



Product Data

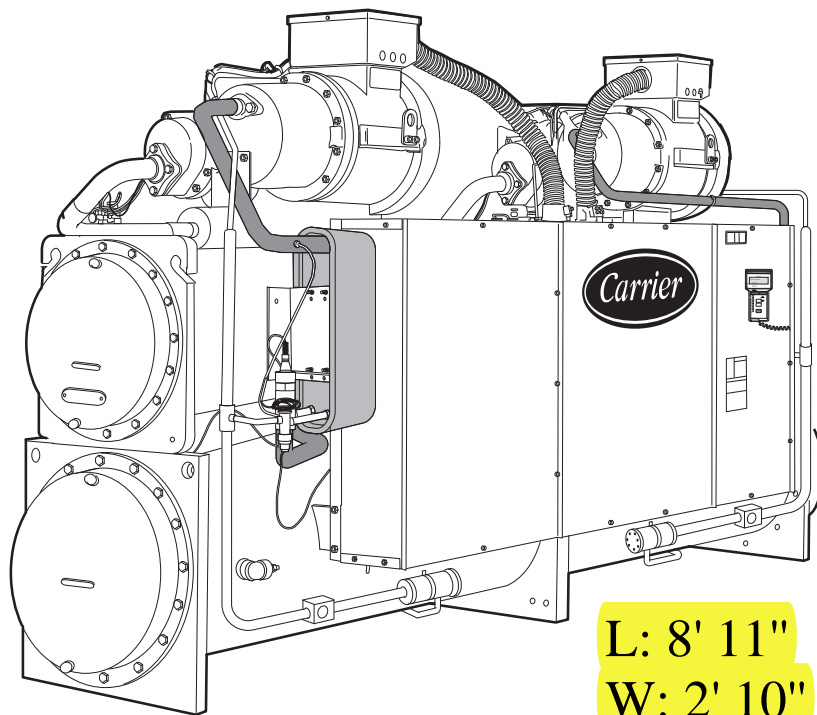
AquaForce® 30HXA,HXC076-271 Condenserless and Water-Cooled Liquid Chillers with ComfortLink Controls 50/60 Hz 75 to 265 Nominal Tons (264 to 931 kW)

AQUAFORCE®

106 Ton
2014

Model #: 30HXC106RAW671KA

Serial #: 1214Q21766



L: 8' 11"
W: 2' 10"
H: 5' 8"

SEISMICOMPLIANT*

* Meets IBC 2006, ASCE-7-05, CBC 2007, and OSHPD seismic requirements.



Operating Weight: 6,177 lbs
Shipping Weight: 5,837 lbs

Water-cooled and condenserless chillers designed from the ground up to meet the needs of today and tomorrow:

- Unit fits through a standard door with no disassembly required
- Chlorine-free HFC-134a refrigerant
- Dual independent refrigerant circuits
- Smooth compression using twin screw compressors
- AHRI certified IPLV efficiencies as low as 0.51 kW/ton

Features/Benefits

Quality design and construction make the 30HXC (water-cooled) and 30HXA (condenserless) units the preferred chillers.

Easy installation

The 30HX chiller has a compact design that fits through a standard door opening and requires minimal indoor space. The 30HX chiller is delivered as a complete package for easy installation. There are no extra controls, clocks, starters, or other items to install.

The 30HX unit also provides a single location electrical power entrance (using the accessory field-installed control power transformer) and quick, easy piping (using Victaulic-type clamp-on couplings).

The 30HX 208/230-v, 230-v, 460-v and 575-v 60 Hz units are designed in accordance with UL (Underwriters Laboratory, U.S.A.) and UL, Canada (Underwriters Laboratory, Canada) standards to minimize electrical inspection time.

