

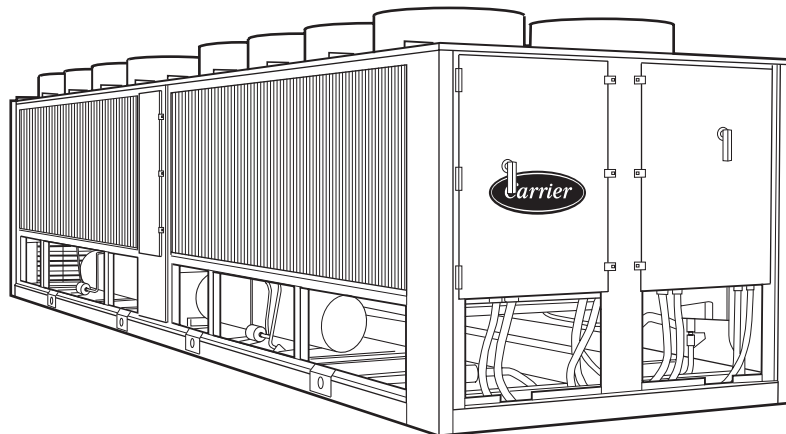
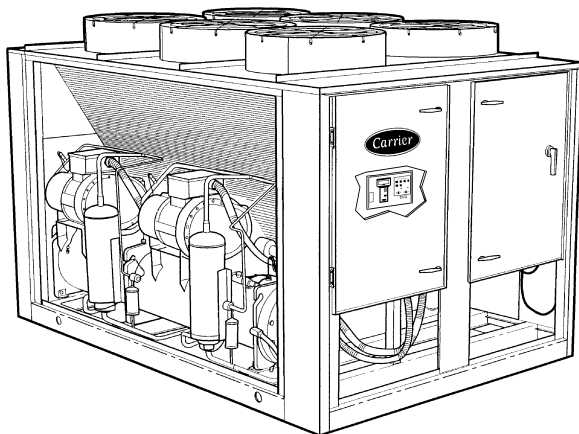


Product Data

30GXN,GXR080-528
High Efficiency
ECOLOGIC™ and ECOLOGIC η ™
Air-Cooled Chillers
with ComfortLink™ Controls
50 Hz

80 to 525 Nominal Tons (267 to 1750 kW)

ECOLOGIC and ECOLOGIC η



The long-standing Engineering symbol for efficiency, η , is now Carrier's symbol for air-cooled chiller efficiency. The standard efficiency ECOLOGIC and high efficiency ECOLOGIC η ™ 30GXN,R air-cooled chillers are designed from the ground up to meet the needs of today and tomorrow.

Features/Benefits

Easy installation

The 30GXN,R unit has a compact design that is up to 50% smaller than earlier air-cooled 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 9001:2000 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 compliment 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 to within ±.5 F (.4 C) of set point. 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. 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.

Optional Low Ambient Protection to 0° F (-17.7 C) on all units

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).

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.

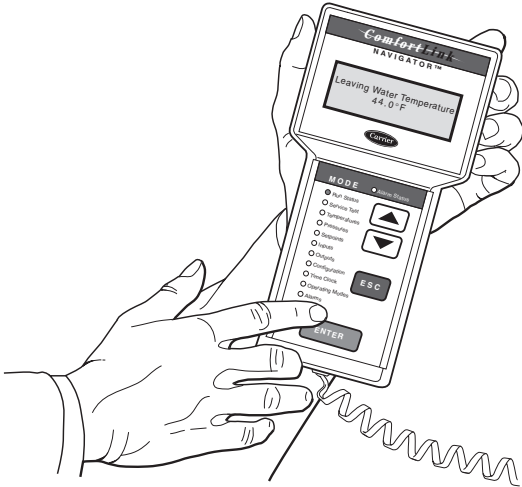
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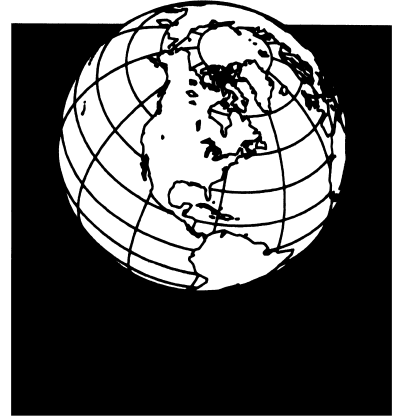
Features/Benefits (cont)



