SARMA AFARIN

Packaged
Hermetic Reciprocating
Liquid Chillers

Energy-saving multiple compressor models

ISO 9001 CISQ IMQ CSQ — CERTIFIED IQNet MANAGEMENT SYSTEM

Certificate No.: 9190.C308

FORM SSI - 30HKP, HRP - 30HLP, HSP (95)
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چیلرهای تراکمی
در ۳۰ مدل با کمپرسورهای نیمه بسته
30HKP, HRP - 30HLP, HSP

20 thru 240Tons
Nominal Capacity
50Hz

Save your energy. with economical, easy-to-install 30H packaged chillers

Specify 30H Series multiple compressor, hermetic reciprocating liquid chilling packages for use in chilled water air conditioning systems and various types of process cooling applications. Select from 30 standard models in the capacity range from 20 - 240 tons, and take advantage of cost and energy-saving product performance, quiet and reliable operation, and easy servicing over many years of machine life.

Starting with installation, these machines are real energy-savers.Each is completely factory engineered and assembled to ensure a perfectly balanced refrigeration system that can be installed with minimal field labor, Only external water and power connections need to be completed at the job site to make the water - cooled (30HRP & HKP) units operational, Condenser-less (30HSP & HLP) models require only the addition of refrigerant line connections to the remote condenser.

All machine components on these multiple compressor units are matched to perform efficiently with low power consumption, particularly at part load conditions.

The 30HRP is a packaged unit with two condensers having built-in sub-coolers, and a direct expansion cooler with two refrigerant circuits, one for each condenser.

The 30HS is a condenserless 30HR, designed for use in systems with remote water or air-cooled, or evaporative-type condensers.

Series 30H chillers are extremely trim and compact, so they can pass easily thru standard doorways, and they require little floor space on the job.

Save with these performance extras

- standby compressor protection
- manual transfer switch
- low inrush current
- better freeze-up protection
- spring vibration isolators, mufflers

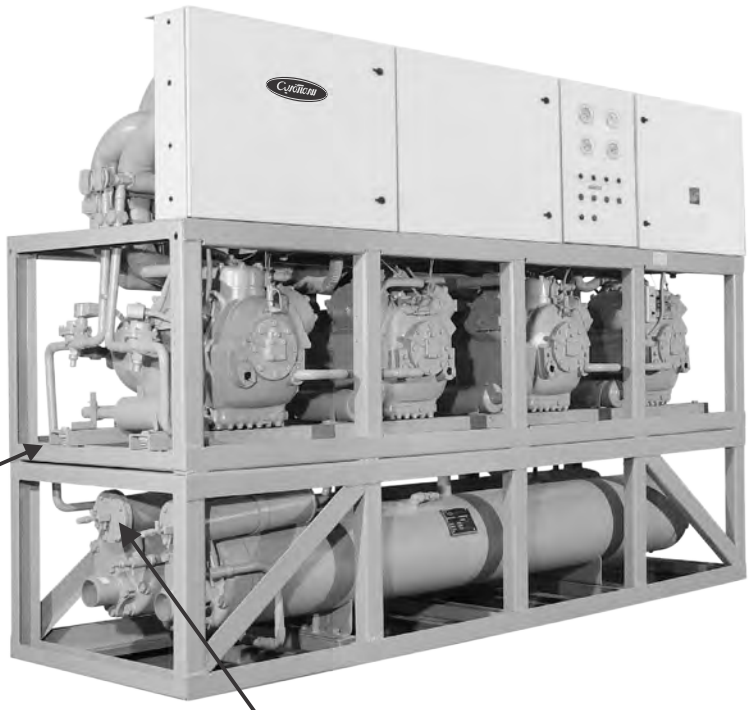
Save with less and easier servicing

- bolted hermetic compressors
- filter-drier
- crankcase heaters
- protection against single-phasing

Save with efficient cooling and subcooling

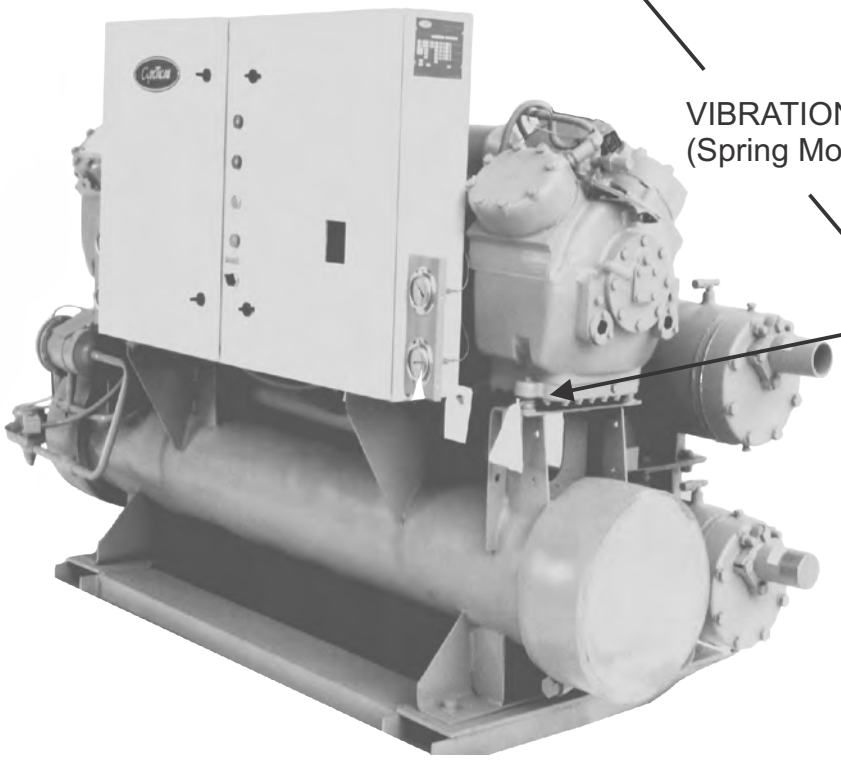
- two refrigerant circuits
- multiple-step capacity control
- liquid refrigerant subcooling

Specify Sarmaafarin
Performance-proven chillers



FILTER
DRIER

VIBRATION ISOLATORS
(Spring Mounts)



The heart of these chillers.

Save with these performance extras

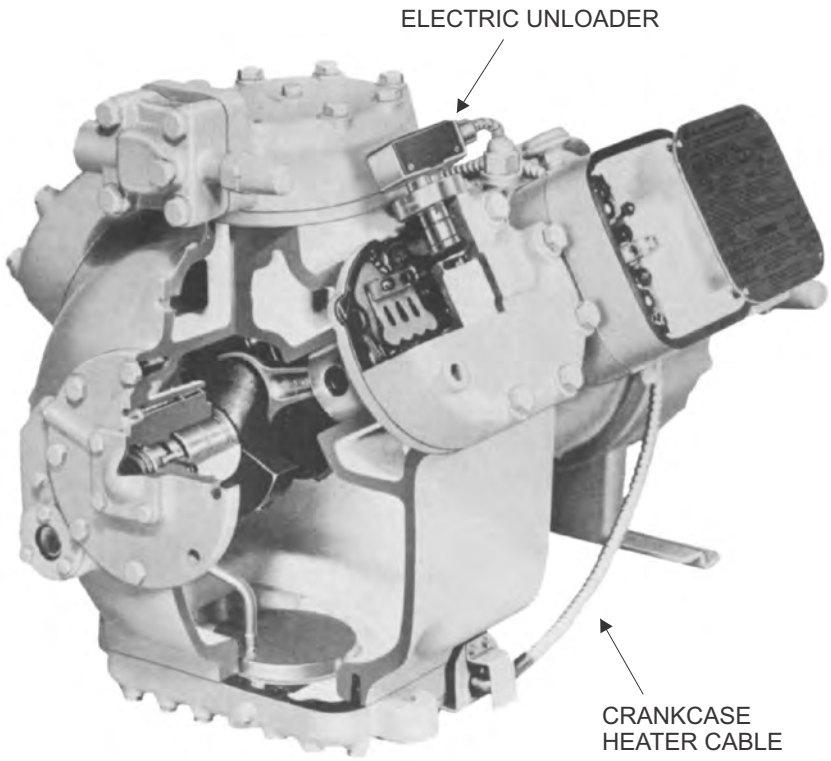
Standby compressor protection - If a malfunction or safety cutout occurs, these chillers always have the capability for standby operation. This benefit is especially desirable in commercial applications where even brief shutdowns can be extremely costly.

Manual transfer switch - The lead compressor in the sequence can be changed and the sequence thus altered by manually activating this switch. Equalizes compressor wear and lengthens machine life.

Low inrush current - Multiple compressor design provides for more reliable operating cost control than the use of a single large compressor. with four compressor chillers, the inrush current is reduced, down to 25%. This factor, coupled with sequential motor starting and multiple-step capacity control, contributes to dependable machine operation at significant energy savings.

