



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

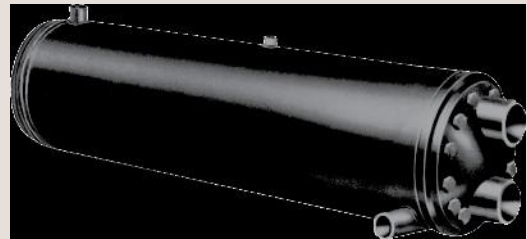
ASME specification steel pipe. Shells are sand blasted and cleaned prior to assembly.

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.



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.

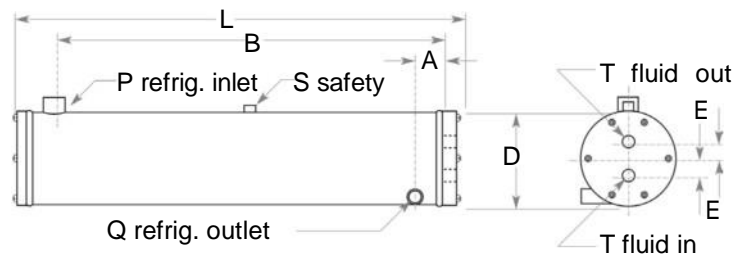
Alternative Options

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.

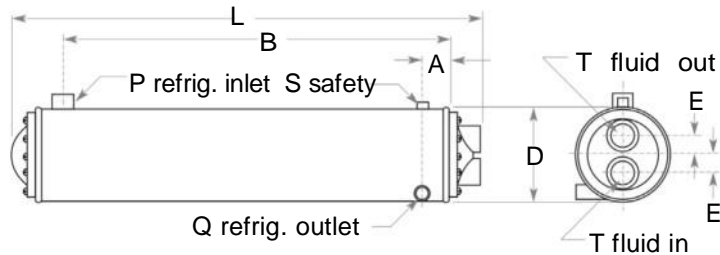
Codes

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 6 $\frac{1}{2}$ " 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.

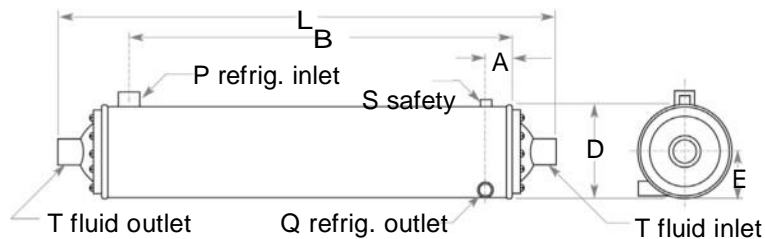
HSE-MP 2 - 50



HSE-MP 60 - 70 - 80



HSE-MP 100 - 125



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



HSE-MP condenser

Technical specifications

Models	R22	R134a	R410a	Dimensions (inches)					Connections (inches)			
	Nominal HP*	Nominal HP*	Nominal HP*	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

Models	Pumpdown Capacity (lbs.)			Water Flow (gpm)		Water Pressure Drop (psi)			Shipping 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

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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

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