301,381
	40	2.4	0.8	185,445	250,305	311,332	372,034	432,146	491,775
	60	3.6	1.8	230,254	310,639	385,189	459,028	532,256	604,508
	80	4.8	3.0	262,307	346,361	437,652	521,034	603,503	685,011
	110	6.6	5.3	291,990	394,081	487,601	591,629	685,016	776,166
	130	7.8	7.2	310,953	419,775	518,088	616,132	727,053	823,608
	150	9.0	9.4	326,791	440,698	543,504	645,932	761,759	861,864
	170	10.2	11.9	339,465	457,115	564,398	668,636	789,582	892,840

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE2505

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.0	0.2	110,939	150,898	190,122	229,782	269,842	310,296
	50	2.5	1.0	237,818	315,191	391,963	468,126	544,361	619,141
	70	3.4	1.9	281,663	378,402	469,608	559,777	649,636	737,400
	100	4.9	3.6	332,735	446,714	553,390	657,772	762,423	865,135
	130	6.4	5.8	371,821	490,020	616,665	732,772	848,259	961,360
	150	7.4	7.5	393,644	518,438	651,734	774,697	895,071	1,014,083
	180	8.8	10.6	420,777	553,691	683,089	824,732	952,494	1,077,748
	200	9.8	12.9	435,018	571,626	706,580	852,886	983,780	1,112,941
R134a	20	1.0	0.2	110,574	148,571	187,321	226,505	266,270	306,160
	50	2.5	1.0	232,032	307,669	388,058	463,352	538,396	612,306
	70	3.4	1.9	273,522	367,919	456,735	544,248	640,724	727,026
	100	4.9	3.6	321,678	432,043	535,337	637,537	738,623	837,717
	130	6.4	5.8	358,390	472,469	595,080	708,046	819,012	928,455
	150	7.4	7.5	378,616	498,737	628,584	746,212	863,440	978,238
	180	8.8	10.6	395,572	531,751	668,619	793,585	916,974	1,038,770
	200	9.8	12.9	409,685	549,103	690,270	819,506	946,043	1,069,870

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE3006

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.1	0.2	120,835	162,104	203,696	245,789	288,180	330,517
	40	2.2	0.7	218,956	290,961	362,769	439,261	510,585	581,610
	70	3.8	1.9	307,288	406,377	504,428	601,681	697,173	793,047
	90	4.9	3.0	342,326	460,276	570,638	679,375	787,282	894,615
	120	6.5	4.9	390,228	524,650	648,879	772,598	893,505	1,013,858
	140	7.6	6.4	416,779	559,342	691,888	822,494	950,851	1,078,006
	160	8.6	8.1	438,819	577,788	727,684	864,310	999,230	1,131,385
	190	10.3	11.1	466,056	612,592	770,892	914,232	1,055,788	1,194,305
R134a	20	1.1	0.2	119,097	159,759	201,080	244,873	286,789	329,200
	40	2.2	0.7	217,296	288,769	359,701	430,349	500,516	569,966
	70	3.8	1.9	298,410	394,762	497,957	593,763	688,630	782,140
	90	4.9	3.0	337,584	445,095	552,315	669,343	775,516	880,220
	120	6.5	4.9	375,736	505,853	625,978	745,449	878,316	994,826
	140	7.6	6.4	400,606	538,699	665,751	791,507	916,425	1,057,105
	160	8.6	8.1	421,972	565,780	700,087	831,599	961,458	1,088,753
	190	10.3	11.1	446,591	598,714	739,682	877,502	1,013,672	1,146,974

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE3305

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.2	0.2	166,725	223,425	280,589	338,211	396,281	454,475
	60	2.3	0.8	290,309	389,155	484,081	578,936	672,433	765,602
	100	3.9	2.0	383,338	506,717	628,242	748,806	877,422	996,317
	130	5.0	3.3	426,400	570,277	706,421	841,125	973,903	1,116,807
	160	6.2	4.7	465,908	622,386	770,040	916,015	1,059,705	1,200,762
	200	7.7	7.1	508,952	669,609	839,185	996,448	1,152,024	1,304,826
	230	8.9	9.1	534,800	702,627	880,786	1,045,373	1,207,436	1,365,448
	260	10.0	11.5	555,838	730,785	914,239	1,084,678	1,252,486	1,416,837
R134a	30	1.2	0.2	164,312	220,192	279,159	336,369	394,282	452,255
	60	2.3	0.8	284,287	381,424	474,648	567,297	659,041	749,956
	100	3.9	2.0	368,122	493,354	612,320	738,134	855,199	971,826
	130	5.0	3.3	413,621	553,698	685,996	816,267	957,341	1,086,129
	160	6.2	4.7	450,535	602,713	745,690	887,396	1,026,927	1,178,380
	200	7.7	7.1	483,044	646,638	810,778	963,019	1,113,729	1,261,727
	230	8.9	9.1	507,812	678,208	849,605	1,009,094	1,166,240	1,320,391
	260	10.0	11.5	527,101	704,071	882,033	1,046,902	1,207,149	1,366,639

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE3006

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.1	0.2	120,835	162,104	203,696	245,789	288,180	330,517
	40	2.2	0.7	218,956	290,961	362,769	439,261	510,585	581,610
	70	3.8	1.9	307,288	406,377	504,428	601,681	697,173	793,047
	90	4.9	3.0	342,326	460,276	570,638	679,375	787,282	894,615
	120	6.5	4.9	390,228	524,650	648,879	772,598	893,505	1,013,858
	140	7.6	6.4	416,779	559,342	691,888	822,494	950,851	1,078,006
	160	8.6	8.1	438,819	577,788	727,684	864,310	999,230	1,131,385
	190	10.3	11.1	466,056	612,592	770,892	914,232	1,055,788	1,194,305
R134a	20	1.1	0.2	119,097	159,759	201,080	244,873	286,789	329,200
	40	2.2	0.7	217,296	288,769	359,701	430,349	500,516	569,966
	70	3.8	1.9	298,410	394,762	497,957	593,763	688,630	782,140
	90	4.9	3.0	337,584	445,095	552,315	669,343	775,516	880,220
	120	6.5	4.9	375,736	505,853	625,978	745,449	878,316	994,826
	140	7.6	6.4	400,606	538,699	665,751	791,507	916,425	1,057,105
	160	8.6	8.1	421,972	565,780	700,087	831,599	961,458	1,088,753
	190	10.3	11.1	446,591	598,714	739,682	877,502	1,013,672	1,146,974

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE3305

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.2	0.2	166,725	223,425	280,589	338,211	396,281	454,475
	60	2.3	0.8	290,309	389,155	484,081	578,936	672,433	765,602
	100	3.9	2.0	383,338	506,717	628,242	748,806	877,422	996,317
	130	5.0	3.3	426,400	570,277	706,421	841,125	973,903	1,116,807
	160	6.2	4.7	465,908	622,386	770,040	916,015	1,059,705	1,200,762
	200	7.7	7.1	508,952	669,609	839,185	996,448	1,152,024	1,304,826
	230	8.9	9.1	534,800	702,627	880,786	1,045,373	1,207,436	1,365,448
	260	10.0	11.5	555,838	730,785	914,239	1,084,678	1,252,486	1,416,837
R134a	30	1.2	0.2	164,312	220,192	279,159	336,369	394,282	452,255
	60	2.3	0.8	284,287	381,424	474,648	567,297	659,041	749,956
	100	3.9	2.0	368,122	493,354	612,320	738,134	855,199	971,826
	130	5.0	3.3	413,621	553,698	685,996	816,267	957,341	1,086,129
	160	6.2	4.7	450,535	602,713	745,690	887,396	1,026,927	1,178,380
	200	7.7	7.1	483,044	646,638	810,778	963,019	1,113,729	1,261,727
	230	8.9	9.1	507,812	678,208	849,605	1,009,094	1,166,240	1,320,391
	260	10.0	11.5	527,101	704,071	882,033	1,046,902	1,207,149	1,366,639

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE4005

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.1	0.2	166,126	222,991	280,503	338,568	397,150	456,162
	70	2.5	1.0	328,665	435,312	541,342	653,108	757,446	862,590
	100	3.6	1.9	393,690	526,090	653,391	778,646	902,859	1,035,063
	140	5.0	3.4	459,520	613,700	760,323	905,116	1,048,037	1,188,593
	170	6.1	4.9	498,866	657,195	823,928	980,604	1,133,751	1,286,395
	210	7.6	7.1	542,697	714,453	894,683	1,062,640	1,228,824	1,391,070
	240	8.6	9.1	562,623	749,273	938,197	1,113,305	1,286,147	1,455,601
	280	10.1	12.2	590,199	787,427	971,183	1,166,683	1,347,354	1,524,721
R134a	30	1.1	0.2	164,053	220,138	279,053	337,008	395,110	453,676
	70	2.5	1.0	321,521	426,512	535,934	639,978	743,017	845,630
	100	3.6	1.9	383,686	513,585	637,047	768,221	890,458	1,010,975
	140	5.0	3.4	446,680	589,099	739,065	879,592	1,018,110	1,168,493
	170	6.1	4.9	477,037	637,470	799,410	951,156	1,100,094	1,248,005
	210	7.6	7.1	517,640	690,733	865,430	1,029,140	1,189,563	1,347,856
	240	8.6	9.1	542,941	723,969	893,727	1,075,968	1,243,785	1,406,874
	280	10.1	12.2	569,968	759,600	936,662	1,126,332	1,300,469	1,470,976

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE4505

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.2	0.2	180,875	242,693	304,733	367,247	429,941	493,013
	60	2.3	0.9	320,992	430,394	535,887	640,452	744,193	847,559
	100	3.9	2.3	433,834	573,431	711,926	858,260	994,423	1,129,940
	130	5.0	3.6	487,434	652,387	808,749	963,066	1,127,717	1,280,812
	160	6.2	5.2	536,049	716,656	887,684	1,056,717	1,223,114	1,387,767
	200	7.7	7.7	589,345	787,635	973,374	1,157,851	1,338,133	1,516,367
	230	8.9	10.0	622,504	819,111	1,025,552	1,218,885	1,407,988	1,594,656
	260	10.0	12.6	649,586	853,292	1,068,410	1,268,757	1,464,382	1,657,572
R134a	30	1.2	0.2	178,875	241,630	303,533	365,598	428,132	490,760
	60	2.3	0.9	314,935	422,502	526,048	628,805	731,247	833,349
	100	3.9	2.3	423,263	559,324	702,702	837,805	971,232	1,103,875
	130	5.0	3.6	473,748	634,432	786,645	948,414	1,099,149	1,246,599
	160	6.2	5.2	520,081	695,171	861,642	1,025,129	1,201,257	1,363,154
	200	7.7	7.7	561,448	751,066	941,956	1,120,769	1,295,525	1,487,165
	230	8.9	10.0	592,190	790,763	990,508	1,178,072	1,361,209	1,541,163
	260	10.0	12.6	616,456	823,733	1,031,777	1,224,220	1,414,761	1,600,301

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE5005

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.1	0.2	180,553	242,401	304,837	367,536	431,058	494,785
	70	2.5	1.1	364,379	483,391	607,346	725,094	842,538	959,538
	100	3.6	2.1	449,133	594,419	737,685	879,715	1,030,113	1,170,394
	140	5.0	3.8	526,086	702,441	870,039	1,036,767	1,201,264	1,363,524
	170	6.1	5.3	574,611	767,524	950,584	1,130,541	1,309,101	1,484,253
	210	7.6	7.8	629,099	828,309	1,037,019	1,233,507	1,426,988	1,616,629
	240	8.6	9.9	662,819	871,835	1,091,961	1,296,900	1,498,828	1,697,672
	280	10.1	13.3	689,947	919,932	1,149,562	1,363,928	1,575,091	1,782,934
R134a	30	1.1	0.2	178,681	241,484	303,640	366,177	429,258	492,487
	70	2.5	1.1	357,400	479,100	595,947	712,286	827,826	942,204
	100	3.6	2.1	433,766	580,617	720,805	868,663	1,007,486	1,145,076
	140	5.0	3.8	511,355	683,359	847,243	1,009,074	1,181,933	1,341,812
	170	6.1	5.3	549,710	735,426	922,411	1,098,213	1,271,883	1,443,157
	210	7.6	7.8	600,868	802,621	1,005,319	1,194,880	1,383,141	1,566,973
	240	8.6	9.9	632,050	843,828	1,057,115	1,255,105	1,450,520	1,643,462
	280	10.1	13.3	666,261	888,159	1,095,933	1,318,565	1,523,101	1,723,642

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE6505

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	40	1.1	0.2	239,784	323,553	406,404	489,991	574,229	658,657
	90	2.5	0.8	468,294	625,836	778,665	930,144	1,081,625	1,230,809
	130	3.6	1.6	581,045	768,775	961,728	1,146,057	1,329,799	1,511,012
	180	5.0	2.9	677,292	903,164	1,119,406	1,333,120	1,556,270	1,767,041
	230	6.4	4.4	757,596	998,804	1,249,361	1,485,082	1,719,021	1,951,107
	270	7.5	5.8	802,552	1,068,447	1,333,417	1,585,911	1,834,541	2,078,714
	320	8.9	7.8	857,515	1,140,646	1,422,606	1,689,789	1,951,945	2,210,675
	360	10.0	9.7	894,406	1,186,779	1,465,060	1,755,595	2,027,579	2,293,609
R134a	40	1.1	0.2	237,690	320,768	402,952	485,809	569,616	653,095
	90	2.5	0.8	460,488	615,783	766,003	915,670	1,064,218	1,211,203
	130	3.6	1.6	563,825	752,681	934,678	1,123,030	1,303,019	1,481,170
	180	5.0	2.9	654,491	873,030	1,093,204	1,301,938	1,507,885	1,725,101
	230	6.4	4.4	730,516	972,708	1,215,478	1,446,274	1,675,724	1,898,442
	270	7.5	5.8	780,237	1,038,475	1,284,433	1,541,966	1,782,676	2,021,677
	320	8.9	7.8	822,099	1,094,246	1,367,182	1,639,229	1,894,332	2,144,882
	360	10.0	9.7	856,044	1,137,195	1,419,918	1,685,412	1,965,327	2,224,388

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE7505

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	50	1.2	0.2	301,398	403,266	505,923	608,748	712,715	816,374
	100	2.5	0.8	524,888	696,479	872,124	1,042,192	1,210,370	1,378,758
	150	3.7	1.8	660,758	880,421	1,092,779	1,302,647	1,511,868	1,728,322
	200	4.9	2.9	762,828	1,007,151	1,259,290	1,499,348	1,736,531	1,971,445
	250	6.1	4.2	838,373	1,114,908	1,381,416	1,657,361	1,917,327	2,174,479
	300	7.4	5.8	906,517	1,205,267	1,490,492	1,786,076	2,064,306	2,341,103
	350	8.6	7.6	963,324	1,278,503	1,581,701	1,877,920	2,187,953	2,477,061
	400	9.8	9.8	1,001,478	1,327,060	1,655,292	1,964,718	2,285,279	2,586,777
R134a	50	1.2	0.2	298,457	399,482	501,488	606,482	709,298	812,176
	100	2.5	0.8	513,177	685,620	853,869	1,026,428	1,192,308	1,357,626
	150	3.7	1.8	642,181	856,517	1,070,761	1,277,730	1,481,784	1,684,065
	200	4.9	2.9	739,353	984,581	1,220,540	1,465,307	1,697,828	1,927,187
	250	6.1	4.2	809,919	1,077,233	1,345,928	1,602,670	1,870,139	2,119,954
	300	7.4	5.8	874,036	1,161,709	1,450,027	1,723,078	1,993,775	2,278,680
	350	8.6	7.7	918,423	1,231,427	1,521,926	1,823,905	2,108,352	2,389,254
	400	9.8	9.8	960,412	1,276,705	1,591,485	1,906,185	2,200,962	2,492,697

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE100HP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	100	1.2	0.2	548,968	741,774	930,243	1,119,941	1,310,849	1,502,125
	200	2.5	0.9	940,618	1,259,260	1,566,176	1,871,836	2,176,232	2,476,771
	300	3.7	1.9	1,173,801	1,552,726	1,943,894	2,318,371	2,687,780	3,053,367
	400	4.9	3.2	1,329,244	1,772,396	2,198,635	2,639,724	3,058,518	3,471,711
	500	6.1	4.8	1,464,196	1,950,178	2,416,733	2,874,008	3,352,853	3,802,351
	600	7.4	6.7	1,560,841	2,077,868	2,594,979	3,082,818	3,566,695	4,076,839
	700	8.6	8.9	1,653,116	2,196,213	2,742,754	3,258,565	3,763,267	4,261,324
	800	9.8	11.4	1,728,620	2,295,495	2,863,018	3,400,256	3,923,542	4,438,563
R134a	100	1.2	0.2	542,379	725,862	918,958	1,106,524	1,295,325	1,484,333
	200	2.5	0.9	913,412	1,223,967	1,537,669	1,837,346	2,136,032	2,430,622
	300	3.7	1.9	1,124,624	1,518,560	1,884,547	2,266,752	2,630,123	2,987,041
	400	4.9	3.2	1,280,867	1,711,729	2,142,710	2,552,465	2,956,632	3,384,888
	500	6.1	4.8	1,410,011	1,878,788	2,348,264	2,793,647	3,236,818	3,670,865
	600	7.4	6.7	1,499,766	2,016,802	2,493,410	2,995,179	3,465,250	3,927,280
	700	8.6	8.9	1,587,171	2,108,353	2,633,384	3,159,954	3,652,468	4,134,108
	800	9.8	11.4	1,655,356	2,201,360	2,747,149	3,260,652	3,800,481	4,299,180

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE120HP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	100	1.1	0.2	549,337	737,025	932,120	1,124,027	1,317,387	1,511,392
	200	2.3	0.6	974,292	1,294,353	1,625,029	1,942,644	2,258,963	2,571,197
	300	3.4	1.3	1,221,293	1,628,972	2,022,826	2,431,312	2,820,848	3,204,677
	400	4.5	2.2	1,402,420	1,868,920	2,314,983	2,758,861	3,196,696	3,655,421
	600	6.8	4.4	1,655,405	2,201,228	2,746,230	3,267,450	3,778,509	4,286,097
	700	7.9	5.7	1,758,350	2,334,587	2,888,545	3,458,821	4,000,013	4,530,112
	800	9.0	7.3	1,844,709	2,449,614	3,025,128	3,621,400	4,182,659	4,734,505
	900	10.1	9.1	1,897,314	2,519,078	3,135,393	3,752,121	4,333,415	4,902,375
R134a	100	1.1	0.2	543,386	728,468	921,986	1,111,816	1,303,300	1,496,045
	200	2.3	0.6	949,187	1,272,053	1,584,165	1,908,923	2,221,425	2,529,406
	300	3.4	1.3	1,182,296	1,581,737	1,980,794	2,362,739	2,741,379	3,138,527
	400	4.5	2.2	1,356,267	1,809,069	2,243,208	2,695,358	3,122,693	3,544,131
	600	6.8	4.4	1,594,088	2,121,157	2,648,022	3,151,024	3,677,470	4,168,765
	700	7.9	5.7	1,674,055	2,249,460	2,805,513	3,332,319	3,854,727	4,402,597
	800	9.0	7.3	1,754,942	2,352,445	2,907,922	3,484,430	4,026,676	4,596,679
	900	10.1	9.1	1,819,685	2,415,763	3,009,908	3,606,568	4,167,000	4,717,272

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard MSE-Z marine condenser with zinc anodes

Shell-and-tube horizontal water-cooled condenser

MSE-Z condensers provide all of the benefits of standard MSE with the addition of a zinc anode for extra security. All models utilize corrosion resistant materials on the water side to ensure a greater operating life over epoxy coated steel versions.

Standard Designs

MSE-Z condensers are available in standard designs for salt and fresh water duty. The models feature high-efficiency tube surfaces and they are available in 18 catalog models from 1 to 120 horsepower (HP). All units feature dual refrigerant outlets for shipboard use. For glycol duty please consult ProSuite or contact the factory.

Tube Materials

MSE marine condensers are manufactured with enhanced 3/4" diameter 90/10 cupronickel tubing to provide reliable performance and ease of service from commonly available tube cleaning devices.

Customization

As standard these units offer horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client.

Features

Shells

ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes

90/10 Cupronickel high performance enhanced designed tubing is standard. 70/30 Cupronickel is available upon request.

Tube Sheets

All MSE units utilize ASME specification solid 90/10 cupronickel tube sheets as standard, which ensures an extended unit life compared to epoxy coated steel. Tube sheets can be epoxy coated for additional protection.

Tube Supports

Tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads

All MSE units utilize ASME specification naval brass water plates as standard, ensuring longer durability and service life over epoxy coated steel. As additional protection the inside of the heads can be epoxy coated. Removable zinc anodes are fitted as standard. Custom connection versions are available.

Connections

All water side connections are FNPT. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations, sizes and locations are available.

Finish

Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Standard Refrigeration

Working Pressures:
400 psi. Shell Side (Refrigerant) @ 150°F
150 psi. Tube Side (Water/Fluid) @ 150°F

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal horsepower by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow
Velocities of ten feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this shown on the dimension tables are limited to flow velocities below ten feet per second. Water flow rates for shallow water applications need to be below seven feet per second due to higher risk of premature impingement corrosion or tube failure, units should not be used without upstream filtration to lower failure risks.

Approved Refrigerants
R22, R134a. Units shorter than three feet in length R407C/R407F.

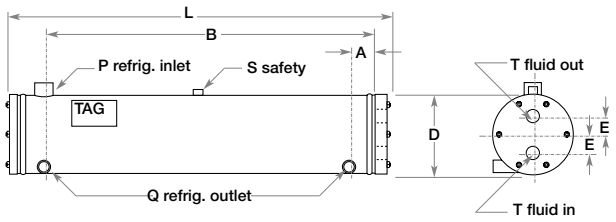
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper content. R404A, R410A & R507A due to recommended operating pressures. Units longer than three feet R407C/R407F, due to refrigerant separation. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

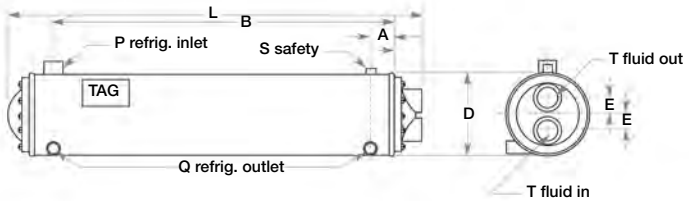
Alternative Options
For higher pressure refrigerants use MSE-MP units. For greater pumpdown capacity use MST units.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

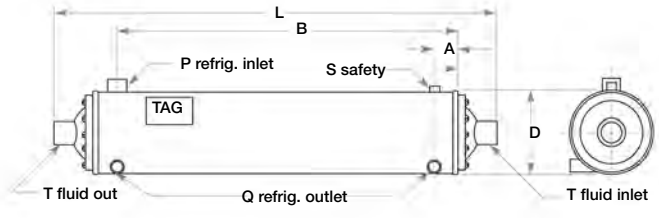
MSE100Z – 5005Z



MMSE6505Z and MSE7505Z



MSE100HPZ and 120HPZ



Alfa Laval reserves the right to change specifications without prior notification.

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard MSE-Z marine condenser with zinc anodes

Technical specifications

Models	R22 Nominal HP*	R134a Nominal HP*	Dimensions (inches)					Connections (inches)			
			D	L	A	B	E	P (IDS)	Q (IDS)	S (FNPT)	T (FNPT)
MSE100Z	0.8	0.8	6	21.63	1.63	16.38	1.88	5/8	1/2	3/8	1/2
MSE200Z	1.9	1.8	6	21.63	1.63	16.38	1.88	7/8	5/8	3/8	1/2
MSE300Z	3.2	3.1	6 5/8	22.00	2.00	16.00	1.00	7/8	5/8	3/8	3/4
MSE500Z	4.4	4.2	6 5/8	22.00	2.06	15.94	1.00	1 1/8	5/8	3/8	3/4
MSE750Z	7.2	7.0	6 5/8	34.25	2.00	28.00	2.00	1 3/8	7/8	3/8	3/4
MSE1005Z	9.3	9.0	6 5/8	40.25	2.00	33.00	2.00	1 3/8	7/8	3/8	1 1/4
MSE1500Z	14.9	14.4	8 5/8	40.00	2.50	33.50	2.13	1 5/8	1 1/8	1/2	1 1/4
MSE2005Z	22.8	20.7	8 5/8	64.50	3.00	57.00	2.13	2 1/8	1 1/8	1/2	2
MSE2505Z	27.3	25.0	8 5/8	64.50	3.00	57.00	2.13	2 1/8	1 3/8	1/2	2
MSE3006Z	30.5	29.5	8 5/8	76.50	3.00	69.00	2.00	2 5/8	1 3/8	1/2	2 1/2
MSE3305Z	35.2	32.7	10 3/4	65.00	3.00	56.50	2.13	2 5/8	1 3/8	1/2	2 1/2
MSE4005Z	37.1	34.4	10 3/4	65.00	3.00	56.50	2.13	2 5/8	1 5/8	1/2	2 1/2
MSE4505Z	42.8	40.7	10 3/4	77.00	3.00	68.50	2.13	2 5/8	1 5/8	1/2	2 1/2
MSE5005Z	47.3	43.9	10 3/4	77.00	3.00	68.50	2.13	2 5/8	1 5/8	1/2	2 1/2
MSE6505Z	60.8	57.1	12 3/4	78.69	3.50	68.50	2.75	3 1/8	2 1/8	1/2	4
MSE7505Z	69.1	64.2	12 3/4	78.69	3.50	68.50	2.75	3 1/8	2 1/8	1/2	4
MSE100HPZ	109.3	100.8	12 3/4	133.37	3.50	116.50	—	3 1/8	2 1/8	1/2	5" MPT
MSE120HPZ	118.4	109.4	12 3/4	133.37	3.50	115.75	—	3 5/8	2 1/8	1/2	5" MPT

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
ProSuite software values are the most accurate
Tubing has high performance enhanced surface
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
HP = 15,000 Btu/hr

Standard Refrigeration

Models	Pumpdown Capacity (lbs.)		Water Flow (gpm)		Water Pressure Drop (psi)		Shipping Weight (lbs.)	Gaskets Article #		Endplates Article #		Zinc Anode Article #
	R22*	R134a*	Min.	Max.	R22	R134a		Front	Rear	Front	Rear	
MSE100Z	15	15	0.7	7.4	1.2	1.1	42	3163	3149	6436	4454	652
MSE200Z	13	13	1.5	14.8	2.5	2.4	56	175	184	6436	4454	652
MSE300Z	15	15	1.7	16.6	4.7	4.4	66	355	364	6386	4461	645
MSE500Z	13	13	2.2	22.2	5.1	4.8	85	355	364	6386	4461	645
MSE750Z	22	23	4.4	44.3	2.3	2.2	115	436	364	6281	6362	645
MSE1005Z	27	28	4.4	44.3	3.9	3.7	129	436	364	6281	6362	645
MSE1500Z	47	48	7.4	74	3.3	3.1	195	445	2584	5752	4485	638
MSE2005Z	83	85	13.3	124	2.3	1.9	268	1723	2953	5752	4485	638
MSE2505Z	75	77	16.2	162	2.5	2.2	279	1723	2953	5752	4485	638
MSE3006Z	101	103	14.8	148	3.1	2.9	300	1723	2953	6467	4485	638
MSE3305Z	130	132	21	207	2.3	2.0	360	1741	2984	6481	5776	669
MSE4005Z	127	128	22	222	2.3	2.0	365	1741	2984	6481	5776	669
MSE4505Z	157	159	21	207	3.6	3.3	410	1741	2984	6481	5776	669
MSE5005Z	152	155	22	222	3.9	3.4	416	1741	2984	6481	5776	669
MSE6505Z	228	231	29	288	3.0	2.7	548	111	120	2542	5783	ZN122
MSE7505Z	206	209	32	325	3.1	2.7	564	111	120	2542	5783	ZN122
MSE100HPZ	347	353	65	500	2.3	2.0	1164	120	120	5790	5790	ZN122
MSE120HPZ	332	337	71	709	1.8	1.5	1189	120	120	5790	5790	ZN122

*Pumpdown capacities are based upon 90% of the shell open volume
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Model MSE100Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1	1.1	0.2	4,683	6,299	7,939	9,606	11,295	12,993
	2	2.2	0.8	8,352	11,087	13,805	16,505	19,207	21,868
	3	3.2	1.6	10,323	13,663	16,950	20,219	23,446	26,638
	5	5.4	4.2	12,745	16,821	20,814	24,785	28,688	32,533
	6	6.5	6.0	13,638	17,979	22,277	26,432	30,568	34,684
	7	7.6	8.0	14,413	18,989	23,466	27,866	32,212	36,543
	8	8.6	10.2	15,055	19,820	24,467	29,040	33,549	38,077
	9	9.7	12.8	15,628	20,507	25,329	30,027	34,670	39,312
R134a	1	1.1	0.2	4,668	6,278	7,911	9,574	11,250	12,938
	2	2.2	0.8	8,278	10,985	13,682	16,355	19,017	21,652
	3	3.2	1.6	10,194	13,484	16,734	19,943	23,132	26,277
	5	5.4	4.2	12,554	16,539	20,472	24,358	28,180	31,952
	6	6.5	6.0	13,428	17,643	21,837	25,986	29,997	34,042
	7	7.6	8.0	14,155	18,603	23,015	27,300	31,568	35,751
	8	8.6	10.2	14,781	19,411	23,946	28,470	32,878	37,277
	9	9.7	12.8	15,280	20,107	24,753	29,369	33,945	38,431

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE200Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	2	1.1	0.3	9,881	13,276	16,718	20,180	23,700	27,233
	4	2.2	1.2	17,683	23,450	29,160	34,858	40,555	46,160
	7	3.8	3.7	23,595	31,143	38,593	46,021	53,319	60,547
	9	4.9	5.9	26,252	34,569	42,822	50,982	59,000	66,940
	12	6.5	10.2	29,399	38,652	47,792	56,837	65,745	74,481
	14	7.6	13.7	31,102	40,810	50,515	59,964	69,275	78,529
	16	8.6	17.7	32,560	42,700	52,800	62,624	72,287	81,852
	19	10.3	24.8	34,284	44,907	55,489	65,734	75,906	85,745
R134a	2	1.1	0.3	9,842	13,217	16,639	20,099	23,583	27,092
	4	2.2	1.2	17,516	23,223	28,873	34,495	40,144	45,657
	7	3.8	3.7	23,285	30,678	38,021	45,296	52,455	59,637
	9	4.9	5.9	25,821	34,008	42,042	50,093	58,024	65,782
	12	6.5	10.2	28,827	37,857	46,889	55,740	64,432	72,998
	14	7.6	13.7	30,451	39,999	49,397	58,764	67,818	76,828
	16	8.6	17.7	31,851	41,779	51,662	61,236	70,744	80,015
	19	10.3	24.8	33,474	43,977	54,149	64,203	74,121	83,852

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE300Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	2	1.1	0.3	9,881	13,276	16,718	20,180	23,700	27,233
	4	2.2	1.2	17,683	23,450	29,160	34,858	40,555	46,160
	7	3.8	3.7	23,595	31,143	38,593	46,021	53,319	60,547
	9	4.9	5.9	26,252	34,569	42,822	50,982	59,000	66,940
	12	6.5	10.2	29,399	38,652	47,792	56,837	65,745	74,481
	14	7.6	13.7	31,102	40,810	50,515	59,964	69,275	78,529
	16	8.6	17.7	32,560	42,700	52,800	62,624	72,287	81,852
	19	10.3	24.8	34,284	44,907	55,489	65,734	75,906	85,745
R134a	2	1.1	0.3	9,842	13,217	16,639	20,099	23,583	27,092
	4	2.2	1.2	17,516	23,223	28,873	34,495	40,144	45,657
	7	3.8	3.7	23,285	30,678	38,021	45,296	52,455	59,637
	9	4.9	5.9	25,821	34,008	42,042	50,093	58,024	65,782
	12	6.5	10.2	28,827	37,857	46,889	55,740	64,432	72,998
	14	7.6	13.7	30,451	39,999	49,397	58,764	67,818	76,828
	16	8.6	17.7	31,851	41,779	51,662	61,236	70,744	80,015
	19	10.3	24.8	33,474	43,977	54,149	64,203	74,121	83,852

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE300Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	2	1.0	0.2	12,025	16,140	20,318	24,537	28,803	33,068
	5	2.4	1.3	25,499	33,790	42,037	50,245	58,389	66,454
	7	3.4	2.5	31,051	41,095	51,015	60,847	70,592	80,197
	10	4.8	4.9	37,148	49,014	60,714	72,314	83,742	95,065
	13	6.2	7.9	41,737	55,015	68,117	80,990	93,717	106,222
	15	7.2	10.3	44,351	58,306	72,173	85,731	99,162	112,243
	18	8.6	14.5	47,447	62,398	77,110	91,550	105,731	119,706
	21	10.1	19.5	49,846	65,649	80,950	95,948	110,736	125,149
R134a	2	1.0	0.2	11,978	16,074	20,232	24,443	28,681	32,955
	5	2.4	1.3	25,252	33,474	41,620	49,745	57,833	65,816
	7	3.4	2.5	30,717	40,587	50,362	60,031	69,671	79,158
	10	4.8	4.9	36,596	48,293	59,814	71,187	82,404	93,549
	13	6.2	7.9	41,025	54,046	66,932	79,523	92,016	104,255
	15	7.2	10.3	43,475	57,273	70,734	84,071	97,249	110,145
	18	8.6	14.5	46,550	61,048	75,570	89,551	103,439	117,144
	21	10.1	19.5	48,868	64,163	79,088	93,900	108,287	122,493

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE500Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	3	1.1	0.3	17,553	23,568	29,627	35,758	41,932	48,159
	7	2.5	1.5	35,416	47,003	58,415	69,722	81,013	92,198
	10	3.6	3.0	43,387	57,320	71,176	84,832	98,328	111,654
	14	5.0	5.7	51,095	67,389	83,513	99,429	115,061	130,605
	17	6.1	8.1	55,796	73,470	90,961	108,076	125,173	141,925
	21	7.6	12.1	60,897	80,202	99,012	117,687	135,986	154,103
	24	8.6	15.5	64,288	84,335	104,058	123,435	142,650	161,531
	28	10.1	20.8	67,590	88,703	109,496	129,696	149,685	169,434
R134a	3	1.1	0.3	17,489	23,471	29,502	35,598	41,751	47,921
	7	2.5	1.5	35,094	46,510	57,834	69,036	80,193	91,268
	10	3.6	3.0	42,868	56,623	70,260	83,654	96,976	110,250
	14	5.0	5.7	50,304	66,330	82,158	97,834	113,217	128,539
	17	6.1	8.1	54,780	72,176	89,310	106,238	122,912	139,232
	21	7.6	12.1	59,765	78,624	97,144	115,275	133,352	151,025
	24	8.6	15.5	62,764	82,676	101,908	120,933	139,704	158,142
	28	10.1	20.8	66,098	86,783	107,170	126,997	146,452	165,513

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE750Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	6	1.1	0.2	32,692	43,910	55,222	66,664	78,250	89,825
	15	2.7	1.1	67,760	89,670	111,397	132,957	154,267	175,423
	20	3.6	1.9	78,679	104,025	128,980	153,732	178,006	202,187
	25	4.5	2.9	87,289	115,152	142,665	169,816	196,715	223,201
	35	6.3	5.3	100,862	132,722	164,005	195,188	225,625	255,711
	40	7.2	6.8	106,283	139,780	172,849	205,319	237,236	268,648
	50	9.0	10.3	115,389	151,416	186,991	221,704	255,994	289,729
	55	9.9	12.3	118,901	155,957	192,495	227,953	263,139	297,492
R134a	6	1.1	0.2	32,586	43,713	54,955	66,337	77,861	89,438
	15	2.7	1.1	66,954	88,609	110,089	131,343	152,428	173,290
	20	3.6	1.9	77,649	102,519	127,097	151,433	175,521	199,173
	25	4.5	2.9	86,066	113,410	140,395	167,034	193,550	219,415
	35	6.3	5.3	98,965	130,286	161,100	191,256	221,322	250,698
	40	7.2	6.8	104,358	137,164	169,520	201,131	232,572	263,181
	50	9.0	10.3	112,807	148,195	182,793	217,050	250,278	283,064
	55	9.9	12.3	116,483	152,617	188,104	222,994	257,299	291,094

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE500Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	6	1.1	0.2	35,733	47,951	60,270	72,771	85,317	98,009
	15	2.7	1.3	75,683	100,279	124,717	148,865	172,898	196,630
	20	3.6	2.1	89,115	117,864	146,283	174,426	202,223	229,855
	25	4.5	3.2	99,795	131,817	163,425	194,652	225,446	256,037
	35	6.3	5.8	116,687	153,776	190,351	226,269	261,817	296,789
	40	7.2	7.4	123,564	162,596	201,110	239,061	276,433	313,248
	50	9.0	11.2	134,919	177,171	218,789	259,780	299,698	339,368
	55	9.9	13.4	139,340	183,089	225,860	267,834	309,034	349,689
R134a	6	1.1	0.2	35,642	47,791	60,093	72,505	85,032	97,565
	15	2.7	1.3	75,006	99,276	123,379	147,388	171,074	194,648
	20	3.6	2.1	88,042	116,437	144,375	172,146	199,575	226,845
	25	4.5	3.2	98,505	129,954	161,057	191,827	222,117	252,245
	35	6.3	5.8	114,764	151,034	186,746	222,131	257,091	291,487
	40	7.2	7.4	121,211	159,702	197,287	234,386	271,203	307,053
	50	9.0	11.2	132,100	173,400	214,223	254,166	293,442	332,551
	55	9.9	13.4	136,409	178,989	220,930	261,858	302,263	342,107

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE1500Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	10	1.1	0.2	59,443	79,724	100,390	121,091	141,983	163,035
	20	2.2	0.7	108,691	144,352	179,918	215,058	250,327	285,087
	30	3.2	1.6	139,857	185,098	229,949	274,197	318,219	361,843
	50	5.4	4.0	177,387	238,515	295,419	351,932	407,224	462,215
	60	6.5	5.5	192,497	258,393	319,739	380,384	440,311	499,308
	70	7.6	7.2	205,333	275,546	340,657	404,814	468,005	530,234
	80	8.6	9.1	215,999	284,487	358,289	425,296	491,450	556,272
	90	9.7	11.4	225,423	296,035	372,782	442,295	510,499	577,904
R134a	10	1.1	0.2	59,253	79,444	99,983	120,548	141,394	162,273
	20	2.2	0.7	106,541	143,280	178,349	213,349	248,077	282,699
	30	3.2	1.6	136,084	180,158	227,192	270,949	314,317	357,516
	50	5.4	4.0	171,513	230,659	285,826	345,807	400,262	454,472
	60	6.5	5.5	185,506	249,240	308,602	367,122	432,314	490,002
	70	7.6	7.2	197,509	265,274	328,164	390,022	450,993	519,754
	80	8.6	9.1	207,977	278,586	344,313	409,218	472,865	544,954
	90	9.7	11.4	216,254	289,857	357,989	424,872	490,804	555,900

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE2505Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.2	0.2	111,688	149,475	187,559	225,894	264,518	303,197
	40	2.4	0.8	190,566	252,956	314,782	381,739	443,174	504,697
	60	3.6	1.8	238,010	314,791	390,624	465,263	539,651	623,128
	80	4.8	3.0	272,167	359,296	444,923	529,917	613,248	696,811
	110	6.6	5.3	304,512	409,949	507,452	603,502	698,065	790,982
	130	7.8	7.2	324,927	437,491	540,775	642,068	742,473	841,153
	150	9.0	9.4	341,786	460,251	568,242	673,994	778,670	881,125
	170	10.2	11.9	355,768	478,454	590,061	699,615	807,437	913,335
R134a	20	1.2	0.2	109,514	146,638	184,197	224,684	263,005	301,381
	40	2.4	0.8	185,445	250,305	311,332	372,034	432,146	491,775
	60	3.6	1.8	230,254	310,639	385,189	459,028	532,256	604,508
	80	4.8	3.0	262,307	346,361	437,652	521,034	603,503	685,011
	110	6.6	5.3	291,990	394,081	487,601	591,629	685,016	776,166
	130	7.8	7.2	310,953	419,775	518,088	616,132	727,053	823,608
	150	9.0	9.4	326,791	440,698	543,504	645,932	761,759	861,864
	170	10.2	11.9	339,465	457,115	564,398	668,636	789,582	892,840

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE2505Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.0	0.2	110,939	150,898	190,122	229,782	269,842	310,296
	50	2.5	1.0	237,818	315,191	391,963	468,126	544,361	619,141
	70	3.4	1.9	281,663	378,402	469,608	559,777	649,636	737,400
	100	4.9	3.6	332,735	446,714	553,390	657,772	762,423	865,135
	130	6.4	5.8	371,821	490,020	616,665	732,772	848,259	961,360
	150	7.4	7.5	393,644	518,438	651,734	774,697	895,071	1,014,083
	180	8.8	10.6	420,777	553,691	683,089	824,732	952,494	1,077,748
	200	9.8	12.9	435,018	571,626	706,580	852,886	983,780	1,112,941
R134a	20	1.0	0.2	110,574	148,571	187,321	226,505	266,270	306,160
	50	2.5	1.0	232,032	307,669	388,058	463,352	538,396	612,306
	70	3.4	1.9	273,522	367,919	456,735	544,248	640,724	727,026
	100	4.9	3.6	321,678	432,043	535,337	637,537	738,623	837,717
	130	6.4	5.8	358,390	472,469	595,080	708,046	819,012	928,455
	150	7.4	7.5	378,616	498,737	628,584	746,212	863,440	978,238
	180	8.8	10.6	395,572	531,751	668,619	793,585	916,974	1,038,770
	200	9.8	12.9	409,685	549,103	690,270	819,506	946,043	1,069,870

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE3006Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.1	0.2	120,835	162,104	203,696	245,789	288,180	330,517
	40	2.2	0.7	218,956	290,961	362,769	439,261	510,585	581,610
	70	3.8	1.9	307,288	406,377	504,428	601,681	697,173	793,047
	90	4.9	3.0	342,326	460,276	570,638	679,375	787,282	894,615
	120	6.5	4.9	390,228	524,650	648,879	772,598	893,505	1,013,858
	140	7.6	6.4	416,779	559,342	691,888	822,494	950,851	1,078,006
	160	8.6	8.1	438,819	577,788	727,684	864,310	999,230	1,131,385
	190	10.3	11.1	466,056	612,592	770,892	914,232	1,055,788	1,194,305
R134a	20	1.1	0.2	119,097	159,759	201,080	244,873	286,789	329,200
	40	2.2	0.7	217,296	288,769	359,701	430,349	500,516	569,966
	70	3.8	1.9	298,410	394,762	497,957	593,763	688,630	782,140
	90	4.9	3.0	337,584	445,095	552,315	669,343	775,516	880,220
	120	6.5	4.9	375,736	505,853	625,978	745,449	878,316	994,826
	140	7.6	6.4	400,606	538,699	665,751	791,507	916,425	1,057,105
	160	8.6	8.1	421,972	565,780	700,087	831,599	961,458	1,088,753
	190	10.3	11.1	446,591	598,714	739,682	877,502	1,013,672	1,146,974

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE3305Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.2	0.2	166,725	223,425	280,589	338,211	396,281	454,475
	60	2.3	0.8	290,309	389,155	484,081	578,936	672,433	765,602
	100	3.9	2.0	383,338	506,717	628,242	748,806	877,422	996,317
	130	5.0	3.3	426,400	570,277	706,421	841,125	973,903	1,116,807
	160	6.2	4.7	465,908	622,386	770,040	916,015	1,059,705	1,200,762
	200	7.7	7.1	508,952	669,609	839,185	996,448	1,152,024	1,304,826
	230	8.9	9.1	534,800	702,627	880,786	1,045,373	1,207,436	1,365,448
	260	10.0	11.5	555,838	730,785	914,239	1,084,678	1,252,486	1,416,837
R134a	30	1.2	0.2	164,312	220,192	279,159	336,369	394,282	452,255
	60	2.3	0.8	284,287	381,424	474,648	567,297	659,041	749,956
	100	3.9	2.0	368,122	493,354	612,320	738,134	855,199	971,826
	130	5.0	3.3	413,621	553,698	685,996	816,267	957,341	1,086,129
	160	6.2	4.7	450,535	602,713	745,690	887,396	1,026,927	1,178,380
	200	7.7	7.1	483,044	646,638	810,778	963,019	1,113,729	1,261,727
	230	8.9	9.1	507,812	678,208	849,605	1,009,094	1,166,240	1,320,391
	260	10.0	11.5	527,101	704,071	882,033	1,046,902	1,207,149	1,366,639

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE4005Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.1	0.2	166,126	222,991	280,503	338,568	397,150	456,162
	70	2.5	1.0	328,665	435,312	541,342	653,108	757,446	862,590
	100	3.6	1.9	393,690	526,090	653,391	778,646	902,859	1,035,063
	140	5.0	3.4	459,520	613,700	760,323	905,116	1,048,037	1,188,593
	170	6.1	4.9	498,866	657,195	823,928	980,604	1,133,751	1,286,395
	210	7.6	7.1	542,697	714,453	894,683	1,062,640	1,228,824	1,391,070
	240	8.6	9.1	562,623	749,273	938,197	1,113,305	1,286,147	1,455,601
	280	10.1	12.2	590,199	787,427	971,183	1,166,683	1,347,354	1,524,721
R134a	30	1.1	0.2	164,053	220,138	279,053	337,008	395,110	453,676
	70	2.5	1.0	321,521	426,512	535,934	639,978	743,017	845,630
	100	3.6	1.9	383,686	513,585	637,047	768,221	890,458	1,010,975
	140	5.0	3.4	446,680	589,099	739,065	879,592	1,018,110	1,168,493
	170	6.1	4.9	477,037	637,470	799,410	951,156	1,100,094	1,248,005
	210	7.6	7.1	517,640	690,733	865,430	1,029,140	1,189,563	1,347,856
	240	8.6	9.1	542,941	723,969	893,727	1,075,968	1,243,785	1,406,874
	280	10.1	12.2	569,968	759,600	936,662	1,126,332	1,300,469	1,470,976

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE4505Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.2	0.2	180,875	242,693	304,733	367,247	429,941	493,013
	60	2.3	0.9	320,992	430,394	535,887	640,452	744,193	847,559
	100	3.9	2.3	433,834	573,431	711,926	858,260	994,423	1,129,940
	130	5.0	3.6	487,434	652,387	808,749	963,066	1,127,717	1,280,812
	160	6.2	5.2	536,049	716,656	887,684	1,056,717	1,223,114	1,387,767
	200	7.7	7.7	589,345	787,635	973,374	1,157,851	1,338,133	1,516,367
	230	8.9	10.0	622,504	819,111	1,025,552	1,218,885	1,407,988	1,594,656
	260	10.0	12.6	649,586	853,292	1,068,410	1,268,757	1,464,382	1,657,572
R134a	30	1.2	0.2	178,875	241,630	303,533	365,598	428,132	490,760
	60	2.3	0.9	314,935	422,502	526,048	628,805	731,247	833,349
	100	3.9	2.3	423,263	559,324	702,702	837,805	971,232	1,103,875
	130	5.0	3.6	473,748	634,432	786,645	948,414	1,099,149	1,246,599
	160	6.2	5.2	520,081	695,171	861,642	1,025,129	1,201,257	1,363,154
	200	7.7	7.7	561,448	751,066	941,956	1,120,769	1,295,525	1,487,165
	230	8.9	10.0	592,190	790,763	990,508	1,178,072	1,361,209	1,541,163
	260	10.0	12.6	616,456	823,733	1,031,777	1,224,220	1,414,761	1,600,301

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE5005Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.1	0.2	180,553	242,401	304,837	367,536	431,058	494,785
	70	2.5	1.1	364,379	483,391	607,346	725,094	842,538	959,538
	100	3.6	2.1	449,133	594,419	737,685	879,715	1,030,113	1,170,394
	140	5.0	3.8	526,086	702,441	870,039	1,036,767	1,201,264	1,363,524
	170	6.1	5.3	574,611	767,524	950,584	1,130,541	1,309,101	1,484,253
	210	7.6	7.8	629,099	828,309	1,037,019	1,233,507	1,426,988	1,616,629
	240	8.6	9.9	662,819	871,835	1,091,961	1,296,900	1,498,828	1,697,672
	280	10.1	13.3	689,947	919,932	1,149,562	1,363,928	1,575,091	1,782,934
R134a	30	1.1	0.2	178,681	241,484	303,640	366,177	429,258	492,487
	70	2.5	1.1	357,400	479,100	595,947	712,286	827,826	942,204
	100	3.6	2.1	433,766	580,617	720,805	868,663	1,007,486	1,145,076
	140	5.0	3.8	511,355	683,359	847,243	1,009,074	1,181,933	1,341,812
	170	6.1	5.3	549,710	735,426	922,411	1,098,213	1,271,883	1,443,157
	210	7.6	7.8	600,868	802,621	1,005,319	1,194,880	1,383,141	1,566,973
	240	8.6	9.9	632,050	843,828	1,057,115	1,255,105	1,450,520	1,643,462
	280	10.1	13.3	666,261	888,159	1,095,933	1,318,565	1,523,101	1,723,642

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE6505Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	40	1.1	0.2	239,784	323,553	406,404	489,991	574,229	658,657
	90	2.5	0.8	468,294	625,836	778,665	930,144	1,081,625	1,230,809
	130	3.6	1.6	581,045	768,775	961,728	1,146,057	1,329,799	1,511,012
	180	5.0	2.9	677,292	903,164	1,119,406	1,333,120	1,556,270	1,767,041
	230	6.4	4.4	757,596	998,804	1,249,361	1,485,082	1,719,021	1,951,107
	270	7.5	5.8	802,552	1,068,447	1,333,417	1,585,911	1,834,541	2,078,714
	320	8.9	7.8	857,515	1,140,646	1,422,606	1,689,789	1,951,945	2,210,675
	360	10.0	9.7	894,406	1,186,779	1,465,060	1,755,595	2,027,579	2,293,609
R134a	40	1.1	0.2	237,690	320,768	402,952	485,809	569,616	653,095
	90	2.5	0.8	460,488	615,783	766,003	915,670	1,064,218	1,211,203
	130	3.6	1.6	563,825	752,681	934,678	1,123,030	1,303,019	1,481,170
	180	5.0	2.9	654,491	873,030	1,093,204	1,301,938	1,507,885	1,725,101
	230	6.4	4.4	730,516	972,708	1,215,478	1,446,274	1,675,724	1,898,442
	270	7.5	5.8	780,237	1,038,475	1,284,433	1,541,966	1,782,676	2,021,677
	320	8.9	7.8	822,099	1,094,246	1,367,182	1,639,229	1,894,332	2,144,882
	360	10.0	9.7	856,044	1,137,195	1,419,918	1,685,412	1,965,327	2,224,388

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE7505Z

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	50	1.2	0.2	301,398	403,266	505,923	608,748	712,715	816,374
	100	2.5	0.8	524,888	696,479	872,124	1,042,192	1,210,370	1,378,758
	150	3.7	1.8	660,758	880,421	1,092,779	1,302,647	1,511,868	1,728,322
	200	4.9	2.9	762,828	1,007,151	1,259,290	1,499,348	1,736,531	1,971,445
	250	6.1	4.2	838,373	1,114,908	1,381,416	1,657,361	1,917,327	2,174,479
	300	7.4	5.8	906,517	1,205,267	1,490,492	1,786,076	2,064,306	2,341,103
	350	8.6	7.6	963,324	1,278,503	1,581,701	1,877,920	2,187,953	2,477,061
	400	9.8	9.8	1,001,478	1,327,060	1,655,292	1,964,718	2,285,279	2,586,777
R134a	50	1.2	0.2	298,457	399,482	501,488	606,482	709,298	812,176
	100	2.5	0.8	513,177	685,620	853,869	1,026,428	1,192,308	1,357,626
	150	3.7	1.8	642,181	856,517	1,070,761	1,277,730	1,481,784	1,684,065
	200	4.9	2.9	739,353	984,581	1,220,540	1,465,307	1,697,828	1,927,187
	250	6.1	4.2	809,919	1,077,233	1,345,928	1,602,670	1,870,139	2,119,954
	300	7.4	5.8	874,036	1,161,709	1,450,027	1,723,078	1,993,775	2,278,680
	350	8.6	7.7	918,423	1,231,427	1,521,926	1,823,905	2,108,352	2,389,254
	400	9.8	9.8	960,412	1,276,705	1,591,485	1,906,185	2,200,962	2,492,697

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE100HPZ

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	100	1.2	0.2	548,968	741,774	930,243	1,119,941	1,310,849	1,502,125
	200	2.5	0.9	940,618	1,259,260	1,566,176	1,871,836	2,176,232	2,476,771
	300	3.7	1.9	1,173,801	1,552,726	1,943,894	2,318,371	2,687,780	3,053,367
	400	4.9	3.2	1,329,244	1,772,396	2,198,635	2,639,724	3,058,518	3,471,711
	500	6.1	4.8	1,464,196	1,950,178	2,416,733	2,874,008	3,352,853	3,802,351
	600	7.4	6.7	1,560,841	2,077,868	2,594,979	3,082,818	3,566,695	4,076,839
	700	8.6	8.9	1,653,116	2,196,213	2,742,754	3,258,565	3,763,267	4,261,324
	800	9.8	11.4	1,728,620	2,295,495	2,863,018	3,400,256	3,923,542	4,438,563
R134a	100	1.2	0.2	542,379	725,862	918,958	1,106,524	1,295,325	1,484,333
	200	2.5	0.9	913,412	1,223,967	1,537,669	1,837,346	2,136,032	2,430,622
	300	3.7	1.9	1,124,624	1,518,560	1,884,547	2,266,752	2,630,123	2,987,041
	400	4.9	3.2	1,280,867	1,711,729	2,142,710	2,552,465	2,956,632	3,384,888
	500	6.1	4.8	1,410,011	1,878,788	2,348,264	2,793,647	3,236,818	3,670,865
	600	7.4	6.7	1,499,766	2,016,802	2,493,410	2,995,179	3,465,250	3,927,280
	700	8.6	8.9	1,587,171	2,108,353	2,633,384	3,159,954	3,652,468	4,134,108
	800	9.8	11.4	1,655,356	2,201,360	2,747,149	3,260,652	3,800,481	4,299,180

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE120HPZ

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	100	1.1	0.2	549,337	737,025	932,120	1,124,027	1,317,387	1,511,392
	200	2.3	0.6	974,292	1,294,353	1,625,029	1,942,644	2,258,963	2,571,197
	300	3.4	1.3	1,221,293	1,628,972	2,022,826	2,431,312	2,820,848	3,204,677
	400	4.5	2.2	1,402,420	1,868,920	2,314,983	2,758,861	3,196,696	3,655,421
	600	6.8	4.4	1,655,405	2,201,228	2,746,230	3,267,450	3,778,509	4,286,097
	700	7.9	5.7	1,758,350	2,334,587	2,888,545	3,458,821	4,000,013	4,530,112
	800	9.0	7.3	1,844,709	2,449,614	3,025,128	3,621,400	4,182,659	4,734,505
	900	10.1	9.1	1,897,314	2,519,078	3,135,393	3,752,121	4,333,415	4,902,375
R134a	100	1.1	0.2	543,386	728,468	921,986	1,111,816	1,303,300	1,496,045
	200	2.3	0.6	949,187	1,272,053	1,584,165	1,908,923	2,221,425	2,529,406
	300	3.4	1.3	1,182,296	1,581,737	1,980,794	2,362,739	2,741,379	3,138,527
	400	4.5	2.2	1,356,267	1,809,069	2,243,208	2,695,358	3,122,693	3,544,131
	600	6.8	4.4	1,594,088	2,121,157	2,648,022	3,151,024	3,677,470	4,168,765
	700	7.9	5.7	1,674,055	2,249,460	2,805,513	3,332,319	3,854,727	4,402,597
	800	9.0	7.3	1,754,942	2,352,445	2,907,922	3,484,430	4,026,676	4,596,679
	900	10.1	9.1	1,819,685	2,415,763	3,009,908	3,606,568	4,167,000	4,717,272

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Alfa Laval Standard MSE-MP high pump-down capacity marine condenser

Shell-and-tube horizontal multiple-purpose water-cooled condenser

MSE-MP condensers offer all of the great feature of an MSE unit with a wider range of refrigerant selection. All models utilize corrosion resistant materials on the water side to ensure a greater operating life over epoxy coated steel versions. They are designed to work with standard and higher pressure refrigerants.

Standard Designs

MSE-MP condensers are available in standard designs for salt and fresh water duty. The models feature high-efficiency tube surfaces and they are available in 10 catalog models from 2 to 40 horsepower (HP). All units feature dual refrigerant outlets for shipboard use. For glycol duty please consult ProSuite or contact the factory.

Tube Materials

MSE-MP marine condensers are manufactured with enhanced 3/4" diameter 90/10 cupronickel tubing to provide reliable performance and ease of service from commonly available tube cleaning devices.

Customization

As standard these units offer horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client.

Features

Shells

ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes

90/10 Cupronickel high performance enhanced designed tubing is standard. 70/30 Cupronickel is available upon request.

Tube Sheets

All MSE units utilize ASME specification solid 90/10 cupronickel tube sheets as standard, which ensures an extended unit life compared to epoxy coated steel. Tube sheets can be epoxy coated for additional protection.

Tube Supports

Tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads

All MSE units utilize ASME specification naval brass water plates as standard, ensuring longer durability and service life over epoxy coated steel. As additional protection the inside of the heads can be epoxy coated. Custom connection versions are available.

Connections

All water side connections are FNPT. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations, sizes and locations are available.

Standard Refrigeration

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Working Pressures:
600 psi. Shell Side (Refrigerant) @ 150°F
150 psi. Tube Side (Water/Fluid) @ 150°F

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal horsepower by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow
Velocities of ten feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this shown on the dimension tables are limited to flow velocities below ten feet per second. Water flow rates for shallow water applications need to be below seven feet per second due to higher risk of premature impingement corrosion or tube failure, units should not be used without upstream filtration to lower failure risks.

Approved Refrigerants
R22, R134a, R404A, R410A & R507A. Units shorter than three feet in length R407C/R407F.

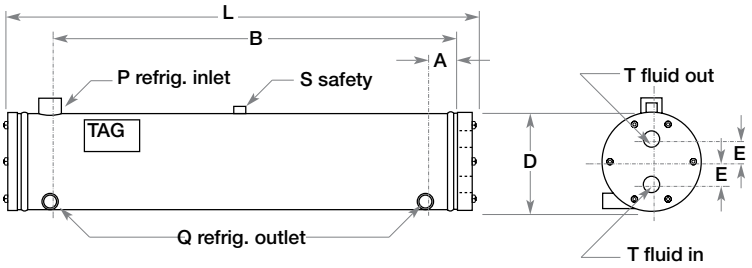
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. Units longer than three feet R407C/R407F, due to refrigerant separation. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Alternative Options
For greater pumpdown capacity use a custom MST unit or use MSE-MP in conjunction with HR-MP or UR-MP receiver tank.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

MSE200MP -MSE4005MP



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard MSE-MP high pump-down capacity marine condenser

Technical specifications

Models	R22 Nominal HP*	R134a Nominal HP*	R410a Nominal HP*	Dimensions (inches)					Connections (inches)			
				D	L	A	B	E	P (IDS)	Q (IDS)	S (FNPT)	T (FNPT)
MSE200MP	1.8	1.8	1.7	6	21.63	2.00	16.00	1.88	7/8	5/8	3/8	1/2
MSE500MP	4.2	3.9	4.0	6 5/8	22.00	2.06	15.94	1.00	1 1/8	5/8	3/8	3/4
MSE750MP	7.1	6.6	6.7	6 5/8	34.25	2.50	27.50	2.00	1 3/8	7/8	3/8	1 1/4
MSE1005MP	9.1	8.4	8.6	6 5/8	40.25	2.50	33.50	2.00	1 3/8	7/8	3/8	1 1/4
MSE1500MP	15.1	14.2	14.3	8 5/8	40.00	2.50	33.50	2.13	1 5/8	1 1/8	1/2	2
MSE2005MP	21.8	20.4	20.7	8 5/8	64.50	3.00	57.00	2.13	2 1/8	1 1/8	1/2	2
MSE2505MP	26.2	24.7	25.0	8 5/8	64.50	3.00	57.00	2.13	2 1/8	1 3/8	1/2	2
MSE3006MP	31.2	29.3	29.6	8 5/8	76.50	3.00	69.00	2.00	2 5/8	1 3/8	1/2	2
MSE3305MP	33.7	31.9	32.0	10 3/4	65.00	3.00	56.50	2.13	2 5/8	1 3/8	1/2	2 1/2
MSE4005MP	35.4	33.7	33.7	10 3/4	65.00	3.00	56.50	2.13	2 5/8	1 5/8	1/2	2 1/2

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
ProSuite software values are the most accurate
Tubing has high performance enhanced surface
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
HP = 15,000 Btu/hr

Standard Refrigeration

Models	Pumpdown Capacity (lbs.)			Water Flow (gpm)		Water Pressure Drop (psi)			Ship-ping Weight (lbs.)	Gaskets Article #		Endplates Article #	
	R22*	R134a*	R410a*	Min.	Max.	R22	R134a	R410a		Front	Rear	Front	Rear
MSE200MP	14.48	14.69	14.96	1.5	14.8	2.3	2.2	2.1	64	3163	3149	6436	300
MSE500MP	11.22	11.39	11.60	2.2	22.2	4.7	4.1	4.3	94	355	364	6386	337
MSE750MP	19.51	19.80	20.16	4.4	44.3	2.2	1.9	2.0	133	436	364	6281	4461
MSE1005MP	23.66	24.00	24.44	4.4	44.3	3.8	3.3	3.4	151	436	364	6281	4461
MSE1500MP	43.32	43.96	44.76	7.4	73.8	3.3	3.0	3.0	211	445	2584	5752	4104
MSE2005MP	77.57	78.71	80.15	13.3	123.9	2.1	1.9	1.9	300	1723	2953	5752	8287
MSE2505MP	69.80	70.82	72.11	16.2	162.4	2.4	2.1	2.2	311	1723	2953	5752	8287
MSE3006MP	88.86	90.16	91.82	14.8	147.7	3.2	2.9	2.9	340	1723	2953	5752	8287
MSE3305MP	124.16	125.97	128.28	20.7	206.7	2.1	1.9	1.9	397	1741	2984	6481	5114
MSE4005MP	120.24	121.99	124.23	22.2	221.5	2.1	1.9	1.9	402	1741	2984	6481	5114

*Pumpdown capacities are based upon 90% of the shell open volume
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Model MSE200MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	2	1.1	0.3	9,709	13,040	16,410	19,832	23,282	26,743
	4	2.2	1.2	17,344	23,002	28,609	34,179	39,759	45,277
	7	3.8	3.7	23,063	30,438	37,704	44,975	52,097	59,152
	9	4.9	5.9	25,595	33,712	41,838	49,766	57,593	65,369
	12	6.5	10.2	28,646	37,602	46,635	55,385	64,011	72,549
	14	7.6	13.7	30,257	39,759	49,165	58,427	67,488	76,443
	16	8.6	17.7	31,647	41,605	51,404	60,957	70,373	79,760
	19	10.3	24.8	33,298	43,785	53,925	63,997	73,850	83,486
R134a	2	1.1	0.3	9,670	12,989	16,337	19,733	23,164	26,599
	4	2.2	1.2	17,186	22,744	28,313	33,804	39,325	44,758
	7	3.8	3.7	22,734	29,988	37,132	44,274	51,293	58,225
	9	4.9	5.9	25,205	33,187	41,075	48,881	56,567	64,193
	12	6.5	10.2	28,112	36,928	45,678	54,323	62,793	71,191
	14	7.6	13.7	29,674	38,998	48,210	57,196	66,139	74,898
	16	8.6	17.7	30,956	40,672	50,244	59,633	68,889	77,991
	19	10.3	24.8	32,556	42,737	52,719	62,474	72,117	81,524
R404A	2	1.1	0.3	9,531	12,771	16,067	19,367	22,739	26,108
	4	2.2	1.2	16,691	22,080	27,451	32,716	37,972	43,194
	7	3.8	3.7	21,850	28,766	35,597	42,296	48,882	55,446
	9	4.9	5.9	24,091	31,653	39,100	46,420	53,639	60,730
	12	6.5	10.2	26,686	35,011	43,220	51,222	59,108	66,865
	14	7.6	13.7	28,171	36,819	45,355	53,845	62,038	70,171
	16	8.6	17.7	29,320	38,359	47,224	55,898	64,402	72,772
	19	10.3	24.8	30,655	40,151	49,408	58,402	67,271	75,925
R410A	2	1.1	0.3	9,618	12,926	16,255	19,618	23,006	26,471
	4	2.2	1.2	17,028	22,529	27,989	33,464	38,884	44,218
	7	3.8	3.7	22,438	29,515	36,603	43,552	50,409	57,200
	9	4.9	5.9	24,790	32,639	40,377	47,982	55,488	62,902
	12	6.5	10.2	27,641	36,266	44,752	53,137	61,356	69,486
	14	7.6	13.7	29,137	38,246	47,135	55,881	64,446	72,987
	16	8.6	17.7	30,384	39,842	49,092	58,189	67,221	75,896
	19	10.3	24.8	31,818	41,745	51,420	60,943	70,138	79,331

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE500MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	3	1.1	0.3	17,313	23,239	29,222	35,273	41,377	47,499
	7	2.5	1.5	34,846	46,150	57,402	68,563	79,573	90,600
	10	3.6	3.0	42,503	56,294	69,740	83,098	96,391	109,393
	14	5.0	5.7	49,992	65,968	81,663	97,272	112,552	127,735
	17	6.1	8.1	54,465	71,846	88,770	105,642	122,215	138,485
	21	7.6	12.1	59,498	78,318	96,687	114,814	132,807	150,272
	24	8.6	15.5	62,529	82,188	101,444	120,500	139,108	157,544
	28	10.1	20.8	65,844	86,557	106,728	126,484	145,947	164,868
R134a	3	1.1	0.3	17,247	23,149	29,094	35,119	41,194	47,296
	7	2.5	1.5	34,521	45,698	56,807	67,825	78,772	89,630
	10	3.6	3.0	42,026	55,515	68,821	82,004	95,137	108,010
	14	5.0	5.7	49,252	64,913	80,402	95,580	110,699	125,587
	17	6.1	8.1	53,564	70,547	87,256	103,697	120,041	135,938
	21	7.6	12.1	58,386	76,680	94,806	112,462	130,131	147,288
	24	8.6	15.5	61,346	80,438	99,478	118,045	136,249	154,224
	28	10.1	20.8	62,597	84,587	104,345	123,615	142,899	161,299
R404A	3	1.1	0.3	17,060	22,853	28,746	34,644	40,590	46,584
	7	2.5	1.5	33,636	44,470	55,130	65,744	76,254	86,641
	10	3.6	3.0	40,633	53,546	66,207	78,777	91,202	103,420
	14	5.0	5.7	47,243	62,146	76,716	91,098	105,273	119,233
	17	6.1	8.1	51,074	67,166	82,833	98,354	113,526	128,443
	21	7.6	12.1	55,378	72,675	89,619	106,083	122,321	138,453
	24	8.6	15.5	58,090	76,040	93,560	110,835	127,790	144,375
	28	10.1	20.8	57,041	77,465	95,298	115,860	133,463	150,760
R410A	3	1.1	0.3	17,187	23,060	28,974	34,961	40,988	47,021
	7	2.5	1.5	34,236	45,253	56,215	67,056	77,808	88,510
	10	3.6	3.0	41,525	54,783	67,843	80,792	93,565	106,107
	14	5.0	5.7	48,577	63,872	79,005	93,845	108,469	123,052
	17	6.1	8.1	52,791	69,344	85,580	101,667	117,416	132,851
	21	7.6	12.1	57,288	75,150	92,660	109,974	126,917	143,554
	24	8.6	15.5	60,215	78,877	97,118	115,177	132,779	150,046
	28	10.1	20.8	63,326	82,751	101,731	120,532	138,923	156,902

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE750MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	6	1.1	0.2	32,429	43,516	54,739	66,100	77,536	89,061
	15	2.7	1.1	66,969	88,627	110,082	131,401	152,572	173,364
	20	3.6	1.9	77,820	102,772	127,332	151,810	175,819	199,735
	25	4.5	2.9	86,266	113,694	140,916	167,746	194,086	220,291
	35	6.3	5.3	99,309	130,903	161,878	192,451	222,446	252,244
	40	7.2	6.8	104,898	137,784	170,327	202,157	233,879	264,635
	50	9.0	10.3	113,677	149,286	184,055	218,567	252,251	285,302
	55	9.9	12.3	117,197	153,741	189,457	224,781	259,162	293,114
R134a	6	1.1	0.2	32,272	43,322	54,471	65,746	77,124	88,588
	15	2.7	1.1	66,298	87,706	108,878	129,956	150,704	171,390
	20	3.6	1.9	76,696	101,303	125,561	149,551	173,339	196,736
	25	4.5	2.9	84,924	111,941	138,634	165,011	190,974	216,753
	35	6.3	5.3	97,645	128,460	158,768	188,722	218,266	247,386
	40	7.2	6.8	102,805	135,089	166,994	198,277	229,247	259,548
	50	9.0	10.3	111,253	146,060	179,932	213,608	246,637	279,132
	55	9.9	12.3	114,668	150,376	185,152	219,709	253,362	286,554
R404A	6	1.1	0.2	31,871	42,723	53,680	64,733	75,900	87,051
	15	2.7	1.1	64,320	84,965	105,285	125,371	145,166	164,945
	20	3.6	1.9	74,015	97,422	120,597	143,393	165,920	188,065
	25	4.5	2.9	81,484	107,025	132,365	157,216	181,633	205,881
	35	6.3	5.3	93,153	121,985	150,512	178,406	205,885	232,877
	40	7.2	6.8	97,784	128,047	157,645	186,740	215,614	243,535
	50	9.0	10.3	105,186	137,530	169,191	200,168	230,814	260,440
	55	9.9	12.3	108,166	141,161	173,812	205,478	236,257	266,959
R410A	6	1.1	0.2	32,131	43,134	54,247	65,409	76,708	88,052
	15	2.7	1.1	65,626	86,730	107,630	128,267	148,606	168,855
	20	3.6	1.9	75,891	99,929	123,700	147,239	170,355	193,315
	25	4.5	2.9	83,781	110,176	136,323	162,022	187,300	212,363
	35	6.3	5.3	95,941	126,112	155,588	184,809	213,187	241,527
	40	7.2	6.8	100,842	132,657	163,420	193,619	223,486	252,994
	50	9.0	10.3	108,951	142,702	175,736	208,177	240,092	271,190
	55	9.9	12.3	112,351	146,822	180,817	213,963	246,290	278,268

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE1005MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	6	1.1	0.2	35,527	47,633	59,951	72,307	84,791	97,359
	15	2.7	1.3	75,102	99,436	123,672	147,625	171,399	195,085
	20	3.6	2.1	88,278	116,846	144,994	172,754	200,276	227,669
	25	4.5	3.2	98,918	130,456	161,667	192,718	223,168	253,366
	35	6.3	5.8	115,450	152,049	188,178	223,638	258,942	293,492
	40	7.2	7.4	122,204	160,832	198,872	236,191	273,014	309,642
	50	9.0	11.2	133,180	175,115	216,041	256,637	296,265	335,269
	55	9.9	13.4	137,828	180,748	223,003	264,499	305,353	345,425
R134a	6	1.1	0.2	35,387	47,496	59,717	72,046	84,509	96,989
	15	2.7	1.3	74,377	98,480	122,434	146,163	169,719	192,865
	20	3.6	2.1	87,299	115,325	143,097	170,483	197,825	224,537
	25	4.5	3.2	97,523	128,626	159,332	189,933	219,838	249,587
	35	6.3	5.8	113,584	149,451	184,813	219,769	254,227	288,465
	40	7.2	7.4	120,103	157,815	195,103	231,821	268,122	303,599
	50	9.0	11.2	130,690	171,529	211,633	251,231	290,178	328,283
	55	9.9	13.4	135,005	177,024	218,198	258,942	298,638	337,951
R404A	6	1.1	0.2	35,031	46,926	59,010	71,126	83,350	95,588
	15	2.7	1.3	72,480	95,709	118,790	141,543	164,125	186,542
	20	3.6	2.1	84,492	111,321	137,850	163,956	189,949	215,550
	25	4.5	3.2	93,839	123,600	152,708	181,537	209,947	237,977
	35	6.3	5.8	108,306	142,258	175,561	208,315	240,644	272,331
	40	7.2	7.4	114,085	149,748	184,818	218,921	252,686	285,885
	50	9.0	11.2	123,676	162,042	199,278	235,732	271,948	307,380
	55	9.9	13.4	127,487	166,725	205,170	242,704	279,419	315,801
R410A	6	1.1	0.2	35,283	47,304	59,475	71,739	84,094	96,584
	15	2.7	1.3	73,737	97,557	121,075	144,400	167,588	190,490
	20	3.6	2.1	86,354	114,007	141,144	168,092	194,720	221,138
	25	4.5	3.2	96,205	126,869	156,892	186,722	215,997	244,985
	35	6.3	5.8	111,728	146,757	181,179	215,192	248,716	281,706
	40	7.2	7.4	118,000	154,878	191,086	226,745	261,706	296,260
	50	9.0	11.2	128,192	167,744	206,755	244,992	282,649	319,512
	55	9.9	13.4	132,073	172,998	212,991	252,430	290,677	328,662

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE1500MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	10	1.1	0.2	59,062	79,188	99,736	120,334	141,202	162,144
	20	2.2	0.7	107,919	143,268	178,483	213,509	248,348	283,158
	30	3.2	1.6	138,592	183,513	227,845	271,730	315,506	358,619
	50	5.4	4.0	175,648	235,992	292,486	347,883	402,885	457,172
	60	6.5	5.5	190,437	255,392	316,240	376,281	435,363	493,513
	70	7.6	7.2	202,820	272,394	336,833	400,072	462,633	524,458
	80	8.6	9.1	213,781	281,326	353,974	420,488	485,849	549,746
	90	9.7	11.4	222,861	292,457	368,077	437,146	504,442	571,032
R134a	10	1.1	0.2	58,875	78,970	99,332	119,878	140,519	161,395
	20	2.2	0.7	105,726	142,094	177,010	211,589	246,131	280,532
	30	3.2	1.6	134,926	178,595	225,120	268,526	311,390	354,026
	50	5.4	4.0	169,691	228,164	282,569	342,250	396,013	449,550
	60	6.5	5.5	183,555	246,388	305,285	363,245	427,055	484,458
	70	7.6	7.2	195,489	262,245	324,184	385,281	445,771	513,892
	80	8.6	9.1	205,115	275,646	340,079	404,059	466,973	538,584
	90	9.7	11.4	213,458	286,364	353,687	420,039	484,896	548,683
R404A	10	1.1	0.2	58,239	78,164	98,155	118,345	138,713	159,109
	20	2.2	0.7	103,456	137,097	172,702	206,374	239,519	272,730
	30	3.2	1.6	128,975	172,959	214,502	255,409	296,120	340,795
	50	5.4	4.0	163,071	218,273	269,796	320,602	370,786	420,225
	60	6.5	5.5	175,282	230,531	290,154	344,226	397,582	450,342
	70	7.6	7.2	185,998	244,070	306,811	364,044	420,050	475,803
	80	8.6	9.1	190,829	255,732	321,109	380,714	438,960	496,609
	90	9.7	11.4	197,896	265,166	326,540	394,332	454,804	513,763
R410A	10	1.1	0.2	58,677	78,787	98,998	119,492	140,067	160,688
	20	2.2	0.7	106,478	141,196	175,628	209,897	243,828	277,827
	30	3.2	1.6	133,716	179,481	222,695	265,346	307,410	349,259
	50	5.4	4.0	170,754	228,875	282,619	336,153	388,820	440,809
	60	6.5	5.5	184,371	246,834	305,008	361,855	418,357	474,150
	70	7.6	7.2	196,076	257,680	323,588	384,149	443,770	501,584
	80	8.6	9.1	205,977	270,209	339,212	402,180	464,159	524,871
	90	9.7	11.4	214,229	281,076	352,253	417,613	481,050	544,588

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE2005MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.2	0.2	111,201	148,822	186,829	225,087	263,460	301,888
	40	2.4	0.8	189,780	251,507	313,255	379,767	441,102	501,865
	60	3.6	1.8	236,609	312,757	388,312	462,555	536,314	619,450
	80	4.8	3.0	270,485	356,879	442,078	526,661	609,869	692,145
	110	6.6	5.3	302,929	407,485	504,192	599,409	693,384	786,279
	130	7.8	7.2	322,586	434,434	536,490	637,617	736,738	835,021
	150	9.0	9.4	339,831	456,716	563,764	669,529	773,066	874,914
	170	10.2	11.9	353,109	474,448	585,729	694,907	801,852	906,859
R134a	20	1.2	0.2	109,077	146,003	183,502	223,869	261,959	300,088
	40	2.4	0.8	184,449	249,101	309,835	370,059	430,108	489,565
	60	3.6	1.8	228,921	308,639	382,676	456,255	528,979	600,723
	80	4.8	3.0	260,715	344,071	435,021	518,142	599,471	680,444
	110	6.6	5.3	289,919	391,405	484,313	587,635	679,496	771,036
	130	7.8	7.2	308,414	416,476	514,736	611,711	722,133	817,654
	150	9.0	9.4	324,426	437,167	539,867	640,855	756,554	855,817
	170	10.2	11.9	337,367	453,663	559,770	663,926	783,820	886,205
R404A	20	1.2	0.2	107,688	144,139	180,610	217,484	254,409	291,437
	40	2.4	0.8	179,831	237,960	300,769	358,654	416,045	473,154
	60	3.6	1.8	221,152	291,856	361,340	437,920	506,618	575,099
	80	4.8	3.0	244,941	329,461	407,178	484,349	559,903	635,712
	110	6.6	5.3	276,799	372,290	459,265	544,725	629,266	712,642
	130	7.8	7.2	293,434	394,411	485,872	576,836	665,089	752,837
	150	9.0	9.4	307,185	403,220	508,229	602,271	693,995	785,117
	170	10.2	11.9	318,386	417,164	525,931	623,056	717,857	811,399
R410A	20	1.2	0.2	108,721	147,535	184,950	222,658	260,410	298,226
	40	2.4	0.8	186,546	247,183	306,940	366,434	425,409	483,917
	60	3.6	1.8	231,162	305,018	377,840	450,225	520,939	591,323
	80	4.8	3.0	262,803	346,131	427,996	508,984	588,779	667,524
	110	6.6	5.3	292,610	393,095	485,450	575,820	665,141	753,425
	130	7.8	7.2	311,207	418,079	515,032	611,169	705,362	798,050
	150	9.0	9.4	326,929	437,883	539,728	639,794	737,674	834,010
	170	10.2	11.9	338,953	454,495	559,135	662,589	762,986	862,613

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE2505MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.0	0.2	110,398	150,207	189,287	228,690	268,691	309,065
	50	2.5	1.0	236,740	313,649	390,058	465,988	541,356	615,962
	70	3.4	1.9	280,275	376,335	466,878	556,419	645,650	733,283
	100	4.9	3.6	330,501	443,701	549,113	653,531	757,486	859,156
	130	6.4	5.8	369,215	486,673	612,954	728,082	842,588	954,756
	150	7.4	7.5	390,937	514,684	647,181	769,366	889,037	1,006,752
	180	8.8	10.6	417,674	549,474	678,499	818,929	945,960	1,070,954
	200	9.8	12.9	432,475	567,942	701,760	846,086	976,982	1,104,326
R134a	20	1.0	0.2	110,034	147,986	186,524	225,611	265,099	304,945
	50	2.5	1.0	230,779	305,927	386,177	460,929	535,486	608,871
	70	3.4	1.9	272,063	365,590	453,776	541,027	636,814	723,210
	100	4.9	3.6	319,398	429,516	531,791	633,478	733,905	832,860
	130	6.4	5.8	356,590	469,040	591,089	703,106	813,846	921,914
	150	7.4	7.5	376,280	495,297	623,375	741,138	856,798	971,500
	180	8.8	10.6	393,082	527,506	664,151	788,070	910,469	1,030,889
	200	9.8	12.9	406,702	544,470	685,568	813,047	939,213	1,063,078
R404A	20	1.0	0.2	107,573	146,345	184,208	222,586	261,157	300,450
	50	2.5	1.0	221,408	297,506	369,356	440,629	511,230	581,252
	70	3.4	1.9	263,045	353,015	436,899	520,119	602,259	684,184
	100	4.9	3.6	306,766	403,723	508,188	603,228	697,530	790,765
	130	6.4	5.8	333,346	446,430	551,268	665,603	768,840	870,611
	150	7.4	7.5	350,985	469,772	579,413	687,592	806,923	913,168
	180	8.8	10.6	372,776	498,178	613,950	727,730	839,802	964,420
	200	9.8	12.9	384,666	514,254	632,711	748,942	863,999	993,056
R410A	20	1.0	0.2	109,690	147,674	186,046	224,847	264,036	303,596
	50	2.5	1.0	232,626	307,881	382,425	456,247	529,423	601,871
	70	3.4	1.9	273,803	366,992	454,873	541,404	626,709	711,727
	100	4.9	3.6	321,285	423,230	531,705	631,700	730,723	828,055
	130	6.4	5.8	356,974	470,386	580,830	699,617	808,451	915,718
	150	7.4	7.5	377,295	495,294	611,720	725,968	850,467	963,159
	180	8.8	10.6	401,834	527,244	649,649	770,388	888,799	1,020,409
	200	9.8	12.9	415,108	544,357	670,197	795,032	915,830	1,036,502

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE3006MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.1	0.2	120,522	161,613	203,316	245,172	287,197	329,711
	40	2.2	0.7	218,226	290,011	361,262	437,801	508,704	579,776
	70	3.8	1.9	305,939	404,351	501,910	599,065	694,429	789,236
	90	4.9	3.0	340,569	457,864	567,921	676,229	783,379	889,798
	120	6.5	4.9	388,093	521,796	645,730	768,348	888,640	1,008,148
	140	7.6	6.4	413,907	556,252	688,406	817,828	945,795	1,072,085
	160	8.6	8.1	436,922	574,110	723,892	859,872	993,532	1,125,073
	190	10.3	11.1	463,598	608,367	766,747	909,452	1,048,783	1,187,191
R134a	20	1.1	0.2	118,701	159,342	200,452	244,062	286,194	328,202
	40	2.2	0.7	213,495	287,625	358,312	428,862	498,614	568,144
	70	3.8	1.9	297,055	392,827	495,545	591,081	685,417	778,407
	90	4.9	3.0	335,657	443,229	549,299	666,107	771,690	875,836
	120	6.5	4.9	373,711	503,145	622,438	740,755	872,638	990,370
	140	7.6	6.4	398,416	535,251	662,423	787,309	911,395	1,051,059
	160	8.6	8.1	419,097	563,117	695,559	826,157	955,421	1,082,760
	190	10.3	11.1	443,978	595,775	735,453	872,626	1,007,847	1,141,414
R404A	20	1.1	0.2	117,648	157,752	198,169	238,936	280,035	321,232
	40	2.2	0.7	209,162	277,542	349,899	417,967	485,766	552,951
	70	3.8	1.9	282,430	379,477	469,957	559,803	648,440	735,934
	90	4.9	3.0	316,964	425,385	526,550	626,043	724,688	821,575
	120	6.5	4.9	357,744	470,446	592,539	703,190	813,207	920,841
	140	7.6	6.4	379,808	499,128	627,162	744,833	859,925	973,489
	160	8.6	8.1	397,922	522,180	657,246	778,969	898,689	1,017,115
	190	10.3	11.1	411,084	550,648	678,101	819,514	944,233	1,067,300
R410A	20	1.1	0.2	118,463	160,563	201,765	243,213	284,979	326,845
	40	2.2	0.7	215,483	285,922	355,691	425,234	494,538	563,237
	70	3.8	1.9	298,950	394,804	489,649	583,203	675,714	767,051
	90	4.9	3.0	332,012	444,961	551,130	655,280	758,743	860,048
	120	6.5	4.9	376,394	504,014	623,000	739,814	855,002	968,797
	140	7.6	6.4	400,602	526,492	661,687	785,330	907,322	1,026,346
	160	8.6	8.1	420,882	552,458	693,843	823,178	949,546	1,074,929
	190	10.3	11.1	445,055	584,134	733,289	867,944	1,000,545	1,131,055

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE3305MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.2	0.2	165,254	221,461	278,181	335,348	393,111	450,574
	60	2.3	0.8	287,510	385,617	479,404	572,935	665,614	757,429
	100	3.9	2.0	379,020	500,596	620,989	739,712	866,870	984,680
	130	5.0	3.3	420,869	562,553	697,320	829,752	961,212	1,102,786
	160	6.2	4.7	459,466	613,799	759,241	903,685	1,045,564	1,185,183
	200	7.7	7.1	501,903	659,928	826,968	982,989	1,135,598	1,286,197
	230	8.9	9.1	526,627	693,228	868,793	1,030,608	1,190,373	1,347,126
	260	10.0	11.5	548,350	720,882	900,741	1,069,150	1,234,622	1,396,192
R134a	30	1.2	0.2	163,038	218,323	277,007	333,745	390,873	448,358
	60	2.3	0.8	281,242	377,652	469,646	561,374	652,420	742,504
	100	3.9	2.0	363,642	487,468	604,115	729,210	845,023	959,341
	130	5.0	3.3	408,321	546,283	677,024	805,765	944,682	1,071,790
	160	6.2	4.7	444,596	594,805	735,650	875,890	1,012,812	1,162,868
	200	7.7	7.1	476,483	637,326	800,087	949,828	1,098,014	1,243,901
	230	8.9	9.1	500,686	668,073	838,172	993,686	1,149,930	1,301,109
	260	10.0	11.5	519,727	693,814	869,143	1,030,813	1,190,127	1,346,938
R404A	30	1.2	0.2	161,002	215,489	270,544	325,785	381,360	437,312
	60	2.3	0.8	274,500	363,277	451,496	544,144	631,993	718,500
	100	3.9	2.0	351,065	463,023	580,450	690,389	798,766	906,802
	130	5.0	3.3	386,021	515,538	645,670	767,662	887,048	1,005,989
	160	6.2	4.7	417,840	557,795	689,132	829,046	957,562	1,084,919
	200	7.7	7.1	453,264	603,643	744,409	883,584	1,032,678	1,168,501
	230	8.9	9.1	473,966	631,089	777,860	921,299	1,077,350	1,218,153
	260	10.0	11.5	483,743	644,336	804,643	952,814	1,097,883	1,256,823
R410A	30	1.2	0.2	162,399	219,643	275,702	332,215	388,652	445,699
	60	2.3	0.8	282,611	374,455	465,684	560,834	651,389	740,522
	100	3.9	2.0	365,091	487,101	603,598	718,461	830,994	944,205
	130	5.0	3.3	409,245	545,596	674,305	801,393	927,724	1,051,109
	160	6.2	4.7	445,181	585,672	731,621	869,106	1,003,804	1,137,540
	200	7.7	7.1	483,912	634,826	793,742	941,019	1,086,352	1,229,737
	230	8.9	9.1	506,682	665,347	830,687	984,686	1,135,697	1,283,321
	260	10.0	11.5	526,441	689,907	850,544	1,019,652	1,175,890	1,327,405

Tube side velocities below 2.0 ft/s have an increased risk of fouling
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Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MSE4005MP

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.1	0.2	164,644	221,136	278,238	335,796	393,613	452,410
	70	2.5	1.0	325,139	430,927	535,971	646,118	750,261	853,812
	100	3.6	1.9	388,915	520,067	645,410	769,372	891,848	1,023,261
	140	5.0	3.4	453,835	605,399	750,552	893,365	1,034,145	1,174,035
	170	6.1	4.9	492,313	648,850	813,469	967,492	1,118,351	1,268,442
	210	7.6	7.1	535,617	704,694	882,042	1,047,997	1,211,721	1,371,284
	240	8.6	9.1	553,396	738,756	924,018	1,097,707	1,266,962	1,434,629
	280	10.1	12.2	581,847	775,742	956,942	1,150,064	1,327,180	1,502,527
R134a	30	1.1	0.2	162,600	218,314	276,756	333,929	391,582	449,687
	70	2.5	1.0	318,134	421,856	530,048	633,082	735,236	835,912
	100	3.6	1.9	379,091	507,775	629,761	758,486	879,458	998,345
	140	5.0	3.4	440,738	581,279	728,725	868,302	1,005,663	1,153,760
	170	6.1	4.9	470,172	629,006	788,391	937,525	1,085,022	1,230,769
	210	7.6	7.1	510,704	680,875	854,089	1,013,944	1,172,021	1,327,649
	240	8.6	9.1	535,467	713,908	881,855	1,059,555	1,225,007	1,386,812
	280	10.1	12.2	561,989	747,968	923,555	1,110,394	1,281,676	1,449,314
R404A	30	1.1	0.2	159,065	215,473	270,996	326,702	382,858	439,724
	70	2.5	1.0	306,466	409,721	508,878	606,578	703,873	800,251
	100	3.6	1.9	366,399	483,416	605,447	720,492	833,830	946,631
	140	5.0	3.4	416,904	556,058	686,915	826,784	955,160	1,083,001
	170	6.1	4.9	449,277	599,025	739,650	877,939	1,014,954	1,162,049
	210	7.6	7.1	478,907	636,496	796,729	944,232	1,089,997	1,233,833
	240	8.6	9.1	499,839	664,846	830,517	984,369	1,135,247	1,284,161
	280	10.1	12.2	522,502	695,149	866,526	1,026,559	1,183,616	1,336,791
R410A	30	1.1	0.2	162,073	219,236	275,730	332,444	389,590	447,507
	70	2.5	1.0	319,526	422,812	524,968	626,281	726,495	826,471
	100	3.6	1.9	380,097	507,095	628,199	747,710	865,846	983,417
	140	5.0	3.4	440,567	580,025	726,286	862,022	997,660	1,130,552
	170	6.1	4.9	476,961	627,181	783,509	930,227	1,074,572	1,217,849
	210	7.6	7.1	509,565	677,572	836,697	1,004,023	1,158,623	1,311,051
	240	8.6	9.1	533,736	710,460	874,258	1,036,973	1,210,177	1,367,237
	280	10.1	12.2	559,112	742,279	915,465	1,084,375	1,262,868	1,428,598

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Alfa Laval Standard MST marine condenser

Shell-and-tube horizontal water-cooled condenser

MST condensers provide additional pumpdown capacity, eliminating the need for an external liquid receiver. All models utilize corrosion resistant materials on the water side to ensure a greater operating life over epoxy coated steel versions.

Standard Designs

MST condensers are available in standard designs for salt and fresh water duty. The models feature high-efficiency tube surfaces and they are available in 8 catalog models from 7.5 to 40 horsepower (HP). All units feature dual refrigerant outlets for shipboard use. For glycol duty please consult ProSuite or contact the factory.

Tube Materials

MST marine condensers are manufactured with enhanced 3/4" diameter 90/10 cupronickel tubing to provide reliable performance and ease of service from commonly available tube cleaning devices.

Customization

As standard these units offer horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client.

Features

Shells

ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes

90/10 Cupronickel high performance enhanced designed tubing is standard. 70/30 Cupronickel is available upon request.

Tube Sheets

All MSE units utilize ASME specification solid 90/10 cupronickel tube sheets as standard, which ensures an extended unit life compared to epoxy coated steel. Tube sheets can be epoxy coated for additional protection.

Tube Supports

Tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads

All MSE units utilize ASME specification naval brass water plates as standard, ensuring longer durability and service life over epoxy coated steel. As additional protection the inside of the heads can be epoxy coated. Custom connection versions are available.

Connections

All water side connections are FNPT. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations, sizes and locations are available.

Finish

Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Standard Refrigeration

Working Pressures:
400 psi. Shell Side (Refrigerant) @ 150°F
150 psi. Tube Side (Water/Fluid) @ 150°F

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates, multiply the nominal horsepower by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow
Velocities of ten feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this shown on the dimension tables are limited to flow velocities below ten feet per second. Water flow rates for shallow water applications need to be below seven feet per second due to higher risk of premature impingement corrosion or tube failure, units should not be used without upstream filtration to lower failure risks.

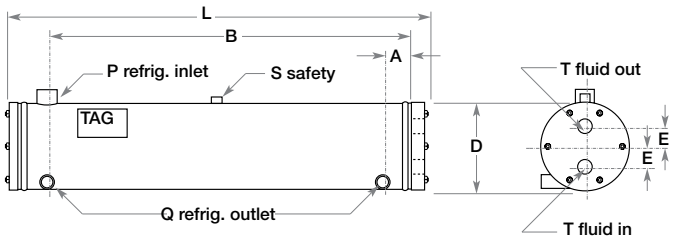
Approved Refrigerants
R22, R134a. Units shorter than three feet in length R407C/R407F.

Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. R404A, R410A & R507A due to recommended operating pressures. Units longer than three feet R407C/R407F, due to refrigerant separation. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

MST750 - MST4005



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard MST marine condenser

Technical specifications

Models	R22 Nominal HP*	R134a Nominal HP*	Dimensions (inches)					Connections (inches)			
			D	L	A	B	E	P (IDS)	Q (IDS)	S (FNPT)	T (FNPT)
MST750	7.1	6.9	8 5/8	34.25	2.50	21.50	1.50	1 3/8	7/8	3/8	3/4
MST1005	9.1	8.8	8 5/8	40.25	2.50	39.44	2.13	1 3/8	7/8	3/8	1 1/4
MST1500	15.1	14.2	10 3/4	40.00	2.50	45.44	2.13	1 5/8	1 1/8	1/2	1 1/4
MST2005	21.8	20.4	10 3/4	65.00	3.00	57.00	2.13	2 1/8	1 1/8	1/2	2 1/2
MST2505	26.2	24.7	10 3/4	65.00	3.00	57.00	2.13	2 1/8	1 3/8	1/2	2 1/2
MST3006	31.2	29.3	10 3/4	76.50	3.00	57.00	2.13	2 5/8	1 3/8	1/2	2 1/2
MST3305	33.7	31.9	12 3/4	65.00	3.25	57.00	2.13	2 5/8	1 3/8	1/2	2 1/2
MST4005	35.4	33.7	12 3/4	65.00	3.25	57.00	2.75	2 5/8	1 5/8	1/2	2 1/2

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
ProSuite software values are the most accurate
Tubing has high performance enhanced surface
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
HP = 15,000 Btu/hr

Models	Pumpdown Capacity (lbs.)		Water Flow (gpm)		Water Pressure Drop (psi)		Shipping Weight (lbs.)	Gaskets Article #		Endplates Article #	
	R22*	R134a*	Min.	Max.	R22	R134a		Front	Rear	Front	Rear
MST750	47	47	6.0	55.0	2.2	2.1	140	1723	2953	8375	8382
MST1005	56	57	6.0	55.0	3.8	3.6	154	1723	2953	8399	8401
MST1500	86	88	10.0	90.0	3.3	3.0	225	1741	2984	8425	8418
MST2005	150	152	20.0	170.0	2.1	1.9	298	1741	2984	6481	5114
MST2505	142	144	20.0	200	2.4	2.1	309	1741	2984	6481	5114
MST3006	204	207	20.0	190	3.2	2.9	330	1741	2984	6481	5114
MST3305	204	207	30.0	260	2.1	1.9	388	111	120	8449	8432
MST4005	200	203	30	280	2.1	1.9	393	111	120	8456	8463

*Pumpdown capacities are based upon 90% of the shell open volume
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Standard Refrigeration

Model MST750

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	6	1.1	0.2	32,429	43,516	54,739	66,100	77,536	89,061
	15	2.7	1.1	66,969	88,627	110,082	131,401	152,572	173,364
	20	3.6	1.9	77,820	102,772	127,332	151,810	175,819	199,735
	25	4.5	2.9	86,266	113,694	140,916	167,746	194,086	220,291
	35	6.3	5.3	99,309	130,903	161,878	192,451	222,446	252,244
	40	7.2	6.8	104,898	137,784	170,327	202,157	233,879	264,635
	50	9.0	10.3	113,677	149,286	184,055	218,567	252,251	285,302
	55	9.9	12.3	117,197	153,741	189,457	224,781	259,162	293,114
R134a	6	1.1	0.2	32,272	43,322	54,471	65,746	77,124	88,588
	15	2.7	1.1	66,298	87,706	108,878	129,956	150,704	171,390
	20	3.6	1.9	76,696	101,303	125,561	149,551	173,339	196,736
	25	4.5	2.9	84,924	111,941	138,634	165,011	190,974	216,753
	35	6.3	5.3	97,645	128,460	158,768	188,722	218,266	247,386
	40	7.2	6.8	102,805	135,089	166,994	198,277	229,247	259,548
	50	9.0	10.3	111,253	146,060	179,932	213,608	246,637	279,132
	55	9.9	12.3	114,668	150,376	185,152	219,709	253,362	286,554

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MST1005

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	6	1.1	0.2	35,527	47,633	59,951	72,307	84,791	97,359
	15	2.7	1.3	75,102	99,436	123,672	147,625	171,399	195,085
	20	3.6	2.1	88,278	116,846	144,994	172,754	200,276	227,669
	25	4.5	3.2	98,918	130,456	161,667	192,718	223,168	253,366
	35	6.3	5.8	115,450	152,049	188,178	223,638	258,942	293,492
	40	7.2	7.4	122,204	160,832	198,872	236,191	273,014	309,642
	50	9.0	11.2	133,180	175,115	216,041	256,637	296,265	335,269
	55	9.9	13.4	137,828	180,748	223,003	264,499	305,353	345,425
R134a	6	1.1	0.2	35,387	47,496	59,717	72,046	84,509	96,989
	15	2.7	1.3	74,377	98,480	122,434	146,163	169,719	192,865
	20	3.6	2.1	87,299	115,325	143,097	170,483	197,825	224,537
	25	4.5	3.2	97,523	128,626	159,332	189,933	219,838	249,587
	35	6.3	5.8	113,584	149,451	184,813	219,769	254,227	288,465
	40	7.2	7.4	120,103	157,815	195,103	231,821	268,122	303,599
	50	9.0	11.2	130,690	171,529	211,633	251,231	290,178	328,283
	55	9.9	13.4	135,005	177,024	218,198	258,942	298,638	337,951

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MST1500

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	10	1.1	0.2	59,062	79,188	99,736	120,334	141,202	162,144
	20	2.2	0.7	107,919	143,268	178,483	213,509	248,348	283,158
	30	3.2	1.6	138,592	183,513	227,845	271,730	315,506	358,619
	50	5.4	4.0	175,648	235,992	292,486	347,883	402,885	457,172
	60	6.5	5.5	190,437	255,392	316,240	376,281	435,363	493,513
	70	7.6	7.2	202,820	272,394	336,833	400,072	462,633	524,458
	80	8.6	9.1	213,781	281,326	353,974	420,488	485,849	549,746
	90	9.7	11.4	222,861	292,457	368,077	437,146	504,442	571,032
R134a	10	1.1	0.2	58,875	78,970	99,332	119,878	140,519	161,395
	20	2.2	0.7	105,726	142,094	177,010	211,589	246,131	280,532
	30	3.2	1.6	134,926	178,595	225,120	268,526	311,390	354,026
	50	5.4	4.0	169,691	228,164	282,569	342,250	396,013	449,550
	60	6.5	5.5	183,555	246,388	305,285	363,245	427,055	484,458
	70	7.6	7.2	195,489	262,245	324,184	385,281	445,771	513,892
	80	8.6	9.1	205,115	275,646	340,079	404,059	466,973	538,584
	90	9.7	11.4	213,458	286,364	353,687	420,039	484,896	548,683

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MST2005

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.2	0.2	111,201	148,822	186,829	225,087	263,460	301,888
	40	2.4	0.8	189,780	251,507	313,255	379,767	441,102	501,865
	60	3.6	1.8	236,609	312,757	388,312	462,555	536,314	619,450
	80	4.8	3.0	270,485	356,879	442,078	526,661	609,869	692,145
	110	6.6	5.3	302,929	407,485	504,192	599,409	693,384	786,279
	130	7.8	7.2	322,586	434,434	536,490	637,617	736,738	835,021
	150	9.0	9.4	339,831	456,716	563,764	669,529	773,066	874,914
	170	10.2	11.9	353,109	474,448	585,729	694,907	801,852	906,859
R134a	20	1.2	0.2	109,077	146,003	183,502	223,869	261,959	300,088
	40	2.4	0.8	184,449	249,101	309,835	370,059	430,108	489,565
	60	3.6	1.8	228,921	308,639	382,676	456,255	528,979	600,723
	80	4.8	3.0	260,715	344,071	435,021	518,142	599,471	680,444
	110	6.6	5.3	289,919	391,405	484,313	587,635	679,496	771,036
	130	7.8	7.2	308,414	416,476	514,736	611,711	722,133	817,654
	150	9.0	9.4	324,426	437,167	539,867	640,855	756,554	855,817
	170	10.2	11.9	337,367	453,663	559,770	663,926	783,820	886,205

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MST2505

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.0	0.2	110,398	150,207	189,287	228,690	268,691	309,065
	50	2.5	1.0	236,740	313,649	390,058	465,988	541,356	615,962
	70	3.4	1.9	280,275	376,335	466,878	556,419	645,650	733,283
	100	4.9	3.6	330,501	443,701	549,113	653,531	757,486	859,156
	130	6.4	5.8	369,215	486,673	612,954	728,082	842,588	954,756
	150	7.4	7.5	390,937	514,684	647,181	769,366	889,037	1,006,752
	180	8.8	10.6	417,674	549,474	678,499	818,929	945,960	1,070,954
	200	9.8	12.9	432,475	567,942	701,760	846,086	976,982	1,104,326
R134a	20	1.0	0.2	110,034	147,986	186,524	225,611	265,099	304,945
	50	2.5	1.0	230,779	305,927	386,177	460,929	535,486	608,871
	70	3.4	1.9	272,063	365,590	453,776	541,027	636,814	723,210
	100	4.9	3.6	319,398	429,516	531,791	633,478	733,905	832,860
	130	6.4	5.8	356,590	469,040	591,089	703,106	813,846	921,914
	150	7.4	7.5	376,280	495,297	623,375	741,138	856,798	971,500
	180	8.8	10.6	393,082	527,506	664,151	788,070	910,469	1,030,889
	200	9.8	12.9	406,702	544,470	685,568	813,047	939,213	1,063,078

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MST3006

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	20	1.1	0.2	120,522	161,613	203,316	245,172	287,197	329,711
	40	2.2	0.7	218,226	290,011	361,262	437,801	508,704	579,776
	70	3.8	1.9	305,939	404,351	501,910	599,065	694,429	789,236
	90	4.9	3.0	340,569	457,864	567,921	676,229	783,379	889,798
	120	6.5	4.9	388,093	521,796	645,730	768,348	888,640	1,008,148
	140	7.6	6.4	413,907	556,252	688,406	817,828	945,795	1,072,085
	160	8.6	8.1	436,922	574,110	723,892	859,872	993,532	1,125,073
	190	10.3	11.1	463,598	608,367	766,747	909,452	1,048,783	1,187,191
R134a	20	1.1	0.2	118,701	159,342	200,452	244,062	286,194	328,202
	40	2.2	0.7	213,495	287,625	358,312	428,862	498,614	568,144
	70	3.8	1.9	297,055	392,827	495,545	591,081	685,417	778,407
	90	4.9	3.0	335,657	443,229	549,299	666,107	771,690	875,836
	120	6.5	4.9	373,711	503,145	622,438	740,755	872,638	990,370
	140	7.6	6.4	398,416	535,251	662,423	787,309	911,395	1,051,059
	160	8.6	8.1	419,097	563,117	695,559	826,157	955,421	1,082,760
	190	10.3	11.1	443,978	595,775	735,453	872,626	1,007,847	1,141,414

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MST3305

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.2	0.2	165,254	221,461	278,181	335,348	393,111	450,574
	60	2.3	0.8	287,510	385,617	479,404	572,935	665,614	757,429
	100	3.9	2.0	379,020	500,596	620,989	739,712	866,870	984,680
	130	5.0	3.3	420,869	562,553	697,320	829,752	961,212	1,102,786
	160	6.2	4.7	459,466	613,799	759,241	903,685	1,045,564	1,185,183
	200	7.7	7.1	501,903	659,928	826,968	982,989	1,135,598	1,286,197
	230	8.9	9.1	526,627	693,228	868,793	1,030,608	1,190,373	1,347,126
	260	10.0	11.5	548,350	720,882	900,741	1,069,150	1,234,622	1,396,192
R134a	30	1.2	0.2	163,038	218,323	277,007	333,745	390,873	448,358
	60	2.3	0.8	281,242	377,652	469,646	561,374	652,420	742,504
	100	3.9	2.0	363,642	487,468	604,115	729,210	845,023	959,341
	130	5.0	3.3	408,321	546,283	677,024	805,765	944,682	1,071,790
	160	6.2	4.7	444,596	594,805	735,650	875,890	1,012,812	1,162,868
	200	7.7	7.1	476,483	637,326	800,087	949,828	1,098,014	1,243,901
	230	8.9	9.1	500,686	668,073	838,172	993,686	1,149,930	1,301,109
	260	10.0	11.5	519,727	693,814	869,143	1,030,813	1,190,127	1,346,938

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model MST4005

Refrigerant	Water Flow Rate (gpm)	Tube Side Velocity (ft/s)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
				15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	30	1.1	0.2	164,644	221,136	278,238	335,796	393,613	452,410
	70	2.5	1.0	325,139	430,927	535,971	646,118	750,261	853,812
	100	3.6	1.9	388,915	520,067	645,410	769,372	891,848	1,023,261
	140	5.0	3.4	453,835	605,399	750,552	893,365	1,034,145	1,174,035
	170	6.1	4.9	492,313	648,850	813,469	967,492	1,118,351	1,268,442
	210	7.6	7.1	535,617	704,694	882,042	1,047,997	1,211,721	1,371,284
	240	8.6	9.1	553,396	738,756	924,018	1,097,707	1,266,962	1,434,629
	280	10.1	12.2	581,847	775,742	956,942	1,150,064	1,327,180	1,502,527
R134a	30	1.1	0.2	162,600	218,314	276,756	333,929	391,582	449,687
	70	2.5	1.0	318,134	421,856	530,048	633,082	735,236	835,912
	100	3.6	1.9	379,091	507,775	629,761	758,486	879,458	998,345
	140	5.0	3.4	440,738	581,279	728,725	868,302	1,005,663	1,153,760
	170	6.1	4.9	470,172	629,006	788,391	937,525	1,085,022	1,230,769
	210	7.6	7.1	510,704	680,875	854,089	1,013,944	1,172,021	1,327,649
	240	8.6	9.1	535,467	713,908	881,855	1,059,555	1,225,007	1,386,812
	280	10.1	12.2	561,989	747,968	923,555	1,110,394	1,281,676	1,449,314

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

AlfaNova 27

Fusion-bonded plate heat exchangers

General information
AlfaNova is a plate heat exchanger made of 100% stainless steel. It is based on Alfa Laval's revolutionary technology, AlfaFusion, the art of joining stainless steel components together.

AlfaNova heat exchangers are well suited in applications which put high demand on cleanliness, applications where ammonia is used or applications where copper or nickel contamination is no accepted. Its high resistance to corrosion makes it both hygienic and environmental friendly.

It is extremely compact compared to its capacity to withstand great strains in demanding heat transfer applications.

Applications
Within refrigeration:
- Oil cooling
- Condensing
- Evaporating
- Economizing
- Desuperheating
- Absorption systems

Other main applications:
- Domestic hot water heating
- Process cooling
- Hydraulic oil cooling
- Laser cooling
- Hygienic/sanitary application
- Water/water cooling & heating

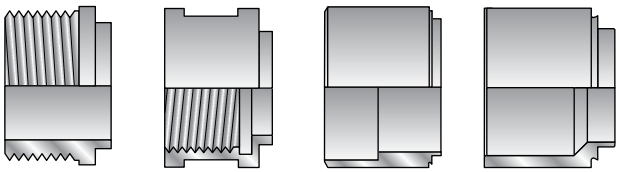
Working principles
The heating surface consists of thin corrugated metal plates stacked on top of each other. Channels are formed between the plates and corner ports are arranged so that the two media flow through alternate channels, always in countercurrent flow. The media are kept in the unit by a bonded seal around the edge of the plates. The contact points of the plates are also bonded to withstand the pressure of the media handled.

Standard design
The plate pack is covered by cover plates. Connections are located in the front or rear cover plate. The channel plates are corrugated to improve heat transfer design.

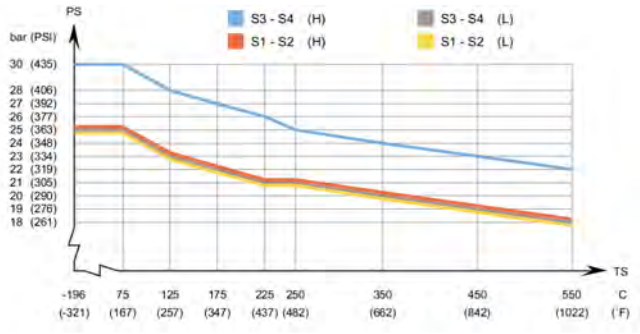
Particulars required for quotation
To enable Alfa Laval's representative to make a specific quotation, enquiries should be accompanied by the following particulars:

- Flow rates or heat load required
- Temperature program
- Physical properties of liquids in question
- Desired working pressure
- Maximum permitted pressure drop

Examples of connections

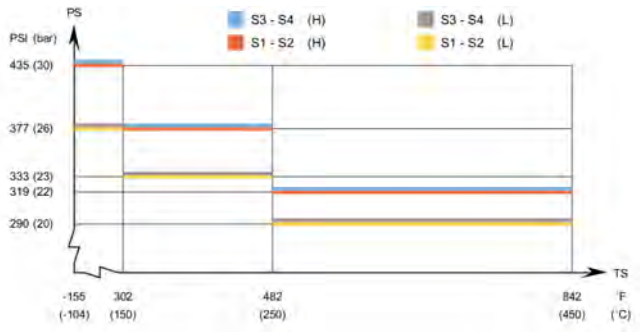


AlfaNova 27 – PED approval pressure/temperature graph [1)]

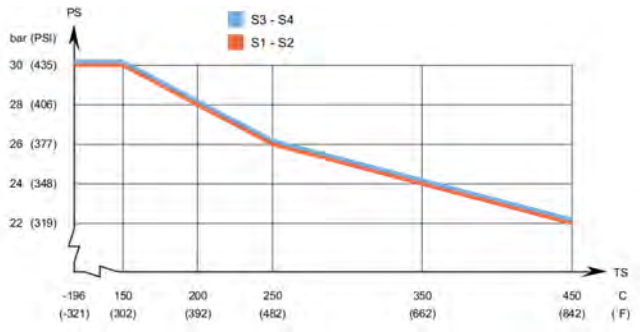


[1)] Min. temperature -10°C (14°F) with connection tube made of carbon steel.

AlfaNova 27 – ASME approval pressure/temperature graph [2)]



AlfaNova 27 – CRN approval pressure/temperature graph [2)]



[2)] Min temperature -49 ºF (-45 ºC) with connection tube made of carbon steel.

Standard data

Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel, litres (ga)	0.05 (0.013)
Max. particle size mm (inch)	1.2 (0.05)
Max. flowrate* m^3/h (gpm)	14 (61.6)
Min. nbr of plates	6
Max. nbr of plates	100

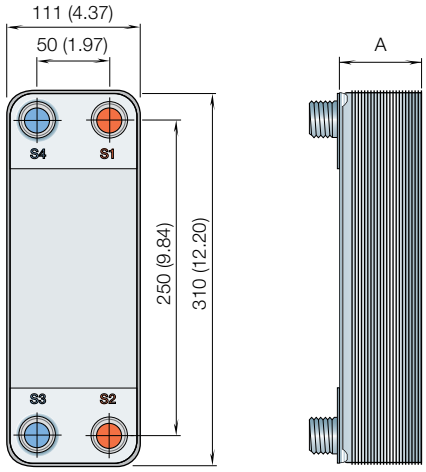
*) Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard dimensions *

A measure mm	=	11 + (2.42 * n) ±4.5 mm
A measure inch	=	0.43 + (0.1 * n) ±0.18 inch
Weight kg	=	1 + (0.13 * n)
Weight lb	=	2.2 + (0.29 * n)

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
AlfaFusion filler	Stainless steel



For exact values please contact your local Alfa Laval representative.

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

AlfaNova 52

Fusion-bonded plate heat exchanger

General information
AlfaNova is a plate heat exchanger made of 100% stainless steel. It is based on Alfa Laval's revolutionary technology, AlfaFusion, the art of joining stainless steel components together.

AlfaNova heat exchangers are well suited in applications which put high demand on cleanliness, applications where ammonia is used or applications where copper or nickel contamination is not accepted. Its high resistance to corrosion makes it both hygienic and environmental friendly.

It is extremely compact compared to its capacity to withstand great strains in demanding heat transfer applications.

Applications
Within refrigeration:
- Oil cooling
- Condensing
- Evaporating
- Economizing
- Desuperheating
- Absorption systems

Other main applications:
- Domestic hot water
- Process cooling
- Hydraulic oil cooling
- Laser cooling
- Hygienic/sanitary
- Water/water cooling & heating

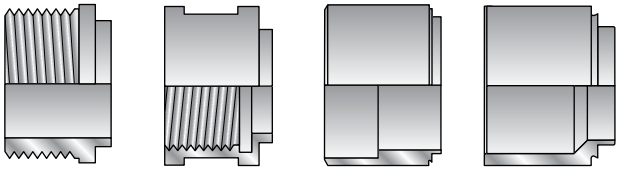
Working principles
The heating surface consists of thin corrugated metal plates stacked on top of each other. Channels are formed between the plates and corner ports are arranged so that the two media flow through alternate channels, always in countercurrent flow. The media are kept in the unit by a bonded seal around the edge of the plates. The contact points of the plates are also bonded to withstand the pressure of the media handled.

Standard design
The plate pack is covered by cover plates. Connections are located in the front or rear cover plate. The channel plates are corrugated to improve heat transfer design.

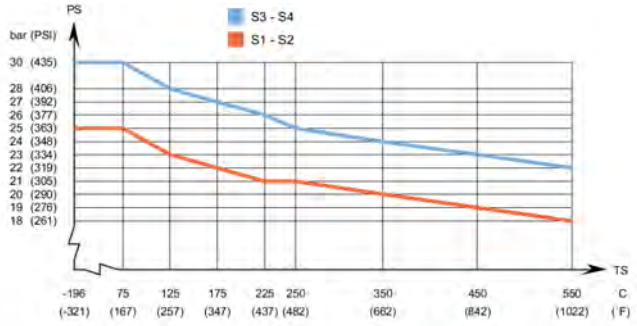
Particulars required for quotation
To enable Alfa Laval's representative to make a specific quotation, enquiries should be accompanied by the following particulars:

- Flow rates or heat load required
- Temperature program
- Physical properties of liquids in question
- Desired working pressure
- Maximum permitted pressure drop

Examples of connections

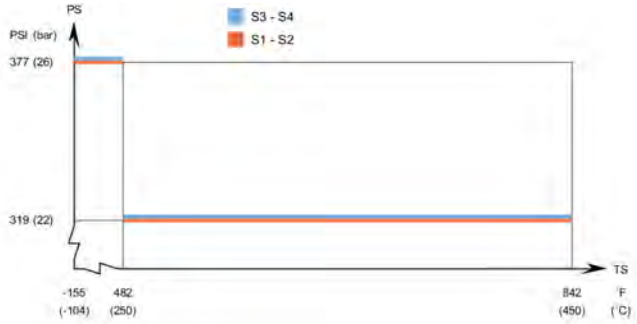


AlfaNova 52 – PED approval pressure/temperature graph [1)]

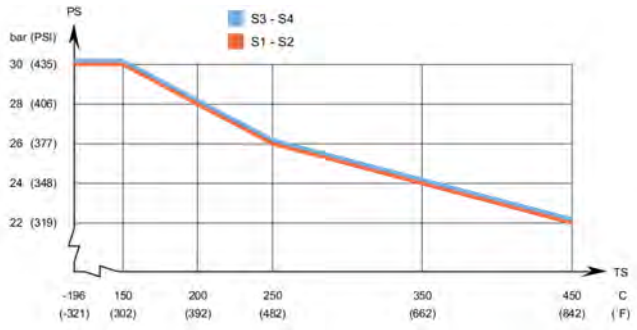


[1)] Min. temperature -10°C (14°F) with connection tube made of carbon steel.

AlfaNova 52 – ASME approval pressure/temperature graph [2)]



AlfaNova 52 – CRN approval pressure/temperature graph [2)]



[2)] Min. temperature -49°F (45°C) with connection tube made of carbon steel.

Standard data

Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel, litres (ga)	0.095 (0.025)
Max. particle size mm (inch)	1.2 (0.05)
Max. flowrate* m^3/h (gpm)	14 (61.6)
Min. nbr of plates	6
Max. nbr of plates	150

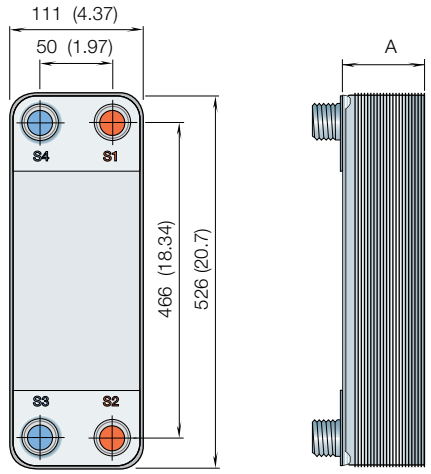
*) Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard dimensions *

A measure mm	=	11 + (2.48 * n) ±4.5 mm
A measure inch	=	0.43 + (0.1 * n) ±0.18 inch
Weight kg	=	1.9 + (0.22 * n)
Weight lb	=	4.19 + (0.49 * n)

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
AlfaFusion filler	Stainless steel



For exact values please contact your local Alfa Laval representative.

How to contact Alfa Laval
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AlfaNova HP 76

Fusion-bonded plate heat exchanger

General information
AlfaNova is a plate heat exchanger made of 100% stainless steel. It is based on Alfa Laval's revolutionary technology, AlfaFusion, the art of joining stainless steel components together.

AlfaNova heat exchangers are well suited in applications which put high demand on cleanliness, applications where ammonia is used or applications where copper or nickel contamination is not accepted. Its high resistance to corrosion makes it both hygienic and environmental friendly.

It is extremely compact compared to its capacity to withstand great strains in demanding heat transfer applications.

Applications
Within refrigeration:
- Oil cooling
- Condensing
- Evaporating
- Economizing
- Desuperheating
- Absorption systems

Other main applications:
- Domestic hot water heating
- Process cooling
- Hydraulic oil coolin
- Laser cooling
- Hygienic/sanitary
- Water/water cooling & heating

Working principles
The heating surface consists of thin corrugated metal plates stacked on top of each other. Channels are formed between the plates and corner ports are arranged so that the two media flow through alternate channels, always in countercurrent flow. The media are kept in the unit by a bonded seal around the edge of the plates. The contact points of the plates are also bonded to withstand the pressure of the media handled.

Standard design
The plate pack is covered by cover plates. Connections are located in the front or rear cover plate. The channel plates are corrugated to improve heat transfer design.

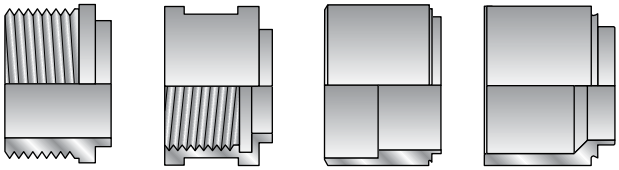
Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
AlfaFusion filler	Stainless steel

Particulars required for quotation
To enable Alfa Laval's representative to make a specific quotation, enquiries should be accompanied by the following particulars

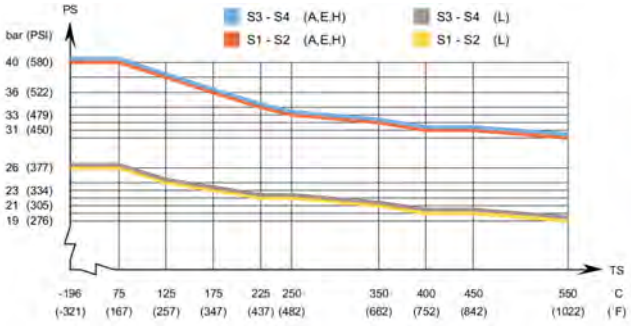
- Flow rates or heat load required
- Temperature program
- Physical properties of liquids in question
- Desired working pressure
- Maximum permitted pressure drop

Examples of connections



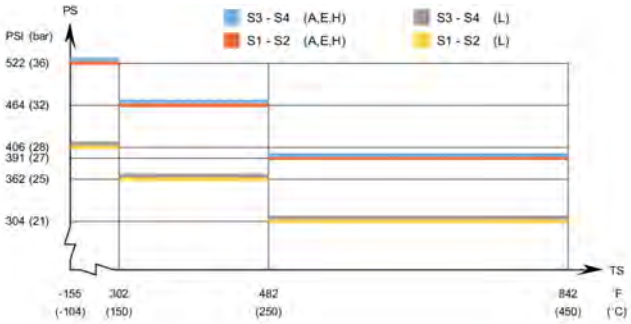
External threaded | Internal threaded | Soldering | Welding

AlfaNova HP 76 – PED approval pressure/temperature graph [1)]



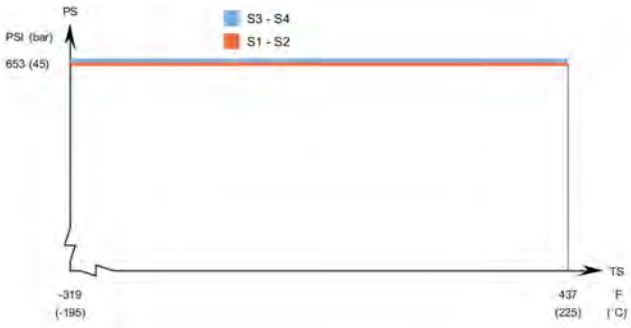
[1)] Min. temperature -10°C (14°F) with connection tube made of carbon steel.

AlfaNova HP 76 – ASME approval pressure/temperature graph [2)]

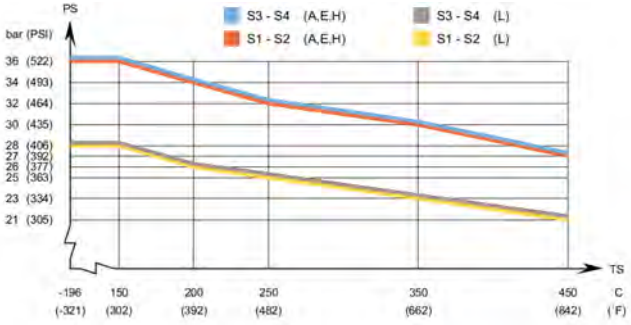


[2)] Min. temperature -49°F (14-45°C) with connection tube made of carbon steel.

AlfaNova HP 76 – UL approval pressure/temperature graph



AlfaNova HP 76 – CRN approval pressure/temperature graph



Standard data

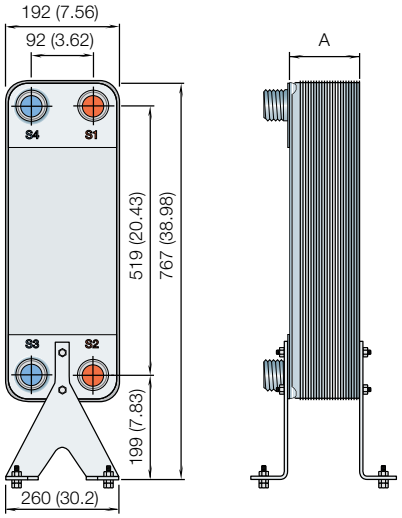
Min. working temperature		see graph
Max. working temperature		see graph
Min. working pressure		vacuum
Max. working pressure		see graph
Volume per channel A, litres (ga)	(S1, S2)	0.25 (0.065)
	(S3, S4)	0.18 (0.046)
Volume per channel H, L, litres (ga)		0.25 (0.065)
Volume per channel E, litres (ga)		0.18 (0.046)
Max. particle size mm (inch)		1.2 (0.05)
Max. flowrate* m^3/h (gpm)		37 (163)
Min. nbr of plates		10
Max. nbr of plates		150

*) Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard dimensions

H channel	A measure mm	=	15 + (2.85 * n) ±5 mm
	A measure inch	=	0.59 + (0.11 * n) ±0.2 inch
A channel	A measure mm	=	15 + (2.56 * n) ±5 mm
	A measure inch	=	0.59 + (0.1 * n) ±0.2 inch
E channel	A measure mm	=	15 + (2.29 * n) ±5 mm
	A measure inch	=	0.59 + (0.09 * n) ±0.2 inch
L channel	A measure mm	=	17 + (2.85 * n) ±5 mm
	A measure inch	=	0.67 + (0.11 * n) ±0.2 inch
H, A, E channels	Weight** kg	=	10 + (0.49 * n)
	Weight** lb	=	22.05 + (1.08 * n)
L channel	Weight** kg	=	10 + (0.42 * n)
	Weight** lb	=	22.05 + (0.93 * n)

(n = number of plates)
** Excluding connections



Marine approvals

AlfaNovaM HP 76 can be delivered with marine classification certificate (ABS, BV, CCS, Class NK, DNV, GL, LR, RINA, RMRS).

For exact values please contact your local Alfa Laval representative.

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

AlfaNova fusion-bonded PHE

Technical specifications

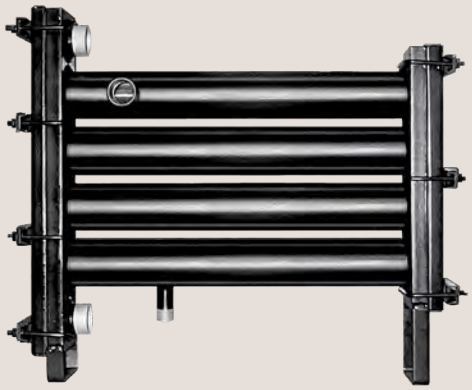
Catalog Model	Part Number	Nom HP R22	Nomnal HP R410A	Alfa Laval Model Number	Ref Inlet/ Outlet	Water Inlet/ outlet	Ship-ping Wt lbs	Depth D in	A in	B in	C in
Frame Size 12.3” H x 4.4” W											
CND-2M-AN*	3287000880	2		AN27-20H S52	1-1/8"	1-1/8"	9.6	2.30	0.95	1.97	9.4
CND-3M-AN*	3287000882	3		AN27-30H S52	1-1/8"	1-1/8"	12.4	3.30	0.95	1.97	9.4
CND-4M-AN*	3287000884	4		AN27-40H S52	1-1/8"	1-1/8"	15.3	4.20	0.95	1.97	9.4
CND-5M-AN*	3287000885	5		AN27-50H S52	1-1/8"	1-1/8"	17.1	5.20	0.95	1.97	9.4
CND-7M-AN*	3287000998	6		AN27-60H S52	1-1/8"	1-1/8"	20.0	6.20	0.95	1.97	9.4
CND-8M-AN*	3287000999	8		AN27-70H S52	1-1/8"	1-1/8"	22.8	7.10	0.95	1.97	9.4
CND-10M-AN*	3287001000	9		AN27-80H S52	1-1/8"	1-1/8"	25.7	8.10	0.95	1.97	9.4
Frame Size 20.7” H x 4.4” W											
CND-6L-AN*	3287000902	6		AN52-20H S52	1-1/8"	1-1/8"	14.2	2.40	0.95	1.97	18.35
CND-10L-AN*	3287000904	10		AN52-30H S52	1-1/8"	1-1/8"	19.0	3.30	0.95	1.97	18.35
CND-14L-AN*	3287000906	14		AN52-40H S52	1-1/8"	1-1/8"	23.9	4.30	0.95	1.97	18.35
CND-15L-AN*	3287000907	15		AN52-50H S52	1-1/8"	1-1/8"	28.7	5.20	0.95	1.97	18.35
CND-17L-AN*	3287001003	17		AN52-60H S52	1-1/8"	1-1/8"	34.5	6.30	0.95	1.97	18.35
CND-20L-AN*	3287001004	20		AN52-70H S52	1-1/8"	1-1/8"	39.2	7.30	0.95	1.97	18.35
CND-23L-AN*	3287001005	23		AN52-80H S52	1-1/8"	1-1/8"	44.0	8.24	0.95	1.97	18.35
CND-25L-AN*	3287001006	25		AN52-90H S52	1-1/8"	1-1/8"	48.8	9.22	0.95	1.97	18.35
Frame Size 24.3” H x 7.5” W											
CND-15XL-AN*	3287000916	12	15	AN HP76-30H W16 UL	2" weld	2" weld	60.0	3.80	1.57	3.62	20.43
CND-20XL-AN*	3287000917	15	20	AN HP76-40H W16 UL	2" weld	2" weld	63.1	4.80	1.57	3.62	20.43
CND-30XL-AN*	3287000918	20	25	AN HP76-50H W16 UL	2" weld	2" weld	81.3	6.00	1.57	3.62	20.43
CND-35XL-AN*	3287000919	25	30	AN HP76-60H W16 UL	2" weld	2" weld	84.5	7.10	1.57	3.62	20.43
CND-45XL-AN*	3287000921	35	45	AN HP76-80H W16 UL	2" weld	2" weld	110.,7	9.60	1.57	3.62	20.43
CND-50XL-AN*	3287000922	40	50	AN HP76-90H W16 UL	2" weld	2" weld	121.4	10.60	1.57	3.62	20.43
CND-60XL-AN*	3287000923	45	55	AN HP76-100H W16 UL	2" weld	2" weld	134.8	11.70	1.57	3.62	20.43

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Alfa Laval Standard ELT condenser

Tube-in-tube horizontal water-cooled condenser

ELT tube in tube condensers offer exceptional heat transfer with our smallest horizontal design, suitable for small mounting surface areas. They are designed to work with standard pressure refrigerants.



Standard Designs
ELT condensers are available in standard designs for water duty. The models feature high-efficiency tube surfaces and they are available in 7 catalog models from 1 to 10 horsepower (HP). For glycol duty please consult the factory.

Tube Materials
ELT condensers are manufactured with enhanced 3/4" diameter copper tubing to provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance enhanced designed tubing. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing. Tube sheets are epoxy coated to prevent pitting caused by galvanic action.

Heads
ASME specification precision machined steel heads. Custom connection versions are available. The inside of the heads are epoxy coated to prevent pitting caused by galvanic action.

Connections
All water side and refrigerant side connections are IDS.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Working Pressures:
380 psi. Shell Side (Refrigerant) @ 150°F
200 psi. Tube Side (Water/Fluid) @ 150°F

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal HP by 3.0. Water pressure drops provided do not include any external fittings or valves.

Standard Refrigeration

Water Flow
Water velocities of eight feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this catalog section are limited to flow velocities below eight feet per second.

Approved Refrigerants
R22 and R134a

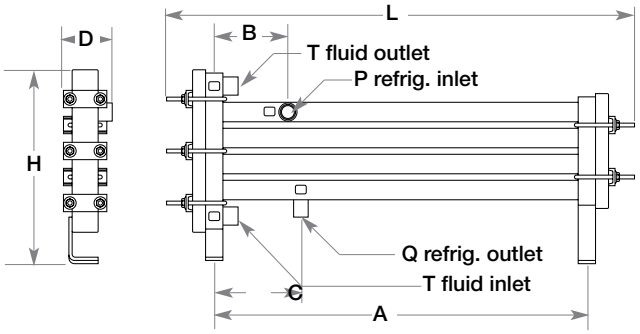
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. R404A, R410A & R507A due to recommended operating pressures.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

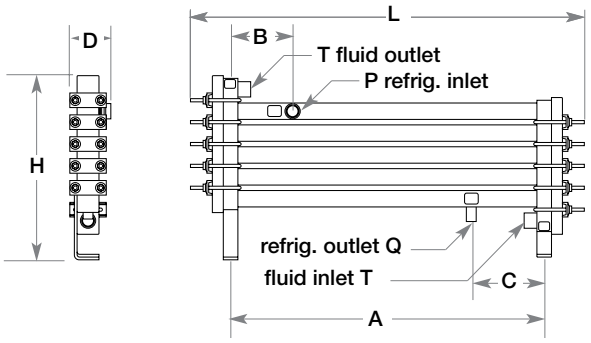
Alternative Options
ELS units are available for higher pressure refrigerants (ELS100, ELS150, ELS200, ELS500 & ELS800), please call the factory for further details. For clean water applications use a brazed CND-CB or for higher pressure refrigerants use a CND-ACH.

Codes
Units are UL stamped.

ELT 100A/ELT 150A/ ELT 300A
ELT 500A/ ELT 800A/ ELT 1000A



ELT 200A



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard ELT condenser

Technical specifications

Models	R22 Nominal HP*	R134a Nominal HP*	Dimensions (inches)					Connections (inches)			
			D	L	A	B	E	P (IDS)	Q (IDS)	S (IDs)	T (IDS)
ELT100A	1.0	1.0	3.13	21.50	11.00	16.5	-	-	5/8	1/2	3/4
ELT150A	1.5	1.5	2.94	27.00	11.00	21.5	4.25	5.00	7/8	1/2	7/8
ELT200A	2.0	2.0	2.94	27.00	12.63	21.5	4.25	5.00	7/8	1/2	7/8
ELT300A	3.0	3.0	4.25	26.94	17.75	21.5	4.25	6.00	7/8	5/8	1 3/8
ELT500A	5.0	5.0	4.25	26.94	17.75	21.5	4.25	6.00	7/8	7/8	1 3/8
ELT800A	8.0	8.0	5.25	27.44	22.25	21.5	4.25	6.00	1 3/8	7/8	1 3/8
ELT1000A	10.0	10.0	5.50	27.44	22.25	21.5	4.25	6.25	1 3/8	7/8	1 5/8

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
Tubing has high performance enhanced surface
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
HP = 15,000 Btu/hr

Models	Pumpdown Capacity (lbs.)		Water Flow (gpm)		Shipping Weight (lbs.)	Gaskets Article #		Endplates Article #	
	R22*	R134a*	Min.	Max.		Front	Rear	Front	Rear
ELT100A	0.7	6.7	1.3	1.3	21	5057	5064	3055	3073
ELT150A	0.7	6.7	3.0	3.0	23	5057	5064	3055	3073
ELT200A	0.7	6.7	6.4	6.4	27	5057	5057	3055	3055
ELT300A	1.3	13.4	4.3	4.3	48	2191	2209	3253	3271
ELT500A	2.0	20.1	5.5	5.5	50	2191	2209	3253	3271
ELT800A	3.4	33.5	5.1	5.1	85	2461	2470	3499	3482
ELT1000A	4.0	40.2	5.5	5.5	90	2461	2470	3499	3482

Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Standard Refrigeration

Model ELT100A

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	0.7	0.1	3,615	4,760	5,865	6,938	7,972	8,963
	1.0	0.2	5,022	6,609	8,138	9,622	11,049	12,414
	2.0	0.6	8,512	11,198	13,784	16,292	18,705	21,012
	3.0	1.3	11,228	14,775	18,195	21,514	24,711	27,773
	4.0	2.2	13,434	17,687	21,793	25,783	29,631	33,323
	5.0	3.3	15,267	20,122	24,808	29,367	33,771	38,003
	6.7	5.9	17,818	23,489	28,986	34,344	39,533	44,534

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model ELT150A

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	0.7	0.1	3,959	5,224	6,452	7,651	8,812	9,930
	1.0	0.2	5,559	7,329	9,045	10,716	12,331	13,886
	2.0	0.6	9,609	12,660	15,609	18,479	2,125	23,911
	3.0	1.4	12,827	16,889	20,838	24,681	28,373	31,932
	4.0	2.4	15,476	20,395	25,157	29,794	34,278	38,592
	5.0	3.6	17,710	23,347	28,809	34,134	39,288	44,254
	6.7	6.3	20,819	27,464	33,915	40,212	46,321	52,219

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model ELT200A

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	0.7	0.1	4,296	5,684	7,040	8,371	9,668	10,927
	1.0	0.2	6,109	8,073	9,989	11,864	13,689	15,455
	2.0	0.8	10,818	14,278	17,641	20,926	24,113	27,190
	3.0	1.7	14,658	19,341	23,889	28,328	32,634	36,790
	4.0	2.9	17,876	23,587	29,134	34,551	39,806	44,881
	5.0	4.5	20,622	27,216	33,624	39,884	45,961	51,834
	6.0	6.4	23,004	30,366	37,551	44,544	51,324	57,910
	6.7	7.9	24,494	32,339	39,973	47,439	54,696	61,721

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model ELT300A

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1.3	0.1	7,918	10,448	12,905	15,302	17,624	19,861
	2.0	0.2	11,118	14,659	18,090	21,432	24,663	27,772
	4.0	0.9	19,219	25,320	31,219	36,959	42,500	47,823
	6.0	2.0	25,655	33,799	41,677	49,342	56,747	63,864
	8.0	3.5	30,953	40,791	50,314	59,588	68,556	77,185
	10.0	5.3	35,420	46,694	57,619	68,268	78,576	88,509
	13.4	9.4	41,639	54,928	67,830	80,425	92,642	104,438

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model ELT500A

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	2.0	0.1	12,292	16,236	20,076	23,829	27,475	30,998
	4.0	0.4	22,003	29,022	35,830	42,468	48,895	55,086
	6.0	0.9	30,256	39,889	49,221	58,313	67,108	75,573
	8.0	1.6	37,390	49,287	60,811	72,037	82,897	93,349
	10.0	2.5	43,648	57,539	70,998	84,112	96,802	109,021
	12.0	3.6	49,201	64,868	80,055	94,858	109,190	122,999
	14.0	4.8	54,173	71,436	88,180	104,509	120,328	135,580
	16.0	6.2	58,658	77,368	95,525	113,241	130,415	146,988
	18.0	7.8	62,731	82,758	102,206	121,191	139,609	157,395
	20.0	9.6	66,449	87,683	108,316	128,470	148,033	166,941
	20.1	9.7	66,640	87,936	108,630	128,844	148,466	167,432

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model ELT800A

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	3.4	0.1	20,487	27,061	33,481	39,730	45,791	51,663
	5.0	0.2	28,906	38,146	47,153	55,902	64,369	72,556
	10.0	0.9	50,428	66,481	82,095	97,231	11,848	125,955
	15.0	2.0	66,215	89,234	110,182	130,487	150,099	169,032
	20.0	3.6	82,002	108,114	133,521	158,165	181,984	204,999
	25.0	5.5	94,119	124,165	153,345	181,709	209,153	235,698
	33.5	9.7	111,067	146,561	181,172	214,825	247,444	279,054

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model ELT1000A

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	4.0	0.1	24,585	32,473	40,177	47,676	54,949	61,995
	5.0	0.2	29,702	39,212	48,490	57,510	66,248	74,703
	10.0	0.7	52,579	69,330	85,628	101,432	116,698	131,437
	15.0	1.4	69,937	94,110	116,202	137,612	158,288	178,244
	20.0	2.5	87,296	115,078	142,100	168,297	193,604	218,042
	25.0	3.8	100,989	133,153	164,452	194,815	224,167	252,532
	30.0	5.5	112,943	149,015	184,014	218,051	250,984	282,838
	35.0	7.4	123,496	162,913	201,322	238,638	274,774	309,758
	40.2	9.7	133,281	175,873	217,406	257,790	296,933	334,865

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Alfa Laval Standard VSE condenser

Vertical shell and coil water-cooled condenser

VSE condensers utilize a sealed vertical shell and coil design, perfect for a small footprint location.

Standard Designs
VSE condensers are available in standard designs for water duty. The models feature high-efficiency tube surfaces and they are available in 11 catalog models from 0.5 to 20 horsepower (HP). They are optimized with a smaller footprint, which results in less space requirement and refrigerant charge. For glycol duty please contact the factory.

Tube Materials
VSE condensers are manufactured with enhanced 3/4" diameter copper tubing to provide heavy wall construction.

Customization
Custom vessels are available with special materials of construction as required by you or your client, please consult the factory for options.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance enhanced designed tubing.
Connections
All water side connections are FNPT. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Maximum Allowable Working Pressures:
350 psi. Shell Side (Refrigerant) @ 150°F
250 psi. Tube Side (Water/Fluid) @ 150°F
400 psi. Shell Side on Request

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal HP by 3.0. Water pressure drops provided do not include any external fittings or valves.

Standard Refrigeration

Water Flow
Water velocities of eight feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this catalog section are limited to flow velocities below eight feet per second.

Approved Refrigerants
R22, R134a, R407C & R407F.

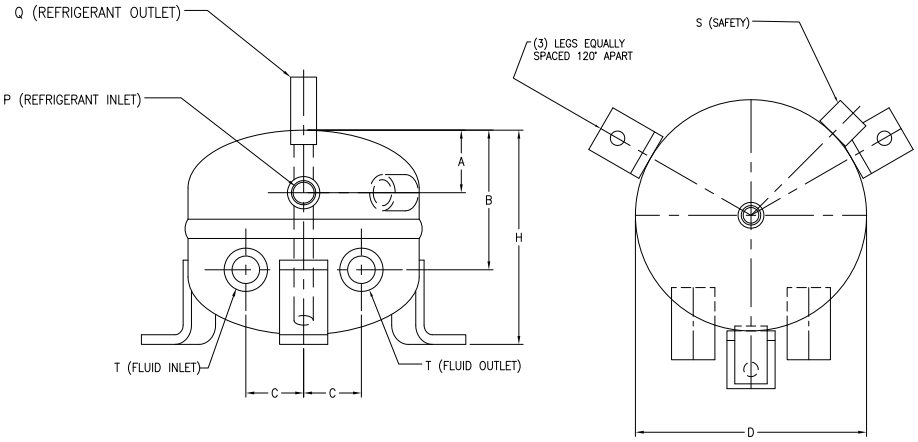
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. R404A, R410A & R507A due to recommended operating pressures. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

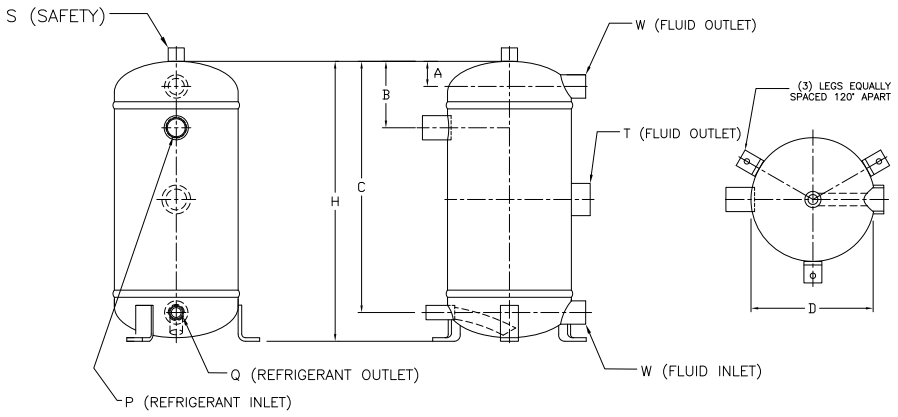
Alternative Options
For higher pressure refrigerants use HSE-MP units. For greater pumpdown capacity use SST units. For salt water applications use MSE or MST units. For clean water applications use a brazed CND-CB or for higher pressure refrigerants use a CND-ACH.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. For other code registrations please contact the factory.

VSE 1/2 - VSE2



VSE3-VSE20T



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard VSE condenser

Technical specifications

Models	R22 Nom. HP*	Dimensions (inches)					Connections (inches)				Pump-down Cap. R22+	Water Flow (GPM)		Water Pressure R22	Shipping (lbs)
		D	H	A	B	C	P (IDS)	Q (IDS)	S (FNPT)	T (FNPT)		Min.	Max.		
VSE1/2	0.5	6	5.00	1.25	3.25	1.50	1/2	1/2	3/8	1/2	3	0.4	3.7	0.6	10
VSE1	1.0	6	5.50	1.50	3.63	1.50	5/8	1/2	3/8	1/2	4	0.4	3.7	2.7	12
VSE1-1/2	1.5	8 5/8	6.38	2.00	4.38	2.00	5/8	1/2	3/8	3/4	10	0.6	5.9	3.4	28
VSE2	2.0	9 5/8	7.25	2.13	4.75	2.00	5/8	5/8	1/2	3/4	12	0.6	5.9	7.0	29
VSE3	3.0	6 5/8	13.00	1.63	4.38	11.13	7/8	5/8	3/8	-	10	1.2	12	3.3	26
VSE5	5.0	8 5/8	13.50	1.75	4.63	11.50	1 1/8	5/8	1/2	-	17	1.8	18	4.5	45
VSE7	8.0	10 3/4	16.25	2.63	6.50	13.38	1 3/8	7/8	1/2	-	33	2.4	24	5.6	83
VSE10	11.0	16	18.75	4.50	9.00	13.75	1 3/8	7/8	1/2	-	90	3.0	30	7.6	146
VSE10T	10.0	8 5/8	19.50	1.75	4.63	17.50	1 3/8	7/8	1/2	1 1/2	23	3.6	36	3.9	69
VSE15T	16.0	10 3/4	22.25	2.63	6.50	19.38	1 5/8	1 1/8	1/2	1 1/2	41	4.7	47	5.9	130
VSE20T	22.0	16	23.25	4.50	9.00	18.25	2 1/8	1 3/8	1/2	2	108	5.9	60	7.1	204

Custom and larger models are available, please contact your local sales representative
*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
Tubing has high performance enhanced surface
HP = 15,000 Btu/hr
+Pumpdown capacities are based upon 90% of the shell open volume
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge
No spare parts are available for the VSE line
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Standard Refrigeration

Model VSE 1/2

Refrigerant	Water Flow Rate (gpm)	Pressure (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	0.4	0.1	2,091	2,759	3,409	4,039	4,649	5,239
	0.5	0.1	2,642	3,484	4,303	5,097	5,864	6,605
	1.0	0.3	4,404	5,805	7,167	8,488	9,764	10,995
	1.5	0.6	5,713	7,534	9,307	11,027	12,691	14,300
	2.0	1.0	6,738	8,890	10,988	13,027	15,002	16,916
	2.5	1.5	7,566	9,988	12,352	14,654	16,887	19,054
	3.0	2.2	8,253	10,900	13,487	16,009	18,461	20,844
	3.5	2.9	8,833	11,672	14,449	17,160	19,799	22,368

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model VSE1

Refrigerant	Water Flow Rate (gpm)	Pressure (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	0.4	0.1	2,440	3,232	4,012	4,776	5,524	6,254
	0.5	0.1	3,142	4,160	5,159	6,137	7,092	8,023
	1.0	0.3	5,503	7,276	9,011	10,706	12,355	13,960
	1.5	0.7	7,358	9,726	12,042	14,303	16,504	18,645
	2.0	1.3	8,860	11,712	14,503	17,229	19,883	22,466
	2.5	1.9	10,105	13,360	16,548	19,663	22,699	25,657
	3.0	2.7	11,155	14,753	18,279	21,727	25,090	28,370
	3.5	3.6	12,056	15,947	19,765	23,502	27,150	30,710

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model VSE1-1/2

Refrigerant	Water Flow Rate (gpm)	Pressure (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	0.6	0.1	3,809	5,042	6,253	7,440	8,595	9,727
	1.0	0.2	5,958	7,878	9,758	11,594	13,381	15,119
	2.0	0.7	10,173	13,438	16,630	19,742	22,765	25,701
	3.0	1.6	13,364	17,655	21,849	25,939	29,915	33,779
	4.0	2.7	15,881	20,985	25,980	30,854	35,597	40,211
	5.0	4.2	17,924	23,694	29,345	34,866	40,245	45,484
	6.0	5.9	19,622	25,948	32,150	38,215	44,131	49,900

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model VSE2

Refrigerant	Water Flow Rate (gpm)	Pressure (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	0.6	0.1	4,047	5,370	6,677	7,964	9,229	10,470
	1.0	0.2	6,453	8,551	10,616	12,644	14,629	16,571
	2.0	0.9	11,354	15,024	18,625	22,150	25,590	28,946
	3.0	1.9	15,197	20,102	24,912	29,617	34,208	38,684
	4.0	3.2	18,295	24,201	29,993	35,661	41,193	46,589
	5.0	4.9	20,850	27,586	34,196	40,668	46,988	53,159
	6.0	7.0	22,998	30,435	37,737	44,892	51,885	58,718

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model VSE3

Refrigerant	Water Flow Rate (gpm)	Pressure (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1.2	0.1	7,468	9,881	12,246	14,558	16,812	19,005
	2.0	0.2	11,622	15,358	19,011	22,574	26,037	29,399
	3.0	0.4	15,971	21,093	26,096	30,969	35,699	40,288
	4.0	0.7	19,689	25,999	32,160	38,160	43,982	49,630
	5.0	1.1	22,915	30,258	37,430	44,415	54,495	57,774
	6.0	1.5	25,745	34,000	42,064	49,920	57,551	64,959
	7.0	2.0	28,254	37,319	46,178	54,814	63,207	71,360
	8.0	2.6	30,495	40,286	49,861	59,199	68,280	77,108
	9.0	3.3	32,511	42,959	53,181	63,156	72,862	82,305
	10.0	4.0	34,337	45,382	56,192	66,748	77,027	87,033
	11.0	4.8	36,000	47,589	58,938	70,026	80,831	91,355
	11.9	5.5	37,299	49,315	61,088	72,595	83,813	94,747

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model VSE5

Refrigerant	Water Flow Rate (gpm)	Pressure (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1.8	0.1	11,804	15,645	19,428	23,143	26,782	30,341
	2.0	0.1	13,117	17,380	21,574	25,691	29,720	33,658
	4.0	0.4	23,631	31,260	38,740	46,054	53,184	60,130
	6.0	0.8	32,298	42,701	52,888	62,838	72,527	81,956
	8.0	1.4	39,584	52,325	64,799	76,980	88,840	100,381
	10.0	2.1	45,807	60,552	74,992	89,094	102,831	116,203
	12.0	3.0	51,191	67,679	83,830	99,612	114,991	129,972
	14.0	4.0	55,902	73,921	91,580	108,844	125,679	142,088
	17.8	6.2	63,371	83,829	103,899	123,541	142,720	161,438

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model VSE7

Refrigerant	Water Flow Rate (gpm)	Pressure (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	2.4	0.1	16,350	21,706	27,001	32,223	37,362	42,411
	2.5	0.1	17,175	22,797	28,353	33,832	39,221	44,514
	5.0	0.4	31,698	41,997	52,133	62,083	71,826	81,355
	7.5	0.8	44,079	58,352	72,373	86,112	99,529	112,652
	10.0	1.4	54,745	72,444	89,817	106,827	123,439	139,650
	12.5	2.1	64,028	84,717	105,018	124,891	144,295	163,229
	15.0	3.0	72,185	95,507	118,394	140,799	162,678	184,031
	17.5	4.0	79,412	105,075	130,264	154,929	179,021	202,543
	20.0	5.1	85,863	113,623	140,877	167,573	193,660	219,141
	23.7	7.0	94,237	124,728	154,678	184,033	212,738	240,795

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model VSE10

Refrigerant	Water Flow Rate (gpm)	Pressure (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	3.0	0.1	20,731	27,541	34,284	40,948	47,519	53,988
	5.0	0.3	33,384	44,287	55,047	65,643	76,052	86,266
	7.5	0.6	47,307	62,691	77,840	92,723	107,307	121,584
	10.0	0.9	59,697	79,065	98,111	116,799	135,086	152,968
	12.5	1.4	70,781	93,713	116,248	138,343	159,951	181,066
	15.0	2.0	80,749	106,890	132,572	157,742	182,348	206,389
	17.5	2.7	89,760	118,809	147,343	17,535	202,640	229,345
	20.0	3.5	97,947	129,643	160,777	191,289	221,118	250,264
	22.5	4.4	105,418	139,537	173,052	205,903	238,024	269,416
	25.0	5.4	112,266	148,609	184,316	219,321	253,557	287,026
	27.5	6.5	118,567	156,962	194,692	231,689	267,884	303,279
	29.6	7.4	123,536	163,551	202,882	241,458	279,207	316,133

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model VSE10T

Refrigerant	Water Flow Rate (gpm)	Pressure (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	3.6	0.1	23,609	31,291	38,856	46,286	53,564	60,683
	5.0	0.1	31,905	42,248	52,413	62,376	72,113	81,618
	10.0	0.5	56,325	74,481	92,269	109,650	126,582	143,064
	15.0	1.1	75,746	100,128	123,999	147,309	170,005	192,090
	20.0	1.8	91,614	121,105	149,984	178,189	205,661	232,406
	25.0	2.8	104,853	138,631	171,722	204,061	235,580	266,287
	30.0	3.9	116,091	153,525	190,221	226,107	261,111	295,244
	35.6	5.4	126,743	167,659	207,798	247,083	285,440	322,876

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model VSE15T

Refrigerant	Water Flow Rate (gpm)	Pressure (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	4.7	0.1	32,701	43,413	54,002	64,446	74,724	84,822
	5.0	0.1	34,350	45,494	56,707	67,664	78,441	89,028
	10.0	0.3	63,397	83,995	104,266	124,167	143,652	162,711
	15.0	0.7	88,159	116,705	144,747	172,225	199,079	225,302
	20.0	1.3	109,490	144,889	179,634	213,655	246,879	279,300
	25.0	1.9	128,057	169,434	210,036	249,783	288,590	326,458
	30.0	2.7	144,371	191,015	236,787	281,599	325,356	386,063
	35.0	3.7	158,825	210,151	260,528	309,858	358,043	405,087
	40.0	4.7	171,727	227,247	281,754	335,147	387,321	438,282
	47.4	6.5	188,474	249,457	309,357	368,067	425,475	481,590

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model VSE20T

Refrigerant	Water Flow Rate (gpm)	Pressure (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	5.9	0.1	41,463	55,083	68,569	81,897	95,038	107,977
	10.0	0.2	66,769	88,574	110,094	131,287	152,105	172,532
	15.0	0.5	94,614	125,383	155,681	185,446	214,614	243,168
	20.0	0.9	119,395	158,130	196,223	233,598	270,173	305,936
	25.0	1.3	141,562	187,426	232,497	276,687	319,902	362,132
	30.0	1.9	161,498	213,781	265,143	315,484	364,697	412,778
	35.0	2.5	179,520	237,619	294,686	350,611	405,280	458,690
	40.0	3.3	195,894	259,287	321,555	382,578	442,236	500,528
	45.0	4.1	210,837	279,074	346,105	411,806	476,048	538,833
	50.0	5.0	224,533	297,219	368,632	438,643	507,115	574,052
	55.0	6.0	237,135	313,924	389,383	463,379	535,769	606,559
	59.3	6.9	247,072	327,103	405,764	482,916	558,415	632,266

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Alfa Laval Standard SCH/SCS condenser

Coaxial water-cooled condenser

SCH/SCS coaxial condensers offer a high efficiency counter flow design. Ideal for domestic heat pumps and water coolers.

Standard Designs
SCH/SCS condensers are available in standard designs for fresh and salt water duty. The models feature high-efficiency tube surfaces and they are available in 12 fresh water catalog models from 1/3 to 7 horsepower (HP) and 6 seawater catalog models from 1 to 5 HP.

Features

Shells
UL and CSA listed steel pipe.

Tubes
Available in both copper and 90/10 Cupronickel.

Connections
All connections are ODS.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Working Pressures:
450 psi. Outer Tube Side (Refrigerant) @ 150°F
350 psi. Inner Tube Side (Water/Fluid) @ 150°F

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal HP by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow - Copper
Velocities of eight feet per second or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this catalog section are limited to flow velocities below eight feet per second.

Water Flow - Cupronickel
Velocities of ten feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this shown on the dimension tables are limited to flow velocities below ten feet per second. Water flow rates for shallow water applications need to be below seven feet per second due to higher risk of premature impingement corrosion or tube failure, units should not be used without upstream filtration to lower failure risks.

Standard Refrigeration

Approved Refrigerants
R22 & R134a.

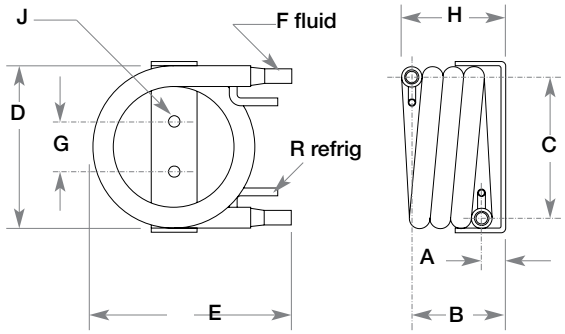
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper content. R404A, R410A & R507A due to recommended operating pressures.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

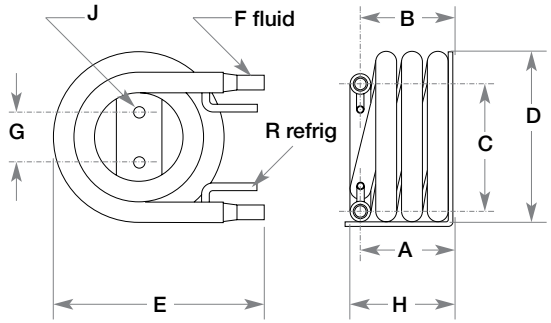
Alternative Options
For clean fresh water applications use a brazed CND-CB or for higher pressure refrigerants use a CND-ACH.

Codes
All units are built to meet UL code.

Helix SCH models



Spiral SCS models



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard SCH/SCS condenser

Technical specifications

Copper Tube Models

Models	R22 Nominal HP*	Dimensions (inches)								Connections (inches)		Shipping Weight (lbs)
		A	B	C	D	E	G	H	J	R (ODS)	F (ODS)	
SCH04	0.3	1.25	4.00	5.75	6.75	9.25	2.50	5.63	0.38	3/8	5/8	5
SCH06	0.5	1.31	5.06	5.75	6.75	9.25	2.50	5.63	0.38	3/8	5/8	8
SCH09	0.8	1.31	6.19	5.88	6.75	9.25	2.50	6.75	0.38	3/8	5/8	9
SCH12	1.0	1.41	7.28	5.88	6.75	9.25	2.50	7.94	0.38	3/8	5/8	12
SCH18	1.5	1.31	5.19	11.50	12.50	13.00	6.00	5.88	0.50	1/2	5/8	16
SCS24	2.0	4.75	3.38	10.00	12.75	14.00	6.00	5.50	0.50	1/2	3/4	25
SCS30	2.5	1.56	4.00	10.00	12.75	14.00	6.00	5.38	0.50	1/2	3/4	31
SCS36	3.0	5.00	4.75	11.25	14.50	15.38	6.00	6.50	0.50	5/8	7/8	35
SCS42	3.5	4.75	4.63	12.50	15.50	16.00	6.00	5.75	0.50	5/8	7/8	37
SCS48	4.0	6.00	5.13	14.50	17.75	18.50	6.00	6.88	0.50	7/8	1 1/8	55
SCS60	5.0	6.75	5.75	14.63	18.00	19.00	6.00	7.63	0.50	7/8	1 1/8	59
SCS84	7.0	8.13	6.00	15.50	20.50	22.50	6.00	9.63	0.50	7/8	1 3/8	75

*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
HP = 15,000 Btu/hr
No spare parts are available for the SCH/SCS product line
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

CN- 90/10 Cupronickel Models

Models	R22 Nominal HP*	Dimensions (inches)								Connections (inches)		Shipping Weight (lbs)
		A	B	C	D	E	G	H	J	R (ODS)	F (ODS)	
SCH12CN	1.0	1.41	7.28	5.88	6.75	9.25	2.50	7.94	0.38	3/8	5/8	12
SCH18CN	1.5	1.31	5.19	11.50	12.50	13.00	6.00	5.88	0.50	1/2	3/4	16
SCS24CN	2.0	4.75	3.38	10.00	12.75	14.00	6.00	5.50	0.50	1/2	3/4	25
SCS36CN	3.0	5.00	4.75	11.25	14.50	15.38	6.00	6.50	0.50	5/8	7/8	35
SCS48CN	4.0	6.00	5.13	14.50	17.75	18.50	6.00	6.88	0.50	7/8	1 1/8	55
SCS60CN	5.0	6.75	5.75	14.63	18.00	19.00	6.00	7.63	0.50	7/8	1 1/8	59

*Ratings are based on entering water 85°F, leaving water 95°F and saturated condensing temperature of 105°F with 5°F of subcooling
Nominal ratings: Include a additive fouling coefficient of 0.00025 as calculated per AHRI Standard 450-2007
HP = 15,000 Btu/hr
No spare parts are available for the SCH/SCS product line
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Standard Refrigeration

Model SCH04

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	0.5	0.2	3,023	4,029	5,037	6,043	-	-
	1.0	0.3	4,197	5,595	6,995	8,393	-	-
	1.5	0.5	4,738	6,316	7,896	9,475	-	-
	2.0	1.0	5,045	6,727	8,409	10,091	-	-
	2.5	1.5	5,243	6,991	8,739	10,486	-	-
	3.0	2.0	5,381	7,175	8,968	10,762	-	-
	3.5	2.8	5,483	7,310	9,136	10,965	-	-
	4.0	3.5	5,561	7,414	9,268	11,121	-	-
	4.5	4.0	5,622	7,496	9,370	11,244	-	-
	5.0	4.8	5,672	7,563	9,454	11,344	-	-

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model SCH06

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	0.5	0.2	3,279	4,372	5,465	6,558	-	-
	1.0	0.4	4,847	6,462	8,078	9,693	-	-
	1.5	1.0	5,622	7,495	9,369	11,243	-	-
	2.0	1.8	6,080	8,106	10,133	-	-	-
	2.5	2.8	6,375	8,500	10,626	-	-	-
	3.0	4.0	6,586	8,781	10,977	-	-	-
	3.5	5.4	6,741	8,988	11,235	-	-	-
	4.0	7.1	6,862	9,150	-	-	-	-
	4.5	9.0	6,960	9,280	-	-	-	-
	5.0	11.1	7,034	9,379	-	-	-	-

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model SCH09

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	0.5	0.1	3,579	4,771	5,964	7,157	-	-
	1.0	0.4	5,919	7,892	9,864	11,837	-	-
	1.5	0.8	7,270	9,693	12,117	14,540	-	-
	2.0	1.5	8,117	10,823	13,529	16,235	-	-
	2.5	2.3	8,697	11,596	14,495	-	-	-
	3.0	3.3	9,120	12,160	15,199	-	-	-
	3.5	4.5	9,438	12,584	15,730	-	-	-
	4.0	5.9	9,686	12,914	16,143	-	-	-
	4.5	7.5	9,879	13,172	16,465	-	-	-
	5.0	9.3	10,042	13,389	16,737	-	-	-

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model SCH12, SCH12CN

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	0.5	0.1	3,634	4,842	6,051	7,258	-	-
	1.0	0.5	6,558	8,744	10,930	13,116	-	-
	1.5	1.2	8,432	11,243	14,053	16,864	-	-
	2.0	2.1	9,693	12,925	16,156	19,387	-	-
	2.5	3.3	10,587	14,116	17,645	21,173	-	-
	3.0	4.7	11,243	14,991	18,738	22,486	-	-
	3.5	6.4	11,755	15,673	19,592	-	-	-
	4.0	8.3	1,216	16,213	20,266	-	-	-
	4.5	10.5	12,483	16,644	20,806	-	-	-
	5.0	13.0	12,751	17,001	21,251	-	-	-

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Non-CN Models - tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
CN Models - tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants, please call

Model SCH18, SCH18CN

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	0.5	0.1	3,709	4,936	6,162	7,387	-	-
	1.0	0.4	7,156	9,542	11,927	14,313	-	-
	1.5	0.9	9,835	13,113	16,392	19,670	-	-
	2.0	1.6	11,834	15,779	19,723	23,668	-	-
	2.5	2.5	13,355	17,807	22,259	26,711	-	-
	3.0	3.7	14,535	19,380	24,225	29,070	-	-
	3.5	5.0	15,470	20,626	25,783	30,940	-	-
	4.0	6.5	16,228	21,637	27,047	32,456	-	-
	4.5	8.2	16,857	22,476	28,095	33,714	-	-
	5.0	10.2	17,386	23,182	28,977	-	-	-

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Non-CN Models - tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
CN Models - tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants, please call

Model SCS24, SCS24CN

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1.0	0.1	7,238	9,649	12,060	14,470	-	-
	2.0	0.3	13,114	17,485	21,857	26,228	-	-
	4.0	1.3	19,382	25,842	32,303	38,764	-	-
	6.0	2.8	22,479	29,972	37,464	44,957	-	-
	8.0	5.1	24,310	32,414	40,517	-	-	-
	10.0	7.9	25,491	33,988	42,486	-	-	-

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Non-CN Models - tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
CN Models - tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants, please call

Model SCS30

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1.0	0.1	7,281	9,704	12,126	14,548	-	-
	2.0	0.5	13,863	18,485	23,106	27,727	-	-
	4.0	2.0	21,807	29,075	36,344	43,613	-	-
	6.0	4.4	26,057	34,742	43,428	52,113	-	-
	8.0	7.8	28,665	38,220	47,775	-	-	-
	10.0	12.2	30,390	40,520	50,650	-	-	-

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model SCS36, SCS36CN

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1.0	0.1	7,324	9,759	12,193	14,626	-	-
	2.0	0.2	14,314	19,085	23,856	28,627	-	-
	4.0	0.8	23,671	31,562	39,452	47,343	-	-
	6.0	1.8	29,075	38,767	48,459	58,151	-	-
	8.0	3.1	32,463	43,284	54,105	64,926	-	-
	10.0	4.9	34,780	46,374	57,967	-	-	-
	12.0	7.1	36,470	48,627	60,783	-	-	-
	14.0	9.6	37,750	50,334	62,917	-	-	-

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Non-CN Models - tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
CN Models - tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants, please call

Model SCS42

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1.0	0.1	7,366	9,813	12,259	14,704	-	-
	2.0	0.2	14,434	19,244	24,054	28,863	-	-
	4.0	0.8	25,127	33,503	41,878	50,254	-	-
	6.0	1.9	31,587	42,116	52,645	63,174	-	-
	8.0	3.4	35,829	47,772	59,715	71,658	-	-
	10.0	5.3	38,761	51,682	64,602	77,529	-	-
	12.0	7.6	40,888	54,517	68,147	-	-	-
	14.0	10.4	42,541	56,721	70,902	-	-	-

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Model SCS48, SCS48CN

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1.0	0.1	7,409	9,868	12,326	14,782	-	-
	2.0	0.1	14,477	19,299	24,120	28,941	-	-
	4.0	0.5	26,228	34,971	43,713	52,456	-	-
	6.0	1.2	33,720	44,960	56,200	67,440	-	-
	8.0	2.1	38,764	51,685	64,606	77,527	-	-
	10.0	3.3	42,334	56,446	70,557	84,669	-	-
	12.0	4.8	44,957	59,943	74,929	89,915	-	-
	14.0	6.5	47,004	62,672	78,340	-	-	-
	16.0	8.4	48,621	64,828	81,035	-	-	-
	18.0	10.7	49,915	66,553	83,191	-	-	-
	20.0	13.2	50,983	67,977	84,971	-	-	-

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Non-CN Models - tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
CN Models - tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants, please call

Model SCS60, SCS60CN

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	1.0	0.1	7,494	9,978	12,458	14,938	-	-
	2.0	0.1	14,562	19,408	24,253	29,097	-	-
	4.0	0.6	27,727	36,969	46,211	55,454	-	-
	6.0	1.3	36,994	49,325	61,657	73,988	-	-
	8.0	2.3	43,613	58,151	72,689	87,226	-	-
	10.0	3.6	48,457	64,610	80,762	96,914	-	-
	12.0	5.2	52,113	69,484	86,855	104,226	-	-
	14.0	7.1	55,015	73,354	91,692	110,030	-	-
	16.0	9.2	57,329	76,439	95,549	-	-	-
	18.0	11.7	59,223	78,964	98,705	-	-	-
	20.0	14.4	60,780	81,041	101,301	-	-	-

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Non-CN Models - tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
CN Models - tube side velocities above 10.0 ft/s have an increased risk of long term metal erosion
Shallow water applications, tube side velocities above 7.0 ft/s have an increased risk of long term metal errosion
For performance data with other refrigerants, please call

Model SCS84

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)					
			15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)	35 (Btu/hr)	40 (Btu/hr)
R22	6.0	0.3	38,865	51,820	64,775	77,730	-	-
	8.0	1.0	46,538	62,051	77,584	93,078	-	-
	10.0	1.5	52,311	59,748	87,185	104,622	-	-
	12.0	2.5	56,770	75,692	94,615	113,538	-	-
	14.0	3.5	60,301	80,401	100,501	120,601	-	-
	16.0	4.0	63,160	84,213	105,287	126,320	-	-
	18.0	5.0	65,519	87,359	109,199	131,038	-	-
	20.0	6.0	67,497	89,996	112,495	134,994	-	-
	22.0	7.0	69,178	92,237	115,297	138,358	-	-
	24.0	9.0	70,624	94,166	117,707	141,248	-	-
	26.0	10.0	71,861	95,841	119,801	143,762	-	-

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants, please call

Alfa Laval Standard AMC condenser

Shell-and-tube horizontal water-cooled condenser

AMC ammonia condensers provide a cost-effective solution.

Standard Designs
AMC condensers are available in standard designs for water duty. The models feature carbon steel tubes, tubesheets, shell, water plates and fittings, they are available in 7 catalog models.

Tube Materials
AMC ammonia condensers are manufactured with 3/4" diameter carbon steel tubing to provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Customization
As standard these units offer a horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client.

Features

Shells
ASME specification carbon steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Carbon steel tubing.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing. Tube sheets are epoxy coated to prevent pitting caused by galvanic action.

Tube Supports
Quality steel tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined carbon steel heads. Custom connection versions are available. The inside of the heads are epoxy coated to prevent pitting caused by galvanic action.

Connections
All water side connections are flanged. All refrigerant side connections are NOM. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Standard Refrigeration

Maximum Allowable Working Pressures:
350 psi. Shell Side (Refrigerant) @ 200°F
225 psi. Tube Side (Water/Fluid) @ 150°F

Operating Charge
Approximately 10% of the pumpdown capacity is required in the unit for proper operation.
Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal HP by 3.0. Water pressure drops provided do not include any external fittings or valves.

Water Flow
Water velocities of ten feet per second (ft/s) or higher risk premature impingement corrosion and tube failure. Operation below minimum flow rates may result in excessive fouling and poor heat transfer. All values in this catalog section are limited to flow velocities below eight feet per second.

Approved Refrigerants
Optimized for Ammonia (R717). Can also be used with R22, R134a.

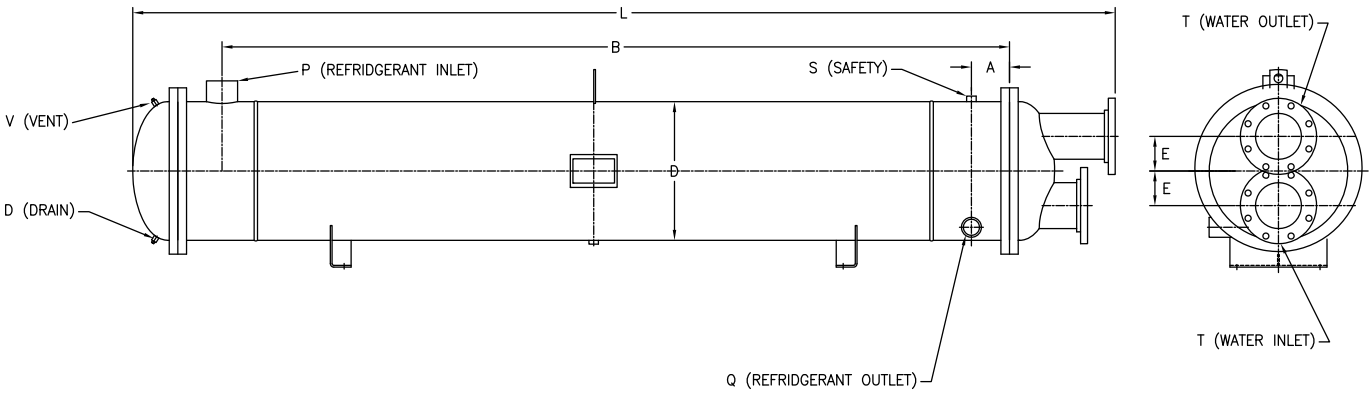
Non-Approved Refrigerants Unless Cleared by the Factory
R404A, R410A & R507A due to recommended operating pressures. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Alternative Options
For clean water applications use a fusion bonded Alfa Nova.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

AMC0810-2 to AMC2010-2



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard AMC condenser

Technical specifications

Models	Dimensions (inches)					Connections (inches)			
	D	L	A	B	E	P (NOM)	Q (NOM)	S (FNPT)	T (Flange)
AMC0810-2	8 5/8	128.25	3.88	116.13	2.13	1 1/2	1	3/4	2 1/2
AMC1010-2	10 3/4	132.50	4.00	115.63	2.69	2	1 1/4	3/4	4
AMC1210-2	12 3/4	134.50	4.50	115.13	3.50	2 1/2	1 1/2	3/4	4
AMC1410-2	14	135.63	4.50	114.63	4.00	3	2	3/4	4
AMC1610-2	16	137.88	5.00	114.50	4.50	3 1/2	2	3/4	5
AMC1810-2	18	137.63	5.41	114.19	4.75	3 1/2	2 1/2	3/4	6
AMC2010-2	20	141.75	5.50	113.63	5.00	4	2 1/2	3/4	6

Custom and larger models are available, please contact your local sales representative
Nominal ratings: Include a additive fouling coefficient of 0.001
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
HP = 15,000 Btu/hr

Models	Pumpdown Capacity (lbs.) Ammonia	Water Flow (gpm)		Shipping Weight (lbs.)	Gaskets Article #		Endplates Article #	
		Min.	Max.		Front	Rear	Front	Rear
AMC0810-2	73	16.0	160	650	2227	2227	2027	2034
AMC1010-2	113	25.4	254	1000	2236	2236	2401	2058
AMC1210-2	150	38.1	381	1550	2245	2245	Call	Call
AMC1410-2	174	48.1	481	1770	2254	2254	2089	2096
AMC1610-2	218	67.5	675	2100	2263	2263	2108	2115
AMC1810-2	279	83.5	835	2800	1679	1679	2122	2139
AMC2010-2	338	107	1069	4000	Call	Call	Call	Call

*Pumpdown capacities are based upon 90% of the shell open volume
Multiply pumpdown capacities by 0.11 to calculate minimum operating charge
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Standard Refrigeration

Model AMC0810-2

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)				
			10 (Btu/hr)	15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)
R717 (Ammonia)	16	0.1	73,272	109,479	145,337	180,735	215,722
	20	0.2	89,315	133,371	176,946	219,895	262,296
	40	0.6	159,120	237,247	314,265	389,873	464,299
	60	1.4	214,254	319,304	422,762	524,212	624,004
	80	2.5	258,772	385,622	510,538	633,020	753,505
	100	3.9	295,469	440,349	583,056	723,034	860,778
	120	5.6	326,259	486,318	644,040	798,831	951,224
	140	7.6	352,485	525,513	696,095	863,608	1,028,613
	160	9.9	375,112	559,359	741,091	919,665	1,095,658
	180	12.6	394,847	588,907	780,409	968,697	1,154,361
	200	15.6	412,539	615,422	815,720	1,012,775	1,207,180

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model AMC1010-2

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)				
			10 (Btu/hr)	15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)
R717 (Ammonia)	25	0.1	116,015	0,173	230,118	286,164	341,561
	50	0.4	208,684	311,285	412,524	512,022	610,045
	100	1.6	351,349	523,602	693,235	859,567	1,023,175
	150	3.5	453,546	675,916	894,932	1,109,730	1,321,080
	200	6.2	530,387	790,638	1,047,126	1,298,893	1,546,802
	250	9.7	590,388	880,357	1,694,354	1,447,358	1,724,288
	317	15.6	653,192	974,418	1,291,557	1,603,561	1,911,369

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model AMC1210-2

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)				
			10 (Btu/hr)	15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)
R717 (Ammonia)	38	0.1	174,022	260,014	345,176	429,246	512,341
	50	0.2	221,910	331,331	439,524	546,124	651,335
	100	0.7	393,139	586,122	776,331	963,021	1,146,767
	150	1.6	527,024	785,403	1,039,853	1,289,351	1,534,763
	200	2.8	634,299	945,241	1,251,452	1,551,713	1,847,096
	250	4.3	722,194	1,076,355	1,425,239	1,767,496	2,104,332
	300	6.2	795,580	1,185,957	1,570,689	1,948,340	2,320,204
	350	8.4	857,846	1,279,039	1,694,354	2,102,290	2,504,198
	400	11.0	911,382	1,359,151	1,800,897	2,235,077	2,663,078
	476	15.6	979,789	1,461,627	1,937,335	2,405,342	2,867,053

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model AMC1410-2

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)				
			10 (Btu/hr)	15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)
R717 (Ammonia)	48	0.1	219,818	328,439	436,013	542,205	647,168
	100	0.4	413,170	616,239	816,566	1,013,392	1,207,258
	200	1.7	690,340	1,028,762	1,362,026	1,688,790	2,010,199
	300	3.9	886,408	1,321,048	1,749,169	2,169,103	2,582,336
	400	6.9	1,032,555	1,539,310	2,038,825	2,529,251	3,012,249
	500	10.8	1,145,947	1,708,929	2,264,314	2,810,159	3,348,210
	601	15.6	1,237,628	1,846,266	2,447,160	3,038,326	3,621,541

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model AMC1610-2

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)				
			10 (Btu/hr)	15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)
R717 (Ammonia)	67	0.1	308,356	460,726	611,629	760,594	907,833
	100	0.2	436,819	652,009	864,645	1,073,979	1,280,463
	200	0.9	763,121	1,137,527	1,506,427	1,868,350	2,224,467
	300	2.0	1,012,021	1,508,114	1,996,632	2,475,613	2,946,748
	400	3.5	1,207,783	1,799,951	2,383,187	2,955,205	3,518,036
	500	5.5	1,365,889	2,035,962	2,696,232	3,344,205	3,982,124
	600	7.9	1,496,411	2,231,023	2,955,299	3,666,602	4,367,303
	700	10.7	1,606,097	2,395,151	3,173,539	3,938,550	4,692,630
	843	15.6	1,736,118	2,589,902	3,432,822	4,262,097	5,080,218

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model ACM1810-2

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)				
			10 (Btu/hr)	15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)
R717 (Ammonia)	84	0.1	381,629	570,206	756,965	941,329	1,123,556
	100	0.1	448,675	670,061	889,087	1,105,022	1,318,250
	200	0.6	802,808	1,197,067	1,585,781	1,967,446	2,343,193
	300	1.3	1,084,718	1,616,603	2,140,458	2,654,179	3,159,517
	400	2.3	1,313,728	1,957,708	2,591,856	3,213,636	3,825,256
	500	3.6	1,503,407	2,240,525	2,966,538	3,678,604	4,379,246
	600	5.1	1,663,174	2,478,995	3,282,826	4,071,603	4,848,071
	700	7.0	1,799,694	2,682,972	3,553,652	4,408,517	5,250,462
	800	9.1	1,917,792	2,859,587	3,788,379	4,700,848	5,599,981
	900	11.6	2,021,037	3,014,122	3,993,948	4,957,123	5,906,696
	1044	15.6	2,148,644	3,205,324	4,248,542	5,274,872	6,287,398

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Model AMC2010-2

Refrigerant	Water Flow Rate (gpm)	Pressure Drop (psi)	Condensing Temperature - Entering Water Temperature (°F)				
			10 (Btu/hr)	15 (Btu/hr)	20 (Btu/hr)	25 (Btu/hr)	30 (Btu/hr)
R717 (Ammonia)	107	0.1	488,485	729,864	968,918	1,204,901	1,438,152
	200	0.4	842,400	1,256,712	1,665,623	2,067,609	2,463,716
	400	1.4	1,428,365	2,128,695	2,818,415	3,494,750	4,160,029
	600	3.1	1,853,082	2,761,557	3,656,264	4,533,673	5,396,907
	800	5.6	2,175,064	3,242,120	4,293,603	5,325,540	6,341,496
	1000	8.7	2,427,998	3,620,215	4,795,868	5,950,728	7,088,603
	1336	15.6	2,750,285	4,102,815	5,438,134	6,751,837	8,047,870

Tube side velocities below 2.0 ft/s have an increased risk of fouling
Tube side velocities above 8.0 ft/s have an increased risk of long term metal erosion
For performance data with other refrigerants and conditions use ProSuite or contact the factory

Alfa Laval Standard TX/TXC single circuit DX evaporator

Shell-and-tube horizontal water-cooled single circuit chiller

TX/TXC chiller barrels engineered design provides years of reliable service. Ideal for system builder and OEM replacement units.

Standard Designs
TX/TXC single circuit chillers are available in standard designs for fresh water duty. They are available in 17 catalog models from 2 to 120 tons. Three-quarter inch Armaflex® Insulation is fitted as standard.

Tube Materials
TX chillers are manufactured with enhanced ¼" diameter copper tubing and TXC utilize enhanced ⅜" diameter copper tubing.

Customization
As standard these units offer horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client.

Options
Units are available with left, right or top mounted shell side connections, please specify at time of order. As standard ¾" insulation is included, 1½" or no insulation is also available.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance internally enhanced designed tubing is standard. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing.

Tube Supports
Quality tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined steel heads. Custom connection versions are available.

Connections
All water side connections are FNPT, MNPT or flanged. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer. Units are shipped with ¾" insulation as standard, custom thickness insulation is available upon request.

Standard Refrigeration

Working Pressures:
See table for working pressures.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal capacity in tons by 2.4. Water pressure drops provided do not include any external fittings or valves.

Approved Refrigerants
R22, R134a.

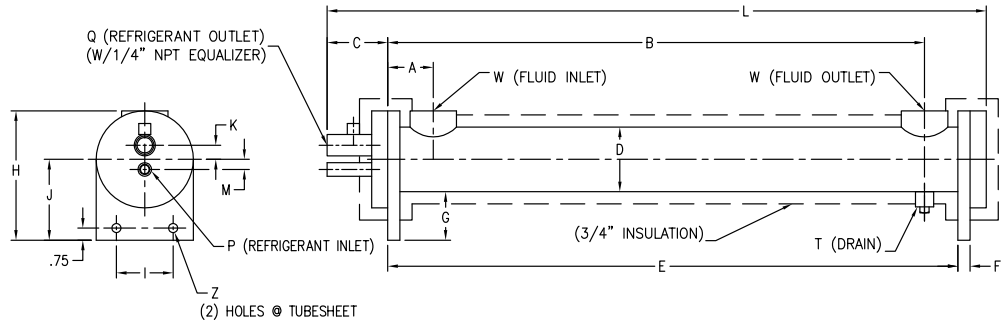
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. R404A, R410A & R507A due to recommended operating pressures. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Alfa Laval before use.

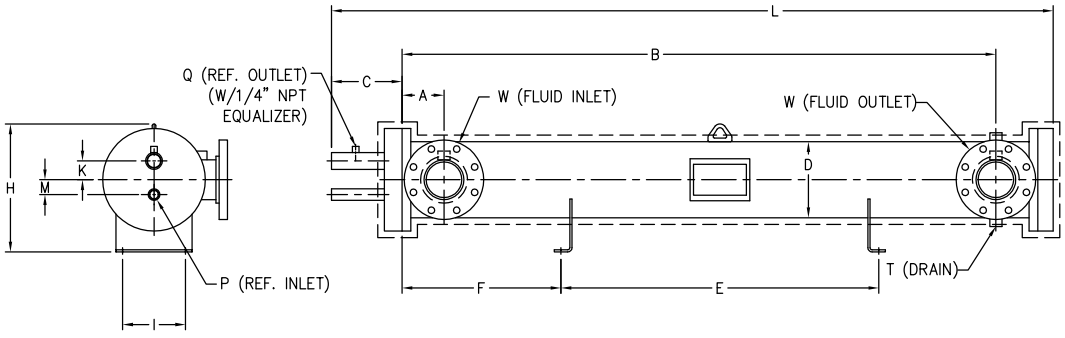
Alternative Options
For more than one circuit, use a TX/TXC multiple circuit units. For higher pressure refrigerants use a TXC-MP units. Applications requiring glycol, use TXC-MPG (only available in multiple circuits). For clean fresh water applications use a brazed EVP-ACH.

