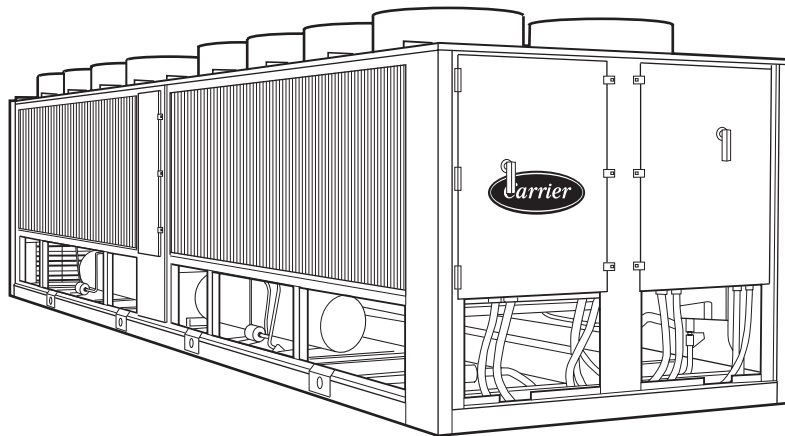
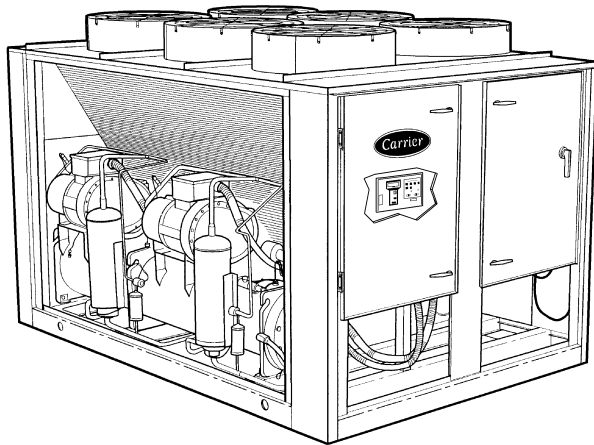




Product Data

30GXN,R080-450 ECOLOGIC™ Air-Cooled Chiller with ComfortLink™ Controls 50/60 Hz

80 to 450 Tons (267 to 1511 kW)



ECOLOGIC™ 30GXN,R air-cooled chillers are designed from the ground up to meet the needs of today and tomorrow, including:

- Chlorine-free HFC-134a refrigerant
- Low noise rotary screw compressors and Aero-acoustic fans
- Compact footprint
- Dual independent refrigerant circuits
- Simple and easy to use ComfortLink communicating controls
- Handheld Navigator control panel as standard with remote service port
- Wide operating envelope from -20 to 125 F (-28 to 52 C)
- Accurate temperature control, with return fluid compensation
- Precise multiple-step capacity
- Superior full and part-load efficiency
- Low pressure drop mechanically cleanable coolers
- Full load factory run tested
- Wide range of sizes available
- Across the line (30GXN) and Wye Delta (30GXR) starting options
- Loss of chilled water flow protection

Features/Benefits

Easy installation

The 30GXN,R unit has a compact design that is up to 50% smaller than some competitive chillers. The compact footprint can yield substantial installation savings by requiring less structural steel, concrete, security fencing or architectural screening. The 30GXN,R unit is delivered as a complete package for easy installation.

A quick start-up is assured once installation is complete, since each 30GXN,R unit is manufactured at an ISO 9002 listed manufacturing facility



to ensure quality. In addition, all units are factory run tested under full load to provide reliable start-up.

Easy to live with

The 30GXN,R units have a quiet, low-vibration design featuring rotary screw compression and “aero-acoustic” fans that reduce sound levels and improve sound quality. Lower sound levels help avoid the need for costly sound barriers that may be needed with other screw compressor chillers. The 30GXN,R 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. This combination (an exclusive *ComfortLink*™ controls advantage) provides the most precise temperature control available. In addition, the 30GXN,R units can handle both quick and slow-loading applications. The 30GXN,R units use chlorine-free HFC-134a refrigerant to help protect the Earth’s ozone layer and your investment. From a service standpoint, the 30GXN,R units offer the following features:

- Use of HFC-134a refrigerant, a single compound refrigerant that is easy to handle, readily available, and not subject to phase out
- Mechanically cleanable cooler
- Twin screw compressors require little routine service or maintenance
- Easy viewing of suction and discharge pressures and temperatures using either standard or accessory display module

Rotary screw compression

Carrier chillers utilize the Carrier Carlyle 06N Geared Twin screw compressor. Built in a state-of-the-art facility in Syracuse, New York (U.S.A.), these third generation rotary-screw compressors are designed, tested, and built to the high standards that are expected from the world leader in comfort cooling.

Since operating pressures with HFC-134a are about 30% lower than conventional systems using HCFC-22, internal rotor blowby is reduced, thereby increasing compression efficiency and reducing chiller plant size. And, since the Carlyle 06N compressor is liquid cooled, it has a low internal pressure drop that makes it ideally suited for use with HFC-134a. All 06N

compressors used in 30GXN,R chillers are equipped with the advanced *ComfortLink* Compressor Protection Module (CPM). The CPM protects compressors from phase-loss, reverse rotation, over or under current conditions and ground current failures that can lead to motor burnout, system contamination and costly system clean-outs.

ComfortLink control

ComfortLink is your link to a world of simple and easy to use air-cooled chillers that offer outstanding performance and value. The 30GXN,R liquid chillers employ more than the latest advanced microprocessor controls, they utilize an expandable platform that grows as your needs change. From stand-alone operation to remotely monitored and operated multi-chiller plants, *ComfortLink* controls can keep you plugged in.

ComfortLink controls are fully communicating, and are cable ready for connection to a Carrier Comfort Network (CCN). Occupancy scheduling, temperature and pressure readouts, and the *ComfortLink* handheld Navigator clear language display complement the standard features, linking you to a world of carefree comfort. The 30GXN,R chillers are built on the legendary performance of the Carrier model 30G Flotronic™ chiller and share many of the same time-proven features and technologies providing easy operation, quick installation and start-ups that save you money!

Superior temperature control equals potential for greater productivity

Whether in the classroom, on the production floor, or in the office, *ComfortLink* controls can help you to adapt to changing weather and business conditions. Accurate temperature control provided by the Carrier *ComfortLink* system helps to maintain higher levels of indoor air quality, thermal comfort, and productive space.

While many air-cooled chillers use only leaving fluid temperature control, the 30GXN,R chillers utilize leaving fluid temperature control with a standard entering fluid temperature compensation. This Carrier exclusive provides smart control and intelligent machine capacity staging. Unlike many

chillers, Carrier model 30GXN,R chillers do not require constant fluid flow. The ability to operate with variable flow also allows building owners to realize even greater overall system energy savings in the chilled water pumping system, and not just at the chiller.

Energy management made easy

While 30GXN,R chillers have many standard features such as network communications capability and temperature reset based on return fluid temperature, they can also expand as needs change. Supply temperature reset based on outside air or space temperature is as easy as adding a thermistor. The Energy Management option can allow you to take advantage of changing utility rate structures with easy to use load shedding, demand limiting and temperature reset capabilities. Reset triggered via 4 to 20 mA signal makes integrating from an existing building management system simple.

The 30GXN,R comes standard with the *ComfortLink* Navigator display, available with optional remote service connection port, and GFCI convenience outlet (60 Hz only). The Navigator displays information in a clear language format. The 4-line 20-character display can be plugged into the unit at either the control panel or at the remote service port. This allows the service technician to operate the unit from where the maintenance or service work is being performed, minimizing downtime and ensuring the system is ready for operation in the shortest amount of time.

Features

- Simple and easy to use *ComfortLink* communicating controls.
- Wide operating envelope from -20 to 125 F (28 to 52 C).
- Accurate temperature control with return fluid compensation.
- Built-in dual chiller control, reset from return.
- Superior full and part-load efficiency.
- Precise multiple-step capacity.
- Low noise operation.
- Dual independent refrigerant circuits.
- Full load factory run tested.
- Wide range of sizes available from stock.
- Compact size.

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Quality Assurance

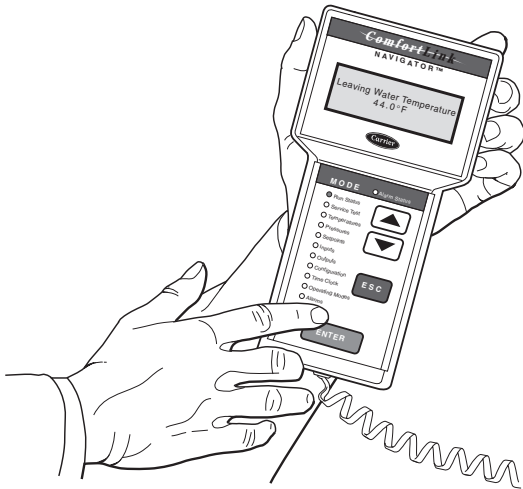


Approvals:
ISO 9002
EN 29002
BS5750 PART 2
ANSI/ASQC Q92

Features/Benefits (cont)



NAVIGATOR DISPLAY MODULE

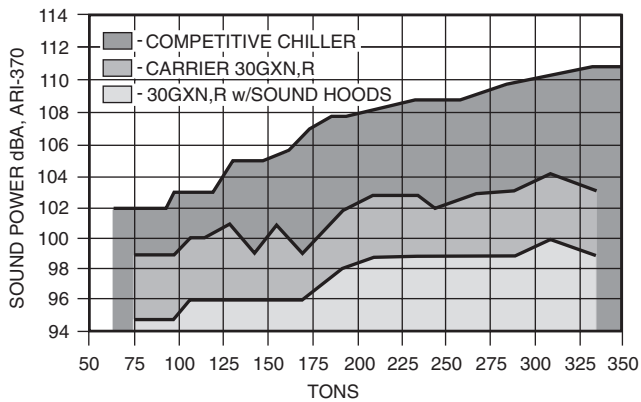


ENVIRONMENTAL LEADERSHIP

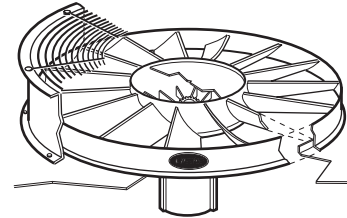


HFC-134a

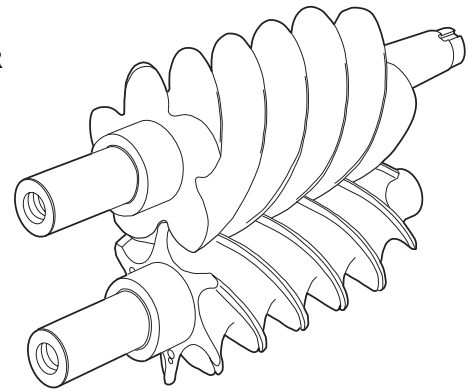
30GXN,R QUIET OPERATION



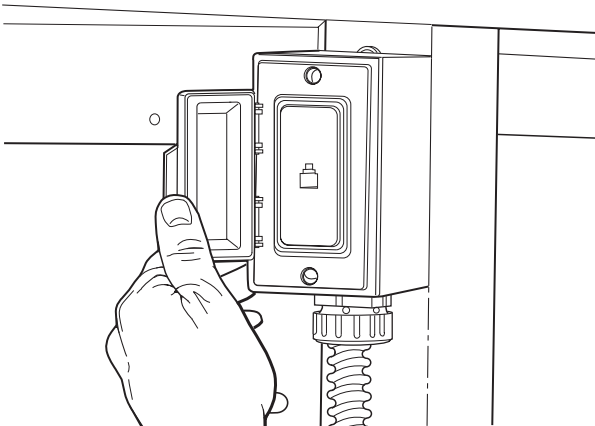
LOW-NOISE AERO-ACOUSTIC FAN



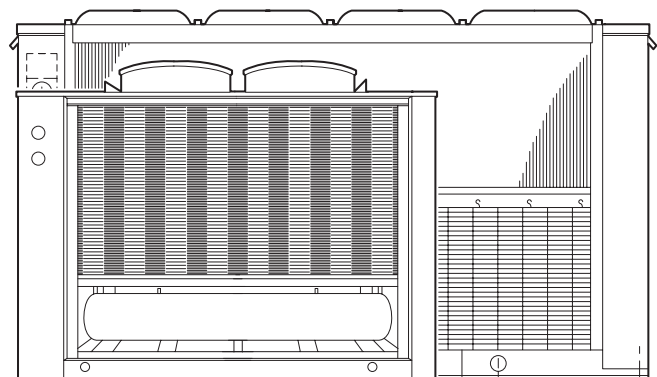
SMOOTH ROTARY COMPRESSOR TWIN-SCREW DESIGN



REMOTE SERVICE PORT OPTION/ACCESSORY



NEW SMALLER FOOTPRINT



NEW 30GXN,R

PREVIOUS MODEL

Model number nomenclature



30GX N 125 M S - 6 4 1 AA

30GX – ECOLOGIC™ Air Cooled Chiller with ComfortLink™ Controls

Compressor Start Option

- N – Across the Line Start
- R – Wye-Delta Start

Nominal Sizes (60 Hz Only) 60 Hz Duplex Sizes

080	125	174	264	350
090	135	204	281	
106	150	225	301	
114	160	249	325	

370
390
415
450

Nominal Sizes (50 Hz Only) 50 Hz Duplex Sizes

080	125	175	265	350
090	135	205	281	
106	150	225	301	
115	160	250	325	

220	345
240	365
275	395
300	410
320	440

Cooler Head Option

- – Standard Cooler Head
- M – Minus One Pass
- P – Plus One Pass
- A – Standard Cooler Heater Head Duplex “A” Module
- B – Standard Cooler Heater Head Duplex “B” Module

Electric Service Rating & Control Options

125° F Electric Service Rating (Available on all sizes):

- A – Navigator (Standard)
- F – Navigator and Energy Management Module
- T – “Service Option” Includes Navigator, Energy Management Module, Service Port and GFI Convenience Outlet
- V – “Service Option” Includes Navigator, Energy Management Module and Service Port (50 Hz and 380-3-60 Only)

115° F Electric Service Rating (Sizes 080-125, 220, 240 Only):

- – Navigator (Standard)
- E – Navigator and Energy Management Module
- S – “Service Option” Includes Navigator, Energy Management Module, Service Port and GFI Convenience Outlet
- U – “Service Option” Includes Navigator, Energy Management Module and Service Port (50 Hz and 380-3-60 Only)

Factory Installed Options (FIOP)

Packaging

- 1 – Standard Domestic (Coil Cover)
- 2 – Coil Cover and Bottom Skid
- 3 – Standard Export with Coil Cover, Top and Bottom Skid & Shipping Bag
- 4 – Full Export Crate
- 5 – Option #1 above with Factory Installed Security Grilles
- 6 – Option #2 above with Factory Installed Security Grilles
- 7 – Option #3 above with Factory Installed Security Grilles
- 8 – Option #4 above with Factory Installed Security Grilles

Series – 4

Voltage

- 1 – 575-3-60
- 2 – 230-3-60
- 4 – 230-3-60
- 5 – 208/230-3-60
- 6 – 460-3-60
- 2 – 380-3-60 (Export Only)
- 8 – 230-3-50
- 9 – 380/415-3-50

Enviro-Shield™ Corrosion Protection Options

- – Standard Copper Tube/Aluminum Fin
- K – Copper Tube/Aluminum Fin Precoated
- C – Copper Tube/Copper Fin and Copper Tube Sheet
- E – Copper Tube/Aluminum Fin with E-Coat
- F – Copper Tube/Copper Fin and Copper Tube Sheet with E-Coat

Physical data — English



60 Hz UNITS

UNIT SIZE 30GXN,R	080	090	106	114	125	135	150	160	174	204	225	249	264
OPERATING WEIGHT (lb)													
Cu-Al	6313	6333	7514	7524	7553	7714	8784	9,072	9,714	12,747	12,985	13,867	13,902
Cu-Cu	6908	7008	8209	8219	8248	8414	9834	10,172	11,114	14,147	14,360	15,567	15,602
REFRIGERANT TYPE	HFC-134a												
Refrigerant Charge (lb)	106/96	115/96	150/123	160/123	160/141	175/175	156/228	181/243	263/207	270/170	285/187	339/160	839/195
Ckt-A/Ckt-B													
COMPRESSORS	Semi-Hermetic, Twin Screw												
Quantity	2	2	2	2	2	2	2	2	2	3	3	3	3
Economized	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps													
Standard	6	6	6	6	6	6	6	6	6	8	8	8	8
Optional (maximum)	8	8	8	8	8	8	8	8	8	10	10	10	10
Min. Capacity Step (%)													
Standard	20	20	20	20	20	20	20	20	20	15	15	15	15
Optional	10	10	10	10	10	10	10	10	10	10	10	10	10
COOLER*	Flooded Type Shell and Tube with Enhanced Copper Tubes												
Net Fluid Volume (gal)	18.9	18.9	22.6	22.6	33.4	33.4	24	28.5	28.5	38.5	43.1	47.2	47.2
Maximum Refrigerant Pressure (psig)	220	220	220	220	220	220	220	220	220	220	220	220	220
Maximum Fluid Side Pressure (psig)	300	300	300	300	300	300	300	300	300	300	300	300	300
FLUID CONNECTIONS (in.)	Victaulic Connections												
Inlet and Outlet	4	4	5	5	5	5	4	5	5	6	6	6	6
Drain (NPT)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
CONDENSER FANS	Shrouded Axial Type, Vertical Discharge												
Standard/Low Noise Type													
Fan Speed (rpm)	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140
No. Blades...Dia. (in.)	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30
No. Fans...Total kW	4...6.4	4...6.4	6...9.6	6...9.6	6...9.6	6...9.6	8...12.8	8...12.8	10...16	10...16	10...16	12...19.2	12...19.2
Total Airflow (cfm)†	45,600	45,600	68,400	68,400	68,400	68,400	91,200	91,200	114,000	114,000	114,000	136,800	136,800
High Static Type													
Fan Speed (rpm)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
No. Blades...Dia. (in.)	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30
No. Fans...Total kW	4...16.4	4...16.4	6...24.6	6...24.6	6...24.6	6...24.6	8...32.8	8...32.8	10...41	10...41	10...41	12...49.2	12...49.2
Total Airflow (cfm)†	39,200	39,200	58,800	58,800	58,800	58,800	78,400	78,400	98,000	98,000	98,000	117,600	117,600
CONDENSER COILS	3/8-in. OD Copper Tubes with Aluminum Fins												
Fins/in.	17	17	17	17	17	17	17	17	17	17	17	17	17
No. Rows	3	3	4	4	3	4	4	4	4	4	4	4	4
Total Face Area (sq ft)	135	135	162	162	162	162	216	216	269	269	269	324	324
Maximum Working Pressure (psig)	450	450	450	450	450	450	450	450	450	450	450	450	450

UNIT SIZE 30GXN,R	281	301	325	350	370	390	415	450
OPERATING WEIGHT (lb)								
Cu-Al	18,718	18,738	18,778	18,828	21,769	21,617	22,974	25,970
Cu-Cu	21,923	21,943	21,983	22,033	24,194	24,017	25,774	28,720
REFRIGERANT TYPE	HFC-134a							
Refrigerant Charge (lb)	385/385	400/400	415/415	430/430	285/185** 263/156††	4 340/195** 175/175††	4 340/195** 263/181††	4 285/185** 285/185††
Ckt-A/Ckt-B								
COMPRESSORS	Semi-Hermetic, Twin Screw							
Quantity	4	4	4	4	5	5	5	6
Economized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps								
Standard	10	10	10	10	14	14	14	16
Optional (maximum)	12	12	12	12	18	18	18	20
Min. Capacity Step (%)								
Standard	10	10	10	10	8	7	8	7.5
Optional	5	5	5	5	4	3.5	4	5
COOLER*	Flooded Type Shell and Tube with Enhanced Copper Tubes							
Net Fluid Volume (gal)	56.1	56.1	56.1	56.1	67.1	80.6	75.7	86.2
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 (in.)	Victaulic Connections							
Inlet and Outlet	8	8	8	8	8	8	8	8
Cooler Interconnecting (in.)	—	—	—	—	8	8	8	8
Drain (Qty...NPT)	1...1/2	1...1/2	1...1/2	1...1/2	2...1/2	2...1/2	2...1/2	2...1/2
CONDENSER FANS	Shrouded Axial Type, Vertical Discharge							
Standard/Low Noise Type								
Fan Speed (rpm)	1140	1140	1140	1140	1140	1140	1140	1140
No. Blades...Dia. (in.)	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30
No. Fans...Total kW	16...25.6	16...25.6	16...25.6	16...25.6	18...28.8	18...28.8	20...32	20...32
Total Airflow (cfm)†	182,400	182,400	182,400	182,400	205,200	205,200	228,000	228,000
High Static Type								
Fan Speed (rpm)	1750	1750	1750	1750	1750	1750	1750	1750
No. Blades...Dia. (in.)	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30
No. Fans...Total kW	16...65.6	16...65.6	16...65.6	16...65.6	18...73.8	18...73.8	20...82	20...82
Total Airflow (cfm)†	156,800	156,800	156,800	156,800	176,400	176,400	196,000	196,000
CONDENSER COILS	3/8-in. OD Copper Tubes with Aluminum Fins							
Fins/in., Std	17	17	17	17	17	17	17	17
No. Rows	4	4	4	4	4	4	4	4
Total Face Area (sq ft)	432	432	432	432	485	486	540	538
Maximum Working Pressure (psig)	450	450	450	450	450	450	450	450

LEGEND

Ckt — Circuit
 Cu-Al — Standard Coils with Copper Tubes and Aluminum Fins
 Cu-Cu — Optional Coils with Copper Tubes and Copper Fins

*Each cooler is shipped with approximately 5 gallons of propylene glycol to provide freeze protection during storage and shipment.

†Based on rated external static pressure of 0.4 in. wg or 0.8 in. wg as appropriate.

**Module A.

††Module B.



50 Hz UNITS

UNIT SIZE 30GXN,R	080	090	106	115	125	135	150	160
OPERATING WEIGHT (lb)								
Cu-Al	6313	6333	7514	7388	7553	7714	8784	9,072
Cu-Cu	6988	7008	8209	8083	8248	8414	9834	10,172
REFRIGERANT TYPE	HFC-134a							
Refrigerant Charge (lb) Ckt-A/Ckt-B	106/96	115/96	150/123	160/123	160/141	175/175	156/228	181/243
COMPRESSORS	Semi-Hermetic, Twin Screw							
Quantity	2	2	2	2	2	2	2	2
Economized	No	No	No	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps								
Standard	6	6	6	6	6	6	6	6
Optional (maximum)	8	8	8	8	8	8	8	8
Min. Capacity Step (%)								
Standard	20	20	20	20	20	20	20	20
Optional	10	10	10	10	10	10	10	10
COOLER*	Flooded Type Shell and Tube with Enhanced Copper Tubes							
Net Fluid Volume (gal)	18.9	18.9	22.6	22.6	33.4	33.4	24	28.5
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 (in.)	Victaulic Connections							
Inlet and Outlet	4	4	5	5	5	5	4	5
Drain (NPT)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
CONDENSER FANS	Shrouded Axial Type, Vertical Discharge							
Standard/Low Noise Type	Propeller Type, Vertical Discharge							
Fan Speed (rpm)	950	950	950	950	950	950	950	950
No. Blades...Dia. (in.)	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30
No. Fans...Total kW	4...6.4	4...6.4	6...9.6	6...9.6	6...9.6	6...9.6	8...12.8	8...12.8
Total Airflow (cfm)†	39,200	39,200	58,800	58,800	58,800	58,800	78,400	78,400
High Static Type	Propeller Type, Vertical Discharge							
Fan Speed (rpm)	1445	1445	1445	1445	1445	1445	1445	1445
No. Blades...Dia. (in.)	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30
No. Fans...Total kW	4...16.4	4...16.4	6...24.6	6...24.6	6...24.6	6...24.6	8...32.8	8...32.8
Total Airflow (cfm)†	39,200	39,200	58,800	58,800	58,800	78,400	78,400	78,400
CONDENSER COILS	3/8-in. OD Copper Tubes with Aluminum Fins							
Fins/in., Std	17	17	17	17	17	17	17	17
No. Rows	3	3	4	3	3	4	4	4
Total Face Area (sq ft)	135	135	162	162	162	162	216	216
Maximum Working Pressure (psig)	450	450	450	450	450	450	450	450

UNIT SIZE 30GXN,R	175	205	225	250	264	281	301	325	350
OPERATING WEIGHT (lb)									
Cu-Al	9,466	12,505	12,985	13,587	13,902	18,718	18,738	18,778	18,828
Cu-Cu	10,851	13,890	14,360	15,255	15,602	21,923	21,943	21,983	22,033
REFRIGERANT TYPE	HFC-134a								
Refrigerant Charge (lb) Ckt-A/Ckt-B	263/207	240/185	285/187	310/185	339/195	385/385	400/400	415/415	430/430
COMPRESSORS	Semi-Hermetic, Twin Screw								
Quantity	2	3	3	3	3	4	4	4	4
Economized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps									
Standard	6	8	8	8	8	10	10	10	10
Optional (maximum)	8	10	10	10	10	12	12	12	12
Min. Capacity Step (%)									
Standard	20	15	15	15	15	10	10	10	10
Optional	10	10	10	10	10	5	5	5	5
COOLER*	Flooded Type Shell and Tube with Enhanced Copper Tubes								
Net Fluid Volume (gal)	28.5	38.5	43.1	47.2	47.2	56.1	56.1	56.1	56.1
Maximum Refrigerant Pressure (psig)	220	220	220	220	220	220	220	220	220
Maximum Fluid Side Pressure (psig)	300	300	300	300	300	300	300	300	300
FLUID CONNECTIONS (in.)	Victaulic Connections								
Inlet and Outlet	5	6	6	6	6	8	8	8	8
Drain (NPT)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
CONDENSER FANS	Shrouded Axial Type, Vertical Discharge								
Standard/Low Noise Type	Propeller Type, Vertical Discharge								
Fan Speed (rpm)	950	950	950	950	950	950	950	950	950
No. Blades...Dia. (in.)	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30
No. Fans...Total kW	10...16	10...16	10...16	12...19.2	12...19.2	16...25.6	16...25.6	16...25.6	16...25.6
Total Airflow (cfm)†	98,000	98,000	98,000	117,600	117,600	156,800	156,800	156,800	156,800
High Static Type	Propeller Type, Vertical Discharge								
Fan Speed (rpm)	1445	1445	1445	1445	1445	1445	1445	1445	1445
No. Blades...Dia. (in.)	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30
No. Fans...Total kW	10...41	10...41	10...41	12...49.2	12...49.2	16...65.6	16...65.6	16...65.6	16...65.6
Total Airflow (cfm)†	98,000	98,000	98,000	117,600	117,600	158,600	158,600	158,600	158,600
CONDENSER COILS	3/8-in. OD Copper Tubes with Aluminum Fins								
Fins/in., Std	17	17	17	17	17	17	17	17	17
No. Rows	3	3	4	3	4	4	4	4	4
Total Face Area (sq ft)	270	270	270	324	324	432	432	432	432
Maximum Working Pressure (psig)	450	450	450	450	450	450	450	450	450

LEGEND

- Ckt — Circuit
- Cu-Al — Standard Coils with Copper Tubes and Aluminum Fins
- Cu-Cu — Optional Coils with Copper Tubes and Copper Fins

*Each cooler is shipped with approximately 5 gallons of propylene glycol to provide freeze protection during storage and shipment.
 †Based on rated external static pressure of 0.4 in. wg or 0.8 in. wg as appropriate.

Physical data — English (cont)



50 Hz DUPLEX UNITS

UNIT SIZE 30GXN,R	220	240	275	300	320	345	365	395	410	440
OPERATING WEIGHT (lb)	HFC-134a									
Cu-Al	13,886	14,942	15,429	16,786	18,144	18,932	21,301	21,616	25,490	25,970
Cu-Cu	15,256	16,331	16,828	18,586	20,344	21,702	23,669	24,016	28,250	28,720
REFRIGERANT CHARGE										
Circuits Qty	4	4	4	4	4	4	4	4	4	4
Module A Ckt A/Ckt B (lb)	160/141	160/141	175/175	173/235	173/235	263/207	310/185	340/195	185/185	285/185
Module B Ckt A/Ckt B (lb)	115/96	160/123	175/175	175/175	173/235	263/207	175/175	175/175	240/185	285/185
COMPRESSORS	Semi-Hermetic, Twin Screw									
Quantity	4	4	4	4	4	4	5	5	6	6
Economized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps										
Standard	12	12	12	12	12	12	14	14	16	16
Optional (maximum)	16	16	16	16	16	16	18	18	20	20
Min. Capacity Step (%)										
Standard	8	9.5	10	9	10	10	7.5	7	7.5	7.5
Optional	4	5	5	4.5	5	5	3.5	3.5	5	5
COOLER*	Flooded Type Shell and Tube with Enhanced Copper Tubes									
Net Fluid Volume (gal)	52.3	56	66.8	61.9	57	57	80.6	80.6	81.6	86.2
Max Refrigerant Pressure (psig)	220	220	220	220	220	220	220	220	220	220
Max Fluid Side Pressure (psig)	300	300	300	300	300	300	300	300	300	300
FLUID CONNECTIONS	Victaulic Connections									
Inlet and Outlet (in.)	8	8	8	8	8	8	8	8	8	8
Cooler Interconnecting (in.)	8	8	8	8	8	8	8	8	8	8
Drain — Qty...Size (in.)	2...1/2	2...1/2	2...1/2	2...1/2	2...1/2	2...1/2	2...1/2	2...1/2	2...1/2	2...1/2
CONDENSER FANS	Shrouded Axial Type, Vertical Discharge									
Standard/Low Noise Type										
Fan Speed (rpm)	1140	1140	1140	1140	1140	1140	1140	1140	1140	1140
No. Blades...Dia. (in.)	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30	11...30
No. Fans...Total kW	10...16	12...19.2	12...19.2	14...22.4	16...25.6	20...32	18...28.8	18...28.8	20...32	20...32
Total Airflow (cfm)†	98,000	117,600	117,600	137,200	156,800	196,000	176,400	176,400	196,000	196,000
High Static Type										
Fan Speed (rpm)	1750	1750	1750	1750	1750	1750	1750	1750	1750	1750
No. Blades...Dia. (in.)	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30	12...30
No. Fans...Total kW	10...41	12...49.2	12...49.2	14...57.4	16...65.6	20...82	18...73.8	18...73.8	20...82	20...82
Total Airflow (cfm)†	98,000	117,600	117,600	137,200	156,800	196,000	176,400	176,400	196,000	196,000
CONDENSER COILS	3/8-in. OD Copper Tubes with Aluminum Fins									
Fins/in., Std	17	17	17	17	17	17	17	17	17	17
No. Rows	3	3	4	4	4	3	3/4	4	4/3	4
Total Face Area (sq ft)	297	324	324	378	432	540	486	486	540	540
Maximum Working Pressure (psig)	450	450	450	450	450	450	450	450	450	450

LEGEND

- Ckt — Circuit
- Cu-Al — Standard Coils with Copper Tubes and Aluminum Fins
- Cu-Cu — Optional Coils with Copper Tubes and Copper Fins

*Each cooler is shipped with approximately 5 gallons of propylene glycol to provide freeze protection during storage and shipment.
 †Based on rated external static pressure of 0.4 in. wg or 0.8 in. wg as appropriate.

Physical data — SI



60 Hz UNITS

UNIT SIZE 30GXN,R	080	090	106	114	125	135	150	160	174	204	225	249	264
OPERATING WEIGHT (kg)													
Cu-Al	2863	2872	3408	3413	3426	3499	3984	4115	4406	5782	5890	6290	6306
Cu-Cu	3169	3179	3724	3728	3741	3817	4461	4614	5041	6417	6514	7061	7077
REFRIGERANT TYPE	HFC-134a												
Refrigerant Charge (kg)													
Ckt-A/Ckt-B	48/44	52/44	68/56	73/56	73/64	79/79	71/103	82/110	119/94	122/77	129/85	154/73	154/88
COMPRESSORS	Semi-Hermetic, Twin Screw												
Quantity	2	2	2	2	2	2	2	2	2	3	3	3	3
Economized	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps													
Standard	6	6	6	6	6	6	6	6	6	8	8	8	8
Optional (maximum)	18	8	8	8	8	8	8	8	8	10	10	10	10
Min. Capacity Step (%)													
Standard	20	20	20	20	20	20	20	20	20	15	15	15	15
Optional	10	10	10	10	10	10	10	10	10	10	10	10	10
COOLER*	Flooded Type Shell and Tube with Enhanced Copper Tubes												
Net Fluid Volume (L)	72	72	86	86	126	126	91	108	108	146	163	179	179
Maximum Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517	1517	1517	1517	1517	1517	1517
Maximum Fluid Side Pressure (kPa)	2069	2069	2069	2069	2069	2069	2069	2069	2069	2069	2069	2069	2069
FLUID CONNECTIONS (in.)	Victaulic Connections												
Inlet and Outlet	4	4	5	5	5	5	4	5	5	6	6	6	6
Drain (NPT)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
CONDENSER FANS	Shrouded Axial Type, Vertical Discharge												
Standard/Low Noise Type	Propeller Type, Vertical Discharge												
Fan Speed (r/s)	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0	19.0
No. Blades...Dia. (mm)	11...762	11...762	11...762	11...762	11...762	11...762	11...762	11...762	11...762	11...762	11...762	11...762	11...762
No. Fans...Total kW	4...6.4	4...6.4	6...9.6	6...9.6	6...9.6	6...9.6	8...12.8	8...12.8	10...16	10...16	10...16	12...19.2	12...19.2
Total Airflow (L/s)†	21 521	21 521	32 281	32 281	32 281	32 281	43 042	43 042	53 802	53 802	53 802	64 563	64 563
High Static Type	Propeller Type, Vertical Discharge												
Fan Speed (r/s)	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2	29.2
No. Blades...Dia. (L/s)	12...762	12...762	12...762	12...762	12...762	12...762	12...762	12...762	12...762	12...762	12...762	12...762	12...762
No. Fans...Total kW	4...16.4	4...16.4	6...24.6	6...24.6	6...24.6	6...24.6	8...32.8	8...32.8	10...41	10...41	10...41	12...49.2	12...49.2
Total Airflow (L/s)†	18 500	18 500	27 751	27 751	27 751	27 751	37 001	37 001	46 251	46 251	46 251	55 501	55 501
CONDENSER COILS	9.53-mm. OD Copper Tubes with Aluminum Fins												
Fins/m, Std	669	669	669	669	669	669	669	669	669	669	669	669	669
No. Rows	3	3	4	4	3	4	4	4	4	4	4	4	4
Total Face Area (sq m)	12.6	12.6	15.1	15.1	15.1	15.1	20	20	25	25	25	30.1	30.1
Maximum Working Pressure (kPa)	3103	3103	3103	3103	3103	3103	3103	3103	3103	3103	3103	3103	3103

UNIT SIZE 30GXN,R	281	301	325	350	370	390	415	450
OPERATING WEIGHT (kg)								
Cu-Al	8490	8499	8517	8540	9 874	9 805	10 421	11 780
Cu-Cu	9944	9953	9971	9994	10 974	10 894	11 691	13 027
REFRIGERANT TYPE	HFC-134a							
Refrigerant Charge (kg)								
Ckt-A/Ckt-B	175/175	181/181	188/188	195/195	4 129/84** 119/71††	4 154/88** 79/79††	4 154/88** 119/82††	4 129/84** 129/84††
COMPRESSORS	Semi-Hermetic, Twin Screw							
Quantity	4	4	4	4	5	5	5	6
Economized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps								
Standard	10	10	10	10	14	14	14	16
Optional (maximum)	12	12	12	12	18	18	18	20
Min. Capacity Step (%)								
Standard	10	10	10	10	8	7	8	7.5
Optional	5	5	5	5	4	3.5	4	5
COOLER*	Flooded Type Shell and Tube with Enhanced Copper Tubes							
Net Fluid Volume (L)	212	212	212	212	254.0	305.1	286.6	326.3
Maximum Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517	1517
Maximum Fluid Side Pressure (kPa)	2069	2069	2069	2069	2069	2069	2069	2069
FLUID CONNECTIONS (in.)	Victaulic Connections							
Inlet and Outlet	8	8	8	8	8	8	8	8
Cooler Interconnecting (in.)	—	—	—	—	8	8	8	8
Drain (Qty...NPT)	1...1/2	1...1/2	1...1/2	1...1/2	2...1/2	2...1/2	2...1/2	2...1/2
CONDENSER FANS	Shrouded Axial Type, Vertical Discharge							
Standard/Low Noise Type	Propeller Type, Vertical Discharge							
Fan Speed (r/s)	19.0	19.0	19.0	19.0	29.2	29.2	29.2	29.2
No. Blades...Dia. (mm)	11...762	11...762	11...762	11...762	12...762	12...762	12...762	12...762
No. Fans...Total kW	16...25.6	16...25.6	16...25.6	16...25.6	18...28.8	18...28.8	20...32	20...32
Total Airflow (L/s)†	86 084	86 084	86 084	86 084	96 845	96 845	107 605	107 605
High Static Type	Propeller Type, Vertical Discharge							
Fan Speed (r/s)	29.2	29.2	29.2	29.2	19	19	19	19
No. Blades...Dia. (L/s)	12...762	12...762	12...762	12...762	18...762	18...762	18...762	18...762
No. Fans...Total kW	16...65.6	16...65.6	16...65.6	16...65.6	18...73.8	18...73.8	20...82	20...82
Total Airflow (L/s)†	74 002	74 002	74 002	74 002	83 252	83 252	92 503	92 503
CONDENSER COILS	9.53-mm. OD Copper Tubes with Aluminum Fins							
Fins/m, Std	669	669	669	669	669	669	669	669
No. Rows	4	4	4	4	4	4	4	4
Total Face Area (sq m)	40.1	40.1	40.1	40.1	45	45	50	50
Maximum Working Pressure (kPa)	3103	3103	3103	3103	3103	3103	3103	3103

LEGEND

- Ckt — Circuit
- Cu-Al — Standard Coils with Copper Tubes and Aluminum Fins
- Cu-Cu — Optional Coils with Copper Tubes and Copper Fins

- *Each cooler is shipped with approximately 18.9 liters of propylene glycol to provide freeze protection during storage and shipment.
- †Based on rated external static pressure of 100 Pa or 200 Pa as appropriate.
- **Module A.
- ††Module B.

Physical data — SI (cont)



50 Hz UNITS

UNIT SIZE 30GXN,R	080	090	106	115	125	135	150	160
OPERATING WEIGHT (kg)								
Cu-Al	2863	2872	3408	3351	3426	3499	3984	4115
Cu-Cu	3169	3179	3724	3667	3741	3817	4461	4614
REFRIGERANT TYPE	HFC-134a							
Refrigerant Charge (kg) Ckt-A/Ckt-B	48/44	52/44	68/56	73/56	73/64	79/79	71/103	82/110
COMPRESSORS	Semi-Hermetic, Twin Screw							
Quantity	2	2	2	2	2	2	2	2
Economized	No	No	No	Yes	Yes	Yes	No	Yes
No. Capacity Steps								
Standard	6	6	6	6	6	6	6	6
Optional (maximum)	8	8	8	8	8	8	8	8
Min. Capacity Step (%)								
Standard	20	20	20	20	20	20	20	20
Optional	10	10	10	10	10	10	10	10
COOLER*	Flooded Type Shell and Tube with Enhanced Copper Tubes							
Net Fluid Volume (L)	72	72	86	86	126	126	91	108
Maximum Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517	1517
Maximum Fluid Side Pressure (kPa)	2069	2069	2069	2069	2069	2069	2069	2069
FLUID CONNECTIONS (in.)	Victaulic Connections							
Inlet and Outlet	4	4	5	5	5	5	4	5
Drain (NPT)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
CONDENSER FANS	Shrouded Axial Type, Vertical Discharge							
Standard/Low Noise Type								
Fan Speed (r/s)	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
No. Blades...Dia. (mm)	11...762	11...762	11...762	11...762	11...762	11...762	11...762	11...762
No. Fans...Total kW	4...6.4	4...6.4	6...9.6	6...9.6	6...9.6	6...9.6	8...12.8	8...12.8
Total Airflow (L/s)†	18 500	18 500	27 751	27 751	27 751	27 751	37 001	37 001
High Static Type								
Fan Speed (r/s)	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1
No. Blades...Dia. (L/s)	12...762	12...762	12...762	12...762	12...762	12...762	12...762	12...762
No. Fans...Total kW	4...16.4	4...16.4	6...24.6	6...24.6	6...24.6	6...24.6	8...32.8	8...32.8
Total Airflow (L/s)†	18 500	18 500	27 751	27 751	27 751	27 751	37 001	37 001
CONDENSER COILS	9.53-mm OD Copper Tubes with Aluminum Fins							
Fins/m, Std	669	669	669	669	669	669	669	669
No. Rows	3	3	4	3	3	3	4	4
Total Face Area (sq m)	12.5	12.5	15.0	15.0	15.0	20.1	20.1	20.1
Maximum Working Pressure (kPa)	3103	3103	3103	3103	3103	3103	3103	3103

UNIT SIZE 30GXN,R	175	205	225	250	264	281	301	325	350
OPERATING WEIGHT (kg)									
Cu-Al	4293	5672	5890	6163	6306	8490	8499	8517	8450
Cu-Cu	4922	6300	6514	6920	7077	9944	9953	9971	9994
REFRIGERANT TYPE	HFC-134a								
Refrigerant Charge (kg) Ckt-A/Ckt-B	119/94	122/884	129/85	154/84	154/88	175/175	181/181	188/188	195/195
COMPRESSORS	Semi-Hermetic, Twin Screw								
Quantity	2	3	3	3	3	4	4	4	4
Economized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps									
Standard	6	8	8	8	8	10	10	10	10
Optional (maximum)	8	10	10	10	10	12	12	12	12
Min. Capacity Step (%)									
Standard	20	15	15	15	15	10	10	10	10
Optional	10	10	10	10	10	5	5	5	5
COOLER*	Flooded Type Shell and Tube with Enhanced Copper Tubes								
Net Fluid Volume (L)	108	146	163	179	179	212	212	212	212
Maximum Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517	1517	1517
Maximum Fluid Side Pressure (kPa)	2069	2069	2069	2069	2069	2069	2069	2069	2069
FLUID CONNECTIONS (in.)	Victaulic Connections								
Inlet and Outlet	5	6	6	6	6	8	8	8	8
Drain (NPT)	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
CONDENSER FANS	Shrouded Axial Type, Vertical Discharge								
Standard/Low Noise Type									
Fan Speed (r/s)	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8	15.8
No. Blades...Dia. (mm)	11...762	11...762	11...762	11...762	11...762	11...762	11...762	11...762	11...762
No. Fans...Total kW	10...16	10...16	10...16	12.19.2	12...19.2	16...25.6	16...25.6	16...25.6	16...25.6
Total Airflow (L/s)†	46 251	46 251	46 251	55 501	55 501	74 002	74 002	74 002	74 002
High Static Type									
Fan Speed (r/s)	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1
No. Blades...Dia. (L/s)	12...762	12...762	12...762	12...762	12...762	12...762	12...762	12...762	12...762
No. Fans...Total kW	10...41	10...41	10...41	12...49.2	12...49.2	16...65.6	16...65.6	16...65.6	16...65.6
Total Airflow (L/s)†	46 251	46 251	46 251	55 501	55 501	74 002	74 002	74 002	74 002
CONDENSER COILS	9.53-mm OD Copper Tubes with Aluminum Fins								
Fins/m, Std	669	669	669	669	669	669	669	669	669
No. Rows	3	3	4	3	4	4	4	4	4
Total Face Area (sq m)	25	25	25	30.1	30.1	40.1	40.1	40.1	40.1
Maximum Working Pressure (kPa)	3103	3103	3103	3103	3103	3103	3103	3103	3103

LEGEND

- Ckt — Circuit
- Cu-Al — Standard Coils with Copper Tubes and Aluminum Fins
- Cu-Cu — Optional Coils with Copper Tubes and Copper Fins

*Each cooler is shipped with approximately 18.9 liters of propylene glycol to provide freeze protection during storage and shipment.
†Based on rated external static pressure of 100 Pa or 200 Pa as appropriate.



50 Hz DUPLEX UNITS

UNIT SIZE 30GXN,R	220	240	275	300	320	345	365	395	410	440
OPERATING WEIGHT (kg)	HFC-134a									
Cu-Al	6299	6777	6998	7614	8230	8588	9 662	9 805	11 562	11 780
Cu-Cu	6920	7408	7633	8431	9228	9844	10 736	10 894	12 814	13 027
REFRIGERANT CHARGE										
Circuits Qty	Semi-Hermetic, Twin Screw									
Module A Ckt A/Ckt B (kg)	73/64	73/64	79/79	78/107	78/107	119/94	141/84	154/88	129/84	129/84
Module B Ckt A/Ckt B (kg)	52/44	73/56	79/79	79/79	78/107	119/94	79/79	79/79	109/84	129/84
COMPRESSORS										
Quantity	4	4	4	4	4	4	5	5	6	6
Economized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps										
Standard	12	12	12	12	12	12	14	14	16	16
Optional (maximum)	16	16	16	16	16	16	18	18	20	20
Min. Capacity Step (%)										
Standard	8	9.5	10	9	10	10	7.5	7	7.5	7.5
Optional	4	5	5	4.5	5	5	3.5	3.5	5	5
COOLER*	Flooded Type Shell and Tube with Enhanced Copper Tubes									
Net Fluid Volume (L)	198.0	212.0	252.9	234.3	215.8	215.8	305.1	305.1	308.9	326.3
Max Refrigerant Pressure (kPa)	1517	1517	1517	1517	1517	1517	1517	1517	1517	1517
Max Fluid Side Pressure (kPa)	2069	2069	2069	2069	2069	2069	2069	2069	2069	2069
FLUID CONNECTIONS	Victaulic Connections									
Inlet and Outlet (in.)	8	8	8	8	8	8	8	8	8	8
Cooler Interconnecting (in.)	8	8	8	8	8	8	8	8	8	8
Drain — Qty...Size (in.)	2...1/2	2...1/2	2...1/2	2...1/2	2...1/2	2...1/2	2...1/2	2...1/2	2...1/2	2...1/2
CONDENSER FANS										
Standard/Low Noise Type	Shrouded Axial Type, Vertical Discharge									
No. Fans...Total kW	10...16	12...19.2	12...19.2	14...22.4	16...25.6	20...32	18...28.8	18...28.8	20	20
Total Airflow (L/s)†	46 251	55 502	55 502	64 752	74 002	92 503	83 252	83 252	92 503	92 503
High Static Type	Propeller Type, Vertical Discharge									
No. Fans...Total kW	10...41	12...49.2	12...49.2	14...57.4	16...65.6	20...82	18...73.8	18...73.8	20...82	20...32
Total Airflow (L/s)†	46 251	55 502	55 502	64 752	74 002	92 503	83 252	83 252	92 503	92 503
CONDENSER COILS	3/8-in. OD Copper Tubes with Aluminum Fins									
Fins/m, Std	669	669	669	669	669	669	669	669	669	669
No. Rows	3	3	4	4	4	3	3/4	4	4/3	4
Total Face Area (sq m)	28	30	30	35	40	50	45	45	50	50
Maximum Working Pressure (kPa)	3103	3103	3103	3103	3103	3103	3103	3103	3103	3103

LEGEND

- Ckt — Circuit
- Cu-Al — Standard Coils with Copper Tubes and Aluminum Fins
- Cu-Cu — Optional Coils with Copper Tubes and Copper Fins

*Each cooler is shipped with approximately 18.9 liters of propylene glycol to provide freeze protection during storage and shipment.