Better freeze-up protection - Under partial loads, the multiple compressor design of these 30 Series chillers is instrumental in preventing costly damage due to freeze-up. Multiple-step capacity control, along with full cooler operating surface even at part loads ,causes a higher temperature at the balance point in the evaporator; that is, these chillers operate farther upward from the freezing point than ordinary single compressor chillers.

Spring vibration isolators, mufflers - Rely on 30HRP, HSP machines for quiet, vibration - free operation. The multiple compressors are mounted on heavy-duty spring vibration isolators to minimize sound and potentially damaging vibration transmission to the unit frame and building structure. And hot gas mufflers dampen compressor gas pulsations to ensure smooth, trouble- free, and quiet operation.



Save with less and easier servicing

Bolted hermetic compressors - The compressors in 30HRP, HSP chillers are easily removable for servicing or inspection. Just unbolt. Takes only minimal field labor to make adjustments or repairs. Saves you the cost of shipping the entire compressor out, plus the shutdown time lost in shipment.

Compressor motor protection - Save your servicing cost because the compressor motors are protected against overheating and potential damage by quick sensing elements.

Serviceable filter-drier - Each refrigerant circuit is kept free of moisture and contaminants by a filter-drier. Fully serviceable, it may be cleaned without resorting to the costly alternative of ripping it out and installing another in the line anytime that impurities may have had the opportunity to enter the system.

Crankcase heaters – Compressor crank case heaters, which are always on during compressor off cycles, protect the system against refrigerant migration and oil dilution and the potentially expensive service problems they can cause.

Protection against single-phasing - Magnetic trip circuit breakers, reset manually, protect the compressor motors against single-phasing, eliminate troubles before they can become service headaches.

Control

PLC Control combines intelligence with operating simplicity. The control constantly monitors all machine parameters and precisely manages the operation of compressors, electronic expansion devices, fans and evaporator water pump for optimum energy efficiency.

Energy management

- Leaving or entering cooler water temperature contorts chiller on/off.
- Continuously control compressor capacity to match required load.
- Chiller PLC system can be integrated with building management system (BMS).

Ease-of-use

- User interface with larg screen for intuitive access to the operating parameters. The information is in clear text.

PLC Controller ensures intelligent leaving water temperature control and optimizes energy requirements.

- The PI control algorithm with permanent compensation for the difference between the Evaporator entering and leaving temperature, anticipates load variations, guarantees leaving water temperature stability and prevents unnecessary compressor cycling.
- The long-stroke electronic expansion valves (EXV), control via heat exchange in the evaporator, and allows a significant energy efficiency improvement at part load conditions, and faultless chiller operation in a wider temperature range.
- Adjustable ramp loading, according to the inertia of the application, avoids load increases that are too fast and too frequent, increasing unit life and limiting power consumption peaks.
- Several capacity loading possibilities ensure improved start-up at low outdoor air temperature, and permit use of one of the refrigerant circuits as a back-up circuit.

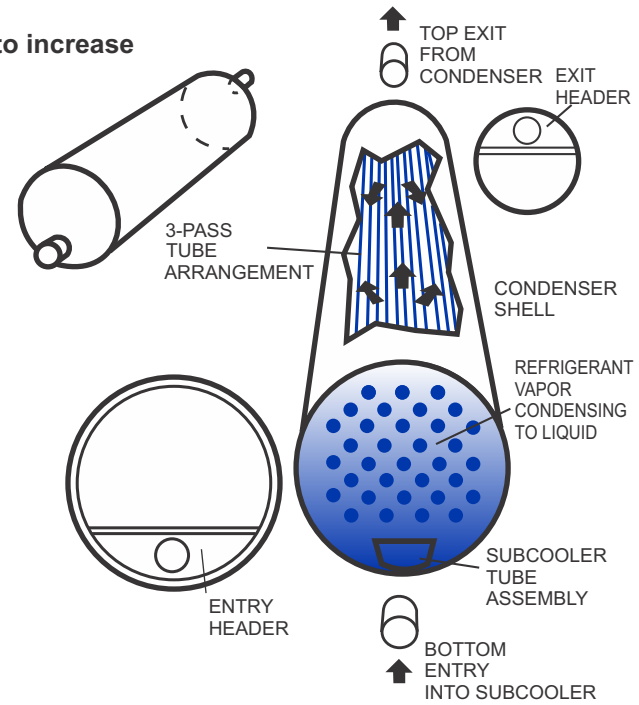
PLC Controller ensures preventive protection and enhances chiller reliability.

- Equalization of compressor operating hours
- PLC Controller monitors all chiller safety parameters. The Alarm Key facilitates immediate location of faults and in certain cases the conditions causing the alarm.

PLC Controller offers extended communications capabilities

- Clear and easy-to-understand operator interface. The LEDs, numeric displays and touch keys are well-positioned. The user immediately knows all operating parameters: pressures, temperatures, etc.
- The extensive chiller remote control capabilities (wired connection) allow integration into building monitoring systems (see Technical Description)
- RS485 series port for connection to the BMS and system monitoring.
- Control of the customer's water pump (two pumps).

Integral subcooler uses coldest condenser water to increase system capacity without extra horsepower.



Condenser Water Flow

Refrigerant Liquid surrounds colder Subcooler Tubes

Water Cooled Units

Unit Model		30HKP020	30HKP030	30HRP040	30HRP050	30HRP060	30HRP070	30HRP080	30HRP090
Approx. Oper. Wt. (1)	lb	1850	2050	2920	3460	3590	4940	5125	5250
Refrigerant Chg. (R-22)	lb	39.5	49.6	74.8	89	92	104	119	130
Compressor									
Type		Reciprocating- Semi Hermetic							
No. of Compressor		1	1	2	2	2	3	3	3
% Cap., for Ckt #1		100	100	50	60	50	57	62	67
% Cap., for Ckt #2		NA	NA	50	40	50	43	38	33
No. of Control Steps		2	2	4	4	4	6	6	6
Total No. of Cylinder		4	6	10	10	12	14	16	18
Total Oil Chg.	pt	14	19	33	33	38	47	52	57
Cooler									
Model (10HA…..)		020-854	030-854	040-854	060-854	060-854	070-854	070-854	070-854
No. of Cooler		1	1	1	1	1	1	1	1
Shell, Net Vol.	gal	8	10	13	15	15	22	22	22
Shell OD	ft-in	0-8 5/8	0-8 5/8	0-10 3/4	0-10 3/4	0-10 3/4	0-12 3/4	0-12 3/4	0-12 3/4
Shell Length (2)	ft-in	6-10	6-10	6-0	6-10	6-10	6-10	6-10	6-10
Refrigerant Circuits		1	1	2	2	2	2	2	2
Max Design Working Pres.	psig	Refrigerant Side: 235 Water Side: 150							
Water Connection									
inlet & Outlet	in. Dia	2 MPT	2 MPT	3 MPT	3 MPT	3 MPT	4 ASA (3)	4 ASA	4 ASA
Drain	in. Dia	3/4	3/4	1	1	1	1	1	1
Condenser									
Model for Ckt #1		09RP022	09RP027	09RP022	09RP027	09RP027	09RP043	09RP054	09RP070
Model for Ckt #2		NA	NA	09RP022	09RP022	09RP027	09RP033	09RP033	09RP033
Total No. of Condenser		1	1	2	2	2	2	2	2

Unit Model		30HRP100	30HRP110	30HRP120	30HRP140	30HRP160	30HRP200	30HRP240
Approx. Oper. Wt. (1)	lb	6400	6525	6655	7580	8000	9700	10340
Refrigerant Chg. (R-22)	lb	138	146	154	172	191	260	310
Compressor								
Type		Reciprocating- Semi Hermetic						
No. of Compressor		4	4	4	4	4	5	6
% Cap., for Ckt #1		50	55	50	50	50	40	50
% Cap., for Ckt #2		50	45	50	50	50	60	50
No. of Control Steps		8	8	8	8	8	5	6
Total No. of Cylinder		20	22	24	24	24	30	36
Total Oil Chg.	pt	66	71	76	76	76	97.5	117
Cooler								
Model (10HA…..)		120-854	120-854	120-854	160-854	160-854	200-854	240-854
No. of Cooler		1	1	1	1	1	1	1
Shell, Net Vol.	gal	40	40	40	52	52	74	74
Shell OD	ft-in	1-4	1-4	1-4	1-4	1-4	1-6	1-6
Shell Length (2)	ft-in	6-10	6-10	6-10	9-0	9-0	9-0	9-0
Refrigerant Circuits		2	2	2	2	2	2	2
Max Design Working Pres.	psig	Refrigerant Side: 235 Water Side: 150						
Water Connection								
inlet & Outlet	in. Dia	5 ASA	5 ASA	5 ASA	6 ASA	6 ASA	6 ASA	6 ASA
Drain	in. Dia	1	1	1	1	1	1	1
Condenser								
Model for Ckt #1		09RP054	09RP070	09RP070	09RP070	09RP084	09RP084	09RP097
Model for Ckt #2		09RP054	09RP054	09RP070	09RP070	09RP084	09RP097	09RP097
Total No. of Condenser		2	2	2	2	2	2	2

(1) Includes refrigerant operating charge.
(2) Between Tube Sheets
(3) ASA (American Standard Association) flat face flange.