NAVIGATOR DISPLAY MODULE

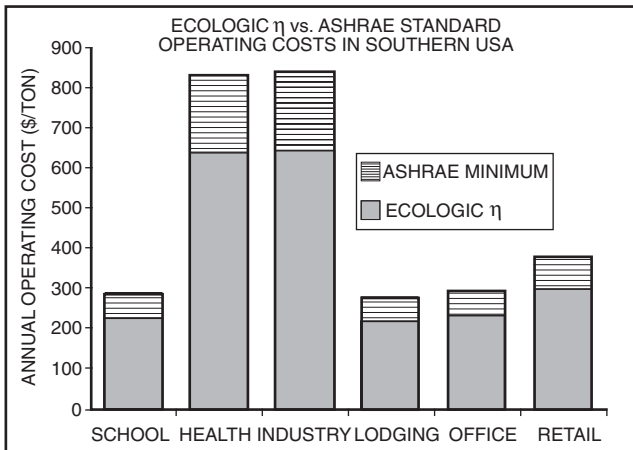


ENVIRONMENTAL LEADERSHIP

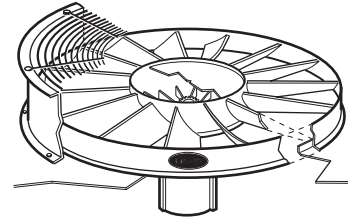


HFC-134a

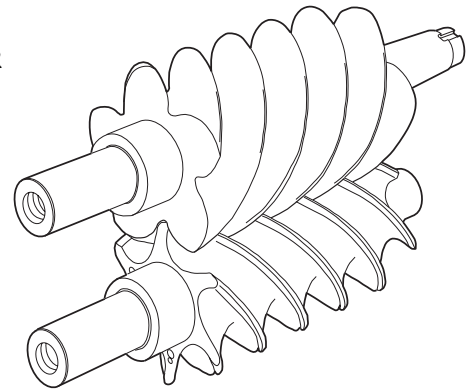
30GXN,R EFFICIENCY VS. ASHRAE STANDARDS



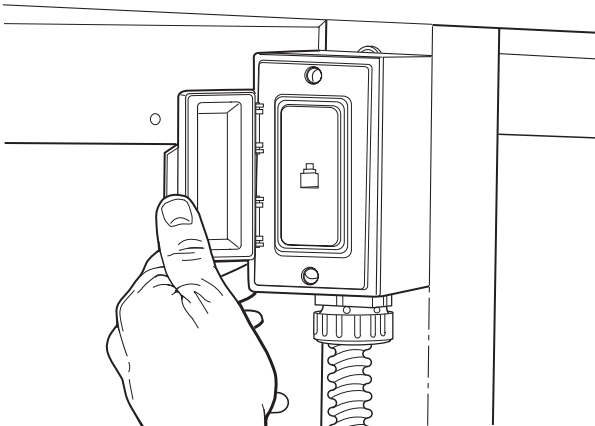
LOW-NOISE AERO-ACOUSTIC FAN



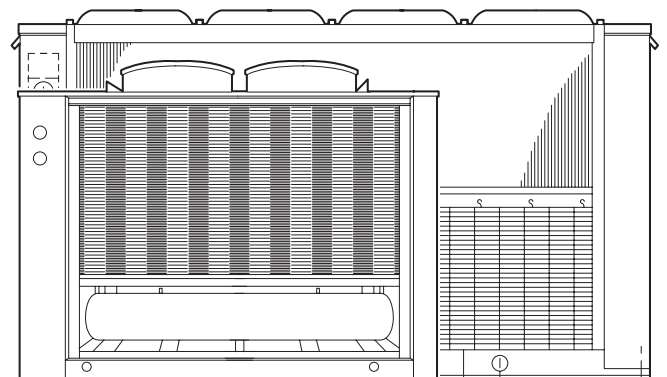
SMOOTH ROTARY COMPRESSOR TWIN-SCREW DESIGN



