



Product Data

30HXA076-271 30HXC076-271 Condenserless and Fluid-Cooled Chillers 50/60 Hz

75 to 265 Tons (264 to 931 kW)

Quality Assurance



Certificate No FM 21837

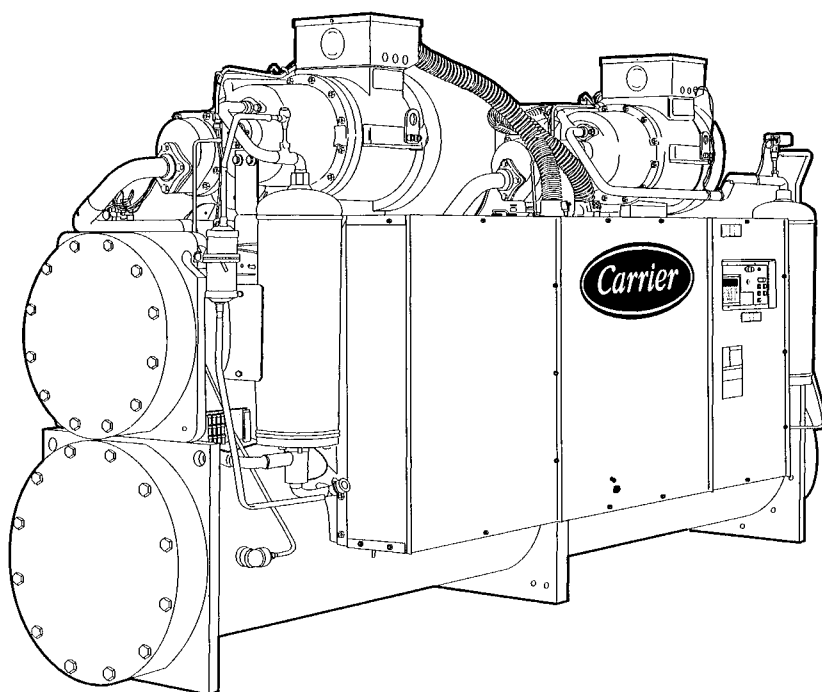
Approvals:

ISO 9002

EN 29002

BS5750 PART 2

ANSI/ASQC Q92



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

- Fits through a standard door with no disassembly required
- Chlorine-free HFC-134a refrigerant
- Smooth compression using screw compressors
- Mechanically cleanable coolers and condensers (30HXC)
- Efficiencies below .6 kW/ton

Features/Benefits

Quality design and construction make the 30HXC (Fluid Cooled) and the 30HXA (Condenserless) units the preferred choice

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 transformer) and quick, easy piping using either welded or accessory victaulic-type clamp-on couplings for the cooler

The 30HX 208/230-v and 460-v units are designed in accordance with UL (Underwriters' Laboratory, U S A) standards and the 575-v units are designed in accordance with CSA (Canadian Standards Association) standards to minimize electrical inspections.

A quick start-up is assured once installation is complete, since each 30HX unit is manufactured at an ISO 9002-listed manufacturing facility to guarantee quality. In addition, all 30HXC units are tested under load at the factory to provide reliable start-up.

Easy operation

The 30HX units have a quiet, low-vibration design featuring screw compressors

Efficiency levels of the 30HX units exceed minimums established by ASHRAE (American Society of Heating and Refrigeration Engineers) and CSA for both full- and part-load operation, thus saving on operating costs through lower electrical

costs. All 30HX units are also rated in accordance with ARI (Air Conditioning and Refrigeration Institute, U.S.A.) standards. The 60 Hz 30HXC units are ARI certified.

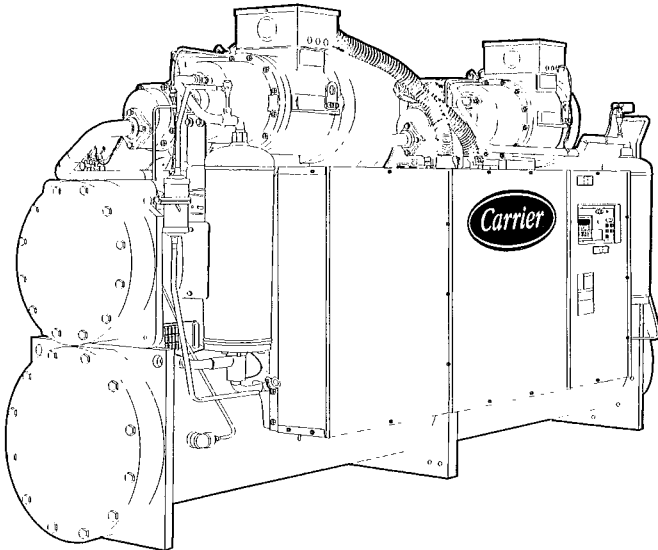
The 30HX controls are fully automatic. The leaving-fluid temperature is directly controlled, and the entering-fluid temperature is continuously monitored to detect load and flow changes controlling to within .5° F (.3° C)

Dual, independent refrigerant circuits provide reliable, dependable cooling, and the 30HX units use medium-pressure HFC-134a refrigerant to minimize stress on the compressors and ensure a long life

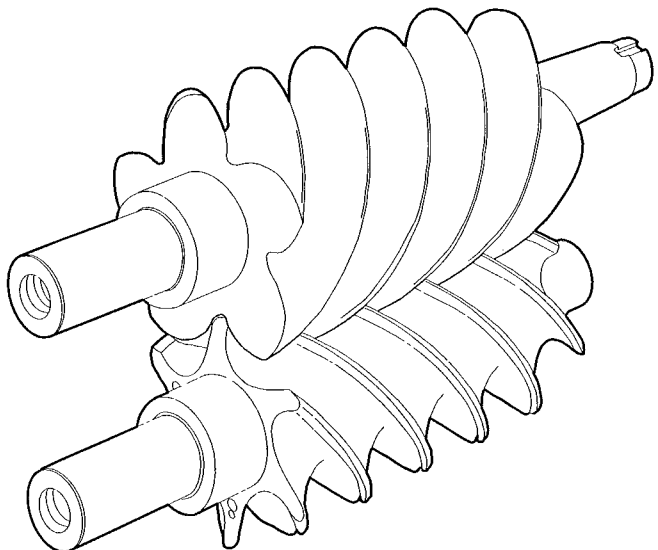
From a service standpoint, the 30HX units offer the following features:

- Use of HFC-134a refrigerant, which has no planned phase-out in its future
- Mechanically-cleanable cooler and condenser (30HXC units)
- Twin-screw compressors, which require no routine service or maintenance
- Easily accessed suction and discharge pressure and temperature information using either standard or accessory display module

DUAL INDEPENDENT REFRIGERANT CIRCUITS



TWIN-SCREW COMPRESSOR DESIGN



ENVIRONMENTAL LEADERSHIP



FITS THROUGH STANDARD DOORWAY

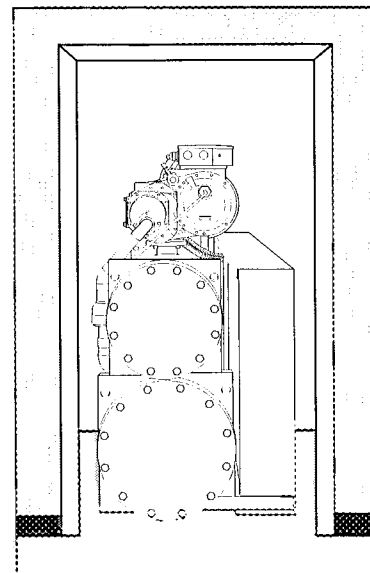
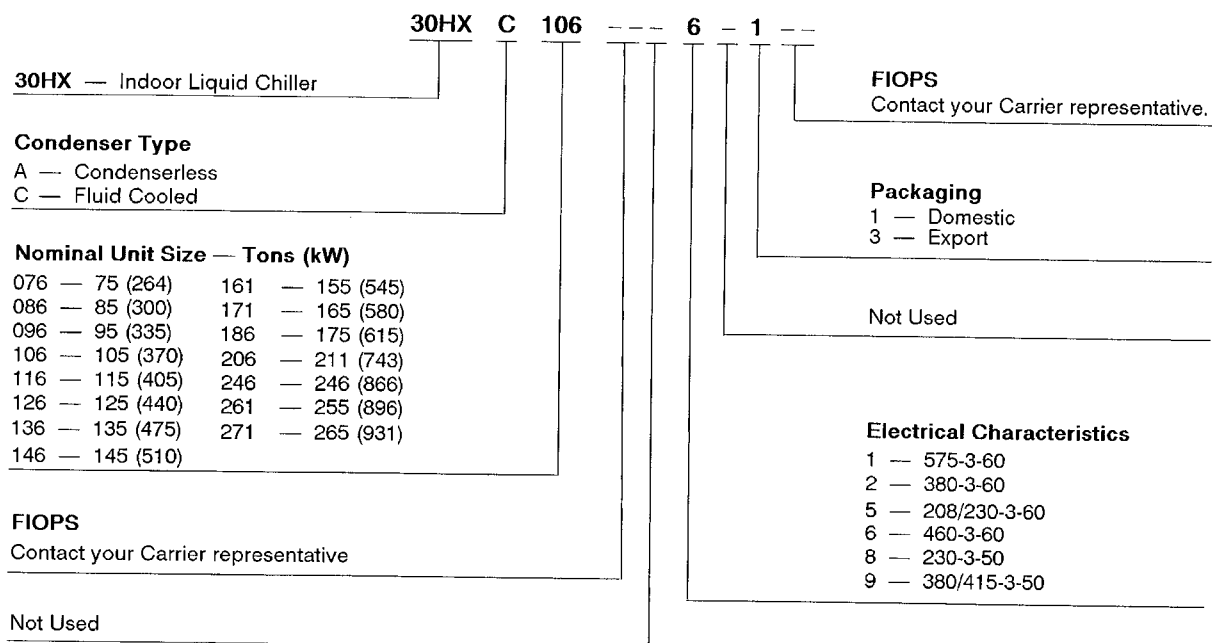


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Model number nomenclature



LEGEND

FIOPS — Factory-Installed Options

Physical data



ENGLISH

UNIT SIZE 30HX	076	086	096	106	116	126	136	146
UNIT WEIGHT (lb)								
Fluid 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								
Standard	6	6	6	6	6	6	6	6
Optional (maximum)	8	8	8	8	8	8	8	8
Minimum Step Capacity (%)								
Standard	20	20	20	20	20	20	20	20
Optional	10	10	10	10	10	10	10	10
REFRIGERANT	R-134a							
Charge* (lb) Circuit A/Circuit B	60/60	76/65	94/70	110/70	105/76	112/89	124/89	119/100
COOLER	Shell and Tube with Enhanced Copper Tubes							
Part No. 10HX400-	001	001	002	010	007	007	006	006
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 Fluid-Side Pressure (psig)	300	300	300	300	300	300	300	300
Fluid Connections								
Inlet and Outlet (in.)	4	4	4	5	4	4	4	4
Drain (in. NPT)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
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
30HXA OIL SEPARATOR								
Part No. 09RX400-	165	165	166	166	167	167	167	167
Maximum Refrigerant Pressure (psig)	320	320	320	320	320	320	320	320
Refrigerant Connections (in.)								
Discharge	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	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-	173	173	174	174	175	175	176	176
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	5	5	5	5	5	5	5	5
Drain (NPT)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
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
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 System Refrigerant Charge table in the Application Data on page 24.

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

ENGLISH (cont)

UNIT SIZE 30HX	161	171	186	206	246	261	271
UNIT WEIGHT (lb)							
Fluid Cooled (HXC)	7452	7660	7854	10,581	10,969	10,992	11,029
Condenserless (HXA)	5752	5777	5946	7,485	7,621	7,621	7,621
COMPRESSORS	Semi-Hermetic, Twin Screw						
Quantity	2	2	2	3	3	3	3
Nominal Capacity per Compressor (tons)	80/56	66/80	80/80	66/39/80	80/56/80	80/66/80	80/80/80
Economizer	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps							
Standard	6	6	6	8	8	8	8
Optional (maximum)	8	8	8	11	11	11	11
Minimum Step Capacity (%)							
Standard	20	20	20	13	13	13	13
Optional	10	10	10	7	7	7	7
REFRIGERANT	R-134a						
Charge* (lb) Circuit A/Circuit B	150/110	119/140	135/135	220/135	220/135	220/135	220/135
COOLER TYPE	Shell and Tube with Enhanced Copper Tubes						
Part No. 10HX400-	104	012	013	125	126	126	126
Net Fluid Volume (gal)	28 5	28 5	33 4	43 1	47 2	47 2	47 2
Maximum Refrigerant Pressure (psig)	220	220	220	220	220	220	220
Maximum Fluid-Side Pressure (psig)	300	300	300	300	300	300	300
Fluid Connections							
Inlet and Outlet (in.)	5	5	5	6	6	6	6
Drain (NPT)	1/2	1/2	1/2	3/4	3/4	3/4	3/4
Relief Valve							
Connection (in. NPTF)	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
Relief Setting (psig)	220	220	220	220	220	220	220
30HXA OIL SEPARATOR							
Part No. 09RX400-	167	168	168	106	106	106	106
Maximum Refrigerant Pressure (psig)	320	320	320	320	320	320	320
Refrigerant Connections (in.)							
Discharge	2 1/8	2 1/8	2 1/8	2 1/8 (2)	2 1/8 (2)	2 1/8 (2)	2 1/8 (2)
Liquid	1 3/8	1 3/8	1 3/8	1 5/8/1 3/8†	1 5/8/1 3/8†	1 5/8/1 3/8†	1 5/8/1 3/8†
Relief Valve							
Connection (in. SAE Flare)	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
Relief Setting (psig)	320	320	320	320	320	320	320
CONDENSER (HXC)	Shell and Tube with Enhanced Copper Tubes						
Part No. 09RX400-	178	178	178	179	180	180	180
Net Fluid Volume (gal)	30 6	37 6	37 6	47 6	55 1	55 1	55 1
Maximum Refrigerant Pressure (psig)	220	220	220	220	220	220	220
Maximum Water-Side Pressure (psig)	300	300	300	300	300	300	300
Water Connections (in.)							
Inlet and Outlet	5	5	5	6	6	6	6
Drain (NPT)	1/2	1/2	1/2	3/4	3/4	3/4	3/4
Relief Valve							
Connection (in. NPTF)	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
Relief Setting (psig)	220	220	220	220	220	220	220
DISCHARGE LINE**							
Relief Valve							
Connection (in. SAE Flare)	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
Setting (psig)	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 System Refrigerant Charge table in the Application Data on page 24

†Circuit A/Circuit B.

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

Physical data (cont)



SI

UNIT SIZE 30HX	076	086	096	106	116	126	136	146
UNIT WEIGHT (kg)								
Fluid Cooled (HXC)	2586	2597	2657	2803	2911	2933	3034	3048
Condenserless (HXA)	2140	2152	2194	2337	2342	2362	2408	2420
COMPRESSORS				Semi-Hermetic, Twin Screw				
Quantity	2	2	2	2	2	2	2	2
Nominal Capacity per Compressor (kW)	137/137	162/137	197/137	232/137	232/137	232/197	281/197	281/232
Economizer	No	No	No	No	No	No	No	No
No. Capacity Steps								
Standard	6	6	6	6	6	6	6	6
Optional (maximum)	8	8	8	8	8	8	8	8
Minimum Step Capacity (%)								
Standard	20	20	20	20	20	20	20	20
Optional	10	10	10	10	10	10	10	10
REFRIGERANT				R-134a				
Charge* (kg) Circuit A/Circuit B	27.3/27.3	34.5/29.5	42.7/31.8	50.0/31.8	47.7/34.5	50.9/40.5	56.4/40.5	54.1/45.5
COOLER				Shell and Tube with Enhanced Copper Tubes				
Part No. 10HX400-	001	001	002	010	007	007	006	006
Net Fluid Volume (L)	64.3	64.3	71.9	85.5	81.0	81.0	90.8	90.8
Maximum Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517	1517
Maximum Fluid-Side Pressure (kPa)	2068	2068	2068	2068	2068	2068	2068	2068
Fluid Connections								
Inlet and Outlet (in.)	4	4	4	5	4	4	4	4
Drain (NPT)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Relief Valve								
Connection (in. NPTF)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Flow Capacity (kg air/min)	14.38	14.38	14.38	14.38	14.38	14.38	14.38	14.38
Relief Setting (kPa)	1517	1517	1517	1517	1517	1517	1517	1517
30HXA OIL SEPARATOR								
Part No. 09RX400-	165	165	166	166	167	167	167	167
Maximum Refrigerant Pressure (kPa)	2205	2205	2205	2205	2205	2205	2205	2205
Refrigerant Connections (in.)								
Discharge	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	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 (kg air/min)	9.80	9.80	9.80	9.80	9.80	9.80	9.80	9.80
Relief Setting (kPa)	2206	2206	2206	2206	2206	2206	2206	2206
CONDENSER (HXC)				Shell and Tube with Enhanced Copper Tubes				
Part No. 09RX400-	173	173	174	174	175	175	176	176
Net Fluid Volume (L)	63.6	63.6	69.3	69.3	90.5	90.5	104.1	104.1
Maximum Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517	1517
Maximum Water-Side Pressure (kPa)	2068	2068	2068	2068	2068	2068	2068	2068
Water Connections (in.)								
Inlet and Outlet	5	5	5	5	5	5	5	5
Drain (NPT)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
Relief Valve								
Connection (in. NPTF)	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Flow Capacity (kg air/min)	14.38	14.38	14.38	14.38	14.38	14.38	14.38	14.38
Relief Setting (kPa)	1517	1517	1517	1517	1517	1517	1517	1517
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 (kg air/min)	2.9	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Relief Pressure (kPa)	2413	2413	2413	2413	2413	2413	2413	2413

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 System Refrigerant Charge table in the Application Data on page 24.

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

SI (cont)

UNIT SIZE 30HX	161	171	186	206	246	261	271
UNIT WEIGHT (kg)							
Fluid Cooled (HXC)	3381	3475	3564	4799	4976	4986	5003
Condenserless (HXA)	2610	2621	2698	3395	3457	3457	3457
COMPRESSORS				Semi-Hermetic, Twin Screw			
Quantity	2	2	2	3	3	3	3
Nominal Capacity per Compressor (kW)	281/197	232/281	281/281	232/137/281	281/197/281	281/232/281	281/281/281
Economizer	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps							
Standard	6	6	6	8	8	8	8
Optional (maximum)	8	8	8	11	11	11	11
Minimum Step Capacity (%)							
Standard	20	20	20	13	13	13	13
Optional	10	10	10	7	7	7	7
REFRIGERANT				R-134a			
Charge* (kg) Circuit A/Circuit B	68 2/50 0	54 1/63 6	61 2/61 2	99 8/61 2	99 8/61 2	99 8/61 2	99 8/61 2
COOLER				Shell and Tube with Enhanced Copper Tubes			
Part No. 10HX400-	104	012	013	125	126	126	126
Net Fluid Volume (L)	107.9	107.9	126.4	163.2	178.7	178.8	178.7
Maximum Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517
Maximum Fluid-Side Pressure (kPa)	2068	2068	2068	2068	2068	2068	2068
Fluid Connections							
Inlet and Outlet (in.)	5	5	5	6	6	6	6
Drain (NPT)	1/2	1/2	1/2	3/4	3/4	3/4	3/4
Relief Valve							
Connection (in. NPTF)	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Flow Capacity (kg air/min)	14.28	14.38	14.38	14.38	14.38	14.38	14.38
Relief Setting (kPa)	1517	1517	1517	1517	1517	1517	1517
30HXA OIL SEPARATOR							
Part No. 09RX400-	167	168	168	106	106	106	106
Maximum Refrigerant Pressure (kPa)	2205	2205	2205	2205	2205	2205	2205
Refrigerant Connections (in.)							
Discharge	2 1/8	2 1/8	2 1/8	2 1/8 (2)	2 1/8 (2)	2 1/8 (2)	2 1/8 (2)
Liquid	1 3/8	1 3/8	1 3/8	1 5/8/1 3/8†	1 5/8/1 3/8†	1 5/8/1 3/8†	1 5/8/1 3/8†
Relief Valve							
Connection (in. SAE Flare)	5/8	5/8	5/8	5/8	5/8	5/8	5/8
Flow Capacity (kg air/min)	9.80	9.80	9.80	9.80	9.80	9.80	9.80
Relief Setting (kPa)	2206	2206	2206	2206	2206	2206	2206
CONDENSER (HXC)				Shell and Tube with Enhanced Copper Tubes			
Part No. 09RX400-	177	178	178	179	179	179	179
Net Fluid Volume (L)	115.8	142.3	142.3	177.9	208.6	208.6	208.6
Maximum Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517
Maximum Water-Side Pressure (kPa)	2068	2068	2068	2068	2068	2068	2068
Water Connections (in.)							
Inlet and Outlet	5	5	5	6	6	6	6
Drain (NPT)	1/2	1/2	1/2	3/4	3/4	3/4	3/4
Relief Valve							
Connection (in. NPTF)	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Flow Capacity (kg air/min)	14.38	14.38	14.38	14.38	14.38	14.38	14.38
Relief Setting (kPa)	1517	1517	1517	1517	1517	1517	1517
DISCHARGE LINE†							
Relief Valve							
Connection (in. SAE Flare)	3/8	3/8	3/8	3/8	3/8	3/8	3/8
Flow Capacity (kg air/min)	2.9	2.9	2.9	2.9	2.9	2.9	2.9
Relief Pressure (kPa)	2413	2413	2413	2413	2413	2413	2413

LEGEND

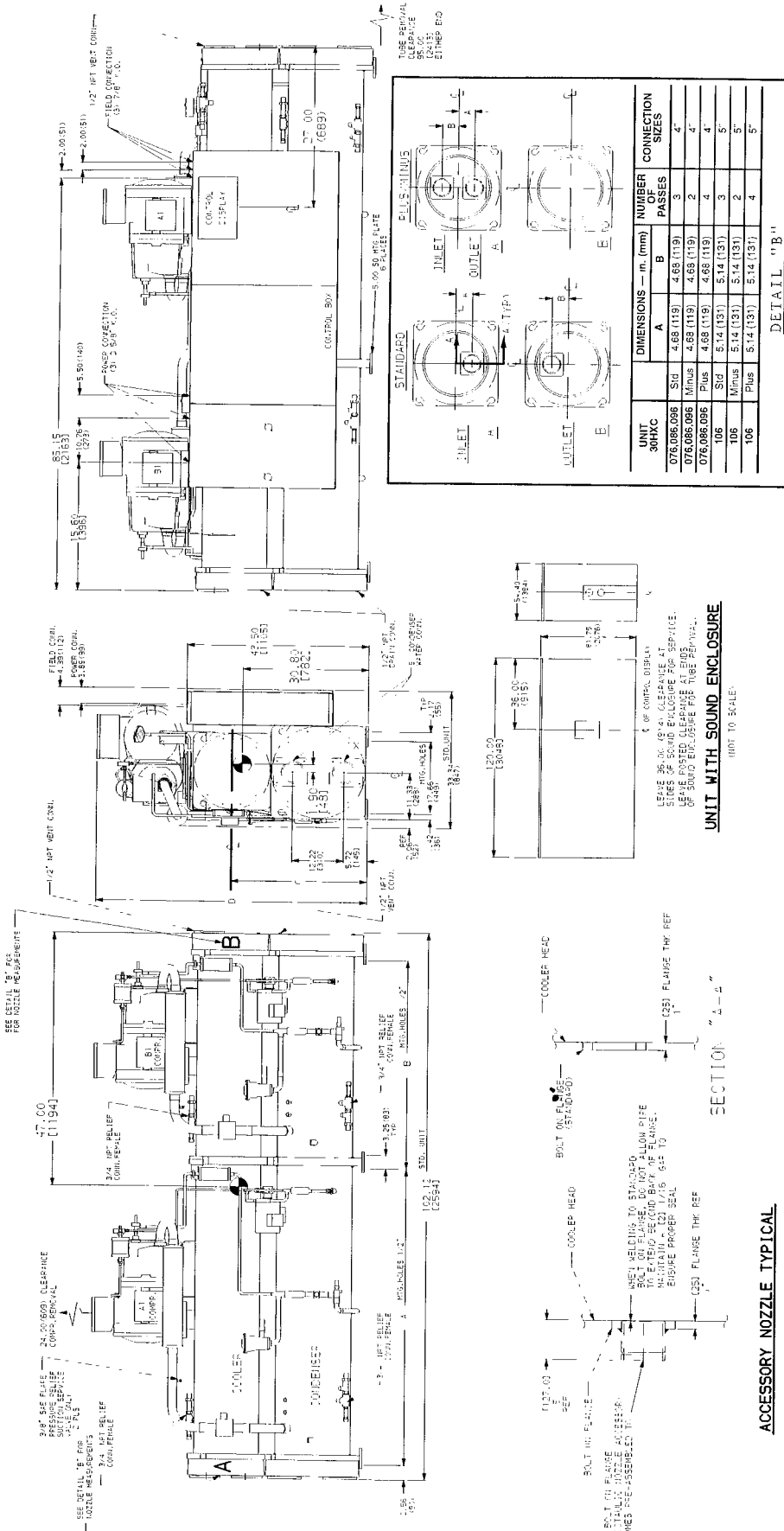
NPTF — National Pipe Thread Female
SAE — Society of Automotive Engineers

*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 System Refrigerant Charge table in the Application Data on page 24.

†Circuit A/Circuit B

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

30HXC076-106

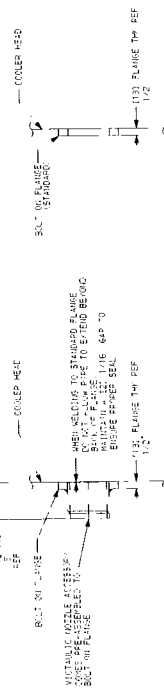
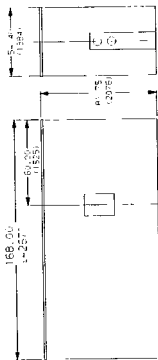
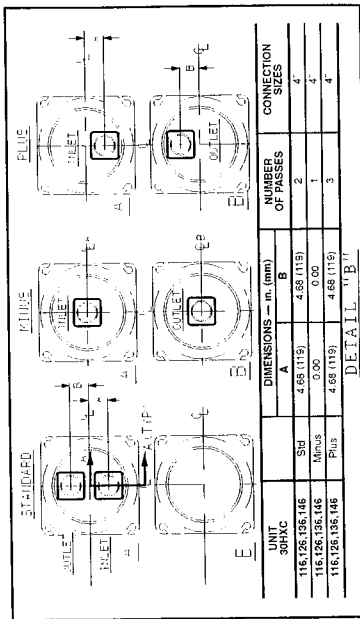
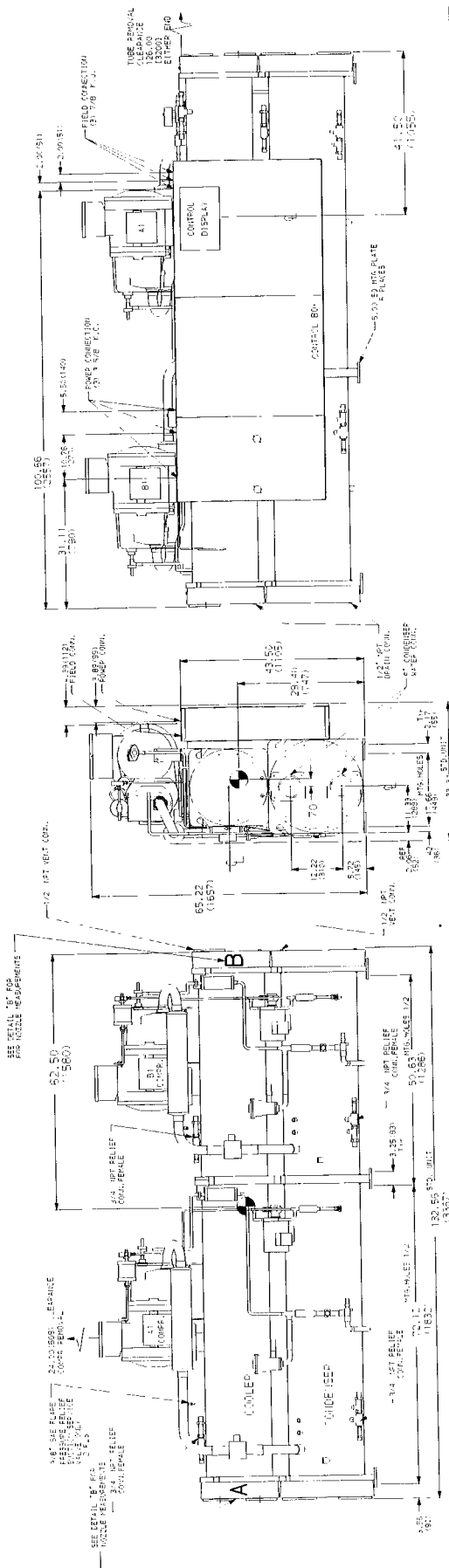


NOTES.

- Operating weight includes weight of water and refrigerant.
- Denotes center of gravity.
- Denotes accessory or factory-installed option.
- Dimensions are in inches (millimeters) and weights are in lb (kg).
- Recommended service clearance around machine is 36" (914.4).

UNIT 30HXC	OPERATING WEIGHT lb (kg)	DIMENSIONS — in. (mm)			
		A	B	C	D
076	5700 (2586)	45.87 (1165)	45.87 (1165)	32.50 (826)	65.22 (1657)
086	5723 (2597)	45.87 (1165)	45.87 (1165)	32.50 (826)	65.22 (1657)
096	5855 (2657)	54.12 (1375)	37.63 (956)	32.50 (826)	65.22 (1657)
106	6177 (2803)	54.12 (1375)	37.63 (956)	33.50 (851)	67.22 (1707)

30HXC116-146



SECTION "A-A" STANDARD FLANGE TYPICAL

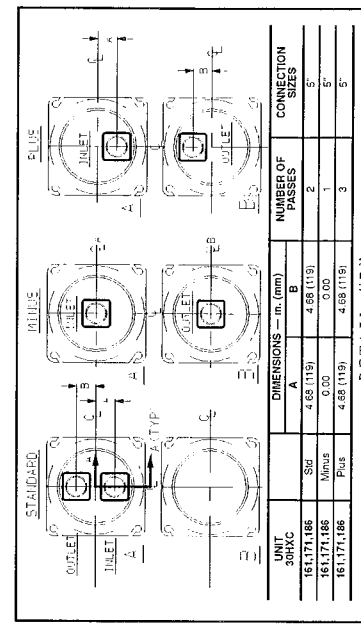
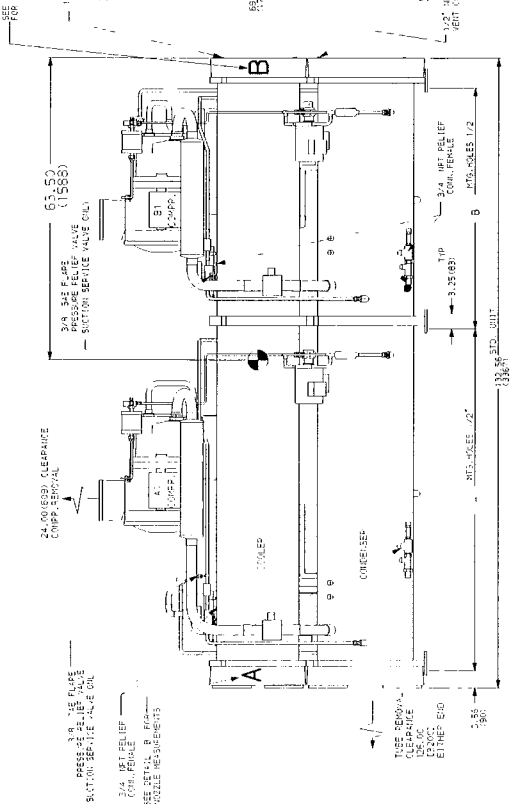
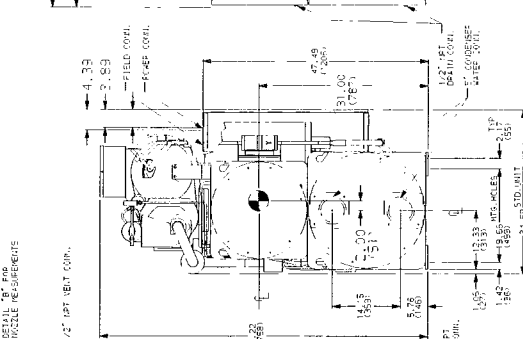
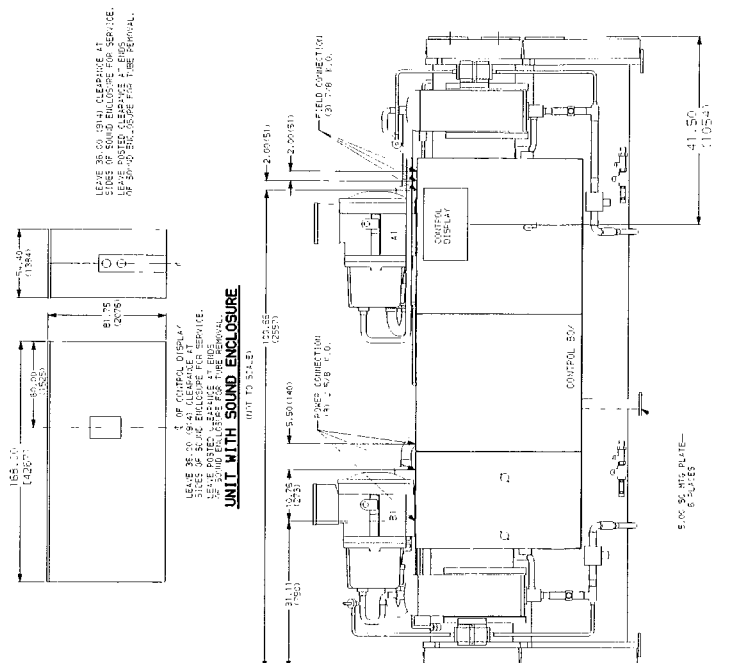
SECTION "A-A" ACCESSORY NOZZLE TYPICAL

UNIT 30HXC	OPERATING WEIGHT lb (kg)
116	6415 (2911)
126	6465 (2933)
136	6688 (3034)
146	6718 (3048)

- NOTES.
- Operating weight includes weight of water and refrigerant.
 - Denotes center of gravity.
 - Denotes accessory or factory-installed option.
 - Dimensions are in inches (millimeters) and weights are in lb (kg).
 - Recommended service clearance around machine is 36" (914.4).

LEGEND
K.O. — Knockout
THK — Thickness
TYP — Typical

30HXC161-186



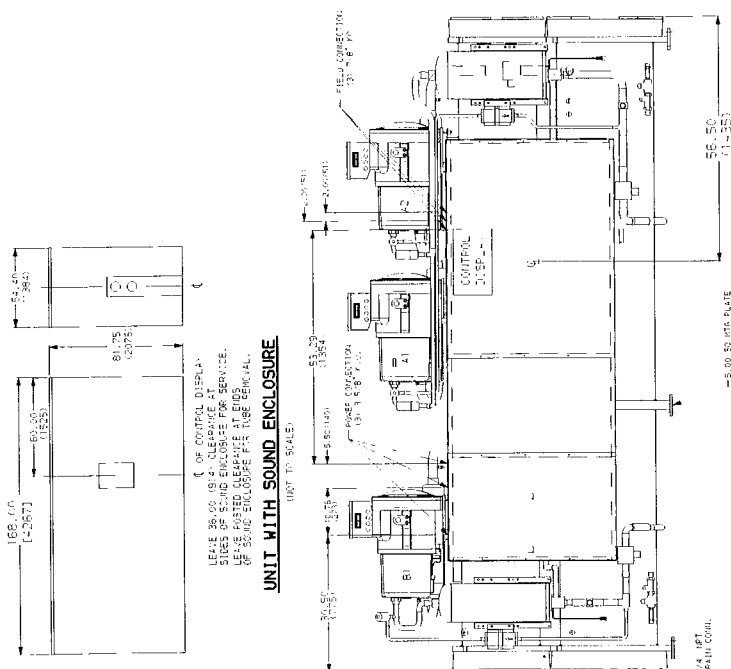
K.O.	Knockout
THK	Thickness
TYP	Typical

NOTES:

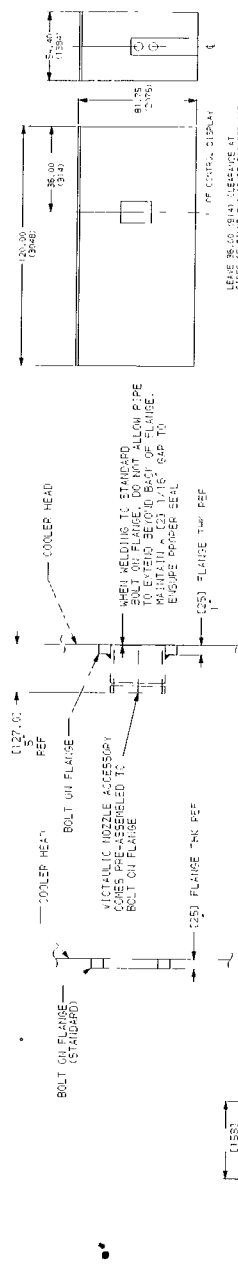
1. Operating weight includes weight of water and refrigerant.
2.  Denotes center of gravity.
3. _____ Denotes accessory or factory-installed option.
4. Dimensions are in inches (millimeters) and weights are in lb (kg).
5. Recommended service clearance around machine is 36" (914 mm).

ACCESSORY NOZZLE TYPICAL

UNIT 30HC	OPERATING WEIGHT lb (kg)	DIMENSIONS in. (mm)	
		A	B
161	7452 (1826)	72.12 (1832)	50.63 (1286)
171	7660 (3475)	61.37 (1559)	61.37 (1559)
186	7854 (3564)	61.37 (1559)	61.37 (1559)



30HXA076-106



LEAVE 26.00 (914) LEAVING AT
SIDES OF 50.00 ENDING 26 SEP, 196.

UNIT WITH SOUND ENCLOSURE

UNIT 10: SOUND EFFECTS

ACCESSORY NOZZLE TYPICAL

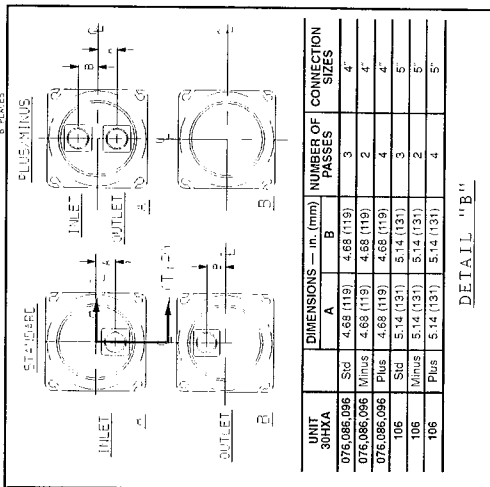
LEGEND

—	Knockout
—	Society of Automotive Engineers, U.S.A.
—	Thickness
—	Typical

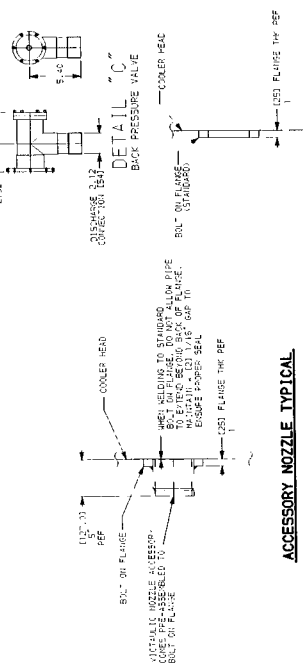
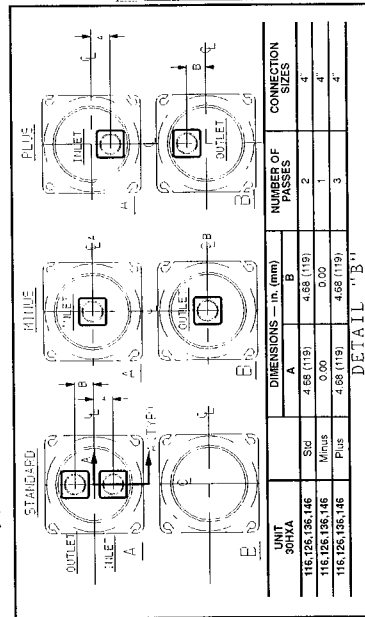
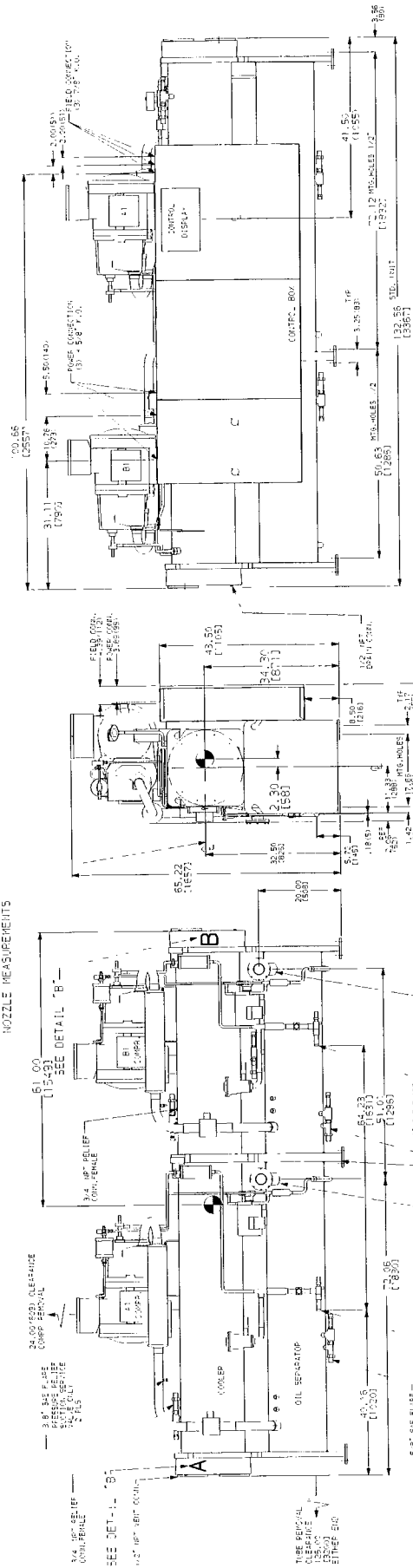
NOTES.

1. Operating weight includes weight of water and refrigerant.
2.  Denotes center of gravity.
3. _____ Denotes accessory or factory-installed option.
4. Dimensions are in inches (millimeters) and weights are in lb (kg). Recommended service clearance around machine is 36" (914.4).

UNIT 30HXA	OPERATING WEIGHT lb (kg)	DIMENSIONS — in. (mm)										
		A	B	C	D	E	F	G	H	J	K	L
076	4717 (2140)	8.48 (215)	45.87 (1165)	45.87 (1165)	32.50 (826)	43.50 (1105)	65.22 (1657)	13.93 (354)	59.48 (1511)	5.72 (145)	45.81 (1164)	46.25 (1175)
086	4744 (2152)	8.48 (215)	45.87 (1165)	45.87 (1165)	32.50 (826)	43.50 (1105)	65.22 (1657)	13.93 (354)	59.48 (1511)	5.72 (145)	45.81 (1164)	46.25 (1175)
096	4835 (2194)	8.48 (215)	54.12 (1375)	37.63 (956)	32.50 (826)	43.50 (1105)	65.22 (1657)	22.15 (563)	42.77 (1086)	5.72 (145)	54.06 (1373)	38.00 (965)
106	5151 (2337)	10.48 (266)	54.12 (1375)	37.63 (956)	33.50 (851)	45.50 (1156)	67.22 (1707)	22.15 (563)	42.77 (1086)	5.87 (149)	54.06 (1373)	38.00 (965)



30HXA116-146



ACCESSORY NOZZLE TYPICAL

SECTION 2

UNIT 30HXA	OPERATING WEIGHT lb (kg)
116	5163 (2342)
126	5205 (2362)
136	5309 (2408)
146	5333 (2420)

NOTES:

- NOTES:
1. Operating weight includes weight of water and refrigerant.
 2.  Denotes center of gravity.
 3. _____ Denotes accessory or factory-installed option.
 4. Dimensions are in inches (millimeters) and weights are in lb (kg).
 5. Recommended service clearance around machine is 36" (914.4).