†Based on rated external static pressure of 100 Pa or 200 Pa as appropriate.

Options and accessories



ITEM	FACTORY-INSTALLED OPTION	FIELD-INSTALLED ACCESSORY
Remote Service Port	X	X
Wye-Delta Start*	X	
Copper-Fin Condenser Coil	X	
Enviro-Shield™ System Condenser Coil Coatings	X	
Alternate Cooler Heads (plus 1 pass, minus 1 pass)	X	
Suction Isolation Valves	X	
Medium Temperature Brine	X	
Non-Fused Disconnect	X	
High-Static/High Ambient Condenser Fans	X	
Low-Ambient Control	X	X
Control Power Transformer	X	X
Minimum Load Control	X	X
Security Guards		X
Control Display Access Door		X
Cooler Head Insulation		X
Remote Enhanced Display		X
Chillervisor System Manager III Multi-Unit Control		X
125 F (51.7 C) Electric Service Relay	X	
115 F (46.1 C) Electric Service Relay	X	
Sound Reduction Enclosure/Hail Guards/Wind Baffles		X
Vibration Isolation		X
GFI Convenience Outlet (60 Hz Only)	X	X
Low Ambient Protection to 0° F (-17.7 C)	X	
Energy Management Module	X	X
Remote Service Port		X

*Standard on 208/230 and 230 v units.

Factory-installed options

115 F (46.1 C) Electric Service Rating — Lower electric service temperature ratings reduce the units rated Minimum Current Amps (MCA) and Maximum Overcurrent Protection (MOCP) for moderate ambient temperature applications (sizes 080 to 125, 220, 240 only).

125 F (51.7 C) Electric Service Rating — Higher electric service temperature ratings allows maximum ambient temperature operation (460 and 575 v only).

Remote Service Port — Provides secondary connection port for Navigator display. Port is conveniently located outside of the control box for easy access to information during operation and maintenance routines.

Low Ambient Protection to 0° F (-17.7 C) — Factory-installed cooler head heaters and liquid line solenoid valves combined with a pump down cycle provide cooler ambient protection to 0° F (-17.7 C).

Energy Management Module — This module provides energy management capabilities to minimize chiller energy consumption. Several features are provided with this module including leaving fluid temperature reset, cooling set point reset or demand limit control from a 4 to 20 mA signal, 2-point demand limit control (from 0 to 100%) activated by a remote contact closure, and discrete input for “Ice Done” indication for ice storage system interface.

Wye-delta start — Reduced inrush current start is available as a factory-installed option. It is standard on 208/230 and 230 v units.

Condenser coil options (Enviro-Shield™) — Several options are available to match coil construction to the site conditions for the best durability. Consult your Carrier representative for further information.

GFI Convenience outlet — The factory-installed convenience outlet includes 15-amp GFI (Ground Fault Interrupter) receptacle with independent fuse protection. Convenience outlet is 115-v female receptacle.

Alternate cooler heads (plus one pass, minus one pass) — This option changes the standard cooler head to a Plus-One-Pass (for use with low temperature brines), or a Minus-One-Pass (reduced pressure drop for series flow applications). Consult the Carrier 30GXN,R electronic catalog for performance data.

Suction isolation 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 for further isolation of the compressor from the cooler vessel.

Medium temperature brine — This 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 adjust for lower refrigerant flow rates.

Low-ambient Motormaster® III control — This factory-installed option permits operation of the 30GXN,R units down to -20 F (-29 C) outdoor ambient temperature. The control is also available as a field-installed accessory. Also requires field-installed wind baffles.

Non-fused disconnect — This option provides non-fused disconnect capability for main unit power located at the unit.

Control power transformer (460 v only) — The transformer is sized to supply the needs of the control circuit, sourcing power from the main unit power connection. The transformer is also available as a field-installed accessory.

High-static/high ambient condenser fans — The high-static fans allow the 30GXN,R unit to be used in applications with an external static pressure of up to 0.8 in. wg (200 Pa) at nominal condenser airflow. Two options are available: 0.4 in. wg (100 Pa) or 0.8 in. wg (200 Pa). The 100 Pa (0.4 in. wg) option may also be used as a high-ambient fan in 50 Hz applications. This option provides additional condenser airflow and additional capacity up to 125 F (52 C). Consult your local Carrier representative for performance data.



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.

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. The transformer is also available as a factory-installed option (460-v and 575-v only).

Security guards — This accessory covers the condenser coils, cooler, and compressor areas to protect the unit from intrusion.

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 factory-installed option.

Control display access door — This option provides easy access to the unit control module through a see-through door without having to open or remove the control box panels.

Remote enhanced display — This accessory kit contains a remotely mounted 40-character per line, 16-line display panel for unit diagnostics.

Chillervisor System Manager III multi-unit control — This accessory allows sequencing of between 2 and 8 chillers in parallel or 2 chillers in series. Pump control is also provided.

Sound reduction enclosures/hail guards/wind baffles — This kit contains a sound enclosure that covers the entire unit to reduce sound levels. Coil protection and wind baffles are also provided. See Carrier electronic catalog 30GXN,R chiller program for sound power data and dBA reduction.

Low ambient Motormaster III head pressure control — Permits starting and operating down to -20 F (-29 C) outside ambient temperature. Requires field-installed wind baffles.

Energy Management Module — This module provides energy management capabilities to minimize chiller energy consumption. Several features are provided with this module including leaving fluid temperature reset, cooling set point reset or demand limit control from a 4 to 20 mA signal; 2-point demand limit control (from 0 to 100%) activated by a remote contact closure; and discrete input for “Ice Done” indication for ice storage system interface.

Vibration isolation — The field-installed 1/4-in. neoprene isolator pads (24-in. x 3-in.) reduce vibration transmission from the compressor through the floor and into the conditioned space.

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.

Remote service port — Provides secondary connection port for Navigator display. Port is conveniently located outside of the control box for easy access to information during operation and maintenance routines.

GFI Convenience outlet — The field-installed convenience outlet includes 15-amp GFI (Ground Fault Interrupter) receptacle with independent fuse protection. Convenience outlet is 115-v female receptacle.

Trim kit accessory — The trim kit accessory is available for field installation between 2 unit modules. The kit contains sheet metal base rail pieces and all required mounting hardware. The kit also allows for interconnecting piping support.

CONDENSER COIL CORROSION PROTECTION OPTIONS

ENVIRO-SHIELD™ OPTION*	ENVIRONMENT					
	Standard	Mild Coastal	Moderate Coastal	Severe Coastal	Industrial	Combined Industrial/Coastal
AL Fins (Standard Coils)	X					
CU Fins			X			
AL Fins, E-coat					X	X
CU Fins, E-coat				X		
AL Fins, Precoated		X				

LEGEND

- AL — Aluminum
- CU — Copper

*See page 67 for further description, also see “Environmental Corrosion Protection” for more information (Publications 810-217 and 811-019).

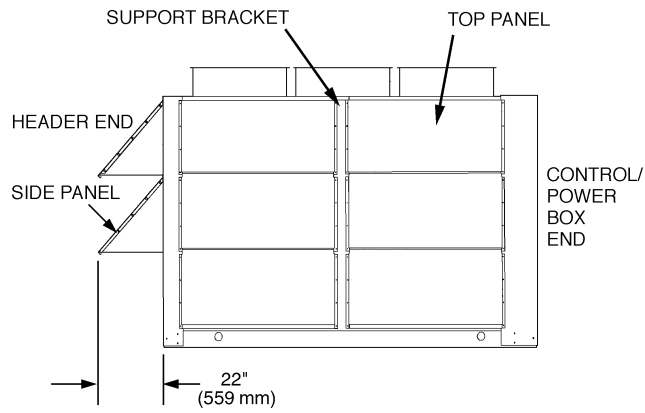
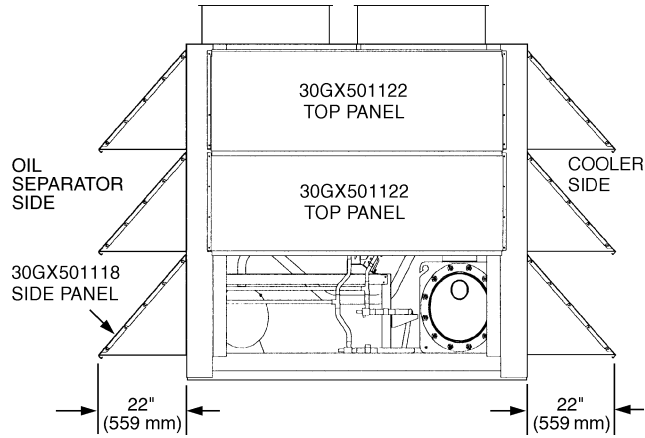
Packaging options — Several packaging options are available to provide unit protection during transit to the job site.

OPTION 1	Standard domestic packaging includes a rigid board to protect the condenser coils from physical abrasion.
OPTION 2	Includes Option 1 plus a bottom wooden skid.
OPTION 3	Standard export packaging with rigid board coil cover, top and bottom wooden skid & reinforced polymer bag to protect entire unit from splashing water and debris.
OPTION 4	Full wooden crate surrounding entire unit.
OPTION 5	Option #1 above with factory-installed security grilles.
OPTION 6	Option #2 above with factory-installed security grilles.
OPTION 7	Option #3 above with factory-installed security grilles.
OPTION 8	Option #4 above with factory-installed security grilles.

Options and accessories (cont)

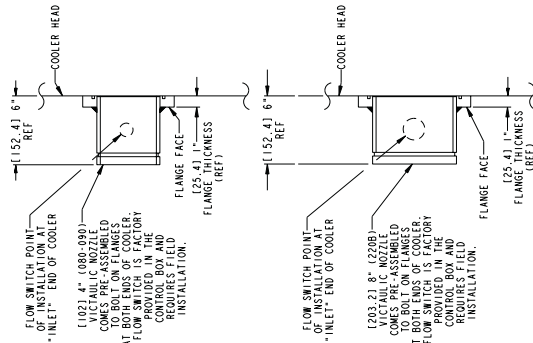


TYPICAL ACCESSORY SOUND REDUCTION/HAIL GUARD/ WIND BAFFLE HOODS

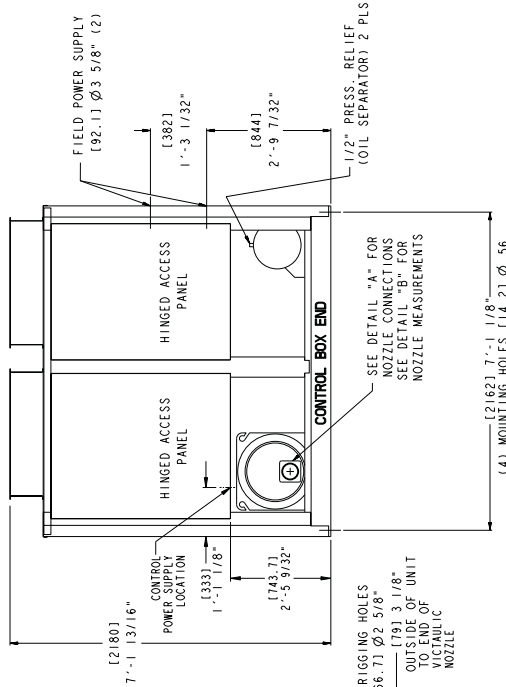
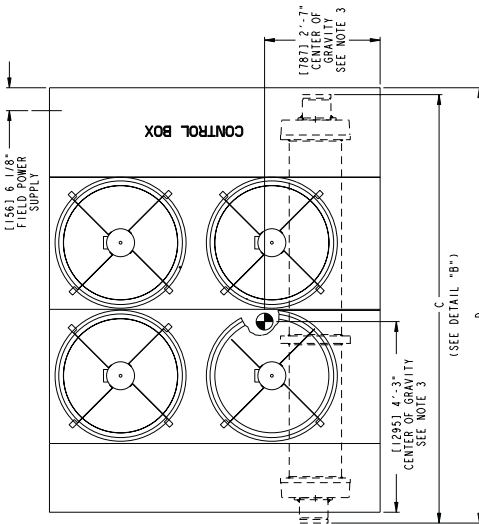
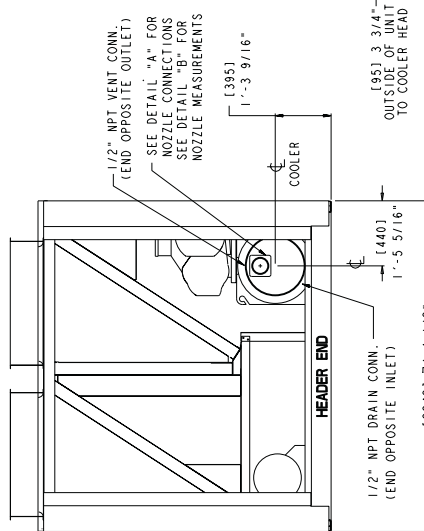


30GXN,R080, 090

DETAIL "A" NOZZLE CONNECTIONS (080-090 SIZES)



DETAIL "A" NOZZLE CONNECTIONS (220B SIZE)



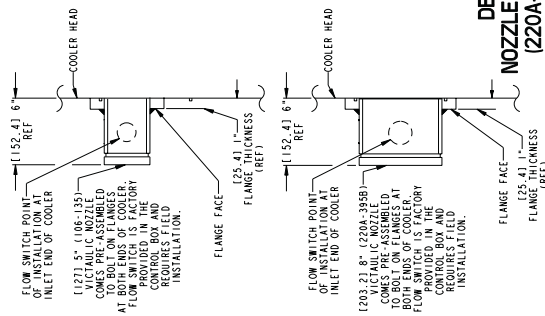
UNIT	DETAIL "B"				NUMBER OF CONNECTION PANELS - SEE
	A	B	C	D	
30GXN/R080,090	STD 4.68	4.68	9'-4 1/2"	9'-7 5/8"	2
30GXN/R080,090	MINUS 4.68	4.68	8'-10 1/2"	9'-1 5/8"	4
30GXN/R080,090	PLUS 4.68	4.68	8'-10 1/2"	9'-1 5/8"	4
30GXN/R220B	MINUS 4.68	4.68	9'-4 1/2"	9'-7 5/8"	1

- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY. SURFACE FINISH SHALL BE SOLID SURFACE.
 SIDES - (1629 MM) 6 FT FROM SOLID SURFACE.
 2. UNIT WITH SOUND HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY. SURFACE FINISH SHALL BE SOLID SURFACE.
 SIDES - (1629 MM) 6 FT TO OUTSIDE EDGE OF HOODS.
 3. CENTER OF GRAVITY SHOWN IS FOR ALUMINUM FIN COILS. SEE INSTALLATION INSTRUCTIONS FOR ALL OTHER VALUES.
 4. INSTALLED IN THE ENTERING FLUID NOZZLE.

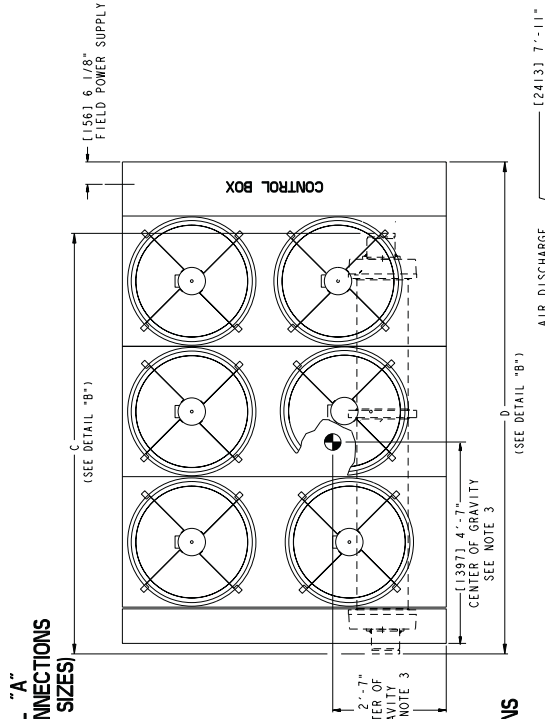
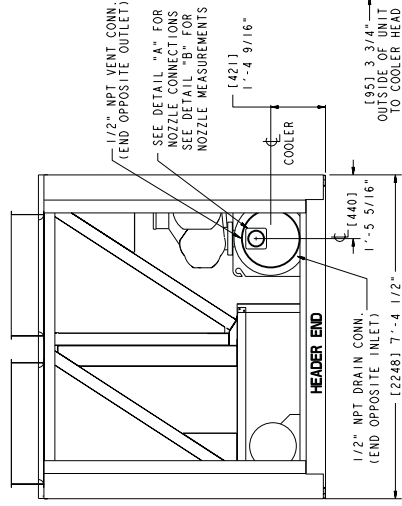
UNIT	TOTAL OPERATING TOTAL OPERATING WEIGHT - AL FIN WEIGHT - CU FIN	
	LBS	KG
30GXN/R080	6313	2863
30GXN/R090,220B	6333	2872
	7008	3178

30GXN,R106, 114, 115, 125, 135

DETAIL "A" NOZZLE CONNECTIONS (106-135 SIZES)

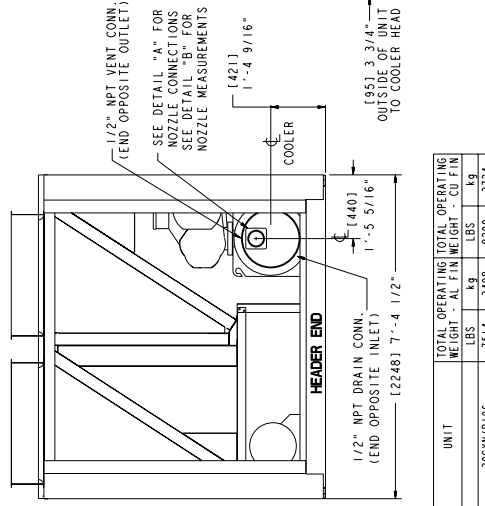
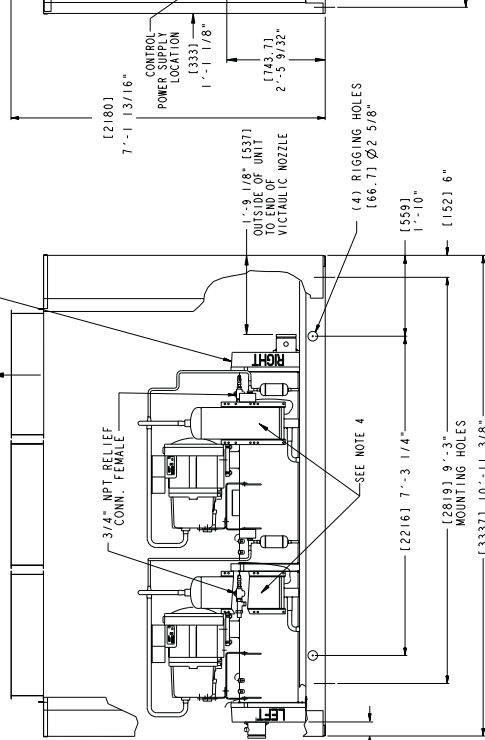


DETAIL "A" NOZZLE CONNECTIONS (220A-395B SIZES)



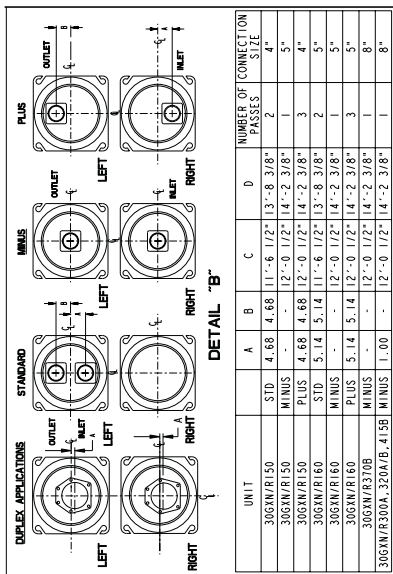
UNIT	DUPLICATED APPLICATIONS				STANDARD				MINUS				PLUS				NUMBER OF CONNECTION PASSES & SIZE
	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT	LEFT	RIGHT			
30GXN,R106, 114, 115, 125, 135	STD	5.14	5.14	9'-4 1/2"	11'-1 5/8"	3	3	3	3	5"	5"	5"	5"	5"	5"		
30GXN,R106, 114, 115, 125, 135	MINUS	5.14	5.14	8'-10 1/2"	10'-7 5/8"	2	2	2	2	3"	3"	3"	3"	3"	3"		
30GXN,R106, 114, 115, 125, 135	PLUS	5.14	5.14	8'-10 1/2"	10'-7 5/8"	4	4	4	4	3"	3"	3"	3"	3"	3"		
300B, 365B, 390B, 395B	MINUS	1.00	1.00	9'-4 1/2"	11'-1 5/8"	1	1	1	1	8"	8"	8"	8"	8"	8"		

- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP DO NOT RESTRICT IN ANY WAY.
 SIDES - (1829 MM) 6 FT FROM SOLID SURFACE.
 FLOORS - (1829 MM) 6 FT FROM SOLID SURFACE.
 2. UNIT WITH SOUND HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP DO NOT RESTRICT IN ANY WAY.
 SIDES - (1829 MM) 6 FT FROM SOLID SURFACE.
 FLOORS - (1829 MM) 6 FT FROM SOLID SURFACE.
 3. SEE SIZES (1124 MM) 3 FT TO OUTSIDE EDGE OF HOODS.
 4. ECONOMIZERS ARE FACTORY INSTALLED ON SIZES 115-135 ONLY.
 5. FLOW SWITCH IS FACTORY SUPPLIED AND MUST BE FIELD INSTALLED IN THE ENTERING FLUID NOZZLE.



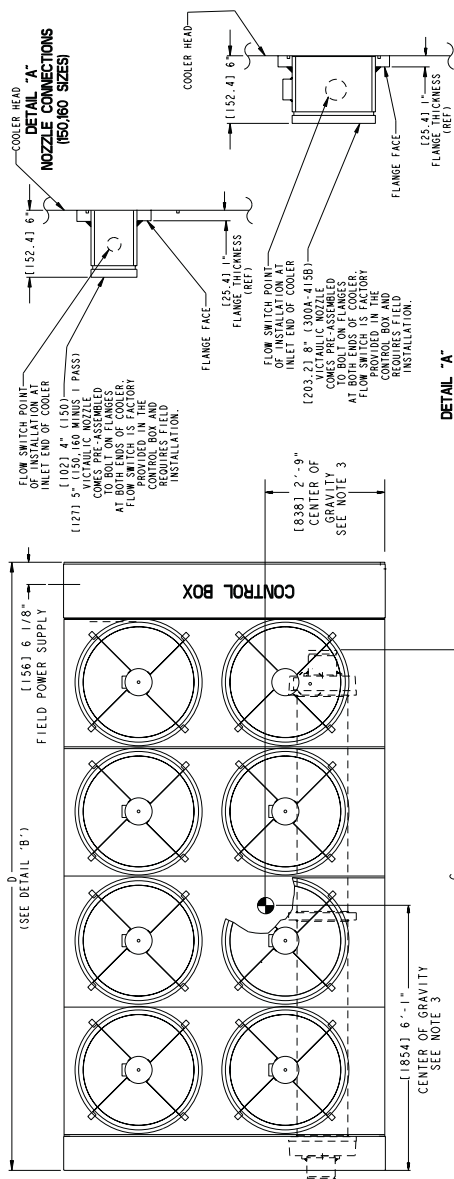
UNIT	TOTAL OPERATING WEIGHT - AL F IN		TOTAL OPERATING WEIGHT - CU FIN	
	LBS	KG	LBS	KG
30GXN,R106	7514	3408	8209	3724
30GXN,R114	7524	3413	8219	3728
30GXN,R115/240B	7388	3351	8063	3667
30GXN,R125, 220A, 240A/B	7553	3426	8248	3741
30GXN,R135, 215A/B	7714	3499	8414	3817
300B, 365B, 390B, 395B				

0GXN,R150, 160

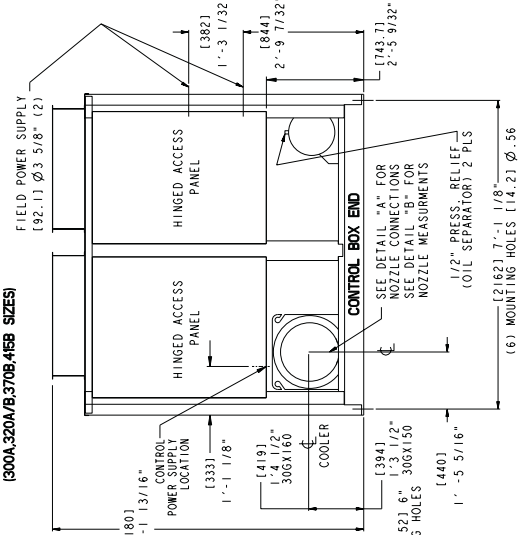


UNIT	A	B	C	D	NUMBER OF CONNECTION PASSES	SIZE	
30GXN/R150	STD 4.68	4.68	11'-6 1/2"	13'-8 3/8"	2	4"	
30GXN/R150	MINUS	-	12'-0 1/2"	14'-2 3/8"	1	5"	
30GXN/R150	PLUS	4.68	12'-0 1/2"	14'-2 3/8"	3	4"	
30GXN/R160	STD	5.14	5.14	11'-6 1/2"	13'-8 3/8"	2	5"
30GXN/R160	MINUS	-	12'-0 1/2"	14'-2 3/8"	1	5"	
30GXN/R300A	PLUS	5.14	5.14	12'-0 1/2"	14'-2 3/8"	3	5"
30GXN/R300A, 320A/B, 415B	MINUS	1.00	-	12'-0 1/2"	14'-2 3/8"	1	8"

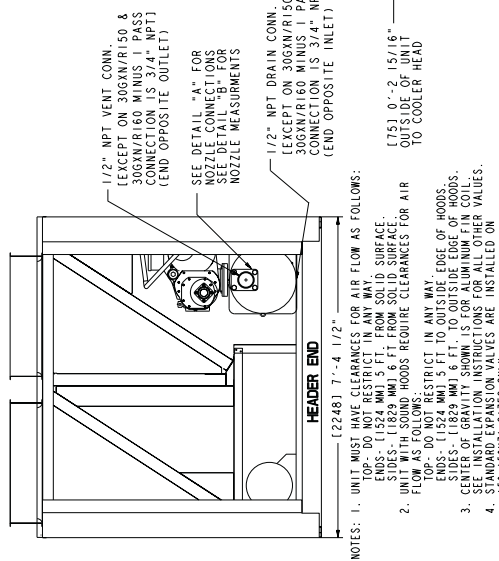
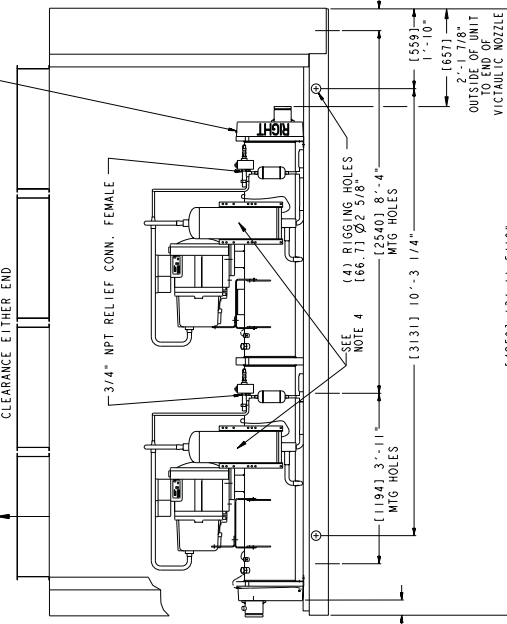
UNIT	TOTAL OPERATING WEIGHT - AL FIN WEIGHT - CU FIN	
	LBS	KG
30GXN/R150, 370B	8784	3984
30GXN/R160, 300A, 320A/B, 415B	9072	4115
	10172	4614



DETAIL 'A' NOZZLE CONNECTIONS (300A,320A/B,370B,415B SIZES)



DETAIL 'B' NOZZLE CONNECTIONS (300A,320A/B,370B,415B SIZES)

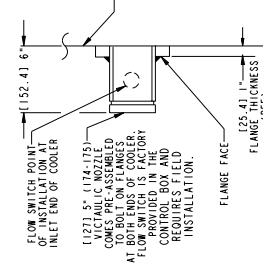


- NOTES:
- UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - (1524 MM) 6 FT. FROM SOLID SURFACE.
 SIDES - (1829 MM) 6 FT. FROM SOLID SURFACE.
 FLOW AS FOLLOWS HOODS REQUIRE CLEARANCES FOR AIR FLOW.
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - (1524 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
 SIDES - (1829 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
 SEE INSTALLATION INSTRUCTIONS FOR ALL OTHER VALUES.
 - STANDARD EXPANSION VALVES ARE INSTALLED ON 150 (50M2) SIZES ONLY. SUPPLIED AND MUST BE FIELD INSTALLED IN THE ENTERING FLUID NOZZLE.
 - SEE DETAIL 'A' FOR NOZZLE CONNECTIONS (END OPPOSITE INLET).
 - SEE DETAIL 'B' FOR NOZZLE CONNECTIONS (END OPPOSITE OUTLET).
 - 1/2" NPT VENT CONN. (EXCEPT ON 30GXN/R150 & 30GXN/R160 MINUS 1 PASS CONNECTION IS 3/4" NPT) (END OPPOSITE INLET)
 - 3/4" NPT RELIEF CONN. FEMALE (SEE NOTE 4)
 - (6) RIGGING HOLES (Ø6.71) Ø2 5/8"
 - (6) MOUNTING HOLES (Ø4.2) Ø 5/8"
 - (172) PRESSURE RELIEF (COIL SEPARATOR) 2 PLS
 - SEE DETAIL 'A' FOR NOZZLE CONNECTIONS
 - SEE DETAIL 'B' FOR NOZZLE CONNECTIONS
 - NOZZLE MEASUREMENTS
 - (172) PRESSURE RELIEF (COIL SEPARATOR) 2 PLS
 - (6) MOUNTING HOLES (Ø4.2) Ø 5/8"

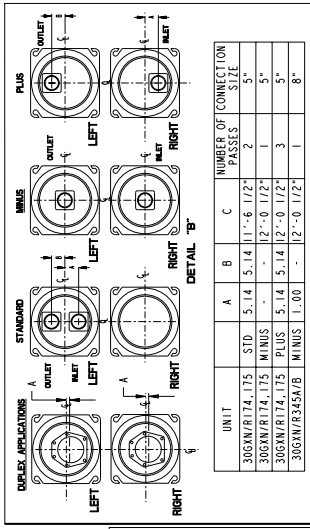
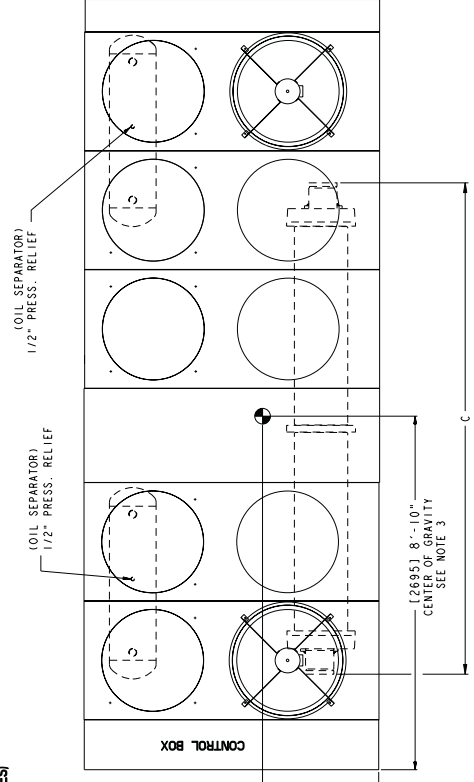
Dimensions (cont)



30GXXN,R174, 175



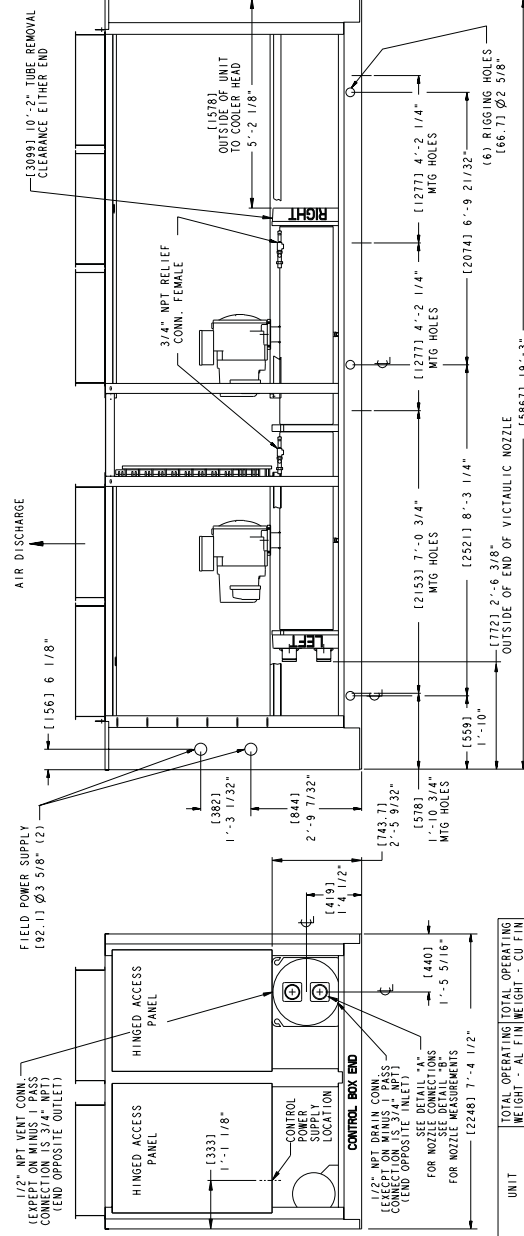
DETAIL 'A' NOZZLE CONNECTIONS (174,175 SIZES)



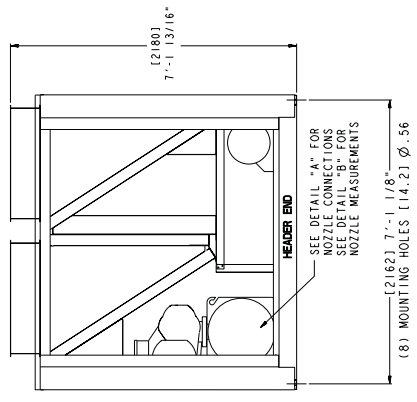
NOTES:

- UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
TOP - DO NOT RESTRICT IN ANY WAY. SURFACE SIDES - 1 (1829 MM) 3/8" (9.5 mm) FROM SOLID SURFACE.
- UNIT WITH SOUND HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
TOP - DO NOT RESTRICT IN ANY WAY. SURFACE SIDES - 1 (1829 MM) 3/8" (9.5 mm) FROM SOLID SURFACE.
- CENTER OF GRAVITY SHOWN IS FOR ALUMINUM FIN COIL. SEE INSTALLATION INSTRUCTIONS FOR ALL OTHER VALUES.
- UNIT MUST BE FIELD INSTALLED IN THE ENTERING FLUID NOZZLE.

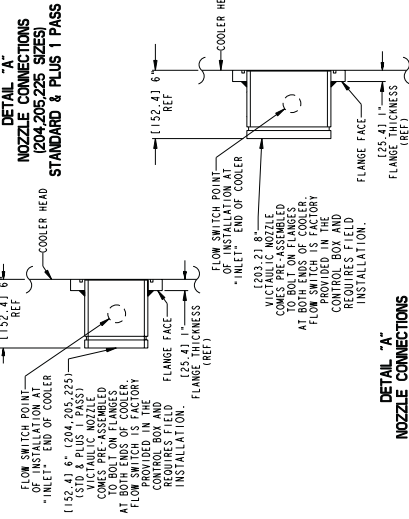
DETAIL 'A' NOZZLE CONNECTIONS (345A/B SIZES)



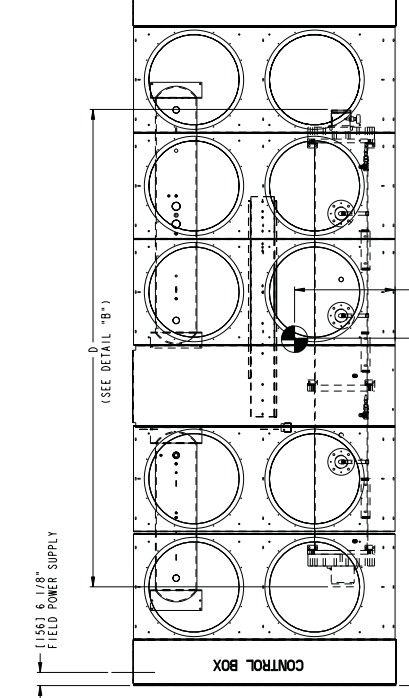
UNIT	TOTAL OPERATING WEIGHT - AL F IN	TOTAL OPERATING WEIGHT - LBS	TOTAL OPERATING WEIGHT - K G
30GXXN/R174	9714	4406	11114
30GXXN/R175, 345A/B	9466	4293	10851
			4922



0GXN,R204, 205, 225



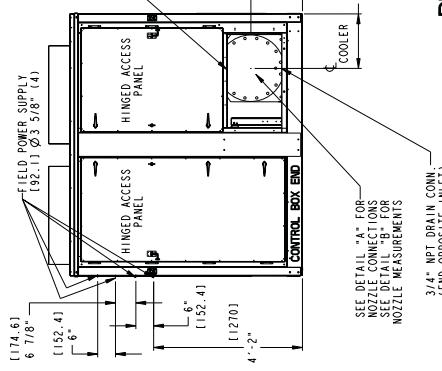
**DETAIL "A"
NOZZLE CONNECTIONS
(370A,410A/B,440A/B,450A/B SIZES)
204,205,225 SIZES MINUS 1 PASS**



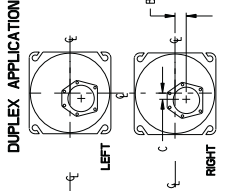
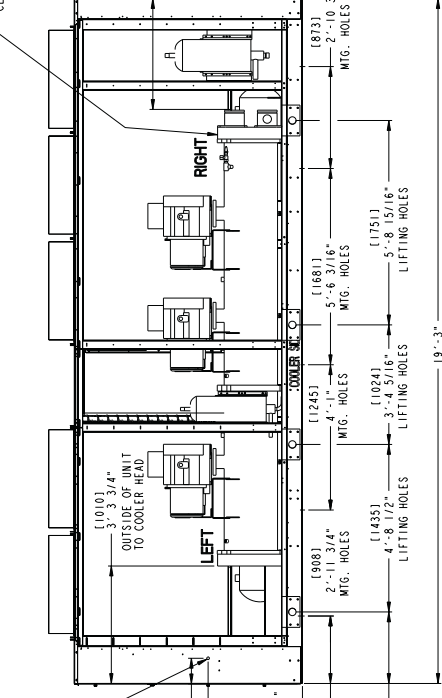
CONTROL BOX

- NOTES:**
- UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
TOP - DO NOT RESTRICT IN ANY WAY.
ENDS - (152.4) 6" (370A, 205, 225) FROM SOLID SURFACE.
INSIDE - (129.1) 3" (410A, 440A/B, 450A/B) FROM SOLID SURFACE.
2. UNIT WITH SOUND HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
TOP - DO NOT RESTRICT IN ANY WAY.
ENDS - (152.4) 6" (370A, 205, 225) FROM SOLID SURFACE.
INSIDE - (129.1) 3" (410A, 440A/B, 450A/B) FROM SOLID SURFACE.
3. CENTER OF GRAVITY SHOWN IS FOR ALUMINUM FIN COIL.
4. SEE INSTALLATION INSTRUCTIONS FOR ALL OTHER VALUES.
5. FLOW SWITCH IS FACTORY SUPPLIED AND MUST BE INSTALLED IN THE ENTERING FLUID NOZZLE.

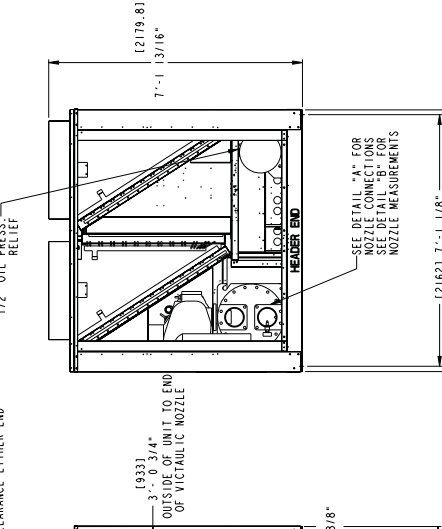
UNIT	TOTAL OPERATING WEIGHT-ALUM FIN		TOTAL OPERATING WEIGHT-COPPER FIN	
	LBS.	KG	LBS.	KG
306M/R204	12,747	5,782	14,147	6,417
306M/R205, 410B	12,505	5,672	13,890	6,300
306M/R225, 370A, 410A, 440A/B, 450A/B	12,985	5,890	14,360	6,514



**DETAIL "A"
NOZZLE CONNECTIONS
(370A, 410A/B, 440A/B, 450A/B SIZES)
MINUS 1 PASS**

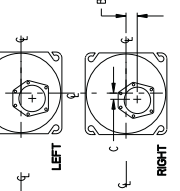


**DETAIL "B"
STANDARD PLUS MINUS**



HEATER END

UNIT	TOTAL OPERATING WEIGHT-ALUM FIN		TOTAL OPERATING WEIGHT-COPPER FIN	
	LBS.	KG	LBS.	KG
306M/R204, 205, 225	12,747	5,782	14,147	6,417
306M/R204, 205, 225	12,505	5,672	13,890	6,300
306M/R370A, 410A/B, 440A/B, 450A/B	12,985	5,890	14,360	6,514

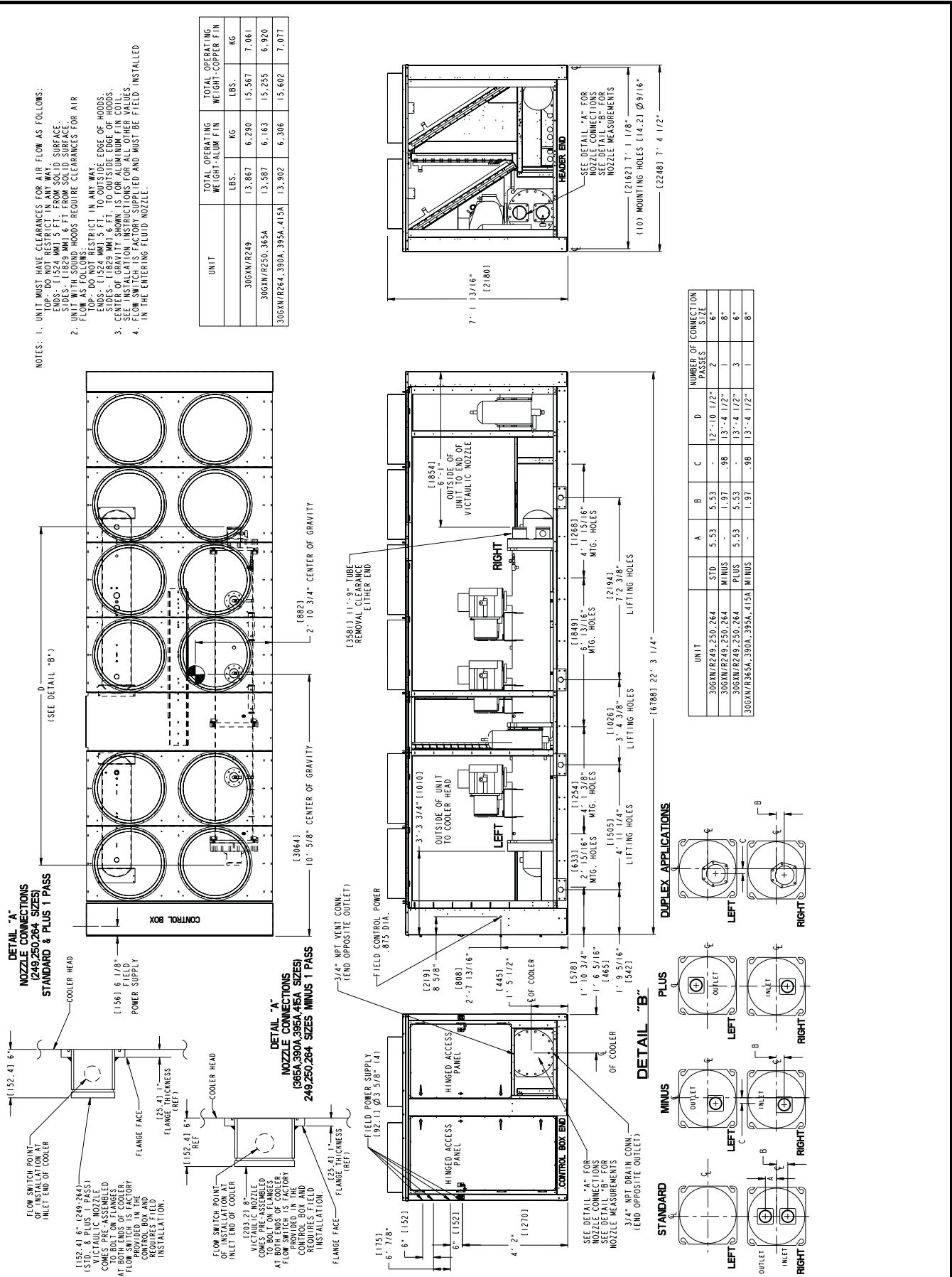


UNIT	TOTAL OPERATING WEIGHT-ALUM FIN		TOTAL OPERATING WEIGHT-COPPER FIN	
	LBS.	KG	LBS.	KG
306M/R204, 205, 225	12,747	5,782	14,147	6,417
306M/R204, 205, 225	12,505	5,672	13,890	6,300
306M/R370A, 410A/B, 440A/B, 450A/B	12,985	5,890	14,360	6,514

Dimensions (cont)

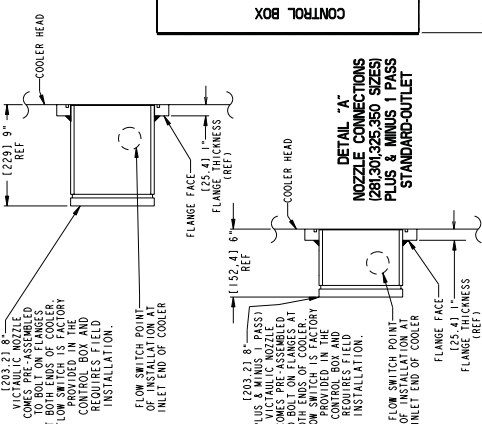


30GXN,R249, 250, 264

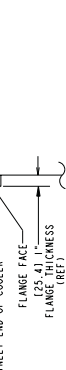


30GXN,R281-350

DETAIL "A"
NOZZLE CONNECTIONS
(281,301,325,350 SIZES)
STANDARD-INLET

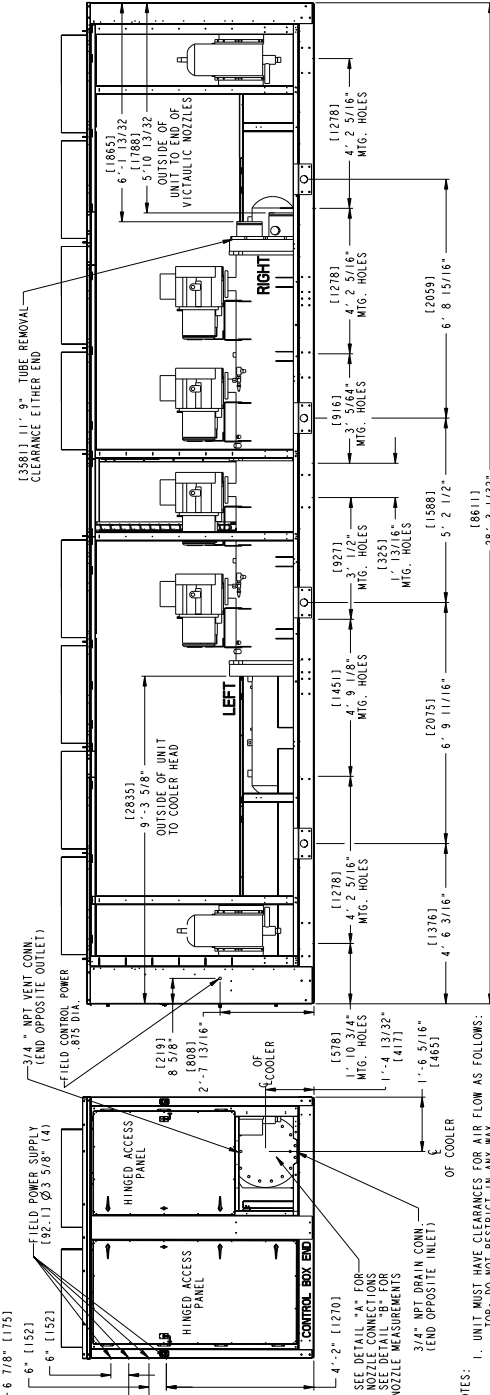
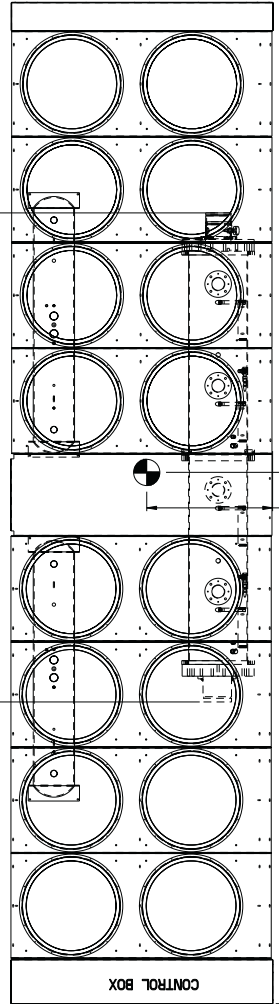


DETAIL "A"
NOZZLE CONNECTIONS
(281,301,325,350 SIZES)
PLUS & MINUS 1 PASS
STANDARD-OUTLET



DETAIL "B"

UNIT	A	B	C	NUMBER OF CONNECTION PASSES	SIZE
30GXN/R281, 301, 325, 350 STD	5.53	5.53	13'-1 1/2"	2	8"
30GXN/R281, 301, 325, 350 MINUS	-	-	13'-4 1/2"	1	8"
30GXN/R281, 301, 325, 350 PLUS	5.53	5.53	13'-4 1/2"	3	8"



- NOTES:
- UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
TOP - DO NOT RESTRICT IN ANY WAY.
SIDES - (1829 MM) 5 FT. FROM SOLID SURFACE.
FLOP - DO NOT RESTRICT IN ANY WAY.
ENDS - (1524 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
SIDE S/C - (1829 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.
3. SEE INSTALLATION INSTRUCTIONS FOR ALL OTHER VALUES.
 - FLOW SWITCH IS FACTORY SUPPLIED AND MUST BE INSTALLED IN THE ENTERING FLUID NOZZLE.