Unit Model		30HLP020	30HLP030	30HSP040	30HSP050	30HSP060	30HSP070	30HSP080	30HSP090
Approx. Oper. Wt. [1]	lb	1200	1400	1900	2360	2440	3470	3525	3585
Refrigerant Chg. (R-22)	lb	22	32	44	55	64	78	88	98
Compressor									
Type		Reciprocating- Semi Hermetic							
No. of Compressor		1	1	2	2	2	3	3	3
% Cap., for Ckt #1		100	100	50	60	50	57	62	67
% Cap., for Ckt #2		NA	NA	50	40	50	43	38	33
No. of Control Steps		2	2	4	4	4	6	6	6
Total No. of Cylinder		4	6	10	10	12	14	16	18
Total Oil Chg.	pt	14	19	33	33	38	47	52	57
Cooler									
Model (10HA…..)		020-854	030-854	040-854	060-854	060-854	070-854	070-854	070-854
No. of Cooler		1	1	1	1	1	1	1	1
Shell, Net Vol.	gal	8	10	13	15	15	22	22	22
Shell OD	ft-in	0-8 5/8	0-8 5/8	0-10 3/4	0-10 3/4	0-10 3/4	0-12 3/4	0-12 3/4	0-12 3/4
Shell Length [2]	ft-in	6-10	6-10	6-0	6-10	6-10	6-10	6-10	6-10
Refrigerant Circuits		1	1	2	2	2	2	2	2
Max Design Working Pres.	psig	Refrigerant Side: 235 Water Side: 150							
Water Connection									
inlet & Outlet	in. Dia	2 MPT	2 MPT	3 MPT	3 MPT	3 MPT	4 ASA [3]	4 ASA	4 ASA
Drain	in. Dia	3/4	3/4	1	1	1	1	1	1

Unit Model		30HSP100	30HSP110	30HSP120	30HSP140	30HSP160	30HSP200	30HSP240
Approx. Oper. Wt. [1]	lb	4470	4530	4590	5290	5400	7200	7540
Refrigerant Chg. (R-22)	lb	113	122	132	148	168		
Compressor								
Type		Reciprocating- Semi Hermetic						
No. of Compressor		4	4	4	4	4	5	6
% Cap., for Ckt #1		50	55	50	50	50	40	50
% Cap., for Ckt #2		50	45	50	50	50	60	50
No. of Control Steps		8	8	8	8	8	5	6
Total No. of Cylinder		20	22	24	24	24	30	36
Total Oil Chg.	pt	66	71	76	76	76	97.5	117
Cooler								
Model (10HA…..)		120-854	120-854	120-854	160-854	160-854	200-854	240-854
No. of Cooler		1	1	1	1	1	1	1
Shell, Net Vol.	gal	40	40	40	52	52	74	74
Shell OD	ft-in	1-4	1-4	1-4	1-4	1-4	1-6	1-6
Shell Length [2]	ft-in	6-10	6-10	6-10	9-0	9-0	9-0	9-0
Refrigerant Circuits		2	2	2	2	2	2	2
Max Design Working Pres.	psig	Refrigerant Side: 235 Water Side: 150						
Water Connection								
inlet & Outlet	in. Dia	5 ASA	5 ASA	5 ASA	6 ASA	6 ASA	6 ASA	6 ASA
Drain	in. Dia	1	1	1	1	1	1	1

(1) Includes refrigerant operating charge.
(2) Between Tube Sheets
(3) ASA (American Standard Association) flat face flange.

Model	Capacity (tons)	SDT (F)	kW	THR (Tons)	Cooler (Δt=10F)			Condenser EWT= 85 F		
					gpm	LWT (F)	PD (ft)	gpm	LWT (F)	PD (ft)
30HKP020	14.5	103.6	13.9	18.1	34.6	40	6.1	43.7	95	3.3
	15.1	103.8	14.1	18.7	36.2	42	6.6	45.2	95	3.4
	15.8	104	14.3	19.4	37.8	44	7.2	47	95	3.7
	16.5	104.2	14.5	20.2	39.4	46	7.8	48.7	95	3.9
	17.1	104.4	14.6	21	41.1	48	8.4	50.5	95	4.2
30HKP030	21.6	104.3	20.2	26.8	51.6	40	9.9	64.8	95	4.9
	22.5	104.6	20.6	27.8	53.8	42	10.7	67	95	5.2
	23.4	104.8	20.8	28.9	56.2	44	11.6	69.6	95	5.6
	24.5	105.1	21.1	29.9	58.6	46	12.6	72.2	95	6.1
	25.4	105.4	21.4	31	61	48	13.6	74.8	95	6.6
30HRP040	36.2	103.6	32.9	45.5	87	40	8	110	95	4.6
	37.5	103.8	33.3	47	90	42	8.6	114	95	4.9
	38.6	105	34	48.2	93	44	9.1	117	95	5.2
	40.2	104.2	34.2	49.9	96	46	9.8	120	95	5.5
	41.6	104.4	34.6	51.4	100	48	10.5	124	95	5.8
30HRP050	39.6	103.4	35.1	49.5	95	40	5.2	121	95	5
	41.5	103.6	35.7	51.6	100	42	5.7	126	95	5.4
	43.4	103.9	36.2	53.7	104	44	6.2	131	95	5.8
	45.4	104.1	36.8	55.9	109	46	6.7	136	95	6.3
	47.5	104.4	37.3	58.1	114	48	7.3	141	95	6.7
30HRP060	46	103.7	41.1	57.7	110	40	6.8	133	95	5.4
	48	103.4	41.5	59.8	115	42	7.4	144	95	6.5
	50	103.3	42	61.9	120	44	8	154	95	7.4
	51.8	103.9	42.7	63.9	124	46	8.5	154	95	7.3
	53.8	104.2	43.2	66.1	129	48	9.1	159	95	7.9
30HRP070	58	103.1	50.1	72.2	139	40	3.5	173	95	5.5
	60.3	103.3	50.7	74.7	145	42	3.7	179	95	5.9
	62.6	103.5	51.4	77.2	150	44	4	186	95	6.3
	65	103.7	52	79.8	156	46	4.3	193	95	6.8
	67.4	104	52.6	82.3	162	48	4.7	198	95	7.1
30HRP080	65	102.4	55.7	80.8	156	40	4.3	196	95	8.9
	67.5	102.7	56.5	83.5	162	42	4.7	201	95	9.3
	70	103	57.3	86.3	168	44	5	204	95	9.7
	73	102.6	57.7	89.4	175	46	5.5	225	95	11.6
	75.5	103.3	58.6	92.1	181	48	5.8	221	95	11.2
30HRP090	69.6	101.8	60.7	86.8	167	40	5	216	95	8.9
	72	102.4	61.6	89.5	173	42	5.3	214	95	8.7
	75	102	62.2	92.7	180	44	5.8	235	95	10.4
	77.7	102.4	63	95.6	186	46	6.2	239	95	10.7
	80.5	102.6	63.8	98.6	193	48	6.6	246	95	11.4
30HRP100	83	102.2	70.5	103	199	40	7.5	253	95	9.5
	86	102.8	71.6	106.3	206	42	8.1	250	95	9.4
	89.5	102.8	72.4	110.1	215	44	8.8	264	95	10.4
	93	103	73.3	113.8	223	46	9.5	274	95	11.1
	96.5	103.2	74.2	117.6	232	48	10.2	282	95	11.7

(1) SDT: Saturated Discharge Temperature
(2) THR: Total Heat Rejection
(3) LWT: Leaving Water Temerature
(4) PD: Pressure Drop
(5) EWT: Entering Water Temperature