LEGEND

K.O.	—	Knockout
SAE	—	Society of Automotive Engineers, U.S.A.
THK	—	Thickness
TYP	—	Typical

UNIT WITH SOUND ENCLOSURE

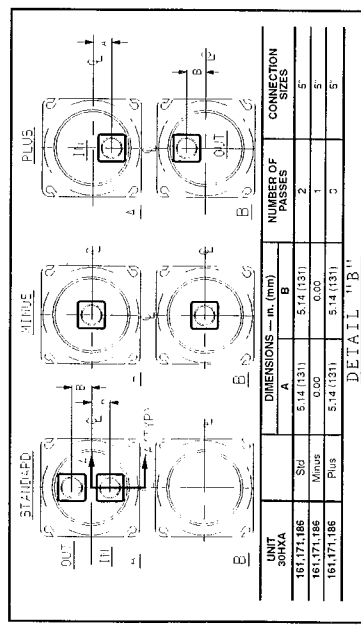
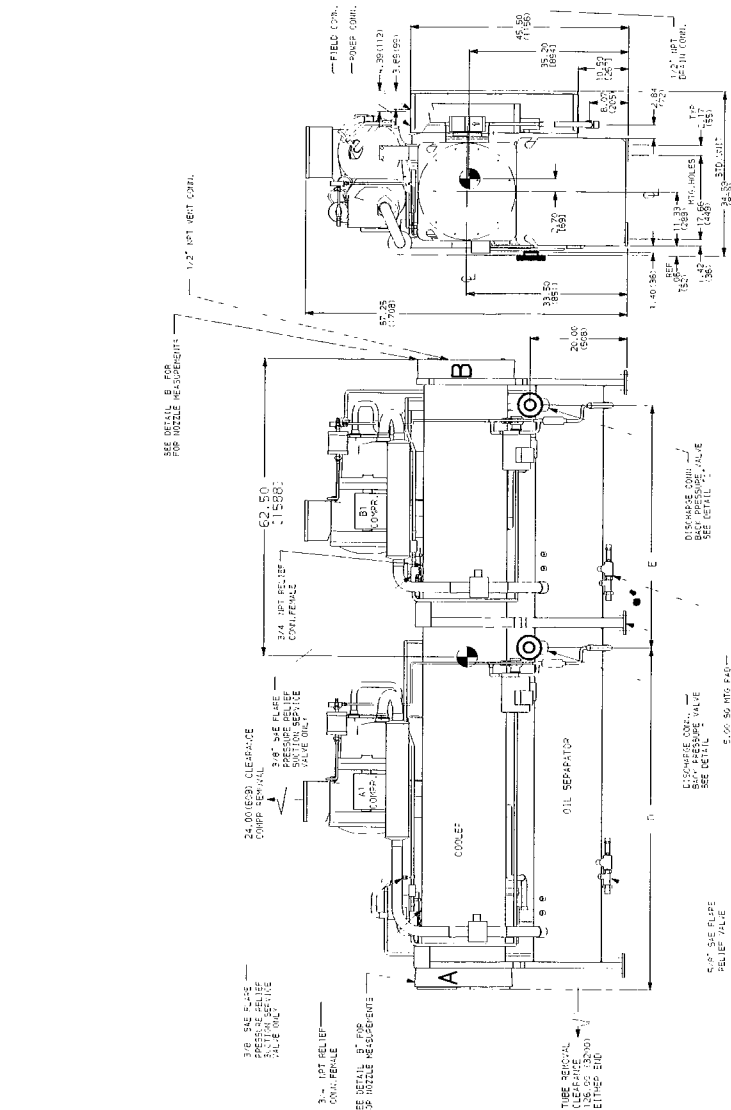
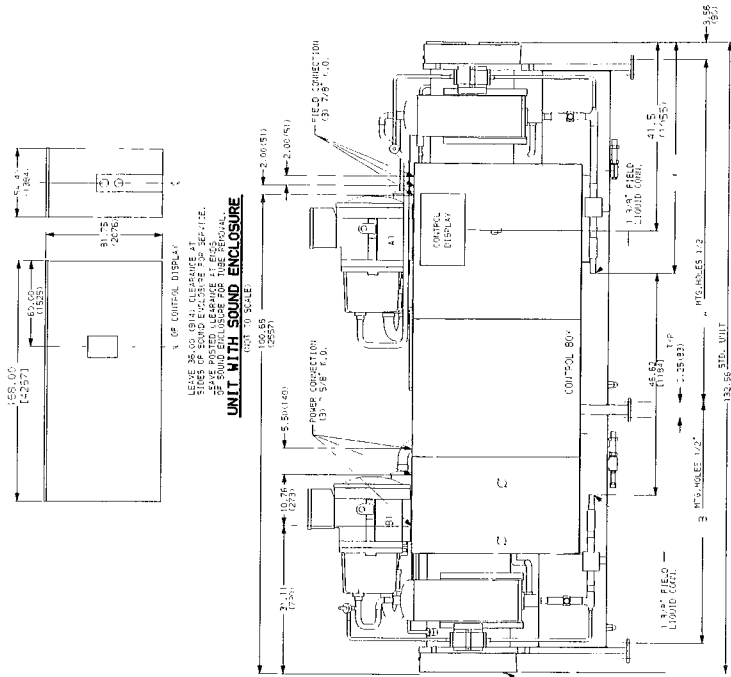
13155 U. 2011

HAVE 35,000 (310) CLEARED AT
 100% OF SOURCE EMPLOYMENT SERVICES.
 HAVE 100% CLEARED AT 100%
 OF SOURCE EMPLOYMENT SERVICES.

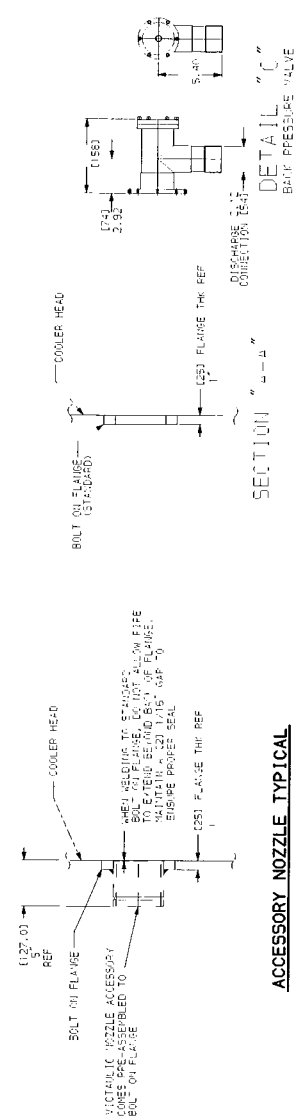
Dimensions (cont)



30HXA161-186

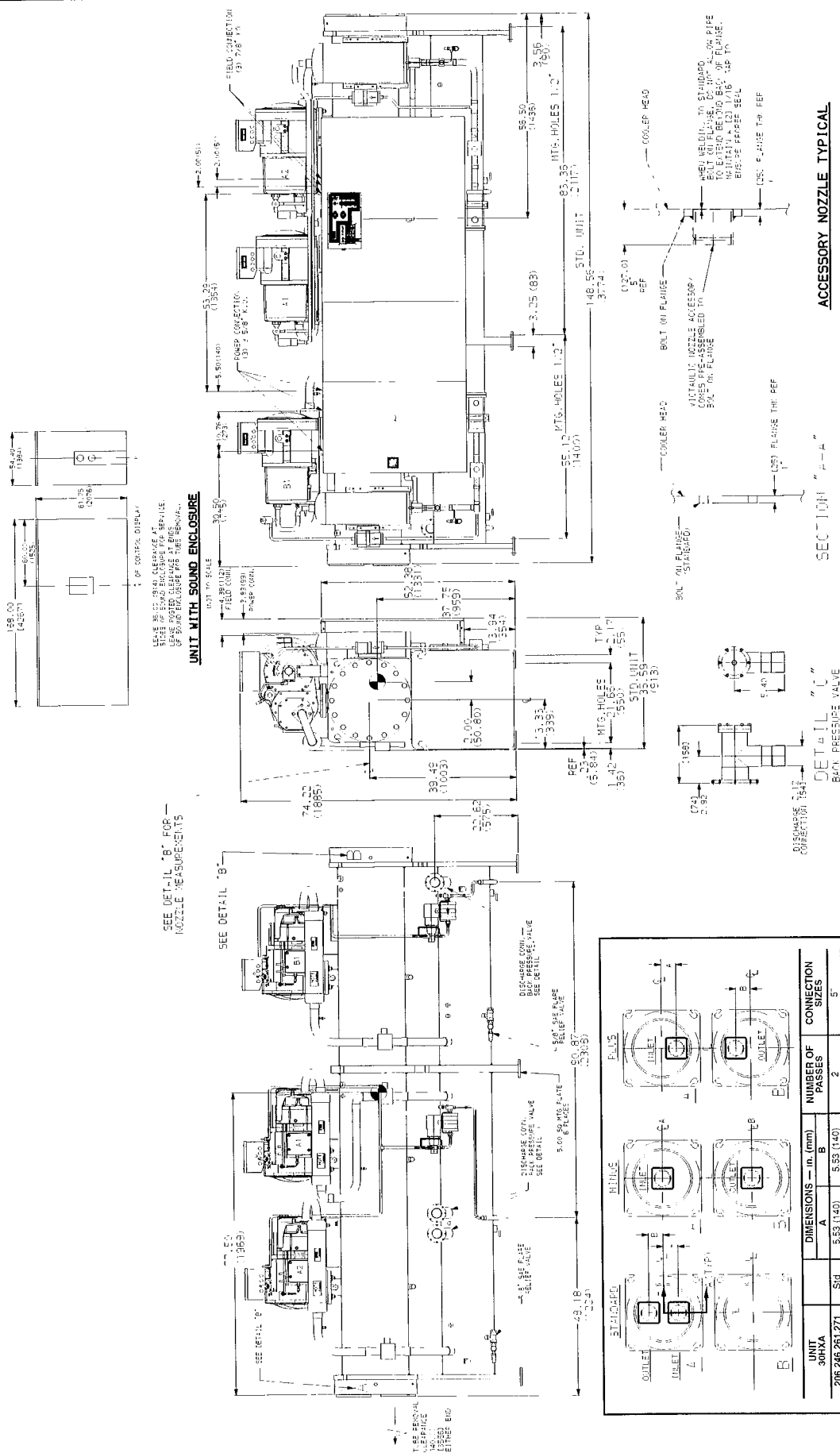


ACCESSORY NOZZLE TYPICAL



- NOTES:
- Operating weight includes weight of water and refrigerant.
 - Denotes center of gravity.
 - Denotes accessory or factory-installed option.
 - Dimensions are in inches (millimeters) and weights are in lb (kg).
 - Recommended service clearance around machine is 36" (914.4).

- LEGEND
- Knockout
 - Society of Automotive Engineers, U.S.A.
 - Thickness
 - Typical



LEGEND

—	Knockout
—	Society of Automotive Engineers, U.S.A.
—	Thickness
—	Typical

NOTES:

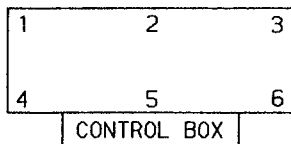
1. Operating weight includes weight of water and refrigerant.
2.  Denotes center of gravity.
3.  Denotes accessory or factory-installed option.
4. Dimensions are in inches (millimeters) and weights are in lb (kg).
5. Recommended service clearance around machine is 36" (914 mm).

UNIT 30HXA	OPERATING WEIGHT — lb (kg)
206	7485 (3395)
246	7621 (3457)
261	7621 (3457)
271	7621 (3457)

Dimensions (cont)



WEIGHT DISTRIBUTION AT MOUNTING PLATES



WEIGHT DISTRIBUTION AT EACH MOUNTING PLATE

30HXC UNITS — lb (kg)

UNIT 30HXC	MOUNTING PLATE NO.					
	1	2	3	4	5	6
076	738 (335)	943 (428)	595 (270)	1110 (503)	1418 (643)	896 (406)
086	738 (335)	947 (430)	597 (271)	1112 (504)	1427 (647)	902 (409)
096	686 (311)	968 (439)	693 (314)	1027 (466)	1447 (656)	1034 (469)
106	730 (331)	1028 (466)	744 (337)	1073 (487)	1510 (685)	1092 (495)
116	728 (330)	1114 (505)	777 (352)	1053 (478)	1615 (733)	1127 (511)
126	738 (335)	1127 (511)	780 (354)	1061 (481)	1628 (738)	1131 (513)
136	758 (344)	1176 (533)	811 (368)	1083 (491)	1689 (766)	1171 (531)
146	763 (346)	1182 (536)	815 (370)	1085 (492)	1697 (770)	1172 (532)
161	817 (371)	1272 (577)	908 (412)	1219 (553)	1890 (857)	1346 (610)
171	936 (425)	1318 (598)	840 (381)	1379 (626)	1946 (883)	1241 (563)
186	962 (436)	1361 (617)	860 (390)	1410 (640)	1996 (905)	1265 (574)
206	948 (430)	2406 (1091)	1243 (564)	1201 (545)	3133 (1421)	1650 (748)
246	985 (447)	2515 (1141)	1306 (592)	1154 (523)	3276 (1486)	1733 (786)
261	985 (447)	2520 (1143)	1311 (595)	1154 (523)	3283 (1489)	1739 (789)
271	985 (447)	2529 (1147)	1318 (598)	1154 (523)	3294 (1494)	1749 (793)

30HXA UNITS — lb (kg)

UNIT 30HXA	MOUNTING PLATE NO.					
	1	2	3	4	5	6
076	555 (252)	793 (360)	418 (190)	926 (420)	1326 (601)	699 (317)
086	555 (252)	798 (362)	418 (190)	928 (421)	1340 (608)	705 (320)
096	509 (231)	808 (367)	493 (224)	848 (385)	1350 (612)	827 (375)
106	555 (252)	869 (394)	541 (245)	896 (406)	1410 (640)	880 (399)
116	530 (240)	895 (406)	540 (245)	855 (388)	1456 (660)	887 (402)
126	540 (245)	905 (410)	541 (245)	864 (392)	1468 (666)	887 (402)
136	548 (249)	926 (420)	555 (252)	873 (396)	1498 (679)	908 (412)
146	551 (250)	930 (422)	555 (252)	883 (400)	1506 (683)	908 (412)
161	560 (254)	965 (438)	598 (271)	954 (433)	1650 (748)	1025 (465)
171	627 (284)	968 (439)	534 (242)	1072 (486)	1658 (752)	918 (416)
186	648 (294)	1004 (455)	552 (250)	1110 (504)	1703 (772)	939 (426)
206	671 (304)	1702 (772)	879 (399)	850 (385)	2216 (1005)	1167 (529)
246	681 (309)	1748 (793)	911 (413)	797 (362)	2276 (1032)	1209 (548)
261	681 (309)	1748 (793)	911 (413)	797 (362)	2276 (1032)	1209 (548)
271	681 (309)	1748 (793)	911 (413)	797 (362)	2276 (1032)	1209 (548)

NOTE See pages 8-15 for center of gravity details

Options and accessories



ITEM	FACTORY- INSTALLED OPTION	FIELD- INSTALLED ACCESSORY
Wye-Delta Start	X	
Brine	X	
Minus-One-Pass Cooler Head	X	
Plus-One-Pass Cooler Head	X	
Non-Fused Disconnect	X	
Remote Enhanced Display		X
Control Power Transformer		X
Minimum Load Control	X	X
Sound Reduction Enclosure		X
Vibration Isolation		X
Victaulic Connection		X
Temperature Reset Sensor		X
Chilled Fluid Flow Switch		X
Chillervisor™ System Manager III		X
Cooler Head Insulation		X
Suction Service Valves	X	

Factory-installed options

Wye-delta start — Generally, Wye-delta start is not required when using multiple compressors since the starting current is generally less than with one larger compressor using Wye-delta start. Wye-delta start is standard on 208/230 v, 60 Hz and 230 v, 50 Hz units. It is available as a factory-installed option for all other unit voltages.

Brine — The brine option permits supply liquid temperatures to be set below 40 F (4.4 C). Refrigeration circuit components, such as the expansion device, are modified at the factory to correct for the lower refrigeration flow rates.

Minus-One-Pass cooler — This factory-installed option reduces pressure drop for high flow applications and/or provides same end inlet and outlet for 076-106 sizes, or opposite end inlet and outlet on 116-271 sizes.

Plus-One-Pass cooler — This factory-installed option improves low temperature brine performance. See Carrier 30HX electronic catalog for performance data.

Non-fused disconnect — This disconnect will provide disconnect capability for main unit power located at the unit. (Not available on 208/230-3-60 and 230-3-50 units.)

Minimum load control — This option allows additional capacity reduction for unit operation below the minimum step of unloading (down to 10% of the minimum unit capacity). Minimum load control is also available as a field-installed accessory.

Service suction valves — Standard refrigerant discharge isolation and liquid valves enable service personnel to store the refrigerant charge in the cooler or condenser during servicing. This factory-installed option allows further isolation of the compressor from the cooler vessel.

Field-installed accessories

Control power transformer — The transformer is sized to supply the needs of the control circuit, sourcing power from the main unit power connection.

Minimum load control — This accessory allows additional capacity reduction for unit operation below the minimum step of unloading (down to 10% of the minimum unit capacity). Minimum load control is also available as a factory-installed option.

Sound reduction enclosure — This kit contains a sound enclosure that covers the entire unit to reduce sound levels.

Vibration isolation — Neoprene isolators are field installed to reduce vibration transmission from the compressor through the floor and into the conditioned space.

Victaulic connection — The kit contains a victaulic-type cooler connection to replace the standard weld-type connection.

Temperature reset sensor — This accessory sensor provides temperature reset capability from either the occupied space or outdoor-air temperature.

NOTE: Temperature reset capability using return temperature is standard.

Chilled fluid flow switch — This accessory is available for field installation and provides loss of flow protection for the 30HX chillers. Loss of flow protection is required for all 30HX chillers.

Chillervisor System Manager III — This control can be used to regulate up to eight 30HXA or 30HXC chillers.

Remote enhanced display — This accessory kit contains an indoor-mounted display panel for remote unit diagnostics. The panel displays 16 lines with 40 characters per line and may be located up to 100 ft (30.1 m) from the chiller.

One expanded display may monitor up to 9 chillers.

Cooler head insulation — This accessory is designed with flexible, 3/4-in. (19 mm) PVC foam (closed-cell) to insulate the cooler heads and economizer vessel to minimize heat loss and head sweating.

Application data



Unit location

Unit should be level to assure (particularly in its major lengthwise dimension) proper oil return.

The unit should be located indoors in an area of temperature greater than 50 F (10 C)

Good acoustic design practice should be followed, i.e., unit should not be located adjacent to sound sensitive areas unless appropriate consideration has been made.

Cooler fluid temperature

- 1 *Maximum* leaving chilled-fluid temperature (LCWT) is 60 F (21 C). Unit can start and pull down with up to 95 F (35 C) entering-fluid temperature due to MOP (maximum operating pressure) feature of the expansion valve. For sustained operation, it is recommended that entering fluid temperature not exceed 70 F (21.1 C).
- 2 *Minimum* LCWT is 40 F (4 C) for standard units. Special-order brine units are required for operation with leaving fluid temperatures in the range of 39 to 15 F (4 to -9 C). For ratings below 40 F (4 C) LCWT, contact your local Carrier representative
3. *Minimum* entering chilled-fluid temperature (ECWT) is 45 F (7.2 C). *Maximum* ECWT is 70 F (21.1 C)

Leaving-fluid temperature reset

The accessory reset sensor can be applied to the chiller to provide reset of LCWT in constant fluid flow systems. Reset reduces compressor power usage at part load when design LCWT is not necessary. Humidity control should be considered, since higher coil temperatures resulting from reset will reduce latent heat capacity. Three reset applications are offered:

From return-fluid temperature — Increases LCWT set point as return (or entering) fluid temperature decreases (indicating load decrease). Reset from return fluid may be used in any application where return fluid provides accurate load indication. Limitation of return-fluid reset is that the LCWT may only be reset to value of design return-fluid temperature. No additional hardware is required.

From outdoor-air temperature — Increases LCWT as outdoor ambient temperature decreases (indicating load decrease). This reset should be applied only where outdoor ambient temperature is an accurate indication of load. A field-supplied thermistor is required.

From occupied space temperature — Increases LCWT as space temperature decreases (indicating load decrease). This reset should be applied only where space temperature is an accurate indication of load. A field-supplied thermistor is required.

Condenser fluid temperature

- 1 *Maximum* leaving condenser fluid temperature is 105 F (40.5 C) on all 30HXC units.
2. Standard 30HXC units will start at entering condenser fluid temperatures above 55 F (12.8 C). In general, however, continuous machine operation with entering condenser fluid temperatures below 70 F (21.1 C) is not recommended. When the entering condenser fluid temperature is expected to drop below 70 F (21.1 C), it is recommended that some form of condenser flow control be used to optimize performance. Tower pump,

bypass valves, or flow regulating valves may be controlled by a 4 to 20 mA output from the 30HXC control (60-second open to close time recommended for actuator)

Cooler and fluid-cooled condenser temperature rise

Ratings and performance data in this publication are for a cooling temperature rise of 10° F (5.6° C). Units may be operated at a different temperature rise, provided flow limits are not exceeded and corrections to capacity, etc., are made. For minimum flow rates, see the Minimum Flow Rates table. High flow rate is limited by pressure drop that can be tolerated.

Minimum cooler flow — Flow (maximum cooler temperature rise) is shown in the Minimum Flow Rates table. Minimum flow rate must be maintained to prevent fouling. When gpm (L/s) required is lower (or rise is higher), follow recommendations below:

1. Multiple smaller chillers can be applied in series, each providing a portion of the design temperature rise.
2. Chilled fluid can be recirculated to raise flow rate. However, mixed temperature entering cooler must be maintained at a minimum of at least 5° F (2.8° C) above the leaving chilled fluid temperature.
3. Special plus 1-pass cooler can be used. Contact your Carrier representative for further information.

MINIMUM FLOW RATES

DEVICE	UNIT SIZE	COOLER		MINIMUM FLOW RATE RANGE (L/s)
		Type	No. of Passes	
COOLER	076,086	Minus-One-Pass	2	60 (3.8)
		Standard	3	39 (2.4)
		Plus-One-Pass	4	33 (2.1)
	096	Minus-One-Pass	2	61 (3.8)
		Standard	3	44 (2.8)
		Plus-One-Pass	4	33 (2.1)
	106	Minus-One-Pass	2	74 (4.7)
		Standard	3	49 (3.1)
		Plus-One-Pass	4	41 (2.6)
	116,126	Minus-One-Pass	1	103 (6.5)
		Standard	2	60 (3.8)
		Plus-One-Pass	3	39 (2.4)
	136,146	Minus-One-Pass	1	118 (7.4)
		Standard	2	61 (3.8)
		Plus-One-Pass	3	44 (2.8)
	161,171	Minus-One-Pass	1	138 (8.7)
		Standard	2	74 (4.7)
		Plus-One-Pass	3	49 (3.1)
	186	Minus-One-Pass	1	166 (10.5)
		Standard	2	87 (5.5)
		Plus-One-Pass	3	58 (3.7)
	206	Minus-One-Pass	1	191 (12.0)
		Standard	2	101 (6.3)
		Plus-One-Pass	3	65 (4.1)
	246-271	Minus-One-Pass	1	212 (13.3)
		Standard	2	111 (7.0)
		Plus-One-Pass	3	83 (5.2)
CONDENSER	076,086	—	—	105 (6.6)
	096,106	—	—	135 (8.5)
	116,126	—	—	170 (10.7)
	136,146	—	—	195 (12.3)
	161	—	—	235 (14.8)
	171,186	—	—	255 (16.1)
	206	—	—	273 (17.2)
	246	—	—	333 (21.0)
	261	—	—	333 (21.0)
	271	—	—	333 (21.0)

NOTES:

- 1 The 30HXC units will start with loop temperatures up to 95 F (35 C)
- 2 Minimum flow rate shown is based on 1 ft/sec minimum velocity and is for reference only. 20 F (11.1 C) is the maximum cooler temperature differential that will determine actual minimum flow rate
- 3 To obtain proper temperature control, loop fluid volume must be at least 3 gal/ton (3.23 L/kW) of chiller nominal capacity for air conditioning and at least 6 gal/ton (6.5 L/kW) for process applications

Maximum cooler flow (> 5 gpm/ton or $< 5^\circ\text{F}$ rise [$> 0.09\text{ L/s} \cdot \text{kW}$ or $< 2.7^\circ\text{C}$ rise]) — Maximum flow results in practical maximum pressure drop through cooler

Return fluid can bypass the cooler to keep pressure drop through cooler within acceptable limits. This permits a higher ΔT with lower fluid flow through cooler and mixing after the cooler. Contact your Carrier representative if pressure drop appears excessive

Variable cooler flow rates — These variable rates may be applied to standard 30HX series chillers. However, the unit will attempt to maintain a constant leaving chilled-fluid temperature. In such cases, minimum fluid loop volume must be in excess of 3 gpm per ton (3.2 L per kW) and flow rate must change in steps of less than 10% per minute. Apply 6 gal per ton (6.5 L per kW) fluid loop volume minimum if flow rate changes more rapidly.

Minimum fluid-cooled condenser flow — This value (maximum rise) is shown in Minimum Flow Rates table. Condensers may be piped in series. Ensure leaving-fluid temperature does not exceed 105 F (40.5 C)

Oversizing chillers

Oversizing chillers by more than 15% at design conditions must be avoided as the system operating efficiency will be adversely affected (resulting in greater and/or excessive electrical demand and cycling of compressors). When future expansion of equipment is anticipated, install a single chiller to meet present load requirements, and install a second chiller to meet the additional load demand.

It is also recommended that the installation of 2 smaller chillers be considered where operation at minimum load is critical. The operation of 2 small chillers at higher loading is preferred to operating a single chiller at or near its minimum recommended value.

The minimum load control accessory should not be used as a means to allow oversizing chillers. Minimum load control should be given consideration where substantial operating time is anticipated below the minimum unloading step.

Parallel chillers

Where chiller capacities greater than can be supplied by a single 30HX chiller are required, or where stand-by capability is desired, chillers may be installed in parallel. Units may be of the same or different sizes. However, cooler and condenser flow rates must be balanced to ensure proper flow to each chiller. The accessory Chillervisor™ System Manager III control may be used for proper leaving chilled fluid temperature control and to ensure proper staging sequence of up to 8 chillers. Refer to the accessory Chillervisor System Manager III installation instructions for further details.

Series chillers

Chillers in series may be used for capacities greater than those supplied by a single 30HX chiller. Using the Minus-One-Pass Cooler Head option, fluid pressure drop across

the cooler can be held to reasonable levels. The leaving fluid temperature sensors need not be relocated. However, the cooler minimum entering fluid temperature limitations should be considered for the chillers located downstream of other chillers. Condensers should be piped in parallel to maximize capacity and efficiency. This should also minimize condenser pressure drop and saturated condensing temperatures. However, if condensers are piped in series, ensure that the leaving water temperature does not exceed 105 F (40.5 C)

Energy management

Demand limiting and load shedding are popular techniques used to reduce peak electric demands typically experienced during hot summer days when air conditioning loads are highest. When utility electricity demands exceed a certain level, electrical loads are turned off to keep the peak demands below a prescribed maximum limit. Compressor unloading reduces electrical demand while allowing the chiller to operate under part-load capacity and to maintain partial chilled fluid cooling.

Electrical demand can be limited by unloading the chiller to a predetermined percentage of the load. One stage of unloading can be initiated by a remote signal to significantly reduce the chiller power consumption. This power reduction applies to the full load power at nominal conditions. The demand limit control should not be cycled less than 10 minutes on and 5 minutes off.

Duty cycling

Duty cycling will cycle an electrical load at regular intervals, regardless of electrical demand. This reduces the electrical demand by “fooling” demand measuring devices. Duty cycling of the entire compressor is **NOT** recommended since motor windings and bearings will be damaged by constant cycling.

Wye-delta start

Wye-delta start is standard on 30HX 208/230 V 60 Hz units and 230 v 50 Hz units and optional on all other 30HX units. This feature is not always required on 30HX units due to the use of multiple compressors that allow small electrical load increments, but is available if required. Maximum instantaneous current flow (see ICF in Electrical Data tables on pages 58-63) should be used in determining need.

Vibration isolation

External vibration isolators are available as field-installed accessories.

Strainers

A strainer with a minimum screen size of 20 mesh should be installed in both the cooler and condenser fluid lines, just ahead of the cooler and condenser, and as close to the cooler and condenser as possible. For 30HXA units, this recommendation applies only to the cooler.

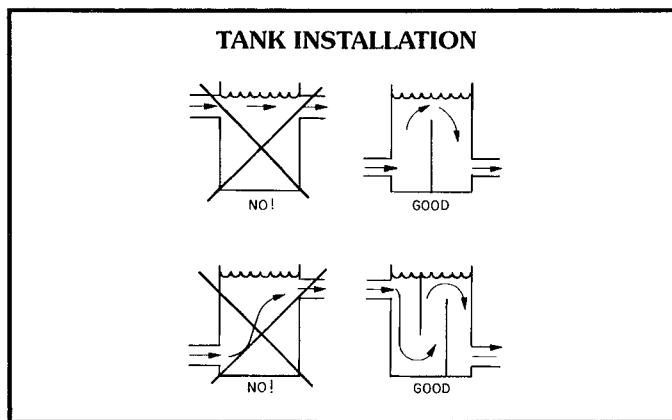
Application data (cont)



Chilled fluid loop volume

The chilled fluid loop volume in circulation must equal or exceed 2 gal per nominal ton of cooling (2 L per kW) for temperature stability and accuracy in normal air conditioning applications. For example, a 30HXC096 with a nominal capacity of 93.4 tons would require 186.8 gal (707 L) in circulation in the system loop.

For process jobs where accuracy is vital, or for operation at ambient temperatures below 32 F (0° C) with low unit loading conditions, there should be from 6 to 10 gal per ton (6.5 to 10.8 L per kW). To achieve this volume, it is often necessary to install a tank in the loop. Tank should be baffled to ensure there is no stratification, and that water (or brine) entering tank is adequately mixed with liquid in the tank. See below.



Fouling factor

The factor used to calculate tabulated ratings for the cooler is $0.00010 \text{ ft}^2 \cdot \text{hr} \cdot \text{F/Btu}$ ($0.000018 \text{ m}^2 \cdot \text{K/W}$), and for the condenser is $0.00025 \text{ ft}^2 \cdot \text{hr} \cdot \text{F/Btu}$ ($0.000044 \text{ m}^2 \cdot \text{K/W}$). As fouling factor is increased, unit capacity decreases and compressor power increases. To determine selections at other fouling factors, use the chiller program in the electronic catalog.

Cooler and fluid-cooled condenser freeze protection

If chiller refrigerant or fluid lines are in an area where ambient conditions fall below 32 F (0° C), it is recommended

that an antifreeze solution be added to protect the unit and fluid piping to a temperature 15° F (8.3° C) below the lowest anticipated temperature. For corrections to performance, refer to the chiller program in the electronic catalog.

Use only antifreeze solutions approved for heat exchanger duty. Use of automotive antifreezes is not recommended because of the fouling that can occur once their relatively short-lived inhibitors break down.

If not protected with an antifreeze solution, draining cooler and outdoor piping is recommended if system will not be used during freezing weather conditions.

30HXA remote condenser requirements

1. Ensure each refrigerant circuit has its own head pressure control.
2. Condenser must provide 15° F (8.3° C) subcooling, a maximum of 40° F (22.2° C) difference between saturated condensing temperature and outdoor ambient temperature (to prevent overload at high ambient temperatures), and a minimum of 20° F (11.1° C) difference (to assure subcooling).
3. Minimum saturated discharge temperature (SDT) is 90 F (32.2° C). Maximum SDT is 135 F (57.2° C).
4. Do not manifold independent refrigerant circuits into a single condenser.
5. Condenser should not be located more than 15 ft (4.6 m) below chiller to maintain subcooling.
6. Design discharge and liquid piping according to Carrier System Design Manual. Piping must be sized for HFC-134a. Refer to the ASHRAE Refrigeration Handbook for R-134a sizing tables. Also see 30HX Installation instructions and the Typical 30HXA Refrigerant Piping to Remote Condenser diagram on page 25.
7. Maximum interconnecting refrigerant line length is 200 ft (61 m) actual.
8. Liquid line solenoid valves required when condenser is located above chiller and liquid line length exceeds 50 ft (15 m).
9. If accessory sound enclosure is installed, run lines along the floor so the sound enclosure can be notched to clear lines.
10. Condensing pressure control must be provided on air-cooled condensers used with 30HXA to maintain a minimum 75 F (24° C) Saturated Discharge Temperature.

Refrigerant pipe sizing for 30HXA with Carrier 09D condenser combinations — For refrigerant pipe sizing of the 30HXA follow these directions:

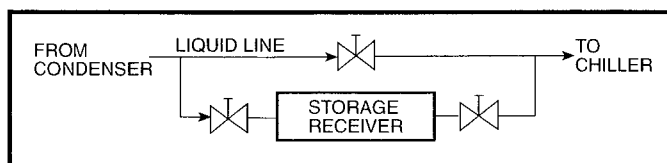
Discharge line:

- 1 For applications at conditions of 40 F (4.4 C) or higher LWT (leaving water temperature), use the Refrigerant Line Sizes for 30HXA Chiller/09DK Condenser Combinations tables on pages 22 and 23.
For applications using brine, other condensers, or LWT below 40 F (4.4 C), size lines using the ASHRAE Refrigeration Handbook, or other suitable design guide.
- 2 Install horizontal lines level or pitched slightly toward the base of discharge riser and the condenser (in the direction of flow).
- 3 If chiller is below the condenser, loop the discharge line to at least one inch above the top of condenser.
- 4 If chiller is below the condenser, some standard units and all units with MINIMUM LOAD CONTROL require double discharge riser as shown in Double Discharge Riser Pipe Sizes table.
5. Minimize line length and restrictions to minimize pressure drop and refrigerant charge.
6. If accessory sound enclosure is applied, run lines along the floor so sound enclosure may be notched to clear lines.

Liquid line:

- 1 For applications at conditions of 40 F (4.4 C) or higher LWT (leaving water temperature), use the Refrigerant Line Sizes for 30HXA Chiller/09DK Condenser Combinations tables on pages 22 and 23.
For applications using brine, other condensers, or LWT below 40 F (4.4 C), size lines using the ASHRAE Refrigeration Handbook, or other suitable design guide.
- 2 If chiller is above condenser, maximum vertical separation is 15 ft with combinations shown

- 3 Minimize line length and restrictions to minimize pressure drop and refrigerant charge.
- 4 Above 50 ft liquid line length and where chiller is below condenser, liquid line solenoid valves are required. The solenoid valves must be located close to the chiller.
- 5 If sound enclosure is applied, run lines along floor so sound enclosure may be notched to clear lines
- 6 In-line receivers are NOT recommended due to their negative effect on system subcooling. Where the use of a receiver is desired for service purposes, the receiver should be piped in parallel with the main liquid line and equipped with shut-off valves to isolate it during unit operation. See sketch below:



Relief valve vent lines

1. Vent per local code requirements.
- 2 Each chiller has a minimum of 4 refrigerant relief valves: 2 on the cooler, 2 on the condenser (30HXC) or oil separator (30HXA). Units with factory-installed suction service valves also have 2 relief valves on the compressor discharge line. See Dimensions section on pages 8-15 for specific locations.
- 3 If sound enclosure is applied, run lines along floor so sound enclosure may be notched to clear lines.

Application data (cont)



REFRIGERANT LINE SIZES FOR 30HXA CHILLER/09DK CONDENSER COMBINATIONS

RECOMMENDED REFRIGERANT PIPE SIZES (in. OD)

30HXA UNIT SIZE	CKT	TOTAL LENGTH OF INTERCONNECTING PIPING — FT (M)					
		0-50 (0-15)		50-100 (15-30)		100-200 (30-60)	
		Liquid Line*	Discharge Line†	Liquid Line*	Discharge Line†	Liquid Line*	Discharge Line†
076	A	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$
	B	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$
086	A	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$
	B	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$
096	A	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$
	B	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$
106	A	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$
	B	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{1}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$
116	A	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$
	B	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$
126	A	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$
	B	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$
136	A	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	3 $\frac{1}{8}$
	B	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$
146	A	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	3 $\frac{1}{8}$
	B	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$
161	A	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$	2 $\frac{1}{8}$	2 $\frac{1}{8}$
	B	1 $\frac{3}{8}$	2 $\frac{1}{8}$	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$
171	A	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	3 $\frac{1}{8}$
	B	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{8}$
186	A	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{8}$
	B	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{8}$
206	A	1 $\frac{5}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	3 $\frac{1}{8}$	2 $\frac{5}{8}$	3 $\frac{1}{8}$
	B	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{3}{8}$	2 $\frac{5}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{8}$
246	A	2 $\frac{1}{8}$	3 $\frac{1}{8}$	2 $\frac{5}{8}$	3 $\frac{1}{8}$	2 $\frac{5}{8}$	3 $\frac{1}{8}$
	B	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$	2 $\frac{5}{8}$	3 $\frac{1}{8}$
261	A	2 $\frac{1}{8}$	3 $\frac{1}{8}$	2 $\frac{5}{8}$	3 $\frac{1}{8}$	2 $\frac{5}{8}$	3 $\frac{1}{8}$
	B	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{3}{8}$	2 $\frac{5}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{8}$
271	A	2 $\frac{1}{8}$	3 $\frac{1}{8}$	2 $\frac{5}{8}$	3 $\frac{1}{8}$	2 $\frac{5}{8}$	3 $\frac{1}{8}$
	B	1 $\frac{3}{8}$	2 $\frac{5}{8}$	1 $\frac{5}{8}$	2 $\frac{5}{8}$	2 $\frac{1}{8}$	3 $\frac{1}{8}$

LEGEND

OD — Outside Diameter

*Above 50 ft liquid line length and where chiller is below condenser, liquid line solenoid valve is required

†Double discharge riser is required on **ALL** units which have minimum load control installed

 values indicate double discharge riser required on STANDARD unit. See Double Discharge Riser Pipe Sizes table on page 23

NOTES

- 1 Refrigerant and Double Discharge Riser Pipe Sizes tables are based on equal chiller and 09DK condenser sizes — i.e., 30HXA096 with 09DK094
- 2 For other system combinations, size lines per ASHRAE (American Society of Heating, Refrigerating, and Air Conditioning Engineers) or other R-134a line sizing guide
- 3 Refrigerant and Double Discharge Riser Pipe Sizes tables are based on cooler leaving water temperatures of 40 F (4.4 C) or above
- 4 Line lengths refer to actual line length, not total equivalent length. A 50% allowance has been included for fittings

REFRIGERANT LINE SIZES FOR 30HXA CHILLER/09DK CONDENSER COMBINATIONS (cont)

DOUBLE DISCHARGE RISER PIPE SIZES (in. OD)

30HXA UNIT SIZE	CKT	RISER “A”	RISER “B”			
		Total Length of Interconnecting Piping — FT (M)*				
		0-200 (0-60)	0-50 (0-15)	50-100 (15-30)	100-200 (30-60)	
076	A	1½	1⅝	1⅝	1⅝	
	B	1⅝	1⅝	1⅝	1⅝	
086	A	1⅝	1⅝	1⅝	1⅝	
	B	1⅝	1⅝	1⅝	1⅝	
096	A	1⅝	1⅝	1⅝	2⅛	
	B	1⅝	1⅝	1⅝	1⅝	
106	A	1⅝	1⅝	2⅛	2⅛	
	B	1¾	1¾	1¾	1¾	
116	A	1⅝	1⅝	2⅛	2⅛	
	B	1¾	1⅝	1⅝	1⅝	
126	A	1⅝	2⅛	2⅛	2⅛	
	B	1⅝	1⅝	1⅝	2⅛	
136	A	1⅝	2⅛	2⅛	2⅝	
	B	1⅝	1⅝	1⅝	2⅛	
146	A	1⅝	2⅛	2⅛	2⅝	
	B	1⅝	1⅝	2⅛	2⅛	
161	A	1⅝	2⅛	2⅛	2⅝	
	B	1⅝	1⅝	2⅛	2⅛	
171	A	1⅝	2⅛	2⅛	2⅝	
	B	1⅝	2⅛	2⅛	2⅝	
186	A	1⅝	2⅛	2⅛	2⅝	
	B	1⅝	2⅛	2⅛	2⅝	
206	A	1⅝	2⅛	2⅛	2⅝	
	B	1⅝	2⅛	2⅛	2⅝	
246	A	1⅝	2⅛	2⅛	2⅝	
	B	1⅝	2⅛	2⅛	2⅝	
261	A	1⅝	2⅛	2⅛	2⅝	
	B	1⅝	2⅛	2⅛	3⅛	
271	A	1⅝	2⅛	2⅛	2⅝	
	B	1⅝	2⅛	3⅛	3⅛	

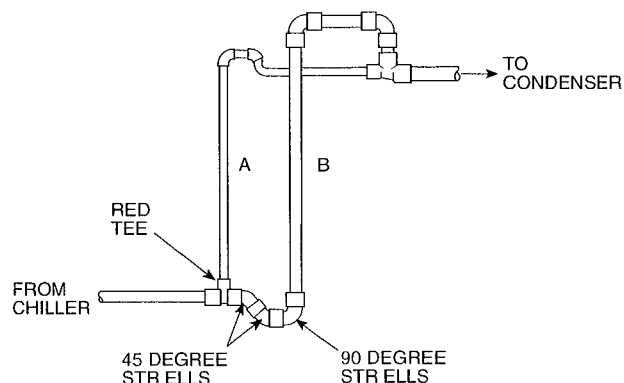
LEGEND

- A — Riser Without Trap
- B — Riser With Trap
- OD — Outside Diameter

*Total Length of Interconnecting Piping refers to actual length, not total equivalent length

NOTE Horizontal line sections should be sized according to the Total Length of Interconnecting Piping columns on the Recommended Refrigerant Pipe Sizes table on page 22

DOUBLE DISCHARGE RISER CONSTRUCTION DETAIL



LEGEND

- RED.TEE — Reducing Tee
- STR ELLS — Street Elbows

Application data (cont)



For chillers using brine or those matched with other condensers, the lines must be sized manually using design guides such as ASHRAE, or curves in the 30HXA installation instructions. In many 30HXA sizes, the individual refrigerant circuits have unequal capacities. The Circuit Cooling Capacity table below lists the percentage capacity of each circuit for line sizing purposes. The Circuit Unloading Capacity table below indicates the minimum unloading capacities per circuit as well as a sample calculation of the minimum circuit tonnage for riser design. The example below lists circuit capacity calculations based on the Circuit Cooling and Circuit Unloading Capacity tables

CIRCUIT COOLING CAPACITY

30HXA UNIT SIZE	PERCENT OF TOTAL UNIT CAPACITY	
	Circuit A %	Circuit B %
076	50	50
086	55	45
096	59	41
106	64	36
116	60	40
126	55	45
136	59	41
146	55	45
161	59	41
171	47	53
186	50	50
206	54	46
246	61	39
261	63	37
271	64	36

CIRCUIT UNLOADING CAPACITY

30HXA UNIT	MINIMUM CIRCUIT CAPACITY — PERCENT OF FULL LOAD	
	Standard Unit	With Minimum Load Control
All Sizes, All Circuits	40%	20%

Example Calculation of Circuit Capacities:

Select (Standard) 30HXA 086 Chiller
From Electronic catalog (E-cat) selection or balance diagram:

Total Unit Capacity = 74 tons (From unit selection at design conditions)

Using the Circuit Cooling Capacity table:

Ckt "A" design capacity = $74 \times 0.55 = 40.7$ tons

Using the Circuit Unloading Capacity table:

Ckt "A" minimum capacity = $40.7 \times 0.40 = 16.3$ tons

Ckt "B" design capacity = $74 \times 0.45 = 33.3$ tons

Ckt "B" minimum capacity = $33.3 \times 0.40 = 13.3$ tons

System refrigerant charge — The 30HXA units are shipped from the factory with a small holding charge of R-134a refrigerant. The approximate refrigerant charge required for starting the 30HXA system is listed in the table below. This initial charge will allow starting of the unit. Additional refrigerant may be required to accommodate liquid line storage. See the liquid line refrigerant storage capacity table below for liquid line storage information.

SYSTEM REFRIGERANT CHARGE FOR START-UP

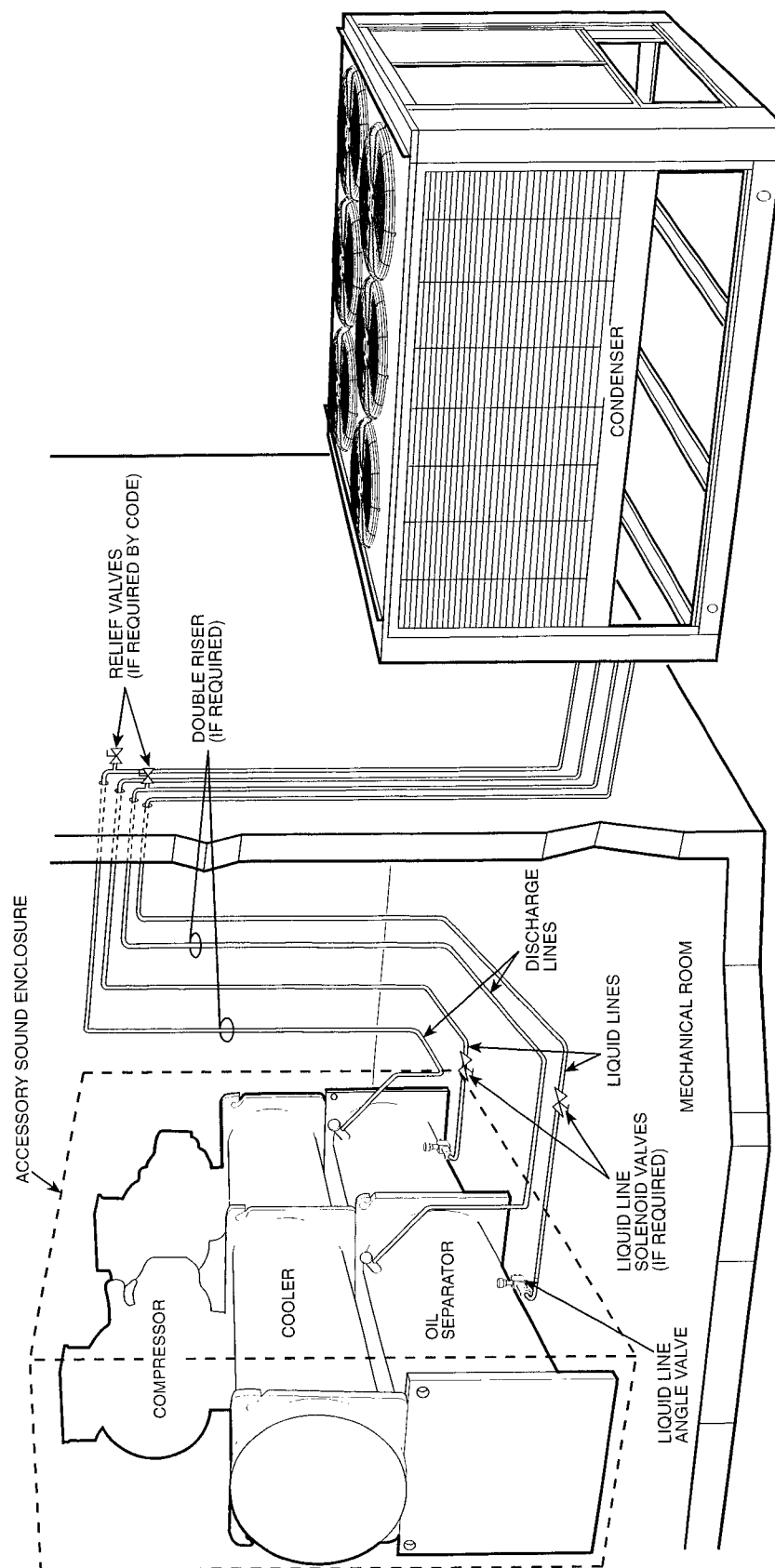
30HXA UNIT SIZE	CKT	REFRIGERANT BASE CHARGE (FOR ESTIMATING PURPOSES ONLY)	
		lbs	kg
076	A	75	34
	B	75	34
086	A	94	43
	B	80	36
096	A	114	52
	B	80	36
106	A	134	61
	B	80	36
116	A	137	62
	B	95	43
126	A	137	62
	B	116	53
136	A	147	67
	B	125	57
146	A	161	73
	B	132	60
161	A	190	86
	B	132	60
171	A	154	70
	B	186	85
186	A	186	85
	B	186	85
206	A	224	102
	B	169	77
246	A	288	131
	B	169	77
261	A	311	141
	B	168	76
271	A	335	152
	B	165	75

NOTE Multiply the liquid line length (in feet) by the factor shown below for the refrigerant/ft of the tubing. Add base unit charge to liquid line charge to determine approximate refrigerant charge.