UNIT	TOTAL OPERATING WEIGHT-ALUM FIN		TOTAL OPERATING WEIGHT-COPPER FIN	
	LBS.	KG	LBS.	KG
30GXN/R281	18,718	8,490	21,923	9,944
30GXN/R301	18,738	8,499	21,943	9,953
30GXN/R325	18,778	8,517	21,983	9,971
30GXN/R350	18,828	8,540	22,033	9,994

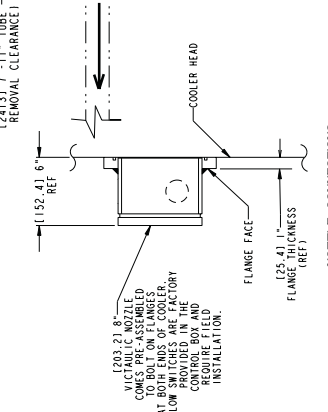
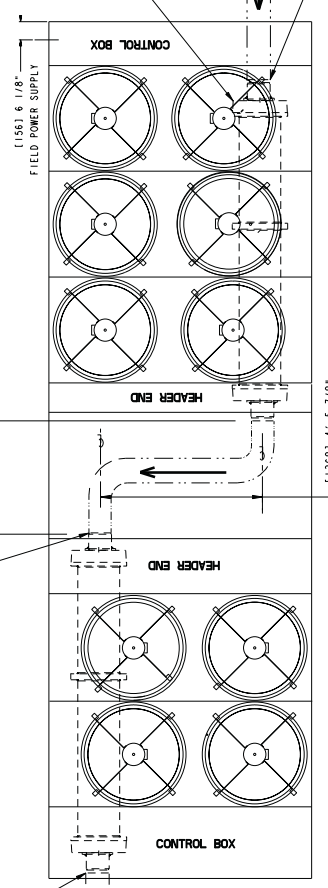
Dimensions (cont)



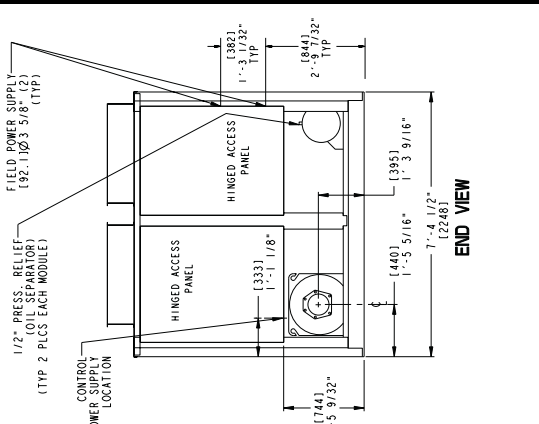
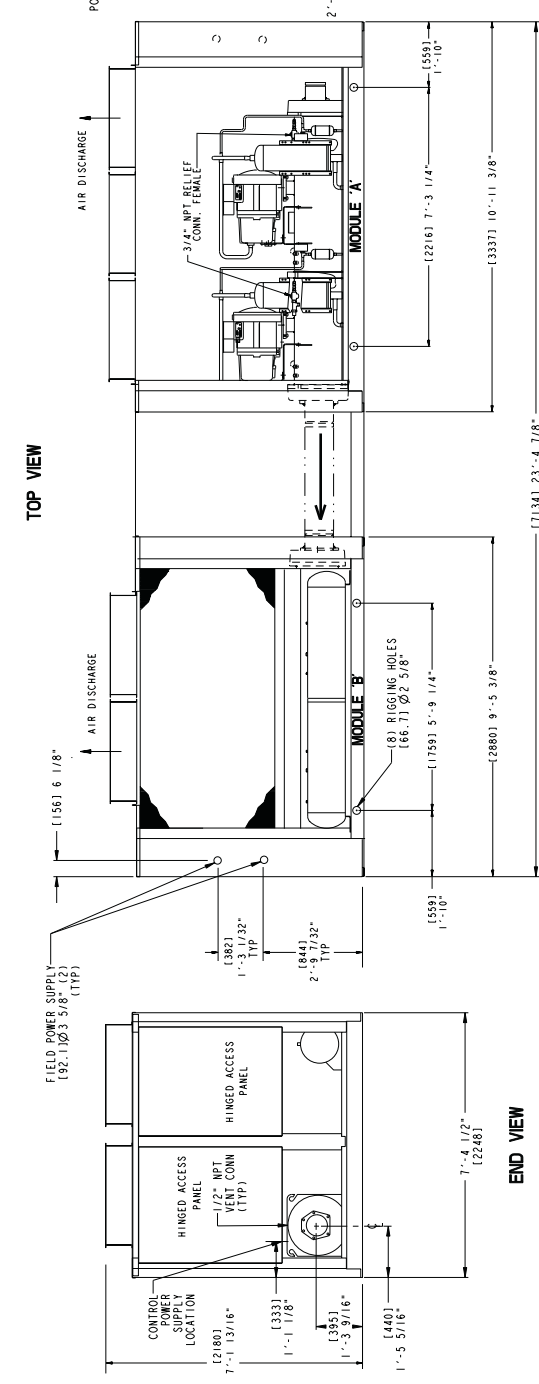
30GXN,R220

UNIT	TOTAL OPERATING WEIGHT - ALL FIN WEIGHT - CU FT IN	LBS	KG
30GXN,R220	13886	6238	13256

- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - (1524 MM) 5 FT. FROM SOLID SURFACE.
 SIDES - (1829 MM) 6 FT. FROM SOLID SURFACE.
 2. UNITS MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - (1524 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
 SIDES - (1829 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.



NOZZLE CONNECTIONS



TOP VIEW

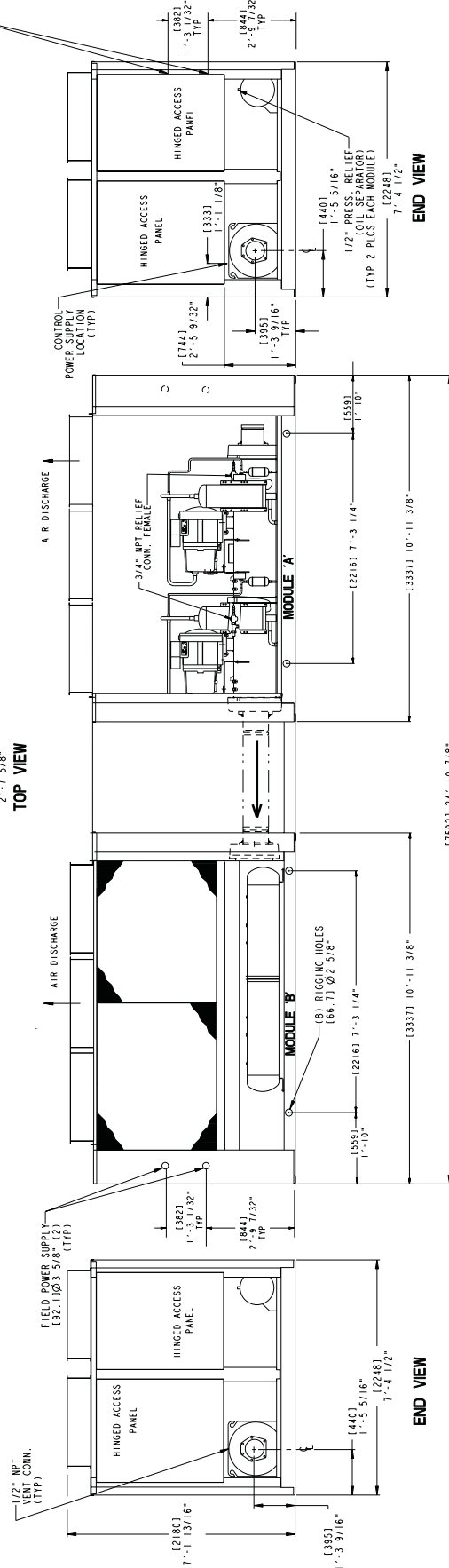
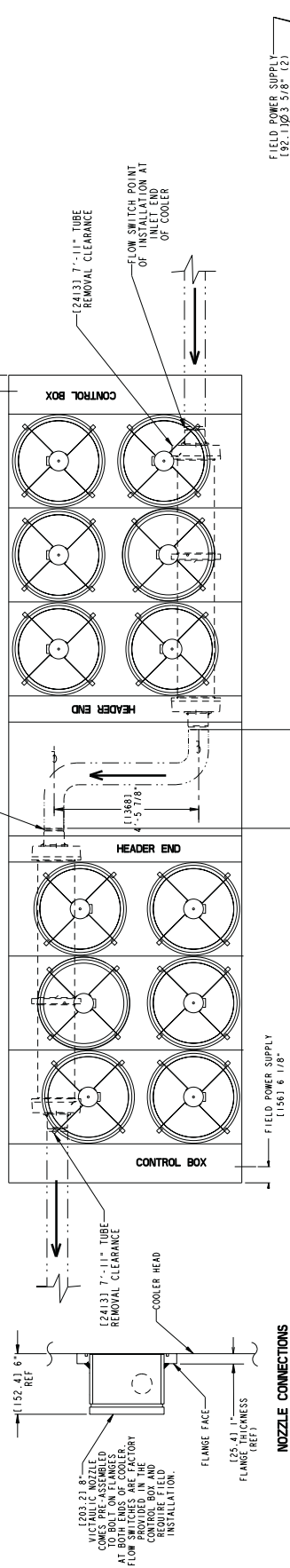
SIDE VIEW

END VIEW

30GXN,R240, 275

- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP: DO NOT RESTRICT IN ANY WAY.
 SIDES: 15249 MM (6 FT.) FROM SOLID SURFACE.
 2. UNIT WITH SOUND HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP: DO NOT RESTRICT IN ANY WAY.
 SIDES: 11829 MM (6 FT.) TO OUTSIDE EDGE OF HOODS.

UNIT	TOTAL OPERATING WEIGHT - ALL IN WEIGHT - CU F IN	LBS	KG
30GXN/R240	14842	6777	16332
30GXN/R275	15429	6998	16829



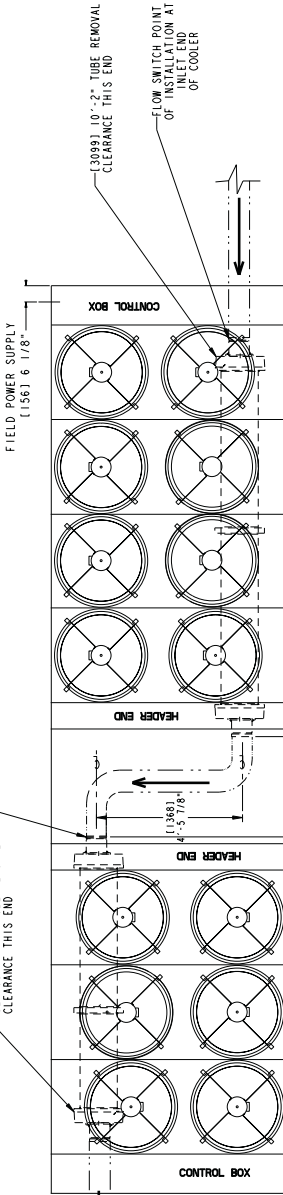
Dimensions (cont)



30GXN,R300

UNIT	TOTAL OPERATING WEIGHT		TOTAL OPERATING WEIGHT - CU FIN	
	LBS	kg	LBS	kg
30GXN/R300	16786	7614	18586	8430

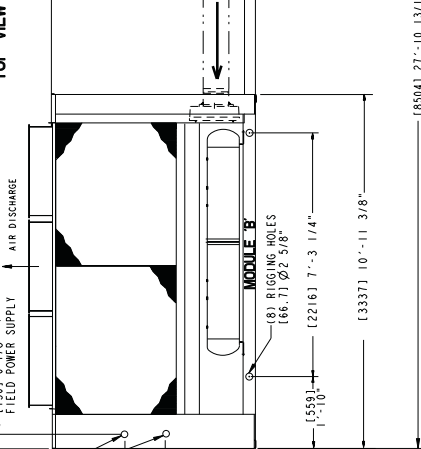
- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 ENDS- (1324 MM) 5 FT. FROM SOLID SURFACE.
 SIDES- (1829 MM) 6 FT. FROM SOLID SURFACE.
 2. UNIT WITH SOUND HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 ENDS- (1324 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
 SIDES- (1829 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.



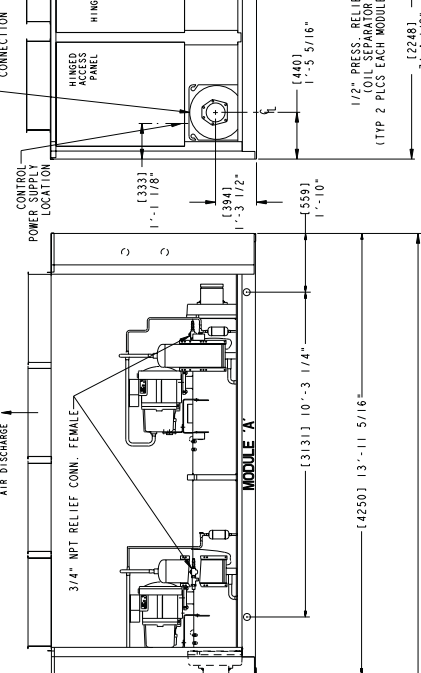
NOZZLE CONNECTIONS



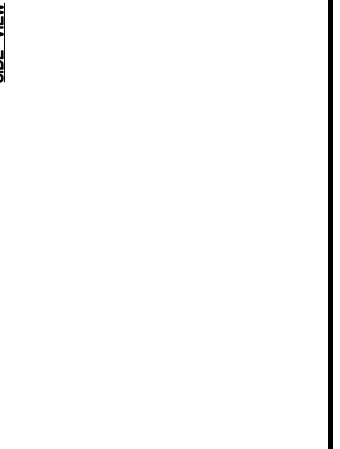
TOP VIEW



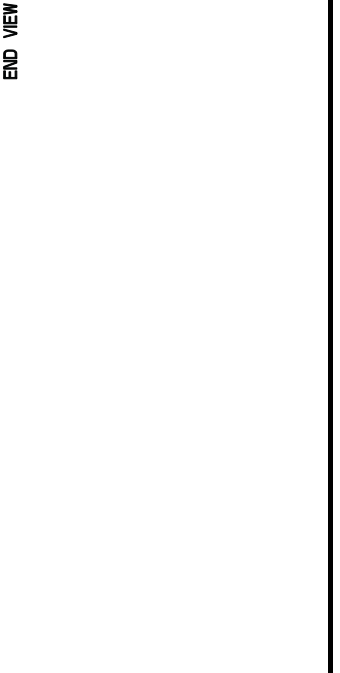
END VIEW



SIDE VIEW



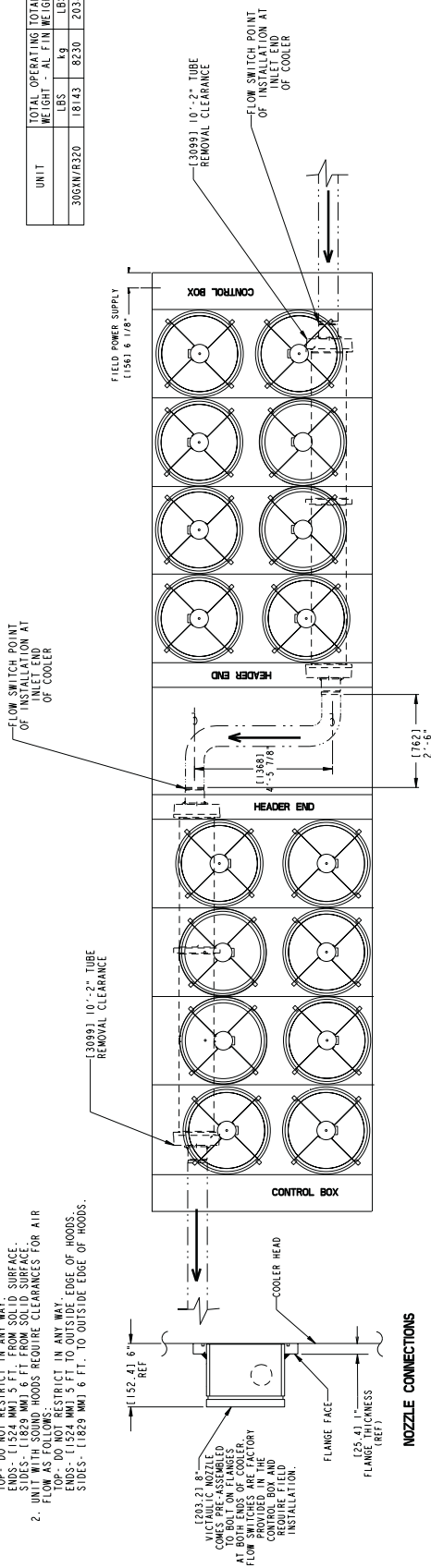
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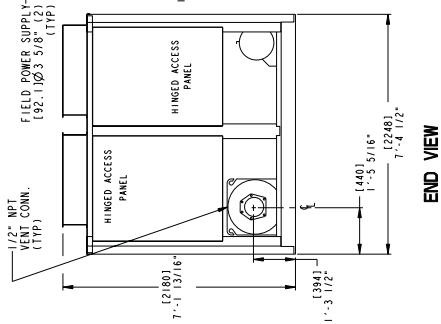
30GXN,R320

- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - (1524 MM) 5 FT. FROM SOLID SURFACE.
 SIDES - (1829 MM) 6 FT. FROM SOLID SURFACE.
 2. IN DOOR HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - (1524 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
 SIDES - (1829 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.

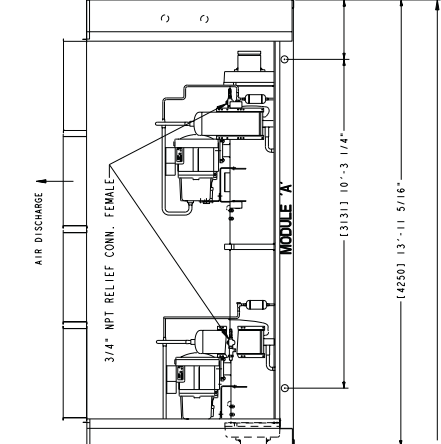
UNIT	TOTAL OPERATING WEIGHT		TOTAL OPERATING HEIGHT - CU.FIN.	
	LBS.	KG	LBS.	KG
30GXN,R320	18143	8230	20343	9227



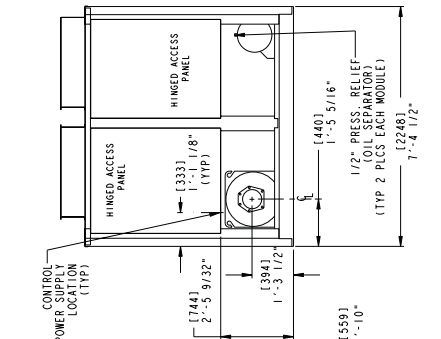
NOZZLE CONNECTIONS



TOP VIEW



END VIEW



END VIEW

END VIEW

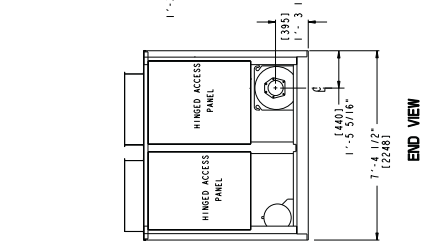
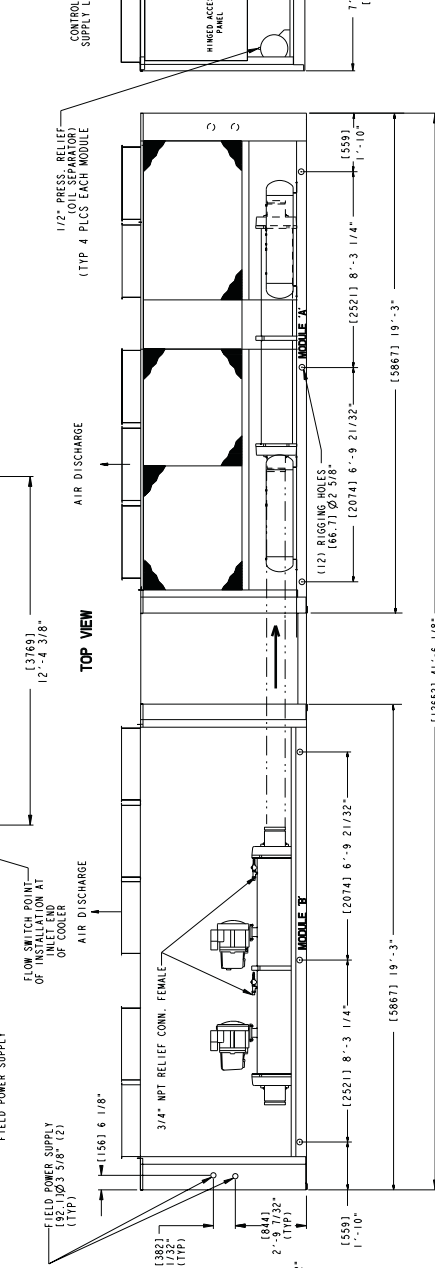
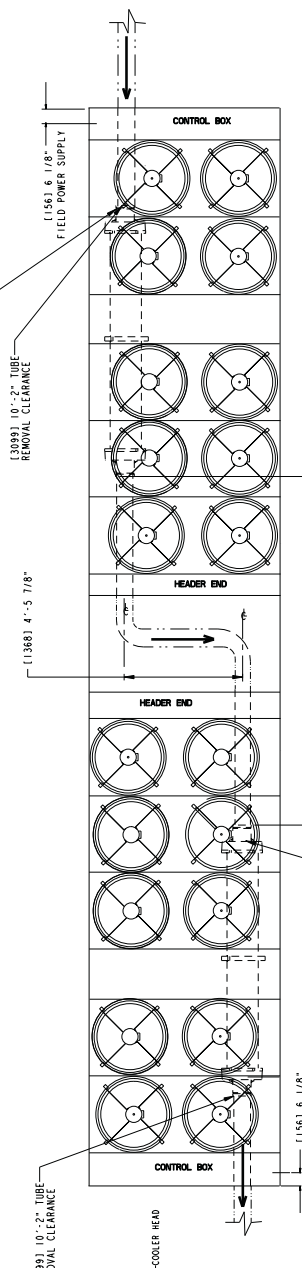
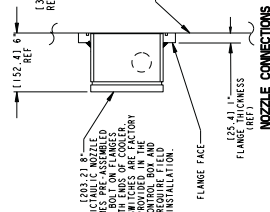
Dimensions (cont)



30GXN,R345

UNIT	TOTAL OPERATING WEIGHT - ALL FIN WEIGHT - CU FIN	TOTAL OPERATING WEIGHT - ALU FIN WEIGHT - CU FIN
30GXN/R345	19531	21101
	89	9843

- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 ENDS - (1524 MM) 5 FT. FROM SOLID SURFACE.
 SIDES - (1829 MM) 6 FT. FROM SOLID SURFACE.
 2. UNIT WITH SOUND HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 ENDS - (1524 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
 SIDES - (1829 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.



UNIT	TOTAL OPERATING WEIGHT - ALL FIN WEIGHT - CU FIN	TOTAL OPERATING WEIGHT - ALU FIN WEIGHT - CU FIN
30GXN/R345	19531	21101
	89	9843

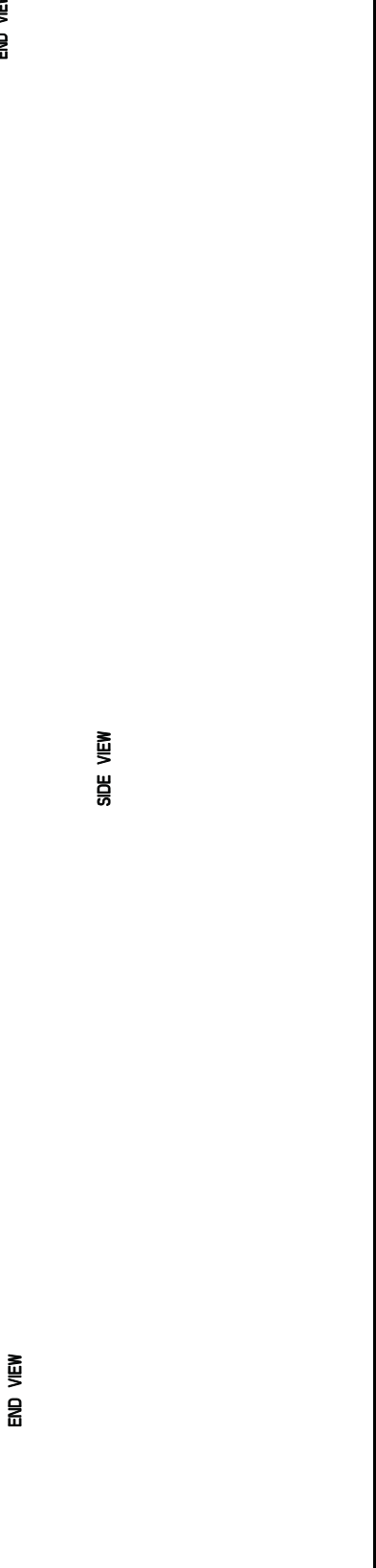
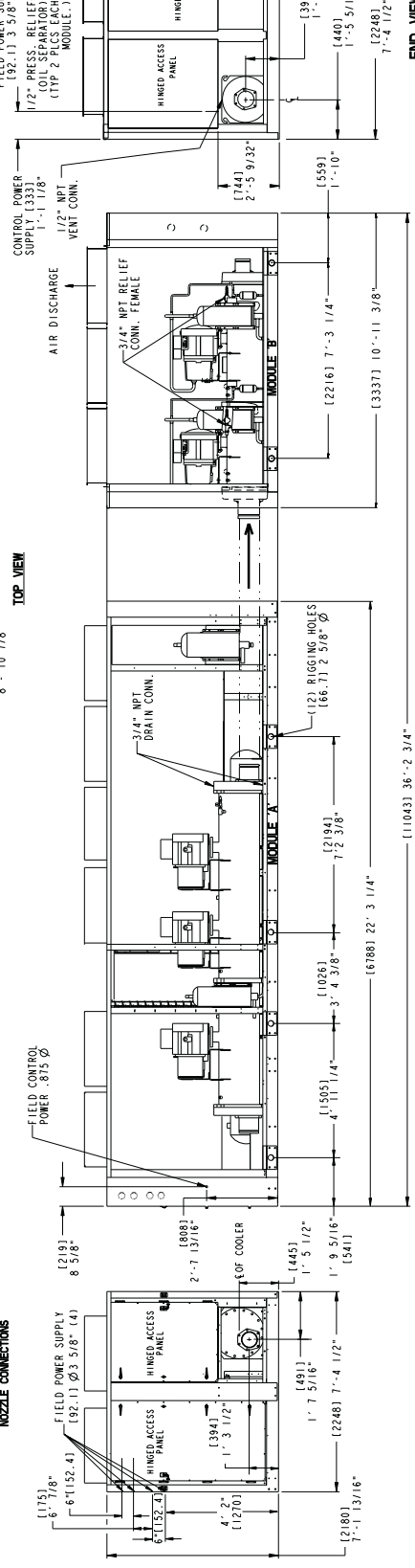
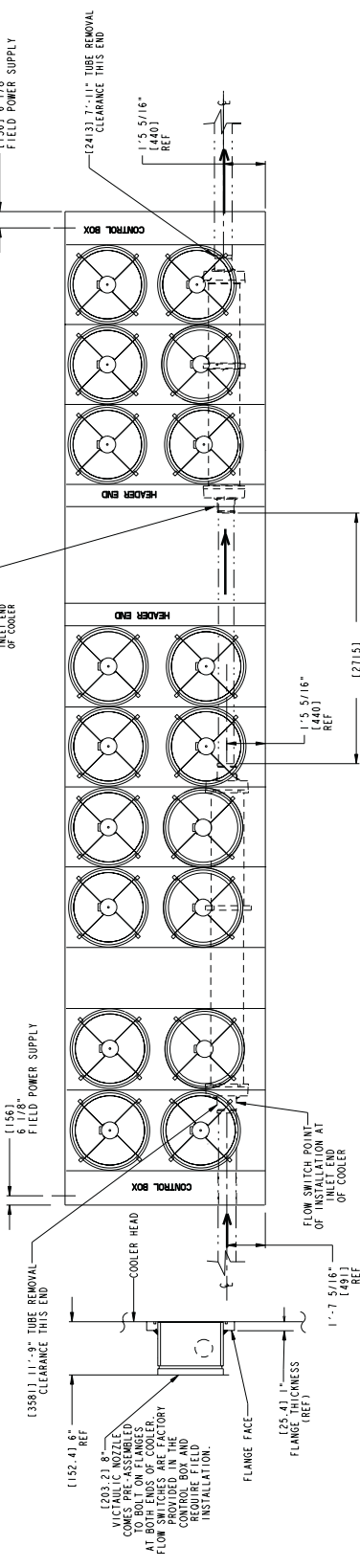
Dimensions (cont)



30GXN,R365, 390, 395

UNIT	TOTAL OPERATING WEIGHT - AL FIM WEIGHT - CU FIM		TOTAL OPERATING WEIGHT - AL FIM WEIGHT - CU FIM	
	LBS	KG	LBS	KG
30GXN/R365	21302	9662	23670	10736
30GXN/R390	21617	9805	24017	10884
30GXN/R395	21617	9805	24017	10884

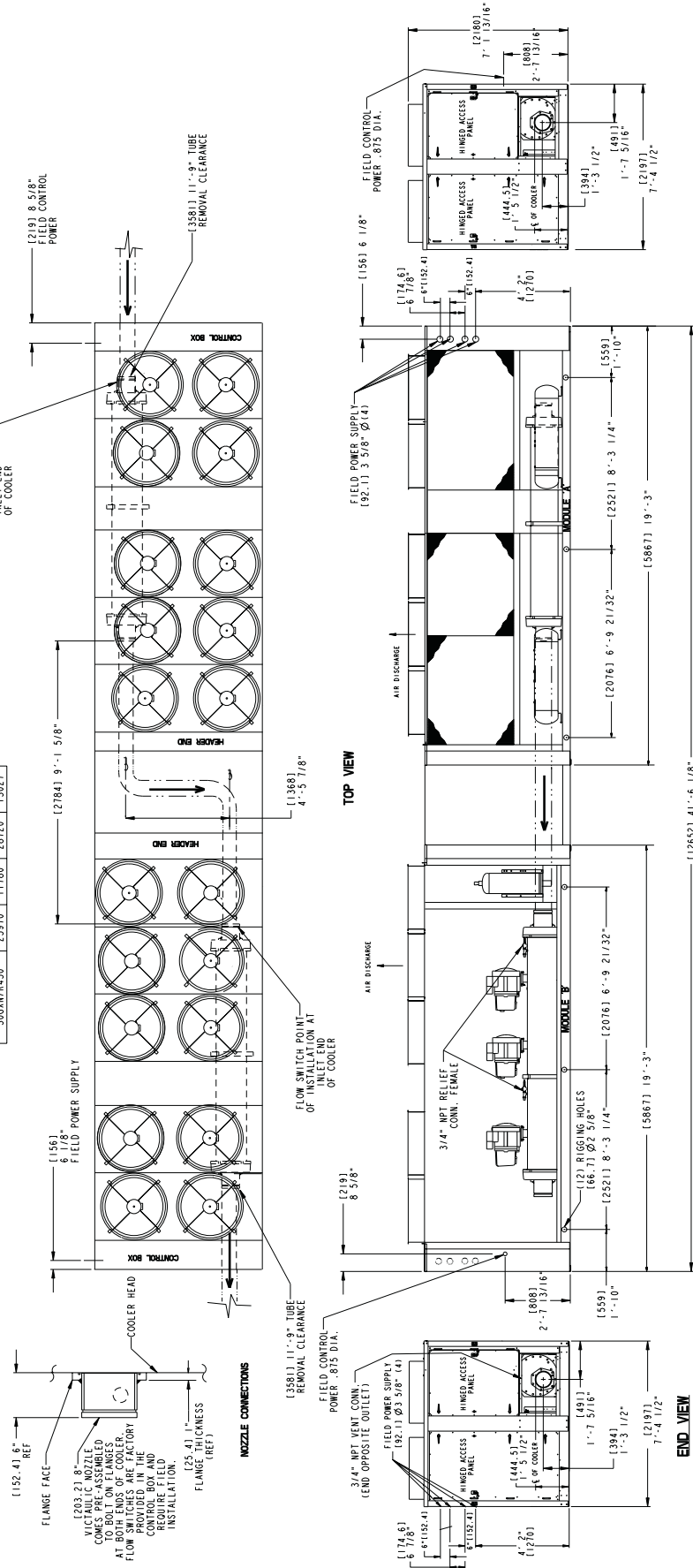
- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP: DO NOT RESTRICT IN ANY WAY.
 SIDES: 1 (1529 MM) 6 FT. FROM SOLID SURFACE.
 BOTTOM: 1 (1529 MM) 6 FT. FROM SOLID SURFACE.
 2. UNIT WITH SOUND HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP: DO NOT RESTRICT IN ANY WAY.
 SIDES: 1 (1829 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.
 BOTTOM: 1 (1529 MM) 6 FT. FROM SOLID SURFACE.



30GXN,R410, 440, 450

- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - (11524 MM) 5 FT. FROM SOLID SURFACE.
 SIDES - (11829 MM) 6 FT. FROM SOLID SURFACE.
 2. ALL FITTINGS, HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - (11524 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
 SIDES - (11829 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.

UNIT	TOTAL OPERATING WEIGHT - LBS	TOTAL OPERATING WEIGHT - AL FIN WEIGHT - CO FIN	TOTAL OPERATING WEIGHT - LBS	TOTAL OPERATING WEIGHT - AL FIN WEIGHT - CO FIN
30GXN/R410	25490	11562	28950	12814
30GXN/R440	25970	11780	28720	13027
30GXN/R450	25970	11780	28720	13027



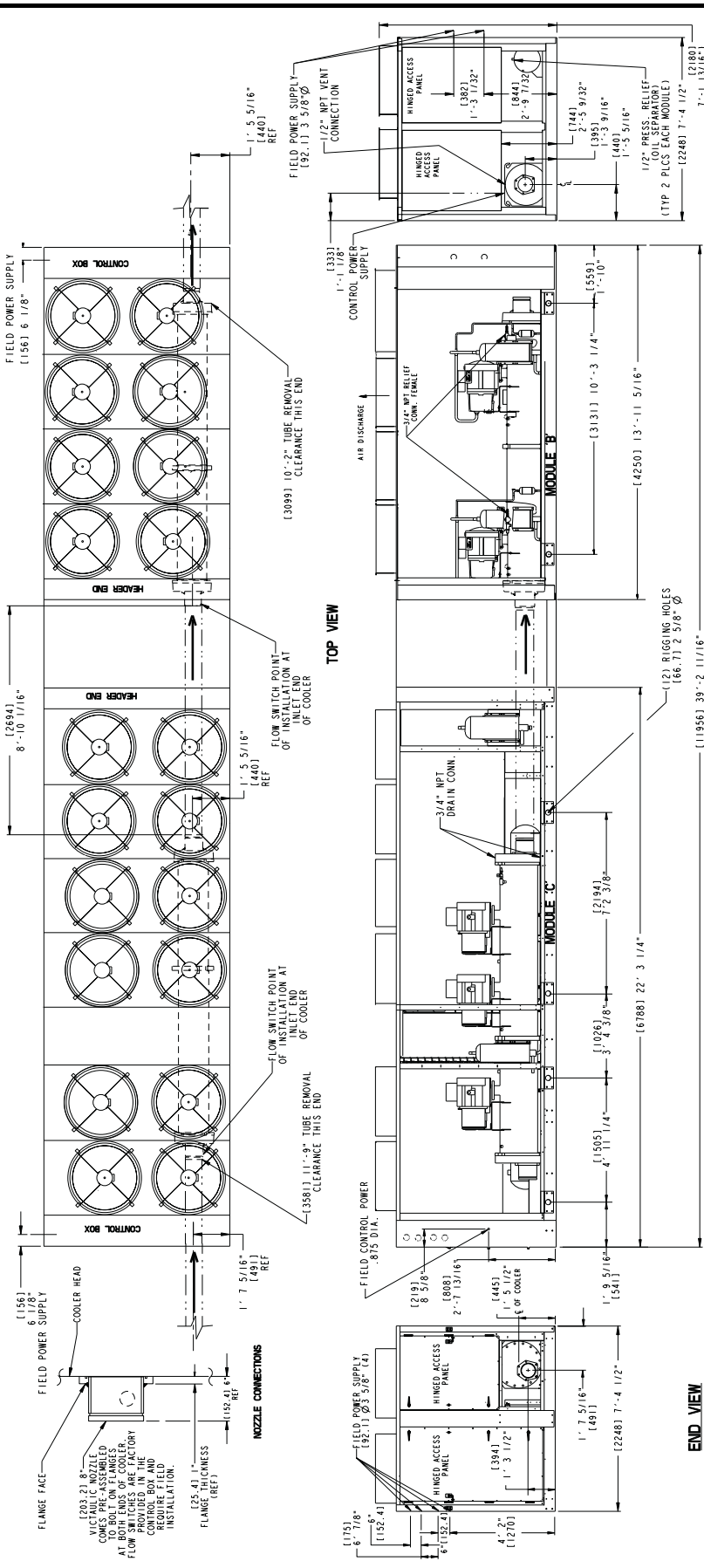
Dimensions (cont)



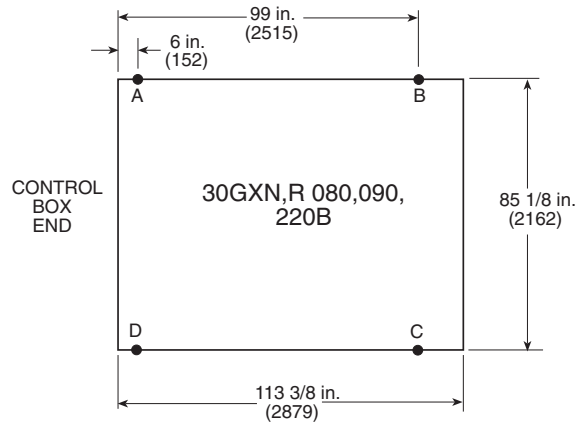
30GXN,R415

UNIT	TOTAL OPERATING WEIGHT - AL FIN		TOTAL OPERATING WEIGHT - CU FIN	
	LBS	KG	LBS	KG
30GXNR415	22974	10421	23774	11691

NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
TOP - DO NOT RESTRICT IN ANY WAY.
ENDS - (1524 MM) 5 FT. FROM SOLID SURFACE.
SIDES - (1829 MM) 6 FT. FROM SOLID SURFACE.
2. UNIT WITH SOUND HOODS REQUIRE CLEARANCES FOR AIR FLOW SWITCHES AT BOTH ENDS OF COOLER. THESE CLEARANCES AT BOTH ENDS OF COOLER, CONTROL BOX AND FIELD POWER SUPPLY REQUIRE FIELD INSTALLATION.
3. VICTORIC NOZZLE CONES PRE-ASSEMBLED ON BOTH ENDS OF COOLER. THESE CLEARANCES AT BOTH ENDS OF COOLER, CONTROL BOX AND FIELD POWER SUPPLY REQUIRE FIELD INSTALLATION.
4. ENDS - (1524 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
SIDES - (1829 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.



Dimensions — mounting weights



WEIGHT DISTRIBUTION, ALUMINUM-FIN UNITS — lb (kg)

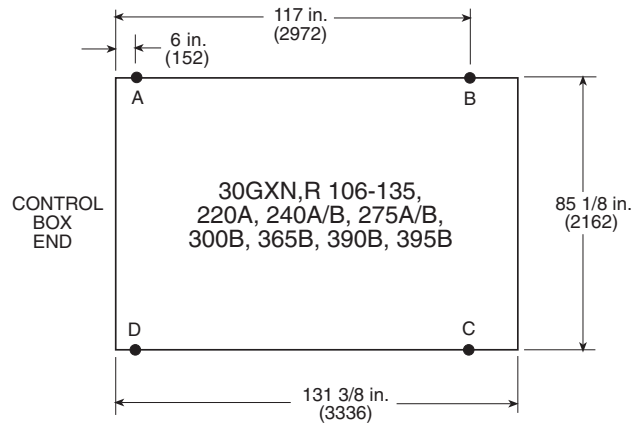
UNIT 30GXN,R	DISTRIBUTION POINTS			
	A	B	C	D
080	1801 (817)	2307 (1046)	1169 (530)	1036 (470)
090, 220B	1806 (819)	2315 (1050)	1173 (532)	1039 (471)

WEIGHT DISTRIBUTION, COPPER-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS			
	A	B	C	D
080	1967 (892)	2580 (1170)	1270 (576)	1171 (531)
090, 220B	1973 (895)	2588 (1174)	1272 (577)	1175 (533)

NOTES:

1. Install a 24-in. x 4-in. (610-mm x 102-mm) mounting pad (minimum) at mounting hole location. **Do not point load base rail.**
2. Dimensions in () are in millimeters.
3. ● Indicates mounting hole location on side base rail.