Model	Capacity (tons)	SDT (F)	kW	THR (Tons)	Cooler (Δt=10F)			Condenser EWT= 85 F		
					gpm	LWT (F)	PD (ft)	gpm	LWT (F)	PD (ft)
30HRP110	90	101.9	76.2	111.6	216	40	8.9	283	95	10.3
	93	102.8	77.6	115	223	42	9.5	271	95	9.5
	97	102.5	78.3	119.2	233	44	10.3	295	95	11.1
	100.6	102.9	79.4	123.1	241	46	11.1	298	95	11.4
	104.4	103.1	80.4	127.2	251	48	11.9	307	95	12.1
30HRP120	97	101.5	81.9	120.3	233	40	10.3	300	95	9.1
	100.5	102.1	83.2	124.2	241	42	11.1	298	95	9
	104.4	102.3	84.3	128.4	251	44	11.9	308	95	9.6
	108.5	102.5	85.3	132.7	260	46	12.9	319	95	10.2
	113	102.2	86	137.4	271	48	14	347	95	12
30HRP140	106	102.3	102	135	254	40	7.1	335	95	11
	110	102.8	103.9	139.5	264	42	7.6	334	95	10.9
	114.4	103	105.5	144.4	275	44	8.1	347	95	11.7
	119	103.1	107	149.4	286	46	8.7	364	95	12.7
	123.5	103.5	108.7	154.3	296	48	9.3	371	95	13.1
30HRP160	118.4	102.6	122.6	153.2	284	40	8.7	368	95	9.5
	123	103	124.9	158.5	295	42	9.3	375	95	9.8
	128	103	126.7	164	307	44	10	398	95	11.1
	133	103	128.6	169.5	319	46	10.7	418	95	12.2
	138	103.2	130.6	175.1	331	48	11.4	435	95	13.2
30HRP200	150.1	101.2	139.3	187.7	358.7	40	8.1	452.1	95	18.2
	156.6	101.3	141.2	194.7	374.6	42	8.8	469	95	19.5
	163.3	101.4	143.1	201.9	390.9	44	9.5	485.3	95	20.7
	170.2	101.5	144.9	209.4	407.7	46	10.4	504.9	95	22.3
	177.3	101.7	146.6	216.9	424.9	48	11.2	523.5	95	23.9
30HRP240	178	101.3	169.8	223.9	425.5	40	11.2	538.5	95	18.2
	185.7	101.4	172.2	232.2	444.2	42	12.2	558.3	95	19.5
	193.5	101.5	174.4	240.6	463.1	44	13.3	580	95	20.9
	201.5	101.6	176.6	249.2	482.5	46	14.4	601.1	95	22.3
	209.8	101.8	178.7	258.1	502.8	48	15.5	623.6	95	23.9

PERFORMANCE DATA

Air Cooled Units

Model	Capacity (tons)	SDT (F)	kW	THR (Tons)	Cooler (Δt=10F)		
					gpm	LWT (F)	PD (ft)
30HLP020	10.8	140	16.8	15.2	25.8	40	2.9
	11.4	135	16.6	15.6	27.1		3.4
	11.8	130	16.2	16	28.2		3.8
	12.3	125	15.8	16.4	29.4		4.2
	11.4	140	17.2	15.8	27.2	42	3.8
	11.9	135	17.0	16.2	28.5		4.2
	12.4	130	16.5	16.7	29.7		4.5
	13	125	16.1	17.1	30.9		4.9
	11.9	140	17.5	16.5	28.6	44	3.9
	12.5	135	17.2	17	29.9		4.4
	13	130	16.8	17.4	31.1		4.8
	13.5	125	16.4	17.8	32.4		5.3
	12.6	140	17.8	17.1	30	46	4.4
	13.1	135	17.5	17.6	31.4		4.9
	13.6	130	17.1	18.1	32.6		5.4
	14.2	125	16.6	18.5	33.9		5.9
	13.1	140	18.2	17.8	31.4	48	4.9
	13.8	135	17.8	18.3	32.9		5.5
	14.2	130	17.4	18.8	34.2		6
	14.8	125	16.9	19.2	35.5		6.4
30HSP040	28	134.3	39.2	39.2	67	40	4.9
	29	130.6	38.7	40	70		5.2
	30	127.0	38.1	40.8	72		5.6
	31	123.3	37.4	41.6	74		5.9
	29	135.0	39.9	40.3	70	42	5.2
	30	131.4	39.4	41.2	72		5.6
	31	127.8	38.8	42	74		5.9
	32	124.2	38.2	42.8	77		6.3
	33	120.6	37.4	43.6	79		6.7
	31	132.3	40.3	42.4	74	44	5.9
	32	128.8	39.6	43.3	77		6.3
	33	125.3	39.0	44.1	79		6.7
	34	121.7	38.2	44.8	82		7.1
	32	133.0	41.0	43.6	77	46	6.3
	33	129.6	40.4	44.5	79		6.7
	34	126.2	39.7	45.3	82		7.1
	35	122.7	39.0	46.1	84		7.5
	33	134.0	41.8	44.9	79	48	6.7
	34	130.6	41.2	45.7	82		7.1
	35	127.3	40.5	46.5	84		7.5
	36	123.9	39.8	47.3	86		7.9
	37	120.5	39.0	48.1	89		8.3
30HSP060	36	135.1	48.8	49.9	86	40	4.4
	37	131.6	48.0	50.6	89		4.6
	38	128.2	47.2	51.4	91		4.8
	39	124.8	46.3	52.2	94		5
	40	121.6	45.6	52.9	96		5.3
	38	133.5	49.4	52	91	42	4.8
	39	130.2	48.5	52.8	94		5
	40	126.9	47.7	53.5	96		5.3
	41	123.7	46.8	54.3	98		5.5
	42	120.6	46.1	55.1	101		5.8
	40	132.3	49.9	54.2	96	44	5.3
	41	129.0	49.0	54.9	98		5.5
	42	125.9	48.2	55.7	101		5.8
	43	122.8	47.4	56.5	103		6
	41	134.4	51.4	55.6	98	46	5.5
	42	131.3	50.5	56.3	101		5.8
	43	128.2	49.6	57.1	103		6
	44	125.1	48.7	57.8	106		6.3
	45	122.2	47.9	58.6	108		6.6
	43	133.5	52.0	57.8	103	48	6
	44	130.5	51.1	58.5	106		6.3
	45	127.5	50.2	59.3	108		6.6
	46	124.6	49.3	60	110		6.8
	47	121.8	48.5	60.8	113		7.1

Model	Capacity (tons)	SDT (F)	kW	THR (Tons)	Cooler (Δt=10F)		
					gpm	LWT (F)	PD (ft)
30HLP030	16.6	140	25.1	23.1	39.8	40	5.6
	17.4	135	24.6	23.8	41.5		6.2
	18.1	130	23.9	24.2	43.2		6.8
	18.7	125	23.3	24.8	44.8		7.4
	17.4	140	25.6	24.1	41.8	42	6.3
	18.2	135	25.0	24.7	43.6		7
	18.9	130	24.4	25.2	45.3		7.6
	19.6	125	23.7	25.8	47		8.2
	18.3	140	26.2	25	43.8	44	7.1
	19	135	25.5	25.7	45.7		7.7
	19.8	130	24.8	26.2	47.4		8.3
	20.5	125	24.1	26.7	49.1		9
	19.1	140	26.6	26	45.8	46	7.8
	19.9	135	26.0	26.7	47.8		8.5
	20.7	130	25.3	27.2	49.6		9.1
	21.4	125	24.5	27.8	51.4		9.8
	20	140	27.1	27	48	48	8.6
	20.8	135	26.5	27.7	49.9		9.2
	21.6	130	25.7	28.2	51.8		9.9
	22.4	125	24.9	28.8	53.7		10.7
30HSP050	32	134.0	42.4	44.1	77	40	3.5
	33	129.7	41.4	44.7	79		3.7
	34	125.4	40.3	45.5	82		3.9
	35	121.3	39.3	46.2	84		4.1
	34	132.8	43.1	46.2	82	42	3.9
	35	128.6	42.0	46.9	84		4.1
	36	124.5	40.9	47.6	86		4.4
	37	120.5	39.9	48.3	89		4.6
	36	131.9	43.7	48.4	86	44	4.4
	37	127.9	42.6	49.1	89		4.6
	38	123.9	41.5	49.8	91		4.8
	37	135.5	45.6	49.9	89	46	4.6
	38	131.3	44.4	50.6	91		4.8
	39	127.4	43.2	51.3	94		5
	40	123.5	42.2	52	96		5.3
	39	134.7	46.3	52.1	94	48	5
	40	130.8	45.1	52.8	96		5.3
	41	127.1	43.9	53.5	98		5.5
	42	123.4	42.8	54.2	101		5.8
30HSP070	45	134.0	60.0	62	108	40	2.1
	46	131.4	59.2	62.8	110		2.2
	47	128.8	58.4	63.6	113		2.3
	48	126.3	57.6	64.3	115		2.4
	49	123.8	56.8	65.1	118		2.5
	50	121.4	56.0	65.9	120		2.6
	47	134.0	61.0	64.3	113	42	2.3
	48	131.4	60.2	65.1	115		2.4
	49	128.9	59.4	65.9	118		2.5
	50	126.5	58.5	66.6	120		2.6
	51	124.1	57.7	67.4	122		2.7
	52	121.7	57.0	68.2	125		2.8
	49	134.0	62.1	66.6	118	44	2.5
	50	131.6	61.2	67.4	120		2.6
	51	129.1	60.4	68.1	122		2.7
	52	126.7	59.5	68.9	125		2.8
	53	124.4	58.7	69.7	127		2.9
	54	122.1	57.9	70.4	130		3
	51	134.1	63.1	68.9	122	46	2.7
	52	131.7	62.2	69.7	125		2.8
	53	129.4	61.4	70.4	127		2.9
	54	127.1	60.5	71.2	130		3
	55	124.8	59.7	72	132		3.1
	56	122.5	58.9	72.7	134		3.2
	57	120.3	58.1	73.5	137		3.3
	53	134.5	64.2	71.2	127	48	2.9
	54	132.2	63.3	72	130		3
	55	129.9	62.5	72.7	132		3.1
	56	127.6	61.6	73.5	134		3.2
	57	125.4	60.8	74.3	137		3.3
	58	123.2	59.9	75	139		3.5
	59	121.0	59.1	75.8	142		3.7