Table of contents

Features/Benefits	1,2
Model Number Nomenclature	3
AHRI Capacity Ratings	4,5
Physical Data	6-9
Options and Accessories	10,11
Dimensions	12-21
Application Data	22-29
Selection Procedure	30
Performance Data	31,32
Typical Piping and Wiring	33,34
Typical Control Wiring Schematic	35
Electrical Data	36-47
Controls	48
Guide Specifications	49-51

Model number nomenclature

30HXC 106 RAW6 7 1 KA

30HXC 076 R - - 6 7 1 AA

<p>Model Description 30HXA — Condenserless Liquid Chiller</p> <p>30HXC — Water-Cooled Liquid Chiller</p> <p>Nominal Size 076 126 186 086 136 206 096 146 246 106 161 261 116 171 271</p> <p>Refrigerant/Cooler Options L — Nitrogen with Minus 1-Pass Cooler M — R-134a with Minus 1-Pass Cooler N — Nitrogen with Standard Cooler P — R-134a with Plus 1-Pass Cooler Q — Nitrogen with Plus 1-Pass Cooler R — R-134a with Standard Cooler</p> <p>Electrical Options - — Across The Line Start A — Non-Fused Disconnect Y — Y-Delta Starter Z — Y-Delta and Non-Fused Disconnect</p>	<p>Factory-Installed Option Codes* AA — 1 BA — 2 CA — 3 KA — 1,2 LA — 1,3 TA — 2,3 ZB — 1,2,3</p> <p>Packaging Code 1 = Standard Domestic 2 = Standard Export</p> <p>Series</p> <p>Voltage Code 1 — 575-3-60 2 — 380-3-60 4 — 230-3-60 5 — 280/230-3-60 6 — 460-3-60 8 — 230-3-50 9 — 380/415-3-50</p> <p>Control Options - — Standard E — Navigator Display with Energy Management U — BACnet Communication Option W — Energy Management Option and BACnet Communication Option</p>
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*Option Code Descriptions: 1 = Minimum Load Control, 2 = Suction Service Valve, and 3 = Medium Temperature Brine.

Quality Assurance

Certified to ISO 9001

SEISMICOMPLIANT*

* Meets IBC 2006, ASCE-7-05, CBC 2007, and OSHPD seismic requirements.

AHRI* capacity ratings



30HXC WATER-COOLED CHILLER AHRI RATINGS (60 Hz ONLY)

UNIT SIZE 30HXC	CAPACITY		INPUT POWER (kW)	COOLER FLOW		COOLER PRESSURE DROP		CONDENSER FLOW		CONDENSER PRESSURE DROP		FULL-LOAD EFFICIENCY (kW/Ton)	IPLV† (kW/Ton)
	Tons	Output kW		GPM	L/s	Ft of Water	kPa	GPM	L/S	Ft of Water	kPa		
076	75.4	265.2	53.7	181.0	11.4	14.5	43.2	226.2	14.3	8.9	26.6	0.712	0.512
086	83.0	292.3	60.4	199.3	12.6	17.2	51.4	249.1	15.7	10.7	31.8	0.728	0.523
096	94.0	330.5	67.0	225.5	14.2	17.0	50.7	281.9	17.8	10.9	32.7	0.714	0.513
106	104.3	366.8	75.3	250.4	15.8	15.4	46.0	313.0	19.7	13.3	39.6	0.722	0.520
116	113.5	399.3	83.2	272.3	17.2	13.3	39.8	340.4	21.5	17.0	50.6	0.733	0.530
126	122.9	432.1	92.2	294.9	18.6	15.4	45.9	368.6	23.3	19.6	58.5	0.750	0.541
136	136.5	479.9	97.0	327.5	20.7	14.6	43.7	409.4	25.8	18.5	55.1	0.711	0.527
146	145.9	513.2	105.1	350.2	22.1	16.5	49.3	437.8	27.6	20.9	62.4	0.720	0.534
161	156.6	550.6	111.6	375.7	23.7	13.7	40.9	469.7	29.6	21.3	63.6	0.713	0.521
171	165.9	585.3	118.3	398.0	25.1	15.2	45.4	497.6	31.4	17.2	51.4	0.713	0.539
186	177.1	623.1	126.7	425.1	26.8	13.9	41.5	531.4	33.5	19.5	58.1	0.715	0.561
206	211.6	744.0	146.4	507.7	32.0	14.7	43.9	634.7	40.0	20.9	62.4	0.692	0.511
246	248.6	874.1	172.4	596.5	37.6	16.2	48.3	745.7	47.0	21.9	65.2	0.693	0.525
261	257.2	904.6	180.4	617.2	38.9	17.2	51.4	771.5	48.7	23.3	69.5	0.702	0.525
271	267.4	940.3	189.5	641.7	40.5	18.5	55.1	802.2	50.6	25.1	74.7	0.709	0.527

LEGEND

IPLV — Integrated Part Load Value

*Air-Conditioning, Heating, and Refrigeration Institute (U.S.A.).
 †IPLV shown is the lower of Sequence A or Sequence B unloading.