LIQUID LINE REFRIGERANT STORAGE CAPACITY

PIPING SIZE (in.)	REFRIGERANT (lbs) PER FT OF TUBING LENGTH	REFRIGERANT (kg) PER M OF TUBING LENGTH
1 $\frac{1}{8}$	0.41	0.61
1 $\frac{3}{8}$	0.63	0.94
1 $\frac{5}{8}$	0.89	1.33
2 $\frac{1}{8}$	1.52	2.26
2 $\frac{5}{8}$	2.32	3.45

TYPICAL 30HXA REFRIGERANT PIPING TO REMOTE CONDENSER



Selection procedure (with example)



Carrier's electronic catalog chiller selection program provides quick, easy selection of Carrier chillers. The program considers specific temperature and flow requirements and other factors, such as fouling and altitude correction. It can also select an air-cooled condenser for the condenserless 30HXA unit to match the required conditions. To select a 30HXA unit, use the electronic catalog or contact your Carrier representative. To select a 30HXC chiller, use the electronic catalog or follow one of the procedures below.

ENGLISH (60 Hz)

I Determine 30HXC unit size and operating conditions required to meet given capacity at given conditions.

Given:

Capacity	175 Tons
Leaving Chilled Water Temp (LCWT)	44 F
Cooler Water Temp Rise	10° F
Condenser Entering Water Temp	85 F
Condenser Water Temp Rise	10° F
Cooling Fouling Factor	00010
Condenser Fouling Factor	.00025

NOTE: For other than 10° F temperature rise, data corrections must be made using the chiller program in the electronic catalog. On some units, a change of controls is also necessary.

II From Cooling Capacities table on page 29 and pressure drop curves on pages 53 and 54, determine operating data for selected unit.

Unit	30HXC186
Capacity	177.4 tons
Compressor Motor Power Input	133.3 kW
Cooler Water Flow	425.2 gpm
Cooler Pressure Drop	12.1 ft of water
Condenser Water Flow	511.8 gpm
Condenser Pressure Drop	16.7 ft of water

SI (50 Hz)

I Determine unit size and operating conditions required to meet given capacity at given conditions.

Given:

Capacity	617 kW
Leaving Chilled Water Temp (LCWT)	7 C
Cooler Water Temp Rise	5.6° C
Condenser Entering Water Temp	30 C
Condenser Water Temp Rise	5.6° C
Cooling Fouling Factor	.01761
Condenser Fouling Factor	.04403

NOTE: For other than 5.6° C temperature rise, data corrections must be made using the chiller program in the electronic catalog. On some units, a change of controls is also necessary.

II From Cooling Capacity table on page 38 and pressure drop curves on pages 53 and 54, determine operating data for selected unit.

Unit	30HXC186
Capacity	628.4 kW
Compressor Motor Power Input	135.6 kW
Cooler Water Flow	26.8 L/s
Cooler Pressure Drop	36.1 kPa
Condenser Water Flow	32.3 L/s
Condenser Pressure Drop	50.0 kPa

Performance data



30HXC Ratings

All performance data is based on:

1. Cooler water temperature rise of 10° F (5.6° C).
2. Cooler fouling factor of .00010 ft² • hr • F/Btu (.000018 m² • K/W)

3. Condenser fouling factor of .00025 ft² • hr • F/Btu (.000044 m² • K/W)
4. 10° F (5.6° C) subcooling
5. Refrigerant 134a.

30HXC ARI* 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	kW		Gpm	L/s	Ft of Water	kPa	Gpm	L/s	Ft of Water	kPa		
076	75.3	264.9	55.0	180.8	11.4	12.6	37.6	226.0	14.3	8.0	23.8	0.730	0.528
086	83.0	291.9	61.7	199.2	12.6	15.0	44.8	249.0	15.7	9.6	28.5	0.743	0.540
096	93.9	330.2	68.9	225.3	14.2	14.8	44.3	281.7	17.8	9.9	29.4	0.734	0.529
106	104.2	366.3	77.5	250.0	15.8	13.4	40.0	312.5	19.7	11.9	35.6	0.744	0.548
116	113.5	399.0	82.0	272.3	17.2	11.7	34.8	340.4	21.5	15.2	45.4	0.723	0.525
126	122.9	432.1	89.5	294.9	18.6	13.5	40.2	368.6	23.3	17.6	52.6	0.729	0.528
136	136.4	479.3	100.3	327.3	20.6	12.8	38.3	409.1	25.8	16.7	49.9	0.736	0.546
146	145.8	512.9	108.7	350.0	22.1	14.5	43.3	437.5	27.6	18.9	56.5	0.745	0.554
161	156.6	550.9	116.4	375.9	23.7	12.0	35.7	469.9	29.6	19.4	57.9	0.743	0.585
171	166.1	584.3	122.7	398.7	25.2	13.3	39.7	498.4	31.4	15.9	47.5	0.739	0.564
186	177.6	624.5	132.5	426.2	26.9	12.2	36.3	532.8	33.6	18.2	53.9	0.746	0.592
206	211.7	744.5	151.3	508.1	32.1	12.8	38.2	635.1	40.1	19.0	56.7	0.715	0.527
246	248.8	875.1	178.9	597.2	37.7	14.1	42.2	746.5	47.1	20.1	60.0	0.719	0.538
261	257.5	905.6	186.9	618.0	39.0	15.0	44.9	772.5	48.7	21.5	64.0	0.726	0.540
271	267.7	941.6	196.9	642.6	40.5	16.1	48.1	803.2	50.7	23.1	68.9	0.735	0.543

LEGEND

IPLV — Integrated Part-Load Value

*Air Conditioning and Refrigeration Institute (U S A)

†IPLV shown is for unloading sequence A

NOTES:

1. Rated (60 Hz only) in accordance with ARI Standard 550/590-98 at standard rating conditions
2. 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 gpm per ton (0.054 L/s per kW)
 - Fouling Factor (Cooler):
 - 0.00010 hr x sq ft x F per Btu (0.000018 m² x K per W)
 - Fouling Factor (Condenser)
 - 0.00025 hr x sq ft x F per Btu (0.000044 m² x K per W)

3. IPLV is a single number part-load efficiency value calculated from the system full-load efficiency values and corrected for a typical building air-conditioning application
4. All data in this table is rated (60 Hz only) in accordance with ARI Standard 550/590-98 as represented in the Ecologic™ Chiller Selection Program (E-Cat) version 2.11



60 Hz Only

Rated in accordance with
ARI Standard 550/590-98

Performance data (cont)



30HXA Ratings

1. All performance data is based on:

- Cooler water temperature rise of 10° F (5.6° C)
- Cooler fouling factor of 00010 ft² • hr • F/Btu (.000018 m² • K/W)
- 10° F (5.6° C) subcooling.
- Refrigerant 134a

2 Combining 30HXA units with remote condensers which have greater than (less than) the 10° F (5.6° C) subcooling in the ratings, increases (decreases) system capacity. To adjust capacity, multiply capacity ratings by 0.96; then adjust this result upward by 0.4% for each degree F (0.7% for each degree C) of available subcooling

30HXA ARI* RATINGS (60 Hz only)

UNIT SIZE 30HXA	CAPACITY		INPUT POWER (kW)	COOLER FLOW		COOLER PRESSURE DROP		EER	AIR COOLED CONDENSER	
	Tons	kW		Gpm	L/s	Ft of Water	kPa		UNIT	(QTY)
076	67.5	237.5	76.8	162.1	10.2	10.4	31.0	9.4	09DK084	(1)
086	73.9	259.8	86.9	177.3	11.2	12.2	36.4	9.2	09DK084	(1)
096	82.6	290.5	98.6	198.2	12.5	11.8	35.0	9.1	09DK094	(1)
106	95.2	334.9	109.2	228.6	14.4	11.4	34.0	9.2	09DK074 (1) and (1) 044	(2)
116	102.1	359.1	118.4	245.1	15.5	9.7	28.9	9.1	09DK074 (1) and (1) 054	(2)
126	112.8	396.8	127.1	270.8	17.1	11.6	34.5	9.2	09DK074	(2)
136	122.1	429.5	143.3	293.1	18.5	10.5	31.4	9.0	09DK074	(2)
146	126.6	480.5	151.3	327.9	20.7	12.9	38.4	9.6	09DK084	(2)
161	143.8	505.8	164.8	345.2	21.8	10.3	30.6	9.4	09DK084	(2)
171	154.5	543.2	181.5	307.7	23.4	11.7	34.8	9.2	09DK084	(2)
186	166.3	584.8	205.8	399.1	25.2	10.8	32.3	8.9	09DK084	(2)
206	197.9	696.1	214.1	475.1	30.0	11.4	34.0	9.8	09DK084 (2) and (1) 094	(3)
246	229.9	808.6	254.3	551.8	34.8	12.3	36.6	9.7	09DK094	(3)
261	241.0	847.5	272.5	578.4	36.5	13.4	39.8	9.6	09DK094	(3)
271	252.4	887.7	292.9	605.8	38.2	14.5	43.3	9.4	09DK094	(3)

LEGEND

EER — Energy Efficiency Ratio (Capacity [Btuh] ÷ Input Power [W])

*Air Conditioning and Refrigeration Institute (U S A)

NOTES

- Rated in accordance with ARI Standard 550/590-98 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 air temperature 95 F (35 C)
- All data in this table is rated in accordance with ARI Standard 550/590-98 as represented in the Ecologic™ Chiller Selection Program (E-Cat) version 2.11

30HXC COOLING CAPACITIES 60 Hz, ENGLISH

LCWT (F)	UNIT SIZE 30HXC	CONDENSER ENTERING AIR TEMPERATURE (F)															
		80				85				90				95			
		Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)
40	076	71.5	51.2	171.1	204.5	68.4	54.1	163.8	199.1	65.6	57.1	156.9	194.2	63.3	60.4	151.5	191.0
	086	78.8	57.4	188.7	226.0	75.5	60.6	180.8	220.3	72.6	63.9	173.7	215.5	70.1	67.6	167.9	212.1
	096	89.1	64.2	213.2	255.0	85.4	67.9	204.3	248.6	82.0	71.6	196.2	242.9	79.3	75.8	189.7	239.3
	106	98.9	72.2	236.8	283.8	94.6	76.3	226.5	276.3	90.9	80.8	217.5	270.3	87.9	85.8	210.4	266.5
	116	107.6	76.5	257.5	307.3	103.1	81.0	246.8	299.7	98.7	85.6	236.3	292.3	95.5	91.0	228.7	288.2
	126	116.5	83.5	278.9	333.2	111.7	88.5	267.5	325.2	107.2	93.6	256.7	317.8	103.7	99.5	248.2	313.3
	136	129.2	93.7	309.3	370.4	124.0	98.9	296.9	361.4	119.4	104.2	285.7	353.8	115.7	110.3	276.9	349.1
	146	138.2	101.5	330.9	397.0	132.4	107.1	317.1	386.9	127.6	113.3	305.5	379.5	123.7	120.2	296.2	374.8
	161	147.7	108.1	353.5	423.9	145.0	117.5	347.0	423.5	143.2	127.9	342.7	426.1	142.4	139.8	340.9	432.3
	171	156.6	114.4	374.9	449.4	154.1	124.1	368.8	449.7	152.4	134.8	364.8	452.9	151.7	146.9	363.1	459.1
	186	167.8	123.7	401.6	482.1	164.8	134.0	394.6	481.9	163.1	145.4	390.5	485.4	162.4	158.3	388.8	492.3
	206	199.8	141.0	478.3	570.2	195.8	153.2	468.7	568.7	193.0	166.4	462.1	570.9	191.2	180.9	457.6	576.0
	246	234.5	166.8	561.5	670.1	230.6	181.5	552.0	670.4	226.7	197.0	542.8	671.5	225.5	215.2	539.7	680.6
	261	242.8	174.2	581.3	694.8	238.9	189.2	571.9	695.4	235.6	205.0	563.9	697.9	234.5	223.7	561.3	707.7
	271	252.6	183.7	604.7	724.3	248.6	199.3	595.2	725.2	245.5	215.9	587.6	728.6	244.4	235.5	585.0	739.0
42	076	74.9	51.7	179.3	212.9	71.7	54.7	171.7	207.3	68.5	57.7	164.2	201.8	65.9	60.9	157.9	197.7
	086	82.5	58.0	197.7	235.4	79.1	61.3	189.4	229.2	75.7	64.5	181.4	223.4	73.0	68.2	175.0	219.5
	096	93.3	64.8	223.5	265.6	89.4	68.5	214.1	258.7	85.6	72.3	205.1	252.2	82.5	76.4	197.7	247.7
	106	103.5	72.8	248.1	295.3	99.2	77.1	237.6	287.7	94.7	81.3	226.9	279.9	91.5	87.3	219.1	276.1
	116	112.7	77.0	269.9	319.9	108.1	81.7	258.9	312.1	103.3	86.3	247.5	303.8	99.4	92.2	238.2	298.4
	126	122.0	84.0	292.3	346.9	117.0	89.2	280.4	338.5	112.1	94.4	268.6	330.2	107.9	100.8	258.6	324.4
	136	135.3	94.5	324.2	385.6	129.8	99.8	311.0	376.0	124.6	105.0	298.5	367.0	120.4	111.2	288.4	361.0
	146	144.8	102.3	346.8	413.2	138.8	108.1	332.4	402.8	133.2	114.1	319.1	393.5	128.7	121.0	308.4	387.4
	161	153.4	107.7	367.4	437.4	150.6	117.3	360.7	437.0	147.9	127.3	354.3	437.3	146.9	139.2	351.9	442.8
	171	162.6	114.0	389.5	463.5	160.0	123.9	383.3	463.9	157.7	134.4	377.7	465.4	156.4	146.3	374.7	470.2
	186	173.8	123.2	416.4	496.4	171.0	133.7	409.7	496.7	168.4	144.6	403.5	497.7	167.4	157.6	401.0	503.9
	206	207.2	141.1	496.3	588.0	203.6	152.9	487.6	587.3	199.9	165.9	478.9	587.2	197.3	180.2	472.6	590.4
	246	243.5	165.9	583.5	691.3	239.4	180.9	573.5	691.3	235.1	196.4	563.2	691.4	232.5	214.5	557.0	697.2
	261	252.1	173.4	603.8	716.5	247.8	188.7	593.7	716.5	243.9	204.4	584.2	717.6	241.8	222.6	579.2	724.6
	271	262.0	183.0	627.6	746.4	257.8	198.7	617.5	746.8	253.8	215.0	608.0	748.1	252.0	234.2	603.6	756.6
44	076	78.3	52.3	187.8	221.7	75.1	55.2	179.9	215.8	71.8	58.3	172.0	210.0	68.7	61.4	164.6	204.6
	086	86.4	58.5	207.0	244.9	82.8	61.9	198.4	238.6	79.2	65.2	190.0	232.4	76.0	68.7	182.2	227.0
	096	97.6	65.4	233.9	276.3	93.6	69.2	224.3	269.3	89.6	73.0	214.8	262.3	85.9	77.0	205.9	256.1
	106	108.3	73.3	259.7	307.2	103.9	77.8	249.0	299.5	99.2	82.2	237.9	291.4	95.1	89.6	228.1	286.4
	116	117.8	77.6	282.4	332.8	113.1	82.4	271.1	324.7	108.3	87.2	259.6	316.4	103.5	92.1	248.2	308.3
	126	127.6	84.8	305.8	360.8	122.5	89.9	293.6	352.0	117.3	95.2	281.3	343.3	112.4	100.7	269.5	335.3
	136	141.6	95.3	339.5	401.3	136.0	100.7	325.9	391.4	130.4	106.2	312.5	381.7	125.3	111.8	300.3	373.3
	146	151.4	103.2	363.0	429.9	145.4	109.1	348.5	419.4	139.2	115.1	333.6	408.5	133.9	123.0	321.0	401.2
	161	159.1	107.3	381.4	451.0	156.4	117.1	375.0	451.0	153.5	127.2	367.9	450.7	151.5	140.5	363.1	454.6
	171	168.5	113.9	404.0	477.8	165.9	123.5	397.7	478.0	163.1	134.0	391.1	478.3	161.3	145.7	386.7	481.7
	186	180.0	122.8	431.6	511.2	177.4	133.3	425.2	511.8	174.5	144.5	418.2	512.3	172.6	156.9	413.7	516.0
	206	214.7	141.2	514.8	606.4	211.4	152.4	506.7	605.8	207.3	165.6	496.9	604.8	204.2	179.9	489.4	606.8
	246	252.2	165.9	604.5	712.2	248.5	180.2	595.7	712.9	244.2	196.2	585.4	713.2	239.9	213.0	575.2	714.2
	261	261.0	173.4	625.6	738.0	257.2	188.1	616.5	738.7	253.0	204.3	606.4	739.5	249.3	221.4	597.5	742.0
	271	271.4	182.6	650.6	768.9	267.4	198.1	641.0	769.7	263.1	215.0	630.8	770.8	259.7	233.1	622.6	774.7

LEGEND

Cap. — Capacity, Tons of Refrigeration
 Cond — Condenser
 kW — Compressor Motor Input Power at Rated Voltage
 LCWT — Leaving Chilled-Water Temperature (F)

Performance data (cont)



30HXC COOLING CAPACITIES (cont) 60 Hz, ENGLISH (cont)

LCWT (F)	UNIT SIZE 30HXC	CONDENSER ENTERING AIR TEMPERATURE (F)															
		80				85				90				95			
		Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)
45	076	80 1	52 7	192 0	226 1	76 8	55.5	184 2	220 2	73 4	58 6	176 1	214 2	70 2	61 6	168 2	208 4
	086	88 3	58 8	211 8	249 9	84 7	62 2	203 0	243 4	81 0	65 6	194 3	237 0	77 6	69 0	186 1	231 0
	096	99 7	65 9	239 2	281 8	95 7	69 5	229 5	274 7	91 6	73 4	219 7	267 5	87 7	77 3	210 3	260 7
	106	110 8	73 6	265 6	313 2	106 2	78 2	254 7	305 4	101 6	82 6	243 6	297 3	97 1	89 0	232 8	290.7
	116	120 5	78 0	288 9	339 4	115 7	82 7	277 4	331.1	110 8	87 6	265 7	322 7	105 9	92 4	253 9	314 2
	126	130 4	85 2	312 7	367 9	125 3	90 2	300 4	359 0	120 1	95 6	288 0	350 2	115 0	101 1	275 7	341 6
	136	144 7	96 0	347.0	409 1	139 1	101 1	333 5	399 1	133 3	106 7	319 7	389 1	127 9	112 3	306 8	380 0
	146	154.8	103 7	371 1	438 2	148 8	109 5	356 7	427 7	142 4	115 6	341 4	416 6	136 8	124 5	327 9	409 0
	161	161 9	107 4	388 2	457 7	159 4	116 9	382 1	458 0	156 3	127 2	374 9	457 6	153 8	140 3	368 8	460 1
	171	171 4	113 9	411 0	484 7	169 0	123 3	405 3	485 3	166 1	134 0	398 3	485 4	164 1	145 6	393 4	488 3
	186	183 1	122 8	439 1	518.6	180 6	133 1	433 2	519 5	177 6	144 4	425 8	519 7	175 2	156 5	420 1	522.1
	206	218 7	141.1	524 4	615 8	215.3	152 3	516 3	615 3	211 2	165 5	506 5	614 2	207 8	179 7	498 3	615.5
	246	256 6	166 1	615 3	722 9	253 1	179 7	607 0	723.7	248 5	195 9	596 0	723 5	244 2	212 7	585 5	724 3
	261	265 5	173 7	636 6	749 1	261 9	187 6	628 0	749 9	257 3	204 0	617 0	749 8	253 3	221 1	607 5	751 7
	271	276 0	182 8	661 9	780.3	272 1	197 7	652 5	780 8	267 7	214 8	642 0	781 7	263 7	232 5	632 3	783 9
46	076	81.8	53 1	196 3	230 6	78 6	55.7	188 5	224 6	75 1	58 9	180 2	218 5	71 8	62 0	172 2	212 6
	086	90 3	59 3	216 5	254 8	86 6	62 4	207 7	248 2	82 9	65 9	198 8	241 7	79 3	69 3	190 2	235 3
	096	101 9	66 4	244 5	287 4	97 9	69 8	234 9	280 1	93 7	73 8	224 8	272 7	89 7	77 7	215 1	265 7
	106	113 2	74 1	271 4	319 4	108 7	78 4	260 7	311 5	104 0	83 0	249 4	303 3	99 1	87 5	237 8	294 8
	116	123.1	78 5	295 3	346 1	118 3	82 9	283 8	337 6	113.4	88 0	271 9	329 1	108 3	92 8	259.8	320 3
	126	133 3	85 6	319 7	375 1	128 2	90 5	307 4	366 1	122 8	96 1	294 6	357 1	117 5	101 5	281.9	348.1
	136	147 9	96 6	354 7	417 2	142 3	101 4	341 3	407 0	136 3	107 1	327 0	396 7	130 8	112 8	313 6	387 1
	146	158 2	104 1	379 4	446 7	152 1	109 9	364 9	436 1	145 7	116 1	349 4	424 9	139 7	124 6	335 0	416 2
	161	164 7	107 5	395 1	464.7	162 3	116 6	389 3	464 9	159 3	127 1	382 1	464 6	156 4	139 0	375 1	465 6
	171	174 4	113 9	418 3	492.0	172.1	123 0	412 8	492 6	169 1	133 9	405 7	492 7	166 8	145 3	400 0	494 7
	186	186 2	123 0	446 7	526 3	183 9	132 7	441 1	527 2	180 7	144 2	433 5	527.2	178 1	156 2	427 2	528 9
	206	222 6	141 1	533 9	625 2	219 3	152 4	526 0	624 9	215 2	165 3	516 1	623 7	211 4	179 4	507 0	624 0
	246	261 0	166 1	626 1	733 7	257 6	179 3	617 8	734 2	253 1	195 5	607 1	734 4	248 7	212 6	596 4	735 0
	261	270 0	173 9	647.7	760 2	266 5	187.2	639 2	760 7	262 0	203 8	628 3	760 9	257 9	221 1	618 6	762 7
	271	280.8	183 1	673.6	792 0	277 1	197 2	664.7	792 6	272 4	214 4	653 5	792 9	268 4	232 5	643 7	795 2
48	076	85 5	53 8	205 1	239 8	82 2	56 3	197 2	233 7	78 6	59 5	188 7	227 3	75 1	62.7	180 2	221 0
	086	94 2	60 2	226 1	264 9	90 6	62 9	217 4	258 2	86.7	66 6	208 0	251 3	82 9	70 2	199 0	244 6
	096	106 3	67 4	255 2	298 7	102 4	70 4	245 7	291 3	98.1	74.5	235 3	283 7	93 8	78 6	225.1	276 2
	106	118 1	75 0	283 4	331 8	113 6	79 0	272 6	323 7	108 8	83 8	261 1	315 5	103 8	88 4	249 2	306.7
	116	128 5	79 4	308 4	359 6	123 7	83 5	296 9	351 0	118 6	88 6	284 6	342 2	113 4	93 8	272 2	333 3
	126	139 1	86 6	333 7	389 7	133 9	91 3	321 4	380 6	128 4	96 8	308 2	371.1	123 0	102 4	295 1	361 7
	136	154 3	97 9	370 3	433 5	148 8	102 2	357 0	423 3	142 7	108 1	342 4	412.7	136 7	114 0	328 1	402 3
	146	165 0	105.4	396 0	464.0	159 0	110 8	381 5	453 3	152 5	117 2	366.1	442 1	145 8	123 6	350 0	430 4
	161	170 5	107 7	409 1	478.6	168 2	116 2	403 7	478 9	165 4	126 8	396 9	479 2	162 1	137 9	389 1	478 8
	171	180 4	114 1	432 9	506 5	178 1	123 0	427 3	507 0	175 3	133 5	420 6	507 3	172 4	144 9	413 9	508 2
	186	192 5	123 3	461 9	541 5	190 2	132 3	456 5	542 2	187.2	143 8	449 4	542 7	184 3	156 1	442 4	543 9
	206	229 4	141 0	550 6	641 7	227.1	152 5	545 0	643 8	223 2	164 8	535 7	642 8	219 0	179 1	525 6	642 3
	246	270 0	166 2	647 9	755 3	266.7	179 2	640 1	756 3	262 5	194 9	630 0	756 7	257 9	212 2	618 9	757 1
	261	279 1	174 2	669 9	790 3	276 0	187.1	662 3	783 6	271 7	203 3	651 9	784 0	267 2	220 9	641 1	785 0
	271	290 3	183 3	696.6	814 9	286 9	196 6	688 6	816 0	282 4	213 8	677 8	816 6	277 9	232 2	666 9	818 0

LEGEND

Cap. — Capacity, Tons of Refrigeration
 Cond — Condenser
 kW — Compressor Motor Input Power at Rated Voltage
 LCWT — Leaving Chilled-Water Temperature (F)

30HXC COOLING CAPACITIES (cont)
60 Hz, ENGLISH (cont)

LCWT (F)	UNIT SIZE 30HXC	CONDENSER ENTERING AIR TEMPERATURE (F)															
		80				85				90				95			
		Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)
50	076	89 0	54 4	213 6	248 7	85 8	57 1	206 0	243 0	82 3	59 9	197 5	236 4	78 5	63 3	188 6	229 8
	086	98 2	61 0	235 8	275 1	94 6	63 8	227 1	268 4	90 7	67 2	217 7	261 3	86 7	70 9	208 1	254 2
	096	110 8	68 2	266 1	310 1	106 9	71 5	256 6	302 8	102 6	75 1	246 3	295 0	98 1	79 3	235 4	287 0
	106	123 1	75 8	295 6	344 4	118 6	79 8	284 7	336 3	113 8	84 4	273 2	327 9	108 7	89 3	261 0	319 0
	116	133 7	80 0	320 9	372 5	129 2	84 5	310 2	364 8	124 1	89 1	297 9	355 7	118 7	94 6	285 0	346 6
	126	144 6	87 3	347 1	403 3	139 8	92 1	335 7	395 3	134 3	97 4	322 5	385 7	128 6	103 3	308 8	376 0
	136	160 8	99 0	386 1	449 9	155 3	103 8	372 8	439 9	149 3	108 9	358 4	429 0	142 9	115 1	343 1	418 0
	146	171 8	106 4	412 6	481 1	166 0	111 9	398 5	470 8	159 5	118 0	383 0	459 5	152 6	124 8	366 5	447 6
	161	176 2	107 6	423 1	492 4	174 1	116 4	417 9	493 2	171 4	126 5	411 4	493 4	168 2	137 8	403 8	493 4
	171	185 6	114 0	445 6	519 0	184 3	122 9	442 5	522 0	181 6	133 0	436 0	522 3	178 6	144 7	428 8	523 0
	186	198 7	123 3	477 1	556 5	196 7	132 7	472 3	558 0	193 9	143 4	465 5	558 5	190 7	155 8	458 0	559 3
	206	236 2	140 7	567 0	657 7	235 2	152 5	564 7	663 4	231 4	164 8	555 6	662 6	227 2	178 8	545 4	661 8
	246	277 5	165 2	666 4	772 9	275 8	179 7	662 2	778 4	272 1	193 9	653 3	779 3	267 3	211 6	641 8	779 5
	261	287 3	173 5	689 8	801 7	285 2	187 8	684 8	806 4	281 5	202 4	675 8	807 2	276 6	220 4	664 1	807 6
	271	299 1	182 8	718 1	835 9	296 5	197 4	711 8	839 5	292 5	212 9	702 3	840 5	287 5	231 6	690 4	841 1
55	076	93 0	54 8	223 5	258 6	90 5	58 1	217 6	255 0	87 0	60 8	209 1	248 3	83 2	64 1	199 9	241 4
	086	103 7	61 8	249 3	288 9	100 8	65 3	242 2	284 2	96 9	68 1	232 9	277 0	92 7	71 9	222 8	269 4
	096	116 8	68 8	280 7	324 8	113 9	73 0	273 7	320 7	109 5	76 3	263 3	312 6	103 5	80 3	248 8	300 8
	106	130 0	76 5	312 5	361 5	126 3	81 3	303 6	355 9	121 5	85 4	292 0	347 2	116 3	90 5	279 6	338 3
	116	141 8	80 4	340 8	392 4	138 8	86 2	333 6	389 1	133 6	90 6	321 1	379 7	128 1	95 7	307 9	370 1
	126	154 8	88 0	372 1	428 5	151 5	94 3	364 2	425 0	144 4	98 9	347 0	411 0	138 4	104 7	332 8	400 7
	136	170 5	100 0	409 7	473 8	166 8	106 0	400 8	469 1	160 7	110 9	386 2	457 9	154 3	116 8	370 7	446 5
	146	184 2	107 5	442 8	511 6	179 9	114 3	432 5	506 1	173 4	119 9	416 8	494 4	164 5	126 5	395 3	477 4
	161	184 3	106 3	443 0	511 2	184 4	116 6	443 2	518 2	182 0	125 9	437 4	518 8	178 9	137 2	430 1	519 1
	171	194 5	112 9	467 6	540 0	194 8	123 3	468 3	547 7	192 9	132 8	463 6	549 5	190 0	144 0	456 6	550 1
	186	206 4	122 2	496 1	574 4	206 5	133 0	496 3	581 9	204 1	142 9	490 6	582 9	200 9	155 3	482 9	583 6
	206	245 4	139 5	589 9	679 3	245 6	152 7	590 4	688 8	243 1	164 7	584 4	691 0	239 0	178 1	574 4	690 0
	246	287 9	162 8	692 0	796 4	289 4	179 2	695 5	810 9	286 3	194 1	688 0	813 6	282 1	210 5	677 9	814 6
	261	297 9	171 5	715 9	825 9	299 6	187 8	720 1	841 1	296 0	202 6	711 5	842 5	291 7	219 3	701 1	843 5
	271	309 9	180 6	744 9	860 7	311 3	197 5	748 3	875 4	307 6	212 7	739 3	876 9	303 1	230 6	728 5	878 1
60	076	93 1	54 9	223 9	258 8	90 6	58 2	218 0	255 2	87 1	60 8	209 5	248 6	83 2	64 1	200 2	241 6
	086	103 8	61 8	249 7	289 1	100 9	65 3	242 7	284 6	97 0	68 2	233 4	277 3	92 8	71 9	223 3	269 7
	096	116 9	68 8	281 2	325 0	112 6	72 8	270 9	317 5	108 3	76 0	260 6	309 4	103 6	80 3	249 3	301 1
	106	130 1	76 5	313 0	361 8	126 5	81 3	304 2	356 3	121 6	85 4	292 6	347 6	115 5	90 4	277 8	336 2
	116	141 9	80 4	341 5	392 8	139 0	86 2	334 3	389 5	132 1	90 3	317 8	376 0	126 6	95 6	304 6	366 3
	126	153 6	88 1	369 5	425 6	150 1	94 2	361 1	421 4	144 5	99 0	347 7	411 4	138 6	104 7	333 4	401 1
	136	170 6	100 0	410 5	474 2	167 0	106 1	401 7	469 6	160 9	111 0	387 0	458 5	152 5	116 5	366 8	442 0
	146	184 4	107 5	443 6	512 1	178 1	114 0	428 5	501 6	171 7	119 5	413 1	490 0	164 7	126 6	396 1	477 9
	161	183 2	106 5	440 8	508 7	182 9	116 6	440 0	514 7	180 5	125 8	434 2	515 2	177 4	137 4	426 8	515 4
	171	193 6	113 2	465 7	537 8	193 9	123 4	466 3	545 4	191 6	132 7	460 9	546 3	188 6	144 2	453 7	546 8
	186	206 6	122 2	496 9	574 7	206 7	133 0	497 2	582 4	204 3	142 9	491 5	583 4	201 1	155 3	483 8	584 1
	206	245 6	139 5	590 7	679 7	245 8	152 7	591 3	689 2	243 3	164 8	585 3	691 4	239 2	178 1	575 3	690 5
	246	288 1	162 7	693 0	796 8	289 5	179 2	696 5	811 4	286 5	194 1	689 2	814 2	279 2	210 8	671 5	807 7
	261	298 0	171 4	717 0	826 3	299 8	187 8	721 2	841 6	296 3	202 6	712 7	843 1	292 0	219 3	702 4	844 1
	271	310 1	180 6	746 0	861 1	311 6	197 5	749 5	876 1	307 9	212 7	740 6	877 5	303 4	230 5	729 8	878 7

LEGEND

Cap. — Capacity, Tons of Refrigeration
 Cond — Condenser
 kW — Compressor Motor Input Power at Rated Voltage
 LCWT — Leaving Chilled-Water Temperature (F)

Performance data (cont)



30HXC COOLING CAPACITIES (cont) 60 Hz, SI

LCWT (C)	UNIT SIZE 30HXC	CONDENSER ENTERING AIR TEMPERATURE (C)											
		25				30				35			
		Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)
4	076	253 0	49 4	10 8	12 8	234 0	54 5	10 0	12 2	218 8	60.3	9 3	11 8
	086	278 9	55 4	11 9	14 1	258 5	61 0	11 0	13 5	242 6	67 4	10 3	13 1
	096	315 1	61 8	13 4	15 9	292 1	68.3	12 4	15 2	274 1	75 7	11.7	14 8
	106	350 1	69 4	14 9	17 7	323 4	76.9	13 8	16 9	304 1	85 6	13 0	16 5
	116	380 5	73 6	16 2	19 2	352 4	81 6	15 0	18 3	330 4	90 8	14 1	17 8
	126	412 0	80 3	17 5	20 8	382 3	89 2	16 3	19 9	358 7	99 3	15 3	19 3
	136	449 1	89 1	19 2	22 8	424 6	99.6	18 1	22 2	400 1	110 1	17 0	21.6
	146	488 8	97 9	20 8	24 8	453 9	108.1	19 3	23 7	428 0	120 0	18 2	23 1
	161	516 7	102 9	22 0	26 2	500 2	119 6	21 3	26 2	494 7	140 2	21 1	26 8
	171	547 7	109 0	23 3	27 8	533 0	126 5	22 7	27 9	526 8	147 2	22 4	28 5
	186	585 8	118 0	25 0	29 8	569 6	136.4	24 3	29 8	564 2	158 7	24 0	30.5
	206	698 0	134 8	29 7	35 2	676 1	156 0	28 8	35 2	663 7	181.3	28 3	35.7
	246	820 5	158 6	34 9	41 4	795 3	184.9	33 9	41 4	783 1	215 9	33 4	42 2
	261	849 3	166 0	36 2	42 9	824 9	192.6	35 1	43 0	814 6	224 3	34 7	43 9
	271	883 5	175 1	37 6	44 8	858.7	202 8	36 6	44.9	849 1	236.1	36 2	45 8
5	076	263 7	49 8	11 2	13 3	244 0	55 0	10 4	12 6	227 0	60 7	9 7	12 2
	086	290 7	55 8	12 4	14 7	269 4	61 6	11 5	14 0	251 6	68.0	10 7	13 5
	096	328 4	62 3	14 0	16 5	304 4	69 0	13.0	15 8	284 4	76 2	12 1	15 2
	106	364 7	69 9	15 5	18 4	337 5	77 6	14 4	17 5	315 3	86 2	13.4	17 0
	116	396 5	74 1	16 9	19 9	367 8	82 4	15 7	19 0	342 6	91 4	14.6	18 3
	126	429 2	80 9	18 3	21 6	398 5	89 9	17 0	20 7	371 9	99 9	15.9	19 9
	136	476.2	91 0	20.3	24 0	442 4	100 5	18.9	23 0	414 9	110 8	17 7	22 2
	146	509 3	98 6	21 7	25 7	472 4	108 9	20 1	24 6	443 6	120 8	18 9	23 8
	161	534 6	102 5	22 8	27 0	517 5	119 5	22 1	26 9	508 7	139 7	21 7	27 4
	171	566 2	109 0	24 1	28 6	550 0	126 1	23 4	28 6	541 6	146 8	23 1	29 1
	186	605 7	117 5	25 8	30 6	588 4	136 1	25 1	30 6	579 9	158 2	24 7	31 2
	206	721 9	134 9	30 8	36 3	699 1	155 7	29 8	36 2	683 0	180 8	29 1	36 5
	246	847 5	158 5	36 1	42 6	823 3	184.5	35 1	42 6	805 2	214 9	34 3	43 1
	261	877 4	165 7	37 4	44 1	853 0	192.3	36 4	44 2	837 4	223 5	35 7	44 8
	271	912 8	174 5	38 9	46 0	887 6	202.5	37.8	46 1	872 6	235 2	37 2	46 8
6	076	274 4	50 5	11 7	13 8	254 3	55 5	10 8	13 1	235 5	61 1	10 0	12 5
	086	302 6	56 4	12 9	15 2	280.6	62 2	12 0	14 5	260 9	68 5	11 1	13 9
	096	341 8	63 2	14 6	17 1	317 2	69 6	13 5	16 4	294 8	76 7	12 6	15 7
	106	379 6	70 5	16 2	19 1	352 0	78 3	15.0	18 2	326 7	88 9	13 9	17 6
	116	412 7	74 8	17 6	20.6	383 5	83 0	16 4	19 7	355 1	92 7	15 1	18.9
	126	446.8	81 6	19 1	22 4	415 4	90 7	17.7	21 4	385 4	101 0	16 4	20 6
	136	495 7	92 2	21 1	24 9	460 9	101 3	19.7	23 8	430 0	111 5	18 3	22 9
	146	530 3	99 5	22 6	26 6	492 6	109 8	21 0	25 5	459 8	121 4	19.6	24 6
	161	552 3	102 5	23.6	27 7	535 5	119 4	22 8	27 7	523 0	139 3	22.3	28 0
	171	584 4	108 9	24 9	29 3	569 1	126 0	24 3	29 4	556 7	146 2	23 7	29 7
	186	624 8	117 6	26 6	31 4	608 2	135 9	25 9	31 5	595 8	157 5	25 4	31 8
	206	745 7	134.8	31 8	37 3	723 9	155 5	30 9	37 2	703 1	180 3	30 0	37 4
	246	874 9	158 7	37 3	43 8	851 4	184 0	36 3	43 8	828 0	214 6	35 3	44 1
	261	905 3	166 2	38 6	45 4	881 4	191 8	37 6	45 4	860.9	222 5	36 7	45 8
	271	941 6	175 0	40 2	47 3	916 7	201 9	39 1	47 3	896 8	234 1	38 2	47 8

LEGEND

Cap. — Capacity, kW
 Cond — Condenser
 kW — Compressor Motor Input Power at Rated Voltage
 LCWT — Leaving Chilled-Water Temperature (C)

30HXC COOLING CAPACITIES (cont)
60 Hz, SI (cont)

LCWT (C)	UNIT SIZE 30HXC	CONDENSER ENTERING AIR TEMPERATURE (C)											
		25				30				35			
		Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)
7	076	285.5	51.2	12.2	14.3	265.1	56.0	11.3	13.6	244.5	61.6	10.4	12.9
	086	314.8	57.2	13.4	15.7	292.6	63.1	12.5	15.1	270.4	68.9	11.5	14.4
	096	355.4	64.0	15.2	17.8	330.6	70.2	14.1	17.0	305.7	77.2	13.0	16.2
	106	394.7	71.4	16.8	19.7	366.9	79.0	15.7	18.9	338.5	89.5	14.4	18.1
	116	429.1	75.6	18.3	21.4	399.5	83.6	17.0	20.5	368.9	92.4	15.7	19.5
	126	464.7	82.4	19.8	23.2	432.7	91.3	18.5	22.2	400.5	101.0	17.1	21.2
	136	515.3	93.3	22.0	25.8	480.3	102.2	20.5	24.6	445.8	112.1	19.0	23.6
	146	551.3	100.4	23.5	27.6	513.6	110.7	21.9	26.4	476.7	124.2	20.3	25.4
	161	569.6	102.8	24.3	28.5	554.2	119.1	23.6	28.5	537.6	140.8	22.9	28.7
	171	602.9	109.0	25.7	30.1	588.0	125.6	25.1	30.2	573.2	145.8	24.5	30.4
	186	644.0	117.9	27.5	32.2	628.4	135.5	26.8	32.3	612.3	156.8	26.1	32.5
	206	768.3	134.9	32.8	38.2	748.7	155.0	31.9	38.3	725.6	180.0	31.0	38.3
	246	902.6	158.8	38.5	44.9	880.4	183.3	37.6	45.0	852.6	213.1	36.4	45.1
	261	933.7	166.4	39.8	46.6	911.1	191.3	38.9	46.7	884.9	221.5	37.8	46.8
	271	970.8	175.3	41.4	48.5	947.4	201.4	40.4	48.6	921.5	233.0	39.3	48.8
8	076	296.8	51.8	12.7	14.8	276.3	56.5	11.8	14.1	254.6	62.2	10.9	13.4
	086	327.2	57.9	14.0	16.3	304.5	63.3	13.0	15.6	281.2	69.5	12.0	14.8
	096	369.4	64.8	15.8	18.4	344.3	70.8	14.7	17.6	318.1	77.9	13.6	16.8
	106	410.1	72.1	17.5	20.4	382.1	79.5	16.3	19.5	351.8	87.7	15.0	18.6
	116	446.1	76.2	19.0	22.1	416.2	84.1	17.8	21.2	384.2	93.1	16.4	20.2
	126	482.4	83.2	20.6	24.0	450.7	91.8	19.2	23.0	416.7	101.7	17.8	21.9
	136	535.5	94.3	22.9	26.7	500.4	102.8	21.4	25.5	463.7	113.1	19.8	24.4
	146	572.8	101.4	24.5	28.6	535.0	111.4	22.8	27.4	495.1	124.6	21.1	26.2
	161	587.6	102.8	25.1	29.2	572.9	118.7	24.5	29.3	553.6	138.5	23.6	29.3
	171	620.4	109.0	26.5	30.9	607.6	125.2	25.9	31.0	590.3	145.4	25.2	31.1
	186	663.5	118.1	28.3	33.1	648.5	135.1	27.7	33.2	630.3	156.3	26.9	33.3
	206	789.2	134.6	33.7	39.1	774.0	154.9	33.0	39.3	748.3	179.6	31.9	39.3
	246	928.1	158.4	39.6	46.0	909.2	182.6	38.8	46.2	880.8	212.7	37.6	46.3
	261	961.6	166.4	41.1	47.8	940.7	190.5	40.2	47.9	914.3	221.4	39.2	48.1
	271	1000.7	175.4	42.7	49.8	978.2	200.6	41.8	49.9	950.3	232.7	40.6	50.1
9	076	307.2	52.2	13.1	15.2	287.7	56.9	12.3	14.6	265.2	62.8	11.3	13.9
	086	339.4	58.6	14.5	16.9	317.1	63.7	13.5	16.1	292.8	70.3	12.5	15.4
	096	382.7	65.4	16.3	19.0	358.5	71.2	15.3	18.2	331.1	78.7	14.1	17.3
	106	425.5	72.7	18.2	21.1	397.8	80.0	17.0	20.2	366.7	88.6	15.7	19.3
	116	461.3	76.7	19.7	22.8	433.3	84.6	18.5	21.9	400.6	93.9	17.1	20.9
	126	499.0	83.6	21.3	24.7	469.1	92.5	20.0	23.8	434.1	102.6	18.5	22.7
	136	554.7	95.1	23.7	27.5	521.1	103.4	22.3	26.5	482.7	114.2	20.6	25.3
	146	593.1	102.2	25.3	29.5	556.9	112.1	23.8	28.3	514.9	123.8	22.0	27.0
	161	604.5	102.6	25.8	30.0	591.6	118.3	25.3	30.1	572.2	138.0	24.4	30.1
	171	636.7	108.8	27.2	31.6	626.5	125.1	26.8	31.8	608.5	145.1	26.0	31.9
	186	681.9	117.9	29.1	33.9	669.2	134.5	28.6	34.0	650.3	156.2	27.8	34.1
	206	810.2	134.2	34.6	40.0	798.7	155.1	34.1	40.4	772.9	179.3	33.0	40.3
	246	950.5	157.3	40.6	46.9	938.6	182.2	40.1	47.5	910.1	212.4	38.9	47.5
	261	984.0	165.5	42.0	48.7	971.2	190.0	41.5	49.2	942.6	221.1	40.3	49.3
	271	1024.8	174.5	43.8	50.8	1009.8	199.6	43.1	51.2	980.4	232.4	41.9	51.3