Air Cooled Units

Model	Capacity (tons)	SDT (F)	kW	THR (Tons)	Cooler (Δt=10F) gpm	LWT (F)	PD (ft)
30HSP080	50	135.4	67.4	69.1	120	40	2.6
	51	133.0	66.6	69.9	122		2.7
	52	130.5	65.7	70.7	125		2.8
	53	128.1	64.9	71.4	127		2.9
	54	125.8	64.1	72.2	130		3
	55	123.5	63.3	73	132		3.1
	56	121.2	62.5	73.7	134		3.2
	53	133.4	67.9	72.3	127	42	2.9
	54	131.0	67.0	73	130		3
	55	128.7	66.2	73.8	132		3.1
	56	126.4	65.3	74.6	134		3.2
	57	124.2	64.5	75.3	137		3.3
	58	122.0	63.7	76.1	139		3.5
	55	133.9	69.2	74.7	132	44	3.1
	56	131.6	68.3	75.4	134		3.2
	57	129.3	67.5	76.2	137		3.3
	58	127.1	66.6	76.9	139		3.5
	59	124.9	65.8	77.7	142		3.6
	60	122.8	65.0	78.5	144		3.7
	61	120.7	64.2	79.2	146		3.8
	57	134.5	70.6	77.1	137	46	3.3
	58	132.3	69.7	77.8	139		3.5
	59	130.1	68.8	78.5	142		3.6
	60	127.9	68.0	79.3	144		3.7
	61	125.8	67.1	80.1	146		3.8
	62	123.7	66.3	80.8	149		4
	63	121.6	65.5	81.6	151		4.1
	59	135.3	72.1	79.5	142	48	3.6
	60	133.1	71.2	80.2	144		3.7
	61	131.0	70.2	81	146		3.8
	62	128.9	69.4	81.7	149		4
	63	126.8	68.5	82.4	151		4.1
	64	124.7	67.6	83.2	154		4.2
	65	122.7	66.8	84	156		4.3
	66	120.7	66.0	84.7	158		4.5
30HSP100	64	133.9	84.7	88.1	154	40	4.5
	65	132.1	83.9	88.8	156		4.6
	66	130.2	83.1	89.6	158		4.8
	67	128.4	82.3	90.4	161		4.9
	68	126.6	81.5	91.2	163		5.1
	69	124.9	80.7	91.9	166		5.2
	70	123.1	80.0	92.7	168		5.4
	71	121.4	79.2	93.5	170		5.5
	66	135.4	86.9	90.7	158	42	4.8
	67	133.6	86.1	91.4	161		4.9
	68	131.8	85.2	92.2	163		5.1
	69	130.0	84.4	93	166		5.2
	70	128.2	83.6	93.7	168		5.4
	71	126.5	82.8	94.5	170		5.5
	72	124.8	82.0	95.3	173		5.7
	73	123.1	81.2	96.1	175		5.8
	74	121.5	80.5	96.8	178		6
	69	135.1	88.3	94.1	166	44	5.2
	70	133.4	87.4	94.8	168		5.4
	71	131.6	86.6	95.6	170		5.5
	72	129.9	85.8	96.4	173		5.7
	73	128.2	84.9	97.1	175		5.8
	74	126.5	84.1	97.9	178		6
	75	124.9	83.3	98.7	180		6.2
	76	123.3	82.5	99.4	182		6.3
	77	121.6	81.7	110.2	185		6.5
	72	135.0	89.7	97.5	173	46	5.7
	73	133.3	88.9	98.2	175		5.8
	74	131.6	88.0	99	178		6
	75	130.0	87.1	99.7	180		6.2
	76	128.3	86.3	100.5	182		6.3
	77	126.7	85.5	101.3	185		6.5
	78	125.1	84.7	102	187		6.7
	79	123.5	83.9	102.8	190		6.8
	80	122.0	83.1	103.6	192		7
	81	120.4	82.3	104.4	194		7.2
	75	135.1	91.2	100.9	180	48	6.2
	76	133.5	90.3	101.6	182		6.3
	77	131.8	89.4	102.4	185		6.5
	78	130.2	88.6	103.2	187		6.7
	79	128.6	87.7	103.9	190		6.8
	80	127.0	86.9	104.7	192		7
	81	125.5	86.1	105.4	194		7.2
	82	123.9	85.2	106.2	197		7.4
	83	122.4	84.4	107	199		7.5
	84	120.9	83.6	107.7	202		7.7

Model	Capacity (tons)	SDT (F)	kW	THR (Tons)	Cooler (Δt=10F) gpm	LWT (F)	PD (ft)
30HSP090	54	135.2	73.3	74.8	130	40	3
	55	132.8	72.4	75.6	132		3.1
	56	130.4	71.5	76.3	134		3.2
	57	128.0	70.7	77.1	137		3.3
	58	125.8	69.8	77.8	139		3.5
	59	123.5	69.0	78.6	142		3.6
	60	121.3	68.1	79.4	144		3.7
	57	133.3	73.9	78	137	42	3.3
	58	131.0	73.0	78.7	139		3.5
	59	128.7	72.1	79.5	142		3.6
	60	126.5	71.2	80.2	144		3.7
	61	124.3	70.4	81	146		3.8
	62	122.1	69.5	81.7	149		4
	59	134.0	75.5	80.4	142	44	3.6
	60	131.8	74.6	81.2	144		3.7
	61	129.6	73.6	81.9	146		3.8
	62	127.4	72.7	82.7	149		4
	63	125.2	71.8	83.4	151		4.1
	64	123.1	71.0	84.2	154		4.2
	65	121.1	70.1	84.9	156		4.3
	61	134.8	77.1	82.9	146	46	3.8
	62	132.6	76.1	83.6	149		4
	63	130.5	75.2	84.4	151		4.1
	64	128.3	74.3	85.1	154		4.2
	65	126.2	73.4	85.8	156		4.3
	66	124.2	72.5	86.6	158		4.5
	67	122.2	71.6	87.3	161		4.6
	68	120.2	70.7	88.1	163		4.7
	64	133.6	77.8	86.1	154	48	4.2
	65	131.5	76.8	86.8	156		4.3
	66	129.4	75.9	87.5	158		4.5
	67	127.4	74.9	88.3	161		4.6
	68	125.4	74.0	89	163		4.7
	69	123.4	73.1	89.8	166		4.9
	70	121.4	72.3	90.5	168		5
30HSP110	69	135.0	92.2	95.2	166	40	5.2
	70	133.2	91.3	95.9	168		5.4
	71	131.4	90.5	96.7	170		5.5
	72	129.7	89.7	97.5	173		5.7
	73	128.0	88.9	98.2	175		5.8
	74	126.3	88.1	99	178		6
	75	124.6	87.3	99.8	180		6.2
	76	123.0	86.5	100.6	182		6.3
	77	121.4	85.7	101.3	185		6.5
	72	134.8	94	98.6	173	42	5.7
	73	133.1	93.0	99.4	175		5.8
	74	131.4	92.1	100.2	178		6
	75	129.7	91.3	100.9	180		6.2
	76	128.1	90.4	101.7	182		6.3
	77	126.4	89.6	102.5	185		6.5
	78	124.8	88.8	103.2	187		6.7
	79	123.2	88.0	104	190		6.8
	80	121.7	87.2	104.8	192		7
	81	120.1	86.5	105.6	194		7.2
	75	135.0	95.5	102.1	180	44	6.2
	76	133.3	94.7	102.9	182		6.3
	77	131.7	93.8	103.6	185		6.5
	78	130.1	92.9	104.4	187		6.7
	79	128.5	92.1	105.2	190		6.8
	80	126.9	91.3	105.9	192		7
	81	125.3	90.4	106.7	194		7.2
	82	123.7	89.6	107.5	197		7.4
	83	122.2	88.8	108.2	199		7.5
	84	120.7	88.0	109	202		7.7
	78	135.3	97.3	105.6	187	46	6.7
	79	133.7	96.4	106.4	190		6.8
	80	132.1	95.5	107.1	192		7
	81	130.5	94.6	107.9	194		7.2
	82	128.9	93.8	108.6	197		7.4
	83	127.4	92.9	109.4	199		7.5
	84	125.8	92.1	110.2	202		7.7
	85	124.3	91.3	110.9	204		7.9
	86	122.9	90.5	111.7	206		8.1
	87	121.4	89.6	112.5	209		8.3
	82	134.1	98.2	109.9	197	48	7.4
	83	132.6	97.3	110.6	199		7.5
	84	131.0	96.4	111.4	202		7.7
	85	129.5	95.5	112.1	204		7.9
	86	128.0	94.7	112.9	206		8.1
	87	126.5	93.8	13.6	209		8.3
	88	125.1	93.0	114.4	211		8.5
	89	123.6	92.1	115.2	214		8.7
	90	122.2	91.3	115.9	216		8.9
	91	120.8	90.5	116.7	218		9.1