Codes
On all units 6⅝" OD and larger, the refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, while the shell side is non-code. Units 6" OD and smaller are UL stamped. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

TX
1-Circuit



TXC
1-Circuit



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard TX/TXC single circuit DX evaporator

Technical specifications

Models	R22 Nominal Cap.* (Tons)	R134a Nominal Cap.* (Tons)	R22 Press. Drop (psi)	R134a Press. Drop (psi)	Connections (inches)				Fluid Volume (gal)	Specifications			Working Pressure (PSI)	
					P Ref. IN (IDS)	Q Ref. Out (IDS)	W Fluid Conn.)	T Drain (FNPT)		Tube Length (in.)	Shell Dia. (in.)	Shipping Wt (lbs)	Shell	Tube
TX2 -1	2.0	1.6	1.9	1.3	5/8	7/8	1" FPT	3/8	0.4	24	2 3/4	46	225	225
TX3 -1	2.9	2.4	1.7	1.1	5/8	7/8	1" FPT	3/8	0.4	24	2 3/4	50	225	225
TX5 -1	4.9	3.9	0.8	0.5	5/8	1 1/8	1 1/4" FPT	1/2	1.6	36	4	62	225	225
TX6 -1	6.7	5.4	1.1	0.8	5/8	1 1/8	1 1/2" FPT	1/2	1.5	36	4	64	225	225
TX7 1/2 -1	7.6	6.2	1.6	1.0	7/8	1 5/8	1 1/2" FPT	1/2	1.4	36	4	66	225	225
TX10 -1	11.3	9.1	5.8	3.8	7/8	1 5/8	2" FPT	1/2	1.2	36	4	70	225	225
TX12 -1	14.3	11.5	2.4	1.6	7/8	1 5/8	2" FPT	1/2	3.4	36	6	120	225	225
TX15-1	18.3	14.6	3.5	2.3	1 1/8	2 1/8	2 1/2" FPT	1/2	3.2	36	6	128	225	225
TX20-1	22.6	18.0	5.9	3.8	1 1/8	2 1/8	3" FPT	1/2	2.9	36	6	136	225	225
TX25 -1	27.2	21.7	5.4	3.5	1 1/8	2 5/8	3" FPT	1/2	2.6	36	6	142	150	225
TXC30 -1	29.8	24.2	4.7	3.1	1 1/8	2 5/8	3" MPT	3/4	9.3	72	6 5/8	414	150	300
TXC40 -1	40.2	32.7	3.0	2.0	1 3/8	2 5/8	3" MPT	3/4	17.5	72	8 5/8	563	150	300
TXC50 -1	50.9	40.9	5.4	3.5	1 3/8	3 1/8	4" FLANGE	3/4	17.1	72	8 5/8	594	150	300
TXC60 -1	59.6	47.8	4.0	2.6	1 5/8	3 1/8	4" FLANGE	3/4	19.8	84	8 5/8	642	150	300
TXC75 -1	75.2	59.6	5.0	3.2	2 1/8	3 1/8	5" FLANGE	3/4	19.5	84	8 5/8	587	150	300
TXC100-1	100.5	79.4	5.0	3.1	2 1/8	3 5/8	5" FLANGE	3/4	28.4	84	10 3/4	1070	150	225
TXC120-1	123.3	98.7	3.0	2.0	2 1/8	3 5/8	6" FLANGE	3/4	26.9	84	12 3/4	1080	150	225

*Ratings are based on entering water 54°F, leaving water 44°F, saturated suction temperature of 35°F, entering TXV temperature of 100°F with 7°F of superheating
ProSuite software values are the most accurate
Includes ¾" thick insulation as standard
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Capacity Tons = 12,000 BTU/hr

Standard Refrigeration

Models	Dimensions (inches)													Gaskets Article #		Heads Article #	
	H	L	A	B	C	E	F	G	I	J	K	M	Z	Front	Rear	Front	Rear
TX2-1	6.06	28.25	2.13	21.88	3.50	23.50	0.50	2.50	2.50	3.88	0.75	0.69	0.56	2865	2865	3444	3451
TX3-1	6.06	28.25	2.13	21.88	3.50	23.50	0.50	2.50	2.50	3.88	0.75	0.69	0.56	2865	2865	3444	3451
TX5-1	8.75	40.25	2.31	33.69	3.50	35.50	0.50	3.00	3.50	5.00	0.94	0.75	0.56	2872	2872	3501	3682
TX6-1	8.00	40.25	2.44	33.56	3.50	35.50	0.50	3.00	3.50	5.00	0.94	0.75	0.56	2872	2872	3501	3682
TX7 ½-1	8.00	40.25	2.44	33.56	3.50	35.50	0.50	3.00	3.50	5.00	1.06	0.94	0.56	4809	4816	3468	3682
TX10-1	8.00	40.25	2.81	33.19	3.50	35.50	0.50	3.00	3.50	5.00	1.06	0.94	0.56	4809	4816	3468	3682
TX12-1	10.00	41.25	2.94	33.06	4.50	35.50	0.50	3.00	5.75	6.00	1.19	0.94	0.56	2889	2889	3794	3701
TX15-1	10.31	41.25	3.19	32.81	4.50	35.50	0.50	3.00	5.75	6.00	1.50	1.00	0.56	2889	2889	3482	3701
TX20-1	11.00	41.25	3.50	32.50	4.50	35.50	0.50	3.00	5.75	6.00	1.50	1.00	0.56	2889	2889	3482	3701
TX25-1	11.00	41.25	3.50	32.50	4.50	35.50	0.50	3.00	5.75	6.00	1.50	1.25	0.56	2889	2889	3532	3701
TXC30-1	12.50	81.75	4.25	67.75	8.00	36.00	18.00	4.00	5.25	–	1.75	1.75	0.56	2218	2218	21992	21985
TXC40-1	14.50	81.75	4.50	67.50	8.00	36.00	18.00	4.00	7.13	–	2.13	1.67	0.56	2227	2227	22021	22038
TXC50-1	15.50	81.75	4.75	67.25	8.00	36.00	18.00	4.00	7.13	–	2.25	2.38	0.56	2227	2227	22069	22038
TXC60-1	14.50	93.75	4.75	79.25	8.00	42.00	21.00	4.00	7.13	–	2.25	2.38	0.56	2227	2227	22076	22038
TXC75-1	15.50	93.75	5.50	78.50	8.00	42.00	21.00	4.00	7.13	–	2.25	2.38	0.56	2227	2227	22102	22038
TXC100-1	19.63	95.13	5.75	78.25	8.38	42.00	21.00	4.50	10.25	–	2.75	2.38	0.56	2236	2236	23824	5390
TXC120-1	19.69	94.88	6.38	77.63	8.38	42.00	21.00	5.00	11.25	–	3.44	2.75	0.56	4892	4904	5176	5183

Dimensions do not include the 3/4” insulation
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

TX2-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	1.61	4.79	2.31
	10	-	-	-	-	-	-	-	-	-	1.73	4.11	1.73
	12	-	-	-	-	-	-	1.56	3.12	1.03	1.88	3.74	1.45
	15	-	-	-	-	-	-	1.73	2.74	0.81	2.04	3.24	1.11
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	1.53	3.04	0.98
	15	-	-	-	-	-	-	-	-	-	1.68	2.68	0.78

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	1.80	7.16	4.93	2.11	8.40	6.68	2.35	9.34	8.16	2.58	10.27	9.79
	8	1.92	5.72	3.23	2.20	6.54	4.15	2.43	7.24	5.03	-	-	-
	10	2.04	4.86	2.37	2.28	5.42	2.91	2.52	5.98	3.51	-	-	-
	12	2.15	4.28	1.87	2.39	4.75	2.27	2.62	5.22	2.71	-	-	-
	15	2.28	3.62	1.36	2.51	3.99	1.63	-	-	-	-	-	-
R134a	6	1.45	5.76	3.27	1.69	6.69	4.34	1.88	7.47	5.35	2.04	8.09	6.22
	8	1.56	4.67	2.20	1.77	5.25	2.75	1.96	5.84	3.36	2.12	6.30	3.88
	10	1.65	3.92	1.59	1.85	4.39	1.96	2.03	4.86	2.37	2.19	5.23	2.73
	12	1.76	3.51	1.28	1.93	3.82	1.51	2.11	4.21	1.81	2.26	4.52	2.07
	15	1.88	2.99	0.95	2.04	3.24	1.11	2.20	3.49	1.27	2.36	3.74	1.45

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX3-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	2.35	7.02	2.23
	10	-	-	-	-	-	-	-	-	-	2.53	6.03	1.66
	12	-	-	-	-	-	-	-	-	-	2.70	5.37	1.33
	15	-	-	-	-	-	-	2.52	4.02	0.77	2.94	4.66	1.02
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-
	12	-	-	-	-	-	-	-	-	-	2.19	4.34	0.89
	15	-	-	-	-	-	-	-	-	-	2.42	3.84	0.70

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	2.63	10.50	4.81	3.05	12.10	6.31	-	-	-	-	-	-
	8	2.81	8.39	3.13	3.21	9.59	4.04	3.55	10.62	4.91	3.87	11.47	5.70
	10	2.98	7.13	2.29	3.33	7.95	2.82	3.67	8.77	3.40	-	-	-
	12	3.11	6.17	1.74	3.46	6.86	2.12	3.80	7.54	2.54	-	-	-
	15	3.33	5.30	1.30	3.67	5.85	1.57	-	-	-	-	-	-
R134a	6	-	-	-	2.46	9.81	4.23	2.73	10.84	5.12	2.98	11.87	6.09
	8	2.25	6.68	2.02	2.58	7.71	2.66	2.83	8.39	3.13	3.09	9.25	3.77
	10	2.41	5.76	1.52	2.70	6.44	1.89	2.94	6.99	2.20	3.17	7.54	2.55
	12	2.53	5.03	1.18	2.81	5.60	1.44	3.05	6.06	1.68	3.28	6.51	1.92
	15	2.70	4.30	0.87	2.98	4.76	1.06	3.21	5.12	1.22	3.44	5.49	1.39

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX5-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	2.55	10.17	0.71	3.30	13.07	1.15	3.93	15.61	1.61
	8	-	-	-	2.91	8.72	0.53	3.49	10.35	0.74	4.11	12.26	1.02
	10	-	-	-	3.11	7.41	0.39	3.73	8.94	0.56	4.29	10.25	0.72
	12	2.57	5.09	0.19	3.30	6.54	0.31	3.92	7.82	0.43	4.47	8.91	0.55
	15	2.94	4.66	0.16	3.57	5.67	0.24	4.18	6.69	0.32	4.74	7.57	0.41
R134a	6	-	-	-	-	-	-	2.75	10.89	0.81	3.21	12.71	1.09
	8	-	-	-	2.39	7.08	0.36	2.93	8.72	0.53	3.38	10.08	0.70
	10	-	-	-	2.65	6.32	0.29	3.11	7.41	0.39	3.55	8.50	0.51
	12	-	-	-	2.83	5.63	0.23	3.28	6.54	0.31	3.66	7.27	0.38
	15	2.56	4.07	0.13	3.02	4.80	0.17	3.47	5.53	0.23	3.86	6.11	0.27

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	4.49	17.79	2.06	5.12	20.33	2.65	5.69	22.51	3.22	-	-	-
	8	4.67	13.89	1.29	5.29	15.80	1.64	5.86	17.44	1.98	-	-	-
	10	4.85	11.56	0.91	5.47	13.08	1.15	6.02	14.39	1.38	-	-	-
	12	5.03	10.00	0.69	5.64	11.27	0.86	6.19	12.36	1.03	-	-	-
	15	5.30	8.44	0.50	5.85	9.31	0.60	-	-	-	-	-	-
R134a	6	3.65	14.52	1.40	4.10	16.34	1.75	4.50	17.79	2.06	4.93	19.61	2.48
	8	3.82	11.44	0.89	4.21	12.53	1.06	4.66	13.89	1.29	5.04	14.98	1.49
	10	3.94	9.38	0.61	4.38	10.47	0.75	4.76	11.34	0.88	5.20	12.43	1.04
	12	4.11	8.18	0.47	4.49	8.91	0.56	4.93	9.82	0.67	5.30	10.54	0.76
	15	4.30	6.84	0.34	4.74	7.57	0.41	5.12	8.15	0.47	5.49	8.73	0.53

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX6-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	3.56	14.19	1.05	4.56	18.11	1.67	5.40	21.53	2.32
	8	-	-	-	3.96	11.75	0.73	4.83	14.32	1.07	5.66	16.89	1.46
	10	3.22	7.64	0.33	4.32	10.29	0.57	5.16	12.34	0.81	5.91	14.11	1.04
	12	3.69	7.35	0.30	4.58	9.06	0.45	5.41	10.78	0.62	6.16	12.25	0.79
	15	4.18	6.67	0.25	4.95	7.84	0.34	5.78	9.22	0.46	6.53	10.39	0.58
R134a	6	-	-	-	-	-	-	3.81	15.17	1.19	4.42	17.62	1.59
	8	-	-	-	3.34	9.91	0.53	4.06	12.12	0.78	4.62	13.77	0.99
	10	-	-	-	3.68	8.82	0.43	4.29	10.29	0.57	4.82	11.46	0.70
	12	3.19	6.37	0.23	3.92	7.84	0.34	4.45	8.82	0.43	5.05	10.04	0.54
	15	3.57	5.69	0.19	4.19	6.67	0.25	4.79	7.65	0.33	5.32	8.43	0.39

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	6.17	24.47	2.97	7.01	27.90	3.81	-	-	-	-	-	-
	8	6.42	19.09	1.85	7.25	21.66	2.35	8.02	23.87	2.83	-	-	-
	10	6.67	15.87	1.30	7.43	17.63	1.59	8.25	19.69	1.96	-	-	-
	12	6.91	13.72	0.98	7.68	15.19	1.19	-	-	-	-	-	-
	15	7.36	11.77	0.73	8.10	12.94	0.88	-	-	-	-	-	-
R134a	6	4.95	19.58	1.94	5.55	22.02	2.43	6.15	24.47	2.97	6.67	26.43	3.44
	8	5.18	15.42	1.23	5.78	17.26	1.52	6.30	18.73	1.78	6.89	20.56	2.13
	10	5.41	12.93	0.88	5.94	14.11	1.04	6.52	15.58	1.25	7.04	16.75	1.44
	12	5.64	11.27	0.68	6.17	12.25	0.79	6.68	13.23	0.92	7.26	14.45	1.09
	15	5.91	9.41	0.48	6.43	10.20	0.56	7.01	11.18	0.67	7.51	11.96	0.76

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX7-1/2-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	3.99	15.91	1.50	5.16	20.46	2.41	6.14	24.44	3.39
	8	-	-	-	4.56	13.65	1.12	5.46	16.20	1.55	6.43	19.19	2.13
	10	-	-	-	4.87	11.60	0.82	5.84	13.99	1.17	6.72	16.04	1.52
	12	4.02	7.97	0.40	5.16	10.24	0.65	6.04	11.95	0.87	7.00	13.94	1.16
	15	4.60	7.29	0.34	5.59	8.88	0.49	6.46	10.25	0.65	7.42	11.84	0.85
R134a	6	-	-	-	-	-	-	4.30	17.05	1.71	5.02	19.89	2.29
	8	-	-	-	3.74	11.09	0.75	4.59	13.65	1.12	5.29	15.78	1.47
	10	-	-	-	4.15	9.90	0.61	4.86	11.60	0.82	5.56	13.31	1.06
	12	-	-	-	4.43	8.82	0.49	5.13	10.24	0.65	5.74	11.38	0.79
	15	4.01	6.38	0.26	4.73	7.52	0.36	5.43	8.65	0.47	6.13	9.79	0.59

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	7.04	27.85	4.35	-	-	-	-	-	-	-	-	-
	8	7.32	21.75	2.71	8.28	24.73	3.46	9.17	27.29	4.18	-	-	-
	10	7.59	18.09	1.91	8.55	20.48	2.41	9.42	22.52	2.89	-	-	-
	12	7.87	15.65	1.44	8.84	17.64	1.81	9.70	19.35	2.16	-	-	-
	15	8.29	13.21	1.05	9.16	14.58	1.26	-	-	-	-	-	-
R134a	6	5.72	22.73	2.95	6.42	25.58	3.70	7.12	28.42	4.52	7.73	30.69	5.24
	8	5.99	17.91	1.87	6.60	19.62	2.23	7.29	21.75	2.71	7.90	23.45	3.13
	10	6.17	14.67	1.28	6.86	16.38	1.58	7.47	17.75	1.84	8.15	19.45	2.19
	12	6.43	12.80	0.99	7.12	14.23	1.21	7.72	15.36	1.40	8.31	16.50	1.60
	15	6.73	10.70	0.70	7.43	11.84	0.85	8.02	12.75	0.98	8.60	13.66	1.12

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX10-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	6.15	24.47	5.23	7.72	30.78	8.15	8.98	35.52	10.76
	8	-	-	-	6.92	20.73	3.79	8.18	24.28	5.15	9.53	28.43	6.98
	10	5.77	13.75	1.71	7.37	17.54	2.74	8.72	20.86	3.83	9.97	23.70	4.91
	12	6.54	13.04	1.55	7.92	15.81	2.24	9.15	18.18	2.93	10.38	20.55	3.72
	15	7.17	11.39	1.19	8.54	13.60	1.68	9.89	15.82	2.24	11.13	17.71	2.79
R134a	6	-	-	-	5.15	20.52	3.72	6.35	25.26	5.56	7.34	29.21	7.36
	8	-	-	-	5.76	17.18	2.64	6.77	20.14	3.58	7.75	23.10	4.67
	10	4.96	11.85	1.29	6.18	14.69	1.95	7.16	17.06	2.60	8.14	19.43	3.34
	12	5.55	11.06	1.13	6.57	13.04	1.55	7.55	15.02	2.03	8.52	16.99	2.58
	15	6.15	9.81	0.89	7.15	11.39	1.19	8.12	12.97	1.53	9.10	14.55	1.91

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	10.36	41.05	14.27	-	-	-	-	-	-	-	-	-
	8	10.77	31.98	8.78	12.14	36.13	11.12	13.49	40.27	13.75	-	-	-
	10	11.32	27.02	6.32	12.68	30.34	7.92	-	-	-	-	-	-
	12	11.75	23.31	4.75	13.07	26.08	5.90	-	-	-	-	-	-
	15	12.36	19.61	3.40	-	-	-	-	-	-	-	-	-
R134a	6	8.32	33.15	9.42	9.31	37.10	11.72	10.17	40.26	13.75	-	-	-
	8	8.72	26.06	5.90	9.69	29.02	7.27	10.55	31.39	8.47	11.49	34.35	10.09
	10	9.11	21.80	4.18	9.96	23.70	4.91	10.93	26.07	5.90	11.76	27.97	6.76
	12	9.50	18.97	3.19	10.35	20.55	3.72	11.30	22.52	4.44	12.11	24.10	5.07
	15	9.95	15.82	2.24	10.91	17.40	2.69	11.75	18.66	3.09	12.66	20.24	3.61

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX12-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	7.65	30.31	2.36	9.70	38.39	3.67	11.45	45.47	5.03
	8	-	-	-	8.66	25.77	1.75	10.42	31.08	2.47	11.99	35.63	3.19
	10	7.15	16.99	0.81	9.39	22.45	1.35	10.97	26.09	1.78	12.69	30.34	2.36
	12	8.15	16.19	0.74	9.93	19.73	1.06	11.65	23.27	1.44	13.21	26.30	1.81
	15	9.13	14.58	0.60	10.71	17.00	0.80	12.44	19.84	1.07	14.01	22.27	1.32
R134a	6	-	-	-	6.36	25.26	1.68	8.10	32.33	2.66	9.29	36.88	3.40
	8	-	-	-	7.25	21.61	1.26	8.63	25.77	1.75	9.79	29.19	2.20
	10	-	-	-	7.87	18.81	0.97	9.13	21.84	1.28	10.22	24.27	1.56
	12	6.89	13.66	0.54	8.37	16.69	0.78	9.54	18.97	0.99	10.71	21.24	1.22
	15	7.65	12.15	0.43	8.93	14.17	0.57	10.19	16.20	0.73	11.43	18.22	0.91

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	13.73	40.94	4.13	15.32	45.49	5.03	17.04	50.79	6.20	-	-	-
	10	14.26	33.98	2.91	15.99	38.22	3.63	-	-	-	-	-	-
	12	14.80	29.34	2.21	16.50	32.88	2.74	-	-	-	-	-	-
	15	15.74	25.10	1.65	-	-	-	-	-	-	-	-	-
R134a	6	10.47	41.43	4.23	11.71	46.48	5.25	-	-	-	-	-	-
	8	10.96	32.60	2.70	12.20	36.39	3.32	13.29	39.42	3.85	14.50	43.21	4.58
	10	11.46	27.30	1.94	12.69	30.34	2.36	13.77	32.76	2.73	14.96	35.80	3.22
	12	11.95	23.77	1.50	13.17	26.30	1.81	14.24	28.32	2.08	15.30	30.35	2.36
	15	12.66	20.24	1.11	13.75	21.86	1.28	14.80	23.48	1.46	15.84	25.10	1.66

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX15-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	9.95	39.40	3.32	12.40	49.26	5.04	14.55	57.88	6.84
	8	8.36	24.95	1.41	11.16	33.26	2.42	13.31	39.73	3.37	15.43	46.20	4.47
	10	9.63	22.92	1.21	12.07	28.84	1.85	14.19	34.01	2.52	16.15	38.45	3.17
	12	10.59	20.96	1.02	12.75	25.27	1.44	14.88	29.59	1.94	17.00	33.90	2.50
	15	11.79	18.75	0.83	13.94	22.20	1.13	16.08	25.66	1.48	18.02	28.62	1.82
R134a	6	-	-	-	8.36	33.25	2.42	10.21	40.64	3.52	11.75	46.79	4.58
	8	-	-	-	9.30	27.72	1.72	10.87	32.34	2.29	12.41	36.96	2.94
	10	8.08	19.23	0.87	9.96	23.66	1.28	11.51	27.36	1.68	13.04	31.06	2.12
	12	9.00	17.88	0.76	10.59	20.96	1.02	12.12	24.04	1.32	13.65	27.12	1.65
	15	9.93	15.79	0.60	11.50	18.26	0.79	13.04	20.72	1.00	14.57	23.19	1.23

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	17.39	51.74	5.53	19.53	58.21	6.91	-	-	-	-	-	-
	10	18.27	43.63	4.01	20.39	48.80	4.95	-	-	-	-	-	-
	12	19.13	38.22	3.13	-	-	-	-	-	-	-	-	-
	15	20.14	32.07	2.25	-	-	-	-	-	-	-	-	-
R134a	6	13.29	52.95	5.78	14.83	59.11	7.13	-	-	-	-	-	-
	8	13.93	41.58	3.67	15.46	46.20	4.47	16.81	49.89	5.17	18.26	54.51	6.11
	10	14.57	34.75	2.62	16.09	38.45	3.17	17.41	41.41	3.64	18.88	45.11	4.27
	12	15.18	30.21	2.01	16.70	33.29	2.42	18.02	35.75	2.76	19.30	38.22	3.13
	15	16.10	25.66	1.48	17.43	27.63	1.70	18.91	30.10	2.00	20.16	32.07	2.25

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX20-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	12.42	49.51	5.31	15.23	60.34	7.78	-	-	-
	8	10.12	30.18	2.05	13.66	40.63	3.63	16.37	48.75	5.15	19.02	56.88	6.93
	10	11.70	27.87	1.76	14.80	35.30	2.77	17.45	41.81	3.83	19.90	47.38	4.87
	12	13.19	26.33	1.58	15.63	30.98	2.15	18.31	36.40	2.93	20.95	41.82	3.83
	15	14.43	22.94	1.21	17.12	27.28	1.68	19.53	31.00	2.15	22.21	35.34	2.77
R134a	6	-	-	-	10.14	40.23	3.56	12.52	49.51	5.31	14.47	57.24	7.03
	8	-	-	-	11.34	33.66	2.53	13.45	40.05	3.53	15.25	45.27	4.47
	10	10.08	24.15	1.34	12.42	29.73	1.99	14.35	34.37	2.63	16.03	38.09	3.20
	12	10.94	21.69	1.09	13.21	26.33	1.58	14.99	29.82	2.00	16.81	33.30	2.47
	15	12.12	19.22	0.86	14.08	22.32	1.15	16.02	25.42	1.47	17.94	28.52	1.83

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	21.71	65.01	8.97	-	-	-	-	-	-	-	-	-
	10	22.55	53.88	6.24	24.96	59.46	7.55	-	-	-	-	-	-
	12	23.40	46.47	4.69	25.80	51.12	5.64	-	-	-	-	-	-
	15	24.86	39.68	3.46	-	-	-	-	-	-	-	-	-
R134a	6	16.39	64.98	8.97	-	-	-	-	-	-	-	-	-
	8	17.18	51.08	5.64	19.06	56.88	6.94	20.98	62.68	8.37	-	-	-
	10	17.94	42.74	4.00	19.84	47.38	4.88	21.72	52.03	5.84	23.33	55.74	6.67
	12	18.71	37.18	3.06	20.59	41.05	3.70	22.25	44.15	4.25	24.07	48.02	5.00
	15	19.84	31.62	2.24	21.73	34.72	2.68	23.36	37.20	3.06	24.94	39.68	3.46

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX25-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	14.80	58.60	4.87	18.43	73.25	7.50	-	-	-
	8	12.42	37.10	2.02	16.59	49.47	3.51	19.79	59.08	4.95	22.95	68.70	6.62
	10	14.32	34.09	1.71	17.94	42.89	2.66	20.83	49.49	3.51	24.01	57.18	4.64
	12	15.74	31.17	1.44	18.95	37.59	2.06	22.12	44.00	2.80	25.01	49.50	3.51
	15	17.53	27.89	1.16	20.73	33.02	1.61	23.90	38.16	2.12	26.78	42.56	2.62
R134a	6	-	-	-	12.43	49.45	3.51	15.18	60.43	5.17	17.48	69.59	6.79
	8	-	-	-	13.82	41.22	2.47	16.16	48.09	3.32	18.45	54.96	4.30
	10	12.01	28.59	1.22	14.81	35.19	1.82	17.11	40.69	2.41	19.38	46.19	3.07
	12	13.38	26.59	1.06	15.74	31.17	1.44	18.02	35.75	1.87	20.29	40.34	2.37
	15	14.77	23.48	0.84	17.09	27.15	1.10	19.38	30.82	1.41	21.67	34.49	1.75

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	27.16	64.88	5.92	30.31	72.58	7.36	-	-	-	-	-	-
	12	28.18	55.92	4.44	31.32	62.34	5.48	-	-	-	-	-	-
	15	29.64	46.97	3.17	-	-	-	-	-	-	-	-	-
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	20.71	61.83	5.40	22.99	68.70	6.62	24.99	74.20	7.69	-	-	-
	10	21.66	51.68	3.82	23.93	57.18	4.64	25.89	61.58	5.36	28.07	67.08	6.32
	12	22.57	44.92	2.91	24.83	49.50	3.51	26.78	53.17	4.03	28.69	56.84	4.59
	15	23.94	38.16	2.12	25.92	41.09	2.45	28.12	44.76	2.89	29.98	47.70	3.26

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX30-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	20.33	80.47	6.12	24.74	98.07	9.02
	8	-	-	-	16.45	49.06	2.33	21.50	64.15	3.93	25.38	75.47	5.39
	10	-	-	-	17.77	42.28	1.74	22.23	52.85	2.69	26.47	63.42	3.84
	12	-	-	-	19.01	37.77	1.40	23.39	46.58	2.10	27.15	54.13	2.81
	15	15.23	24.18	0.59	20.35	32.25	1.03	24.63	39.30	1.51	27.95	44.34	1.91
R134a	6	-	-	-	-	-	-	16.52	65.38	4.08	20.20	80.47	6.12
	8	-	-	-	12.71	37.74	1.40	17.72	52.83	2.69	20.87	62.26	3.70
	10	-	-	-	15.16	36.24	1.29	18.42	43.79	1.86	21.54	51.34	2.54
	12	-	-	-	15.89	31.47	0.98	19.55	39.02	1.49	22.20	44.06	1.88
	15	12.71	20.15	0.41	17.65	28.21	0.79	20.34	32.25	1.03	23.35	37.28	1.36

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	29.17	86.79	7.09	32.85	98.11	9.02	36.12	107.54	10.81	-	-	-
	10	29.78	70.97	4.78	33.06	78.52	5.83	36.66	87.58	7.22	39.89	95.13	8.49
	12	30.44	60.42	3.49	34.04	67.98	4.39	36.90	73.01	5.05	40.44	80.57	6.13
	15	31.60	50.38	2.44	34.81	55.42	2.94	37.98	60.46	3.49	41.16	65.50	4.08
R134a	6	22.89	90.53	7.71	25.87	103.10	9.95	-	-	-	-	-	-
	8	23.53	69.81	4.63	26.46	79.24	5.94	28.79	85.85	6.94	31.09	92.45	8.03
	10	24.14	57.38	3.16	26.71	63.42	3.84	29.20	69.46	4.59	31.63	75.50	5.40
	12	24.77	49.09	2.33	27.29	54.13	2.82	29.79	59.17	3.35	32.19	64.20	3.93
	15	25.90	41.31	1.66	28.40	45.35	1.99	30.49	48.37	2.26	32.89	52.40	2.64

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX40-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	27.59	109.86	4.39	-	-	-
	8	-	-	-	21.82	64.94	1.62	28.58	84.93	2.69	34.28	102.41	3.84
	10	-	-	-	24.25	57.97	1.31	30.12	71.97	1.96	35.16	83.96	2.63
	12	-	-	-	25.26	50.00	0.99	31.07	61.66	1.46	36.07	71.66	1.95
	15	21.72	34.68	0.50	27.69	44.02	0.77	32.77	52.03	1.06	37.68	60.03	1.39
R134a	6	-	-	-	-	-	-	22.54	89.89	3.00	26.80	106.53	4.14
	8	-	-	-	16.84	49.96	0.99	23.52	69.94	1.86	27.71	82.43	2.54
	10	-	-	-	20.10	47.98	0.91	25.03	59.97	1.39	28.60	67.97	1.76
	12	-	-	-	21.73	43.33	0.75	25.96	51.66	1.05	29.46	58.33	1.32
	15	18.39	29.35	0.36	23.43	37.35	0.57	27.57	44.02	0.77	31.01	49.36	0.96

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	40.09	95.96	3.39	44.41	105.95	4.09	-	-	-	-	-	-
	12	40.93	81.66	2.49	45.22	89.99	3.00	49.49	98.33	3.55	53.70	106.66	4.14
	15	41.98	66.70	1.70	46.78	74.71	2.10	50.46	80.04	2.40	55.19	88.05	2.87
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	31.70	94.92	3.32	35.11	104.91	4.02	-	-	-	-	-	-
	10	32.54	77.96	2.29	35.90	85.96	2.75	38.74	91.96	3.13	41.96	99.95	3.66
	12	33.38	66.66	1.70	36.71	73.33	2.03	39.53	78.33	2.30	42.71	84.99	2.69
	15	34.40	54.70	1.17	37.70	60.03	1.39	40.92	65.37	1.63	43.64	69.37	1.83

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX50-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	24.57	97.38	3.44	34.74	137.95	6.77	41.82	166.35	9.76
	8	-	-	-	28.67	85.24	2.65	36.69	109.59	4.32	42.96	127.86	5.83
	10	-	-	-	30.78	73.09	1.97	37.94	90.15	2.96	44.76	107.20	4.14
	12	24.41	48.75	0.90	32.82	65.00	1.57	39.85	79.21	2.30	45.93	91.40	3.03
	15	28.55	45.52	0.79	35.76	56.90	1.21	41.95	66.66	1.64	47.95	76.41	2.14
R134a	6	-	-	-	20.34	81.15	2.41	28.49	113.60	4.64	33.67	133.89	6.39
	8	-	-	-	23.54	70.02	1.81	29.73	88.28	2.84	34.83	103.50	3.87
	10	-	-	-	25.61	60.91	1.38	31.61	75.53	2.10	36.26	86.49	2.73
	12	-	-	-	27.61	54.84	1.13	32.77	65.00	1.57	37.68	75.15	2.08
	15	24.41	39.02	0.58	29.70	47.15	0.84	34.76	55.28	1.14	39.30	62.60	1.46

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	49.07	146.12	7.57	55.01	164.39	9.53	-	-	-	-	-	-
	10	50.14	119.38	5.10	56.08	134.00	6.39	61.33	146.18	7.58	66.59	158.36	8.86
	12	51.27	101.56	3.72	57.11	113.74	4.64	62.34	123.90	5.48	67.53	134.05	6.39
	15	53.22	84.54	2.61	59.09	94.30	3.22	63.63	100.80	3.67	69.38	110.56	4.39
R134a	6	38.34	152.15	8.20	42.83	170.41	10.23	-	-	-	-	-	-
	8	39.68	118.72	5.05	43.85	130.90	6.11	47.89	143.08	7.27	51.87	155.26	8.53
	10	40.79	97.45	3.44	44.87	107.20	4.14	48.91	116.95	4.90	52.29	124.25	5.52
	12	41.83	83.28	2.53	45.93	91.40	3.04	49.94	99.52	3.58	53.27	105.62	4.02
	15	43.73	69.91	1.80	47.17	74.79	2.05	51.15	81.29	2.42	55.00	87.80	2.81

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX60-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	33.61	133.08	3.73	42.54	168.91	5.95	-	-	-
	8	-	-	-	36.15	107.53	2.46	43.98	130.57	3.59	51.50	153.62	4.94
	10	28.45	67.62	1.00	38.58	92.21	1.82	46.25	110.65	2.60	52.84	126.02	3.35
	12	32.16	64.06	0.90	40.04	79.43	1.36	47.63	94.81	1.92	54.16	107.62	2.46
	15	34.88	55.38	0.68	42.64	67.69	1.00	50.09	79.99	1.38	56.56	90.25	1.75
R134a	6	-	-	-	27.72	110.05	2.58	34.67	138.20	4.02	40.01	158.67	5.26
	8	-	-	-	29.73	88.33	1.68	36.08	107.53	2.46	41.34	122.89	3.19
	10	24.48	58.40	0.75	32.10	76.84	1.28	37.46	89.13	1.71	42.61	101.43	2.20
	12	27.03	53.81	0.64	33.50	66.62	0.97	38.79	76.87	1.28	43.91	87.12	1.63
	15	29.63	47.17	0.50	35.93	57.43	0.73	41.12	65.63	0.94	45.78	72.81	1.15

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	58.07	172.82	6.22	-	-	-	-	-	-	-	-	-
	10	59.32	141.38	4.20	65.74	156.75	5.13	72.07	172.12	6.17	-	-	-
	12	60.62	120.43	3.07	66.97	133.24	3.74	73.25	146.05	4.47	79.53	158.86	5.27
	15	62.91	100.50	2.15	68.53	108.71	2.51	74.78	118.96	2.99	80.21	127.17	3.41
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	46.40	138.25	4.02	51.33	153.62	4.94	55.48	165.14	5.69	59.47	176.66	6.49
	10	47.65	113.72	2.74	52.14	124.48	3.27	56.58	135.24	3.85	60.56	144.46	4.38
	12	48.85	97.37	2.03	53.02	105.06	2.35	57.70	115.30	2.82	61.63	122.99	3.20
	15	50.32	79.99	1.38	54.78	87.17	1.63	59.13	94.35	1.90	63.03	100.50	2.15

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX75-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	34.32	102.59	1.68	46.78	139.90	3.08	56.20	167.88	4.41	-	-	-
	10	37.69	89.57	1.29	48.71	115.70	2.12	57.98	138.09	3.00	66.51	158.62	3.94
	12	42.11	84.01	1.13	51.60	102.68	1.68	60.25	119.79	2.27	68.67	136.90	2.95
	15	45.43	72.23	0.84	54.79	87.17	1.22	62.82	99.62	1.58	71.67	114.57	2.08
R134a	6	-	-	-	35.22	139.84	3.08	-	-	-	-	-	-
	8	-	-	-	37.70	111.92	1.99	45.31	135.24	2.88	51.64	153.89	3.72
	10	31.42	74.64	0.90	40.54	97.04	1.50	47.05	111.97	1.99	53.29	126.89	2.54
	12	34.50	68.45	0.76	42.29	84.01	1.13	48.72	96.45	1.49	54.88	108.90	1.88
	15	37.65	59.77	0.58	45.28	72.23	0.84	51.59	82.19	1.08	57.67	92.15	1.36

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-
	12	76.51	152.46	3.65	84.20	168.02	4.41	-	-	-	-	-	-
	15	78.56	124.53	2.45	86.27	136.98	2.95	93.87	149.44	3.50	100.49	159.40	3.98
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	59.36	141.82	3.16	64.43	153.02	3.67	70.14	167.95	4.41	-	-	-
	12	60.88	121.34	2.33	65.93	130.68	2.69	71.21	141.57	3.15	76.31	152.46	3.65
	15	62.77	99.62	1.58	68.53	109.59	1.91	73.36	117.06	2.17	78.06	124.53	2.45

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX100-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	55.00	218.03	4.29	70.32	279.07	6.88	-	-	-
	8	-	-	-	59.32	176.67	2.87	72.68	215.93	4.21	85.50	255.19	5.80
	10	43.99	104.74	1.06	63.44	151.87	2.15	76.50	183.29	3.08	87.74	209.47	3.97
	12	50.62	100.41	0.98	65.90	130.97	1.62	78.82	157.17	2.29	89.87	179.00	2.94
	15	57.02	90.86	0.81	70.23	111.83	1.20	81.50	129.30	1.58	92.47	146.78	2.01
R134a	6	-	-	-	45.98	183.14	3.08	57.12	226.75	4.63	66.91	265.99	6.28
	8	-	-	-	48.52	143.96	1.94	59.46	176.67	2.87	68.39	202.85	3.74
	10	-	-	-	52.59	125.68	1.50	61.74	146.63	2.01	70.56	167.58	2.59
	12	43.82	87.32	0.75	54.93	109.14	1.14	63.96	126.61	1.52	72.68	144.07	1.94
	15	48.27	76.88	0.59	59.05	94.36	0.87	67.88	108.34	1.13	75.78	120.57	1.38

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	96.65	287.91	7.31	-	-	-	-	-	-	-	-	-
	10	98.69	235.66	4.97	109.61	261.84	6.09	119.10	282.79	7.06	-	-	-
	12	100.85	200.83	3.66	110.32	218.29	4.29	121.06	240.12	5.15	131.58	261.95	6.09
	15	103.37	164.25	2.49	114.07	181.72	3.02	123.42	195.70	3.48	133.86	213.18	4.10
R134a	6	75.64	300.87	7.96	-	-	-	-	-	-	-	-	-
	8	77.07	229.02	4.71	85.46	255.19	5.80	92.46	274.82	6.69	99.28	294.45	7.64
	10	79.11	188.53	3.25	86.72	206.86	3.88	94.25	225.18	4.56	101.06	240.89	5.19
	12	81.14	161.53	2.42	88.14	174.63	2.80	95.60	189.91	3.29	102.83	205.19	3.82
	15	83.49	132.80	1.66	90.46	143.28	1.92	98.43	157.26	2.29	105.01	167.74	2.59

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX120-1

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	69.30	275.43	2.77	87.75	349.59	4.36	103.51	413.15	6.01
	8	-	-	-	74.58	222.56	1.85	90.69	270.25	2.67	106.20	317.94	3.64
	10	58.62	139.95	0.77	77.68	184.48	1.29	93.68	222.65	1.85	109.00	260.81	2.50
	12	64.17	127.28	0.64	82.62	164.40	1.04	98.21	196.22	1.45	111.69	222.73	1.85
	15	71.92	114.62	0.52	87.94	140.09	0.77	101.64	161.31	1.00	114.95	182.54	1.26
R134a	6	-	-	-	56.08	222.47	1.85	70.56	280.73	2.88	82.37	328.40	3.87
	8	-	-	-	61.32	182.81	1.27	74.40	222.56	1.85	85.11	254.35	2.38
	10	48.07	114.50	0.53	64.32	152.67	0.90	77.17	184.48	1.29	87.74	209.92	1.65
	12	53.56	106.06	0.45	69.01	137.88	0.75	79.89	159.10	0.98	90.34	180.31	1.24
	15	61.09	97.64	0.39	72.26	114.62	0.53	83.04	131.60	0.68	93.46	148.58	0.86

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	ΔT Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	119.74	357.68	4.56	132.98	397.42	5.58	146.19	437.16	6.70	-	-	-
	10	122.27	292.62	3.11	135.52	324.43	3.78	147.00	349.87	4.37	159.88	381.68	5.16
	12	125.00	249.25	2.29	138.08	275.77	2.77	149.48	296.98	3.19	162.29	323.50	3.76
	15	128.18	203.76	1.56	141.14	224.99	1.88	153.98	246.21	2.23	165.20	263.19	2.53
R134a	6	92.96	370.78	4.89	101.85	402.56	5.72	-	-	-	-	-	-
	8	94.74	282.17	2.90	104.18	309.99	3.47	113.29	337.81	4.09	122.18	365.63	4.76
	10	97.30	232.19	2.00	106.57	254.45	2.38	114.99	273.54	2.73	123.09	292.62	3.11
	12	99.02	196.22	1.45	108.99	217.43	1.77	117.33	233.34	2.02	125.40	249.25	2.29
	15	103.52	165.56	1.05	111.93	178.29	1.21	120.14	191.03	1.38	128.20	203.76	1.56

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard TX/TXC multiple circuit DX evaporator

Shell-and-tube horizontal water-cooled multiple circuit chiller

TX/TXC chiller barrels engineered design provides years of reliable service. Ideal for system builder and OEM replacement units.

Standard Designs
TX/TXC dual and multiple circuit chillers are available in standard designs for fresh water duty. They are available in 18 catalog models from 10 to 250 tons. ¾" Armaflex® Insulation is fitted as standard.

Tube Materials
TX chillers are manufactured with enhanced ¼" diameter copper tubing and TXC utilize enhanced ⅜" diameter copper tubing.

Customization
As standard these units offer horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client.

Options
Units are available with left, right or top mounted shell side connections, please specify at time of order. As standard ¾" insulation is included, 1½" or no insulation is also available.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance internally enhanced designed tubing is standard. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing.

Tube Supports
Quality tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined steel heads. Custom connection versions are available.

Connections
All water side connections are FNPT, MNPT or flanged. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer. Units are shipped with ¾" insulation as standard, custom thickness insulation is available upon request.

Standard Refrigeration

Working Pressures
See table for working pressures.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal capacity in tons by 2.4. Water pressure drops provided do not include any external fittings or valves.

Approved Refrigerants
R22, R134a.

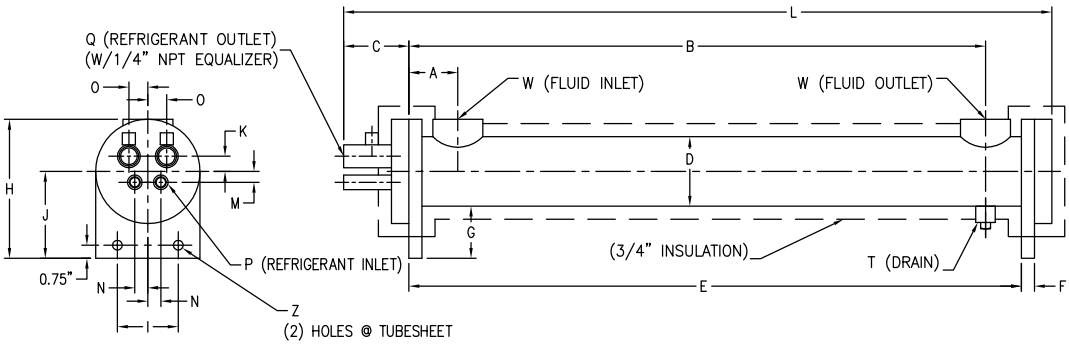
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. R404A, R410A & R507A due to recommended operating pressures. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Alfa Laval before use.

Alternative Options
For one circuit alternatives, use TX-TXC single circuit units. For higher pressure refrigerants use a TXC-MP units. Applications requiring glycol, use TXC-MPG. For clean fresh water applications use a brazed EVP-ACH2.

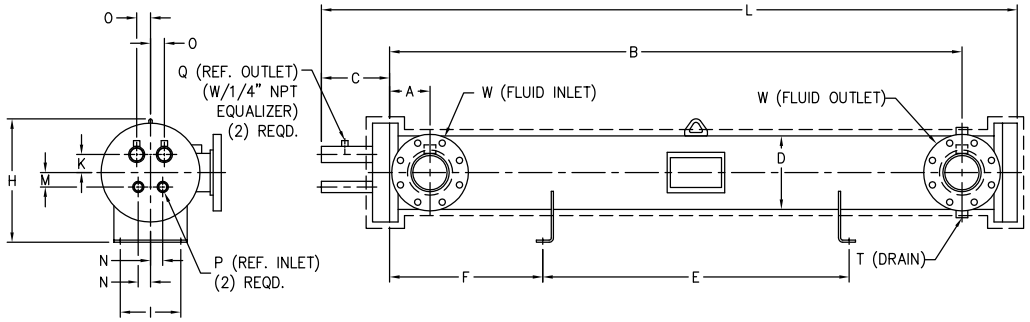
Codes
On all units 6⅝" OD and larger, the refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, while the shell side is non-code. Units 6" OD and smaller are UL stamped. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

TX
2-Circuit



Other multi-circuit models available, consult with factory.

TXC
2-Circuit



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard TX/TXC multiple circuit DX evaporator

Technical specifications

Models	R22 Nominal Cap.* (Tons)	R134a Nominal Cap.* (Tons)	R22 Press. Drop (psi)	R134a Press. Drop (psi)	Connections (inches)				Fluid Volume (gal)	Specifications			Working Pressure (psi	
					P Ref. IN (IDS)	Q Ref. Out (IDS)	W Fluid Conn.)	T Drain (FNPT)		Tube Length (in.)	Shell Dia. (in.)	Shipping Wt (lbs)	Shell	Tube
TX10-2	11.3	9.1	5.8	3.8	5/8	1 1/8	2" FPT	1/2	1.2	36	4	70	225	225
TX12-2	14.3	11.5	2.4	1.6	5/8	1 1/8	2" FPT	1/2	3.4	36	6	120	225	225
TX15-2	18.3	14.6	3.5	2.3	7/8	1 5/8	2 1/2" FPT	1/2	3.2	36	6	128	225	225
TX15-3*	18.3	14.6	3.5	2.3	5/8	1 1/8	2 1/2" FPT	1/2	8.4	72	6	145	225	225
TX20-2	22.6	18.0	5.9	3.8	7/8	1 5/8	3" FPT	1/2	2.9	36	6	136	225	225
TX20-4*	22.6	18.0	5.9	3.8	5/8	1 1/8	3" FPT	1/2	8.1	72	6	155	225	225
TX25-2	27.2	21.7	5.4	3.5	7/8	1 5/8	3" FPT	1/2	2.6	36	6	142	150	225
TXC30-2	29.8	24.2	4.7	3.1	7/8	1 5/8	3" MPT	3/4	9.3	72	6 5/8	404	150	300
TXC40-2	40.2	32.7	3.0	2.0	1 1/8	2 1/8	3" MPT	3/4	17.5	72	8 5/8	556	150	300
TXC50-2	50.9	40.9	5.4	3.5	1 1/8	2 1/8	4" FLANGE	3/4	17.1	72	8 5/8	581	150	300
TXC60-2	59.6	47.8	4.0	2.6	1 1/8	2 5/8	4" FLANGE	3/4	19.8	84	8 5/8	634	150	300
TXC75-2	75.2	59.7	5.1	3.2	1 3/8	2 5/8	5" FLANGE	3/4	19.5	84	8 5/8	587	150	300
TXC100-2	100.5	80.2	5.0	3.2	1 3/8	3 1/8	5" FLANGE	3/4	28.4	84	10 3/4	1070	150	225
TXC120-2	123.3	99.0	3.0	2.0	1 3/8	3 1/8	6" FLANGE	3/4	26.9	84	12 3/4	1080	150	225
TXC150-2	154.4	123.9	4.7	3.1	1 3/8	3 1/8	6" FLANGE	3/4	34.0	84	14	1600	150	225
TXC175-2	180.6	144.6	4.9	3.3	1 5/8	3 1/8	6" FLANGE	3/4	31.0	84	16	1700	150	225
TXC200-2	210.9	168.3	2.9	1.9	1 5/8	3 1/8	8" FLANGE	3/4	42.0	84	16	2100	150	225
TXC250-2	246.3	197.2	3.0	2.0	2 1/8	3 5/8	8" FLANGE	3/4	39.0	84	18	2200	150	225
TXC275-2	276.4	219.2	3.9	2.5	2 1/8	4 1/8	8" FLANGE	3/4	54.0	84	18	2600	150	225
TXC300-2	321.3	254.7	4.3	2.8	2 1/8	4 1/8	8" FLANGE	3/4	73.0	84	20	2700	150	225
TXC400-2	408.9	322.2	4.9	3.1	2 5/8	4 1/8	10" FLANGE	3/4	63.0	84	24	3200	150	225
TXC500-2	503.3	392.6	3.4	2.1	3 1/8	5 1/8	12" FLANGE	3/4	101.0	84	24	3600	150	225

*Ratings are based on entering water 54°F, leaving water 44°F, saturated suction temperature of 35°F, entering TXV temperature of 100°F with 7°F of superheating
*Units have 3 or 4 circuits, other units are 2 circuit
ProSuite software values are the most accurate
Includes ¾" thick insulation as standard
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Capacity Tons = 12,000 BTU/hr

Standard Refrigeration

Models	Dimensions (inches)														
	H	L	A	B	C	E	F	G	I	J	K	M	N	O	Z
TX10-2	8.00	40.50	2.81	33.19	3.50	35.50	0.50	3.00	3.50	5.00	11/16	15/16	0.75	1.00	0.56
TX12-2	10.00	41.25	2.94	33.06	4.50	35.50	1/2	3.00	5.75	6.00	1.00	0.75	1.13	1.13	0.56
TX15-2	10.31	41.25	3.19	32.81	4.50	35.50	1/2	3.00	5.75	6.00	1.19	7/8	1.25	1.25	0.56
TX15-3*	10.31	41.25	3.19	32.81	4.50	35.50	1/2	3.00	5.75	6.00	1.75	2.00	-	-	0.56
TX20-2	11.00	41.25	3.50	32.50	4.50	35.50	1/2	3.00	5.75	6.00	1.19	7/8	1.25	1.25	0.56
TX20-4*	11.00	41.25	3.50	32.50	4.50	35.50	1/2	3.00	5.75	6.00	1.63	7/8	0.81	7/8	0.56
TX25-2	11.00	41.25	3.50	32.50	4.50	35.50	1/2	3.00	5.75	6.00	1.19	7/8	1.25	1.25	0.56
TXC30-2	12.50	81.75	4.25	67.75	8.00	54.00	18.00	3.00	5.25	–	1.50	1.50	1.75	1.75	0.56
TXC40-2	14.13	81.75	4.50	67.50	8.00	54.00	18.00	3.00	7.13	–	1.75	1.63	2.00	2.00	0.56
TXC50-2	14.13	81.75	4.75	67.25	8.00	54.00	18.00	3.00	7.13	–	1.75	1.63	2.00	2.00	0.56
TXC60-2	15.50	93.75	4.75	79.25	8.00	63.00	21.00	3.00	7.13	–	1.75	1.63	2.00	2.00	0.56
TXC75-2	15.50	93.75	5.50	78.50	8.00	63.00	21.00	3.00	7.13	–	1.75	1.63	2.00	2.00	0.56
TXC100-2	16.88	95.13	5.75	78.25	8.63	63.00	21.00	4.50	11.25	–	2.38	2.67	2.25	3.13	0.56
TXC120-2	19.63	94.88	6.38	77.63	8.38	63.00	21.00	5.00	11.25	–	2.38	2.67	2.25	3.50	0.56
TXC150-2	20.88	96.63	6.38	77.63	9.38	63.00	21.00	5.50	12.00	–	2.63	2.13	3.00	3.00	0.69
TXC175-2	24.00	96.63	6.38	77.63	9.38	63.00	21.00	5.50	12.00	–	2.63	2.75	3.31	3.31	0.69
TXC200-2	24.00	96.63	7.50	76.50	9.38	63.00	21.00	5.50	12.00	–	2.63	2.75	2.50	3.33	0.69
TXC250-2	26.00	96.63	7.50	76.50	9.38	63.00	21.00	5.50	12.00	–	3.50	3.00	2.50	3.75	0.69
TXC275-2	24.88	96.88	7.50	76.50	9.38	63.00	21.00	5.50	12.00	–	2.81	3.63	3.63	3.63	0.69
TXC300-2	25.25	96.88	7.50	76.50	9.38	63.00	21.00	5.50	12.00	–	3.75	3.75	4.25	4.25	0.69
TXC400-2	29.87	97.88	8.63	75.38	9.38	63.00	21.00	5.50	12.00	–	3.50	3.50	3.00	4.63	0.69
TXC500-2	29.87	97.88	9.63	74.38	9.38	63.00	21.00	5.50	12.00	–	4.63	4.63	3.50	5.63	0.69

Models	Gaskets Article #		Heads Article #	
	Front	Rear	Front	Rear
TX10-2	4809	2872	3668	3675
TX12-2	2889	2889	3813	3699
TX15-2	2889	2889	3620	3699
TX15-3*	18696	18696	7589	7596
TX20-2	2889	2889	3620	3699
TX20-4*	2889	2889	7558	7541
TX25-2	2889	2889	3620	3699
TXC30-2	2218	2218	22014	31318
TXC40-2	2227	2227	22045	22052
TXC50-2	2227	2227	22045	22052
TXC60-2	2227	2227	22090	22052

Models	Gaskets Article #		Heads Article #	
	Front	Rear	Front	Rear
TXC75-2	2227	2227	22119	22052
TXC100-2	2236	2236	24434	5419
TXC120-2	4885	4892	4692	5202
TXC150-2	3549	3549	27307	5688
TXC175-2	5169	5169	22940	5495
TXC200-2	5169	5169	22940	5495
TXC250-2	3675	3675	36168	5914
TXC275-2	3675	3675	23462	5914
TXC300-2	4278	4278	30041	6298
TXC400-2	3532	3532	30108	5664
TXC500-2	3532	3532	411125	5664

*Units have 3 or 4 circuits, other units are 2 circuit
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

TX10-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	6.15	24.47	5.23	7.72	30.78	8.15	8.98	35.52	10.76
	8	-	-	-	6.92	20.73	3.79	8.17	24.28	5.15	9.53	28.43	6.98
	10	5.77	13.75	1.71	7.37	17.54	2.74	8.72	20.86	3.83	9.97	23.70	4.91
	12	6.54	13.04	1.55	7.92	15.81	2.24	9.15	18.18	2.93	10.38	20.55	3.72
	15	7.17	11.39	1.19	8.54	13.60	1.68	9.89	15.82	2.24	11.13	17.71	2.79
R134a	6	-	-	-	5.15	20.52	3.72	6.35	25.26	5.56	7.34	29.21	7.36
	8	-	-	-	5.76	17.18	2.64	6.77	20.14	3.58	7.75	23.10	4.67
	10	4.96	11.85	1.29	6.18	14.69	1.95	7.16	17.06	2.60	8.14	19.43	3.34
	12	5.55	11.06	1.13	6.57	13.04	1.55	7.55	15.02	2.03	8.52	16.99	2.58
	15	6.14	9.81	0.89	7.14	11.39	1.19	8.12	12.97	1.53	9.10	14.55	1.91

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	10.36	41.05	14.27	-	-	-	-	-	-	-	-	-
	8	10.77	31.98	8.78	12.14	36.13	11.12	13.49	40.27	13.75	-	-	-
	10	11.32	27.02	6.32	12.67	30.34	7.92	-	-	-	-	-	-
	12	11.74	23.31	4.75	13.07	26.08	5.90	-	-	-	-	-	-
	15	12.36	19.61	3.40	-	-	-	-	-	-	-	-	-
R134a	6	8.32	33.15	9.42	9.30	37.10	11.72	10.16	40.26	13.75	-	-	-
	8	8.71	26.06	5.90	9.58	28.43	6.99	10.54	31.39	8.47	11.48	34.35	10.09
	10	9.11	21.80	4.18	9.97	23.70	4.91	10.92	26.07	5.90	11.75	27.97	6.76
	12	9.50	18.97	3.19	10.35	20.55	3.72	11.29	22.52	4.44	12.11	24.10	5.07
	15	9.95	15.82	2.24	10.90	17.40	2.69	11.74	18.66	3.09	12.55	19.93	3.50

For performance data with other refrigerants and conditions use ProSuite or contact the factory

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	-	-	-	7.65	30.31	2.36	9.69	38.39	3.67	11.45	45.47	5.03	-
	-	-	-	8.66	25.77	1.75	10.42	31.08	2.47	11.99	35.63	3.19	2.23
	7.15	16.99	0.81	9.39	22.45	1.35	10.97	26.09	1.78	12.68	30.34	2.36	1.66
	8.14	16.19	0.74	9.92	19.73	1.06	11.65	23.27	1.44	13.21	26.30	1.81	1.33
	9.13	14.58	0.60	10.71	17.00	0.80	12.44	19.84	1.07	14.01	22.27	1.32	1.02
R134a	6.59	26.27	1.81	8.18	32.33	2.66	9.93	39.40	3.85	11.70	46.48	5.24	-
	7.34	21.98	1.30	8.91	26.53	1.84	10.67	31.84	2.58	12.26	36.39	3.32	-
	7.90	18.81	0.97	9.63	23.06	1.42	11.22	26.70	1.86	12.94	30.94	2.45	-
	8.52	16.94	0.80	10.18	20.23	1.11	11.76	23.27	1.44	13.47	26.81	1.87	0.89
	9.39	14.98	0.64	11.15	17.81	0.88	12.71	20.24	1.11	14.24	22.67	1.37	0.70

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	13.73	40.94	4.13	15.31	45.49	5.03	17.03	50.79	6.20	-	-	-
	10	14.26	33.98	2.91	15.83	37.62	3.52	-	-	-	-	-	-
	12	14.80	29.34	2.21	16.36	32.37	2.66	-	-	-	-	-	-
	15	15.74	25.10	1.65	17.28	27.53	1.96	-	-	-	-	-	-
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	13.95	41.69	4.28	15.34	45.49	5.03	16.80	50.03	6.02	-	-	-
	10	14.47	34.58	3.01	15.82	37.62	3.52	17.31	41.26	4.19	-	-	-
	12	14.99	29.84	2.29	16.31	32.37	2.66	-	-	-	-	-	-
	15	15.73	25.10	1.65	17.21	27.53	1.96	-	-	-	-	-	-

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX15-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	9.96	39.40	3.32	12.40	49.26	5.04	14.55	57.88	6.84
	8	8.37	24.95	1.41	11.16	33.26	2.42	13.31	39.73	3.37	15.44	46.20	4.47
	10	9.64	22.92	1.21	12.07	28.84	1.85	14.19	34.01	2.52	16.15	38.45	3.17
	12	10.59	20.96	1.02	12.96	25.89	1.51	14.88	29.59	1.94	17.00	33.90	2.50
	15	11.80	18.75	0.83	13.95	22.20	1.13	16.08	25.66	1.48	18.02	28.62	1.82
R134a	6	-	-	-	8.36	33.25	2.42	10.21	40.64	3.52	11.76	46.79	4.58
	8	-	-	-	9.30	27.72	1.72	10.87	32.34	2.29	12.41	36.96	2.94
	10	8.08	19.23	0.87	9.96	23.66	1.28	11.51	27.36	1.68	13.04	31.06	2.12
	12	9.00	17.88	0.76	10.59	20.96	1.02	12.13	24.04	1.32	13.66	27.12	1.65
	15	9.94	15.79	0.60	11.50	18.26	0.79	13.04	20.72	1.00	14.58	23.19	1.23

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	17.40	51.74	5.53	19.54	58.21	6.91	-	-	-	-	-	-
	10	18.28	43.63	4.01	20.39	48.80	4.95	-	-	-	-	-	-
	12	19.14	38.22	3.13	21.06	41.92	3.72	-	-	-	-	-	-
	15	20.14	32.07	2.25	-	-	-	-	-	-	-	-	-
R134a	6	13.31	52.95	5.78	14.84	59.11	7.13	-	-	-	-	-	-
	8	13.94	41.58	3.67	15.47	46.20	4.47	16.82	49.89	5.17	18.28	54.51	6.11
	10	14.58	34.75	2.62	16.10	38.45	3.17	17.43	41.41	3.64	18.90	45.11	4.27
	12	15.19	30.21	2.01	16.71	33.29	2.42	18.03	35.75	2.76	19.31	38.22	3.13
	15	16.11	25.66	1.48	17.45	27.63	1.70	18.93	30.10	2.00	20.18	32.07	2.25

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX20-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	12.43	49.51	5.31	15.24	60.34	7.78	-	-	-
	8	10.12	30.18	2.05	13.67	40.63	3.63	16.37	48.75	5.15	19.03	56.88	6.93
	10	11.70	27.87	1.76	14.80	35.30	2.77	17.46	41.81	3.83	19.91	47.38	4.87
	12	13.19	26.33	1.58	15.64	30.98	2.15	18.31	36.40	2.93	20.96	41.82	3.83
	15	14.43	22.94	1.21	17.12	27.28	1.68	19.54	31.00	2.15	22.22	35.34	2.77
R134a	6	10.34	41.00	3.69	12.90	51.06	5.63	15.61	61.89	8.16	-	-	-
	8	11.51	34.24	2.61	14.06	41.79	3.83	16.76	49.92	5.39	19.45	58.04	7.21
	10	12.51	29.73	1.99	15.18	36.23	2.91	17.89	42.74	4.00	20.30	48.31	5.06
	12	13.60	27.11	1.67	16.30	32.53	2.36	18.73	37.18	3.05	21.11	41.82	3.83
	15	14.85	23.56	1.27	17.54	27.90	1.76	20.20	32.24	2.32	22.55	35.96	2.86

		Approach Temperature (°F)											
		9			10			11			12		
TX20-2	Temp.	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	21.73	65.01	8.97	-	-	-	-	-	-	-	-	-
	10	22.56	53.88	6.24	25.01	59.46	7.55	-	-	-	-	-	-
	12	23.41	46.47	4.69	25.81	51.12	5.64	-	-	-	-	-	-
	15	24.88	39.68	3.46	-	-	-	-	-	-	-	-	-
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	21.84	65.01	8.97	-	-	-	-	-	-	-	-	-
	10	22.65	53.88	6.24	24.95	59.46	7.55	-	-	-	-	-	-
	12	23.43	46.47	4.69	25.73	51.12	5.64	-	-	-	-	-	-
	15	24.84	39.68	3.46	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TX25-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	14.79	58.60	4.87	18.42	73.25	7.50	-	-	-
	8	12.42	37.10	2.02	16.58	49.47	3.51	19.78	59.08	4.95	22.68	67.33	6.37
	10	14.32	34.09	1.71	17.93	42.89	2.66	20.81	49.49	3.51	23.99	57.18	4.64
	12	15.73	31.17	1.44	18.94	37.59	2.06	22.11	44.00	2.80	24.99	49.50	3.51
	15	17.52	27.89	1.16	20.71	33.02	1.61	23.88	38.16	2.12	26.76	42.56	2.62
R134a	6	-	-	-	12.42	49.45	3.51	15.16	60.43	5.17	17.45	69.59	6.79
	8	-	-	-	13.81	41.22	2.47	16.15	48.09	3.32	18.42	54.96	4.30
	10	12.01	28.59	1.22	14.79	35.19	1.82	17.08	40.69	2.41	19.36	46.19	3.07
	12	13.37	26.59	1.06	15.73	31.17	1.44	18.00	35.75	1.87	20.26	40.34	2.37
	15	14.75	23.48	0.84	17.07	27.15	1.10	19.35	30.82	1.41	21.62	34.49	1.75

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	27.13	64.88	5.92	30.03	71.48	7.15	-	-	-	-	-	-
	12	28.15	55.92	4.44	31.25	62.34	5.48	-	-	-	-	-	-
	15	29.61	46.97	3.17	-	-	-	-	-	-	-	-	-
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	20.67	61.83	5.40	22.94	68.70	6.62	24.92	74.20	7.69	-	-	-
	10	21.63	51.68	3.82	23.87	57.18	4.64	25.83	61.58	5.36	27.77	65.98	6.12
	12	22.55	44.92	2.91	24.78	49.50	3.51	26.72	53.17	4.03	28.62	56.84	4.59
	15	23.91	38.16	2.12	25.87	41.09	2.45	28.05	44.76	2.89	29.90	47.70	3.26

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC30-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	20.31	80.47	6.12	24.71	98.07	9.02
	8	-	-	-	16.45	49.06	2.33	21.49	64.15	3.93	25.37	75.47	5.39
	10	-	-	-	17.76	42.28	1.74	22.22	52.85	2.69	26.05	61.91	3.66
	12	-	-	-	19.01	37.77	1.40	23.37	46.58	2.10	26.70	52.87	2.69
	15	15.23	24.18	0.59	20.34	32.25	1.03	24.61	39.30	1.51	27.92	44.34	1.91
R134a	6	-	-	-	-	-	-	16.50	65.38	4.08	20.18	80.47	6.12
	8	-	-	-	12.72	37.74	1.40	17.70	52.83	2.69	20.85	62.26	3.70
	10	-	-	-	15.14	36.24	1.29	18.40	43.79	1.86	21.50	51.34	2.54
	12	-	-	-	15.87	31.47	0.98	19.31	38.39	1.44	22.16	44.06	1.88
	15	12.72	20.15	0.41	17.16	27.21	0.74	20.30	32.25	1.03	23.32	37.28	1.36

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	29.13	86.79	7.09	32.80	98.11	9.02	36.06	107.54	10.81	-	-	-
	10	29.75	70.97	4.78	33.02	78.52	5.83	36.60	87.58	7.22	39.81	95.13	8.49
	12	30.40	60.42	3.49	33.65	66.72	4.23	36.85	73.01	5.05	40.39	80.57	6.13
	15	31.56	50.38	2.44	34.76	55.42	2.94	37.94	60.46	3.49	40.71	64.49	3.96
R134a	6	22.86	90.53	7.71	25.64	101.84	9.72	-	-	-	-	-	-
	8	23.47	69.81	4.63	26.03	77.36	5.66	28.55	84.90	6.80	31.01	92.45	8.03
	10	24.10	57.38	3.16	26.63	63.42	3.84	29.13	69.46	4.59	31.55	75.50	5.40
	12	24.72	49.09	2.33	27.24	54.13	2.82	29.71	59.17	3.35	31.77	62.94	3.78
	15	25.45	40.31	1.58	27.96	44.34	1.91	30.40	48.37	2.26	32.80	52.40	2.64

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC40-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	27.61	109.86	4.39	-	-	-
	8	-	-	-	21.83	64.94	1.62	28.60	84.93	2.69	34.31	102.41	3.84
	10	-	-	-	24.27	57.97	1.31	30.15	71.97	1.96	35.23	83.96	2.63
	12	-	-	-	25.93	51.66	1.05	31.09	61.66	1.46	36.10	71.66	1.95
	15	21.72	34.68	0.50	27.70	44.02	0.77	32.79	52.03	1.06	37.72	60.03	1.39
R134a	6	-	-	-	-	-	-	22.56	89.89	3.00	26.85	106.53	4.14
	8	-	-	-	18.41	54.95	1.18	23.55	69.94	1.86	27.75	82.43	2.54
	10	-	-	-	20.12	47.98	0.91	25.07	59.97	1.39	28.63	67.97	1.76
	12	-	-	-	21.75	43.33	0.75	26.00	51.66	1.05	30.04	60.00	1.39
	15	18.40	29.35	0.36	23.46	37.35	0.57	27.61	44.02	0.77	31.07	49.36	0.96

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	40.14	95.96	3.39	44.47	105.95	4.09	-	-	-	-	-	-
	12	41.01	81.66	2.49	45.32	89.99	3.00	50.05	99.99	3.66	53.79	106.66	4.14
	15	42.07	66.70	1.70	46.84	74.71	2.10	50.54	80.04	2.40	55.25	88.05	2.87
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	31.75	94.92	3.32	35.17	104.91	4.02	-	-	-	-	-	-
	10	32.62	77.96	2.29	35.99	85.96	2.75	39.29	93.96	3.26	42.05	99.95	3.66
	12	33.45	66.66	1.70	36.80	73.33	2.03	40.08	79.99	2.40	42.83	84.99	2.69
	15	34.45	54.70	1.17	37.79	60.03	1.39	41.03	65.37	1.63	43.79	69.37	1.83

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC50-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	24.57	97.38	3.44	34.73	137.95	6.77	41.81	166.35	9.76
	8	-	-	-	28.66	85.24	2.65	36.68	109.59	4.32	42.95	127.86	5.83
	10	-	-	-	30.77	73.09	1.97	38.62	92.58	3.11	44.74	107.20	4.14
	12	24.40	48.75	0.90	32.82	65.00	1.57	39.83	79.21	2.30	45.92	91.40	3.03
	15	28.55	45.52	0.79	35.75	56.90	1.21	41.94	66.66	1.64	47.93	76.41	2.14
R134a	6	-	-	-	20.33	81.15	2.41	28.47	113.60	4.64	33.64	133.89	6.39
	8	-	-	-	23.53	70.02	1.81	29.72	88.28	2.84	34.81	103.50	3.87
	10	-	-	-	25.60	60.91	1.38	31.59	75.53	2.10	35.92	85.27	2.65
	12	-	-	-	27.60	54.84	1.13	32.75	65.00	1.57	37.66	75.15	2.08
	15	24.40	39.02	0.58	29.69	47.15	0.84	34.74	55.28	1.14	38.98	61.78	1.42

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	49.05	146.12	7.57	54.98	164.39	9.53	-	-	-	-	-	-
	10	50.12	119.38	5.10	56.05	134.00	6.39	61.30	146.18	7.58	66.55	158.36	8.86
	12	51.25	101.56	3.72	57.08	113.74	4.64	62.30	123.90	5.48	67.49	134.05	6.39
	15	53.20	84.54	2.61	59.07	94.30	3.22	63.59	100.80	3.67	69.38	110.56	4.39
R134a	6	38.31	152.15	8.20	42.79	170.41	10.23	-	-	-	-	-	-
	8	39.68	118.72	5.05	43.84	130.90	6.11	47.88	143.08	7.27	51.30	152.21	8.20
	10	40.75	97.45	3.44	44.83	107.20	4.14	48.86	116.95	4.90	52.29	124.25	5.52
	12	41.79	83.28	2.53	45.89	91.40	3.04	49.88	99.52	3.58	53.21	105.62	4.02
	15	43.10	68.29	1.72	47.13	74.79	2.05	51.08	81.29	2.42	54.96	87.80	2.81

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC60-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	33.63	133.08	3.73	42.58	168.91	5.95	-	-	-
	8	-	-	-	36.17	107.53	2.46	44.02	130.57	3.59	51.57	153.62	4.94
	10	28.46	67.62	1.00	38.61	92.21	1.82	46.29	110.65	2.60	52.91	126.02	3.35
	12	32.16	64.06	0.90	40.07	79.43	1.36	47.68	94.81	1.92	54.25	107.62	2.46
	15	34.90	55.38	0.68	42.67	67.69	1.00	50.15	79.99	1.38	56.64	90.25	1.75
R134a	6	-	-	-	28.24	112.61	2.69	34.74	138.20	4.02	40.12	158.67	5.26
	8	-	-	-	29.76	88.33	1.68	36.15	107.53	2.46	41.40	122.89	3.19
	10	24.50	58.40	0.75	32.15	76.84	1.28	37.50	89.13	1.71	42.72	101.43	2.20
	12	27.06	53.81	0.64	33.55	66.62	0.97	39.23	78.15	1.32	43.98	87.12	1.63
	15	29.67	47.17	0.50	35.97	57.43	0.73	41.20	65.63	0.94	46.26	73.84	1.18

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	58.16	172.82	6.22	-	-	-	-	-	-	-	-	-
	10	59.44	141.38	4.20	65.82	156.75	5.13	72.22	172.12	6.17	-	-	-
	12	60.68	120.43	3.07	67.09	133.24	3.74	73.41	146.05	4.47	79.72	158.86	5.27
	15	63.03	100.50	2.15	69.36	110.76	2.60	74.91	118.96	2.99	81.15	129.22	3.52
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	46.53	138.25	4.02	51.47	153.62	4.94	55.64	165.14	5.69	-	-	-
	10	47.75	113.72	2.74	52.65	126.02	3.35	56.75	135.24	3.85	60.75	144.46	4.38
	12	48.96	97.37	2.03	53.49	106.34	2.41	57.92	115.30	2.82	61.85	122.99	3.20
	15	50.46	79.99	1.38	55.29	88.20	1.67	59.32	94.35	1.90	63.23	100.50	2.15

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC75-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	34.35	102.59	1.69	46.84	139.90	3.10	56.27	167.88	4.43	-	-	-
	10	37.74	89.57	1.29	48.75	115.70	2.13	58.06	138.09	3.02	67.05	160.48	4.05
	12	42.16	84.01	1.14	51.67	102.68	1.69	60.80	121.34	2.34	68.81	136.90	2.97
	15	45.49	72.23	0.85	54.89	87.17	1.22	63.94	102.11	1.67	71.86	114.57	2.09
R134a	6	-	-	-	35.83	142.95	3.23	-	-	-	-	-	-
	8	28.13	83.94	1.14	38.34	114.25	2.08	45.45	135.24	2.90	51.80	153.89	3.74
	10	31.44	74.64	0.90	40.66	97.04	1.51	47.16	111.97	2.00	53.45	126.89	2.56
	12	34.53	68.45	0.76	42.37	84.01	1.14	49.31	98.01	1.54	55.55	110.45	1.95
	15	37.73	59.77	0.59	45.40	72.23	0.85	51.74	82.19	1.09	57.85	92.15	1.36

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-
	12	76.70	152.46	3.66	84.46	168.02	4.44	-	-	-	-	-	-
	15	79.61	127.02	2.56	87.35	139.47	3.08	94.11	149.44	3.52	101.72	161.89	4.12
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	59.54	141.82	3.18	65.47	156.75	3.87	70.49	167.95	4.43	-	-	-
	12	61.12	121.34	2.34	66.99	133.79	2.84	71.94	143.12	3.24	76.72	152.46	3.67
	15	63.88	102.11	1.67	68.89	109.59	1.92	73.76	117.06	2.18	78.56	124.53	2.46

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC100-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	55.06	218.03	4.29	70.43	279.07	6.88	-	-	-
	8	-	-	-	59.39	176.67	2.87	74.30	222.48	4.46	85.69	255.19	5.80
	10	44.02	104.74	1.06	63.52	151.87	2.15	76.63	183.29	3.08	87.89	209.47	3.97
	12	52.45	104.78	1.06	65.95	130.97	1.62	78.93	157.17	2.29	90.14	179.00	2.94
	15	57.07	90.86	0.81	70.34	111.83	1.20	83.06	132.80	1.66	94.12	150.27	2.10
R134a	6	-	-	-	46.07	183.14	3.08	57.30	226.75	4.63	67.77	270.35	6.48
	8	-	-	-	50.29	150.50	2.11	60.32	179.94	2.97	69.94	209.39	3.97
	10	-	-	-	52.71	125.68	1.50	62.66	149.25	2.08	71.43	170.20	2.67
	12	43.89	87.32	0.75	55.06	109.14	1.14	65.57	130.97	1.62	73.58	146.25	2.00
	15	48.36	76.88	0.59	59.17	94.36	0.87	68.10	108.34	1.13	76.74	122.31	1.42

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	96.90	287.91	7.31	-	-	-	-	-	-	-	-	-
	10	99.03	235.66	4.97	109.90	261.84	6.09	120.71	288.03	7.31	-	-	-
	12	101.06	200.83	3.66	111.91	222.65	4.46	122.59	244.48	5.33	132.10	261.95	6.09
	15	104.93	167.74	2.59	114.45	181.72	3.02	125.06	199.20	3.60	135.73	216.67	4.23
R134a	6	76.60	305.24	8.19	-	-	-	-	-	-	-	-	-
	8	77.97	232.29	4.84	85.87	255.19	5.80	94.02	281.37	7.00	100.94	301.00	7.97
	10	79.40	188.53	3.25	87.73	209.47	3.97	94.77	225.18	4.56	102.72	246.13	5.41
	12	81.40	161.53	2.42	89.74	179.00	2.94	96.72	192.09	3.36	103.40	205.19	3.82
	15	84.45	134.55	1.70	92.09	146.78	2.01	98.96	157.26	2.29	105.63	167.74	2.59

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC120-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	69.46	275.43	2.77	87.99	349.59	4.36	103.86	413.15	6.01
	8	-	-	-	74.72	222.56	1.85	90.93	270.25	2.67	106.54	317.94	3.64
	10	58.69	139.95	0.77	79.73	190.84	1.38	95.63	229.01	1.95	109.33	260.81	2.50
	12	64.25	127.28	0.64	82.79	164.40	1.04	98.54	196.22	1.45	112.15	222.73	1.85
	15	72.05	114.62	0.52	88.15	140.09	0.77	103.61	165.56	1.05	117.08	186.78	1.32
R134a	6	-	-	-	56.19	222.47	1.85	71.76	286.03	2.98	82.84	328.40	3.87
	8	-	-	-	61.47	182.81	1.27	74.63	222.56	1.85	85.55	254.35	2.38
	10	48.17	114.50	0.53	66.41	159.03	0.98	77.49	184.48	1.29	88.21	209.92	1.65
	12	55.87	111.37	0.50	69.31	137.88	0.75	80.24	159.10	0.98	90.88	180.31	1.24
	15	61.28	97.64	0.39	74.32	118.86	0.56	85.09	135.84	0.72	95.54	152.82	0.90

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	120.16	357.68	4.56	133.73	397.42	5.58	146.90	437.16	6.70	-	-	-
	10	122.85	292.62	3.11	136.08	324.43	3.78	149.25	356.23	4.52	162.22	388.04	5.33
	12	125.44	249.25	2.29	138.61	275.77	2.77	151.65	302.28	3.30	164.66	328.80	3.88
	15	130.32	208.01	1.62	143.33	229.23	1.95	154.84	246.21	2.23	166.17	263.19	2.53
R134a	6	93.59	370.78	4.89	103.97	413.15	6.02	-	-	-	-	-	-
	8	96.07	286.14	2.98	106.33	317.94	3.64	114.96	341.78	4.18	123.27	365.63	4.76
	10	98.66	235.37	2.05	108.82	260.81	2.50	117.26	279.90	2.86	125.54	298.98	3.24
	12	101.16	201.52	1.53	109.84	217.43	1.77	119.59	238.64	2.11	127.74	254.55	2.38
	15	104.21	165.56	1.05	114.16	182.54	1.27	122.54	195.27	1.44	130.66	208.01	1.62

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC150-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	88.15	351.03	4.53	-	-	-	-	-	-
	8	-	-	-	94.67	282.89	3.01	114.50	341.42	4.30	132.53	395.07	5.67
	10	75.38	179.56	1.27	98.61	234.21	2.10	118.21	281.05	2.97	137.06	327.90	3.98
	12	84.72	169.22	1.14	104.67	208.27	1.68	123.82	247.32	2.33	140.45	279.86	2.94
	15	91.61	145.88	0.86	111.27	177.14	1.24	128.18	203.18	1.60	144.60	229.23	2.01
R134a	6	-	-	-	71.87	286.03	3.07	88.41	351.03	4.53	102.99	409.54	6.08
	8	-	-	-	78.22	234.12	2.10	92.10	273.14	2.81	106.37	317.03	3.73
	10	62.31	148.33	0.89	81.94	195.18	1.49	96.70	230.31	2.04	109.69	261.54	2.59
	12	68.92	136.68	0.76	85.49	169.22	1.14	101.05	201.76	1.58	113.06	224.54	1.94
	15	76.87	122.43	0.62	91.79	145.88	0.86	105.10	166.72	1.10	117.88	187.55	1.38

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	153.45	366.93	4.92	169.82	405.97	5.98	184.04	437.20	6.89	-	-	-
	12	156.90	312.41	3.62	173.04	344.95	4.37	188.90	377.49	5.20	203.08	403.53	5.91
	15	160.97	255.28	2.47	177.09	281.33	2.97	192.92	307.38	3.51	208.80	333.43	4.10
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	119.19	356.05	4.66	130.88	390.20	5.54	141.40	419.46	6.37	-	-	-
	10	121.56	288.86	3.13	133.94	320.09	3.80	144.38	343.51	4.35	154.34	366.93	4.93
	12	124.69	247.32	2.33	137.03	273.36	2.81	147.32	292.88	3.21	157.20	312.41	3.63
	15	130.31	208.39	1.68	140.76	224.02	1.93	150.94	239.65	2.19	160.80	255.28	2.47

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC175-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	101.48	403.76	5.06	-	-	-	-	-	-
	8	-	-	-	109.21	326.25	3.38	132.87	396.16	4.87	-	-	-
	10	85.80	205.15	1.41	113.79	270.43	2.37	137.07	326.38	3.37	158.38	377.67	4.45
	12	93.94	186.58	1.18	121.02	240.99	1.90	141.30	279.86	2.52	163.54	326.51	3.37
	15	105.28	168.02	0.96	128.70	205.36	1.40	148.81	236.47	1.83	168.37	267.58	2.31
R134a	6	-	-	-	82.14	326.11	3.38	103.44	411.53	5.24	-	-	-
	8	-	-	-	89.79	267.99	2.33	108.95	326.25	3.38	124.63	372.85	4.35
	10	70.38	167.85	0.97	94.19	223.80	1.66	113.01	270.43	2.37	128.50	307.73	3.02
	12	78.42	155.48	0.84	99.81	198.24	1.32	116.98	233.22	1.79	132.29	264.32	2.26
	15	89.51	143.13	0.71	105.80	168.02	0.96	121.65	192.91	1.25	136.85	217.80	1.57

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	179.05	428.95	5.66	-	-	-	-	-	-	-	-	-
	12	183.05	365.38	4.17	199.88	396.47	4.87	218.91	435.35	5.82	-	-	-
	15	187.69	298.70	2.85	206.60	329.81	3.43	223.43	354.70	3.94	242.10	385.82	4.62
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	138.76	413.64	5.29	-	-	-	-	-	-	-	-	-
	10	141.41	335.70	3.56	156.09	373.00	4.35	168.44	400.98	4.99	180.32	428.95	5.67
	12	145.12	287.64	2.66	159.64	318.73	3.23	171.86	342.06	3.69	183.67	365.38	4.18
	15	151.72	242.69	1.93	163.92	261.36	2.21	176.08	280.03	2.52	187.74	298.70	2.85

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC200-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	116.50	463.47	2.65	148.86	593.24	4.23	174.96	695.21	5.73
	8	-	-	-	125.65	375.56	1.77	153.86	459.02	2.60	178.05	528.57	3.39
	10	93.07	222.65	0.66	131.00	311.70	1.25	158.80	378.50	1.80	182.58	434.16	2.33
	12	103.07	204.17	0.56	139.55	278.42	1.01	163.65	324.82	1.35	187.31	371.22	1.73
	15	117.09	185.72	0.47	148.61	237.72	0.75	172.39	274.87	0.98	195.67	312.01	1.25
R134a	6	-	-	-	93.46	370.78	1.73	119.14	472.74	2.75	139.85	556.16	3.74
	8	-	-	-	102.73	306.01	1.21	125.61	375.56	1.78	144.38	431.20	2.31
	10	-	-	-	109.51	261.61	0.90	130.42	311.70	1.25	148.80	356.23	1.61
	12	88.83	176.33	0.43	116.14	232.02	0.71	135.04	269.14	0.94	153.32	306.26	1.20
	15	102.20	163.44	0.37	121.60	193.15	0.50	140.47	222.87	0.66	158.55	252.58	0.84

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	201.58	598.12	4.29	224.90	667.67	5.30	247.50	737.22	6.41	-	-	-
	10	206.02	489.82	2.93	228.77	545.48	3.60	251.41	601.14	4.33	271.25	645.67	4.97
	12	210.29	417.63	2.17	233.10	464.03	2.65	252.87	501.15	3.06	275.01	547.56	3.62
	15	215.63	341.73	1.48	238.29	378.87	1.80	260.43	416.02	2.15	279.95	445.73	2.45
R134a	6	158.24	630.32	4.75	174.74	695.21	5.73	190.82	760.09	6.81	-	-	-
	8	161.08	479.89	2.83	177.43	528.57	3.40	192.25	570.30	3.92	207.72	618.98	4.59
	10	164.06	389.63	1.90	181.54	434.16	2.34	195.99	467.56	2.69	210.11	500.95	3.07
	12	168.36	334.10	1.42	184.26	366.58	1.69	199.84	399.07	1.99	213.90	426.91	2.26
	15	173.38	274.87	0.98	190.51	304.58	1.19	204.64	326.87	1.36	218.53	349.16	1.54

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC250-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	106.32	423.74	1.78	159.50	635.62	3.83	192.25	762.74	5.43	-	-	-
	8	132.86	397.42	1.58	170.47	508.70	2.51	202.60	604.08	3.48	230.50	683.57	4.40
	10	144.34	343.51	1.20	181.01	432.57	1.85	212.53	508.90	2.51	239.95	572.52	3.14
	12	155.25	307.59	0.97	191.31	381.83	1.46	219.10	434.86	1.87	246.42	487.89	2.32
	15	170.77	271.68	0.77	202.61	322.63	1.06	230.31	365.08	1.34	257.24	407.53	1.65
R134a	6	-	-	-	127.71	508.49	2.52	154.25	614.43	3.60	176.05	699.18	4.60
	8	106.71	317.94	1.04	138.26	413.32	1.70	162.24	484.85	2.30	183.74	548.44	2.90
	10	117.79	279.90	0.81	146.48	349.87	1.24	170.13	407.12	1.65	191.15	458.01	2.06
	12	128.11	254.55	0.68	154.49	307.59	0.97	176.03	350.01	1.24	197.18	392.44	1.54
	15	138.96	220.74	0.52	164.87	263.19	0.72	186.29	297.16	0.91	207.06	331.12	1.11

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	267.06	636.13	3.83	293.59	699.74	4.60	319.87	763.36	5.43	-	-	-
	12	276.26	551.53	2.92	299.67	593.96	3.37	326.00	646.99	3.96	351.81	700.02	4.60
	15	286.81	458.47	2.06	310.48	492.43	2.36	336.18	534.88	2.76	362.13	577.33	3.19
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	203.26	604.08	3.48	223.27	667.67	4.21	240.40	715.36	4.80	256.78	763.05	5.44
	10	208.95	496.18	2.40	228.81	547.07	2.88	245.65	585.24	3.28	262.00	623.41	3.70
	12	215.90	429.56	1.82	234.52	466.68	2.13	251.21	498.50	2.42	267.25	530.32	2.72
	15	224.41	356.59	1.28	241.20	382.06	1.46	260.39	416.02	1.72	276.12	441.49	1.92

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC275-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	115.19	457.45	2.14	173.00	686.18	4.62	-	-	-	-	-	-
	8	144.26	429.04	1.89	185.10	549.16	3.02	221.76	660.71	4.29	253.55	755.10	5.54
	10	161.02	384.57	1.54	196.67	466.98	2.22	230.81	549.39	3.02	263.87	631.79	3.94
	12	172.71	343.50	1.24	207.74	412.20	1.75	241.56	480.90	2.35	271.31	538.15	2.90
	15	189.52	302.46	0.98	223.74	357.45	1.34	253.59	403.28	1.68	283.04	449.11	2.06
R134a	6	-	-	-	138.72	548.94	3.02	167.56	663.30	4.33	-	-	-
	8	115.59	343.23	1.24	150.20	446.20	2.04	177.99	532.00	2.85	201.35	600.65	3.58
	10	132.20	315.90	1.06	161.00	384.57	1.54	184.90	439.51	1.98	208.09	494.45	2.48
	12	141.21	280.53	0.85	167.79	332.05	1.17	193.10	383.58	1.53	215.95	429.38	1.89
	15	154.94	247.47	0.67	179.30	284.13	0.87	204.26	325.38	1.12	225.35	357.45	1.34

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	293.28	700.47	4.80	-	-	-	-	-	-	-	-	-
	12	300.03	595.41	3.52	329.05	652.66	4.19	357.76	709.91	4.92	-	-	-
	15	312.11	494.94	2.47	340.88	540.76	2.93	369.00	586.59	3.41	-	-	-
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	223.95	669.29	4.40	244.28	729.36	5.19	-	-	-	-	-	-
	10	230.38	549.39	3.02	250.65	597.46	3.54	270.38	645.53	4.11	287.83	686.73	4.62
	12	236.63	469.45	2.24	258.01	515.25	2.68	276.12	549.60	3.02	293.76	583.96	3.39
	15	247.19	394.12	1.61	265.79	421.61	1.83	285.09	453.69	2.10	303.68	485.77	2.39

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC300-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	134.17	532.09	2.45	-	-	-	-	-	-	-	-	-
	8	173.31	519.00	2.33	220.09	658.73	3.66	-	-	-	-	-	-
	10	187.66	447.32	1.76	233.53	559.14	2.68	269.10	639.02	3.45	307.52	734.88	4.49
	12	201.38	399.55	1.42	242.08	479.46	2.00	281.50	559.37	2.68	315.90	625.96	3.31
	15	220.99	351.81	1.12	260.86	415.78	1.53	295.70	469.08	1.92	333.69	533.05	2.44
R134a	6	-	-	-	161.34	638.51	3.45	-	-	-	-	-	-
	8	140.10	419.19	1.56	174.81	519.00	2.33	207.11	618.80	3.25	234.10	698.65	4.09
	10	153.88	367.44	1.22	187.48	447.32	1.76	215.20	511.22	2.26	242.03	575.12	2.83
	12	166.61	332.96	1.01	197.54	392.89	1.38	226.68	452.82	1.80	251.18	499.44	2.17
	15	180.55	287.84	0.77	210.87	335.82	1.02	237.74	378.46	1.28	262.07	415.78	1.53

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-
	12	349.38	692.55	4.01	383.01	759.14	4.78	-	-	-	-	-	-
	15	367.02	586.35	2.92	400.13	639.66	3.45	429.41	682.30	3.90	-	-	-
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	267.74	639.02	3.45	291.15	694.94	4.04	313.88	750.85	4.68	-	-	-
	12	275.09	546.05	2.56	298.43	592.66	2.99	320.55	639.28	3.45	340.89	679.23	3.87
	15	287.37	458.42	1.84	308.85	490.40	2.09	329.53	522.39	2.35	349.81	554.37	2.63

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC400-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	226.45	898.29	4.44	286.35	1140.14	6.97	-	-	-
	8	-	-	-	243.62	725.84	2.97	296.03	881.37	4.28	346.32	1036.91	5.82
	10	191.64	456.42	1.25	259.93	622.40	2.23	305.84	726.13	2.97	355.57	850.61	4.00
	12	216.78	432.39	1.13	269.94	536.17	1.68	320.84	639.94	2.34	364.38	726.42	2.97
	15	235.24	373.81	0.86	287.40	456.88	1.25	331.92	526.10	1.62	375.13	595.32	2.04
R134a	6	-	-	-	182.89	725.54	2.97	227.16	898.29	4.44	265.64	1053.76	6.01
	8	-	-	-	199.95	596.22	2.06	239.32	712.88	2.88	274.26	816.57	3.71
	10	156.98	373.44	0.86	209.77	497.92	1.47	251.33	601.65	2.09	282.93	674.26	2.59
	12	181.90	363.21	0.81	222.01	441.04	1.17	260.18	518.87	1.58	291.56	579.41	1.95
	15	199.18	318.43	0.64	235.64	373.81	0.86	270.64	429.19	1.11	304.24	484.57	1.39

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	390.17	1166.52	7.28	-	-	-	-	-	-	-	-	-
	10	398.52	954.34	4.97	436.19	1037.33	5.82	478.41	1141.06	6.98	-	-	-
	12	407.52	812.90	3.67	444.71	882.08	4.28	486.41	968.56	5.11	523.17	1037.74	5.83
	15	418.00	664.55	2.51	459.73	733.77	3.02	496.86	789.15	3.47	537.85	858.37	4.06
R134a	6	299.81	1191.96	7.59	-	-	-	-	-	-	-	-	-
	8	305.73	907.30	4.52	338.21	1010.99	5.55	365.28	1088.76	6.39	391.72	1166.52	7.29
	10	313.76	746.88	3.14	343.60	819.49	3.73	372.69	892.10	4.38	399.03	954.34	4.98
	12	322.05	639.94	2.35	349.56	691.83	2.71	378.40	752.36	3.18	404.16	804.25	3.60
	15	331.92	526.10	1.62	363.63	581.48	1.96	389.79	623.01	2.23	415.54	664.55	2.51

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

TXC500-2

		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	269.88	1068.39	3.44	-	-	-	-	-	-	-
	8	-	-	291.30	865.75	2.30	356.47	1058.14	3.37	-	-	-	5.82
	10	513.24	0.86	311.87	744.20	1.73	375.25	898.17	2.47	429.58	1026.48	3.18	4.00
	12	513.45	0.86	323.87	641.81	1.30	386.84	770.17	1.84	440.25	877.14	2.36	2.97
	15	445.25	0.65	345.49	548.00	0.97	406.98	650.75	1.34	453.29	719.25	1.62	2.04
R134a	6	-	-	216.23	854.71	2.25	278.37	1111.13	3.70	-	-	-	6.01
	8	-	-	237.52	705.42	1.56	289.98	865.75	2.30	332.56	994.01	2.99	3.71
	10	-	-	257.32	615.89	1.21	301.24	718.54	1.62	342.93	821.19	2.08	2.59
	12	427.87	0.61	268.74	534.84	0.92	312.05	620.41	1.22	353.42	705.99	1.56	1.95
	15	376.75	0.48	285.08	453.81	0.68	327.78	522.31	0.88	365.74	582.25	1.08	1.39

		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	482.19	1154.79	3.98	-	-	-	-	-	-	-	-	-
	12	492.99	984.11	2.93	538.38	1069.68	3.44	583.62	1155.26	3.98	-	-	-
	15	505.71	804.88	2.00	556.91	890.50	2.42	601.30	959.00	2.79	645.60	1027.50	3.18
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	370.52	1106.23	3.67	-	-	-	-	-	-	-	-	-
	10	377.74	898.17	2.47	413.92	987.99	2.96	446.50	1064.98	3.41	475.67	1129.13	3.81
	12	387.50	770.17	1.84	420.84	834.35	2.15	453.28	898.53	2.47	484.59	962.71	2.82
	15	399.31	633.63	1.27	434.86	693.56	1.51	464.29	736.38	1.69	495.51	787.75	1.92

For performance data with other refrigerants and conditions use Pro-Suite or contact the factory

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard TX/TXC single circuit DX evaporator for R410A

Suitable for R410A

TX/TXC-410 chiller barrels are optimized to work for R410A. Ideal for system builder and OEM replacement units. They are designed to work with higher pressure refrigerants.

Standard Designs
TX/TXC single circuit chillers are available in standard designs for fresh water duty. They are available in 17 catalog models from 2 to 120 tons. ¾" Armaflex® Insulation is fitted as standard.

Tube Materials
TX chillers are manufactured with enhanced ¼" diameter copper tubing and TXC utilize enhanced ⅜" diameter copper tubing. The tubes provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Customization
As standard these units offer horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client.

Options
Units are available with left, right or top mounted shell side connections, please specify at time of order. As standard ¾" insulation is included, 1½" or no insulation is also available.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance internally enhanced designed tubing is standard. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing.

Tube Supports
Quality tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined steel heads. Custom connection versions are available.

Connections
All water side connections are FNPT, MNPT or flanged. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer. Units are shipped with ¾" insulation as standard, custom thickness insulation is available upon request.

Standard Refrigeration

Working Pressures:
See table for working pressures.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal capacity in tons by 2.4. Water pressure drops provided do not include any external fittings or valves.

Approved Refrigerants
R22, R134a, R404A, R410A and R507A.

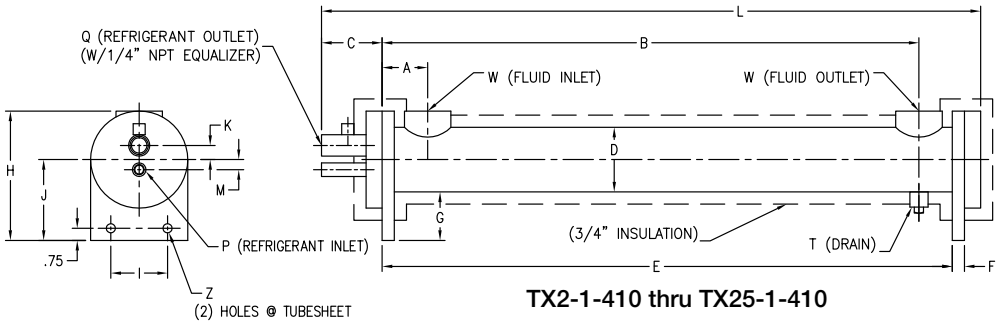
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Alternative Options
For lower pressure refrigerants use a TXC units. Applications requiring glycol, use TXC-MPG (suitable for higher pressure refrigerants). For clean fresh water applications use a brazed EVP-ACH.