WEIGHT DISTRIBUTION, ALUMINUM-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS			
	A	B	C	D
106	1978 (897)	2912 (1321)	1476 (669)	1148 (521)
114	1978 (898)	2916 (1323)	1478 (670)	1151 (522)
115, 240B	1944 (882)	2864 (1299)	1451 (658)	1129 (512)
125, 220A, 240A	1989 (902)	2927 (1327)	1483 (673)	1154 (523)
135, 275A/B, 300B, 365B, 390B, 395B	2031 (921)	2989 (1356)	1515 (687)	1179 (535)

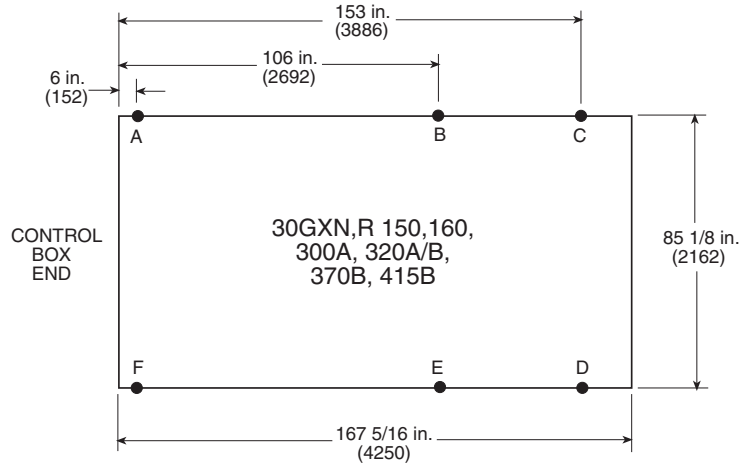
WEIGHT DISTRIBUTION, COPPER-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS			
	A	B	C	D
106	2164 (982)	3178 (1441)	1616 (733)	1251 (567)
114	2167 (983)	3181 (1443)	1619 (734)	1252 (568)
115, 240B	2132 (967)	3129 (1420)	1592 (722)	1230 (558)
125, 220A, 240A	2176 (987)	3192 (1448)	1625 (737)	1255 (569)
135, 275A/B, 300B, 365B, 390B, 395B	2220 (1027)	3256 (1477)	1658 (752)	1280 (581)

NOTES:

1. Install a 12-in. x 4-in. (305-mm x 102-mm) mounting pad (minimum) at mounting hole location. **Do not point load base rail.**
2. Dimensions in () are in millimeters.
3. ● Indicates mounting hole location on side base rail.

Dimensions — mounting weights (cont)



WEIGHT DISTRIBUTION, ALUMINUM-FIN UNITS — lb (kg)

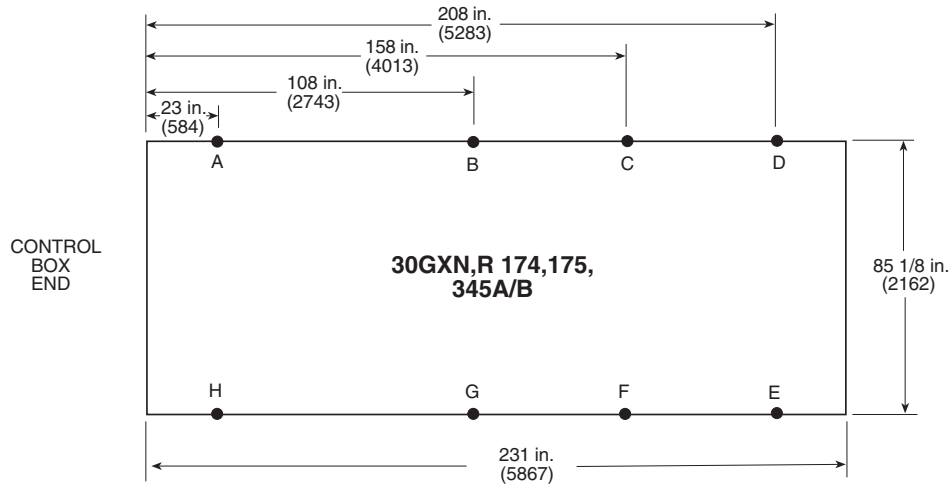
UNIT 30GXN,R	DISTRIBUTION POINTS					
	A	B	C	D	E	F
150, 370B	1398 (634)	1839 (834)	2280 (1034)	1232 (559)	1089 (474)	946 (429)
160, 300A, 320A/B, 415B	1462 (663)	1900 (862)	2336 (1060)	1266 (574)	1123 (510)	983 (446)

WEIGHT DISTRIBUTION, COPPER-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS					
	A	B	C	D	E	F
150, 370B	1567 (711)	2016 (928)	2439 (1106)	1402 (636)	1261 (572)	1119 (508)
160, 300A, 320A/B, 415B	1644 (746)	2083 (945)	2521 (1143)	1450 (658)	1307 (593)	1167 (529)

NOTES:

1. Install a 24-in. x 4-in. (610-mm x 102-mm) mounting pad (minimum) at mounting hole location. **Do not point load base rail.**
2. Dimensions in () are in millimeters.
3. ● Indicates mounting hole location on side base rail.



WEIGHT DISTRIBUTION, ALUMINUM-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS							
	A	B	C	D	E	F	G	H
174	756 (343)	1230 (558)	1153 (523)	681 (309)	1042 (473)	1515 (687)	1905 (864)	1432 (649)
175, 345A/B	737 (334)	1199 (544)	1124 (510)	663 (301)	1015 (460)	1476 (669)	1856 (842)	1396 (633)

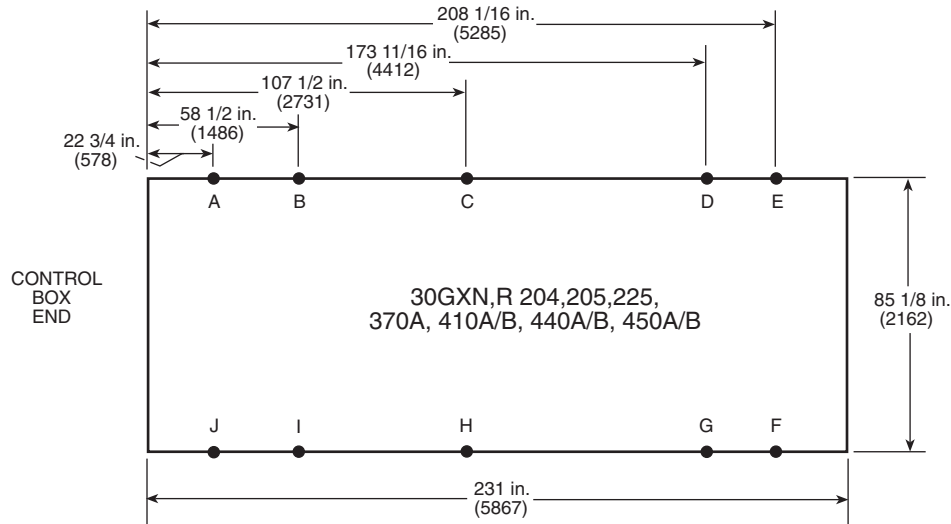
WEIGHT DISTRIBUTION, COPPER-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS							
	A	B	C	D	E	F	G	H
174	865 (392)	1409 (639)	1320 (599)	778 (353)	1190 (540)	1733 (786)	2180 (989)	1639 (743)
175, 345A/B	845 (383)	1375 (624)	1289 (585)	760 (345)	1162 (527)	1692 (767)	2128 (965)	1600 (726)

NOTES:

1. Install a 24-in. x 4-in. (610-mm x 102-mm) mounting pad (minimum) at mounting hole location. **Do not point load base rail.**
2. Dimensions in () are in millimeters.
3. ● Indicates mounting hole location on side base rail.

Dimensions — mounting weights (cont)



WEIGHT DISTRIBUTION, ALUMINUM-FIN UNITS — lb (kg)

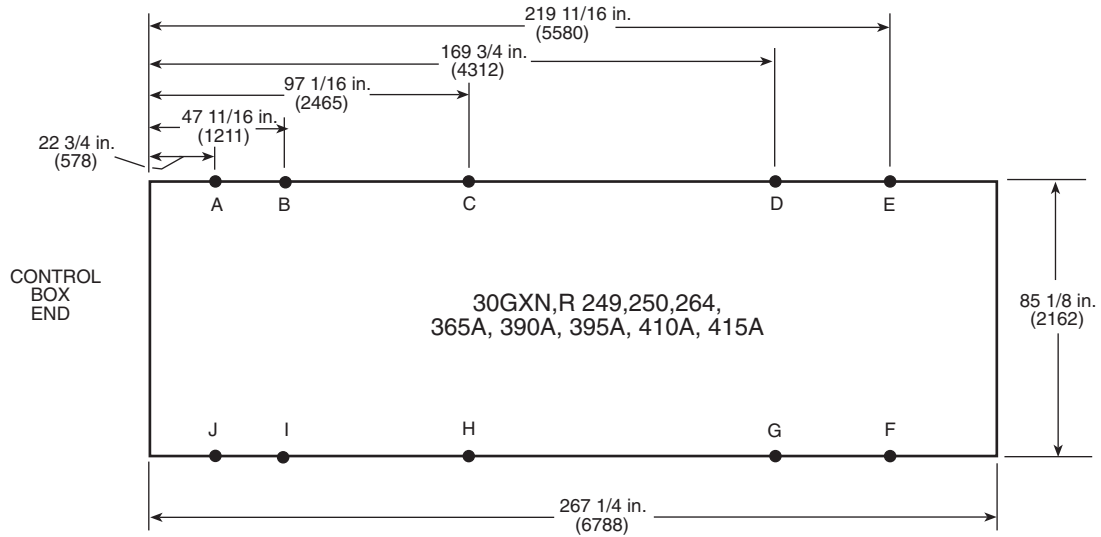
UNIT 30GXN,R	DISTRIBUTION POINTS									
	A	B	C	D	E	F	G	H	I	J
204	836 (379)	1091 (495)	1230 (558)	1160 (526)	675 (306)	1049 (476)	1803 (818)	1909 (866)	1696 (769)	1298 (589)
205, 410B	800 (363)	1044 (474)	1176 (534)	1110 (504)	645 (293)	1000 (454)	1723 (782)	1825 (828)	1621 (735)	1241 (563)
225, 370A 410A 440A/B 450A/B	854 (387)	1113 (505)	1253 (568)	1182 (536)	687 (312)	1066 (483)	1836 (833)	1944 (882)	1728 (784)	1322 (600)

WEIGHT DISTRIBUTION, COPPER-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS									
	A	B	C	D	E	F	G	H	I	J
204	929 (421)	1213 (550)	1365 (619)	1289 (585)	749 (340)	1161 (526)	2001 (900)	2119 (961)	1880 (853)	1441 (654)
205, 401B	913 (414)	1180 (535)	1341 (608)	1266 (574)	736 (334)	1141 (518)	1966 (892)	2082 (944)	1880 (839)	1441 (642)
225, 370A 410A 440A/B 450A/B	941 (427)	1231 (559)	1386 (629)	1308 (593)	760 (345)	1180 (535)	2030 (921)	2150 (975)	1910 (866)	1464 (664)

NOTES:

1. Install a 24-in. x 4-in. (610-mm x 102-mm) mounting pad (minimum) at mounting hole location.
Do not point load base rail.
2. Dimensions in () are in millimeters.
3. ● Indicates mounting hole location on side base rail.



WEIGHT DISTRIBUTION, ALUMINUM-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS									
	A	B	C	D	E	F	G	H	I	J
249	934 (424)	1173 (532)	1274 (578)	1186 (538)	866 (402)	1368 (620)	1830 (830)	1966 (892)	1809 (820)	1441 (654)
250, 365A	915 (415)	1148 (521)	1249 (567)	1163 (527)	868 (394)	1340 (608)	1793 (813)	1927 (874)	1772 (804)	1412 (640)
264, 390A, 395A, 410A, 415A	936 (425)	1176 (533)	1278 (580)	1189 (539)	888 (403)	1371 (622)	1835 (832)	1971 (894)	1813 (822)	1445 (656)

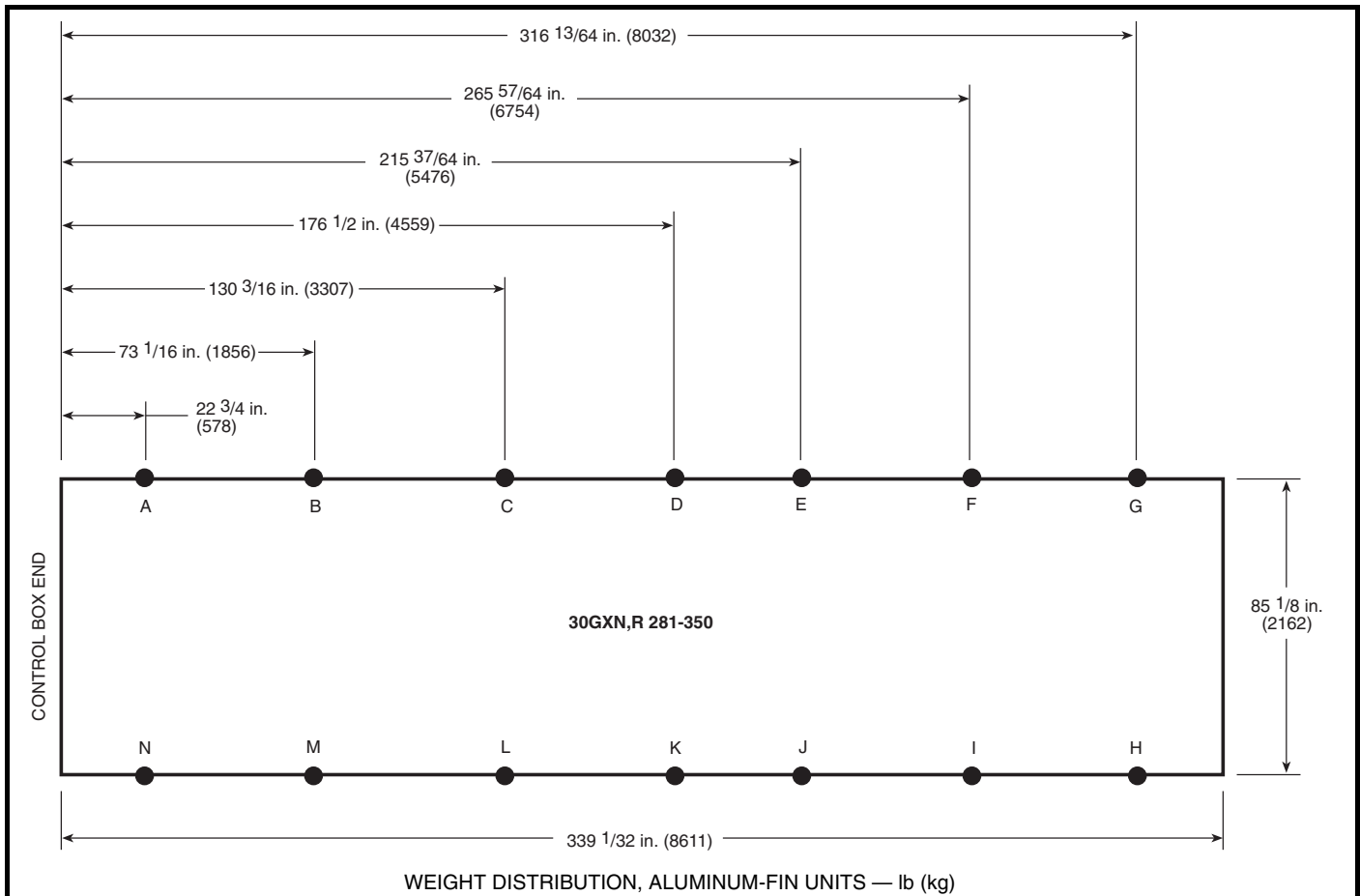
WEIGHT DISTRIBUTION, COPPER-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS									
	A	B	C	D	E	F	G	H	I	J
249	1048 (475)	1316 (597)	1431 (649)	1331 (604)	995 (451)	1535 (696)	2084 (932)	2208 (1002)	2031 (921)	1618 (734)
250, 365A	1027 (466)	1290 (585)	1402 (636)	1305 (592)	775 (442)	1504 (682)	2013 (913)	2164 (981)	1990 (903)	1585 (719)
264, 390A, 395A, 410A, 415A	1054 (478)	1322 (600)	1435 (651)	1336 (606)	1017 (454)	1538 (698)	2055 (932)	2208 (1001)	2032 (922)	1621 (735)

NOTES:

1. Install a 24-in. x 4-in. (610-mm x 102-mm) mounting pad (minimum) at mounting hole location.
Do not point load base rail.
2. Dimensions in () are in millimeters.
3. ● Indicates mounting hole location on side base rail.

Dimensions — mounting weights (cont)



UNIT 30GXN,R	DISTRIBUTION POINTS													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
281	681 (309)	635 (288)	1279 (580)	1424 (646)	1100 (499)	787 (357)	795 (361)	860 (390)	1365 (619)	2700 (1225)	2442 (1108)	2830 (1284)	599 (272)	754 (342)
301	681 (309)	635 (288)	1280 (581)	1425 (646)	1101 (499)	788 (357)	795 (361)	860 (390)	1367 (620)	2705 (1227)	2446 (1109)	2835 (1286)	599 (272)	754 (342)
325	681 (309)	635 (288)	1282 (582)	1427 (647)	1103 (500)	789 (358)	795 (361)	860 (390)	1371 (622)	2714 (1231)	2454 (1113)	2845 (1290)	599 (272)	754 (342)
350	681 (309)	636 (288)	1285 (583)	1429 (648)	1106 (502)	790 (358)	795 (361)	860 (390)	1376 (624)	2726 (1237)	2463 (1117)	2857 (1296)	600 (272)	754 (342)

WEIGHT DISTRIBUTION, COPPER-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS													
	A	B	C	D	E	F	G	H	I	J	K	L	M	N
281	895 (406)	840 (381)	1545 (701)	1708 (775)	1318 (598)	879 (399)	1119 (508)	1184 (537)	1456 (661)	2919 (1324)	2726 (1237)	3096 (1404)	803 (364)	968 (439)
301	895 (406)	840 (381)	1546 (701)	1709 (775)	1320 (599)	879 (399)	1119 (508)	1184 (537)	1458 (661)	2923 (1326)	2730 (1238)	3101 (1407)	803 (364)	968 (439)
325	895 (406)	840 (381)	1548 (702)	1711 (776)	1322 (600)	880 (399)	1119 (508)	1184 (537)	1462 (663)	2933 (1330)	2738 (1242)	3111 (1411)	804 (365)	968 (439)
350	895 (406)	840 (381)	1552 (704)	1714 (777)	1325 (601)	882 (400)	1119 (508)	1184 (537)	1467 (666)	2945 (1336)	2748 (1246)	3123 (1416)	804 (365)	968 (439)

NOTES:

1. Install a 24-in. x 4-in. (610-mm x 102-mm) mounting pad (minimum) at mounting hole location.
Do not point load base rail.
2. Dimensions in () are in millimeters.
3. ● Indicates mounting hole location on side base rail.

Selection procedure (with example)



Carrier's electronic catalog chiller selection program provides quick, easy selection of Carrier chillers. The program considers specific temperature, fluid, and flow requirements and other factors, such as fouling and altitude correction. To select a 30GXN,R chiller, use the electronic catalog or follow one of the procedures below.

ENGLISH (60 Hz)

I Determine 30GXN,R unit size and operating conditions required to meet given capacity at given conditions.

Given:

Capacity. 105 Tons
Leaving Chilled Water Temp (LCWT) 44 F
Cooler Water Temp Rise 10° F
Condenser Entering Air Temp 95 F
Fouling Factor (Cooler) 0.00010

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 39 and pressure drop curves on page 49, determine operating data for selected unit.

Unit 30GXN114
Capacity. 106 tons
Power Input 131.0 kW
Cooler Water Flow 254.1 gpm
Cooler Pressure Drop 13.8 ft of water

SI (50 Hz)

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

Given:

Capacity. 360 kW
Leaving Chilled Water Temp (LCWT) 6 C
Cooler Water Temp Rise 6° C
Condenser Entering Water Temp 35 C
Fouling Factor (Cooler) 0.00018

NOTE: For other than 6° C temperature rise, data corrections must be made using the chiller program in the electronic catalog.

II From Cooling Capacity table on page 46 and pressure drop curves on page 49, determine operating data for selected unit.

Unit 30GXN115
Capacity. 363.2 kW
Compressor Motor Power Input 130.6 kW
Cooler Water Flow 15.6 L/s
Cooler Pressure Drop 32.2 kPa

ARI capacities



ARI* CERTIFIED RATINGS — 60 Hz

UNIT 30GXN,R	CAPACITY		COMPRESSOR POWER INPUT (kW)	FAN POWER (kW)	COOLER FLOW		COOLER WATER PRESSURE DROP		EER	COP	IPLV
	Tons	kW			GPM	L/s	ft water	kPa			
080	75.9	267	85.9	6.4	181.9	11.5	10.1	30.2	9.9	2.90	12.5
090	83.0	292	98.0	6.4	199.0	12.6	11.9	35.6	9.5	2.78	12.7
106	97.5	343	108.2	10.5	233.8	14.7	11.9	35.6	9.9	2.90	12.1
114	106.0	373	120.5	10.5	254.2	16.0	13.8	41.2	9.7	2.84	12.0
125	116.0	408	136.2	9.6	278.2	17.5	11.9	35.6	9.5	2.78	12.1
135	127.0	447	147.5	10.5	304.4	19.2	14.0	41.8	9.6	2.81	12.0
150	139.8	492	160.1	12.8	335.2	21.1	13.4	40.1	9.7	2.84	11.6
160	151.5	533	177.6	12.8	363.2	22.9	11.2	33.5	9.5	2.78	11.9
174	166.8	587	190.7	16.0	399.8	25.2	13.4	40.1	9.7	2.84	11.7
204	191.9	675	225.7	17.0	459.9	29.0	13.5	40.4	9.5	2.78	11.8
225	208.9	735	247.4	17.0	500.8	31.6	12.5	37.4	9.5	2.78	12.1
249	233.9	823	275.3	21.0	560.6	35.4	12.6	37.7	9.5	2.78	12.3
264	245.1	863	293.5	21.0	587.4	37.1	13.7	40.9	9.4	2.75	12.2
281	267.1	940	300.4	24.0	640.3	40.4	10.2	30.5	9.9	2.90	12.1
301	286.7	1009	329.9	24.0	687.4	43.4	11.6	34.7	9.7	2.84	12.3
325	308.7	1087	369.8	24.0	740.0	46.7	13.3	39.8	9.4	2.75	12.4
350	333.5	1174	415.5	24.0	799.5	50.4	15.2	45.4	9.1	2.66	12.3
370	366.1	1289	430.4	29.8	878.5	55.4	14.9	44.5	9.5	2.80	12.1
390	378.7	1333	444.6	31.5	909.0	57.3	9.2	27.5	9.5	2.80	12.2
415	405.8	1428	475.9	33.8	974.8	61.5	14.4	43.0	9.6	2.80	12.1
450	429.4	1511	500.5	34.0	1030.8	65.0	13.4	40.1	9.6	2.82	12.4

ARI* STANDARD RATINGS — 50 Hz

UNIT 30GXN,R	CAPACITY		COMPRESSOR POWER INPUT (kW)	FAN POWER (kW)	COOLER FLOW		COOLER WATER PRESSURE DROP		EER	COP	IPLV
	Tons	kW			GPM	L/s	ft water	kPa			
080	75.3	265	86.9	5.2	180.4	11.4	10.0	29.9	9.8	2.87	12.7
090	82.8	291	100.3	5.2	198.5	12.5	11.8	35.3	9.4	2.75	12.7
106	95.6	337	109.7	7.8	229.1	14.5	11.5	34.4	9.8	2.87	12.0
115	105.4	371	123.9	7.8	252.6	15.9	13.6	40.7	9.6	2.81	12.2
125	113.3	399	137.1	7.8	271.6	17.1	11.4	34.1	9.4	2.75	12.2
135	123.7	435	147.6	7.8	296.5	18.7	13.3	39.8	9.5	2.78	12.2
150	133.5	470	157.1	10.4	320.1	20.2	12.3	36.8	9.6	2.81	11.7
160	150.2	529	181.2	10.4	360.1	22.7	11.1	33.2	9.4	2.75	11.9
175	160.7	566	194.7	13.0	385.3	24.3	12.5	37.4	9.3	2.72	11.9
205	184.5	649	229.0	13.0	442.2	27.9	12.6	37.7	9.1	2.66	12.1
225	205.3	723	253.8	13.0	492.2	31.0	12.1	36.2	9.2	2.69	12.3
250	225.9	795	285.0	15.6	541.6	34.2	11.9	35.6	9.0	2.64	12.2
264	240.8	848	299.6	15.6	577.3	36.4	13.3	39.8	9.2	2.69	12.5
281	265.5	935	313.8	20.8	636.5	40.2	10.1	30.2	9.5	2.78	12.1
301	285.5	1005	342.7	20.8	684.4	43.2	11.5	34.4	9.4	2.75	12.4
325	306.6	1079	383.7	20.8	735.0	46.4	13.1	39.2	9.1	2.66	12.5
350	331.6	1167	428.8	20.8	794.9	50.1	15.1	45.1	8.9	2.61	12.5
220	198.9	700	238.8	13.0	477.8	30.1	21.8	65.2	9.5	2.78	12.5
240	223.0	785	263.4	15.6	535.5	33.8	19.5	58.3	9.6	2.81	12.4
275	250.4	881	296.6	15.6	601.5	37.9	4.4	13.2	9.6	2.82	12.6
300	279.3	983	331.0	18.2	670.2	42.3	7.3	21.8	9.6	2.81	12.4
320	308.1	1085	365.3	20.8	741.0	46.7	11.2	33.5	9.6	2.80	12.4
345	328.8	1157	393.1	26.0	789.1	49.8	12.5	37.4	9.4	2.76	12.1
365	355.5	1251	436.5	23.4	853.5	53.8	8.2	24.5	9.3	2.72	11.9
395	370.1	1303	450.4	23.4	888.2	56.0	8.8	26.3	9.4	2.74	12.3
410	400.3	1409	488.4	26.0	961.7	60.7	14.8	44.2	9.3	2.73	12.4
440	421.7	1484	513.5	26.0	1012.7	63.9	13.0	38.9	9.4	2.75	12.4

LEGEND

- COP** — Coefficient of Performance (Capacity [kW] ÷ Input Power [kW])
EER — Energy Efficiency Ratio (Capacity [Btuh] ÷ Input Power [W])
IPLV — Integrated Part-Load Value

*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)
 Entering water temperature: 54 F (12.2 C)
 Fouling Factor:
 0.00010 hr x sq ft °F/Btu (0.000018 m² x °C/W)
 Condenser Conditions:
 Entering Air Temperature: 95 F (35 C)

- 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.
- All data in this table is rated in accordance with ARI Standard 550/590 as represented in the Packaged Chiller Selection Program (E-Cat) version 2.32.



60 Hz Only

Certified in accordance with the ARI Water-Chiller Packages using the Vapor Compression Cycle Certification Program, which is based on ARI Standard 550/590.



COOLING CAPACITIES — 60 Hz, ENGLISH

LCWT (F)	UNIT SIZE 30GXN,R	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	080	75.8	84.1	181.3	70.0	88.7	167.6	63.7	93.8	152.4	57.5	100.6	137.7	52.0	108.3	124.4
	090	83.2	95.1	199.2	76.5	100.2	183.2	69.8	106.4	167.0	63.2	114.3	151.4	57.3	122.9	137.1
	106	97.1	108.6	232.4	89.7	114.2	214.7	81.8	120.8	195.9	74.2	128.8	177.7	66.9	138.0	160.3
	114	105.5	119.6	252.5	97.4	126.1	233.3	88.9	133.4	212.7	80.5	143.2	192.6	72.5	153.8	173.5
	125	114.5	130.3	274.0	108.3	141.7	259.2	102.9	154.1	246.3	97.2	170.6	232.7	70.3	153.0	168.4
	135	125.3	141.2	299.9	118.2	153.8	282.9	112.3	167.0	268.9	106.2	185.2	254.1	93.2	205.3	223.0
	150	137.0	155.4	327.9	130.4	168.9	312.1	123.9	183.7	296.7	117.5	202.0	281.4	110.7	224.0	265.1
	160	149.5	170.8	357.8	141.5	185.4	338.7	135.0	201.3	323.1	127.9	222.7	306.2	115.2	247.5	275.8
	174	163.1	186.2	390.4	156.6	201.2	374.8	148.6	219.3	355.7	141.0	239.7	337.5	88.4	195.9	211.7
	204	188.7	217.2	451.8	178.6	236.2	427.6	170.0	255.9	407.0	161.1	282.9	385.6	148.2	312.7	354.8
	225	205.8	237.2	492.7	195.3	256.9	467.5	186.2	279.9	445.7	176.2	308.6	421.7	111.5	224.5	267.0
	249	229.7	266.2	549.8	218.9	288.4	524.0	208.4	314.0	499.0	197.5	345.4	472.8	142.6	308.9	341.3
	264	241.8	282.7	578.9	229.7	305.8	550.0	219.3	333.0	524.9	207.7	366.4	497.3	146.0	333.9	349.5
	281	259.5	291.9	621.3	248.5	317.3	594.9	235.7	345.1	564.2	223.9	379.0	536.0	211.2	419.6	505.6
	301	281.2	317.8	673.1	267.1	345.4	639.4	254.3	374.5	608.8	241.3	413.3	577.7	227.4	458.3	544.5
	325	304.3	352.9	728.5	288.5	382.9	690.7	275.4	416.8	659.2	261.2	460.5	625.4	229.2	512.3	548.8
	350	327.9	395.3	784.9	313.0	427.2	749.4	298.5	468.1	714.5	282.9	515.1	677.2	162.6	345.0	389.3
	370	350.1	396.2	838.6	334.4	429.1	801.0	317.8	467.7	761.4	301.3	514.6	721.9	223.3	449.4	535.0
	390	372.7	427.0	892.8	355.0	463.0	850.2	337.8	504.2	809.3	320.2	553.3	767.0	238.8	539.4	572.1
	415	399.5	457.6	957.0	380.4	495.6	911.4	362.3	539.4	868.2	343.8	592.7	823.5	260.2	581.1	623.2
450	422.6	479.7	1012.5	402.0	519.5	963.0	382.9	565.4	917.4	362.7	622.8	869.0	230.9	452.6	553.2	
42	080	78.8	85.7	188.7	73.0	90.4	174.8	66.5	95.4	159.3	59.9	101.9	143.6	54.2	109.8	129.8
	090	86.4	97.2	206.9	79.7	102.3	191.0	72.7	108.2	174.2	65.8	115.9	157.6	59.6	124.6	142.8
	106	101.0	110.8	241.9	93.5	116.4	223.9	85.6	122.8	205.1	77.6	130.5	185.9	69.9	139.8	167.4
	114	109.8	121.8	263.1	101.6	128.5	243.5	92.9	135.8	222.5	84.1	145.1	201.4	75.8	155.7	181.6
	125	118.4	131.9	283.6	112.0	143.7	268.4	106.3	156.0	254.6	100.5	172.1	240.7	72.1	153.9	172.8
	135	129.3	143.1	309.9	122.5	155.9	293.6	116.2	168.9	278.4	109.9	186.6	263.3	93.2	205.4	223.2
	150	141.3	157.4	338.6	135.0	171.1	323.5	128.1	185.7	307.0	121.6	203.6	291.3	112.3	225.1	269.1
	160	154.5	172.9	370.2	146.4	187.9	350.6	139.4	203.8	334.0	132.3	224.7	317.0	115.3	247.3	276.2
	174	168.5	188.5	403.6	161.8	204.0	387.5	153.8	221.5	368.5	145.9	242.3	349.6	91.9	197.5	220.1
	204	194.7	220.2	466.4	185.2	239.4	443.6	175.8	259.7	421.1	166.6	285.7	399.1	150.1	313.2	359.6
	225	213.0	240.5	510.4	202.0	260.6	483.9	192.4	283.0	461.0	182.2	311.4	436.6	115.6	226.5	276.9
	249	237.5	269.6	569.1	226.3	292.2	542.2	215.5	317.9	516.2	204.2	348.9	489.3	147.6	310.9	353.5
	264	250.4	286.2	599.9	237.3	309.9	568.4	226.7	336.5	543.1	214.9	370.1	514.7	149.1	335.1	357.2
	281	267.9	295.5	641.8	257.8	320.7	617.6	243.8	349.3	584.0	231.7	382.1	555.2	218.7	423.0	523.9
	301	290.1	322.0	695.0	276.9	349.6	663.4	262.9	379.6	629.8	249.6	417.1	597.9	235.2	461.0	563.5
	325	315.1	357.1	754.8	298.3	387.9	714.7	284.6	421.1	681.8	270.1	464.8	647.0	229.3	512.2	549.4
	350	339.5	400.5	813.2	323.3	433.2	774.6	308.5	472.8	739.0	292.3	520.1	700.3	168.5	347.3	403.5
	370	362.0	401.1	867.8	345.7	434.9	828.5	328.5	473.4	787.3	311.4	518.9	746.5	229.2	451.9	549.3
	390	385.4	432.2	923.8	367.1	468.6	880.1	349.3	509.6	837.1	330.9	558.9	793.3	242.0	540.9	580.2
	415	412.9	463.6	989.7	393.3	501.8	942.8	374.5	545.3	897.8	355.3	598.1	851.3	263.5	582.6	631.8
450	437.0	486.1	1047.6	415.5	526.9	996.1	395.5	572.4	948.1	374.8	628.6	898.5	239.3	456.6	573.8	
44	080	81.8	87.5	196.1	75.8	92.3	181.8	69.4	97.3	166.3	62.5	103.5	149.9	56.4	111.1	135.3
	090	89.7	99.3	214.9	83.0	104.4	199.0	75.8	110.2	181.7	68.6	117.6	164.5	62.0	126.2	148.7
	106	105.0	113.1	251.6	97.5	118.7	233.8	89.4	124.8	214.2	81.1	132.7	194.5	73.1	141.6	175.2
	114	114.3	124.3	274.0	106.0	131.0	254.1	97.1	138.1	232.7	87.8	147.1	210.5	79.2	157.6	189.9
	125	122.2	133.9	293.0	116.0	145.8	278.1	109.8	158.0	263.2	103.8	173.6	248.9	73.4	155.0	176.0
	135	133.4	144.9	319.7	127.0	157.9	304.5	120.1	171.3	288.0	113.6	188.1	272.2	93.2	205.3	223.5
	150	145.8	159.4	349.6	139.9	173.0	335.4	132.4	188.0	317.3	125.6	205.8	301.2	112.9	225.6	270.6
	160	159.4	175.6	382.1	151.6	190.4	363.5	144.0	206.3	345.2	136.6	227.0	327.5	115.3	247.4	276.3
	174	174.1	190.9	417.3	167.0	206.7	400.3	159.3	224.1	381.9	150.9	245.2	361.7	95.5	199.4	228.9
	204	200.8	223.4	481.5	192.0	242.5	460.2	181.7	263.3	435.6	172.3	288.1	413.0	150.1	313.5	359.9
	225	220.0	244.2	527.4	209.0	264.4	501.0	198.8	286.8	476.6	188.3	315.1	451.4	119.6	228.3	286.8
	249	245.6	272.9	588.8	234.1	296.3	561.1	222.6	321.4	533.7	211.1	352.5	506.0	152.7	313.7	366.0
	264	259.0	290.1	621.0	245.2	314.4	587.9	234.1	340.2	561.2	222.0	374.3	532.2	151.3	337.4	362.7
	281	276.6	298.8	663.0	267.2	324.2	640.6	252.1	353.7	604.3	239.7	385.3	574.7	226.2	426.8	542.3
	301	299.3	326.2	717.4	286.9	353.7	687.9	271.7	384.6	651.2	258.1	420.5	618.7	239.2	462.8	573.5
	325	325.2	362.0	779.6	309.0	393.6	740.6	294.0	426.5	704.8	278.9	469.3	668.7	229.4	512.3	549.9
	350	351.3	405.7	842.1	333.8	439.3	800.1	318.6	477.6	763.8	301.9	525.7	723.8	174.3	350.2	417.8
	370	373.5	406.4	895.9	357.3	440.8	856.8	339.5	478.9	814.1	321.7	524.0	771.7	235.2	454.5	564.1
	390	398.2	437.6	955.2	379.3	474.5	909.7	360.7	515.5	865.3	341.9	564.6	820.1	244.7	542.9	585.0
	415	426.6	469.3	1023.3	406.2	509.1	974.3	386.5	551.8	927.2	366.8	604.8	879.8	266.9	584.2	640.0
450	451.0	492.8	1081.7	429.7	534.5	1030.5	408.4	579.7	979.7	387.2	634.9	928.6	247.8	461.3	594.3	
45	080	83.3	88.5	199.9	77.3	93.3	185.4	70.8	98.3	169.7	63.9	104.2	153.3	57.6	111.8	138.1
	090	91.3	100.3	219.0	84.7	105.5	203.1	77.3	111.3	185.4	70.0	118.5	167.9	62.6	126.5	150.0
	106	107.2	114.2	257.0	99.6	119.8	238.9	91.5	125.9	219.3	82.8	133.7	198.5	74.7	142.5	179.1
	114	116.6	125.6	279.7	108.2	132.2	259.5	99.3	139.1	238.1	89.7	148.2	215.2	80.9	158.5	194.1
	125	124.1	134.7	297.6	118.0	146.8	283.0	111.6	159.1	267.7	105.6	174.4	253.2	74.1	155.4	177.8
	135	135.4	145.9	324.7	129.3	158.8	310.1	122.1	172.6	292.9	115.5	188.9	277.1	93.2	205.5	223.6
	150	148.0	160.4	355.0	142.3	174.0	341.2	134.6	189.1	322.7	127.7	206.7	306.3	114.7	226.2	275.1
	160	161.8	176.8	388.0	154.3	191.7	369.9	146.3	207.8	350.9	138.9	227.8	333.0	115.3	247.3	276.6
	174	176.9	192.0	424.2	169.8	208.2	407.2	162.1	225.3	388.8	153.5	246.4	368.1	97.3	200.4	233.4
	204	203.9	224.9	489.0	195.3	244.1	468.4	184.7	265.1	443.0	175.1	289.7	419.8	150.2	313.3	360.1
	225	223.6	245.5	536.1	212.6	266.1	509.8	202.1	288.5							

Performance data (cont)



COOLING CAPACITIES — 60 Hz, ENGLISH (cont)

LCWT (F)	UNIT SIZE 30GXN,R	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)
46	080	85.0	89.4	203.8	78.8	94.3	188.9	72.2	99.2	173.2	65.3	105.0	156.7	58.8	112.5	140.9
	090	93.1	101.4	223.4	86.2	106.7	206.8	78.9	112.3	189.2	71.5	119.4	171.5	63.8	127.4	153.0
	106	109.2	115.4	262.0	101.7	121.0	243.9	93.3	127.2	223.8	84.6	134.8	202.9	76.3	143.5	183.1
	114	118.9	126.9	285.2	110.5	133.4	265.2	101.4	140.4	243.3	91.8	149.2	220.2	82.6	159.5	198.2
	125	126.0	135.5	302.3	120.1	147.7	288.2	113.4	160.2	272.1	107.3	175.2	257.3	74.7	156.1	179.2
	135	137.5	146.8	329.8	131.5	159.9	315.5	124.2	173.7	297.8	117.5	189.6	281.8	93.3	205.3	223.7
	150	150.3	161.5	360.6	144.6	175.1	346.9	136.9	190.5	328.3	129.9	207.7	311.5	114.5	226.2	274.7
	160	164.4	177.7	394.2	157.0	192.9	376.5	148.7	209.2	356.7	141.2	228.8	338.6	115.4	247.3	276.8
	174	179.6	193.3	430.9	172.7	209.6	414.2	164.9	226.8	395.6	156.0	248.1	374.2	99.2	201.5	238.0
	204	207.1	226.3	496.8	198.8	245.7	476.7	187.7	267.2	450.3	178.0	290.9	427.0	150.2	313.2	360.3
	225	227.1	247.3	544.8	216.2	268.0	518.5	205.3	290.5	492.5	194.5	318.3	466.5	123.9	230.4	297.1
	249	253.5	276.6	607.9	242.1	300.4	580.8	230.0	325.7	551.7	218.1	356.1	523.1	157.9	317.6	378.8
	264	267.2	294.3	641.0	253.9	319.0	609.0	241.7	344.9	579.7	229.3	378.3	550.0	154.7	340.1	371.0
	281	285.3	302.5	684.3	276.2	328.2	662.4	261.2	358.2	626.5	247.9	389.2	594.6	234.0	430.3	561.2
	301	308.6	330.2	740.3	297.2	357.8	712.8	280.7	389.6	673.2	266.6	424.2	639.6	239.3	463.0	574.0
	325	335.3	367.1	804.2	319.9	398.6	767.4	303.6	432.4	728.2	288.2	473.4	691.2	229.5	512.0	550.4
	350	363.3	411.0	871.4	344.4	445.5	826.0	328.9	482.3	789.0	311.8	531.1	747.9	180.4	354.0	432.8
	370	385.1	412.3	924.3	369.1	446.6	885.4	350.5	485.5	841.2	332.1	529.6	797.1	240.3	457.2	576.8
	390	410.9	443.5	986.1	392.3	481.6	941.5	372.5	522.0	893.9	353.1	570.3	847.0	247.5	545.8	596.3
	415	440.0	475.5	1056.0	419.9	515.8	1007.9	399.0	559.4	957.5	378.6	610.7	908.6	270.4	587.0	648.9
450	465.2	499.9	1116.0	444.2	541.9	1065.9	421.3	588.0	1011.1	397.3	640.4	953.5	256.4	466.3	615.4	
48	080	88.1	91.4	211.5	81.8	96.2	196.4	75.1	101.2	180.3	68.0	106.7	163.2	61.0	114.0	146.4
	090	96.5	103.7	231.7	89.6	109.0	215.0	82.1	114.4	197.0	74.4	121.3	178.7	64.1	127.4	153.8
	106	113.7	117.6	272.8	105.7	123.6	253.8	97.2	129.8	233.4	88.4	137.1	212.1	79.8	145.6	191.4
	114	123.7	129.3	296.8	115.1	136.0	276.1	105.7	143.2	253.8	95.9	151.4	230.1	86.3	161.5	207.1
	125	129.8	137.5	311.4	124.2	149.6	298.2	117.1	162.4	281.0	110.7	176.7	265.7	76.2	156.5	182.9
	135	141.7	148.6	340.0	136.2	161.7	326.9	128.3	176.0	307.8	121.3	191.3	291.0	93.3	205.4	223.9
	150	154.9	163.6	371.9	149.4	177.2	358.6	141.5	192.8	339.5	134.0	209.8	321.5	116.2	226.7	278.8
	160	169.4	180.0	406.5	162.4	195.3	389.7	153.5	212.1	368.3	145.7	230.7	349.6	115.4	247.4	276.9
	174	185.2	195.7	444.4	178.4	212.3	428.1	170.6	229.8	409.4	161.2	250.9	386.8	102.9	204.3	247.0
	204	213.5	229.2	512.3	205.7	248.7	493.6	193.8	270.7	465.1	183.9	293.7	441.3	150.2	313.3	360.6
	225	234.3	250.6	562.4	223.6	271.8	536.5	211.9	294.3	508.5	200.7	321.3	481.8	128.1	233.0	307.4
	249	261.2	280.7	627.0	250.2	304.5	600.3	237.5	330.5	570.0	225.2	360.1	540.4	162.3	321.3	389.6
	264	275.5	298.7	661.1	262.6	323.3	630.3	249.3	350.0	598.4	236.6	382.0	567.8	158.0	343.3	379.2
	281	293.9	306.2	705.4	284.8	332.6	683.4	270.5	362.5	649.3	255.9	394.4	614.2	241.6	433.5	579.9
	301	318.1	334.2	763.5	307.4	361.7	737.8	290.0	394.5	696.0	275.4	427.9	660.9	239.4	462.8	574.5
	325	345.5	372.1	829.1	330.8	403.6	794.0	313.3	438.2	752.0	297.4	477.5	713.7	229.5	512.2	550.8
	350	375.4	416.2	901.0	355.8	451.8	853.9	339.4	488.5	814.4	319.2	534.7	766.1	186.7	358.6	448.1
	370	397.0	417.4	953.3	380.8	452.6	914.1	361.9	491.5	868.8	342.6	535.9	822.4	244.8	459.6	587.9
	390	422.1	449.0	1013.5	404.2	487.2	970.4	383.5	528.5	920.3	363.2	575.8	872.3	251.2	548.5	605.1
	415	453.2	482.4	1088.5	433.9	522.9	1042.3	411.7	566.8	988.7	389.3	616.2	934.7	273.1	590.1	655.9
450	479.4	506.8	1151.2	458.9	549.2	1101.5	434.8	595.8	1044.0	407.4	646.4	978.4	263.9	470.8	633.4	
50	080	91.3	93.5	219.2	85.0	98.1	204.1	78.2	103.2	187.7	70.9	108.3	170.3	63.7	115.3	152.9
	090	100.0	106.0	240.1	92.9	111.4	223.0	85.3	116.8	204.8	77.4	123.4	185.9	65.2	128.2	156.4
	106	118.1	119.9	283.5	109.8	126.3	263.7	101.3	132.4	243.2	92.3	139.4	221.6	83.0	147.7	199.4
	114	128.6	131.9	308.7	119.6	138.7	287.2	110.1	146.0	264.4	100.1	153.9	240.4	88.9	163.1	213.5
	125	133.6	139.3	320.8	128.3	151.7	308.0	120.9	164.7	290.2	114.2	178.5	274.1	77.7	157.3	186.6
	135	145.9	150.3	350.3	140.8	163.8	338.0	132.4	178.3	317.9	125.2	192.8	300.7	93.3	205.4	224.0
	150	159.6	165.6	383.3	154.2	179.2	370.2	146.0	195.5	350.6	138.3	211.9	332.0	116.9	227.2	280.8
	160	174.4	182.5	418.7	167.8	197.8	403.0	158.2	215.0	379.9	150.2	232.9	360.6	114.4	247.0	274.7
	174	190.7	198.3	457.9	184.2	215.1	442.2	176.2	232.9	423.0	166.4	253.7	399.7	106.7	207.2	256.3
	204	219.9	232.2	528.0	212.5	252.0	510.3	200.3	274.4	481.0	189.7	296.9	455.5	150.3	313.5	360.9
	225	241.4	254.3	579.6	231.1	275.4	554.9	218.5	298.8	524.5	203.6	322.8	488.9	132.5	235.9	318.0
	249	269.0	285.0	645.9	258.2	308.7	620.0	245.2	334.9	588.7	232.1	363.8	557.3	166.1	323.6	398.9
	264	283.7	303.2	681.1	271.5	327.8	651.8	257.0	355.1	617.1	243.9	385.7	585.7	161.8	345.6	388.5
	281	302.6	310.0	726.6	293.5	336.7	704.8	280.1	366.5	672.5	264.2	399.5	634.4	243.6	434.3	585.0
	301	327.7	338.2	786.9	317.0	366.6	761.2	300.0	399.5	720.4	284.1	433.5	682.2	237.5	462.5	570.1
	325	355.8	377.0	854.3	341.9	409.0	820.9	323.2	444.3	775.9	306.7	481.8	736.4	229.6	512.0	551.2
	350	386.7	422.6	928.6	367.7	458.3	882.8	349.7	495.7	839.7	316.8	533.7	760.7	193.2	363.4	463.8
	370	406.6	422.2	976.9	389.4	456.8	935.4	369.7	496.0	888.1	348.8	538.9	837.9	249.5	462.0	599.2
	390	432.4	454.5	1038.8	414.0	492.2	994.5	392.4	534.3	942.5	371.6	580.3	892.8	255.2	551.1	612.9
	415	462.8	487.7	1111.5	444.1	528.0	1066.8	419.4	571.9	1007.8	396.9	620.0	953.4	276.1	593.4	663.5
450	489.6	512.1	1175.9	469.4	554.7	1127.7	444.1	602.0	1067.0	411.1	647.4	987.6	269.3	474.4	647.1	

See Legend on page 41.