REMOTE SERVICE PORT OPTION/ACCESSORY



SMALL FOOTPRINT



30GXN,R

OTHER CHILLERS

Model number nomenclature



30GX N 125 - A - 8 4 1 --

30GX – ECOLOGIC₁™ Air-Cooled Chiller with *ComfortLink*™ Controls

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

Nominal Sizes – Standard Efficiency

080	135	220	275	325	410
090	150	225	281	345	440
106	160	240	300	350	470
115	175	250	301	365	495
125	205	264	320	395	520

Nominal Sizes – High Efficiency

083	138	228	328	453
093	153	253	353	478
108	163	268	373	503
118	178	283	393	528
128	208	303	418	

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

Electric Service Rating & Control Options
Standard 125° F Electric Service Rating (Available on all sizes):
 A – Navigator Module
 F – Navigator and Energy Management Module
 T – “Service Option” (Navigator, Energy Management and Service Port)

Optional 115° F Electric Service Rating (Sizes 080-125, 220 and 240 only standard efficiency, available on all high efficiency models):
 – – Navigator
 E – Navigator and Energy Management Module
 S – “Service Option” **Includes** Navigator, Energy Management Module, and Service Port

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

- 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

Quality Assurance



Certificate No FM 21837

Approvals:

ISO 9001
 EN 9000:2000

Physical data



50 Hz UNITS – SI

UNIT SIZE 30GXN,R	080	083	090	093	106	108	115	118	125	128	135	138	150	153	160	
OPERATING WEIGHT (kg) Cu-Al Cu-Cu	2863 3169	3133 3448	2872 3179	3266 3582	3408 3724	3475 3791	3351 3667	3923 4399	3426 3741	3930 4406	3499 3817	3987 4418	3984 4461	4393 5028	4115 4614	
REFRIGERANT TYPE Refrigerant Charge (kg) Ckt-A/Ckt-B	HFC-134a															
48/44	58/56	52/44	61/56	68/56	61/56	73/56	77/68	73/64	86/68	79/79	86/79	71/103	119/81	82/110		
COMPRESSORS Quantity Economized No. Capacity Steps Standard Optional (maximum) Min. Capacity Step (%) Standard Optional	Semi-Hermetic, Twin Screw															
2 No 6 8 20 10	2 No 6 8 20 10	2 No 6 8 20 10	2 No 6 8 20 10	2 No 6 8 20 10	2 Yes 6 8 20 10	2 Yes 6 8 20 10	2 Yes 6 8 20 10	2 Yes 6 8 20 10	2 Yes 6 8 20 10	2 Yes 6 8 20 10	2 Yes 6 8 20 10	2 Yes 6 8 20 10	2 No 6 8 20 10	2 Yes 6 8 20 10	2 Yes 6 8 20 10	