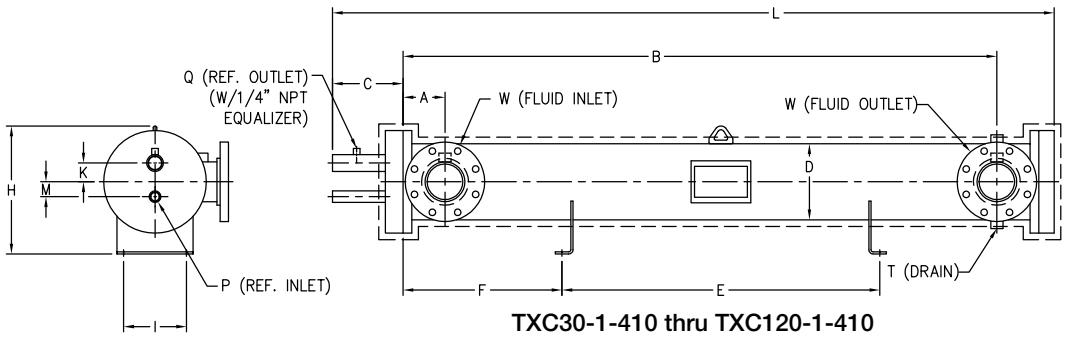
Codes
On all units 6⅝" OD and larger, the refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, while the shell side is non-code. Units 6" OD and smaller are UL stamped. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

TX
1-Circuit



TX2-1-410 thru TX25-1-410

TXC
1-Circuit



TXC30-1-410 thru TXC120-1-410

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard TX/TXC single circuit DX evaporator for R410A

Technical specifications

Models	R22 Nominal Cap.* (Tons)	R134a Nominal Cap.* (Tons)	R410A Nominal Cap.* (Tons)	R22 Press. Drop (psi)	R134a Press. Drop (psi)	R410A Pressure Drop (psi)
TX2-1-410	1.7	1.4	2.0	1.3	0.9	1.8
TX3-1-410	2.5	2.1	3.1	1.9	1.3	2.9
TX5-1-410	4.0	3.3	5.0	1.6	1.1	2.5
TX6-1-410	4.8	4.0	6.0	1.4	1.0	2.2
TX7.5-1-410	5.9	4.9	7.5	1.8	1.2	2.8
TX10-1-410	8.2	6.7	10.2	2.5	1.7	3.8
TX12-1-410	9.6	8.0	12.0	2.8	2.0	4.2
TX15-1-410	12.1	9.9	15.1	2.6	1.8	3.8
TX20-1-410	16.0	13.1	20.0	2.9	2.0	4.4
TX25-1-410	20.3	16.4	25.3	2.9	1.9	4.4
TXC30 -1-410	24.9	20.5	30.5	3.4	2.3	5.0
TXC40 -1-410	32.7	26.7	40.2	2.4	1.6	3.6
TXC50 -1-410	41.3	33.1	50.7	3.0	1.9	4.5
TXC60 -1-410	49.0	39.7	60.5	3.5	2.3	5.2
TXC75 -1-410	60.8	49.3	75.8	3.8	2.5	5.9
TXC100-1-410	81.7	66.1	101.0	2.9	2.0	4.4
TXC120-1-410	97.8	79.2	120.8	2.6	1.8	3.9

Standard Refrigeration

Models	Connections (inches)				Fluid Volume (gal)	Specifications			Working Pressure (psi	
	P Ref. IN (IDS)	Q Ref. Out (IDS)	W Fluid Conn.)	T Drain (FNPT)		Tube Length (in.)	Shell Dia. (in.)	Shipping Wt (lbs)	Shell	Tube
TX2-1-410	3/8	5/8	1" FPT	3/8	0.4	36	2 3/4	46	225	375
TX3-1-410	3/8	7/8	1" FPT	3/8	0.4	36	2 3/4	50	225	375
TX5-1-410	5/8	7/8	1.25" FPT	1/2	1.6	36	4	63	225	375
TX6-1-410	5/8	7/8	1.5" FPT	1/2	1.5	36	4	65	225	375
TX7.5-1-410	5/8	1 1/8	1.5" FPT	1/2	1.4	36	4	67	225	375
TX10-1-410	5/8	1 1/8	2" FPT	1/2	1.2	36	4	71	225	375
TX12-1-410	7/8	1 3/8	2" FPT	1/2	3.4	36	6	122	225	375
TX15-1-410	7/8	1 3/8	2.5" FPT	1/2	3.2	36	6	130	225	375
TX20-1-410	7/8	1 5/8	2.5" FPT	1/2	2.9	36	6	138	225	375
TX25-1-410	7/8	1 5/8	3" FPT	1/2	2.6	36	6	144	225	375
TXC30 -1-410	1 1/8	2 1/8	3" MPT	3/4	9.4	72	6 5/8	416	150	375
TXC40 -1-410	1 1/8	2 1/8	3" MPT	3/4	17.7	72	8 5/8	567	150	375
TXC50 -1-410	1 3/8	2 1/8	4" FLG	3/4	17.3	72	8 5/8	598	150	375
TXC60 -1-410	1 3/8	2 5/8	4" FLG	3/4	20.1	84	8 5/8	646	150	375
TXC75 -1-410	1 5/8	3 1/8	5" FLG	3/4	19.8	84	8 5/8	591	150	375
TXC100-1-410	2 1/8	3 1/8	5" FLG	3/4	28.8	84	10 3/4	1076	150	375
TXC120-1-410	2 1/8	3 5/8	6" FLG	3/4	27.2	84	12 3/4	1089	150	375

*Ratings are based on entering water 54°F, leaving water 44°F, saturated suction temperature of 35°F, entering TXV temperature of 100°F with 7°F of superheating
ProSuite software values are the most accurate
Includes ¾" thick insulation as standard
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Capacity Tons = 12,000 BTU/hr

Models	Dimensions (inches)													Gaskets Article #		Heads Article #	
	H	L	A	B	C	E	F	G	I	J	K	M	Z	Front	Rear	Front	Rear
TX2-1-410	6.25	40.25	2.13	33.88	3.50	35.50	0.50	2.53	2.50	3.88	0.75	0.69	0.56	2865	2865	21992	21985
TX3-1-410	6.13	40.25	2.13	21.88	3.50	23.63	0.50	2.50	2.50	3.88	0.75	0.69	0.56	2865	2865	33790	33783
TX5-1-410	8.00	40.75	2.31	33.69	3.75	35.25	0.75	2.50	3.50	5.00	0.94	0.75	0.56	2872	2872	35134	35141
TX6-1-410	8.00	40.75	2.44	33.56	3.75	35.25	0.75	2.50	3.50	5.00	0.94	0.75	0.56	2872	2872	35134	35141
TX7.5-1-410	8.00	40.75	2.44	33.56	3.75	35.25	0.75	2.50	3.50	5.00	1.06	0.94	0.56	2872	2872	35165	35141
TX10-1-410	8.00	40.25	2.81	33.19	3.75	35.25	0.75	2.50	3.50	5.00	1.06	0.94	0.56	2872	2872	35165	35141
TX12-1-410	10.00	42.25	3.00	33.00	5.00	35.25	0.75	3.00	5.75	6.00	1.19	0.94	0.56	2889	2889	35172	35189
TX15-1-410	11.00	42.25	3.19	32.18	5.00	35.25	0.75	3.00	5.75	6.00	1.50	1.00	0.56	2889	2889	35172	35189
TX20-1-410	11.00	42.25	3.19	32.18	5.00	35.25	0.75	3.00	5.75	6.00	1.50	1.00	0.56	2889	2889	35253	35189
TX25-1-410	11.00	41.25	3.75	32.25	5.00	35.25	0.75	3.00	5.75	6.00	1.50	1.25	0.56	2889	2889	35253	35189
TXC30 -1-410	12.38	81.50	4.25	67.75	8.00	54.00	18.00	3.00	5.25	–	1.75	1.75	0.56	2218	2218	35653	35660
TXC40 -1-410	14.00	81.75	4.50	67.75	8.00	54.00	18.00	3.00	7.13	–	2.13	1.67	0.56	2227	2227	38726	22038
TXC50 -1-410	14.00	81.75	4.50	67.75	8.00	54.00	18.00	3.00	7.13	–	2.25	2.38	0.56	2227	2227	33057	22038
TXC60 -1-410	17.50	93.75	4.75	79.25	8.00	63.00	21.00	3.00	7.13	–	2.25	2.38	0.56	2227	2227	22021	22038
TXC75 -1-410	18.50	93.75	5.50	78.50	8.00	63.00	21.00	3.00	7.13	–	2.25	2.38	0.56	2227	2227	22076	22038
TXC100-1-410	16.25	95.12	5.50	78.50	8.62	63.00	21.00	3.50	9.25	–	2.75	2.38	0.56	19299	19299	35684	35691
TXC120-1-410	18.57	94.88	6.38	77.63	8.38	63.00	21.00	3.50	11.25	–	3.44	2.75	0.56	4892	4904	35703	35710

Dimensions do not include the 3/4" insulation
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

TX2-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	1.04	4.10	1.45	1.36	5.37	2.43
	8	-	-	-	-	-	-	1.11	3.32	0.97	1.39	4.15	1.48
	10	-	-	-	-	-	-	1.19	2.84	0.72	1.43	3.41	1.02
	12	-	-	-	-	-	-	1.23	2.45	0.54	1.47	2.92	0.76
	15	-	-	-	1.03	1.64	0.25	1.31	2.09	0.40	1.51	2.40	0.52
R134a	6	-	-	-	-	-	-	-	-	-	1.15	4.58	1.79
	8	-	-	-	-	-	-	0.96	2.84	0.72	1.19	3.55	1.10
	10	-	-	-	-	-	-	1.03	2.46	0.55	1.23	2.94	0.77
	12	-	-	-	-	-	-	1.08	2.13	0.42	1.27	2.53	0.58
	15	-	-	-	-	-	-	1.15	1.83	0.31	1.31	2.09	0.40
R404A	6	-	-	-	0.95	3.79	1.25	1.16	4.58	1.79	1.39	5.53	2.57
	8	0.75	2.25	0.46	1.00	2.96	0.78	1.20	3.55	1.10	1.43	4.26	1.56
	10	0.83	1.99	0.37	1.04	2.46	0.55	1.24	2.94	0.77	1.47	3.51	1.07
	12	0.88	1.74	0.28	1.08	2.13	0.42	1.28	2.53	0.58	1.51	3.00	0.80
	15	0.95	1.52	0.22	1.15	1.83	0.31	1.35	2.15	0.42	1.55	2.47	0.55
R410A	6	-	-	-	-	-	-	1.39	5.53	2.57	1.68	6.63	3.64
	8	-	-	-	1.11	3.32	0.97	1.43	4.26	1.56	1.71	5.09	2.20
	10	-	-	-	1.19	2.84	0.72	1.47	3.51	1.07	1.74	4.17	1.50
	12	-	-	-	1.23	2.45	0.54	1.51	3.00	0.80	1.75	3.48	1.06
	15	-	-	-	1.31	2.09	0.40	1.58	2.53	0.57	1.83	2.91	0.75

TX2-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	1.59	6.31	3.32	1.83	7.26	4.34	2.07	8.21	5.50	2.31	9.16	6.79
	8	1.63	4.86	2.00	1.84	5.45	2.50	2.07	6.16	3.16	2.30	6.87	3.90
	10	1.66	3.98	1.37	1.87	4.46	1.70	2.07	4.93	2.06	2.30	5.50	2.54
	12	1.67	3.32	0.97	1.90	3.79	1.25	2.11	4.19	1.51	2.31	4.58	1.79
	15	1.74	2.78	0.69	1.94	3.10	0.85	2.15	3.42	1.02	2.37	3.80	1.25
R134a	6	1.35	5.37	2.43	1.51	6.00	3.01	1.67	6.63	3.65	1.86	7.42	4.53
	8	1.36	4.03	1.40	1.54	4.62	1.82	1.70	5.09	2.20	1.87	5.57	2.61
	10	1.39	3.32	0.97	1.55	3.70	1.19	1.71	4.08	1.43	1.87	4.46	1.70
	12	1.43	2.85	0.72	1.59	3.16	0.88	1.75	3.48	1.06	1.91	3.79	1.25
	15	1.47	2.34	0.50	1.63	2.59	0.60	1.79	2.85	0.72	1.94	3.10	0.85
R404A	6	1.63	6.47	3.48	1.87	7.42	4.52	2.10	8.37	5.70	2.31	9.16	6.79
	8	1.66	4.97	2.10	1.87	5.57	2.60	2.10	6.28	3.28	2.31	6.87	3.90
	10	1.67	3.98	1.37	1.91	4.55	1.77	2.11	5.02	2.14	2.31	5.50	2.54
	12	1.71	3.40	1.01	1.92	3.79	1.25	2.14	4.27	1.56	2.32	4.58	1.79
	15	1.75	2.78	0.69	1.98	3.16	0.88	2.16	3.42	1.02	2.38	3.80	1.25
R410A	6	1.98	7.89	5.09	2.30	9.16	6.78	-	-	-	-	-	-
	8	1.99	5.92	2.93	2.30	6.87	3.90	2.59	7.70	4.85	-	-	-
	10	1.99	4.74	1.91	2.30	5.50	2.54	2.58	6.16	3.16	-	-	-
	12	2.03	4.03	1.40	2.31	4.58	1.79	2.61	5.22	2.29	-	-	-
	15	2.07	3.29	0.95	2.37	3.80	1.25	2.63	4.18	1.50	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX3-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	1.66	6.57	2.57	2.02	8.00	3.76
	8	-	-	-	1.34	4.00	0.99	1.76	5.24	1.66	2.11	6.31	2.38
	10	-	-	-	1.49	3.57	0.80	1.86	4.44	1.20	2.17	5.18	1.62
	12	-	-	-	1.60	3.18	0.64	1.96	3.90	0.94	2.26	4.52	1.25
	15	1.35	2.14	0.30	1.75	2.80	0.50	2.06	3.29	0.68	2.37	3.78	0.89
R134a	6	-	-	-	-	-	-	1.40	5.54	1.85	1.70	6.77	2.72
	8	-	-	-	-	-	-	1.50	4.47	1.22	1.76	5.24	1.66
	10	-	-	-	1.29	3.08	0.60	1.60	3.82	0.90	1.81	4.31	1.14
	12	-	-	-	1.40	2.77	0.49	1.66	3.29	0.68	1.90	3.80	0.89
	15	-	-	-	1.50	2.38	0.37	1.76	2.80	0.50	1.97	3.13	0.61
R404A	6	1.09	4.31	1.14	1.42	5.64	1.92	1.73	6.88	2.80	2.07	8.21	3.95
	8	1.23	3.70	0.85	1.51	4.47	1.22	1.81	5.39	1.75	2.16	6.47	2.49
	10	1.32	3.14	0.62	1.60	3.82	0.90	1.91	4.56	1.27	2.22	5.30	1.69
	12	1.40	2.77	0.49	1.70	3.39	0.72	1.97	3.90	0.94	2.28	4.52	1.25
	15	1.50	2.38	0.37	1.81	2.88	0.52	2.11	3.37	0.71	2.42	3.87	0.92
R410A	6	-	-	-	1.66	6.57	2.57	2.12	8.41	4.14	2.53	10.06	5.84
	8	-	-	-	1.81	5.39	1.75	2.18	6.47	2.49	2.59	7.70	3.48
	10	1.45	3.45	0.74	1.91	4.56	1.27	2.28	5.42	1.77	2.68	6.41	2.44
	12	1.60	3.18	0.64	2.01	4.01	0.99	2.37	4.73	1.36	2.78	5.55	1.85
	15	1.76	2.80	0.50	2.12	3.37	0.71	2.49	3.95	0.96	2.89	4.61	1.29

TX3-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	2.36	9.44	5.17	2.68	10.67	6.55	3.00	11.90	8.09	3.32	13.13	9.80
	8	2.42	7.24	3.09	2.73	8.16	3.90	3.05	9.09	4.80	3.36	10.01	5.78
	10	2.48	5.92	2.09	2.79	6.65	2.63	3.10	7.39	3.22	3.41	8.13	3.87
	12	2.54	5.03	1.53	2.85	5.65	1.92	3.16	6.27	2.34	3.46	6.88	2.80
	15	2.64	4.19	1.08	2.95	4.69	1.34	3.25	5.18	1.62	-	-	-
R134a	6	1.92	7.59	3.40	2.17	8.62	4.34	2.39	9.44	5.17	2.63	10.47	6.31
	8	1.97	5.85	2.05	2.22	6.62	2.61	2.44	7.24	3.09	2.68	8.01	3.76
	10	2.06	4.93	1.48	2.28	5.42	1.77	2.49	5.92	2.10	2.73	6.53	2.54
	12	2.12	4.21	1.09	2.33	4.62	1.30	2.57	5.14	1.60	2.79	5.55	1.85
	15	2.21	3.54	0.78	2.43	3.87	0.92	2.64	4.19	1.08	2.88	4.61	1.29
R404A	6	2.38	9.44	5.17	2.73	10.88	6.80	3.01	11.90	8.09	3.30	13.13	9.80
	8	2.47	7.39	3.22	2.78	8.32	4.04	3.05	9.09	4.80	3.32	9.86	5.61
	10	2.53	6.04	2.18	2.84	6.78	2.72	3.10	7.39	3.22	3.39	8.13	3.87
	12	2.59	5.14	1.60	2.89	5.75	1.98	3.16	6.27	2.34	3.42	6.78	2.72
	15	2.69	4.28	1.12	2.99	4.77	1.38	3.25	5.18	1.62	3.51	5.59	1.88
R410A	6	2.95	11.70	7.82	-	-	-	-	-	-	-	-	-
	8	3.00	8.93	4.64	3.42	10.16	5.96	-	-	-	-	-	-
	10	3.10	7.39	3.22	3.51	8.38	4.10	-	-	-	-	-	-
	12	3.19	6.37	2.41	-	-	-	-	-	-	-	-	-
	15	3.30	5.26	1.67	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX5-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	2.71	10.78	2.29	3.28	13.07	3.30
	8	-	-	-	-	-	-	2.87	8.58	1.49	3.37	10.05	2.01
	10	-	-	-	2.39	5.69	0.69	2.97	7.06	1.03	3.47	8.24	1.38
	12	-	-	-	2.63	5.23	0.59	3.13	6.22	0.81	3.62	7.20	1.07
	15	2.22	3.54	0.28	2.81	4.45	0.43	3.30	5.24	0.59	3.79	6.02	0.76
R134a	6	-	-	-	-	-	-	2.29	9.15	1.68	2.71	10.78	2.29
	8	-	-	-	-	-	-	2.40	7.11	1.05	2.81	8.34	1.41
	10	-	-	-	2.06	4.91	0.52	2.55	6.08	0.78	2.95	7.06	1.03
	12	-	-	-	2.23	4.42	0.43	2.65	5.23	0.59	3.04	6.05	0.77
	15	-	-	-	2.46	3.93	0.34	2.81	4.45	0.43	3.20	5.11	0.56
R404A	6	1.73	6.86	0.98	2.30	9.15	1.68	2.79	11.11	2.42	3.30	13.07	3.30
	8	1.97	5.88	0.73	2.46	7.36	1.11	2.95	8.83	1.57	3.45	10.30	2.10
	10	2.14	5.10	0.56	2.59	6.18	0.80	3.06	7.26	1.09	3.61	8.63	1.50
	12	2.26	4.50	0.44	2.72	5.40	0.62	3.21	6.38	0.85	3.70	7.36	1.11
	15	2.46	3.93	0.34	2.95	4.71	0.48	3.44	5.50	0.64	3.88	6.15	0.79
R410A	6	-	-	-	2.71	10.78	2.29	3.39	13.40	3.45	4.09	16.34	5.03
	8	-	-	-	2.89	8.58	1.49	3.54	10.54	2.19	4.19	12.50	3.03
	10	2.38	5.69	0.69	3.12	7.46	1.14	3.70	8.83	1.57	4.30	10.20	2.06
	12	2.63	5.23	0.59	3.28	6.54	0.89	3.86	7.69	1.21	4.45	8.83	1.57
	15	2.88	4.58	0.46	3.46	5.50	0.64	4.09	6.55	0.89	4.68	7.46	1.14

TX5-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	3.77	15.03	4.29	4.28	16.99	5.42	4.78	18.95	6.68	-	-	-
	8	3.87	11.52	2.60	4.37	13.00	3.26	4.92	14.71	4.12	5.41	16.18	4.94
	10	3.96	9.42	1.77	4.46	10.60	2.21	4.95	11.77	2.70	5.44	12.95	3.24
	12	4.11	8.18	1.36	4.60	9.16	1.68	5.09	10.14	2.04	5.58	11.12	2.42
	15	4.28	6.81	0.96	4.77	7.60	1.18	5.25	8.38	1.42	-	-	-
R134a	6	3.08	12.25	2.92	3.46	13.73	3.62	3.80	15.03	4.30	4.19	16.67	5.23
	8	3.20	9.56	1.83	3.54	10.54	2.20	3.93	11.77	2.70	4.27	12.75	3.14
	10	3.29	7.85	1.26	3.63	8.63	1.51	4.02	9.62	1.84	4.36	10.40	2.14
	12	3.38	6.71	0.93	3.77	7.53	1.16	4.10	8.18	1.36	4.44	8.83	1.57
	15	3.54	5.63	0.67	3.88	6.15	0.79	4.26	6.81	0.96	4.60	7.33	1.10
R404A	6	3.86	15.36	4.47	4.36	17.32	5.62	4.84	19.28	6.90	-	-	-
	8	3.95	11.77	2.70	4.44	13.24	3.38	4.91	14.71	4.12	5.34	15.94	4.80
	10	4.10	9.81	1.91	4.53	10.79	2.29	4.96	11.77	2.70	5.42	12.95	3.24
	12	4.19	8.34	1.41	4.62	9.16	1.68	5.09	10.14	2.04	5.50	10.96	2.36
	15	4.36	6.94	0.99	4.78	7.60	1.18	5.25	8.38	1.42	5.61	8.90	1.59
R410A	6	4.76	18.95	6.68	-	-	-	-	-	-	-	-	-
	8	4.86	14.47	3.99	5.57	16.67	5.22	-	-	-	-	-	-
	10	4.95	11.77	2.70	5.61	13.34	3.42	-	-	-	-	-	-
	12	5.10	10.14	2.03	-	-	-	-	-	-	-	-	-
	15	5.28	8.38	1.42	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX6-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	3.25	12.95	1.97	3.89	15.37	2.74
	8	-	-	-	-	-	-	3.45	10.32	1.28	4.07	12.14	1.75
	10	-	-	-	2.84	6.80	0.58	3.57	8.50	0.88	4.18	9.96	1.19
	12	-	-	-	3.05	6.08	0.46	3.76	7.49	0.69	4.30	8.51	0.88
	15	-	-	-	3.36	5.35	0.36	3.97	6.32	0.50	4.50	7.13	0.63
R134a	6	-	-	-	-	-	-	2.66	10.52	1.33	3.26	12.95	1.98
	8	-	-	-	-	-	-	2.87	8.50	0.88	3.37	10.02	1.21
	10	-	-	-	-	-	-	3.06	7.29	0.66	3.55	8.50	0.88
	12	-	-	-	2.65	5.27	0.35	3.17	6.28	0.49	3.66	7.29	0.66
	15	-	-	-	2.94	4.70	0.29	3.37	5.35	0.36	3.82	6.08	0.46
R404A	6	2.04	8.09	0.80	2.75	10.92	1.43	3.36	13.35	2.09	3.98	15.78	2.88
	8	2.34	6.98	0.61	2.95	8.80	0.94	3.55	10.63	1.35	4.16	12.45	1.83
	10	2.54	6.07	0.46	3.07	7.29	0.66	3.67	8.75	0.93	4.28	10.20	1.25
	12	2.70	5.37	0.37	3.26	6.48	0.53	3.86	7.70	0.73	4.46	8.91	0.96
	15	2.94	4.70	0.28	3.47	5.51	0.39	4.07	6.49	0.53	4.67	7.46	0.69
R410A	6	-	-	-	3.16	12.54	1.86	4.07	16.18	3.03	4.89	19.42	4.30
	8	-	-	-	3.46	10.32	1.28	4.27	12.75	1.92	5.00	14.88	2.57
	10	2.75	6.56	0.54	3.67	8.75	0.93	4.39	10.45	1.31	5.18	12.39	1.81
	12	3.05	6.08	0.46	3.87	7.70	0.73	4.58	9.11	1.01	5.30	10.53	1.33
	15	3.36	5.35	0.36	4.09	6.49	0.53	4.87	7.78	0.74	5.52	8.76	0.93

TX6-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	4.57	18.21	3.80	5.18	20.63	4.83	5.81	23.06	5.98	6.42	25.49	7.26
	8	4.67	13.96	2.28	5.28	15.79	2.89	5.90	17.61	3.56	6.51	19.43	4.30
	10	4.78	11.42	1.55	5.39	12.88	1.95	5.94	14.09	2.32	6.53	15.55	2.80
	12	4.90	9.72	1.14	5.50	10.94	1.43	6.10	12.15	1.75	6.70	13.37	2.10
	15	5.10	8.11	0.80	5.70	9.08	1.00	6.30	10.05	1.21	6.82	10.86	1.41
R134a	6	3.75	14.97	2.61	4.18	16.59	3.18	4.60	18.21	3.80	5.08	20.23	4.65
	8	3.86	11.54	1.58	4.28	12.75	1.92	4.70	13.96	2.28	5.12	15.18	2.68
	10	3.96	9.48	1.09	4.38	10.45	1.31	4.80	11.42	1.55	5.21	12.39	1.81
	12	4.07	8.10	0.80	4.49	8.91	0.96	4.90	9.72	1.14	5.31	10.53	1.33
	15	4.26	6.81	0.58	4.68	7.46	0.69	5.09	8.11	0.80	5.50	8.76	0.93
R404A	6	4.67	18.61	3.96	5.28	21.04	5.01	5.82	23.06	5.98	6.41	25.49	7.26
	8	4.77	14.27	2.38	5.32	15.79	2.89	5.91	17.61	3.56	6.43	19.13	4.17
	10	4.89	11.66	1.61	5.49	13.12	2.02	6.01	14.33	2.40	6.52	15.55	2.80
	12	5.00	9.92	1.18	5.59	11.14	1.48	6.11	12.15	1.75	6.61	13.17	2.03
	15	5.20	8.27	0.83	5.73	9.08	1.00	6.29	10.05	1.21	6.75	10.70	1.37
R410A	6	5.71	22.66	5.78	6.54	25.89	7.48	-	-	-	-	-	-
	8	5.81	17.30	3.44	6.69	20.04	4.56	-	-	-	-	-	-
	10	5.92	14.09	2.32	6.73	16.04	2.97	-	-	-	-	-	-
	12	6.11	12.15	1.74	6.91	13.77	2.22	-	-	-	-	-	-
	15	6.31	10.05	1.21	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX7.5-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	4.00	15.92	2.58	4.85	19.30	3.72
	8	-	-	-	3.27	9.77	1.02	4.25	12.67	1.67	4.99	14.84	2.25
	10	-	-	-	3.63	8.69	0.82	4.48	10.72	1.21	5.22	12.46	1.61
	12	-	-	-	3.88	7.73	0.65	4.63	9.18	0.90	5.35	10.63	1.19
	15	3.28	5.22	0.31	4.24	6.77	0.51	4.97	7.93	0.68	5.61	8.89	0.85
R134a	6	-	-	-	-	-	-	3.39	13.51	1.89	4.01	15.92	2.58
	8	-	-	-	-	-	-	3.63	10.86	1.25	4.15	12.31	1.58
	10	-	-	-	3.14	7.53	0.62	3.77	8.98	0.87	4.36	10.43	1.15
	12	-	-	-	3.39	6.76	0.51	3.99	7.97	0.69	4.50	8.94	0.86
	15	-	-	-	3.64	5.80	0.38	4.23	6.77	0.51	4.73	7.54	0.62
R404A	6	2.61	10.37	1.14	3.40	13.51	1.89	4.14	16.40	2.73	4.96	19.78	3.89
	8	2.92	8.69	0.82	3.64	10.86	1.25	4.37	13.03	1.76	5.11	15.20	2.36
	10	3.16	7.53	0.62	3.87	9.27	0.92	4.60	11.01	1.28	5.33	12.75	1.69
	12	3.39	6.76	0.51	4.02	7.97	0.69	4.75	9.42	0.95	5.56	11.11	1.30
	15	3.65	5.80	0.38	4.36	6.96	0.54	5.09	8.12	0.72	5.81	9.28	0.92
R410A	6	-	-	-	4.00	15.92	2.58	5.08	20.26	4.08	6.06	24.12	5.69
	8	-	-	-	4.36	13.03	1.76	5.25	15.56	2.47	6.20	18.46	3.41
	10	3.53	8.40	0.77	4.61	11.01	1.28	5.48	13.04	1.76	6.43	15.35	2.40
	12	3.89	7.73	0.65	4.85	9.66	1.00	5.71	11.35	1.35	6.59	13.04	1.76
	15	4.26	6.77	0.51	5.12	8.12	0.72	6.06	9.67	0.99	7.01	11.21	1.32

TX7.5-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	5.59	22.19	4.85	6.33	25.09	6.13	7.08	27.98	7.56	-	-	-
	8	5.73	17.01	2.92	6.54	19.55	3.80	7.27	21.72	4.65	8.00	23.89	5.58
	10	5.94	14.19	2.07	6.67	15.93	2.58	7.40	17.67	3.14	8.05	19.12	3.65
	12	6.08	12.07	1.52	6.81	13.52	1.88	7.53	14.97	2.29	-	-	-
	15	6.33	10.05	1.07	7.05	11.21	1.32	7.77	12.37	1.59	-	-	-
R134a	6	4.60	18.33	3.37	5.11	20.26	4.08	5.69	22.67	5.06	6.21	24.60	5.91
	8	4.73	14.12	2.05	5.24	15.56	2.47	5.82	17.37	3.04	6.33	18.82	3.54
	10	4.87	11.59	1.41	5.44	13.04	1.76	5.95	14.19	2.07	6.45	15.35	2.40
	12	5.00	9.90	1.04	5.58	11.11	1.30	6.08	12.07	1.52	6.58	13.04	1.76
	15	5.24	8.31	0.75	5.81	9.28	0.92	6.31	10.05	1.07	6.80	10.83	1.23
R404A	6	5.71	22.67	5.05	6.45	25.57	6.36	7.17	28.46	7.81	7.80	30.87	9.14
	8	5.85	17.37	3.04	6.57	19.55	3.80	7.28	21.72	4.65	7.91	23.53	5.42
	10	6.07	14.48	2.15	6.78	16.22	2.67	7.41	17.67	3.14	8.02	19.12	3.65
	12	6.21	12.32	1.58	6.91	13.77	1.95	7.54	14.97	2.29	8.15	16.18	2.65
	15	6.53	10.44	1.15	7.16	11.41	1.36	7.77	12.37	1.59	-	-	-
R410A	6	7.05	27.98	7.56	-	-	-	-	-	-	-	-	-
	8	7.26	21.72	4.65	8.25	24.61	5.91	-	-	-	-	-	-
	10	7.41	17.67	3.14	-	-	-	-	-	-	-	-	-
	12	7.55	14.97	2.29	-	-	-	-	-	-	-	-	-
	15	7.90	12.57	1.64	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX10-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	5.50	21.91	3.38	6.70	26.70	4.96
	8	-	-	-	-	-	-	5.85	17.47	2.17	6.90	20.55	2.98
	10	-	-	-	4.82	11.51	0.97	6.18	14.80	1.58	7.10	16.86	2.03
	12	-	-	-	5.18	10.28	0.78	6.38	12.68	1.17	7.40	14.74	1.56
	15	-	-	-	5.70	9.05	0.61	6.73	10.70	0.84	7.75	12.35	1.11
R134a	6	-	-	-	-	-	-	4.64	18.49	2.43	5.53	21.91	3.38
	8	-	-	-	-	-	-	4.98	14.90	1.60	5.83	17.47	2.17
	10	-	-	-	-	-	-	5.18	12.33	1.11	6.02	14.39	1.49
	12	-	-	-	4.49	8.91	0.59	5.49	10.97	0.88	6.21	12.34	1.11
	15	-	-	-	4.99	7.96	0.48	5.72	9.05	0.61	6.53	10.43	0.80
R404A	6	3.46	13.69	1.36	4.67	18.49	2.43	5.70	22.60	3.58	6.75	26.70	4.96
	8	3.98	11.82	1.02	5.00	14.90	1.60	6.02	17.98	2.30	7.06	21.06	3.13
	10	4.32	10.28	0.78	5.32	12.75	1.18	6.23	14.80	1.58	7.26	17.27	2.12
	12	4.64	9.25	0.64	5.53	10.97	0.88	6.54	13.03	1.23	7.57	15.08	1.63
	15	4.99	7.96	0.48	5.88	9.33	0.65	6.90	10.98	0.88	7.92	12.62	1.16
R410A	6	-	-	-	5.49	21.91	3.38	6.91	27.39	5.21	8.28	32.87	7.43
	8	-	-	-	5.87	17.47	2.17	7.24	21.58	3.27	8.59	25.69	4.59
	10	4.81	11.51	0.97	6.22	14.80	1.58	7.56	18.09	2.32	8.79	20.97	3.10
	12	5.17	10.28	0.78	6.56	13.03	1.23	7.78	15.42	1.71	9.00	17.82	2.26
	15	5.71	9.05	0.61	7.04	11.25	0.93	8.25	13.17	1.26	9.48	15.09	1.63

TX10-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	7.74	30.81	6.55	8.79	34.92	8.36	9.95	39.71	10.74	11.00	43.82	13.02
	8	7.93	23.63	3.91	8.97	26.71	4.96	10.00	29.80	6.13	11.04	32.88	7.43
	10	8.12	19.32	2.64	9.14	21.79	3.34	10.17	24.26	4.11	11.20	26.73	4.96
	12	8.31	16.45	1.93	9.33	18.51	2.43	10.36	20.57	2.98	11.37	22.62	3.59
	15	8.65	13.72	1.36	9.67	15.37	1.69	10.69	17.01	2.06	11.69	18.66	2.46
R134a	6	6.37	25.33	4.48	7.09	28.07	5.47	7.91	31.50	6.84	8.63	34.24	8.04
	8	6.55	19.52	2.70	7.26	21.58	3.28	8.08	24.15	4.08	8.79	26.20	4.78
	10	6.73	16.04	1.84	7.44	17.68	2.22	8.25	19.74	2.75	8.96	21.38	3.22
	12	6.91	13.71	1.36	7.62	15.08	1.63	8.43	16.80	2.01	9.13	18.17	2.34
	15	7.24	11.52	0.97	7.94	12.62	1.16	8.65	13.72	1.36	9.34	14.82	1.58
R404A	6	7.92	31.50	6.84	8.96	35.60	8.68	9.97	39.71	10.74	10.87	43.14	12.63
	8	8.11	24.15	4.07	9.13	27.23	5.15	10.03	29.80	6.13	11.00	32.88	7.43
	10	8.29	19.74	2.75	9.31	22.20	3.46	10.29	24.67	4.25	11.07	26.31	4.81
	12	8.59	17.14	2.09	9.49	18.85	2.52	10.37	20.57	2.98	11.33	22.62	3.59
	15	8.94	14.27	1.47	9.83	15.64	1.75	10.69	17.01	2.06	11.55	18.38	2.39
R410A	6	9.69	38.34	10.03	11.20	44.51	13.42	-	-	-	-	-	-
	8	9.97	29.80	6.13	11.36	33.91	7.89	-	-	-	-	-	-
	10	10.05	23.85	3.97	11.42	27.14	5.11	-	-	-	-	-	-
	12	10.36	20.57	2.98	11.72	23.31	3.80	-	-	-	-	-	-
	15	10.72	17.01	2.06	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX12-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	6.50	25.89	3.97	7.92	31.56	5.74
	8	-	-	-	-	-	-	6.91	20.64	2.61	8.15	24.29	3.52
	10	-	-	-	5.69	13.61	1.20	7.15	17.01	1.82	8.38	19.92	2.44
	12	-	-	-	6.11	12.15	0.98	7.53	14.99	1.44	8.74	17.42	1.90
	15	-	-	-	6.72	10.70	0.77	7.95	12.65	1.05	9.15	14.59	1.36
R134a	6	-	-	-	-	-	-	5.49	21.85	2.90	6.54	25.89	3.97
	8	-	-	-	-	-	-	5.89	17.61	1.94	6.90	20.64	2.61
	10	-	-	-	-	-	-	6.13	14.58	1.37	7.12	17.01	1.82
	12	-	-	-	5.31	10.53	0.75	6.49	12.96	1.10	7.34	14.58	1.37
	15	-	-	-	5.89	9.40	0.61	6.76	10.70	0.77	7.72	12.32	1.00
R404A	6	4.09	16.18	1.66	5.51	21.85	2.90	6.73	26.70	4.21	7.98	31.56	5.74
	8	4.70	13.96	1.26	5.90	17.61	1.94	7.11	21.25	2.75	8.34	24.89	3.69
	10	5.09	12.15	0.98	6.22	14.82	1.41	7.35	17.49	1.91	8.58	20.41	2.55
	12	5.47	10.94	0.80	6.52	12.96	1.10	7.72	15.39	1.51	8.94	17.82	1.98
	15	5.89	9.40	0.61	6.94	11.02	0.81	8.15	12.97	1.10	9.36	14.92	1.42
R410A	6	-	-	-	6.33	25.09	3.74	8.16	32.37	6.02	9.78	38.84	8.47
	8	-	-	-	6.93	20.64	2.60	8.55	25.50	3.86	10.14	30.36	5.33
	10	5.51	13.12	1.12	7.34	17.49	1.91	8.92	21.38	2.78	10.38	24.78	3.65
	12	6.10	12.15	0.97	7.74	15.39	1.51	9.18	18.23	2.06	10.62	21.06	2.70
	15	6.73	10.70	0.77	8.18	12.97	1.10	9.74	15.56	1.54	11.06	17.51	1.91

TX12-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	9.15	36.41	7.50	10.40	41.27	9.50	-	-	-	-	-	-
	8	9.37	27.93	4.57	10.60	31.57	5.74	11.83	35.21	7.04	13.05	38.86	8.48
	10	9.60	22.84	3.14	10.80	25.75	3.93	12.03	28.67	4.79	13.24	31.58	5.74
	12	9.82	19.44	2.33	11.03	21.87	2.89	12.24	24.31	3.52	13.45	26.74	4.21
	15	10.22	16.21	1.66	11.42	18.16	2.05	12.63	20.10	2.47	13.83	22.05	2.93
R134a	6	7.53	29.94	5.21	8.39	33.18	6.31	9.37	37.22	7.83	10.23	40.46	9.16
	8	7.74	23.07	3.20	8.59	25.50	3.86	9.56	28.54	4.76	10.42	30.96	5.54
	10	7.96	18.95	2.22	8.93	21.38	2.78	9.77	23.32	3.27	10.61	25.27	3.79
	12	8.18	16.20	1.66	9.14	18.23	2.07	9.98	19.85	2.42	10.82	21.47	2.80
	15	8.56	13.62	1.20	9.40	14.92	1.42	10.23	16.21	1.66	11.18	17.83	1.98
R404A	6	9.36	37.22	7.82	10.60	42.08	9.85	-	-	-	-	-	-
	8	9.58	28.54	4.76	10.80	32.18	5.95	11.87	35.21	7.04	13.02	38.86	8.48
	10	9.80	23.32	3.26	11.00	26.24	4.06	12.18	29.15	4.95	13.10	31.10	5.58
	12	10.15	20.25	2.51	11.22	22.28	3.00	12.27	24.31	3.52	13.41	26.74	4.21
	15	10.56	16.86	1.78	11.62	18.48	2.11	12.64	20.10	2.47	13.66	21.73	2.85
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	11.78	35.21	7.03	13.42	40.07	8.98	-	-	-	-	-	-
	10	11.86	28.18	4.64	13.49	32.07	5.90	-	-	-	-	-	-
	12	12.23	24.31	3.52	13.84	27.55	4.44	-	-	-	-	-	-
	15	12.65	20.10	2.47	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX15-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	8.22	32.80	3.60	9.74	38.59	4.88
	8	-	-	-	6.77	20.27	1.47	8.71	26.06	2.34	10.19	30.40	3.12
	10	-	-	-	7.30	17.38	1.10	9.02	21.44	1.63	10.48	24.91	2.15
	12	-	-	-	8.00	15.94	0.94	9.48	18.84	1.28	10.93	21.73	1.67
	15	6.80	10.83	0.46	8.71	13.92	0.73	10.16	16.24	0.97	11.60	18.56	1.24
R134a	6	-	-	-	-	-	-	6.81	27.01	2.51	8.05	31.84	3.41
	8	-	-	-	-	-	-	7.29	21.72	1.67	8.48	25.34	2.22
	10	-	-	-	6.32	15.06	0.85	7.74	18.54	1.24	8.76	20.86	1.55
	12	-	-	-	6.81	13.52	0.69	8.02	15.94	0.94	9.03	17.87	1.16
	15	-	-	-	7.32	11.60	0.52	8.50	13.53	0.69	9.51	15.08	0.84
R404A	6	5.34	21.23	1.60	6.92	27.50	2.59	8.39	33.29	3.70	9.97	39.56	5.11
	8	6.04	18.10	1.19	7.40	22.08	1.72	8.78	26.06	2.34	10.42	31.13	3.26
	10	6.45	15.35	0.88	7.80	18.54	1.24	9.26	22.02	1.71	10.72	25.49	2.25
	12	6.83	13.52	0.69	8.26	16.42	0.99	9.72	19.32	1.34	11.18	22.22	1.74
	15	7.51	11.99	0.55	8.78	13.92	0.73	10.24	16.24	0.97	11.70	18.56	1.24
R410A	6	-	-	-	8.23	32.80	3.60	10.23	40.52	5.34	12.18	48.24	7.43
	8	6.55	19.55	1.37	8.78	26.06	2.34	10.71	31.85	3.40	12.65	37.64	4.65
	10	7.30	17.38	1.10	9.45	22.59	1.79	11.19	26.65	2.44	13.11	31.29	3.29
	12	8.02	15.94	0.94	9.94	19.80	1.40	11.67	23.18	1.88	13.58	27.05	2.50
	15	8.76	13.92	0.73	10.65	17.01	1.05	12.39	19.72	1.39	14.14	22.42	1.76

TX15-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	11.22	44.38	6.35	12.85	51.14	8.30	-	-	-	-	-	-
	8	11.66	34.75	4.01	13.12	39.09	5.00	14.59	43.43	6.09	16.05	47.78	7.29
	10	12.09	28.97	2.85	13.55	32.44	3.52	15.00	35.92	4.26	16.44	39.40	5.07
	12	12.38	24.63	2.10	13.84	27.53	2.59	15.13	29.95	3.03	-	-	-
	15	12.89	20.49	1.49	14.33	22.81	1.82	15.78	25.13	2.18	-	-	-
R134a	6	9.22	36.66	4.44	10.24	40.52	5.35	11.40	45.35	6.61	12.42	49.21	7.72
	8	9.49	28.23	2.72	10.65	31.85	3.41	11.66	34.75	4.01	12.67	37.64	4.66
	10	9.84	23.46	1.93	10.91	26.07	2.34	11.92	28.39	2.75	13.06	31.29	3.29
	12	10.19	20.29	1.47	11.19	22.22	1.74	12.19	24.15	2.03	13.18	26.08	2.34
	15	10.66	17.01	1.06	11.66	18.56	1.24	12.65	20.10	1.44	13.64	21.65	1.65
R404A	6	11.61	46.31	6.88	-	-	-	-	-	-	-	-	-
	8	11.90	35.47	4.16	13.34	39.81	5.17	14.61	43.43	6.09	15.97	47.78	7.29
	10	12.18	28.97	2.85	13.61	32.44	3.52	15.00	35.92	4.26	16.09	38.24	4.79
	12	12.62	25.12	2.18	14.03	28.01	2.67	15.27	30.43	3.12	16.50	32.84	3.60
	15	13.13	20.88	1.54	14.53	23.20	1.88	15.60	24.74	2.12	-	-	-
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	14.61	43.43	6.08	16.58	49.23	7.71	-	-	-	-	-	-
	10	15.06	35.92	4.26	-	-	-	-	-	-	-	-	-
	12	15.52	30.91	3.21	-	-	-	-	-	-	-	-	-
	15	16.07	25.52	2.24	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX20-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	10.89	43.39	4.35	12.90	51.04	5.91
	8	-	-	-	8.97	26.81	1.77	11.54	34.47	2.83	13.50	40.21	3.77
	10	-	-	-	9.67	22.99	1.32	12.16	29.12	2.06	14.10	33.71	2.71
	12	-	-	-	10.60	21.08	1.13	12.56	24.91	1.54	14.48	28.75	2.01
	15	9.00	14.32	0.55	11.54	18.41	0.87	13.46	21.48	1.16	15.37	24.54	1.49
R134a	6	-	-	-	-	-	-	9.02	35.73	3.03	10.75	42.75	4.24
	8	-	-	-	-	-	-	9.65	28.72	2.01	11.23	33.51	2.68
	10	-	-	-	8.37	19.92	1.01	10.25	24.52	1.49	11.60	27.58	1.86
	12	-	-	-	9.02	17.89	0.83	10.63	21.08	1.13	12.16	24.27	1.46
	15	-	-	-	9.92	15.85	0.66	11.27	17.90	0.83	12.80	20.45	1.06
R404A	6	7.08	28.07	1.93	9.16	36.37	3.13	11.20	44.66	4.60	13.20	52.32	6.19
	8	8.00	23.94	1.43	9.80	29.20	2.07	11.84	35.42	2.97	13.80	41.17	3.94
	10	8.64	20.69	1.09	10.33	24.52	1.49	12.26	29.12	2.06	14.41	34.48	2.82
	12	9.15	18.21	0.86	10.95	21.72	1.19	12.88	25.55	1.61	14.82	29.38	2.09
	15	9.95	15.85	0.66	11.86	18.92	0.92	13.78	21.99	1.21	15.70	25.06	1.55
R410A	6	-	-	-	10.92	43.39	4.35	13.55	53.59	6.48	16.33	65.08	9.35
	8	8.68	25.85	1.65	11.85	35.42	2.97	14.20	42.13	4.11	16.76	49.79	5.63
	10	9.67	22.99	1.32	12.52	29.88	2.16	14.83	35.25	2.94	17.39	41.38	3.97
	12	10.63	21.08	1.12	13.17	26.19	1.69	15.46	30.66	2.26	17.99	35.77	3.02
	15	11.60	18.41	0.87	14.12	22.50	1.27	16.41	26.08	1.67	18.96	30.17	2.19

TX20-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	15.05	59.97	8.01	17.02	67.63	10.07	-	-	-	-	-	-
	8	15.44	45.96	4.85	17.40	51.70	6.05	19.36	57.45	7.38	21.29	63.19	8.85
	10	16.01	38.31	3.44	17.94	42.91	4.26	19.88	47.51	5.16	21.78	52.10	6.14
	12	16.40	32.58	2.54	18.33	36.41	3.13	20.46	40.88	3.88	-	-	-
	15	17.29	27.61	1.86	19.20	30.68	2.26	21.10	33.75	2.71	-	-	-
R134a	6	12.20	48.49	5.37	13.67	54.23	6.63	15.11	59.97	8.02	16.63	66.35	9.72
	8	12.58	37.34	3.28	14.11	42.13	4.12	15.45	45.96	4.85	16.97	50.74	5.85
	10	13.13	31.42	2.37	14.46	34.48	2.83	15.99	38.31	3.44	17.30	41.38	3.98
	12	13.50	26.83	1.77	14.83	29.38	2.09	16.14	31.94	2.45	17.66	35.13	2.93
	15	14.13	22.50	1.27	15.46	24.54	1.49	16.78	26.59	1.73	18.26	29.15	2.06
R404A	6	15.37	61.25	8.34	17.33	68.91	10.43	-	-	-	-	-	-
	8	15.76	46.91	5.04	17.67	52.66	6.26	19.35	57.45	7.38	21.18	63.19	8.85
	10	16.35	39.08	3.57	18.03	42.91	4.26	19.88	47.51	5.16	21.51	51.34	5.97
	12	16.73	33.22	2.63	18.59	37.05	3.23	20.25	40.24	3.77	21.86	43.44	4.35
	15	17.39	27.61	1.86	19.24	30.68	2.26	20.86	33.24	2.63	-	-	-
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	19.35	57.45	7.37	-	-	-	-	-	-	-	-	-
	10	19.95	47.51	5.15	-	-	-	-	-	-	-	-	-
	12	20.56	40.88	3.88	-	-	-	-	-	-	-	-	-
	15	21.29	33.75	2.70	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX25-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	13.48	53.41	3.85	16.31	64.74	5.59
	8	-	-	-	11.02	32.79	1.51	14.31	42.50	2.48	17.06	51.00	3.52
	10	-	-	-	12.23	29.15	1.20	15.10	35.96	1.80	17.55	41.79	2.40
	12	-	-	-	13.10	25.93	0.96	15.87	31.60	1.40	18.30	36.46	1.85
	15	11.38	18.16	0.49	14.30	22.70	0.74	16.74	26.59	1.01	19.15	30.48	1.31
R134a	6	-	-	-	-	-	-	11.39	45.32	2.81	13.46	53.41	3.86
	8	-	-	-	-	-	-	12.19	36.43	1.85	14.06	41.89	2.41
	10	-	-	-	10.57	25.27	0.92	12.68	30.13	1.28	14.65	34.99	1.71
	12	-	-	-	11.40	22.68	0.74	13.41	26.74	1.02	15.11	29.98	1.27
	15	-	-	-	12.25	19.46	0.55	14.23	22.70	0.74	15.90	25.29	0.91
R404A	6	8.94	35.60	1.77	11.46	45.32	2.81	13.91	55.03	4.08	16.66	66.35	5.86
	8	9.99	29.75	1.25	12.27	36.43	1.85	14.70	43.71	2.62	17.19	51.00	3.52
	10	10.80	25.75	0.95	13.05	31.10	1.36	15.48	36.93	1.89	17.94	42.76	2.51
	12	11.43	22.68	0.74	13.83	27.55	1.08	16.26	32.41	1.47	18.70	37.27	1.93
	15	12.43	19.78	0.57	14.70	23.35	0.78	17.14	27.24	1.05	19.58	31.13	1.36
R410A	6	-	-	-	13.79	55.03	4.08	17.11	67.97	6.14	-	-	-
	8	10.98	32.79	1.51	14.71	43.71	2.62	17.93	53.43	3.85	21.16	63.14	5.32
	10	12.22	29.15	1.20	15.56	36.93	1.89	18.74	44.70	2.73	21.95	52.48	3.72
	12	13.42	26.74	1.02	16.37	32.41	1.47	19.54	38.89	2.09	22.74	45.37	2.81
	15	14.66	23.35	0.78	17.56	27.89	1.10	20.46	32.43	1.47	23.67	37.61	1.96

TX25-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	19.49	58.29	4.56	21.95	65.57	5.72	-	-	-	-	-	-
	10	19.98	47.62	3.09	22.40	53.45	3.86	24.84	59.28	4.71	27.25	65.11	5.64
	12	20.45	40.51	2.26	22.88	45.37	2.81	25.31	50.23	3.42	-	-	-
	15	21.57	34.37	1.65	23.74	37.61	1.96	26.14	41.51	2.37	-	-	-
R134a	6	15.41	61.50	5.06	17.12	67.97	6.14	-	-	-	-	-	-
	8	15.86	47.36	3.06	17.55	52.21	3.69	19.47	58.29	4.56	21.14	63.14	5.32
	10	16.32	38.87	2.09	18.01	42.76	2.51	19.90	47.62	3.09	21.57	51.51	3.59
	12	16.78	33.22	1.54	18.70	37.27	1.93	20.35	40.51	2.26	22.00	43.75	2.62
	15	17.57	27.89	1.10	19.49	31.13	1.36	21.13	33.72	1.59	22.77	36.32	1.83
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	19.65	58.29	4.56	22.07	65.57	5.72	-	-	-	-	-	-
	10	20.39	48.59	3.21	22.76	54.42	3.99	24.86	59.28	4.71	26.90	64.14	5.48
	12	21.11	42.13	2.44	23.21	46.18	2.91	25.30	50.23	3.42	27.36	54.28	3.97
	15	21.94	35.02	1.71	24.05	38.26	2.02	26.08	41.51	2.37	-	-	-
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	25.21	60.25	4.86	-	-	-	-	-	-	-	-	-
	12	25.98	51.85	3.63	-	-	-	-	-	-	-	-	-
	15	26.89	42.80	2.51	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX30-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	16.69	66.01	4.00	20.95	83.61	6.31
	8	-	-	-	-	-	-	17.71	52.83	2.60	21.10	62.73	3.62
	10	-	-	-	14.38	34.35	1.14	18.31	43.60	1.80	21.66	51.53	2.48
	12	-	-	-	15.47	30.84	0.93	18.89	37.45	1.34	22.21	44.06	1.83
	15	-	-	-	16.62	26.45	0.69	19.98	31.74	0.98	23.23	37.03	1.31
R134a	6	-	-	-	-	-	-	13.85	55.01	2.82	16.89	67.11	4.13
	8	-	-	-	-	-	-	14.46	42.92	1.75	17.25	51.18	2.45
	10	-	-	-	12.15	29.07	0.83	15.46	37.00	1.31	17.80	42.28	1.70
	12	-	-	-	13.24	26.44	0.69	16.05	31.94	0.99	18.35	36.35	1.27
	15	-	-	-	14.34	22.92	0.53	16.70	26.45	0.69	19.35	30.86	0.93
R404A	6	10.52	41.81	1.66	14.39	57.21	3.04	17.69	70.41	4.52	20.59	81.41	5.99
	8	11.67	34.67	1.16	15.20	45.40	1.95	18.25	54.48	2.76	21.11	62.73	3.62
	10	12.74	30.39	0.90	16.00	38.32	1.41	18.82	44.92	1.91	21.65	51.53	2.48
	12	13.35	26.44	0.69	16.58	33.04	1.06	19.40	38.55	1.42	22.20	44.06	1.83
	15	14.45	22.92	0.53	17.45	27.77	0.76	20.42	32.62	1.03	23.20	37.03	1.31
R410A	6	-	-	-	16.61	66.01	4.00	21.55	85.81	6.63	25.59	101.21	9.13
	8	-	-	-	17.70	52.83	2.60	22.14	66.04	4.00	26.06	77.59	5.45
	10	13.25	31.71	0.98	18.76	44.92	1.91	22.71	54.17	2.73	26.58	63.42	3.69
	12	14.44	28.64	0.81	19.37	38.55	1.42	23.29	46.26	2.01	27.15	53.97	2.71
	15	16.54	26.45	0.69	20.50	32.62	1.03	24.35	38.80	1.44	27.79	44.09	1.83

TX30-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	24.26	96.81	8.38	27.19	107.82	10.33	-	-	-	-	-	-
	8	24.41	72.64	4.80	27.61	82.55	6.15	30.45	90.80	7.40	33.28	99.05	8.76
	10	24.91	59.46	3.26	27.75	66.06	4.00	30.87	73.99	4.97	33.37	79.28	5.68
	12	25.42	50.67	2.40	28.24	56.18	2.92	31.02	61.68	3.50	33.79	67.19	4.13
	15	26.05	41.44	1.63	28.84	45.85	1.98	31.61	50.26	2.36	34.35	54.67	2.77
R134a	6	19.41	77.01	5.38	21.71	85.81	6.63	23.92	94.61	8.02	26.09	103.41	9.53
	8	19.91	59.43	3.26	22.15	66.04	4.00	24.33	72.64	4.80	26.48	79.24	5.68
	10	20.43	48.89	2.24	22.64	54.17	2.73	24.66	58.80	3.20	26.63	63.42	3.70
	12	20.95	41.86	1.66	22.81	45.16	1.92	24.98	49.57	2.30	27.08	53.97	2.71
	15	21.57	34.39	1.14	23.74	37.91	1.37	25.54	40.56	1.56	27.63	44.09	1.83
R404A	6	23.80	94.61	8.01	26.67	105.62	9.92	-	-	-	-	-	-
	8	24.28	72.64	4.80	27.12	80.89	5.91	29.95	89.15	7.14	33.14	99.05	8.76
	10	24.45	58.14	3.13	27.58	66.06	4.00	30.40	72.67	4.80	33.25	79.28	5.68
	12	24.97	49.57	2.30	27.76	55.07	2.82	30.89	61.68	3.50	33.38	66.09	4.00
	15	25.60	40.56	1.56	28.71	45.85	1.98	31.15	49.38	2.28	34.33	54.67	2.77
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	29.99	89.15	7.14	34.23	102.36	9.33	37.79	112.26	11.16	-	-	-
	10	30.46	72.67	4.80	34.34	81.92	6.05	-	-	-	-	-	-
	12	30.96	61.68	3.50	34.47	68.29	4.26	-	-	-	-	-	-
	15	31.60	50.26	2.36	35.41	56.43	2.95	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX40-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	21.35	84.48	3.07	27.28	108.61	4.95
	8	-	-	-	-	-	-	22.76	67.91	2.03	27.44	81.49	2.87
	10	-	-	-	-	-	-	23.57	56.16	1.42	28.18	67.03	1.98
	12	-	-	-	18.27	36.25	0.62	24.35	48.33	1.07	28.90	57.39	1.47
	15	-	-	-	21.20	33.85	0.55	25.81	41.10	0.79	30.27	48.36	1.07
R134a	6	-	-	-	-	-	-	17.52	69.39	2.12	22.05	87.49	3.28
	8	-	-	-	-	-	-	18.97	56.59	1.44	22.79	67.91	2.03
	10	-	-	-	-	-	-	19.76	47.10	1.02	23.52	56.16	1.42
	12	-	-	-	15.26	30.21	0.44	20.54	40.78	0.78	24.25	48.33	1.07
	15	-	-	-	18.16	29.02	0.41	21.96	35.06	0.58	25.07	39.90	0.74
R404A	6	12.90	51.29	1.20	18.90	75.42	2.48	23.16	92.02	3.61	27.34	108.61	4.95
	8	15.14	45.27	0.95	19.73	58.86	1.55	23.65	70.17	2.16	28.02	83.76	3.02
	10	16.02	38.04	0.68	20.53	48.91	1.09	24.39	57.97	1.50	28.23	67.03	1.98
	12	17.43	34.74	0.57	21.32	42.29	0.83	25.13	49.84	1.13	28.93	57.39	1.47
	15	18.62	29.62	0.43	22.71	36.27	0.62	26.49	42.31	0.83	30.26	48.36	1.07
R410A	6	-	-	-	21.21	84.48	3.07	28.03	111.63	5.21	-	-	-
	8	-	-	-	22.70	67.91	2.03	28.79	86.02	3.17	34.15	101.86	4.37
	10	-	-	-	23.55	56.16	1.42	29.00	68.84	2.08	34.82	83.34	2.99
	12	16.77	33.23	0.53	24.37	48.33	1.07	30.30	60.41	1.62	35.03	69.47	2.11
	15	19.80	31.43	0.48	25.90	41.10	0.79	31.17	49.57	1.12	36.37	58.03	1.50

TX40-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	31.98	95.07	3.84	36.36	108.66	4.95	-	-	-	-	-	-
	10	32.63	77.90	2.63	36.50	86.96	3.24	40.33	96.02	3.91	44.12	105.08	4.64
	12	33.30	66.45	1.94	37.12	74.01	2.38	40.92	81.56	2.86	44.20	87.60	3.28
	15	34.11	54.40	1.33	37.90	60.45	1.62	41.17	65.28	1.88	44.91	71.33	2.22
R134a	6	25.77	102.58	4.44	-	-	-	-	-	-	-	-	-
	8	26.18	78.10	2.64	29.00	86.02	3.18	32.02	95.07	3.84	34.95	104.13	4.57
	10	26.62	63.41	1.78	29.63	70.65	2.19	32.60	77.90	2.63	35.09	83.34	2.99
	12	27.31	54.37	1.33	30.29	60.41	1.62	32.78	64.94	1.86	35.67	70.98	2.20
	15	28.10	44.73	0.92	31.07	49.57	1.12	33.51	53.19	1.28	36.38	58.03	1.50
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	31.84	95.07	3.84	35.69	106.39	4.75	-	-	-	-	-	-
	10	32.03	76.09	2.51	36.28	86.96	3.24	39.64	94.21	3.77	43.92	105.08	4.64
	12	32.70	64.94	1.86	36.47	72.50	2.29	40.23	80.05	2.76	44.06	87.60	3.28
	15	33.51	53.19	1.28	37.25	59.24	1.56	40.96	65.28	1.88	44.75	71.33	2.22
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	39.58	94.21	3.77	44.85	106.89	4.79	-	-	-	-	-	-
	12	40.22	80.05	2.76	45.43	90.62	3.50	50.13	99.68	4.19	-	-	-
	15	41.03	65.28	1.88	45.69	72.54	2.29	50.34	79.79	2.74	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX50-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	27.29	108.61	3.55	33.88	134.83	5.39
	8	-	-	-	-	-	-	28.30	84.30	2.18	34.09	101.16	3.10
	10	-	-	-	20.74	49.48	0.79	29.31	69.72	1.52	35.01	83.21	2.13
	12	-	-	-	22.73	45.00	0.66	30.28	60.00	1.14	35.92	71.25	1.58
	15	-	-	-	26.37	42.02	0.58	32.10	51.03	0.83	37.62	60.03	1.14
R134a	6	-	-	-	-	-	-	21.75	86.14	2.28	27.37	108.61	3.55
	8	-	-	-	-	-	-	23.55	70.25	1.54	28.26	84.30	2.18
	10	-	-	-	-	-	-	24.53	58.47	1.08	29.17	69.72	1.52
	12	-	-	-	20.66	41.25	0.56	25.51	50.62	0.82	30.09	60.00	1.14
	15	-	-	-	22.57	36.02	0.43	27.27	43.52	0.62	31.11	49.53	0.79
R404A	6	16.06	63.67	1.28	23.50	93.63	2.67	28.77	114.23	3.92	33.95	134.83	5.39
	8	18.83	56.20	1.01	24.53	73.06	1.66	29.67	88.52	2.40	34.79	103.97	3.27
	10	20.29	48.35	0.75	25.53	60.72	1.16	30.32	71.97	1.61	35.35	84.34	2.18
	12	21.68	43.12	0.61	26.51	52.50	0.88	31.24	61.87	1.21	35.94	71.25	1.58
	15	23.51	37.52	0.46	28.24	45.02	0.66	32.93	52.53	0.88	37.60	60.03	1.14
R410A	6	-	-	-	26.39	104.87	3.32	34.86	138.57	5.68	42.29	168.53	8.29
	8	-	-	-	28.24	84.30	2.18	35.81	106.78	3.44	42.46	126.45	4.76
	10	-	-	-	30.03	71.97	1.61	36.75	87.71	2.35	43.30	103.45	3.23
	12	22.54	45.00	0.66	31.06	61.87	1.21	37.70	74.99	1.74	43.57	86.24	2.28
	15	25.44	40.52	0.54	32.93	52.53	0.88	39.46	63.03	1.25	45.24	72.04	1.61

TX50-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	39.54	157.30	7.26	45.05	179.77	9.40	-	-	-	-	-	-
	8	39.71	118.02	4.17	45.12	134.88	5.39	49.89	148.93	6.52	54.61	162.98	7.77
	10	40.52	96.70	2.84	45.30	107.95	3.51	50.04	119.19	4.24	54.68	130.44	5.05
	12	41.35	82.49	2.09	46.09	91.87	2.57	50.77	101.24	3.10	54.82	108.74	3.56
	15	42.38	67.54	1.42	47.06	75.04	1.74	51.11	81.04	2.02	55.71	88.55	2.39
R134a	6	31.92	127.34	4.83	35.74	142.32	5.98	39.45	157.30	7.26	42.59	168.53	8.30
	8	32.17	95.54	2.78	35.94	106.78	3.44	39.59	118.02	4.17	43.18	129.26	4.97
	10	33.02	78.71	1.91	36.72	87.71	2.36	40.36	96.70	2.84	43.40	103.45	3.23
	12	33.85	67.50	1.43	37.53	74.99	1.74	40.60	80.62	2.00	43.59	86.24	2.28
	15	34.85	55.53	0.98	38.48	61.53	1.19	41.51	66.03	1.37	44.49	70.54	1.55
R404A	6	38.81	153.55	6.92	43.59	172.28	8.65	-	-	-	-	-	-
	8	39.52	118.02	4.17	44.27	132.07	5.17	49.01	146.12	6.29	53.72	160.17	7.51
	10	39.76	94.46	2.71	44.47	105.70	3.37	49.14	116.95	4.09	53.84	128.19	4.88
	12	40.62	80.62	2.00	45.26	89.99	2.47	49.93	99.37	2.99	54.57	108.74	3.56
	15	41.62	66.03	1.36	46.24	73.54	1.68	50.84	81.04	2.02	54.92	87.05	2.32
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	49.09	146.12	6.29	55.63	165.79	8.03	62.18	185.46	9.98	-	-	-
	10	49.21	116.95	4.09	55.74	132.69	5.21	62.18	148.43	6.48	-	-	-
	12	50.05	99.37	2.99	56.46	112.49	3.79	62.28	123.74	4.56	-	-	-
	15	51.02	81.04	2.02	56.79	90.05	2.47	63.20	100.55	3.05	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX60-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	25.68	101.88	2.72	34.83	138.93	4.95	40.98	162.08	6.66
	8	-	-	-	27.98	83.39	1.85	35.15	104.24	2.84	41.99	125.09	4.04
	10	-	-	-	30.16	72.30	1.41	36.27	86.21	1.97	43.04	102.89	2.77
	12	-	-	-	31.39	62.59	1.07	37.44	74.19	1.48	43.33	85.78	1.95
	15	25.60	40.83	0.47	32.75	51.96	0.75	39.54	63.09	1.08	45.34	72.37	1.41
R134a	6	-	-	-	21.03	83.36	1.85	28.09	111.14	3.22	33.69	134.30	4.63
	8	-	-	-	23.35	69.49	1.31	29.23	86.87	2.00	34.36	102.50	2.75
	10	-	-	-	25.52	61.18	1.02	30.38	72.30	1.41	35.03	83.43	1.85
	12	-	-	-	26.71	53.32	0.79	31.48	62.59	1.07	36.07	71.87	1.39
	15	22.17	35.26	0.36	28.01	44.54	0.56	32.74	51.96	0.75	37.30	59.38	0.96
R404A	6	22.14	87.99	2.05	29.04	115.77	3.48	34.98	138.93	4.95	40.85	162.08	6.66
	8	23.91	71.23	1.37	30.24	90.34	2.16	36.04	107.71	3.03	41.83	125.09	4.04
	10	25.58	61.18	1.02	31.39	75.08	1.51	37.17	88.99	2.10	42.15	100.11	2.63
	12	26.77	53.32	0.79	32.56	64.91	1.14	37.88	75.34	1.52	43.20	85.78	1.95
	15	28.54	45.47	0.58	33.85	53.82	0.80	39.55	63.09	1.08	44.43	70.52	1.34
R410A	6	-	-	-	33.94	134.30	4.63	43.09	171.35	7.41	-	-	-
	8	25.68	76.44	1.57	36.01	107.71	3.03	44.17	132.04	4.48	51.45	152.88	5.94
	10	28.04	66.74	1.21	37.25	88.99	2.10	44.49	105.67	2.92	52.42	125.14	4.04
	12	30.27	60.28	0.99	38.45	76.50	1.57	45.60	90.41	2.16	53.46	106.64	2.96
	15	32.60	51.96	0.75	39.81	63.09	1.08	47.69	76.08	1.55	54.71	87.22	2.01

TX60-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	47.69	189.87	9.05	-	-	-	-	-	-	-	-	-
	8	47.87	142.46	5.19	53.68	159.83	6.48	59.36	177.21	7.91	-	-	-
	10	48.82	116.80	3.54	53.83	127.92	4.21	59.51	141.82	5.14	65.07	155.73	6.16
	12	49.10	97.37	2.49	54.79	108.96	3.09	60.37	120.55	3.76	65.28	129.82	4.33
	15	50.28	79.80	1.70	55.95	89.08	2.10	60.81	96.50	2.44	66.33	105.78	2.92
R134a	6	38.29	152.82	5.95	42.16	166.72	7.03	46.53	185.24	8.63	-	-	-
	8	38.57	114.66	3.42	43.02	128.56	4.26	46.72	138.99	4.95	50.35	149.41	5.69
	10	39.55	94.55	2.36	43.28	102.89	2.77	47.58	114.01	3.38	51.15	122.36	3.87
	12	40.22	79.98	1.71	44.23	88.10	2.06	47.86	95.05	2.38	51.40	102.00	2.72
	15	41.36	65.88	1.18	45.33	72.37	1.41	48.93	77.94	1.62	52.42	83.51	1.85
R404A	6	46.69	185.24	8.63	-	-	-	-	-	-	-	-	-
	8	47.57	142.46	5.19	52.59	156.36	6.21	58.36	173.73	7.61	64.16	191.11	9.16
	10	47.83	114.01	3.38	53.50	127.92	4.21	58.54	139.04	4.95	65.02	155.73	6.16
	12	48.84	97.37	2.49	53.80	106.64	2.97	59.47	118.23	3.62	65.23	129.82	4.33
	15	50.02	79.80	1.70	54.95	87.22	2.01	60.58	96.50	2.44	65.61	103.92	2.82
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	59.42	177.21	7.91	-	-	-	-	-	-	-	-	-
	10	59.59	141.82	5.14	67.48	161.29	6.59	74.66	177.97	7.97	-	-	-
	12	60.54	120.55	3.75	67.65	134.46	4.63	74.77	148.37	5.60	-	-	-
	15	61.74	98.35	2.53	68.72	109.49	3.12	76.57	122.48	3.87	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX75-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	33.73	134.54	3.31	43.54	173.78	5.47	-	-	-
	8	-	-	-	35.32	105.15	2.04	44.95	134.60	3.31	52.27	155.63	4.40
	10	-	-	-	37.97	90.89	1.53	46.39	111.09	2.27	53.57	127.92	2.99
	12	28.22	56.13	0.60	39.49	78.58	1.15	47.78	95.42	1.68	54.89	109.45	2.20
	15	33.71	53.91	0.55	42.20	67.39	0.85	49.41	78.62	1.15	56.45	89.86	1.50
R134a	6	-	-	-	26.91	106.51	2.09	35.27	140.15	3.58	41.59	165.38	4.96
	8	-	-	-	29.67	88.33	1.45	36.69	109.36	2.20	42.45	126.18	2.92
	10	-	-	-	31.19	74.06	1.03	38.12	90.89	1.53	43.73	104.35	2.01
	12	25.34	50.51	0.49	33.71	67.35	0.85	39.48	78.58	1.15	45.04	89.80	1.50
	15	28.29	44.93	0.39	35.32	56.16	0.60	41.04	65.15	0.80	46.57	74.13	1.03
R404A	6	28.12	112.12	2.31	35.97	142.95	3.73	43.61	173.78	5.47	-	-	-
	8	30.28	90.43	1.52	37.93	113.57	2.37	45.00	134.60	3.31	52.05	155.63	4.40
	10	32.32	77.42	1.12	39.38	94.26	1.65	46.41	111.09	2.27	52.88	126.24	2.92
	12	33.79	67.35	0.85	40.83	81.38	1.23	47.77	95.42	1.68	53.78	106.64	2.09
	15	35.96	57.28	0.62	42.46	67.39	0.85	49.39	78.62	1.15	56.25	89.86	1.50
R410A	6	28.27	112.12	2.31	43.56	173.78	5.47	-	-	-	-	-	-
	8	33.80	100.95	1.88	45.14	134.60	3.31	55.00	164.04	4.88	-	-	-
	10	36.61	87.52	1.42	46.65	111.09	2.27	56.38	134.65	3.31	65.13	154.85	4.35
	12	38.19	75.77	1.07	48.12	95.42	1.68	57.81	115.06	2.43	66.48	131.90	3.18
	15	41.07	65.15	0.80	50.82	80.87	1.22	59.42	94.35	1.65	68.02	107.83	2.14

TX75-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	59.42	176.66	5.64	-	-	-	-	-	-	-	-	-
	10	60.62	144.75	3.82	67.61	161.58	4.74	73.67	175.05	5.54	-	-	-
	12	61.91	123.48	2.79	67.94	134.71	3.31	74.82	148.74	4.02	81.55	162.77	4.80
	15	63.42	101.09	1.88	70.22	112.32	2.32	76.18	121.31	2.69	82.07	130.29	3.10
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	47.99	143.01	3.73	53.38	159.83	4.64	57.90	172.45	5.38	-	-	-
	10	49.22	117.82	2.55	53.77	127.92	2.99	58.61	139.70	3.56	63.36	151.48	4.17
	12	49.63	98.22	1.78	54.93	109.45	2.20	59.38	117.87	2.55	63.66	126.29	2.92
	15	51.52	81.99	1.25	56.35	89.86	1.50	60.75	96.60	1.72	65.01	103.33	1.97
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	59.03	176.66	5.64	-	-	-	-	-	-	-	-	-
	10	59.40	141.38	3.64	66.34	158.22	4.54	73.37	175.05	5.54	-	-	-
	12	60.70	120.67	2.67	67.56	134.71	3.31	73.69	145.93	3.88	81.60	162.77	4.80
	15	62.22	98.84	1.80	69.09	110.07	2.23	76.07	121.31	2.69	82.19	130.29	3.10
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	74.73	178.41	5.75	-	-	-	-	-	-	-	-	-
	12	76.01	151.54	4.17	84.68	168.38	5.13	-	-	-	-	-	-
	15	76.59	121.31	2.69	86.05	137.03	3.42	95.62	152.76	4.24	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX100-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	42.79	170.54	2.48	56.72	224.81	4.21	68.37	271.32	6.05
	8	-	-	-	46.65	139.59	1.69	58.61	174.49	2.59	70.01	209.39	3.67
	10	-	-	-	48.77	116.37	1.19	60.50	144.30	1.79	70.48	167.58	2.39
	12	-	-	-	50.84	100.90	0.90	62.42	124.18	1.35	72.28	143.59	1.78
	15	39.20	62.13	0.36	54.60	86.98	0.68	64.58	102.51	0.93	74.29	118.04	1.22
R134a	6	-	-	-	-	-	-	46.80	186.05	2.93	55.55	220.93	4.07
	8	-	-	-	38.95	116.33	1.19	48.74	145.41	1.82	56.68	168.67	2.42
	10	-	-	-	41.06	97.75	0.85	50.62	121.03	1.28	58.42	139.65	1.69
	12	-	-	-	43.04	85.38	0.66	52.49	104.78	0.97	59.52	118.36	1.23
	15	35.23	55.91	0.29	46.71	74.55	0.51	54.54	86.98	0.68	61.54	97.85	0.85
R404A	6	36.92	147.29	1.87	47.80	189.92	3.05	58.30	232.56	4.49	68.16	271.32	6.05
	8	39.19	116.33	1.19	49.80	148.32	1.89	59.54	177.40	2.67	68.54	203.57	3.48
	10	41.96	100.08	0.89	51.74	123.36	1.33	60.71	144.30	1.79	70.27	167.58	2.39
	12	43.98	87.32	0.69	53.64	106.72	1.01	62.55	124.18	1.35	72.01	143.59	1.78
	15	46.90	74.55	0.51	56.44	90.09	0.73	64.64	102.51	0.93	74.07	118.04	1.22
R410A	6	-	-	-	56.57	224.81	4.21	71.89	286.82	6.73	-	-	-
	8	42.77	127.96	1.43	58.68	174.49	2.59	72.34	215.21	3.87	85.74	255.92	5.40
	10	46.75	111.72	1.10	60.71	144.30	1.79	74.14	176.89	2.65	86.14	204.82	3.51
	12	50.49	100.90	0.90	62.68	124.18	1.34	76.04	151.35	1.96	87.83	174.63	2.58
	15	52.87	83.87	0.64	66.35	105.62	0.99	78.15	124.26	1.34	89.91	142.89	1.76

TX100-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	79.86	238.47	4.71	89.45	267.55	5.89	97.83	290.82	6.91	-	-	-
	10	80.26	190.85	3.07	89.78	214.13	3.83	99.25	237.40	4.67	107.47	256.02	5.40
	12	81.89	162.99	2.26	90.17	178.51	2.70	99.58	197.91	3.29	108.79	217.32	3.94
	15	83.85	133.57	1.54	93.23	149.11	1.91	101.33	161.53	2.22	109.36	173.96	2.56
R134a	6	62.75	248.06	5.09	70.26	279.07	6.39	-	-	-	-	-	-
	8	64.29	191.94	3.11	71.17	212.30	3.77	77.84	232.65	4.50	83.88	250.10	5.17
	10	65.34	155.94	2.08	72.17	172.23	2.52	78.24	186.20	2.93	84.20	200.16	3.37
	12	66.44	131.94	1.51	73.15	145.53	1.82	79.68	159.11	2.16	85.61	170.75	2.48
	15	68.35	108.72	1.04	74.45	118.04	1.22	80.97	128.91	1.44	86.25	136.68	1.61
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	78.15	232.65	4.50	87.70	261.74	5.64	97.24	290.82	6.91	-	-	-
	10	79.73	190.85	3.07	88.01	209.47	3.67	97.51	232.75	4.50	107.13	256.02	5.40
	12	80.22	159.11	2.16	89.64	178.51	2.70	97.92	194.03	3.17	107.42	213.44	3.80
	15	82.22	130.47	1.48	91.56	146.00	1.83	99.75	158.43	2.14	109.25	173.96	2.56
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	97.86	290.82	6.91	-	-	-	-	-	-	-	-	-
	10	99.32	237.40	4.67	111.26	265.33	5.79	124.47	297.92	7.24	-	-	-
	12	101.00	201.80	3.41	112.76	225.08	4.21	124.61	248.36	5.09	-	-	-
	15	101.65	161.53	2.22	113.37	180.17	2.74	125.04	198.81	3.31	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX120-1-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	46.86	185.39	1.77	67.85	268.81	3.58	81.83	324.43	5.12
	8	-	-	-	55.76	166.92	1.45	70.11	208.65	2.21	83.80	250.38	3.12
	10	-	-	-	58.34	139.15	1.03	72.38	172.55	1.54	84.35	200.38	2.04
	12	-	-	-	60.80	120.65	0.78	74.67	148.49	1.16	86.51	171.69	1.52
	15	46.86	74.29	0.31	65.31	104.00	0.59	77.27	122.58	0.80	88.96	141.15	1.05
R134a	6	-	-	-	-	-	-	56.03	222.47	2.50	66.57	264.18	3.46
	8	-	-	-	46.58	139.10	1.03	58.36	173.87	1.56	67.92	201.69	2.07
	10	-	-	-	49.11	116.89	0.74	60.61	144.72	1.10	69.98	166.98	1.45
	12	-	-	-	51.49	102.09	0.57	62.86	125.29	0.84	72.06	143.85	1.09
	15	42.11	66.86	0.26	55.90	89.15	0.44	65.33	104.00	0.59	74.46	118.86	0.76
R404A	6	44.14	176.12	1.60	57.18	227.10	2.60	69.85	278.08	3.81	81.61	324.43	5.12
	8	46.85	139.10	1.03	59.58	177.35	1.62	71.26	212.12	2.28	82.82	246.90	3.04
	10	50.18	119.67	0.77	61.91	147.50	1.14	73.43	175.33	1.59	84.14	200.38	2.04
	12	53.42	106.73	0.62	64.19	127.61	0.87	74.87	148.49	1.16	86.22	171.69	1.52
	15	56.10	89.15	0.44	67.54	107.72	0.63	78.17	124.43	0.83	88.71	141.15	1.05
R410A	6	-	-	-	67.63	268.81	3.58	85.99	342.97	5.68	102.32	407.85	7.92
	8	49.05	146.05	1.12	70.15	208.65	2.21	86.52	257.33	3.29	102.69	306.01	4.57
	10	55.84	133.59	0.95	72.58	172.55	1.54	88.69	211.51	2.26	103.06	244.91	2.99
	12	58.47	116.01	0.73	75.00	148.49	1.16	90.95	180.97	1.68	105.17	208.81	2.21
	15	63.20	100.29	0.55	79.41	126.29	0.85	93.48	148.58	1.16	107.57	170.86	1.51

TX120-1-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	95.24	380.05	6.92	107.04	426.39	8.63	-	-	-	-	-	-
	8	95.63	285.15	4.00	107.16	319.92	4.98	118.66	354.70	6.06	128.62	382.52	7.01
	10	96.11	228.21	2.62	107.54	256.04	3.26	118.92	283.87	3.96	130.08	311.70	4.74
	12	98.06	194.89	1.94	109.45	218.09	2.40	119.31	236.66	2.80	130.40	259.86	3.35
	15	100.37	159.72	1.33	111.71	178.29	1.63	121.48	193.15	1.90	131.15	208.01	2.19
R134a	6	75.92	301.26	4.44	84.34	333.70	5.40	93.14	370.78	6.60	100.44	398.58	7.59
	8	77.04	229.51	2.65	85.98	257.33	3.29	93.39	278.20	3.82	100.68	299.06	4.38
	10	79.03	189.25	1.84	86.51	205.95	2.15	94.47	225.43	2.56	102.27	244.91	2.99
	12	79.62	157.77	1.30	88.42	176.33	1.60	95.64	190.25	1.85	102.83	204.17	2.12
	15	81.89	130.01	0.90	90.60	144.86	1.10	97.77	156.01	1.27	104.85	167.15	1.45
R404A	6	93.24	370.78	6.60	104.80	417.12	8.28	-	-	-	-	-	-
	8	93.61	278.20	3.82	105.08	312.97	4.77	116.64	347.74	5.84	128.23	382.52	7.01
	10	95.51	228.21	2.62	106.87	256.04	3.26	116.94	278.31	3.82	128.44	306.14	4.58
	12	97.56	194.89	1.94	107.40	213.45	2.30	118.73	236.66	2.80	130.23	259.86	3.35
	15	98.48	156.01	1.27	109.69	174.58	1.57	121.02	193.15	1.90	130.94	208.01	2.19
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	117.12	347.74	5.83	133.18	396.43	7.50	-	-	-	-	-	-
	10	118.91	283.87	3.96	134.74	322.84	5.06	149.02	356.23	6.10	-	-	-
	12	120.87	241.30	2.90	135.03	269.14	3.58	149.29	296.98	4.31	-	-	-
	15	121.64	193.15	1.90	135.69	215.44	2.34	149.79	237.72	2.82	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

Alfa Laval Standard TX/TXC multiple circuit DX evaporator for R410A

Suitable for R410A

TX/TXC chiller barrels engineered design provides years of reliable service. Ideal for system builder and OEM replacement units. They are designed to work with higher pressure refrigerants.

Standard Designs
TX/TXC dual and multiple circuit chillers are available in standard designs for fresh water duty. They are available in 15 catalog models from 10 to 200 tons. ¾" Armaflex® Insulation is fitted as standard.

Tube Materials
TX chillers are manufactured with enhanced ¼" diameter copper tubing and TXC utilize enhanced ⅜" diameter copper tubing. The tubes provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Customization
As standard these units offer horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client.

Options
Units are available with left, right or top mounted shell side connections, please specify at time of order. As standard ¾" insulation is included, 1½" or no insulation is also available.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance internally enhanced designed tubing is standard. Other tubing materials are available for corrosive duties.

Tube Sheets

ASME specification steel tube sheets, precision machined for excellent sealing.

Tube Supports
Quality tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined steel heads. Custom connection versions are available.

Connections
All water side connections are FNPT, MNPT or flanged. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality

Standard Refrigeration

black paint and primer. Units are shipped with ¾" insulation as standard, custom thickness insulation is available upon request.

Working Pressures:
See table for working pressures.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal capacity in tons by 2.4. Water pressure drops provided do not include any external fittings or valves.

Approved Refrigerants
R22, R134a, R404A, R410A and R507A.

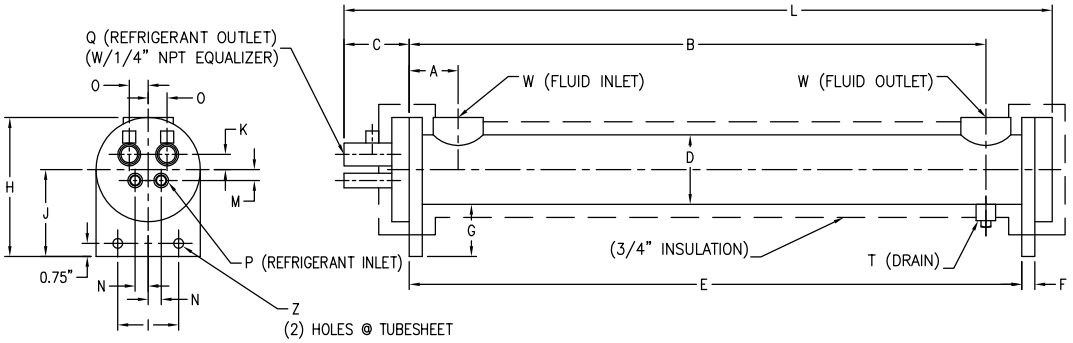
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Alternative Options
For lower pressure refrigerants use a TXC units. Applications requiring glycol, use TXC-MPG (suitable for higher pressure refrigerants). For clean fresh water applications use a brazed EVP-ACH.

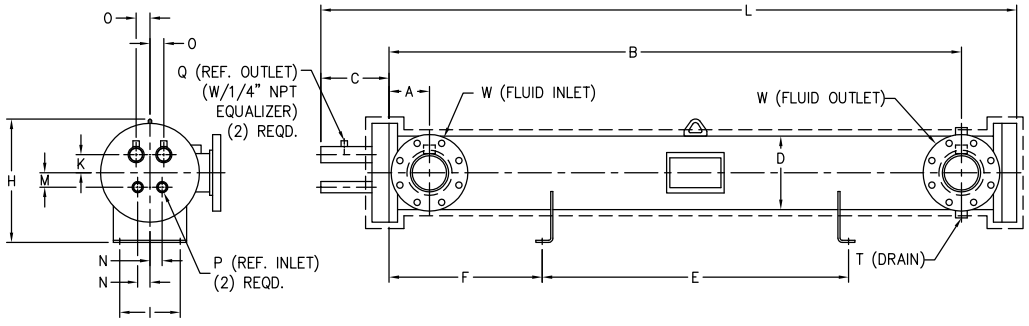
Codes
On all units 6⅝" OD and larger, the refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, while the shell side is non-code. Units 6" OD and smaller are UL stamped. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

TX
2-Circuit



Other multi-circuit models available, consult with factory.

TXC
2-Circuit



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard TX/TXC multiple circuit DX evaporator for R410A

Technical specifications

Models	R22 Nominal Cap.* (Tons)	R134a Nominal Cap.* (Tons)	R410A Nominal Cap.* (Tons)	R22 Press. Drop (psi)	R134a Press. Drop (psi)	R410A Pressure Drop (psi)
TX10-2-410	8.2	6.7	10.2	2.5	1.7	3.8
TX12-2-410	9.6	8.0	12.0	2.8	2.0	4.2
TX15-2-410	12.1	9.9	15.1	2.6	1.8	3.8
TX20-2-410	16.0	13.1	20.0	2.9	2.0	4.4
TX25-2-410	20.3	16.7	25.3	2.9	2.0	4.4
TXC30-2-410	24.9	20.4	30.5	3.4	2.3	5.0
TXC40-2-410	32.7	26.7	40.2	2.4	1.6	3.6
TXC50-2-410	41.3	33.5	50.7	3.0	2.0	4.5
TXC60-2-410	48.9	39.5	60.5	3.5	2.3	5.2
TXC75-2-410	60.8	49.3	75.8	3.8	2.5	5.9
TXC100-2-410	81.7	66.0	101.0	2.9	2.0	4.4
TXC120-2-410	97.8	79.3	120.7	2.6	1.8	3.9
TXC150-2-410	123.0	99.5	150.3	3.3	2.2	4.8
TXC175-2-410	143.0	116.1	176.3	2.7	1.8	4.0
TXC200-2-410	163.7	132.6	202.3	2.9	1.9	4.3

*Ratings are based on entering water 54°F, leaving water 44°F, saturated suction temperature of 35°F, entering TXV temperature of 100°F with 7°F of superheating
ProSuite software values are the most accurate
Includes ¾" thick insulation as standard
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Capacity Tons = 12,000 BTU/hr

Standard Refrigeration

Models	Connections (inches)				Fluid Volume (gal)	Specifications			Working Pressure (psi	
	P Ref. IN (IDS)	Q Ref. Out (IDS)	W Fluid Conn.)	T Drain (FNPT)		Tube Length (in.)	Shell Dia. (in.)	Shipping Wt (lbs)	Shell	Tube
TX10-2-410	5/8	7/8	2" FPT	1/2	1.2	36	4	71	225	375
TX12-2-410	5/8	1 1/8	2" FPT	1/2	3.4	36	6	122	225	375
TX15-2-410	5/8	1 1/8	2.5" FPT	1/2	3.2	36	6	130	225	375
TX20-2-410	5/8	1 1/8	2.5" FPT	1/2	2.9	36	6	138	225	375
TX25-2-410	7/8	1 3/8	3" FPT	1/2	2.6	36	6	144	225	375
TXC30-2-410	7/8	1 3/8	3" MPT	3/4	9.4	72	6 5/8	406	150	375
TXC40-2-410	7/8	1 5/8	3" MPT	3/4	17.7	72	8 5/8	560	150	375
TXC50-2-410	1 1/8	1 5/8	4" FLG	3/4	17.3	72	8 5/8	585	150	375
TXC60-2-410	1 1/8	1 5/8	4" FLG	3/4	20.1	84	8 5/8	638	150	375
TXC75-2-410	1 3/8	2 1/8	5" FLG	3/4	19.8	84	8 5/8	591	150	375
TXC100-2-410	1 3/8	2 1/8	5" FLG	3/4	28.8	84	10 3/4	1083	150	375
TXC120-2-410	1 3/8	2 5/8	6" FLG	3/4	27.2	84	12 3/4	1098	150	375
TXC150-2-410	1 5/8	2 5/8	6" FLG	3/4	34.4	84	14	1622	150	375
TXC175-2-410	1 5/8	3 1/8	6" FLG	3/4	31.4	84	14	1722	150	375
TXC200-2-410	2 1/8	3 1/8	8" FLG	3/4	42.5	84	16	2129	150	375

Models	Dimensions (inches)															Gaskets Article #		Heads Article #	
	H	L	A	B	C	E	F	G	I	J	K	M	N	O	Z	Front	Rear	Front	Rear
TX10-2-410	8.00	40.75	2.81	33.06	3.75	35.25	0.75	3.00	3.50	5.00	0.69	0.94	0.75	1.00	0.56	2872	2872	33752	33769
TX12-2-410	10.00	42.25	2.94	33.06	5.00	35.25	0.75	3.00	5.75	6.00	1.00	0.75	1.13	1.13	0.56	2889	2889	35196	33745
TX15-2-410	11.00	42.25	3.19	32.81	5.00	35.25	0.75	3.00	5.75	6.00	1.19	7/8	1.25	1.25	0.56	2889	2889	35196	33745
TX20-2-410	11.00	42.25	3.19	32.81	5.00	35.25	0.75	3.00	5.75	6.00	1.19	7/8	1.25	1.25	0.56	2889	2889	35196	33745
TX25-2-410	11.00	42.25	3.75	32.25	5.00	35.25	0.75	3.00	5.75	6.00	1.19	7/8	1.25	1.25	0.56	2889	2889	33738	33745
TXC30-2-410	13.50	81.50	4.25	67.75	8.00	54.00	18.00	3.00	5.25	–	1.50	1.50	1.75	1.75	0.56	2218	2218	35365	35372
TXC40-2-410	15.50	81.75	4.50	67.50	8.00	54.00	18.00	3.00	7.13	–	1.75	1.63	2.00	2.00	0.56	2227	2227	35741	22052
TXC50-2-410	16.50	81.75	4.75	67.25	8.00	54.00	18.00	3.00	7.13	–	1.75	1.63	2.00	2.00	0.56	2227	2227	35334	22052
TXC60-2-410	17.50	93.75	4.75	79.25	8.00	63.00	21.00	3.00	7.13	–	1.75	1.63	2.00	2.00	0.56	2227	2227	35334	22052
TXC75-2-410	18.50	93.75	5.50	78.50	8.00	63.00	21.00	3.00	7.13	–	1.75	1.63	2.00	2.00	0.56	2227	2227	35758	22052
TXC100-2-410	19.63	95.12	5.75	78.25	8.38	63.00	21.00	3.50	11.25	–	2.38	2.67	2.25	3.13	0.56	19299	19299	35765	27088
TXC120-2-410	19.63	94.87	6.38	76.13	8.38	63.00	21.00	3.50	11.25	–	2.38	2.67	2.25	3.50	0.56	4885	4892	35772	35796
TXC150-2-410	20.88	95.87	6.38	76.13	8.88	63.00	21.00	3.50	12.00	–	2.63	2.13	3.00	3.00	0.69	3549	3549	35808	35815
TXC175-2-410	20.88	95.87	6.38	76.13	8.88	63.00	21.00	3.50	12.00	–	2.63	2.75	3.31	3.31	0.69	3549	3549	38171	35815
TXC200-2-410	24.13	95.87	7.50	75.00	8.88	63.75	20.25	3.50	12.00	–	2.63	2.75	2.50	3.33	0.69	5169	5169	409446	35396

Dimensions do not include the 3/4” insulation
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

TX10-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	5.50	21.91	3.38	6.70	26.70	4.96
	8	-	-	-	-	-	-	5.85	17.47	2.17	6.90	20.55	2.98
	10	-	-	-	4.82	11.51	0.97	6.18	14.80	1.58	7.10	16.86	2.03
	12	-	-	-	5.18	10.28	0.78	6.38	12.68	1.17	7.40	14.74	1.56
	15	-	-	-	5.70	9.05	0.61	6.73	10.70	0.84	7.75	12.35	1.11
R134a	6	-	-	-	-	-	-	4.64	18.49	2.43	5.53	21.91	3.38
	8	-	-	-	-	-	-	4.98	14.90	1.60	5.83	17.47	2.17
	10	-	-	-	-	-	-	5.18	12.33	1.11	6.02	14.39	1.49
	12	-	-	-	4.49	8.91	0.59	5.49	10.97	0.88	6.21	12.34	1.11
	15	-	-	-	4.99	7.96	0.48	5.72	9.05	0.61	6.53	10.43	0.80
R404A	6	3.46	13.69	1.36	4.67	18.49	2.43	5.70	22.60	3.58	6.75	26.70	4.96
	8	3.98	11.82	1.02	5.00	14.90	1.60	6.02	17.98	2.30	7.06	21.06	3.13
	10	4.32	10.28	0.78	5.32	12.75	1.18	6.23	14.80	1.58	7.26	17.27	2.12
	12	4.64	9.25	0.64	5.53	10.97	0.88	6.54	13.03	1.23	7.57	15.08	1.63
	15	4.99	7.96	0.48	5.88	9.33	0.65	6.90	10.98	0.88	7.92	12.62	1.16
R410A	6	-	-	-	5.49	21.91	3.38	6.91	27.39	5.21	8.28	32.87	7.43
	8	-	-	-	5.87	17.47	2.17	7.24	21.58	3.27	8.59	25.69	4.59
	10	4.81	11.51	0.97	6.22	14.80	1.58	7.56	18.09	2.32	8.79	20.97	3.10
	12	5.17	10.28	0.78	6.56	13.03	1.23	7.78	15.42	1.71	9.00	17.82	2.26
	15	5.71	9.05	0.61	7.04	11.25	0.93	8.25	13.17	1.26	9.48	15.09	1.63

TX10-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	7.74	30.81	6.55	8.79	34.92	8.36	9.95	39.71	10.74	11.00	43.82	13.02
	8	7.93	23.63	3.91	8.97	26.71	4.96	10.00	29.80	6.13	11.04	32.88	7.43
	10	8.12	19.32	2.64	9.14	21.79	3.34	10.17	24.26	4.11	11.20	26.73	4.96
	12	8.31	16.45	1.93	9.33	18.51	2.43	10.36	20.57	2.98	11.37	22.62	3.59
	15	8.65	13.72	1.36	9.67	15.37	1.69	10.69	17.01	2.06	11.69	18.66	2.46
R134a	6	6.37	25.33	4.48	7.09	28.07	5.47	7.91	31.50	6.84	8.63	34.24	8.04
	8	6.55	19.52	2.70	7.26	21.58	3.28	8.08	24.15	4.08	8.79	26.20	4.78
	10	6.73	16.04	1.84	7.44	17.68	2.22	8.25	19.74	2.75	8.96	21.38	3.22
	12	6.91	13.71	1.36	7.62	15.08	1.63	8.43	16.80	2.01	9.13	18.17	2.34
	15	7.24	11.52	0.97	7.94	12.62	1.16	8.65	13.72	1.36	9.34	14.82	1.58
R404A	6	7.92	31.50	6.84	8.96	35.60	8.68	9.97	39.71	10.74	10.87	43.14	12.63
	8	8.11	24.15	4.07	9.13	27.23	5.15	10.03	29.80	6.13	11.00	32.88	7.43
	10	8.29	19.74	2.75	9.31	22.20	3.46	10.29	24.67	4.25	11.07	26.31	4.81
	12	8.59	17.14	2.09	9.49	18.85	2.52	10.37	20.57	2.98	11.33	22.62	3.59
	15	8.94	14.27	1.47	9.83	15.64	1.75	10.69	17.01	2.06	11.55	18.38	2.39
R410A	6	9.69	38.34	10.03	11.20	44.51	13.42	-	-	-	-	-	-
	8	9.97	29.80	6.13	11.36	33.91	7.89	-	-	-	-	-	-
	10	10.05	23.85	3.97	11.42	27.14	5.11	-	-	-	-	-	-
	12	10.36	20.57	2.98	11.72	23.31	3.80	-	-	-	-	-	-
	15	10.72	17.01	2.06	-	-	-	-	-	-	-	-	-

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TX12-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	6.50	25.89	3.97	7.92	31.56	5.74
	8	-	-	-	-	-	-	6.91	20.64	2.61	8.15	24.29	3.52
	10	-	-	-	5.69	13.61	1.20	7.15	17.01	1.82	8.38	19.92	2.44
	12	-	-	-	6.11	12.15	0.98	7.53	14.99	1.44	8.74	17.42	1.90
	15	-	-	-	6.72	10.70	0.77	7.95	12.65	1.05	9.15	14.59	1.36
R134a	6	-	-	-	-	-	-	5.49	21.85	2.90	6.54	25.89	3.97
	8	-	-	-	-	-	-	5.89	17.61	1.94	6.90	20.64	2.61
	10	-	-	-	-	-	-	6.13	14.58	1.37	7.12	17.01	1.82
	12	-	-	-	5.31	10.53	0.75	6.49	12.96	1.10	7.34	14.58	1.37
	15	-	-	-	5.89	9.40	0.61	6.76	10.70	0.77	7.72	12.32	1.00
R404A	6	4.09	16.18	1.66	5.51	21.85	2.90	6.73	26.70	4.21	7.98	31.56	5.74
	8	4.70	13.96	1.26	5.90	17.61	1.94	7.11	21.25	2.75	8.34	24.89	3.69
	10	5.09	12.15	0.98	6.22	14.82	1.41	7.35	17.49	1.91	8.58	20.41	2.55
	12	5.47	10.94	0.80	6.52	12.96	1.10	7.72	15.39	1.51	8.94	17.82	1.98
	15	5.89	9.40	0.61	6.94	11.02	0.81	8.15	12.97	1.10	9.36	14.92	1.42
R410A	6	-	-	-	6.33	25.09	3.74	8.16	32.37	6.02	9.78	38.84	8.47
	8	-	-	-	6.93	20.64	2.60	8.55	25.50	3.86	10.14	30.36	5.33
	10	5.51	13.12	1.12	7.34	17.49	1.91	8.92	21.38	2.78	10.38	24.78	3.65
	12	6.10	12.15	0.97	7.74	15.39	1.51	9.18	18.23	2.06	10.62	21.06	2.70
	15	6.73	10.70	0.77	8.18	12.97	1.10	9.74	15.56	1.54	11.06	17.51	1.91

TX12-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	9.15	36.41	7.50	10.40	41.27	9.50	-	-	-	-	-	-
	8	9.37	27.93	4.57	10.60	31.57	5.74	11.83	35.21	7.04	13.05	38.86	8.48
	10	9.60	22.84	3.14	10.80	25.75	3.93	12.03	28.67	4.79	13.24	31.58	5.74
	12	9.82	19.44	2.33	11.03	21.87	2.89	12.24	24.31	3.52	13.45	26.74	4.21
	15	10.22	16.21	1.66	11.42	18.16	2.05	12.63	20.10	2.47	13.83	22.05	2.93
R134a	6	7.53	29.94	5.21	8.39	33.18	6.31	9.37	37.22	7.83	10.23	40.46	9.16
	8	7.74	23.07	3.20	8.59	25.50	3.86	9.56	28.54	4.76	10.42	30.96	5.54
	10	7.96	18.95	2.22	8.93	21.38	2.78	9.77	23.32	3.27	10.61	25.27	3.79
	12	8.18	16.20	1.66	9.14	18.23	2.07	9.98	19.85	2.42	10.82	21.47	2.80
	15	8.56	13.62	1.20	9.40	14.92	1.42	10.23	16.21	1.66	11.18	17.83	1.98
R404A	6	9.36	37.22	7.82	10.60	42.08	9.85	-	-	-	-	-	-
	8	9.58	28.54	4.76	10.80	32.18	5.95	11.87	35.21	7.04	13.02	38.86	8.48
	10	9.80	23.32	3.26	11.00	26.24	4.06	12.18	29.15	4.95	13.10	31.10	5.58
	12	10.15	20.25	2.51	11.22	22.28	3.00	12.27	24.31	3.52	13.41	26.74	4.21
	15	10.56	16.86	1.78	11.62	18.48	2.11	12.64	20.10	2.47	13.66	21.73	2.85
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	11.78	35.21	7.03	13.42	40.07	8.98	-	-	-	-	-	-
	10	11.86	28.18	4.64	13.49	32.07	5.90	-	-	-	-	-	-
	12	12.23	24.31	3.52	13.84	27.55	4.44	-	-	-	-	-	-
	15	12.65	20.10	2.47	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX15-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	8.23	32.80	3.60	9.75	38.59	4.88
	8	-	-	-	6.78	20.27	1.47	8.72	26.06	2.34	10.20	30.40	3.12
	10	-	-	-	7.31	17.38	1.10	9.19	22.02	1.71	10.64	25.49	2.25
	12	-	-	-	8.01	15.94	0.94	9.49	18.84	1.28	10.94	21.73	1.67
	15	6.80	10.83	0.46	8.71	13.92	0.73	10.17	16.24	0.97	11.62	18.56	1.24
R134a	6	-	-	-	-	-	-	6.82	27.01	2.51	8.13	32.32	3.50
	8	-	-	-	-	-	-	7.30	21.72	1.67	8.50	25.34	2.22
	10	-	-	-	6.32	15.06	0.85	7.75	18.54	1.24	8.78	20.86	1.55
	12	-	-	-	6.82	13.52	0.69	8.03	15.94	0.94	9.20	18.35	1.22
	15	-	-	-	7.50	11.99	0.55	8.52	13.53	0.69	9.68	15.46	0.88
R404A	6	5.35	21.23	1.60	6.93	27.50	2.59	8.47	33.77	3.80	9.98	39.56	5.11
	8	6.05	18.10	1.19	7.41	22.08	1.72	8.95	26.78	2.46	10.44	31.13	3.26
	10	6.53	15.64	0.91	7.80	18.54	1.24	9.27	22.02	1.71	10.89	26.07	2.34
	12	6.91	13.77	0.71	8.27	16.42	0.99	9.73	19.32	1.34	11.20	22.22	1.74
	15	7.51	11.99	0.55	8.95	14.30	0.76	10.41	16.62	1.01	11.87	18.94	1.29
R410A	6	-	-	-	8.24	32.80	3.60	10.24	40.52	5.34	12.19	48.24	7.43
	8	6.56	19.55	1.37	8.79	26.06	2.34	10.73	31.85	3.40	12.66	37.64	4.65
	10	7.30	17.38	1.10	9.45	22.59	1.79	11.20	26.65	2.44	13.14	31.29	3.29
	12	8.02	15.94	0.94	9.94	19.80	1.40	11.68	23.18	1.88	13.59	27.05	2.50
	15	8.76	13.92	0.73	10.66	17.01	1.05	12.39	19.72	1.39	14.15	22.42	1.76