LEGEND

Cap. — Capacity, kW
Cond — Condenser
kW — Compressor Motor Input Power at Rated Voltage
LCWT — Leaving Chilled-Water Temperature (C)

Performance data (cont)



30HXC COOLING CAPACITIES (cont) 60 Hz, SI (cont)

LCWT (C)	UNIT SIZE 30HXC	CONDENSER ENTERING AIR TEMPERATURE (C)											
		25				30				35			
		Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)
10	076	316.8	52.5	13.5	15.6	299.2	57.7	12.8	15.1	276.1	63.4	11.8	14.4
	086	350.6	59.0	15.0	17.4	329.9	64.4	14.1	16.7	304.6	71.0	13.0	15.9
	096	394.6	65.8	16.9	19.5	372.8	72.1	15.9	18.9	344.6	79.4	14.7	18.0
	106	439.5	73.1	18.8	21.7	413.7	80.6	17.7	20.9	382.0	89.4	16.3	20.0
	116	476.0	76.8	20.3	23.4	450.6	85.4	19.3	22.7	417.2	94.7	17.8	21.7
	126	515.6	83.9	22.0	25.4	487.7	93.2	20.8	24.6	452.0	103.4	19.3	23.5
	136	571.8	95.6	24.4	28.3	541.8	104.7	23.2	27.4	502.3	115.2	21.5	26.2
	146	613.3	102.8	26.2	30.3	579.0	113.1	24.7	29.3	536.4	124.9	22.9	28.0
	161	618.8	101.9	26.4	30.5	610.4	118.2	26.1	30.9	591.3	137.9	25.3	30.9
	171	652.9	108.4	27.9	32.3	646.2	125.0	27.6	32.7	628.0	144.9	26.8	32.7
	186	697.3	117.1	29.8	34.5	690.0	134.6	29.5	34.9	670.7	156.0	28.7	35.0
	206	830.6	133.4	35.5	40.9	824.5	155.0	35.2	41.5	798.7	179.1	34.1	41.4
	246	972.0	155.9	41.5	47.8	967.7	182.5	41.4	48.7	939.8	211.9	40.2	48.8
	261	1006.0	164.3	43.0	49.6	1000.9	190.7	42.8	50.5	972.6	220.7	41.6	50.5
	271	1047.1	173.1	44.7	51.7	1040.3	200.4	44.5	52.6	1011.1	231.9	43.2	52.6
13	076	333.3	52.7	14.3	16.4	318.4	58.9	13.6	16.0	294.9	64.3	12.6	15.2
	086	371.5	59.5	15.9	18.3	351.2	65.9	15.0	17.7	321.6	71.8	13.8	16.7
	096	414.1	66.1	17.7	20.4	395.6	73.7	16.9	19.9	367.1	80.5	15.7	19.0
	106	462.6	73.2	19.8	22.7	435.3	81.9	18.6	21.9	403.6	90.4	17.3	20.9
	116	502.7	77.0	21.5	24.6	482.3	87.2	20.6	24.1	444.4	95.6	19.0	22.9
	126	549.0	84.1	23.5	26.9	522.7	95.2	22.4	26.2	486.2	104.7	20.8	25.0
	136	604.0	96.1	25.8	29.7	579.8	107.0	24.8	29.1	540.0	116.8	23.1	27.8
	146	653.1	103.0	27.9	32.1	626.0	115.4	26.8	31.4	577.7	126.6	24.7	29.8
	161	644.9	100.1	27.6	31.6	645.1	118.6	27.6	32.4	627.5	137.5	26.8	32.4
	171	681.1	106.8	29.1	33.4	683.8	125.5	29.3	34.3	667.1	144.3	28.5	34.4
	186	722.1	115.6	30.9	35.5	723.3	135.2	30.9	36.4	705.3	155.5	30.2	36.5
	206	867.5	132.2	37.1	42.4	868.2	155.3	37.1	43.4	846.3	178.2	36.2	43.4
	246	1006.1	153.4	43.0	49.2	1013.0	182.6	43.3	50.7	987.6	210.9	42.2	50.8
	261	1036.1	162.2	44.3	50.8	1041.3	191.0	44.5	52.2	1015.3	219.9	43.4	52.4
	271	1086.5	170.3	46.5	53.3	1093.5	200.8	46.8	54.9	1067.1	230.8	45.6	55.0
16	076	330.2	52.7	14.1	16.2	314.8	58.7	13.5	15.8	291.3	64.1	12.5	15.1
	086	368.2	59.5	15.8	18.1	350.6	65.9	15.0	17.7	324.8	71.9	13.9	16.8
	096	414.5	66.1	17.7	20.4	396.1	73.7	17.0	19.9	362.7	80.3	15.5	18.8
	106	461.3	73.2	19.8	22.7	439.5	82.1	18.8	22.1	407.6	90.6	17.5	21.1
	116	503.2	76.9	21.5	24.6	482.9	87.1	20.7	24.2	449.0	95.8	19.2	23.1
	126	549.3	84.0	23.5	26.9	521.7	95.2	22.3	26.2	485.2	104.8	20.8	25.0
	136	604.7	96.2	25.9	29.7	580.5	107.1	24.9	29.1	540.7	116.8	23.1	27.9
	146	653.4	103.0	28.0	32.1	626.4	115.5	26.8	31.5	576.5	126.6	24.7	29.8
	161	645.0	100.1	27.6	31.6	645.3	118.6	27.6	32.4	627.7	137.5	26.9	32.4
	171	681.0	106.9	29.2	33.4	683.2	125.4	29.3	34.3	666.5	144.2	28.5	34.4
	186	726.1	115.4	31.1	35.7	728.6	135.3	31.2	36.6	704.9	155.5	30.2	36.5
	206	860.9	132.4	36.9	42.1	861.5	155.4	36.9	43.1	838.0	178.4	35.9	43.1
	246	1008.1	153.5	43.2	49.3	1014.6	182.6	43.4	50.8	989.3	210.8	42.4	50.9
	261	1041.8	161.8	44.6	51.0	1048.9	191.1	44.9	52.6	1023.3	219.7	43.8	52.7
	271	1083.8	170.5	46.4	53.2	1089.9	200.8	46.7	54.7	1063.3	230.9	45.5	54.9

LEGEND

Cap. — Capacity, kW
 Cond — Condenser
 kW — Compressor Motor Input Power at Rated Voltage
 LCWT — Leaving Chilled-Water Temperature (C)

30HXC COOLING CAPACITIES (cont) 50 Hz, ENGLISH

LCWT (F)	UNIT SIZE 30HXC	CONDENSER ENTERING AIR TEMPERATURE (F)															
		80				85				90				95			
		Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)
40	076	70.0	50.1	167.7	200.3	67.0	52.9	160.5	195.0	64.2	55.8	153.8	190.2	62.0	59.1	148.4	187.0
	086	78.5	57.2	187.9	225.1	75.4	60.5	180.6	220.0	72.5	63.9	173.6	215.3	70.0	67.5	167.5	211.7
	096	89.4	64.5	214.0	256.0	86.1	68.5	206.1	250.8	82.8	72.4	198.3	245.6	80.0	76.6	191.5	241.6
	106	98.0	71.4	234.6	281.1	93.8	75.5	224.5	273.7	90.1	80.1	215.8	268.0	87.4	85.3	209.3	265.0
	116	107.8	76.7	258.0	307.9	103.5	81.4	247.8	300.9	99.2	86.0	237.4	293.6	96.1	91.6	230.0	289.9
	126	117.6	84.5	281.5	336.5	113.0	89.7	270.5	329.0	108.4	94.9	259.6	321.6	105.0	100.9	251.3	317.2
	136	130.4	94.7	312.1	373.8	125.5	100.2	300.3	365.7	120.8	105.7	289.2	358.2	117.0	111.8	280.0	353.1
	146	138.1	101.4	330.5	396.5	132.3	107.0	316.6	386.4	127.7	113.3	305.6	379.6	124.0	120.5	296.7	375.5
	161	147.8	108.2	353.7	424.2	145.0	117.6	347.2	423.8	143.3	128.0	343.0	426.5	142.5	139.9	341.2	432.6
	171	156.2	114.0	373.8	448.0	153.6	123.7	367.7	448.3	152.0	134.4	363.8	451.6	151.2	146.4	362.0	457.7
	186	167.8	123.7	401.6	482.1	164.8	134.0	394.6	481.9	163.1	145.4	390.5	485.4	162.4	158.3	388.8	492.3
	206	199.8	141.0	478.3	570.2	196.1	153.4	469.3	569.5	193.6	166.9	463.3	572.4	191.9	181.7	459.4	578.4
	246	234.7	166.9	561.7	670.5	230.7	181.7	552.2	670.8	226.9	197.1	543.0	671.8	225.6	215.4	540.0	680.9
	261	242.4	173.9	580.2	693.5	238.5	188.8	570.9	694.1	235.1	204.6	562.9	696.6	234.1	223.3	560.3	706.4
	271	252.6	183.7	604.7	724.3	248.6	199.3	595.2	725.2	245.5	215.9	587.6	728.6	244.4	235.5	585.0	739.0
42	076	73.4	50.5	175.8	208.6	70.2	53.4	168.2	203.0	67.2	56.3	160.9	197.7	64.6	59.5	154.7	193.6
	086	82.0	57.5	196.4	233.7	78.9	61.1	188.9	228.7	75.7	64.5	181.3	223.3	72.9	68.1	174.7	219.2
	096	93.3	64.8	223.6	265.7	90.0	69.1	215.6	260.6	86.5	73.1	207.1	254.7	83.4	77.3	199.7	250.2
	106	102.6	72.0	245.8	292.6	98.3	76.3	235.4	285.1	93.8	80.5	224.8	277.3	90.9	86.6	217.7	274.2
	116	112.6	76.9	269.8	319.8	108.4	82.0	259.6	313.0	103.8	86.8	248.6	305.3	99.9	92.7	239.4	299.9
	126	122.9	84.8	294.4	349.5	118.3	90.4	283.3	342.1	113.4	95.8	271.8	334.2	109.2	102.1	261.5	328.2
	136	136.3	95.2	326.4	388.3	131.2	101.0	314.4	380.1	126.1	106.5	302.2	371.6	121.8	112.6	291.8	365.4
	146	144.6	102.1	346.4	412.7	138.6	108.0	332.0	402.3	133.1	114.0	318.9	393.2	128.9	121.2	308.7	387.8
	161	153.5	107.8	367.7	437.7	150.7	117.4	361.0	437.4	148.0	127.4	354.6	437.6	147.0	139.3	352.2	443.1
	171	162.1	113.6	388.3	462.1	159.5	123.5	382.2	462.5	157.2	134.0	376.6	464.0	155.9	145.9	373.6	468.8
	186	173.8	123.2	416.4	496.4	171.0	133.7	409.7	496.7	168.4	144.6	403.5	497.7	167.4	157.6	401.0	503.9
	206	207.1	141.0	496.0	587.7	203.7	153.0	488.1	587.8	200.4	166.3	480.0	588.5	198.0	180.9	474.3	592.6
	246	243.7	165.9	583.7	691.6	239.5	181.0	573.8	691.7	235.2	196.5	563.5	691.7	232.7	214.8	557.6	697.9
	261	251.6	173.0	602.8	715.2	247.4	188.3	592.6	715.2	243.4	204.0	583.2	716.3	241.3	222.1	578.1	723.3
	271	262.0	183.0	627.6	746.4	257.8	198.7	617.5	746.8	253.8	215.0	608.0	748.1	252.0	234.2	603.6	756.6
44	076	76.8	51.1	184.0	217.2	73.6	53.9	176.4	211.4	70.3	57.0	168.6	205.7	67.3	60.0	161.2	200.4
	086	85.5	57.9	205.0	242.5	82.4	61.6	197.6	237.6	79.2	65.2	189.8	232.2	75.9	68.7	182.0	226.8
	096	97.4	65.2	233.5	275.8	93.9	69.5	225.2	270.4	90.4	73.8	216.6	264.6	86.8	77.9	208.1	258.9
	106	107.3	72.6	257.3	304.3	102.9	76.9	246.8	296.8	98.3	81.4	235.8	288.7	94.4	88.9	226.2	284.1
	116	117.6	77.4	281.8	332.0	113.3	82.6	271.6	325.2	108.7	87.6	260.6	317.6	104.0	92.5	249.3	309.7
	126	128.2	85.4	307.3	362.7	123.6	91.0	296.4	355.5	118.7	96.5	284.5	347.4	113.7	102.1	272.6	339.2
	136	142.3	95.9	341.1	403.2	137.2	101.8	328.8	395.0	131.9	107.6	316.1	386.2	126.8	113.4	304.0	378.0
	146	151.2	103.1	362.6	429.3	145.2	109.0	348.1	418.9	139.0	114.9	333.2	408.0	133.9	123.0	321.1	401.3
	161	159.2	107.4	381.7	451.3	156.5	117.2	375.3	451.4	153.6	127.4	368.1	451.0	152.0	141.1	364.3	456.3
	171	168.1	113.6	402.9	476.5	165.5	123.1	396.6	476.6	162.7	133.6	390.0	476.9	160.8	145.2	385.6	480.3
	186	180.0	122.8	431.6	511.2	177.4	133.3	425.2	511.8	174.5	144.5	418.2	512.3	172.6	156.9	413.7	516.0
	206	214.5	141.0	514.2	605.7	211.4	152.4	506.8	606.0	207.6	165.9	497.7	605.8	204.8	180.5	490.9	608.7
	246	252.3	166.0	604.8	712.5	248.6	180.3	596.0	713.2	244.3	196.3	585.6	713.5	240.1	213.1	575.5	714.6
	261	260.5	173.1	624.4	736.7	256.7	187.7	615.4	737.4	252.5	203.9	605.3	738.1	248.8	221.0	596.4	740.6
	271	271.4	182.6	650.6	768.9	267.4	198.1	641.0	769.7	263.1	215.0	630.8	770.8	259.7	233.1	622.6	774.7

LEGEND

Cap. — Capacity, Tons of Refrigeration
Cond — Condenser
kW — Compressor Motor Input Power at Rated Voltage
LCWT — Leaving Chilled-Water Temperature (F)

Performance data (cont)



30HXC COOLING CAPACITIES (cont) 50 Hz, ENGLISH (cont)

LCWT (F)	UNIT SIZE 30HXC	CONDENSER ENTERING AIR TEMPERATURE (F)															
		80				85				90				95			
		Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)
45	076	78.5	51.5	188.2	221.5	75.3	54.2	180.5	215.7	72.0	57.2	172.6	209.8	68.7	60.2	164.8	204.1
	086	87.3	58.1	209.4	247.0	84.2	61.8	201.9	242.0	80.9	65.5	193.9	236.5	77.6	69.0	186.0	230.9
	096	99.4	65.7	238.5	281.0	96.0	69.7	230.1	275.4	92.4	74.1	221.5	269.7	88.6	78.1	212.4	263.4
	106	109.7	72.9	263.1	310.3	105.3	77.3	252.4	302.6	100.7	81.8	241.4	294.5	96.3	88.2	230.8	288.2
	116	120.1	77.7	287.9	338.3	115.8	82.7	277.6	331.3	111.2	88.0	266.7	323.9	106.4	92.9	255.1	315.7
	126	130.9	85.6	313.9	369.4	126.3	91.2	303.0	362.2	121.4	96.9	291.1	354.1	116.3	102.5	278.9	345.7
	136	145.3	96.4	348.4	410.8	140.2	102.0	336.2	402.4	134.8	108.0	323.2	393.5	129.5	113.9	310.6	384.8
	146	154.6	103.5	370.6	437.6	148.6	109.3	356.2	427.2	142.2	115.4	341.0	416.0	136.7	124.4	327.9	408.9
	161	162.0	107.5	388.5	458.1	159.5	117.0	382.4	458.3	156.5	127.3	375.2	458.0	154.4	141.0	370.1	461.9
	171	170.9	113.6	409.8	483.3	168.5	122.9	404.1	483.9	165.6	133.5	397.2	484.0	163.6	145.1	392.3	486.9
	186	183.1	122.8	439.1	518.6	180.6	133.1	433.2	519.5	177.6	144.4	425.8	519.7	175.2	156.5	420.1	522.1
	206	218.4	140.9	523.6	614.9	215.3	152.3	516.4	615.4	211.5	165.7	507.2	615.1	208.4	180.3	499.6	617.2
	246	256.7	166.2	615.6	723.2	253.2	179.8	607.2	724.0	248.7	196.0	596.3	723.9	244.3	212.8	585.8	724.6
	261	265.0	173.4	635.4	747.7	261.4	187.3	626.9	748.5	256.8	203.6	615.9	748.4	252.9	220.7	606.4	750.4
	271	276.0	182.8	661.9	780.3	272.1	197.7	652.5	780.8	267.7	214.8	642.0	781.7	263.7	232.5	632.3	783.9
46	076	80.2	51.9	192.4	225.9	77.0	54.4	184.7	220.0	73.6	57.5	176.6	214.0	70.3	60.6	168.7	208.2
	086	89.2	58.5	213.9	251.7	86.0	62.0	206.4	246.5	82.7	65.8	198.3	241.1	79.2	69.3	190.1	235.2
	096	101.5	66.1	243.5	286.3	98.0	69.8	235.1	280.4	94.4	74.4	226.4	274.8	90.6	78.5	217.3	268.4
	106	112.1	73.3	268.9	316.4	107.7	77.6	258.3	308.6	103.0	82.1	247.1	300.5	98.2	86.6	235.6	292.0
	116	122.6	78.1	294.1	344.7	118.3	82.9	283.8	337.6	113.7	88.3	272.7	330.2	108.8	93.3	261.0	321.8
	126	133.7	85.9	320.6	376.2	129.1	91.3	309.6	368.9	124.1	97.3	297.6	360.9	118.9	103.0	285.2	352.3
	136	148.4	97.0	355.9	418.6	143.3	102.2	343.6	409.9	137.8	108.5	330.6	401.1	132.4	114.4	317.5	392.0
	146	158.0	103.9	378.9	446.1	151.9	109.7	364.4	435.5	145.5	115.9	349.0	424.4	139.6	124.5	334.8	415.8
	161	164.8	107.6	395.4	465.0	162.4	116.7	389.6	465.3	159.4	127.2	382.4	465.0	156.7	139.5	376.0	466.8
	171	173.9	113.5	417.1	490.5	171.6	122.7	411.7	491.2	168.6	133.4	404.5	491.3	166.3	144.9	398.9	493.2
	186	186.2	123.0	446.7	526.3	183.9	132.7	441.1	527.2	180.7	144.2	433.5	527.2	178.1	156.2	427.2	528.9
	206	222.2	140.9	533.0	624.2	219.2	152.4	525.8	624.8	215.4	165.5	516.7	624.4	211.9	180.0	508.3	625.6
	246	261.2	166.2	626.4	734.0	257.7	179.4	618.2	734.6	253.2	195.6	607.4	734.7	248.8	212.7	596.7	735.4
	261	269.5	173.6	646.5	758.8	266.0	186.8	638.0	759.3	261.5	203.3	627.2	759.4	257.4	220.6	617.5	761.3
	271	280.8	183.1	673.6	792.0	277.1	197.2	664.7	792.6	272.4	214.4	653.5	792.9	268.4	232.5	643.7	795.2
48	076	83.7	52.6	201.0	234.9	80.5	55.0	193.3	228.9	77.1	58.1	185.0	222.7	73.6	61.2	176.6	216.5
	086	93.0	59.3	223.1	261.3	89.7	62.3	215.4	255.7	86.3	66.3	207.2	250.3	82.8	70.1	198.7	244.3
	096	105.8	67.0	253.9	297.1	102.2	70.2	245.3	290.8	98.5	74.8	236.4	284.9	94.6	79.3	227.0	278.7
	106	117.0	74.3	280.8	328.7	112.6	78.1	270.2	320.8	107.8	82.9	258.7	312.6	102.9	87.5	247.0	303.9
	116	127.8	78.9	306.8	357.7	123.4	83.3	296.3	350.2	118.8	88.9	285.2	342.9	113.9	94.2	273.3	334.6
	126	139.3	86.8	334.3	390.3	134.6	91.9	323.0	382.6	129.7	97.9	311.2	374.8	124.3	103.8	298.4	366.0
	136	154.6	98.2	371.1	434.4	149.5	102.8	358.8	425.4	144.0	109.3	345.5	416.5	138.3	115.5	331.8	407.0
	146	164.8	105.2	395.5	463.4	158.8	110.6	381.1	452.7	152.3	117.0	365.6	441.5	145.7	123.4	349.6	429.9
	161	170.6	107.8	409.4	479.0	168.3	116.3	403.9	479.2	165.5	126.9	397.1	479.5	162.3	138.0	389.4	479.2
	171	179.8	113.7	431.6	505.0	177.6	122.7	426.1	505.5	174.7	133.0	419.4	505.8	171.9	144.5	412.6	506.7
	186	192.5	123.3	461.9	541.5	190.2	132.3	456.5	542.2	187.2	143.8	449.4	542.7	184.3	156.1	442.4	543.9
	206	228.8	140.6	549.2	640.0	226.9	152.3	544.5	643.3	223.4	164.9	536.0	643.2	219.4	179.5	526.7	643.6
	246	270.1	166.3	648.3	755.7	266.9	179.3	640.5	756.7	262.7	195.0	630.3	757.1	258.0	212.3	619.2	757.5
	261	278.6	173.8	668.7	780.9	275.4	186.7	660.9	781.9	271.2	202.8	650.8	782.6	266.7	220.5	640.0	783.6
	271	290.3	183.3	696.6	814.9	286.9	196.6	688.6	816.0	282.4	213.8	677.8	816.6	277.9	232.2	666.9	818.0

LEGEND

Cap. — Capacity, Tons of Refrigeration
Cond — Condenser
kW — Compressor Motor Input Power at Rated Voltage
LCWT — Leaving Chilled-Water Temperature (F)

30HXC COOLING CAPACITIES (cont)
50 Hz, ENGLISH (cont)

LCWT (F)	UNIT SIZE 30HXC	CONDENSER ENTERING AIR TEMPERATURE (F)															
		80				85				90				95			
		Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cond Flow Rate (Gpm)
50	076	87.2	53.1	209.4	243.6	84.1	55.9	201.9	238.0	80.7	58.6	193.7	231.6	77.0	61.8	184.9	225.1
	086	96.7	59.9	232.3	270.9	93.5	63.0	224.5	265.2	90.1	66.6	216.3	259.5	86.5	70.7	207.6	253.6
	096	110.1	67.6	264.4	308.0	106.5	71.2	255.7	301.7	102.7	75.2	246.5	295.3	98.8	80.0	237.1	289.1
	106	121.9	75.0	292.8	341.1	117.5	79.0	282.2	333.2	112.7	83.5	270.7	324.8	107.7	88.4	258.6	316.1
	116	132.8	79.4	318.9	370.1	128.7	84.1	308.9	363.4	124.0	89.1	297.8	355.6	119.1	95.0	285.9	347.7
	126	144.6	87.3	347.1	403.4	140.3	92.5	336.8	396.6	135.3	98.3	324.9	388.6	129.9	104.7	312.0	380.0
	136	161.0	99.1	386.5	450.4	155.8	104.2	374.1	441.4	150.3	109.8	360.8	432.1	144.4	116.5	346.8	422.6
	146	171.6	106.2	412.1	480.5	165.8	111.7	398.0	470.2	159.3	117.8	382.5	458.9	152.4	124.6	366.0	447.0
	161	176.3	107.7	423.4	492.8	174.2	116.5	418.3	493.6	171.5	126.6	411.7	493.8	168.3	137.9	404.1	493.7
	171	185.0	113.6	444.2	517.4	183.8	122.5	441.2	520.4	181.1	132.6	434.8	520.8	178.1	144.3	427.6	521.5
	186	198.7	123.3	477.1	556.5	196.7	132.7	472.3	558.0	193.9	143.4	465.5	558.5	190.7	155.8	458.0	559.3
	206	235.3	140.2	565.1	655.5	234.8	152.2	563.9	662.4	231.4	164.9	555.6	662.7	227.5	179.1	546.2	662.8
	246	277.7	165.3	666.7	773.3	275.9	179.8	662.5	778.8	272.2	194.0	653.7	779.7	267.4	211.7	642.1	779.9
	261	286.8	173.2	688.5	800.1	284.7	187.5	683.6	804.9	281.0	202.0	674.6	805.7	276.1	220.0	662.9	806.1
	271	299.1	182.8	718.1	835.9	296.5	197.4	711.8	839.5	292.5	212.9	702.3	840.5	287.5	231.6	690.4	841.1
55	076	91.1	53.6	218.9	253.2	88.7	56.8	213.3	249.8	85.3	59.4	204.9	243.3	81.5	62.6	195.9	236.5
	086	102.0	60.6	245.2	284.0	99.4	64.2	238.9	280.2	95.9	67.3	230.5	274.0	92.2	71.5	221.6	268.0
	096	115.9	68.3	278.7	322.4	113.2	72.5	272.1	318.7	109.3	76.1	262.6	311.8	105.2	80.7	252.8	305.1
	106	128.8	75.7	309.5	358.0	125.2	80.4	300.8	352.6	120.4	84.5	289.4	344.0	114.3	89.5	274.8	332.8
	116	140.8	79.8	338.4	389.6	137.9	85.5	331.5	386.7	133.1	90.2	319.9	378.3	128.1	95.7	307.9	370.0
	126	154.7	87.9	371.8	428.2	149.9	94.2	360.4	421.0	144.8	99.3	348.0	412.2	139.4	105.6	335.0	403.5
	136	170.6	100.1	410.0	474.1	167.0	106.2	401.3	469.7	161.3	111.4	387.6	459.6	155.3	117.7	373.4	449.8
	146	184.0	107.3	442.2	510.9	179.7	114.2	431.9	505.4	173.2	119.8	416.3	493.7	164.3	126.3	394.8	476.7
	161	184.5	106.4	443.4	511.6	184.5	116.7	443.5	518.7	182.1	126.1	437.7	519.2	179.1	137.4	430.4	519.5
	171	194.0	112.6	466.2	538.4	194.3	122.9	466.9	546.0	192.3	132.3	462.3	547.9	187.8	143.8	451.5	544.7
	186	206.4	122.2	496.1	574.4	206.5	133.0	496.3	581.9	204.1	142.9	490.6	582.9	200.9	155.3	482.9	583.6
	206	244.4	138.9	587.4	676.5	245.1	152.3	589.0	687.2	243.0	164.6	584.1	690.6	239.2	178.3	574.9	690.7
	246	288.1	162.9	692.4	796.8	289.5	179.3	695.8	811.4	286.4	194.2	688.4	814.1	282.2	210.6	678.3	815.0
	261	297.3	171.1	714.6	824.3	299.0	187.4	718.7	839.5	295.5	202.2	710.2	840.9	291.2	218.9	699.9	841.9
	271	309.9	180.6	744.9	860.7	311.3	197.5	748.3	875.4	307.6	212.7	739.3	876.9	303.1	230.6	728.5	878.1
60	076	91.2	53.6	219.3	253.4	88.8	56.8	213.7	250.1	85.3	59.4	205.3	243.6	81.6	62.6	196.3	236.7
	086	102.1	60.6	245.6	284.3	99.5	64.3	239.3	280.5	96.0	67.3	230.9	274.2	92.3	71.5	222.1	268.2
	096	116.0	68.3	279.2	322.7	113.3	72.5	272.6	319.0	108.1	75.8	260.1	308.9	104.0	80.6	250.3	302.4
	106	128.9	75.7	310.0	358.3	125.3	80.5	301.5	353.0	119.6	84.3	287.7	342.0	114.5	89.5	275.3	333.1
	116	140.9	79.8	339.1	389.9	138.1	85.5	332.2	387.1	131.6	90.0	316.6	374.5	126.6	95.6	304.5	366.3
	126	153.5	88.0	369.2	425.3	150.1	94.2	361.1	421.5	144.9	99.3	348.7	412.6	139.5	105.6	335.7	403.9
	136	170.8	100.1	410.8	474.6	167.2	106.2	402.1	470.2	161.5	111.4	388.4	460.1	153.6	117.5	369.4	445.3
	146	184.2	107.3	443.0	511.4	177.9	113.9	428.0	500.9	171.5	119.3	412.5	489.3	164.5	126.4	395.6	477.2
	161	183.4	106.6	441.2	509.2	183.1	116.7	440.3	515.1	180.6	125.9	434.6	515.6	177.5	137.5	427.1	515.8
	171	193.0	112.8	464.3	536.2	193.3	123.0	465.0	543.8	191.0	132.3	459.6	544.7	188.0	143.8	452.3	545.1
	186	206.6	122.2	496.9	574.7	206.7	133.0	497.2	582.4	204.3	142.9	491.5	583.4	201.1	155.3	483.8	584.1
	206	244.5	138.8	588.2	676.8	245.2	152.3	589.9	687.5	243.2	164.6	585.0	691.0	239.4	178.3	575.9	691.1
	246	288.2	162.8	693.4	797.2	289.7	179.3	696.9	811.8	286.7	194.2	689.6	814.6	279.3	210.9	671.8	808.1
	261	297.5	171.1	715.6	824.7	299.2	187.4	719.8	839.9	295.7	202.2	711.4	841.6	291.4	218.8	701.1	842.5
	271	310.1	180.6	746.0	861.1	311.6	197.5	749.5	876.1	307.9	212.7	740.6	877.5	303.4	230.5	729.8	878.7

LEGEND

Cap. — Capacity, Tons of Refrigeration
 Cond — Condenser
 kW — Compressor Motor Input Power at Rated Voltage
 LCWT — Leaving Chilled-Water Temperature (F)

Performance data (cont)



30HXC COOLING CAPACITIES (cont)

50 Hz, SI

LCWT (C)	UNIT SIZE 30HXC	CONDENSER ENTERING AIR TEMPERATURE (C)											
		25				30				35			
		Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)
4	076	248.1	48.1	10.7	12.6	229.4	53.2	9.8	12.0	214.4	58.9	9.2	11.6
	086	277.2	54.9	11.9	14.2	258.4	60.9	11.1	13.6	242.1	67.2	10.4	13.2
	096	315.7	61.9	13.6	16.1	295.1	69.0	12.7	15.5	276.7	76.3	11.9	15.0
	106	347.1	68.6	14.9	17.7	320.6	76.0	13.8	16.9	302.7	85.1	13.0	16.5
	116	380.7	73.5	16.3	19.4	354.3	82.0	15.2	18.6	332.6	91.4	14.3	18.1
	126	415.4	81.0	17.8	21.2	387.0	90.4	16.6	20.3	363.4	100.6	15.6	19.8
	136	460.3	91.1	19.8	23.5	430.0	100.9	18.5	22.6	404.8	111.4	17.4	22.0
	146	488.5	97.7	21.0	25.0	453.7	107.9	19.5	23.9	429.1	120.2	18.4	23.4
	161	517.1	102.8	22.2	26.4	500.6	119.5	21.5	26.4	495.1	140.1	21.3	27.0
	171	546.3	108.6	23.5	27.9	531.5	125.9	22.8	28.0	525.3	146.5	22.6	28.6
	186	585.9	117.9	25.2	30.0	569.7	136.2	24.5	30.1	564.2	158.5	24.2	30.8
	206	697.7	134.6	30.0	35.5	677.5	156.1	29.1	35.5	666.5	181.9	28.6	36.1
	246	821.0	158.5	35.2	41.8	795.9	184.8	34.2	41.8	783.5	215.7	33.6	42.5
	261	848.0	165.4	36.4	43.2	823.6	191.9	35.4	43.3	813.1	223.6	34.9	44.1
	271	883.7	174.9	37.9	45.1	858.8	202.6	36.9	45.2	849.1	235.8	36.5	46.2
5	076	258.5	48.7	11.1	13.1	239.2	53.7	10.3	12.5	222.5	59.3	9.6	12.0
	086	288.2	55.2	12.4	14.6	269.1	61.5	11.6	14.1	251.3	67.8	10.8	13.6
	096	327.2	69.2	14.1	16.7	307.2	69.6	13.2	16.1	287.2	77.0	12.3	15.5
	106	361.5	69.2	15.5	18.4	334.6	76.7	14.4	17.5	313.5	85.6	13.5	17.0
	116	396.0	73.9	17.0	20.0	369.4	82.7	15.9	19.3	344.6	91.8	14.8	18.6
	126	431.9	81.4	18.6	21.9	403.3	91.1	17.3	21.1	376.5	101.2	16.2	20.3
	136	478.9	91.5	20.6	24.3	447.7	101.7	19.2	23.4	416.5	111.9	17.8	22.5
	146	508.9	98.4	21.9	25.9	472.1	108.6	20.3	24.7	444.5	120.9	19.1	24.1
	161	535.1	102.4	23.0	27.2	518.0	119.4	22.3	27.2	509.1	139.6	21.9	27.6
	171	564.6	108.5	24.3	28.7	548.5	125.6	23.6	28.7	540.1	146.2	23.2	29.2
	186	605.8	117.4	26.0	30.8	588.5	136.0	25.3	30.9	579.9	158.0	24.9	31.4
	206	721.3	134.5	31.0	36.5	700.3	155.8	30.1	36.5	685.6	181.4	29.5	36.9
	246	848.1	158.4	36.4	42.9	823.9	184.4	35.4	43.0	805.7	214.8	34.6	43.5
	261	875.9	165.2	37.6	44.4	851.6	191.6	36.6	44.5	835.9	222.7	35.9	45.1
	271	912.9	174.3	39.2	46.4	887.7	202.2	38.1	46.5	872.6	234.9	37.5	47.2
6	076	269.1	49.3	11.6	13.6	249.4	54.2	10.7	12.9	230.7	59.7	9.9	12.4
	086	299.4	55.7	12.9	15.1	280.0	62.0	12.0	14.6	260.7	68.3	11.2	14.0
	096	340.9	62.9	14.7	17.2	319.6	70.1	13.7	16.6	298.0	77.5	12.8	16.0
	106	376.3	69.8	16.2	19.0	349.0	77.4	15.0	18.2	324.5	88.1	13.9	17.6
	116	411.5	74.4	17.7	20.7	384.9	83.3	16.5	20.0	356.9	93.0	15.3	19.2
	126	448.6	81.9	19.3	22.6	419.3	92.1	18.1	21.8	390.0	102.2	16.8	21.0
	136	497.8	92.5	21.4	25.2	466.1	102.5	20.0	24.2	435.4	113.0	18.7	23.4
	146	529.9	99.3	22.8	26.8	492.3	109.5	21.2	25.7	460.3	121.4	19.8	24.8
	161	552.7	102.5	23.8	28.0	536.0	119.3	23.0	27.9	523.5	139.3	22.5	28.2
	171	582.8	108.4	25.1	29.5	567.5	125.4	24.4	29.5	555.1	145.6	23.9	29.9
	186	624.9	117.5	26.9	31.7	608.4	135.7	26.2	31.7	595.8	157.3	25.6	32.1
	206	744.6	134.4	32.0	37.5	724.8	155.5	31.2	37.5	705.5	180.7	30.3	37.8
	246	875.4	158.6	37.6	44.1	852.0	183.9	36.6	44.2	829.1	214.6	35.6	44.5
	261	903.8	165.7	38.9	45.6	880.0	191.2	37.8	45.7	859.3	221.7	36.9	46.1
	271	941.7	174.9	40.5	47.6	916.8	201.7	39.4	47.7	896.8	233.8	38.6	48.2

LEGEND

Cap. — Capacity, kW
 Cond — Condenser
 kW — Compressor Motor Input Power at Rated Voltage
 LCWT — Leaving Chilled-Water Temperature (C)

30HXC COOLING CAPACITIES (cont)

50 Hz, SI (cont)

LCWT (C)	UNIT SIZE 30HXC	CONDENSER ENTERING AIR TEMPERATURE (C)											
		25				30				35			
		Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)
7	076	279.9	50.0	12.0	14.1	260.1	54.7	11.2	13.4	239.6	60.1	10.3	12.8
	086	310.9	56.4	13.4	15.7	291.4	62.5	12.5	15.1	270.4	68.8	11.6	14.5
	096	353.8	63.6	15.2	17.8	332.2	70.5	14.3	17.2	309.0	78.0	13.3	16.5
	106	391.2	70.6	16.8	19.7	363.8	78.0	15.6	18.8	335.8	88.5	14.4	18.1
	116	427.4	75.1	18.4	21.4	400.5	83.8	17.2	20.7	370.8	92.8	15.9	19.8
	126	465.8	82.6	20.0	23.4	437.1	92.3	18.8	22.6	405.4	102.4	17.4	21.6
	136	516.9	93.5	22.2	26.0	485.1	103.2	20.9	25.1	451.6	113.7	19.4	24.1
	146	550.9	100.2	23.7	27.8	513.4	110.4	22.1	26.6	476.9	124.0	20.5	25.6
	161	570.1	102.7	24.5	28.7	554.6	119.1	23.9	28.7	539.6	141.2	23.2	29.0
	171	601.3	108.6	25.9	30.3	586.4	125.1	25.2	30.4	571.6	145.2	24.6	30.6
	186	644.1	117.8	27.7	32.5	628.5	135.4	27.0	32.6	612.4	156.6	26.3	32.8
	206	766.5	134.4	33.0	38.5	749.2	154.9	32.2	38.6	727.8	180.4	31.3	38.7
	246	903.1	158.7	38.8	45.3	881.0	183.2	37.9	45.4	853.2	213.0	36.7	45.5
	261	932.1	165.9	40.1	46.9	909.6	190.7	39.1	46.9	883.4	220.7	38.0	47.1
	271	970.9	175.1	41.8	48.9	947.5	201.2	40.8	49.0	921.6	232.7	39.6	49.2
8	076	290.9	50.5	12.5	14.6	270.9	55.1	11.7	13.9	249.6	60.7	10.7	13.2
	086	322.8	56.9	13.9	16.2	302.8	62.8	13.0	15.6	281.2	69.5	12.1	15.0
	096	367.2	64.3	15.8	18.4	345.1	70.8	14.9	17.7	321.3	78.7	13.8	17.1
	106	406.6	71.3	17.5	20.4	378.8	78.6	16.3	19.5	348.8	86.8	15.0	18.6
	116	443.7	75.7	19.1	22.2	416.5	84.0	17.9	21.4	386.2	93.5	16.6	20.5
	126	483.0	83.2	20.8	24.2	454.4	92.6	19.6	23.3	421.9	103.1	18.2	22.4
	136	536.6	94.4	23.1	26.9	504.4	103.6	21.7	25.9	469.6	114.6	20.2	24.9
	146	572.3	101.2	24.6	28.7	534.7	111.1	23.0	27.6	494.9	124.2	21.3	26.4
	161	588.1	102.8	25.3	29.5	573.4	118.7	24.7	29.5	554.3	138.4	23.9	29.5
	171	618.6	108.5	26.6	31.0	605.9	124.7	26.1	31.2	588.6	144.8	25.3	31.3
	186	663.6	117.9	28.6	33.4	648.6	134.9	27.9	33.4	630.4	156.2	27.1	33.5
	206	786.8	134.0	33.9	39.3	774.1	154.8	33.3	39.7	750.2	179.8	32.3	39.7
	246	928.6	158.3	40.0	46.4	909.8	182.4	39.2	46.6	881.4	212.6	37.9	46.7
	261	959.7	165.8	41.3	48.1	939.1	189.9	40.4	48.2	918.5	214.0	39.5	48.3
	271	1000.8	175.2	43.1	50.2	978.3	200.4	42.1	50.3	950.5	232.5	40.9	50.5
9	076	300.9	50.9	13.0	15.0	282.1	55.6	12.1	14.4	260.0	61.3	11.2	13.7
	086	334.1	57.5	14.4	16.7	314.6	63.0	13.5	16.1	292.4	70.1	12.6	15.5
	096	380.0	64.8	16.4	19.0	358.4	71.1	15.4	18.3	334.2	79.4	14.4	17.6
	106	421.5	71.9	18.1	21.1	394.4	79.1	17.0	20.2	363.5	87.6	15.6	19.2
	116	458.4	76.0	19.7	22.8	432.8	84.3	18.6	22.1	402.3	94.3	17.3	21.2
	126	499.1	83.6	21.5	24.9	472.0	93.1	20.3	24.1	439.2	103.9	18.9	23.2
	136	555.3	95.1	23.9	27.8	524.2	104.0	22.6	26.8	488.4	115.6	21.0	25.8
	146	592.6	101.9	25.5	29.7	556.5	111.8	24.0	28.5	514.6	123.5	22.2	27.2
	161	604.9	102.6	26.0	30.2	592.1	118.3	25.5	30.3	572.8	138.0	24.7	30.3
	171	634.8	108.4	27.3	31.7	624.8	124.6	26.9	32.0	606.8	144.5	26.1	32.1
	186	681.9	117.7	29.4	34.1	669.3	134.4	28.8	34.3	650.5	156.1	28.0	34.4
	206	807.1	133.5	34.7	40.2	798.4	154.8	34.4	40.7	774.6	179.5	33.3	40.7
	246	950.9	157.1	40.9	47.3	939.2	182.1	40.4	47.9	910.6	212.2	39.2	47.9
	261	982.0	164.9	42.3	49.0	969.5	189.4	41.7	49.5	941.1	220.4	40.5	49.6
	271	1024.7	174.2	44.1	51.2	1009.9	199.4	43.5	51.6	980.6	232.2	42.2	51.8

LEGEND

Cap. — Capacity, kW
 Cond — Condenser
 kW — Compressor Motor Input Power at Rated Voltage
 LCWT — Leaving Chilled-Water Temperature (C)

Performance data (cont)



30HXC COOLING CAPACITIES (cont) 50 Hz, SI (cont)

LCWT (C)	UNIT SIZE 30HXC	CONDENSER ENTERING AIR TEMPERATURE (C)											
		25				30				35			
		Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cond Flow Rate (L/s)
10	076	310.4	51.2	13.4	15.4	293.4	56.3	12.6	14.9	270.8	61.8	11.7	14.2
	086	344.9	57.8	14.9	17.2	326.5	63.6	14.1	16.7	304.1	70.7	13.1	16.0
	096	391.9	65.2	16.9	19.5	371.9	71.9	16.0	19.0	347.3	80.0	15.0	18.2
	106	435.4	72.3	18.8	21.7	410.1	79.7	17.7	20.9	378.8	88.4	16.3	19.9
	116	472.7	76.1	20.4	23.5	449.3	85.0	19.4	22.8	418.7	95.0	18.0	21.9
	126	515.3	83.8	22.2	25.6	489.8	93.6	21.1	24.9	456.9	104.7	19.7	24.0
	136	572.3	95.5	24.7	28.5	544.1	105.1	23.4	27.7	507.9	116.5	21.9	26.7
	146	612.7	102.5	26.4	30.5	578.6	112.9	24.9	29.5	536.1	124.6	23.1	28.2
	161	619.2	101.9	26.7	30.8	611.0	118.2	26.3	31.1	591.9	137.9	25.5	31.1
	171	650.9	107.9	28.0	32.4	644.4	124.5	27.8	32.8	626.3	144.3	27.0	32.9
	186	697.2	117.0	30.0	34.8	690.1	134.5	29.7	35.2	670.8	155.8	28.9	35.3
	206	826.8	132.5	35.6	41.0	823.7	154.6	35.5	41.8	800.1	179.1	34.5	41.8
	246	972.4	155.8	41.9	48.2	968.3	182.4	41.7	49.2	940.4	211.7	40.5	49.2
	261	1003.9	163.7	43.2	49.9	999.2	190.1	43.0	50.8	971.0	220.0	41.8	50.9
	271	1046.9	172.9	45.1	52.1	1040.1	200.2	44.8	53.0	1011.2	231.6	43.6	53.1
13	076	326.5	51.4	14.1	16.1	312.3	57.5	13.5	15.8	289.2	62.7	12.5	15.0
	086	362.7	58.2	15.6	18.0	346.7	64.8	14.9	17.6	320.3	71.4	13.8	16.7
	096	411.1	65.5	17.7	20.4	393.9	73.2	17.0	20.0	368.5	80.7	15.9	19.2
	106	458.3	72.3	19.8	22.7	437.2	81.3	18.9	22.2	400.1	89.4	17.3	20.9
	116	499.3	76.2	21.5	24.6	479.7	86.5	20.7	24.2	444.9	95.6	19.2	23.1
	126	548.6	84.0	23.7	27.0	523.4	95.2	22.6	26.4	490.0	105.6	21.1	25.4
	136	617.8	96.6	26.5	30.5	580.9	107.1	25.0	29.4	544.0	117.6	23.5	28.3
	146	652.4	102.7	28.1	32.3	619.9	114.9	26.7	31.4	577.2	126.3	24.9	30.1
	161	645.4	100.0	27.8	31.9	645.7	118.6	27.8	32.7	628.1	137.4	27.1	32.7
	171	679.1	106.3	29.3	33.6	681.9	124.9	29.4	34.5	665.3	143.6	28.7	34.6
	186	722.0	115.5	31.1	35.8	723.3	135.1	31.2	36.7	705.4	155.3	30.4	36.8
	206	863.0	131.3	37.2	42.5	866.5	154.8	37.4	43.7	841.2	178.3	36.3	43.6
	246	1006.6	153.3	43.4	49.6	1013.6	182.5	43.7	51.1	988.3	210.7	42.6	51.2
	261	1034.0	161.6	44.6	51.1	1039.5	190.4	44.8	52.6	1013.6	219.1	43.7	52.7
	271	1086.3	170.1	46.8	53.7	1093.5	200.6	47.2	55.3	1067.2	230.5	46.0	55.5
16	076	323.4	51.4	14.0	16.0	308.8	57.3	13.3	15.6	285.8	62.6	12.3	14.9
	086	362.2	58.2	15.6	18.0	346.2	64.8	14.9	17.6	323.4	71.5	14.0	16.9
	096	411.6	65.5	17.8	20.4	394.2	73.2	17.0	20.0	368.8	80.7	15.9	19.2
	106	457.0	72.3	19.7	22.6	435.7	81.2	18.8	22.1	404.0	89.6	17.4	21.1
	116	499.8	76.1	21.6	24.6	480.5	86.5	20.7	24.2	449.2	95.7	19.4	23.3
	126	548.9	83.9	23.7	27.1	522.3	95.2	22.5	26.4	488.8	105.6	21.1	25.4
	136	605.2	96.2	26.1	30.0	581.7	107.2	25.1	29.4	544.9	117.7	23.5	28.3
	146	652.7	102.8	28.2	32.3	625.9	115.2	27.0	31.7	576.0	126.3	24.9	30.0
	161	645.4	100.1	27.9	31.9	645.9	118.6	27.9	32.7	628.3	137.4	27.1	32.7
	171	679.0	106.5	29.3	33.6	681.4	124.9	29.4	34.5	659.1	143.8	28.4	34.3
	186	726.0	115.2	31.3	35.9	728.7	135.1	31.4	36.9	705.0	155.3	30.4	36.8
	206	856.6	131.5	37.0	42.2	859.9	154.9	37.1	43.4	839.0	178.4	36.2	43.5
	246	1008.5	153.4	43.5	49.7	1015.3	182.5	43.8	51.2	990.0	210.6	42.7	51.3
	261	1039.8	161.3	44.9	51.3	1047.1	190.5	45.2	52.9	1021.6	218.9	44.1	53.0
	271	1083.7	170.3	46.8	53.6	1090.0	200.6	47.0	55.2	1063.5	230.6	45.9	55.3