COOLER* Net Fluid Volume (L) Maximum Refrigerant Pressure (kPa) Maximum Fluid Side Pressure (kPa)	Flooded Type Shell and Tube with Enhanced Copper Tubes															
72 1517 2069	72 1517 2069	72 1517 2069	72 1517 2069	86 1517 2069	86 1517 2069	86 1517 2069	79 1517 2069	126 1517 2069	91 1517 2069	126 1517 2069	91 1517 2069	91 1517 2069	91 1517 2069	91 1517 2069	108 1517 2069	
FLUID CONNECTIONS (in.) Inlet and Outlet Drain (NPT)	Victaulic Connections															
4 1/2	4 1/2	4 1/2	4 1/2	5 1/2	5 1/2	5 1/2	4 1/2	5 1/2	4 1/2	5 1/2	4 1/2	5 1/2	4 1/2	4 1/2	5 1/2	
CONDENSER FANS Standard/Low Noise Type Fan Speed (r/s) No. Blades...Dia. (mm) No. Fans...Total kW Total Airflow (L/s) High Static Type Fan Speed (r/s) No. Blades...Dia. (mm) No. Fans...Total kW Total Airflow (L/s)†	Shrouded Axial Type, Vertical Discharge															
15.8 11...762 4...6.4 18 500	15.8 11...762 6...9.6 27 751	15.8 11...762 4...6.4 18 500	15.8 11...762 6...9.6 27 751	15.8 11...762 6...9.6 27 751	15.8 11...762 6...9.6 27 751	15.8 11...762 6...9.6 27 751	15.8 11...762 8...12.8 37 001	15.8 11...762 8...12.8 37 001	15.8 11...762 6...9.6 27 751	15.8 11...762 8...12.8 37 001	15.8 11...762 6...9.6 27 751	15.8 11...762 8...12.8 37 001	15.8 11...762 8...12.8 37 001	15.8 11...762 8...12.8 37 001	15.8 11...762 10...16 46 251	15.8 11...762 8...12.8 37 001
24.1 12...762 4...16.4 18 500	24.1 12...762 6...24.6 27 751	24.1 12...762 4...16.4 18 500	24.1 12...762 6...24.6 27 751	24.1 12...762 6...24.6 27 751	24.1 12...762 6...24.6 27 751	24.1 12...762 6...24.6 27 751	24.1 12...762 8...32.8 37 001	24.1 12...762 8...32.8 37 001	24.1 12...762 6...24.6 27 751	24.1 12...762 8...32.8 37 001	24.1 12...762 6...24.6 27 751	24.1 12...762 8...32.8 37 001	24.1 12...762 8...32.8 37 001	24.1 12...762 10...41 46 251	24.1 12...762 8...32.8 37 001	24.1 12...762 8...32.8 37 001
CONDENSER COILS Fins/m No. Rows Total Face Area (sq m) Maximum Working Pressure (kPa)	3/8-in. OD Copper Tubes with Aluminum Fins															
669 3 12.5 3103	669 3 15.1 3103	669 3 12.5 3103	669 3 15.1 3103	669 4 15.0 3103	669 4 15.1 3103	669 3 15.0 3103	669 4 20.1 3103	669 3 15.0 3103	669 4 20.1 3103	669 4 20.1 3103	669 4 20.1 3103	669 4 20.1 3103	669 4 20.1 3103	669 4 26.1 3103	669 4 20.1 3103	