TX15-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	11.38	45.35	6.61	12.88	51.14	8.30	-	-	-	-	-	-
	8	11.68	34.75	4.01	13.16	39.09	5.00	14.64	43.43	6.09	16.11	47.78	7.29
	10	12.10	28.97	2.85	13.57	32.44	3.52	15.04	35.92	4.26	16.48	39.40	5.07
	12	12.40	24.63	2.10	13.86	27.53	2.59	15.47	30.91	3.21	-	-	-
	15	13.07	20.88	1.54	14.52	23.20	1.88	15.96	25.52	2.24	-	-	-
R134a	6	9.24	36.66	4.44	10.41	41.49	5.59	11.45	45.35	6.61	12.60	50.17	8.01
	8	9.52	28.23	2.72	10.68	31.85	3.41	11.70	34.75	4.01	12.86	38.37	4.83
	10	9.93	23.75	1.97	10.95	26.07	2.34	12.11	28.97	2.85	13.10	31.29	3.29
	12	10.21	20.29	1.47	11.22	22.22	1.74	12.38	24.63	2.11	13.36	26.56	2.42
	15	10.69	17.01	1.06	11.70	18.56	1.24	12.85	20.49	1.49	13.83	22.04	1.71
R404A	6	11.63	46.31	6.88	-	-	-	-	-	-	-	-	-
	8	11.92	35.47	4.16	13.37	39.81	5.17	14.64	43.43	6.09	16.03	47.78	7.29
	10	12.36	29.55	2.96	13.64	32.44	3.52	15.04	35.92	4.26	16.28	38.82	4.93
	12	12.65	25.12	2.18	14.06	28.01	2.67	15.31	30.43	3.12	16.54	32.84	3.60
	15	13.15	20.88	1.54	14.55	23.20	1.88	15.78	25.13	2.18	-	-	-
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	14.62	43.43	6.08	-	-	-	-	-	-	-	-	-
	10	15.07	35.92	4.26	-	-	-	-	-	-	-	-	-
	12	15.53	30.91	3.21	-	-	-	-	-	-	-	-	-
	15	16.08	25.52	2.24	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX20-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	10.89	43.39	4.35	12.90	51.04	5.91
	8	-	-	-	8.97	26.81	1.77	11.54	34.47	2.83	13.49	40.21	3.77
	10	-	-	-	9.67	22.99	1.32	12.16	29.12	2.06	14.09	33.71	2.71
	12	-	-	-	10.60	21.08	1.13	12.55	24.91	1.54	14.48	28.75	2.01
	15	9.00	14.32	0.55	11.53	18.41	0.87	13.46	21.48	1.16	15.37	24.54	1.49
R134a	6	-	-	-	-	-	-	9.01	35.73	3.03	10.64	42.11	4.12
	8	-	-	-	-	-	-	9.65	28.72	2.01	11.23	33.51	2.68
	10	-	-	-	8.36	19.92	1.01	10.25	24.52	1.49	11.60	27.58	1.86
	12	-	-	-	9.02	17.89	0.83	10.62	21.08	1.13	12.15	24.27	1.46
	15	-	-	-	9.92	15.85	0.66	11.27	17.90	0.83	12.79	20.45	1.06
R404A	6	7.08	28.07	1.93	9.16	36.37	3.13	11.20	44.66	4.60	13.20	52.32	6.19
	8	8.00	23.94	1.43	9.80	29.20	2.07	11.83	35.42	2.97	13.80	41.17	3.94
	10	8.64	20.69	1.09	10.32	24.52	1.49	12.26	29.12	2.06	14.40	34.48	2.82
	12	9.15	18.21	0.86	10.94	21.72	1.19	12.87	25.55	1.61	14.81	29.38	2.09
	15	9.95	15.85	0.66	11.85	18.92	0.92	13.78	21.99	1.21	15.50	24.54	1.49
R410A	6	-	-	-	10.91	43.39	4.35	13.55	53.59	6.48	16.33	65.08	9.35
	8	8.68	25.85	1.65	11.85	35.42	2.97	14.20	42.13	4.11	16.76	49.79	5.63
	10	9.67	22.99	1.32	12.52	29.88	2.16	14.83	35.25	2.94	17.38	41.38	3.97
	12	10.63	21.08	1.12	13.16	26.19	1.69	15.46	30.66	2.26	17.99	35.77	3.02
	15	11.60	18.41	0.87	14.11	22.50	1.27	16.41	26.08	1.67	18.95	30.17	2.19

TX20-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	15.04	59.97	8.01	17.01	67.63	10.07	-	-	-	-	-	-
	8	15.44	45.96	4.85	17.39	51.70	6.05	19.35	57.45	7.38	21.28	63.19	8.85
	10	16.00	38.31	3.44	17.94	42.91	4.26	19.87	47.51	5.16	21.76	52.10	6.14
	12	16.40	32.58	2.54	18.32	36.41	3.13	20.24	40.24	3.77	-	-	-
	15	17.28	27.61	1.86	19.19	30.68	2.26	20.89	33.24	2.63	-	-	-
R134a	6	12.20	48.49	5.37	13.56	53.59	6.48	15.10	59.97	8.02	16.63	66.35	9.72
	8	12.57	37.34	3.28	14.09	42.13	4.12	15.43	45.96	4.85	16.77	49.79	5.64
	10	13.12	31.42	2.37	14.45	34.48	2.83	15.78	37.55	3.32	17.29	41.38	3.98
	12	13.49	26.83	1.77	14.81	29.38	2.09	16.14	31.94	2.45	17.64	35.13	2.93
	15	14.11	22.50	1.27	15.44	24.54	1.49	16.76	26.59	1.73	18.06	28.63	1.99
R404A	6	15.37	61.25	8.34	17.32	68.91	10.43	-	-	-	-	-	-
	8	15.75	46.91	5.04	17.66	52.66	6.26	19.34	57.45	7.38	21.16	63.19	8.85
	10	16.13	38.31	3.44	18.02	42.91	4.26	19.86	47.51	5.16	21.49	51.34	5.97
	12	16.72	33.22	2.63	18.58	37.05	3.23	20.24	40.24	3.77	21.84	43.44	4.35
	15	17.39	27.61	1.86	19.24	30.68	2.26	20.87	33.24	2.63	-	-	-
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	19.34	57.45	7.37	-	-	-	-	-	-	-	-	-
	10	19.94	47.51	5.15	-	-	-	-	-	-	-	-	-
	12	20.55	40.88	3.88	-	-	-	-	-	-	-	-	-
	15	21.28	33.75	2.70	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TX25-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	13.79	55.03	4.08	16.34	64.74	5.59
	8	-	-	-	11.36	34.00	1.62	14.61	43.71	2.62	17.09	51.00	3.52
	10	-	-	-	12.24	29.15	1.20	15.12	35.96	1.80	17.58	41.79	2.40
	12	-	-	-	13.41	26.74	1.02	15.90	31.60	1.40	18.33	36.46	1.85
	15	11.39	18.16	0.49	14.60	23.35	0.78	17.04	27.24	1.05	19.21	30.48	1.31
R134a	6	-	-	-	-	-	-	11.42	45.32	2.81	13.49	53.41	3.86
	8	-	-	-	-	-	-	12.23	36.43	1.85	14.24	42.50	2.48
	10	-	-	-	10.59	25.27	0.92	12.98	31.10	1.36	14.70	34.99	1.71
	12	-	-	-	11.42	22.68	0.74	13.45	26.74	1.02	15.28	30.38	1.30
	15	-	-	-	12.28	19.46	0.55	14.27	22.70	0.74	15.97	25.29	0.91
R404A	6	8.96	35.60	1.77	11.60	46.12	2.91	14.07	55.83	4.20	16.72	66.35	5.86
	8	10.00	29.75	1.25	12.41	37.04	1.91	14.73	43.71	2.62	17.48	52.21	3.69
	10	10.81	25.75	0.95	13.07	31.10	1.36	15.52	36.93	1.89	17.98	42.76	2.51
	12	11.46	22.68	0.74	13.85	27.55	1.08	16.30	32.41	1.47	18.76	37.27	1.93
	15	12.59	20.10	0.59	14.73	23.35	0.78	17.18	27.24	1.05	19.62	31.13	1.36
R410A	6	-	-	-	13.80	55.03	4.08	17.15	67.97	6.14	-	-	-
	8	10.98	32.79	1.51	14.72	43.71	2.62	17.95	53.43	3.85	21.18	63.14	5.32
	10	12.23	29.15	1.20	15.83	37.90	1.99	18.76	44.70	2.73	21.98	52.48	3.72
	12	13.43	26.74	1.02	16.65	33.22	1.54	19.56	38.89	2.09	22.77	45.37	2.81
	15	14.67	23.35	0.78	17.57	27.89	1.10	20.76	33.07	1.53	23.70	37.61	1.96

TX25-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	19.56	58.29	4.56	22.01	65.57	5.72	-	-	-	-	-	-
	10	20.27	48.59	3.21	22.73	54.42	3.99	25.18	60.25	4.86	27.59	66.08	5.81
	12	20.77	41.32	2.35	23.21	46.18	2.91	25.65	51.04	3.53	-	-	-
	15	21.62	34.37	1.65	24.05	38.26	2.02	26.47	42.15	2.44	-	-	-
R134a	6	15.48	61.50	5.06	17.32	68.78	6.28	-	-	-	-	-	-
	8	15.93	47.36	3.06	17.88	53.43	3.86	19.58	58.29	4.56	21.29	63.14	5.32
	10	16.63	39.84	2.19	18.33	43.73	2.62	20.03	47.62	3.09	21.93	52.48	3.72
	12	17.10	34.03	1.62	18.79	37.27	1.93	20.46	40.51	2.26	22.39	44.56	2.72
	15	17.89	28.54	1.15	19.58	31.13	1.36	21.27	33.72	1.59	22.92	36.32	1.83
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	19.96	59.50	4.74	22.39	66.79	5.93	-	-	-	-	-	-
	10	20.43	48.59	3.21	22.85	54.42	3.99	25.18	60.25	4.86	27.25	65.11	5.64
	12	21.16	42.13	2.44	23.54	46.99	3.01	25.63	51.04	3.53	27.69	55.09	4.09
	15	22.03	35.02	1.71	24.38	38.91	2.09	26.20	41.51	2.37	-	-	-
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	25.25	60.25	4.86	-	-	-	-	-	-	-	-	-
	12	26.02	51.85	3.63	-	-	-	-	-	-	-	-	-
	15	26.93	42.80	2.51	-	-	-	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC30-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	16.67	66.01	4.00	20.55	81.41	5.99
	8	-	-	-	-	-	-	17.69	52.83	2.60	21.08	62.73	3.62
	10	-	-	-	14.37	34.35	1.14	18.30	43.60	1.80	21.65	51.53	2.48
	12	-	-	-	15.46	30.84	0.93	18.88	37.45	1.34	22.19	44.06	1.83
	15	-	-	-	16.61	26.45	0.69	19.97	31.74	0.98	23.21	37.03	1.31
R134a	6	-	-	-	-	-	-	13.83	55.01	2.82	16.67	66.01	4.00
	8	-	-	-	-	-	-	14.44	42.92	1.75	17.22	51.18	2.45
	10	-	-	-	12.14	29.07	0.83	15.44	37.00	1.31	17.78	42.28	1.70
	12	-	-	-	12.77	25.33	0.64	16.02	31.94	0.99	18.32	36.35	1.27
	15	-	-	-	13.91	22.04	0.49	16.68	26.45	0.69	19.31	30.86	0.93
R404A	6	10.51	41.81	1.66	14.38	57.21	3.04	17.68	70.41	4.52	20.57	81.41	5.99
	8	11.66	34.67	1.16	15.02	44.57	1.88	18.23	54.48	2.76	21.09	62.73	3.62
	10	12.73	30.39	0.90	15.99	38.32	1.41	18.80	44.92	1.91	21.62	51.53	2.48
	12	13.34	26.44	0.69	16.57	33.04	1.06	19.39	38.55	1.42	22.17	44.06	1.83
	15	14.44	22.92	0.53	17.25	27.33	0.74	20.40	32.62	1.03	23.17	37.03	1.31
R410A	6	-	-	-	16.60	66.01	4.00	21.54	85.81	6.63	25.58	101.21	9.13
	8	-	-	-	17.69	52.83	2.60	22.12	66.04	4.00	26.04	77.59	5.45
	10	13.25	31.71	0.98	18.75	44.92	1.91	22.70	54.17	2.73	26.57	63.42	3.69
	12	14.44	28.64	0.81	19.37	38.55	1.42	23.27	46.26	2.01	27.13	53.97	2.71
	15	16.54	26.45	0.69	20.48	32.62	1.03	24.33	38.80	1.44	27.77	44.09	1.83

TXC30-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	23.91	94.61	8.01	27.15	107.82	10.33	-	-	-	-	-	-
	8	24.38	72.64	4.80	27.57	82.55	6.15	30.40	90.80	7.40	33.21	99.05	8.76
	10	24.88	59.46	3.26	27.71	66.06	4.00	30.52	72.67	4.80	33.27	79.28	5.68
	12	25.38	50.67	2.40	28.20	56.18	2.92	30.98	61.68	3.50	33.40	66.09	4.00
	15	26.02	41.44	1.63	28.81	45.85	1.98	31.55	50.26	2.36	34.28	54.67	2.77
R134a	6	19.38	77.01	5.38	21.64	85.81	6.63	23.85	94.61	8.02	25.99	103.41	9.53
	8	19.86	59.43	3.26	22.11	66.04	4.00	24.28	72.64	4.80	26.11	77.59	5.46
	10	20.22	48.23	2.18	22.41	53.51	2.67	24.44	58.14	3.13	26.55	63.42	3.70
	12	20.57	40.76	1.58	22.77	45.16	1.92	24.92	49.57	2.30	26.71	52.87	2.60
	15	21.52	34.39	1.14	23.34	37.03	1.31	25.49	40.56	1.56	27.26	43.20	1.77
R404A	6	23.76	94.61	8.01	26.63	105.62	9.92	-	-	-	-	-	-
	8	23.93	70.99	4.59	26.72	79.24	5.68	29.86	89.15	7.14	32.75	97.40	8.48
	10	24.42	58.14	3.13	27.22	64.74	3.84	30.00	71.35	4.64	33.17	79.28	5.68
	12	24.94	49.57	2.30	27.72	55.07	2.82	30.50	60.58	3.38	33.31	66.09	4.00
	15	25.56	40.56	1.56	28.66	45.85	1.98	31.10	49.38	2.28	34.25	54.67	2.77
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	29.97	89.15	7.14	34.21	102.36	9.33	37.75	112.26	11.16	-	-	-
	10	30.44	72.67	4.80	34.31	81.92	6.05	-	-	-	-	-	-
	12	30.94	61.68	3.50	34.40	68.29	4.26	-	-	-	-	-	-
	15	31.58	50.26	2.36	35.34	56.43	2.95	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC40-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	21.36	84.48	3.07	27.31	108.61	4.95
	8	-	-	-	-	-	-	22.78	67.91	2.03	27.47	81.49	2.87
	10	-	-	-	-	-	-	23.59	56.16	1.42	28.20	67.03	1.98
	12	-	-	-	18.28	36.25	0.62	24.37	48.33	1.07	28.93	57.39	1.47
	15	-	-	-	21.21	33.85	0.55	25.83	41.10	0.79	30.29	48.36	1.07
R134a	6	-	-	-	-	-	-	18.16	72.41	2.29	22.09	87.49	3.28
	8	-	-	-	-	-	-	18.99	56.59	1.44	22.83	67.91	2.03
	10	-	-	-	-	-	-	19.78	47.10	1.02	23.55	56.16	1.42
	12	-	-	-	16.64	33.23	0.53	20.57	40.78	0.78	24.30	48.33	1.07
	15	-	-	-	18.18	29.02	0.41	21.99	35.06	0.58	25.11	39.90	0.74
R404A	6	12.90	51.29	1.20	18.92	75.42	2.48	23.18	92.02	3.61	27.37	108.61	4.95
	8	15.15	45.27	0.95	19.74	58.86	1.55	23.90	71.31	2.23	28.05	83.76	3.02
	10	16.02	38.04	0.68	20.54	48.91	1.09	24.41	57.97	1.50	28.73	68.84	2.08
	12	17.43	34.74	0.57	21.33	42.29	0.83	25.15	49.84	1.13	28.96	57.39	1.47
	15	18.63	29.62	0.43	22.72	36.27	0.62	26.52	42.31	0.83	30.29	48.36	1.07
R410A	6	-	-	-	21.22	84.48	3.07	28.05	111.63	5.21	-	-	-
	8	-	-	-	22.70	67.91	2.03	28.80	86.02	3.17	34.17	101.86	4.37
	10	-	-	-	23.56	56.16	1.42	29.56	70.65	2.18	34.84	83.34	2.99
	12	16.78	33.23	0.53	24.38	48.33	1.07	30.31	60.41	1.62	35.05	69.47	2.11
	15	19.80	31.43	0.48	25.90	41.10	0.79	31.18	49.57	1.12	36.39	58.03	1.50

TXC40-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	32.02	95.07	3.84	36.41	108.66	4.95	-	-	-	-	-	-
	10	32.66	77.90	2.63	36.55	86.96	3.24	40.82	97.83	4.05	44.20	105.08	4.64
	12	33.32	66.45	1.94	37.17	74.01	2.38	40.98	81.56	2.86	44.74	89.11	3.39
	15	34.15	54.40	1.33	37.95	60.45	1.62	41.72	66.49	1.94	45.44	72.54	2.29
R134a	6	25.82	102.58	4.44	-	-	-	-	-	-	-	-	-
	8	26.47	79.23	2.72	29.53	88.28	3.34	32.52	97.34	4.02	35.06	104.13	4.57
	10	26.67	63.41	1.78	29.71	70.65	2.19	32.69	77.90	2.63	35.60	85.15	3.11
	12	27.34	54.37	1.33	30.36	60.41	1.62	33.31	66.45	1.94	35.78	70.98	2.20
	15	28.16	44.73	0.92	31.14	49.57	1.12	34.06	54.40	1.33	36.46	58.03	1.50
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	31.88	95.07	3.84	35.72	106.39	4.75	-	-	-	-	-	-
	10	32.54	77.90	2.63	36.33	86.96	3.24	40.14	96.02	3.91	44.02	105.08	4.64
	12	32.76	64.94	1.86	36.53	72.50	2.29	40.30	80.05	2.76	44.11	87.60	3.28
	15	33.54	53.19	1.28	37.79	60.45	1.62	41.05	65.28	1.88	44.84	71.33	2.22
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	39.61	94.21	3.77	44.89	106.89	4.79	-	-	-	-	-	-
	12	40.28	80.05	2.76	45.47	90.62	3.50	50.18	99.68	4.19	-	-	-
	15	41.05	65.28	1.88	45.72	72.54	2.29	50.90	81.00	2.82	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC50-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	27.32	108.61	3.55	33.93	134.83	5.39
	8	-	-	-	-	-	-	28.32	84.30	2.18	34.81	103.97	3.27
	10	-	-	-	20.75	49.48	0.79	30.02	71.97	1.61	35.70	85.46	2.24
	12	-	-	-	24.41	48.75	0.77	30.31	60.00	1.14	35.97	71.25	1.58
	15	-	-	-	26.38	42.02	0.58	32.14	51.03	0.83	37.67	60.03	1.14
R134a	6	-	-	-	-	-	-	22.55	89.89	2.47	27.42	108.61	3.55
	8	-	-	-	-	-	-	23.59	70.25	1.54	28.34	84.30	2.18
	10	-	-	-	-	-	-	24.58	58.47	1.08	29.24	69.72	1.52
	12	-	-	-	20.68	41.25	0.56	25.55	50.62	0.82	30.15	60.00	1.14
	15	-	-	-	22.60	36.02	0.43	27.31	43.52	0.62	31.19	49.53	0.79
R404A	6	16.06	63.67	1.28	23.52	93.63	2.67	29.12	116.10	4.04	34.00	134.83	5.39
	8	18.84	56.20	1.01	24.58	73.06	1.66	30.03	89.92	2.47	34.85	103.97	3.27
	10	20.65	49.48	0.79	25.57	60.72	1.16	30.96	74.22	1.71	35.71	85.46	2.24
	12	21.69	43.12	0.61	26.84	53.43	0.91	31.91	63.75	1.28	36.00	71.25	1.58
	15	23.53	37.52	0.46	28.29	45.02	0.66	32.98	52.53	0.88	37.66	60.03	1.14
R410A	6	-	-	-	26.40	104.87	3.32	34.89	138.57	5.68	42.33	168.53	8.29
	8	-	-	-	28.26	84.30	2.18	35.83	106.78	3.44	42.50	126.45	4.76
	10	-	-	-	30.05	71.97	1.61	36.78	87.71	2.35	43.34	103.45	3.23
	12	22.55	45.00	0.66	31.07	61.87	1.21	37.72	74.99	1.74	44.25	88.12	2.37
	15	25.45	40.52	0.54	32.94	52.53	0.88	39.49	63.03	1.25	45.28	72.04	1.61

TXC50-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	39.65	157.30	7.26	45.13	179.77	9.40	-	-	-	-	-	-
	8	39.78	118.02	4.17	45.22	134.88	5.39	50.01	148.93	6.52	54.77	162.98	7.77
	10	40.59	96.70	2.84	45.40	107.95	3.51	50.68	121.44	4.40	54.86	130.44	5.05
	12	41.45	82.49	2.09	46.18	91.87	2.57	50.89	101.24	3.10	55.53	110.62	3.67
	15	42.44	67.54	1.42	47.15	75.04	1.74	51.82	82.54	2.09	56.44	90.05	2.47
R134a	6	32.02	127.34	4.83	35.85	142.32	5.98	39.64	157.30	7.26	43.26	172.28	8.66
	8	32.54	96.95	2.86	36.59	109.59	3.61	39.78	118.02	4.17	43.40	129.26	4.97
	10	33.10	78.71	1.91	36.84	87.71	2.36	40.50	96.70	2.84	43.56	103.45	3.23
	12	33.93	67.50	1.43	37.65	74.99	1.74	40.74	80.62	2.00	44.32	88.12	2.38
	15	34.95	55.53	0.98	38.63	61.53	1.19	41.66	66.03	1.37	45.20	72.04	1.61
R404A	6	39.41	157.30	7.26	44.27	176.03	9.02	-	-	-	-	-	-
	8	39.60	118.02	4.17	44.35	132.07	5.17	49.11	146.12	6.29	54.47	162.98	7.77
	10	40.46	96.70	2.84	45.11	107.95	3.51	49.82	119.19	4.24	54.60	130.44	5.05
	12	41.28	82.49	2.09	45.36	89.99	2.47	50.03	99.37	2.99	54.75	108.74	3.56
	15	41.68	66.03	1.36	46.94	75.04	1.74	50.98	81.04	2.02	55.66	88.55	2.39
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	49.14	146.12	6.29	56.30	168.60	8.29	62.29	185.46	9.98	-	-	-
	10	49.26	116.95	4.09	56.36	134.94	5.39	62.32	148.43	6.48	-	-	-
	12	50.69	101.24	3.10	56.54	112.49	3.79	62.38	123.74	4.56	-	-	-
	15	51.08	81.04	2.02	57.49	91.55	2.55	63.85	102.05	3.14	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC60-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	25.64	101.88	2.72	33.95	134.30	4.63	40.88	162.08	6.66
	8	-	-	-	27.93	83.39	1.85	35.08	104.24	2.84	41.88	125.09	4.04
	10	-	-	-	29.20	69.52	1.31	36.22	86.21	1.97	42.16	100.11	2.63
	12	-	-	-	30.45	60.28	0.99	37.36	74.19	1.48	43.24	85.78	1.95
	15	25.56	40.83	0.47	32.71	51.96	0.75	39.46	63.09	1.08	44.44	70.52	1.34
R134a	6	-	-	-	20.98	83.36	1.85	27.98	111.14	3.22	33.17	131.98	4.48
	8	-	-	-	23.30	69.49	1.31	29.14	86.87	2.00	33.86	100.76	2.66
	10	-	-	-	24.56	58.40	0.94	30.27	72.30	1.41	34.88	83.43	1.85
	12	-	-	-	25.76	51.00	0.72	31.38	62.59	1.07	35.56	70.71	1.35
	15	22.12	35.26	0.36	27.95	44.54	0.56	32.61	51.96	0.75	36.77	58.46	0.94
R404A	6	22.11	87.99	2.05	28.60	113.46	3.35	34.86	138.93	4.95	40.74	162.08	6.66
	8	23.88	71.23	1.37	30.18	90.34	2.16	35.97	107.71	3.03	40.99	121.61	3.82
	10	25.54	61.18	1.02	31.34	75.08	1.51	36.71	87.60	2.03	42.02	100.11	2.63
	12	26.74	53.32	0.79	32.49	64.91	1.14	37.43	74.19	1.48	43.07	85.78	1.95
	15	28.08	44.54	0.56	33.79	53.82	0.80	39.46	63.09	1.08	44.31	70.52	1.34
R410A	6	-	-	-	33.89	134.30	4.63	43.03	171.35	7.41	-	-	-
	8	25.67	76.44	1.57	35.15	104.24	2.84	44.11	132.04	4.48	51.36	152.88	5.94
	10	28.03	66.74	1.21	37.22	88.99	2.10	44.44	105.67	2.92	52.34	125.14	4.04
	12	30.25	60.28	0.99	38.41	76.50	1.57	45.54	90.41	2.16	53.37	106.64	2.96
	15	32.58	51.96	0.75	39.77	63.09	1.08	46.83	74.23	1.48	53.84	85.36	1.93

TXC60-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	47.18	187.56	8.84	-	-	-	-	-	-	-	-	-
	8	47.74	142.46	5.19	53.45	159.83	6.48	58.43	173.73	7.61	64.04	191.11	9.16
	10	47.99	114.01	3.38	53.66	127.92	4.21	59.26	141.82	5.14	64.17	152.95	5.95
	12	48.95	97.37	2.49	54.62	108.96	3.09	59.50	118.23	3.62	64.96	129.82	4.33
	15	50.13	79.80	1.70	55.71	89.08	2.10	60.55	96.50	2.44	65.33	103.92	2.82
R134a	6	37.44	148.19	5.60	41.89	166.72	7.03	45.61	180.61	8.22	-	-	-
	8	38.37	114.66	3.42	42.12	125.09	4.04	46.08	137.25	4.83	49.94	149.41	5.69
	10	38.66	91.77	2.22	43.04	102.89	2.77	46.62	111.23	3.22	50.18	119.58	3.70
	12	39.67	78.82	1.66	43.31	85.78	1.95	47.21	93.89	2.32	50.73	100.85	2.67
	15	40.81	64.95	1.14	44.43	70.52	1.34	47.96	76.08	1.55	51.44	81.65	1.77
R404A	6	46.50	185.24	8.63	-	-	-	-	-	-	-	-	-
	8	46.70	138.99	4.95	52.39	156.36	6.21	58.06	173.73	7.61	63.08	187.63	8.84
	10	47.66	114.01	3.38	52.59	125.14	4.04	58.20	139.04	4.95	63.20	150.17	5.74
	12	47.95	95.05	2.38	53.54	106.64	2.97	58.43	115.91	3.48	64.15	127.51	4.18
	15	49.17	77.94	1.62	54.73	87.22	2.01	59.60	94.64	2.36	65.23	103.92	2.82
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	58.56	173.73	7.61	-	-	-	-	-	-	-	-	-
	10	59.42	141.82	5.14	67.32	161.29	6.59	74.44	177.97	7.97	-	-	-
	12	60.43	120.55	3.75	67.49	134.46	4.63	74.57	148.37	5.60	-	-	-
	15	60.84	96.50	2.44	67.84	107.63	3.01	74.84	118.77	3.64	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC75-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	33.72	134.54	3.31	43.04	170.98	5.30	-	-	-
	8	-	-	-	35.32	105.15	2.04	44.46	132.49	3.21	52.25	155.63	4.40
	10	-	-	-	37.96	90.89	1.53	46.37	111.09	2.27	53.57	127.92	2.99
	12	28.21	56.13	0.60	39.48	78.58	1.15	47.76	95.42	1.68	54.86	109.45	2.20
	15	33.70	53.91	0.55	42.19	67.39	0.85	49.39	78.62	1.15	56.42	89.86	1.50
R134a	6	-	-	-	26.89	106.51	2.09	35.25	140.15	3.58	41.13	162.57	4.80
	8	-	-	-	29.66	88.33	1.45	36.66	109.36	2.20	42.41	126.18	2.92
	10	-	-	-	31.17	74.06	1.03	38.09	90.89	1.53	43.72	104.35	2.01
	12	25.33	50.51	0.49	33.17	65.95	0.82	39.45	78.58	1.15	45.00	89.80	1.50
	15	28.27	44.93	0.39	35.30	56.16	0.60	41.00	65.15	0.80	46.53	74.13	1.03
R404A	6	28.11	112.12	2.31	35.97	142.95	3.73	43.59	173.78	5.47	-	-	-
	8	30.27	90.43	1.52	37.47	111.46	2.29	44.98	134.60	3.31	52.02	155.63	4.40
	10	32.31	77.42	1.12	39.37	94.26	1.65	46.39	111.09	2.27	52.46	124.55	2.84
	12	33.79	67.35	0.85	40.82	81.38	1.23	47.75	95.42	1.68	53.75	106.64	2.09
	15	35.46	56.16	0.60	42.45	67.39	0.85	49.37	78.62	1.15	56.21	89.86	1.50
R410A	6	28.26	112.12	2.31	43.55	173.78	5.47	-	-	-	-	-	-
	8	33.80	100.95	1.88	45.13	134.60	3.31	55.00	164.04	4.88	-	-	-
	10	36.61	87.52	1.42	46.64	111.09	2.27	56.37	134.65	3.31	65.11	154.85	4.35
	12	38.18	75.77	1.07	48.11	95.42	1.68	57.80	115.06	2.43	66.40	131.90	3.18
	15	41.06	65.15	0.80	50.81	80.87	1.22	59.41	94.35	1.65	67.99	107.83	2.14

TXC75-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	59.38	176.66	5.64	-	-	-	-	-	-	-	-	-
	10	60.58	144.75	3.82	67.56	161.58	4.74	73.61	175.05	5.54	-	-	-
	12	61.87	123.48	2.79	67.89	134.71	3.31	74.73	148.74	4.02	81.48	162.77	4.80
	15	63.38	101.09	1.88	69.37	110.07	2.23	76.12	121.31	2.69	81.99	130.29	3.10
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	47.93	143.01	3.73	52.94	157.73	4.52	57.81	172.45	5.38	-	-	-
	10	49.16	117.82	2.55	53.70	127.92	2.99	58.15	138.02	3.48	63.24	151.48	4.17
	12	49.57	98.22	1.78	54.88	109.45	2.20	59.29	117.87	2.55	63.61	126.29	2.92
	15	51.04	80.87	1.22	56.28	89.86	1.50	60.66	96.60	1.72	64.90	103.33	1.97
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	58.98	176.66	5.64	-	-	-	-	-	-	-	-	-
	10	59.36	141.38	3.64	66.34	158.22	4.54	73.29	175.05	5.54	-	-	-
	12	60.66	120.67	2.67	67.50	134.71	3.31	73.62	145.93	3.88	81.53	162.77	4.80
	15	62.18	98.84	1.80	69.03	110.07	2.23	75.98	121.31	2.69	82.10	130.29	3.10
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	74.72	178.41	5.75	-	-	-	-	-	-	-	-	-
	12	75.98	151.54	4.17	84.64	168.38	5.13	-	-	-	-	-	-
	15	76.56	121.31	2.69	86.01	137.03	3.42	95.61	152.76	4.24	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC100-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	39.23	155.04	2.06	56.68	224.81	4.21	68.30	271.32	6.05
	8	-	-	-	46.63	139.59	1.69	58.56	174.49	2.59	69.95	209.39	3.67
	10	-	-	-	48.78	116.37	1.19	60.49	144.30	1.79	70.41	167.58	2.39
	12	-	-	-	50.82	100.90	0.90	62.37	124.18	1.35	72.21	143.59	1.78
	15	39.21	62.13	0.36	54.57	86.98	0.68	64.56	102.51	0.93	74.23	118.04	1.22
R134a	6	-	-	-	-	-	-	46.74	186.05	2.93	54.85	217.06	3.94
	8	-	-	-	38.92	116.33	1.19	48.68	145.41	1.82	56.59	168.67	2.42
	10	-	-	-	41.02	97.75	0.85	50.56	121.03	1.28	58.33	139.65	1.69
	12	-	-	-	43.03	85.38	0.66	51.76	102.84	0.94	59.42	118.36	1.23
	15	35.21	55.91	0.29	46.66	74.55	0.51	54.50	86.98	0.68	61.44	97.85	0.85
R404A	6	36.91	147.29	1.87	47.77	189.92	3.05	57.68	228.68	4.35	68.08	271.32	6.05
	8	39.17	116.33	1.19	49.73	148.32	1.89	59.48	177.40	2.67	68.47	203.57	3.48
	10	41.94	100.08	0.89	51.71	123.36	1.33	60.66	144.30	1.79	70.21	167.58	2.39
	12	43.96	87.32	0.69	52.94	104.78	0.97	62.50	124.18	1.35	71.94	143.59	1.78
	15	46.87	74.55	0.51	56.42	90.09	0.73	64.59	102.51	0.93	74.03	118.04	1.22
R410A	6	-	-	-	56.56	224.81	4.21	70.60	279.07	6.39	-	-	-
	8	42.76	127.96	1.43	58.66	174.49	2.59	72.30	215.21	3.87	85.69	255.92	5.40
	10	46.72	111.72	1.10	60.69	144.30	1.79	74.11	176.89	2.65	86.09	204.82	3.51
	12	48.91	97.02	0.84	62.66	124.18	1.34	76.00	151.35	1.96	87.78	174.63	2.58
	15	52.85	83.87	0.64	66.33	105.62	0.99	78.12	124.26	1.34	89.86	142.89	1.76

TXC100-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	79.77	238.47	4.71	89.33	267.55	5.89	97.73	290.82	6.91	-	-	-
	10	80.18	190.85	3.07	89.69	214.13	3.83	97.95	232.75	4.50	107.28	256.02	5.40
	12	81.81	162.99	2.26	90.06	178.51	2.70	99.43	197.91	3.29	107.60	213.44	3.80
	15	83.77	133.57	1.54	91.96	146.00	1.83	101.19	161.53	2.22	109.24	173.96	2.56
R134a	6	62.62	248.06	5.09	70.09	279.07	6.39	76.35	302.33	7.46	-	-	-
	8	64.16	191.94	3.11	70.46	209.39	3.67	77.12	229.75	4.39	83.62	250.10	5.17
	10	64.68	153.61	2.02	71.99	172.23	2.52	78.00	186.20	2.93	83.99	200.16	3.37
	12	66.31	131.94	1.51	72.43	143.59	1.78	78.97	157.17	2.11	84.33	166.87	2.37
	15	68.21	108.72	1.04	74.28	118.04	1.22	80.25	127.36	1.41	86.07	136.68	1.61
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	78.02	232.65	4.50	87.56	261.74	5.64	95.92	285.00	6.65	-	-	-
	10	79.63	190.85	3.07	87.94	209.47	3.67	97.34	232.75	4.50	105.73	251.37	5.22
	12	80.13	159.11	2.16	89.51	178.51	2.70	97.72	194.03	3.17	107.21	213.44	3.80
	15	82.12	130.47	1.48	91.43	146.00	1.83	99.61	158.43	2.14	109.01	173.96	2.56
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	97.79	290.82	6.91	-	-	-	-	-	-	-	-	-
	10	98.05	232.75	4.49	111.19	265.33	5.79	124.35	297.92	7.24	-	-	-
	12	99.60	197.91	3.29	111.45	221.20	4.07	124.49	248.36	5.09	-	-	-
	15	101.59	161.53	2.22	113.28	180.17	2.74	124.98	198.81	3.31	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC120-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	46.86	185.39	1.77	67.86	268.81	3.58	81.85	324.43	5.12
	8	-	-	-	55.77	166.92	1.45	70.12	208.65	2.21	83.83	250.38	3.12
	10	-	-	-	58.35	139.15	1.03	72.40	172.55	1.54	84.38	200.38	2.04
	12	-	-	-	60.80	120.65	0.78	74.69	148.49	1.16	86.54	171.69	1.52
	15	46.86	74.29	0.31	65.32	104.00	0.59	77.29	122.58	0.80	88.98	141.15	1.05
R134a	6	-	-	-	-	-	-	56.05	222.47	2.50	66.60	264.18	3.46
	8	-	-	-	46.59	139.10	1.03	58.38	173.87	1.56	67.95	201.69	2.07
	10	-	-	-	49.13	116.89	0.74	60.64	144.72	1.10	70.01	166.98	1.45
	12	-	-	-	51.51	102.09	0.57	62.89	125.29	0.84	72.10	143.85	1.09
	15	42.11	66.86	0.26	55.92	89.15	0.44	65.35	104.00	0.59	74.50	118.86	0.76
R404A	6	44.14	176.12	1.60	57.19	227.10	2.60	69.87	278.08	3.81	81.64	324.43	5.12
	8	46.86	139.10	1.03	59.60	177.35	1.62	71.98	215.60	2.35	82.85	246.90	3.04
	10	50.19	119.67	0.77	61.92	147.50	1.14	73.45	175.33	1.59	84.16	200.38	2.04
	12	53.43	106.73	0.62	64.20	127.61	0.87	74.89	148.49	1.16	86.25	171.69	1.52
	15	56.11	89.15	0.44	67.56	107.72	0.63	78.95	126.29	0.85	88.74	141.15	1.05
R410A	6	-	-	-	67.64	268.81	3.58	86.00	342.97	5.68	102.34	407.85	7.92
	8	49.05	146.05	1.12	70.16	208.65	2.21	86.53	257.33	3.29	102.71	306.01	4.57
	10	55.85	133.59	0.95	72.59	172.55	1.54	88.70	211.51	2.26	103.08	244.91	2.99
	12	58.47	116.01	0.73	75.01	148.49	1.16	90.97	180.97	1.68	105.19	208.81	2.21
	15	63.20	100.29	0.55	79.42	126.29	0.85	93.49	148.58	1.16	107.59	170.86	1.51

TXC120-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	95.28	380.05	6.92	107.09	426.39	8.63	-	-	-	-	-	-
	8	95.67	285.15	4.00	107.25	319.92	4.98	118.72	354.70	6.06	128.70	382.52	7.01
	10	97.55	233.78	2.74	107.63	256.04	3.26	118.98	283.87	3.96	130.16	311.70	4.74
	12	98.10	194.89	1.94	109.50	218.09	2.40	119.37	236.66	2.80	130.47	259.86	3.35
	15	100.40	159.72	1.33	111.71	178.29	1.63	121.54	193.15	1.90	131.22	208.01	2.19
R134a	6	75.97	301.26	4.44	84.41	333.70	5.40	93.14	370.78	6.60	100.55	398.58	7.59
	8	77.10	229.51	2.65	86.05	257.33	3.29	93.49	278.20	3.82	100.79	299.06	4.38
	10	79.04	189.25	1.84	86.58	205.95	2.15	94.55	225.43	2.56	102.37	244.91	2.99
	12	79.66	157.77	1.30	88.43	176.33	1.60	95.72	190.25	1.85	102.84	204.17	2.12
	15	81.94	130.01	0.90	90.67	144.86	1.10	97.85	156.01	1.27	104.95	167.15	1.45
R404A	6	93.28	370.78	6.60	104.89	417.12	8.28	-	-	-	-	-	-
	8	93.64	278.20	3.82	105.13	312.97	4.77	116.71	347.74	5.84	128.32	382.52	7.01
	10	95.54	228.21	2.62	106.95	256.04	3.26	117.01	278.31	3.82	128.52	306.14	4.58
	12	97.60	194.89	1.94	107.45	213.45	2.30	118.80	236.66	2.80	130.31	259.86	3.35
	15	99.95	159.72	1.33	109.74	174.58	1.57	121.09	193.15	1.90	131.02	208.01	2.19
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	117.26	347.74	5.83	133.22	396.43	7.50	-	-	-	-	-	-
	10	118.99	283.87	3.96	134.77	322.84	5.06	149.07	356.23	6.10	-	-	-
	12	120.86	241.30	2.90	135.06	269.14	3.58	149.33	296.98	4.31	-	-	-
	15	121.67	193.15	1.90	135.72	215.44	2.34	149.83	237.72	2.82	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC150-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	58.97	233.54	2.34	85.33	338.63	4.73	102.92	408.70	6.76
	8	-	-	-	70.22	210.27	1.92	88.17	262.84	2.92	105.35	315.41	4.13
	10	-	-	-	73.40	175.30	1.36	91.07	217.37	2.04	106.05	252.43	2.71
	12	-	-	-	76.48	151.99	1.04	93.96	187.06	1.53	108.76	216.29	2.02
	15	58.97	93.58	0.42	82.15	131.02	0.78	97.21	154.41	1.07	111.80	177.81	1.39
R134a	6	-	-	-	-	-	-	70.45	280.25	3.30	82.64	326.96	4.42
	8	-	-	-	58.62	175.23	1.36	73.31	219.03	2.07	85.26	254.08	2.74
	10	-	-	-	61.74	147.25	0.98	76.14	182.31	1.46	87.88	210.36	1.92
	12	-	-	-	64.78	128.60	0.76	77.96	154.91	1.08	89.53	178.29	1.40
	15	52.95	84.23	0.34	70.30	112.30	0.59	82.10	131.02	0.78	92.59	147.40	0.98
R404A	6	54.43	216.03	2.02	71.92	286.09	3.43	86.87	344.47	4.88	102.56	408.70	6.76
	8	58.95	175.23	1.36	74.97	223.41	2.15	88.63	262.84	2.92	103.24	306.65	3.91
	10	63.14	150.76	1.02	77.86	185.82	1.52	91.39	217.37	2.04	105.80	252.43	2.71
	12	66.18	131.53	0.79	79.74	157.83	1.11	94.13	187.06	1.53	108.36	216.29	2.02
	15	70.57	112.30	0.59	84.96	135.70	0.84	97.28	154.41	1.07	111.52	177.81	1.39
R410A	6	-	-	-	85.13	338.63	4.73	106.32	420.37	7.13	-	-	-
	8	59.08	175.23	1.36	88.28	262.84	2.92	108.86	324.17	4.35	129.05	385.50	6.04
	10	70.27	168.29	1.26	91.34	217.37	2.04	111.60	266.45	3.00	129.64	308.52	3.95
	12	73.59	146.14	0.96	94.32	187.06	1.53	114.44	227.98	2.23	132.22	263.05	2.92
	15	79.54	126.34	0.73	99.86	159.09	1.13	117.63	187.17	1.53	135.32	215.24	2.00

TXC150-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	120.20	359.22	5.28	134.61	403.02	6.58	147.30	438.07	7.72	-	-	-
	10	120.79	287.49	3.46	135.14	322.55	4.30	147.60	350.60	5.04	161.70	385.65	6.04
	12	123.24	245.51	2.56	135.69	268.90	3.05	149.84	298.12	3.70	162.16	321.51	4.28
	15	126.19	201.21	1.76	138.55	219.92	2.08	152.47	243.32	2.52	164.64	262.04	2.90
R134a	6	94.39	373.67	5.70	105.69	420.37	7.14	-	-	-	-	-	-
	8	96.71	289.12	3.50	106.23	315.41	4.13	117.14	350.45	5.05	126.16	376.74	5.79
	10	98.28	234.90	2.36	108.55	259.44	2.85	117.68	280.48	3.30	126.70	301.51	3.79
	12	99.94	198.75	1.72	109.19	216.29	2.02	119.12	236.75	2.40	128.76	257.21	2.80
	15	102.86	163.77	1.19	111.99	177.81	1.39	121.02	191.85	1.61	129.81	205.89	1.84
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	117.66	350.45	5.04	131.94	394.26	6.31	146.31	438.07	7.72	-	-	-
	10	119.98	287.49	3.46	132.50	315.54	4.13	146.68	350.60	5.04	159.33	378.64	5.84
	12	120.72	239.67	2.45	134.87	268.90	3.05	147.30	292.28	3.57	161.70	321.51	4.28
	15	123.72	196.53	1.68	137.75	219.92	2.08	150.09	238.64	2.43	164.31	262.04	2.90
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	147.29	438.07	7.71	-	-	-	-	-	-	-	-	-
	10	147.67	350.60	5.04	167.48	399.68	6.47	-	-	-	-	-	-
	12	150.00	298.12	3.70	169.74	339.04	4.73	187.51	374.12	5.70	-	-	-
	15	152.99	243.32	2.52	170.67	271.40	3.09	188.24	299.47	3.73	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC175-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	73.61	291.32	2.52	100.08	397.26	4.56	-	-	-
	8	-	-	-	80.36	238.45	1.72	103.40	308.00	2.80	122.92	367.62	3.93
	10	-	-	-	86.72	206.74	1.31	106.78	254.45	1.95	123.84	294.21	2.56
	12	-	-	-	90.25	178.98	1.00	110.06	218.76	1.46	127.01	251.90	1.91
	15	73.59	116.74	0.44	96.76	153.88	0.75	113.87	180.42	1.01	132.76	212.25	1.37
R134a	6	-	-	-	60.18	238.36	1.72	82.96	331.05	3.22	96.86	384.02	4.27
	8	-	-	-	69.74	208.65	1.34	86.36	258.32	2.00	99.86	298.07	2.63
	10	-	-	-	73.31	174.94	0.96	89.58	214.69	1.41	102.93	246.50	1.83
	12	-	-	-	76.78	152.47	0.74	91.72	182.30	1.03	104.90	208.81	1.34
	15	66.39	106.13	0.37	83.02	132.66	0.56	96.43	153.88	0.75	108.48	172.46	0.93
R404A	6	63.65	251.60	1.91	83.52	331.05	3.22	101.64	403.88	4.70	-	-	-
	8	69.96	208.65	1.34	87.03	258.32	2.00	103.77	308.00	2.80	120.35	357.68	3.73
	10	73.67	174.94	0.96	90.42	214.69	1.41	106.96	254.45	1.95	123.43	294.21	2.56
	12	78.30	155.78	0.77	93.74	185.61	1.07	110.22	218.76	1.46	126.50	251.90	1.91
	15	83.37	132.66	0.56	99.77	159.19	0.80	116.11	185.72	1.07	130.16	206.95	1.31
R410A	6	-	-	-	99.98	397.26	4.56	-	-	-	-	-	-
	8	73.71	218.58	1.46	103.66	308.00	2.80	127.20	377.55	4.13	-	-	-
	10	83.33	198.79	1.22	109.64	262.40	2.06	130.39	310.11	2.83	153.14	365.78	3.88
	12	89.72	178.98	1.00	113.09	225.39	1.54	133.61	265.16	2.10	154.03	304.93	2.74
	15	96.42	153.88	0.75	119.43	191.03	1.13	139.67	222.87	1.51	159.87	254.70	1.94

TXC175-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	139.82	417.29	5.00	-	-	-	-	-	-	-	-	-
	10	140.65	333.97	3.27	157.01	373.73	4.05	173.32	413.49	4.91	-	-	-
	12	143.47	285.05	2.41	159.85	318.19	2.98	174.00	344.71	3.47	190.01	377.85	4.13
	15	146.96	233.48	1.65	163.22	260.01	2.02	177.25	281.24	2.35	193.07	307.77	2.79
R134a	6	110.16	436.99	5.47	-	-	-	-	-	-	-	-	-
	8	112.92	337.81	3.34	123.83	367.62	3.93	136.24	407.36	4.78	146.65	437.16	5.47
	10	113.85	270.36	2.18	126.59	302.16	2.70	137.04	326.02	3.12	147.34	349.87	3.57
	12	116.81	232.02	1.63	128.36	255.22	1.96	139.60	278.42	2.31	149.88	298.31	2.63
	15	120.17	191.03	1.13	131.59	209.60	1.34	142.81	228.17	1.58	152.88	244.09	1.79
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	136.92	407.36	4.78	-	-	-	-	-	-	-	-	-
	10	139.77	333.97	3.27	154.03	365.78	3.89	172.51	413.49	4.91	-	-	-
	12	140.63	278.42	2.31	156.96	311.56	2.86	173.24	344.71	3.47	189.75	377.85	4.13
	15	146.26	233.48	1.65	160.38	254.70	1.94	176.67	281.24	2.35	193.04	307.77	2.79
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	173.74	413.49	4.91	-	-	-	-	-	-	-	-	-
	12	176.56	351.34	3.59	196.96	391.11	4.41	219.40	437.51	5.47	-	-	-
	15	180.08	286.54	2.43	200.27	318.38	2.97	220.48	350.22	3.57	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC200-2-410		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	78.49	310.59	1.98	113.61	450.35	3.99	136.97	543.52	5.70
	8	-	-	-	93.39	279.64	1.62	117.39	349.55	2.47	140.28	419.46	3.48
	10	-	-	-	97.71	233.13	1.15	121.26	289.08	1.72	141.22	335.70	2.28
	12	-	-	-	101.82	202.12	0.88	125.04	248.77	1.30	144.83	287.64	1.70
	15	78.49	124.46	0.35	109.37	174.24	0.66	129.38	205.36	0.90	148.88	236.47	1.18
R134a	6	-	-	-	-	-	-	93.74	372.70	2.79	111.33	442.58	3.86
	8	-	-	-	77.97	233.03	1.15	97.65	291.29	1.75	113.60	337.90	2.32
	10	-	-	-	82.22	195.83	0.83	101.42	242.45	1.24	117.10	279.75	1.62
	12	-	-	-	86.27	171.03	0.64	105.18	209.90	0.94	119.29	237.11	1.18
	15	70.51	112.01	0.29	93.57	149.35	0.50	109.30	174.24	0.66	124.53	199.13	0.85
R404A	6	73.93	295.06	1.79	95.75	380.47	2.90	116.93	465.88	4.25	136.58	543.52	5.70
	8	78.47	233.03	1.15	99.78	297.12	1.82	119.29	355.38	2.55	137.47	407.81	3.30
	10	84.05	200.49	0.86	103.67	247.12	1.28	121.69	289.08	1.72	140.89	335.70	2.28
	12	89.47	178.80	0.70	107.48	213.79	0.97	125.35	248.77	1.30	144.31	287.64	1.70
	15	93.96	149.35	0.50	113.10	180.46	0.71	129.58	205.36	0.90	148.48	236.47	1.18
R410A	6	-	-	-	113.28	450.35	3.99	144.02	574.58	6.33	171.34	683.29	8.82
	8	82.18	244.69	1.26	117.51	349.55	2.47	144.91	431.11	3.67	171.96	512.67	5.09
	10	93.55	223.80	1.06	121.59	289.08	1.72	148.54	354.35	2.53	172.59	410.30	3.34
	12	97.95	194.35	0.81	125.64	248.77	1.30	152.34	303.19	1.88	176.13	349.83	2.47
	15	105.87	168.02	0.62	133.02	211.58	0.95	156.58	248.92	1.30	180.16	286.25	1.69

TXC200-2-410		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	158.38	628.94	7.53	179.16	714.35	9.61	-	-	-	-	-	-
	8	160.05	477.72	4.46	179.30	535.98	5.55	196.38	582.58	6.50	215.09	640.84	7.80
	10	160.86	382.33	2.92	179.94	428.95	3.63	198.95	475.58	4.42	215.44	512.88	5.10
	12	164.13	326.51	2.17	183.23	365.38	2.68	199.61	396.47	3.13	218.09	435.35	3.73
	15	168.06	267.58	1.49	186.87	298.70	1.83	203.18	323.59	2.13	219.30	348.48	2.45
R134a	6	126.91	504.70	4.95	140.88	559.05	6.01	154.56	613.41	7.18	167.66	667.76	8.45
	8	128.87	384.51	2.96	142.69	425.29	3.58	156.11	466.07	4.26	168.26	501.02	4.88
	10	130.97	312.39	2.00	144.69	345.03	2.41	156.92	373.00	2.79	168.88	400.98	3.20
	12	133.19	264.32	1.45	146.68	291.53	1.75	159.79	318.73	2.07	171.74	342.06	2.37
	15	137.02	217.80	1.01	149.28	236.47	1.18	163.47	261.36	1.42	175.10	280.03	1.62
R404A	6	155.99	621.17	7.35	175.27	698.82	9.21	-	-	-	-	-	-
	8	156.63	466.07	4.25	175.77	524.33	5.32	194.91	582.58	6.50	214.33	640.84	7.80
	10	159.81	382.33	2.92	176.40	419.63	3.49	195.44	466.26	4.26	214.72	512.88	5.10
	12	160.79	318.73	2.07	179.73	357.60	2.57	196.31	388.70	3.01	215.30	427.57	3.61
	15	164.80	261.36	1.42	183.52	292.48	1.76	202.40	323.59	2.13	218.97	348.48	2.45
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	196.10	582.58	6.50	222.95	664.15	8.35	249.57	745.71	10.43	-	-	-
	10	199.02	475.58	4.42	222.96	531.53	5.45	249.55	596.81	6.80	-	-	-
	12	202.38	404.25	3.24	226.06	450.89	3.99	249.89	497.54	4.81	-	-	-
	15	203.70	323.59	2.13	227.18	360.93	2.61	250.85	398.26	3.15	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

Alfa Laval Standard TXC dual circuit 40% glycol DX evaporator

Optimized for 40% Glycol Mix

TXC-MPG chiller barrels have been optimized for 40% Glycol mixes, offering added protection for colder climate locations. Ideal for system builder and OEM replacement units. They are designed to work with higher pressure refrigerants.

Standard Designs
TXC dual and multiple circuit chillers are available in standard designs for fresh water duty. They are available in 10 catalog models from 30 to 200 tons. ¾" Armaflex® Insulation is fitted as standard (for 1½" thick insulation order TXC-GLT).

Tube Materials
TXC chillers are manufactured with enhanced ⅜" diameter copper tubing. The tubes provide heavy wall construction and ease of service from commonly available tube cleaning devices.

Customization
As standard these units offer horizontal, cleanable shell and tube design. Custom vessels are available with special materials of construction as required by you or your client.

Options
Units are available with left, right or top mounted shell side connections, please specify at time of order. As standard ¾" insulation is included, 1½" or no insulation is also available.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance internally enhanced designed tubing is standard. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing.

Tube Supports
Quality tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined steel heads. Custom connection versions are available.

Connections
All water side connections are FNPT, MNPT or flanged. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer. Units are shipped with ¾" insulation as

Standard Refrigeration

standard, custom thickness insulation is available upon request.

Working Pressures:
See table for working pressures.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal capacity in tons by 2.4. Water pressure drops provided do not include any external fittings or valves.

Approved Refrigerants
R22, R134a, R404A, R410A and R507A.

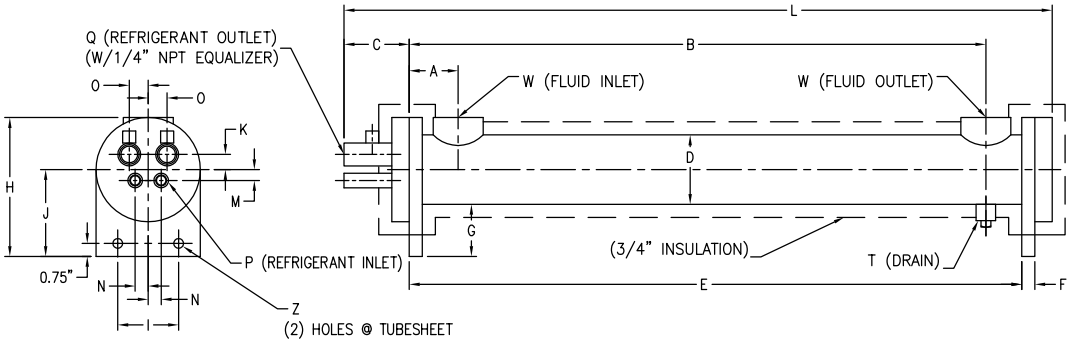
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Alternative Options
For lower temperature applications, please use TXC-GLT (same dimensions as MPG units, but with thicker insulation).

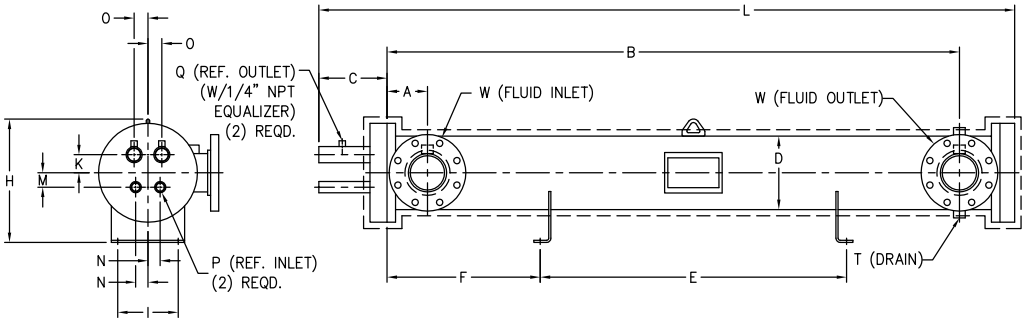
Codes
On all units 6⅝" OD and larger, the refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, while the shell side is non-code. Units 6" OD and smaller are UL stamped. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

TX
2-Circuit



Other multi-circuit models available, consult with factory.

TXC
2-Circuit



Dimensions do not include the 3/4" factory insulation.

How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard TXC dual circuit 40% glycol DX evaporator

Technical specifications

Models	R22 Nominal Cap.* (Tons)	R134a Nominal Cap.* (Tons)	R410A Nominal Cap.* (Tons)	R22 Press. Drop (psi)	R134a Press. Drop (psi)	R410A Pressure Drop (psi)
TXC30-2MPG	24.5	20.3	29.9	4.1	2.9	6.1
TXC40-2MPG	33.4	27.2	39.8	5.2	3.5	7.2
TXC50-2MPG	41.5	34.3	49.5	4.3	3.1	6.0
TXC60-2MPG	47.0	38.6	57.0	4.7	3.3	6.8
TXC75-2MPG	60.7	49.1	74.9	5.0	3.4	7.4
TXC100-2MPG	80.4	66.1	98.3	4.3	3.1	6.3
TXC120-2MPG	97.9	78.3	118.4	6.5	4.3	9.3
TXC150-2MPG	121.9	98.5	149.2	5.2	3.5	7.6
TXC175-2MPG	142.8	114.5	174.5	4.5	3.0	6.6
TXC200-2MPG	165.4	133.7	204.4	5.3	3.7	7.9

*Ratings are based on entering water 54°F, leaving water 44°F, saturated suction temperature of 35°F, entering TXV temperature of 100°F with 7°F of superheating
ProSuite software values are the most accurate
Includes ¾" thick insulation as standard
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Capacity Tons = 12,000 BTU/hr

Models	Connections (inches)				Fluid Volume (gal)	Specifications			Working Pressure (psi	
	P Ref. IN (IDS)	Q Ref. Out (IDS)	W Fluid Conn.)	T Drain (FNPT)		Tube Length (in.)	Shell Dia. (in.)	Shipping Wt (lbs)	Shell	Tube
TXC30-2MPG	7/8	1 5/8	3" MPT	3/4	15.0	120	6 5/8	510	150	375
TXC40-2MPG	1 1/8	2 1/8	3" MPT	3/4	28.1	120	8 5/8	700	150	375
TXC50-2MPG	1 1/8	2 1/8	4" FLG	3/4	27.5	120	8 5/8	722	150	375
TXC60-2MPG	1 3/8	2 5/8	4" FLG	3/4	27.8	120	8 5/8	740	150	375
TXC75-2MPG	1 3/8	2 5/8	5" FLG	3/4	27.3	120	8 5/8	760	150	375
TXC100-2MPG	1 3/8	3 1/8	5" FLG	3/4	39.7	120	10 3/4	1015	150	375
TXC120-2MPG	1 5/8	3 1/8	6" FLG	3/4	37.6	120	12 3/4	1265	150	375
TXC150-2MPG	1 5/8	3 1/8	6" FLG	3/4	47.4	120	14	1465	150	375
TXC175-2MPG	2 1/8	3 1/8	6" FLG	3/4	43.2	120	14	1490	150	375
TXC200-2MPG	2 1/8	3 1/8	8" FLG	3/4	58.5	120	16	1815	150	375

Standard Refrigeration

Models	Dimensions (inches)													
	H	L	A	B	C	E	F	G	I	J	K	M	N	O
TX10-2-410	8.00	40.75	2.81	33.06	3.75	35.25	0.75	3.00	3.50	5.00	0.69	0.94	0.75	1.00
TX12-2-410	10.00	42.25	2.94	33.06	5.00	35.25	0.75	3.00	5.75	6.00	1.00	0.75	1.13	1.13
TX15-2-410	11.00	42.25	3.19	32.81	5.00	35.25	0.75	3.00	5.75	6.00	1.19	7/8	1.25	1.25
TX20-2-410	11.00	42.25	3.19	32.81	5.00	35.25	0.75	3.00	5.75	6.00	1.19	7/8	1.25	1.25
TX25-2-410	11.00	42.25	3.75	32.25	5.00	35.25	0.75	3.00	5.75	6.00	1.19	7/8	1.25	1.25
TXC30-2-410	13.50	81.50	4.25	67.75	8.00	54.00	18.00	3.00	5.25	–	1.50	1.50	1.75	1.75
TXC40-2-410	15.50	81.75	4.50	67.50	8.00	54.00	18.00	3.00	7.13	–	1.75	1.63	2.00	2.00
TXC50-2-410	16.50	81.75	4.75	67.25	8.00	54.00	18.00	3.00	7.13	–	1.75	1.63	2.00	2.00
TXC60-2-410	17.50	93.75	4.75	79.25	8.00	63.00	21.00	3.00	7.13	–	1.75	1.63	2.00	2.00
TXC75-2-410	18.50	93.75	5.50	78.50	8.00	63.00	21.00	3.00	7.13	–	1.75	1.63	2.00	2.00
TXC100-2-410	19.63	95.12	5.75	78.25	8.38	63.00	21.00	3.50	11.25	–	2.38	2.67	2.25	3.13
TXC120-2-410	19.63	94.87	6.38	76.13	8.38	63.00	21.00	3.50	11.25	–	2.38	2.67	2.25	3.50
TXC150-2-410	20.88	95.87	6.38	76.13	8.88	63.00	21.00	3.50	12.00	–	2.63	2.13	3.00	3.00
TXC175-2-410	20.88	95.87	6.38	76.13	8.88	63.00	21.00	3.50	12.00	–	2.63	2.75	3.31	3.31
TXC200-2-410	24.13	95.87	7.50	75.00	8.88	63.75	20.25	3.50	12.00	–	2.63	2.75	2.50	3.33

Models	Gaskets Article #		Heads Article #	
	Front	Rear	Front	Rear
TX10-2-410	2872	2872	33752	33769
TX12-2-410	2889	2889	35196	33745
TX15-2-410	2889	2889	35196	33745
TX20-2-410	2889	2889	35196	33745
TX25-2-410	2889	2889	33738	33745
TXC30-2-410	2218	2218	35365	35372
TXC40-2-410	2227	2227	35741	22052
TXC50-2-410	2227	2227	35334	22052
TXC60-2-410	2227	2227	35334	22052
TXC75-2-410	2227	2227	35758	22052
TXC100-2-410	19299	19299	35765	27088
TXC120-2-410	4885	4892	35772	35796
TXC150-2-410	3549	3549	35808	35815
TXC175-2-410	3549	3549	38171	35815
TXC200-2-410	5169	5169	409446	35396

Dimensions do not include the 3/4” insulation
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

TXC30-2MPG		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	13.49	59.16	3.68	18.13	79.56	6.35	21.87	95.88	9.04
	8	-	-	-	13.86	45.40	2.29	17.99	59.16	3.66	21.30	69.87	4.96
	10	-	-	-	15.00	39.60	1.79	18.30	48.16	2.52	21.51	56.72	3.37
	12	-	-	-	15.38	33.70	1.34	18.64	40.83	1.88	21.81	47.97	2.49
	15	12.19	21.29	0.60	16.32	28.63	1.00	19.52	34.33	1.37	22.32	39.22	1.73
R134a	6	-	-	-	11.69	51.00	2.83	15.29	67.32	4.64	17.73	77.52	6.05
	8	-	-	-	12.46	40.81	1.90	15.27	49.99	2.71	17.62	57.64	3.49
	10	-	-	-	13.18	34.70	1.42	15.59	40.82	1.89	17.91	46.94	2.41
	12	-	-	-	13.55	29.62	1.07	15.92	34.72	1.41	18.22	39.81	1.80
	15	11.67	20.47	0.56	14.45	25.37	0.81	16.77	29.44	1.05	18.72	32.70	1.26
R404A	6	11.63	51.00	2.83	14.92	65.28	4.38	18.21	79.56	6.35	21.78	95.88	9.04
	8	12.38	40.81	1.90	15.25	49.99	2.71	18.38	60.69	3.83	21.25	69.87	4.96
	10	12.77	33.48	1.33	15.60	40.82	1.89	18.39	48.16	2.52	21.16	55.50	3.25
	12	13.49	29.62	1.07	16.27	35.74	1.48	19.03	41.85	1.96	21.47	46.95	2.40
	15	14.07	24.55	0.77	16.83	29.44	1.05	19.56	34.33	1.37	21.97	38.41	1.67
R410A	6	-	-	-	17.19	75.48	5.75	21.91	95.88	9.04	-	-	-
	8	11.96	39.28	1.77	17.09	56.11	3.33	21.31	69.87	4.96	25.85	85.17	7.21
	10	13.18	34.70	1.42	17.80	46.94	2.41	21.53	56.72	3.37	25.29	66.51	4.51
	12	14.00	30.64	1.14	18.16	39.81	1.79	21.86	47.97	2.49	25.18	55.10	3.19
	15	15.00	26.18	0.86	18.74	32.70	1.26	22.39	39.22	1.73	25.67	44.93	2.20

TXC30-2MPG		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	24.89	82.11	6.73	27.81	91.29	8.22	30.72	100.47	9.86	-	-	-
	10	24.37	64.07	4.20	27.25	71.41	5.16	30.41	79.97	6.39	33.23	87.31	7.54
	12	24.61	54.08	3.08	27.38	60.20	3.73	30.19	66.31	4.47	32.99	72.43	5.28
	15	25.08	44.11	2.13	27.51	48.19	2.49	29.93	52.26	2.88	32.60	57.15	3.38
R134a	6	20.39	89.76	7.99	22.58	98.94	9.60	24.70	108.13	11.37	-	-	-
	8	19.93	65.28	4.37	22.21	72.93	5.38	24.43	80.58	6.50	26.34	86.70	7.46
	10	20.16	53.05	3.00	22.09	57.95	3.51	24.00	62.84	4.06	26.13	68.96	4.83
	12	20.45	44.91	2.22	22.35	48.99	2.59	24.21	53.06	2.98	26.04	57.14	3.40
	15	20.91	36.78	1.55	22.79	40.04	1.80	24.38	42.48	2.00	26.18	45.74	2.27
R404A	6	24.71	108.13	11.36	-	-	-	-	-	-	-	-	-
	8	24.12	79.05	6.26	27.26	89.76	7.96	30.11	98.94	9.58	32.93	108.12	11.34
	10	23.94	62.84	4.05	26.74	70.18	4.99	29.82	78.75	6.20	32.60	86.09	7.34
	12	24.19	53.06	2.98	26.60	58.16	3.51	29.35	64.28	4.22	32.10	70.39	5.01
	15	24.36	42.48	1.99	27.03	47.37	2.42	29.41	51.45	2.80	31.77	55.52	3.21
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	29.74	97.41	9.29	-	-	-	-	-	-	-	-	-
	10	29.09	76.30	5.84	33.54	88.53	7.74	37.35	98.32	9.44	41.15	108.11	11.30
	12	28.55	62.24	3.97	32.95	72.43	5.28	36.71	80.58	6.46	40.48	88.74	7.75
	15	28.95	50.63	2.72	32.53	57.15	3.37	36.24	63.67	4.13	39.95	70.20	4.96

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC40-2MPG		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	17.21	75.74	4.32	23.78	103.80	7.72	-	-	-
	8	-	-	-	17.71	58.22	2.75	23.51	77.15	4.45	28.60	93.98	6.41
	10	-	-	-	18.24	47.72	1.95	23.89	62.86	3.10	28.36	74.64	4.17
	12	-	-	-	19.84	43.53	1.66	24.34	53.35	2.33	28.26	61.76	2.98
	15	-	-	-	20.64	36.00	1.20	25.08	43.85	1.66	28.93	50.57	2.11
R134a	6	-	-	-	-	-	-	20.42	89.77	5.91	24.23	106.60	8.12
	8	-	-	-	16.40	54.01	2.42	20.28	66.63	3.45	23.57	77.15	4.45
	10	-	-	-	16.91	44.36	1.73	20.72	54.45	2.43	23.91	62.86	3.10
	12	-	-	-	17.92	39.33	1.40	21.18	46.34	1.84	24.33	53.35	2.33
	15	-	-	-	18.67	32.64	1.02	21.88	38.24	1.32	24.98	43.85	1.66
R404A	6	15.29	67.33	3.53	19.89	86.97	5.57	24.41	106.60	8.11	-	-	-
	8	15.83	51.91	2.26	20.23	66.63	3.45	24.16	79.26	4.68	28.56	93.98	6.41
	10	16.83	44.36	1.73	20.69	54.45	2.43	24.49	64.54	3.24	28.33	74.64	4.17
	12	17.35	37.93	1.32	21.17	46.34	1.84	24.94	54.75	2.44	28.26	61.76	2.98
	15	18.59	32.64	1.02	21.91	38.24	1.32	25.64	44.97	1.73	28.92	50.57	2.11
R410A	6	-	-	-	22.42	98.19	6.96	-	-	-	-	-	-
	8	-	-	-	22.18	72.95	4.01	28.08	91.88	6.14	-	-	-
	10	-	-	-	22.65	59.50	2.82	28.30	74.64	4.17	33.53	88.10	5.66
	12	17.35	37.93	1.32	23.63	51.94	2.23	28.22	61.76	2.98	32.82	71.57	3.85
	15	19.26	33.76	1.07	24.40	42.73	1.59	28.93	50.57	2.11	33.40	58.42	2.68

TXC40-2MPG		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	33.12	108.71	8.39	-	-	-	-	-	-	-	-	-
	10	32.36	84.73	5.27	36.76	96.51	6.71	41.08	108.29	8.30	-	-	-
	12	32.58	71.57	3.85	36.49	79.98	4.72	40.37	88.39	5.68	44.21	96.80	6.73
	15	32.73	57.30	2.60	36.04	62.90	3.04	39.84	69.63	3.64	43.65	76.35	4.32
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	27.19	89.77	5.89	29.97	98.19	6.95	33.04	108.71	8.40	-	-	-
	10	27.01	71.27	3.84	29.73	78.00	4.53	32.75	86.42	5.47	35.38	93.15	6.29
	12	27.00	58.95	2.76	29.60	64.56	3.22	32.58	71.57	3.85	35.16	77.17	4.43
	15	27.61	48.33	1.95	30.20	52.81	2.27	32.71	57.30	2.60	35.19	61.78	2.96
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	32.51	106.60	8.09	-	-	-	-	-	-	-	-	-
	10	32.22	84.73	5.27	36.08	94.83	6.49	39.91	104.92	7.83	-	-	-
	12	32.02	70.17	3.71	35.42	77.17	4.42	39.23	85.58	5.36	43.01	93.99	6.37
	15	32.19	56.18	2.51	35.85	62.90	3.04	39.14	68.51	3.53	42.47	74.11	4.09
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	38.75	101.56	7.37	-	-	-	-	-	-	-	-	-
	12	37.98	82.78	5.03	44.02	96.80	6.72	49.16	108.01	8.23	-	-	-
	15	38.35	67.39	3.42	42.52	74.11	4.08	47.60	83.08	5.04	52.67	92.04	6.09

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC50-2MPG		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	21.35	93.83	3.35	29.43	128.58	5.95	35.82	156.38	8.59
	8	-	-	-	21.99	72.12	2.12	29.13	95.57	3.44	35.38	116.42	4.92
	10	-	-	-	23.98	63.28	1.68	29.65	77.87	2.40	35.12	92.46	3.22
	12	-	-	-	24.65	53.93	1.27	30.83	67.82	1.88	35.63	78.24	2.40
	15	-	-	-	26.26	45.98	0.96	31.71	55.70	1.33	36.47	64.03	1.69
R134a	6	-	-	-	19.06	83.40	2.74	24.67	107.73	4.27	29.44	128.58	5.95
	8	-	-	-	20.36	66.91	1.87	25.16	82.54	2.67	29.18	95.57	3.44
	10	-	-	-	20.97	54.95	1.33	25.71	67.45	1.88	29.65	77.87	2.40
	12	-	-	-	22.24	48.72	1.07	26.27	57.40	1.42	30.17	66.08	1.80
	15	-	-	-	23.17	40.43	0.78	27.16	47.37	1.01	30.99	54.32	1.28
R404A	6	18.98	83.40	2.74	24.62	107.73	4.27	30.21	132.06	6.25	35.74	156.38	8.59
	8	19.66	64.30	1.74	25.13	82.54	2.67	29.91	98.18	3.60	34.80	113.81	4.72
	10	20.91	54.95	1.33	25.70	67.45	1.88	30.42	79.95	2.51	35.10	92.46	3.22
	12	21.56	46.98	1.01	26.30	57.40	1.42	30.97	67.82	1.88	35.60	78.24	2.40
	15	23.10	40.43	0.78	27.77	48.76	1.06	31.84	55.70	1.33	36.42	64.03	1.69
R410A	6	-	-	-	27.76	121.63	5.36	35.82	156.38	8.59	-	-	-
	8	-	-	-	27.55	90.36	3.12	34.77	113.81	4.72	42.50	139.87	6.94
	10	20.84	54.95	1.33	28.75	75.79	2.29	35.10	92.46	3.22	41.50	109.13	4.35
	12	21.55	46.98	1.01	29.36	64.35	1.72	35.63	78.24	2.40	41.27	90.39	3.08
	15	23.93	41.82	0.82	30.32	52.93	1.22	36.52	64.03	1.69	41.52	72.37	2.08

TXC50-2MPG		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	42.06	184.18	11.69	-	-	-	-	-	-	-	-	-
	8	40.96	134.66	6.47	45.91	150.29	7.96	51.34	168.53	9.88	56.66	186.77	11.99
	10	40.05	104.96	4.05	45.45	119.55	5.16	50.30	132.06	6.23	55.56	146.64	7.58
	12	40.38	88.65	2.98	45.14	99.07	3.62	49.89	109.49	4.37	54.63	119.91	5.18
	15	41.15	72.37	2.08	45.26	79.31	2.43	49.34	86.25	2.81	53.95	94.58	3.31
R134a	6	33.95	149.43	7.89	37.45	163.33	9.33	41.24	180.71	11.29	-	-	-
	8	33.13	108.60	4.33	37.00	121.63	5.35	40.34	132.05	6.25	43.99	145.08	7.46
	10	33.46	88.29	2.98	36.73	96.63	3.48	40.00	104.96	4.05	43.22	113.30	4.68
	12	33.47	73.03	2.14	37.14	81.71	2.59	39.87	86.92	2.88	42.98	93.86	3.29
	15	34.24	59.87	1.51	37.41	65.42	1.75	40.52	70.98	2.01	43.57	76.53	2.29
R404A	6	41.22	180.71	11.28	-	-	-	-	-	-	-	-	-
	8	40.19	132.05	6.24	45.52	150.29	7.96	50.30	165.93	9.59	55.07	181.56	11.37
	10	39.84	104.96	4.05	44.59	117.47	5.00	49.31	129.97	6.04	54.03	142.48	7.18
	12	39.71	86.92	2.88	43.79	95.60	3.39	48.49	106.02	4.11	53.16	116.43	4.90
	15	40.48	70.98	2.01	44.50	77.92	2.36	48.48	84.86	2.73	52.50	91.80	3.13
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	49.06	160.72	9.02	56.70	186.77	11.98	-	-	-	-	-	-
	10	47.95	125.80	5.68	54.40	142.48	7.18	61.91	163.32	9.28	68.36	179.99	11.15
	12	47.01	102.54	3.86	53.38	116.43	4.90	60.81	133.80	6.36	67.19	147.69	7.66
	15	47.60	83.47	2.65	52.63	91.80	3.13	58.90	102.91	3.87	65.17	114.02	4.69

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TXC60-2MPG		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	25.93	113.47	4.24	34.27	150.08	7.09	41.02	179.36	9.92
	8	-	-	-	27.32	89.69	2.79	34.03	111.65	4.09	40.61	133.60	5.68
	10	-	-	-	28.68	75.44	2.06	35.24	93.00	2.96	40.45	106.17	3.72
	12	-	-	-	29.39	64.12	1.55	35.88	78.75	2.20	41.04	89.72	2.76
	15	25.10	44.05	0.81	31.72	55.75	1.20	36.89	64.52	1.55	41.98	73.30	1.93
R134a	6	-	-	-	22.64	98.83	3.33	28.44	124.45	4.99	33.44	146.42	6.77
	8	-	-	-	23.99	78.71	2.23	29.01	95.18	3.10	33.27	108.90	3.92
	10	-	-	-	25.28	66.66	1.66	29.63	77.63	2.16	33.83	88.61	2.72
	12	20.86	45.83	0.87	25.99	56.80	1.26	30.81	67.78	1.70	34.43	75.09	2.03
	15	22.64	39.66	0.68	27.60	48.44	0.95	31.79	55.75	1.20	35.86	63.06	1.49
R404A	6	22.46	98.83	3.33	28.40	124.45	4.99	34.37	150.08	7.09	40.81	179.36	9.92
	8	23.22	75.97	2.10	29.01	95.18	3.10	34.69	114.39	4.27	39.92	130.86	5.47
	10	24.56	64.46	1.57	30.23	79.83	2.27	35.30	93.00	2.96	40.31	106.17	3.72
	12	25.87	56.80	1.26	30.92	67.78	1.70	35.93	78.75	2.20	40.91	89.72	2.76
	15	26.95	46.97	0.90	31.95	55.75	1.20	36.93	64.52	1.55	41.87	73.30	1.93
R410A	6	-	-	-	32.65	142.76	6.45	41.78	183.02	10.30	-	-	-
	8	24.68	81.45	2.37	33.11	108.90	3.92	41.35	136.35	5.90	48.40	158.31	7.82
	10	25.48	66.66	1.66	33.78	88.61	2.72	40.57	106.17	3.72	48.57	128.12	5.24
	12	27.62	60.46	1.40	35.08	76.92	2.11	41.77	91.55	2.86	47.83	104.35	3.59
	15	30.07	52.82	1.10	36.77	64.52	1.54	43.35	76.22	2.06	48.75	85.00	2.49

TXC60-2MPG		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	46.55	152.82	7.32	52.41	172.03	9.15	-	-	-	-	-	-
	10	46.23	121.54	4.74	51.97	136.90	5.94	57.19	150.07	7.06	62.30	163.24	8.27
	12	46.11	100.70	3.37	51.16	111.67	4.04	56.84	124.47	4.95	62.43	137.27	5.95
	15	47.00	82.07	2.34	51.98	90.85	2.79	56.90	99.62	3.28	61.81	108.40	3.80
R134a	6	37.77	164.72	8.45	42.41	186.68	10.71	-	-	-	-	-	-
	8	37.45	122.63	4.84	41.61	136.35	5.91	45.63	150.07	7.08	49.12	161.05	8.09
	10	37.92	99.58	3.33	41.87	110.56	4.00	45.37	119.34	4.59	48.80	128.12	5.25
	12	38.46	84.24	2.48	41.93	91.55	2.86	45.33	98.87	3.27	48.65	106.18	3.71
	15	39.35	68.91	1.73	42.75	74.76	1.99	46.13	80.61	2.27	49.38	86.46	2.57
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	45.68	150.07	7.07	51.38	169.29	8.88	56.54	185.75	10.58	-	-	-
	10	45.38	119.34	4.59	50.51	132.51	5.58	55.58	145.68	6.67	60.71	158.85	7.86
	12	45.87	100.70	3.37	50.77	111.67	4.04	55.82	122.64	4.82	60.83	133.62	5.66
	15	46.76	82.07	2.34	51.11	89.39	2.72	55.44	96.70	3.12	60.24	105.47	3.63
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	56.59	185.75	10.57	-	-	-	-	-	-	-	-	-
	10	55.48	145.68	6.67	63.55	167.63	8.69	70.50	185.20	10.49	-	-	-
	12	54.58	118.98	4.54	62.56	137.27	5.95	69.41	151.90	7.20	77.38	170.19	8.92
	15	55.30	96.70	3.11	61.88	108.40	3.80	68.61	120.10	4.61	75.35	131.80	5.49

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC75-2MPG		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	36.17	159.13	4.76	45.56	200.05	7.29	53.91	236.43	9.97
	8	-	-	-	36.83	121.63	2.89	45.30	148.90	4.20	53.51	176.18	5.74
	10	27.35	71.89	1.20	37.72	99.15	2.04	45.89	120.97	2.84	53.30	140.05	3.74
	12	30.18	66.01	1.04	39.40	86.46	1.61	46.68	102.36	2.13	53.15	115.99	2.62
	15	33.36	58.35	0.84	41.54	72.88	1.20	48.02	83.78	1.51	55.05	96.49	1.91
R134a	6	-	-	-	30.10	131.85	3.36	37.28	163.68	5.02	43.41	190.96	6.69
	8	-	-	-	30.94	101.18	2.13	37.17	121.63	2.89	43.24	142.09	3.85
	10	25.30	66.43	1.06	32.58	85.52	1.60	38.64	101.88	2.14	43.78	115.51	2.63
	12	27.95	61.47	0.92	34.17	75.10	1.28	39.44	86.46	1.61	44.57	97.82	1.98
	15	29.26	51.08	0.67	35.47	61.98	0.92	40.70	71.06	1.15	45.78	80.15	1.41
R404A	6	29.07	127.30	3.15	37.38	163.68	5.02	45.49	200.05	7.29	52.86	231.88	9.61
	8	30.78	101.18	2.13	38.00	125.04	3.03	45.32	148.90	4.20	52.54	172.77	5.54
	10	32.47	85.52	1.60	38.84	101.88	2.13	45.86	120.97	2.84	52.36	137.33	3.60
	12	33.41	72.83	1.22	40.41	88.73	1.68	46.66	102.36	2.13	52.93	115.99	2.62
	15	35.49	61.98	0.92	41.76	72.88	1.20	47.98	83.78	1.51	54.14	94.68	1.85
R410A	6	30.17	131.85	3.36	44.57	195.51	6.98	55.18	240.97	10.32	65.65	286.44	14.27
	8	32.92	107.99	2.37	45.11	148.90	4.19	55.45	183.00	6.16	64.29	210.27	7.98
	10	35.59	93.70	1.86	44.96	118.24	2.73	54.46	142.78	3.87	64.59	170.05	5.36
	12	37.36	81.91	1.48	46.62	102.36	2.13	55.05	120.53	2.82	63.63	138.70	3.66
	15	39.63	69.25	1.10	48.01	83.78	1.51	56.25	98.31	1.97	64.52	112.84	2.48

TXC75-2MPG		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	61.42	268.26	12.63	-	-	-	-	-	-	-	-	-
	8	60.89	200.04	7.28	68.16	223.91	8.99	74.71	244.36	10.59	82.31	271.64	12.92
	10	60.57	159.14	4.74	67.10	175.50	5.69	74.83	197.31	7.08	81.16	213.67	8.22
	12	61.06	134.16	3.44	67.49	147.79	4.12	73.88	161.42	4.86	80.20	175.05	5.65
	15	61.29	107.39	2.28	67.63	118.29	2.71	74.58	131.01	3.28	80.80	141.91	3.81
R134a	6	48.75	213.69	8.26	53.91	236.43	9.98	58.93	259.16	11.86	63.31	277.35	13.48
	8	48.48	159.13	4.76	53.61	176.18	5.75	58.28	191.52	6.72	62.81	206.86	7.77
	10	48.95	129.15	3.22	53.43	140.05	3.74	58.30	153.69	4.45	62.56	164.59	5.06
	12	48.96	106.90	2.30	53.87	118.26	2.72	58.19	127.35	3.13	62.40	136.43	3.56
	15	50.10	87.41	1.62	54.90	96.49	1.91	59.05	103.76	2.16	62.58	109.21	2.35
R404A	6	60.15	263.71	12.24	67.40	295.54	15.16	-	-	-	-	-	-
	8	59.69	196.63	7.05	66.19	217.09	8.49	73.24	240.95	10.32	80.23	264.82	12.32
	10	59.44	156.41	4.59	65.81	172.77	5.53	72.77	191.86	6.72	79.15	208.22	7.84
	12	59.27	129.62	3.23	65.60	143.25	3.89	71.90	156.88	4.61	78.19	170.51	5.38
	15	60.22	105.58	2.22	66.43	116.48	2.63	72.63	127.38	3.11	78.82	138.28	3.63
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	74.52	244.36	10.58	84.78	278.45	13.51	-	-	-	-	-	-
	10	73.29	191.86	6.71	83.41	219.13	8.61	92.13	240.94	10.28	102.24	268.21	12.58
	12	73.64	161.42	4.85	82.24	179.59	5.92	92.21	202.31	7.40	100.87	220.48	8.69
	15	73.02	127.38	3.11	82.89	145.54	3.98	91.36	160.07	4.76	99.87	174.61	5.60

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC100-2MPG		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	46.08	202.57	4.50	58.88	257.83	7.03	-	-	-
	8	-	-	-	47.25	155.01	2.82	58.51	191.84	4.07	69.58	228.66	5.60
	10	-	-	-	49.51	130.19	2.07	59.55	155.96	2.83	70.23	185.41	3.81
	12	37.99	82.99	0.96	51.82	113.67	1.63	61.64	135.13	2.19	71.26	156.60	2.83
	15	43.59	76.32	0.83	54.66	95.95	1.21	64.34	113.11	1.60	72.91	127.83	1.97
R134a	6	-	-	-	39.28	171.88	3.39	48.94	214.85	5.00	57.32	251.69	6.73
	8	-	-	-	41.53	136.60	2.27	49.93	164.22	3.11	57.07	187.24	3.90
	10	-	-	-	42.74	111.78	1.60	50.99	133.87	2.18	58.04	152.28	2.71
	12	35.24	76.86	0.85	44.91	98.33	1.28	52.08	113.67	1.64	59.07	129.00	2.03
	15	39.30	68.97	0.70	47.63	83.68	0.96	54.65	95.95	1.21	61.50	108.21	1.49
R404A	6	37.95	165.74	3.18	48.92	214.85	5.00	58.98	257.83	7.03	-	-	-
	8	40.28	132.00	2.14	50.00	164.22	3.11	59.56	196.44	4.24	69.27	228.66	5.60
	10	42.53	111.78	1.60	51.16	133.87	2.18	60.63	159.64	2.94	69.08	181.73	3.68
	12	44.75	98.33	1.28	53.26	116.73	1.71	61.69	135.13	2.19	70.11	153.54	2.73
	15	46.60	81.23	0.92	55.98	98.40	1.27	64.34	113.11	1.60	71.74	125.38	1.91
R410A	6	37.90	165.74	3.18	57.30	251.69	6.72	-	-	-	-	-	-
	8	41.73	136.60	2.27	57.05	187.24	3.90	69.93	228.66	5.60	83.78	274.69	7.90
	10	45.39	119.15	1.78	59.23	155.96	2.82	70.61	185.41	3.81	83.17	218.55	5.13
	12	48.95	107.53	1.49	60.41	132.07	2.11	71.70	156.60	2.82	82.87	181.14	3.63
	15	51.99	91.04	1.11	63.29	110.66	1.54	74.36	130.28	2.04	84.46	147.45	2.52

TXC100-2MPG		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	80.46	265.49	7.41	89.43	293.10	8.93	-	-	-	-	-	-
	10	79.03	207.50	4.66	88.75	233.27	5.80	98.34	259.04	7.07	106.91	281.13	8.24
	12	79.83	175.01	3.42	88.32	193.41	4.07	96.98	211.81	4.83	105.48	230.21	5.65
	15	81.34	142.55	2.38	89.68	157.26	2.82	97.96	171.98	3.29	106.24	186.69	3.80
R134a	6	64.54	282.38	8.35	-	-	-	-	-	-	-	-	-
	8	64.11	210.25	4.79	71.05	233.27	5.82	77.77	256.28	6.95	83.67	274.69	7.92
	10	64.90	170.69	3.30	70.82	185.41	3.81	77.40	203.82	4.51	83.15	218.55	5.14
	12	65.85	144.34	2.46	71.67	156.60	2.83	77.39	168.87	3.22	82.96	181.14	3.64
	15	67.37	118.02	1.72	73.10	127.83	1.98	78.77	137.64	2.24	84.24	147.45	2.53
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	78.08	256.28	6.94	87.67	288.50	8.67	-	-	-	-	-	-
	10	77.62	203.82	4.50	87.07	229.59	5.63	95.67	251.68	6.69	104.23	273.77	7.84
	12	78.45	171.94	3.32	85.92	187.27	3.85	94.33	205.68	4.57	102.85	224.08	5.37
	15	80.01	140.09	2.31	87.37	152.36	2.67	95.49	167.07	3.13	103.60	181.79	3.62
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	95.75	251.68	6.69	107.47	281.13	8.23	-	-	-	-	-	-
	12	94.27	205.68	4.57	107.71	236.35	5.93	119.27	260.88	7.14	130.85	285.42	8.46
	15	31.58	50.26	2.36	35.34	56.43	2.95	-	-	-	-	-	-

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC120-2MPG		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	46.08	202.57	4.50	58.88	257.83	7.03	-	-	-
	8	-	-	-	47.25	155.01	2.82	58.51	191.84	4.07	69.58	228.66	5.60
	10	-	-	-	49.51	130.19	2.07	59.55	155.96	2.83	70.23	185.41	3.81
	12	37.99	82.99	0.96	51.82	113.67	1.63	61.64	135.13	2.19	71.26	156.60	2.83
	15	43.59	76.32	0.83	54.66	95.95	1.21	64.34	113.11	1.60	72.91	127.83	1.97
R134a	6	-	-	-	39.28	171.88	3.39	48.94	214.85	5.00	57.32	251.69	6.73
	8	-	-	-	41.53	136.60	2.27	49.93	164.22	3.11	57.07	187.24	3.90
	10	-	-	-	42.74	111.78	1.60	50.99	133.87	2.18	58.04	152.28	2.71
	12	35.24	76.86	0.85	44.91	98.33	1.28	52.08	113.67	1.64	59.07	129.00	2.03
	15	39.30	68.97	0.70	47.63	83.68	0.96	54.65	95.95	1.21	61.50	108.21	1.49
R404A	6	37.95	165.74	3.18	48.92	214.85	5.00	58.98	257.83	7.03	-	-	-
	8	40.28	132.00	2.14	50.00	164.22	3.11	59.56	196.44	4.24	69.27	228.66	5.60
	10	42.53	111.78	1.60	51.16	133.87	2.18	60.63	159.64	2.94	69.08	181.73	3.68
	12	44.75	98.33	1.28	53.26	116.73	1.71	61.69	135.13	2.19	70.11	153.54	2.73
	15	46.60	81.23	0.92	55.98	98.40	1.27	64.34	113.11	1.60	71.74	125.38	1.91
R410A	6	37.90	165.74	3.18	57.30	251.69	6.72	-	-	-	-	-	-
	8	41.73	136.60	2.27	57.05	187.24	3.90	69.93	228.66	5.60	83.78	274.69	7.90
	10	45.39	119.15	1.78	59.23	155.96	2.82	70.61	185.41	3.81	83.17	218.55	5.13
	12	48.95	107.53	1.49	60.41	132.07	2.11	71.70	156.60	2.82	82.87	181.14	3.63
	15	51.99	91.04	1.11	63.29	110.66	1.54	74.36	130.28	2.04	84.46	147.45	2.52

TXC120-2MPG		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	80.46	265.49	7.41	89.43	293.10	8.93	-	-	-	-	-	-
	10	79.03	207.50	4.66	88.75	233.27	5.80	98.34	259.04	7.07	106.91	281.13	8.24
	12	79.83	175.01	3.42	88.32	193.41	4.07	96.98	211.81	4.83	105.48	230.21	5.65
	15	81.34	142.55	2.38	89.68	157.26	2.82	97.96	171.98	3.29	106.24	186.69	3.80
R134a	6	64.54	282.38	8.35	-	-	-	-	-	-	-	-	-
	8	64.11	210.25	4.79	71.05	233.27	5.82	77.77	256.28	6.95	83.67	274.69	7.92
	10	64.90	170.69	3.30	70.82	185.41	3.81	77.40	203.82	4.51	83.15	218.55	5.14
	12	65.85	144.34	2.46	71.67	156.60	2.83	77.39	168.87	3.22	82.96	181.14	3.64
	15	67.37	118.02	1.72	73.10	127.83	1.98	78.77	137.64	2.24	84.24	147.45	2.53
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	78.08	256.28	6.94	87.67	288.50	8.67	-	-	-	-	-	-
	10	77.62	203.82	4.50	87.07	229.59	5.63	95.67	251.68	6.69	104.23	273.77	7.84
	12	78.45	171.94	3.32	85.92	187.27	3.85	94.33	205.68	4.57	102.85	224.08	5.37
	15	80.01	140.09	2.31	87.37	152.36	2.67	95.49	167.07	3.13	103.60	181.79	3.62
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	95.75	251.68	6.69	107.47	281.13	8.23	-	-	-	-	-	-
	12	94.27	205.68	4.57	107.71	236.35	5.93	119.27	260.88	7.14	130.85	285.42	8.46
	15	95.51	167.07	3.13	106.64	186.69	3.79	117.99	206.32	4.57	131.25	230.84	5.65

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC150-2MPG		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	66.05	288.42	4.48	87.44	381.46	7.54	-	-	-
	8	-	-	-	71.22	234.94	3.13	88.37	290.76	4.54	105.12	346.57	6.29
	10	-	-	-	72.99	191.74	2.21	89.67	236.38	3.13	103.12	269.86	3.94
	12	57.34	125.79	1.09	76.44	167.63	1.75	91.32	200.16	2.35	104.47	228.06	2.93
	15	63.92	111.96	0.89	80.77	141.70	1.31	93.96	164.00	1.67	106.89	186.31	2.06
R134a	6	-	-	-	57.54	251.20	3.53	72.45	316.33	5.32	85.07	372.16	7.21
	8	-	-	-	60.99	200.06	2.39	73.70	241.92	3.29	84.57	276.80	4.14
	10	-	-	-	64.26	169.42	1.80	75.27	197.32	2.32	85.88	225.22	2.89
	12	53.08	116.49	0.96	66.04	144.38	1.37	76.89	167.63	1.75	87.41	190.87	2.17
	15	57.51	100.81	0.75	70.18	123.11	1.04	80.76	141.70	1.31	89.81	156.57	1.54
R404A	6	57.18	251.20	3.52	73.97	325.64	5.61	89.11	390.77	7.89	-	-	-
	8	60.67	200.06	2.39	73.88	241.92	3.28	88.54	290.76	4.54	103.20	339.59	6.06
	10	62.58	163.84	1.70	76.96	202.90	2.43	89.86	236.38	3.13	102.72	269.86	3.94
	12	65.91	144.38	1.37	78.76	172.27	1.83	91.46	200.16	2.35	104.09	228.06	2.93
	15	70.15	123.11	1.04	82.84	145.42	1.37	94.06	164.00	1.67	106.56	186.31	2.06
R410A	6	57.12	251.20	3.52	86.68	381.46	7.53	-	-	-	-	-	-
	8	62.91	207.04	2.53	84.54	276.80	4.14	105.82	346.57	6.28	126.67	416.33	8.85
	10	68.47	180.58	2.00	86.12	225.22	2.89	106.67	281.02	4.24	124.27	325.65	5.58
	12	70.45	153.68	1.52	91.01	200.16	2.35	107.92	237.35	3.13	125.15	274.54	4.05
	15	76.71	134.27	1.20	93.79	164.00	1.67	110.54	193.74	2.20	127.19	223.48	2.79

TXC150-2MPG		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	118.74	388.43	7.78	-	-	-	-	-	-	-	-	-
	10	119.35	314.49	5.24	132.58	347.97	6.32	145.72	381.45	7.51	158.67	414.93	8.79
	12	117.42	255.95	3.56	133.26	293.13	4.58	146.19	321.03	5.43	159.05	348.92	6.34
	15	119.59	208.61	2.49	132.20	230.92	2.96	144.92	253.22	3.48	157.54	275.52	4.07
R134a	6	95.98	418.68	8.98	-	-	-	-	-	-	-	-	-
	8	95.27	311.69	5.17	105.72	346.57	6.30	115.75	381.45	7.53	124.50	409.35	8.60
	10	96.15	253.12	3.52	105.20	275.44	4.10	115.20	303.33	4.90	123.76	325.65	5.60
	12	97.56	214.11	2.64	106.24	232.70	3.03	114.82	251.30	3.45	123.33	269.89	3.94
	15	99.82	175.16	1.86	108.41	190.03	2.13	116.80	204.90	2.42	123.93	216.05	2.65
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	117.80	388.43	7.78	130.90	430.28	9.42	-	-	-	-	-	-
	10	115.75	303.33	4.90	128.80	336.81	5.95	141.60	370.29	7.10	155.67	409.35	8.57
	12	116.74	255.95	3.56	129.47	283.84	4.32	142.27	311.73	5.14	154.78	339.62	6.03
	15	118.91	208.61	2.49	129.91	227.20	2.88	140.97	245.79	3.29	153.47	268.09	3.87
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	144.78	381.45	7.50	162.42	426.09	9.22	-	-	-	-	-	-
	12	142.51	311.73	5.13	159.92	348.92	6.33	180.16	395.40	8.00	-	-	-
	15	141.06	245.79	3.28	161.11	282.96	4.27	178.26	312.70	5.14	195.32	342.44	6.09

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC175-2MPG		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	79.67	348.18	4.86	-	-	-	-	-	-
	8	-	-	-	83.57	274.34	3.21	102.82	337.63	4.58	121.82	400.93	6.31
	10	63.45	166.82	1.38	87.53	230.09	2.36	106.33	280.71	3.31	121.36	318.68	4.12
	12	69.98	153.19	1.18	89.67	195.36	1.78	108.23	237.53	2.48	123.17	269.16	3.06
	15	77.37	135.40	0.95	96.34	169.12	1.38	111.34	194.42	1.74	125.98	219.71	2.14
R134a	6	-	-	-	69.57	305.97	3.90	84.33	369.28	5.43	-	-	-
	8	-	-	-	71.66	234.79	2.47	86.01	282.25	3.37	98.16	321.81	4.22
	10	58.57	154.16	1.21	75.42	198.46	1.84	87.82	230.09	2.37	99.88	261.73	2.94
	12	62.79	137.38	0.99	77.48	169.00	1.40	91.29	200.63	1.86	101.69	221.72	2.20
	15	67.80	118.54	0.76	82.17	143.83	1.05	94.16	164.91	1.32	105.80	185.98	1.62
R404A	6	67.41	295.42	3.67	84.67	369.28	5.42	-	-	-	-	-	-
	8	71.41	234.79	2.46	88.04	290.17	3.53	102.96	337.63	4.58	119.59	393.01	6.08
	10	75.34	198.46	1.84	90.07	236.42	2.47	104.71	274.39	3.19	120.70	318.68	4.12
	12	77.51	169.00	1.40	93.73	205.91	1.94	108.19	237.53	2.48	122.55	269.16	3.06
	15	82.36	143.83	1.05	96.85	169.12	1.38	111.23	194.42	1.74	125.49	219.71	2.14
R410A	6	69.83	305.97	3.90	-	-	-	-	-	-	-	-	-
	8	76.38	250.61	2.75	100.62	329.72	4.40	124.71	408.84	6.54	-	-	-
	10	82.60	217.44	2.15	104.37	274.39	3.19	125.76	331.33	4.40	145.81	381.95	5.74
	12	86.73	190.09	1.70	108.23	237.53	2.47	127.54	279.71	3.27	146.84	321.88	4.16
	15	92.03	160.69	1.27	111.47	194.42	1.74	130.64	228.14	2.28	149.58	261.86	2.89

TXC175-2MPG		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	138.06	362.97	5.22	154.54	407.26	6.48	-	-	-	-	-	-
	12	137.74	300.79	3.71	152.53	332.42	4.42	168.68	369.32	5.38	183.09	400.95	6.28
	15	140.47	245.00	2.58	154.80	270.30	3.05	168.91	295.59	3.56	183.10	320.88	4.12
R134a	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	110.16	361.37	5.20	121.83	400.93	6.31	-	-	-	-	-	-
	10	111.47	293.37	3.58	121.45	318.68	4.12	131.38	343.99	4.73	141.19	369.30	5.40
	12	113.15	248.08	2.67	122.98	269.16	3.07	132.66	290.25	3.49	141.88	311.33	3.94
	15	115.77	202.85	1.88	125.49	219.71	2.15	135.02	236.57	2.44	144.24	253.43	2.74
R404A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	135.44	356.64	5.06	150.11	394.61	6.11	-	-	-	-	-	-
	12	136.78	300.79	3.71	149.61	327.15	4.29	165.46	364.05	5.24	178.37	390.41	5.97
	15	139.50	245.00	2.58	152.03	266.08	2.97	164.50	287.16	3.39	178.35	312.45	3.93
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	-	-	-	-	-	-	-	-	-	-	-	-
	10	-	-	-	-	-	-	-	-	-	-	-	-
	12	166.67	364.05	5.23	189.65	416.76	6.74	-	-	-	-	-	-
	15	168.56	295.59	3.56	188.00	329.31	4.32	207.46	363.04	5.19	226.95	396.76	6.12

For performance data with other refrigerants and conditions use ProSuite or contact the factory

TXC200-2MPG		Approach Temperature (°F)											
		5			6			7			8		
Refrigerant	Temp. Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	-	-	-	93.06	408.31	4.86	120.81	532.05	7.95	143.29	631.04	10.94
	8	-	-	-	95.27	312.45	3.06	117.99	386.68	4.38	140.31	460.90	6.07
	10	-	-	-	99.91	262.42	2.28	120.02	314.36	3.06	141.54	373.72	4.10
	12	81.68	179.65	1.22	104.50	229.11	1.81	124.21	272.38	2.40	141.65	309.47	2.96
	15	90.26	158.79	0.99	110.30	193.39	1.36	129.66	228.00	1.77	146.76	257.66	2.16
R134a	6	-	-	-	79.01	346.45	3.66	97.38	426.88	5.28	113.08	494.93	6.96
	8	-	-	-	83.47	275.34	2.49	98.29	321.73	3.21	112.54	368.12	4.01
	10	-	-	-	85.92	225.31	1.78	102.26	269.84	2.39	114.51	299.52	2.83
	12	70.98	154.92	0.97	90.24	198.20	1.43	104.49	229.11	1.81	118.18	260.02	2.23
	15	79.09	139.01	0.80	93.74	163.73	1.04	107.81	188.45	1.30	121.38	213.17	1.59
R404A	6	76.61	334.07	3.44	98.82	433.06	5.42	118.94	519.68	7.61	138.74	606.30	10.15
	8	81.32	266.06	2.35	100.77	331.01	3.36	120.11	395.95	4.57	137.78	451.62	5.85
	10	85.87	225.31	1.78	103.16	269.84	2.39	120.20	314.36	3.06	137.21	358.88	3.81
	12	90.33	198.20	1.43	107.37	235.29	1.89	124.25	272.38	2.40	140.94	309.47	2.96
	15	95.98	168.67	1.09	112.85	198.33	1.41	127.75	223.05	1.71	144.33	252.72	2.10
R410A	6	79.09	346.45	3.66	116.12	507.31	7.27	146.84	643.42	11.33	-	-	-
	8	89.07	293.90	2.77	117.53	386.68	4.37	145.62	479.45	6.53	171.38	562.96	8.81
	10	94.11	247.58	2.07	119.71	314.36	3.06	142.87	373.72	4.10	170.26	447.93	5.74
	12	99.01	216.74	1.65	122.16	266.20	2.31	144.85	315.65	3.06	167.58	365.11	3.91
	15	107.27	188.45	1.30	129.95	228.00	1.77	152.22	267.55	2.30	170.59	297.21	2.73

TXC200-2MPG		Approach Temperature (°F)											
		9			10			11			12		
Refrigerant	Temp Range (°F)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)	Cap. (Tons)	Water Flow Rate (gpm)	Pressure Drop (psi)
R22	6	161.66	705.29	13.48	-	-	-	-	-	-	-	-	-
	8	160.14	525.84	7.77	179.60	590.79	9.66	197.10	646.46	11.44	214.34	702.12	13.36
	10	159.23	418.24	5.06	176.79	462.77	6.11	195.73	514.71	7.45	212.63	559.23	8.71
	12	160.51	352.75	3.67	177.72	389.84	4.43	194.83	426.93	5.24	211.66	464.02	6.13
	15	163.58	287.32	2.59	178.41	312.04	2.97	193.23	336.76	3.36	209.84	366.42	3.93
R134a	6	127.34	556.80	8.67	141.19	618.67	10.56	153.18	668.17	12.20	165.85	730.03	14.41
	8	126.57	414.51	4.99	140.19	460.90	6.08	151.91	498.01	7.03	163.31	535.12	8.05
	10	128.00	336.62	3.43	139.67	366.30	3.96	151.23	395.98	4.58	162.57	425.66	5.24
	12	129.93	284.74	2.59	141.30	309.47	2.97	152.49	334.20	3.37	163.40	358.93	3.80
	15	133.00	232.94	1.84	144.19	252.72	2.10	155.21	272.49	2.38	164.51	287.32	2.60
R404A	6	158.27	692.91	13.04	-	-	-	-	-	-	-	-	-
	8	156.93	516.57	7.51	174.25	572.23	9.10	191.31	627.90	10.83	208.30	683.57	12.70
	10	156.18	410.82	4.89	173.20	455.35	5.93	190.13	499.87	7.06	205.32	536.97	8.07
	12	155.77	340.38	3.47	172.61	377.47	4.17	189.35	414.57	4.97	205.85	451.66	5.83
	15	158.95	277.43	2.44	175.14	307.10	2.89	189.57	331.81	3.28	204.33	356.53	3.74
R410A	6	-	-	-	-	-	-	-	-	-	-	-	-
	8	196.95	646.46	11.42	224.45	739.24	14.68	-	-	-	-	-	-
	10	193.60	507.29	7.24	220.70	581.49	9.35	244.06	640.86	11.22	271.01	715.06	13.78
	12	194.52	426.93	5.24	217.68	476.39	6.43	240.59	525.84	7.73	263.70	575.30	9.15
	15	192.79	336.76	3.35	215.58	376.31	4.12	242.06	425.74	5.19	264.70	465.29	6.13

For performance data with other refrigerants and conditions use ProSuite or contact the factory

AC18 / ACH18

Brazed plate heat exchanger

General information
Alfa Laval introduced its first brazed plate heat exchanger in 1977 and has since continuously developed and optimized its performance and reliability.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates, which makes the heat exchanger compact and saves material. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. Using advanced design technologies and extensive verification guarantees the highest performance and longest possible service lifetime.