COOLING CAPACITIES — 60 Hz, ENGLISH (cont)

LCWT (F)	UNIT SIZE 30GXN,R	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)
55	080	95.4	96.1	229.4	88.8	100.6	213.5	82.0	105.7	197.0	74.4	111.0	178.7	66.9	117.7	160.7
	090	104.5	108.7	251.1	97.2	114.2	233.5	89.3	119.8	214.7	81.1	126.2	195.0	66.3	129.1	159.4
	106	124.9	123.8	300.1	116.5	130.2	280.0	106.8	136.0	256.6	96.2	141.8	231.2	84.6	148.5	203.3
	114	136.1	136.0	327.1	126.8	143.0	304.8	115.6	149.5	277.9	105.4	157.1	253.4	91.6	164.3	220.2
	125	138.3	141.7	332.4	133.1	154.1	320.0	125.6	167.4	301.9	116.4	180.1	279.9	78.5	157.8	188.7
	135	152.2	153.1	365.9	147.1	166.7	353.6	139.1	181.5	334.3	130.1	195.8	312.7	93.4	205.4	224.4
	150	168.1	169.4	404.1	161.2	182.8	387.5	153.5	198.9	369.1	144.8	216.3	348.0	117.1	227.1	281.4
	160	182.2	186.0	438.0	175.9	201.8	422.7	166.1	219.1	399.3	157.2	236.9	377.8	114.5	247.0	275.3
	174	200.7	202.7	482.3	194.4	220.0	467.4	185.7	238.7	446.3	172.5	256.6	414.6	111.8	210.3	268.7
	204	229.7	236.8	552.0	222.1	257.3	533.7	208.5	278.7	501.0	196.8	302.0	473.0	150.4	313.5	361.4
	225	251.4	259.6	604.1	240.3	279.9	577.5	226.8	304.0	545.1	208.9	325.9	502.2	137.9	239.5	331.5
	249	279.9	290.4	672.7	269.5	314.3	647.9	255.6	341.3	614.4	237.0	366.6	569.7	170.1	326.1	408.7
	264	296.4	310.0	712.4	285.0	334.5	685.0	268.9	362.6	646.4	246.7	387.3	592.9	165.8	347.9	398.4
	281	313.8	314.4	754.3	304.7	342.0	732.4	292.3	371.7	702.6	274.8	405.8	660.4	243.8	434.3	585.9
	301	339.8	343.5	816.6	328.8	372.9	790.3	312.9	405.5	752.1	295.3	440.7	709.8	237.6	462.3	571.1
	325	371.7	384.6	893.3	356.2	415.4	856.1	336.1	451.3	807.9	318.7	488.0	766.0	229.7	512.7	552.0
	350	403.9	432.2	970.8	385.9	467.3	927.4	365.6	506.1	878.8	317.0	533.8	762.0	201.6	368.6	484.5
	370	419.4	428.8	1008.5	402.0	463.2	966.6	381.1	503.4	916.3	353.2	541.6	849.5	255.2	466.5	613.7
	390	447.5	462.5	1076.1	431.2	501.1	1036.7	406.3	543.2	976.8	376.4	583.0	905.1	256.6	552.6	616.8
	415	477.5	495.2	1148.1	460.0	535.6	1105.9	433.3	580.5	1041.8	402.7	623.2	968.2	278.4	594.4	669.2
450	503.8	519.5	1211.3	484.4	562.5	1164.7	455.7	609.0	1095.8	415.6	649.7	999.6	274.8	478.1	660.8	
60	080	95.6	96.1	229.9	88.9	100.7	214.0	82.0	105.7	197.4	73.8	110.3	177.5	66.1	117.2	159.1
	090	104.5	108.8	251.4	97.2	114.3	233.8	89.5	119.8	215.2	81.2	126.3	195.2	66.4	129.1	159.7
	106	125.0	123.9	300.8	115.8	129.8	278.6	105.6	135.1	254.1	96.4	141.8	231.9	84.7	148.5	203.8
	114	134.7	135.1	324.1	125.6	142.2	302.0	115.8	149.5	278.5	105.5	157.1	253.8	91.7	164.3	220.5
	125	138.4	141.8	332.9	133.3	154.2	320.6	125.7	167.3	302.4	115.5	179.6	277.9	78.6	157.8	189.0
	135	152.4	153.1	366.5	147.2	166.8	354.1	139.3	181.4	335.0	130.2	195.9	313.2	93.4	205.6	224.7
	150	167.0	168.8	401.7	161.3	183.2	388.1	153.7	199.0	369.7	145.0	216.1	348.7	117.3	226.9	282.1
	160	182.3	186.1	438.6	176.0	201.9	423.3	166.3	219.3	399.9	157.4	236.9	378.5	114.6	247.3	275.6
	174	200.8	202.9	483.1	194.6	220.1	468.2	184.6	238.0	444.0	172.7	256.7	415.3	111.9	210.7	269.1
	204	227.8	236.0	548.0	220.2	256.3	529.7	208.6	278.9	501.8	196.9	302.1	473.7	150.5	313.4	361.9
	225	250.2	258.8	601.8	240.4	280.2	578.3	226.9	304.1	545.9	208.0	325.2	500.2	136.7	238.6	328.8
	249	280.1	290.5	673.8	269.8	314.6	649.0	255.8	341.4	615.4	237.2	366.7	570.6	170.1	326.3	409.2
	264	296.6	309.9	713.6	285.2	334.5	686.2	269.1	362.8	647.4	246.9	387.4	593.9	164.0	346.7	394.4
	281	314.1	314.4	755.5	304.9	342.0	733.4	292.5	371.8	703.5	274.9	405.9	661.4	243.9	434.1	586.8
	301	340.0	343.6	817.8	329.0	372.9	791.5	313.1	405.5	753.2	295.5	440.9	710.8	239.7	463.0	576.6
	325	371.9	384.3	894.7	356.4	415.6	857.4	336.3	451.6	809.0	318.9	488.2	767.2	229.8	512.1	552.8
	350	404.3	431.7	972.5	386.2	467.6	929.0	363.3	504.3	874.0	317.3	533.7	763.3	201.7	368.6	485.1
	370	417.6	428.1	1005.1	402.5	463.8	968.4	381.6	503.5	918.0	352.7	541.6	849.0	254.1	466.0	611.6
	390	447.0	462.2	1075.6	430.6	500.5	1036.2	406.8	543.3	978.9	376.7	583.3	906.6	255.0	551.5	613.9
	415	478.0	495.4	1150.3	460.4	536.2	1108.1	433.8	581.2	1044.0	403.0	624.1	967.9	276.8	593.4	666.1
450	502.2	518.9	1208.5	482.8	561.7	1162.1	454.0	608.2	1092.4	416.0	650.4	1001.1	273.8	477.4	658.8	

LEGEND

- Cap.** — Capacity, Ton of Refrigeration
- kW** — Compressor Motor Input Power of Rated Voltage
- LCWT** — Leaving Chilled Water Temperature (F)

Performance data (cont)



COOLING CAPACITIES — 50 Hz, ENGLISH

LCWT (F)	UNIT SIZE 30GXN,R	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)
40.0	080	75.3	83.8	180.3	69.3	88.5	165.8	63.1	93.7	151.0	57.1	100.7	136.6	51.5	108.7	123.2
	090	83.0	96.1	198.7	76.3	101.3	182.7	69.4	108.0	166.2	63.2	116.0	151.2	56.4	123.3	134.9
	106	95.4	107.2	228.3	87.9	113.0	210.5	80.0	120.4	191.5	72.4	129.2	173.4	64.7	137.3	154.9
	115	103.4	118.0	247.6	98.5	128.5	235.7	93.3	140.9	223.2	88.1	155.2	210.9	62.7	136.4	150.1
	125	112.0	129.5	268.1	106.0	140.6	253.6	100.7	154.2	240.9	94.9	170.4	227.3	65.7	153.0	157.3
	135	122.2	139.3	292.4	115.6	151.2	276.8	109.7	165.8	262.7	103.5	183.1	247.7	55.9	136.8	133.7
	150	132.9	153.3	318.2	122.5	160.6	293.3	111.9	171.1	267.9	102.3	183.7	244.8	92.8	195.5	222.1
	160	148.4	172.1	355.3	140.8	186.6	337.0	133.8	203.9	320.4	126.1	224.4	301.8	76.4	178.6	182.8
	175	157.4	187.0	376.8	150.3	202.5	359.8	142.3	220.5	340.7	134.1	241.6	321.0	86.0	196.6	205.9
	205	181.8	216.8	435.2	172.5	235.5	413.0	163.3	257.0	390.9	153.7	283.3	367.8	98.6	208.5	235.9
	225	202.5	239.3	484.8	192.7	259.6	461.2	182.0	283.7	435.7	170.6	311.4	408.4	108.4	224.6	259.4
	250	222.6	269.6	532.8	212.3	291.8	508.2	201.0	319.0	481.1	189.0	349.6	452.3	110.7	226.8	265.0
	264	237.2	282.9	567.8	226.5	306.8	542.1	213.8	335.4	511.8	200.5	367.0	480.0	112.5	227.4	269.4
	281	260.9	299.8	624.4	247.3	326.4	592.1	235.1	355.7	562.8	221.7	391.7	530.8	207.4	432.5	496.5
	301	282.4	325.3	675.9	266.7	354.0	638.3	254.1	385.8	608.4	239.3	425.0	572.9	213.5	469.0	511.0
	325	303.0	362.8	725.3	288.0	393.6	689.4	273.7	430.5	655.1	257.9	473.5	617.4	151.1	323.9	361.7
350	326.0	403.0	780.4	312.0	437.5	747.0	294.5	478.5	705.0	276.5	525.3	661.8	162.7	349.3	389.6	
42.0	080	78.2	85.7	187.4	72.3	90.3	173.1	65.8	95.3	157.6	59.4	102.2	142.2	53.6	110.2	128.5
	090	86.4	98.3	206.9	79.5	103.3	190.4	72.3	109.8	173.3	65.7	117.8	157.4	57.4	123.9	137.6
	106	99.5	109.3	238.4	91.8	115.1	219.9	83.5	122.5	200.1	75.8	131.0	181.7	65.8	137.9	157.7
	115	106.9	119.6	256.1	101.9	130.1	244.2	96.4	142.3	230.9	91.1	156.2	218.2	64.9	137.2	155.5
	125	115.8	131.2	277.5	109.6	142.6	262.5	104.0	155.6	249.2	98.2	171.5	235.2	66.8	153.6	160.1
	135	126.7	141.1	303.5	119.7	153.2	286.6	113.5	167.2	271.9	107.0	184.6	256.4	57.9	137.2	138.6
	150	138.7	156.4	332.3	128.0	164.0	306.5	116.9	174.0	280.2	106.7	186.3	255.7	96.8	199.0	232.0
	160	153.8	173.8	368.5	145.5	188.9	348.5	138.5	205.8	331.7	130.5	226.2	312.7	79.1	179.4	189.6
	175	162.6	189.6	389.6	155.6	204.9	372.8	147.1	223.0	352.4	138.8	243.4	332.4	89.2	198.1	213.6
	205	188.4	219.6	451.3	178.3	238.5	427.2	168.9	259.6	404.5	158.8	285.4	380.5	102.2	210.0	244.8
	225	209.5	242.6	501.9	199.0	263.0	476.7	188.3	287.1	451.0	175.4	313.9	420.2	112.2	226.8	268.8
	250	230.4	273.6	552.0	219.1	296.1	524.9	207.8	322.7	497.7	195.2	352.8	467.7	114.7	228.8	274.9
	264	245.6	286.9	588.4	233.7	310.9	559.9	221.1	339.0	529.8	207.2	370.1	496.4	116.7	229.3	279.6
	281	269.1	303.7	644.7	256.4	330.5	614.2	242.9	360.2	581.8	229.5	395.4	549.8	214.7	435.8	514.3
	301	292.0	329.2	699.6	275.8	358.7	660.8	262.7	390.0	629.4	247.5	429.2	593.0	213.6	468.8	511.7
	325	313.6	367.7	751.3	297.4	398.8	712.4	282.9	434.8	677.6	266.5	477.8	638.5	156.4	326.3	374.8
350	337.2	409.1	807.8	321.9	443.2	771.1	304.3	484.5	728.9	285.5	530.0	683.9	168.5	351.4	403.7	
44.0	080	81.3	87.5	194.8	75.2	92.2	180.3	68.5	97.0	164.3	61.9	103.7	148.3	55.8	111.8	133.7
	090	89.8	100.5	215.2	82.7	105.6	198.3	75.4	111.9	180.8	68.3	119.6	163.7	58.3	124.7	139.8
	106	103.6	111.6	248.2	95.6	117.6	229.2	87.2	124.7	209.1	79.1	132.9	189.7	66.9	138.4	160.4
	115	110.5	121.0	264.8	105.3	131.9	252.5	99.6	143.7	238.8	94.1	157.8	225.6	67.1	138.6	160.8
	125	119.7	132.9	287.0	113.2	144.8	271.5	107.4	157.3	257.5	101.3	173.4	242.9	68.1	154.4	163.2
	135	131.3	142.6	314.7	123.7	155.3	296.5	117.3	168.6	281.3	110.7	186.2	265.3	60.0	138.4	143.7
	150	144.3	159.8	345.9	133.6	167.5	320.3	122.4	176.9	293.4	111.6	188.7	267.5	101.2	201.7	242.6
	160	159.3	176.1	381.8	150.4	191.5	360.5	143.1	207.8	343.2	135.0	228.3	323.5	82.0	180.5	196.6
	175	168.0	192.1	402.8	160.8	207.7	385.6	151.9	225.7	364.1	142.4	245.7	341.4	92.4	199.5	221.4
	205	194.7	222.6	466.7	184.5	241.7	442.2	174.6	262.7	418.5	164.2	287.8	393.7	105.8	211.1	253.7
	225	216.9	245.9	520.0	205.4	266.7	492.3	194.7	290.3	466.6	179.2	316.0	429.7	116.1	228.3	278.4
	250	238.4	277.6	571.4	226.0	300.5	541.8	214.5	326.6	514.3	200.5	355.9	480.7	118.8	230.4	284.8
	264	254.1	290.9	609.2	240.9	315.2	577.6	228.5	343.0	547.9	214.2	374.2	513.4	120.9	230.7	289.9
	281	277.6	307.8	665.6	265.6	334.6	636.8	250.8	364.6	601.3	237.4	399.3	569.2	218.4	438.0	523.5
	301	301.1	334.3	721.9	285.6	363.4	684.7	271.1	395.1	650.0	255.9	434.0	613.5	213.7	468.7	512.2
	325	324.5	372.4	777.8	306.8	404.3	735.4	292.2	439.5	700.4	275.4	482.7	660.2	162.2	329.5	388.8
350	348.6	414.7	835.7	331.8	449.5	795.4	314.2	490.1	753.2	287.8	532.7	689.8	174.4	354.0	418.1	
45.0	080	82.9	88.4	198.7	76.7	93.1	183.9	70.0	97.9	167.8	63.1	104.5	151.4	57.0	112.5	136.6
	090	91.5	101.5	219.4	84.4	106.8	202.3	77.0	113.0	184.6	69.7	120.6	167.1	58.8	125.0	141.1
	106	105.7	112.8	253.4	97.6	118.8	234.0	89.2	125.7	213.8	80.9	133.8	193.9	67.4	138.8	161.7
	115	112.3	121.7	269.3	107.0	132.8	256.6	101.3	144.3	243.0	95.6	158.5	229.3	68.4	139.2	163.9
	125	121.7	133.8	291.8	115.2	145.7	276.2	109.1	158.1	261.7	102.1	173.7	244.7	68.7	154.9	164.8
	135	133.5	143.4	320.2	125.8	156.4	301.7	119.4	169.4	286.2	112.5	187.0	269.8	61.1	139.3	146.4
	150	147.2	161.5	353.1	136.5	169.2	327.2	125.1	178.5	299.9	114.0	190.1	273.3	103.4	203.1	247.9
	160	161.9	177.3	388.2	153.0	192.8	366.9	145.4	208.9	348.8	137.2	229.4	329.0	83.4	181.6	200.1
	175	170.8	193.2	409.6	163.6	208.7	392.2	154.3	227.1	370.1	143.7	246.3	344.7	94.1	200.3	225.7
	205	197.9	224.1	474.4	187.6	243.4	449.8	177.5	264.3	425.6	165.8	288.5	397.7	107.7	211.8	258.3
	225	220.7	247.4	529.2	208.6	268.5	500.3	197.9	292.0	474.5	181.2	317.1	434.4	118.2	229.3	283.5
	250	242.4	279.5	581.3	229.5	302.8	550.4	218.1	328.5	522.9	202.7	357.4	486.0	120.9	231.4	289.9
	264	258.5	292.9	619.8	244.7	317.2	586.7	232.3	344.9	557.1	214.2	374.2	513.7	123.1	231.6	295.2
	281	281.9	309.8	676.1	270.4	336.4	648.3	254.8	367.0	611.0	241.5	401.3	579.0	218.4	437.9	523.7
	301	305.8	336.5	733.2	290.6	365.6	696.9	275.4	397.7	660.5	260.2	435.8	623.9	213.7	468.9	512.4
	325	329.9	374.6	791.1	311.7	407.0	747.3	296.9	441.6	711.9	279.9	485.2	671.1	165.1	331.4	395.9
350	354.4	417.5	849.7	336.8	452.5	807.6	319.3	492.9	765.6	287.8	532.5	690.2	177.5	355.5	425.6	
46.0	080	84.4	89.3	202.5	78.2	94.1	187.5	71.4	99.0	171.2	64.5	105.3	154.6	58.2	113.2	139.5
	090	93.2	102.7	223.6	86.0	107.9	206.4	78.5	114.1	188.4	71.2	121.5	170.7	59.4	125.3	142.4
	106	107.6	114.1	258.1	99.6	120.0	238.9	91.1	126.8	218.5	82.6	134.7	198.2	68.0	139.0	163.2
	115	114.1	122.6	273.8	108.7	133.7	260.7	103.0	145.3	247.0	96.2	159.0	230.8	69.5	140.1	166.6
	125	123.6	134.6	296.5	117.1	146.7	280.9	110.8	159.1	265.9	102.8	174.0	246.5	69.3	155.5	166.3
	135	135.6	144.4	325.3	128.1	157.4	307.4	121.4	170.3	291.1						



COOLING CAPACITIES — 50 Hz, ENGLISH (cont)

LCWT (F)	UNIT SIZE 30GXN,R	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)
48.0	080	87.6	91.2	210.2	81.2	96.1	194.8	74.3	101.1	178.2	67.2	107.1	161.4	60.5	114.7	145.1
	090	96.8	105.1	232.2	89.4	110.4	214.7	81.7	116.4	196.0	74.1	123.7	177.7	60.3	126.0	144.7
	106	111.9	116.4	268.6	103.8	122.4	249.1	95.2	128.9	228.4	86.2	136.8	206.9	69.2	139.7	166.0
	115	117.8	124.1	282.7	112.2	135.4	269.2	106.5	146.8	255.5	97.5	159.5	233.9	71.8	141.3	172.3
	125	127.5	136.4	305.9	121.1	148.6	290.5	114.3	161.2	274.4	104.2	174.5	250.1	70.6	156.3	169.5
	135	139.7	146.4	335.3	132.7	159.4	318.4	125.2	172.9	300.6	116.1	188.3	278.7	64.5	142.3	154.8
	150	156.3	166.8	375.2	145.3	174.6	348.7	133.4	183.1	320.2	121.4	194.5	291.4	103.5	203.2	248.3
	160	169.5	180.9	406.7	161.1	196.4	386.6	152.5	212.9	366.0	144.1	232.0	345.7	88.0	185.7	211.1
	175	179.0	197.0	429.6	171.2	213.3	410.8	162.4	231.0	389.7	147.5	248.5	354.1	99.4	203.8	238.6
	205	207.4	228.6	497.7	197.1	248.1	473.0	186.3	269.4	447.1	170.7	290.6	409.7	113.3	214.6	272.0
	225	231.7	252.8	556.0	219.0	273.9	525.5	207.5	297.5	498.0	181.3	317.1	435.0	122.0	231.7	292.7
	250	254.6	285.5	611.1	240.2	309.1	576.6	228.6	334.3	548.5	202.8	357.3	486.7	127.3	235.3	305.6
	264	271.7	298.7	652.0	255.9	323.5	614.2	243.9	350.7	585.2	214.3	374.3	514.4	129.7	235.4	311.4
	281	295.1	315.5	708.2	284.4	342.6	682.5	267.4	373.7	641.8	253.6	407.2	608.7	218.5	437.8	524.5
	301	319.8	343.2	767.5	305.7	372.6	733.7	288.4	405.4	692.1	273.0	441.7	655.3	213.7	468.9	512.9
	325	345.7	382.5	829.6	327.4	415.6	785.7	310.9	450.2	746.1	293.3	492.0	703.8	173.8	337.2	417.2
350	371.9	426.3	892.4	351.9	461.5	844.5	334.6	501.2	803.1	287.9	532.9	690.9	186.7	362.8	448.0	
50.0	080	90.8	93.3	218.0	84.2	98.2	202.2	77.3	103.2	185.6	70.0	108.9	168.0	62.9	116.3	150.9
	090	100.3	107.5	240.8	92.9	112.9	222.9	85.1	118.6	204.4	77.1	125.8	185.0	61.4	126.7	147.3
	106	116.4	118.9	279.4	108.0	124.8	259.2	99.1	131.2	238.0	89.8	139.1	215.7	70.4	140.5	169.1
	115	121.2	125.9	291.1	115.8	136.9	278.0	109.8	148.7	263.7	98.7	160.3	237.0	74.4	142.3	178.6
	125	131.2	138.2	314.9	125.1	150.4	300.4	117.9	163.4	283.1	105.6	175.2	253.5	71.5	157.2	171.7
	135	143.9	148.2	345.5	137.2	161.5	329.5	129.3	175.0	310.5	116.9	188.4	280.7	66.9	143.6	160.7
	150	162.7	170.3	390.6	151.4	178.3	363.6	139.2	186.5	334.1	126.7	197.8	304.2	103.5	203.2	248.5
	160	174.6	183.4	419.1	166.6	198.8	400.0	157.2	215.6	377.5	148.6	234.6	356.7	91.3	187.5	219.2
	175	184.4	199.8	442.9	176.3	216.0	423.4	167.7	233.7	402.5	150.1	249.8	360.3	103.0	206.5	247.2
	205	213.8	231.5	513.3	203.5	251.5	488.5	192.2	272.7	461.5	174.1	291.5	418.1	117.1	217.2	281.1
	225	238.8	256.6	573.3	226.0	277.9	542.6	213.8	301.6	513.4	181.3	317.2	435.2	122.6	233.1	294.4
	250	262.5	289.7	630.4	247.9	313.6	595.3	235.4	338.9	565.3	202.9	357.4	487.1	131.7	238.6	316.3
	264	280.4	302.8	673.3	264.2	328.2	634.4	251.1	355.7	603.0	214.4	374.5	514.7	134.2	238.7	322.1
	281	303.9	319.5	729.7	293.1	347.3	703.8	276.7	378.5	664.4	261.5	412.3	627.9	218.6	437.9	524.8
	301	329.2	347.7	790.5	316.0	377.1	758.7	297.2	410.5	713.6	281.6	446.3	676.2	213.8	468.9	513.4
	325	355.8	388.1	854.2	338.3	420.9	812.2	320.1	456.4	768.6	295.4	493.3	709.4	180.0	340.6	432.2
350	383.6	432.0	921.2	362.1	467.8	869.5	344.9	507.1	828.1	288.0	532.5	691.6	192.9	368.0	463.1	
55.0	080	94.8	96.0	227.9	88.0	100.8	211.6	81.0	105.9	194.6	73.5	111.1	176.6	63.5	116.8	152.6
	090	105.8	111.4	254.4	97.1	116.0	233.4	89.0	121.5	214.0	80.8	128.4	194.1	61.4	126.8	147.6
	106	123.2	122.6	296.2	113.7	128.3	273.4	104.5	134.7	251.2	93.8	141.5	225.4	71.8	141.3	172.7
	115	126.6	128.2	304.2	121.3	139.5	291.6	115.2	151.4	276.9	100.7	161.2	242.0	74.6	142.6	179.3
	125	135.8	140.3	326.4	130.0	152.8	312.4	122.4	165.8	294.3	107.8	176.3	259.1	72.3	157.7	173.8
	135	150.1	150.8	360.9	144.1	164.2	346.4	135.4	178.4	325.5	118.8	189.1	285.5	69.5	144.9	167.0
	150	173.8	176.6	417.7	160.9	184.2	386.8	148.1	192.5	355.9	135.1	202.8	324.6	103.6	203.3	249.0
	160	182.4	186.9	438.3	175.0	202.4	420.7	164.6	219.3	395.6	151.3	238.4	363.7	95.6	190.0	229.7
	175	194.2	204.2	466.7	185.8	221.5	446.6	175.4	248.0	421.5	153.9	254.1	369.9	106.6	209.6	256.2
	205	222.9	236.2	535.8	213.0	256.4	512.0	199.5	299.4	479.6	174.2	291.6	418.7	118.9	219.0	285.8
	225	247.5	260.8	594.9	234.6	282.6	563.9	220.6	326.2	530.3	181.4	317.3	436.1	122.0	232.3	293.2
	250	274.0	296.5	658.6	260.1	320.3	625.3	242.1	376.0	581.9	200.8	356.2	482.7	135.1	272.4	324.7
	264	292.7	309.7	703.6	277.4	334.9	666.7	259.0	430.7	622.4	214.6	374.4	515.8	137.9	263.9	331.4
	281	315.0	324.6	757.0	304.0	353.3	730.6	288.5	384.4	693.4	270.2	448.1	649.5	216.9	437.0	521.3
	301	341.3	353.4	820.4	328.9	383.3	790.4	309.3	417.0	743.3	290.1	508.6	697.2	212.4	469.1	510.6
	325	371.2	396.5	892.2	352.1	427.8	846.2	331.7	472.8	797.2	295.7	493.1	710.6	185.6	359.9	446.0
350	401.6	440.8	965.3	379.1	477.5	911.2	355.3	558.1	854.1	288.2	532.8	692.7	198.1	392.6	476.2	
60.0	080	94.8	96.1	228.1	88.1	100.8	212.0	81.0	105.9	195.0	72.7	110.7	174.9	64.1	117.3	154.2
	090	104.8	110.7	252.1	97.3	116.0	234.0	89.1	121.6	214.5	80.8	128.5	194.5	61.4	126.8	147.8
	106	123.2	122.6	296.3	113.8	128.4	273.7	103.3	133.8	248.4	93.8	141.6	225.7	71.9	141.3	173.0
	115	126.7	128.2	304.7	121.4	139.6	292.0	114.2	150.7	274.8	100.8	161.0	242.4	75.1	142.9	180.8
	125	135.9	140.3	326.9	130.1	152.9	312.9	122.5	166.1	294.6	107.9	176.2	259.6	72.3	157.7	174.0
	135	150.3	150.9	361.4	144.3	164.2	347.0	134.5	177.9	323.6	118.9	189.1	286.0	69.5	144.9	167.2
	150	174.0	176.8	418.7	161.0	184.4	387.3	148.3	192.7	356.6	133.7	202.0	321.7	103.7	203.4	249.4
	160	182.5	186.9	439.1	175.2	202.5	421.4	164.8	219.8	396.3	151.4	240.4	364.1	95.6	190.1	230.0
	175	194.3	204.3	467.5	184.7	220.8	444.3	175.5	248.8	422.2	151.8	250.2	365.3	106.7	209.6	256.7
	205	223.1	236.2	536.6	213.2	256.4	512.9	199.6	300.8	480.2	174.3	291.7	419.4	119.9	220.3	288.5
	225	247.7	260.9	595.8	234.8	282.7	564.9	220.7	327.5	530.9	181.6	317.2	436.7	123.0	233.4	295.8
	250	271.8	295.2	653.8	257.6	319.1	619.7	242.1	379.1	582.3	201.0	356.3	483.4	134.6	246.3	323.8
	264	292.9	309.8	704.7	277.6	335.0	667.8	258.5	389.1	621.9	212.4	373.1	510.9	137.1	245.1	329.8
	281	315.1	324.7	758.0	304.2	353.2	731.8	288.6	384.5	694.3	270.3	449.3	650.3	219.2	438.5	527.2
	301	341.5	353.5	821.6	329.0	383.0	791.5	309.4	417.2	744.4	289.5	476.8	696.3	212.9	469.1	512.1
	325	368.9	395.1	887.4	352.3	428.0	847.6	331.8	473.3	798.3	295.8	493.1	711.6	185.8	361.1	446.9
350	401.9	441.1	966.8	379.3	477.6	912.5	355.2	563.6	854.5	288.4	532.6	693.8	198.2	392.7	476.8	

LEGEND

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

Performance data (cont)



COOLING CAPACITIES — 60 Hz, SI

LCWT (C)	UNIT SIZE 30GXN,R	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)
5	080	269.6	85.4	11.6	251.4	89.6	10.8	231.4	93.9	9.9	210.9	99.7	9.1	192.6	106.7	8.3
	090	295.9	96.6	12.7	274.8	101.2	11.8	252.9	106.6	10.9	231.3	113.4	9.9	212.0	121.1	9.1
	106	345.7	110.2	14.8	321.9	115.3	13.8	297.4	121.0	12.8	272.2	127.8	11.7	248.1	136.0	10.6
	114	375.9	121.3	16.1	350.2	127.2	15.0	322.5	133.8	13.8	295.4	142.1	12.7	269.5	151.5	11.6
	125	407.4	132.3	17.5	387.3	142.8	16.6	369.7	153.7	15.9	351.8	168.0	15.1	317.7	182.8	13.6
	135	446.1	143.3	19.1	423.1	154.8	18.2	404.0	166.4	17.3	384.4	182.2	16.5	363.9	199.6	15.6
	150	487.9	157.5	20.9	466.7	169.9	20.0	445.6	182.8	19.1	425.1	198.8	18.2	403.9	217.5	17.3
	160	532.4	173.1	22.9	505.9	186.7	21.7	485.0	200.6	20.8	462.7	219.3	19.9	438.7	239.8	18.8
	174	580.5	189.0	24.9	559.7	202.6	24.0	534.3	218.3	22.9	510.3	236.7	21.9	477.4	258.1	20.5
	204	672.0	220.5	28.8	639.8	237.8	27.5	611.1	255.7	26.2	582.8	278.6	25.0	552.4	304.3	23.7
	225	732.9	240.7	31.5	698.3	258.8	30.0	669.1	278.7	28.7	637.6	303.9	27.4	583.4	332.6	25.0
	249	817.7	270.1	35.1	782.9	290.4	33.6	749.1	313.1	32.2	714.4	340.4	30.7	663.5	371.5	28.5
	264	860.7	286.9	36.9	821.2	307.9	35.3	788.2	331.5	33.8	751.4	361.5	32.3	686.9	393.5	29.5
	281	924.5	296.1	39.7	890.3	318.9	38.2	846.9	344.3	36.4	810.1	372.7	34.8	769.8	408.6	33.0
	301	1001.3	322.4	43.0	956.5	347.5	41.1	913.7	374.0	39.2	872.9	406.8	37.5	828.7	445.3	35.6
	325	1083.5	358.1	46.5	1031.5	385.5	44.3	989.4	414.7	42.5	944.5	453.6	40.5	896.6	496.7	38.5
	350	1167.2	401.1	50.1	1118.9	430.1	48.0	1072.7	465.9	46.0	1022.8	507.4	43.9	968.9	558.3	41.3
370	1246.7	401.8	53.6	1195.7	432.0	51.4	1142.6	466.2	49.1	1089.6	506.4	46.8	1020.2	554.7	43.8	
390	1326.6	433.1	57.0	1269.7	466.1	54.5	1214.5	502.1	52.2	1158.2	545.7	49.8	1057.4	594.0	45.4	
415	1421.8	464.4	61.1	1360.4	498.9	58.4	1302.2	537.5	55.9	1243.1	584.2	53.4	1137.8	635.1	48.9	
450	1504.7	486.6	64.6	1437.0	523.4	61.7	1375.5	563.7	59.1	1311.5	613.2	56.3	1160.8	664.8	49.9	
6	080	279.2	86.9	12.0	260.5	91.2	11.2	240.0	95.7	10.3	219.1	101.2	9.4	199.7	107.9	8.6
	090	306.3	98.5	13.2	284.8	103.2	12.2	262.6	108.4	11.3	240.5	114.9	10.3	219.9	122.5	9.4
	106	358.3	112.3	15.4	334.6	117.3	14.4	309.8	122.8	13.3	283.3	129.7	12.2	258.5	137.7	11.1
	114	389.8	123.4	16.7	364.1	129.4	15.6	335.8	135.8	14.4	306.7	143.9	13.2	280.1	153.2	12.0
	125	419.9	133.8	18.0	399.5	144.6	17.2	380.8	155.3	16.4	362.4	169.3	15.6	321.6	183.4	13.8
	135	459.1	145.0	19.7	437.1	156.8	18.8	416.3	168.6	17.9	396.1	183.5	17.0	368.3	200.0	15.8
	150	501.7	159.4	21.6	481.7	171.8	20.7	458.8	185.3	19.7	438.0	200.6	18.8	416.1	219.3	17.9
	160	548.4	175.2	23.6	522.0	189.1	22.4	499.3	203.2	21.4	476.4	221.2	20.5	448.9	240.8	19.3
	174	598.2	191.0	25.7	576.2	205.0	24.8	551.6	220.7	23.7	525.7	239.2	22.6	484.8	259.2	20.8
	204	691.1	223.2	29.7	660.6	240.8	28.4	629.9	258.9	27.1	600.6	280.9	25.8	569.6	307.1	24.5
	225	755.9	243.6	32.5	720.3	262.0	30.9	689.1	282.1	29.6	656.7	307.1	28.2	581.7	332.4	25.0
	249	842.8	273.3	36.2	806.7	293.7	34.7	771.7	316.3	33.1	736.0	343.7	31.6	668.4	372.2	28.7
	264	888.5	290.1	38.2	845.4	311.6	36.3	811.5	334.8	34.9	774.2	364.9	33.3	684.8	393.6	29.4
	281	951.3	299.3	40.9	919.7	322.2	39.5	872.8	348.2	37.5	835.2	375.5	35.9	793.8	411.8	34.1
	301	1029.9	326.2	44.2	987.8	351.4	42.4	941.4	378.4	40.4	899.5	410.2	38.6	854.4	448.8	36.7
	325	1117.8	361.8	48.0	1064.0	390.2	45.7	1019.0	419.5	43.8	972.7	457.5	41.8	908.6	498.3	39.0
	350	1204.0	405.8	51.7	1151.8	435.5	49.5	1104.8	470.1	47.5	1053.3	512.3	45.2	866.3	559.0	41.3
370	1284.3	406.5	55.2	1231.9	437.2	52.9	1176.4	471.7	50.6	1122.0	511.1	48.2	1023.0	555.2	44.0	
390	1367.1	438.0	58.8	1308.3	471.1	56.2	1250.4	507.4	53.7	1192.8	550.5	51.3	1064.3	594.5	45.7	
415	1464.7	469.7	63.0	1401.4	504.6	60.2	1340.1	543.1	57.6	1279.7	589.2	55.0	1146.0	635.8	49.1	
450	1550.0	492.8	66.6	1481.0	530.1	63.7	1415.8	570.4	60.9	1350.5	619.2	58.1	1157.9	664.2	49.8	
7	080	289.1	88.5	12.4	269.8	92.9	11.6	249.2	97.4	10.7	227.8	102.5	9.8	207.5	109.0	8.9
	090	316.7	100.5	13.6	295.2	105.1	12.7	272.5	110.1	11.7	249.2	116.6	10.7	227.7	124.0	9.8
	106	371.3	114.3	16.0	347.2	119.3	14.9	321.8	124.8	13.8	294.6	131.7	12.7	269.0	139.4	11.6
	114	403.9	125.8	17.4	377.6	131.7	16.2	349.3	137.9	15.0	319.7	145.8	13.7	290.8	154.9	12.5
	125	432.5	135.4	18.6	412.3	146.4	17.7	392.1	157.4	16.9	373.3	170.6	16.0	328.1	184.0	14.1
	135	471.9	146.7	20.3	451.7	158.4	19.4	429.0	170.7	18.4	408.4	184.9	17.6	373.0	200.3	16.0
	150	515.9	161.3	22.2	497.1	173.6	21.4	472.7	187.3	20.3	451.3	202.4	19.4	428.5	221.1	18.4
	160	564.0	177.7	24.2	538.9	191.2	23.2	513.9	205.6	22.1	490.8	222.9	21.1	455.9	241.9	19.6
	174	615.9	193.2	26.5	593.2	207.7	25.5	569.3	223.0	24.5	541.8	241.7	23.3	492.5	260.0	21.2
	204	710.6	226.1	30.5	682.3	243.3	29.3	648.7	262.2	27.9	618.8	283.3	26.6	586.9	309.8	25.2
	225	778.2	246.6	33.4	742.5	265.5	31.9	709.6	285.4	30.5	676.3	309.9	29.1	583.2	332.2	25.1
	249	868.5	276.2	37.3	831.7	297.7	35.7	794.6	320.0	34.1	758.2	347.0	32.6	673.4	372.9	28.9
	264	915.8	293.6	39.4	871.6	315.8	37.5	835.3	338.9	35.9	797.2	368.4	34.3	690.2	393.6	29.7
	281	978.9	302.5	42.1	949.4	325.2	40.8	901.1	352.1	38.7	860.5	379.6	37.0	818.4	415.1	35.2
	301	1059.0	330.0	45.5	1019.9	354.9	43.8	969.4	382.9	41.7	926.5	413.2	39.8	880.2	452.5	37.8
	325	1150.6	366.2	49.5	1097.8	395.2	47.2	1049.1	424.9	45.1	1001.6	461.3	43.0	913.5	499.9	39.3
	350	1241.7	410.1	53.4	1185.0	441.1	50.9	1137.1	474.4	48.9	1084.4	517.1	46.6	870.9	558.0	37.4
370	1320.8	411.5	56.8	1269.1	442.5	54.6	1211.7	477.0	52.1	1155.0	516.3	49.7	1025.6	555.3	44.1	
390	1407.7	443.1	60.5	1347.4	477.0	57.9	1287.2	513.1	55.3	1227.5	556.2	52.8	1068.8	594.5	46.0	
415	1507.9	475.4	64.8	1442.8	511.0	62.1	1379.4	549.3	59.3	1316.8	595.0	56.6	1146.5	636.6	49.3	
450	1594.7	498.9	68.6	1526.2	536.6	65.6	1457.0	577.5	62.7	1390.2	624.9	59.8	1161.3	664.3	50.0	



COOLING CAPACITIES — 60 Hz, SI (cont)

LCWT (C)	UNIT SIZE 30GXN,R	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)
8	080	298.9	90.2	12.9	279.1	94.7	12.0	258.5	99.1	11.1	236.5	103.9	10.2	215.0	110.4	9.2
	090	327.4	102.4	14.1	305.5	107.2	13.1	282.3	112.0	12.1	258.5	118.3	11.1	235.9	125.6	10.1
	106	384.8	116.4	16.5	360.2	121.5	15.5	333.7	127.1	14.3	306.6	133.7	13.2	279.3	141.2	12.0
	114	418.4	128.0	18.0	391.9	133.9	16.8	363.1	140.3	15.6	332.4	147.7	14.3	302.8	156.7	13.0
	125	444.4	137.1	19.1	425.3	148.2	18.3	403.7	159.4	17.4	384.0	172.2	16.5	331.9	184.6	14.3
	135	485.0	148.4	20.9	466.0	160.2	20.0	441.8	172.8	19.0	420.7	186.1	18.1	377.5	200.8	16.2
	150	530.3	163.1	22.8	512.0	175.5	22.0	487.2	189.4	20.9	464.4	204.3	20.0	437.0	222.6	18.8
	160	579.5	179.7	24.9	556.0	193.2	23.9	529.0	208.2	22.7	505.2	224.7	21.7	458.6	242.8	19.7
	174	633.8	195.3	27.3	611.3	210.3	26.3	587.1	225.6	25.2	558.1	244.4	24.0	500.2	261.0	21.5
	204	730.6	228.7	31.4	703.9	246.2	30.3	667.7	265.8	28.7	637.3	285.6	27.4	592.1	310.2	25.5
	225	800.6	249.9	34.4	765.4	268.7	32.9	730.3	288.7	31.4	696.4	312.7	29.9	581.6	332.0	25.0
	249	893.9	279.4	38.4	857.2	301.3	36.9	818.6	324.0	35.2	780.7	350.7	33.6	678.7	373.8	29.2
	264	942.7	297.4	40.5	899.0	319.9	38.7	859.5	343.2	37.0	820.6	371.9	35.3	692.0	393.7	29.8
	281	1006.7	305.7	43.3	977.2	329.1	42.0	930.7	355.8	40.0	886.4	383.9	38.1	843.3	418.1	36.3
	301	1088.5	333.7	46.8	1052.3	358.4	45.3	998.5	387.4	42.9	954.1	416.8	41.0	906.7	455.7	39.0
	325	1182.5	371.1	50.8	1132.9	399.5	48.7	1079.9	430.2	46.4	1031.2	464.9	44.3	910.7	499.2	39.2
	350	1279.7	415.3	55.0	1219.0	446.8	52.4	1169.9	479.1	50.3	1116.0	522.1	48.0	868.5	558.1	37.3
	370	1358.0	416.4	58.4	1306.1	447.7	56.2	1247.7	482.2	53.7	1188.4	521.3	51.1	1028.3	555.8	44.2
	390	1449.1	447.9	62.3	1388.8	482.5	59.7	1325.4	519.5	57.0	1263.5	561.6	54.3	1065.9	594.2	45.9
	415	1551.8	480.6	66.8	1487.0	517.7	64.0	1419.2	555.9	61.1	1354.9	600.8	58.3	1143.6	636.1	49.2
450	1640.1	505.2	70.6	1572.5	543.1	67.6	1499.1	584.6	64.5	1430.0	631.5	61.5	1164.5	664.7	50.1	
10	080	319.0	93.9	13.7	298.9	98.1	12.9	277.5	102.7	11.9	254.4	107.2	10.9	231.4	113.3	10.0
	090	349.4	106.5	15.0	326.7	111.4	14.1	302.6	116.2	13.0	277.6	122.0	11.9	250.2	128.5	10.8
	106	412.3	120.6	17.7	386.2	126.3	16.6	359.6	131.7	15.5	330.7	137.8	14.2	301.2	145.0	13.0
	114	449.0	132.5	19.3	420.7	138.7	18.1	390.8	145.3	16.8	359.4	152.1	15.5	326.7	160.7	14.1
	125	468.3	140.6	20.2	451.2	151.7	19.4	427.5	163.5	18.4	406.0	175.6	17.5	332.2	185.1	14.3
	135	511.4	151.8	22.0	495.2	163.8	21.3	468.6	176.9	20.2	445.3	189.8	19.2	378.2	201.0	16.3
	150	559.5	167.0	24.1	542.3	179.2	23.3	516.7	193.8	22.2	491.4	208.6	21.2	450.3	224.2	19.4
	160	611.4	184.1	26.3	590.3	197.8	25.4	559.7	213.3	24.1	534.1	228.6	23.0	455.9	242.4	19.6
	174	668.6	200.0	28.8	647.7	215.1	27.9	622.2	231.1	26.8	592.8	249.2	25.5	519.7	264.0	22.4
	204	770.9	234.2	33.2	747.5	252.0	32.2	709.0	272.2	30.5	674.5	292.5	29.0	601.5	311.9	25.9
	225	846.1	256.4	36.4	812.7	275.4	35.0	772.3	296.3	33.2	736.8	318.9	31.7	584.4	332.8	25.2
	249	943.1	287.1	40.6	908.1	308.7	39.1	866.7	332.3	37.3	825.6	357.5	35.5	689.2	375.2	29.7
	264	994.5	305.5	42.8	954.6	327.7	41.1	908.2	352.4	39.1	867.7	378.6	37.3	687.9	393.6	29.6
	281	1061.5	312.6	45.7	1032.4	336.7	44.4	991.0	363.2	42.7	938.9	392.9	40.4	894.3	423.9	38.5
	301	1149.0	340.7	49.5	1114.9	366.6	48.0	1061.5	396.1	45.7	1009.9	426.7	43.5	937.4	459.3	40.3
	325	1247.2	380.3	53.7	1202.4	409.0	51.7	1142.0	440.5	49.2	1090.8	472.8	46.9	912.7	499.7	39.3
	350	1355.5	425.5	58.3	1293.0	458.3	55.7	1236.1	491.7	53.2	1179.2	531.6	50.8	869.9	558.5	37.4
	370	1425.2	425.6	61.4	1369.5	456.9	59.0	1307.1	492.2	56.3	1244.7	530.7	53.6	1041.9	557.5	44.9
	390	1515.8	458.1	65.3	1456.1	492.2	62.7	1387.0	529.7	59.7	1321.7	570.2	56.9	1067.7	594.1	46.0
	415	1622.4	491.4	69.8	1561.7	528.1	67.2	1482.5	567.3	63.9	1411.1	609.4	60.8	1145.0	635.6	49.3
450	1715.5	516.1	73.9	1650.8	554.8	71.1	1570.1	597.2	67.6	1485.0	640.1	63.9	1163.7	664.9	50.1	

LEGEND

Cap. — Capacity, kW of Refrigeration
 kW — Compressor Motor Input Power of Rated Voltage
 LCWT — Leaving Chilled Water Temperature (C)

Performance data (cont)