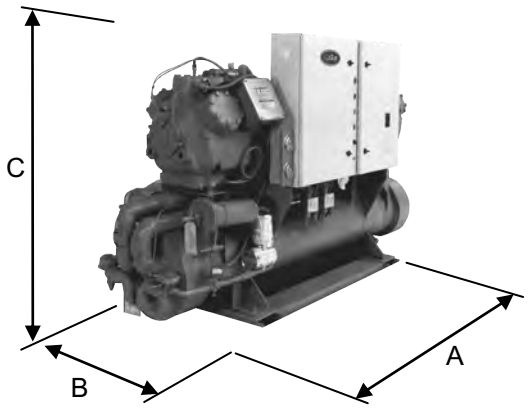
Model	Capacity (tons)	SDT (F)	kW	THR (Tons)	Cooler (Δt=10F) gpm	LWT (F)	PD (ft)
30HSP120	75	134.3	98.8	103.1	180	40	6.2
	76	132.6	97.9	103.8	182		6.3
	77	130.9	97.1	104.6	185		6.5
	78	129.3	96.3	105.3	187		6.7
	79	127.6	95.4	106.1	190		6.8
	80	126.0	94.6	106.9	192		7
	81	124.4	93.8	107.6	194		7.2
	82	122.9	93.0	108.4	197		7.4
	83	121.3	92.3	109.2	199		7.5
	78	134.6	100.8	106.6	187	42	6.7
	79	132.9	99.9	107.4	190		6.8
	80	131.3	99.0	708.1	192		7
	81	129.7	98.2	108.9	194		7.2
	82	128.1	97.3	109.6	197		7.4
	83	126.6	96.5	110.4	199		7.5
	84	125.0	95.7	111.2	202		7.7
	85	123.5	94.9	111.9	204		7.9
	86	122.0	94.1	112.7	206		8.1
	87	120.5	93.3	113.5	209		8.3
	81	135.0	102.8	110.2	194	44	7.2
	82	133.4	101.9	110.9	197		7.4
	83	131.9	101.0	111.7	199		7.5
	84	130.3	100.1	112.4	202		7.7
	85	128.8	99.3	113.2	204		7.9
	86	127.2	98.4	114	206		8.1
	87	125.7	97.6	114.7	209		8.3
	88	124.3	96.8	115.5	211		8.5
	89	122.8	95.9	116.2	214		8.7
	90	121.4	95.1	117	216		8.9
	85	134.1	104.0	114.5	204	46	7.9
	86	132.5	103.1	115.3	206		8.1
	87	131.0	102.2	116	209		8.3
	88	129.5	101.3	116.8	211		8.5
	89	128.0	100.4	117.5	214		8.7
	90	126.6	99.6	118.3	216		8.9
	91	125.1	98.7	119	218		9.1
	92	123.7	97.9	119.8	221		9.3
	93	122.3	97.1	120.6	223		9.5
	94	120.9	96.3	121.3	226		9.7
	88	134.8	106.2	118.2	211	48	8.5
	89	133.3	105.2	118.9	214		8.7
	90	131.8	104.3	119.6	216		8.9
	91	130.4	103.4	120.4	218		9.1
	92	129.0	102.5	121.1	221		9.3
	93	127.5	101.8	121.9	223		9.5
	94	126.1	100.8	122.6	226		9.7
	95	124.7	99.9	123.4	228		9.9
	96	123.4	99.1	124.1	230		10.1
	97	122.0	98.2	124.9	233		10.3
	98	120.7	97.4	125.7	235		10.5

Model	Capacity (tons)	SDT (F)	kW	THR (Tons)	Cooler (Δt=10F) gpm	LWT (F)	PD (ft)
30HSP140	82	135.2	122.8	116.9	197	40	4.5
	83	133.9	122.1	117.7	199		4.6
	84	132.6	121.3	118.5	202		4.7
	85	131.2	120.6	119.3	204		4.8
	86	129.9	119.8	120	206		4.9
	87	128.5	119.0	120.8	209		5
	88	127.1	118.2	121.6	211		5.1
	89	125.7	117.4	122.3	214		5.2
	90	124.3	116.5	123.1	216		5.3
	91	122.9	115.7	123.8	218		5.4
	92	121.5	114.8	124.6	221		5.5
	93	120.1	113.9	125.3	223		5.6
	86	134.8	125.0	121.5	206	42	4.9
	87	133.5	124.3	122.3	209		5
	88	132.2	123.5	123.1	211		5.1
	89	130.9	122.7	123.9	214		5.2
	90	129.5	121.9	124.6	216		5.3
	91	128.2	121.1	125.4	218		5.4
	92	126.9	120.3	126.2	221		5.5
	93	125.5	119.4	126.9	223		5.6
	94	124.1	118.5	127.7	226		5.7
	95	122.8	117.6	128.4	228		5.8
	96	121.4	116.6	129.2	230		5.9
	90	134.5	127.2	126.1	216	44	5.3
	91	133.2	126.4	126.9	218		5.4
	92	132.0	125.7	127.7	221		5.5
	93	130.7	124.9	128.5	223		5.6
	94	129.4	124.0	129.2	226		5.7
	95	128.1	123.2	130	228		5.8
	96	126.8	122.3	130.7	230		5.9
	97	125.4	121.5	131.5	233		6
	98	124.1	120.6	132.2	235		6.2
	99	122.8	119.7	133	238		6.3
	100	121.5	118.8	133.7	240		6.4
	101	120.2	117.9	134.5	242		6.5
	94	134.4	129.5	130.8	226	46	5.7
	95	133.1	128.7	131.5	228		5.8
	96	131.9	127.9	132.3	230		5.9
	97	130.6	127.0	133.1	233		6
	98	129.4	126.2	133.8	235		6.2
	99	128.1	125.4	134.6	238		6.3
	100	126.8	124.5	135.4	240		6.4
	101	125.5	123.6	136.1	242		6.5
	102	124.3	122.7	136.8	245		6.6
	103	123.0	121.8	137.6	247		6.7
	104	121.7	120.9	138.3	250		6.9
	105	120.4	120.0	139.1	252		7
	97	135.5	132.5	134.6	233	48	6
	98	134.3	131.7	135.4	235		6.2
	99	133.1	130.9	136.2	238		6.3
	100	131.9	130.1	137	240		6.4
	101	130.7	129.3	137.7	242		6.5
	102	129.4	128.4	138.5	245		6.6
	103	128.2	127.6	139.2	274		6.7
	104	127.0	126.7	140	250		6.9
	105	125.7	125.8	140.7	252		7
	106	124.5	124.9	141.5	254		7.1
	107	123.3	124.0	142.2	257		7.2
	108	122.0	123.0	142.9	259		7.3
	109	120.8	122.1	143.7	262		7.5