LEGEND

Cap. — Capacity, kW
Cond — Condenser
kW — Compressor Motor Input Power at Rated Voltage
LCWT — Leaving Chilled-Water Temperature (C)

COMBINATION RATINGS

60 Hz, ENGLISH

LCWT (F)	UNIT SIZE 30HXA	09DK AIR-COOLED CONDENSER Unit (Qty)	CONDENSER ENTERING AIR TEMPERATURE (F)														
			85			95			105			115			125		
			Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)
40	076	084 (1)	67.4	69.3	161.4	62.4	73.5	149.3	56.9	77.8	136.3	51.3	83.7	122.8	46.7	91.3	111.7
	086	084 (1)	73.9	78.6	177.0	68.3	83.3	163.5	62.3	88.6	149.1	56.4	95.6	134.9	51.0	103.4	122.2
	096	094 (1)	82.7	89.2	198.1	76.5	94.3	183.1	69.7	101.0	166.9	63.4	108.7	151.7	57.4	116.9	137.5
	106	074 (1) and 044 (1)	94.9	99.0	227.2	88.0	104.8	210.6	80.5	111.4	192.8	73.2	120.0	175.3	66.6	129.9	159.5
	116	074 (1) and 054 (1)	101.8	107.4	243.7	94.3	113.7	225.7	86.5	121.0	207.0	78.7	130.7	188.3	71.4	140.7	170.8
	126	074 (2)	112.2	115.2	268.5	104.2	122.1	249.5	95.7	129.8	229.1	87.2	140.1	208.9	79.2	151.5	189.7
	136	074 (2)	121.9	130.2	291.8	113.0	137.5	270.6	103.8	146.7	248.4	94.9	158.2	227.1	86.3	170.5	206.6
	146	084 (2)	135.5	137.8	324.4	126.2	145.5	302.1	116.2	154.2	278.1	106.2	166.2	254.3	96.9	179.5	232.0
	161	084 (2)	140.6	145.8	336.5	134.3	159.4	321.5	127.5	174.4	305.2	121.0	192.3	289.6	109.8	213.7	262.9
	171	084 (2)	150.8	161.0	361.0	143.9	175.5	344.5	136.7	191.8	327.2	129.6	212.2	310.2	120.4	236.7	288.3
	186	084 (2)	163.8	182.4	392.1	154.8	198.6	370.5	147.7	216.5	353.6	139.9	239.9	334.9	124.6	266.6	298.3
	206	084 (2) and 094 (1)	192.2	189.9	460.2	184.9	208.0	442.5	176.0	227.7	421.4	166.5	250.7	398.6	157.3	278.9	376.5
	246	094 (3)	223.3	225.8	534.6	214.7	246.4	514.1	203.0	269.1	485.8	192.9	295.9	461.9	182.1	329.4	436.0
	261	094 (3)	234.1	242.2	560.3	224.3	264.2	536.8	212.4	288.2	508.6	201.9	317.8	483.3	190.6	353.4	456.3
	271	094 (3)	246.1	260.7	589.2	234.6	283.8	561.6	223.0	309.0	533.8	211.8	341.6	507.1	199.9	380.1	478.5
42	076	084 (1)	70.1	70.8	167.8	65.0	75.1	155.8	59.4	79.4	142.3	53.6	85.0	128.5	48.6	92.3	116.5
	086	084 (1)	76.7	80.3	183.8	71.0	85.1	170.2	64.9	90.4	155.5	58.7	97.0	140.6	53.1	104.7	127.3
	096	094 (1)	86.0	91.2	206.0	79.5	96.5	190.4	72.6	102.8	174.0	66.0	110.4	158.0	59.0	118.2	141.3
	106	074 (1) and 044 (1)	98.5	101.1	236.0	91.6	106.9	219.5	84.0	113.3	201.2	76.4	121.7	183.0	69.4	131.5	166.2
	116	074 (1) and 054 (1)	105.6	109.6	253.1	98.2	115.9	235.4	90.1	123.0	215.8	82.0	132.4	196.4	74.3	142.7	178.1
	126	074 (2)	116.4	117.5	278.9	108.5	124.6	259.9	99.7	132.0	238.8	90.8	142.1	217.5	82.6	153.4	197.9
	136	074 (2)	126.6	132.8	303.3	117.6	140.2	281.6	108.0	149.2	258.7	98.6	160.6	236.3	88.8	172.2	212.7
	146	084 (2)	140.7	140.5	337.1	131.4	148.4	314.7	121.0	156.7	289.9	110.5	168.5	264.7	101.0	181.8	241.8
	161	084 (2)	145.2	148.3	347.7	139.0	162.1	333.0	132.1	177.0	316.4	125.2	195.0	299.8	111.6	214.4	267.3
	171	084 (2)	156.1	163.3	373.9	149.0	178.4	357.0	141.4	194.8	338.8	134.2	214.7	321.4	122.5	237.7	293.4
	186	084 (2)	169.3	185.6	405.6	160.4	202.1	384.2	152.9	219.7	366.3	144.9	243.4	347.1	124.7	266.4	298.8
	206	084 (2) and 094 (1)	198.6	192.8	475.7	191.3	211.1	458.3	182.7	231.1	437.7	172.5	254.3	413.2	162.9	281.3	390.2
	246	094 (3)	230.5	229.4	552.3	222.3	250.3	532.5	210.4	273.4	504.1	199.8	299.4	478.6	188.6	332.7	451.9
	261	094 (3)	241.8	245.8	579.2	232.8	268.0	557.6	219.9	292.9	526.7	209.0	321.6	500.6	197.4	357.2	472.8
	271	094 (3)	254.1	265.1	608.7	243.4	288.2	583.1	230.6	314.3	552.5	219.2	346.2	525.2	207.0	383.7	495.8
44	076	084 (1)	72.9	72.5	174.7	67.5	76.8	161.9	61.9	81.1	148.5	56.1	86.4	134.4	50.6	93.5	121.2
	086	084 (1)	79.6	82.2	190.9	73.9	86.9	177.1	67.6	92.0	162.0	61.2	98.4	146.6	55.2	106.1	132.4
	096	094 (1)	89.2	93.4	213.8	82.6	98.6	198.0	75.7	104.7	181.5	68.7	112.1	164.7	60.1	118.7	144.0
	106	074 (1) and 044 (1)	102.3	103.3	245.3	95.2	109.2	228.3	87.4	115.4	209.6	79.6	123.5	190.7	72.2	133.3	173.0
	116	074 (1) and 054 (1)	109.7	111.9	262.9	102.1	118.4	244.8	93.8	125.0	224.8	85.2	134.4	204.3	77.4	144.5	185.7
	126	074 (2)	120.9	119.9	289.9	112.8	127.1	270.4	103.9	134.4	249.0	94.5	144.2	226.6	86.0	155.4	206.0
	136	074 (2)	131.4	135.8	314.9	122.1	143.3	292.8	112.4	152.1	269.4	102.7	163.0	246.2	89.4	172.3	214.3
	146	084 (2)	146.0	143.4	350.0	136.6	151.3	327.5	126.1	159.5	302.4	115.1	170.9	276.0	105.0	184.4	251.7
	161	084 (2)	149.8	150.9	359.2	143.8	164.8	344.8	136.8	179.9	327.9	129.5	197.9	310.4	113.3	215.2	271.6
	171	084 (2)	161.0	166.1	386.0	154.5	181.5	370.3	146.3	198.2	350.7	138.7	217.6	332.5	124.5	239.0	298.6
	186	084 (2)	174.7	189.2	418.9	166.3	205.8	398.6	158.0	223.9	378.7	149.8	247.1	359.2	124.8	266.7	299.1
	206	084 (2) and 094 (1)	205.1	195.6	491.7	197.9	214.1	474.5	189.4	234.6	454.1	178.6	257.9	428.2	168.7	284.2	404.4
	246	094 (3)	237.9	233.0	570.4	229.9	254.3	551.1	218.2	277.9	523.0	206.7	304.1	495.5	195.3	336.8	468.1
	261	094 (3)	249.6	249.7	598.3	241.0	272.5	577.7	227.7	297.9	545.9	216.2	325.5	518.3	204.2	361.7	489.6
	271	094 (3)	262.4	269.4	629.1	252.4	292.9	605.1	238.4	319.8	571.6	226.8	350.6	543.7	214.1	388.9	513.3

LEGEND

Cap. — Capacity, Tons of Refrigeration
 kW — Total system input power at rated voltage
 (includes compressors and condenser fans)
 LCWT — Leaving Chilled-Water Temperature (F)

Performance data (cont)



COMBINATION RATINGS (cont) 60 Hz, ENGLISH (cont)

LCWT (F)	UNIT SIZE 30HXA	09DK AIR-COOLED CONDENSER Unit (Qty)	CONDENSER ENTERING AIR TEMPERATURE (F)														
			85			95			105			115			125		
			Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)
45	076	084 (1)	74.3	73.3	178.1	68.9	77.6	165.2	63.3	81.9	151.8	57.3	87.0	137.4	51.6	93.8	123.8
	086	084 (1)	81.1	83.1	194.6	75.3	87.8	180.6	69.0	92.8	165.6	62.4	99.2	149.7	56.4	106.7	135.1
	096	094 (1)	90.8	94.4	217.7	84.2	99.7	202.0	77.3	105.7	185.3	70.2	112.9	168.2	60.5	119.1	145.1
	106	074 (1) and 044 (1)	104.3	104.4	250.0	97.1	110.4	232.8	89.3	116.5	214.2	81.2	124.5	194.8	73.7	133.9	176.8
	116	074 (1) and 054 (1)	111.8	112.9	268.1	104.1	119.5	249.7	95.7	126.3	229.4	87.0	135.4	208.6	79.0	145.5	189.4
	126	074 (2)	123.2	121.2	295.4	115.0	128.4	275.7	105.9	135.8	254.0	96.5	145.3	231.5	87.7	156.4	210.3
	136	074 (2)	133.7	137.4	320.7	124.4	144.9	298.3	114.7	153.5	275.0	104.8	164.2	251.2	90.2	172.7	216.3
	146	084 (2)	148.8	144.8	356.8	139.2	152.9	333.7	128.6	161.2	308.4	117.6	172.2	281.9	107.2	185.6	257.0
	161	084 (2)	152.3	152.1	365.1	146.3	166.1	350.8	139.2	181.4	333.8	131.7	199.3	315.9	114.2	215.6	273.8
	171	084 (2)	163.6	167.6	392.2	157.1	183.1	376.6	148.8	199.9	356.9	141.1	219.2	338.3	125.6	239.7	301.1
	186	084 (2)	177.5	191.0	425.6	169.4	207.5	406.1	160.6	225.8	385.2	152.4	248.7	365.4	124.8	266.6	299.3
	206	084 (2) and 094 (1)	208.4	196.9	499.8	201.4	215.5	482.8	192.9	236.4	462.5	181.7	259.7	435.8	171.6	285.8	411.5
	246	094 (3)	241.7	234.7	579.6	233.8	256.3	560.7	222.1	280.0	532.7	210.2	306.3	504.2	198.6	338.8	476.3
	261	094 (3)	253.5	251.7	607.9	245.0	274.7	587.5	231.8	300.4	555.9	219.9	328.0	527.4	207.7	364.1	498.0
	271	094 (3)	266.6	271.6	639.4	257.0	295.1	616.3	242.4	322.5	581.3	230.6	352.8	553.1	217.7	391.8	522.0
46	076	084 (1)	75.6	74.2	181.4	70.3	78.4	168.6	64.6	82.8	154.9	58.5	87.8	140.2	52.7	94.3	126.4
	086	084 (1)	82.7	84.0	198.3	76.7	88.8	184.0	70.4	93.7	168.7	63.8	99.9	152.9	57.6	107.2	138.1
	096	094 (1)	92.4	95.5	221.7	85.8	100.7	205.9	78.7	106.7	188.9	71.6	113.8	171.7	61.1	119.3	146.5
	106	074 (1) and 044 (1)	106.2	105.5	254.6	99.0	111.5	237.4	91.0	117.8	218.4	82.8	125.6	198.7	75.1	134.9	180.2
	116	074 (1) and 054 (1)	113.8	114.1	272.9	106.1	120.8	254.5	97.5	127.7	233.9	88.8	136.4	213.1	80.6	146.5	193.2
	126	074 (2)	125.5	122.5	301.0	117.1	129.7	280.9	108.2	137.1	259.5	98.6	146.4	236.5	89.5	157.5	214.6
	136	074 (2)	136.2	138.9	326.6	126.8	146.4	304.1	116.9	155.0	280.3	106.8	165.5	256.2	91.0	173.2	218.3
	146	084 (2)	151.6	146.3	363.5	141.8	154.4	340.1	131.2	162.9	314.7	120.0	173.5	287.9	109.3	186.7	262.2
	161	084 (2)	154.7	153.3	371.0	148.7	167.4	356.8	141.6	183.0	339.6	134.0	200.6	321.4	115.1	215.9	276.1
	171	084 (2)	166.1	169.1	398.5	159.7	184.7	383.0	151.5	201.6	363.3	143.4	220.9	344.1	126.6	240.3	303.7
	186	084 (2)	180.4	192.6	432.6	172.3	209.4	413.4	163.2	228.0	391.5	154.9	250.4	371.6	124.9	266.6	299.5
	206	084 (2) and 094 (1)	211.8	198.3	507.9	204.7	217.2	491.1	196.0	238.2	470.2	185.0	261.5	443.8	174.6	287.5	418.7
	246	094 (3)	245.5	236.5	588.9	237.7	258.2	570.3	226.1	282.1	542.4	213.8	308.6	512.9	200.9	340.0	481.8
	261	094 (3)	257.4	253.9	617.4	249.1	276.9	597.4	235.9	303.1	565.8	223.6	330.6	536.4	210.0	365.4	503.8
	271	094 (3)	270.9	273.7	649.8	261.6	297.3	627.5	246.5	325.4	591.2	234.6	354.9	562.6	217.7	391.9	522.3
48	076	084 (1)	78.5	75.9	188.4	73.0	80.0	175.3	67.3	84.4	161.4	61.0	89.1	146.4	54.7	95.7	131.3
	086	084 (1)	85.7	85.8	205.7	79.7	90.6	191.3	73.2	95.6	175.6	66.4	101.4	159.4	59.8	108.7	143.5
	096	094 (1)	95.8	97.6	229.9	89.1	102.9	213.8	81.9	108.6	196.6	74.4	115.7	178.7	62.1	120.0	149.1
	106	074 (1) and 044 (1)	110.1	107.7	264.2	102.7	113.9	246.5	94.7	120.2	227.4	86.3	127.6	207.0	78.1	136.7	187.4
	116	074 (1) and 054 (1)	118.0	116.4	283.1	110.0	123.5	264.0	101.4	130.3	243.4	92.5	138.5	221.9	83.7	148.6	200.9
	126	074 (2)	130.0	125.2	312.0	121.6	132.4	291.9	112.3	140.0	269.6	102.6	148.7	246.2	93.1	159.6	223.4
	136	074 (2)	141.1	142.0	338.6	131.6	149.4	315.9	121.5	157.8	291.7	111.0	168.0	266.4	92.7	174.0	222.5
	146	084 (2)	157.1	149.4	376.9	147.2	157.6	353.2	136.4	166.2	327.4	125.0	176.3	299.9	113.6	189.4	272.7
	161	084 (2)	159.5	155.8	382.9	153.8	170.0	369.1	146.5	185.8	351.5	138.4	203.5	332.2	116.9	216.7	280.6
	171	084 (2)	171.4	172.0	411.3	165.1	187.7	396.1	156.7	205.1	376.0	148.2	224.3	355.7	128.8	241.3	309.1
	186	084 (2)	186.0	196.0	446.5	178.4	213.0	428.1	168.6	232.2	404.6	160.0	254.0	383.9	124.9	266.6	299.8
	206	084 (2) and 994 (1)	218.6	201.1	524.7	211.6	220.5	507.8	202.4	242.0	485.8	191.8	264.9	460.2	178.2	289.9	427.6
	246	094 (3)	253.2	239.9	607.7	245.5	262.1	589.3	234.3	286.6	562.4	221.0	313.3	530.5	205.3	342.2	492.6
	261	094 (3)	265.4	257.8	637.0	257.2	281.5	617.1	244.5	308.0	586.7	231.1	336.0	554.6	214.7	368.1	515.2
	271	094 (3)	279.3	278.1	670.3	270.1	302.7	648.1	255.4	331.0	613.0	242.3	360.5	581.6	217.9	391.7	522.9

LEGEND

Cap — Capacity, Tons of Refrigeration
 kW — Total system input power at rated voltage
 (includes compressors and condenser fans)
 LCWT — Leaving Chilled-Water Temperature (F)

COMBINATION RATINGS (cont)
60 Hz, ENGLISH (cont)

LCWT (F)	UNIT SIZE 30HXA	09DK AIR-COOLED CONDENSER		CONDENSER ENTERING AIR TEMPERATURE (F)														
				85			95			105			115			125		
				Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)
50	076	084	(1)	81.3	77.7	195.1	75.8	81.7	181.9	69.9	86.1	167.9	63.6	90.8	152.6	57.1	97.2	137.1
	086	084	(1)	88.8	87.7	213.1	82.6	92.6	198.4	76.1	97.6	182.7	69.1	103.2	165.8	60.9	109.5	146.3
	096	094	(1)	99.3	99.7	238.4	92.4	105.1	221.9	85.0	110.8	204.2	77.3	117.8	185.7	63.4	120.8	152.3
	106	074 (1) and 044	(1)	114.0	110.3	273.8	106.5	116.3	255.7	98.5	122.7	236.4	89.8	129.8	215.7	81.2	138.8	194.9
	116	074 (1) and 054	(1)	122.1	119.3	293.1	114.0	126.2	273.7	105.4	133.1	253.0	96.1	140.8	230.8	87.0	150.6	208.9
	126	074	(2)	134.7	128.0	323.3	126.0	135.2	302.6	116.8	142.8	280.5	106.8	151.0	256.4	96.7	161.9	232.2
	136	074	(2)	146.1	145.2	350.7	136.4	152.6	327.6	126.2	160.7	303.0	115.3	170.8	276.8	94.4	175.1	226.6
	146	084	(2)	162.8	152.8	390.8	152.6	160.8	366.5	141.7	169.6	340.3	130.0	179.1	312.1	118.0	192.0	283.4
	161	084	(2)	164.5	158.3	395.0	158.8	172.7	381.4	151.2	189.0	363.0	143.0	206.6	343.4	117.6	217.4	282.5
	171	084	(2)	176.7	174.9	424.2	170.4	190.9	409.2	161.9	208.8	388.8	153.1	227.6	367.5	129.9	241.9	311.9
	186	084	(2)	191.8	199.6	460.5	184.6	216.7	443.3	173.9	236.5	417.6	165.3	257.3	396.8	123.9	266.7	297.6
	206	084 (2) and 094	(1)	225.5	204.2	541.5	218.2	224.2	523.9	209.1	245.8	502.1	198.6	269.0	476.9	181.8	292.5	436.5
	246	094	(3)	260.9	243.3	626.5	253.2	266.4	607.9	242.7	291.1	582.6	228.4	318.7	548.4	209.8	344.7	503.8
	261	094	(3)	273.5	261.7	656.6	265.2	286.3	636.7	253.2	313.0	608.0	238.6	341.9	573.0	219.4	370.7	526.8
	271	094	(3)	287.5	282.7	690.4	278.5	308.4	668.7	264.6	336.6	635.3	250.2	367.2	600.7	217.9	392.0	523.2
55	076	084	(1)	85.1	79.8	204.6	79.3	83.8	190.7	73.3	88.5	176.1	66.8	93.3	160.6	60.2	99.1	144.6
	086	084	(1)	93.6	90.7	224.9	87.1	95.6	209.5	79.7	100.1	191.6	72.6	105.5	174.6	62.1	110.4	149.4
	096	094	(1)	103.6	102.3	248.9	96.6	107.9	232.1	88.9	113.8	213.8	81.2	120.4	195.1	65.4	121.9	157.1
	106	074 (1) and 044	(1)	120.2	114.0	289.0	111.6	119.6	268.3	103.4	126.2	248.6	93.5	132.1	224.6	83.4	140.3	200.5
	116	074 (1) and 054	(1)	129.5	124.0	311.3	119.9	129.8	288.1	111.0	137.0	266.8	101.5	144.1	243.8	90.0	152.6	216.2
	126	074	(2)	142.9	132.6	343.4	133.8	139.9	321.5	124.2	147.8	298.6	113.0	155.2	271.5	101.3	164.6	243.4
	136	074	(2)	153.5	149.5	368.9	143.6	157.2	345.1	132.9	165.4	319.4	121.6	175.6	292.4	97.5	176.6	234.2
	146	084	(2)	172.6	158.2	414.9	162.0	166.3	389.4	150.8	175.5	362.5	138.7	184.7	333.5	125.1	196.1	300.7
	161	084	(2)	173.2	162.5	416.2	167.4	177.6	402.3	158.1	193.2	380.1	150.1	211.0	360.8	121.4	220.0	291.8
	171	084	(2)	184.9	179.5	444.5	178.7	196.1	429.6	170.4	214.5	409.5	160.6	233.7	386.0	129.0	241.9	310.0
	186	084	(2)	200.5	204.8	482.0	193.6	222.8	465.3	182.9	243.2	439.6	171.8	263.1	413.0	124.1	266.5	298.4
	206	084 (2) and 094	(1)	235.4	208.5	565.7	227.9	229.5	547.7	219.0	251.4	526.4	208.2	275.6	500.4	184.4	294.1	443.1
	246	094	(3)	270.2	247.4	649.5	262.4	271.7	630.7	252.1	297.1	606.0	237.8	325.1	571.5	214.4	348.3	515.4
	261	094	(3)	285.8	267.4	687.0	277.5	293.4	666.9	266.6	320.7	640.8	247.8	348.9	595.7	222.0	372.3	533.5
	271	094	(3)	300.4	289.1	722.0	291.5	316.6	700.6	278.6	345.2	669.7	262.3	377.2	630.4	218.1	391.9	524.3
60	076	084	(1)	85.2	79.9	204.9	79.4	83.9	190.9	73.4	88.5	176.5	66.9	93.3	161.0	59.6	98.8	143.3
	086	084	(1)	93.6	90.8	225.1	86.4	95.1	208.0	79.7	100.2	191.8	72.0	105.1	173.3	62.3	110.3	149.8
	096	094	(1)	103.7	102.4	249.4	96.5	108.1	232.2	89.0	113.8	214.2	81.2	120.5	195.4	65.4	121.9	157.3
	106	074 (1) and 044	(1)	119.6	113.7	287.6	111.7	119.7	268.7	102.3	125.5	246.1	93.5	132.2	225.0	83.5	140.4	200.8
	116	074 (1) and 054	(1)	128.3	123.3	308.7	120.0	129.9	288.6	111.1	137.0	267.2	100.8	143.6	242.4	90.0	152.6	216.5
	126	074	(2)	143.0	132.7	344.1	133.9	139.9	322.2	124.4	147.9	299.1	113.1	155.2	272.0	101.4	164.6	243.8
	136	074	(2)	153.7	149.5	369.7	143.8	157.2	345.9	133.1	165.4	320.1	121.8	175.6	293.0	98.6	177.4	237.1
	146	084	(2)	172.8	158.3	415.7	162.2	166.4	390.1	151.0	175.5	363.3	137.8	184.0	331.4	125.2	196.1	301.2
	161	084	(2)	171.9	161.7	413.5	166.1	176.7	399.6	158.3	193.3	380.8	150.2	211.1	361.4	120.6	219.3	290.0
	171	084	(2)	185.1	179.6	445.2	178.9	196.1	430.4	170.5	214.6	410.2	160.7	233.8	386.6	130.1	241.8	313.0
	186	084	(2)	200.7	205.0	482.8	193.7	223.1	465.9	181.5	242.2	436.7	171.9	263.3	413.6	124.2	266.6	298.7
	206	084 (2) and 094	(1)	235.5	208.6	566.6	228.0	229.5	548.6	219.2	251.5	527.2	208.3	275.7	501.2	184.5	294.1	443.9
	246	094	(3)	270.4	247.6	650.5	262.6	271.9	631.6	252.3	297.2	607.0	238.0	325.2	572.4	214.6	348.5	516.2
	261	094	(3)	286.0	267.5	688.0	277.7	293.5	668.0	264.0	319.3	635.1	248.0	349.0	596.5	222.1	372.5	534.3
	271	094	(3)	300.6	289.2	723.1	291.7	316.7	701.7	278.9	345.4	670.8	262.5	377.3	631.5	218.2	392.3	524.9

LEGEND

Cap. — Capacity, Tons of Refrigeration
kW — Total system input power at rated voltage
(includes compressors and condenser fans)
LCWT — Leaving Chilled-Water Temperature (F)

Performance data (cont)



COMBINATION RATINGS (cont)

60 Hz, SI

LCWT (C)	UNIT SIZE 30HXA	09DK AIR-COOLED CONDENSER Unit (Qty)	CONDENSER ENTERING AIR TEMPERATURE (C)														
			30			35			40			45			50		
			Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)
4	076	084 (1)	231.7	69.2	9.9	216.1	72.9	9.2	198.6	76.7	8.5	181.2	81.9	7.7	166.4	88.5	7.1
	086	084 (1)	254.3	78.4	10.8	236.2	82.6	10.1	217.3	87.5	9.3	198.8	93.6	8.5	182.0	100.5	7.8
	096	094 (1)	284.3	89.1	12.1	264.7	93.6	11.3	243.5	99.6	10.4	223.3	106.5	9.5	204.7	114.1	8.7
	106	074 (1) and 044 (1)	326.4	98.8	13.9	304.5	103.9	13.0	281.1	109.9	12.0	258.4	117.4	11.0	237.3	126.2	10.1
	116	074 (1) and 044 (1)5	350.2	107.1	14.9	326.4	112.7	13.9	301.7	119.4	12.8	277.4	127.9	11.8	254.4	137.0	10.8
	126	074 (2)	386.0	114.9	16.4	360.7	121.2	15.4	333.7	128.2	14.2	307.5	137.1	13.1	282.6	147.2	12.0
	136	074 (2)	418.9	130.0	17.8	391.3	136.5	16.7	362.0	144.8	15.4	334.2	154.9	14.2	307.2	165.9	13.1
	146	084 (2)	466.3	137.5	19.9	436.6	144.4	18.6	405.3	152.1	17.3	373.9	162.7	15.9	345.0	174.5	14.7
	161	084 (2)	485.5	146.3	20.7	465.8	158.5	19.8	444.4	171.7	18.9	424.1	187.5	18.1	402.9	206.8	17.2
	171	084 (2)	521.1	161.4	22.2	498.8	174.5	21.2	476.3	189.0	20.3	454.6	206.6	19.4	432.3	228.5	18.4
	186	084 (2)	564.4	182.9	24.0	536.9	197.1	22.9	514.8	213.2	21.9	490.5	233.9	20.9	465.6	258.3	19.8
	206	084 (2) and 094 (1)	665.3	190.3	28.3	641.2	206.8	27.3	613.6	224.2	26.1	583.6	244.7	24.9	555.1	268.7	23.6
	246	094 (3)	772.8	226.4	32.9	743.9	245.0	31.7	707.4	265.1	30.1	676.2	288.4	28.8	643.0	317.4	27.4
	261	094 (3)	810.1	242.7	34.5	777.0	262.6	33.1	740.5	283.8	31.5	707.8	309.5	30.1	673.0	340.6	28.7
	271	094 (3)	851.7	260.9	36.3	812.7	282.1	34.6	777.3	304.2	33.1	742.6	333.0	31.6	705.9	365.4	30.1
5	076	084 (1)	240.0	70.5	10.2	224.4	74.2	9.6	206.6	78.2	8.8	188.7	83.1	8.0	172.7	89.4	7.4
	086	084 (1)	263.1	79.9	11.2	245.1	84.1	10.4	225.6	89.0	9.6	206.4	94.9	8.8	188.7	101.7	8.0
	096	094 (1)	294.6	90.7	12.6	274.0	95.5	11.7	252.7	101.2	10.8	232.1	107.9	9.9	212.1	115.6	9.0
	106	074 (1) and 044 (1)	337.9	100.6	14.4	315.8	105.8	13.5	292.1	111.5	12.5	268.2	119.0	11.4	246.2	127.7	10.5
	116	074 (1) and 054 (1)	362.3	109.1	15.4	338.4	114.8	14.4	313.1	121.2	13.3	287.7	129.6	12.3	264.2	138.6	11.3
	126	074 (2)	399.2	117.1	17.0	373.8	123.4	15.9	346.8	129.9	14.8	318.8	138.9	13.6	293.0	149.0	12.5
	136	074 (2)	433.9	132.3	18.5	405.4	138.8	17.3	375.4	147.0	16.0	346.6	157.0	14.8	318.5	168.0	13.6
	146	084 (2)	482.3	140.0	20.6	453.2	146.9	19.3	420.8	154.3	17.9	387.9	164.7	16.5	357.9	176.6	15.3
	161	084 (2)	500.7	148.2	21.3	480.3	160.8	20.5	458.9	174.0	19.6	437.5	189.8	18.6	415.5	208.6	17.7
	171	084 (2)	537.5	163.6	22.9	515.1	176.9	22.0	491.5	191.4	20.9	469.0	208.9	20.0	445.7	230.1	19.0
	186	084 (2)	583.3	185.5	24.9	553.9	200.3	23.6	531.2	215.9	22.6	506.4	236.8	21.6	480.2	260.1	20.5
	206	084 (2) and 094 (1)	685.0	193.1	29.2	661.5	209.5	28.2	634.3	227.3	27.0	602.6	247.8	25.7	573.0	270.7	24.4
	246	094 (3)	795.7	229.6	33.9	768.7	248.3	32.8	730.8	268.9	31.1	697.8	291.8	29.7	663.6	320.5	28.3
	261	094 (3)	834.1	246.1	35.5	803.7	266.1	34.3	763.9	288.0	32.6	730.3	312.9	31.1	694.4	344.2	29.6
	271	094 (3)	876.6	265.1	37.4	840.2	286.1	35.8	801.4	309.0	34.2	766.4	336.7	32.7	728.4	369.5	31.0
6	076	084 (1)	248.7	71.8	10.6	232.3	75.7	9.9	214.3	79.7	9.1	196.1	84.3	8.4	179.0	90.4	7.6
	086	084 (1)	272.2	81.5	11.6	253.8	85.8	10.8	234.3	90.4	10.0	214.5	96.1	9.1	196.0	102.7	8.4
	096	094 (1)	304.7	92.6	13.0	283.9	97.4	12.1	262.2	103.0	11.2	240.4	109.5	10.3	219.7	117.0	9.4
	106	074 (1) and 044 (1)	349.7	102.5	14.9	327.3	107.9	14.0	302.8	113.5	12.9	278.2	120.6	11.9	255.4	129.1	10.9
	116	074 (1) and 054 (1)	374.6	111.2	16.0	350.9	116.9	15.0	324.9	122.9	13.9	298.2	131.2	12.7	273.9	140.3	11.7
	126	074 (2)	413.1	119.2	17.6	387.7	125.6	16.5	359.6	132.0	15.3	330.6	140.8	14.1	303.9	150.8	13.0
	136	074 (2)	448.7	134.7	19.1	419.9	141.4	17.9	389.2	149.5	16.6	359.2	159.1	15.3	330.0	170.2	14.1
	146	084 (2)	499.0	142.5	21.3	469.4	149.5	20.0	436.3	156.9	18.6	402.3	167.0	17.2	371.1	178.7	15.8
	161	084 (2)	515.5	150.5	22.0	495.6	163.1	21.1	473.6	176.7	20.2	451.2	192.3	19.2	428.7	210.7	18.3
	171	084 (2)	554.1	165.8	23.6	531.9	179.6	22.7	506.7	194.4	21.6	483.4	211.4	20.6	459.2	232.3	19.6
	186	084 (2)	601.2	188.5	25.6	572.4	203.5	24.4	547.4	219.6	23.3	522.4	239.9	22.3	495.6	262.9	21.1
	206	084 (2) and 094 (1)	705.3	195.7	30.1	682.2	212.3	29.1	655.5	230.4	28.0	621.8	251.0	26.5	591.4	273.4	25.2
	246	094 (3)	818.8	232.9	34.9	792.6	251.9	33.8	755.2	272.8	32.2	719.8	295.8	30.7	684.8	324.0	29.2
	261	094 (3)	858.6	249.6	36.6	830.9	269.6	35.4	788.3	292.3	33.6	753.2	316.6	32.1	716.4	347.9	30.6
	271	094 (3)	902.4	269.1	38.5	868.5	290.2	37.0	825.8	313.8	35.2	790.1	340.6	33.7	751.3	374.1	32.0

LEGEND

Cap. — Capacity, kW
 kW — Total system input power at rated voltage
 (includes compressors and condenser fans)
 LCWT — Leaving Chilled-Water Temperature (C)

COMBINATION RATINGS (cont)

60 Hz, SI (cont)

LCWT (C)	UNIT SIZE 30HXA	09DK AIR-COOLED CONDENSER Unit (Qty)	CONDENSER ENTERING AIR TEMPERATURE (C)														
			30			35			40			45			50		
			Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)
7	076	084 (1)	257 3	73 4	11 0	240 4	77 3	10 3	222 6	81 2	9 5	204 0	85 5	8 7	185 3	91 3	7 9
	086	084 (1)	281 2	83 2	12 0	262 8	87 5	11 2	243 1	91 9	10 4	222 5	97 4	9 5	202 9	103 9	8 7
	096	094 (1)	314 9	94 5	13 4	293 7	99 3	12 5	272 3	104 6	11 6	249 7	110 9	10 7	227 8	118 3	9 7
	106	074 (1) and 044 (1)	361 6	104 5	15 4	338 7	109 9	14 5	314 4	115 4	13 4	288 8	122 4	12 3	264 7	130 6	11 3
	116	074 (1) and 054 (1)	387 5	113 2	16 5	363 4	119 1	15 5	336 6	125 2	14 4	309 3	133 2	13 2	283 7	142 1	12 1
	126	074 (2)	427 4	121 3	18 2	401 3	127 9	17 1	372 7	134 6	15 9	343 2	142 8	14 6	315 1	152 6	13 4
	136	074 (2)	464 0	137 4	19 8	434 3	144 2	18 5	403 5	152 0	17 2	372 3	161 3	15 9	341 9	172 3	14 6
	146	084 (2)	516 2	144 9	22 0	485 8	152 3	20 7	452 5	159 8	19 3	417 7	169 3	17 8	384 5	180 9	16 4
	161	084 (2)	530 3	152 9	22 6	511 1	165 5	21 8	488 9	179 2	20 9	465 0	195 0	19 8	433 5	211 2	18 5
	171	084 (2)	569 9	168 3	24 3	548 7	182 4	23 4	522 9	197 5	22 3	498 1	214 6	21 3	473 4	234 9	20 2
	186	084 (2)	618 3	191 7	26 4	591 2	206 9	25 2	564 0	223 1	24 1	538 3	243 0	23 0	498 3	263 3	21 3
	206	084 (2) and 094 (1)	725 9	198 3	31 0	703 4	214 9	30 0	676 6	233 5	28 9	642 4	254 0	27 4	610 2	276 6	26 0
246	094 (3)	842 4	236 1	35 9	816 8	255 5	34 9	780 1	276 7	33 3	742 3	299 7	31 7	706 3	327 5	30 1	
261	094 (3)	883 5	253 1	37 7	856 0	273 8	36 5	814 0	296 9	34 7	776 4	321 1	33 1	738 8	351 8	31 5	
271	094 (3)	928 9	273 1	39 6	897 4	294 3	38 3	850 9	318 6	36 3	814 4	344 5	34 8	774 3	378 9	33 0	
8	076	084 (1)	266 1	74 9	11 4	249 0	78 7	10 6	231 1	82 6	9 9	211 8	86 7	9 0	192 3	92 4	8 2
	086	084 (1)	290 7	84 8	12 4	272 2	89 1	11 6	251 7	93 6	10 7	230 7	98 9	9 8	210 1	105 3	9 0
	096	094 (1)	325 4	96 4	13 9	304 2	101 2	13 0	281 9	106 3	12 0	258 6	112 7	11 0	236 2	119 9	10 1
	106	074 (1) and 044 (1)	373 6	106 6	16 0	350 5	112 0	15 0	325 7	117 6	13 9	299 8	124 2	12 8	274 2	132 3	11 7
	116	074 (1) and 054 (1)	400 4	115 3	17 1	375 8	121 3	16 0	348 8	127 5	14 9	321 1	135 0	13 7	294 2	143 8	12 6
	126	074 (2)	441 4	123 7	18 8	415 2	130 2	17 7	386 4	137 0	16 5	356 3	144 8	15 2	326 5	154 4	13 9
	136	074 (2)	479 2	140 2	20 5	449 4	147 0	19 2	417 9	154 5	17 8	385 3	163 6	16 5	350 2	173 8	14 9
	146	084 (2)	533 4	147 7	22 8	502 7	155 0	21 5	468 9	162 7	20 0	433 4	171 7	18 5	398 3	183 1	17 0
	161	084 (2)	545 7	155 2	23 3	526 7	167 9	22 5	504 1	181 9	21 5	479 4	197 3	20 5	442 7	212 7	18 9
	171	084 (2)	586 2	171 0	25 0	565 6	185 1	24 1	539 3	200 6	23 0	513 6	217 4	21 9	479 5	235 7	20 5
	186	084 (2)	636 2	194 8	27 2	610 4	210 1	26 1	580 6	226 9	24 8	554 6	246 0	23 7	505 2	264 9	21 6
	206	084 (2) and 094 (1)	747 2	200 8	31 9	724 7	217 9	30 9	696 5	236 9	29 7	663 6	257 1	28 3	629 3	280 3	26 9
246	094 (3)	866 5	239 4	37 0	841 8	258 9	35 9	805 9	280 4	34 4	765 1	303 8	32 7	728 3	330 9	31 1	
261	094 (3)	908 4	256 8	38 8	881 8	277 8	37 6	840 6	301 3	35 9	800 1	325 9	34 2	761 5	355 8	32 5	
271	094 (3)	955 8	277 1	40 8	926 2	298 3	39 5	878 7	323 6	37 5	839 2	349 4	35 8	798 3	383 3	34 1	
9	076	084 (1)	275 1	76 5	11 7	257 6	80 2	11 0	239 9	84 1	10 2	219 8	88 3	9 4	199 6	93 9	8 5
	086	084 (1)	300 5	86 5	12 8	281 4	90 8	12 0	260 8	95 3	11 1	239 2	100 4	10 2	217 9	106 7	9 3
	096	094 (1)	335 9	98 4	14 3	314 5	103 1	13 4	291 8	108 2	12 5	267 8	114 5	11 4	239 6	120 5	10 2
	106	074 (1) and 044 (1)	386 0	108 6	16 5	362 6	114 1	15 5	337 6	119 8	14 4	310 8	126 2	13 3	284 1	134 1	12 1
	116	074 (1) and 054 (1)	413 7	117 4	17 7	388 2	123 8	16 6	361 0	130 0	15 4	332 7	136 9	14 2	304 2	145 7	13 0
	126	074 (2)	456 1	126 1	19 5	429 0	132 7	18 3	400 3	139 5	17 1	369 4	146 8	15 8	338 3	156 4	14 5
	136	074 (2)	494 5	143 1	21 1	464 7	149 8	19 8	432 5	157 1	18 5	399 1	165 9	17 0	355 2	174 5	15 2
	146	084 (2)	551 0	150 4	23 5	519 5	157 9	22 2	485 5	165 7	20 7	449 4	174 1	19 2	412 8	185 5	17 6
	161	084 (2)	561 1	157 4	24 0	542 7	170 2	23 2	519 4	184 5	22 2	494 3	199 8	21 1	447 6	213 5	19 1
	171	084 (2)	602 7	173 7	25 7	582 3	188 0	24 9	556 0	203 6	23 7	528 9	220 3	22 6	489 7	237 6	20 9
	186	084 (2)	654 2	198 0	27 9	629 7	213 4	26 9	597 5	230 8	25 5	571 1	248 8	24 4	503 8	264 6	21 5
	206	084 (2) and 094 (1)	768 8	203 3	32 8	746 5	220 8	31 9	717 4	240 3	30 6	685 2	260 6	29 3	648 6	283 8	27 7
246	094 (3)	890 8	242 6	38 0	866 2	262 6	37 0	832 1	284 4	35 5	788 5	308 4	33 7	750 2	334 7	32 0	
261	094 (3)	933 8	260 5	39 9	907 2	282 0	38 7	868 2	305 7	37 1	824 0	331 0	35 2	784 1	359 5	33 5	
271	094 (3)	982 8	281 0	42 0	952 7	303 3	40 7	907 4	328 6	38 8	863 9	355 2	36 9	821 9	387 3	35 1	

LEGEND

Cap. — Capacity, kW
 kW — Total system input power at rated voltage
 (includes compressors and condenser fans)
 LCWT — Leaving Chilled-Water Temperature (C)

Performance data (cont)



COMBINATION RATINGS (cont) 60 Hz, SI (cont)