NOTES:

- Rated (60 Hz only) in accordance with AHRI Standard 550/590 at standard rating conditions.
- Standard rating conditions are as follows:
 Cooler Conditions:
 Leaving Water Temperature: 44 F (6.7 C)
 Flow: 2.4 gpm per ton (0.043 L/s per kW)
 Condenser Conditions:
 Entering Water Temperature: 85 F (29.4 C)
 Flow: 3.0 gpm per ton (0.054 L/s per kW)
 Fouling Factor (Cooler):
 0.00010 hr x sq ft x F per Btuh (0.000018 m² x K per W)
 Fouling Factor (Condenser):
 0.00025 hr x sq ft x F per Btuh (0.000044 m² x K per W)

- IPLV is a single number part load efficiency value calculated using the efficiency values at 100%, 75%, 50%, and 25% of load when the chiller is operating at AHRI conditions.
- All data in the above table was generated in Packaged Chiller Builder version 3.47. Please refer to the most current version of the Packaged Chiller Builder for the most up-to-date data.
- Contact Carrier for custom ratings.



60 Hz only

Physical data



ENGLISH

UNIT SIZE 30HX	076	086	096	106	116	126	136	146
UNIT OPERATING WEIGHT (lb)								
Water-Cooled (HXC)	5700	5723	5855	6177	6415	6465	6688	6718
Condenserless (HXA)	4717	4744	4835	5151	5163	5205	5309	5333
COMPRESSORS	Semi-Hermetic, Twin Screw							
Quantity	2	2	2	2	2	2	2	2
Nominal Capacity per Compressor (tons)	39/39	46/39	56/39	66/39	66/46	66/56	80/56	80/66
Economizer	No	No	No	No	No	No	No	No
No. Capacity Steps								
30HXC Unit	6	6	6	6	6	6	6	6
30HXA Unit (maximum on 30HXC unit with factory-installed option)	8	8	8	8	8	8	8	8
Minimum Step Capacity (%)								
30HXC Unit	20	20	20	20	20	20	20	20
30HXA Unit (30HXC unit with factory-installed option)	10	10	10	10	10	10	10	10
REFRIGERANT (HXC)	R-134a							
Charge* (lb) Circuit A/Circuit B†	75/75	76/75	94/70	110/70	112/89	112/89	124/89	119/100
COOLER	Shell and Tube with Enhanced Copper Tubes							
Part No. 10HX400-	401	401	402	408	406	406	405	405
Net Fluid Volume (gal)	17.0	17.0	19.0	22.6	21.4	21.4	24.0	24.0
Maximum Refrigerant Pressure (psig)	220	220	220	220	220	220	220	220
Maximum Water-Side Pressure (psig)	300	300	300	300	300	300	300	300
Water Connections								
Inlet and Outlet (in.) (Std Pass)	4	4	4	5	5	5	5	5
Drain (in. NPT) (Std Pass)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Relief Valve								
Connection (in. NPTF)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Flow Capacity (lb air/min)	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
Relief Setting (psig)	220	220	220	220	220	220	220	220
Standard Number of Passes	3	3	3	3	2	2	2	2
OIL SEPARATOR (HXA)								
Part No. 09RX400-	217	217	216	216	215	215	215	215
Maximum Refrigerant Pressure (psig)	320	320	320	320	320	320	320	320
Refrigerant Connections (in.)								
Discharge Circuit A/Circuit B	2 1/8/2 1/8	2 1/8/2 1/8	2 1/8/2 1/8	2 1/8/2 1/8	2 1/8/2 1/8	2 1/8/2 1/8	2 1/8/2 1/8	2 1/8/2 1/8
Liquid Circuit A/Circuit B	1 1/8/1 1/8	1 1/8/1 1/8	1 1/8/1 1/8	1 1/8/1 1/8	1 1/8/1 1/8	1 1/8/1 1/8	1 1/8/1 1/8	1 1/8/1 1/8
Relief Valve								
Connection (in. SAE Flare)	5/8	5/8	5/8	5/8	5/8	5/8	5/8	5/8
Flow Capacity (lb air/min)	21.6	21.6	21.6	21.6	21.6	21.6	21.6	21.6
Relief Setting (psig)	320	320	320	320	320	320	320	320
CONDENSER (HXC)	Shell and Tube with Enhanced Copper Tubes							
Part No. 09RX400-	257	257	258	258	259	259	260	260
Net Fluid Volume (gal)	16.8	16.8	18.3	18.3	23.9	23.9	27.5	27.5
Maximum Refrigerant Pressure (psig)	220	220	220	220	220	220	220	220
Maximum Water-Side Pressure (psig)	300	300	300	300	300	300	300	300
Water Connections (in.)								
Inlet and Outlet (Std Pass)	5	5	5	5	5	5	5	5
Drain (NPT) (Std Pass)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Relief Valve								
Connection (in. NPTF)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Flow Capacity (lb air/min)	31.7	31.7	31.7	31.7	31.7	31.7	31.7	31.7
Relief Setting (psig)	220	220	220	220	220	220	220	220
Standard Number of Passes	2	2	2	2	2	2	2	2
DISCHARGE LINE**								
Relief Valve								
Connection (in. SAE Flare)	3/8	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Flow Capacity (lb air/min)	6.3	6.3	6.3	6.3	6.3	6.3	6.3	6.3
Setting (psig)	350	350	350	350	350	350	350	350