COOLING CAPACITIES — 50 Hz, SI

LCWT (C)	UNIT SIZE 30GXN,R	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)
5	080	268.1	85.2	11.5	249.0	89.4	10.7	228.9	93.9	9.8	208.4	100.0	8.9	190.8	107.0	8.2
	090	295.3	97.7	12.7	274.0	102.2	11.8	251.0	108.1	10.8	231.0	115.1	9.9	211.3	123.0	9.1
	106	340.3	108.7	14.6	315.7	114.0	13.6	290.0	120.8	12.4	265.8	128.4	11.4	242.9	136.6	10.4
	115	368.1	119.7	15.8	352.3	129.3	15.1	335.4	140.1	14.4	318.8	152.8	13.7	229.7	133.2	9.9
	125	398.6	131.4	17.1	378.8	141.7	16.3	361.9	153.3	15.5	343.6	167.9	14.7	251.2	148.7	10.8
	135	434.9	141.4	18.7	413.8	152.2	17.8	394.6	164.8	16.9	374.7	180.3	16.1	257.6	165.0	11.1
	150	474.0	155.5	20.3	440.2	162.2	18.9	406.0	171.5	17.4	374.3	182.5	16.1	343.7	193.7	14.8
	160	528.4	174.6	22.7	503.4	187.6	21.6	481.6	202.7	20.7	457.0	221.0	19.6	408.3	241.0	17.5
	175	560.2	189.7	24.0	537.9	203.7	23.1	511.6	219.9	22.0	485.9	237.7	20.9	315.7	192.2	13.6
	205	647.1	219.9	27.8	617.0	236.8	26.5	587.4	255.8	25.2	556.7	278.5	23.9	360.3	203.7	15.5
	225	720.3	243.0	30.9	688.8	261.3	29.6	654.9	282.9	28.1	618.6	307.0	26.6	396.4	220.0	17.0
	250	791.8	273.8	34.0	758.6	293.9	32.6	722.9	317.9	31.0	684.2	344.4	29.4	404.8	222.0	17.4
	264	843.9	287.2	36.2	809.1	308.8	34.7	769.5	334.1	33.0	726.4	361.2	31.2	412.1	222.3	17.7
	281	928.8	304.1	39.9	885.6	328.5	38.0	844.5	354.8	36.3	803.3	385.9	34.5	757.7	421.2	32.5
	301	1004.9	330.1	43.1	953.4	356.4	40.9	913.6	384.3	39.2	866.9	418.9	37.2	817.7	457.3	35.1
325	1078.0	368.4	46.3	1029.3	396.2	44.2	983.8	428.7	42.2	933.8	466.6	40.1	815.3	508.0	35.0	
350	1159.5	409.1	49.8	1114.9	440.2	47.9	1059.3	477.0	45.5	1001.0	516.7	43.0	595.9	341.4	25.6	
6	080	277.4	86.8	11.9	258.3	91.0	11.1	237.5	95.4	10.2	216.7	101.2	9.3	197.8	108.4	8.5
	090	305.8	99.7	13.1	284.1	104.1	12.2	260.9	110.0	11.2	239.0	116.8	10.3	218.8	124.7	9.4
	106	353.1	110.7	15.2	327.9	116.1	14.1	301.7	122.6	13.0	276.7	130.0	11.9	252.6	138.2	10.8
	115	379.2	121.2	16.3	363.5	130.6	15.6	345.4	141.5	14.8	328.5	153.8	14.1	237.0	134.3	10.2
	125	411.1	133.0	17.7	390.5	143.4	16.8	372.6	154.8	16.0	353.8	169.2	15.2	256.9	149.7	11.0
	135	449.3	142.9	19.3	426.4	154.0	18.3	406.9	166.0	17.5	386.4	181.6	16.6	261.2	165.8	11.2
	150	492.0	158.4	21.1	457.6	165.4	19.7	422.9	174.1	18.2	389.1	184.7	16.7	357.0	196.3	15.3
	160	545.7	176.3	23.4	518.2	189.9	22.3	496.3	204.8	21.3	471.0	222.7	20.2	411.0	241.1	17.7
	175	576.9	192.2	24.8	554.6	206.0	23.8	526.7	222.2	22.6	501.0	239.8	21.5	326.3	193.7	14.0
	205	668.0	222.7	28.7	635.4	239.9	27.3	605.4	258.3	26.0	573.4	280.8	24.6	372.4	204.9	16.0
	225	742.8	246.0	31.9	708.9	264.4	30.5	675.2	285.7	29.0	637.2	310.0	27.4	409.2	221.7	17.6
	250	816.7	277.4	35.1	780.2	297.9	33.5	744.5	321.2	32.0	704.6	348.1	30.3	418.1	223.7	18.0
	264	870.6	290.9	37.4	832.2	312.5	35.7	793.0	337.5	34.1	748.7	365.2	32.2	425.6	223.9	18.3
	281	955.1	307.9	41.0	914.6	332.4	39.3	869.3	358.8	37.3	828.4	389.3	35.6	781.7	424.8	33.6
	301	1036.0	333.7	44.5	983.7	360.5	42.3	940.4	388.8	40.4	893.3	423.0	38.4	842.3	461.1	36.2
325	1111.9	372.6	47.8	1058.9	401.1	45.5	1013.1	432.9	43.5	961.6	471.0	41.3	812.9	507.8	34.9	
350	1194.9	414.2	51.3	1146.0	445.7	49.2	1090.8	482.0	46.9	1030.6	521.6	44.3	614.9	343.5	26.4	
7	080	287.1	88.5	12.3	267.6	92.7	11.5	246.5	97.1	10.6	224.9	102.8	9.7	205.3	109.7	8.8
	090	316.8	101.7	13.6	294.5	106.3	12.7	270.8	111.9	11.6	247.9	118.6	10.7	224.6	125.6	9.7
	106	366.0	112.9	15.7	340.4	118.3	14.6	314.1	124.5	13.5	287.8	131.6	12.4	262.3	139.8	11.3
	115	390.5	122.5	16.8	374.0	132.3	16.1	356.1	142.8	15.3	338.0	155.4	14.5	244.8	135.6	10.5
	125	423.3	134.4	18.2	402.4	145.3	17.3	383.3	156.5	16.5	364.2	170.6	15.7	260.5	150.8	11.2
	135	463.9	144.3	19.9	439.4	156.0	18.9	419.2	167.5	18.0	398.0	182.8	17.1	267.3	166.2	11.5
	150	509.9	161.6	21.9	476.2	168.5	20.5	440.0	176.7	18.9	404.5	187.1	17.4	371.5	198.8	16.0
	160	563.1	178.3	24.2	534.1	192.5	23.0	510.8	206.8	22.0	485.3	224.9	20.9	409.7	241.3	17.6
	175	594.1	194.3	25.5	571.3	208.4	24.6	542.7	224.5	23.3	515.9	242.4	22.2	337.6	195.0	14.5
	205	688.3	225.3	29.6	655.2	242.7	28.2	623.7	261.4	26.8	590.8	283.4	25.4	384.5	206.2	16.5
	225	766.3	248.9	32.9	729.1	267.7	31.3	695.5	288.7	29.9	656.7	313.0	28.2	422.4	223.4	18.2
	250	842.0	281.0	36.2	802.2	301.8	34.5	766.4	324.8	32.9	725.4	351.8	31.2	431.7	225.4	18.6
	264	897.7	294.4	38.6	855.2	316.4	36.8	816.6	341.0	35.1	770.9	369.2	33.1	439.4	225.6	18.9
	281	982.1	311.6	42.2	944.2	335.8	40.6	894.9	362.8	38.5	853.9	392.4	36.7	806.0	428.6	34.6
	301	1065.2	338.1	45.8	1015.1	364.7	43.6	967.4	393.4	41.6	920.3	426.8	39.6	846.8	461.4	36.4
325	1146.3	376.9	49.3	1089.0	406.1	46.8	1043.1	436.8	44.8	990.3	475.1	42.6	817.1	507.9	35.1	
350	1231.2	419.8	52.9	1177.4	451.3	50.6	1122.7	487.3	48.2	1060.6	527.4	45.6	634.2	346.7	27.3	
8	080	296.9	90.2	12.8	277.1	94.5	11.9	255.6	98.9	11.0	233.6	104.3	10.0	212.7	111.0	9.1
	090	327.9	103.7	14.1	305.0	108.4	13.1	281.0	113.9	12.1	257.5	120.3	11.1	227.0	126.2	9.8
	106	379.2	115.0	16.3	353.5	120.4	15.2	326.5	126.5	14.0	298.8	133.4	12.8	268.7	141.0	11.6
	115	402.1	123.9	17.3	384.6	134.1	16.5	366.8	144.2	15.8	348.2	156.6	15.0	252.4	136.6	10.9
	125	435.6	136.2	18.7	414.5	147.2	17.8	394.6	158.1	17.0	375.0	171.7	16.1	266.7	151.8	11.5
	135	478.2	145.9	20.6	453.8	157.8	19.5	431.9	169.6	18.6	409.9	184.5	17.6	271.0	166.9	11.7
	150	528.8	164.7	22.7	494.3	171.7	21.3	458.0	179.4	19.7	420.1	189.7	18.1	385.8	201.2	16.6
	160	579.7	180.4	24.9	551.2	194.5	23.7	525.6	209.1	22.6	499.8	226.8	21.5	408.5	241.2	17.6
	175	611.4	196.7	26.3	587.8	210.9	25.3	559.3	227.0	24.0	531.1	245.0	22.8	348.9	196.9	15.0
	205	708.2	228.1	30.5	675.1	245.8	29.0	642.3	264.4	27.6	608.2	286.1	26.2	396.4	207.7	17.0
	225	790.2	251.8	34.0	750.3	271.0	32.3	716.0	292.0	30.8	668.3	314.7	28.7	435.8	225.3	18.7
	250	867.6	284.6	37.3	824.5	305.6	35.5	788.8	328.2	33.9	746.8	355.5	32.1	445.5	227.5	19.2
	264	925.2	298.1	39.8	878.8	320.1	37.8	841.2	344.5	36.2	794.1	373.1	34.1	453.7	227.6	19.5
	281	1009.7	315.0	43.4	974.1	339.3	41.9	921.3	366.7	39.6	879.6	396.4	37.8	830.4	432.2	35.7
	301	1094.4	342.4	47.1	1046.9	368.8	45.0	994.9	397.9	42.8	948.0	430.3	40.8	844.3	460.8	36.3
325	1181.2	381.3	50.8	1121.6	410.9	48.2	1072.9	441.9	46.1	1018.9	479.6	43.8	814.5	508.2	35.0	
350	1267.3	425.1	54.5	1209.3	456.7	52.0	1155.3	492.5	49.7	1073.9	530.0	46.2	653.8	350.4	28.1	
10	080	317.0	93.7	13.6	296.2	98.2	12.7	274.5	102.6	11.8	251.2	107.5	10.8	228.5	113.9	9.8
	090	350.2	108.1	15.1	326.5	112.9	14.1	302.1	117.9	13.0	276.4	124.2	11.9	232.9	127.2	10.0
	106	406.4	119.5	17.5	379.7	124.8	16.3	351.6	130.4	15.1	322.4	137.5	13.9	275.9	142.1	11.9
	115	424.8	127.0	18.3	407.2	137.0	17.5	388.6	147.5	16.7	364.6	159.0	15.7	268.8	138.5	11.6
	125	459.7	139.4	19.8	440.0	150.4	18.9	416.8	162.0	17.9	389.4	173.5	16.8	275.2	152.7	11.8
	135	504.3	149.5	21.7	482.6	161.5	20.8	457.1	173.8	19.7	433.9	187.0	18.7	2		



COOLING CAPACITIES, DUPLEX UNITS — 50 Hz, ENGLISH

LCWT (F)	UNIT SIZE 30GXN,R	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	220	198.5	228.9	475.5	185.9	244.9	445.4	173.2	265.3	415.1	160.7	289.7	384.9	123.4	277.6	295.7
	240	218.9	249.1	524.4	208.1	270.7	498.6	197.1	296.6	472.3	186.0	326.8	445.7	132.8	291.2	318.1
	275	246.9	279.5	591.5	233.7	303.4	559.7	221.6	332.4	530.9	208.8	367.7	500.2	112.3	274.2	269.2
	300	275.8	313.2	660.7	261.2	340.3	625.8	248.3	371.6	594.7	234.3	409.5	561.1	134.7	316.7	322.8
	320	304.2	346.9	728.9	288.5	376.3	691.2	274.5	410.8	657.6	258.9	451.9	620.0	157.4	358.9	377.0
	345	322.3	377.2	772.0	308.3	408.5	738.7	291.6	444.4	698.7	275.5	486.8	660.1	178.0	395.4	426.4
	365	352.0	411.0	843.1	334.6	446.1	801.5	317.1	486.5	759.7	298.6	535.6	715.4	170.4	364.9	408.4
	395	366.3	424.2	877.5	348.6	461.0	835.0	329.8	502.6	790.0	310.1	552.6	743.0	172.2	365.3	412.4
	410	395.4	460.9	947.2	375.8	501.0	900.3	355.5	545.7	851.4	334.2	598.8	800.5	214.4	435.4	513.5
	440	416.6	483.5	998.1	395.7	525.1	948.1	374.6	572.9	897.5	349.4	627.6	837.4	224.4	453.0	537.8
42	220	206.1	233.0	494.3	193.0	249.4	462.7	180.1	269.1	431.7	166.8	292.8	399.8	125.2	278.7	300.1
	240	226.7	252.5	543.4	215.2	274.7	515.6	204.0	299.8	489.0	191.4	329.5	458.8	135.7	293.4	325.4
	275	256.0	282.9	613.7	242.0	307.9	580.1	229.5	335.7	550.2	216.4	370.2	518.8	116.5	275.8	278.3
	300	285.7	316.8	684.8	270.1	344.8	647.9	256.8	374.8	615.6	241.4	412.3	578.7	139.9	319.0	335.4
	320	314.8	351.2	754.7	298.1	381.6	714.7	283.6	415.0	679.9	267.8	455.6	641.9	163.3	362.1	391.4
	345	332.7	382.2	797.6	318.7	413.4	763.9	301.4	450.2	722.5	282.5	490.1	677.1	184.5	399.1	442.4
	365	363.8	417.0	872.3	345.9	452.5	828.8	327.7	492.7	785.5	307.7	539.6	737.4	176.7	369.6	423.5
	395	378.8	430.2	908.0	360.3	467.3	863.3	341.0	508.3	817.0	319.6	556.8	764.5	178.6	370.2	428.0
	410	408.5	467.0	979.2	388.4	507.0	931.2	367.4	552.5	880.8	343.1	603.2	822.3	221.9	439.4	531.9
	440	430.9	490.1	1033.0	408.6	532.0	979.5	387.3	579.4	928.3	356.2	631.1	853.9	231.2	456.7	554.1
44	220	213.9	237.0	513.2	200.0	254.0	479.7	186.9	272.8	448.3	173.2	296.5	415.5	127.4	279.9	305.7
	240	234.5	255.7	562.4	222.4	278.5	533.5	211.1	302.7	506.4	196.2	331.6	470.7	139.2	295.2	334.0
	275	264.6	286.7	634.8	250.5	312.0	600.7	237.3	339.3	569.3	222.0	372.6	532.5	120.8	278.4	289.8
	300	295.1	320.9	707.7	279.4	348.9	670.1	265.4	378.9	636.6	247.6	415.2	593.9	145.1	322.3	348.1
	320	325.3	355.4	780.4	308.4	386.0	739.7	293.0	419.3	702.6	276.6	459.8	663.6	169.2	366.0	406.0
	345	343.4	387.4	823.6	329.0	419.0	789.1	311.6	454.9	747.4	289.7	493.4	694.9	191.3	402.8	459.0
	365	375.9	422.8	901.7	357.3	458.7	856.6	338.5	498.5	812.0	314.9	543.7	755.4	183.3	373.2	439.8
	395	391.3	436.4	938.6	372.0	473.4	892.3	352.3	514.8	844.9	327.4	560.4	785.1	185.4	373.5	444.8
	410	422.1	473.4	1012.4	401.1	513.5	962.1	379.7	558.9	910.9	351.2	606.5	842.3	229.8	443.1	551.2
	440	445.2	496.8	1067.8	421.9	539.1	1012.0	399.9	586.3	959.4	360.2	633.0	864.1	237.2	459.7	568.9
45	220	217.8	239.1	522.8	203.6	256.3	488.4	190.4	274.6	456.2	176.4	297.9	423.3	128.6	280.7	308.7
	240	238.2	257.5	571.5	226.0	280.5	542.1	214.5	304.7	514.6	198.5	332.7	476.3	141.2	296.1	338.8
	275	269.0	288.4	645.5	254.7	314.0	611.2	241.2	341.1	578.8	223.9	373.5	537.4	123.2	279.8	294.8
	300	299.7	323.2	719.0	284.3	351.3	682.2	269.7	381.2	647.4	250.6	416.8	601.4	147.8	323.7	354.7
	320	330.4	358.0	792.7	313.7	388.6	752.6	297.6	421.6	713.9	281.1	461.7	674.6	172.3	368.0	413.6
	345	348.9	389.8	836.9	334.2	421.6	801.8	316.6	457.7	759.6	292.2	494.8	701.0	194.8	404.9	467.5
	365	381.9	425.8	916.1	362.9	462.2	870.5	344.0	501.8	825.0	319.1	545.7	765.6	186.7	374.5	448.0
	395	397.7	438.8	954.3	377.9	476.7	906.8	358.0	518.0	858.8	329.5	561.6	790.5	188.8	375.0	453.1
	410	428.9	476.6	1029.1	407.3	517.3	977.4	385.8	562.3	925.6	353.6	607.8	848.5	233.6	445.4	560.6
	440	452.4	500.7	1085.3	428.5	542.9	1028.2	406.2	590.3	974.6	362.1	634.1	868.8	240.1	461.7	576.0
46	220	221.4	241.4	531.6	207.5	258.7	497.9	193.8	276.7	465.3	179.8	299.8	431.5	129.2	281.3	310.0
	240	241.8	259.1	580.4	229.8	282.2	551.6	218.1	306.3	523.4	200.9	333.9	482.0	142.6	296.8	342.4
	275	273.4	290.2	656.2	259.0	316.3	621.7	245.3	342.8	588.7	227.7	374.7	546.3	125.5	281.3	301.3
	300	304.5	325.2	730.7	289.1	353.6	693.6	274.0	383.8	657.6	253.9	417.8	609.6	150.6	325.5	361.3
	320	335.5	360.6	805.1	318.8	391.3	765.2	302.2	424.3	725.0	285.8	463.6	685.6	175.6	369.7	421.6
	345	354.3	392.2	850.2	339.4	424.3	814.4	321.7	460.8	772.2	294.7	496.1	707.4	198.3	407.0	475.8
	365	388.1	428.6	931.4	368.8	464.8	885.1	349.5	504.5	838.5	320.1	546.0	768.1	190.3	376.1	456.6
	395	404.2	441.9	970.0	384.0	479.8	921.5	363.8	521.1	873.1	331.6	563.2	795.7	192.4	376.4	461.9
	410	435.8	479.6	1046.1	413.8	520.8	993.1	392.0	565.5	940.9	357.1	609.7	857.1	236.7	447.2	567.9
	440	459.7	504.0	1103.4	435.3	546.5	1044.7	412.6	593.8	990.3	364.2	635.4	874.0	242.4	462.5	581.7
48	220	229.0	245.7	549.8	215.0	263.5	516.3	200.6	281.2	481.8	182.5	302.0	438.4	131.1	282.7	315.0
	240	249.2	262.5	598.3	237.3	285.9	569.7	225.0	310.1	540.2	202.7	335.0	486.8	145.3	299.3	349.0
	275	281.9	293.9	676.9	268.0	320.2	643.5	253.2	347.3	608.0	231.4	376.1	555.4	130.4	284.7	313.1
	300	313.9	329.2	753.7	299.0	358.1	718.0	282.7	388.6	678.7	260.3	420.4	625.1	155.7	329.4	373.9
	320	345.8	365.3	830.3	329.7	395.8	791.7	311.7	429.3	748.6	292.7	467.6	702.5	181.2	373.9	435.0
	345	365.3	397.3	876.7	349.6	429.9	839.3	332.5	465.9	798.3	298.7	499.8	715.1	204.3	411.6	490.5
	365	399.3	433.9	958.8	379.3	470.6	910.4	359.5	510.2	863.3	322.0	546.8	773.1	195.9	379.1	470.4
	395	416.0	447.2	998.9	394.8	485.4	948.0	374.5	526.6	899.0	333.5	563.6	800.7	198.3	379.5	476.1
	410	447.9	485.2	1075.2	425.5	526.7	1021.6	402.5	572.1	966.5	357.3	609.6	858.3	240.0	450.2	576.3
	440	474.2	510.9	1138.7	449.3	553.9	1078.6	424.9	612.2	1020.2	364.4	635.2	875.0	244.1	464.0	586.2
50	220	233.0	247.4	559.7	219.2	265.2	526.8	204.6	283.5	491.4	184.1	302.5	442.2	132.7	283.2	318.8
	240	254.2	264.6	610.6	242.7	288.3	582.8	229.7	312.9	551.7	204.4	335.6	491.0	145.5	299.5	349.7
	275	288.1	296.6	692.0	274.9	323.2	660.5	259.2	350.5	622.8	235.0	377.5	564.5	134.2	287.6	322.4
	300	321.0	332.6	771.1	306.7	361.5	736.8	289.3	392.2	695.1	266.1	422.6	639.1	159.8	332.3	384.0
	320	354.7	369.2	852.4	339.3	400.1	815.8	318.7	433.5	765.5	297.6	469.3	714.7	185.2	376.9	445.0
	345	373.7	401.5	897.4	357.6	434.5	859.1	339.8	480.1	816.2	301.3	501.4	723.7	208.1	414.5	499.9
	365	409.3	438.9	983.3	389.2	475.9	935.2	367.5	515.1	882.7	322.1	547.0	773.9	200.6	382.6	481.6
	395	426.9	451.9	1027.8	404.0	490.0	970.5	383.1	531.8	919.8	333.8	563.3	801.9	203.0	383.0	487.7
	410	457.8	490.8	1099.5	435.4	532.3	1045.8	410.6	596.8	986.0	356.1	608.9	855.2	241.9	452.1	581.0
	440	484.3	516.4	1163.4	459.1	559.7	1103.4	432.7	617.5	1039.6	362.8	634.4	871.3	244.8	465.2	588.3
55	220	240.5	251.2	578.2	227.3	269.2	546.4	211.0	287.1	507.2	188.3	304.3	452.8	133.2	283.9	319.7
	240	261.6	268.3	629.1	249.6	291.7	600.1	236.0	316.5	567.5	208.4	337.2	501.1	146.6	299.9	352.4
	275	297.8	300.7	715.9	285.7	327.4	686.8	268.7								

Performance data (cont)



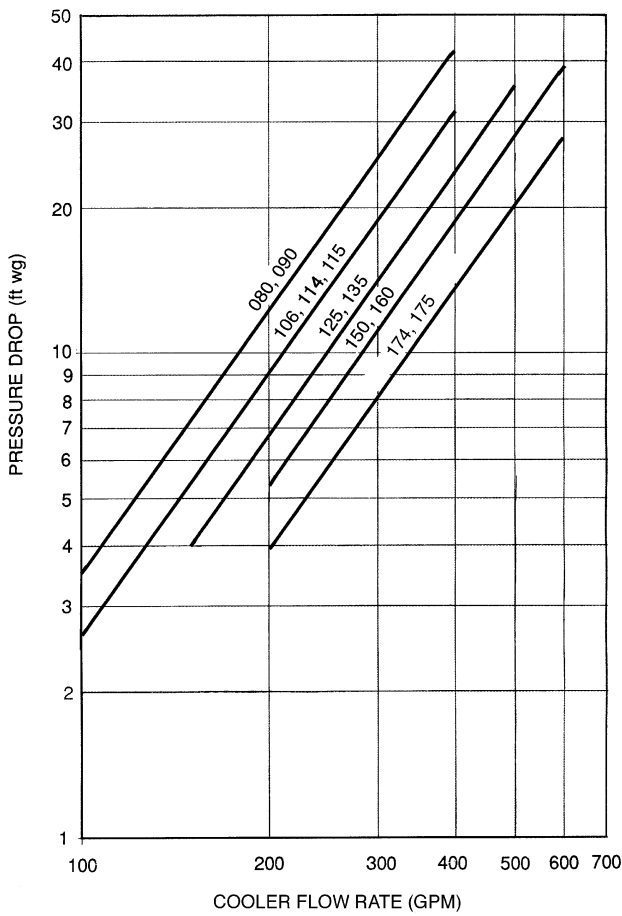
COOLING CAPACITIES, DUPLEX UNITS — 50 Hz, SI

LCWT (C)	UNIT SIZE 30GXN,R	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)
5	220	707.0	232.5	30.4	666.1	247.2	28.6	626.0	265.0	26.9	585.1	286.0	25.1	467.2	274.0	20.1
	240	779.6	252.7	33.5	744.2	272.7	32.0	709.5	295.1	30.5	673.4	322.4	28.9	489.0	284.2	21.0
	275	879.6	283.6	37.8	836.2	305.9	35.9	797.5	330.7	34.3	756.9	361.5	32.5	522.7	331.5	22.5
	300	982.0	317.7	42.2	934.0	342.6	40.1	892.8	369.8	38.3	848.3	403.2	36.4	577.9	408.2	29.0
	320	1082.8	352.0	46.5	1031.4	378.7	44.3	986.5	409.1	42.4	937.3	445.3	40.3	618.9	482.8	35.2
	345	1146.9	382.8	49.3	1102.6	411.0	47.4	1048.8	443.1	45.0	996.7	479.6	42.8	654.0	387.2	28.1
	365	1252.8	417.2	53.8	1196.4	449.5	51.4	1140.2	485.3	49.0	1081.1	527.3	46.4	668.6	388.8	28.7
	395	1303.7	430.5	56.0	1246.5	464.2	53.5	1186.3	501.5	50.9	1123.2	544.0	48.2	675.7	389.1	29.0
	410	1406.6	467.8	60.4	1344.0	503.9	57.7	1278.5	544.4	54.9	1210.1	590.8	52.0	783.7	426.7	33.7
	440	1482.1	490.7	63.7	1414.0	528.6	60.7	1347.6	571.1	57.9	1273.6	619.9	54.7	821.5	443.7	35.3
6	220	731.2	236.3	31.4	688.1	251.3	29.6	647.1	268.4	27.8	605.1	289.1	26.0	477.4	275.1	20.5
	240	804.4	256.0	34.6	766.6	276.4	33.0	731.9	297.9	31.5	694.6	324.6	29.9	504.6	285.8	21.7
	275	908.0	286.8	39.0	862.5	309.7	37.1	822.6	334.0	35.4	781.0	364.4	33.6	530.6	332.8	22.7
	300	1012.9	321.3	43.5	963.0	346.5	41.4	920.1	373.4	39.5	873.7	406.6	37.6	585.0	408.9	29.5
	320	1116.4	356.2	48.0	1062.8	383.4	45.7	1015.8	413.2	43.7	966.0	449.1	41.5	619.7	482.8	35.2
	345	1180.0	387.2	50.7	1135.5	415.5	48.8	1080.3	448.1	46.4	1026.3	484.1	44.1	676.1	390.7	29.1
	365	1290.1	422.7	55.5	1232.2	455.3	52.9	1174.0	491.1	50.5	1113.3	531.8	47.9	686.9	391.2	29.5
	395	1343.3	436.0	57.7	1283.3	469.9	55.2	1221.9	506.9	52.5	1156.6	548.8	49.7	694.9	391.2	29.9
	410	1448.2	473.6	62.2	1383.7	510.0	59.5	1317.2	549.7	56.6	1246.5	595.4	53.6	808.6	430.3	34.7
	440	1527.0	497.1	65.6	1455.6	534.9	62.6	1387.6	577.5	59.6	1303.4	624.0	56.0	847.9	447.7	36.4
7	220	755.6	240.1	32.5	711.3	255.3	30.6	669.3	271.6	28.8	625.5	292.5	26.9	488.8	276.9	21.0
	240	829.2	258.7	35.7	790.1	279.5	34.0	753.9	301.1	32.4	714.8	327.5	30.7	521.0	287.9	22.4
	275	935.5	290.3	40.2	889.6	313.2	38.3	847.6	337.3	36.4	805.2	367.1	34.6	542.0	333.2	23.3
	300	1043.3	324.7	44.9	993.0	350.4	42.7	947.3	377.4	40.7	900.0	409.6	38.7	688.1	409.6	29.6
	320	1149.9	359.9	49.5	1095.7	387.6	47.1	1045.4	417.1	44.9	994.4	452.8	42.8	820.7	482.1	35.3
	345	1213.9	391.8	52.2	1168.1	420.4	50.2	1112.9	452.8	47.9	1048.8	487.3	45.1	698.4	394.1	30.0
	365	1328.2	428.0	57.1	1268.3	460.8	54.5	1208.5	496.3	52.0	1146.3	536.2	49.3	705.9	393.1	30.4
	395	1382.7	441.6	59.5	1320.8	475.5	56.8	1258.4	512.3	54.1	1191.1	553.8	51.2	713.6	393.3	30.7
	410	1491.1	479.3	64.1	1423.6	515.9	61.2	1355.8	556.3	58.3	1279.3	600.2	55.0	834.1	434.0	35.9
	440	1572.8	503.3	67.6	1497.5	541.6	64.4	1427.9	583.5	61.4	1334.2	628.2	57.4	875.4	451.8	37.6
8	220	780.1	243.9	33.6	734.3	259.7	31.6	691.2	275.6	29.8	646.5	295.8	27.8	498.2	278.7	21.4
	240	852.4	261.8	36.7	813.3	283.2	35.0	776.0	304.4	33.4	729.5	329.6	31.4	535.5	290.4	23.0
	275	963.5	293.4	41.5	917.2	317.0	39.5	872.6	341.0	37.5	826.2	369.2	35.5	548.1	335.7	23.6
	300	1073.0	328.7	46.2	1023.3	354.6	44.0	974.6	381.5	41.9	923.5	412.1	39.7	689.1	410.0	29.6
	320	1182.6	364.2	50.9	1128.8	392.1	48.6	1074.8	422.0	46.2	1024.0	456.2	44.1	818.4	482.6	35.2
	345	1248.6	396.5	53.7	1200.7	425.3	51.7	1146.2	457.6	49.3	1070.9	491.0	46.1	720.9	398.6	31.0
	365	1367.1	433.1	58.8	1305.1	466.2	56.2	1244.0	501.4	53.5	1172.6	540.9	50.4	722.1	395.5	31.1
	395	1423.4	446.8	61.2	1358.9	480.7	58.5	1295.4	517.8	55.7	1219.2	558.5	52.5	730.2	395.6	31.4
	410	1535.0	484.8	66.0	1464.5	522.0	63.0	1395.2	562.4	60.0	1304.7	604.2	56.1	860.3	438.4	37.0
	440	1618.7	509.7	69.6	1540.4	548.2	66.3	1468.5	590.4	63.2	1348.4	630.9	58.0	902.0	464.3	38.8
10	220	815.4	249.2	35.1	771.2	265.2	33.2	724.7	281.6	31.2	671.4	299.4	28.9	509.5	280.4	21.9
	240	890.7	267.1	38.3	853.4	288.4	36.7	812.4	310.2	35.0	751.5	332.0	32.4	552.2	292.1	23.8
	275	1009.7	299.2	43.5	966.8	323.1	41.6	916.5	347.9	39.5	860.6	373.1	37.1	558.8	336.2	24.1
	300	1124.9	335.4	48.4	1078.9	361.4	46.5	1022.8	389.4	44.0	963.6	417.3	41.5	687.6	409.6	29.6
	320	1243.1	372.1	53.5	1188.5	399.6	51.0	1127.1	430.1	48.5	1071.5	480.5	46.1	813.8	482.3	35.0
	345	1309.0	404.5	56.3	1257.7	434.6	54.2	1202.4	474.4	51.8	1103.3	496.7	47.5	754.6	405.4	32.5
	365	1433.7	442.3	61.7	1368.9	475.9	59.0	1299.6	511.1	56.0	1199.1	544.7	51.6	748.4	401.2	32.2
	395	1490.9	455.4	64.2	1420.8	490.0	61.2	1354.4	527.5	58.3	1247.7	562.8	53.7	757.3	401.0	32.6
	410	1603.3	494.6	69.0	1531.2	532.3	65.9	1452.9	588.1	62.6	1327.6	607.1	57.2	895.1	444.9	38.5
	440	1695.7	520.5	73.0	1614.9	559.8	69.6	1530.8	634.2	65.9	1365.7	632.7	58.8	936.6	465.5	40.3

LEGEND

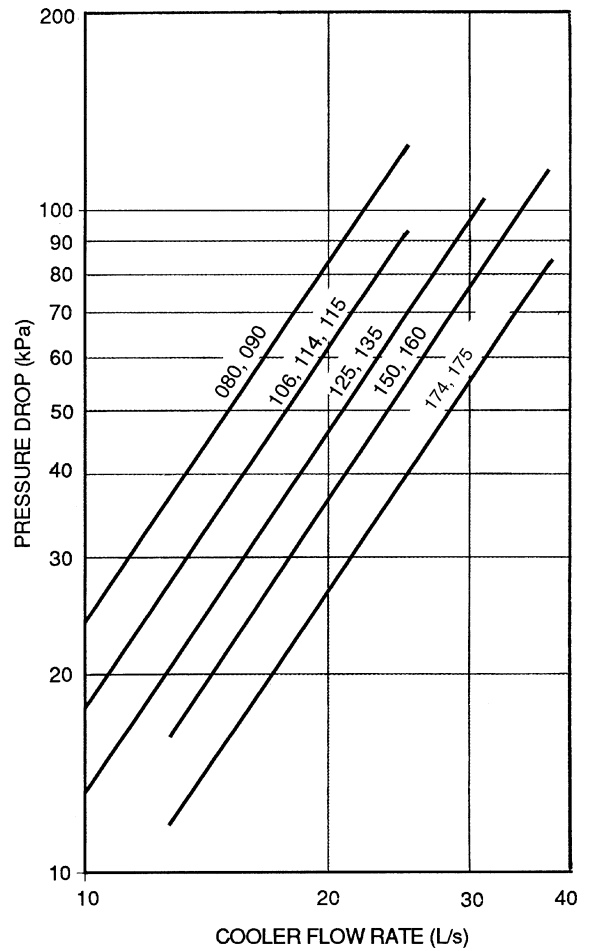
- Cap. — Capacity, kW of Refrigeration
- kW — Compressor Motor Input Power of Rated Voltage
- LCWT — Leaving Chilled Water Temperature (C)

30GXN,R080-175 COOLER PRESSURE DROP — ENGLISH

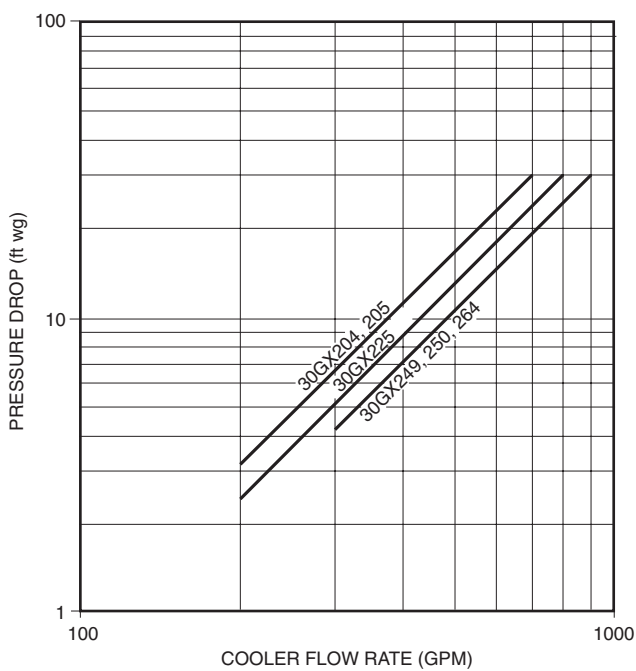


NOTE: Feet of water = 2.31 x change in psig.

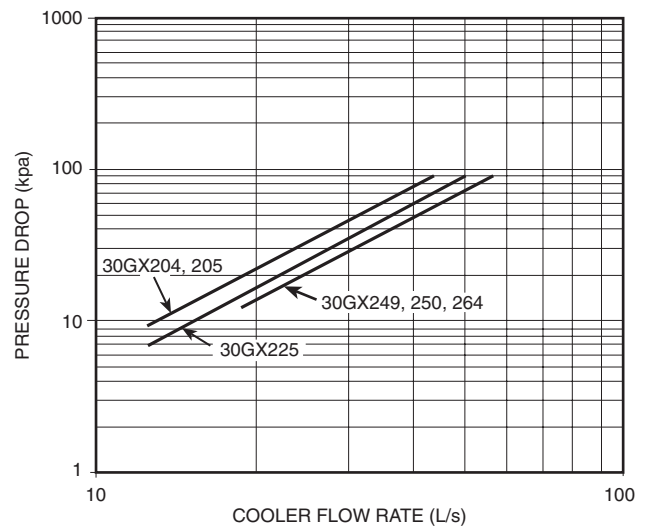
30GXN,R080-175 COOLER PRESSURE DROP — SI



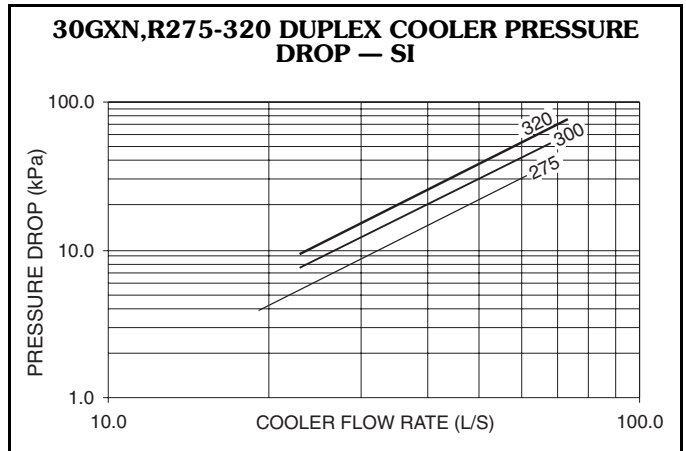
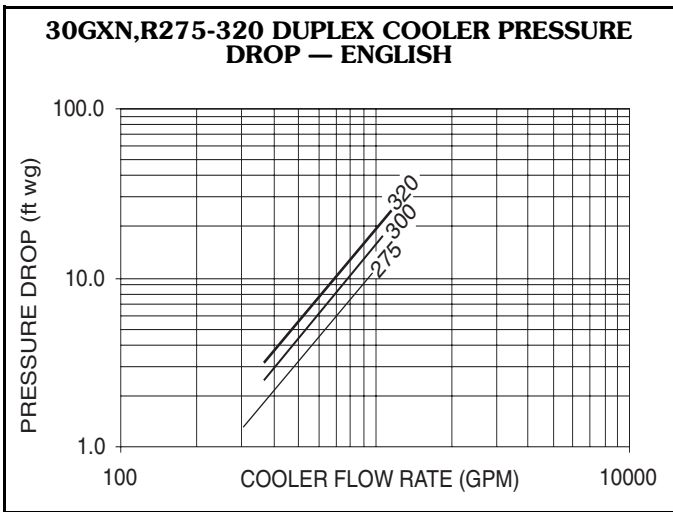
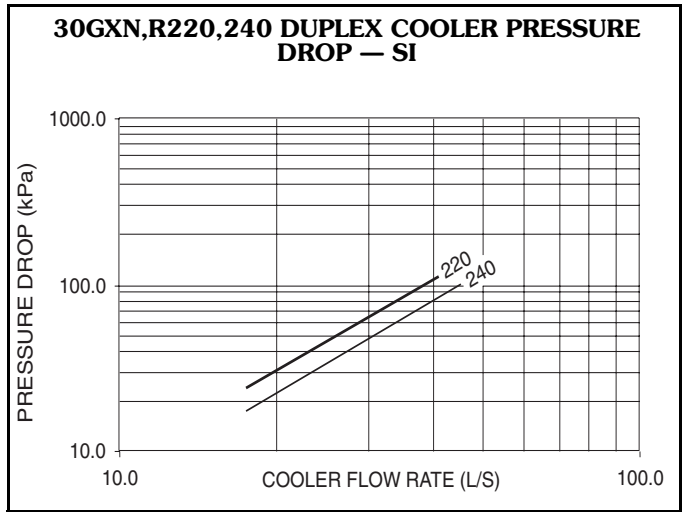
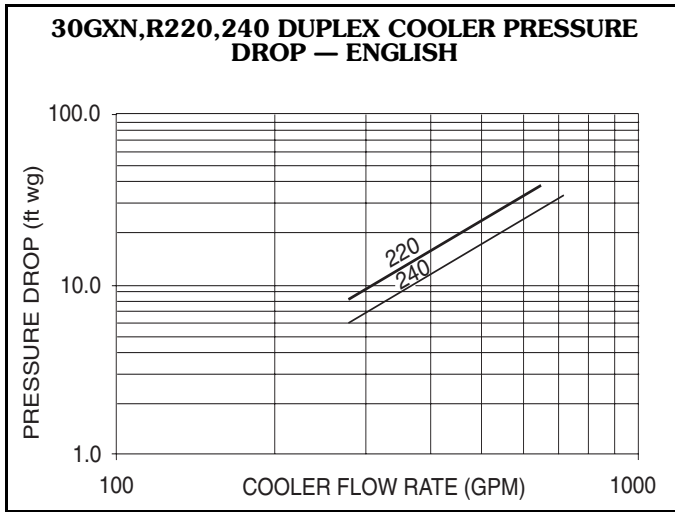
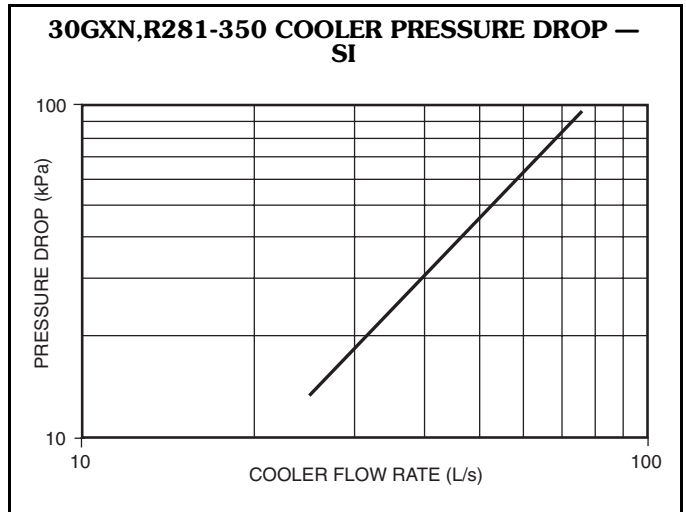
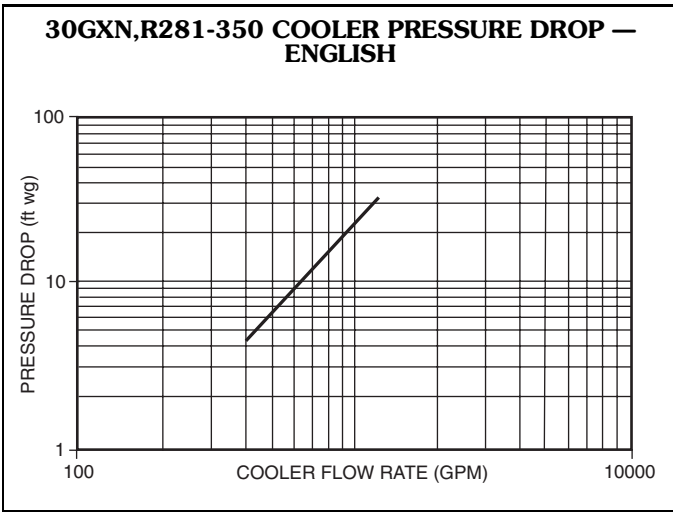
30GXN,R204-264 COOLER PRESSURE DROP — ENGLISH



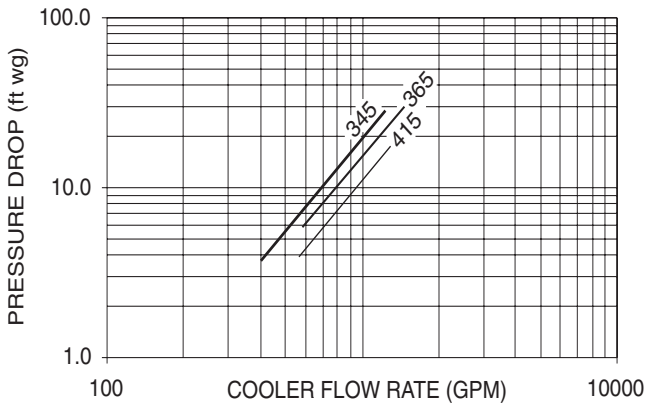
30GXN,R204-264 COOLER PRESSURE DROP — SI



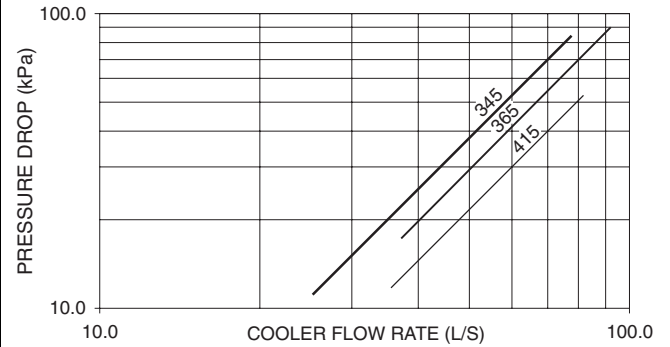
Performance data (cont)



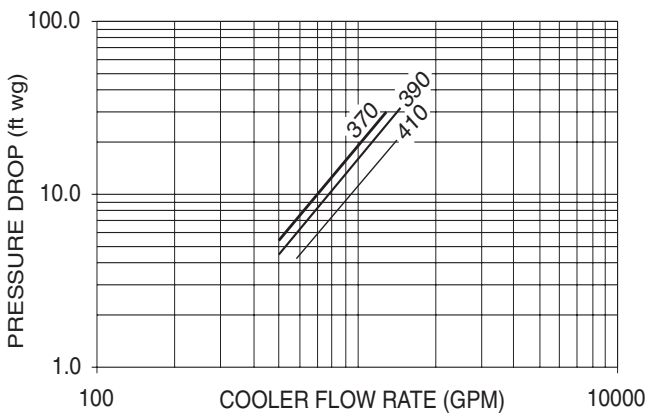
30GXN,R345,365,415 DUPLEX COOLER PRESSURE DROP — ENGLISH