LCWT (C)	UNIT SIZE 30HXA	09DK AIR-COOLED CONDENSER		CONDENSER ENTERING AIR TEMPERATURE (C)														
				30			35			40			45			50		
				Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)
10	076	084	(1)	284.2	78.1	12.1	266.5	81.7	11.4	248.0	85.7	10.6	227.8	90.0	9.7	207.6	95.1	8.9
	086	084	(1)	310.3	88.2	13.3	290.6	92.6	12.4	269.7	97.2	11.5	248.1	101.9	10.6	225.6	108.1	9.6
	096	094	(1)	346.9	100.3	14.8	325.0	105.1	13.9	301.7	110.3	12.9	277.7	116.4	11.9	243.2	121.0	10.4
	106	074 (1) and 044	(1)	398.6	110.7	17.0	374.6	116.3	16.0	349.0	122.2	14.9	322.0	128.2	13.8	294.5	135.9	12.6
	116	074 (1) and 054	(1)	426.7	119.8	18.2	401.1	126.1	17.1	373.7	132.4	16.0	344.7	138.8	14.7	315.0	147.5	13.5
	126	074	(2)	470.7	128.6	20.1	443.3	135.2	18.9	414.1	142.1	17.7	382.6	149.2	16.3	350.5	158.5	15.0
	136	074	(2)	510.4	145.9	21.8	479.9	152.7	20.5	447.3	159.8	19.1	413.0	168.8	17.6	363.9	176.1	15.6
	146	084	(2)	568.7	153.5	24.3	536.8	160.8	22.9	502.6	168.7	21.5	465.4	176.9	19.9	427.5	188.0	18.3
	161	084	(2)	576.7	159.8	24.6	558.7	172.7	23.9	534.3	187.5	22.8	509.3	202.8	21.8	452.6	214.5	19.3
	171	084	(2)	619.3	176.5	26.5	599.3	190.9	25.6	572.6	206.9	24.5	544.3	223.4	23.3	496.1	238.4	21.2
	186	084	(2)	672.1	201.3	28.7	649.3	216.8	27.7	615.1	234.6	26.3	587.5	252.8	25.1	502.1	264.2	21.5
	206	084 (2) and 094	(1)	790.8	206.1	33.8	767.5	224.1	32.8	738.9	243.5	31.6	707.1	264.3	30.2	668.2	287.4	28.6
	246	094	(3)	915.2	245.7	39.1	890.5	266.4	38.1	857.3	288.7	36.6	813.3	313.2	34.8	772.5	339.3	33.0
	261	094	(3)	959.2	264.2	41.0	932.5	286.4	39.8	895.9	310.3	38.3	848.2	336.1	36.2	807.4	363.4	34.5
	271	094	(3)	1008.9	285.2	43.1	979.6	308.3	41.9	936.4	333.6	40.0	889.2	361.0	38.0	846.1	391.7	36.2
13	076	084	(1)	299.4	80.6	12.8	281.1	84.2	12.0	259.5	88.0	11.1	237.1	91.7	10.1	216.0	96.5	9.2
	086	084	(1)	323.6	90.6	13.8	303.6	94.9	13.0	282.4	99.6	12.1	259.8	104.2	11.1	237.0	110.1	10.1
	096	094	(1)	364.2	103.4	15.6	341.7	108.5	14.6	318.0	113.6	13.6	290.2	118.8	12.4	249.7	122.1	10.7
	106	074 (1) and 044	(1)	415.6	113.9	17.8	391.0	119.3	16.7	365.1	125.3	15.6	337.3	131.1	14.4	308.7	138.6	13.2
	116	074 (1) and 054	(1)	448.0	123.8	19.2	421.5	129.9	18.0	393.7	136.3	16.8	363.7	142.5	15.6	332.9	150.8	14.2
	126	074	(2)	498.9	133.3	21.3	470.1	139.8	20.1	440.1	147.0	18.8	404.0	153.1	17.3	370.4	161.8	15.8
	136	074	(2)	540.0	150.9	23.1	508.5	157.9	21.8	474.5	165.3	20.3	439.8	173.9	18.8	373.2	177.4	16.0
	146	084	(2)	607.6	159.7	26.0	569.3	166.2	24.4	534.3	174.4	22.9	496.5	182.7	21.2	452.0	191.9	19.3
	161	084	(2)	602.0	163.2	25.8	583.5	176.8	25.0	559.2	191.6	23.9	534.0	207.4	22.8	461.6	216.1	19.7
	171	084	(2)	652.2	181.8	27.9	632.3	196.8	27.0	606.9	213.3	26.0	575.2	230.6	24.6	503.4	240.1	21.5
	186	084	(2)	702.1	206.4	30.0	679.4	222.8	29.1	646.0	241.0	27.6	614.6	259.8	26.3	501.8	264.1	21.5
	206	084 (2) and 094	(1)	830.4	211.1	35.5	799.3	229.4	34.2	766.7	247.9	32.8	733.9	269.3	31.4	688.8	291.1	29.5
	246	094	(3)	953.4	250.6	40.8	928.3	272.6	39.7	896.6	295.3	38.4	852.3	320.3	36.5	798.6	344.8	34.2
	261	094	(3)	994.1	268.9	42.5	967.6	291.9	41.4	933.4	316.3	39.9	883.4	343.1	37.8	834.6	369.6	35.7
	271	094	(3)	1054.9	292.0	45.1	1016.3	315.0	43.5	976.4	340.4	41.8	923.8	368.7	39.5	866.1	395.5	37.0
16	076	084	(1)	296.7	80.1	12.7	278.3	83.7	11.9	259.3	87.9	11.1	239.2	92.1	10.2	217.9	96.9	9.3
	086	084	(1)	326.1	91.0	14.0	305.8	95.4	13.1	282.0	99.5	12.1	259.5	104.2	11.1	236.8	109.9	10.1
	096	094	(1)	360.9	102.8	15.5	338.7	107.8	14.5	315.0	112.9	13.5	290.4	118.8	12.4	249.6	121.9	10.7
	106	074 (1) and 044	(1)	419.2	114.4	17.9	394.1	119.9	16.9	368.4	125.8	15.8	333.8	130.4	14.3	305.7	137.9	13.1
	116	074 (1) and 054	(1)	451.6	124.4	19.3	420.8	129.6	18.0	392.6	136.1	16.8	362.5	142.3	15.5	331.9	150.6	14.2
	126	074	(2)	498.3	133.1	21.3	469.5	139.6	20.1	439.4	146.8	18.8	407.2	153.9	17.4	373.7	162.4	16.0
	136	074	(2)	535.3	150.1	22.9	503.9	156.9	21.6	470.3	164.3	20.1	435.1	173.1	18.6	376.2	178.0	16.1
	146	084	(2)	602.2	158.7	25.8	568.5	166.1	24.3	533.4	174.3	22.8	495.7	182.5	21.2	456.0	192.5	19.5
	161	084	(2)	605.9	163.9	25.9	587.4	177.6	25.2	558.1	191.2	23.9	532.9	207.2	22.8	465.0	216.8	19.9
	171	084	(2)	647.1	181.0	27.7	627.5	195.8	26.9	601.7	212.3	25.8	570.0	229.7	24.4	503.0	240.1	21.5
	186	084	(2)	701.7	206.4	30.0	679.4	222.5	29.1	646.1	240.7	27.7	609.4	258.7	26.1	501.3	264.1	21.5
	206	084 (2) and 094	(1)	823.5	210.4	35.3	799.7	229.2	34.2	772.2	248.6	33.1	739.4	270.0	31.7	689.3	291.2	29.5
	246	094	(3)	954.7	250.5	40.9	920.9	271.4	39.4	888.8	294.2	38.1	844.4	319.0	36.2	791.6	343.3	33.9
	261	094	(3)	1000.6	269.7	42.8	973.9	293.1	41.7	939.9	317.5	40.2	890.2	344.2	38.1	827.6	367.9	35.4
	271	094	(3)	1051.8	291.5	45.0	1023.1	316.2	43.8	983.7	341.6	42.1	930.1	370.1	39.8	867.7	396.1	37.2

LEGEND

Cap. — Capacity, kW
 kW — Total system input power at rated voltage
 (includes compressors and condenser fans)
 LCWT — Leaving Chilled-Water Temperature (C)

COMBINATION RATINGS (cont)
50 Hz, ENGLISH

LCWT (F)	UNIT SIZE 30HXA	09DK AIR-COOLED CONDENSER Unit (Qty)	CONDENSER ENTERING AIR TEMPERATURE (F)														
			85			95			105			115			125		
			Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)
40	076	084 (1)	67.9	68.0	162.4	62.8	72.0	150.5	57.2	76.3	137.0	51.6	82.0	123.6	47.1	89.3	112.7
	086	084 (1)	74.4	78.3	178.2	68.8	82.9	164.6	62.7	88.3	150.1	56.8	95.2	135.9	51.4	103.2	123.1
	096	094 (1)	83.1	88.1	198.9	76.8	93.2	183.7	70.0	99.7	167.6	63.6	107.4	152.3	57.7	115.5	138.1
	106	074 (1) and 044 (1)	94.8	97.2	226.9	87.9	102.9	210.4	80.5	109.4	192.6	73.1	117.8	175.1	66.6	127.4	159.4
	116	074 (1) and 054 (1)	101.8	106.5	243.7	94.3	112.9	225.7	86.4	120.3	206.8	78.6	129.9	188.3	71.3	139.9	170.7
	126	074 (2)	111.9	113.7	267.9	104.0	120.6	249.1	95.5	128.2	228.6	87.1	138.4	208.5	79.1	149.4	189.5
	136	074 (2)	121.0	127.9	289.6	112.4	135.1	269.0	103.3	144.1	247.2	94.6	155.2	226.5	86.4	166.4	206.7
	146	084 (2)	133.9	134.8	320.5	124.9	142.6	299.0	115.2	151.0	275.7	105.4	162.7	252.4	96.3	175.6	230.6
	161	084 (2)	139.4	145.3	333.7	132.9	159.0	318.2	126.1	174.1	301.8	119.0	191.3	284.9	110.5	211.8	264.6
	171	084 (2)	149.3	159.6	357.5	142.1	174.4	340.2	135.0	190.6	323.1	127.4	209.9	305.1	119.8	233.3	286.8
	186	084 (2)	161.3	180.5	386.2	151.8	196.8	363.5	144.8	215.2	346.5	136.0	236.6	325.5	125.9	261.7	301.5
	206	084 (2) and 094 (1)	190.2	188.1	455.4	182.8	206.2	437.5	174.0	226.0	416.5	164.1	248.0	392.9	154.4	274.9	369.7
	246	094 (3)	221.0	224.7	529.1	212.1	245.3	507.8	200.0	268.4	478.8	189.6	294.8	453.8	177.8	326.1	425.5
	261	094 (3)	231.3	240.4	553.6	221.3	262.2	529.7	209.2	286.7	500.8	198.1	315.1	474.3	185.9	348.4	444.9
	271	094 (3)	242.4	258.4	580.2	230.5	281.6	551.7	218.7	307.5	523.5	206.4	338.4	494.1	193.0	372.9	462.1
42	086	084 (1)	70.5	69.4	168.9	65.4	73.6	156.6	59.8	77.9	143.2	54.0	83.3	129.3	48.9	90.5	117.2
	096	084 (1)	77.3	80.0	185.2	71.5	84.7	171.3	65.4	89.9	156.6	59.1	96.6	141.6	53.5	104.5	128.3
	106	094 (1)	86.3	90.2	206.6	79.8	95.3	191.1	72.9	101.6	174.7	66.3	109.1	158.7	59.3	116.8	141.9
	116	074 (1) and 044 (1)	98.4	99.3	235.7	91.5	105.0	219.2	83.9	111.3	201.1	76.3	119.5	182.8	69.3	129.1	166.0
	126	074 (1) and 054 (1)	105.7	108.8	253.1	98.2	115.2	235.2	90.1	122.2	215.8	82.0	131.5	196.3	74.3	141.8	178.0
	136	074 (2)	116.3	115.9	278.6	108.3	123.0	259.4	99.5	130.3	238.4	90.6	140.3	217.1	82.5	151.4	197.5
	146	074 (2)	125.7	130.5	301.1	116.9	137.8	280.1	107.5	146.6	257.6	98.4	157.5	235.8	89.7	169.1	214.8
	161	084 (2)	139.0	137.5	333.1	130.1	145.3	311.6	119.9	153.5	287.3	109.7	164.9	262.9	100.4	177.8	240.5
	171	084 (2)	143.9	147.8	344.7	137.6	161.6	329.6	130.5	176.9	312.7	123.2	194.1	295.1	111.2	212.3	266.4
	186	084 (2)	154.3	162.3	369.7	147.3	177.3	352.9	139.7	193.6	334.6	131.9	212.6	316.1	122.9	234.8	294.4
	206	084 (2)	166.6	184.0	399.0	157.4	200.5	377.2	149.8	218.7	358.8	140.8	240.4	337.4	126.0	261.7	301.9
	246	084 (2) and 094 (1)	196.5	191.0	470.7	189.2	209.1	453.2	180.5	229.2	432.4	170.0	251.7	407.3	160.0	277.3	383.2
	261	094 (3)	228.1	228.2	546.5	219.5	249.1	525.9	207.4	272.5	496.7	196.4	298.6	470.5	184.1	329.9	441.1
	271	094 (3)	238.9	243.9	572.2	229.6	266.1	550.1	216.3	291.0	518.3	205.2	319.2	491.6	192.5	352.5	461.2
	271	094 (3)	250.3	262.6	599.7	239.2	286.0	572.9	226.0	312.3	541.3	213.9	343.0	512.4	199.9	377.4	478.9
44	076	084 (1)	73.3	71.0	175.7	68.0	75.3	162.9	62.3	79.5	149.4	56.4	84.7	135.1	50.9	91.6	122.0
	086	084 (1)	80.2	81.8	192.3	74.3	86.6	178.2	68.0	91.7	163.1	61.7	98.1	147.8	55.7	105.8	133.5
	096	094 (1)	89.5	92.2	214.6	82.9	97.5	198.8	76.0	103.5	182.2	69.0	110.8	165.3	60.3	117.4	144.5
	106	074 (1) and 044 (1)	102.2	101.4	245.0	95.1	107.3	228.0	87.3	113.4	209.4	79.5	121.3	190.5	72.2	130.8	173.0
	116	074 (1) and 054 (1)	109.7	111.0	262.9	102.1	117.6	244.8	93.8	124.2	224.8	85.2	133.5	204.3	77.4	143.7	185.5
	126	074 (2)	120.7	118.4	289.4	112.6	125.5	269.9	103.7	132.7	248.5	94.3	142.4	226.1	85.8	153.4	205.7
	136	074 (2)	130.4	133.5	312.5	121.5	140.9	291.2	112.0	149.3	268.5	102.5	159.9	245.6	90.4	169.0	216.8
	146	084 (2)	144.4	140.3	346.0	135.1	148.3	323.9	124.9	156.5	299.5	114.4	167.3	274.3	104.5	180.2	250.5
	161	084 (2)	148.5	150.4	356.0	142.4	164.2	341.3	135.1	179.7	323.9	127.5	197.1	305.7	114.0	213.6	273.2
	171	084 (2)	159.2	165.1	381.7	152.6	180.2	365.8	144.4	197.0	346.1	136.5	215.5	327.1	125.0	236.1	299.6
	186	084 (2)	171.8	187.6	411.9	163.3	203.9	391.4	154.7	222.5	370.7	145.8	244.3	349.5	126.1	261.8	302.3
	206	084 (2) and 094 (1)	202.9	193.7	486.5	195.7	212.1	469.2	187.0	232.5	448.4	176.1	255.3	422.2	165.7	280.5	397.2
	246	094 (3)	235.4	231.8	564.2	227.0	253.2	544.2	214.9	276.8	515.1	203.2	303.1	487.1	190.7	334.4	457.2
	261	094 (3)	246.5	247.8	590.9	237.6	270.5	569.6	224.0	295.9	536.9	212.4	323.5	509.3	199.3	357.5	477.7
	271	094 (3)	258.4	267.0	619.4	248.0	290.5	594.5	233.3	317.2	559.4	221.5	347.8	530.9	207.0	383.2	496.3

LEGEND

Cap. — Capacity, Tons of Refrigeration
kW — Total system input power at rated voltage
(includes compressors and condenser fans)
LCWT — Leaving Chilled-Water Temperature (F)

Performance data (cont)



COMBINATION RATINGS (cont) 50 Hz, ENGLISH (cont)

LCWT (F)	UNIT SIZE 30HXA	09DK AIR-COOLED CONDENSER Unit (Qty)	CONDENSER ENTERING AIR TEMPERATURE (F)														
			85			95			105			115			125		
			Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)
45	076	084 (1)	74.8	71.8	179.3	69.3	76.1	166.2	63.7	80.3	152.8	57.7	85.3	138.3	52.0	92.0	124.6
	086	084 (1)	81.7	82.7	195.9	75.8	87.5	181.9	69.5	92.4	166.7	63.0	98.8	151.1	56.7	106.5	136.1
	096	094 (1)	91.2	93.3	218.6	84.5	98.5	202.7	77.5	104.5	186.0	70.4	111.6	168.9	60.8	117.6	145.8
	106	074 (1) and 044 (1)	104.1	102.5	249.7	97.0	108.4	232.5	89.2	114.5	213.9	81.1	122.3	194.6	73.6	131.6	176.5
	116	074 (1) and 054 (1)	111.8	112.1	268.0	104.1	118.7	249.7	95.6	125.4	229.4	87.0	134.5	208.7	79.0	144.6	189.4
	126	074 (2)	123.0	119.6	294.9	114.8	126.8	275.2	105.7	134.2	253.5	96.3	143.5	231.0	87.5	154.5	209.9
	136	074 (2)	132.8	135.0	318.4	123.8	142.4	296.8	114.2	150.7	274.0	104.4	161.2	250.5	91.1	169.5	218.6
	146	084 (2)	147.1	141.8	352.7	137.7	149.8	330.3	127.5	158.1	305.8	116.8	168.7	280.0	106.6	181.3	255.7
	161	084 (2)	150.8	151.7	361.7	144.8	165.6	347.1	137.4	181.1	329.5	129.7	198.7	311.0	114.9	214.0	275.4
	171	084 (2)	161.7	166.6	387.8	155.2	181.6	372.2	146.9	198.6	352.3	138.8	217.3	332.8	126.0	236.6	302.2
	186	084 (2)	174.5	189.4	418.5	166.2	205.7	398.5	157.1	224.3	376.8	148.3	246.1	355.7	126.2	261.7	302.5
	206	084 (2) and 094 (1)	206.2	195.2	494.4	199.0	213.6	477.3	190.3	234.1	456.4	179.2	257.2	429.7	168.6	282.2	404.2
	246	094 (3)	239.1	233.5	573.3	230.8	255.1	553.5	218.7	278.9	524.5	206.7	305.4	495.6	194.1	336.5	465.5
	261	094 (3)	250.4	249.8	600.3	241.6	272.7	579.2	228.0	298.1	546.7	216.1	326.0	518.1	202.8	359.8	486.3
	271	094 (3)	262.5	269.0	629.5	252.5	292.7	605.4	237.0	319.7	568.3	225.4	350.2	540.4	210.7	385.9	505.2
46	076	084 (1)	76.1	72.7	182.5	70.7	76.8	169.6	65.0	81.1	155.8	58.9	86.0	141.2	53.0	92.5	127.2
	086	084 (1)	83.2	83.7	199.6	77.2	88.4	185.3	70.9	93.2	170.0	64.2	99.6	154.0	58.0	107.0	139.0
	096	094 (1)	92.8	94.3	222.7	86.1	99.6	206.6	79.1	105.4	189.7	71.9	112.4	172.4	61.3	117.9	147.1
	106	074 (1) and 044 (1)	106.0	103.6	254.3	98.8	109.6	237.1	90.9	115.8	218.1	82.7	123.3	198.5	75.0	132.5	180.0
	116	074 (1) and 054 (1)	113.8	113.3	272.9	106.1	120.0	254.5	97.6	126.7	234.0	88.7	135.6	212.9	80.5	145.7	193.0
	126	074 (2)	125.2	120.9	300.4	116.9	128.1	280.4	107.9	135.5	258.8	98.4	144.6	236.1	89.3	155.5	214.1
	136	074 (2)	135.2	136.5	324.2	126.1	143.9	302.5	116.4	152.2	279.2	106.6	162.3	255.7	91.9	170.0	220.5
	146	084 (2)	149.8	143.2	359.4	140.3	151.4	336.6	130.1	159.7	312.1	119.2	170.0	286.0	108.8	182.5	260.9
	161	084 (2)	153.2	152.9	367.5	147.2	166.9	353.0	139.7	182.5	335.2	132.0	200.1	316.5	115.7	214.4	277.6
	171	084 (2)	164.3	168.0	394.0	157.8	183.2	378.5	149.4	200.3	358.4	141.2	219.0	338.6	127.1	237.3	304.8
	186	084 (2)	177.3	190.9	425.3	169.2	207.4	405.8	159.6	226.2	382.8	150.9	247.9	361.9	126.2	261.8	302.7
	206	084 (2) and 094 (1)	209.5	196.4	502.6	202.4	215.3	485.4	193.4	235.8	463.9	182.5	259.0	437.9	171.5	283.9	411.4
	246	094 (3)	242.8	235.2	582.5	234.7	257.0	562.9	222.6	280.9	533.9	210.1	307.7	504.1	197.6	338.6	473.9
	261	094 (3)	254.2	251.8	609.8	245.5	275.0	588.8	232.1	300.4	556.6	219.7	328.4	527.1	206.3	362.2	494.9
	271	094 (3)	266.7	271.1	639.6	256.8	295.2	615.9	241.2	322.4	578.5	229.3	352.7	549.9	214.4	388.8	514.2
48	076	084 (1)	78.9	74.4	189.5	73.5	78.4	176.3	67.7	82.8	162.4	61.4	87.4	147.3	55.0	93.8	132.1
	086	084 (1)	86.3	85.4	207.2	80.3	90.2	192.6	73.7	95.2	177.0	66.9	101.2	160.5	60.2	108.5	144.5
	096	094 (1)	96.2	96.5	230.8	89.4	101.7	214.6	82.2	107.4	197.4	74.7	114.3	179.3	62.5	118.5	150.0
	106	074 (1) and 044 (1)	110.0	105.8	263.9	102.6	111.9	246.2	94.7	118.1	227.2	86.2	125.3	207.0	78.0	134.3	187.2
	116	074 (1) and 054 (1)	118.0	115.6	283.1	110.0	122.7	263.9	101.4	129.5	243.3	92.4	137.8	221.7	83.6	147.8	200.7
	126	074 (2)	129.8	123.6	311.4	121.4	130.8	291.3	112.2	138.3	269.3	102.5	146.8	245.9	92.8	157.7	222.8
	136	074 (2)	140.1	139.6	336.3	131.0	146.9	314.3	121.1	154.9	290.6	110.8	164.7	266.0	93.6	170.9	224.5
	146	084 (2)	155.3	146.5	372.6	145.6	154.5	349.5	135.3	162.9	324.8	124.2	172.6	298.0	113.1	185.0	271.4
	161	084 (2)	158.0	155.3	379.2	152.2	169.4	365.2	144.5	185.2	346.7	136.4	203.1	327.3	116.5	214.7	279.7
	171	084 (2)	169.4	170.9	406.5	163.0	186.2	391.2	154.5	203.5	370.7	146.0	222.3	350.3	128.2	238.0	307.6
	186	084 (2)	182.9	194.2	438.8	175.0	211.1	420.0	164.6	229.9	395.0	156.0	251.4	374.4	126.3	261.8	303.1
	206	084 (2) and 094 (1)	216.3	199.2	519.0	209.0	218.7	501.6	199.7	239.5	479.4	189.3	262.6	454.2	177.5	288.0	425.9
	246	094 (3)	250.4	238.5	600.8	242.2	261.2	581.2	230.7	285.2	553.7	217.0	312.3	520.8	203.1	341.9	487.5
	261	094 (3)	262.0	255.8	628.8	253.2	279.7	607.8	240.5	305.3	577.1	226.9	333.7	544.5	212.1	365.5	509.1
	271	094 (3)	274.7	275.5	659.2	264.8	300.7	635.5	249.9	327.8	599.8	236.5	358.6	567.6	218.0	391.2	523.3

LEGEND

Cap. — Capacity, Tons of Refrigeration
 kW — Total system input power at rated voltage
 (includes compressors and condenser fans)
 LCWT — Leaving Chilled-Water Temperature (F)

COMBINATION RATINGS (cont)

50 Hz, ENGLISH (cont)

LCWT (F)	UNIT SIZE 30HXA	09DK AIR-COOLED CONDENSER		CONDENSER ENTERING AIR TEMPERATURE (F)														
				85			95			105			115			125		
				Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)	Cap.	Input kW	Cooler Flow Rate (Gpm)
50	076	084	(1)	81.8	76.1	196.3	76.2	80.0	183.0	70.4	84.4	169.0	63.9	89.1	153.5	57.4	95.4	137.9
	086	084	(1)	89.3	87.3	214.5	83.2	92.2	199.7	76.6	97.2	183.9	69.5	103.1	166.9	60.7	109.0	145.9
	096	094	(1)	99.6	98.6	239.2	92.7	103.9	222.6	85.4	109.5	205.0	77.6	116.4	186.4	63.7	119.4	152.9
	106	074 (1) and 044	(1)	113.9	108.3	273.5	106.4	114.3	255.4	98.3	120.6	236.1	89.8	127.5	215.5	81.1	136.4	194.6
	116	074 (1) and 054	(1)	122.1	118.5	293.1	114.1	125.2	273.9	105.4	132.2	253.0	96.1	139.9	230.8	86.9	150.0	208.6
	126	074	(2)	134.4	126.5	322.7	125.8	133.5	302.1	116.6	141.1	279.9	106.6	149.2	256.0	96.5	159.9	231.8
	136	074	(2)	145.2	142.6	348.5	135.8	150.0	326.0	125.8	157.8	302.0	115.1	167.5	276.4	95.3	171.8	228.8
	146	084	(2)	160.9	149.8	386.3	151.1	157.6	362.8	140.6	166.3	337.6	129.2	175.4	310.1	117.6	187.5	282.3
	161	084	(2)	162.9	157.7	391.1	157.1	172.1	377.2	149.2	188.3	358.2	141.0	206.3	338.4	118.4	215.4	284.3
	171	084	(2)	174.6	173.6	419.3	168.3	189.4	404.0	159.6	206.7	383.1	150.7	225.8	361.9	130.4	239.0	313.0
	186	084	(2)	188.4	197.7	452.4	181.0	214.7	434.6	169.7	234.0	407.6	161.1	255.5	386.7	126.4	261.8	303.4
	206	084 (2) and 094	(1)	223.0	202.3	535.4	215.6	222.0	517.6	206.4	243.2	495.5	195.8	266.6	470.1	181.1	290.4	434.9
	246	094	(3)	257.9	241.8	619.2	249.7	265.2	599.6	238.8	289.8	573.3	224.2	317.3	538.4	207.7	344.7	498.7
	261	094	(3)	269.9	259.6	647.9	261.1	284.2	627.0	249.0	310.3	597.9	234.0	339.2	561.8	216.8	368.5	520.5
	271	094	(3)	282.7	280.1	678.9	273.0	306.0	655.5	258.8	333.4	621.4	243.8	364.4	585.4	218.1	391.3	523.6
55	076	084	(1)	85.6	78.2	205.7	79.9	82.1	191.9	73.7	86.8	177.2	67.2	91.5	161.6	60.5	97.2	145.5
	086	084	(1)	94.2	90.2	226.4	87.7	95.1	210.9	80.2	99.8	192.8	73.1	105.4	175.7	62.0	109.7	149.1
	096	094	(1)	103.9	101.1	249.8	96.9	106.8	232.8	89.3	112.4	214.7	81.4	119.1	195.7	65.7	120.4	157.8
	106	074 (1) and 044	(1)	120.0	112.1	288.5	111.5	117.5	268.0	103.3	124.0	248.3	93.4	129.8	224.4	84.2	138.5	202.4
	116	074 (1) and 054	(1)	129.5	123.2	311.3	119.8	129.0	288.0	111.0	136.1	266.8	101.4	143.3	243.8	90.9	152.7	218.5
	126	074	(2)	142.6	131.0	342.8	133.5	138.2	321.0	124.0	146.1	298.1	112.7	153.3	270.9	101.1	162.6	243.0
	136	074	(2)	152.5	146.9	366.6	143.0	154.4	343.6	132.5	162.6	318.5	121.6	172.1	292.3	98.4	173.3	236.5
	146	084	(2)	170.7	155.1	410.3	160.5	163.1	385.7	149.6	172.0	359.7	137.9	180.9	331.4	124.6	191.5	299.5
	161	084	(2)	171.3	162.0	411.8	164.0	176.1	394.1	156.1	192.4	375.2	147.3	224.5	354.0	122.1	218.1	293.5
	171	084	(2)	182.7	178.3	439.0	176.3	194.4	423.7	167.9	212.5	403.5	157.0	255.2	377.3	130.4	239.1	313.5
	186	084	(2)	196.8	203.0	473.1	189.4	220.7	455.2	177.2	239.2	425.9	166.1	286.4	399.3	125.5	261.4	301.6
	206	084 (2) and 094	(1)	232.7	206.5	559.2	225.0	227.3	540.9	216.1	248.5	519.4	204.8	279.9	492.1	183.7	292.1	441.4
	246	094	(3)	267.2	245.8	642.1	258.7	270.5	621.8	248.0	295.6	596.1	233.0	329.5	559.9	211.5	365.7	508.4
	261	094	(3)	282.0	265.2	677.8	273.2	291.1	656.6	261.9	317.7	629.4	242.5	352.8	582.8	219.3	370.2	527.1
	271	094	(3)	295.3	286.3	709.7	285.6	314.0	686.6	272.4	341.5	654.8	254.4	391.2	611.4	218.3	391.3	524.7
60	076	084	(1)	85.7	78.3	206.1	79.8	82.2	192.0	73.8	86.8	177.6	67.3	91.5	161.9	59.9	96.9	144.2
	086	084	(1)	94.2	90.3	226.7	87.0	94.6	209.3	80.2	99.9	192.9	72.5	104.9	174.5	62.1	109.8	149.3
	096	094	(1)	104.0	101.2	250.3	96.9	106.9	233.0	89.4	112.4	215.1	81.6	119.1	196.2	65.7	120.5	158.1
	106	074 (1) and 044	(1)	120.2	112.1	289.1	111.6	117.6	268.4	102.2	123.3	246.0	93.4	129.8	224.8	84.3	138.6	202.7
	116	074 (1) and 054	(1)	128.3	122.4	308.7	119.9	129.1	288.5	111.1	136.2	267.2	101.5	143.3	244.3	90.0	152.0	216.5
	126	074	(2)	142.7	131.1	343.4	133.7	138.2	321.6	124.2	146.2	298.7	112.9	153.4	271.5	101.2	162.6	243.5
	136	074	(2)	152.7	147.0	367.3	143.0	154.6	344.1	132.7	162.6	319.2	121.7	172.1	292.8	99.3	174.3	238.8
	146	084	(2)	170.9	155.2	411.1	160.6	163.2	386.4	149.8	172.1	360.4	136.9	180.2	329.3	124.7	191.6	300.0
	161	084	(2)	170.2	161.2	409.3	164.1	176.1	394.8	156.2	192.5	375.8	147.3	226.2	354.4	122.2	218.1	294.0
	171	084	(2)	182.8	178.4	439.8	176.4	194.5	424.4	168.1	212.5	404.3	157.0	258.0	377.7	130.6	239.0	314.1
	186	084	(2)	196.9	203.3	473.7	188.2	219.8	452.6	177.3	239.3	426.6	166.2	289.1	399.7	125.5	261.5	302.0
	206	084 (2) and 094	(1)	232.9	206.5	560.1	225.2	227.3	541.7	216.2	248.6	520.1	204.9	279.9	492.9	184.9	293.0	444.9
	246	094	(3)	267.3	246.0	643.1	258.8	270.7	622.7	248.2	295.6	597.1	233.1	329.8	560.8	211.6	367.0	509.0
	261	094	(3)	282.3	265.2	679.0	273.4	291.2	657.6	259.6	316.1	624.5	242.6	353.1	583.7	219.5	370.2	527.9
	271	094	(3)	295.5	286.3	710.9	285.9	314.1	687.7	272.7	341.6	655.9	252.4	382.0	607.1	218.4	391.5	525.3

LEGEND

Cap. — Capacity, Tons of Refrigeration
 kW — Total system input power at rated voltage
 (includes compressors and condenser fans)
 LCWT — Leaving Chilled-Water Temperature (F)

Performance data (cont)



COMBINATION RATINGS (cont)

50 Hz, SI

LCWT (C)	UNIT SIZE 30HXA	09DK AIR-COOLED CONDENSER Unit (Qty)	CONDENSER ENTERING AIR TEMPERATURE (C)														
			30			35			40			45			50		
			Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)
4	076	084 (1)	233 3	67 8	9 9	217 4	71 4	9 3	199 8	75 2	8 5	182 1	80 2	7 8	167 5	86 7	7 1
	086	084 (1)	256 1	78 0	10 9	238 1	82 2	10 1	218 8	87 1	9 3	200 2	93 2	8 5	183 4	100 2	7 8
	096	094 (1)	285 3	88 0	12 2	265 5	92 5	11 3	244 3	98 4	10 4	224 3	105 2	9 6	205 6	112 7	8 8
	106	074 (1) and 044 (1)	325 9	97 0	13 9	304 1	102 0	13 0	280 8	107 9	12 0	258 1	115 3	11 0	237 0	123 9	10 1
	116	074 (1) and 054 (1)	350 4	106 2	14 9	326 5	111 9	13 9	301 7	118 6	12 9	277 5	127 1	11 8	254 3	136 1	10 8
	126	074 (2)	385 3	113 4	16 4	360 0	119 6	15 3	333 1	126 5	14 2	306 7	135 5	13 1	282 1	145 3	12 0
	136	074 (2)	416 0	127 7	17 7	388 8	134 1	16 6	360 3	142 2	15 3	333 2	152 1	14 2	307 1	162 4	13 1
	146	084 (2)	460 8	134 6	19 6	432 1	141 5	18 4	401 7	148 9	17 1	371 0	159 3	15 8	342 9	170 7	14 6
	161	084 (2)	481 6	145 8	20 5	460 8	158 0	19 6	439 6	171 5	18 7	417 6	186 6	17 8	394 8	204 7	16 8
	171	084 (2)	515 7	160 1	22 0	492 8	173 4	21 0	470 4	187 9	20 0	447 3	204 6	19 1	423 6	225 0	18 0
	186	084 (2)	555 7	181 1	23 7	526 6	195 6	22 4	504 7	211 9	21 5	477 4	231 0	20 3	449 9	252 6	19 2
	206	084 (2) and 094 (1)	658 2	188 5	28 0	634 0	204 9	27 0	606 5	222 6	25 8	575 5	242 1	24 5	545 6	264 7	23 2
	246	094 (3)	764 7	225 3	32 6	735 0	243 8	31 3	697 4	264 3	29 7	665 3	287 4	28 3	628 6	314 6	26 8
	261	094 (3)	800 1	240 9	34 1	766 7	260 6	32 7	729 4	282 3	31 1	695 2	307 3	29 6	657 3	336 1	28 0
	271	094 (3)	838 6	258 7	35 7	799 0	279 6	34 0	762 6	302 8	32 5	725 0	330 0	30 9	683 3	359 5	29 1
5	076	084 (1)	241 6	69 1	10 3	225 5	72 8	9 6	207 6	76 7	8 8	189 8	81 4	8 1	173 9	87 6	7 4
	086	084 (1)	265 0	79 6	11 3	246 8	83 8	10 5	227 4	88 5	9 7	207 9	94 4	8 9	190 3	101 3	8 1
	096	094 (1)	295 6	89 6	12 6	275 2	94 3	11 7	253 6	100 1	10 8	232 7	106 7	9 9	213 0	114 2	9 1
	106	074 (1) and 044 (1)	337 4	98 8	14 4	315 4	104 0	13 4	291 7	109 6	12 4	267 9	116 9	11 4	246 2	125 3	10 5
	116	074 (1) and 054 (1)	362 4	108 3	15 4	338 4	114 0	14 4	313 1	120 3	13 3	287 8	128 6	12 3	264 3	137 7	11 3
	126	074 (2)	398 6	115 5	17 0	373 4	121 8	15 9	346 0	128 3	14 7	318 2	137 1	13 6	292 5	147 1	12 5
	136	074 (2)	430 8	130 0	18 4	403 3	136 3	17 2	373 7	144 4	15 9	345 7	154 1	14 7	318 4	164 6	13 6
	146	084 (2)	476 7	137 0	20 3	448 3	144 0	19 1	417 0	151 2	17 8	384 8	161 3	16 4	355 6	172 8	15 2
	161	084 (2)	496 4	147 8	21 2	475 6	160 4	20 3	453 8	173 9	19 3	430 8	189 2	18 4	407 4	206 6	17 4
	171	084 (2)	531 8	162 5	22 7	508 7	175 7	21 7	485 6	190 3	20 7	461 6	207 0	19 7	436 8	226 9	18 6
	186	084 (2)	574 1	183 7	24 5	543 9	198 7	23 2	520 9	214 8	22 2	493 0	234 1	21 0	463 7	255 1	19 8
	206	084 (2) and 094 (1)	677 7	191 2	28 9	654 0	207 7	27 9	626 7	225 5	26 7	594 2	245 3	25 3	563 2	267 3	24 0
	246	094 (3)	787 3	228 4	33 6	759 2	247 1	32 4	720 4	268 1	30 7	686 6	291 0	29 3	649 2	318 2	27 7
	261	094 (3)	823 8	244 3	35 1	792 9	264 1	33 8	751 8	286 2	32 0	717 6	310 8	30 6	678 6	340 2	28 9
	271	094 (3)	863 3	262 7	36 8	826 2	283 7	35 2	785 5	307 1	33 5	748 5	334 0	31 9	705 6	364 2	30 1
6	076	084 (1)	250 3	70 3	10 7	233 6	74 2	10 0	215 8	78 1	9 2	197 2	82 7	8 4	180 1	88 6	7 7
	086	084 (1)	274 2	81 1	11 7	255 7	85 4	10 9	236 0	90 0	10 1	216 1	95 7	9 2	196 9	102 6	8 4
	096	094 (1)	305 8	91 4	13 0	284 8	96 2	12 1	263 2	101 8	11 2	241 7	108 1	10 3	220 9	115 5	9 4
	106	074 (1) and 044 (1)	349 2	100 6	14 9	326 9	105 9	13 9	302 7	111 4	12 9	278 1	118 5	11 9	255 0	126 9	10 9
	116	074 (1) and 054 (1)	374 7	110 3	16 0	350 9	116 1	15 0	324 9	122 1	13 9	298 0	130 3	12 7	273 7	139 5	11 7
	126	074 (2)	412 2	117 6	17 6	387 0	124 0	16 5	358 9	130 4	15 3	330 1	139 0	14 1	303 4	148 8	12 9
	136	074 (2)	445 7	132 4	19 0	417 5	139 0	17 8	387 7	146 8	16 5	358 3	156 2	15 3	330 0	166 7	14 1
	146	084 (2)	493 3	139 4	21 0	464 6	146 5	19 8	432 5	153 8	18 4	399 5	163 6	17 0	368 8	174 9	15 7
	161	084 (2)	510 8	150 1	21 8	490 6	162 7	20 9	468 1	176 4	20 0	444 7	191 7	19 0	420 2	209 2	17 9
	171	084 (2)	547 8	164 7	23 4	525 6	178 4	22 4	500 2	193 3	21 3	475 9	209 6	20 3	450 4	229 1	19 2
	186	084 (2)	591 1	186 9	25 2	561 9	201 9	24 0	536 1	218 4	22 9	508 8	237 4	21 7	478 8	258 0	20 4
	206	084 (2) and 094 (1)	697 8	193 9	29 8	674 3	210 4	28 8	647 5	228 5	27 6	613 6	248 4	26 2	581 5	270 0	24 8
	246	094 (3)	809 9	231 7	34 5	782 6	250 8	33 4	744 2	271 8	31 7	708 0	295 0	30 2	670 2	322 0	28 6
	261	094 (3)	848 0	247 7	36 2	819 2	267 7	34 9	775 7	290 4	33 1	740 5	314 6	31 6	700 4	344 2	29 9
	271	094 (3)	888 3	266 7	37 9	853 6	287 7	36 4	808 8	311 5	34 5	772 6	338 1	32 9	728 4	369 0	31 1

LEGEND

Cap. — Capacity, kW
 kW — Total system input power at rated voltage
 (includes compressors and condenser fans)
 LCWT — Leaving Chilled-Water Temperature (C)

COMBINATION RATINGS (cont)

50 Hz, SI (cont)

LCWT (C)	UNIT SIZE 30HXA	09DK AIR-COOLED CONDENSER Unit (Qty)	CONDENSER ENTERING AIR TEMPERATURE (C)														
			30			35			40			45			50		
			Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)
7	076	084 (1)	258.9	71.9	11.0	241.9	75.7	10.3	224.0	79.6	9.6	205.4	83.8	8.8	186.6	89.5	8.0
	086	084 (1)	283.3	82.8	12.1	264.6	87.1	11.3	244.8	91.5	10.4	224.1	97.1	9.6	204.3	103.7	8.7
	096	094 (1)	316.1	93.3	13.5	294.8	98.1	12.6	273.4	103.3	11.7	250.8	109.6	10.7	228.7	116.9	9.8
	106	074 (1) and 044 (1)	361.1	102.6	15.4	338.4	108.0	14.4	314.0	113.4	13.4	288.5	120.3	12.3	264.2	128.4	11.3
	116	074 (1) and 054 (1)	387.5	112.4	16.5	363.3	118.2	15.5	336.6	124.3	14.4	309.1	132.3	13.2	283.5	141.3	12.1
	126	074 (2)	426.5	119.8	18.2	400.5	126.3	17.1	372.0	132.9	15.9	342.8	141.0	14.6	314.5	150.7	13.4
	136	074 (2)	460.7	135.0	19.7	432.1	141.8	18.4	402.0	149.3	17.2	371.5	158.3	15.9	341.9	168.7	14.6
	146	084 (2)	510.3	141.9	21.8	480.8	149.2	20.5	448.7	156.6	19.1	415.0	165.7	17.7	382.5	176.9	16.3
	161	084 (2)	525.4	152.5	22.4	505.9	165.0	21.6	482.7	178.9	20.6	458.7	194.3	19.6	433.5	211.7	18.5
	171	084 (2)	563.5	167.3	24.0	542.0	181.2	23.1	515.9	196.3	22.0	490.9	212.5	20.9	464.2	232.0	19.8
	186	084 (2)	607.7	190.2	25.9	580.5	205.0	24.8	551.8	221.6	23.5	525.1	240.6	22.4	493.9	261.9	21.1
	206	084 (2) and 094 (1)	718.2	196.5	30.6	695.3	213.1	29.7	667.8	231.3	28.5	634.1	251.6	27.1	600.1	273.4	25.6
	246	094 (3)	833.1	234.9	35.6	806.5	254.3	34.4	768.3	275.5	32.8	730.0	298.8	31.2	691.8	325.7	29.5
	261	094 (3)	872.4	251.2	37.2	844.0	271.8	36.0	800.9	294.6	34.2	763.3	319.1	32.6	722.6	348.3	30.8
	271	094 (3)	914.2	270.6	39.0	881.7	291.8	37.6	833.0	315.8	35.5	796.9	342.5	34.0	751.4	374.0	32.1
8	076	084 (1)	267.6	73.5	11.4	250.8	77.1	10.7	232.5	81.0	9.9	213.0	85.0	9.1	193.5	90.6	8.3
	086	084 (1)	292.9	84.4	12.5	273.9	88.7	11.7	253.4	93.1	10.8	232.2	98.6	9.9	211.6	105.0	9.0
	096	094 (1)	326.5	95.3	13.9	305.4	100.0	13.0	283.0	105.1	12.1	259.6	111.3	11.1	237.2	118.5	10.1
	106	074 (1) and 044 (1)	373.0	104.7	15.9	350.2	110.0	15.0	325.4	115.6	13.9	299.5	122.0	12.8	273.7	130.0	11.7
	116	074 (1) and 054 (1)	400.4	114.5	17.1	375.9	120.5	16.0	348.6	126.7	14.9	321.2	134.1	13.7	293.9	143.0	12.5
	126	074 (2)	440.6	122.1	18.8	414.3	128.6	17.7	385.7	135.3	16.5	355.5	143.0	15.2	325.8	152.5	13.9
	136	074 (2)	475.8	137.8	20.3	446.9	144.5	19.1	416.4	151.7	17.8	384.7	160.4	16.4	354.0	170.9	15.1
	146	084 (2)	527.3	144.6	22.5	497.2	152.0	21.2	464.9	159.5	19.8	430.3	168.2	18.4	396.2	179.1	16.9
	161	084 (2)	540.3	154.8	23.1	521.2	167.4	22.3	497.6	181.2	21.2	472.8	196.9	20.2	442.7	213.3	18.9
	171	084 (2)	579.4	170.0	24.7	558.6	183.8	23.8	531.9	199.1	22.7	505.7	215.8	21.6	478.5	234.8	20.4
	186	084 (2)	625.1	193.2	26.7	598.8	208.3	25.6	567.5	224.9	24.2	541.3	243.9	23.1	505.0	264.7	21.6
	206	084 (2) and 094 (1)	739.2	198.9	31.6	716.4	215.9	30.6	687.5	234.4	29.4	655.1	254.9	28.0	619.1	277.1	26.4
	246	094 (3)	856.8	238.0	36.6	830.8	257.8	35.5	793.9	279.1	33.9	751.9	302.9	32.1	713.8	329.5	30.5
	261	094 (3)	896.9	254.8	38.3	869.0	275.8	37.1	827.4	298.8	35.3	786.1	323.8	33.6	745.5	352.4	31.8
	271	094 (3)	940.5	274.4	40.2	908.6	296.4	38.8	860.1	320.7	36.7	820.0	347.6	35.0	775.3	378.8	33.1
9	076	084 (1)	276.7	75.0	11.8	259.2	78.6	11.1	241.1	82.5	10.3	221.2	86.6	9.4	201.1	92.0	8.6
	086	084 (1)	302.6	86.1	12.9	283.3	90.4	12.1	262.6	94.9	11.2	240.9	100.1	10.3	219.4	106.5	9.4
	096	094 (1)	337.1	97.2	14.4	315.5	102.0	13.5	292.9	106.9	12.5	269.0	113.2	11.5	240.6	119.0	10.3
	106	074 (1) and 044 (1)	385.5	106.6	16.5	362.1	112.2	15.5	337.2	117.7	14.4	310.5	123.9	13.3	283.8	131.8	12.1
	116	074 (1) and 054 (1)	413.6	116.5	17.7	388.4	122.9	16.6	360.9	129.1	15.4	332.4	136.1	14.2	304.0	144.9	13.0
	126	074 (2)	455.2	124.5	19.4	428.3	131.1	18.3	399.5	137.8	17.1	368.7	145.0	15.7	337.6	154.5	14.4
	136	074 (2)	491.5	140.6	21.0	462.3	147.2	19.7	431.1	154.2	18.4	398.0	162.9	17.0	358.8	171.6	15.3
	146	084 (2)	544.7	147.5	23.3	514.2	154.8	22.0	481.7	162.4	20.6	446.5	170.6	19.1	410.4	181.4	17.5
	161	084 (2)	555.6	156.9	23.7	536.9	169.6	22.9	512.5	183.7	21.9	487.3	199.7	20.8	447.6	214.1	19.1
	171	084 (2)	595.7	172.6	25.4	575.1	186.6	24.6	548.0	201.9	23.4	521.2	218.7	22.3	488.6	236.7	20.9
	186	084 (2)	642.6	196.3	27.4	617.7	211.5	26.4	583.4	228.2	24.9	557.5	247.2	23.8	503.5	264.3	21.5
	206	084 (2) and 094 (1)	760.5	201.4	32.5	737.3	219.0	31.5	708.1	237.8	30.2	675.9	258.3	28.9	638.1	280.8	27.3
	246	094 (3)	880.7	241.1	37.6	854.4	261.5	36.5	819.9	283.0	35.0	774.6	307.3	33.1	735.3	333.4	31.4
	261	094 (3)	921.6	258.5	39.4	893.4	280.1	38.2	854.2	303.1	36.5	808.6	328.5	34.5	767.8	356.3	32.8
	271	094 (3)	966.2	278.5	41.3	934.2	301.2	39.9	888.1	325.5	37.9	843.0	352.7	36.0	798.1	383.2	34.1