UNIT SIZE 30GXN,R	163	175	178	205	208	225	228	250	253	264	268	281	301	325	350	
OPERATING WEIGHT (kg) Cu-Al Cu-Cu	4663 5419	4293 4922	4669 5426	5672 6300	6395 9045	5890 6514	6402 9052	6163 6920	7591 9045	6306 7077	7598 9052	8490 9944	8499 9953	8517 9971	8450 9994	
REFRIGERANT TYPE Refrigerant Charge (kg) Ckt-A/Ckt-B	HFC-134a															
119/100	119/94	119/119	109/84	150/79	129/98	154/79	141/84	186/93	154/98	186/98	175/175	181/181	188/188	195/195		
COMPRESSORS Quantity Economized No. Capacity Steps Standard Optional (maximum) Min. Capacity Step (%) Standard Optional	Semi-Hermetic, Twin Screw															
2 Yes 6 8 20 10	2 Yes 6 8 20 10	2 Yes 6 8 20 10	3 Yes 8 10 15 10	3 Yes 8 10 15 10	3 Yes 8 10 15 10	3 Yes 8 10 15 10	3 Yes 8 10 15 10	3 Yes 8 10 15 10	3 Yes 8 10 15 10	3 Yes 8 10 15 10	3 Yes 8 10 15 10	4 Yes 10 12 15 5	4 Yes 10 12 15 5	4 Yes 10 12 15 5	4 Yes 10 12 15 5	
COOLER* Net Fluid Volume (L) Maximum Refrigerant Pressure (kPa) Maximum Fluid Side Pressure (kPa)	Flooded Type Shell and Tube with Enhanced Copper Tubes															
108 1517 2069	108 1517 2069	108 1517 2069	146 1517 2069	146 1517 2069	163 1517 2069	163 1517 2069	179 1517 2069	179 1517 2069	179 1517 2069	179 1517 2069	179 1517 2069	212 1517 2069	212 1517 2069	212 1517 2069	212 1517 2069	
FLUID CONNECTIONS (in.) Inlet and Outlet Drain (NPT)	Victaulic Connections															
5 1/2	5 1/2	5 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	6 1/2	8 1/2	8 1/2	8 1/2	8 1/2	
CONDENSER FANS Standard/Low Noise Type Fan Speed (r/s) No. Blades...Dia. (mm) No. Fans...Total kW Total Airflow (L/s) High Static Type Fan Speed (r/s) No. Blades...Dia. (mm) No. Fans...Total kW Total Airflow (L/s)†	Shrouded Axial Type, Vertical Discharge															
15.8 11...762 12...19.2 55 501	15.8 11...762 10...16 46 251	15.8 11...762 12...19.2 55 501	15.8 11...762 10...16 46 251	15.8 11...762 14...22.4 64 752	15.8 11...762 10...16 46 251	15.8 11...762 10...16 46 251	15.8 11...762 12...19.2 55 501	15.8 11...762 12...19.2 55 501	15.8 11...762 16...25.6 74 851	15.8 11...762 12...19.2 55 501	15.8 11...762 16...25.6 74 851	15.8 11...762 16...25.6 74 002	15.8 11...762 16...25.6 74 002	15.8 11...762 16...25.6 74 002	15.8 11...762 16...25.6 74 002	15.8 11...762 16...25.6 74 002
24.1 12...762 12...49.2 55 501	24.1 12...762 10...41 46 251	24.1 12...762 12...49.2 55 501	24.1 12...762 10...41 46 251	24.1 12...762 14...57.4 64 752	24.1 12...762 10...41 46 251	24.1 12...762 10...41 46 251	24.1 12...762 12...49.2 55 501	24.1 12...762 12...49.2 55 501	24.1 12...762 16...65.6 74 851	24.1 12...762 12...49.2 55 501	24.1 12...762 16...65.6 74 851	24.1 12...762 16...65.6 74 002	24.1 12...762 16...65.6 74 002	24.1 12...762 16...65.6 74 002	24.1 12...762 16...65.6 74 002	24.1 12...762 16...65.6 74 002
CONDENSER COILS Fins/m No. Rows Total Face Area (sq m) Maximum Working Pressure (kPa)	3/8-in. OD Copper Tubes with Aluminum Fins															
669 4 30.1 3103	669 3 25 3103	669 4 30.1 3103	669 3 25 3103	669 4 35.1 3103	669 4 25 3103	669 4 25 3103	669 3 30.1 3103	669 4 40.1 3103	669 4 30.1 3103	669 4 40.1 3103	669 4 40.1 3103	669 4 40.1 3103	669 4 40.1 3103	669 4 40.1 3103	669 4 40.1 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.