LEGEND

NPTF — National Pipe Thread Female
SAE — Society of Automotive Engineers

*Charges listed are for 30HXC units. The 30HXA units are shipped with a holding charge only. To determine the refrigerant charge requirements for 30HXA units, see the 30HXA Estimated System Refrigerant Charge table in the Refrigerant Charge section on page 29.

†For 30HXC, HXA units utilizing brine, the unit may require more refrigerant than what is supplied. Additional refrigerant must be field supplied.

**Only on units with factory-installed suction service valves.

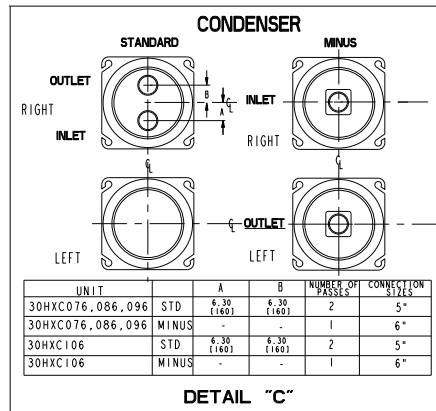
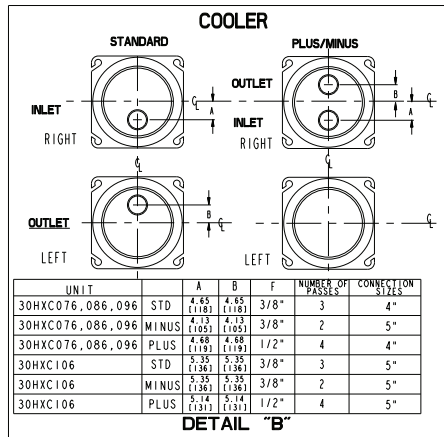
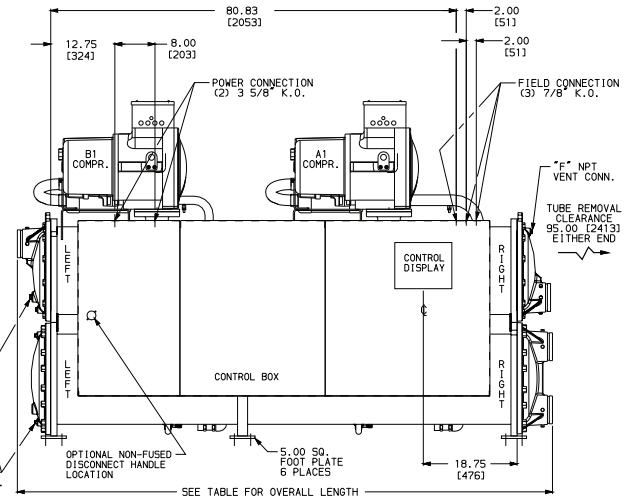
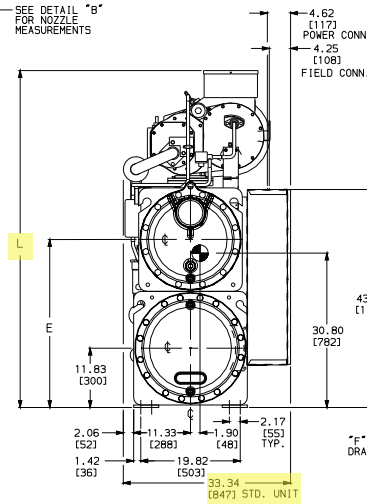
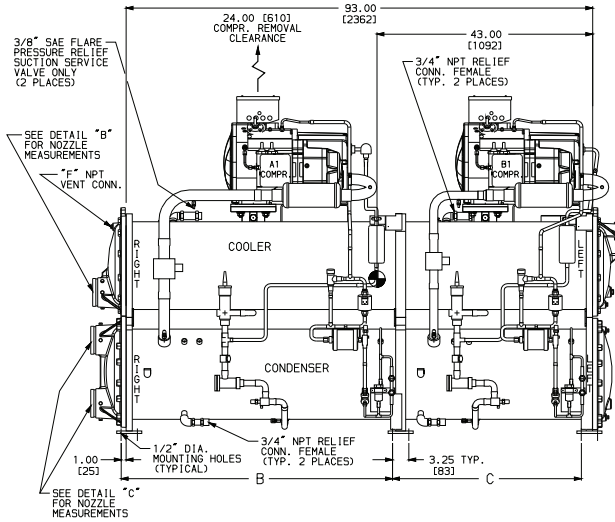
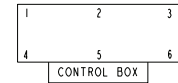
30HXC076-106