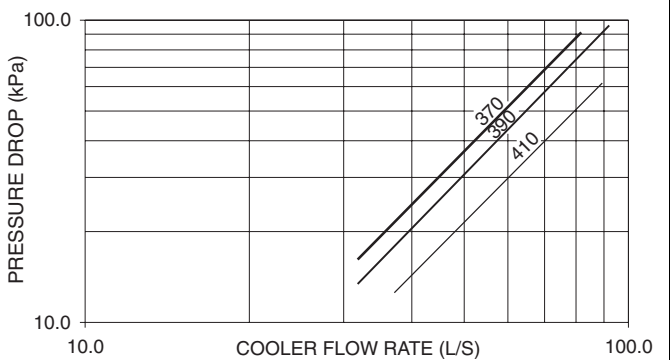
30GXN,R345,365,415 DUPLEX COOLER PRESSURE DROP — SI



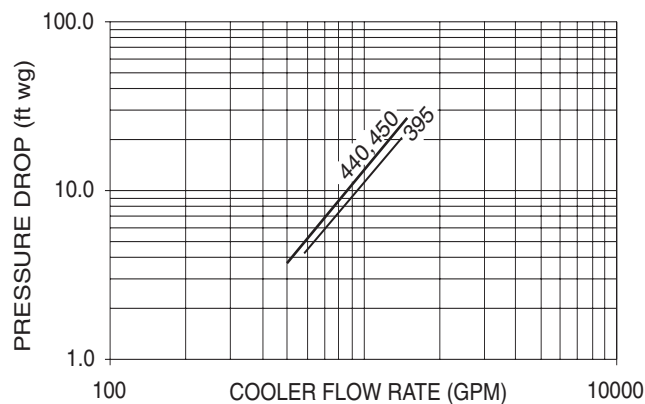
30GXN,R370,390,410 DUPLEX COOLER PRESSURE DROP — ENGLISH



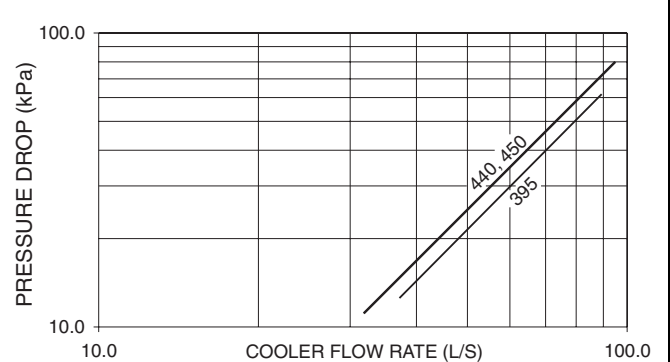
30GXN,R370,390,410 DUPLEX COOLER PRESSURE DROP — SI



30GXN,R395,440,450 DUPLEX COOLER PRESSURE DROP — ENGLISH



30GXN,R395,440,450 DUPLEX COOLER PRESSURE DROP — SI



REDUCED AMBIENT 115 F DATA

UNIT 30GXN,R	UNIT VOLTAGE			POWER SUPPLY QTY. REQ'D	STANDARD CONDENSER FAN						CONTROL CIRCUIT		
	V-Hz (3 Ph)	Supplied			# Power Supply Conductors	MCA	MOCP	ICF		Rec Fuse Size		V-Hz (Single Ph)	MCA and MOCP
		Min	Max					XL	WD	XL	WD		
080	208/230-60	187	253	1	3	356.5	500	*	527.9	*	400	115-60	30
	230-60	207	253	1	3	324.5	450	*	515.1	*	400	115-60	30
	460-60	414	506	1	3	160.9	225	652.6	255.6	200	200	115-60	30
	575-60	518	633	1	3	129.0	175	542.4	205.4	150	150	115-60	30
	380-60	342	418	1	3	195.6	250	729.3	291.3	225	225	230-60	15
	230-50	207	253	1	3	340.6	450	*	510.9	*	400	230-50	15
	380/415-50	342	440	1	3	205.6	250	805.1	316.1	250	250	230-50	15
090	208/230-60	187	253	1	6	406.1	600	*	593.9	*	500	115-60	30
	230-60	207	253	1	3	369.3	500	*	581.1	*	450	115-60	30
	460-60	414	506	1	3	183.2	250	757.6	288.6	225	225	115-60	30
	575-60	518	633	1	3	148.1	200	606.4	231.4	175	175	115-60	30
	380-60	342	418	1	3	222.9	300	845.3	327.3	250	250	230-60	15
	230-50	207	253	1	6	385.5	500	*	581.9	*	450	230-50	15
	380/415-50	342	440	1	3	232.8	300	946.1	360.1	300	300	230-50	15
106	208/230-60	187	253	1	6	482.0	700	*	693.9	*	600	115-60	30
	230-60	207	253	1	6	438.9	600	*	681.1	*	500	115-60	30
	460-60	414	506	1	3	217.3	300	899.4	338.4	250	250	115-60	30
	575-60	518	633	1	3	174.4	250	719.8	270.8	200	200	115-60	30
	380-60	342	418	1	3	264.9	350	1022.5	382.5	300	300	230-60	15
	230-50	207	253	1	6	455.5	600	*	645.6	*	600	230-50	15
	380/415-50	342	440	1	3	274.6	400	1056.6	399.6	350	350	230-50	15
114	208/230-60	187	253	1	6	507.7	700	*	719.6	*	600	115-60	30
	230-60	207	253	1	6	462.0	600	*	704.2	*	600	115-60	30
	460-60	414	506	1	3	228.9	300	911.0	350.0	300	300	115-60	30
	575-60	518	633	1	3	183.4	250	728.8	279.8	225	225	115-60	30
	380-60	342	418	1	3	279.0	400	1016.6	396.6	350	350	230-60	15
115	230-50	207	253	1	6	493.7	700	*	793.7	*	600	230-50	15
	380/415-50	342	440	1	3	297.9	450	1331.5	492.5	350	350	230-50	15
125	208/230-60	187	253	1	6	576.6	800	*	814.6	*	700	115-60	30
	230-60	207	253	1	6	525.4	700	*	795.4	*	600	115-60	30
	460-60	414	506	1	3	260.6	350	1025.1	396.1	300	300	115-60	30
	575-60	518	633	1	3	207.8	300	820.3	317.3	250	250	115-60	30
	380-60	342	418	1	3	316.1	450	1145.6	449.6	400	400	230-60	15
	230-50	207	253	1	6	525.7	700	*	825.7	*	600	230-50	15
	380/415-50	342	440	1	3	317.2	450	1350.8	511.8	400	400	230-50	15

UNIT 30GXN,R	UNIT VOLTAGE			POWER SUPPLY QTY. REQ'D	HIGH-STATIC CONDENSER FAN						CONTROL CIRCUIT		
	V-Hz (3 Ph)	Supplied			# Power Supply Conductors	MCA	MOCP	ICF		Rec Fuse Size		V-Hz (Single Ph)	MCA and MOCP
		Min	Max					XL	WD	XL	WD		
080	208/230-60	187	253	1	6	384.8	500	*	556.2	*	450	115-60	30
	230-60	207	253	1	3	352.8	450	*	543.4	*	400	115-60	30
	460-60	414	506	1	3	172.5	225	664.2	267.2	200	200	115-60	30
	575-60	518	633	1	3	138.9	175	552.3	215.3	175	175	115-60	30
	380-60	342	418	1	3	208.8	250	742.4	304.4	250	250	230-60	15
	230-50	207	253	1	3	367.9	500	*	538.1	*	450	230-50	15
	380/415-50	342	440	1	3	221.7	300	821.2	332.2	250	250	230-50	15
090	208/230-60	187	253	1	6	434.5	600	*	622.2	*	500	115-60	30
	230-60	207	253	1	6	397.7	500	*	609.4	*	450	115-60	30
	460-60	414	506	1	3	194.8	250	769.2	300.2	225	225	115-60	30
	575-60	518	633	1	3	158.1	225	616.3	241.3	200	200	115-60	30
	380-60	342	418	1	3	236.0	300	858.4	340.4	300	300	230-60	15
	230-50	207	253	1	6	412.7	600	*	609.1	*	500	230-50	15
	380/415-50	342	440	1	3	249.0	350	962.2	376.2	300	300	230-50	15
106	208/230-60	187	253	1	6	524.5	700	*	736.4	*	600	115-60	30
	230-60	207	253	1	6	481.4	700	*	723.6	*	600	115-60	30
	460-60	414	506	1	3	234.7	300	916.8	355.8	300	300	115-60	30
	575-60	518	633	1	3	189.3	250	734.7	285.7	225	225	115-60	30
	380-60	342	418	1	3	284.6	400	1022.2	402.2	350	350	230-60	15
	230-50	207	253	1	6	496.4	700	*	686.5	*	600	230-50	15
	380/415-50	342	440	1	3	298.8	400	1080.8	423.8	350	350	230-50	15
114	208/230-60	187	253	1	6	550.2	700	*	762.1	*	700	115-60	30
	230-60	207	253	1	6	504.5	700	*	746.7	*	600	115-60	30
	460-60	414	506	1	3	246.3	350	928.4	367.4	300	300	115-60	30
	575-60	518	633	1	3	198.3	250	743.7	294.7	225	225	115-60	30
	380-60	342	418	1	3	298.7	400	1036.3	416.3	350	350	230-60	15
115	230-50	207	253	1	6	534.6	700	*	834.6	*	600	230-50	15
	380/415-50	342	440	1	3	322.1	450	1355.7	516.7	400	400	230-50	15
125	208/230-60	187	253	1	6	619.1	800	*	857.1	*	700	115-60	30
	230-60	207	253	1	6	567.9	800	*	837.9	*	700	115-60	30
	460-60	414	506	1	3	278.0	400	1042.5	413.5	350	350	115-60	30
	575-60	518	633	1	3	222.7	300	835.2	332.2	250	250	115-60	30
	380-60	342	418	1	3	335.8	450	1165.3	469.3	400	400	230-60	15
	230-50	207	253	1	6	566.6	800	*	866.6	*	700	230-50	15
	380/415-50	342	440	1	3	341.4	450	1375.0	536.0	400	400	230-50	15

LEGEND

- ICF — Maximum Instantaneous Current Flow
- MCA — Minimum Circuit Ampacity (for wire sizing)
- MOCP — Maximum Overcurrent Protection
- Rec Fuse Size — Recommended Dual-Element Fuse Amps (150% of largest compressor rated load amps [RLA] plus 100% of remaining compressor RLAs and sum of condenser fan full load amps [FLAs]. Choose next largest standard fuse size.)
- WD — Wye-Delta Start
- XL — Across-the-Line Start

*Wye-delta start is standard. Across-the-line start is not available.

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. Cooler heater, oil heater, and control circuit power must be supplied from a separate source through a field-supplied disconnect. The control circuit power transformer accessory may be applied to power from the main unit power supply.
3. Maximum incoming wire size for each terminal block is 500 kcmil. The maximum current carrying capacity of 500 kcmil copper wire at 75° C (167° F) is 380 amps.
4. Maximum allowable phase imbalance is voltage 2%, amps 5%.





HIGH AMBIENT 125 F DATA

Table with columns: UNIT 30GXN,R, UNIT VOLTAGE (V-Hz (3 Ph), Supplied), POWER SUPPLY QTY. REQ'D, STANDARD CONDENSER FAN (# Power Supply Conductors, MCA, MOCP, ICF, Rec Fuse Size), CONTROL CIRCUIT (V-Hz (Single Ph), MCA and MOCP**).

LEGEND

- ICF — Maximum Instantaneous Current Flow
MCA — Minimum Circuit Ampacity (for wire sizing)
MOCP — Maximum Overcurrent Protection
Rec Fuse Size — Recommended Dual-Element Fuse Amps (150% of largest compressor rated load amps [RLA] plus 100% of remaining compressor RLAs and sum of condenser fan full load amps [FLAs]. Choose next largest standard fuse size.)
WD — Wye-Delta Start
XL — Across-the-Line Start

*Circuit A/Circuit B.
†Wye-delta start is standard. Across-the-line start is not available.
**Amperages in () are for units with cooler heaters installed.

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. Cooler heater, oil heater, and control circuit power must be supplied from a separate source through a field-supplied disconnect. The control circuit power transformer accessory may be applied to power from the main unit power supply.
3. Maximum incoming wire size for each terminal block is 500 kcmil. The maximum current carrying capacity of 500 kcmil copper wire at 75° C (167° F) is 380 amps.
4. Maximum allowable phase imbalance is voltage 2%, amps 5%.



Electrical data (cont)



HIGH AMBIENT 125 F DATA (cont)

UNIT 30GXN,R	UNIT VOLTAGE			POWER SUPPLY QTY. REQD	STANDARD CONDENSER FAN						CONTROL CIRCUIT		
	V-Hz (3 Ph)	Supplied			# Power Supply Conductors	MCA	MOCP	ICF		Rec Fuse Size		V-Hz (Single Ph)	MCA and MOCP**
		Min	Max					XL	WD	XL	WD		
225	208/230-60	187	253	2	12	609/483*	800/800*	†	934.1/808.0*	†	700/600*	115-60	30 (50)
	230-60	207	253	2	12	550/443*	800/700*	†	914.8/808.0*	†	500	115-60	30 (50)
	460-60	414	506	1	6	458	600	1444.2	640.2	500	500	115-60	30 (50)
	575-60	518	633	1	3	366	450	1154.9	511.9	400	400	115-60	30 (50)
	380-60	342	418	1	6	559	700	1628.8	739.8	700	700	230-60	15 (25)
	230-50	207	253	2	12	568/466*	800/700*	†	815.0/713.0*	†	700/600*	230-50	15 (25)
380/415-50	342	440	1	6	563	700	1592.7	727.7	700	700	230-50	15 (25)	
249	208/230-60	187	253	2	12	753/421*	1000/600*	†	1077.7/659.0*	†	800/500*	115-60	30 (50)
	230-60	207	253	2	12	681/389*	800/600*	†	1045.6/659.0	†	600	115-60	30 (50)
	460-60	414	506	1	6	503	600	1489.1	685.1	600	600	115-60	30 (50)
	575-60	518	633	1	6	400	500	1189.4	546.4	450	450	115-60	30 (50)
	380-60	342	418	1	6	612	700	1681.8	792.8	700	700	230-60	15 (25)
	230-50	207	253	2	12	646/481*	800/700*	†	931.9/728.0*	†	800/600*	230-50	15 (25)
380/415-50	342	440	1	6	617	800	1646.6	803.2	700	700	230-50	15 (25)	
264	208/230-60	187	253	2	12	753/496*	1000/800*	†	1077.7/821.0*	†	800/600*	115-60	30 (50)
	230-60	207	253	2	12	681/456*	800/700*	†	1045.6/821.0*	†	600	115-60	30 (50)
	460-60	414	506	1	6	530	600	1516.0	712.0	600	600	115-60	30 (50)
	575-60	518	633	1	6	422	500	1211.2	568.2	500	500	115-60	30 (50)
	380-60	342	418	1	6	645	800	1715.2	826.2	700	700	230-60	15 (25)
	230-50	207	253	2	12	704/481*	1000/700*	†	950.9/728.0*	†	800/600*	230-50	15 (25)
380/415-50	342	440	1	6	652	800	1681.2	816.2	700	700	230-50	15 (25)	
281	460-60	414	506	1	6	563	700	1549.3	745.3	700	700	115-60	30 (50)
	575-60	518	633	1	6	450	500	1239.2	596.2	500	500	115-50	30 (50)
	380-60	342	418	1	6	689	800	1758.7	869.7	800	800	230-60	15 (25)
	380/415-50	342	440	1	6	689	800	1718.8	853.6	800	800	230-50	15 (25)
301	460-60	414	506	1	6	597	700	1582.7	778.7	700	700	115-60	30 (50)
	575-60	518	633	1	6	476	500	1264.8	621.8	600	600	115-50	30 (50)
	380-60	342	418	2	9	354/420*	500/600*	1423.4/1489.3*	534.4/600.3*	400/500*	400/500*	230-60	15 (25)
	380/415-50	342	440	2	9	365/417*	500/600*	1394.5/1446.7*	529.5/581.7*	450/500*	450/500*	230-50	15 (25)
325	460-60	414	506	1	6	640	700	1626.3	822.3	700	700	115-60	30 (50)
	575-60	518	633	1	6	509	600	1298.2	655.2	600	600	115-50	30 (50)
	380-60	342	418	2	9	379/445*	500/600*	1449.0/1514.9*	560.0/625.9*	450/500*	450/500*	230-60	15 (25)
	380/415-50	342	440	2	12	390/442*	500/600*	1418.9/1471.1*	553.9/606.1*	450/500*	450/500*	230-50	15 (25)
350	460-60	414	506	1	6	694	800	1680.1	876.1	800	800	115-60	30 (50)
	575-60	518	633	1	6	553	600	1341.8	698.8	600	600	115-50	30 (50)
	380-60	342	418	2	12	413/479*	500/600*	1482.4/1548.3*	593.4/659.3*	500/600*	500/600*	230-60	15 (25)
	380/415-50	342	440	2	12	424/476*	600/600*	1453.5/1505.7*	588.5/640.7*	500/600*	500/600*	230-50	15 (25)

LEGEND

- ICF — Maximum Instantaneous Current Flow
- MCA — Minimum Circuit Ampacity (for wire sizing)
- MOCP — Maximum Overcurrent Protection
- Rec Fuse Size — Recommended Dual-Element Fuse Amps (150% of largest compressor rated load amps [RLA] plus 100% of remaining compressor RLAs and sum of condenser fan full load amps [FLAs]. Choose next largest standard fuse size.)
- WD — Wye-Delta Start
- XL — Across-the-Line Start

*Circuit A/Circuit B.

†Wye-delta start is standard. Across-the-line start is not available.

**Amperages in () are for units with cooler heaters installed.

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. Cooler heater, oil heater, and control circuit power must be supplied from a separate source through a field-supplied disconnect. The control circuit power transformer accessory may be applied to power from the main unit power supply.
3. Maximum incoming wire size for each terminal block is 500 kcmil. The maximum current carrying capacity of 500 kcmil copper wire at 75° C (167° F) is 380 amps.
4. Maximum allowable phase imbalance is voltage 2%, amps 5%.





HIGH AMBIENT 125 F DATA (cont) DUPLIX UNITS

UNIT 30GXN,R	UNIT VOLTAGE				POWER SUPPLY QTY. REQ'D	STANDARD CONDENSER FAN						CONTROL CIRCUIT	
	V-Hz (3 Ph)	Supplied		# Power Supply Conductors		MCA	MOCP	ICF		Rec Fuse Size		V-Hz (Single Ph)	MCA and MOCP**
		Min	Max					XL	WD	XL	WD		
220B	230-50	207	253	1	6	400.5	500	†	585.7	†	450	230-50	15
	380/415-50	342	440	1	3	241.7	350	948.6	362.6	300	300	230-50	15
240B	230-50	207	253	1	6	497.5	700	†	797.5	†	600	230-50	15
	380/415-50	342	440	1	3	300.5	450	1334.1	495.1	350	350	230-50	15
220A, 240A	230-50	207	253	1	6	528.3	700	†	828.3	†	600	230-50	15
	380/415-50	342	440	1	3	318.5	450	1352.1	513.1	400	400	230-50	15
275A/B, 300B, 365B, 395B	230-50	207	253	1	6	559.0	800	†	859.0	†	700	230-50	15
	380/415-50	342	440	1	3	341.5	450	1375.1	536.1	400	400	230-50	15
370B	208/230-60	187	253	2	9	343.9/418.4*	500/700*	†	578.2/743.0*	†	450/600*	115-60	30
	230-60	207	253	1	6	643.6	800	†	1008.4	†	800	115-60	30
	460-60	414	506	1	3	318.9	450	1034.8	500.8	400	400	115-60	30
	575-60	518	633	1	3	254.6	350	1043.9	400.9	300	300	115-60	30
	380-60	342	418	1	6	386.6	500	1456.3	567.3	450	450	230-60	15
300A, 320A/B, 415B	230-50	207	253	1	6	689.5	1000	†	936.3	†	800	230-50	15
	380/415-50	342	440	1	6	415.7	600	1445.0	580.0	500	500	230-50	15
345A/B	230-50	207	253	2	12	445.0/391.1*	700/700*	†	691.9/638.0*	†	600/500*	230-50	15
	380/415-50	342	440	1	6	456.8	600	1486.2	621.2	600	600	230-50	15
410B	230-50	207	253	2	12	465/466*	700/700*	†	765.2/713.0*	†	600/600*	230-50	15 (25)
	380-415-50	342	440	1	6	511	600	1540.1	696.7	600	600	230-50	15 (25)
370A, 450A/B	208/230-60	187	253	2	12	609/483*	800/800*	†	934.1/808.0*	†	700/600*	115-60	30 (50)
	230-60	207	253	2	12	550/443*	800/700*	†	914.8/808.0*	†	500	115-60	30 (50)
	460-60	414	506	1	6	458	600	1444.2	640.2	500	500	115-60	30 (50)
	575-60	518	633	1	3	366	450	1154.9	511.9	400	400	115-60	30 (50)
	380-60	342	418	1	6	559	700	1628.8	739.8	700	700	230-60	15 (25)
410A, 440A/B	230-50	207	253	2	12	568/466*	800/700*	†	815.0/713.0*	†	700/600*	230-50	15 (25)
	380/415-50	342	440	1	6	563	700	1592.7	727.7	700	700	230-50	15 (25)
390A, 415A	208/230-60	187	253	2	12	753/496*	1000/800*	†	1077.7/821.0*	†	800/600*	115-60	30 (50)
	230-60	207	253	2	12	681/456*	800/700*	†	1045.6/821.0*	†	600	115-60	30 (50)
	460-60	414	506	1	6	530	600	1516.0	712.0	600	600	115-60	30 (50)
	575-60	518	633	1	6	422	500	1211.2	568.2	500	500	115-60	30 (50)
	380-60	342	418	1	6	645	800	1715.2	826.2	700	700	230-60	15 (25)
365A	230-50	207	253	2	12	646/481*	800/700*	†	931.9/728.0*	†	800/600*	230-50	15 (25)
	380/415-50	342	440	1	6	617	800	1646.6	8032	700	700	230-50	15 (25)
395A	230-50	207	253	2	12	704/481*	1000/700*	†	950.9/728.0*	†	800/600*	230-50	15 (25)
	380/415-50	342	440	1	6	652	800	1681.2	816.2	700	700	230-50	15 (25)

LEGEND

- ICF — Maximum Instantaneous Current Flow
- MCA — Minimum Circuit Ampacity (for wire sizing)
- MOCP — Maximum Overcurrent Protection
- Rec Fuse Size — Recommended Dual-Element Fuse Amps (150% of largest compressor rated load amps [RLA] plus 100% of remaining compressor RLAs and sum of condenser fan full load amps [FLAs]. Choose next largest standard fuse size.)
- WD — Wye-Delta Start
- XL — Cross-the-Line Start

*Circuit A/Circuit B.

†Wye-delta start is standard. Cross-the-line start is not available.

**Amperages in () are for units with cooler heaters installed.

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. Cooler heater, oil heater, and control circuit power must be supplied from a separate source through a field-supplied disconnect. The control circuit power transformer accessory may be applied to power from the main unit power supply.
3. Maximum incoming wire size for each terminal block is 500 kcmil. The maximum current carrying capacity of 500 kcmil copper wire at 75° C (167° F) is 380 amps.
4. Maximum allowable phase imbalance is voltage 2%, amps 5%.



Electrical data (cont)



HIGH AMBIENT 125 F DATA (cont)

UNIT 30GXN,R	UNIT VOLTAGE		POWER SUPPLY QTY. REQD	HIGH-STATIC CONDENSER FAN						CONTROL CIRCUIT			
	V-Hz (3 Ph)	Supplied		# Power Supply Conductors	MCA	MOCP	ICF		Rec Fuse Size		V-Hz (Single Ph)	MCA and MOCP**	
		Min					Max	XL	WD	XL			WD
080	208/230-60	187	253	1	6	402.4	500	†	562.6	†	450	115-60	30
	230-60	207	253	1	3	367.5	500	†	548.5	†	450	115-60	30
	460-60	414	506	1	3	179.8	250	666.8	269.8	200	200	115-60	30
	575-60	518	633	1	3	146.2	200	554.8	217.8	175	175	115-60	30
	380-60	342	418	1	3	219.2	300	746.3	308.3	250	250	230-60	15
	230-50	207	253	1	3	379.7	500	†	541.9	†	450	230-50	15
380/415-50	342	440	1	3	229.0	300	823.7	334.7	300	300	230-50	15	
090	208/230-60	187	253	1	6	447.2	600	†	628.6	†	500	115-60	30
	230-60	207	253	1	6	412.4	500	†	614.5	†	500	115-60	30
	460-60	414	506	1	3	202.3	250	771.8	302.8	250	250	115-60	30
	575-60	518	633	1	3	163.8	225	618.8	243.8	200	200	115-60	30
	380-60	342	418	1	3	246.4	350	862.3	344.3	300	300	230-60	15
	230-50	207	253	1	6	427.8	600	†	612.9	†	500	230-50	15
380/415-50	342	440	1	3	257.8	350	964.7	378.7	300	300	230-50	15	
106	208/230-60	187	253	1	6	532.6	700	†	742.8	†	600	115-60	30
	230-60	207	253	1	6	489.6	700	†	728.7	†	600	115-60	30
	460-60	414	506	1	3	238.9	350	919.4	358.4	300	300	115-60	30
	575-60	518	633	1	3	193.5	250	737.2	288.2	225	225	115-60	30
	380-60	342	418	1	3	290.0	400	1026.1	406.1	350	350	230-60	15
	230-50	207	253	1	6	503.4	700	†	690.3	†	600	230-50	15
380/415-50	342	440	1	3	302.8	400	1083.3	426.3	350	350	230-50	15	
114	208/230-60	187	253	1	6	560.8	800	†	771.0	†	700	115-60	30
	230-60	207	253	1	6	515.3	700	†	754.4	†	600	115-60	30
	460-60	414	506	1	3	251.7	350	932.2	371.2	300	300	115-60	30
	575-60	518	633	1	3	203.8	250	747.5	298.5	250	250	115-60	30
	380-60	342	418	1	3	350.4	400	1041.5	421.5	350	350	230-60	15
	230-50	207	253	1	6	538.4	700	†	838.4	†	700	230-50	15
380/415-50	342	440	1	3	324.7	450	1358.3	519.3	400	400	230-50	15	
125	208/230-60	187	253	1	6	621.7	800	†	859.7	†	700	115-60	30
	230-60	207	253	1	6	570.4	800	†	840.4	†	700	115-60	30
	460-60	414	506	1	3	279.2	400	1043.7	414.7	350	350	115-60	30
	575-60	518	633	1	3	224.0	300	836.5	333.5	250	250	115-60	30
	380-60	342	418	1	3	337.1	450	1166.6	470.5	400	400	230-60	15
	230-50	207	253	1	6	569.2	800	†	869.2	†	700	230-50	15
380/415-50	342	440	1	3	342.7	450	1376.3	537.3	400	400	230-50	15	
135	208/230-60	187	253	1	6	657.6	800	†	895.6	†	800	115-60	30
	230-60	207	253	1	6	603.8	800	†	873.8	†	700	115-60	30
	460-60	414	506	1	3	295.9	400	1060.4	431.4	350	350	115-60	30
	575-60	518	633	1	3	236.8	300	849.3	346.3	300	300	115-60	30
	380-60	342	418	1	3	356.3	500	1185.8	489.8	400	400	230-60	15
	230-50	207	253	1	6	599.9	800	†	859.0	†	700	230-50	15
380/415-50	342	440	1	3	365.7	500	1399.3	560.3	450	450	230-50	15	
150	208/230-60	187	253	2	12	400.6/418*	600/500*	†	634.8/743.0*	†	500/600*	115-60	30
	230-60	207	253	1	6	700.3	1000	†	1065.0	†	800	115-60	30
	460-60	414	506	1	3	342.1	450	1328.0	524.0	400	400	115-60	30
	575-60	518	633	1	3	274.5	350	1063.7	420.7	350	350	115-60	30
	380-60	342	418	1	6	412.9	500	1482.6	593.6	500	500	230-60	15
	230-50	207	253	1	6	659.9	800	†	955.1	†	800	230-50	15
380/415-50	342	440	1	6	399.1	500	1428.0	589.0	450	450	230-50	15	
160	208/230-60	187	253	2	12	459.8/418*	700/600*	†	697.8/743.0*	†	600/600*	115-60	30
	230-60	207	253	1	6	743.9	1000	†	1108.6	†	1000	115-60	30
	460-60	414	506	1	3	363.9	500	1349.8	545.8	450	450	115-60	30
	575-60	518	633	1	3	291.2	400	1080.4	437.4	350	350	115-60	30
	380-60	342	418	1	6	438.5	600	1508.2	619.2	500	500	230-60	15
	230-50	207	253	1	6	743.9	1000	†	990.8	†	1000	230-50	15
380/415-50	342	440	1	6	448.0	600	1477.3	612.3	500	500	230-50	15	
174	208/230-60	187	253	2	12	564.4/418*	800/700*	†	889.0/743.0*	†	700/600*	115-60	30
	230-60	207	253	2	9	524.3/378*	800/600*	†	889.0/743.0*	†	600/500*	115-60	30
	460-60	414	506	1	6	403.4	500	1389.3	585.3	450	450	115-60	30
	575-60	518	633	1	3	323.4	400	1112.6	469.6	400	400	115-60	30
	380-60	342	418	1	6	486.7	600	1556.4	667.4	600	600	230-60	15
	230-50	207	253	2	12	531.1/391*	800/600*	†	760.0/638.0*	†	600/500*	230-50	15
380/415-50	342	440	1	6	497.2	600	1526.5	661.5	600	600	230-50	15	
204	208/230-60	187	253	2	12	580/489*	800/700*	†	904.6/727.0*	†	700/600*	115-60	30 (50)
	230-60	207	253	2	12	524/457*	800/700*	†	889.2/727.0*	†	500	115-60	30 (50)
	460-60	414	506	1	6	450	600	1435.5	631.5	500	500	115-60	30 (50)
	575-60	518	633	1	3	359	450	1148.5	505.5	400	400	115-60	30 (50)
	380-60	342	418	1	6	540	700	1610.2	721.2	600	600	230-60	15 (25)
	230-50	207	253	2	12	465/513*	700/800*	†	765.2/760.0*	†	600/600*	230-50	15 (25)
380-415-50	342	440	1	6	551	700	1580.4	737.1	600	600	230-50	15 (25)	

LEGEND

- ICF — Maximum Instantaneous Current Flow
- MCA — Minimum Circuit Ampacity (for wire sizing)
- MOCP — Maximum Overcurrent Protection
- Rec Fuse Size — Recommended Dual-Element Fuse Amps (150% of largest compressor rated load amps [RLA] plus 100% of remaining compressor RLAs and sum of condenser fan full load amps [FLAs]. Choose next largest standard fuse size.)
- WD — Wye-Delta Start
- XL — Across-the-Line Start

*Circuit A/Circuit B.
†Wye-delta start is standard. Across-the-line start is not available.
**Amperages in () are for units with cooler heaters installed.

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. Cooler heater, oil heater, and control circuit power must be supplied from a separate source through a field-supplied disconnect. The control circuit power transformer accessory may be applied to power from the main unit power supply.
3. Maximum incoming wire size for each terminal block is 500 kcmil. The maximum current carrying capacity of 500 kcmil copper wire at 75° C (167° F) is 380 amps.
4. Maximum allowable phase imbalance is voltage 2%, amps 5%.





HIGH AMBIENT 125 F DATA (cont)

UNIT 30GXN,R	UNIT VOLTAGE				POWER SUPPLY QTY. REQD	HIGH-STATIC CONDENSER FAN						CONTROL CIRCUIT	
	V-Hz (3 Ph)	Supplied		# Power Supply Conductors		MCA	MOCP	ICF		Rec Fuse Size		V-Hz (Single Ph)	MCA and MOCP**
		Min	Max					XL	WD	XL	WD		
225	208/230-60	187	253	2	12	609/564*	800/800*	†	934.1/889.0*	†	700/600*	115-60	30 (50)
	230-60	207	253	2	12	550/524*	800/800*	†	914.8/889.0*	†	600	115-60	30 (50)
	460-60	414	506	1	6	489	600	1475.2	671.2	600	600	115-60	30 (50)
	575-60	518	633	1	6	393	500	1181.9	538.9	450	450	115-60	30 (50)
	380-60	342	418	1	6	592	700	1661.6	772.6	700	700	230-60	15 (25)
	230-50	207	253	2	12	568/513*	800/800*	†	815.0/760.0*	†	700/600*	230-50	15 (25)
380/415-50	342	440	1	6	604	700	1633.1	768.1	700	700	230-50	15 (25)	
249	208/230-60	187	253	2	12	753/518*	1000/700*	†	1077.7/756.2*	†	800/600*	115-60	30 (50)
	230-60	207	253	2	12	681/486*	800/700*	†	1045.6/756.2*	†	600	115-60	30 (50)
	460-60	414	506	1	6	540	600	1526.3	722.3	600	600	115-60	30 (50)
	575-60	518	633	1	6	433	500	1221.8	578.8	500	500	115-60	30 (50)
	380-60	342	418	1	6	651	800	1721.2	832.2	700	700	230-60	15 (25)
250	230-50	207	253	2	12	646/538*	800/800*	†	931.9/784.4*	†	800/700*	230-50	15 (25)
	380/415-50	342	440	1	6	666	800	1695.0	851.7	800	800	230-50	15 (25)
264	208/230-60	187	253	2	12	753/594*	1000/800*	†	1077.7/918.2*	†	800/700*	115-60	30 (50)
	230-60	207	253	2	12	681/553*	800/800*	†	1045.6/918.2*	†	700	115-60	30 (50)
	460-60	414	506	1	6	567	700	1553.2	749.2	700	700	115-60	30 (50)
	575-60	518	633	1	6	454	500	1243.6	600.6	500	500	115-60	30 (50)
	380-60	342	418	1	6	685	800	1754.6	865.6	800	800	230-60	15 (25)
	230-50	207	253	2	12	704/538*	1000/800*	†	950.9/784.4*	†	800/700*	230-50	15 (25)
380/415-50	342	440	1	6	700	800	1729.7	864.7	800	800	230-50	15 (25)	
281	460-60	414	506	1	6	613	700	1598.9	794.9	700	700	115-60	30 (50)
	575-60	518	633	1	6	493	600	1282.4	639.4	600	600	115-60	30 (50)
	380-60	342	418	1	6	741	800	1811.2	922.2	800	800	230-60	15 (25)
	380/415-50	342	440	1	6	754	800	1783.4	918.4	1000	1000	230-50	15 (25)
301	460-60	414	506	1	6	646	700	1632.3	828.3	700	700	115-60	30 (50)
	575-60	518	633	1	6	519	600	1308.0	665.0	600	600	115-60	30 (50)
	380-60	342	418	2	9	354/472*	500/600*	1423.4/1541.8*	534.4/652.8*	400/600*	400/600*	230-60	15 (25)
	380/415-50	342	440	2	9	365/482*	500/600*	1394.5/1511.3*	529.5/646.3*	450/600*	450/600*	230-50	15 (25)
325	460-60	414	506	1	6	539	600	1675.9	871.9	600	600	115-60	30 (50)
	575-60	518	633	1	6	432	500	1341.4	698.4	500	500	115-60	30 (50)
	380-60	342	418	2	9	379/498*	500/600*	1449.0/1567.4*	560.0/678.4*	450/600*	450/600*	230-60	15 (25)
	380/415-50	342	440	2	12	390/506*	500/600*	1418.9/1535.7*	553.9/670.7*	450/600*	450/600*	230-50	15 (25)
350	460-60	414	506	1	6	744	800	1729.7	925.7	800	800	115-60	30 (50)
	575-60	518	633	1	6	596	700	1385.0	742.0	700	700	115-60	30 (50)
	380-60	342	418	2	12	413/531*	500/700*	1482.4/1600.8*	593.4/711.8*	500/600*	500/600*	230-60	15 (25)
	380/415-50	342	440	2	12	424/541*	600/700*	1453.5/1570.3*	588.5/705.3*	500/600*	500/600*	230-50	15 (25)

LEGEND

- ICF — Maximum Instantaneous Current Flow
- MCA — Minimum Circuit Ampacity (for wire sizing)
- MOCP — Maximum Overcurrent Protection
- Rec Fuse Size — Recommended Dual-Element Fuse Amps (150% of largest compressor rated load amps [RLA] plus 100% of remaining compressor RLAs and sum of condenser fan full load amps [FLAs]. Choose next largest standard fuse size.)
- WD — Wye-Delta Start
- XL — Across-the-Line Start

*Circuit A/Circuit B.

†Wye-delta start is standard. Across-the-line start is not available.

**Amperages in () are for units with cooler heaters installed.

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. Cooler heater, oil heater, and control circuit power must be supplied from a separate source through a field-supplied disconnect. The control circuit power transformer accessory may be applied to power from the main unit power supply.
3. Maximum incoming wire size for each terminal block is 500 kcmil. The maximum current carrying capacity of 500 kcmil copper wire at 75° C (167° F) is 380 amps.
4. Maximum allowable phase imbalance is voltage 2%, amps 5%.



Electrical data (cont)



HIGH AMBIENT 125 F DATA (cont) DUPLIX UNITS

UNIT 30GXN,R	UNIT VOLTAGE			POWER SUPPLY QTY. REQD	HIGH-STATIC CONDENSER FAN								CONTROL CIRCUIT	
	V-Hz (3 Ph)	Supplied			# Power Supply Conductors	MCA	MOCP	ICF		Rec Fuse Size		V-Hz (Single Ph)	MCA and MOCP**	
		Min	Max					XL	WD	XL	WD			
220B	230-50	207	253	1	6	427.8	600	†	612.9	†	500	230-50	15	
	380/415-50	342	440	1	3	257.8	350	964.7	378.7	300	300	230-50	15	
240B	230-50	207	253	1	6	538.4	700	†	838.4	†	700	230-50	15	
	380/415-50	342	440	1	3	324.7	450	1358.3	519.3	400	400	230-50	15	
220A, 240A	230-50	207	253	1	6	569.2	800	†	869.2	†	700	230-50	15	
	380/415-50	342	440	1	3	342.7	450	1376.3	537.3	400	400	230-50	15	
390B	208/230-60	187	253	1	6	657.6	800	†	895.6	†	800	115-60	30	
	230-60	207	253	1	6	603.8	800	†	873.8	†	700	115-60	30	
	460-60	414	506	1	3	295.9	400	1060.4	431.4	350	350	115-60	30	
	575-60	518	633	1	3	236.8	300	849.3	346.3	300	300	115-60	30	
	380-60	342	418	1	3	356.3	500	1185.8	489.8	400	400	230-60	15	
370B	208/230-60	187	253	2	12	400.6/418*	600/500*	†	634.8/743.0*	†	500/600*	115-60	30	
	230-60	207	253	1	6	700.3	1000	†	1065.0	†	800	115-60	30	
	460-60	414	506	1	3	342.1	450	1328.0	524.0	400	400	115-60	30	
	575-60	518	633	1	3	274.5	350	1063.7	420.7	350	350	115-60	30	
	380-60	342	418	1	6	412.9	500	1482.6	593.6	500	500	230-60	15	
300A, 320A/B, 415B	230-50	207	253	1	6	743.9	1000	†	990.8	†	1000	230-50	15	
	380/415-50	342	440	1	6	448.0	600	1477.3	612.3	500	500	230-50	15	
345A/B	230-50	207	253	2	12	531.1/391*	800/600*	†	760.0/638.0*	†	600/500*	230-50	15	
	380/415-50	342	440	1	6	497.2	600	1526.5	661.5	600	600	230-50	15	
410B	230-50	207	253	2	12	465/513*	700/800*	†	765.2/760.0*	†	600/600*	230-50	15 (25)	
	380-415-50	342	440	1	6	551	700	1580.4	737.1	600	600	230-50	15 (25)	
370A, 450A/B	208/230-60	187	253	2	12	609/564*	800/800*	†	934.1/889.0*	†	700/600*	115-60	30 (50)	
	230-60	207	253	2	12	550/524*	800/800*	†	914.8/889.0*	†	600	115-60	30 (50)	
	460-60	414	506	1	6	489	600	1475.2	671.2	600	600	115-60	30 (50)	
	575-60	518	633	1	6	393	500	1181.9	538.9	450	450	115-60	30 (50)	
	380-60	342	418	1	6	592	700	1661.6	772.6	700	700	230-60	15 (25)	
410A, 440A/B	230-50	207	253	2	12	568/513*	800/800*	†	815.0/760.0*	†	700/600*	230-50	15 (25)	
	380/415-50	342	440	1	6	604	700	1633.1	768.1	700	700	230-50	15 (25)	
390A, 415A	208/230-60	187	253	2	12	753/594*	1000/800*	†	1077.7/918.2*	†	800/700*	115-60	30 (50)	
	230-60	207	253	2	12	681/553*	800/800*	†	1045.6/918.2*	†	700	115-60	30 (50)	
	460-60	414	506	1	6	567	700	1553.2	749.2	700	700	115-60	30 (50)	
	575-60	518	633	1	6	454	500	1243.6	600.6	500	500	115-60	30 (50)	
	380-60	342	418	1	6	685	800	1754.6	865.6	800	800	230-60	15 (25)	
365A	230-50	207	253	2	12	646/481*	800/700*	†	931.9/728.0*	†	800/600*	230-50	15 (25)	
	380/415-50	342	440	1	6	617	800	1646.6	803.2	700	700	230-50	15 (25)	
395A	230-50	207	253	2	12	704/538*	1000/800*	†	950.9/784.4*	†	800/700*	230-50	15 (25)	
	380/415-50	342	440	1	6	700	800	1729.7	864.7	800	800	230-50	15 (25)	

LEGEND

- ICF — Maximum Instantaneous Current Flow
- MCA — Minimum Circuit Ampacity (for wire sizing)
- MOCP — Maximum Overcurrent Protection
- Rec Fuse Size — Recommended Dual-Element Fuse Amps (150% of largest compressor rated load amps [RLA] plus 100% of remaining compressor RLAs and sum of condenser fan full load amps [FLAs]. Choose next largest standard fuse size.)
- WD — Wye-Delta Start
- XL — Across-the-Line Start

*Circuit A/Circuit B.

†Wye-delta start is standard. Across-the-line start is not available.

**Amperages in () are for units with cooler heaters installed.

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. Cooler heater, oil heater, and control circuit power must be supplied from a separate source through a field-supplied disconnect. The control circuit power transformer accessory may be applied to power from the main unit power supply.
3. Maximum incoming wire size for each terminal block is 500 kcmil. The maximum current carrying capacity of 500 kcmil copper wire at 75° C (167° F) is 380 amps.
4. Maximum allowable phase imbalance is voltage 2%, amps 5%.



Controls



The standard microprocessor-based control in the 30GXN,R 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, occupied space temperature, 4 to 20 mA signal, 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 4-line, 20-character per line display is used to accomplish the following (see figure below):

- perform service test procedures
- set schedules and set points
- identify operating mode and run status conditions
- display current temperatures and pressures being used by the control for internal calculations
- identify abnormal (alarm or alert) conditions
- configure unit operation

Sequence of operation

The control has a 44.0 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 chiller start when the circulating pump is energized and the flow has been proven. The compressor starts unloaded.

NOTE: The starting compressor is determined by the automatic lead/lag feature.

If the entering fluid temperature is 85 F (29 C) or higher and the saturated suction temperature is 50 F or higher, the maximum operating pressure (MOP) feature limits the suction to keep the chiller on line.

Normal operation — The entering fluid temperature sensor senses changes in entering fluid temperature to anticipate changes in the cooling load. Based on leaving fluid temperature, the control will add or delete 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 (remote).

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

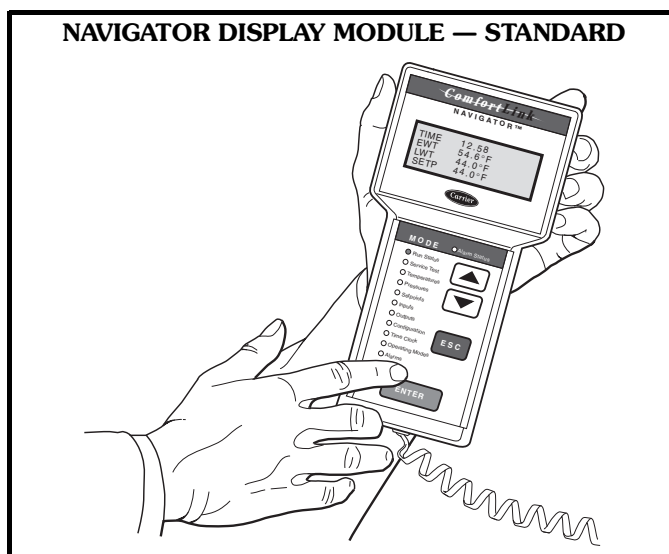
- electrical overload
- thermal overload protection
- high pressure
- low oil pressure
- loss of refrigerant charge
- loss of phase protection
- reverse rotation (control prevents compressor start)
- current imbalance
- ground current fault
- low chilled fluid temperature
- loss of chilled water flow

Additional information

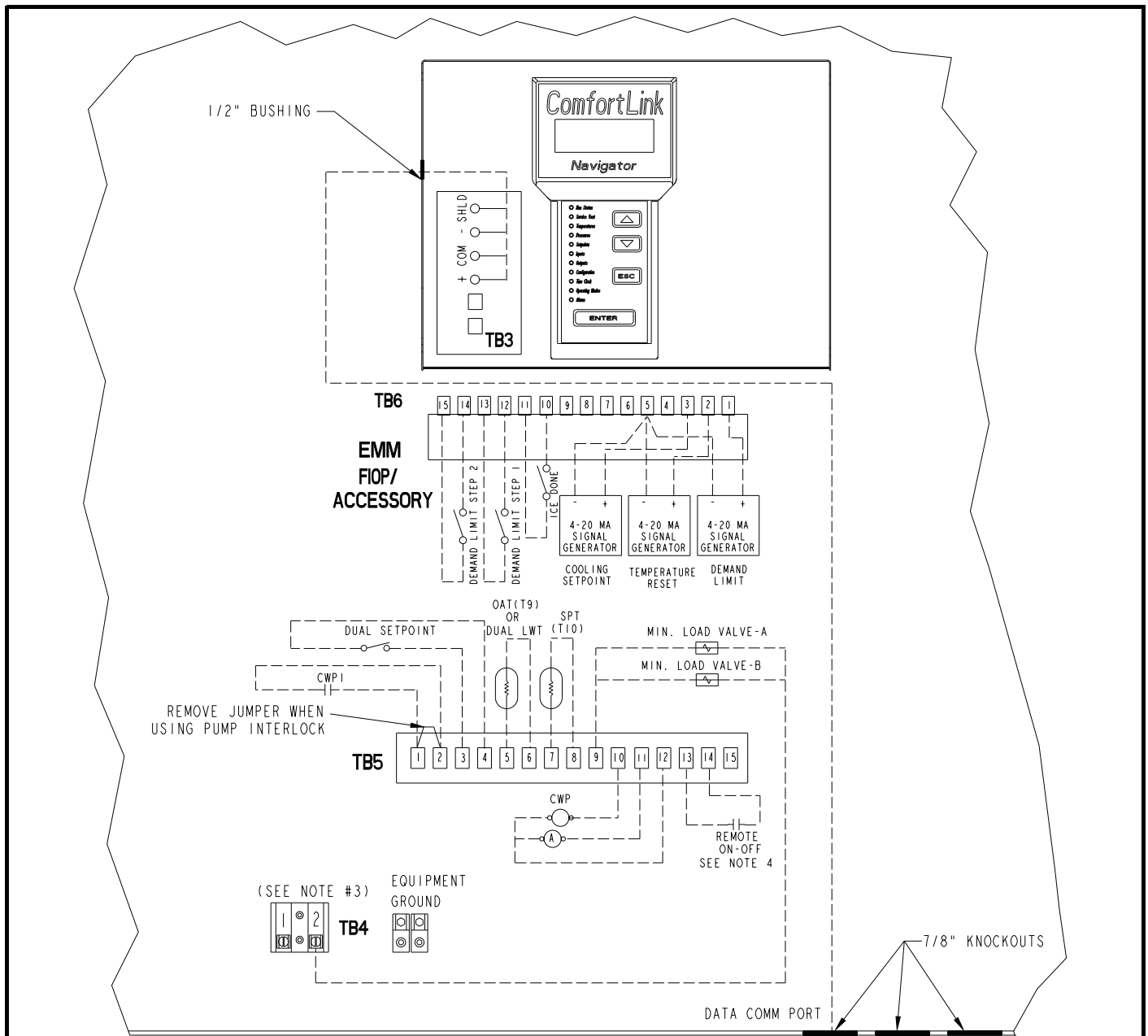
Detailed information on controls and operation is available in the Controls, Start-Up, Operation and Troubleshooting guide included with each unit. Packaged Service Training programs are also available. Contact your Carrier representative for more information.