LEGEND

Cap. — Capacity, kW
 kW — Total system input power at rated voltage
 (includes compressors and condenser fans)
 LCWT — Leaving Chilled-Water Temperature (C)

Performance data (cont)



COMBINATION RATINGS (cont)

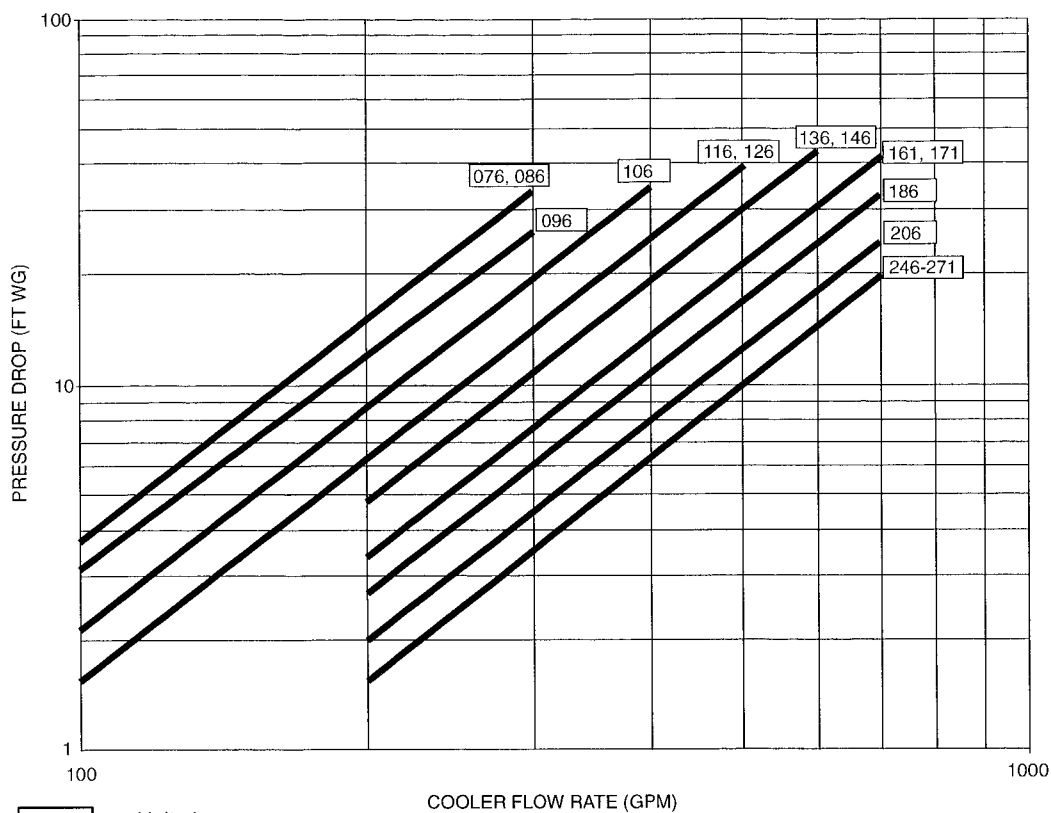
50 Hz, SI (cont)

LCWT (C)	UNIT SIZE 30HXA	09DK AIR-COOLED CONDENSER Unit (Qty)	CONDENSER ENTERING AIR TEMPERATURE (C)														
			30			35			40			45			50		
			Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)	Cap.	Input kW	Cooler Flow Rate (L/s)
10	076	084 (1)	285 8	76 5	12 2	268 1	80 1	11 5	249 4	84 1	10 7	229 2	88 2	9 8	208 7	93 4	8 9
	086	084 (1)	312 4	87 8	13 3	292 3	92 2	12 5	271 8	96 7	11 6	249 6	101 8	10 7	227 3	108 0	9 7
	096	094 (1)	348 1	99 1	14 9	326 1	103 9	13 9	302 8	109 0	12 9	278 6	115 0	11 9	244 1	119 6	10 4
	106	074 (1) and 044 (1)	398 1	108 8	17 0	374 1	114 3	16 0	348 6	120 0	14 9	321 7	125 9	13 7	294 0	133 6	12 6
	116	074 (1) and 054 (1)	426 8	119 0	18 2	401 2	125 3	17 1	373 6	131 5	16 0	344 5	138 1	14 7	315 1	146 8	13 5
	126	074 (2)	469 9	127 1	20 1	442 5	133 5	18 9	413 4	140 4	17 7	381 8	147 4	16 3	349 9	156 6	15 0
	136	074 (2)	507 2	143 4	21 7	477 6	150 0	20 4	445 8	157 0	19 1	412 4	165 6	17 6	363 9	172 4	15 6
	146	084 (2)	562 5	150 5	24 0	531 5	157 6	22 7	498 5	165 4	21 3	462 4	173 3	19 8	425 5	183 8	18 2
	161	084 (2)	570 9	159 2	24 4	552 6	172 0	23 6	527 5	186 7	22 5	501 8	202 6	21 4	452 7	215 0	19 3
	171	084 (2)	612 1	175 2	26 2	591 8	189 3	25 3	564 5	205 0	24 1	536 0	222 0	22 9	494 8	237 5	21 1
	186	084 (2)	660 2	199 5	28 2	636 5	214 7	27 2	601 1	232 1	25 7	572 7	251 2	24 5	502 0	263 9	21 5
	206	084 (2) and 094 (1)	781 9	204 2	33 4	758 1	222 1	32 4	729 3	240 9	31 2	697 0	261 8	29 8	657 5	284 3	28 1
	246	094 (3)	904 6	244 2	38 7	878 4	265 2	37 5	843 8	287 4	36 1	798 8	311 6	34 1	756 7	337 9	32 3
	261	094 (3)	946 5	262 1	40 4	918 3	284 2	39 2	881 3	307 5	37 7	831 8	333 2	35 5	790 5	360 6	33 8
	271	094 (3)	991 6	282 7	42 4	960 3	305 9	41 0	916 2	330 5	39 2	866 3	357 8	37 0	822 1	388 0	35 1
13	076	084 (1)	301 0	79 0	12 9	282 8	82 5	12 1	258 8	85 8	11 1	238 6	89 9	10 2	217 2	94 8	9 3
	086	084 (1)	325 8	90 1	13 9	305 6	94 5	13 1	284 2	99 2	12 2	261 4	104 1	11 2	238 4	110 1	10 2
	096	094 (1)	365 6	102 2	15 6	342 9	107 3	14 7	319 1	112 3	13 7	291 3	117 4	12 5	250 7	120 7	10 7
	106	074 (1) and 044 (1)	415 1	111 9	17 8	390 6	117 3	16 7	364 7	123 1	15 6	337 4	128 8	14 4	308 4	136 2	13 2
	116	074 (1) and 054 (1)	448 1	122 9	19 2	421 4	129 0	18 0	393 6	135 4	16 8	363 7	141 8	15 6	332 8	150 1	14 2
	126	074 (2)	501 9	132 3	21 5	469 3	138 1	20 1	439 6	145 2	18 8	403 2	151 3	17 2	369 9	159 8	15 8
	136	074 (2)	536 7	148 3	23 0	506 2	155 2	21 7	473 1	162 5	20 2	439 0	170 7	18 8	377 1	174 4	16 1
	146	084 (2)	601 1	156 5	25 7	563 7	163 0	24 1	530 0	171 0	22 7	493 3	179 1	21 1	450 1	187 5	19 3
	161	084 (2)	595 9	162 6	25 5	576 5	176 2	24 7	552 0	190 8	23 6	523 4	222 3	22 4	461 5	216 8	19 7
	171	084 (2)	644 1	180 5	27 6	623 5	195 1	26 7	598 2	211 2	25 6	560 7	231 8	24 0	502 2	239 1	21 5
	186	084 (2)	689 4	204 5	29 5	665 0	220 6	28 4	631 1	238 2	27 0	593 9	286 1	25 4	501 6	263 8	21 5
	206	084 (2) and 094 (1)	813 4	208 5	34 8	784 4	226 3	33 6	756 6	245 1	32 4	722 8	267 0	30 9	678 2	288 2	29 0
	246	094 (3)	942 1	249 0	40 3	915 2	271 4	39 2	882 0	293 9	37 7	831 4	318 3	35 6	780 6	355 4	33 4
	261	094 (3)	980 7	266 7	42 0	952 7	289 6	40 8	917 2	313 5	39 2	866 0	340 5	37 0	814 5	386 4	34 8
	271	094 (3)	1027 0	287 8	43 9	996 0	312 4	42 6	955 0	336 8	40 9	898 5	365 5	38 4	841 9	392 4	36 0
16	076	084 (1)	298 2	78 5	12 8	279 8	82 0	12 0	260 8	86 2	11 2	240 6	90 3	10 3	219 1	95 1	9 4
	086	084 (1)	328 3	90 6	14 1	307 8	95 0	13 2	283 8	99 1	12 2	261 4	104 0	11 2	238 4	109 9	10 2
	096	094 (1)	362 2	101 6	15 5	339 9	106 6	14 6	316 0	111 7	13 5	291 6	117 4	12 5	250 5	120 5	10 7
	106	074 (1) and 044 (1)	418 6	112 4	17 9	393 6	117 8	16 9	367 9	123 7	15 8	333 4	128 1	14 3	305 4	135 5	13 1
	116	074 (1) and 054 (1)	451 6	123 6	19 3	420 5	128 8	18 0	392 7	135 2	16 8	362 3	141 6	15 5	331 8	150 0	14 2
	126	074 (2)	497 5	131 5	21 3	468 7	137 9	20 1	438 7	145 0	18 8	406 6	152 0	17 4	373 0	160 5	16 0
	136	074 (2)	532 0	147 5	22 8	501 6	154 2	21 5	468 9	161 5	20 1	434 5	169 8	18 6	376 2	174 3	16 1
	146	084 (2)	595 7	155 6	25 5	563 0	162 9	24 1	529 4	170 8	22 7	492 5	178 9	21 1	453 9	188 2	19 4
	161	084 (2)	599 7	163 3	25 7	580 4	176 8	24 9	550 9	190 5	23 6	524 0	213 0	22 4	465 0	217 4	19 9
	171	084 (2)	639 3	179 7	27 4	618 9	194 1	26 5	593 2	210 2	25 4	559 5	238 2	24 0	501 9	239 0	21 5
	186	084 (2)	689 0	204 6	29 5	664 8	220 5	28 5	631 1	238 0	27 0	591 7	267 0	25 3	501 1	263 7	21 5
	206	084 (2) and 094 (1)	814 0	208 4	34 9	789 7	227 0	33 8	761 8	245 9	32 6	728 2	267 2	31 2	683 3	289 5	29 3
	246	094 (3)	943 4	249 0	40 4	907 8	270 3	38 9	874 6	292 6	37 4	828 4	317 9	35 5	778 9	350 0	33 3
	261	094 (3)	987 1	267 6	42 3	958 9	290 7	41 1	923 5	314 6	39 5	862 8	339 7	36 9	813 5	374 1	34 8
	271	094 (3)	1033 6	288 8	44 3	1002 6	313 6	42 9	962 2	338 0	41 2	905 2	366 1	38 8	—	—	—

LEGEND

Cap. — Capacity, kW
 kW — Total system input power at rated voltage
 (includes compressors and condenser fans)
 LCWT — Leaving Chilled-Water Temperature (C)

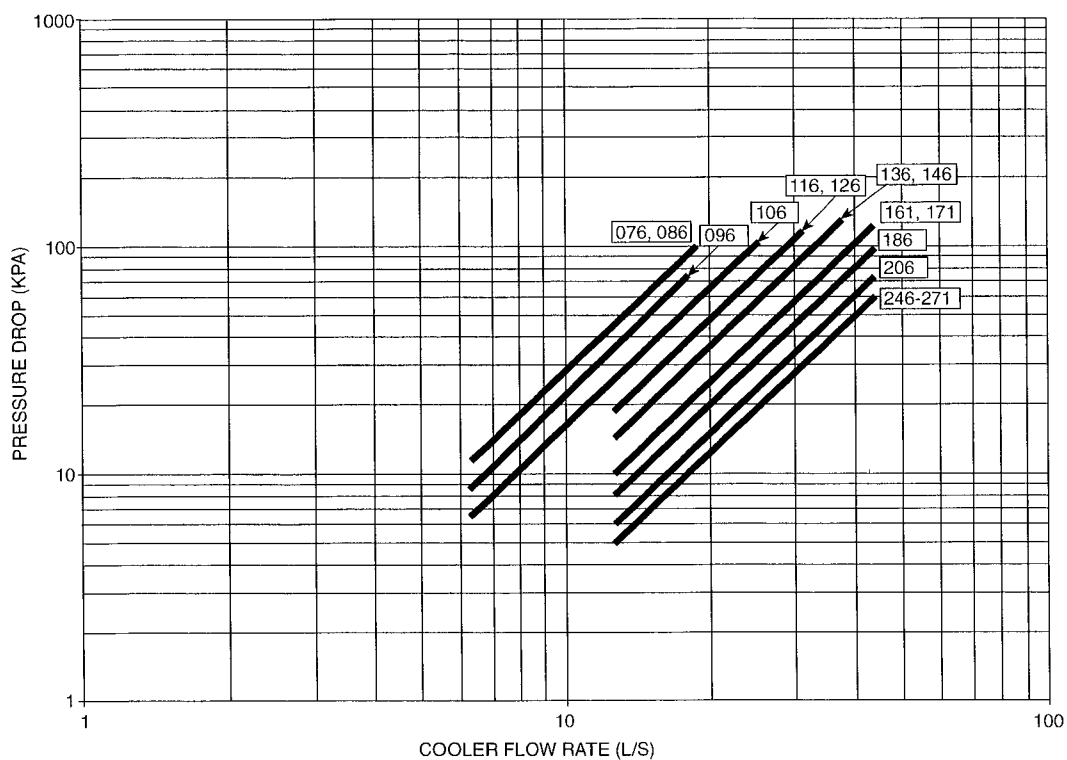
COOLER PRESSURE DROP ENGLISH



— Unit size range

NOTE: Ft of water = 2.31 x change in psig

SI

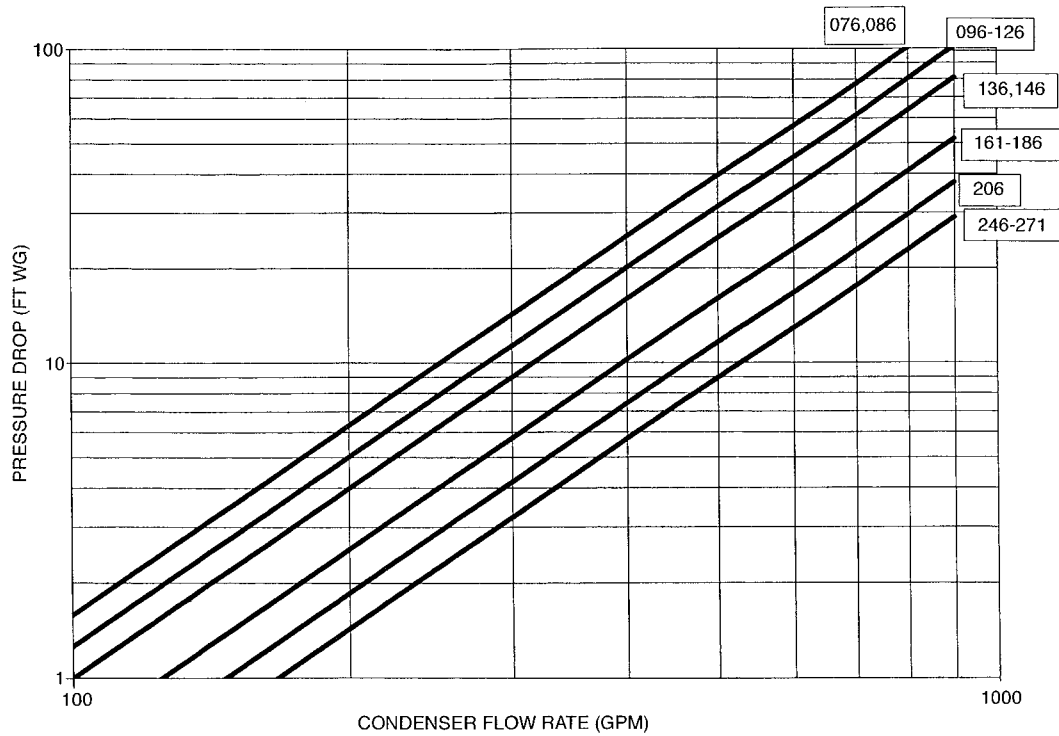


— Unit size range

Performance data (cont)



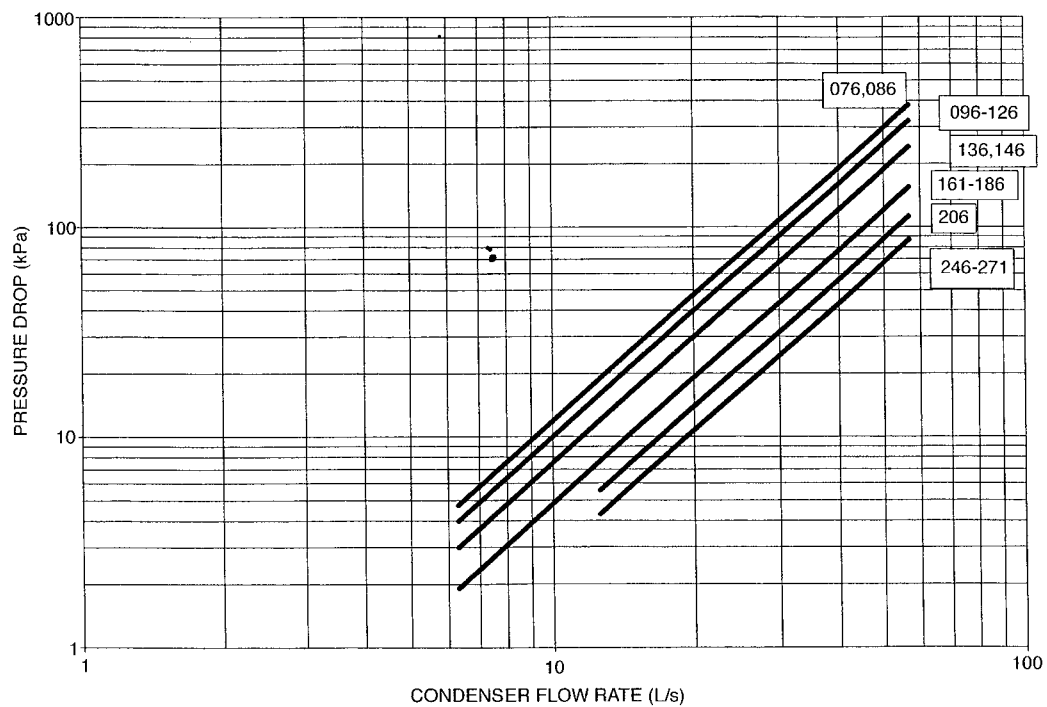
CONDENSER PRESSURE DROP ENGLISH



— Unit size range

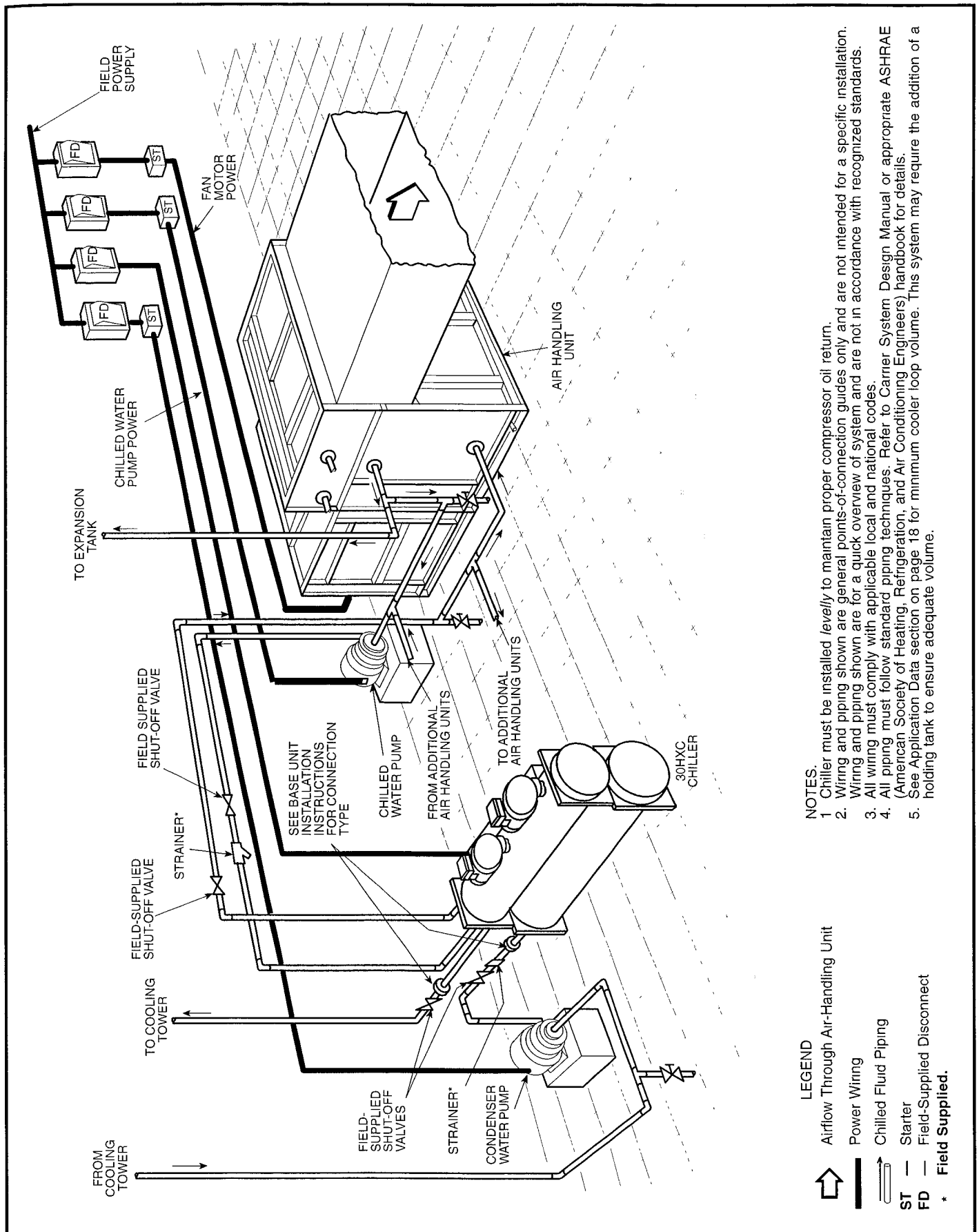
NOTE Ft of water = 2.31 x change in psig

SI



— Unit size range

Typical piping and wiring Cooler (30HXA,HXC) and condenser (30HXC only)



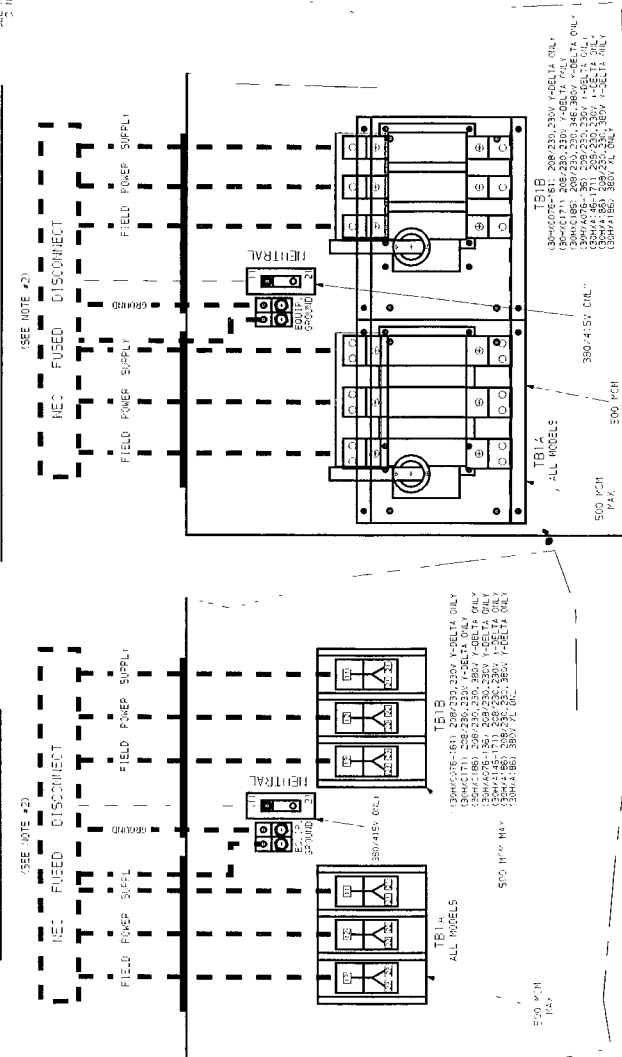
Typical piping and wiring (cont)



30HXA, C076-186

NON-FUSED DISCONNECT OPTION

STANDARD POWER



NOTES

1. Factory wiring is in accordance with National Electrical Code (NEC). Field modifications or additions must be in compliance with all applicable codes.
2. Wiring for main field supply must be rated 75° C minimum. Use copper for all units. Maximum incoming wire size for each terminal block is 500 kcmil.
3. Power for control circuit should be supplied from a separate source (except 380/415 v units) through a field-supplied disconnect with 15 amp maximum protection for 115 volt control circuits and 15 amp maximum protection for 230 volt control circuit. Connect control circuit power to terminals 1 and 2 of TB4. Control circuit conductors for all units must be copper only. Control circuit power is factory wired for 380/415 v units.
4. Terminals 13 and 14 of TB2 are for field external connection for remote ON-OFF. The contacts must be rated for dry circuit application capable of handling a 24 vac to 50 mA load. Remove jumper between 13 and 14 of TB2 if remote ON-OFF is installed.
5. Terminals 11 and 12 of TB2 are for chilled water flow switch (CWFS) and chilled water pump interlock (CWPI) functions. The contacts must be rated for dry circuit application capable of handling a 24 vac to 50 mA load.
6. Terminals 4 and 5 of TB2 are for control of chilled water pump starter. The maximum load allowed for the chilled water pump relay is 125 va sealed, 1250 va inrush at 115 or 230 volt.
7. Terminals 2 and 3 of TB2 are for alarm. The maximum load allowed for the alarm is 125 va sealed, 1250 va inrush at 115 or 230 volt.
8. Terminal 6 of TB2 is for condenser water pump (HXC only) or circuit B condenser fan contactor (HXA only). Terminal 1 of TB2 is for circuit A condenser fan contactor (HXA only). The maximum load allowed is 125 va sealed, 1250 va inrush at 115 or 230 volt. Install CDWP or CDWC-B between TB2-6 and TB4-2 (unit control power neutral). Install CDWC-A between TB2-1 and TB4-2 (unit control power neutral). Separate field power supply is not required.
9. Terminals J7-25 and J7-32 of PSI02 are for condenser flow switch (CDFS). The contacts must be rated for dry circuit application capable of handling a 24 vac to 50 mA load. Separate field power supply is required.

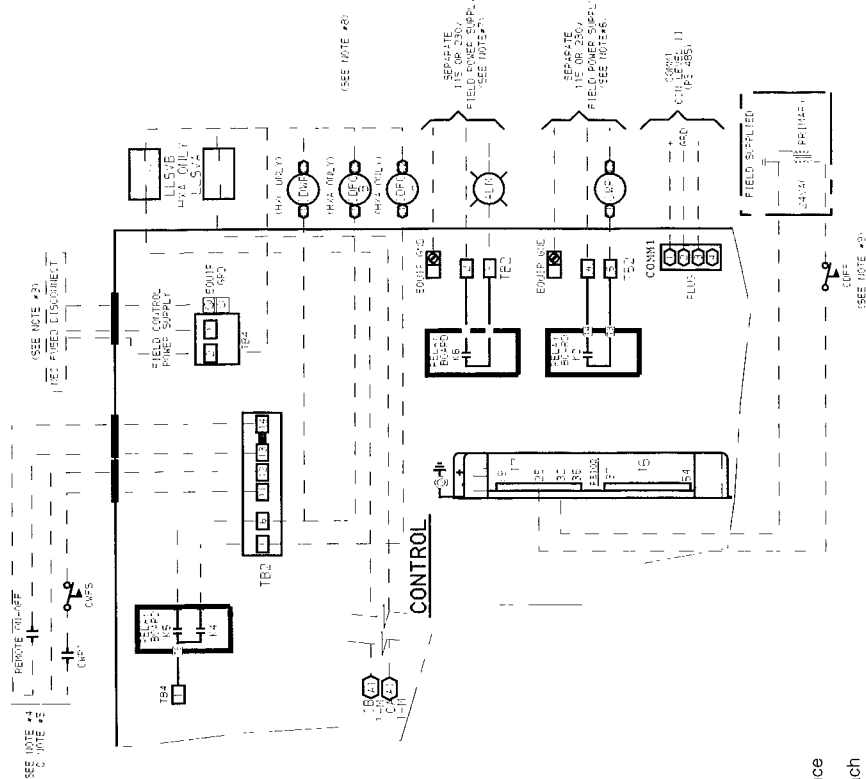
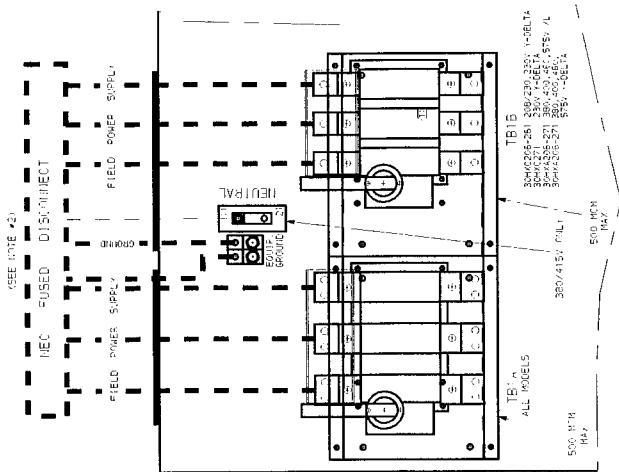
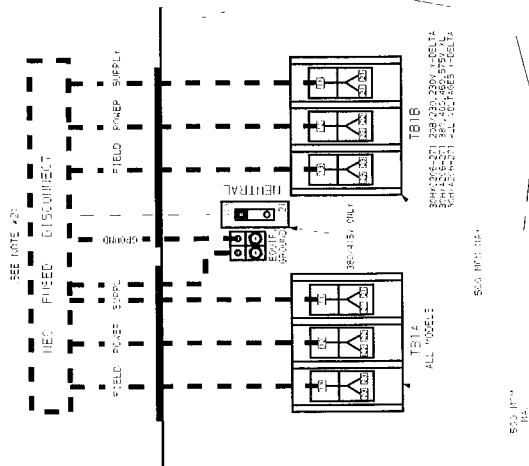
LEGEND

ALM	Alarm
CA-1M	Compressor A1, 1M Contactor
CB-1M	Compressor B1, 1M Contactor
CCN	Carrier Comfort Network
CDFC	Condenser Fan Contactor
CDFS	Condenser Flow Switch
CDWP	Condenser Water Pump
CWFS	Chilled Water Flow Switch
CWPI	Chilled Water Pump Interlock
LLSV	Liquid Line Solenoid Valve
NEC	National Electrical Code
TB	Terminal Block
XL	Across-The-Line
---	Field Power Wiring
---	Field Control Wiring
---	Factory-Installed Wiring

30HXA, C206-271

STANDARD POWER

NON-FUSED DISCONNECT OPTION



LEGEND

- ALM Alarm
- CA-1M Compressor A1, 1M Contactor
- CB-1M Compressor B1, 1M Contactor
- CCN Carrier Comfort Network
- CDFC Condenser Fan Contactor
- CDWS Condenser Flow Switch
- CDWP Condenser Water Pump
- CWFS Chilled Water Flow Switch
- CWP Chilled Water Pump
- CWPI Chilled Water Pump Interlock
- LLSV Liquid Line Solenoid Valve
- NEC National Electrical Code
- TB Terminal Block
- XL Across-The-Line
- Field Power Wiring
- Field Control Wiring
- Factory-Installed Wiring

- NOTES:
- Factory wiring is in accordance with National Electrical Code (NEC). Field modifications or additions must be in compliance with all applicable codes.
 - Wiring for main field supply must be rated 75° C minimum. Use copper for all units. Maximum incoming wire size for each terminal block is 500 kcmil.
 - Power for control circuit should be supplied from a separate source (except 380/415 v units) through a field-supplied disconnect with 15 amp maximum protection for 115 volt control circuits and 15 amp maximum protection for 230 volt control circuit. Connect control circuit power to terminals 1 and 2 of TB4. Control circuit conductors for all units must be copper only.
 - Control circuit power is factory wired for 380/415 v units.
 - Terminals 13 and 14 of TB2 are for field external connection for remote ON-OFF. The contacts must be rated for dry circuit application capable of handling a 24 vac to 50 mA load. Remove jumper between 13 and 14 of TB2 if remote ON-OFF is installed.
 - Terminals 11 and 12 of TB2 are for chilled water flow switch (CWFS) and chilled water pump interlock (CWPI) functions. The contacts must be rated for dry circuit application capable of handling a 24 vac to 50 mA load.
 - Terminals 4 and 5 of TB2 are for control of chilled water pump starter. The maximum load allowed for the chilled water pump relay is 125 va sealed, 1250 va inrush at 115 or 230 volt.
 - Terminals 2 and 3 of TB2 are for alarm. The maximum load allowed for the alarm is 125 va sealed, 1250 va inrush at 115 or 230 volt.
 - Terminal 6 of TB2 is for condenser fan contactor (HXC only) or circuit B condenser fan contactor (HXA only). Terminal 1 of TB2 is for circuit A condenser fan contactor (HXA only). The maximum load allowed is 125 va sealed, 1250 va inrush at 115 or 230 volt. Install CDWP or CDWC-B between TB2-6 and TB4-2 (unit control power neutral). Install CDWC-A between TB2-1 and TB4-2 (unit control power neutral). Separate field power supply is not required.
 - Terminals J7-25 and J7-32 of PSIO2 are for condenser flow switch (CDFS). The contacts must be rated for dry circuit application capable of handling a 24 vac to 50 mA load. Separate field power supply is required.

Electrical data



ELECTRICAL DATA, 30HXC UNITS

UNIT 30HXC	VOLTAGE			POWER CIRCUIT*			CONTROL CIRCUIT					ICF	
	Nameplate V-Hz (3 Ph)	Supplied											
		Min	Max	MCA	MOCP	Recommended Fuse Size	Voltage (Single Ph)	Min	Max	MCA	MOCP	WD	XL
076	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	123	200	175						307	†
	Ckt B	187	253	123	200	150						307	†
	460-60	414	506	100	150	125	115-60	104	127	15	15	148	374
	575-60	518	633	80	110	100	115-60	104	127	15	15	118	299
	380-60	342	418	121	175	150	230-60	207	253	15	15	169	419
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	115	200	150						266	†
	Ckt B	207	253	115	200	150						266	†
380/415-50	342	440	126	175	150	230-50	207	253	—	—	165	400	
086	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	148	250	200						307	†
	Ckt B	187	253	123	200	150						307	†
	460-60	414	506	111	150	125	115-60	104	127	15	15	148	374
	575-60	518	633	89	125	100	115-60	104	127	15	15	118	299
	380-60	342	418	135	200	175	230-60	207	253	15	15	169	419
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	140	250	75						305	†
	Ckt B	207	253	115	200	150						305	†
380/415-50	342	440	140	200	175	230-50	207	253	—	—	190	479	
096	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	181	300	225						354	†
	Ckt B	187	253	122	200	150						354	†
	460-60	414	506	126	175	150	115-60	104	127	15	15	172	449
	575-60	518	633	101	150	125	115-60	104	127	15	15	137	359
	380-60	342	418	153	225	175	230-60	207	253	15	15	195	502
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	169	300	225						347	†
	Ckt B	207	253	115	200	150						347	†
380/415-50	342	440	158	225	200	230-50	207	253	—	—	216	562	
106	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	219	350	300						405	†
	Ckt B	187	253	123	200	150						405	†
	460-60	414	506	143	200	175	115-60	104	127	15	15	197	529
	575-60	518	633	115	175	150	115-60	104	127	15	15	158	423
	380-60	342	418	174	250	200	230-60	207	253	15	15	223	590
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	202	350	250						397	†
	Ckt B	207	253	115	200	150						397	†
380/415-50	342	440	178	250	225	230-50	207	253	—	—	247	661	
116	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	219	350	300						426	†
	Ckt B	187	253	148	250	200						426	†
	460-60	414	506	153	225	175	115-60	104	127	15	15	207	539
	575-60	518	633	122	175	150	115-60	104	127	15	15	166	431
	380-60	342	418	185	250	225	230-60	207	253	15	15	234	601
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	202	350	250						417	†
	Ckt B	207	253	140	250	175						417	†
380/415-50	342	440	190	250	225	230-50	207	253	—	—	259	673	
126	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	219	350	300						452	†
	Ckt B	187	253	181	300	225						452	†
	460-60	414	506	165	225	200	115-60	104	127	15	15	219	551
	575-60	518	633	131	175	150	115-60	104	127	15	15	175	440
	380-60	342	418	199	250	225	230-60	207	253	15	15	248	615
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	202	350	250						440	†
	Ckt B	207	253	169	300	225						440	†
380/415-50	342	440	204	300	250	230-50	207	253	—	—	273	687	
136	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	263	450	350						512	†
	Ckt B	187	253	181	300	225						512	†
	460-60	414	506	184	250	225	115-60	104	127	15	15	249	646
	575-60	518	633	147	200	175	115-60	104	127	15	15	199	536
	380-60	342	418	222	300	300	230-60	207	253	15	15	282	720
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	245	400	300						496	†
	Ckt B	207	253	169	300	225						496	†
380/415-50	342	440	230	300	300	230-50	207	253	—	—	308	797	

See legend and notes on page 60

ELECTRICAL DATA, 30HXC UNITS (cont)

UNIT 30HXC	VOLTAGE			POWER CIRCUIT*			CONTROL CIRCUIT					ICF	
	Nameplate V-Hz (3 Ph)	Supplied		MCA	MOCP	Recommended Fuse Size	Voltage (Single Ph)	Min	Max	MCA	MOCP	WD	XL
146	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	263	450	350						542	†
	Ckt B	187	253	219	350	300						542	†
	460-60	414	506	198	250	225	115-60	104	127	15	15	262	659
	575-60	518	633	158	225	200	115-60	104	127	15	15	210	547
	380-60	342	418	240	350	300	230-60	207	253	15	15	299	737
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	245	400	300						523	†
	Ckt B	207	253	202	350	250						523	†
	380/415-50	342	440	246	350	300	230-50	207	253	—	—	324	813
161	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	285	500	350						591	†
	Ckt B	187	253	197	350	250						591	†
	460-60	414	506	200	300	250	115-60	104	127	15	15	287	756
	575-60	518	633	160	225	200	115-60	104	127	15	15	230	605
	380-60	342	418	242	350	300	230-60	207	253	15	15	325	843
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	266	450	350						578	†
	Ckt B	207	253	182	300	225						578	†
	380/415-50	342	440	249	350	300	230-50	207	253	—	—	358	944
171	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	238	400	300						624	†
	Ckt B	187	253	285	500	400						624	†
	460-60	414	506	215	300	250	115-60	104	127	15	15	302	771
	575-60	518	633	172	250	200	115-60	104	127	15	15	242	617
	380-60	342	418	260	350	300	230-60	207	253	15	15	343	861
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	219	350	300						607	†
	Ckt B	207	253	266	450	350						607	†
	380/415-50	342	440	267	350	300	230-50	207	253	—	—	376	962
186	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	285	500	400						661	†
	Ckt B	187	253	285	500	400						661	†
	460-60	414	506	232	300	300	115-60	104	127	15	15	319	788
	575-60	518	633	185	250	225	115-60	104	127	15	15	255	630
	380-60	342	418	281	400	350	230-60	207	253	15	15	364	882
	230-50						230-60	207	253	15	15		
	Ckt A	207	253	266	450	350						645	†
	Ckt B	207	253	266	450	350						645	†
	380/415-50	342	440	289	400	350	230-50	207	253	—	—	399	985
206	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	345	500	400						907	†
	Ckt B	187	253	285	500	350						907	†
	460-60	414	506	263	350	300	115-60	104	127	15	15	247	716
	575-60	518	633	210	250	250	115-60	104	127	15	15	198	573
	380-60	342	418	319	400	350	230-60	207	253	15	15	277	795
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	318	450	400						892	†
	Ckt B	207	253	266	450	350						892	†
	380/415-50	342	440	327	450	400	230-50	207	253	—	—	307	893

See legend and notes on page 60

Electrical data (cont)



ELECTRICAL DATA, 30HXC UNITS (cont)

UNIT 30HXC	VOLTAGE			POWER CIRCUIT*			CONTROL CIRCUIT					ICF	
	Nameplate V-Hz (3 Ph)	Supplied											
		Min	Max	MCA	MOCP	Recommended Fuse Size	Voltage (Single Ph)	Min	Max	MCA	MOCP	WD	XL
246	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	443	600	600						1024	†
	Ckt B	187	253	285	500	350						1024	†
	460-60	414	506	303	400	350	115-60	104	127	15	15	287	756
	575-60	518	633	242	300	300	115-60	104	127	15	15	230	605
	380-60	342	418	367	450	400	230-60	207	253	15	15	325	843
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	411	600	500						1010	†
	Ckt B	207	253	266	450	350						1010	†
	380/415-50	342	440	378	500	450	230-50	207	253	—	—	358	944
261	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	476	700	600						1057	†
	Ckt B	187	253	285	500	350						1057	†
	460-60	414	506	318	400	350	115-60	104	127	15	15	302	771
	575-60	518	633	254	300	300	115-60	104	127	15	15	242	617
	380-60	342	418	385	500	450	230-60	207	253	15	15	343	861
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	400	600	500						1039	†
	Ckt B	207	253	266	450	350						1039	†
	380/415-50	342	440	395	500	450	230-50	207	253	—	—	376	962
271	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	514	700	600						1094	†
	Ckt B	187	253	285	500	350						1094	†
	460-60	414	506	335	400	400	115-60	104	127	15	15	319	788
	575-60	518	633	268	350	300	115-60	104	127	15	15	255	630
	380-60	342	418	406	500	450	230-60	207	253	15	15	364	882
	230-50						230-50	207	253	15	15		
	Ckt A	207	253	478	600	60						1077	†
	Ckt B	207	253	266	450	350						1077	†
	380/415-50	342	440	418	500	350	230-50	207	253	—	—	399	985

LEGEND

- FLA** — Full Load Amps
ICF — Maximum Instantaneous Current Flow during start-up (the point in the starting sequence where the sum of the LRA for the start-up compressor, plus the total RLA for all running compressors, plus the total FLA for all running fan motors is at a maximum)
LRA — Locked Rotor Amps
MCA — Minimum Circuit Ampacity (for wire sizing)
MOCP — Maximum Overcurrent Protection
RLA — Rated Load Amps
WD — Wye-Delta Start
XL — Across-the-Line Start

*Units with one MCA, MOCP, and fuse size value have one terminal block and require one power supply. Units with one MCA, MOCP, and fuse value for Circuit A and another for Circuit B have 2 terminal blocks and require 2 power supplies.

†Wye-Delta Start is standard. Not available in across-the-line start.

NOTES

- Each main power source must be supplied from a field-supplied fused electrical service with a (factory- or field-installed) disconnect located in sight from the unit.
- Control circuit power must be supplied from a separate source through a field-supplied disconnect (except for 380/415-50 units). An accessory control transformer may be used to provide control circuit power from the main unit power supply.
- Maximum incoming wire size for each terminal block is 500 kcmil.
- Maximum allowable phase imbalance is voltage, 2%, amps, 5%.
- Use copper conductors only.

6 The MOCP is calculated as follows

MOCP = (2 25) (largest RLA) + the sum of the other RLAs. Size the fuse one size down from the result. The RLAs are listed on the unit nameplate.

The recommended fuse size in amps (RFA) is calculated as follows:

RFA = (1 50) (largest RLA) + the sum of the other RLAs. Size the fuse one size up from the result. The RLAs are listed on the unit nameplate.