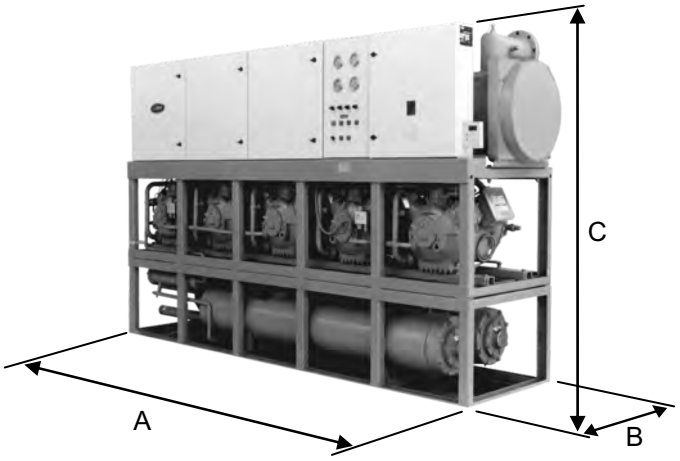
Model	Capacity (tons)	SDT (F)	kW	THR (Tons)	Cooler (Δt=10F) gpm	LWT (F)	PD (ft)
30HSP160	93	135.2	148.2	135.1	223	40	5.6
	94	134.1	147.6	135.9	226		5.7
	95	133.0	146.9	136.7	228		5.8
	96	131.9	146.2	137.5	230		5.9
	97	130.7	145.4	138.3	233		6
	98	129.5	144.6	139.1	235		6.2
	99	128.3	143.8	139.8	238		6.3
	100	127.1	142.9	140.6	240		6.4
	101	125.9	142.0	141.3	242		6.5
	102	124.6	141.0	142.1	245		6.6
	103	123.3	140.1	142.8	247		6.7
	104	122.0	139.0	143.5	250		6.9
	105	120.7	138.0	144.2	252		7
	97	135.4	151.3	140	233	42	6
	98	134.3	150.6	140.8	235		6.2
	99	133.2	149.9	141.6	238		6.3
	100	132.1	149.2	142.4	240		6.4
	101	131.0	148.4	143.1	242		6.5
	102	129.8	147.6	143.9	245		6.6
	103	128.7	146.7	144.7	247		6.7
	104	127.5	145.8	145.4	250		6.9
	105	126.3	144.9	146.2	252		7
	106	125.0	144.0	146.9	254		7.1
	107	123.8	143.0	147.6	257		7.2
	108	122.5	141.9	148.3	259		7.3
	109	121.3	140.9	149	262		7.5
	102	134.5	153.6	145.6	245	44	6.6
	103	133.5	152.9	146.4	247		6.7
	104	132.4	152.2	147.2	250		6.9
	105	131.3	151.4	148	252		7
	106	130.2	150.6	148.8	254		7.1
	107	129.0	149.7	149.5	257		7.2
	108	127.9	148.8	150.3	259		7.3
	109	126.7	147.9	151	262		7.5
	110	125.5	146.9	151.7	264		7.6
	111	124.3	145.9	152.4	266		7.7
	112	123.1	144.9	153.2	269		7.8
	113	121.9	143.9	153.9	271		8
	114	120.6	142.8	154.6	274		8.1
	106	134.9	156.7	150.5	254	46	7.1
	107	133.8	156.0	151.3	257		7.2
	108	132.8	155.2	152.1	259		7.3
	109	131.7	154.4	152.9	262		7.5
	110	130.6	153.6	153.6	264		7.6
	111	129.5	152.7	154.4	266		7.7
	112	128.4	151.8	155.1	269		7.8
	113	127.3	150.9	155.9	271		8
	114	126.1	149.9	156.6	274		8.1
	115	124.9	148.9	157.3	276		8.2
	116	123.8	147.9	158	278		8.3
	117	122.6	146.9	158.7	281		8.5
	118	121.4	145.8	159.4	283		8.6
	119	120.2	114.7	160.1	286		8.7
	110	135.3	159.8	155.4	264	48	7.6
	111	134.2	159.0	156.2	266		7.7
	112	133.2	158.3	156.9	269		7.8
	113	132.2	157.5	157.7	271		8
	114	131.1	156.6	158.5	274		8.1
	115	130.0	155.8	159.2	276		8.2
	116	129.0	154.9	160	278		8.3
	117	127.9	153.9	160.7	281		8.5
	118	126.7	153.0	161.4	283		8.6
	119	125.6	152.0	162.2	286		8.7
	120	124.5	151.0	162.9	288		8.9
	121	123.3	150.0	163.6	290		9
	122	122.1	148.9	164.3	293		9.1
	123	121.0	147.8	165	295		9.3

Model	Capacity (tons)	SDT (F)	kW	THR (Tons)	Cooler (Δt=10F) gpm	LWT (F)	PD (ft)
30HSP200	117.9	137.0	168.8	163.5	282	40	5.1
	121.5	133.0	166.0	166.4	290.5		5.4
	125	129.0	163.1	169.1	298.9		5.7
	128.6	125.0	160.1	171.9	307.5		6
	123.5	137.0	172.3	170.1	295.4	42	5.6
	127.2	133.0	169.4	173	304.3		5.9
	130.8	129.0	166.3	175.8	313		6.2
	134.6	125.0	163.2	178.6	321.9		6.6
	129.2	137.0	175.9	176.8	309.4	44	6.1
	133.1	133.0	172.8	179.8	318.6		6.4
	136.8	127.0	169.5	182.6	327.5		6.8
	140.7	125.0	166.1	185.6	336.8		7.2
	135.2	137.0	179.4	183.7	323.8	46	6.6
	139.1	133.0	176.1	186.6	333.1		7
	143	129.0	172.6	189.7	342.6		7.4
	146.9	125.0	169.0	192.6	351.9		7.8
	141.3	137.0	182.9	190.7	338.6	48	7.2
	145.3	133.0	179.3	193.7	348.2		7.6
	149.4	129.0	175.7	196.9	358.1		8.1
	153.4	125.0	171.8	199.8	367.6		8.5
30HSP240	140.4	137.0	205.5	196	335.7	40	7.1
	144.6	133.0	202.1	199.2	345.6		7.5
	148.8	129.0	198.7	202.5	355.8		8
	153	125.0	195.0	205.6	365.6		8.4
	147	137.0	209.9	203.7	351.7	42	7.8
	151.3	133.0	206.3	207	361.9		8.2
	155.6	129.0	202.5	210.3	372.2		8.7
	160	125.0	198.7	213.7	382.7		9.2
	153.7	137.0	214.1	211.6	367.9	44	8.5
	158.2	133.0	210.3	215	378.6		9
	162.6	129.0	206.4	218.4	389.3		9.5
	167.2	125.0	202.3	221.8	400.2		10
	160.7	137.0	218.4	219.7	385	46	9.3
	165.2	133.0	214.3	223.1	395.7		9.8
	169.9	129.0	210.1	226.7	407.1		10.3
	174.4	125.0	205.7	230	417.8		10.9
	167.8	137.0	222.5	228	402.2	48	10.1
	172.6	133.0	218.2	231.6	413.6		10.7
	177.3	129.0	213.8	235.1	425		11.2
	182.1	125.0	209.1	238.6	436.4		11.8

DIMENSIONS (MM)

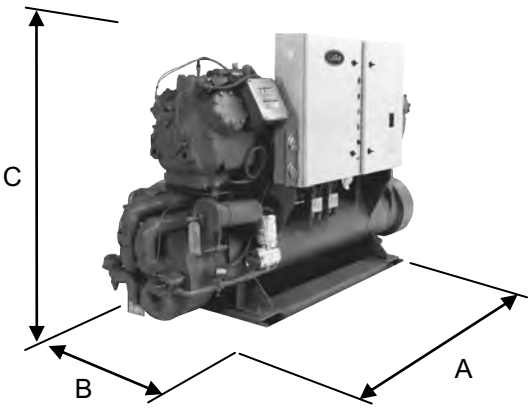


30HKP020 to 30HRP060



30HRP070 to 30HRP240

Model	30HKP020	30HKP030	30HRP040	30HRP050	30HRP060	30HRP070	30HRP080	30HRP090	30HRP100	30HRP110	30HRP120	30HRP140	30HRP160	30HRP200	30HRP240
A	2135	2490	2290	2750	2750	2600	2600	2600	2850	2850	2850	3200	3200	3540	4230
B	890	890	920	920	920	920	920	920	920	920	920	920	920	920	920
C	1220	1320	1260	1260	1260	2060	2060	2060	2140	2140	2140	2160	2160	2270	2270



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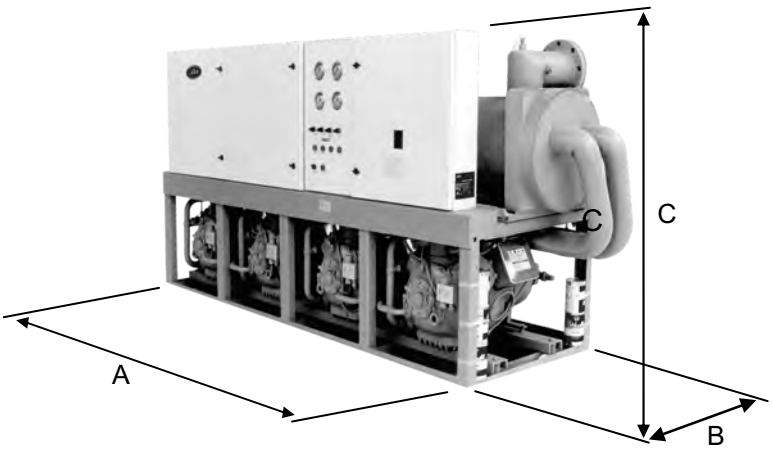