The AlfaChill (AC) brazed plate heat exchangers are specifically designed for heat transfer in air conditioning, refrigeration and heat pump applications.

Innovative features for this single circuit heat exchanger include a patented asymmetric plate design. The plate design provides the flexibility to select the best configuration for optimized evaporation temperature and/or condensation temperature in order to keep the brine/water pressure drop at the desired level.

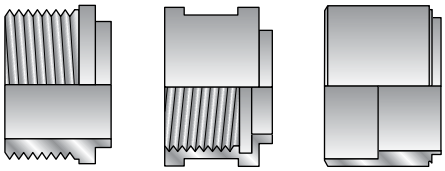
Typical applications
- Economizer for injection compressors
- Small heat pumps and chiller systems
- Oil cooling

The standard design supports a wide variety of HFC refrigerants such as R407C, R404A, R507, R134a. The high-pressure version is suitable for R410A, R32 and natural refrigerants (CO2 - propane).

Capacity range
AC18/ACH18 cover capacities from 2 kW up to 10 kW. Based on standard components and a modular concept, each unit is custom-designed for each specific installation.

Request for quotation
To receive a quotation for brazed plate heat exchangers that meet your requirements, please provide Alfa Laval representatives with:
- Required flow rates or heat load
- Temperature program (inlet and outlet)
- Brine and refrigerant type
- Desired working pressure
- Maximum permitted water/brine pressure drop
- Connection types

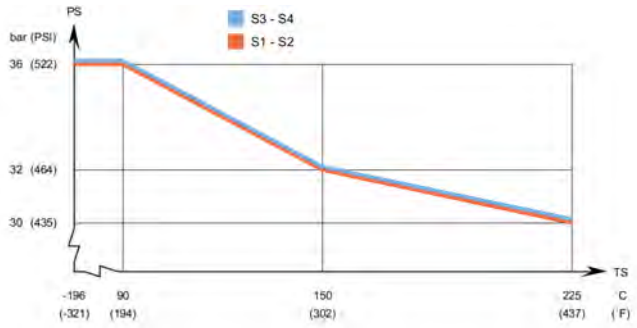
Examples of connections*



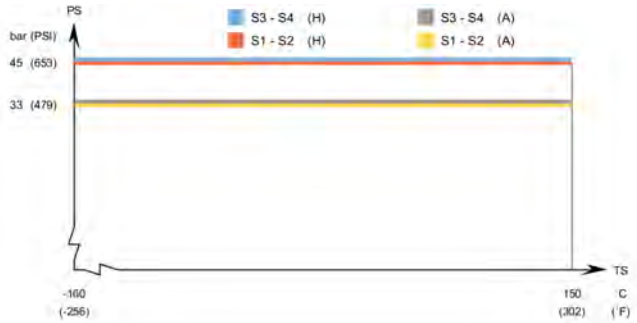
External threaded | Internal threaeded | Soldering

* More connections are available on request.

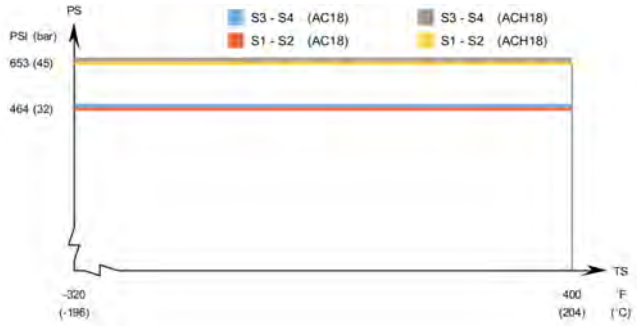
AC18 - PED approval pressure/temperature graph AH



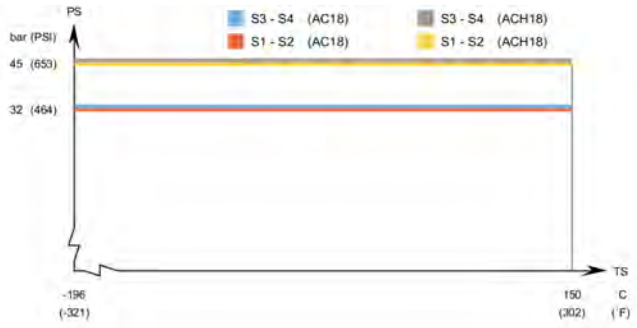
ACH18 - PED approval pressure/temperature graph AH



AC18 / ACH18 - UL approval pressure/temperature graph AH



AC18 / ACH18 - CRN approval pressure/temperature graph AH



Standard dimensions and weight

AC18 / ACH18

A measure mm	=	8.5 + (2.16 * n) (±2 mm or ±2.5 %)
A measure inch	=	0.33 + (0.09 * n) (±0.08 inch or ±2.5 %)
Weight** kg	=	0.4 + (0.07 * n)
Weight** lb	=	0.88 + (0.15 * n)

(n = number of plates)
** Excluding connections

Standard data

Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel H, litres (ga)	0.038 (0.0098)
Volume per channel A, litres (ga)	0.042 (0.011) 0.035 (0.009)
Max. particle size mm (inch)	1.1 (0.04)
Max. flowrate* m^3/h (gpm)	4.1 (18)
Min. nbr of plates	4
Max. nbr of plates	52

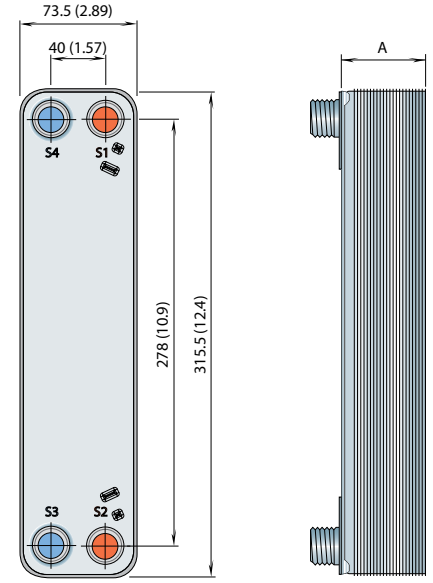
* Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing filler	Copper

Standard dimensions

mm (inch)



For exact values please contact your local Alfa Laval representative

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

Copper-brazed PHE - compact evaporators

Technical specifications

Catalog Number	Part Number	Nominal TR R410A	Nominal TR R22	Alfa Laval Model Number	Ref Inlet/Outlet
Single Circuit - Frame Size 12.4” H x 3” W					
EVP-0.5M-ACH*	3287130117	1	0.5	ACH18-10H R53	5/8", 3/8"
Single Circuit - Frame Size 20.7” H x 4.4” W (includes studbolts)					
EVP-1M-ACH*	3287084893	1	1	ACH-30EQ-10H R52	7/8", 3/8"
EVP-2M-ACH*	3287084894	2	2	ACH-30EQ-20H R52	7/8", 3/8"
EVP-3.5M-ACH*	3287084895	4	3.5	ACH-30EQ-30H S09	7/8", 1/2"
EVP-5M-ACH*	3287084896	5	5	ACH-30EQ-40H S09	7/8", 1/2"
EVP-6M-ACH*	3287084897	6	6	ACH-30EQ-50H S21	1-1/8", 5/8"
EVP-7.5M-ACH*	3287084898	7.5	7	ACH-30EQ-60H S21	1-1/8", 5/8"

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Catalog Number	Water Inlet/ outlet	Shipping Wt lbs	Depth D in	A in Liq. Suction, Water	B in	C in
Single Circuit - Frame Size 12.4” H x 3” W						
EVP-0.5M-ACH*	5/8"	4.2	1.2			
Single Circuit - Frame Size 20.7” H x 4.4” W (includes studbolts)						
EVP-1M-ACH*	7/8"	4	0.9	0.95	1.54	10.6
EVP-2M-ACH*	7/8"	6	1.5	0.95	1.54	10.6
EVP-3.5M-ACH*	7/8"	8	2.1	0.95	1.54	10.6
EVP-5M-ACH*	7/8"	10	2.7	0.95	1.54	10.6
EVP-6M-ACH*	1-1/8"	12	3.3	0.95	1.54	10.6
CND-6M-ACH*	1-1/8"	14	3.9	0.95	1.54	10.6

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Catalog Number	Part Number	Nominal TR R410A	Nominal TR R22	Alfa Laval Model Number	Ref Inlet/Outlet
Single Circuit - Frame Size 20.7” H x 4.4” W (includes studbolts)					
EVP-3L-ACH*	3287126488	4	3	ACH-70X-14M S21	1-1/8", 5/8"
EVP-4L-ACH*	3287126487	5	4	ACH-70X-18M S21	1-1/8", 5/8"
EVP-5L-ACH*	3287083717	6	5	ACH-70X-22M S21	1-1/8", 5/8"
EVP-6L-ACH*	3287083718	7	6	ACH-70X-26M S21	1-1/8", 5/8"
EVP-7.5L-ACH*	3287083719	8	7	ACH-70X-32M S21	1-1/8", 5/8"
EVP-10L-ACH*	3287083720	12	9	ACH-70X-42M S24	1-3/8", 5/8"
EVP-12L-ACH*	3287083721	13	10	ACH-70X-50M S24	1-3/8", 5/8"
EVP-15L-ACH*	3287083723	15	12.5	ACH-70X-62M S25	1-3/8", 5/8"
EVP-20L-ACH*	3287083725	20	15	ACH-70X-78M R49	1-3/8", 7/8"
EVP-23L-ACH*	3287083726	23	16.5	ACH-70X-90M R49	1-3/8", 7/8"
EVP-25L-ACH*	3287083727	25	18	ACH-70X-100M R49	1-3/8", 7/8"

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Catalog Number	Water Inlet/ outlet	Shipping Wt lbs	Depth D in	A in. Liq., Suction, Water	B in	C in
Single Circuit - Frame Size 20.7” H x 4.4” W (includes studbolts)						
EVP-3L-ACH*	1-1/8"	11	1.7	0.95	1.97	18.35
EVP-4L-ACH*	1-1/8"	13	2.1	0.95	1.97	18.35
EVP-5L-ACH*	1-1/8"	13	2.4	0.95	1.97	18.35
EVP-6L-ACH*	1-1/8"	15	2.8	0.95	1.97	18.35
EVP-7.5L-ACH*	1-1/8"	15	3.3	0.95	1.97	18.35
EVP-10L-ACH*	1-1/8"	21	4.2	0.95	1.97	18.35
EVP-12L-ACH*	1-1/8"	25	5	0.95	1.97	18.35
EVP-15L-ACH*	1-1/8"	30	6.1	0.95	1.97	18.35
EVP-20L-ACH*	1-3/8"	36	7.5	0.95	1.97	18.35
EVP-23L-ACH*	1-3/8"	41	8.6	0.95	1.97	18.35
EVP-25L-ACH*	1-3/8"	42	10.4	0.95	1.97	18.35

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Catalog Number	Part Number	Nominal TR R410A	Nominal TR R22	Alfa Laval Model Number	Ref Inlet/Outlet
Single Circuit - Frame Size 24.3” H x 7.6” W (includes studbolts)					
EVP-15XL-ACH*	3287083729	15	10	ACH-120EQ-30H S46	2-1/8", 7/8"
EVP-25XL-ACH*	3287083731	25	15	ACH-120EQ-46H S62	2-1/8", 1-1/8"
EVP-30XL-ACH*	3287083732	30	20	ACH-120EQ-60H S62	2-1/8", 1-1/8"
EVP-40XL-ACH*	3287083733	40	27	ACH-120EQ-76H S62	2-1/8", 1-1/8"
EVP-45XL-ACH*	3287083734	45	28	ACH-120EQ-90H S62	2-1/8", 1-1/8"
EVP-50XL-ACH*	3287083735	50	36	ACH-120EQ-106H S62	2-1/8", 1-1/8"
EVP-60XL-ACH*	3287083736	60	60	ACH-120EQ-124H S62	2-1/8", 1-1/8"
EVP-70XL-ACH*	3287083737	70	70	ACH-120EQ-150H S62	2-1/8", 1-1/8"
EVP-75XL-ACH*	3287083738	75	75	ACH-120EQ-180H S76	2-1/8", 1-3/8"
Single Circuit - Frame Size 29.0” H x 13.0” W (includes liftings lugs and feet)					
EVP-50XXL-ACH*	3287084411	50	50	ACH-500EQ-70H Y55	2-5/8", 1-3/8"
EVP-60XXL-ACH*	3287084412	60	60	ACH-500EQ-80H Y55	2-5/8", 1-3/8"
EVP-75XXL-ACH*	3287084414	75	75	ACH-500EQ-100H Y55	2-5/8", 1-3/8"
EVP-100XXL-ACH*	3287084415	100	80	ACH-500EQ-130H Y55	2-5/8", 1-3/8"

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Catalog Number	Water Inlet/ outlet	Shipping Wt lbs	Depth D in	A in. Liq., Suc- tion, Water	B in	C in
Single Circuit - Frame Size 24.3” H x 7.6” W (includes studbolts)						
EVP-15XL-ACH*	2-1/8"	56	3.3	0.95, 1.58, 1.58	3.62	20.43
EVP-25XL-ACH*	2-1/8"	62	4.7	0.95, 1.58, 1.58	3.62	20.43
EVP-30XL-ACH*	2-1/8"	75	6.1	0.95, 1.58, 1.58	3.62	20.43
EVP-40XL-ACH*	2-1/8"	91	7.6	0.95, 1.58, 1.58	3.62	20.43
EVP-45XL-ACH*	2-1/8"	104	8.9	0.95, 1.58, 1.58	3.62	20.43
EVP-50XL-ACH*	2-1/8"	120	10.4	0.95, 1.58, 1.58	3.62	20.43
EVP-60XL-ACH*	2-1/8"	137	12.1	0.95, 1.58, 1.58	3.62	20.43
EVP-70XL-ACH*	2-1/8"	160	14.3	0.95, 1.58, 1.58	3.62	20.43
EVP-75XL-ACH*	2-1/8"	189	17.1	0.95, 1.58, 1.58	3.62	20.43
Single Circuit - Frame Size 29.0” H x 13.0” W (includes liftings lugs and feet)						
EVP-50XXL-ACH*	3" Victualic	163	7.7	1.18, 2.05, 2.05	8.07	24.88
EVP-60XXL-ACH*	3" Victualic	181	8.7	1.18, 2.05, 2.05	8.07	24.88
EVP-75XXL-ACH*	3" Victualic	219	10.8	1.18, 2.05, 2.05	8.07	24.88
EVP-100XXL-ACH*	3" Victualic	274	13.8	1.18, 2.05, 2.05	8.07	24.88

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Catalog Number	Part Number	Nominal TR R410A	Nominal TR R22	Alfa Laval Model Number	Ref Inlet/Outlet
Dual Circuit - Frame Size 19” H x 10” W (includes studbolts)					
EVP-12.5L-ACH2*	3287084565	14	8	ACH-230DQ-30H	1-1/8", 7/8"
EVP-20L-ACH2*	3287084567	25	16	ACH-230DQ-50H	1-3/8", 7/8"
EVP-30L-ACH2*	3287084569	32	25	ACH-230DQ-70H	1-3/8", 7/8"
EVP-40L-ACH2*	3287084570	40	35	ACH-230DQ-90H	1-5/8", 7/8"
EVP-50L-ACH2*	3287084571	50	43	ACH-230DQ-110H	1-5/8", 1-1/8"
EVP-60L-ACH2*	3287084572	56	55	ACH-230DQ-138H	2-1/8", 1-1/8"
EVP-70L-ACH2*	3287084573	75	70	ACH-230DQ-170H	2-1/8", 1-1/8"
EVP-80L-ACH2*	3287084574	80	80	ACH-230DQ-202H	2-1/8", 1-1/8"
Dual Circuit - Frame Size 29.0” H x 13.0” W (includes liftings lugs and feet)					
EVP-100XXL-ACH2*	3287084579	100	95	ACH-500DQ-110H	2-5/8", 1-3/8"
EVP-120XXL-ACH2*	3287084581	120	110	ACH-500DQ-138H	2-5/8", 1-3/8"
EVP-140XXL-ACH2*	3287084583	140	135	ACH-500DQ-170H	2-5/8", 1-3/8"
EVP-150XXL-ACH2*	3287084584	165	150	ACH-500DQ-190H	2-5/8", 1-3/8"
EVP-160XXL-ACH2*	3287084585	170	160	ACH-500DQ-206H	2-5/8", 1-3/8"

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Catalog Number	Water Inlet/ outlet	Shipping Wt lbs	Depth D in	A in. Liq., Suction, Water	B in	C in
Dual Circuit - Frame Size 19” H x 10” W (includes studbolts)						
EVP-12.5L-ACH2*	2"Victualic	38	3.9	0.95, 1.18, 1.89	6.1	15.75, 14.53
EVP-20L-ACH2*	2" Victaulic	56	6.2	0.95, 1.18, 1.89	6.1	15.75, 14.53
EVP-30L-ACH2*	2" Victaulic	73	8.6	0.95, 1.18, 1.89	6.1	15.75, 14.53
EVP-40L-ACH2*	2-1/2" Victualic	93	10.9	0.95, 1.18, 1.89	6.1	15.75, 14.53
EVP-50L-ACH2*	2-1/2" Victualic	109	13.2	0.95, 1.18, 1.89	6.1	15.75, 14.53
EVP-60L-ACH2*	2-1/2" Victualic	134	16.5	0.95, 1.18, 1.89	6.1	15.75, 14.53
EVP-70L-ACH2*	2-1/2" Victualic	162	20.2	0.95, 1.18, 1.89	6.1	15.75, 14.53
EVP-80L-ACH2*	2-1/2" Victualic	190	23.9	0.95, 1.18, 1.89	6.1	15.75, 14.53
Dual Circuit - Frame Size 29.0" H x 13.0" W (includes liftings lugs and feet)						
EVP-100XXL-ACH2*	3" Victualic	238	11.8	1.18, 2.05, 2.05	8.07	24.87, 22.36
EVP-120XXL-ACH2*	3" Victualic	290	14.7	1.18, 2.05, 2.05	8.07	24.87, 22.36
EVP-140XXL-ACH2*	3" Victualic	349	17.9	1.18, 2.05, 2.05	8.07	24.87, 22.36
EVP-150XXL-ACH2*	3" Victualic	386	20	1.18, 2.05, 2.05	8.07	24.87, 22.36
EVP-160XXL-ACH2*	3" Victualic	416	21.6	1.18, 2.05, 2.05	8.07	24.87, 22.36

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

AC120EQ / ACH120EQ

Brazed plate heat exchanger

General information
Alfa Laval introduced its first brazed plate heat exchanger in 1977 and has since continuously developed and optimized its performance and reliability.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates, which makes the heat exchanger compact and saves material. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. Using advanced design technologies and extensive verification guarantees the highest performance and longest possible service lifetime.

The AlfaChill (AC) brazed plate heat exchangers are specifically designed for heat transfer in air conditioning, refrigeration and heat pump applications.

Innovative features for this single circuit heat exchanger include the patented Equalancer SystemTM for efficient distribution of the refrigerant throughout the plate pack.

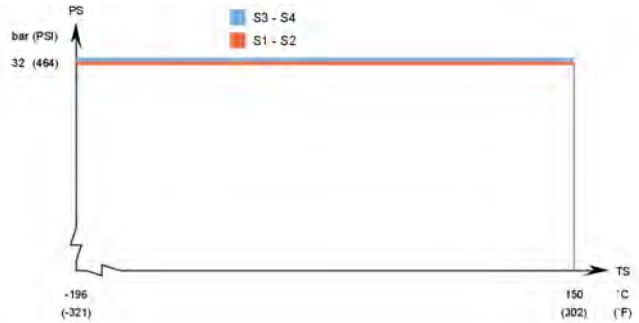
Typical applications
- Evaporator and condenser in chillers and heat pumps
- Economizer in chillers and heat pumps

The standard design supports a wide variety of HFC refrigerants such as R407C, R404A, R507, R134a. The high-pressure version is suitable for R410A and natural refrigerants (CO2 - propane).

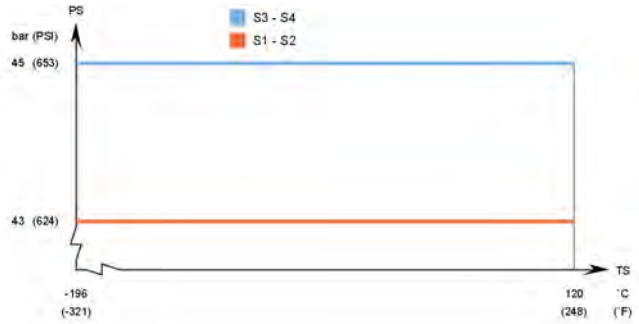
Capacity range
AC120EQ / ACH120EQ cover capacities from 20 up to 200 kW. Based on standard components and a modular concept, each unit is custom-designed for each specific installation.

Request for quotation
To receive a quotation for brazed plate heat exchangers that meet your requirements, please provide Alfa Laval representatives with:
- Required flow rates or heat load
- Temperature program (inlet and outlet)
- Brine and refrigerant type
- Desired working pressure
- Maximum permitted water/brine pressure drop
- Connection types

AC120EQ - PED approval pressure/temperature graph*

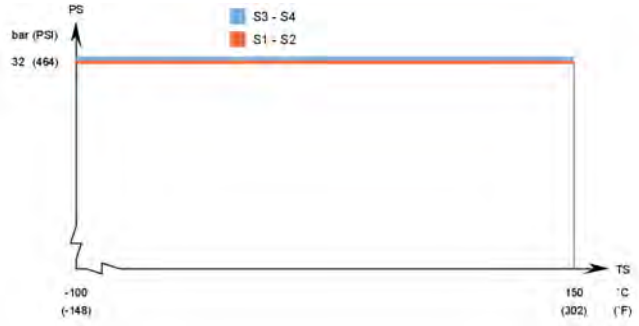


ACH120EQ - PED approval pressure/temperature graph*



AC120EQ / ACH120EQ - UL approval pressure/temperature graph*

AC120EQ - KHK and KRA approval pressure/temperature graph*



Standard dimensions and weight*

A measure mm	=	(2.35 * n) + 11
A measure inch	=	(0.09 * n) + 0.43
Weight** kg	=	5.4 + (0.44 * n)
Weight** lb	=	11.9 + (0.97 * n)

(n = number of plates)
* Excluding connections

Standard data

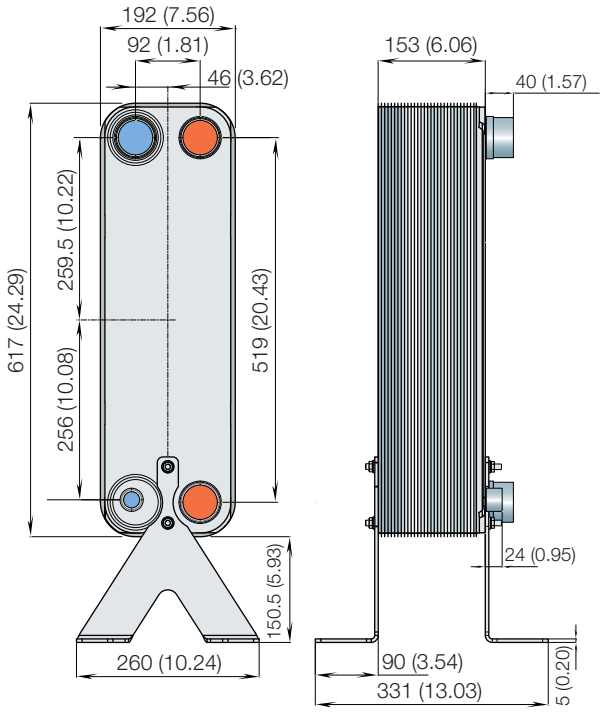
Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel, litres (ga)	0.21 (0.054)
Max. particle size mm (inch)	0 (0)
Max. flowrate* m^3/h (gpm)	37 (162)
Min. nbr of plates	10
Max. nbr of plates	230

* Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing filler	Copper

Standard dimensions
mm (inch)



For exact values please contact your local Alfa Laval representative

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

AC230EQ / ACH230EQ

Brazed plate heat exchanger with single refrigerant circuit

Alfa Laval introduced its first brazed plate heat exchanger in 1977 and has since continuously developed and optimized its performance and reliability.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates, which makes the heat exchanger compact and saves material. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. Using advanced design technologies and extensive verification guarantees the highest performance and longest possible service lifetime.

The AlfaChill (AC) brazed plate heat exchangers are specifically designed for heat transfer in air conditioning, refrigeration and heat pump applications.

Innovative features for this single circuit heat exchanger with diagonal flow include a patented distributor integrated in the plate design.

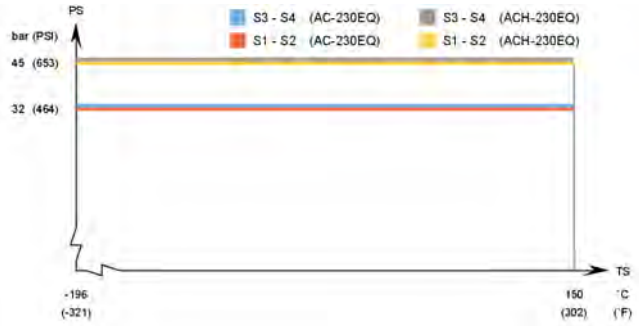
Typical applications
- Evaporation in chiller and heat pumps
- Condensing in chiller and heat pumps

The standard design supports a wide variety of HFC refrigerants such as R407C, R404A, R507. The high-pressure version is suitable for R410A and natural refrigerants (CO2 - propane).

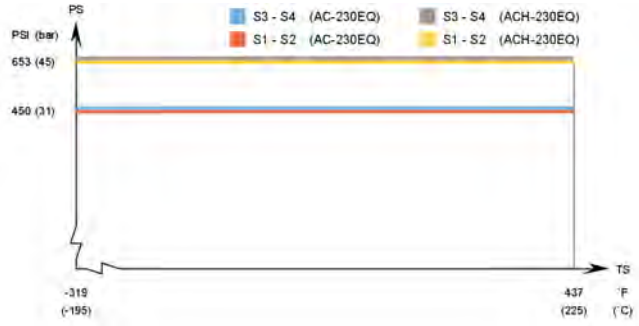
Capacity range
AC230EQ / ACH230EQ cover capacities from 50 kW up to 250 kW for chillers and 30 to 150kW for heat pumps. Based on standard components and a modular concept, each unit is custom-designed for each specific installation.

Request for quotation
To receive a quotation for brazed plate heat exchangers that meet your requirements, please provide Alfa Laval representatives with:
- Required flow rates or heat load
- Temperature program (inlet and outlet)
- Brine and refrigerant type
- Desired working pressure
- Maximum permitted water/brine pressure drop
- Connection types

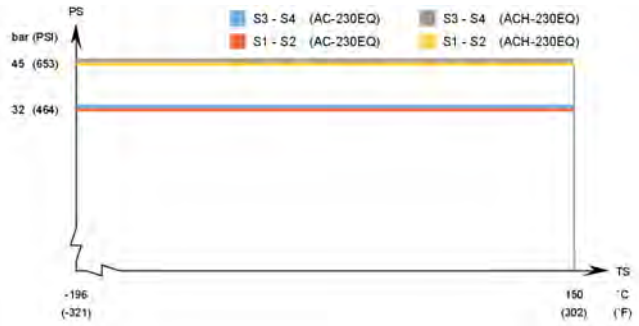
AC230EQ / ACH230EQ - PED approval pressure/temperature graph*



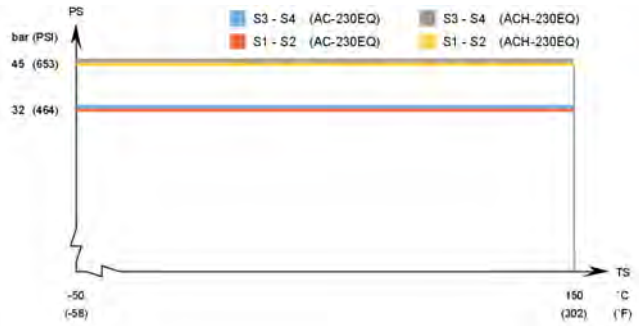
AC230EQ / ACH230EQ - UL approval pressure/temperature graph*



AC230EQ / ACH230EQ - CRN approval pressure/temperature graph*



AC230EQ / ACH230EQ - KHK and KRA approval pressure/temperature graph*



Standard dimensions and weight*

A measure mm	=	13 + (2.14 * n) (+/-2 %)
A measure inch	=	0.51 + (0.08 * n) (+/-2 %)
Weight** kg	=	5.6 + (0.4 * n)
Weight** lb	=	12.35 + (0.88 * n)

(n = number of plates)
* Excluding connections

Standard data

Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel, litres (ga)	0.16 (0.04) 0.20 (0.05)
Max. flowrate* m^3/h (gpm)	60 (263)
Min. nbr of plates	10
Max. nbr of plates	250

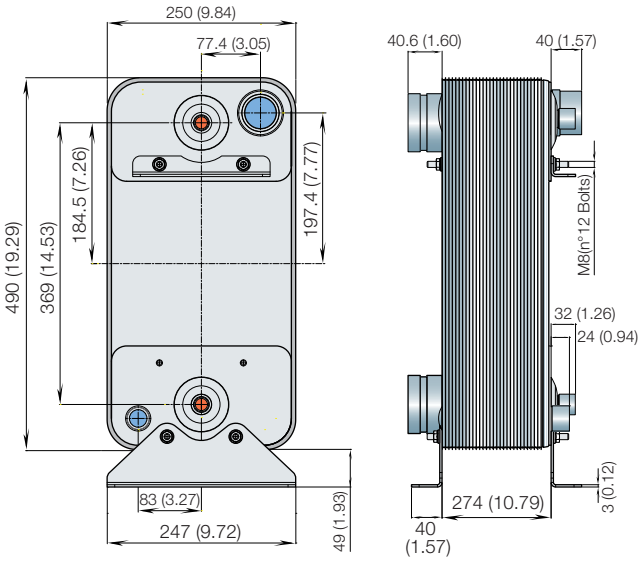
* Water at 7 m/s (23 ft/s) (connection velocity)

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing filler	Copper

Standard dimensions

mm (inch)



For exact values please contact your local Alfa Laval representative

How to contact Alfa Laval
Up-to-date AlfaLaval contact details for all countries are always available on our website on www.alfalaval.com

AC230DQ / ACH230DQ

Brazed plate heat exchanger with double refrigerant circuit

Alfa Laval introduced its first brazed plate heat exchanger in 1977 and has since continuously developed and optimized its performance and reliability.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates, which makes the heat exchanger compact and saves material. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. Using advanced design technologies and extensive verification guarantees the highest performance and longest possible service lifetime.

The AlfaChill (AC) brazed plate heat exchangers are specifically designed for heat transfer in air conditioning, refrigeration and heat pump applications.

Innovative features for this double circuit heat exchanger with diagonal flow include a patented distributor integrated in the plate design.

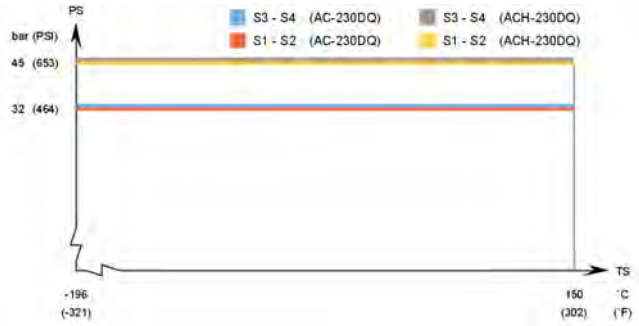
Typical applications
- Evaporation in chiller and heat pumps
- Condensing in chiller and heat pumps

The standard design supports a wide variety of HFC refrigerants such as R407C, R404A, R507. The high-pressure version is suitable for R410A and natural refrigerants (CO2 - propane).

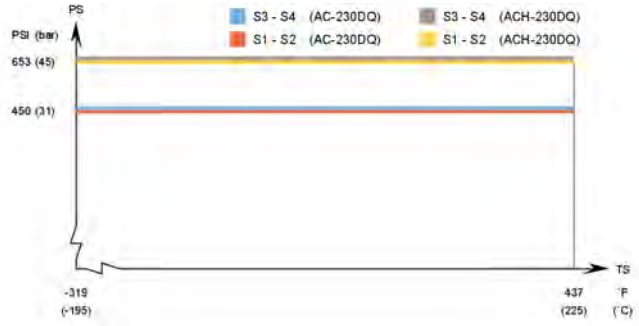
Capacity range
AC230DQ / ACH230DQ cover capacities from 50 kW up to 250 kW for chillers and 30 to 150kW for heat pumps. Based on standard components and a modular concept, each unit is custom-designed for each specific installation.

Request for quotation
To receive a quotation for brazed plate heat exchangers that meet your requirements, please provide Alfa Laval representatives with:
- Required flow rates or heat load
- Temperature program (inlet and outlet)
- Brine and refrigerant type
- Desired working pressure
- Maximum permitted water/brine pressure drop
- Connection types

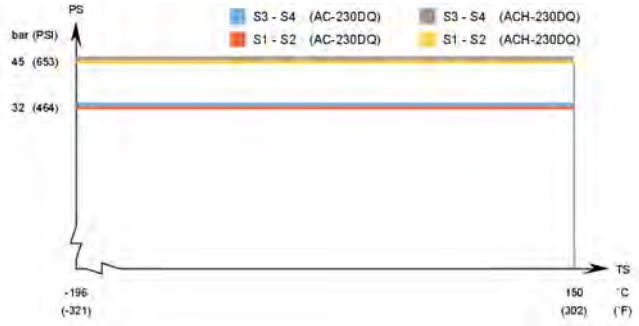
AC230DQ / ACH230DQ - PED approval pressure/temperature graph*



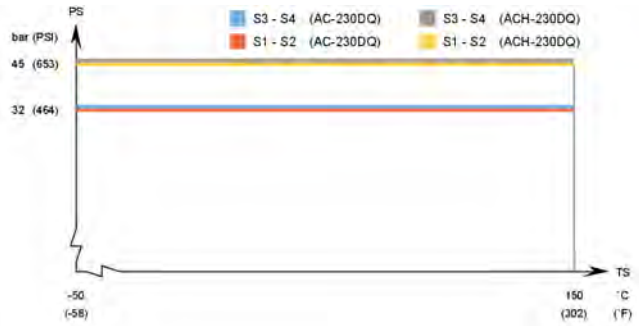
AC230DQ / ACH230DQ - UL approval pressure/temperature graph*



AC230DQ / ACH230DQ - CRN approval pressure/temperature graph*



AC230DQ / ACH230DQ - KHK and KRA approval pressure/temperature graph*



Standard dimensions and weight*

A measure mm	=	13 + (2.14 * n) (+/-2 %)
A measure inch	=	0.51 + (0.08 * n) (+/-2 %)
Weight** kg	=	6 + (0.4 * n)
Weight** lb	=	13.23 + (0.88 * n)

(n = number of plates)
* Excluding connections

Standard data

Min. working temperature	see graph
Max. working temperature	see graph
Min. working pressure	vacuum
Max. working pressure	see graph
Volume per channel, litres (ga)	0.16 (0.040) 0.20 (0.052)
Max. flowrate* m^3/h (gpm)	60 (263)
Min. nbr of plates	10
Max. nbr of plates	250

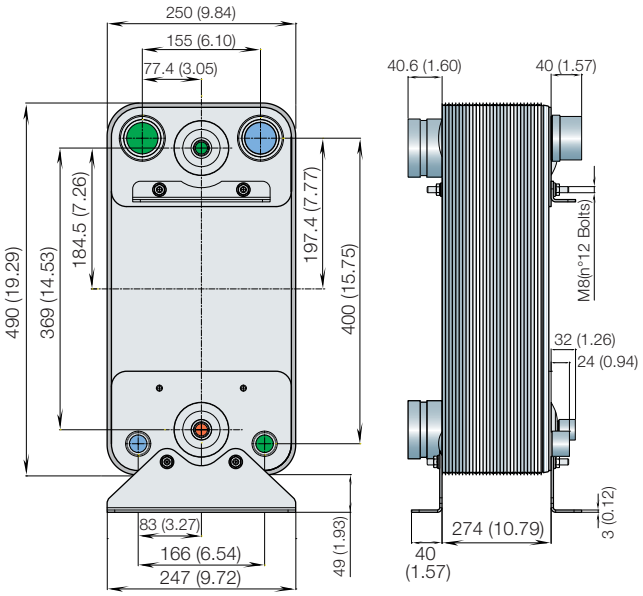
* Water at 7 m/s (23 ft/s) (connection velocity)

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing filler	Copper

Standard dimensions

mm (inch)



For exact values please contact your local Alfa Laval representative

How to contact Alfa Laval
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AC500EQ / ACH500EQ

Brazed plate heat exchanger with single refrigerant circuit

General information
Alfa Laval introduced its first brazed plate heat exchanger in 1977 and has since continuously developed and optimized its performance and reliability.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates, which makes the heat exchanger compact and saves material. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. Using advanced design technologies and extensive verification guarantees the highest performance and longest possible service lifetime.

The AlfaChill (AC) brazed plate heat exchangers are specifically designed for heat transfer in air conditioning, refrigeration and heat pump applications.

Innovative features for this single circuit heat exchanger include a patented distributor integrated in the plate design.

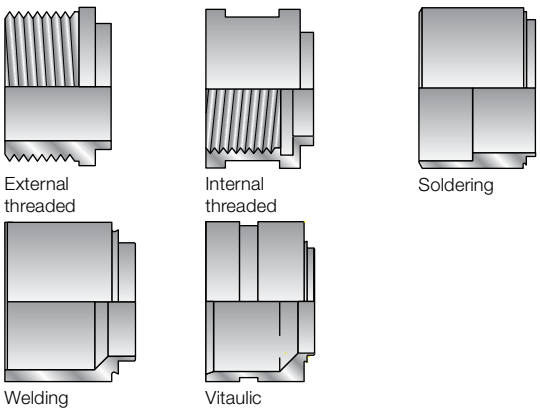
Typical applications
- Evaporation in chillers and heat pumps
- Condensing in chillers and heat pumps

The standard design supports a wide variety of HFC refrigerants such as R407C, R404A, R507. The high-pressure version is suitable for R410A and natural refrigerants (CO2 - propane).

Capacity range
AC500EQ / ACH500EQ cover capacities from 200 kW up to 600 kW. Based on standard components and a modular concept, each unit is custom-designed for each specific installation.

Request for quotation
To receive a quotation for brazed plate heat exchangers that meet your requirements, please provide Alfa Laval representatives with:
- Required flow rates or heat load
- Temperature program (inlet and outlet
- Brine and refrigerant type
- Desired working pressure
- Maximum permitted water/brine pressure drop
- Connection types

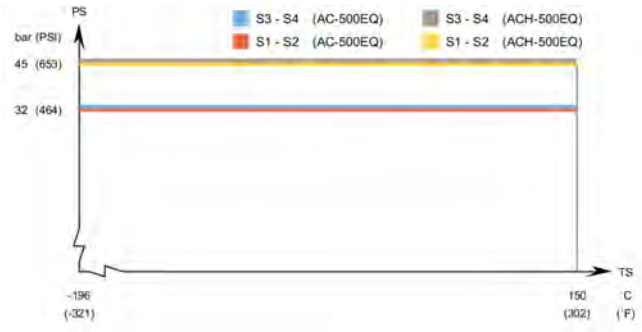
Examples of connections*



* More connections are available on request.

Maximum allowed design pressure

AC500EQ / ACH500EQ - PV code PED pressure/temperature graph



PV code	Model	Min temperature bar (psi) / °C (°F)	Max temperature bar (psi) / °C (°F)	Channel
UL	AC	31(450) / -195(-319)	31(450) / 204(400)	S1-S2, S3-S4
	ACH	45(653) / -195(-319)	45(653) / 204(400)	S1-S2, S3-S4
CRN	AC	32(464) / -196(-321)	32(464) / 150(302)	S1-S2, S3-S4
	ACH	45(653) / -196(-321)	45(653) / 150(302)	S1-S2, S3-S4
KRA	AC	32(464) / -196(-321)	32(464) / 150(302)	S1-S2, S3-S4
	ACH	45(653) / -50(-58)	45(653) / 150(302)	S1-S2, S3-S4
KHK	AC	34(493) / -196(-321)	34(493) / 150(302)	S1-S2
		38(551) / -196(-321)	38(551) / 150(302)	S3-S4
	ACH	45(653) / -196(-321)	45(653) / 150(302)	S1-S2, S3-S4

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing filler	Copper

Standard dimensions and weight*

A measure mm	=	12 + (2.61 * n) ±2 %
A measure inch	=	0.47 + (0.1 * n) ±0.08 %
Weight** kg	=	12.5 + (0.84 * n)
Weight** lb	=	27.56 + (1.85 * n)

(n = number of plates)
* Excluding connections

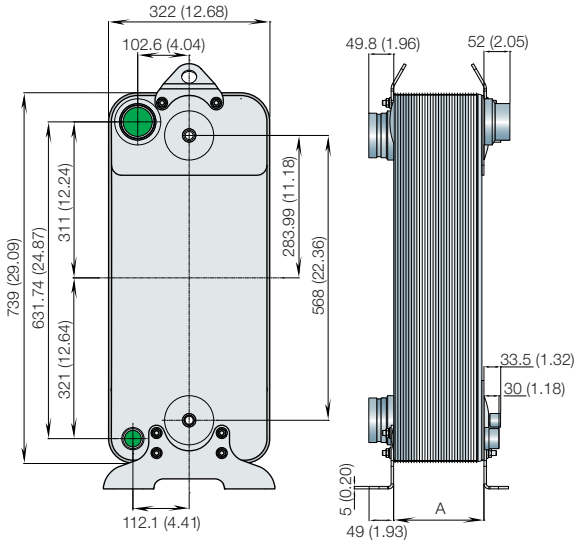
Standard data

Min. working temperature	See graph
Max. working temperature	See graph
Min. working pressure	Vacuum
Max. working pressure	See graph
Volume per channel, litres (ga)	0.40 (0.10) 0.45 (0.12)
Max. flowrate* m^3/h (gpm)	120 (528)
Min. nbr of plates	10
Max. nbr of plates	270

* Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard dimensions

mm (inch)



For exact values please contact your local Alfa Laval representative

AC500DQ / ACH500DQ

Brazed plate heat exchanger with double refrigerant circuit

General information
Alfa Laval introduced its first brazed plate heat exchanger in 1977 and has since continuously developed and optimized its performance and reliability.

Brazing the stainless steel plates together eliminates the need for gaskets and thick frame plates, which makes the heat exchanger compact and saves material. The brazing material seals and holds the plates together at the contact points ensuring optimal heat transfer efficiency and pressure resistance. Using advanced design technologies and extensive verification guarantees the highest performance and longest possible service lifetime.

The AlfaChill (AC) brazed plate heat exchangers are specifically designed for heat transfer in air conditioning, refrigeration and heat pump applications.

Innovative features for this double circuit heat exchanger include a patented distributor integrated in the plate design.

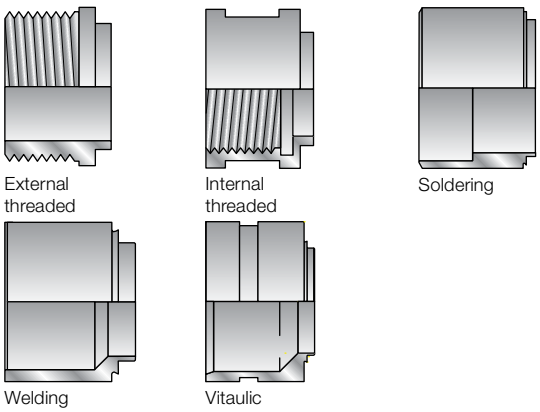
Typical applications
- Evaporation in chillers and heat pumps
- Condensing in chillers and heat pumps

The standard design supports a wide variety of HFC refrigerants such as R407C, R404A, R507. The high-pressure version is suitable for R410A and natural refrigerants (CO2 - propane).

Capacity range
AC500DQ / ACH500DQ cover capacities from 200 kW up to 600 kW. Based on standard components and a modular concept, each unit is custom-designed for each specific installation.

Request for quotation
To receive a quotation for brazed plate heat exchangers that meet your requirements, please provide Alfa Laval representatives with:
- Required flow rates or heat load
- Temperature program (inlet and outlet
- Brine and refrigerant type
- Desired working pressure
- Maximum permitted water/brine pressure drop
- Connection types

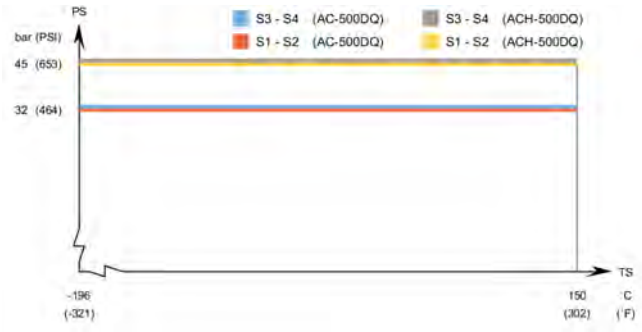
Examples of connections*



* More connections are available on request.

Maximum allowed design pressure

AC500DQ / ACH500DQ - PV code PED pressure/temperature graph



PV code	Model	Min temperature bar (psi) / °C (°F)	Max temperature bar (psi) / °C (°F)	Channel
UL	AC	31(450) / -195(-319)	31(450) / 204(400)	S1-S2, S3-S4
	ACH	45(653) / -195(-319)	45(653) / 204(400)	S1-S2, S3-S4
CRN	AC	32(464) / -196(-321)	32(464) / 150(302)	S1-S2, S3-S4
	ACH	45(653) / -196(-321)	45(653) / 150(302)	S1-S2, S3-S4
KRA	AC	32(464) / -196(-321)	32(464) / 150(302)	S1-S2, S3-S4
	ACH	45(653) / -50(-58)	45(653) / 150(302)	S1-S2, S3-S4
KHK	AC	34(493) / -196(-321)	34(493) / 150(302)	S1-S2
		38(551) / -196(-321)	38(551) / 150(302)	S3-S4
	ACH	45(653) / -196(-321)	45(653) / 150(302)	S1-S2, S3-S4

Standard materials

Cover plates	Stainless steel
Connections	Stainless steel
Plates	Stainless steel
Brazing filler	Copper

Standard dimensions and weight*

A measure mm	=	12 + (2.61 * n) ±2 %
A measure inch	=	0.47 + (0.1 * n) ±0.08 %
Weight** kg	=	13 + (0.84 * n)
Weight** lb	=	28.66 + (1.85 * n)

(n = number of plates)
* Excluding connections

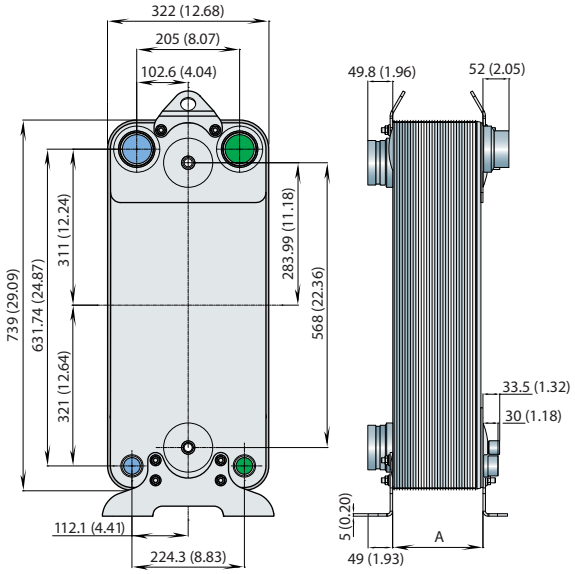
Standard data

Min. working temperature	See graph
Max. working temperature	See graph
Min. working pressure	Vacuum
Max. working pressure	See graph
Volume per channel, litres (ga)	0.47 (0.12) 0.50 (0.13)
Max. flowrate* m^3/h (gpm)	120 (528)
Min. nbr of plates	10
Max. nbr of plates	270

* Water at 5 m/s (16.4 ft/s) (connection velocity)

Standard dimensions

mm (inch)



For exact values please contact your local Alfa Laval representative

ACH copper-brazed PHE - subcoolers

Technical specifications

SBC	Part Number	TR R22	Alfa Laval Number	Ref Inlet/ Outlet	Water Inlet/ outlet	Ship-ping Wt lbs	Depth D in	A in	B in	C in
Frame Size 12.8” H x 3.7” W (includes studbolts)										
SBC-2M-ACH*	3287084893	1	ACH-30EQ-10H R52	7/8", 3/8"	7/8"	4.2	0.9	0.95	1.54	10.6
SBC-3M-ACH*	3287084894	2	ACH-30EQ-20H R52	7/8", 3/8"	7/8"	6.2	1.5	0.95	1.54	10.6
SBC-4M-ACH*	3287084895	4	ACH-30EQ-30H S09	7/8", 1/2"	7/8"	8.2	2.1	0.95	1.54	10.6
SBC-6M-ACH*	3287084896	6	ACH-30EQ-40H S09	7/8", 1/2"	7/8"	10.2	2.7	0.95	1.54	10.6
SBC-7M-ACH*	3287084897	7	ACH-30EQ-50H S21	1-1/8", 5/8"	1-1/8"	12.2	3.3	0.95	1.54	10.6
SBC-9M-ACH*	3287084898	8	ACH-30EQ-60H S21	1-1/8", 5/8"	1-1/8"	14.2	3.9	0.95	1.54	10.6
SBC-10M-AC*	3287061352	10	AC-30EQ-70H S21	1-1/8", 5/8"	1-1/8"	16.4	4.5	0.95	1.54	10.6
SBC-12M-AC*	3287061353	12	AC-30EQ-80H S21	1-1/8", 5/8"	1-1/8"	17.7	5.2	0.95	1.54	10.6
SBC-15M-AC*	3287061354	15	AC-30EQ-100H S21	1-1/8", 5/8"	1-1/8"	22.3	6.3	0.95	1.54	10.6
Frame Size 20.7” H x 4.4” W (includes studbolts)										
SBC-4L-ACH*	3287126488	4	ACH-70X-14M S21	1-1/8", 5/8"	1-1/8"	11.3	1.7	0.95	1.97	18.35
SBC-5L-ACH*	3287126487	5	ACH-70X-18M S21	1-1/8", 5/8"	1-1/8"	13.0	2.1	0.95	1.97	18.35
SBC-6L-ACH*	3287083717	6	ACH-70X-22M S21	1-1/8", 5/8"	1-1/8"	13.3	2.4	0.95	1.97	18.35
SBC-8L-ACH*	3287083718	8	ACH-70X-26M S21	1-1/8", 5/8"	1-1/8"	14.9	2.8	0.95	1.97	18.35
SBC-10L-ACH*	3287083719	10	ACH-70X-32M S21	1-1/8", 5/8"	1-1/8"	15.3	3.3	0.95	1.97	18.35
SBC-12L-ACH*	3287083720	12	ACH-70X-42M S24	1-3/8", 5/8"	1-3/8"	21.3	4.2	0.95	1.97	18.35
SBC-15L-ACH*	3287083721	15	ACH-70X-50M S24	1-3/8", 5/8"	1-3/8"	24.5	5.0	0.95	1.97	18.35
SBC-20L-ACH*	3287083723	20	ACH-70X-62M S24	1-3/8", 5/8"	1-3/8"	29.3	6.1	0.95	1.97	18.35
SBC-21L-ACH*	3287083725	21	ACH-70X-78M R49	1-3/8", 7/8"	1-3/8"	35.7	8.6	0.95	1.97	18.35
SBC-30L-ACH*	3287083727	30	ACH-70X-100M R49	1-3/8", 7/8"	1-3/8"	42.4	10.4	0.95	1.97	18.35
Frame Size 24.3” H x 7.6” W (includes studbolts)										
SBC-15XL-ACH*	3287083729	15	ACH-120EQ-30H S46	2-1/8", 7/8"	2-1/8"	45.9	3.3	0.95, 1.58, 1.58	3.62	20.43
SBC-25XL-ACH*	3287083731	25	ACH-120EQ-46H S62	2-1/8", 1-1/8"	2-1/8"	61.4	4.7	0.95, 1.58, 1.58	3.62	20.43
SBC-30XL-ACH*	3287083732	30	ACH-120EQ-60H S62	2-1/8", 1-1/8"	2-1/8"	75.0	6.1	0.95, 1.58, 1.58	3.62	20.43
SBC-40XL-ACH*	3287083733	40	ACH-120EQ-76H S62	2-1/8", 1-1/8"	2-1/8"	90.5	7.6	0.95, 1.58, 1.58	3.62	20.43
SBC-45XL-ACH*	3287083734	45	ACH-120EQ-90H S62	2-1/8", 1-1/8"	2-1/8"	104.1	8.9	0.95, 1.58, 1.58	3.62	20.43
SBC-50XL-ACH*	3287083735	50	ACH-120EQ-106H S62	2-1/8", 1-1/8"	2-1/8"	119.6	10.4	0.95, 1.58, 1.58	3.62	20.43
SBC-60XL-ACH*	3287083736	60	ACH-120EQ-124H S62	2-1/8", 1-1/8"	2-1/8"	137.1	12.1	0.95, 1.58, 1.58	3.62	20.43
SBC-85XL-ACH*	3287083738	85	ACH-120EQ-180H S76	2-1/8", 1-3/8"	2-1/8"	188.5	17.1	0.95, 1.58, 1.58	3.62	20.43

*Stocked item, available for immediate delivery from Indianapolis, IN
Custom units are also available, please consult with sales

Alfa Laval Standard ERS replacement evaporators

Dunham-Bush replacement evaporators

ERS are one or three pass replacement single circuit evaporators.

Standard Designs
ERS chillers are available in standard designs for fresh water duty. They are available in 17 catalog models from 4 to 111 tons.

Tube Materials
ERS chillers with a barrel diameter 6” and smaller are manufactured with enhanced 1/4” diameter copper tubing and larger units utilize enhanced 3/8” or 5/16” diameter copper tubing.

Customization
As standard these units offer horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client.

Options
Units are available with insulation, simply add “INS” to the end of the part number, 3/4” insulation is standard, other thickness insulation are available upon resquest. Units with heat tape and insulation are available, simply add “INST” to the end of the part number, 120 volt heat tape and 3/4” insulation are standard.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance internally enhanced designed tubing is standard. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing.

Tube Supports
Quality tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined steel heads. Custom connection versions are available.

Connections
All water side connections are FNPT, MNPT or flanged. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer. Units are shipped with no insulation as standard, custom thickness insulation is available upon request.

Standard Refrigeration

Working Pressures:
See table for working pressures.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal capacity in tons by 2.4. Water pressure drops provided do not include any external fittings or valves.

Approved Refrigerants
R22, R134a.

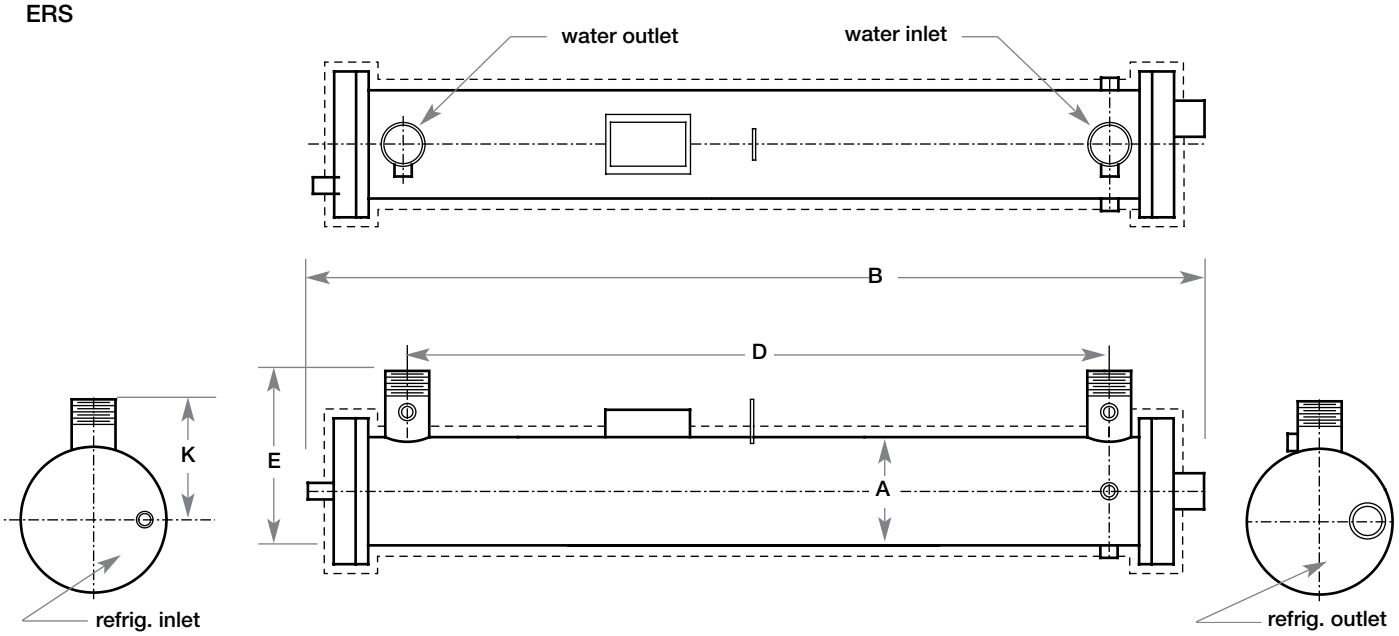
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. R404A, R410A & R507A due to recommended operating pressures. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Alternative Options
For two circuit systems use ERD. TX/TXC units. For higher pressure refrigerants use a TXC-MP units. Applications requiring glycol, use TXC-MPG (only available in multiple circuits). For clean fresh water applications use a brazed EVP-ACH.

Codes
On all units 6⅝" OD and larger, the refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, while the shell side is non-code. Units 6" OD and smaller are UL stamped. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

ERS



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard ERS replacement evaporators

Technical specifications

Models	R22 Nominal Capacity* (tons)	R22 Pressure Drop	Connections (inches)				Specifications			Working Pressure (psi)	
			P Ref. In (IDS)	Q Ref Out (IDS)	W Fluid Conn.	T Drain (FNPT)	Tube Length (inches)	Shell Diameter (inches)	Shipping Weight (lbs)	Shell	Tube
ERS00336	4.0	2.1	5/8	1.125	1 1/8" IDS	1/2	39.50	4	190	225	225
ERS00436	7.1	2.4	7/8	1.375	1 3/8" IDS	1/2	39.50	4	200	225	225
ERS00448	9.7	4.6	7/8	1 3/8	1 3/8" IDS	1/2	51.50	4	220	225	225
ERS00536	9.8	2.7	7/8	2 1/8	1 5/8" IDS	1/2	39.00	6	280	225	225
ERS00548	14.0	2.7	7/8	2 1/8	1 5/8" IDS	1/2	51.50	6	320	225	225
ERS00560	18.2	3.8	7/8	2 1/8	1 5/8" IDS	1/2	63.50	6 5/8	320	200	300
ERS00636	16.0	5.1	1 1/8	2 1/8	3" MNPT	1/2	39.00	6 5/8	330	200	300
ERS00648	21.4	2.7	1 1/8	2 1/8	3" MNPT	1/2	51.50	6 5/8	360	200	300
ERS00660	27.7	4.8	1 1/8	2 1/8	3" MNPT	3/4	63.50	8 5/8	530	200	300
ERS00748	34.6	3.7	1 1/8	2 5/8	3" MNPT	3/4	51.50	8 5/8	500	200	300
ERS00760	40.9	3.8	1 1/8	2 5/8	3" MNPT	3/4	63.50	8 5/8	550	200	300
ERS00860	53.9	4.2	1 1/8	2 5/8	3" MNPT	3/4	63.50	10 3/4	720	200	300
ERS01048	54.2	3.6	1 3/8	3 1/8	4" MNPT	3/4	51.50	10 3/4	680	200	300
ERS01060	68.4	4.5	1 3/8	3 1/8	4" MNPT	3/4	63.50	10 3/4	740	200	300
ERS01160	84.6	4.9	1 3/8	3 1/8	4" MNPT	3/4	63.50	12 3/4	960	200	300
ERS01260	93.3	6.0	1 5/8	3 1/8	4" MNPT	3/4	63.50	12 3/4	970	200	300
ERS01360	111.4	5.9	1 5/8	3 1/8	4" MNPT	3/4	65.00	14	1150	200	300

*Ratings are based on entering water 54°F, leaving water 44°F, saturated suction temperature of 35°F, entering TXV temperature of 100°F with 7°F of superheating
Units are available with insulation, simply add “INS” to the end of the part number, 3/4” insulation is standard, other thickness insulation are available upon request
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Capacity Tons = 12,000 BTU/hr
For performance data with other refrigerants, please call
Tubing has high performance enhanced surface
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
HP = 15,000 Btu/hr

Standard Refrigeration

Models	Dimensions (inches)						Gaskets Article #		Heads Article #	
	H	L	A	B	D	E	Front	Rear	Inlet	Outlet
ERS00336	49.13	12.19	4	49.13	37.06	10.00	19006	19006	24384	24377
ERS00436	49.13	12.19	4	49.13	34.13	10.88	19006	19006	23974	23967
ERS00448	61.13	12.19	4	61.13	46.13	10.88	19006	19006	23974	23967
ERS00536	49.13	12.47	6	49.13	33.63	12.06	19620	19620	25156	25149
ERS00548	60.94	12.31	6	60.94	45.62	12.06	19620	19620	25156	25149
ERS00560	73.13	13.69	6 5/8	73.13	57.63	12.69	19994	19994	25956	25963
ERS00636	45.63	13.69	6 5/8	45.63	32.00	11.38	18739	18739	23448	23455
ERS00648	57.63	13.69	6 5/8	57.63	44.00	11.38	18739	18739	23448	23455
ERS00660	69.63	17.69	8 5/8	69.63	56.00	11.38	18627	18627	24708	24715
ERS00748	59.13	15.94	8 5/8	59.13	44.13	14.06	18627	18627	23248	23255
ERS00760	71.13	15.94	8 5/8	71.13	56.13	14.06	18627	18627	23248	23255
ERS00860	71.88	17.69	10 3/4	71.88	53.50	15.19	19013	19013	24003	24010
ERS01048	60.50	16.51	10 3/4	60.50	41.50	16.56	19013	19013	24722	24739
ERS01060	72.50	18.51	10 3/4	72.50	53.50	16.56	19013	19013	24722	24739
ERS01160	73.00	20.38	12 3/4	73.00	53.50	17.69	19075	19075	24108	24115
ERS01260	73.63	21.07	12 3/4	73.63	53.50	18.94	19075	19075	26704	24115
ERS01360	74.25	22.12	14	74.25	53.50	20.06	CALL	CALL	CALL	CALL

Units are available with insulation, simply add “INS” to the end of the part number, 3/4” insulation is standard, other thickness insulation are available upon request

Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Alfa Laval Standard ERD replacement evaporators

Dunham-Bush replacement evaporators

ERD are one or three pass replacement single circuit evaporators.

Standard Designs
ERD chillers are available in standard designs for fresh water duty. They are available in 12 catalog models from 16 to 111 tons.

Tube Materials
ERD chillers with a barrel diameter 6” and smaller are manufactured with enhanced 1/4” diameter copper tubing and larger units utilize enhanced 3/8” or 5/16” diameter copper tubing.

Customization
As standard these units offer horizontal, cleanable tube design. Custom vessels are available with special materials of construction as required by you or your client.

Options
Units are available with insulation, simply add “INS” to the end of the part number, 3/4” insulation is standard, other thickness insulation are available upon resquest. Units with heat tape and insulation are available, simply add “INST” to the end of the part number, 120 volt heat tape and 3/4” insulation are standard.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance internally enhanced designed tubing is standard. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing.

Tube Supports
Quality tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined steel heads. Custom connection versions are available.

Connections
All water side connections are FNPT, MNPT or flanged. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations and locations are available.

Standard Refrigeration

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer. Units are shipped with no insulation as standard, custom thickness insulation is available upon request.

Working Pressures:
See table for working pressures.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal capacity in tons by 2.4. Water pressure drops provided do not include any external fittings or valves.

Approved Refrigerants
R22, R134a.

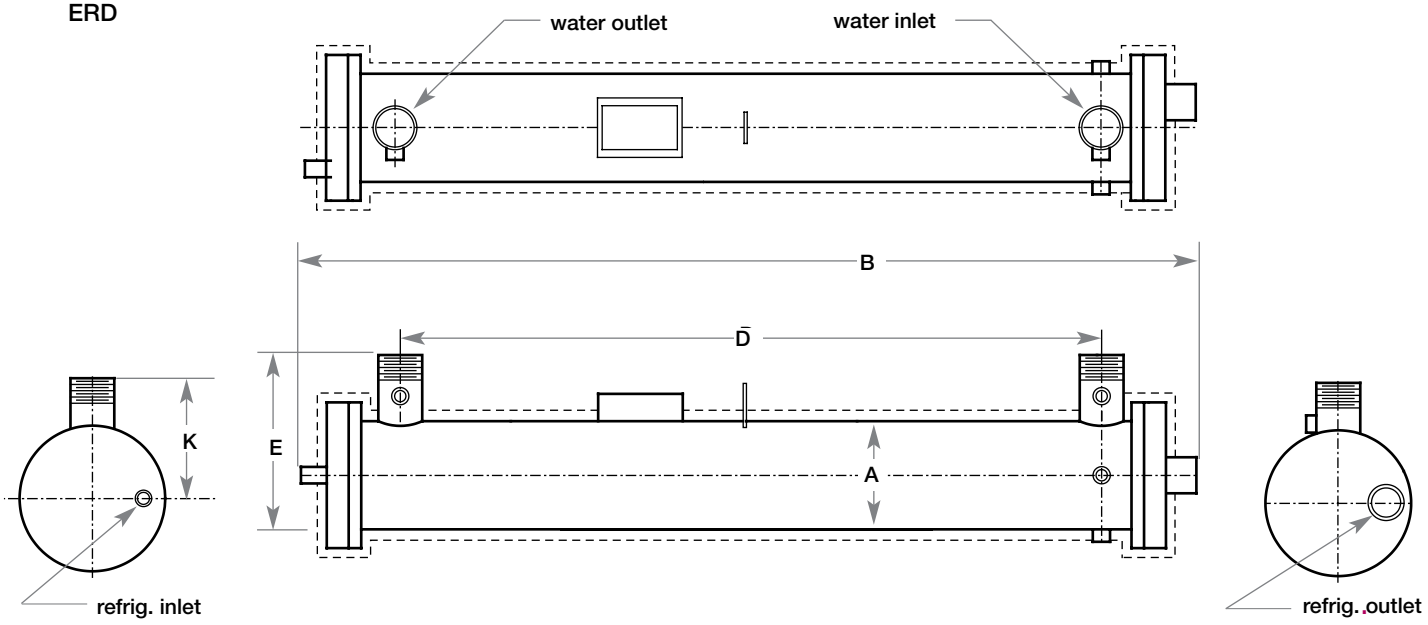
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. R404A, R410A & R507A due to recommended operating pressures. Custom units are available for these refrigerants.

Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Alternative Options
For single circuit units use ERS. TX/TXC units. For higher pressure refrigerants use a TXC-MP units. Applications requiring glycol, use TXC-MPG (only available in multiple circuits). For clean fresh water applications use a brazed EVP-ACH.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, while the shell side is non-code. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

ERD



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard ERD replacement evaporators

Technical specifications

Models	R22 Nominal Capacity* (tons)	R22 Pressure Drop	Connections (inches)				Specifications			Working Pressure (psi)	
			P Ref. In (IDS)	Q Ref Out (IDS)	W Fluid Conn.	T Drain (FNPT)	Tube Length (inches)	Shell Diameter (inches)	Shipping Weight (lbs)	Shell	Tube
ERD00636	16.0	5.1	7/8	1.625	3	1/2	39.00	6 5/8	330	200	300
ERD00648	21.4	2.7	7/8	1.625	3	1/2	51.50	6 5/8	360	200	300
ERD00660	27.7	4.8	7/8	1 5/8	3	3/4	65.00	8 5/8	530	200	300
ERD00748	34.6	3.7	7/8	1 5/8	3	3/4	51.50	8 5/8	500	200	300
ERD00760	40.9	3.8	7/8	1 5/8	3	3/4	63.50	8 5/8	550	200	300
ERD00848	44.9	5.9	1 1/8	2 1/8	3	3/4	51.50	10 3/4	670	200	300
ERD00860	53.9	4.2	1 1/8	2 1/8	3	3/4	63.50	10 3/4	720	200	300
ERD01048	54.2	3.6	1 1/8	2 1/8	4	3/4	48.00	10 3/4	680	200	300
ERD01060	68.4	4.5	1 1/8	2 1/8	4	3/4	63.50	10 3/4	740	200	300
ERD01160	84.6	4.9	1 3/8	2 5/8	4	3/4	63.50	12 3/4	960	200	300
ERD01260	93.3	6.0	1 3/8	2 5/8	4	3/4	63.50	12 3/4	970	200	300
ERD01360	111.4	5.9	1 5/8	3 1/8	4	3/4	65.00	14	1150	200	300
ERS01048	54.2	3.6	1 3/8	3 1/8	4" MNPT	3/4	51.50	10 3/4	680	200	300
ERS01060	68.4	4.5	1 3/8	3 1/8	4" MNPT	3/4	63.50	10 3/4	740	200	300
ERS01160	84.6	4.9	1 3/8	3 1/8	4" MNPT	3/4	63.50	12 3/4	960	200	300
ERS01260	93.3	6.0	1 5/8	3 1/8	4" MNPT	3/4	63.50	12 3/4	970	200	300
ERS01360	111.4	5.9	1 5/8	3 1/8	4" MNPT	3/4	65.00	14	1150	200	300

*Ratings are based on entering water 54°F, leaving water 44°F, saturated suction temperature of 35°F, entering TXV temperature of 100°F with 7°F of superheating

Units are available with insulation, simply add “INS” to the end of the part number, 3/4” insulation is standard, other thickness insulation are available upon request

Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Capacity Tons = 12,000 BTU/hr

For performance data with other refrigerants, please call

Standard Refrigeration

Models	Dimensions (inches)								Gaskets Article #		Heads Article #	
	H	L	A	B	D	E	K	M	Front	Rear	Inlet	Outlet
ERD00636	13.69	45.63	6 5/8	47.00	32.00	11.38	1.50	1.50	19794	19794	25468	25475
ERD00648	13.69	57.63	6 5/8	59.50	44.00	11.38	1.50	1.50	19794	19794	25468	25475
ERD00660	17.69	69.63	8 5/8	71.13	56.00	14.44	1.63	1.63	18627	18627	28436	28443
ERD00748	15.94	59.13	8 5/8	59.13	44.00	14.44	1.63	1.63	18627	18627	28436	28443
ERD00760	15.94	71.13	8 5/8	71.13	56.00	14.44	1.63	1.63	18627	18627	28436	28443
ERD00848	17.69	59.88	10 3/4	63.13	41.50	16.06	1.75	1.75	19237	19237	24427	24515
ERD00860	17.69	71.88	10 3/4	75.13	53.50	16.06	1.75	1.75	19237	19237	24515	24427
ERD01048	16.51	60.50	10 3/4	63.13	41.50	16.88	1.75	1.75	19237	19237	24515	24427
ERD01060	18.51	72.50	10 3/4	75.13	53.50	16.88	1.75	1.75	19237	19237	24515	24427
ERD01160	20.38	73.00	12 3/4	77.63	53.50	18.44	2.00	2.19	19118	19118	24227	24234
ERD01260	21.07	73.63	12 3/4	77.63	53.50	19.13	2.00	2.19	19118	19118	24227	24234
ERD01360	22.12	74.25	14	78.88	53.50	20.31	2.19	2.19	CALL	CALL	CALL	CALL

Units are available with insulation, simply add “INS” to the end of the part number, 3/4” insulation is standard, other thickness insulation are available upon request

Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Alfa Laval Standard Chiller Builder

Formula Wheel

Continuous Flow Formulas

CONTINUOUS FLOW COOLING: Cooling a constant flow rate from an initial tempera-ture to a final temperature. The quantities you work with are TONS, TEMPERATURE DIFFERENCE and FLOW RATE. By knowing any two, you can calculate the third using the Formula Wheel.

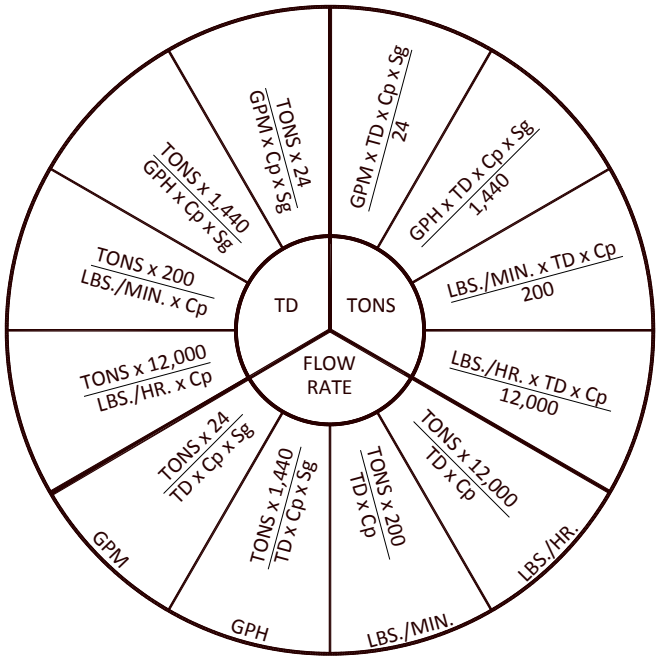
TD = Temperature Difference = Inlet Tem-perature (°F) - Outlet Temperature (°F) .

Cp = Specific Heat (Water = 1)

Sg = Specific Gravity (Water = 1)

BTU's/Hour = TONS x 12,000

TONS = BTU/HOUR
12,000



Batch Cooling Formulas

BATCH COOLING: Cooling a fixed quantity of product from an initial temperature to a fi-nal temperature in a specified time period. The quantities you work with are TONS, TEMPERATURE DIFFERENCE, PRODUCT AMOUNT and TIME. By knowing any three, you can calculate the fourth using the For-mula Wheel.

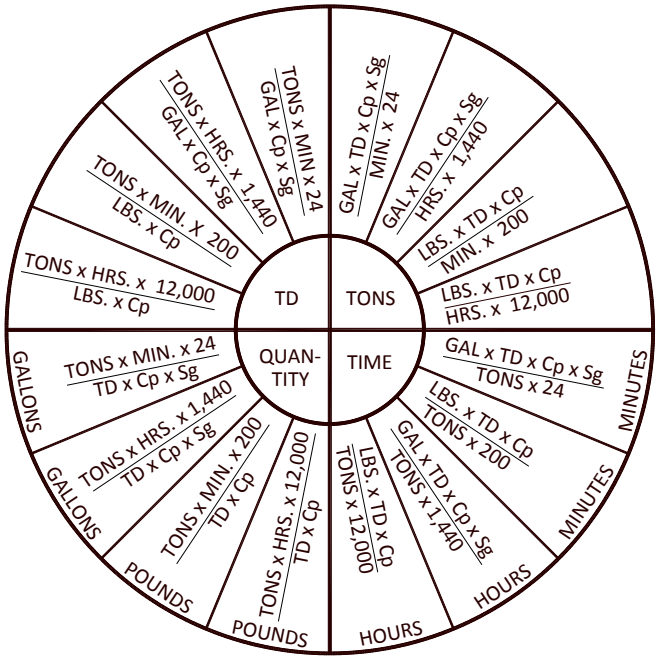
TD = Temperature Difference = Initial Batch Temperature (°F) - Final Batch Temperature (°F) .

Cp = Specific Heat (Water = 1)

Sg = Specific Gravity (Water = 1)

BTU's/Hour = TONS x 12,000

TONS = BTU/HOUR
12,000



Standard Refrigeration

Alfa Laval Standard ChillerBuilder kit

CB Kits

ChillerBuilder kits provide a simple solution for system installers. The systems include all of the components needed for the low side package and can be assembled in less than one hour.

Standard Designs
ChillerBuilder kits are available in standard designs for water duty. They are available in 24 catalog models from 2 to 75 tons. Models are available with one, two, three or four circuit options. The TX/TXC evaporator barrel is included. Three and four circuit models are available for achieving up to 20 tons with single phase compressors. All kits utilize brand name components.

Options
As standard ¾" insulation is included, 1½" or no insulation is also available.

Features
Included Components
- Chiller Barrel
- Control Power Supplies
- Expansion Valve
- Flow Switch
- Framework
- Freezestat
- Low Pressure Switch
- Piping
- Sight Glasses
- Solenoids
- Temperature Controls

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Copper high performance internally enhanced designed tubing is standard. Other tubing materials are available for corrosive duties.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing.

Tube Supports
Quality tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined steel heads. Custom connection versions are available.

Standard Refrigeration

Connections
All water side connections are FNPT, MNPT or flanged. All refrigerant side connections are IDS. Safety connections are FNPT. Custom nozzle orientations and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer. Units are shipped with ¾" insulation as standard, custom thickness insulation is available upon request.

Working Pressures:
See table for working pressures.

Nominal Water Pressure Drop
Nominal pressure drops are given at nominal water flow rates. To determine nominal flow rates in gallons per minute (gpm), multiply the nominal capacity in tons by 2.4. Water pressure drops provided do not include any external fittings or valves.

Approved Refrigerants
R22, R134a.

Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. R404A, R410A & R507A due to recommended operating pressures. Custom units are available for these refrigerants.

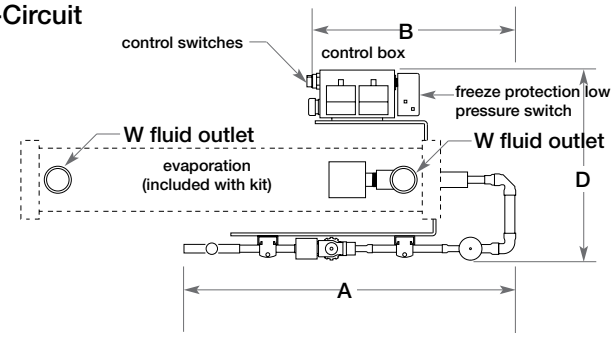
Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

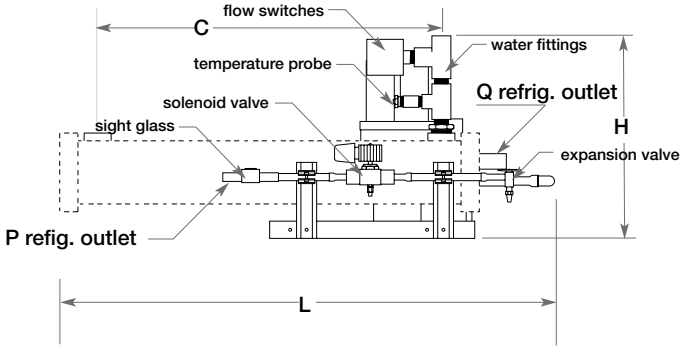
Alternative Options
For a clean water alternative, use a BHE-KIT (brazed chiller builder kit).

Codes
On all units 6⅝" OD and larger, the refrigerant side is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly, while the shell side is non-code. Units 6" OD and smaller are UL stamped. Both sides are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1×10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

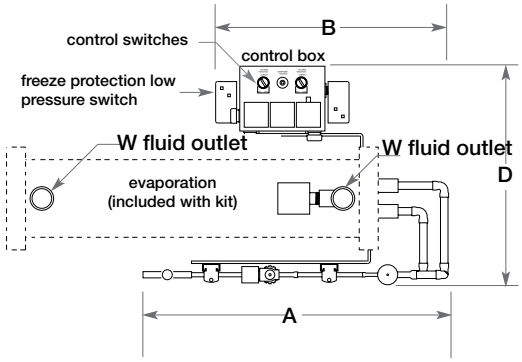
How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

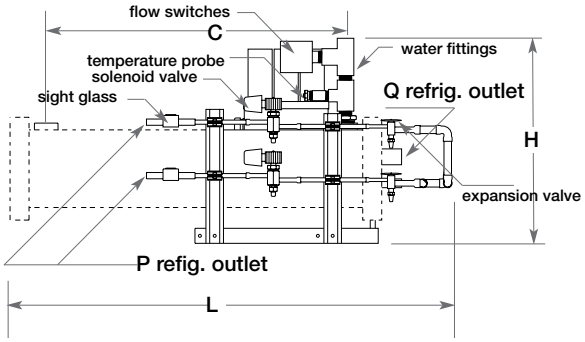
1-Circuit





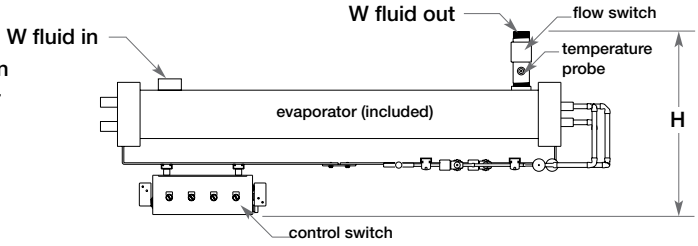
2-Circuit



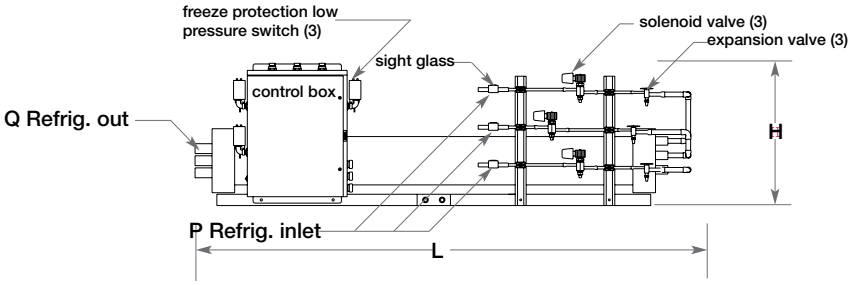


3 & 4 Circuit

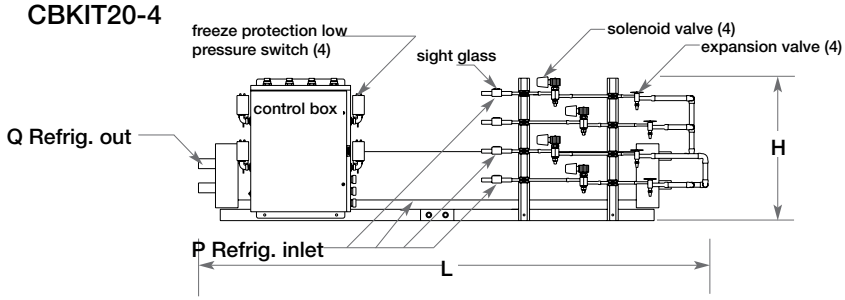
NOTE: Connection locations vary between 3&4 circuit models



CBKIT15-3



CBKIT20-4



Alfa Laval Standard ChillerBuilder kit

Technical specifications

Single Circuit

Models	R22 Nominal Capacity* (tons)	Number of Cir-cuits	Chiller Barrel Included	TX-Kit (Control pack & frame-work included)	Connections (inches)				Working Pres-sure (psi)	
					P Ref. In (IDS)	Q Ref Out (IDS)	W Fluid Conn.	T Drain (FNPT)	Shell	Tube
CBKIT2-1	2.0	1	TX2 -1	TXKIT1	5/8	7/8	1" FPT	3/8	225	225
CBKIT3-1	2.9	1	TX3 -1	TXKIT2	5/8	7/8	1" FPT	3/8	225	225
CBKIT5-1	4.9	1	TX5 -1	TXKIT2	5/8	1 1/8	1 1/4" FPT	1/2	225	225
CBKIT6-1	6.7	1	TX6 -1	TXKIT3	5/8	1 1/8	1 1/2" FPT	1/2	225	225
CBKIT7.5-1	7.6	1	TX7 1/2 -1	TXKIT3	7/8	1 5/8	1 1/2" FPT	1/2	225	225
CBKIT10-1	11.3	1	TX10 -1	TXKIT3	7/8	1 5/8	2" FPT	1/2	225	225
CBKIT12-1	14.3	1	TX12 -1	TXKIT3	7/8	1 5/8	2" FPT	1/2	225	225
CBKIT15-1* **	18.3	1	TX15-1	TXKIT4	1 1/8	2 1/8	2 1/2" FPT	1/2	225	225
CBKIT20-1* **	22.6	1	TX20-1	TXKIT4	1 1/8	2 1/8	3" FPT	1/2	225	225
CBKIT25-1* **	27.2	1	TX25 -1	TXKIT4	1 1/8	2 5/8	3" FPT	1/2	150	225
CBKIT30-1**	29.8	1	TXC30 -1	TXKIT5	1 1/8	2 5/8	3" MPT	3/4	150	300
CBKIT40-1**	40.2	1	TXC40 -1	TXKIT6	1 3/8	2 5/8	3" MPT	3/4	150	300

*Ratings are based on entering water 54°F, leaving water 44°F, saturated suction temperature of 35°F, entering TXV temperature of 100°F with 7°F of superheating
**Kits include unloading feature, kits with no unloading feature are also available
*** Pumpdown cycle included
Chiller builder kits require 120 volt power to operate
Includes ¾" thick insulation as standard
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Capacity Tons = 12,000 BTU/hr
For performance data with other refrigerants, please call

Standard Refrigeration

Models	Dimensions (inches)						Gaskets Article #		Heads Article #	
	A	B	C	D	H	L	Front	Rear	Inlet	Outlet
CBKIT2-1	21.00	18.25	19.75	14.00	14.00	30.25	2865	2865	3444	3451
CBKIT3-1	26.00	18.25	19.75	18.00	14.00	30.25	2865	2865	3444	3451
CBKIT5-1	26.00	18.25	31.38	18.00	16.00	42.25	2872	2872	3501	3682
CBKIT6-1	27.00	18.25	31.13	18.00	19.00	42.25	2872	2872	3501	3682
CBKIT7.5-1	27.00	18.25	31.13	18.00	19.00	42.25	4809	4816	3468	3682
CBKIT10-1	27.00	18.25	30.38	18.00	19.00	42.25	4809	4816	3468	3682
CBKIT12-1	27.00	19.38	30.13	18.00	21.00	43.25	2889	2889	3794	3701
CBKIT15-1	32.00	20.38	29.63	18.00	21.00	44.25	2889	2889	3482	3701
CBKIT20-1	32.00	20.38	29.00	18.00	21.00	44.25	2889	2889	3482	3701
CBKIT25-1	32.00	20.38	29.00	18.00	21.00	44.25	2889	2889	3532	3701
CBKIT30-1	-	-	63.00	22.00	16.00	90.00	2218	2218	21992	21985
CBKIT40-1	-	-	63.00	24.00	17.00	90.00	2227	2227	22021	22038

Dimensions do not include the 3/4" insulation

Multiple Circuit

Models	R22 Nominal Capacity* (tons)	Number of Circuits	Chiller Barrel Included	TX-Kit (Control pack & framework included)	Connections (inches)				Working Pressure (psi)	
					P Ref. In (IDS)	Q Ref Out (IDS)	W Fluid Conn.	T Drain (FNPT)	Shell	Tube
CBKIT10-2	11.3	2	TX10-2	DTXKIT10-12	5/8	1.125	2" FPT	1/2	225	225
CBKIT12-2	14.3	2	TX12-2	DTXKIT10-12	5/8	1.125	2" FPT	1/2	225	225
CBKIT15-2	18.3	2	TX15-2	DTXKIT15-20	7/8	1 5/8	2 1/2" FPT	1/2	225	225
CBKIT15-3	18.3	3	TX15-3	TXKIT15-3	5/8	1 1/8	2 1/2" FPT	1/2	225	225
CBKIT20-2	22.6	2	TX20-2	DTXKIT15-20	7/8	1 5/8	3" FPT	1/2	225	225
CBKIT20-4	22.6	4	TX20-4	TXKIT20-4	5/8	1 1/8	3" FPT	1/2	225	225
CBKIT25-2	27.2	2	TX25-2	DTXKIT15-20	7/8	1 5/8	3" FPT	1/2	150	225
CBKIT30-2**	29.8	2	TXC30-2	DTXCKIT30	7/8	1 5/8	3" MPT	3/4	150	300
CBKIT40-2**	40.2	2	TXC40-2	DTXCKIT40	1 1/8	2 1/8	3" MPT	3/4	150	300
CBKIT50-2**	50.9	2	TXC50-2	DTXCKIT50	1 1/8	2 1/8	4" FLANGE	3/4	150	300
CBKIT60-2**	59.6	2	TXC60-2	DTXCKIT60	1 1/8	2 5/8	4" FLANGE	3/4	150	300
CBKIT75-2**	75.2	2	TXC75-2	DTXCKIT75	1 3/8	2 5/8	5" FLANGE	3/4	150	300

*Ratings are based on entering water 54°F, leaving water 44°F, saturated suction temperature of 35°F, entering TXV temperature of 100°F with 7°F of superheating
**Kits include unloading feature, kits with no unloading feature are also available
*** Pumpdown cycle included
Chiller builder kits require 120 volt power to operate
Includes ¾" thick insulation as standard
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Capacity Tons = 12,000 BTU/hr
For performance data with other refrigerants, please call

Multiple Circuit

Models	Dimensions (inches)						Gaskets Article #		Heads Article #	
	A	B	C	D	H	L	Front	Rear	Inlet	Outlet
CBKIT10-2	29.00	18.25	30.38	20.00	17.00	45.25	4809	2872	3668	3675
CBKIT12-2	29.00	19.38	30.13	20.00	19.00	46.25	2889	2889	3813	3699
CBKIT15-2	29.00	19.38	29.63	20.00	21.00	46.25	2889	2889	3620	3699
CBKIT15-3	30.75	-	-	-	23.25	80.00	18696	18696	7589	7596
CBKIT20-2	29.00	19.38	29.00	20.00	21.00	46.25	2889	2889	3620	3699
CBKIT20-4	30.75	-	-	-	23.25	80.00	2889	2889	7558	7541
CBKIT25-2	29.00	19.38	29.00	20.00	21.00	46.25	2889	2889	3620	3699
CBKIT30-2	-	-	63.00	22.00	19.00	90.00	2218	2218	22014	31318
CBKIT40-2	-	-	63.00	24.00	20.00	90.00	2227	2227	22045	22052
CBKIT50-2	-	-	63.00	24.00	20.00	90.00	2227	2227	22045	22052
CBKIT60-2	-	-	73.00	24.00	22.00	104.00	2227	2227	22090	22052
CBKIT75-2	-	-	73.00	24.00	22.00	104.00	2227	2227	22119	22052

Dimensions do not include the 3/4” insulation

Alfa Laval Standard Brazed PHE kits

Technical specifications

Nominal Tons R410Al	Kit Modelr	Refrigerant		
		R410A Model	R404A / R507 Model	R22 Model
Single Refrigerant Circuit Models				
2	BHEKIT-2-1-*	ACH-30EQ-20H R52	ACH-30EQ-20H	ACH-30EQ-20H
3	BHEKIT-3-1-*	ACH-30EQ-30H S09	ACH-30EQ-30H	ACH-30EQ-30H
5	BHEKIT-5-1-*	ACH-30EQ-40H S09	ACH-30EQ-50H	ACH-30EQ-50H
7.5	BHEKIT-7.5-1-*	ACH-70X-32M S21	ACH-70X-32M	ACH-70X-42M
10	BHEKIT-10-1-*	ACH-70X-42M S24	ACH-70X-42M	ACH-70X-62M
15	BHEKIT-15-1-*	ACH-70X-62M S25	ACH-70X-62M	ACH-70X-78M
20	BHEKIT-20-1-*	ACH-70X-78M R49	ACH-70X-100M	ACH-70X-100M
25	BHEKIT-25-1-*	ACH-120EQ-46H S62	ACH-120EQ-76H	ACH-120EQ-76H
30	BHEKIT-30-1-*	ACH-120EQ-60H S62	ACH-120EQ-90H	ACH-120EQ-90H
40	BHEKIT-40-1-*	ACH-120EQ-76H S62	ACH-120EQ-124H	ACH-120EQ-124H
50	BHEKIT-50-1-*	ACH-120EQ-106H S62		
60	BHEKIT-60-1-*	ACH-120EQ-124H S62		
Dual Refrigerant Circuit Models				
10	BHEKIT10-2-*	ACH-230DQ-30H	ACH-230DQ-30H	ACH-230DQ-50H
15	BHEKIT15-2-*	ACH-230DQ-50H	ACH-230DQ-50H	ACH-230DQ-50H
20	BHEKIT20-2-*	ACH-230DQ-50H	ACH-230DQ-70H	ACH-230DQ-70H
25	BHEKIT25-2-*	ACH-230DQ-70H	ACH-230DQ-70H	ACH-230DQ-70H
30	BHEKIT30-2-*	ACH-230DQ-70H	ACH-230DQ-90H	ACH-230DQ-90H
40	BHEKIT40-2-*	ACH-230DQ-90H	ACH-230DQ-110H	ACH-230DQ-110H
50	BHEKIT50-2-*	ACH-230DQ-110H	ACH-230DQ-138H	ACH-230DQ-138H
60	BHEKIT60-2-*	ACH-230DQ-138H	ACH-230DQ-138H	ACH-230DQ-138H
80	BHEKIT80-2-*	ACH-230DQ-170H	ACH-230DQ-202H	ACH-230DQ-202H

* -Refrigerant, e.g., The model number of a nominal 10 ton single circuit kit for R410A will be BHEKIT-10-1-410.
** Based on R410A. Contact factory for other refrigerant and water line sizes.
*** Does not include the weight of evaporator.