Dual chiller control — The *ComfortLink™* controller allows 2 chillers (piped in series or parallel) to operate as a single chilled water plant with standard control functions coordinated through the master chiller controller. This standard *ComfortLink* feature requires a communication link between the 2 chillers and an additional thermister for parallel operation.

ECOLOGIC™ control — ECOLOGIC control keeps the chiller on line during periods of extreme operating conditions. If the entering fluid temperature is 85 F (29 C) or higher and the saturated suction temperature is 50 F or higher the maximum operating pressure (MOP) feature limits the suction to keep the chiller online. The control automatically starts the chiller in the unloaded state to eliminate the potential of compressor overload due to high head pressure or low suction pressure. The controller will equalize run time on each circuit through the lead/lag feature. If a circuit becomes disabled, the control will automatically set the active circuit to lead, keeping the chiller online at a reduced capacity.



Typical control wiring schematic



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 power supply must be rated 75°C minimum. Use copper conductors 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-, 380/415-v units) through a field-supplied disconnect with 30-amp maximum protection for 115-volt control circuits and 15-amp maximum protection for 230-volt control circuit. Control circuit conductors for all units must be copper only. Control circuit power is factory wired for 380-, 380/415-v units.
4. Terminals 13 and 14 of TB5 are for field external connection for remote on-off. The contacts must be rated for dry circuit application capable of handling a 24-vac load up to 50 mA.
5. Terminals 1 and 2 of TB5 are for Chilled Water Pump Interlock (CWPI) functions. If added, chilled water pump interlock contacts must be wired in series with flow switch contacts. The contacts must be rated for dry circuit application capable of handling a 24-vac load up to 50 mA load. Chilled Water Flow Switch (CWFS) is factory installed.
6. Terminals 10 and 12 of TB5 are for control of chilled water pump starter. The maximum load allowed for the chilled water pump relay is 75-va sealed, 360-va inrush at 115 or 230 volt. Field power supply is not required.
7. Terminals 11 and 12 of TB5 are for alarm relay. The maximum load allowed for the alarm relay is 75-va sealed, 360-va inrush at 115 or 230 volt. Field power supply is not required.
8. Make appropriate connections to TB6 as shown for energy management board options. The contacts for Demand Limit and Ice Done options must be rated for dry circuit application capable of handling a 24-vac load up to 50 mA.

LEGEND

- A** — Alarm
- CWP** — Chilled Water Pump
- CWPI** — Chilled Water Pump Interlock
- EMM** — Energy Management Module
- FIOP** — Factory-Installed Option
- LWT** — Leaving Water Thermistor
- OAT** — Outdoor-Air Thermistor
- SPT** — Space Temperature Thermistor
- TB** — Terminal Block
- Field Wiring
- - -** Field Control Wiring
- Factory-Installed Wiring

Application data



UNIT OPERATING RANGES

ITEM		MINIMUM	NOMINAL	MAXIMUM
Cooler Leaving Fluid Temperature		40 F (4.4 C)	—	60 F (15 C)
Cooler Entering Fluid Temperature*		45 F (7.2 C)	—	70 F (21.1 C)
Cooler Temperature Differential		5 F (2.8 C)	—	See Below
Cooler Flow Rates 30GXN,R	Cooler	—	For Reference Only (See Note)	—
080	-1 (2-pass)	136 gpm (8.6 L/s)	182 gpm (11.5 L/s)	13 F (7.4 C)
	Std (3-pass)	91 gpm (5.7 L/s)		20 F (11.1 C)
	+1 (4-pass)	68 gpm (4.3 L/s)		27 F (14.8 C)
090	-1 (2-pass)	149 gpm (9.4 L/s)	199 gpm (12.6 L/s)	13 F (7.4 C)
	Std (3-pass)	100 gpm (6.3 L/s)		20 F (11.1 C)
	+1 (4-pass)	75 gpm (4.7 L/s)		27 F (14.8 C)
106	-1 (2-pass)	176 gpm (11.1 L/s)	234 gpm (14.8 L/s)	13 F (7.4 C)
	Std (3-pass)	117 gpm (7.4 L/s)		20 F (11.1 C)
	+1 (4-pass)	88 gpm (5.5 L/s)		27 F (14.8 C)
114, 115	-1 (2-pass)	191 gpm (12.0 L/s)	254 gpm (16.1 L/s)	13 F (7.4 C)
	Std (3-pass)	127 gpm (8.0 L/s)		20 F (11.1 C)
	+1 (4-pass)	95 gpm (6.0 L/s)		27 F (14.8 C)
125	-1 (2-pass)	209 gpm (13.2 L/s)	278 gpm (17.6 L/s)	13 F (7.4 C)
	Std (3-pass)	139 gpm (8.8 L/s)		20 F (11.1 C)
	+1 (4-pass)	104 gpm (6.6 L/s)		27 F (14.8 C)
135	-1 (2-pass)	229 gpm (14.4 L/s)	305 gpm (19.2 L/s)	13 F (7.4 C)
	Std (3-pass)	152 gpm (9.6 L/s)		20 F (11.1 C)
	+1 (4-pass)	114 gpm (7.2 L/s)		27 F (14.8 C)
150	-1 (1-pass)	336 gpm (21.2 L/s)	336 gpm (21.2 L/s)	10 F (5.6 C)
	Std (2-pass)	168 gpm (10.6 L/s)		20 F (11.1 C)
	+1 (3-pass)	112 gpm (7.1 L/s)		30 F (16.2 C)
160	-1 (1-pass)	364 gpm (23.0 L/s)	364 gpm (23.0 L/s)	10 F (5.6 C)
	Std (2-pass)	182 gpm (11.5 L/s)		20 F (11.1 C)
	+1 (3-pass)	121 gpm (7.7 L/s)		30 F (16.7 C)
174, 175	-1 (1-pass)	401 gpm (25.3 L/s)	401 gpm (25.3 L/s)	10 F (5.6 C)
	Std (2-pass)	200 gpm (12.6 L/s)		20 F (11.1 C)
	+1 (3-pass)	134 gpm (8.4 L/s)		30 F (16.7 C)
204, 205	-1 (1-pass)	461 gpm (29.1 L/s)	461 gpm (29.1 L/s)	10 F (5.6 C)
	Std (2-pass)	230 gpm (14.5 L/s)		20 F (11.1 C)
	+1 (3-pass)	154 gpm (9.7 L/s)		30 F (16.7 C)
225	-1 (1-pass)	502 gpm (31.6 L/s)	502 gpm (31.6 L/s)	10 F (5.6 C)
	Std (2-pass)	251 gpm (15.8 L/s)		20 F (11.1 C)
	+1 (3-pass)	167 gpm (10.5 L/s)		30 F (16.7 C)
249, 250	-1 (1-pass)	562 gpm (35.4 L/s)	562 gpm (35.4 L/s)	10 F (5.6 C)
	Std (2-pass)	281 gpm (17.7 L/s)		20 F (11.1 C)
	+1 (3-pass)	187 gpm (11.8 L/s)		30 F (16.7 C)
264	-1 (1-pass)	588 gpm (37.1 L/s)	588 gpm (37.1 L/s)	10 F (5.6 C)
	Std (2-pass)	294 gpm (18.6 L/s)		20 F (11.1 C)
	+1 (3-pass)	196 gpm (12.4 L/s)		30 F (16.7 C)
281	-1 (1-pass)	641 gpm (40.5 L/s)	641 gpm (40.5 L/s)	10 F (5.6 C)
	Std (2-pass)	321 gpm (20.2 L/s)		20 F (11.1 C)
	+1 (3-pass)	214 gpm (13.5 L/s)		30 F (16.7 C)
301	-1 (1-pass)	689 gpm (43.4 L/s)	689 gpm (43.4 L/s)	10 F (5.6 C)
	Std (2-pass)	344 gpm (21.7 L/s)		20 F (11.1 C)
	+1 (3-pass)	230 gpm (14.5 L/s)		30 F (16.7 C)
325	-1 (1-pass)	741 gpm (46.8 L/s)	741 gpm (46.8 L/s)	10 F (5.6 C)
	Std (2-pass)	371 gpm (23.4 L/s)		20 F (11.1 C)
	+1 (3-pass)	247 gpm (15.6 L/s)		30 F (16.7 C)
350	-1 (1-pass)	801 gpm (50.5 L/s)	801 gpm (50.5 L/s)	10 F (5.6 C)
	Std (2-pass)	401 gpm (25.3 L/s)		20 F (11.1 C)
	+1 (3-pass)	267 gpm (16.8 L/s)		30 F (16.7 C)
220	Std	278 gpm (17.5 L/s)	477 gpm (30.1 L/s)	20 F (11.1 C)
240	Std	278 gpm (17.5 L/s)	535 gpm (33.8 L/s)	20 F (11.1 C)
275	Std	305 gpm (19.2 L/s)	601 gpm (37.9 L/s)	20 F (11.1 C)
300	Std	364 gpm (23.0 L/s)	670 gpm (42.3 L/s)	20 F (11.1 C)
320	Std	364 gpm (23.0 L/s)	739 gpm (46.6 L/s)	20 F (11.1 C)
345	Std	401 gpm (25.3 L/s)	789 gpm (49.8 L/s)	20 F (11.1 C)
365	Std	562 gpm (35.5 L/s)	853 gpm (53.8 L/s)	20 F (11.1 C)
370	Std	502 gpm (31.7 L/s)	879 gpm (55.5 L/s)	20 F (11.1 C)
390	Std	588 gpm (37.1 L/s)	909 gpm (57.3 L/s)	20 F (11.1 C)
395	Std	588 gpm (37.1 L/s)	888 gpm (56.0 L/s)	20 F (11.1 C)
410	Std	502 gpm (31.7 L/s)	961 gpm (60.6 L/s)	20 F (11.1 C)
415	Std	588 gpm (37.1 L/s)	974 gpm (61.4 L/s)	20 F (11.1 C)
440	Std	502 gpm (31.7 L/s)	1012 gpm (63.8 L/s)	20 F (11.1 C)
450	Std	502 gpm (31.7 L/s)	1031 gpm (65.0 L/s)	20 F (11.1 C)

*For applications requiring operation at less than 45 F (7.2 C), contact your local Carrier representative for unit selection using the Carrier electronic catalog.

NOTE: Nominal flow rates required at ARI conditions 44 F (7 C) leaving fluid temperature, 54 F (12 C) entering water temperature, 95 F (35 C) ambient. Fouling factor 0.00010 ft²-hr-F/Btu (0.000018 m²-K/kW).

Application data (cont)



Leveling unit

Unit must be level within $\frac{1}{8}$ in. per ft when installed to ensure proper oil return to the compressor.

While most outdoor locations are suitable for 30GXN,R units, the roof is a common site that represents a problem if roof has been pitched to aid in water removal. To assure proper oil return, be sure that unit is level, particularly in its major lengthwise dimension, as compressor oil return piping runs in that direction.

It should be determined prior to installation if any special treatment is required to assure a level installation.

Piping duplex units — 30GXN,R Duplex Chillers are shipped and rigged as 2 separate units. The units must be piped in series. Module A must be placed on the return side, Module B should be placed on the leaving chilled fluid side. Minimum spacing of 36-in. between chillers is recommended to provide adequate service access and piping clearance. If the accessory trim kit is used; the modules must be aligned according to the criteria given in the accessory installation instruction. A flexible pipe coupling should be used to allow for module misalignment. Grooved pipe fittings are recommended for use on the interconnecting piping to allow maintenance (cooler tube cleaning) access and to avoid excessive weld slag form being flushed through the cooler during initial start-up.

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 (4.4 C) for standard units. Optional brine units are required for operation with leaving fluid temperatures in the range of 40 to 15 F (4.4 to -9 C). For ratings below 40 F (4.4 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. Note that resetting LCWT may affect other air-conditioning system components. For example, humidity control should be considered, since higher coil temperatures resulting from reset will reduce latent heat capacity of air handlers and fan coils in the air-conditioning system. Three reset applications are offered:

From return-fluid temperature — Increases LCWT set point as return (or entering) fluid temperature decreases (indicating load decrease). Option 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.

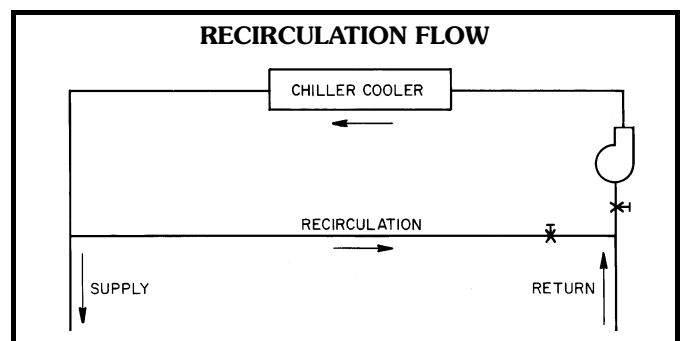
Cooler temperature rise

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 Unit Operating Ranges table. High flow rate is limited by pressure drop that can be tolerated. If another temperature rise is used, apply LCWT correction as given in the Carrier electronic catalog 30GXN,R chiller program.

Minimum cooler flow — Flow (maximum cooler temperature rise) for standard units is shown in the Unit Operating Ranges table. Maximum change in temperature is 20° F (11.1° C). When flow rate required is lower (or rise is higher), follow recommendations below:

- Multiple smaller chillers can be applied in series, each providing a portion of the design temperature rise.
- Some chilled fluid can be recirculated through the cooler 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.
- Special reduced pass or multiple pass heads cooler can be used. Contact your Carrier representative for further information.

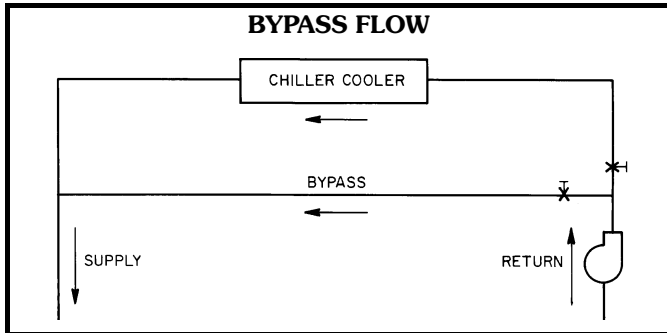
NOTE: Recirculation flow is shown below.



Maximum cooler flow (> 5 gpm/ton or < 5° F rise [> 0.09 L/s • kW or 2.7° 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.

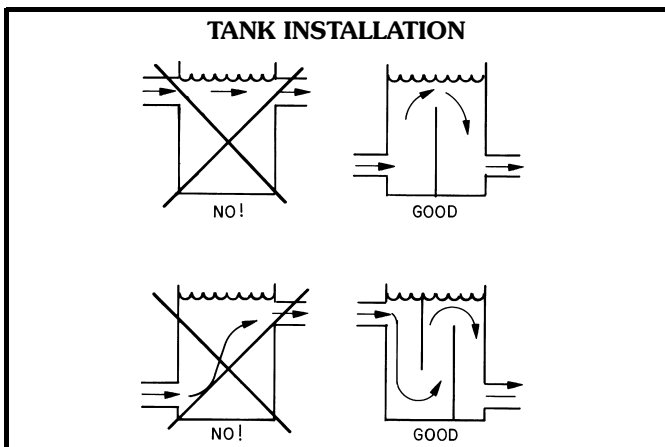
NOTE: Bypass flow is shown below.



Variable cooler flow rates — These variable flow rates may be applied to standard 30GXN,R series chillers. The unit will attempt to maintain a constant leaving chilled-fluid temperature. In such cases, minimum fluid volume must be in excess of 3 gal per ton (3.23 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.

Chilled fluid loop volume — The chilled fluid loop volume in circulation must equal or exceed 3 gal per nominal ton of cooling (3.23 L per kW) for temperature stability and accuracy in normal air conditioning applications. For example, a 30GXN,R106 with a nominal capacity of 97.5 tons (342.8 kW) would require 292.5 gal (1106 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 was 0.00010 ft² • hr • F/Btu (0.00018 m² • °C/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.

High ambient temperature

High outdoor ambient chiller start-up and operation (fully loaded) is possible for standard 30GXN,GXR chillers at ambient temperatures up to 125 F (52 C) at nominal voltage. In some cases, where return water temperature is expected to exceed 60 F (15.5 C), an accessory kit may be required.

Low ambient temperature operation

With certain field provisions as described below, units will start and operate down to —

- 0° F (–18 C) for 30GXN,R080-160, 220-320 (50 Hz)
- 15 F (–9 C) for 30GXN,R174-450

If operation is intended below these limits, the Carrier accessory Motormaster® III condenser head pressure control and its associated components must be added. The Motormaster control allows operation down to –20 F (–29 C). Consult your Carrier representative for details.

NOTE: Minimum load on chiller must be above minimum step of unloading.

Wind baffles (field-installed accessory) — Baffles must be added to all units for operation below 32 F (0° C) if wind velocity is anticipated to be greater than 5 mph (8 km/h).

Cooler freeze protection — If chiller refrigerant or fluid lines are in an area where ambient conditions fall below 32 F (0° C), it is required 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.

Select concentration based on either Burst or Freeze Protection as dictated by application. Additional freeze protection is available through the use of the low ambient protection option. Since power is sometimes lost for extended periods during winter storms (particularly in suburban and rural areas) freeze protection will only be effective if back-up power supply can be assured for the unit's control circuit, heater and cooler pump.

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

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.

Application data (cont)



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 30GXN,R 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 flow rates must be balanced to ensure proper flow to each chiller. The accessory Chillervisor System Manager can be used to ensure proper staging sequence of up to 8 chillers. Isolated valves on individual chiller pumps are recommended for parallel chiller arrangements. Refer to the accessory Chillervisor System Manager installation instructions for further details.

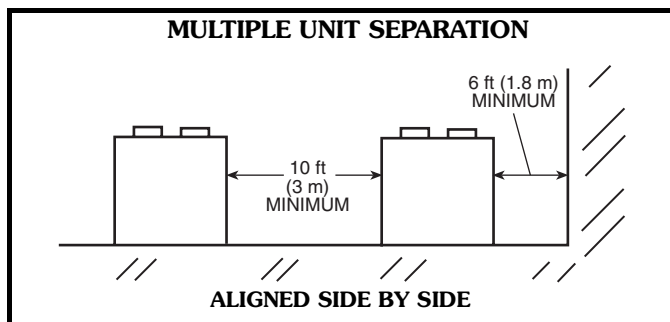
Series chillers

Where a large temperature drop (greater than 20 F [11.1 C]) is desired or where chiller capacities greater than can be supplied by a single 30GXN,R chiller are required or where stand-by capability is required, chillers may be installed in series. 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. Use of reduced pass heads may be required to keep waterside pressure drop at an acceptable level.

Minimum clearances

The recommended minimum clearance to ensure proper airflow through the condenser coils and to allow fan maintenance is as shown below.

Acceptable clearance between the chiller and a single wall may be reduced to 3 ft on one side or end opposite the control panel without sacrificing performance. Clearances between chillers in dual chiller applications, may be reduced to 6 ft on one side without sacrificing performance.



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 the electrical load in an installation (building, factory, etc.) at regular intervals to control the electrical demand. This reduces the electrical demand, thereby lowering demand charges, by cycling the operating electrical equipment off and on. However, duty cycling is **NOT** allowed since constant cycling will cause increased stress and damage to the motor windings, bearings, and controls. If demand must be controlled the Demand Limit sequence in the 30GXN,R control system is recommended. For detailed information refer to the Controls, Start-Up, Operation, Service, and Troubleshooting guide included with the unit.

Ice duty

ComfortLink™ controls have the capability of reduced leaving fluid temperature operation for thermal storage, or ice duty. The optional energy management module includes input contacts for the “ice done” signal generated by the thermal storage control system. The ice duty feature may be configured to start on an external input command or by the ComfortLink standard internal scheduling function. The ice duty function requires brine modification for leaving fluid temperatures below 40 F (4.4 C). Ice Duty may be used in combination with any other standard features offered by the Energy Management Module and ComfortLink controls.

Wye-delta start

Wye-delta start is standard on 30GX 208/230, 230 v, 60 Hz units and 230 v 50 Hz units and optional on all other 30GX units. This feature is not always required on 30GX 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 55-61) should be used in determining need.

Vibration isolation

External 1/4-in. neoprene vibration-absorbent pads are available as field-installed accessories.

Strainers

A strainer with a minimum screen size of 20 mesh must be installed in the entering cooler fluid line, 10 ft (3.3 m) ahead of the cooler.



Condenser coil corrosion protection (Enviro-Shield™)

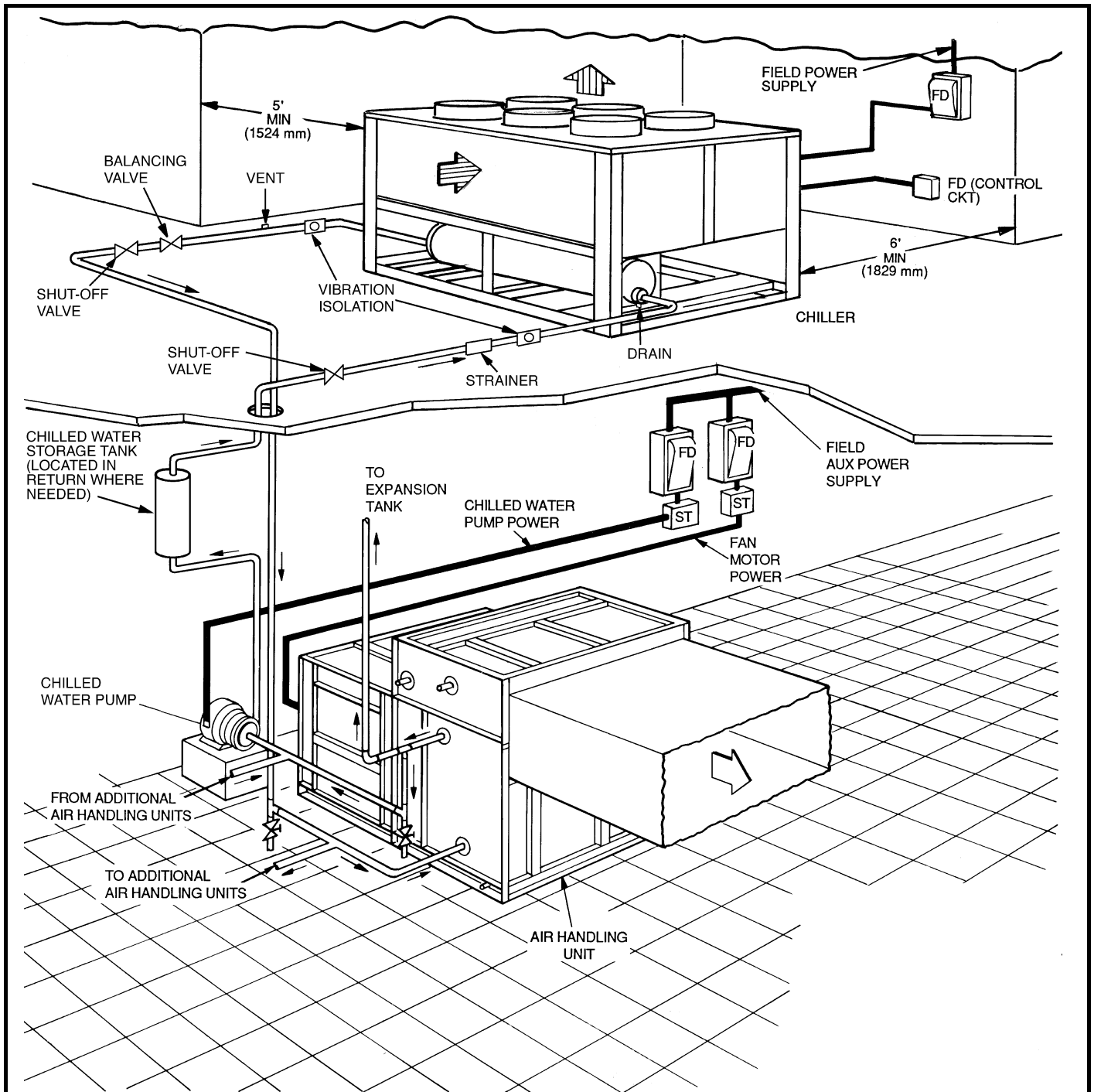
Pre-coated aluminum-fin coils have a durable epoxy-phenolic coating applied to the fin prior to the fin stamping process to provide protection in mildly corrosive coastal environments. Pre-coated coils have an inert barrier between the aluminum fin and copper tube. This barrier electrically disconnects the dissimilar metals to minimize the potential for galvanic corrosion. This economical option provides substantial corrosion protection beyond the standard uncoated coil construction.

Copper-fin coils provide increased corrosion resistance in moderate coastal environments where industrial air pollution is not present. All copper coils eliminate bi-metallic construction to eliminate the potential for galvanic corrosion. Application in industrial environments is not recommended due to potential attack from sulfur, sulfur oxide, nitrogen oxides, carbon and several other industrial airborne contaminants. In moderate seacoast environments, copper-fin coils have extended life compared to standard or pre-coated aluminum-fin coils.

E-coated aluminum-fin coils have a extremely flexible and durable epoxy coating uniformly applied to all coil surfaces. Unlike brittle phenolic dip and bake coatings, E-coat provides superior protection with unmatched flexibility, edge coverage, metal adhesion, thermal performance and most importantly, corrosion resistance. E-coated coils provide this protection since all coil surfaces are completely encapsulated from environmental contamination. Specify E-coated aluminum-fin coils for industrial environments with high levels of air pollution. This option also provides better protection compared to standard or pre-coated aluminum-fin coils in industrial environments.

E-coated copper-fin coils have the same flexible and durable epoxy coating as E-coated aluminum-fin coils. However, this option combines the natural salt and environment resistance of all-copper construction with the highest level of corrosion protection. Specify E-coated copper-fin coils in the harshest combination of coastal and industrial environments.

Typical piping and wiring



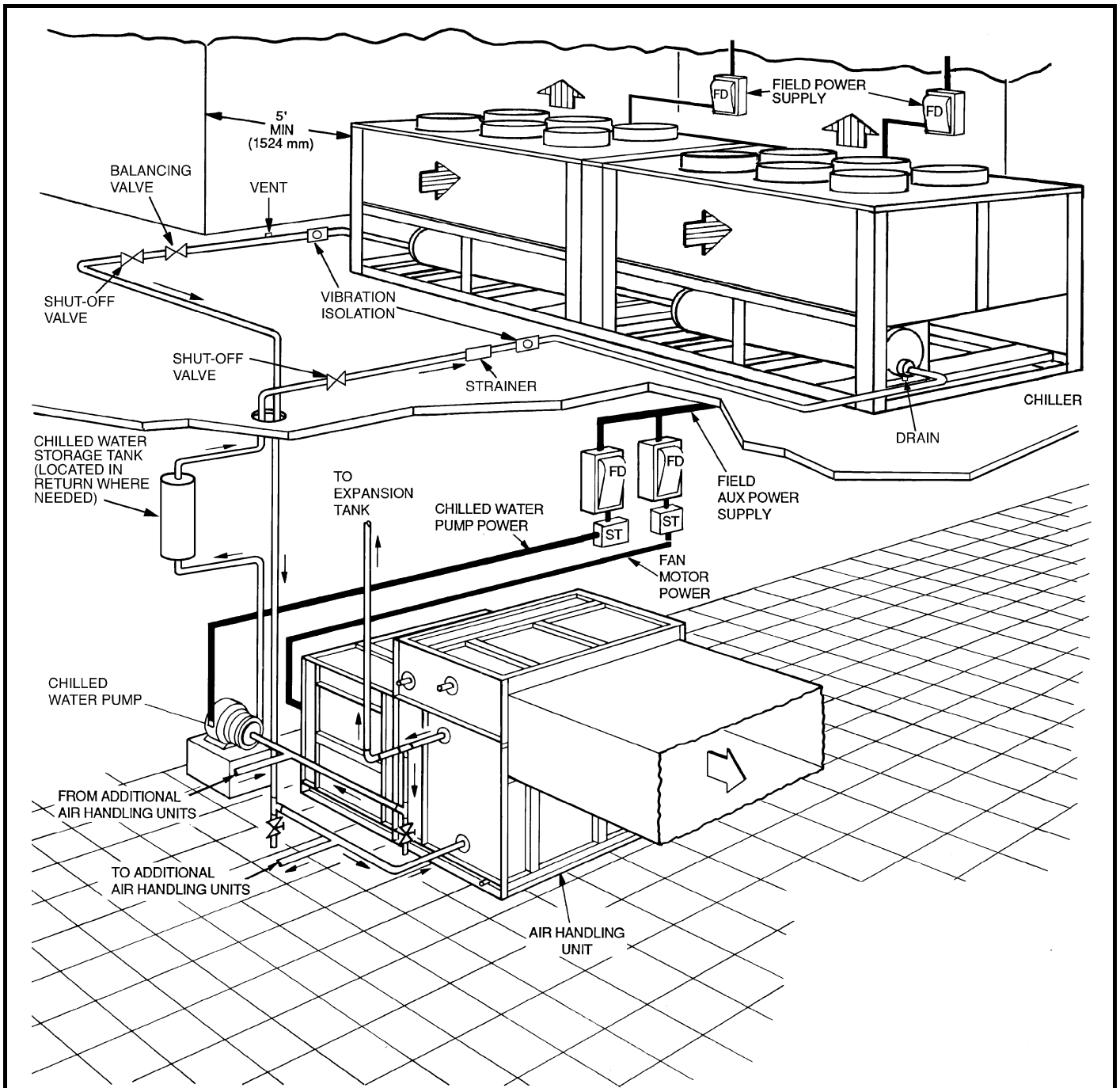
NOTES:

1. Chiller must be installed *levelly* to maintain proper compressor oil return and hydraulics.
2. Wiring and piping shown are general points-of-connection guides only and are not intended for a specific installation. Wiring and piping shown are for a quick overview of system and are not in accordance with recognized standards.
3. All wiring must comply with applicable local and national codes.
4. All piping must follow standard piping techniques. Refer to Carrier System Design Manual or appropriate ASHRAE (American Society of Heating, Refrigeration, and Air Conditioning Engineers) handbook for details.

LEGEND

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|--------------|-----------------------------------|
| AUX — | Auxiliary |
| CKT — | Circuit |
| FD — | Field-Supplied Disconnect |
| ST — | Starter |
| | Airflow Through Condenser |
| | Airflow Through Air-Handling Unit |
| | Power Wiring |
| | Chilled Water Piping |

Typical piping and wiring — duplex units



NOTES:

1. Chiller must be installed *levelly* to maintain proper compressor oil return and hydraulics.
2. Wiring and piping shown are general points-of-connection guides only and are not intended for a specific installation. Wiring and piping shown are for a quick overview of system and are not in accordance with recognized standards.
3. All wiring must comply with applicable local and national codes.
4. All piping must follow standard piping techniques. Refer to Carrier System Design Manual or appropriate ASHRAE (American Society of Heating, Refrigeration, and Air Conditioning Engineers) handbook for details.

LEGEND

- AUX** — Auxiliary
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Guide specifications



Air-Cooled Liquid Chiller

HVAC Guide Specifications

Size Range: **80 to 450 Tons**

(267 to 1511 kW) Nominal

Carrier Model Number: **30GXN, GXR**

Part 1 — General

1.01 SYSTEM DESCRIPTION

Microprocessor controlled, air-cooled liquid chiller utilizing HFC-134a, screw compressors, and electronic expansion devices.

1.02 QUALITY ASSURANCE

- A. Unit shall be rated in accordance with ARI Standard 550/590, latest revision (U.S.A. under 200 tons).
- B. Unit construction shall comply with ASHRAE 15 Safety Code, NEC, and ASME applicable codes (U.S.A. codes).
- C. Unit shall be manufactured in a facility registered to ISO 9002/BS5750, Part 2 Manufacturing Quality Standard.
- D. Unit shall be full load run tested at the factory.

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 or factory configured duplex chassis, air-cooled liquid chiller. Contained within the unit cabinet shall be all factory wiring, piping, controls, refrigerant charge (HFC-134a), and special features required prior to field start-up.

B. Unit Cabinet:

1. Frame shall be of heavy-gage galvanized steel.
2. Cabinet shall be galvanized steel casing with a pre-painted finish.
3. Cabinet shall be capable of withstanding 500-hour salt spray test in accordance with the ASTM (U.S.A.) B-117 standard.

C. Fans:

1. Condenser fans shall be direct-driven, 11-blade airfoil cross-section, reinforced polymer construction, shrouded-axial type, and shall be statically and dynamically balanced with inherent corrosion resistance. Air shall be discharged vertically upward.
2. Fans shall be protected by coated steel wire safety guards.

D. Compressors:

1. Unit shall have semi-hermetic twin-screw, gear-driven compressors with internal muffler and check valve.
2. Each compressor shall be equipped with a discharge shutoff valve.
3. Capacity control shall be provided by pilot-operated solenoid valve, capable of reducing unit capacity to 20% of full load (7.0% of full load for duplex models). Compressor shall start in unloaded condition.
4. Motor cooling shall be provided by direct liquid injection and protected internal overload thermistor.
5. Lube oil system shall include pre-filter and internal filter capable of filtration to 2 microns.

E. Cooler:

1. Cooler shall be tested and stamped in accordance with ASME code (U.S.A.) for a refrigerant working-side pressure of 220 psig (1517 kPa) and shall be tested for a maximum fluid-side pressure of 300 psig (2068 kPa) (in Canada, 250 psig [1724 kPa] per Canadian National Registry requirements).
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 cut groove Victaulic-type 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.
6. Shall incorporate 2 independent refrigerant circuits.
7. Shall have a cooler drain and vent.
8. Shall incorporate a refrigerant level sensing device for each circuit.

F. Lubrication System:

1. Shall include as a minimum per circuit; an integral mesh refrigerant/oil separator, heater, in-line filter, compressor internal filter and hermetic pump.
2. Shall be a positive pressure feed system, with pump assist on start-up only.

G. Condenser:

1. Coil shall be air-cooled with integral subcooler, and shall be constructed of aluminum fins mechanically bonded to seamless copper tubes. The tubes are then cleaned, dehydrated, and sealed.
2. Condenser coils shall be leak tested and shall be pressure tested at 450 psig (3103 kPa).

H. Refrigeration Components:

Refrigerant circuit components shall include oil separator, high and low side pressure relief device, discharge and liquid line shutoff valves, filter drier, moisture indicating sight glass, electronic expansion device, refrigerant economizer (size 105-450 units), and complete operating charge of both refrigerant HFC-134a and compressor oil.

1. The chiller shall include as a minimum, two independent refrigeration circuits.
2. The chiller shall include the ability to isolate the refrigerant charge in either the cooler or the condenser.

I. Controls, Safeties, and Diagnostics:

1. Controls:

a. Unit controls shall include the following minimum components:

- 1) Microprocessor with non-volatile memory. Battery backup system shall not be accepted.
- 2) Power and control circuit terminal blocks.
- 3) ON/OFF control switch.
- 4) Replaceable solid-state relay panels.
- 5) Thermistor installed to measure saturated condensing temperature, cooler saturation temperature, compressor return gas temperature, and cooler entering and leaving fluid temperatures.

b. Unit controls shall include the following functions as standard.

- 1) Automatic circuit lead/lag.
- 2) Automatic chiller module lead/lag (in dual chiller mode).
- 3) Capacity control based on leaving chilled fluid temperature and compensated by rate of change of return-fluid temperature with temperature set point accuracy to 0.1° F (0.06° C).
- 4) Limiting the chilled fluid temperature pull-down rate at start-up to an adjustable range of 0.2° F to 2° F (0.11° C to 1.1° C) per minute to prevent excessive demand spikes at start-up.
- 5) Seven-day time schedule.
- 6) Leaving chilled fluid temperature reset from return fluid, outdoor-air temperature, space temperature, or 4 to 20 mA input.
- 7) Demand limit control with 2-stage control (0 to 100% each) or through 4 to 20 mA input (0 to 100%).
- 8) Chilled water pump start/stop control.
- 9) Dual chiller control without addition of hardware modules (additional thermistor and well required for parallel applications).
- 10) Amperage readout per compressor with %MTA per compressor.

c. The control panel shall include, as standard, a portable hand-held display module with a minimum of 4 lines and 20 characters per

line, or clear English, Spanish, Portuguese or French language. Display menus shall provide clear language descriptions of all menu items, operating modes, configuration points and alarm diagnostics. Reference to factory codes shall not be accepted. An industrial grade coiled extension cord shall allow the display module to be moved around the chiller. Magnets shall hold the display module to any sheet metal panel to allow hands-free operation. Display module shall have NEMA 4x housing suitable for use in outdoor environments. Display shall have back light and contrast adjustment for easy viewing in bright sunlight or night conditions. The display module shall have raised surface buttons with positive tactile response.

- d. The chiller controller shall include multiple connection ports for communicating with the local equipment network, the Carrier Comfort Network (CCN) and the ability to access all chiller control functions from any point on the chiller.
- e. The control system shall allow software upgrade without the need for new hardware modules.

2. Safeties:

a. Unit shall be equipped with thermistors and all necessary components in conjunction with the control system to provide the unit with the following protections:

- 1) Loss of cooler flow.
- 2) Loss of refrigerant charge.
- 3) Reverse rotation.
- 4) Low chilled fluid temperature.
- 5) Low oil pressure (each compressor circuit).
- 6) Voltage imbalance.
- 7) Ground current fault.
- 8) Thermal overload.
- 9) High pressure.
- 10) Electrical overload.
- 11) Loss of phase.
- 12) Current imbalance.

b. Fan motors shall have inherent overcurrent protection.

3. Diagnostics:

a. The display module shall be capable of indicating the safety lockout condition by displaying the information in clear language at the display. Information included for display shall be:

- 1) Compressor lockout.
- 2) Loss of charge.
- 3) Low fluid flow.
- 4) Low oil pressure.
- 5) Cooler freeze protection.
- 6) High or low suction superheat.
- 7) Thermistor malfunction.
- 8) Entering and leaving-fluid temperature.
- 9) Evaporator and condenser pressure.

Guide specifications (cont)



- 10) Electronic expansion valve positions.
- 11) All set points.
- 12) Time of day.

- b. Display module, in conjunction with the microprocessor, must also be capable of displaying the output results of a service test. Service test shall verify operation of every switch, thermistor, fan, and compressor before chiller is started. User shall be able to force each output device.
- c. Diagnostics shall include the ability to review a list of the 20 most recent alarms with clear language descriptions of the alarm event. Display of alarm codes without the ability for clear language descriptions shall be prohibited.
- d. An alarm history buffer shall allow the user to store no less than 20 alarm events with clear language descriptions, time and date stamp event entry.

J. Operating Characteristics:

1. Unit shall be capable of starting and running at outdoor ambient temperatures from 32 to 125 F (0° to 52 C).
2. Unit shall be capable of starting up with 95 F (35 C) entering fluid temperature to the cooler.

K. Motors:

Condenser-fan motors shall be totally enclosed 3-phase type with permanently lubricated bearings and Class F insulation (except Motormaster® III control motors which shall be open type and shall have Class B insulation).

L. Electrical Requirements:

1. Unit primary electrical power supply shall enter the unit at a single location (some units have multiple poles).
2. Primary electrical power supply shall be rated to withstand 115 F (46 C) operating ambient as standard or 125 F (52 C) optional.
3. Unit shall operate on 3-phase power at the voltage shown in the equipment schedule.
4. Control voltage shall be 115-v (60 Hz) or 230-v (50 Hz), single-phase, separate power supply.
5. Unit shall be shipped with factory control and power wiring installed.

M. Special Features:

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

1. Wye-Delta Starter:

Unit shall have a factory-installed, wye-delta start to minimize electrical inrush current.

* 2. Low-Ambient Operation:

Unit shall be capable of starting and running at outdoor ambient temperatures down to -20 F (-29 C) with the addition of antifreeze in the

cooler circuit, wind baffles, and field- or factory-installed low-ambient kit.

3. Control Power Transformer:

Unit shall be supplied with a field (or factory) installed transformer that will allow supply control circuit power from the main unit power supply.

4. Non-Fused Disconnect:

Unit shall be supplied with factory-installed, non-fused electrical disconnect for main power supply.

5. Optional Condenser Coil Materials:

a. Pre-coated aluminum fin coils:

Shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. Coating shall be applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.

b. Copper-fin coils:

Shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting sheet metal coil pan to minimize potential for galvanic corrosion between the coil and pan. All copper construction shall provide protection in moderate coastal environments.

c. E-Coated aluminum-fin coils:

Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss black with gloss — 60° of 65 to 90% per ASTM ID523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in./lbs (ASTM D2794-93). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to no less than 3000 hours salt spray per ASTM B117-90. Coil construction shall be aluminum fins mechanically bonded to copper tubes.

d. E-Coated copper-fin coils:

Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. Coating process shall ensure complete coil encapsulation. Color shall be high gloss



- black with gloss — 60° of 65 to 90% per ASTM D523-89. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges. Superior hardness characteristics of 2H per ASTM D3363-92A and cross hatch adhesion of 4B-5B per ASTM D3359-93. Impact resistance shall be up to 160 in./lbs (ASTM D2794-93). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92). Corrosion durability shall be confirmed through testing to no less than 3000 hours salt spray per ASTM B117-90. Coil construction shall be copper-fins mechanically bonded to copper tube sheets. Galvanized steel tube sheets shall not be acceptable. A polymer strip shall prevent coil assembly from contacting sheet metal coil pan to maintain coating integrity and minimize corrosion potential between the coil and pan.
6. Remote Enhanced Display:
Unit shall be supplied with indoor-mounted, remote, 40-character per line, 16-line display panel for field installation.
 7. Medium Temperature Brine:
Unit shall be factory modified to start and operate at leaving chilled fluid temperatures between 15 F (–9 C) and 40 F (8 C).
 8. System Manager Multi-Unit Control:
Field-installed control shall sequence between 2 and 8 chillers and pumps.
 9. 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% capacity.
 10. Energy Management Control Module:
A factory or field installed module shall provide the following energy management capabilities: 4 to 20 mA signals for leaving fluid temperature reset, cooling set point reset or demand limit control; 2-point demand limit control (from 0 to 100%) activated by a remote contact closure; and discrete input for “Ice Done” indication for ice storage system interface.
 11. Security Guards:
Unit shall be supplied with factory (or field) installed, PVC-coated grilles to protect the condenser, cooler, and compressor.
 - *12. High-Static/High Ambient Condenser Fans:
Unit shall have factory-installed condenser fans capable of generating 0.4 in. wg (100 Pa) or 0.8 in. wg (200 Pa) external static pressure at nominal condenser airflow. The 0.4 in. wg (100 Pa) shall also be used as a high-ambient fan (50 Hz only), that shall provide additional condenser airflow and additional capacity up to 125 F (52 C).
 13. Low Ambient Protection:
Unit shall have field-installed head-mounted cooler heater, liquid line solenoid valves and pumpout cycle to protect cooler from ambient temperature freeze down to 0° F (–17 C).
 14. Sound Reduction Enclosures/Hail Guards:
Field-installed accessory kit shall include sheet metal hoods with sound absorbing panels designed to reduce sound levels and protect coils from hail damage.
 15. Vibration Isolation:
Vibration isolation pads shall be supplied for field installation at unit mounting points. Pads shall help to reduce vibration transmission into the occupied space.
 16. GFI Convenience Outlet:
Shall be field-installed and mounted with easily accessible 115-v female receptacle. Shall include 15 amp GFI receptacle with independent fuse protection. Voltage required to operate convenience outlet shall be provided by field-installed step-down transformer.
 17. Alternate Cooler Heads:
 - a. Plus-one-pass — Unit shall be equipped with plus-one-pass cooler heads to be used with low temperature brine options.
 - b. Minus-one-pass — Unit shall be equipped with minus-one-pass cooler heads with reduced water-side pressure drop for series flow duplex models or high chilled water flow applications.
 18. Control Display Access Door:
Unit shall be provided with a transparent control box door that allows see-through viewing of control display without opening the control box.
 19. Cooler Head Insulation:
Unit shall be supplied with field-installed cooler insulation that shall cover the cooler heads.
 20. Suction Isolation Valves:
Unit shall be supplied with factory-installed suction isolation valves.
 21. Remote Service Port:
Unit shall be supplied with factory or field-installed remote connection port for hand held display device connectivity. Port shall be female RJ-14 receptacle housed in cast aluminum, weatherproof enclosure with spring-loaded weather-sealed hinged door. Remote service port shall be located adjacent to mechanical components to allow convenient access to diagnostic and operational information while standing next to the mechanical component.



Manufacturer reserves the right to discontinue, or change at any time, specifications or designs without notice and without incurring obligations.