30HSP070 to 30HSP240

Model	30HLP020	30HLP030	30HSP040	30HSP050	30HSP060	30HSP070	30HSP080	30HSP090	30HSP100	30HSP110	30HSP120	30HSP140	30HSP160	30HSP200	30HSP240
A	2135	2490	2290	2750	2750	2600	2600	2600	2850	2850	2850	3200	3200	3540	4230
B	650	650	650	650	650	920	920	920	920	920	920	920	920	920	920
C	1220	1320	1260	1260	1260	1280	1280	1280	1370	1370	1370	1390	1390	1640	1640

ELECTRICAL DATA

UNIT ELECTRICAL DATA AND COMPRESSOR USAGE											
(3-PHASE-50 HERTZ) COMPLETE CHILLER											
V/PH/HZ		400/3/50			COMPR 06EA USAGE						
					CKT#1			CKT#2			
APPLICATION RANGE		342-457			Compr. No.						
UNIT 30		KW	WSA	ICF	ICI	1	2	3	4	5	6
30HRP	040	43.5	81	232	205	250	-	-	150	-	-
	050	44.2	83	234	205	275	-	-	150	-	-
	060	53.6	97	248	205	275	-	-	275	-	-
	070	62.8	120	263		250	250	-	275	-	-
	080	71.7	135	278		275	250	-	275	-	-
	090	80.5	150	293	201	275	275	-	275	-	-
	100	89.7	166	309		275	250	-	275	250	-
	110	98.5	181	324		275	275	-	275	250	-
	120	107.3	196	339		275	275	-	275	275	-
	140	132.8	228	444	295	299	275	-	299	275	-
	160	158.4	266	484	295	299	299	-	299	299	-
	200	198	333	530	295	299	299	299	299	299	-
	240	237.6	399	576	295	299	299	299	299	299	299
30HSP	040	49.6	90	238	205	250	-	-	150	-	-
	050	50.9	98	238	205	275	-	-	150	-	-
	060	61.2	117	257	205	275	-	-	275	-	-
	070	69.7	137	263		250	250	-	275	-	-
	080	79.5	155	289		275	250	-	275	-	-
	090	89.3	173	307		275	275	-	275	-	-
	100	99.5	190	324	201	275	250	-	275	250	-
	110	109.2	208	342		275	275	-	275	250	-
	120	119	226	360		275	275	-	275	275	-
	140	150.2	260	468	295	299	275	-	299	275	-
	160	176.8	294	502	295	299	299	-	299	299	-
	200	221	367.5	550	295	299	299	299	299	299	-
	240	265.2	441	596	295	299	299	299	299	299	299

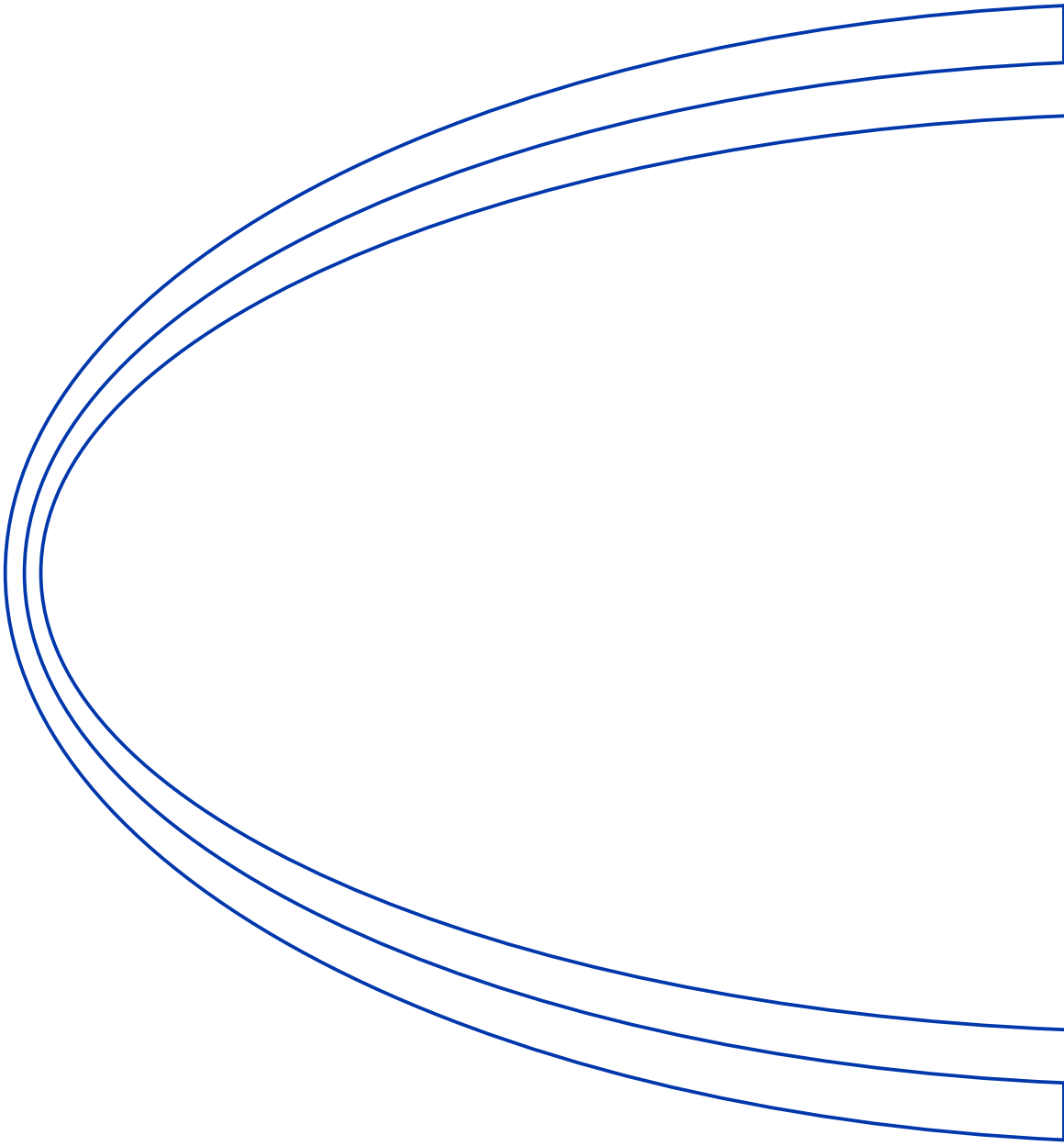
COMPRESSOR ELECTRICAL DATA (one Compressor)					
Nominal supply	FLA	MTA	LRA	kW	Comp. Model
400-3-50	30	43	144	18	06E 150
400-3-50	35	49	168	26	06E 250
400-3-50	52	73	205	30	06E 275
400-3-50	63	98	295	45	06E 299

Legend:
FLA - Full load amps
ICF - Instataneous current flow - the maximum instataneoua current during starting at any time it is the sum of the LRA for the compressor starting plus the FLA for all other Compressors running
ICI - Incremental current inrush - the LRA of Compressor
LRA - Locked rotor amps
MTA - Must trip amps of circuit breaker
WSA - Wire sizing amps. This is 1.25 times of the FLA for the largest Compressors
XL - Direct start

CAPACITY CONTROL STEPS

Model	% CAP							
30HL(K) 020	50%	100%						
30HL(K) 030	33%	67%	100%					
30HR(S)P040	25%	50%	75%	100%				
30HR(S)P050	40%	60%	80%	100%				
30HR(S)P060	33%	67%	83%	100%				
30HR(S)P070	28.6%	42.9%	57.2%	71.2%	85.7%	100%		
30HR(S)P080	25%	50%	62%	75%	87%	100%		
30HR(S)P090	22.2%	44.4%	55.5%	66.7%	88.8%	100%		
30HR(S)P100	20%	40%	50%	60%	70%	80%	90%	100%
30HR(S)P110	18.2%	36.3%	45.4%	54.5%	72.7%	81.8%	90.9%	100%
30HR(S)P120	16.6%	33.3%	41%	50%	66.7%	75%	91.6%	100%
30HR(S)P140	19%	38%	47.6%	57%	69%	78.6%	90.4%	100%
30HR(S)P160	16.6%	33.3%	41%	50%	66.7%	75%	91.6%	100%
30HR(S)P200	20%	40%	60%	80%	100%			
30HR(S)P240	16.8%	33.6%	50.4%	67.2%	84%	100%		

NOTE



Sanaye Sarmaafarin Iran

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سهروردی شمالی، خیابان خرمشهر، شماره ۱۹۴، تهران - ۱۵۳۷۷، صندوق پستی: ۱۷۹۹-۱۳۱۴۵ تلفن: ۸۸۷۶۲۰۳۸ فاکس: ۸۸۷۶۲۰۳۳