Standard Refrigeration

Nominal Tons R410Al	Kit Modelr	Assembled Kit Dimensions						
		L Length	W Width	H Height	W** Water conn. (ids)	P** Liquid conn. (ids	Q** Suction conn. (ids	Kit Weight lbs.***
Single Refrigerant Circuit Models								
2	BHEKIT-2-1-*	32"	24"	19"	7/8"	3/8"	7/8"	40
3	BHEKIT-3-1-*	32"	24"	19"	7/8"	3/8"	7/8"	45
5	BHEKIT-5-1-*	32"	24"	19"	7/8"	3/8"	7/8"	45
7.5	BHEKIT-7.5-1-*	34"	25"	28"	1-1/8"	5/8"	1-1/8"	65
10	BHEKIT-10-1-*	34"	25"	28"	1-1/8"	5/8"	1-1/8"	65
15	BHEKIT-15-1-*	34"	25"	28"	1-1/8"	5/8"	2-1/8"	70
20	BHEKIT-20-1-*	34"	25"	28"	1-3/8"	7/8"	2-1/8"	75
25	BHEKIT-25-1-*	38"	31"	34"	2-1/8"	7/8"	2-1/8"	115
30	BHEKIT-30-1-*	38"	31"	34"	2-1/8"	1-1/8"	2-1/8"	115
40	BHEKIT-40-1-*	38"	31"	34"	2-1/8"	1-1/8"	2-1/8"	125
Dual Refrigerant Circuit Models								
10	BHEKIT10-2-*	40"	22"	30"	2" Victaulic	3/8"	1-1/8"	90
15	BHEKIT15-2-*	40"	22"	30"	2" Victaulic	5/8"	1-3/8"	90
20	BHEKIT20-2-*	40"	22"	30"	2" Victaulic	5/8"	1-3/8"	90
25	BHEKIT25-2-*	44"	22"	32"	2" Victaulic	5/8"	1-3/8"	95
30	BHEKIT30-2-*	48"	24"	32"	2" Victaulic	7/8"	1-3/8"	95
40	BHEKIT40-2-*	50"	24"	32"	2½" Victaulic	7/8"	1-5/8"	125
50	BHEKIT50-2-*	53"	24"	34"	2½" Victaulic	7/8"	1-5/8"	125
60	BHEKIT60-2-*	53"	24"	34"	2½" Victaulic	1-1/8"	2-1/8"	140
80	BHEKIT80-2-*	60"	26"	34"	2½" Victaulic	1-1/8"	2-1/8"	140

* -Refrigerant, e.g., The model number of a nominal 10 ton single circuit kit for R410A will be BHEKIT-10-1-410.
** Based on R410A. Contact factory for other refrigerant and water line sizes.
*** Does not include the weight of evaporator.

Alfa Laval Standard TXKIT ChillerBuilder kit

Chiller Builder Kit

Chiller builder kits provide a simple solution for system installers. The systems include all of the components needed for the low side package and can be assembled in less than one hour.

TXKIT Single Circuit Standard Designs
TXKIT are available in standard designs for water duty. They are available in 6 catalog models, which can be used with chiller barrels from 2 to 40 tons. The evaporator barrel is not included. All kits utilize brand name components.

TXKIT/DTXKIT Multiple Circuit Standard Designs
TXKIT/DTXKIT are available in standard designs for water duty. They are available in 9 catalog models, which can be used with evaporator barrels from 10 to 75 tons. The chiller barrel is not included. All kits utilize brand name components.

Features

Included Components
- Control Power Supplies
- Expansion Valve
- Flow Switch
- Framework
- Freezestat
- Low Pressure Switch
- Piping
- Solenoids
- Temperature Controls

Approved Refrigerants
R22, R134a.

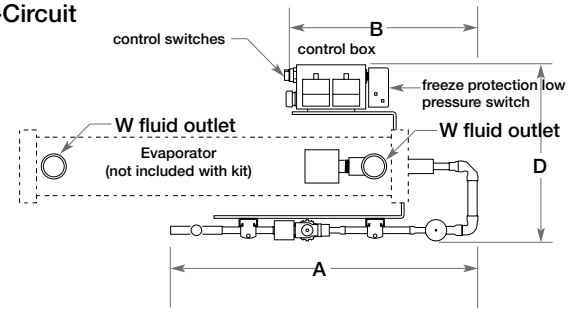
Non-Approved Refrigerants Unless Cleared by the Factory
Ammonia/R717, due to copper tubing. R404A, R410A & R507A due to recommended operating pressures, custom units are available for these refrigerants.

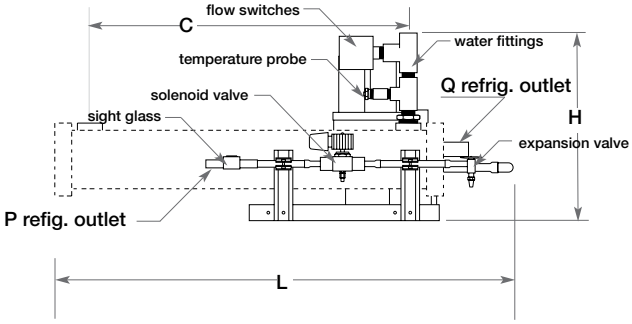
Other Refrigerants
All other refrigerants must be approved by Standard Refrigeration/Alfa Laval before use.

Alternative Options
Kits with a supplied chiller barrel, use CBKIT. For a clean water alternative, use a BHE-KIT (brazed evaporator builder kit).

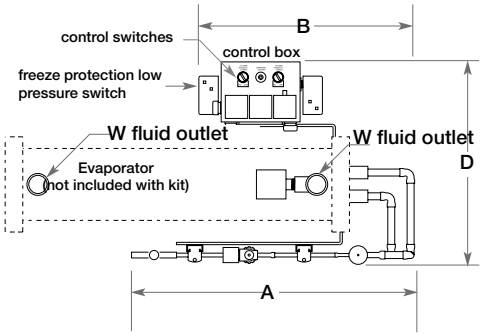
Standard Refrigeration

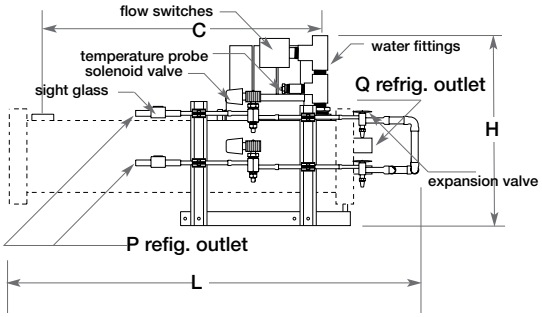
1-Circuit





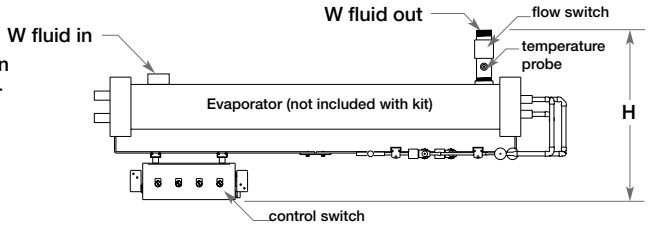
2-Circuit



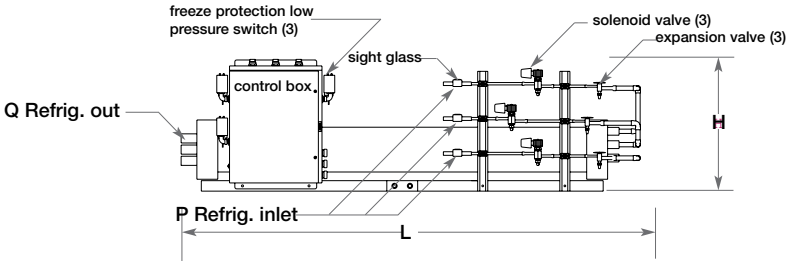


3 & 4 Circuit

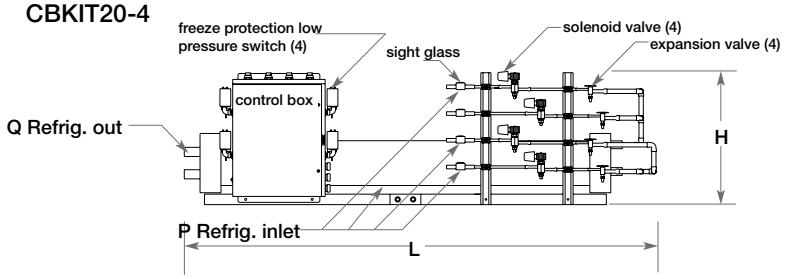
NOTE: Connection locations vary between 3&4 circuit models



CBKIT15-3



CBKIT20-4



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard TXKIT ChillerBuilder kit

Technical specifications

Single Circuit

Models	Number of Circuits	Dimensions (inches)				
		A	B	C	D	H
TXKIT1	1	21.00	18.25	19.75	14.00	14.00
TXKIT2	1	26.00	18.25	19.75	18.00	14.00
TXKIT3	1	27.00	18.25	31.13	18.00	19.00
TXKIT4	1	32.00	20.38	29.63	18.00	21.00
TXKIT5	1	-	-	63.00	22.00	16.00
TXKIT6	1	-	-	63.00	24.00	17.00

Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Dimensions do not include the evaporator barrel.
Evaporator barrel not included with the kit.

Multiple Circuit

Models	Number of Circuits	Dimensions (inches)				
		A	B	C	D	H
DTXKIT10-12	2	29.00	18.25	30.38	20.00	17.00
DTXKIT15-20	2	29.00	19.38	29.63	20.00	21.00
TXKIT15-3	3	30.75	-	-	-	23.25
TXKIT20-4	4	30.75	-	-	-	23.25
DTXCKIT30	2	-	-	63.00	22.00	19.00
DTXCKIT40	2	-	-	63.00	24.00	20.00
DTXCKIT50	2	-	-	63.00	24.00	20.00
DTXCKIT60	2	-	-	73.00	24.00	22.00
DTXCKIT75	2	-	-	73.00	24.00	22.00

Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Dimensions do not include the evaporator barrel.
Evaporator barrel not included with the kit.

Standard Refrigeration

Alfa Laval Standard receiver selection

Design features, ratings and selections

Conformance

Each catalog receiver conforms to UL, CSA or ASME. Working pressures are specific to each model. Models with an internal diameter under six inches are UL listed; all larger models are made according to ASME code and are tagged accordingly. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

Custom and Ammonia Construction

In addition to an exceptionally broad selection of catalog models, Standard Refrigeration/Alfa Laval will build custom receivers with the capability of holding up to 8,500 pounds of R134a, based upon your submitted drawing. Custom units are also available for ammonia and higher pressure R410A. Receivers may be ordered with or without extra features such as mounting brackets, fusible plugs, special fittings, liquid level indicators and alarm switches, to assure reliable service on virtually any application involving numerous refrigerants.

Pumpdown Calculation Procedure

The pumpdown capacity can be calculated using the tables. Each table is specific to one refrigerant. Simply select a diameter and the overall length of the vessel and the pumpdown capacity at 90% full will be shown on the table. Alternatively if you have an application that requires a certain pumpdown you can select which combination of length and diameter would work best for your site.

Length (inches)	R22 - Pumpdown Capacity (lbs)									
	Diameter (inches)									
	6	6.625	8.625	10.75	12.75	14	16	18	20	24
12	10.5	12.6								
18	16.4	19.7	32.7	49.5						
24	22.2	26.8	44.8	68.4	93.6	111.2				
30	28.0	33.9	56.9	87.3	120.0	143.1	183.0	229.7		
36	33.9	41.0	69.0	106.2	146.5	174.9	224.3	282.7	346.5	
42	39.7	48.1	81.1	125.2	172.9	206.8	265.7	335.6	412.5	575.1
48		55.1	93.2	144.1	199.4	238.6	307.1	388.6	478.4	669.2
54			105.3	163.0	225.8	270.5	348.5	441.5	544.4	763.4
60			117.4	181.9	252.2	302.3	389.9	494.5	610.3	857.5
66				200.9	278.7	334.1	431.3	547.5	676.3	951.7
72				219.8	305.1	366.0	472.7	600.4	742.3	1045.9
78				238.7	331.6	397.8	514.1	653.4	808.2	1140.0
84				257.7	358.0	429.7	555.5	706.4	874.2	1234.2
90				276.6	384.4	461.5	596.9	759.3	940.1	1328.3
96				295.5	410.9	493.4	638.3	812.3	1006.1	1422.5
102					437.3	525.2	679.7	865.3	1072.0	1516.6
108						557.1	721.1	918.2	1138.0	1610.8
114							762.5	971.2	1204.0	1705.0
120								1024.1	1269.9	1799.1

Pumpdown capacities are based upon 90% of the shell open volume at 90°F. For pumpdown capacities on other custom sizes, please contact the factory. To convert lbs to kg, divide by 2.205

Length (inches)	R134a - Pumpdown Capacity (lbs)									
	Diameter (inches)									
	6	6.625	8.625	10.75	12.75	14	16	18	20	24
12	10.7	12.8								
18	16.6	20.0	33.1	50.2						
24	22.5	27.2	45.4	69.4	95.0	112.9				
30	28.5	34.4	57.7	88.6	121.8	145.2	185.6	233.0		
36	34.4	41.6	70.0	107.8	148.6	177.5	227.6	286.8	351.6	
42	40.3	48.8	82.3	127.0	175.4	209.8	269.6	340.5	418.5	583.5
48		56.0	94.6	146.2	202.3	242.1	311.6	394.3	485.4	679.0
54			106.9	165.4	229.1	274.4	353.6	448.0	552.3	774.5
60			119.2	184.6	255.9	306.7	395.6	501.7	619.3	870.1
66				203.8	282.7	339.0	437.6	555.5	686.2	965.6
72				223.0	309.6	371.3	479.6	609.2	753.1	1061.1
78				242.2	336.4	403.7	521.6	662.9	820.0	1156.7
84				261.4	363.2	436.0	563.6	716.7	886.9	1252.2
90				280.6	390.1	468.3	605.6	770.4	953.9	1347.7
96				299.8	416.9	500.6	647.6	824.2	1020.8	1443.3
102					443.7	532.9	689.6	877.9	1087.7	1538.8
108						565.2	731.6	931.6	1154.6	1634.3
114							773.6	985.4	1221.6	1729.9
120								1039.1	1288.5	1825.4

Pumpdown capacities are based upon 90% of the shell open volume at 90°F
For pumpdown capacities on other custom sizes, please contact the factory
To convert lbs to kg, divide by 2.205

Length (inches)	R404A - Pumpdown Capacity (lbs)									
	Diameter (inches)									
	6	6.625	8.625	10.75	12.75	14	16	18	20	24
12	10.4	12.4								
18	16.2	19.4	32.3	48.9						
24	21.9	26.5	44.2	67.6	92.5	109.9				
30	27.7	33.5	56.2	86.3	118.6	141.4	180.8	227.0		
36	33.5	40.5	68.2	105.0	144.8	172.9	221.7	279.3	342.5	
42	39.3	47.5	80.1	123.7	170.9	204.3	262.6	331.7	407.6	568.3
48		54.5	92.1	142.4	197.0	235.8	303.5	384.0	472.8	661.4
54			104.1	161.1	223.1	267.3	344.4	436.4	538.0	754.4
60			116.1	179.8	249.3	298.8	385.4	488.7	603.2	847.5
66				198.5	275.4	330.2	426.3	541.1	668.4	940.5
72				217.2	301.5	361.7	467.2	593.4	733.6	1033.6
78				235.9	327.7	393.2	508.1	645.7	798.7	1126.7
84				254.6	353.8	424.7	549.0	698.1	863.9	1219.7
90				273.3	379.9	456.1	589.9	750.4	929.1	1312.8
96				292.0	406.1	487.6	630.8	802.8	994.3	1405.8
102					432.2	519.1	671.7	855.1	1059.5	1498.9
108						550.5	712.6	907.5	1124.7	1591.9
114							753.5	959.8	1189.8	1685.0
120								1012.1	1255.0	1778.0

Pumpdown capacities are based upon 90% of the shell open volume at 90°F
For pumpdown capacities on other custom sizes, please contact the factory
To convert lbs to kg, divide by 2.205

Length (inches)	R407C - Pumpdown Capacity (lbs)									
	Diameter (inches)									
	6	6.625	8.625	10.75	12.75	14	16	18	20	24
12	11.1	13.3								
18	17.3	20.8	34.5	52.2						
24	23.4	28.3	47.2	72.2	98.8	117.4				
30	29.6	35.7	60.0	92.1	126.7	151.0	193.1	242.4		
36	35.8	43.2	72.8	112.1	154.6	184.6	236.8	298.3	365.7	
42	41.9	50.7	85.6	132.1	182.5	218.2	280.5	354.2	435.3	607.0
48		58.2	98.4	152.1	210.4	251.8	324.2	410.1	504.9	706.3
54			111.2	172.1	238.3	285.5	367.9	466.0	574.6	805.7
60			123.9	192.0	266.2	319.1	411.5	521.9	644.2	905.1
66				212.0	294.1	352.7	455.2	577.8	713.8	1004.5
72				232.0	322.0	386.3	498.9	633.7	783.4	1103.8
78				252.0	349.9	419.9	542.6	689.6	853.0	1203.2
84				271.9	377.8	453.5	586.3	745.5	922.6	1302.6
90				291.9	405.7	487.1	630.0	801.4	992.2	1402.0
96				311.9	433.6	520.7	673.7	857.3	1061.9	1501.3
102					461.6	554.3	717.4	913.2	1131.5	1600.7
108						587.9	761.0	969.1	1201.1	1700.1
114							804.7	1025.0	1270.7	1799.5
120								1080.9	1340.3	1898.8

Pumpdown capacities are based upon 90% of the shell open volume at 90°F
For pumpdown capacities on other custom sizes, please contact the factory
To convert lbs to kg, divide by 2.205

Length (inches)	R410A - Pumpdown Capacity (lbs)						
	Diameter (inches)						
	6.625	8.625	10.75	12.75	14	16	18
12	12.1						
18	18.9	31.8	48.7				
24	25.7	43.5	67.1	93.3	113.1		
30	32.4	55.3	85.6	119.5	145.4	183.7	231.6
36	39.2	67.0	104.1	145.7	177.7	225.1	284.7
42	46.0	78.7	122.5	171.9	210.0	266.5	337.9
48	52.7	90.4	141.0	198.1	242.2	307.8	391.0
54		102.1	159.5	224.3	274.5	349.2	444.2
60		113.8	177.9	250.5	306.8	390.6	497.3
66			196.4	276.8	339.1	432.0	550.5
72			214.8	303.0	371.4	473.4	603.6
78			233.3	329.2	403.7	514.7	656.8
84			251.8	355.4	436.0	556.1	709.9
90			270.2	381.6	468.3	597.5	763.0
96			288.7	407.8	500.5	638.9	816.2
102				434.0	532.8	680.3	869.3
108					565.1	721.6	922.5
114						763.0	975.6
120						804.4	1028.8

Pumpdown capacities are based upon 90% of the shell open volume at 90°F
For pumpdown capacities on other custom sizes, please contact the factory
To convert lbs to kg, divide by 2.205

Length (inches)	R507A - Pumpdown Capacity (lbs)									
	Diameter (inches)									
	6	6.625	8.625	10.75	12.75	14	16	18	20	24
12	9.1	10.9								
18	14.2	17.1	28.4	43.0						
24	19.3	23.3	39.0	59.5	81.4	96.8				
30	24.4	29.5	49.5	76.0	104.4	124.5	159.2	199.9		
36	29.5	35.6	60.0	92.4	127.4	152.2	195.2	245.9	301.5	
42	34.6	41.8	70.6	108.9	150.5	179.9	231.2	292.0	358.9	500.4
48		48.0	81.1	125.4	173.5	207.6	267.2	338.1	416.3	582.3
54			91.6	141.8	196.5	235.3	303.3	384.2	473.7	664.2
60			102.2	158.3	219.5	263.0	339.3	430.3	531.1	746.2
66				174.8	242.5	290.7	375.3	476.4	588.5	828.1
72				191.2	265.5	318.5	411.3	522.4	645.8	910.0
78				207.7	288.5	346.2	447.3	568.5	703.2	991.9
84				224.2	311.5	373.9	483.3	614.6	760.6	1073.9
90				240.7	334.5	401.6	519.4	660.7	818.0	1155.8
96				257.1	357.5	429.3	555.4	706.8	875.4	1237.7
102					380.5	457.0	591.4	752.9	932.8	1319.6
108						484.7	627.4	798.9	990.2	1401.6
114							663.4	845.0	1047.6	1483.5
120								891.1	1105.0	1565.4

Pumpdown capacities are based upon 90% of the shell open volume at 90°F
For pumpdown capacities on other custom sizes, please contact the factory
To convert lbs to kg, divide by 2.205

Length (inches)	R717 (Ammonia) - Pumpdown Capacity (lbs)									
	Diameter (inches)									
	6	6.625	8.625	10.75	12.75	14	16	18	20	24
12	5.4	6.4								
18	8.3	10.0	16.6	25.2						
24	11.3	13.6	22.8	34.8	47.7	56.7				
30	14.3	17.2	29.0	44.5	61.1	72.9	93.2	117.0		
36	17.3	20.9	35.1	54.1	74.6	89.1	114.3	144.0	176.5	
42	20.2	24.5	41.3	63.8	88.1	105.3	135.4	171.0	210.1	292.9
48		28.1	47.5	73.4	101.5	121.5	156.4	197.9	243.7	340.9
54			53.6	83.0	115.0	137.8	177.5	224.9	277.3	388.9
60			59.8	92.7	128.5	154.0	198.6	251.9	310.9	436.8
66				102.3	141.9	170.2	219.7	278.9	344.5	484.8
72				112.0	155.4	186.4	240.8	305.8	378.1	532.7
78				121.6	168.9	202.7	261.9	332.8	411.7	580.7
84				131.2	182.4	218.9	283.0	359.8	445.3	628.7
90				140.9	195.8	235.1	304.0	386.8	478.9	676.6
96				150.5	209.3	251.3	325.1	413.8	512.5	724.6
102					222.8	267.5	346.2	440.7	546.1	772.5
108						283.8	367.3	467.7	579.7	820.5
114							388.4	494.7	613.3	868.5
120								521.7	646.9	916.4

Pumpdown capacities are based upon 90% of the shell open volume at 90°F
For pumpdown capacities on other custom sizes, please contact the factory
To convert lbs to kg, divide by 2.205

Alfa Laval Standard HR receiver

Receiver

HR receivers offer a horizontal vessel design, with no added components. Units are available in standard and higher pressure ratings.

Customization
Custom vessels are available with special materials of construction as required by you or your client. Condensers can be constructed from stainless steel for increased life in harsh environments. Sightglasses and liquid level indicators can be added at custom locations.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Connections
All fluid connections are IDS. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

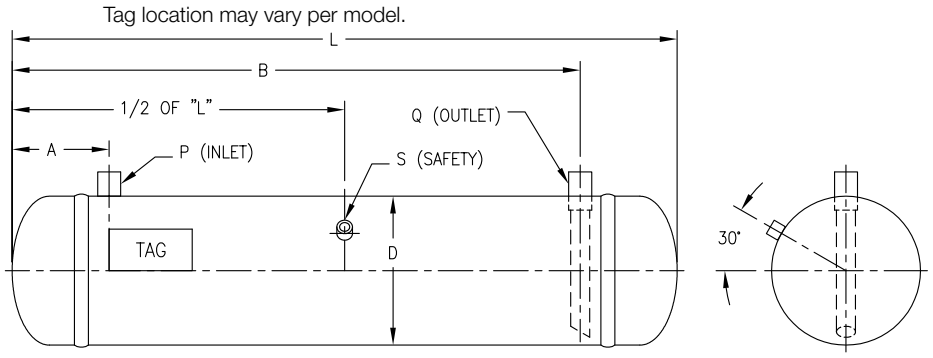
Maximum Allowable Working Pressures:
Standard Model - 450 psi. Shell Side @ 150°F
MP Model - 675 psi. Shell Side @ 150°F

Approved Refrigerants
R22, R134a, R404A & R507A. R410A in MP units only.
Non-Approved Refrigerants Unless Cleared by the Factory
R410A units in non-MP units.

Alternative Options
For horizontal receivers with valves and brackets, use RBV. For upright receivers use UR or UV models. SST or MST condensers can be used to eliminate the need for a receiver, as these units hold extra pumpdown capacity.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div.1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Receivers are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

Standard Refrigeration



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard HR receiver

Technical specifications

Models	Pumpdown Capacity (lbs)		Dimensions (inches)				Connections (inches)			Working Pressure (psi)	Shipping Weight (lbs)
	R22	R134a	D	L	A	B	P (IDS)	Q (IDS)	S (FNPT)		
306	28	28	6	30.00	3.63	26.38	5/8	5/8	3/8	450	24
366	34	34	6	36.00	3.63	32.38	5/8	5/8	3/8	450	31
3865	43	44	6 5/8	38.00	4.38	33.62	7/8	5/8	1/2	450	42
2885	53	54	8 5/8	28.00	4.63	33.63	1 1/8	7/8	1/2	450	45
3685	69	70	8 5/8	36.00	4.63	31.38	1 1/8	7/8	1/2	450	65
4285	81	82	8 5/8	42.00	4.63	37.38	1 1/8	7/8	1/2	450	71
4885	93	95	8 5/8	48.00	4.63	42.38	1 1/8	1 1/8	1/2	450	77
6085	117	119	8 5/8	60.00	4.63	55.38	1 1/8	1 1/8	1/2	450	108
36105	106	108	10 3/4	36.00	7.00	29.00	1 3/8	1 3/8	1/2	450	115
48105	144	146	10 3/4	48.00	7.00	41.00	1 3/8	1 3/8	1/2	450	138
60105	182	185	10 3/4	60.00	7.00	53.00	1 3/8	1 3/8	1/2	450	166
72105	220	223	10 3/4	72.00	7.00	65.00	1 3/8	1 3/8	1/2	450	196
96105	296	300	10 3/4	96.00	7.00	89.00	1 5/8	1 3/8	1/2	450	285
48122	199	202	12 3/4	48.00	8.50	39.50	1 5/8	1 3/8	1/2	450	182
60122	252	256	12 3/4	60.00	8.50	51.50	1 5/8	1 3/8	1/2	450	218
72122	305	310	12 3/4	72.00	8.50	63.50	2 1/8	1 3/8	1/2	450	260
96122	411	417	12 3/4	96.00	8.50	87.50	2 1/8	1 3/8	1/2	450	360
72145	366	371	14	72.00	9.50	62.50	2 1/8	1 5/8	1/2	450	316
96145	493	501	14	96.00	9.50	86.50	2 5/8	2 1/8	1/2	450	425
60166	390	396	16	60.00	9.00	51.00	2 5/8	2 1/8	1/2	450	306
72166	473	480	16	72.00	9.00	63.00	2 5/8	2 1/8	1/2	450	380
96166	638	648	16	96.00	9.00	87.00	2 5/8	2 1/8	1/2	450	486
72188	600	609	18	72.00	10.00	62.00	3 1/8	2 1/8	1/2	450	510
72201	742	753	20	72.00	10.50	61.50	3 1/8	2 5/8	1/2	450	570
84201	874	887	20	84.00	10.50	73.50	3 1/8	2 5/8	1/2	450	639
96201	1006	1021	20	96.00	10.50	85.50	3 1/8	2 5/8	1/2	450	756
96241	1422	1443	24	96.00	12.50	83.50	3 5/8	3 1/8	1/2	450	1000

Custom and larger models are available, please contact your local sales representative
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Pumpdown capacities are based upon 90% of the shell open volume at 90°F
R404A Capacity = R22 Capacity X 0.99
R407C Capacity = R22 Capacity X 1.06
R507A Capacity = R22 Capacity X 0.87
R717 Capacity = R22 Capacity X 0.51

Standard Refrigeration

Models	Pumpdown Capacity (lbs)			Dimensions (inches)				Connections (inches)			Working Pressure (psi)	Shipping Weight (lbs)
	R22	R134a	R410A	D	L	A	B	P (IDS)	Q (IDS)	S (FNPT)		
2855MP	26	26	27	6	28.00	4.50	23.50	5/8	5/8	1/2	675	20
3065MP	34	34	35	6 5/8	30.00	5.00	25.00	5/8	5/8	1/2	675	25
3665MP	41	42	42	6 5/8	36.00	5.00	31.00	5/8	5/8	1/2	675	32
3865MP	43	44	45	6 5/8	38.00	5.00	33.00	7/8	5/8	1/2	675	44
2885MP	53	54	55	8 5/8	28.00	5.63	22.38	1 1/8	7/8	1/2	675	47
3685MP	69	70	71	8 5/8	36.00	5.63	30.38	1 1/8	7/8	1/2	675	68
4285MP	81	82	84	8 5/8	42.00	5.63	36.38	1 1/8	7/8	1/2	675	74
4885MP	93	95	96	8 5/8	48.00	5.63	42.38	1 1/8	1 1/8	1/2	675	80
6085MP	117	119	121	8 5/8	60.00	5.63	54.38	1 1/8	1 1/8	1/2	675	112
36105MP	106	108	110	10 3/4	36.00	7.00	29.00	1 3/8	1 3/8	1/2	675	120
48105MP	144	146	149	10 3/4	48.00	7.00	41.00	1 3/8	1 3/8	1/2	675	144
60105MP	182	185	188	10 3/4	60.00	7.00	53.00	1 3/8	1 3/8	1/2	675	173
72105MP	220	223	227	10 3/4	72.00	7.00	65.00	1 3/8	1 3/8	1/2	675	204
96105MP	296	300	305	10 3/4	96.00	7.00	89.00	1 5/8	1 3/8	1/2	675	296
48122MP	199	202	206	12 3/4	48.00	8.50	39.50	1 5/8	1 3/8	1/2	675	189
60122MP	252	256	261	12 3/4	60.00	8.50	51.50	1 5/8	1 3/8	1/2	675	227
72122MP	305	310	315	12 3/4	72.00	8.50	63.50	2 1/8	1 3/8	1/2	675	270
96122MP	411	417	425	12 3/4	96.00	8.50	87.50	2 1/8	1 3/8	1/2	675	374
72145MP	366	371	378	14	72.00	9.50	62.50	2 1/8	1 5/8	1/2	675	329
96145MP	493	501	510	14	96.00	9.50	86.50	2 5/8	2 1/8	1/2	675	442
60166MP	390	396	403	16	60.00	9.00	51.00	2 5/8	2 1/8	1/2	675	318
72166MP	473	480	488	16	72.00	9.00	63.00	2 5/8	2 1/8	1/2	675	395
96166MP	638	648	659	16	96.00	9.00	87.00	2 5/8	2 1/8	1/2	675	505
72188MP	600	609	620	18	72.00	10.00	62.00	3 1/8	2 1/8	1/2	675	530

Custom and larger models are available, please contact your local sales representative
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Pumpdown capacities are based upon 90% of the shell open volume at 90°F
R404A Capacity = R22 Capacity X 0.99
R407C Capacity = R22 Capacity X 1.06
R507A Capacity = R22 Capacity X 0.87
R717 Capacity = R22 Capacity X 0.51

Alfa Laval Standard RBV receiver

Receiver

RBV receivers offer a horizontal vessel design, with factory installed brackets and valves. Units are available in standard and higher pressure ratings.

Customization
Custom vessels are available with special materials of construction as required by you or your client. Condensers can be constructed from stainless steel for increased life in harsh environments. Sightglasses and liquid level indicators can be added at custom locations.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Connections
All fluid connections are IDS. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Maximum Allowable Working Pressures:
Standard Model - 450 psi. Shell Side @ 150°F
MP Model - 675 psi. Shell Side @ 150°F

Approved Refrigerants
R22, R134a, R404A & R507A. R410A in MP units only.

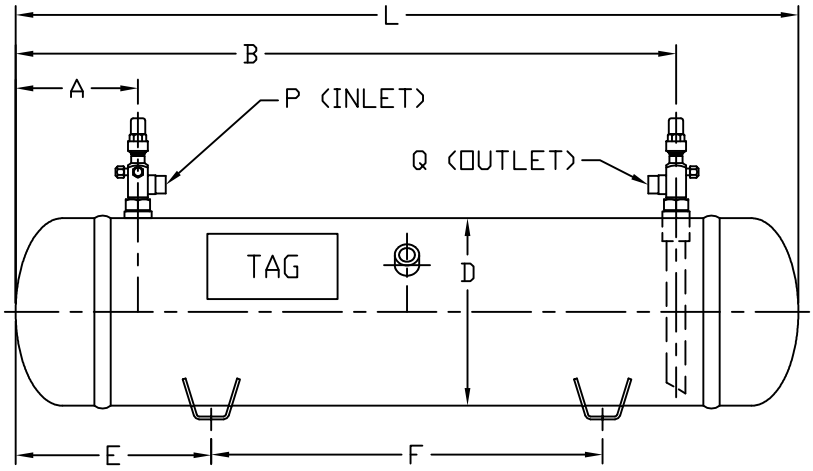
Non-Approved Refrigerants Unless Cleared by the Factory
R410A units in non-MP units.

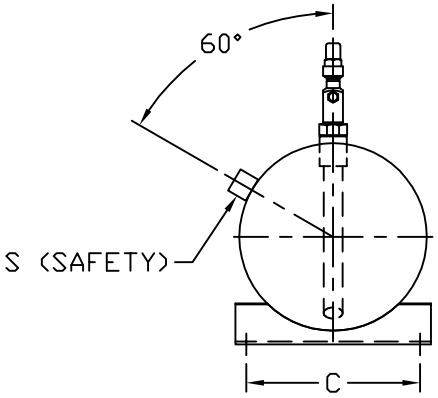
Alternative Options
For horizontal receivers without valves and brackets, use HR. For upright receivers use UR or UV models. SST or MST condensers can be used to eliminate the need for a receiver, as these units hold extra pumpdown capacity.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div.1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units 6" OD and smaller are UL approved. Receivers are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

Standard Refrigeration

Tag location may vary per model.





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Alfa Laval Standard RBV receiver

Technical specifications

Models	Pumpdown Capacity (lbs)		Dimensions (inches)							Connections (inches)			Working Pressure (psi)	Valve Article #	Shipping Weight (lbs)
	R22	R134a	D	L	A	B	C	E	F	P (IDS)	Q (IDS)	S (FNPT)			
RBV366	34	34	6	36.00	3.63	32.38	5.50	9.00	27.00	1/2	1/2	3/8	450	V04ST	35
RBV3865	43	44	6 5/8	38.00	4.63	33.63	5.50	9.50	28.50	5/8	5/8	1/2	450	V05ST	45
RBV3685	69	70	8 5/8	36.00	4.63	31.38	7.50	9.00	27.00	7/8	7/8	1/2	450	V07ST	69
RBV4285	81	82	8 5/8	42.00	4.63	37.38	7.50	10.50	31.50	1 1/8	1 1/8	1/2	450	V09ST	75
RBV36105	106	108	10 3/4	36.00	6.50	29.50	10.00	9.00	27.00	1 1/8	1 1/8	1/2	450	V09ST	117
RBV48105	144	146	10 3/4	48.00	6.50	41.50	10.00	12.00	36.00	1 1/8	1 1/8	1/2	450	V09ST	145
RBV60105	182	185	10 3/4	60.00	6.50	53.50	10.00	15.00	45.00	1 1/8	1 1/8	1/2	450	V09ST	170
RBV48122	199	202	12 3/4	48.00	8.00	40.00	11.63	12.00	36.00	1 3/8	1 3/8	1/2	450	V11ST	186
RBV60122	252	256	12 3/4	60.00	8.00	52.00	11.63	15.00	45.00	1 3/8	1 3/8	1/2	450	V11ST	224
RBV72145	366	371	14	72.00	8.38	63.63	13.25	18.00	54.00	1 5/8	1 5/8	1/2	450	VALVE85A	339
RBV96145	493	501	14	96.00	8.38	87.63	13.25	24.00	72.00	1 5/8	1 5/8	1/2	450	VALVE85A	448
RBV96166	638	648	16	96.00	8.88	87.13	15.75	24.00	72.00	2 1/8	2 1/8	1/2	450	VALVE621A	510

Custom and larger models are available, please contact your local sales representative
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Pumpdown capacities are based upon 90% of the shell open volume at 90°F
R404A Capacity = R22 Capacity X 0.99
R407C Capacity = R22 Capacity X 1.06
R507A Capacity = R22 Capacity X 0.87
R717 Capacity = R22 Capacity X 0.51

Standard Refrigeration

Models	Pumpdown Capacity (lbs)			Dimensions (inches)							Connections (inches)			Working Pressure (psi)	Valve Article #	Shipping Weight (lbs)
	R22	R134a	R410A	D	L	A	B	C	E	F	P (IDS)	Q (IDS)	S (FNPT)			
RBV2855MP	23	23	23	5 9/16	28.00	4.50	23.50	5.50	7.00	14.00	1/2	1/2	1/2	675	V04ST	25
RBV3865MP	43	44	45	6 5/8	38.00	5.00	33.00	5.50	9.50	19.00	5/8	5/8	1/2	675	V05ST	47
RBV3685MP	69	70	71	8 5/8	36.00	5.63	30.38	8.00	9.00	18.00	7/8	7/8	1/2	675	V07ST	72
RBV4285MP	81	82	84	8 5/8	42.00	5.63	36.38	8.00	10.50	21.00	1 1/8	1 1/8	1/2	675	V09ST	78
RBV36105MP	106	108	110	10 3/4	36.00	7.00	29.00	10.00	9.00	18.00	1 1/8	1 1/8	1/2	675	V09ST	122
RBV48105MP	144	146	149	10 3/4	48.00	7.00	41.00	10.00	12.00	24.00	1 1/8	1 1/8	1/2	675	V09ST	151
RBV60105MP	182	185	188	10 3/4	60.00	7.00	53.00	10.00	15.00	30.00	1 1/8	1 1/8	1/2	675	V09ST	177
RBV48122MP	199	202	206	12 3/4	48.00	8.50	39.50	11.63	12.00	24.00	1 3/8	1 3/8	1/2	675	V11ST	193
RBV60122MP	252	256	261	12 3/4	60.00	8.50	51.50	11.63	15.00	30.00	1 3/8	1 3/8	1/2	675	V11ST	233
RBV72145MP	366	371	378	14	72.00	9.50	62.50	13.25	18.00	36.00	1 5/8	1 5/8	1/2	675	VALVE85A	353
RBV96145MP	493	501	510	14	96.00	9.50	86.50	13.25	24.00	48.00	1 5/8	1 5/8	1/2	675	VALVE85A	466
RBV96166MP	638	648	659	16	96.00	9.00	87.00	15.75	24.00	48.00	2 1/8	2 1/8	1/2	675	VALVE621A	530

Custom and larger models are available, please contact your local sales representative
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Pumpdown capacities are based upon 90% of the shell open volume at 90°F
R404A Capacity = R22 Capacity X 0.99
R407C Capacity = R22 Capacity X 1.06
R507A Capacity = R22 Capacity X 0.87
R717 Capacity = R22 Capacity X 0.51

Alfa Laval Standard RBV receiver

Receiver

UR receivers offer a vertical vessel design, with no added components. Units are available in standard and higher pressure ratings.

Customization
Custom vessels are available with special materials of construction as required by you or your client. Receivers can be constructed from stainless steel for increased life in harsh environments. Sight glasses and liquid level indicators can be added at custom locations.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Connections
All fluid connections are IDS. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Maximum Allowable Working Pressures:
Standard Model - 450 psi. Shell Side @ 150°F
MP Model - 675 psi. Shell Side @ 150°F

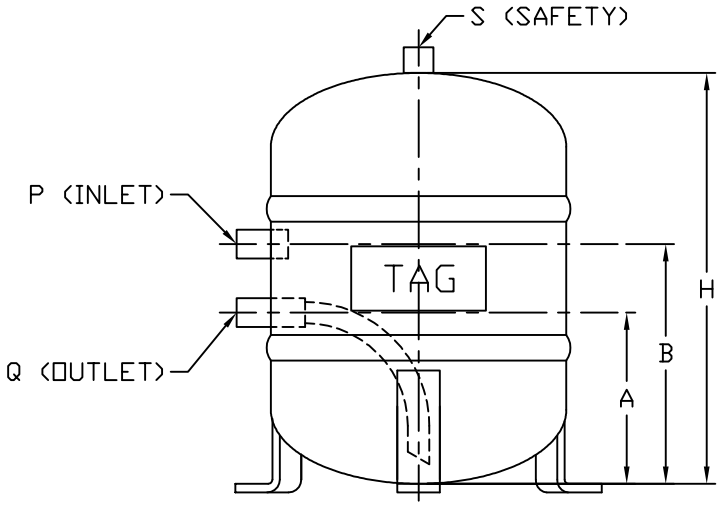
Approved Refrigerants
R22, R134a, R404A & R507A. R410A in MP units only.

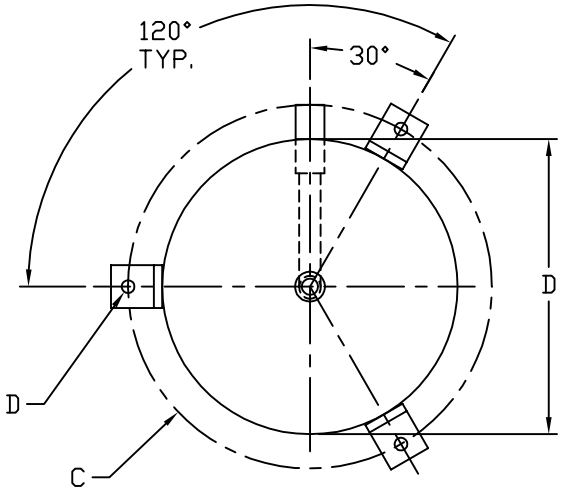
Non-Approved Refrigerants Unless Cleared by the Factory
R410A units in non-MP units.

Alternative Options
For vertical receivers with valves and brackets, use UV. For horizontal receivers use HR or RBV models. SST or MST condensers can be used to eliminate the need for a receiver, as these units hold extra pumpdown capacity.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div.1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Receivers are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

Standard Refrigeration





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Alfa Laval Standard RBV receiver

Technical specifications

Models	Pumpdown Capacity (lbs)		Dimensions (inches)						Connections (inches)			Working Pressure (psi)	Shipping Weight (lbs)
	R22	R134a	D	H	A	B	C ø	E ø	P (IDS)	Q (IDS)	S (FNPT)		
UR20	21	21	8 5/8	12.00	5.00	7.00	10 5/8	3/8	5/8	5/8	3/8	450	29
UR28	29	29	8 5/8	16.00	5.00	11.00	12 3/4	3/8	5/8	5/8	3/8	450	35
UR48	49	50	10 3/4	18.00	6.00	1.50	12 3/4	3/8	1 1/8	7/8	1/2	450	60
UR66	67	68	12 3/4	18.00	6.63	11.38	14 3/4	3/8	1 1/8	1 1/8	1/2	450	80
UR72	76	77	12 3/4	20.00	6.63	13.75	14 3/4	3/8	1 1/8	1 1/8	1/2	450	88
UR84	94	95	12 3/4	24.00	6.63	17.38	14 3/4	3/8	1 1/8	1 1/8	1/2	450	98
UR108	111	113	14	24.00	7.50	16.50	16	9/16	1 3/8	1 3/8	1/2	450	111
UR137	142	144	16	24.00	8.00	16.00	18	9/16	1 3/8	1 3/8	1/2	450	140
UR151	173	175	12 3/4	42.00	6.88	34.50	14 3/4	3/8	1 3/8	1 3/8	1/2	450	170
UR174	177	179	18	24.00	8.75	12.25	20	9/16	1 5/8	1 5/8	1/2	450	175
UR201	228	231	14	46.00	7.63	37.50	16	9/16	1 5/8	1 5/8	1/2	450	210
UR276	307	312	16	48.00	8.13	39.00	18	9/16	2 1/8	1 5/8	1/2	450	245
UR351	390	396	16	60.00	8.38	51.00	18	9/16	2 5/8	2 1/8	1/2	450	300
UR451	512	520	18	62.00	9.00	52.50	20	9/16	2 5/8	2 1/8	1/2	450	435

Custom and larger models are available, please contact your local sales representative
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Pumpdown capacities are based upon 90% of the shell open volume at 90°F
R404A Capacity = R22 Capacity X 0.99
R407C Capacity = R22 Capacity X 1.06
R507A Capacity = R22 Capacity X 0.87
R717 Capacity = R22 Capacity X 0.51

Standard Refrigeration

Models	Pumpdown Capacity (lbs)			Dimensions (inches)						Connections (inches)			Working Pressure (psi)	Shipping Weight (lbs)
	R22	R134a	R410A	D	H	A	B	C ø	E ø	P (IDS)	Q (IDS)	S (FNPT)		
UR20MP	21	21	21	8 5/8	12.00	5.00	7.00	10 5/8	3/8	5/8	5/8	3/8	675	30
UR28MP	29	29	30	8 5/8	16.00	5.00	11.00	12 3/4	3/8	5/8	5/8	3/8	675	36
UR48MP	49	50	51	10 3/4	18.00	6.00	1.50	12 3/4	3/8	1 1/8	7/8	1/2	675	62
UR66MP	67	68	69	12 3/4	18.00	6.63	11.38	14 3/4	3/8	1 1/8	1 1/8	1/2	675	83
UR72MP	76	77	78	12 3/4	20.00	6.63	13.75	14 3/4	3/8	1 1/8	1 1/8	1/2	675	92
UR84MP	94	95	97	12 3/4	24.00	6.63	17.38	14 3/4	3/8	1 1/8	1 1/8	1/2	675	102
UR108MP	111	113	115	14	24.00	7.50	16.50	16	9/16	1 3/8	1 3/8	1/2	675	115
UR137MP	142	144	146	16	24.00	8.00	16.00	18	9/16	1 3/8	1 3/8	1/2	675	146
UR151MP	173	175	179	12 3/4	42.00	6.88	34.50	14 3/4	3/8	1 3/8	1 3/8	1/2	675	177
UR174MP	177	179	183	18	24.00	8.75	12.25	20	9/16	1 5/8	1 5/8	1/2	675	182
UR201MP	228	231	236	14	46.00	7.63	37.50	16	9/16	1 5/8	1 5/8	1/2	675	218
UR276MP	307	312	317	16	48.00	8.13	39.00	18	9/16	2 1/8	1 5/8	1/2	675	255
UR351MP	390	396	403	16	60.00	8.38	51.00	18	9/16	2 5/8	2 1/8	1/2	675	312
UR451MP	512	520	529	18	62.00	9.00	52.50	20	9/16	2 5/8	2 1/8	1/2	675	452

Custom and larger models are available, please contact your local sales representative
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Pumpdown capacities are based upon 90% of the shell open volume at 90°F
R404A Capacity = R22 Capacity X 0.99
R407C Capacity = R22 Capacity X 1.06
R507A Capacity = R22 Capacity X 0.87
R717 Capacity = R22 Capacity X 0.51

Alfa Laval Standard UV receiver

Receiver

UV receivers offer a vertical vessel design, with factory installed brackets and valves. Units are available in standard and higher pressure ratings.

Customization
Custom vessels are available with special materials of construction as required by you or your client. Condensers can be constructed from stainless steel for increased life in harsh environments. Sightglasses and liquid level indicators can be added at custom locations.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Connections
All fluid connections are IDS. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

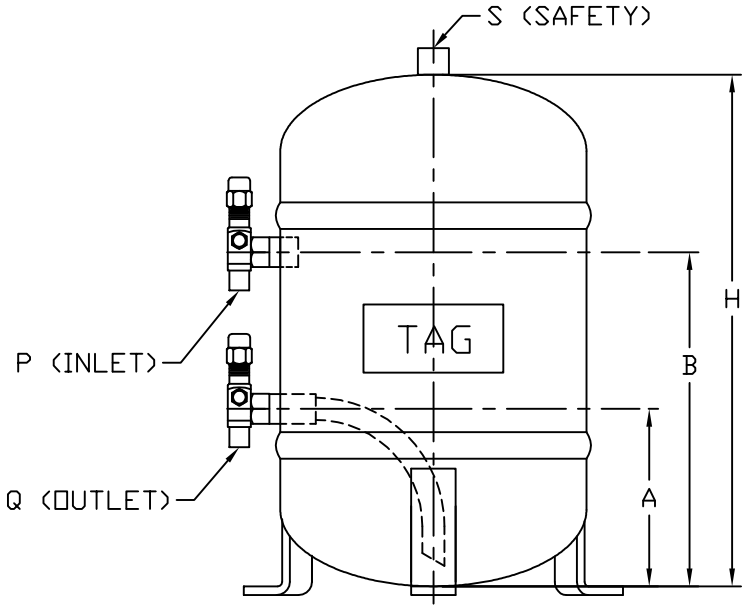
Maximum Allowable Working Pressures:
Standard Model - 450 psi. Shell Side @ 150°F
MP Model - 675 psi. Shell Side @ 150°F

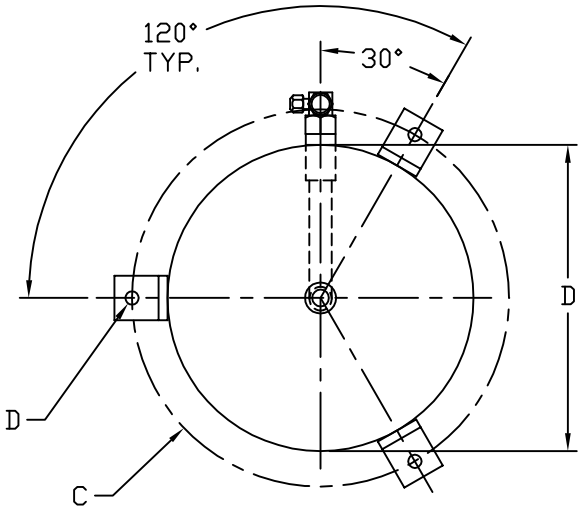
Approved Refrigerants
R22, R134a, R404A & R507A. R410A in MP units only.
Non-Approved Refrigerants Unless Cleared by the Factory
R410A units in non-MP units.

Alternative Options
For vertical receivers without valves and brackets, use UR. For horizontal receivers use HR or RBV models. SST or MST condensers can be used to eliminate the need for a receiver, as these units hold extra pumpdown capacity.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div.1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Receivers are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

Standard Refrigeration





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Alfa Laval Standard UV receiver

Technical specifications

Models	Pumpdown Capacity (lbs)		Dimensions (inches)						Connections (inches)			Working Pressure (psi)	Valve Article #	Shipping Weight (lbs)
	R22	R134a	D	H	A	B	C ø	E ø	P (IDS)	Q (IDS)	S (FNPT)			
UV30	33	33	8 5/8	18.00	5.38	12.75	10 5/8	0.38	1/2	1/2	3/8	450	H04ST	40
UV40	45	45	8 5/8	24.00	5.38	18.75	10 5/8	0.38	5/8	5/8	3/8	450	H05ST	47
UV50	61	62	8 5/8	32.00	5.50	26.63	10 5/8	0.38	7/8	7/8	3/8	450	H07ST	60
UV70	81	82	10 3/4	28.00	6.63	21.38	12 3/4	0.38	1 1/8	1 1/8	1/2	450	H09ST	90
UV100	113	114	10 3/4	38.00	6.63	31.38	12 3/4	0.38	1 1/8	1 1/8	1/2	450	H09ST	120
UV125	146	149	12 3/4	36.00	7.88	28.13	14 3/4	0.38	1 1/8	1 1/8	1/2	450	H09ST	160
UV150	173	175	12 3/4	42.00	7.88	34.13	14 3/4	0.38	1 1/8	1 1/8	1/2	450	H09ST	175
UV200	228	231	14	46.00	9.00	37.00	16	0.56	1 3/8	1 3/8	1/2	450	H11ST	215
UV275	307	312	16	48.00	8.50	39.50	18	0.56	1 5/8	1 5/8	1/2	450	VALVE85A	250
UV350	390	396	16	60.00	8.50	51.50	18	0.56	1 5/8	1 5/8	1/2	450	VALVE85A	305
UV450	512	520	18	62.00	9.50	52.50	20	0.56	1 5/8	1 5/8	1/2	450	VALVE85A	440

Custom and larger models are available, please contact your local sales representative
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Pumpdown capacities are based upon 90% of the shell open volume at 90°F
R404A Capacity = R22 Capacity X 0.99
R407C Capacity = R22 Capacity X 1.06
R507A Capacity = R22 Capacity X 0.87
R717 Capacity = R22 Capacity X 0.51

Standard Refrigeration

Models	Pumpdown Capacity (lbs)			Dimensions (inches)						Connections (inches)		
	R22	R134a	R410A	D	H	A	B	C ø	E ø	P (IDS)	Q (IDS)	S (FNPT)
UV30MP	33	33	34	8 5/8	18.00	5.38	12.75	10 5/8	3/8	1/2	1/2	3/8
UV40MP	45	45	46	8 5/8	24.00	5.38	18.75	10 5/8	3/8	5/8	5/8	3/8
UV50MP	61	62	63	8 5/8	32.00	5.50	26.63	10 5/8	3/8	7/8	7/8	3/8
UV70MP	81	82	84	10 3/4	28.00	6.63	21.38	12 3/4	3/8	1 1/8	1 1/8	1/2
UV100MP	113	114	116	10 3/4	38.00	6.63	31.38	12 3/4	3/8	1 1/8	1 1/8	1/2
UV125MP	146	149	151	12 3/4	36.00	7.88	28.13	14 3/4	3/8	1 1/8	1 1/8	1/2
UV150MP	173	175	179	12 3/4	42.00	7.88	34.13	14 3/4	3/8	1 1/8	1 1/8	1/2
UV200MP	228	231	236	14	46.00	9.00	37.00	16	9/16	1 3/8	1 3/8	1/2
UV275MP	307	312	317	16	48.00	8.50	39.50	18	9/16	1 5/8	1 5/8	1/2
UV350MP	390	396	403	16	60.00	8.50	51.50	18	9/16	1 5/8	1 5/8	1/2
UV450MP	512	520	529	18	62.00	9.50	52.50	20	9/16	1 5/8	1 5/8	1/2

Models	Working Pressure (psi)	Valve Article #	Shipping Weight (lbs)
UV30MP	675	H04ST	42
UV40MP	675	H05ST	49
UV50MP	675	H07ST	62
UV70MP	675	H09ST	94
UV100MP	675	H09ST	125
UV125MP	675	H09ST	166
UV150MP	675	H09ST	182
UV200MP	675	H11ST	224
UV275MP	675	VALVE85A	260
UV350MP	675	VALVE85A	317
UV450MP	675	VALVE85A	458

Custom and larger models are available, please contact your local sales representative
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Pumpdown capacities are based upon 90% of the shell open volume at 90°F
R404A Capacity = R22 Capacity X 0.99
R407C Capacity = R22 Capacity X 1.06
R507A Capacity = R22 Capacity X 0.87
R717 Capacity = R22 Capacity X 0.51

Alfa Laval Standard L receiver

Receiver

L receivers offer a compact vertical vessel design, with a valve and a fusible plug.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Connections
All fluid connections are IDS. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Maximum Allowable Working Pressures:
500 psi. Shell Side @ 150°F

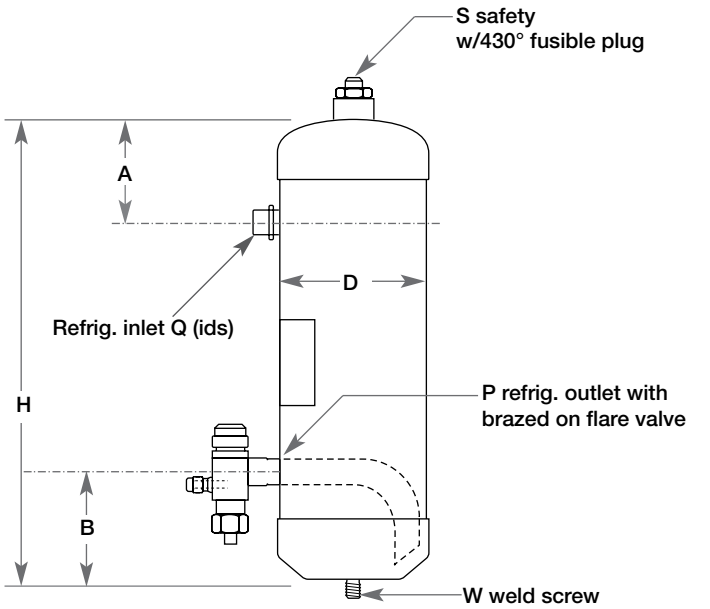
Approved Refrigerants
R22, R134a, R404A & R507A.

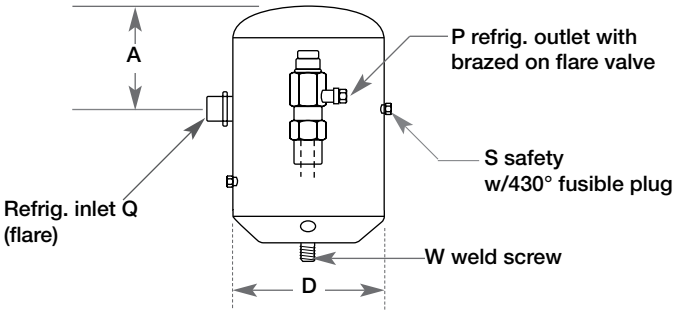
Non-Approved Refrigerants Unless Cleared by the Factory
R410A.

Alternative Options
For larger vertical receivers with valves and brackets, use UV. For larger horizontal receivers use HR or RBV models. SST or MST condensers can be used to eliminate the need for a receiver, as these units hold extra pumpdown capacity.

Codes
Units 6” OD and smaller are UL approved.

Standard Refrigeration





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Alfa Laval Standard L receiver

Technical specifications

Models	Pumpdown Capacity (lbs)		Dimensions (inches)				Connections (inches)			Weld Screw W	Working Pressure (psi)	Shipping Weight (lbs)
	R22	R134a	D	H	A	B	P (IDS)	Q (IDS)	S (FNPT)			
L408C	3.3	3.3	4	8.00	2.69	N/A	3/8	3/8	1/8	3/8"-16 X 1	500	7
L413C	5.6	5.7	4	13.50	2.50	3.50	3/8	3/8	3/8	3/8"-16 X 1	500	10
L516C	10.5	10.6	5	16.00	2.50	3.50	1/2	1/2	3/8	3/8"-16 X 1	500	14
L618C	17.2	17.5	6	18.00	2.50	3.50	1/2	1/2	3/8	1/2"-13 X 1	500	19
L623C	22.2	22.5	6	23.00	2.50	3.50	1/2	1/2	3/8	1/2"-13 X 1	500	24
L630C	28.5	28.9	6	30.00	2.50	3.63	5/8	5/8	3/8	1/2"-13 X 1	500	29

Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase
Pumpdown capacities are based upon 90% of the shell open volume at 90°F
R404A Capacity = R22 Capacity X 0.99
R407C Capacity = R22 Capacity X 1.06
R507A Capacity = R22 Capacity X 0.87
R717 Capacity = R22 Capacity X 0.51

Alfa Laval Standard A Series suction accumulators

Accumulators

Compressor damage due to liquid slugging, loss of oil from the crankcase, or bearing washout can be caused by the floodback of liquid refrigerant through the system and back to the compressor before being evaporated. In order to protect against this condition on systems vunerable to liquid damage, such as heat pumps or commercial refrigeration, a suction accumulator must be used. The accumulator intercepts and stores the liquid refrigerant before it reaches the compressor crankcase.

Standard Designs

The A series suction accumulators are available in twenty two catalog models. Mounting brackets come standard on all units and fusible plugs are available on larger models.

Customization

Custom vessels are available with special materials of construction as required by you or your client.

Background

Improved system balance can also be attained with the installation of a Suction Accumulator. Accumulators store the excess refrigerant as the condenser or evaporator load varies, as well as during the compressor off-cycle. Alfa Laval Standard Suction Accumulators are built for dependable and worry free operation.

The accumulator should be placed in the compressor suction line between the evaporator and compressor, on the same level as the compressor to minimize the length of the suction line between the compressor and the accumulator. Reverse cycle heat pumps must locate the accumulator between the reversing valve and the compressor so that it is situated in the suction line regardless of operation mode.

Suction accumulators must be selected according to tonnage, evaporator temperature and holding capacity. Selection and application of accumulators are the responsibility of the end user.

Features

Shells

ASME specification carbon steel pipe. Shells are sand blasted and cleaned prior to assembly.

Connections

All A series units feature IDS connections. Custom orientations for the gas outlet and safety connections are available.

Finish

Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Maximum Allowable Working Pressures:

400 psi. @ 150°F

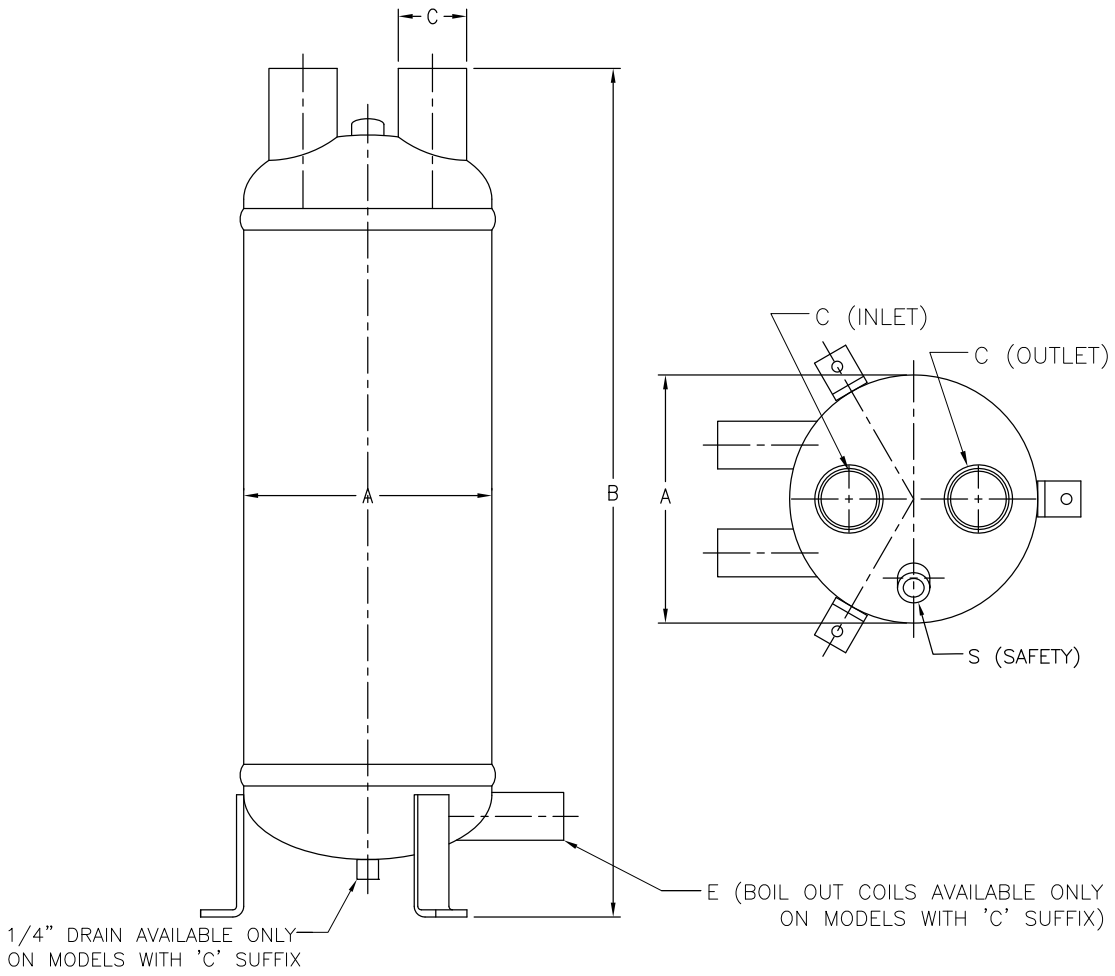
Standard Refrigeration

Approved Refrigerants
R22, R134a, R404A, R507 and R717 (ammonia).

Other Refrigerants
All other refrigerants must be approved by Alfa Laval before use.

Alternative Options
Custom units are available.

Codes
The vessel is constructed to the latest edition of the ASME Section VIII Div. 1 code standards and is stamped accordingly. The unit is tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.



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Alfa Laval Standard A Series suction accumulators

Technical specifications

Models	Refrigeration Capacity (lbs)				Dimensions (inches)		Connections (inches)			Shipping Weight (lbs)
	R22	R134a	R404A	R507	A	B	C (IDS)	E (IDS)	S (NPTF)	
A6118	21.8	22.0	19.4	19.2	6 5/8	23.50	1 1/8	N/A	0.50	26
A6118C	21.8	22.0	19.4	19.2	6 5/8	27.50	1 1/8	7/8	0.50	31
A6138	21.0	21.2	18.7	18.5	6 5/8	23.50	1 3/8	N/A	0.50	26
A6138C	21.0	21.2	18.7	18.5	6 5/8	27.50	1 3/8	1 1/8	0.50	31
A6158	20.1	20.3	17.9	17.7	6 5/8	23.50	1 5/8	N/A	0.50	27
A6158C	20.1	20.3	17.9	17.7	6 5/8	27.50	1 5/8	1 1/8	0.50	32
A8158	31.0	31.3	27.6	27.3	8 5/8	25.75	1 5/8	N/A	0.50	42
A8158C	31.0	31.3	27.6	27.3	8 5/8	29.50	1 5/8	1 3/8	0.50	47
A8218	30.0	30.3	26.7	26.4	8 5/8	22.50	2 1/8	N/A	0.50	43
A8218C	30.0	30.3	26.7	26.4	8 5/8	25.50	2 1/8	1 3/8	0.50	48
A10218	45.0	45.5	40.1	39.6	10 3/4	22.50	2 1/8	N/A	0.50	65
A10218C	45.0	45.5	40.1	39.6	10 3/4	25.50	2 1/8	1 5/8	0.50	70
A10258	44.0	44.4	39.2	38.7	10 3/4	22.50	2 5/8	N/A	0.50	66
A10258C	44.0	44.4	39.2	38.7	10 3/4	25.50	2 5/8	1 5/8	0.50	71
A10318	49.0	49.5	43.6	43.1	10 3/4	25.50	3 1/8	N/A	0.50	72
A10318C	49.0	49.5	43.6	43.1	10 3/4	25.50	3 1/8	1 5/8	0.50	77
A12318	73.0	73.7	65.0	64.2	12 3/4	25.50	3 1/8	N/A	0.50	92
A12318C	73.0	73.7	65.0	64.2	12 3/4	28.50	3 1/8	2 1/8	0.50	97
A14218	125.0	126.3	111.3	110.0	14.00	32.50	2 1/8	N/A	0.50	CALL
A14218C	125.0	126.3	111.3	110.0	14.00	32.00	2 1/8	1 1/8	0.50	CALL
A14418	125.0	126.3	111.3	110.0	14.00	32.75	4 1/8	N/A	0.50	157
A14418C	125.0	126.3	111.3	110.0	14.00	36.00	4 1/8	2 1/8	0.50	162

Custom and larger models are available, please contact your local sales representative
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Standard Refrigeration

Models		Recommended Tons of Refrigeration Suction Evaporator Temperature (°F)				
		+40°	+20°	0°	-20°	-40°
A6118	MAX	9.1	6.5	4.2	2.8	1.8
A6118C	MIN	0.9	0.8	0.7	0.5	0.4
A6138	MAX	15.6	10.8	6.8	4.5	2.9
A6138C	MIN	1.8	1.5	1.3	1.1	0.9
A6158	MAX	27.6	19.5	12.0	7.8	5.0
A6158C	MIN	3.2	2.4	2.0	1.6	1.5
A8158	MAX	27.6	19.5	12.0	7.8	5.0
A8158C	MIN	3.2	2.4	2.0	1.6	1.5
A8218	MAX	58.1	40.1	26.1	18.2	12.3
A8218C	MIN	6.1	5.6	4.6	4.1	3.2
A10218	MAX	58.1	40.1	26.1	18.2	12.3
A10218C	MIN	6.1	5.6	4.6	4.1	3.2
A10258	MAX	89.1	61.2	41.1	28.1	18.0
A10258C	MIN	9.1	8.6	7.1	6.6	4.5
A10318	MAX	132.2	92.1	61.3	40.4	28.0
A10318C	MIN	15.6	13.2	11.6	9.6	7.5
A12318	MAX	132.2	92.1	61.3	40.4	28.0
A12318C	MIN	15.6	13.2	11.6	9.6	7.5
A14218	MAX	166.7	116.7	77.3	50.7	36.0
A14218C	MIN	20.6	17.5	15.6	12.5	10.0
A14418	MAX	250.0	175.0	116.0	76.0	54.0
A14418C	MIN	33.0	28.0	25.0	20.0	16.0

Capacity Tons = 12,000 BTU/hr

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High Efficiency with a small footprint

Alfa Laval U-Turn MK10 - plug ‘n’ play module for flooded ammonia

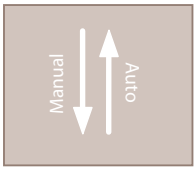
Turn to efficiency

U-Turn is a liquid separator especially designed for use with plate heat exchangers in ammonia applications. The module – including the separator and plate heat exchanger (PHE) ensures minimum pressure drop losses and maximum energy efficiency.

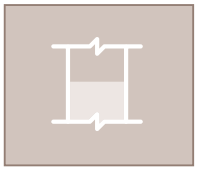
Plate heat exchangers from Alfa Laval can operate with the smallest LMTD (Logarithmic Mean Temperature Difference) as evaporators. To ensure this effi ciency is not lost from a liquid column that is too small or large, or due to incorrect pressure drop, Alfa Laval has developed the U-Turn separator. The module provides an effective and compact installation with less vertical rise and smaller overall dimensions than any other solution. All ammonia connections are grouped on the same side which allows the module to be installed in close proximity to walls or on the perimeter of a main skid.

U-Turn in action

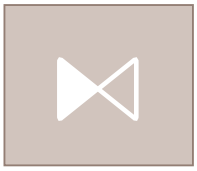
Alfa Laval U-Turn is designed to utilize the very best from Alfa Laval’s plate heat exchanger technology. Installed above the plate heat exchanger, the self-contained U-Turn can be easily mounted onto the compatible MK10. It can cover ammonia capacities up to 179 TR at 32°F evaporation temperature and up to 63 TR at -40°F evaporation temperature.



Nozzles for preferred oil drain method – various oil drainage options

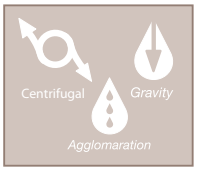


Predefined liquid level and charge – information to run U-Turn module at peak performance

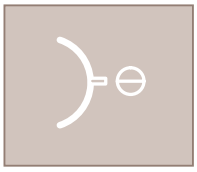


Check valve for start-up flow control – immediate safety operation

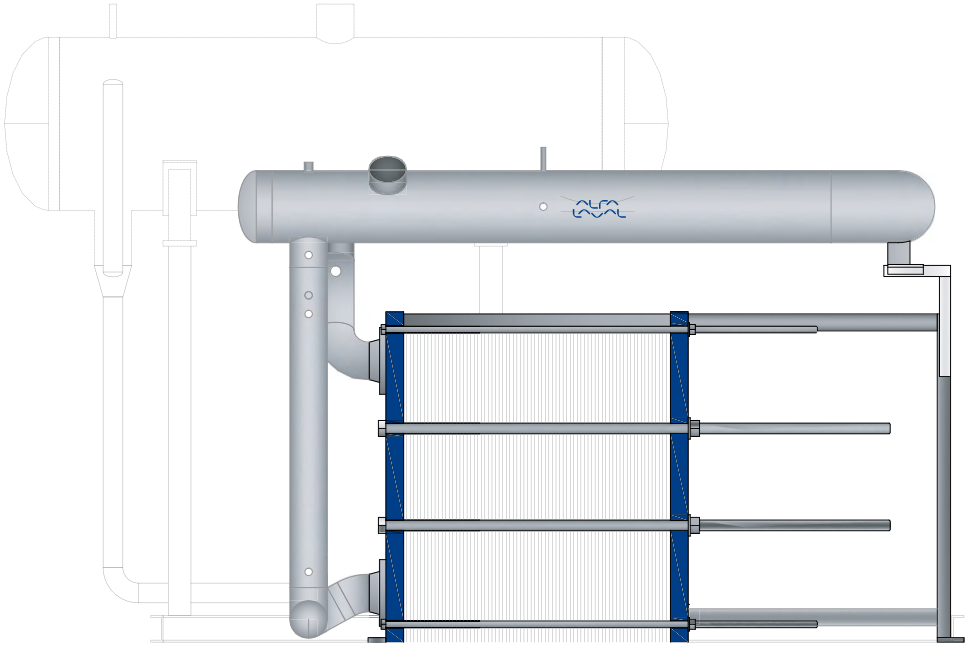
Self-contained unit – easy installation and full access, no skids or frame required



Multiple separation methods – enhanced separation efficiency and extremely low ammonia charge



Nozzles for regulation and control devices – allow the option of preferred control system



The U-Turn evaporator module design versus traditional separator design.

The design that gives the U-Turn its name

- Compact dimensions
- Shorter height and length – packages can be installed onsite without dismantling
- Effective length (L_{eff}) of U-Turn follows the plate heat exchanger carrying bar length
- Three-point support – the U-Turn separator is supported entirely by the PHE, no additional support is needed.
- Easy maintenance – both sides of PHE fully accessible.
- All ammonia connections access the same side – easy installation
- Integrated oil drain
- Stainless steel – corrosion resistant and no need of surface treatment
- Available in left or right side configuration.

Ready to install

- Short delivery time due to standardization
- Fully functional module from one supplier
- Front plate gives easy access to primary/secondary connections
- CE-stamped and according to PED (Pressure Equipment Directive), or ASME based on Section VIII Div. 1 are available.
- CRN available on ASME models (Canadian Registration Number)

Opening a new chapter in evaporation

- Efficient separation – due to the use of four different separation methods
- Short vertical ammonia driving columns, allowing small temperature approaches and high system efficiency.
- Reduced hold-up/low charge, extremely low refrigerant charges
- Sliding support: allowing thermal expansion, ensuring no thermal tensions build up
- Significant oil pot volume in standard execution enough for manual drain
- Separation based on droplet size 0.15 mm
- Margin for separation is 25% plus one nominal diameter
- Maximum separation gas velocity is restricted to 60% of the re-entrainment velocity, avoiding liquid brought back to the gas flow
- Extra safety margin from 180° U-bend.

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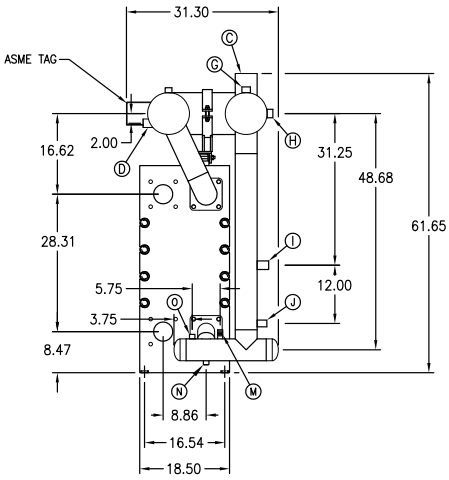
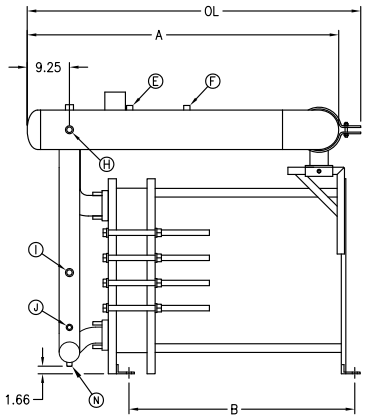
Alfa Laval U-Turn MK10 - plug ‘n’ play module for flooded ammonia

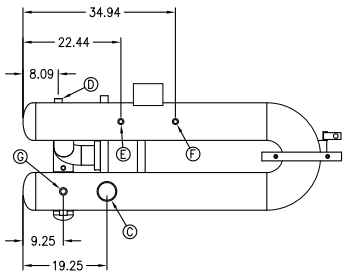
Technical specifications

Nozzle dimensions											
Nozzle	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**M**	**N**	**O**
Function	Suction Outlet	Liquid Feed	Gauge	Safety Relief	Liquid Level	Liquid Level	Liquid Level	Oil Drain (Level Probe)	Oil Drain	Oil Drain (w/Plug)	Gauge
Dim. (in)	4	1	0.75	0.75	1	1	1	0.75	0.75	0.5	0.5
Type	BW Pipe	CPLG.	CPLG.	CPLG.	CPLG.	CPLG.	CPLG.	CPLG.	CPLG.	CPLG./ Plug	CPLG.

Main dimensions				
LC Length of carrying bar mm (in)	**OL Overall length in.**	**LE Efficient length of separation in**	**A Uturn Vessel length in**	**B Support Location length in**
900 (35.43)	61.19	42	56.38	35.64
1200 (47.24)	73.00	111	68.19	49.42
1600 (63.0)	88.75	139	83.94	63.20







Capacity selection table														
		One-stage cycle								Part of two-stage cycle				
Evaporating temperature	°F	50		32		14		-4		-22		-40		Length of carrying bar
Condensing temperature	°F	105	85	105	85	105	85	105	85	41	14	41	14	
Model UR/UL-8-4C-M10 -9-ASME	TR	134	139	107	112	83	87	63	64	53	55	36	38	900
Model UR/UL-8-4C-M10 -12-ASME	TR	176	186	141	148	108	114	83	87	70	77	48	51	1200
Model UR/UL-8-4C-M10-16-ASME	TR	199	208	171	179	145	152	110	115	91	95	63	67	1600

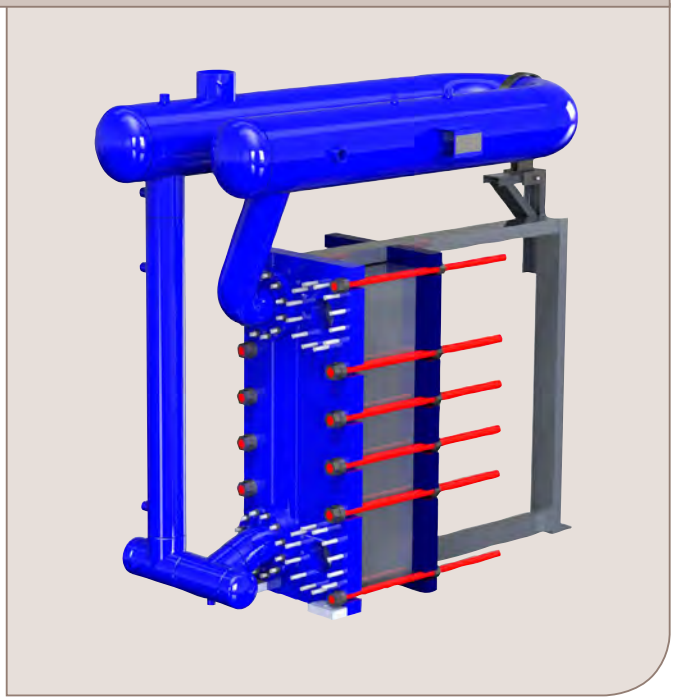
Nominal Tons (TR) = 12,000 BTU/h

Separator capacities vs, gas- and reintrainment velocities									
Evaporating temperature	°F	50	32	14	-4	-22	-40	Max. Number of cassettes 0.5mm	Max Number of cassettes 0.5 mm
Condensing temperature	°F	105	105	105	105	105	105		
Model UR/UL-8-4C-M10 -9-ASME									
Max. allowable capacity	TR	134	107	83	63	53	36	68	67
Gas velocity at max. capacity	ft/s	9.5	10.5	12.1	13.8	15.4	17.4		
Retainment velocity at max. capacity	ft/s	23	27.9	34.4	43	54.1	69.6		
Model UR/UL-8-4C-M10 -12-ASME									
Max allowable capacity	TR	176	141	108	83	70	48	114	111
Gas velocity at max. capacity	ft/s	12.5	14.1	15.7	18	20.7	23.3		
Retainment velocity at max. capacity	ft/s	23	27.9	34.4	43	54.1	69.6		
Model UR/UL-8-4C-M10-16-ASME									
Max allowable capacity	TR	199	171	145	110	91	63	159	155
Gas velocity at max. capacity	ft/s	16.1	17.1	21	24	26.9	30.5		
Retainment velocity at max. capacity	ft/s	23	27.9	34.4	43	54.1	69.9		

Weights and volumes					
	Model		Model UR/UL-8-4C-M10-9-ASME	Model UR/UL-8-4C-M10 -12-ASME	Model UR/UL-8-4C-M10 -16-ASME
Number of cassettes	Maximum		67	111	155
Weights	Frame	lbs	792	864	890
	Stainless steel (AISI 304/AISI 316) 0.5 mm cassette per cassette			5.5	
	Stainless steel (AISI 304/AISI 316) 0.6 mm cassette per cassette			6.6	
	Stack of cassettes, at max. number		442	733	1023
	U-turn separator, max.		314	347	397
	Total plate heat exchanger and U-turn separator		756	1080	1420
Volumes on refrigerant side	Channel volume per cassettes	gallons (US)		0.16	
	Channel volume at max. number of cassettes		10.7	17.8	24.8
	U-turn separator volume		25	29	35
	Total plate heat exchanger and U-turn separator volume		35.7	46.8	59.8
Oil volume	Oil pot volume	gallons (US)	1.1	1.1	1.1
Surface	Exposed surface plate heat exchanger	ft²	27	32.3	38.8
	Exposed surface U-turn separator		30.2	34.5	52.7
	Total surface		57.2	66.8	91.5

High Efficiency with a small footprint

Alfa Laval U-Turn MK15 - plug ‘n’ play module for flooded ammonia



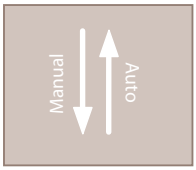
Turn to efficiency

U-Turn is a liquid separator especially designed for use with plate heat exchangers in ammonia applications. The module – including the separator and plate heat exchanger (PHE) ensures minimum pressure drop losses and maximum energy efficiency.

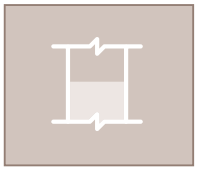
Plate heat exchangers from Alfa Laval can operate with the smallest LMTD (Logarithmic Mean Temperature Difference) as evaporators. To ensure this effi ciency is not lost from a liquid column that is too small or large, or due to incorrect pressure drop, Alfa Laval has developed the U-Turn separator. The module provides an effective and compact installation with less vertical rise and smaller overall dimensions than any other solution. All ammonia connections are grouped on the same side which allows the module to be installed in close proximity to walls or on the perimeter of a main skid.

U-Turn in action

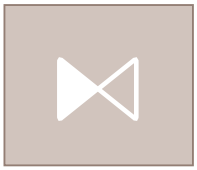
Alfa Laval U-Turn is designed to utilize the very best from Alfa Laval’s plate heat exchanger technology. Installed above the plate heat exchanger, the self-contained U-Turn can be easily mounted onto the compatible MK15. It can cover ammonia capacities up to 414 TR at 32°F evaporation temperature and up to 145 TR at -40°F evaporation temperature.



Nozzles for preferred oil drain method – various oil drainage options

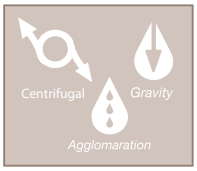


Predefined liquid level and charge – information to run U-Turn module at peak performance

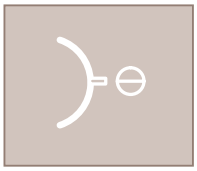


Check valve for start-up flow control – immediate safety operation

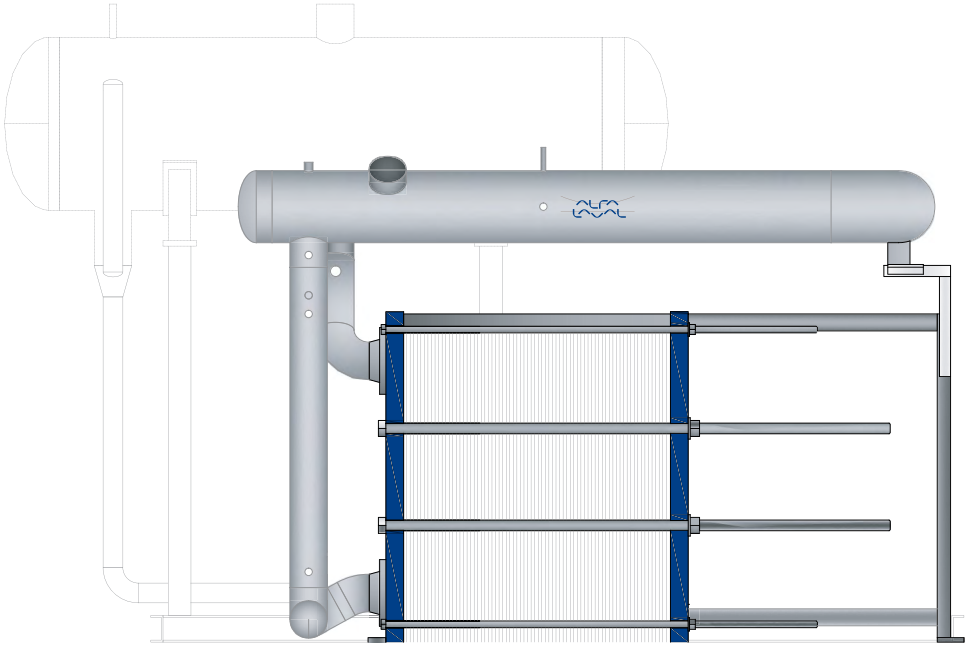
Self-contained unit – easy installation and full access, no skids or frame required



Multiple separation methods – enhanced separation efficiency and extremely low ammonia charge



Nozzles for regulation and control devices – allow the option of preferred control system



The U-Turn evaporator module design versus traditional separator design.

The design that gives the U-Turn its name

- Compact dimensions
- Shorter height and length – packages can be installed onsite without dismantling
- Effective length (L_{eff}) of U-Turn follows the plate heat exchanger carrying bar length
- Three-point support – the U-Turn separator is supported entirely by the PHE, no additional support is needed.
- Easy maintenance – both sides of PHE fully accessible.
- All ammonia connections access the same side – easy installation
- Integrated oil drain
- Stainless steel – corrosion resistant and no need of surface treatment
- Available in left or right side configuration.

Ready to install

- Short delivery time due to standardization
- Fully functional module from one supplier
- Front plate gives easy access to primary/secondary connections
- CE-stamped and according to PED (Pressure Equipment Directive), or ASME based on Section VIII Div. 1 are available.
- CRN available on ASME models (Canadian Registration Number)

Opening a new chapter in evaporation

- Efficient separation – due to the use of four different separation methods
- Short vertical ammonia driving columns, allowing small temperature approaches and high system efficiency.
- Reduced hold-up/low charge, extremely low refrigerant charges
- Sliding support: allowing thermal expansion, ensuring no thermal tensions build up
- Significant oil pot volume in standard execution enough for manual drain
- Separation based on droplet size 0.15 mm
- Margin for separation is 25% plus one nominal diameter
- Maximum separation gas velocity is restricted to 60% of the re-entrainment velocity, avoiding liquid brought back to the gas flow
- Extra safety margin from 180° U-bend.

How to contact Alfa Laval
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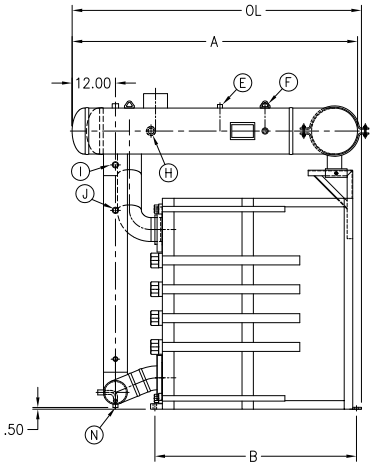
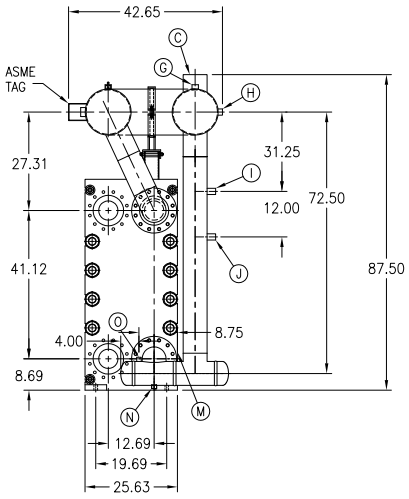
Alfa Laval U-Turn MK15 - plug ‘n’ play module for flooded ammonia

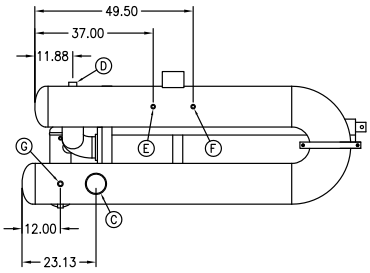
Technical specifications

Nozzle dimensions											
Nozzle	**C**	**D**	**E**	**F**	**G**	**H**	**I**	**J**	**M**	**N**	**O**
Function	Suction Outlet	Liquid Feed	Gauge	Safety Relief	Liquid Level	Liquid Level	Liquid Level	Oil Drain (Level Probe)	Oil Drain	Oil Drain (w/Plug)	Gauge
Dim. (in)	6	1.5	0.75	0.75	1	1	1	0.75	0.75	0.5	0.5
Type	BW Pipe	CPLG.	CPLG.	CPLG.	CPLG.	CPLG.	CPLG.	CPLG.	CPLG.	CPLG./ Plug	CPLG.