UNIT	OPERATING WEIGHT - lb (kg)	B	C	E	L	WGT DISTRIBUTION AT EACH MTG PLATE - lb (kg)					
						1	2	3	4	5	6
30HXC076	5700 (2586)	45.87 (1165)	45.87 (1165)	32.50 (826)	65.22 (1657)	738 (335)	943 (428)	595 (270)	1110 (503)	1418 (643)	896 (406)
30HXC086	5723 (2597)	45.87 (1165)	45.87 (1165)	32.50 (826)	65.22 (1657)	738 (335)	947 (430)	597 (271)	1112 (504)	1427 (647)	902 (409)
30HXC096	5855 (2657)	54.12 (1375)	37.63 (956)	32.50 (826)	65.22 (1657)	686 (311)	968 (439)	693 (314)	1027 (466)	1447 (656)	1034 (469)
30HXC106	6177 (2803)	54.12 (1375)	37.63 (956)	33.50 (851)	67.22 (1707)	730 (331)	1028 (466)	744 (337)	1073 (487)	1510 (685)	1092 (495)

NOTES:

- Operating weight includes weight of water and refrigerant.
- Denotes center of gravity.
- Dimensions are in inches (mm).
- Recommended service clearance around machine is 36 in. (914.4 mm).
- Victaulic nozzles are standard on all models. Flow switch factory installed in cooler inlet Victaulic nozzle.

WEIGHT DISTRIBUTION



OVERALL LENGTH TABLE			
COOLER	CONDENSER	OVERALL LENGTH 076, 086, 096	OVERALL LENGTH 106
STANDARD COOLER	STANDARD CONDENSER	106.39 (2702)	106.70 (2710)
STANDARD COOLER	MINUS ONE PASS CONDENSER	113.00 (2870)	113.00 (2870)
PLUS ONE PASS COOLER	STANDARD CONDENSER	104.05 (2643)	104.05 (2643)
PLUS ONE PASS COOLER	MINUS ONE PASS CONDENSER	113.00 (2870)	113.00 (2870)
MINUS ONE PASS COOLER	STANDARD CONDENSER	103.99 (2641)	103.80 (2631)
MINUS ONE PASS COOLER	MINUS ONE PASS CONDENSER	113.00 (2870)	113.00 (2870)

DOOR SWING CLEARANCE