VOLTAGE	TERMINAL BLOCKS OR NON-FUSED DISCONNECTS	CONDUCTORS
208/230	2	6
460	1	3
575	1	3
380	1	3
230	2	6
380/415	1	3



ELECTRICAL DATA, 30HXA UNITS

UNIT 30HXA	VOLTAGE			POWER CIRCUIT*			CONTROL CIRCUIT					ICF	
	Nameplate V-Hz (3 Ph)	Supplied											
		Min	Max	MCA	MOCP	Recommended Fuse Size	Voltage (Single Ph)	Min	Max	MCA	MOCP	WD	XL
076	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	180	300	225						451	†
	Ckt B	187	253	180	300	225						451	†
	460-60	414	506	146	200	175	115-60	104	127	15	15	218	550
	575-60	518	633	117	150	150	115-60	104	127	15	15	175	440
	380-60	342	418	177	250	200	230-60	207	254	15	15	248	615
	230-50						230-50	207	254	15	15		
	Ckt A	207	253	169	300	225						440	†
	Ckt B	207	253	169	300	225						440	†
380/415-50	342	440	183	250	225	230-50	207	254	—	—	273	687	
086	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	215	350	300						511	†
	Ckt B	187	253	180	300	225						511	†
	460-60	414	506	162	225	200	115-60	104	127	15	15	248	645
	575-60	518	633	130	175	150	115-60	104	127	15	15	199	536
	380-60	342	418	196	250	225	230-60	207	254	15	15	282	720
	230-50						230-50	207	254	15	15		
	Ckt A	207	253	205	350	250						496	†
	Ckt B	207	253	169	300	225						496	†
380/415-50	342	440	206	300	250	230-50	207	254	—	—	308	797	
096	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	262	450	350						577	†
	Ckt B	187	253	180	300	225						577	†
	460-60	414	506	183	250	225	115-60	104	127	15	15	281	750
	575-60	518	633	147	200	175	115-60	104	127	15	15	225	600
	380-60	342	418	222	300	300	230-60	207	254	15	15	318	836
	230-50						230-50	207	254	15	15		
	Ckt A	207	253	248	400	300						567	†
	Ckt B	207	253	169	300	225						567	†
380/415-50	342	440	231	350	300	230-50	207	254	—	—	352	938	
106	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	319	500	400						662	†
	Ckt B	187	253	180	300	225						662	†
	460-60	414	506	209	300	250	115-60	104	127	15	15	324	885
	575-60	518	633	167	250	200	115-60	104	127	15	15	259	708
	380-60	342	418	253	350	300	230-60	207	254	15	15	365	985
	230-50						230-50	207	254	15	15		
	Ckt A	207	253	300	500	400						620	†
	Ckt B	207	253	169	300	225						620	†
380/415-50	342	440	263	400	300	230-50	207	254	—	—	385	1042	
116	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	319	500	400						690	†
	Ckt B	187	253	215	350	300						690	†
	460-60	414	506	222	300	300	115-60	104	127	15	15	337	898
	575-60	518	633	177	250	200	115-60	104	127	15	15	269	718
	380-60	342	418	269	400	350	230-60	207	254	15	15	380	1000
	230-50						230-50	207	254	15	15		
	Ckt A	207	253	300	500	400						649	†
	Ckt B	207	253	205	350	250						402	1059
380/415-50	342	440	281	400	350	230-50	207	254	—	—			
126	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	319	500	400						728	†
	Ckt B	187	253	262	450	350						728	†
	460-60	414	506	239	350	300	115-60	104	127	15	15	354	915
	575-60	518	633	191	250	225	115-60	104	127	15	15	283	732
	380-60	342	418	289	400	350	230-60	207	254	15	15	401	1021
	230-50						230-50	207	254	15	15		
	Ckt A	207	253	300	500	400						683	†
	Ckt B	207	253	248	400	300						683	†
380/415-50	342	440	302	400	350	230-50	207	254	—	—	423	1080	
136	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	389	700	500						791	†
	Ckt B	187	253	262	450	350						791	†
	460-60	414	506	271	400	350	115-60	104	127	15	15	386	1015
	575-60	518	633	216	300	250	115-60	104	127	15	15	309	812
	380-60	342	418	328	450	400	230-60	207	254	15	15	436	1132
	230-50						230-50	207	254	15	15		
	Ckt A	207	253	369	600	450						817	†
	Ckt B	207	253	248	400	300						817	†
380/415-50	342	440	343	500	400	230-50	207	254	—	—	507	1346	

See legend and notes on page 63

Electrical data (cont)



ELECTRICAL DATA, 30HXA UNITS (cont)

UNIT 30HXA	VOLTAGE			POWER CIRCUIT*			CONTROL CIRCUIT					ICF	
	Nameplate V-Hz (3 Ph)	Supplied											
		Min	Max	MCA	MOCP	Recommended Fuse Size	Voltage (Single Ph)	Min	Max	MCA	MOCP	WD	XL
146	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	389	700	500						837	†
	Ckt B	187	253	319	500	400						837	†
	460-60	414	506	291	400	350	115-60	104	127	15	15	406	1035
	575-60	518	633	233	300	300	115-60	104	127	15	15	325	828
	380-60	342	418	353	500	400	230-60	207	254	15	15	461	1157
	230-50						230-50	207	254	15	15		
	Ckt A	207	253	369	600	450						859	†
161	Ckt B	207	253	300	500	400						859	†
	380/415-50	342	440	369	500	450	230-50	207	254	—	—	532	1371
	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	437	700	600						979	†
	Ckt B	187	253	295	500	400						979	†
	460-60	414	506	304	450	350	115-60	104	127	15	15	478	1282
	575-60	518	633	243	350	300	115-60	104	127	15	15	382	1025
	380-60	342	418	368	500	450	230-60	207	254	15	15	539	1428
171	230-50						230-50	207	254	15	15		
	Ckt A	207	253	415	700	500						858	†
	Ckt B	207	253	275	450	350						858	†
	380/415-50	342	440	385	500	450	230-50	207	254	—	—	533	1398
	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	359	600	450						1030	†
	Ckt B	187	253	437	700	600						1030	†
	460-60	414	506	327	450	400	115-60	104	127	15	15	501	1305
186	575-60	518	633	261	350	300	115-60	104	127	15	15	401	1044
	380-60	342	418	396	500	450	230-60	207	254	15	15	567	1456
	230-50						230-50	207	254	15	15		
	Ckt A	207	253	334	600	450						905	†
	Ckt B	207	253	415	700	500						905	†
	380/415-50	342	440	413	600	500	230-50	207	254	—	—	562	1427
	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	437	700	600						1093	†
206	Ckt B	187	253	437	700	600						1093	†
	460-60	414	506	355	500	400	115-60	104	127	15	15	529	1333
	575-60	518	633	284	400	350	115-60	104	127	15	15	539	1066
	380-60						230-60	207	254	15	15	601	1490
	Ckt A	342	418	239	400	300	230-60	207	254	15	15	601	1490
	Ckt B	342	418	239	400	300	230-50	207	254	15	15		
	230-50						230-50	207	254	15	15		
	Ckt A	207	253	415	700	500						970	†
246	Ckt B	207	253	415	700	500						970	†
	380/415-50	342	440	453	600	600	230-50	207	254	—	—	601	1466
	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	521	800	600						743	†
	Ckt B	187	253	437	700	600						743	†
	460-60						115-60	104	127	15	15		
	Ckt A	414	506	235	350	300						364	993
	Ckt B	414	506	197	350	250						371	1175
206	575-60						115-60	104	127	15	15		
	Ckt A	518	633	188	250	225						292	796
	Ckt B	518	633	158	250	200						297	940
	380-60						230-60	207	254	15	15		
	Ckt A	342	418	285	400	350						410	1106
	Ckt B	342	418	239	400	300						410	1299
	230-50						230-50	207	254	15	15		
	Ckt A	207	253	486	700	600						771	†
246	Ckt B	207	253	415	700	500						638	†
	380/415-50						230-50	207	254	15	15		
	Ckt A	342	440	294	450	350						479	1318
	Ckt B	342	440	252	450	250						400	1265
	208/230-60						115-60	104	127	15	15		
	Ckt A	187	253	673	1000	800						979	†
	Ckt B	187	253	437	700	600						743	†
	460-60						115-60	104	127	15	15		
246	Ckt A	414	506	304	450	350						478	1282
	Ckt B	414	506	197	350	250						371	1175
	575-60						115-60	104	127	15	15		
	Ckt A	518	633	243	350	300						382	1025
	Ckt B	518	633	158	250	200						297	940
	380-60						230-60	207	254	15	15		
	Ckt A	342	418	368	500	450						539	1428
	Ckt B	342	418	239	400	300						410	1299
246	230-50						230-50	207	254	15	15		
	Ckt A	207	253	636	800	800						748	†
	Ckt B	207	253	415	700	500						638	†
	380/415-50						230-50	207	254	15	15		
	Ckt A	342	440	385	500	450						533	1398
	Ckt B	342	440	252	450	350						400	1265

See legend and notes on page 63

ELECTRICAL DATA, 30HXA UNITS (cont)

UNIT 30HXA	VOLTAGE			POWER CIRCUIT*			CONTROL CIRCUIT					ICF	
	Nameplate V-Hz (3 Ph)	Supplied		MCA	MOCP	Recommended Fuse Size	Voltage (Single Ph)	Min	Max	MCA	MOCP	WD	XL
		Min	Max										
261	208/230-60						115-60	104	127	15	15	1030	†
	Ckt A	187	253	724	1000	1000						743	†
	Ckt B	187	253	437	700	600							
	460-60						115-60	104	127	15	15	501	1305
	Ckt A	414	506	327	450	400						371	1175
	Ckt B	414	506	197	350	250							
	575-60						115-60	104	127	15	15	401	1044
	Ckt A	518	633	261	350	300						297	940
	Ckt B	518	633	158	250	200							
	380-60						230-60	207	254	15	15	567	1456
	Ckt A	342	418	396	500	450						410	1299
	Ckt B	342	418	239	400	300							
	230-50						230-50	207	254	15	15	905	†
	Ckt A	207	253	683	1000	800						538	†
	Ckt B	207	253	415	700	500							
271	380/415-50						230-50	207	254	15	15	562	1427
	Ckt A	342	440	413	600	500						400	1265
	Ckt B	342	440	252	450	350							
	208/230-60						115-60	104	127	15	15	1093	†
	Ckt A	187	253	787	1000	1000						743	†
	Ckt B	187	253	437	700	600							
	460-60						115-60	104	127	15	15	529	1333
	Ckt A	414	506	355	500	400						371	1175
	Ckt B	414	506	197	350	250							
	575-60						115-60	104	127	15	15	423	1066
	Ckt A	518	633	284	400	350						297	940
	Ckt B	518	633	158	250	200							
	380-60						230-60	207	254	15	15	601	1490
	Ckt A	342	418	430	600	500						410	1299
	Ckt B	342	418	239	400	300							

LEGEND

- FLA** — Full Load Amps
ICF — Maximum Instantaneous Current Flow during start-up (the point in the starting sequence where the sum of the LRA for the start-up compressor, plus the total RLA for all running compressors, plus the total FLA for all running fan motors is at a maximum)
LRA — Locked Rotor Amps
MCA — Minimum Circuit Ampacity (for wire sizing)
MOCP — Maximum Overcurrent Protection
RLA — Rated Load Amps
WD — Wye-Delta Start
XL — Across-the-Line Start

*Units with one MCA, MOCP, and fuse size value have one terminal block and require one power supply. Units with one MCA, MOCP, and fuse value for Circuit A and another for Circuit B have 2 terminal blocks and require 2 power supplies.

†Wye-Delta Start is standard. Not available in across-the-line start.

**The 30HXA186, 380-3-60 and 206-271 units have 2 terminal blocks/non-fused disconnects and 6 parallel conductors.

NOTES

- 1 Main power must be supplied from a field-supplied fused electrical service with a (factory- or field-installed) disconnect located in sight from the unit.
- 2 Control circuit power must be supplied from a separate source through a field-supplied disconnect (except for 380/415-50 units). An accessory control transformer may be used to provide control circuit power from the main unit power supply.
- 3 Maximum incoming wire size for each terminal block is 500 kcmil.
- 4 Maximum allowable phase imbalance is voltage, 2%, amps, 5%.
- 5 Use copper conductors only.

- 6 The MOCP is calculated as follows:

MOCP = (2.25) (largest RLA) + the sum of the other RLAs. Size the fuse one size down from the result. The RLAs are listed on the unit nameplate.

The recommended fuse size in amps (RFA) is calculated as follows:

RFA = (1.50) (largest RLA) + the sum of the other RLAs. Size the fuse one size up from the result. The RLAs are listed on the unit nameplate.

- 7 Units have the following power wiring terminal blocks and parallel conductors:

VOLTAGE	TERMINAL BLOCKS OR NON-FUSED DISCONNECTS**	CONDUCTORS
208/230	2	6
460	1	3
575	1	3
380	1	3
230	2	6
380/415	1	3



Electrical data (cont)



COMPRESSOR ELECTRICAL DATA, 30HXC UNITS

UNIT SIZE 30HXC	NAMEPLATE V-Hz (3 Phase)	COMPRESSOR NUMBERS			
		A1		B1	
		RLA	LRA	RLA	LRA
076-XL	208/230-60	*	*	*	*
	460-60	44.3	330	44.3	330
	575-60	35.4	264	35.4	264
	380-60	53.7	365	53.7	365
	230-50	*	*	*	*
	380/415-50	55.8	344	55.8	344
076-WD	208/230-60	98.1	209	98.1	209
	460-60	44.3	104	44.3	104
	575-60	35.4	83	35.4	83
	380-60	53.7	115	53.7	115
	230-50	92.1	174	92.1	174
	380/415-50	55.8	109	55.8	109
086-XL	208/230-60	*	*	*	*
	460-60	53.6	330	44.3	330
	575-60	42.8	264	35.4	264
	380-60	64.9	365	53.7	365
	230-50	*	*	*	*
	380/415-50	67.7	423	55.8	344
086-WD	208/230-60	118.6	209	98.1	209
	460-60	53.6	104	44.3	104
	575-60	42.8	83	35.4	83
	380-60	64.9	115	53.7	115
	230-50	111.8	213	92.1	174
	380/415-50	67.7	134	55.8	109
096-XL	208/230-60	*	*	*	*
	460-60	65.5	405	44.3	330
	575-60	52.3	324	35.4	264
	380-60	79.2	448	53.7	365
	230-50	*	*	*	*
	380/415-50	81.7	506	55.8	344
096-WD	208/230-60	144.9	256	98.1	209
	460-60	65.5	128	44.3	104
	575-60	52.3	102	35.4	83
	380-60	79.2	141	53.7	115
	230-50	134.9	255	92.1	174
	380/415-50	81.7	160	55.8	109
106-XL	208/230-60	*	*	*	*
	460-60	79.2	485	44.3	330
	575-60	63.3	388	35.4	264
	380-60	95.9	536	53.7	365
	230-50	*	*	*	*
	380/415-50	97.8	605	55.8	344
106-WD	208/230-60	175.4	307	98.1	209
	460-60	79.2	153	44.3	104
	575-60	63.3	123	35.4	83
	380-60	95.9	169	53.7	115
	230-50	161.7	305	92.1	174
	380/415-50	97.8	191	55.8	109

LEGEND

LRA — Locked Rotor Amps
RLA — Rated Load Amps
WD — Wye-Delta Start
XL — Across-the-Line Start

*Units are shipped with wye-delta start as standard. Across-the-line start is not available



COMPRESSOR ELECTRICAL DATA, 30HXC UNITS (cont)

UNIT SIZE 30HXC	NAMEPLATE V-Hz (3 Phase)	COMPRESSOR NUMBERS			
		A1		B1	
		RLA	LRA	RLA	LRA
116-XL	208/230-60	*	*	*	*
	460-60	79.2	485	53.6	330
	575-60	63.3	388	42.8	264
	380-60	95.9	536	64.9	365
	230-50	*	*	*	*
	380/415-50	87.8	605	67.7	423
116-WD	208/230-60	175.4	307	118.6	209
	460-60	79.2	153	53.6	104
	575-60	63.3	123	42.8	83
	380-60	95.5	169	64.9	115
	230-50	161.7	305	111.8	213
	380/415-50	97.8	191	67.7	134
126-XL	208/230-60	*	*	*	*
	460-60	79.2	485	65.5	405
	575-60	63.3	388	52.3	324
	380-60	95.9	536	79.2	448
	230-50	*	*	*	*
	380/415-50	97.8	605	81.7	506
126-WD	208/230-60	175.4	307	144.9	256
	460-60	79.2	153	65.5	128
	575-60	63.3	123	52.3	102
	380-60	95.9	169	79.2	141
	230-50	161.7	305	134.9	255
	380/415-50	97.8	191	81.7	160
136-XL	208/230-60	*	*	*	*
	460-60	94.9	580	65.5	405
	575-60	75.8	484	52.3	324
	380-60	114.9	641	79.2	448
	230-50	*	*	*	*
	380/415-50	118.8	715	81.7	506
136-WD	208/230-60	210.0	367	144.9	256
	460-60	94.6	183	65.5	128
	575-60	75.8	147	52.3	102
	380-60	114.9	203	79.2	141
	230-50	196.3	361	134.9	255
	380/415-50	118.8	226	81.7	160
146-XL	208/230-60	*	*	*	*
	460-60	94.9	580	79.2	485
	575-60	75.8	484	63.3	388
	380-60	114.9	641	95.9	536
	230-50	*	*	*	*
	380/415-50	118.8	715	97.8	605
146-WD	208/230-60	210.0	367	175.4	307
	460-60	94.9	183	79.2	153
	575-60	75.8	147	63.3	123
	380-60	114.9	203	95.9	169
	230-50	196.3	361	161.7	305
	380/415-50	118.8	226	97.8	191

LEGEND

LRA — Locked Rotor Amps
RLA — Rated Load Amps
WD — Wye-Delta Start
XL — Across-the-Line Start

*Units are shipped with wye-delta start as standard. Across-the-line start is not available.

Electrical data (cont)



COMPRESSOR ELECTRICAL DATA, 30HXC UNITS (cont)

UNIT SIZE 30HXC	NAMEPLATE V-Hz (3 Phase)	COMPRESSOR NUMBERS			
		A1		B1	
		RLA	LRA	RLA	LRA
161-XL	208/230-60	*	*	*	*
	460-60	103 1	685	71 2	525
	575-60	82 4	548	56 9	420
	380-60	124 8	757	86 2	580
	230-50	*	*	*	*
	380/415-50	128 6	856	88 2	600
161-WD	208/230-60	228.8	433	157.6	350
	460-60	103 1	216	71 2	175
	575-60	82.4	173	56 9	140
	380-60	124 8	239	86 2	193
	230-50	212 5	432	145 7	348
	380/415-50	128 6	270	88 2	200
171-XL	208/230-60	*	*	*	*
	460-60	86 1	580	103 1	685
	575-60	68 8	484	82 4	548
	380-60	104 2	641	124 8	757
	230-50	*	*	*	*
	380/415-50	105 8	715	128 6	856
171-WD	208/230-60	190 6	367	228 8	433
	460-60	86 1	183	103 1	216
	575-60	68 8	147	82.4	173
	380-60	104.2	203	124.8	239
	230-50	174 8	361	212 5	432
	380/415-50	105 8	233	128 6	270
186-XL	208/230-60	*	*	*	*
	460-60	103 1	685	103.1	685
	575-60	82 4	548	82 4	548
	380-60	124 8	757	124 8	757
	230-50	*	*	*	*
	380/415-50	128 6	856	128 6	856
186-WD	208/230-60	228 8	433	228 8	433
	460-60	103 1	216	103 1	216
	575-60	82.4	173	82.4	173
	380-60	124 8	239	124 8	239
	230-50	212 5	432	212.5	432
	380/415-50	128 6	270	128 6	270

LEGEND

LRA — Locked Rotor Amps
RLA — Rated Load Amps
WD — Wye-Delta Start
XL — Across-the-Line Start

*Units are shipped with wye-delta start as standard. Across-the-line start is not available.

COMPRESSOR ELECTRICAL DATA, 30HXC UNITS (cont)

UNIT SIZE 30HXC	NAMEPLATE V-Hz (3 Phase)	COMPRESSOR NUMBERS					
		A1		A2		B1	
		RLA	LRA	RLA	LRA	RLA	LRA
206-XL	208/230-60	*	*	*	*	*	*
	460-60	86 1	580	44 3	330	103 1	685
	575-60	68 8	484	35 4	264	82 4	548
	380-60	104 2	641	53 7	365	124.8	757
	230-50	*	*	*	*	*	*
	380/415-50	105 8	715	55 8	344	128 6	856
206-WD	208/230-60	190 6	367	98 1	209	228 8	433
	460-60	86 1	183	44 3	104	103 1	216
	575-60	68.8	147	35 4	83	82.4	173
	380-60	104 2	203	53 7	115	124 8	239
	230-50	174 8	361	92.1	174	212.5	432
	380/415-50	105 8	233	55 8	109	128 6	270
246-XL	208/230-60	*	*	*	*	*	*
	460-60	103 1	685	71 2	525	103.1	685
	575-60	82 4	548	56 9	420	82.4	548
	380-60	124 8	757	86 2	580	124 8	757
	230-50	*	*	*	*	*	*
	380/415-50	128 6	856	88 2	600	128 6	856
246-WD	208/230-60	228 8	433	157 6	350	228 8	433
	460-60	103.1	216	71 2	175	103 1	216
	575-60	82 4	173	56 9	140	82 4	173
	380-60	124 8	239	86 2	193	124 8	239
	230-50	212 5	432	145 7	348	212 5	432
	380/415-50	128.6	270	88.2	200	128 6	270
261-XL	208/230-60	*	*	*	*	*	*
	460-60	103 1	685	86.1	580	103 1	685
	575-60	82 4	548	68 8	484	82 4	548
	380-60	124 8	757	104 2	641	124 8	757
	230-50	*	*	*	*	*	*
	380/415-50	128 6	856	105.8	715	128 6	856
261-WD	208/230-60	228 8	433	190.6	367	228 8	433
	460-60	103 1	216	86 1	183	103 1	216
	575-60	82.4	173	68 8	147	82 4	173
	380-60	124.8	239	104.2	203	124.8	239
	230-50	212 5	432	174 8	361	212 5	432
	380/415-50	128 6	270	105 8	233	128 6	270
271-XL	208/230-60	*	*	*	*	*	*
	460-60	103.1	685	103 1	685	103 1	685
	575-60	82 4	548	82 4	548	82.4	548
	380-60	124 8	757	124 8	757	124 8	757
	230-50	*	*	*	*	*	*
	380/415-50	128 6	856	128 6	856	128 6	856
271-WD	208/230-60	228 8	433	228.8	433	228 8	433
	460-60	103 1	216	103 1	216	103 1	216
	575-60	82 4	173	82 4	173	82 4	173
	380-60	124 8	239	124 8	239	124 8	239
	230-50	212 5	432	212 5	432	212 5	432
	380/415-50	128 6	270	128 6	270	128 6	270

LEGEND

LRA — Locked Rotor Amps
RLA — Rated Load Amps
WD — Wye-Delta Start
XL — Across-the-Line Start

*Units are shipped with wye-delta start as standard. Across-the-line start is not available.

Electrical data (cont)



COMPRESSOR ELECTRICAL DATA, 30HXA UNITS

UNIT SIZE 30HXA	NAMEPLATE V-Hz (3 Phase)	COMPRESSOR NUMBERS			
		A1		B1	
		RLA	LRA	RLA	LRA
076-XL	208/230-60	*	*	*	*
	460-60	64.9	485	64.9	485
	575-60	51.9	388	51.9	388
	380-60	78.7	536	78.7	536
	230-50	*	*	*	*
	380/415-50	81.5	605	81.5	605
076-WD	208/230-60	143.8	307	143.8	307
	460-60	64.9	153	64.9	153
	575-60	51.9	123	51.9	123
	380-60	78.7	169	78.7	169
	230-50	134.8	305	134.8	305
	380/415-50	81.5	191	81.5	191
086-XL	208/230-60	*	*	*	*
	460-60	77.6	580	64.9	485
	575-60	62.1	484	51.9	388
	380-60	94.0	641	78.7	536
	230-50	*	*	*	*
	380/415-50	99.2	715	81.5	605
086-WD	208/230-60	171.9	367	143.8	307
	460-60	77.6	183	64.9	153
	575-60	62.1	147	51.9	123
	380-60	94.0	203	78.7	169
	230-50	163.9	361	134.8	305
	380/415-50	99.2	226	81.5	191
096-XL	208/230-60	*	*	*	*
	460-60	94.8	685	64.9	485
	575-60	75.7	548	51.9	388
	380-60	114.7	757	78.7	536
	230-50	*	*	*	*
	380/415-50	119.9	856	81.5	685
096-WD	208/230-60	209.8	433	143.8	307
	460-60	94.8	216	64.9	153
	575-60	75.5	173	51.9	123
	380-60	114.7	239	78.7	169
	230-50	198.2	432	134.8	305
	380/415-50	119.9	270	81.5	191
106-XL	208/230-60	*	*	*	*
	460-60	115.4	820	64.9	485
	575-60	92.2	656	51.9	388
	380-60	139.7	906	78.7	536
	230-50	*	*	*	*
	380/415-50	145.4	960	81.5	605
106-WD	208/230-60	255.5	518	143.8	307
	460-60	115.4	259	64.9	153
	575-60	92.2	207	51.9	123
	380-60	139.7	286	78.7	169
	230-50	240.2	485	134.8	305
	380/415-50	145.4	303	81.5	191

LEGEND

LRA — Locked Rotor Amps
RLA — Rated Load Amps
WD — Wye-Delta Start
XL — Across-the-Line Start

*Units are shipped with wye-delta start as standard. Across-the-line start is not available.

COMPRESSOR ELECTRICAL DATA, 30HXA UNITS (cont)

UNIT SIZE 30HXA	NAMEPLATE V-Hz (3 Phase)	COMPRESSOR NUMBERS			
		A1		B1	
		RLA	LRA	RLA	LRA
116-XL	208/230-60	*	*	*	*
	460-60	115.4	820	77.6	580
	575-60	92.2	656	62.1	484
	380-60	139.7	906	94.0	641
	230-50	*	*	*	*
	380/415-50	145.4	960	99.2	715
116-WD	208/230-60	255.5	578	171.9	367
	460-60	115.4	259	77.6	183
	575-60	92.2	207	62.1	147
	380-60	139.7	286	94.0	203
	230-50	240.2	485	163.9	361
	380/415-50	145.4	303	99.2	226
126-XL	208/230-60	*	*	*	*
	460-60	115.4	820	94.8	685
	575-60	92.2	656	75.7	548
	380-60	139.7	906	114.7	757
	230-50	*	*	*	*
	380/415-50	145.4	960	119.9	856
126-WD	208/230-60	255.5	518	209.8	447
	460-60	115.4	259	94.8	216
	575-60	92.2	207	75.7	173
	380-60	139.7	286	114.7	239
	230-50	240.2	485	198.2	432
	380/415-50	145.4	303	119.9	270
136-XL	208/230-60	*	*	*	*
	460-60	140.7	920	94.8	685
	575-60	112.4	736	75.7	548
	380-60	170.2	1017	114.7	757
	230-50	*	*	*	*
	380/415-50	178.8	1226	119.9	856
136-WD	208/230-60	311.4	581	209.8	433
	460-60	140.7	291	94.8	216
	575-60	112.4	233	75.7	173
	380-60	170.2	321	114.7	239
	230-50	295.3	619	198.2	432
	380/415-50	178.8	387	119.9	276
146-XL	208/230-60	*	*	*	*
	460-60	140.7	920	115.4	820
	575-60	112.4	736	92.2	656
	380-60	170.2	1017	139.7	906
	230-50	*	*	*	*
	380/415-50	178.8	1226	145.4	960
146-WD	208/230-60	311.4	581	255.5	518
	460-60	140.7	291	115.4	259
	575-60	112.4	233	92.2	207
	380-60	170.2	321	139.7	286
	230-50	295.3	619	240.2	485
	380/415-50	178.8	387	145.4	303

LEGEND

LRA — Locked Rotor Amps
RLA — Rated Load Amps
WD — Wye-Delta Start
XL — Across-the-Line Start

*Units are shipped with wye-delta start as standard. Across-the-line start is not available.

Electrical data (cont)



COMPRESSOR ELECTRICAL DATA, 30HXA UNITS (cont)

UNIT SIZE 30HXA	NAMEPLATE V-Hz (3 Phase)	COMPRESSOR NUMBERS			
		A1		B1	
		RLA	LRA	RLA	LRA
161-XL	208/230-60	*	*	*	*
	460-60	157.9	1175	106.6	790
	575-60	126.2	940	85.1	630
	380-60	191.2	1299	129.0	870
	230-50	*	*	*	*
	380/415-50	201.2	1265	133.4	1045
161-WD	208/230-60	349.6	743	235.9	527
	460-60	157.9	371	106.6	263
	575-60	126.2	297	85.1	211
	380-60	191.2	410	129.0	290
	230-50	332.3	638	220.3	607
	380/415-50	201.2	400	133.4	348
171-XL	208/230-60	*	*	*	*
	460-60	129.6	920	157.9	1175
	575-60	103.6	736	126.2	940
	380-60	156.9	1017	191.2	1299
	230-50	*	*	*	*
	380/415-50	161.7	1226	201.2	1265
171-WD	208/230-60	286.9	581	349.6	743
	460-60	129.6	291	157.9	371
	575-60	103.6	233	126.2	297
	380-60	156.9	321	191.2	410
	230-50	267.2	619	332.3	638
	380/415-50	161.7	387	201.2	400
186-XL	208/230-60	*	*	*	*
	460-60	157.9	1175	157.9	1175
	575-60	126.2	940	126.2	940
	380-60	191.2	1299	191.2	1299
	230-50	*	*	*	*
	380/415-50	201.2	1265	201.2	1265
186-WD	208/230-60	349.6	743	349.6	743
	460-60	157.9	371	157.9	371
	575-60	126.2	297	126.2	297
	380-60	191.2	410	191.2	410
	230-50	332.3	638	332.3	638
	380/415-50	201.2	400	201.2	400

LEGEND

LRA — Locked Rotor Amps
RLA — Rated Load Amps
WD — Wye-Delta Start
XL — Across-the-Line Start

*Units are shipped with wye-delta start as standard. Across-the-line start is not available.

COMPRESSOR ELECTRICAL DATA, 30HXA UNITS (cont)

UNIT SIZE 30HXA	NAMEPLATE V-Ph (3 Phase)	COMPRESSOR NUMBERS					
		A1		A2		B1	
		RLA	LRA	RLA	LRA	RLA	LRA
206-XL	208/230-60	*	*	*	*	*	*
	460-60	129 6	920	73 1	580	157 9	1175
	575-60	103 6	736	58 5	484	126 2	940
	380-60	156 9	1017	88 5	641	191 2	1299
	230-50	*	*	*	*	*	*
	380/415-50	161 7	1226	92 0	715	201.2	1265
206-WD	208/230-60	286 9	581	162 0	367	349 6	743
	460-60	129 6	291	73 1	183	157 9	371
	575-60	103 6	233	58 5	147	126 2	297
	380-60	156 9	321	88 5	203	191 2	410
	230-50	267 2	619	152 0	361	332.3	638
	380/415-50	161 7	387	92 0	226	201 2	400
246-XL	208/230-60	*	*	*	*	*	*
	460-60	157 9	1175	106 6	820	157 9	1175
	575-60	126 2	940	85 1	656	126.2	940
	380-60	191 2	1299	129 0	906	191 2	1299
	230-50	*	*	*	*	*	*
	380/415-50	201 2	1265	133 4	960	201 2	1265
246-WD	208/230-60	349 6	743	235 9	518	349.6	743
	460-60	157 9	371	106 6	259	157 9	371
	575-60	126 2	297	85 1	207	126 2	297
	380-60	191 2	410	129.0	286	191 2	410
	230-50	332 3	638	220 3	485	332 3	638
	380/415-50	201.2	400	133 4	303	201.2	400
261-XL	208/230-60	*	*	*	*	*	*
	460-60	157.9	1175	129 6	920	157 9	1175
	575-60	126.2	940	103 6	736	126 2	940
	380-60	191 2	1299	156 9	1017	191 2	1299
	230-50	*	*	*	*	*	*
	380/415-50	201 2	1265	161 7	1226	201 2	1265
261-WD	208/230-60	349.6	743	286 9	581	349 6	743
	460-60	157 9	371	129 6	291	157.9	371
	575-60	126 2	297	103 6	233	126 2	297
	380-60	191 2	410	156 9	321	191 2	410
	230-50	332.3	638	267 2	619	332 3	638
	380/415-50	201 2	400	161 7	387	201.2	400
271-XL	208/230-60	*	*	*	*	*	*
	460-60	157.9	1175	157 9	1175	157 9	1175
	575-60	126.2	940	126 2	940	126 2	940
	380-60	191 2	1299	191 2	1299	191 2	1299
	230-50	*	*	*	*	*	*
	380/415-50	201 2	1265	201 2	1265	201 2	1265
271-WD	208/230-60	349 6	743	349 6	743	349 6	743
	460-60	157 9	371	157 9	371	157 9	371
	575-60	126 2	297	126.2	297	126 2	297
	380-60	191 2	410	191 2	410	191 2	410
	230-50	332 3	638	332 3	638	332 3	638
	380/415-50	201 2	400	201 2	400	201 2	400

LEGEND

LRA — Locked Rotor Amps
RLA — Rated Load Amps
WD — Wye-Delta Start
XL — Across-the-Line Start

*Units are shipped with wye-delta as standard. Across-the-line start is not available

Controls



The standard microprocessor-based control in the 30HX units provides the following functions:

- leaving fluid temperature control (using both entering and leaving fluid sensors)
- 7-day time sequence of both pump and chiller
- temperature reset from return fluid (standard) or from outdoor ambient (accessory), occupied space temperature (accessory), 4 to 20 mA signal (accessory), or via the optional Carrier Comfort Network (CCN)
- automatic compressor lead-lag switching based on compressor accumulated run times and number of cycles
- automatic temperature range across the cooler adjustment
- fully automatic control of the chiller components

A standard 2-line, 24-character per line display is used to accomplish the following (see figure below):

- set schedules and set points
- identify operating mode
- display current temperatures and pressures being used by the control for internal calculations
- identify abnormal (alarm or alert) conditions

An accessory 16-line, 40-character per line, indoor display is also available (see figure below). This accessory displays the same information as the standard display, but has the advantage of being able to display multiple points simultaneously.

Sequence of operation

The control has a 44 F (6.2 C) leaving fluid temperature (LWT) set point as shipped from the factory. If temperature reset or demand limiting is in effect, this set point may change.

Start-up — The circulating pump is energized (either externally or by the internal timeclock). The chiller starts (If the flow switch is applied, the chiller starts after the flow has been proven. All 30HX chillers require loss of flow protection) The compressor starts unloaded.

NOTE: Which compressor starts first is determined by the automatic lead/lag feature.

If the entering fluid temperature is 85 F (29 C) or higher, the maximum operating pressure (MOP) feature limits the suction pressure to keep the chiller on line.

Normal operation — The entering fluid temperature sensor monitors changes in entering fluid temperature to anticipate changes in the cooling load. Based on leaving fluid temperature, the control adds or subtracts capacity to maintain a constant leaving fluid temperature

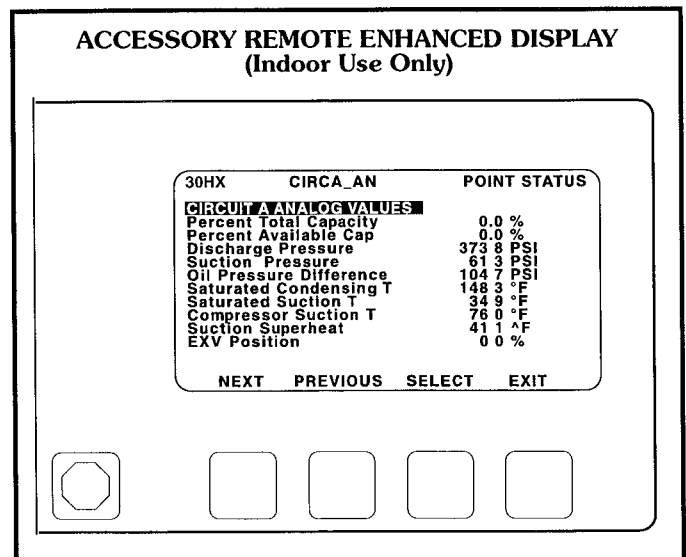
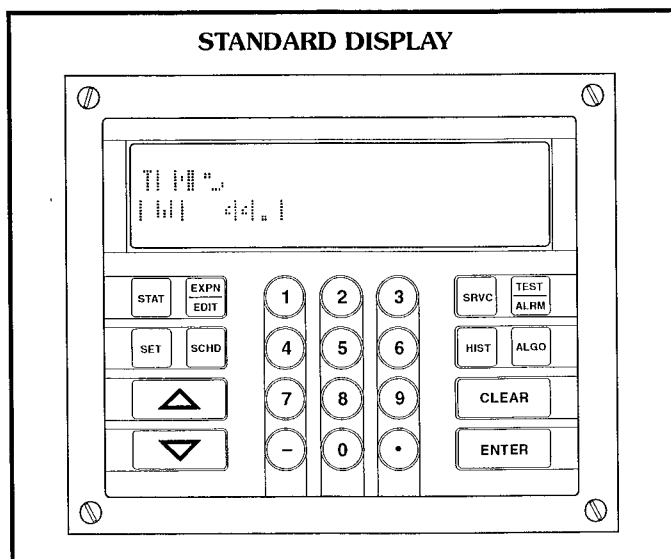
Transition to off — The chiller unloads once the “time-to-stop” signal has been given. This signal can be either internal or external

Safeties — The 30HX control as shipped from the factory automatically deenergizes any active compressor that experiences any of the following:

- electrical overload
- thermal overload protection
- high pressure
- low oil pressure
- loss of refrigerant charge
- loss of phase protection
- reverse rotation (control prevents compressor start)
- current imbalance
- ground current
- low chilled fluid temperature

Additional information

Detailed information on controls and operation is available in the Controls, Start-Up, Operation and Troubleshooting guide included with each unit. Packaged Service Training programs are also available. Contact your Carrier representative for more information.



Guide specifications



Fluid-Cooled and Condenserless Liquid Chillers

HVAC Guide Specifications

Size Range: **75 to 265 Tons (264 to 931 kW)**

Carrier Model Number: **30HXA — Condenserless**
30HXC — Fluid Cooled

Part 1 — General

1.01 SYSTEM DESCRIPTION

Microprocessor controlled, fluid-cooled (30HXC) or condenserless (30HXA) liquid chiller utilizing screw compressors and electronic expansion valves

1.02 QUALITY ASSURANCE

- A Unit shall be rated in accordance with ARI Standard 550/590, latest revision (U.S.A.). The 60 Hz 30HXC units shall be ARI certified for performance.
- B Unit construction shall comply with ASHRAE 15 Safety Code, NEC, and ASME applicable codes (U.S.A. codes)
- C Unit shall be manufactured at an ISO 9002 registered facility
- D All 208/230 v, 460 v, 575 v, 60 Hz units shall be constructed in accordance with UL or CSA standards and shall be tested and listed by ETL or ETL, Canada, as conforming to those standards. Units shall carry the ETL and ETL, Canada, labels

1.03 DELIVERY, STORAGE, AND HANDLING

- A. Unit controls shall be capable of withstanding 150 F (66 C) storage temperatures in the control compartment.
- B. Unit shall be stored and handled per unit manufacturer's recommendations

Part 2 — Products

2.01 EQUIPMENT

A General:

Factory assembled, single-piece, fluid-cooled (30HXC) or condenserless (30HXA) liquid chiller with dual (2) independent refrigerant circuits. Contained within the unit cabinet shall be all factory wiring, piping, controls, refrigerant charge (HFC-134a) (30HXA units shipped with holding charge only), and special features required prior to field start-up

B. Compressors:

- 1 Semi-hermetic twin-screw compressors with internal muffler and check valve
- 2. Each compressor shall be equipped with a discharge shutoff valve

C Cooler:

- 1 Shall be tested and stamped in accordance with ASME code (U.S.A.) for a refrigerant working-side pressure of 220 psig (1517 kPa) Water-side pressure rating shall be 300 psig (2068 kPa). In Canada, maximum water-side pressure shall be 250 psig (1725 kPa), per the Canadian National Registry

- 2 Shall be mechanically cleanable shell-and-tube type with removable heads
- 3 Tubes shall be internally enhanced, seamless-copper type, and shall be rolled into tube sheets.
- 4 Shall be equipped with weld-on fluid connections
- 5 Shell shall be insulated with 3/4-in (19-mm) closed-cell, polyvinyl-chloride foam with a maximum K factor of 0.28. Heads may require field insulation.
- 6 Shall have a cooler drain and vent.
- 7 Design shall incorporate 2 independent refrigerant circuits

D. Condenser (30HXC units):

- 1. Shall be tested and stamped in accordance with ASME code (U.S.A.) for a refrigerant working-side pressure of 220 psig (1517 kPa). Water-side pressure rating shall be 300 psig (2068 kPa). In Canada, maximum water-side pressure shall be 250 psig (1725 kPa), per the Canadian National Registry.
- 2 Shall be mechanically cleanable shell-and-tube type with removable heads
- 3. Tubes shall be internally-enhanced, seamless-copper type, and shall be rolled into tube sheets
- 4 Shall be equipped with weld-on water connections.
- 5. Design shall incorporate 2 independent refrigerant circuits.

E. Oil Separator (30HXA Units):

- 1 Shall be tested and stamped in accordance with ASME Code (U.S.A.) for a refrigerant working-side pressure of 320 psig (2206 kPa).
- 2 Design shall incorporate 2 independent refrigerant circuits

F. Refrigeration Components:

Refrigerant circuit components shall include oil separator, high and low side pressure relief devices, discharge and liquid line shutoff valves, filter drier, moisture indicating sight glass, expansion valve, refrigerant economizer (unit sizes 161-271), and complete charge of compressor oil The 30HXC units shall have a complete operating charge of refrigerant HFC-134a; 30HXA units shall have a holding charge only.

G. Controls, Safeties, and Diagnostics:

1. Controls:

- a. Unit controls shall include as a minimum: Microprocessor, LOCAL/OFF/REMOTE switch, 2-line, 24-character per line diagnostic display with keypad.

- b. Shall be capable of performing the following functions:
 - 1) Automatic compressor lead/lag switching
 - 2) Capacity control based on leaving chilled fluid temperature with return fluid temperature sensing.
 - 3) Limit the chilled fluid temperature pull-down rate at start-up to an adjustable range of 0.2° F to 2 F (0.1° C to 1.1° C) per minute to prevent excessive demand spikes at start-up.
 - 4) Seven-day time scheduling of pump(s) and chiller(s)
- c. Dual chiller control shall be capable of controlling two independent units in series flow through a single control connection

2 Diagnostics:

- a. Display module shall be capable of displaying set points, time, system status (including temperatures, pressures, and percent loading), and any alarm or alert conditions
- b. Control module, in conjunction with the microprocessor, shall be capable of displaying the output of a run test to verify operation of every switch, sensor, potentiometer, and compressor before chiller is started.

3 Safeties:

Unit shall be equipped with all necessary components, and in conjunction with the control system shall provide the unit with protection against the following:

- a. Loss of refrigerant charge
- b. Reverse rotation.
- c. Low chilled fluid temperature.
- d. Low oil pressure.
- e. Voltage imbalance.
- f. Ground current
- g. Thermal overload.
- h. High pressure
- i. Electrical overload
- j. Loss of phase.

H. Operating Characteristics:

Unit shall be capable of starting up with 95 F (35 C) entering fluid temperature to the cooler.

I. Electrical Requirements:

1. Unit primary electrical power supply shall enter the unit at a single location (some units have multiple power poles).
2. Unit shall operate on 3-phase power at the voltage shown in the equipment schedule
3. Control voltage shall be 115-v (60 Hz) or 230-v (50 Hz), single-phase, separate power supply
4. Unit shall be shipped with factory control and power wiring installed

J. Special Features:

Certain standard features are not applicable when the features designated by * are specified. For assistance in amending the specifications, contact your local Carrier Sales office

- * 1. Wye-Delta Starter:
Unit shall have a factory-installed, Wye-Delta starter to minimize electrical inrush current.
- 2. Sound Reduction Enclosure:
Unit shall have field-installed sound reduction enclosure which covers the entire unit to muffle compressor noise.
- 3. Vibration Isolation:
Unit shall be supplied with rubber-in-shear vibration isolators for field installation
- 4. Control Power Transformer:
Unit shall be supplied with a field installed transformer that will supply control circuit power from the main unit power supply.
- 5. Non-Fused Disconnect:
Unit shall be supplied with factory-installed, non-fused electrical disconnect for main power supply (Not available on 271 size 208/230 v, 60 Hz and 230 v, 50 Hz units.)
- 6. Chilled Fluid Flow Switch:
Unit shall be supplied with field-installed differential pressure type proof-of-flow sensing switch.
- 7. Victaulic Connection:
Unit shall be supplied with victaulic-type cooler connections (field installed).
- 8. Remote Enhanced Display:
Unit shall be supplied with indoor-mounted, remote 40-character per line, 16-line display panel. Display shall be field installed.
- 9. Temperature Reset Sensor:
Unit shall reset leaving chilled fluid temperature based on outdoor ambient temperature or space temperature when this sensor is installed
- * 10. Brine Option:
Unit shall be factory modified to start and operate at leaving chilled fluid temperatures of between 15 F (-9 C) and 40 F (5 C)
- * 11. Minimum Load Control:
Unit shall be equipped with factory (or field) installed, microprocessor-controlled, minimum-load control that shall permit unit operation down to 10% of full capacity
- 12. Multi-Chiller Control:
Control shall enable management of multiple chillers (up to 8) in a single system.



13. Minus-One-Pass Cooler:

Factory-installed option shall reduce pressure drop for high flow applications. Shall also provide same end inlet and outlet for 076-106 sizes, and opposite end inlet for 116-271 sizes.

14. Plus-One-Pass Cooler:

Factory-installed option shall enhance low temperature brine performance.

15. Service Suction Valves:

Unit shall be supplied with factory-installed suction service valves

16. Cooler Head Insulation:

Unit shall be supplied with field-installed cooler insulation that shall cover the cooler heads.