Main dimensions				
LC Length of carrying bar mm (in)	**OL Overall length in.**	**LE Efficient length of separation in**	**A Uturn Vessel length in**	**B Support Location length in**
1200 (47.24)	80.21	128	79.13	55.90
1500 (59.06)	95.88	152	91.00	71.63
1800 (70.87)	107.52	177	102.77	83.27
2400 (94.49)	131.13	223	126.38	106.88







Capacity selection table

		One-stage cycle								Part of two-stage cycle				
Evaporating temperature	°F	50		32		14		-4		-22		-40		Length of carrying bar
Condensing temperature	°F	105	85	105	85	105	85	105	85	41	14	41	14	
Model UR/UL-12-6C-M15-12-ASME	TR	265	279	211	222	164	171	124	129	104	110	71	75	1200
Model UR/UL-12-6C-M15-15-ASME	TR	332	350	266	277	206	216	155	162	131	138	90	95	1500
Model UR/UL-12-6C-M15-18-ASME	TR	401	421	320	336	242	260	186	195	157	166	108	115	1800
Model UR/UL-12-6C-M15-24-ASME	TR	535	535	414	414	332	347	250	262	211	222	145	155	2400

Nominal Tons (TR) = 12,000 BTU/h

Separator capacities vs, gas- and reintrainment velocities

Evaporating temperature	°F	50	32	14	-4	-22	-40	Max. Number of cassettes 0.5mm	Max Number of cassettes 0.5 mm
Condensing temperature	°F	105	105	105	105	41	41		
Model UR/UL-12-6C-M15-12-ASME									
Max. allowable capacity	TR	265	211	164	124	104	71	76/66	73/65
Gas velocity at max. capacity	ft/s	7.5	8.5	9.5	10.8	12.5	14.1		
Retainment velocity at max. capacity	ft/s	23	27.9	34.4	43	54.1	69.6		
Model UR/UL-12-6C-M15-15-ASME									
Max allowable capacity	TR	332	266	206	155	131	90	103/95	101/93
Gas velocity at max. capacity	ft/s	9.5	10.8	12.1	13.8	15.4	17.7		
Retainment velocity at max. capacity	ft/s	23	27.9	34.4	43	54.1	69.6		
Model UR/UL-12-6C-M15-18-ASME									
Max allowable capacity	TR	401	320	242	186	157	108	135/124	129/121
Gas velocity at max. capacity	ft/s	11.5	12.8	14.8	16.7	18.7	21.3		
Retainment velocity at max. capacity	ft/s	23	27.9	34.4	43	54.1	69.9		
Model UR/UL-12-6C-M15-24-ASME									
Max allowable capacity	TR	535	414	332	250	211	145	183/181	183/178
Gas velocity at max. capacity	ft/s	13.8	17.4	19.4	22	24.9	28.5		
Retainment velocity at max. capacity	ft/s	23	27.9	34.4	43	54.1	69.6		

Weights and volumes

	Model		Model UR/ UL-12- 6C-M15-12-ASME	Model UR/ UL-12- 6C-M15-15-ASME	Model UR/ UL-12- 6C-M15-18-ASME	Model UR/ UL-12- 6C-M15-24-ASME
Number of cassettes	Maximum		73	101	129	183
Weights	Frame	lbs	2120	2165	2112	2304
	Stainless steel (AISI 304/AISI 316) 0.5 mm cassette per cassette		10.43			
	Stainless steel (AISI 304/AISI 316) 0.6 mm cassette per cassette		12.44			
	Stack of cassettes, at max. number		908	1257	1605	2277
	U-turn separator, max.		748	806	883	1036
	Total plate heat exchanger and U-turn separator		1656	2063	2488	3313
Volumes on refrigerant side	Channel volume per cassettes	gallons (US)	033			
	Channel volume at max. number of cassettes		24.1	33.3	42.6	60.4
	U-turn separator volume		60	77	91	103
	Total plate heat exchanger and U-turn separator volume		84.1	110.3	133.6	163.4
Oil volume	Oil pot volume	gallons (US)	2.7	2.7	2.7	2.7
Surface	Exposed surface plate heat exchanger	ft²	42	49.5	58.1	73.2
	Exposed surface U-turn separator		46.3	61.4	70	72.2
	Total surface		88.3	110.9	128.1	145.4

Alfa Laval Standard AOP ammonia oil pots

Oil Pots

AOP ammonia oil pots feature a full carbon steel construction.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Connections
Inlet connections are FNPT and outlet connections are MNPT. Safety connections are FNPT. Custom nozzle type, size, orientation and locations are available.

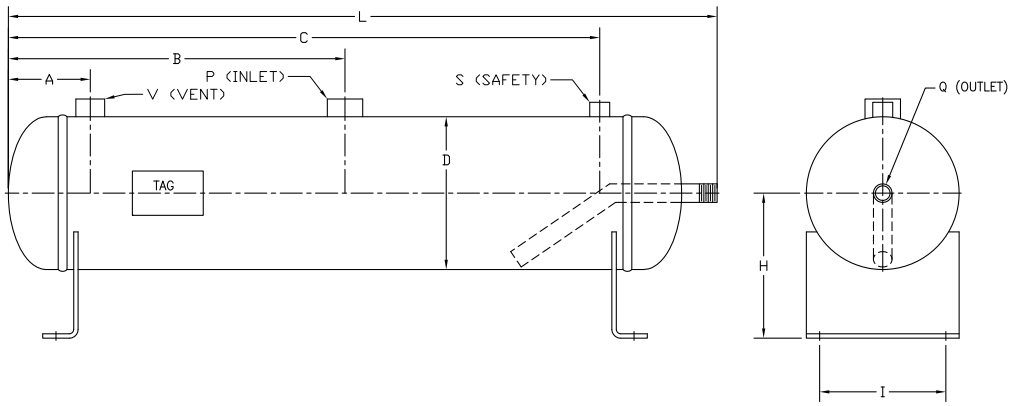
Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Maximum Allowable Working Pressures:
400 psi. Shell Side @ 400°F

Alternative Options
Custom units are available, please contact the factory.

Codes
The refrigerant side is constructed to the latest edition of the ASME Section VIII Div.1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Receivers are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

Standard Refrigeration



How to contact Alfa Laval
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Alfa Laval Standard AOP ammonia oil pots

Technical specifications

Models	Dimensions (inches)							Connections (inches)				Working Pressure (psi)	Shipping Weight (lbs)
	D	L	A	B	C	H	I	P	Q (IDS)	V	S		
AOP638	6 5/8	40.00	4.63	19.00	33.38	7.19	5.75	1 1/4	3/4	1	1/2	400	42
AOP838	8 5/8	40.00	4.63	19.00	33.38	8.19	5.13	1 1/4	3/4	1	1/2	400	68
AOP1038	10 3/4	40.00	5.63	19.00	32.38	9.25	9.25	1 1/4	3/4	1	1/2	400	118

Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Standard Refrigeration

Alfa Laval Standard Ammonia flooded evaporator

Evaporator

Ammonia flooded evaporators are a perfect solution for ice rinks, ice manufacturing and many other commercial and industrial applications. All units are custom designed to fit the needs of you or your client. As standard, units feature a full carbon steel construction, but other materials are available upon request. External surge drums are fitted as standard. Units can be customized to work for Calcuim Chloride, Glycol and other brine solutions.
Available up to 1000 ton capacity.

Features

Shells
ASME specification carbon steel SA53B or SA516-70 pipe. Shells are sand blasted and cleaned prior to assembly.

Tubes
Carbon steel 0.065" wall tubing is standard. Other tubing materials are available upon request.

Tube Sheets
ASME specification steel tube sheets, precision machined for excellent sealing.

Tube Supports
Quality tube supports are manufactured to close tolerances to minimize the risk of vibration.

Heads
ASME specification precision machined steel heads. Custom connection versions are available.
Connections
Custom nozzle type, size, orientation and locations are available.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Typical Maximum Allowable Working Pressures:
225 psi. Shell Side @ -20°F to 150°F
150 psi. Tube Side @ -20°F to 150°F

Performance Ratings
Typical ammonia flooded evaporators are rated under the following conditions:
Water In.....54°F
Water Out.....44°F
Suction Temperature ..34°F
Fouling Facto.....r0.0005

Alternative Options
Custom designs with special materials including stainless steel are available from the factory.

Standard Refrigeration

Codes

The refrigerant side is constructed to the latest edition of the ASME Section VIII Div.1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Units are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

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Alfa Laval Standard AD air dryers

Air dryers

In a compressed air system, it is vital to remove moisture from the air and bring it to Pressure Dew point Temperature (DPT). This can be achieved efficiently by Refrigerated Air dryer system incorporated with heat exchangers.

This system includes Air to Air and Air to Refrigerant or Air to Air and Air to Glycol heat exchangers set. High pressure high temperature compressed air initially passes thru Air to Air heat exchanger and gets precooled by dry cold air flowing on the other side. Then it enters into the Air/Refrigerant heat exchanger (or Air/Glycol heat exchanger) and is cooled to required DPT. The moisture gets condensed and separated thru moisture separator. This cold air then passes thru Air to Air heat exchanger and gets reheated.

Alfa Laval Standard has been the leading manufacturer of high quality, efficient and serviceable Shell and Tube Heat exchangers for the Refrigerated Air Dryer systems for decades.

They are available for 1500 thru 25,000 SCFM capacity and for various refrigerants including Ammonia.

Air to Refrigerant units are available in DX and Flooded type designs.

Features

Shells
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

Connections
Custom nozzle type, size, orientation and locations are available.

Tubes
These heat exchangers are available in Carbon steel and Stainless steel shells and Carbon steel, Stainless steel, Copper and Cupronickel tubes.

Heads
ASME specification precision machined steel heads are the most common option. If pressure drop is a concern, units can be produced with out heads, enabling direct connection to the system piping.

Finish
Exterior surfaces are cleaned and painted with a high quality black paint and primer.

Maximum Allowable Working Pressures:
400 psi. Shell Side @ 400°F

Alternative Options
Custom units are available, please contact the factory.

Standard Refrigeration

Codes

The refrigerant side is constructed to the latest edition of the ASME Section VIII Div.1 code standards and is stamped accordingly, on all units 6⅝" OD and larger. Receivers are tested at 1.3 times the design pressure. Units are helium leak tested to find leaks as small as 1 x 10^{-5} mbar.l/s. Canadian registration numbers (CRN) are available upon request. For other code registrations please contact the factory.

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Alfa Laval Standard replacement gaskets

Gaskets

Gaskets are available for replacement of original gaskets during service. Every time the endplate or head is removed from a heat exchanger the gasket must be replaced. Gasket replacement ensures a proper seal and eliminates potential leaks.

Gasket Replacement Procedure

1. Ensure that all refrigerant has been recovered and that the vessel has been isolated. There is no need to drain the barrel.
2. Carefully remove any insulation to expose bolt heads, cut carefully and mark position of insulation so that it can be reused (if applicable).
3. Cut or un-sweat liquid and suction lines as necessary for removal of heads. Measure line sizes and get slip couplings.
4. Put witness marks at 12 o'clock on the tubesheet and on the head to ensure proper alignment during reassembly. Support head and remove all but two bolts, carefully remove final two bolts, be careful that head does not slip down or swing out. CAUTION: HEADS ARE VERY HEAVY, HANDLE WITH EXTREME CARE!
5. Once head is secured where you can safely work on it, peel off the old gasket. Scrape the remaining gasket material and adhesive from the head, be careful not to scratch or gouge the head. Clean gasket surfaces on the head and tubesheet with acetone or Virginia #10e solvent and clean rags. Clean gasket with solvent until the surface is shiny black, allow the gasket to dry.
6. After that you ensure that you have the correct gaskets, apply a thin (0.010" to 0.015") uniform coat of 3M Super 77, Armstrong 520, Rubatex R-27780 or equivalent adhesive to the head and one side only of the gasket.
7. Carefully place gasket on head, this is best done with two people since the gasket should not be moved once it has been placed. Ensure that the gasket's webs are centered on the partitions. Allow the adhesive to cure for at least one full hour. Cut out unused dividers from the gasket after curing.
8. Guide the head into place (remember to put couplings on liquid and suction lines) be careful not to disturb gasket. Tighten bolts until gasket is just touching the tubesheet all the way around.
9. Torque bolts in a crisscross pattern to step 1, then to step 2 and finally to step 3 (if applicable, see chart). Torque once more to the final value once more. NOTE: DO NOT TIGHTEN THE BOLTS ANY FURTHER!
10. Re-braze all connections, use 45% or higher silver content solder and the proper flux for steel to copper joints and 15% for copper to copper. Charge unit to 150 PSIG with nitrogen and check for leaks using a leak reactant such as Big Blu. If a gasket leak is found, torque the bolts 10 ft/lbs. higher and recheck. Evacuate to 1500 microns, break the vacuum with nitrogen and evacuate to 500 microns. You can now recharge and start the unit.
11. If applicable reinsulate all affected areas.

Standard Refrigeration

Gasket Replacement Procedure for Grooved Heads/ Tubesheets

1. Ensure that all refrigerant has been recovered and that the vessel has been isolated. There is no need to drain the barrel.
2. Carefully remove insulation to expose bolt heads, cut carefully and mark position of insulation so that it can be reused (if applicable).
3. Cut or un-sweat liquid and suction lines as necessary for removal of heads. Measure line sizes and get slip couplings.
4. Put witness marks at 12 o'clock on the tubesheet and on the head to ensure proper alignment during reassembly. Support head and remove all but two bolts, carefully remove the final two bolts, but be careful that head does not slip down or swing out. CAUTION: HEADS ARE VERY HEAVY, HANDLE WITH EXTREME CARE!
5. Once head is secured where you can safely work on it, peel off old gasket. Scrape the remaining adhesive from the head, be careful not to scratch or gouge head. Remaining adhesive can be removed using 3M or CRC automotive brake cleaner. On TX25s and smaller only use solvent. Clean tubesheet with brake cleaner. Clean gasket with solvent until the surface is shiny black, allow all surfaces to dry.
6. Verify that you have the correct gaskets. Cut out any unused gasket dividers, cut along the lines of the webs and the inside diameter of the gasket so there is no overhang on the groove. Apply a thin (0.010" to 0.015") uniform coat of 3M Super 77, Armstrong 520 or Rubatex R-27780 adhesive in the groove of the head and one side of the gasket. Carefully place the gasket into the groove, start from the outside at the top and bottom and work towards the center, then the partitions on the side. Once the gasket is in place run a small flat blade screwdriver between the wall of the groove and the gasket to make sure that the gasket is seated in the groove. If the gasket is not fully seated it will probably leak. Allow adhesive to cure at least one full hour.
7. Guide the head into place and align the witness mark on the head with the witness mark on the tubesheet, this is critical and the head must remain aligned and fully supported until all bolts are completely tightened. Be careful not to disturb gasket. Tighten bolts until gasket is just touching the tubesheet all the way around. Torque bolts in a crisscross pattern to step 1, then step 2 and step 3, (if applicable, see chart). Torque once more to the final value once more. DO NOT TIGHTEN BOLTS ANY FURTHER!
8. Re-braze all connections. Charge evaporator to 150 PSIG with nitrogen and check for leaks using a leak reactant such as Big Blu. If a gasket leak is found, torque the bolts 10 ft/ lbs. higher and recheck. Evacuate to 1500 microns, break the vacuum with nitrogen and evacuate to 500 microns. You can now recharge and start the chiller. Reinsulate, you can use the left over adhesive for this.

Alternative Options

For units not listed on the tables below, please contact the factory.

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Alfa Laval Standard replacement gaskets

Technical specifications

Condensers - Current Catalog Models		
Model	Front Gasket Article #	Rear Gasket Article #
AMC0810-2	GASKE2227	GASKE2227
AMC1010-2	GASKE2236	GASKE2236
AMC1210-2	GASKE2245	GASKE2245
AMC1410-2	GASKE2254	GASKE2254
AMC1610-2	GASKE2263	GASKE2263
AMC1810-2	GASKE1679	GASKE1679
AMC2010-2	Call	Call
CA050	GASKE355	GASKE355
CA075	GASKE238	GASKE238
CA100	GASKE238	GASKE238
CA150	GASKE256	GASKE265
CA200	GASKE445	GASKE247
CA300	GASKE23417	GASKE1741
CA050MP	GASKE355	GASKE355
CA075MP	GASKE238	GASKE238
CA100MP	GASKE238	GASKE238
CA150MP	GASKE256	GASKE265
CA200MP	GASKE445	GASKE247
CA300MP	GASKE23417	GASKE1741
ELT100A	GASKE5057	GASKE5064
ELT150A	GASKE5057	GASKE5064
ELT200A	GASKE5057	GASKE5057
ELT300A	GASKE2191	GASKE2209
ELT500A	GASKE2191	GASKE2209
ELT800A	GASKE2461	GASKE2470
ELT1000A	GASKE2461	GASKE2470
HP10	GASKE22757	GASKE22757
HP15	GASKE22757	GASKE22757
HP20	GASKE22757	GASKE22757
HP30A	GASKE3499	GASKE3501
HP40A	GASKE3499	GASKE3501
HP50A	GASKE3475	GASKE3482

Condensers - Current Catalog Models		
Model	Front Gasket Article #	Rear Gasket Article #
HP60A	GASKE3475	GASKE3482
HP80A	GASKE3518	GASKE3525
HSE2	GASKE20001	GASKE20018
HSE3	GASKE22171	GASKE22188
HSE5	GASKE3170	GASKE3718
HSE7	GASKE3170	GASKE3718
HSE10	GASKE3170	GASKE3718
HSE15	GASKE445	GASKE247
HSE20A	GASKE2584	GASKE2953
HSE25A	GASKE2584	GASKE2953
HSE30A	GASKE1741	GASKE2984
HSE40A	GASKE1741	GASKE2984
HSE50A	GASKE1741	GASKE2984
HSE60	GASKE111	GASKE120
HSE70	GASKE111	GASKE120
HSE80	GASKE111	GASKE120
HSE100	GASKE120	GASKE120
HSE125	GASKE120	GASKE120
HSE150	GASKE2254	GASKE2254
HSE200	GASKE2263	GASKE2263
HSE250	GASKE1679	GASKE1679
HSE300	GASKE1688	GASKE1688
HSE350	GASKE1688	GASKE1688
HSE400	GASKE2290	GASKE2290
HSE500	GASKE2290	GASKE2290
HSE2MP	GASKE20001	GASKE20018
HSE3MP	GASKE3718	GASKE3170
HSE5MP	GASKE3718	GASKE3170
HSE7MP	GASKE3718	GASKE3170
HSE10MP	GASKE3718	GASKE3170
HSE15MP	GASKE445	GASKE247
HSE20MP	GASKE2584	GASKE2953

Condensers - Current Catalog Models		
Model	Front Gasket Article #	Rear Gasket Article #
HSE25MP	GASKE2584	GASKE2953
HSE30MP	GASKE1741	GASKE2984
HSE40MP	GASKE1741	GASKE2984
HSE50MP	GASKE1741	GASKE2984
HSE60MP	GASKE111	GASKE120
HSE70MP	GASKE111	GASKE120
HSE80MP	GASKE111	GASKE120
HSE100MP	GASKE120	GASKE120
HSE125MP	GASKE120	GASKE120
MSE100	GASKE3163	GASKE3149
MSE200	GASKE175	GASKE184
MSE300	GASKE355	GASKE364
MSE500	GASKE355	GASKE364
MSE750	GASKE436	GASKE364
MSE1005	GASKE436	GASKE364
MSE1500	GASKE445	GASKE2584
MSE2005	GASKE1723	GASKE2953
MSE2505	GASKE1723	GASKE2953
MSE3006	GASKE1723	GASKE2953
MSE3305	GASKE1741	GASKE2984
MSE4005	GASKE1741	GASKE2984
MSE4505	GASKE1741	GASKE2984
MSE5005	GASKE1741	GASKE2984
MSE6505	GASKE111	GASKE120
MSE7505	GASKE111	GASKE120
MSE100HP	GASKE120	GASKE120
MSE120HP	GASKE120	GASKE120
MSE100Z	GASKE3163	GASKE3149
MSE200Z	GASKE175	GASKE184
MSE300Z	GASKE355	GASKE364
MSE500Z	GASKE355	GASKE364
MSE750Z	GASKE436	GASKE364

Standard Refrigeration

Condensers - Current Catalog Models		
Model	Front Gasket Article #	Rear Gasket Article #
MSE1005Z	GASKE436	GASKE364
MSE1500Z	GASKE445	GASKE2584
MSE2005Z	GASKE1723	GASKE2953
MSE2505Z	GASKE1723	GASKE2953
MSE3006Z	GASKE1723	GASKE2953
MSE3305Z	GASKE1741	GASKE2984
MSE4005Z	GASKE1741	GASKE2984
MSE4505Z	GASKE1741	GASKE2984
MSE5005Z	GASKE1741	GASKE2984
MSE6505Z	GASKE111	GASKE120
MSE7505Z	GASKE111	GASKE120
MSE100HPZ	GASKE120	GASKE120
MSE120HPZ	GASKE120	GASKE120
MSE200MP	GASKE3163	GASKE3149
MSE500MP	GASKE355	GASKE364
MSE750MP	GASKE436	GASKE364
MSE1005MP	GASKE436	GASKE364
MSE1500MP	GASKE445	GASKE2584
MSE2005MP	GASKE1723	GASKE2953
MSE2505MP	GASKE1723	GASKE2953
MSE3006MP	GASKE1723	GASKE2953
MSE3305MP	GASKE1741	GASKE2984
MSE4005MP	GASKE1741	GASKE2984
MST750	GASKE1723	GASKE2953
MST1005	GASKE1723	GASKE2953
MST1500	GASKE1741	GASKE2984
MST2005	GASKE1741	GASKE2984
MST2505	GASKE1741	GASKE2984
MST3006	GASKE1741	GASKE2984
MST3305	GASKE111	GASKE120
MST4005	GASKE111	GASKE120
SST75A	GASKE3156	GASKE346
SST100A	GASKE3163	GASKE3149
SST200A	GASKE3101	GASKE3170
SST300A	GASKE3101	GASKE3170
SST500A	GASKE3118	GASKE2584
SST750A	GASKE3118	GASKE2584
SST755A	GASKE3118	GASKE2584
SST1000A	GASKE1723	GASKE2953
SST1500A	GASKE1723	GASKE2953
SST1555A	GASKE2591	GASKE2984
SST2005A	GASKE2591	GASKE2984
SST2026A	GASKE2591	GASKE2984
SST2505A	GASKE2591	GASKE2984
SST2527A	GASKE2591	GASKE2984
SST3005A	GASKE2591	GASKE2984
SST3028A	GASKE2591	GASKE2984
SST3505A	GASKE2591	GASKE2984

Condensers - Current Catalog Models		
Model	Front Gasket Article #	Rear Gasket Article #
SST4005A	GASKE111	GASKE120
SST4505A	GASKE111	GASKE120
SST5005A	GASKE111	GASKE120
SST5505A	GASKE111	GASKE120
SST6005A	GASKE111	GASKE120
SST7005A	GASKE111	GASKE120
SST8005A	GASKE111	GASKE120
SST1001408A	GASKE120	GASKE120
SST1201408A	GASKE120	GASKE120
SST1501410A	GASKE120	GASKE120
SST2001412A	GASKE120	GASKE120
SST200MP	GASKE3101	GASKE3170
SST500MP	GASKE3118	GASKE2584
SST750MP	GASKE3118	GASKE2584
SST755MP	GASKE3118	GASKE2584
SST1000MP	GASKE1723	GASKE2953
SST1500MP	GASKE1723	GASKE2953
SST2005MP	GASKE2591	GASKE2984
SST2505MP	GASKE2591	GASKE2984
SST3005MP	GASKE2591	GASKE2984
ERD00636	GASKE19794	GASKE19794
ERD00648	GASKE19794	GASKE19794
ERD00660	GASKE18627	GASKE18627
ERD00748	GASKE18627	GASKE18627
ERD00760	GASKE18627	GASKE18627
ERD00848	GASKE19237	GASKE19237
ERD00860	GASKE19237	GASKE19237
ERD01048	GASKE19237	GASKE19237
ERD01060	GASKE19237	GASKE19237
ERD01160	GASKE19118	GASKE19118
ERD01260	GASKE19118	GASKE19118
ERD01360	Call	Call
ERS00336	GASKE19006	GASKE19006
ERS00436	GASKE19006	GASKE19006
ERS00448	GASKE19006	GASKE19006
ERS00536	GASKE19620	GASKE19620
ERS00548	GASKE19620	GASKE19620
ERS00560	GASKE19994	GASKE19994
ERS00636	GASKE18739	GASKE18739
ERS00648	GASKE18739	GASKE18739
ERS00660	GASKE18627	GASKE18627
ERS00748	GASKE18627	GASKE18627
ERS00760	GASKE18627	GASKE18627
ERS00860	GASKE19013	GASKE19013
ERS01048	GASKE19013	GASKE19013
ERS01060	GASKE19013	GASKE19013
ERS01160	GASKE19075	GASKE19075
ERS01260	GASKE19075	GASKE19075

Chillers/Evaporators- Current Catalog Models		
Model	Front Gasket Article #	Rear Gasket Article #
ERS01360	Call	Call
TX2-1	GASKE2865	GASKE2865
TX3-1	GASKE2865	GASKE2865
TX5-1	GASKE2872	GASKE2872
TX6-1	GASKE2872	GASKE2872
TX7 ½-1	GASKE4809	GASKE4816
TX10-1	GASKE4809	GASKE4816
TX12-1	GASKE2889	GASKE2889
TX15-1	GASKE2889	GASKE2889
TX20-1	GASKE2889	GASKE2889
TX25-1	GASKE2889	GASKE2889
TXC30-1	GASKE2218	GASKE2218
TXC40-1	GASKE2227	GASKE2227
TXC50-1	GASKE2227	GASKE2227
TXC60-1	GASKE2227	GASKE2227
TXC75-1	GASKE2227	GASKE2227
TXC100-1	GASKE2236	GASKE2236
TXC120-1	GASKE4892	GASKE4904
TX10-2	GASKE4809	GASKE2872
TX12-2	GASKE2889	GASKE2889
TX15-2	GASKE2889	GASKE2889
TX20-2	GASKE2889	GASKE2889
TX25-2	GASKE2889	GASKE2889
TXC30-2	GASKE2218	GASKE2218
TXC40-2	GASKE2227	GASKE2227
TXC50-2	GASKE2227	GASKE2227
TXC60-2	GASKE2227	GASKE2227
TXC75-2	GASKE2227	GASKE2227
TXC100-2	GASKE2236	GASKE2236
TXC120-2	GASKE4885	GASKE4892
TXC150-2	GASKE3549	GASKE3549
TXC175-2	GASKE5169	GASKE5169
TXC200-2	GASKE5169	GASKE5169
TXC250-2	GASKE3675	GASKE3675
TX15-3	GASKE18696	GASKE18696
TX20-4	GASKE2889	GASKE2889
TX2-1-410	GASKE2865	GASKE2865
TX3-1-410	GASKE2865	GASKE2865
TX5-1-410	GASKE2872	GASKE2872
TX6-1-410	GASKE2872	GASKE2872
TX7.5-1-410	GASKE2872	GASKE2872
TX10-1-410	GASKE2872	GASKE2872
TX12-1-410	GASKE2889	GASKE2889
TX15-1-410	GASKE2889	GASKE2889
TX20-1-410	GASKE2889	GASKE2889
TX25-1-410	GASKE2889	GASKE2889
TXC30 -1-410	GASKE2218	GASKE2218

Chillers/Evaporators- Current Catalog Models		
Model	Front Gasket Article #	Rear Gasket Article #
TXC40 -1-410	GASKE2227	GASKE2227
TXC50 -1-410	GASKE2227	GASKE2227
TXC60 -1-410	GASKE2227	GASKE2227
TXC75 -1-410	GASKE2227	GASKE2227
TXC100-1-410	GASKE19299	GASKE19299
TXC120-1-410	GASKE4892	GASKE4904
TX10-2-410	GASKE2872	GASKE2872
TX12-2-410	GASKE2889	GASKE2889
TX15-2-410	GASKE2889	GASKE2889
TX20-2-410	GASKE2889	GASKE2889
TX25-2-410	GASKE2889	GASKE2889
TXC30-2-410	GASKE2218	GASKE2218
TXC40-2-410	GASKE2227	GASKE2227
TXC50-2-410	GASKE2227	GASKE2227
TXC60-2-410	GASKE2227	GASKE2227
TXC75-2-410	GASKE2227	GASKE2227
TXC100-2-410	GASKE19299	GASKE19299
TXC120-2-410	GASKE4885	GASKE4892
TXC150-2-410	GASKE3549	GASKE3549
TXC175-2-410	GASKE3549	GASKE3549
TXC200-2-410	GASKE5169	GASKE5169
TXC30-2GLT	GASKE2218	GASKE2218
TXC40-2GLT	GASKE2227	GASKE2227
TXC50-2GLT	GASKE2227	GASKE2227
TXC60-2GLT	GASKE2227	GASKE2227
TXC75-2GLT	GASKE2227	GASKE2227
TXC100-2GLT	GASKE19299	GASKE19299
TXC120-2GLT	GASKE4885	GASKE4892
TXC150-2GLT	GASKE3549	GASKE3549
TXC175-2GLT	GASKE3549	GASKE3549
TXC200-2GLT	GASKE5169	GASKE5169
TXC30-2MPG	GASKE2218	GASKE2218
TXC40-2MPG	GASKE2227	GASKE2227
TXC50-2MPG	GASKE2227	GASKE2227
TXC60-2MPG	GASKE2227	GASKE2227
TXC75-2MPG	GASKE2227	GASKE2227
TXC100-2MPG	GASKE19299	GASKE19299
TXC120-2MPG	GASKE4885	GASKE4892
TXC150-2MPG	GASKE3549	GASKE3549
TXC175-2MPG	GASKE3549	GASKE3549
TXC200-2MPG	GASKE5169	GASKE5169

Condensers - Obsolete Units		
Model	Front Gasket Article #	Rear Gasket Article #
AHX605C-2P	GASKE20344	GASKE20344
AHX605D-2P	GASKE20344	GASKE20344
AHX805A-2P	GASKE20351	GASKE20351
AHX806A-2P	GASKE20351	GASKE20351
AHX1005A-2P	GASKE20368	GASKE20368
AHX1006A-2P	GASKE20368	GASKE20368
AHX1205A-2P	GASKE20375	GASKE20375
AHX1206A-2P	GASKE20375	GASKE20375
AHX1208A-2P	GASKE20375	GASKE20375
AHX1208B-2P	GASKE20375	GASKE20375
AHX06060001	GASKE20344	GASKE20344
AHX06060002	GASKE20344	GASKE20344
AHX08060000	GASKE20351	GASKE20351
AHX08072001	GASKE20351	GASKE20351
AHX10060001	GASKE20368	GASKE20368
AHX10072000	GASKE20368	GASKE20368
AHX12060000	GASKE20375	GASKE20375
AHX12072000	GASKE20375	GASKE20375
AHX12096004	GASKE20375	GASKE20375
AHX12096000	GASKE20375	GASKE20375
CRX602A-6P	GASKE16357	GASKE16357
CRX602B-6P	GASKE16357	GASKE16357
CRX603B-4P	GASKE16364	GASKE19364
CRX604C-4P	GASKE16364	GASKE19364
CRX604D-4P	GASKE16364	GASKE19364
CRX06024001	GASKE16357	GASKE16357
CRX06024002	GASKE16357	GASKE16357
CRX06036001	GASKE16364	GASKE16364
CRX06048000	GASKE16364	GASKE16364
CRX06048001	GASKE16364	GASKE16364
ELT50	GASKE2092	GASKE2100
ELT75	GASKE2092	GASKE2100
ELT100	GASKE2092	GASKE2100
ELT150	GASKE2092	GASKE2100
ELT200	GASKE2092	GASKE2100
ELT300	GASKE2191	GASKE2209
ELT500	GASKE2191	GASKE2209
ELT800	GASKE2461	GASKE2470
ELT1000	GASKE2461	GASKE2470
HSE20	GASKE1723	GASKE1732
HSE25	GASKE1723	GASKE1732
HSE30	GASKE1741	GASKE1750
HSE40	GASKE1741	GASKE1750
HSE50	GASKE1741	GASKE1750
KH1/2X	GASKE698A	GASKE698B
KH2X	GASKE698A	GASKE698B
KH3X	GASKE698A	GASKE698B
KH5X	GASKE706A	GASKE706B

Condensers - Obsolete Units		
Model	Front Gasket Article #	Rear Gasket Article #
KH7-1/2X	GASKE724A	GASKE724B
KH10X	GASKE724A	GASKE724B
MHX602B-4P	GASKE20344	GASKE20344
MHX602D-4P	GASKE20344	GASKE20344
MHX603D-4P	GASKE20344	GASKE20344
MHX604D-4P	GASKE20344	GASKE20344
MHX605D-2P	GASKE20344	GASKE20344
MHX606D-2P	GASKE20344	GASKE20344
MHX805A-2P	GASKE20351	GASKE20351
MHX806A-2P	GASKE20351	GASKE20351
MHX1005A-2P	GASKE20368	GASKE20368
MHX1006A-2P	GASKE20368	GASKE20368
MHX1008A-2P	GASKE20368	GASKE20368
MHX1205A-2P	GASKE20375	GASKE20375
MHX1208A-2P	GASKE20375	GASKE20375
MHX06024001	GASKE20344	GASKE20344
MHX06024000	GASKE20344	GASKE20344
MHX06036000	GASKE20344	GASKE20344
MHX06048000	GASKE20344	GASKE20344
MHX06060000	GASKE20344	GASKE20344
MHX06072000	GASKE20344	GASKE20344
MHX08060003	GASKE20351	GASKE20351
MHX08072000	GASKE20351	GASKE20351
MHX10060000	GASKE20368	GASKE20368
MHX10072000	GASKE20368	GASKE20368
MHX10096000	GASKE20368	GASKE20368
MHX12060000	GASKE20375	GASKE20375
MHX12096001	GASKE20375	GASKE20375
MS100	GASKE175	GASKE184
MS150	GASKE175	GASKE184
MS200	GASKE355	GASKE364
MS300	GASKE355	GASKE364
MS500	GASKE382	GASKE229
MS750	GASKE382	GASKE229
MS755	GASKE445	GASKE247
MS1000	GASKE445	GASKE247
MS1500	GASKE445	GASKE247
MS1501	GASKE1723	GASKE2953
MS1555	GASKE373	GASKE265
MS2005	GASKE373	GASKE265
MS2026	GASKE373	GASKE265
MS2505	GASKE373	GASKE265
MS2527	GASKE373	GASKE265
MS3005	GASKE373	GASKE265
MS3028	GASKE373	GASKE265
MS30-460M	GASKE166	GASKE111
MS35-520M	GASKE166	GASKE111
MS40-610M	GASKE111	GASKE120

Condensers - Obsolete Units		
Model	Front Gasket Article #	Rear Gasket Article #
MS45-680M	GASKE111	GASKE120
MS50-760M	GASKE111	GASKE120
MS55-850M	GASKE111	GASKE120
MS60-940M	GASKE111	GASKE120
MS70-1060M	GASKE111	GASKE120
MS80-1200M	GASKE111	GASKE120
MS100-1500M	GASKE111	GASKE120
MS120-1901M	GASKE120	GASKE120
MS125-1900M	GASKE111	GASKE120
MS100Z	GASKE175	GASKE184
MS150Z	GASKE175	GASKE184
MS200Z	GASKE355	GASKE364
MS300Z	GASKE355	GASKE364
MS500Z	GASKE382	GASKE229
MS750Z	GASKE382	GASKE229
MS755Z	GASKE445	GASKE247
MS1000Z	GASKE445	GASKE247
MS1501Z	GASKE1723	GASKE2953
MS1555Z	GASKE373	GASKE265
MS2005Z	GASKE373	GASKE265
MS2026Z	GASKE373	GASKE265
MS2505Z	GASKE373	GASKE265
MS2527Z	GASKE373	GASKE265
MS3005Z	GASKE373	GASKE265
MS3028Z	GASKE373	GASKE265
SM3	GASKE355	GASKE364
SM5	GASKE445	GASKE247
SM7	GASKE445	GASKE247
SM10	GASKE445	GASKE247
SM15	GASKE445	GASKE247
SM20	GASKE445	GASKE247
SM21S	GASKE373	GASKE265
SM25	GASKE445	GASKE247
SM26S	GASKE166	GASKE111
SM30	GASKE445	GASKE247
SM31S	GASKE166	GASKE111
SM35	GASKE373	GASKE265
SM36S	GASKE166	GASKE111
SM40	GASKE373	GASKE265
SM50	GASKE111	GASKE120
SM60	GASKE111	GASKE120
SM70	GASKE111	GASKE120
SST75	GASKE337	GASKE346
SST100	GASKE175	GASKE184
SST150	GASKE175	GASKE184
SST200	GASKE193	GASKE201
SST300	GASKE193	GASKE201
SST500	GASKE210	GASKE229

Condensers - Obsolete Units		
Model	Front Gasket Article #	Rear Gasket Article #
SST750	GASKE210	GASKE229
SST755	GASKE238	GASKE247
SST1000	GASKE238	GASKE247
SST1501	GASKE2977	GASKE2584
SST1555	GASKE256	GASKE265
SST2005	GASKE256	GASKE265
SST2026	GASKE256	GASKE265
SST2505	GASKE256	GASKE265
SST2527	GASKE256	GASKE265
SST3005	GASKE256	GASKE265
SST3028	GASKE256	GASKE265
SST30-460M	GASKE166	GASKE111
SST35-520M	GASKE166	GASKE111
SST40-610M	GASKE111	GASKE120
SST45-680M	GASKE111	GASKE120
SST50-760M	GASKE111	GASKE120
SST55-850M	GASKE111	GASKE120
SST60-940M	GASKE111	GASKE120
SST70-1060M	GASKE111	GASKE120
SST80-1200M	GASKE111	GASKE120
SST100-1500M	GASKE111	GASKE120
SST126-1905M	GASKE120	GASKE120
SST150-2250M	GASKE2254	GASKE2254
SST200-3000M	GASKE2263	GASKE2263
SST250-3750M	GASKE1679	GASKE1679
SST300-4500M	GASKE1688	GASKE1688
SST350-5250M	GASKE1688	GASKE1688
SST400-6000M	GASKE2290	GASKE2290
SST500-7500M	GASKE2290	GASKE2290
SWT50	GASKE2092	GASKE2092
SWT75	GASKE2092	GASKE2092
SWT100	GASKE2092	GASKE2092
SWT150	GASKE2092	GASKE2092
SWT200	GASKE2191	GASKE2191
SWT300	GASKE2191	GASKE2191
SWT500	GASKE2191	GASKE2191
TNT50	GASKE2074	GASKE2083
TNT75	GASKE2074	GASKE2083
TNT100	GASKE2074	GASKE2083
TNT150	GASKE2092	GASKE2100
TNT200	GASKE2092	GASKE2100

Chillers/Evaporators - Obsolete Units		
Model	Front Gasket Article #	Rear Gasket Article #
DXT503-Q-4P-1C	GASKE10180	GASKE10180
DXT504-Q-4P-1C	GASKE10180	GASKE10180
DXT505-Q-4P-1C	GASKE10180	GASKE10180
DXT605-Q-4P-1C	GASKE10254	GASKE10254
DXT804-Q-4P-1C	GASKE10247	GASKE10247
DXT804-Q-4P-2C	GASKE10247	GASKE10247
DXT805-Q-4P-1C	GASKE10247	GASKE10247
DXT805-Q-4P-2C	GASKE10247	GASKE10247
DXT806-R-2P-1C	GASKE10247	GASKE10247
DXT806-R-2P-2C	GASKE10247	GASKE10247
DXT807-R-2P-1C	GASKE10247	GASKE10247
DXT1007-S-2P-2C	GASKE10216	GASKE10216
DXT1008-S-2P-2C	GASKE10216	GASKE10216
DXT1009-S-2P-2C	GASKE10216	GASKE10216
DXT1208-S-2P-2C	GASKE23455	GASKE23455
DXT1410-S-2P-2C	GASKE23567	GASKE23567
DXT1610-S-2P-2C	GASKE16245	GASKE16245
DXT1810-RS-2P-2C	GASKE16340	GASKE16340
DXT2010-RS-2P-2C	GASKE16238	GASKE16238
DXT05036000	GASKE10180	GASKE10180
DXT05048001	GASKE10180	GASKE10180
DXT05060000	GASKE10180	GASKE10180
DXT06060003	GASKE10254	GASKE10254
DXT08048002	GASKE10247	GASKE10247
DXT08048003	GASKE10247	GASKE10247
DXT08060004	GASKE10247	GASKE10247
DXT08060006	GASKE10247	GASKE10247
DXT08072002	GASKE10247	GASKE10247
DXT08072004	GASKE10247	GASKE10247
DXT08084003	GASKE10247	GASKE10247
DXT10084002	GASKE10216	GASKE10216
DXT10096004	GASKE10216	GASKE10216
DXT10108003	GASKE10216	GASKE10216
DXT12096004	GASKE23455	GASKE23455
DXT14120003	GASKE23567	GASKE23567
DXT16120006	GASKE16245	GASKE16245
DXT18120006	GASKE16340	GASKE16340
DXT20120000	GASKE16238	GASKE16238
FSX5-1	GASKE18889	GASKE18896
FSX10-1	GASKE2218	GASKE2218
FSX15-1	GASKE2218	GASKE2218
FSX20-1	GASKE2227	GASKE2227
FSX25-1	GASKE2227	GASKE2227
FSX30-1	GASKE2227	GASKE2227
FSX40-1	GASKE2236	GASKE2236
FSX50-1	GASKE2236	GASKE2236
FSX60-1	GASKE2245	GASKE2245
FSX75-1	GASKE2245	GASKE2245

Due to some of these models being out of production for some time, availability of spares can be limited. Call the factory for lead times

Chillers/Evaporators - Obsolete Units		
Model	Front Gasket Article #	Rear Gasket Article #
FSX120-1	GASKE3549	GASKE3549
FSX10-2	GASKE2218	GASKE2218
FSX15-2	GASKE2218	GASKE2218
FSX20-2	GASKE2227	GASKE2227
FSX25-2	GASKE2227	GASKE2227
FSX30-2	GASKE2227	GASKE2227
FSX40-2	GASKE2236	GASKE2236
FSX50-2	GASKE2236	GASKE2236
FSX60-2	GASKE2245	GASKE2245
FSX100-2	GASKE4885	GASKE4892
FSX120-2	GASKE3549	GASKE3549
FSX150-2	GASKE5169	GASKE5169
FSX200-2	GASKE3675	GASKE3675
TXB30-1	GASKE2227	GASKE2227
TXB35-1	GASKE2227	GASKE2227
TXB40-1	GASKE2227	GASKE2227
TXB50-1	GASKE2236	GASKE2236
TXB60-1	GASKE2236	GASKE2236
TXB75-1	GASKE2236	GASKE2236
TXB30-2	GASKE2227	GASKE2227
TXB35-2	GASKE2227	GASKE2227
TXB40-2	GASKE2227	GASKE2227
TXB50-2	GASKE2236	GASKE2236
TXB60-2	GASKE2236	GASKE2236
TXB75-2	GASKE2236	GASKE2236
TXB120-2	GASKE3549	GASKE3549

Due to some of these models being out of production for some time, availability of spares can be limited. Call the factory for lead times

Alfa Laval Standard replacement endplates and heads

Endplates and heads

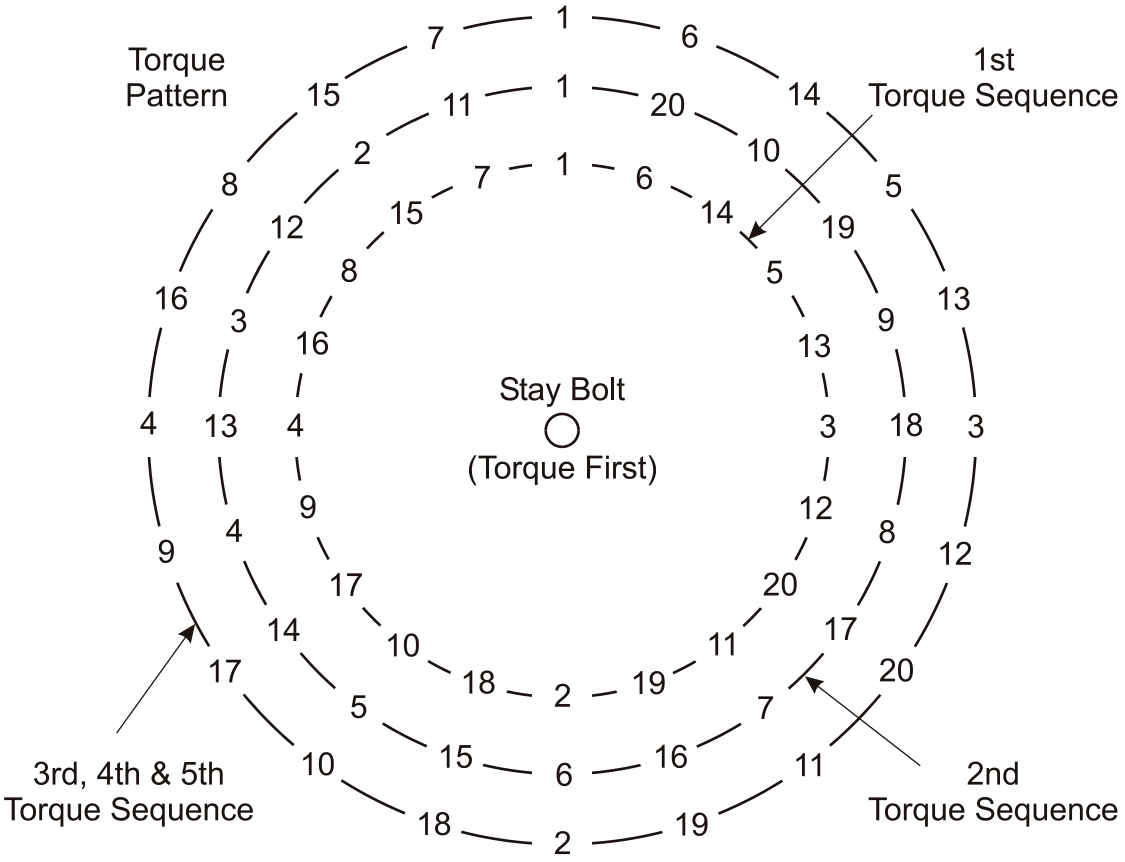
Replacement endplates and heads are available to extend the life of the heat exchanger. Every time the endplate or head is removed from a heat exchanger the gasket must be replaced. Gasket replacement ensures a proper seal and eliminates potential leaks.

Torque Chart

There are numerous bolt patterns used on our chillers and condensers. If the unit that you are working on does not match one of the illustrations use the written instructions below.

1. Start at a top bolt or 12 o'clock, torque bolt.
2. Move 180 degrees to a bottom bolt or 6 o'clock, torque bolt.
3. Move 90 degrees to a bolt at 9 o'clock, torque bolt.
4. Move 180 degrees to a bolt at 3 o'clock, torque bolt.
5. Go back to the top and move clockwise one bolt and start the sequence over. Continue using the steps outlined above, using the torque steps listed in the table.

Standard Refrigeration



How to contact Alfa Laval
Up-to-date Alfa Laval contact details for all countries are always available on our website at www.alfalaval.com

Alfa Laval Standard replacement endplates and heads

Technical specifications

Condenser Endplate Bolt Torque

Bolt Diameter	Wrench Size	Torque Step 1	Torque Step 2	Torque Step 3
3/8”	9/16” HEX	15	30	N/A
1/2”	3/4” HEX	30	50	70
5/8”	15/16” HEX	35	70	120
3/4”	1-1/8” HEX	40	90	140

All torque values are shown in pound-foot.
Always tighten the bolts in a crisscross sequence.

Chiller Head Bolt Torque

Bolt Diameter	Wrench Size	Torque Step 1	Torque Step 2	Torque Step 3
1/4”	3/16” Allen	5	10	N/A
3/8”	5/16” Allen 9/16” Hex	15	30	N/A
1/2”	3/4” Hex 7/8” Hex*	30	50	70
5/8”	15/16” Hex 1-1/16” Hex*	35	70	120
3/4”	1-1/8” Hex 1-1/4” Hex*	40	90	140

All torque values are shown in pound-foot.
*Units designed for low temperature operation (-20°F and below) will use B7 or B7M bolts. These bolts have larger heads.

Standard Refrigeration

Alternative Options

For units not listed on the tables below, please contact the factory.

Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Condensers - Current Catalog Models		
Model	Front Endplate Article #	Rear Endplate Article #
AMC0810-2	ENDPL2027	ENDPL2034
AMC1010-2	ENDPL2401	ENDPL2058
AMC1210-2	Call	Call
AMC1410-2	ENDPL2089	ENDPL2096
AMC1610-2	ENDPL2108	ENDPL2115
AMC1810-2	ENDPL2122	ENDPL2139
AMC2010-2	Call	Call
CA050	ENDPL2876	ENDPL2885
CA075	ENDPL2911	ENDPL2902
CA100	ENDPL2911	ENDPL2902
CA150	ENDPL2920	ENDPL2948
CA200	ENDPL2894	ENDPL2902
CA300	ENDPL2939	ENDPL6755
CA050MP	ENDPL2876	ENDPL2885
CA075MP	ENDPL2911	ENDPL2902
CA100MP	ENDPL2911	ENDPL2902
CA150MP	ENDPL8001	ENDPL8032
CA200MP	ENDPL8320	ENDPL8337
CA300MP	ENDPL8344	ENDPL8351
ELT100A	ENDPL3055	ENDPL3073
ELT150A	ENDPL3055	ENDPL3073
ELT200A	ENDPL3055	ENDPL3055
ELT300A	ENDPL3253	ENDPL3271
ELT500A	ENDPL3253	ENDPL3271
ELT800A	ENDPL3499	ENDPL3482
ELT1000A	ENDPL3499	ENDPL3482
HP10	ENDPL22757	ENDPL22757
HP15	ENDPL22757	ENDPL22757
HP20	ENDPL22757	ENDPL22757
HP30A	ENDPL3499	ENDPL3501
HP40A	ENDPL3499	ENDPL3501
HP50A	ENDPL3475	ENDPL3482
HP60A	ENDPL3475	ENDPL3482
HP80A	ENDPL3518	ENDPL3525
HSE2	ENDPL6986	ENDPL30
HSE3	ENDPL7246	ENDPL5026
HSE5	ENDPL6229	ENDPL76
HSE7	ENDPL5552	ENDPL76
HSE10	ENDPL5552	ENDPL76
HSE15	ENDPL5495	ENDPL21
HSE20A	ENDPL5707	ENDPL4047
HSE25A	ENDPL5707	ENDPL4047
HSE30A	ENDPL5583	ENDPL4180
HSE40A	ENDPL6900	ENDPL4180

Condensers - Current Catalog Models		
Model	Front Endplate Article #	Rear Endplate Article #
HSE50A	ENDPL6900	ENDPL4180
HSE60	ENDPL247	ENDPL238
HSE70	ENDPL247	ENDPL238
HSE80	ENDPL247	ENDPL238
HSE100	ENDPL2245	ENDPL2245
HSE125	ENDPL2245	ENDPL2245
HSE150	HEAD1039	HEAD1039
HSE200	HEAD1048	HEAD1048
HSE250	HEAD1057	HEAD1057
HSE300	HEAD1066	HEAD1066
HSE350	HEAD1066	HEAD1066
HSE400	HEAD1921	HEAD1921
HSE500	HEAD1921	HEAD1921
HSE2MP	ENDPL6986	ENDPL30
HSE3MP	ENDPL6162	ENDPL76
HSE5MP	ENDPL6229	ENDPL76
HSE7MP	ENDPL5552	ENDPL76
HSE10MP	ENDPL5552	ENDPL76
HSE15MP	ENDPL5495	ENDPL21
HSE20MP	ENDPL5707	ENDPL4047
HSE25MP	ENDPL5707	ENDPL4047
HSE30MP	ENDPL5583	ENDPL4180
HSE40MP	ENDPL6900	ENDPL4180
HSE50MP	ENDPL6900	ENDPL4180
HSE60MP	ENDPL247	ENDPL238
HSE70MP	ENDPL247	ENDPL238
HSE80MP	ENDPL247	ENDPL238
HSE100MP	ENDPL2245	ENDPL2245
HSE125MP	ENDPL2245	ENDPL2245
MSE100	ENDPL6436	ENDPL300
MSE200	ENDPL6436	ENDPL300
MSE300	ENDPL6386	ENDPL337
MSE500	ENDPL6386	ENDPL337
MSE750	ENDPL6281	ENDPL4461
MSE1005	ENDPL6281	ENDPL4461
MSE1500	ENDPL5752	ENDPL4104
MSE2005	ENDPL5752	ENDPL4104
MSE2505	ENDPL5752	ENDPL4104
MSE3006	ENDPL6467	ENDPL4104
MSE3305	ENDPL6481	ENDPL5114
MSE4005	ENDPL6481	ENDPL5114
MSE4505	ENDPL6481	ENDPL5114
MSE5005	ENDPL6481	ENDPL5114

Condensers - Current Catalog Models		
Model	Front Endplate Article #	Rear Endplate Article #
MSE6505	ENDPL2542	ENDPL5233
MSE7505	ENDPL2542	ENDPL5233
MSE100HP	ENDPL4085	ENDPL4085
MSE120HP	ENDPL5790	ENDPL5790
MSE100Z	ENDPL6436	ENDPL4454
MSE200Z	ENDPL6436	ENDPL4454
MSE300Z	ENDPL6386	ENDPL4461
MSE500Z	ENDPL6386	ENDPL4461
MSE750Z	ENDPL6281	ENDPL6362
MSE1005Z	ENDPL6281	ENDPL6362
MSE1500Z	ENDPL5752	ENDPL4485
MSE2005Z	ENDPL5752	ENDPL4485
MSE2505Z	ENDPL5752	ENDPL4485
MSE3006Z	ENDPL6467	ENDPL4485
MSE3305Z	ENDPL6481	ENDPL5776
MSE4005Z	ENDPL6481	ENDPL5776
MSE4505Z	ENDPL6481	ENDPL5776
MSE5005Z	ENDPL6481	ENDPL5776
MSE6505Z	ENDPL2542	ENDPL5783
MSE750MP	ENDPL6281	ENDPL4461
MSE100HPZ	ENDPL5790	ENDPL5790
MSE120HPZ	ENDPL5790	ENDPL5790
MSE200MP	ENDPL6436	ENDPL300
MSE500MP	ENDPL6386	ENDPL337
MSE1005MP	ENDPL6281	ENDPL4461
MSE1500MP	ENDPL5752	ENDPL4104
MSE2005MP	ENDPL5752	ENDPL8287
MSE2505MP	ENDPL5752	ENDPL8287
MSE3006MP	ENDPL5752	ENDPL8287
MSE3305MP	ENDPL6481	ENDPL5114
MSE4005MP	ENDPL6481	ENDPL5114
MSE7505Z	ENDPL2542	ENDPL5783
MST750	ENDPL8375	ENDPL8382
MST1005	ENDPL8399	ENDPL8401
MST1500	ENDPL8425	ENDPL8418
MST2005	ENDPL6481	ENDPL5114
MST2505	ENDPL6481	ENDPL5114
MST3006	ENDPL6481	ENDPL5114
MST3305	ENDPL8449	ENDPL8432
MST4005	ENDPL8456	ENDPL8463
SST75A	ENDPL4304	ENDPL30
SST100A	ENDPL5040	ENDPL5026
SST200A	ENDPL5819	ENDPL76

Condensers - Current Catalog Models		
Model	Front Endplate Article #	Rear Endplate Article #
SST300A	ENDPL5819	ENDPL76
SST500A	ENDPL5938	ENDPL4047
SST750A	ENDPL5938	ENDPL4047
SST755A	ENDPL5938	ENDPL4047
SST1000A	ENDPL6605	ENDPL4047
SST1500A	ENDPL5576	ENDPL4047
SST1555A	ENDPL5907	ENDPL4180
SST2005A	ENDPL5914	ENDPL4180
SST2026A	ENDPL5914	ENDPL4180
SST2505A	ENDPL6205	ENDPL4180
SST2527A	ENDPL6205	ENDPL4180
SST3005A	ENDPL6205	ENDPL4180
SST3028A	ENDPL6205	ENDPL4180
SST3505A	ENDPL6205	ENDPL4180
SST4005A	ENDPL210	ENDPL238
SST4505A	ENDPL210	ENDPL238
SST5005A	ENDPL247	ENDPL238
SST5505A	ENDPL247	ENDPL238
SST6005A	ENDPL247	ENDPL238
SST7005A	ENDPL247	ENDPL238
SST8005A	ENDPL247	ENDPL238
SST1001408A	ENDPL2245	ENDPL2245
SST1201408A	ENDPL2245	ENDPL2245
SST1501410A	ENDPL2245	ENDPL2245
SST2001412A	Call	Call
SST200MP	ENDPL3101	ENDPL3170
SST500MP	ENDPL3118	ENDPL2584
SST750MP	ENDPL3118	ENDPL2584
SST755MP	ENDPL3118	ENDPL2584
SST1000MP	ENDPL1723	ENDPL2953
SST1500MP	ENDPL1723	ENDPL2953
SST2005MP	ENDPL2591	ENDPL2984
SST2505MP	ENDPL2591	ENDPL2984
SST3005MP	ENDPL2591	ENDPL2984

Chillers/Evaporators- Current Catalog Models		
Model	Front Endplate Article #	Rear Endplate Article ##
ERD00636	HEAD25468	HEAD25475
ERD00648	HEAD25468	HEAD25475
ERD00660	HEAD28436	HEAD28443
ERD00748	HEAD28436	HEAD28443
ERD00760	HEAD28436	HEAD28443
ERD00848	HEAD24427	HEAD24515
ERD00860	HEAD24515	HEAD24427
ERD01048	HEAD24515	HEAD24427
ERD01060	HEAD24515	HEAD24427
ERD01160	HEAD24227	HEAD24234
ERD01260	HEAD24227	HEAD24234
ERD01360	Call	Call
ERS00336	HEAD24384	HEAD24377

Chillers/Evaporators- Current Catalog Models		
Model	Front Endplate Article #	Rear Endplate Article ##
ERS00436	HEAD23974	HEAD23967
ERS00448	HEAD23974	HEAD23967
ERS00536	HEAD25156	HEAD25149
ERS00548	HEAD25156	HEAD25149
ERS00560	HEAD25956	HEAD25963
ERS00636	HEAD23448	HEAD23455
ERS00648	HEAD23448	HEAD23455
ERS00660	HEAD24708	HEAD24715
ERS00748	HEAD23248	HEAD23255
ERS00760	HEAD23248	HEAD23255
ERS00860	HEAD24003	HEAD24010
ERS01048	HEAD24722	HEAD24739
ERS01060	HEAD24722	HEAD24739
ERS01160	HEAD24108	HEAD24115
ERS01260	HEAD26704	HEAD24115
ERS01360	Call	Call
TX2-1	HEAD3444	HEAD3451
TX3-1	HEAD3444	HEAD3451
TX5-1	HEAD3501	HEAD3682
TX6-1	HEAD3501	HEAD3682
TX7 ½-1	HEAD3468	HEAD3682
TX10-1	HEAD3468	HEAD3682
TX12-1	HEAD3794	HEAD3701
TX15-1	HEAD3482	HEAD3701
TX20-1	HEAD3482	HEAD3701
TX25-1	HEAD3532	HEAD3701
TXC30-1	HEAD21992	HEAD21985
TXC40-1	HEAD22021	HEAD22038
TXC50-1	HEAD22069	HEAD22038
TXC60-1	HEAD22076	HEAD22038
TXC75-1	HEAD22102	HEAD22038
TXC100-1	HEAD23824	HEAD5390
TXC120-1	HEAD5176	HEAD5183
TX10-2	HEAD3668	HEAD3675
TX12-2	HEAD3813	HEAD3699
TX15-2	HEAD3620	HEAD3699
TX20-2	HEAD3620	HEAD3699
TX25-2	HEAD3620	HEAD3699
TXC30-2	HEAD22014	HEAD31318
TXC40-2	HEAD22045	HEAD22052
TXC50-2	HEAD22045	HEAD22052
TXC60-2	HEAD22090	HEAD22052
TXC75-2	HEAD22119	HEAD22052
TXC100-2	HEAD24434	HEAD5419
TXC120-2	HEAD4692	HEAD5202
TXC150-2	HEAD27307	HEAD5688
TXC175-2	HEAD22940	HEAD5495
TXC200-2	HEAD22940	HEAD5495
TXC250-2	HEAD36168	HEAD5914
TX15-3×	HEAD7589	HEAD7596
TX20-4×	HEAD7558	HEAD7541
TX2-1-410	HEAD21992	HEAD21985

Chillers/Evaporators- Current Catalog Models		
Model	Front Endplate Article #	Rear Endplate Article ##
TX3-1-410	HEAD33790	HEAD33783
TX5-1-410	HEAD35134	HEAD35141
TX6-1-410	HEAD35134	HEAD35141
TX7.5-1-410	HEAD35165	HEAD35141
TX10-1-410	HEAD35165	HEAD35141
TX12-1-410	HEAD35172	HEAD35189
TX15-1-410	HEAD35172	HEAD35189
TX20-1-410	HEAD35253	HEAD35189
TX25-1-410	HEAD35253	HEAD35189
TXC30 -1-410	HEAD35653	HEAD35660
TXC40 -1-410	HEAD38726	HEAD22038
TXC50 -1-410	HEAD33057	HEAD22038
TXC60 -1-410	HEAD22021	HEAD22038
TXC75 -1-410	HEAD22076	HEAD22038
TXC100-1-410	HEAD35684	HEAD35691
TXC120-1-410	HEAD35703	HEAD35710
TX10-2-410	HEAD33752	HEAD33769
TX12-2-410	HEAD35196	HEAD33745
TX15-2-410	HEAD35196	HEAD33745
TX20-2-410	HEAD35196	HEAD33745
TX25-2-410	HEAD33738	HEAD33745
TXC30-2-410	HEAD35365	HEAD35372
TXC40-2-410	HEAD35741	HEAD22052
TXC50-2-410	HEAD35334	HEAD22052
TXC60-2-410	HEAD35334	HEAD22052
TXC75-2-410	HEAD35758	HEAD22052
TXC100-2-410	HEAD35765	HEAD27088
TXC120-2-410	HEAD35772	HEAD35796
TXC150-2-410	HEAD35808	HEAD35815
TXC175-2-410	HEAD38171	HEAD35815
TXC200-2-410	HEAD409446	HEAD35396
TXC30-2GLT	HEAD22014	HEAD31318
TXC40-2GLT	HEAD22045	HEAD22052
TXC50-2GLT	HEAD22045	HEAD22052
TXC60-2GLT	HEAD22090	HEAD22052
TXC75-2GLT	HEAD22119	HEAD22052
TXC100-2GLT	HEAD24434	HEAD5419
TXC120-2GLT	HEAD4692	HEAD5202
TXC150-2GLT	HEAD27307	HEAD5688
TXC175-2GLT	HEAD22940	HEAD5495
TXC200-2GLT	HEAD22940	HEAD5495
TXC30-2MPG	HEAD22014	HEAD31318
TXC40-2MPG	HEAD22045	HEAD22052
TXC50-2MPG	HEAD22045	HEAD22052
TXC60-2MPG	HEAD22090	HEAD22052
TXC75-2MPG	HEAD22119	HEAD22052
TXC100-2MPG	HEAD24434	HEAD5419
TXC120-2MPG	HEAD4692	HEAD5202
TXC150-2MPG	HEAD27307	HEAD5688
TXC175-2MPG	HEAD22940	HEAD5495
TXC200-2MPG	HEAD22940	HEAD5495

Condensers - Obsolete Units		
Model	Front Endplate Article #	Rear Endplate Article #
AHX605C-2P	HEAD21266	HEAD21273
AHX605D-2P	HEAD21266	HEAD21273
AHX805A-2P	HEAD21316	HEAD21309
AHX806A-2P	HEAD21316	HEAD21309
AHX1005A-2P	HEAD21204	HEAD21211
AHX1006A-2P	HEAD21204	HEAD21211
AHX1205A-2P	HEAD18977	HEAD21235
AHX1206A-2P	HEAD11426	HEAD11426
AHX1208A-2P	HEAD11426	HEAD11426
AHX1208B-2P	HEAD11426	HEAD11426
AHX06060001	HEAD21266	HEAD21273
AHX06060002	HEAD21266	HEAD21273
AHX08060000	HEAD21316	HEAD21309
AHX08072001	HEAD21316	HEAD21309
AHX10060001	HEAD21204	HEAD21211
AHX10072000	HEAD21204	HEAD21211
AHX12060000	HEAD18977	HEAD21235
AHX12072000	HEAD11426	HEAD11426
AHX12096004	HEAD11426	HEAD11426
AHX12096000	HEAD11426	HEAD11426
CRX602A-6P	HEAD36201	HEAD36463
CRX602B-6P	HEAD36201	HEAD36463
CRX603B-4P	HEAD36201	HEAD36463
CRX604C-4P	HEAD36201	HEAD36463
CRX604D-4P	HEAD36201	HEAD36463
CRX06024001	HEAD36201	HEAD36463
CRX06024002	HEAD36201	HEAD36463
CRX06036001	HEAD36201	HEAD36463
CRX06048000	HEAD36201	HEAD36463
CRX06048001	HEAD36201	HEAD36463
ELT50	ENDPL3046	ENDPL3064
ELT75	ENDPL3046	ENDPL3064
ELT100	ENDPL3046	ENDPL3064
ELT150	ENDPL3046	ENDPL3064
ELT200	ENDPL3424	ENDPL3424
ELT300	ENDPL3262	ENDPL3280
ELT500	ENDPL3262	ENDPL3280
ELT800	ENDPL3475	ENDPL3482
ELT1000	ENDPL3475	ENDPL3482
HSE20	ENDPL2227	ENDPL21
HSE25	ENDPL2227	ENDPL21
HSE30	ENDPL2236	ENDPL4180
HSE40	ENDPL2236	ENDPL4180
HSE50	ENDPL2236	ENDPL4180
KH1/2X	ENDPL1840	ENDPL1796
KH2X	ENDPL1840	ENDPL1796
KH3X	ENDPL1840	ENDPL1796
KH5X	ENDPL1859	ENDPL1813
KH7-1/2X	ENDPL1868	ENDPL1831
KH10X	ENDPL1868	ENDPL1831
MHX602B-4P	HEAD11457	HEAD21178
MHX602D-4P	HEAD11457	HEAD21178

Condensers - Obsolete Units		
Model	Front Endplate Article #	Rear Endplate Article #
MHX603D-4P	HEAD11457	HEAD21178
MHX604D-4P	HEAD11457	HEAD21178
MHX605D-2P	HEAD21185	HEAD21192
MHX606D-2P	HEAD21185	HEAD21192
MHX805A-2P	HEAD21323	HEAD21330
MHX806A-2P	HEAD21323	HEAD21330
MHX1005A-2P	HEAD21347	HEAD21147
MHX1006A-2P	HEAD21347	HEAD21147
MHX1008A-2P	HEAD21347	HEAD21147
MHX1205A-2P	HEAD18960	HEAD21161
MHX1208A-2P	HEAD18960	HEAD21161
MHX06024001	HEAD11457	HEAD21178
MHX06024000	HEAD11457	HEAD21178
MHX06036000	HEAD11457	HEAD21178
MHX06048000	HEAD11457	HEAD21178
MHX06060000	HEAD21185	HEAD21192
MHX06072000	HEAD21185	HEAD21192
MHX08060003	HEAD21323	HEAD21330
MHX08072000	HEAD21323	HEAD21330
MHX10060000	HEAD21347	HEAD21147
MHX10072000	HEAD21347	HEAD21147
MHX10096000	HEAD21347	HEAD21147
MHX12060000	HEAD18960	HEAD21161
MHX12096001	HEAD18960	HEAD21161
MS100	ENDPL328	ENDPL300
MS150	ENDPL328	ENDPL300
MS200	ENDPL2452	ENDPL337
MS300	ENDPL2452	ENDPL337
MS500	ENDPL2461	ENDPL355
MS750	ENDPL2470	ENDPL355
MS755	ENDPL3334	ENDPL355
MS1000	ENDPL3334	ENDPL355
MS1500	ENDPL2489	ENDPL355
MS1501	ENDPL2489	ENDPL4104
MS1555	ENDPL2498	ENDPL373
MS2005	ENDPL2506	ENDPL373
MS2026	ENDPL2506	ENDPL373
MS2505	ENDPL2506	ENDPL373
MS2527	ENDPL2506	ENDPL373
MS3005	ENDPL2506	ENDPL373
MS3028	ENDPL2506	ENDPL373
MS30-460M	ENDPL2524	ENDPL2597
MS35-520M	ENDPL2524	ENDPL2597
MS40-610M	ENDPL2533	ENDPL2605
MS45-680M	ENDPL2533	ENDPL2605
MS50-760M	ENDPL2533	ENDPL2605
MS55-850M	ENDPL2533	ENDPL2605
MS60-940M	ENDPL2533	ENDPL2605
MS70-1060M	ENDPL2542	ENDPL2605
MS80-1200M	ENDPL2542	ENDPL2605
MS100-1500M	ENDPL2542	ENDPL2605
MS120-1901M	ENDPL4092	ENDPL4092

Condensers - Obsolete Units		
Model	Front Endplate Article #	Rear Endplate Article #
MS125-1900M	ENDPL2542	ENDPL2605
MS100Z	ENDPL328	ENDPL4454
MS150Z	ENDPL328	ENDPL4454
MS200Z	ENDPL2452	ENDPL4461
MS300Z	ENDPL2452	ENDPL4461
MS500Z	ENDPL2461	ENDPL4478
MS750Z	ENDPL2470	ENDPL4478
MS755Z	ENDPL3334	ENDPL4478
MS1000Z	ENDPL3334	ENDPL4478
MS1501Z	ENDPL2489	ENDPL4485
MS1555Z	ENDPL2498	ENDPL4492
MS2005Z	ENDPL2506	ENDPL4492
MS2026Z	ENDPL2506	ENDPL4492
MS2505Z	ENDPL2506	ENDPL4492
MS2527Z	ENDPL2506	ENDPL4492
MS3005Z	ENDPL2506	ENDPL4492
MS3028Z	ENDPL2506	ENDPL4492
SM3	ENDPL2452	ENDPL337
SM5	ENDPL3956	ENDPL355
SM7	ENDPL3334	ENDPL355
SM10	ENDPL3334	ENDPL355
SM15	ENDPL2489	ENDPL355
SM20	ENDPL3918	ENDPL355
SM21S	ENDPL2506	ENDPL373
SM25	ENDPL3918	ENDPL355
SM26S	ENDPL2524	ENDPL2597
SM30	ENDPL3918	ENDPL355
SM31S	ENDPL2524	ENDPL2597
SM35	ENDPL3901	ENDPL373
SM36S	ENDPL2524	ENDPL2597
SM40	ENDPL3901	ENDPL373
SM50	ENDPL2533	ENDPL2605
SM60	ENDPL3868	ENDPL2605
SM70	ENDPL2542	ENDPL2605
SST75	ENDPL49	ENDPL30
SST100	ENDPL67	ENDPL58
SST150	ENDPL67	ENDPL58
SST200	ENDPL85	ENDPL76
SST300	ENDPL85	ENDPL76
SST500	ENDPL120	ENDPL21
SST750	ENDPL12	ENDPL21
SST755	ENDPL12	ENDPL21
SST1000	ENDPL12	ENDPL21
SST1501	ENDPL175	ENDPL4047
SST1555	ENDPL193	ENDPL184
SST2005	ENDPL148	ENDPL184
SST2026	ENDPL148	ENDPL184
SST2505	ENDPL148	ENDPL184
SST2527	ENDPL148	ENDPL184
SST3005	ENDPL148	ENDPL184
SST3028	ENDPL148	ENDPL184
SST30-460M	ENDPL166	ENDPL157

Due to some of these models being out of production for some time, availability of spares can be limited. Call the factory for lead times

Condensers - Obsolete Units		
Model	Front Endplate Article #	Rear Endplate Article #
SST35-520M	ENDPL201	ENDPL157
SST40-610M	ENDPL210	ENDPL238
SST45-680M	ENDPL210	ENDPL238
SST50-760M	ENDPL210	ENDPL238
SST55-850M	ENDPL210	ENDPL238
SST60-940M	ENDPL247	ENDPL238
SST70-1060M	ENDPL247	ENDPL238
SST80-1200M	ENDPL247	ENDPL238
SST100-1500M	ENDPL2245	ENDPL2245
SST126-1905M	ENDPL3994	ENDPL3994
SST150-2250M	HEAD1039	ENDPL1039
SST200-3000M	HEAD1048	ENDPL1048
SST250-3750M	HEAD1057	ENDPL1057
SST300-4500M	HEAD1066	ENDPL1066
SST350-5250M	HEAD1066	ENDPL1066
SST400-6000M	HEAD1921	ENDPL1921
SST500-7500M	HEAD1921	ENDPL1921
SWT50	ENDPL4061	ENDPL4061
SWT75	ENDPL4061	ENDPL4061
SWT100	ENDPL4061	ENDPL4061
SWT150	ENDPL4061	ENDPL4061
SWT200	ENDPL4078	ENDPL4078
SWT300	ENDPL4078	ENDPL4078
SWT500	ENDPL4078	ENDPL4078
TNT50	ENDPL2993	ENDPL3028
TNT75	ENDPL2993	ENDPL3028
TNT100	ENDPL2993	ENDPL3028
TNT150	ENDPL3046	ENDPL3064
TNT200	ENDPL3046	ENDPL3064

Chillers/Evaporators - Obsolete Units		
Model	Front Endplate Article #	Rear Endplate Article #
DXT503-Q-4P-1C	HEAD26223	HEAD26216
DXT504-Q-4P-1C	HEAD26223	HEAD26216
DXT505-Q-4P-1C	HEAD26223	HEAD26216
DXT605-Q-4P-1C	HEAD26111	HEAD26135
DXT804-Q-4P-1C	HEAD25820	HEAD25787
DXT804-Q-4P-2C	HEAD25732	HEAD25651
DXT805-Q-4P-1C	HEAD25820	HEAD25787
DXT805-Q-4P-2C	HEAD25732	HEAD25651
DXT806-R-2P-1C	HEAD25794	HEAD25813
DXT806-R-2P-2C	HEAD25763	HEAD25787
DXT807-R-2P-1C	HEAD25794	HEAD25813
DXT1007-S-2P-2C	HEAD25594	HEAD25363
DXT1008-S-2P-2C	HEAD25594	HEAD25363
DXT1009-S-2P-2C	HEAD25594	HEAD25363
DXT1208-S-2P-2C	HEAD26142	HEAD26166
DXT1410-S-2P-2C	HEAD26366	HEAD26373
DXT1610-S-2P-2C	HEAD26492	HEAD26511
DXT1810-RS-2P-2C	HEAD26528	HEAD26542
DXT2010-RS-2P-2C	HEAD21873	HEAD11183
DXT05036000	HEAD26223	HEAD26216
DXT05048001	HEAD26223	HEAD26216
DXT05060000	HEAD26223	HEAD26216
DXT06060003	HEAD26111	HEAD26135
DXT08048002	HEAD25820	HEAD25787
DXT08048003	HEAD25732	HEAD25651
DXT08060004	HEAD25820	HEAD25787
DXT08060006	HEAD25732	HEAD25651
DXT08072002	HEAD25794	HEAD25813
DXT08072004	HEAD25763	HEAD25787
DXT08084003	HEAD25794	HEAD25813
DXT10084002	HEAD25594	HEAD25363
DXT10096004	HEAD25594	HEAD25363
DXT10108003	HEAD25594	HEAD25363
DXT12096004	HEAD26142	HEAD26166
DXT14120003	HEAD26366	HEAD26373
DXT16120006	HEAD26492	HEAD26511
DXT18120006	HEAD26528	HEAD26542
DXT20120000	HEAD21873	HEAD11183

Chillers/Evaporators - Obsolete Units		
Model	Front Endplate Article #	Rear Endplate Article #
FSX5-1	HEAD23781	HEAD23798
FSX10-1	HEAD37716	HEAD6643
FSX15-1	HEAD7758	HEAD6643
FSX20-1	HEAD18160	HEAD5271
FSX25-1	HEAD25268	HEAD5271
FSX30-1	HEAD25268	HEAD5271
FSX40-1	HEAD22595	HEAD5419
FSX50-1	HEAD22595	HEAD5419
FSX60-1	Call	HEAD5202
FSX75-1	HEAD8049	HEAD5202
FSX120-1	Call	Call
FSX10-2	HEAD22502	HEAD22519
FSX15-2	HEAD22690	HEAD22519
FSX20-2	HEAD21497	HEAD21509
FSX25-2	HEAD21497	HEAD21509
FSX30-2	HEAD21497	HEAD21509
FSX40-2	HEAD22740	HEAD22757
FSX50-2	HEAD22740	HEAD22757
FSX60-2	HEAD8056	HEAD7853
FSX100-2	Call	HEAD5202
FSX120-2	HEAD4623	HEAD4630
FSX150-2	Call	HEAD5495
FSX200-2	HEAD23462	HEAD5914
TXB30-1	HEAD4423	HEAD5257
TXB35-1	HEAD5240	HEAD5257
TXB40-1	HEAD5240	HEAD5257
TXB50-1	HEAD4478	HEAD5390
TXB60-1	HEAD5383	HEAD5390
TXB75-1	HEAD5383	HEAD5390
TXB30-2	HEAD4447	HEAD5271
TXB35-2	HEAD5264	HEAD5271
TXB40-2	HEAD5264	HEAD5271
TXB50-2	HEAD4311	HEAD5419
TXB60-2	HEAD5440	HEAD5419
TXB75-2	HEAD5402	HEAD5419
TXB120-2	HEAD4623	HEAD4630

Due to some of these models being out of production for some time, availability of spares can be limited. Call the factory for lead times

Alfa Laval Standard zinc anodes

Zinc Anodes

Zinc anodes are used in marine units. The primary function of the anode is to lower the risk of corrosion due to the salt water on tube side of the condenser, it also helps lower the risk of corrosion in the system piping. All of the MSE tube side is constructed from cupronickle and marine brass, they are not neccesary, but many end users like the additional system security it offers. **NOTE**: Not all MSE units can have a zinc installed as some component parts need to be changed, please check with the factory for details.

Standard Refrigeration

Alfa Laval Standard zinc anodes

Technical specifications

Alternative Options

For units not listed on the tables below, please contact the factory.

Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Condensers - Current Catalog Models	
Model	Zinc Article #
MSE100Z	PLATE652
MSE200Z	PLATE652
MSE300Z	PLATE645
MSE500Z	PLATE645
MSE750Z	PLATE645
MSE1005Z	PLATE645
MSE1500Z	PLATE638
MSE2005Z	PLATE638
MSE2505Z	PLATE638
MSE3006Z	PLATE638
MSE3305Z	PLATE669
MSE4005Z	PLATE669
MSE4505Z	PLATE669
MSE5005Z	PLATE669
MSE6505Z	ZN122
MSE7505Z	ZN122
MSE100HPZ	ZN122
MSE120HPZ	ZN122

Condensers - Obsolete Units	
Model	Front Endplate Article #
MS100Z	ZN60
MS150Z	ZN60
MS200Z	ZN65
MS300Z	ZN65
MS500Z	ZN85
MS750Z	ZN85
MS755Z	ZN85
MS1000Z	ZN85
MS1500Z	ZN85
MS1555Z	ZN105
MS2005Z	ZN105
MS2026Z	ZN105
MS2527Z	ZN105
MS3005Z	ZN105
MS3028Z	ZN105
MS30-460M	ZN122
MS35-520M	ZN122
MS40-610M	ZN122
MS45-680M	ZN122
MS50-760M	ZN122
MS55-850M	ZN122
MS60-940M	ZN145

Condensers - Obsolete Units	
Model	Front Endplate Article #
MS70-1060M	ZN145
MS80-1200M	ZN145
MS100-1500M	ZN145
MS125-1900M	ZN145
SM3	ZN65
SM5	ZN85
SM7	ZN85
SM10	ZN85
SM15	ZN85
SM20	ZN85
SM21S	ZN105
SM25	ZN85
SM26S	ZN122
SM30	ZN85
SM31S	ZN122
SM35	ZN105
SM36S	ZN122
SM40	ZN105
SM50	ZN122
SM60	ZN122
SM70	ZN122

Due to some of these models being out of production for some time, availability of spares can be limited. Call the factory for lead times

Standard Refrigeration

Alfa Laval Standard adaptors, unions, plugs and valves

Adaptors, unions, plugs and valves for pressure vessels

Alfa Laval/Standard Refrigeration offer a range of adaptors, unions, plugs and valves for pressure vessels.

Angle and Straight adaptors are electro plated and can be silver soldered. It is recommended to remove valves when soldering any fittings.

Fusible unions and plugs protect only in the event of a fire, for greater protection use a relief valve. All systems must have a relief valve or fusible plug installed in order to comply with the ANSI B9.1 code.

The 5/8-18UNF union or plug seats in a special 3/8” coupling with a copper zinc coated flare gasket, exactly the same as an SAE flare fitting. A conventional 3/8” male pipe thread union, plug or safety valve will also seal on the dry seal pipe thread of the coupling if ever necessary.

Relief valves are installed in a refrigeration system primarily to protect the vessel in the event of a fire or other emergency high pressure condition.

Standard Refrigeration

Alfa Laval Standard adaptors, unions, plugs and valves

Technical specifications

Model	Description	IDS	Thread (Female)	A	B
AA03	Angle Adaptor	3/8	3/4-16	1.31	0.50
AA04	Angle Adaptor	1/2	1-14	1.09	0.53
AA05	Angle Adaptor	5/8	1-14	1.09	0.59
AA07	Angle Adaptor	7/8	1 1/4-12	1.56	0.63
AA09	Angle Adaptor	1 1/8	1 1/4-12	1.81	1.00
AA11	Angle Adaptor	1 3/8	1 3/4-12	2.19	1.00
SA03	Straight Adaptor	3/8	3/4-16	1.28	N/A
SA04	Straight Adaptor	1/2	1-14	1.22	N/A
SA05	Straight Adaptor	5/8	1-14	1.28	N/A
SA07	Straight Adaptor	7/8	1 1/4-12	1.72	N/A
SA09	Straight Adaptor	1 1/8	1 1/4-12	1.97	N/A
SA11	Straight Adaptor	1 3/8	1 3/4-12	2.44	N/A

Model	Description	IDS	Thread (Male)	A	ODS
BA03X06	Brass Straight Adaptor	3/8	3/4-16	1.63	1/2
BA03X08	Brass Straight Adaptor	3/8	1-14	1.63	1/2
BA04X08	Brass Straight Adaptor	1/2	1-14	1.63	5/8
BA05X08	Brass Straight Adaptor	5/8	1-14	1.63	7/8
BA05X10	Brass Straight Adaptor	5/8	1 1/4-12	1.56	7/8
BA07X10	Brass Straight Adaptor	7/8	1 1/4-12	1.56	1 1/8
BA09X10	Brass Straight Adaptor	1 1/8	1 1/4-12	1.56	1 3/8
BA09X14	Brass Straight Adaptor	1 1/8	1 3/4-12	1.69	1 3/8
BA11X14	Brass Straight Adaptor	1 3/8	1 3/4-12	1.69	1 5/8

Model	Description	Flare	Thread (Male)	Temperature Setting
UNION76	Fusible Union	3/8	3/8	212° F
UNION184	Fusible Union	3/8	5/8-18UNF	212° F
UNION319	Fusible Union	3/8	3/8	283° F
BA11X14	Brass Straight Adaptor	1 3/8	1 3/4-12	1.69

Model	Description	Thread (Male)	Temperature Setting
PLUG148	Fusible Plug	1/8	212° F
PLUG166	Fusible Plug	3/8	283° F
PLUG175	Fusible Plug	1/8	212° F
PLUG265	Fusible Plug	5/8-18UNF	212° F
PLUG337	Fusible Plug	3/8	283° F
PLUG364	Fusible Plug	5/8-18UNF	283° F

Model	Description	Flare	Thread (Male)	Pressure Setting (psi)
VALVE58	Relief Valve	3/8	3/8	350
VALVE5040	Relief Valve	5/8	1/2	600
VALVE5057	Relief Valve	5/8	1/2	675
VALVE67	Relief Valve	3/8	3/8	400
VALVE94	Relief Valve	5/8	1/2	350
VALVE102	Relief Valve	5/8	1/2	400
VALVE764	Relief Valve	5/8	1/2	450
VALVE771	Relief Valve	3/8	3/8	450

Model (Top Gage Port)	Model (Left Gage Port)	Model (Right Gage Port)	Description	Connection	Thread (Female Rotalock®)
H03FT	H03FL	H03FR	Horizontal Rotalock® Valve	3/8" Flare	3/4-16
H04FT	H04FL	H04FR	Horizontal Rotalock® Valve	1/2" Flare	1-14
H05FT	H05FL	H05FR	Horizontal Rotalock® Valve	5/8" Flare	1-14
H04ST	H04SL	H04SR	Horizontal Rotalock® Valve	1/2" IDS	1-14
H05ST	H05SL	H05SR	Horizontal Rotalock® Valve	5/8" IDS	1-14
H07ST	H07SL	H07SR	Horizontal Rotalock® Valve	7/8" IDS	1 1/4-12
H09ST	H09SL	H09SR	Horizontal Rotalock® Valve	1 1/8" IDS	1 1/4-12
H11ST	H11SL	H11SR	Horizontal Rotalock® Valve	1 3/8" IDS	1 3/4-12
V03FT	V03FL	V03FR	Vertical Rotalock® Valve	3/8" Flare	3/4-16
V04FT	V04FL	V04FR	Vertical Rotalock® Valve	1/2" Flare	1-14
V05FT	V05FL	V05FR	Vertical Rotalock® Valve	5/8" Flare	1-14
V04ST	V04SL	V04SR	Vertical Rotalock® Valve	1/2" IDS	1-14
V05ST	V05SL	V05SR	Vertical Rotalock® Valve	5/8" IDS	1-14
V07ST	V07SL	V07SR	Vertical Rotalock® Valve	7/8" IDS	1 1/4-12
V09ST	V09SL	V09SR	Vertical Rotalock® Valve	1 1/8" IDS	1 1/4-12
V11ST	V11SL	V11SR	Vertical Rotalock® Valve	1 3/8" IDS	1 3/4-12

Model	Description	Connection
VALVE85A	Horizontal Refrigerant Valves	1 5/8 IDS requires mating flange
VALVE621A	Horizontal Refrigerant Valves	2 1/8 IDS requires mating flange

Alfa Laval Standard Teflon seals

Teflon Seals

Teflon fiber seals are for Rotalock valves and adaptors. It is recommended that anytime Rotalock valves or adaptors is removed from a unit the seal is replaced, to minimize the risk of leaks.
NOTE: Teflon fiber seals should be installed only after all soldering is completed.

Standard Refrigeration

Alfa Laval Standard Teflon seals

Technical specifications

Alternative Options

For units not listed on the tables below, please contact the factory.

Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Model	Dimensions		
	ID	OD	Thickness
TS24590	7/16	9/16	1/16
TS24591	5/8	3/4	1/16
TS24592	7/8	1	1/16
TS24593	1 3/8	1 1/2	1/16

Standard Refrigeration

Alfa Laval Standard Sight Glasses

Sight glasses

Sight glasses give the end user the ability to check the liquid level inside a receiver or the shell side of a heat exchanger. Sight glasses can be factory installed on any custom unit. Vessels require a factory installed mount for sight glasses to be used.

If the sight glass is damaged during operation, installation or shipping we recommend that the glass is replaced immediately. See the service manual for removal and installation instructions.

Customization

If the end user requires sight glasses on a receiver or heat exchanger barrel, please provide the factory a sketch of where the fittings need to be and which size glass is required. Sight glasses should be placed on the main pipe section of the barrel and have the minimum of ½" gap from the nearest weld joint. For further assistance please contact your local sales representative or the factory.

Standard Refrigeration

Alfa Laval Standard Sight Glasses

Technical specifications

Alternative Options

For units not listed on the tables below, please contact the factory.
Values shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Model	Description	NPT Size	Torque (ft/lbs)
SG04	1/2" Bull's-eye w/Float Ball	1/2”	40
SG06	3/4" Bull's-eye w/Float Ball	3/4”	45
SG08	1" Bull's-eye w/Float Ball	1”	55
SG10	1 1/4" Bull's-eye w/Float Ball	1-1/4”	65
SG11	2" Bull's-eye w/Float Ball	1-1/2”	75
SG12	3/4" Bull's-eye with 1 1/4"-12 Rotalock	3/4" Rotalock®	45

Sight Glass Replacement Procedure

If a sight glass is leaking or broken it must be replaced. Use the following instructions below to ensure a permanent repair.

1. Ensure all remaining refrigerant is recovered and the unit is isolated.
2. Unscrew the old sight glass to remove it.
3. It is highly recommended to use new sight glass, however if you are reusing an old sight glass, it must be cleaned. Carefully using a wire brush, dental pick or tap to clean the threads, ensuring to remove all old sealant residues. When using a tap do not cut the threads any deeper, just use it to clean them. Stop any residue from the old sealant reentering the unit, as this can cause contamination and damage the system.
4. Clean the threads on the inside of the coupling and the sight glass with Loctite #7649 primer, Virginia #10e solvent, acetone or automotive brake cleaner. Clean as many times as necessary to remove all oil and moisture. Allow all solvent to evaporate fully before proceeding.
5. Apply Loctite #554 thread sealant or equivalent. Put 3-4 drops on the first 2 threads in the coupling and a heavy ring around the sight glass covering the first four threads.
6. Thread the sight glass into the coupling by hand as far as possible and torque to the value specified in the table. Wipe off excess sealant from threads.
7. Allow the sealant to cure at least one full hour before putting the unit back into service, but please be aware the longer it cures the stronger the bond will be.
8. Evacuate properly prior to putting system back into operation.

Alfa Laval Standard level components

Level components for pressure vessels

Alfa Laval/Standard Refrigeration offer a range of level components for pressure vessels.

“Magnetic liquid level indicators are an inexpensive, effective means of gauging the refrigerant level in a horizontal receiver. The dial reads percent of pumpdown capacity of the receiver (when the pointer indicates 100%, the receiver is 80% full of liquid).

Pounds of refrigerant can be determined by taking the indicated percentage of the specified pumpdown capacity of the receiver. The standard location is on the side of the receiver, centered between the liquid inlet and outlet connections. Other locations may be provided if specified at the time of quote or order. Note that at least six inches are required between centers of adjacent liquid level indicator flanges, and also between a unit and the liquid outlet pickup tube.
Liquid level indicators can be mounted in the center of either end, provided the respective inlet or outlet fitting is moved to 1.5 tank diameters from that end.

Float and assembly dial are included.”

A liquid level alarm is a single pole, single throw switch on which contacts close upon the decrease of the liquid level at 20% pumpdown.

Movement of the seamless aluminum float rotates a magnet on the inner side of the solid aluminum alloy head. The indicator pointer, or switch contacts, are on the outer side and are operated by a small magnet which follows the position of the inner magnet. There is no connection, except the magnetic field, between the inside and outside. Internal gears and bearings are stainless steel.

In case of external damage, the indicator dial or switch cartridge may be replaced from outside, so the refrigerant charge is not disturbed.”

Switch Duty: ..... AC
Max. Volts: 120/240
Max. Amps: ..... 1 (inductive)
Max. Watts: 75/150
The liquid level indicator alarm with selectable low level point is designed for use in applications where low liquid level protection is desirable. It provides a relay circuit that closes at one of five

user selectable levels (from 10 to 50%). The relay circuit can be used to drive a variety of applications from alarms to pumps. The indicator alarm also provides a direct, visual indication of the liquid level in the tank.

Each indicator alarm uses highly reliable and accurate, three wire, voltage divider technology to send the level signal to the level alarm relay circuitry. The voltage divider uses thick film element in conjunction with a multi-fingered contact to ensure accuracy and reliability. The connector built into the indicator alarm mates with a standard Packard automotive type, rubber sealed connector for easy installation and reliable connections.”

Operating Temperature: ..... -4°F to 185°F (-20°C to 70°C)
Working Pressure: ..... 410 psig
Power Rating: ..... 5 amps, 240 VAC max.
Voltage Input: ..... 110 or 220 VAC
UL Status: ..... UL recognized for refrigeration

NOTE: All indicators require a factory installed flange and are available for 8-5/8” OD and larger horizontal receivers only. Flange cost is not included in the cost of the indicator alarm.

Standard Refrigeration

Alfa Laval Standard level components

Technical specifications

Alternative Options

For items not listed on the tables below, please contact the factory.

Models	Description
INDIC283A	6 5/8" Low Pressure Liquid Level
INDIC111A	8 5/8" Low Pressure Liquid Level
INDIC76A	10 3/4" Low Pressure Liquid Level
INDIC85A	12 3/4" Low Pressure Liquid Level
INDIC94A	14" Low Pressure Liquid Level
INDIC102A	16" Low Pressure Liquid Level
INDIC483A	18" Low Pressure Liquid Level
INDIC490A	20" Low Pressure Liquid Level
INDIC497A	24" Low Pressure Liquid Level
INDIC438A	8 5/8" High Pressure Liquid Level
INDIC395A	10 3/4" High Pressure Liquid Level
INDIC407A	12 3/4" High Pressure Liquid Level
INDIC421A	16" High Pressure Liquid Level
INDIC58A	Low Pressure Liquid Level Alarm Switch
INDIC445A	High Pressure Liquid Level Alarm Switch
INDIC210A	Low Pressure Indicator & Alarm assembly
INDIC21	Replacement dial for LLI
INDIC49	Replacement Switch for LLH
INDIC238	Replacement Dial for INDIC210A
GASKE995	Neoprene Flat for LLI/LLH

Alfa Laval Standard brackets

Brackets

Alfa Laval offers a range of brackets for pressure vessels. Brackets are available in a floor mounted universal option or compressor/condenser model.

NOTE: Do not weld these brackets onto the vessel, as this will void any warranty and void the code qualification of the vessel.

Standard Refrigeration

Alfa Laval Standard brackets

Technical specifications

Alternative Options

For items not listed on the tables below, please contact the factory. If a custom welded bracket is required, please advise the factory at the time of quote.

Valves shown are correct at the time of publication, all data should be reconfirmed at the time of purchase

Model	Description	Shell Diameter (inches)	Bracket Foot Width (inches)	Mating Hole Diameter (inches)
BR1	Compressor and Condenser Brackets	6	14.00	5/8
BR3	Compressor and Condenser Brackets	6 5/8	14.00	5/8
BR5	Compressor and Condenser Brackets	8 5/8	14.00	5/8
BR7	Compressor and Condenser Brackets	10 3/4	14.00	5/8
BR9	Compressor and Condenser Brackets	12 3/4	14.00	5/8
BR10	Compressor and Condenser Brackets	14	24.00	5/8
BR11	Compressor and Condenser Brackets	16	24.00	5/8
BR12	Compressor and Condenser Brackets	18	24.00	5/8
BR13	Compressor and Condenser Brackets	20	24.00	5/8

Model	Description	Shell Diameter (inches)	Bracket Foot Width (inches)	Mating Hole Diameter (inches)
5A	Universal B Floor Mounting Bracket	5	7.00	7/16
6A	Universal B Floor Mounting Bracket	6	7.00	7/16
6B	Universal B Floor Mounting Bracket	6 5/8	7.00	7/16
8B	Universal B Floor Mounting Bracket	8 5/8	9.00	7/16
10B	Universal B Floor Mounting Bracket	10 3/4	11.00	7/16
12B	Universal B Floor Mounting Bracket	12 3/4	13.00	9/16
14B	Universal B Floor Mounting Bracket	14	14.50	9/16
16B	Universal B Floor Mounting Bracket	16	17.00	9/16

Alfa Laval in brief

Alfa Laval is a leading global provider of specialized products and engineering solutions.

Our equipment, systems and services are dedicated to assisting customers in optimizing the performance of their processes. Time and time again.

We help our customers to heat, cool, separate and transport products such as oil, water, chemicals, beverages, foodstuffs, starch and pharmaceuticals.

Our worldwide organization works closely with customers in almost 100 countries to help them stay ahead.

Alfa Laval Inc.
321 Foster Avenue
Wood Dale, IL 60191 USA
Phone: +1 708-345-5400
Email: stanref.customerservice@alfalaval.com
Web: www.alfalaval.com

How to contact Alfa Laval

Contact details for all countries are continually updated on our website. Please visit www.alfalaval.com.

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