Physical data (cont)



50 Hz DUPLEX UNITS — SI

UNIT SIZE 30GXN,R	220	240	275	283	300	303	320	328	345	353	365	373
OPERATING WEIGHT (kg)												
Cu-Al	6299	6777	6998	8379	7614	8649	8230	9 062	8588	9 339	9 662	11 578
Cu-Cu	6920	7408	7633	9445	8431	9837	9228	10 454	9844	10 852	10 736	13 463
REFRIGERANT CHARGE												
Circuits Qty	4	4	4	4	4	4	4	4	4	4	4	4
Module A Ckt A/Ckt B (kg)	73/64	73/64	79/79	119/81	82/110	119/100	82/110	119/119	119/94	119/119	141/84	186/93
Module B Ckt A/Ckt B (kg)	52/44	73/56	79/79	86/79	79/79	86/79	82/110	119/81	119/94	119/119	79/79	86/79
COMPRESSORS												
Quantity	4	4	4	4	4	4	4	4	4	4	5	5
Economized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps												
Standard	12	12	12	12	12	12	12	12	12	12	14	14
Optional (maximum)	16	16	16	16	16	16	16	16	16	16	18	18
Min. Capacity Step (%)												
Standard	8	9.5	10	10	9	10	10	10	10	10	7.5	8
Optional	4	5	5	5	4.5	5	5	5	5	5	3.5	4
COOLER*												
Net Fluid Volume (L)	198.0	212.0	252.9	182	234.3	199	215.8	199	215.8	216	305.1	270
Max Refrigerant Pressure (kPa)	1517	1517	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	2069	2069
FLUID CONNECTIONS												
Inlet and Outlet (in.)	8	8	8	8	8	8	8	8	8	8	8	8
Cooler Interconnecting (in.)	8	8	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	2...1/2	2...1/2
CONDENSER FANS												
Standard/Low Noise Type												
Fan Speed (r/s)	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1
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
No. Fans...Total kW	10...16	12...19.2	12...19.2	18...28.8	14...22.4	20...32	16...25.6	22...35.2	20...32	24...38.4	18...28.8	24...38.4
Total Airflow (L/s)	46 251	55 502	55 502	83 252	64 752	92 502	74 002	101 752	92 503	111 003	83 252	111 003
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	24.1	24.1	24.1
No. Blades...Dia (mm)	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	10...16	12...19.2	12...19.2	18...28.8	14...22.4	20...32	16...25.6	22...35.2	20...32	24...38.4	18...28.8	24...38.4
Total Airflow (L/s)†	46 251	55 502	55 502	83 252	64 752	92 502	74 002	101 752	92 503	111 003	83 252	111 003
CONDENSER COILS												
Fins/m	669	669	669	669	669	669	669	669	669	669	669	669
No. Rows	3	3	4	4	4	4	4	4	3	4	3/4**	4
Total Face Area (sq m)	27.6	30.1	30.1	45.2	35.1	50.2	40.1	55.2	50.2	60.2	45.2	60.2
Maximum Working Pressure (kPa)	3103	3103	3103	3103	3103	3103	3103	3103	3103	3103	3103	3103

UNIT SIZE 30GXN,R	393	395	410	418	440	453	470	478	495	503	520	528
OPERATING WEIGHT (kg)												
Cu-Al	11 984	9 805	11 562	11 991	11 780	12 804	12 180	13 994	12 580	15 183	12 612	15 197
Cu-Cu	14 073	10 894	12 814	14 080	13 027	18 104	13 575	18 097	14 122	15 197	14 154	18 104
REFRIGERANT CHARGE												
Circuits Qty	4	4	4	4	4	4	4	4	4	4	4	4
Module A Ckt A/Ckt B (kg)	186/93	154/98	129/98	186/98	129/98	154/79	141/84	186/93	141/84	186/93	154/98	186/98
Module B Ckt A/Ckt B (kg)	119/81	79/79	109/84	119/81	129/98	154/79	129/98	154/79	141/84	186/93	154/98	186/98
COMPRESSORS												
Quantity	5	5	6	5	6	6	6	6	6	6	6	6
Economized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps												
Standard	14	14	16	14	16	16	16	16	16	16	16	16
Optional (maximum)	18	18	20	18	20	20	20	20	20	20	20	20
Min. Capacity Step (%)												
Standard	8	7	7.5	8	7.5	7.5	8	8	7.5	7.5	7.5	7.5
Optional	4	3.5	5	4	5	5	4	4	5	5	5	5
COOLER*												
Net Fluid Volume (L)	270	305.1	308.9	270	326.3	326	342	342	357	357	357	357
Max Refrigerant Pressure (kPa)	1517	1517	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	2069	2069
FLUID CONNECTIONS												
Inlet and Outlet (in.)	8	8	8	8	8	8	8	8	8	8	8	8
Cooler Interconnecting (in.)	8	8	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	2...1/2	2...1/2
CONDENSER FANS												
Standard/Low Noise Type												
Fan speed (r/s)	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1	24.1
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
No. Fans...Total kW	26...41.6	18...28.8	20	26...41.6	20	28...44.8	22...35.2	30...48	24...38.4	32...51.2	24...38.4	32...51.2
Total Airflow (L/s)	120 253	83 252	92 503	120 253	92 503	129 503	101 752	138 753	111 003	148 004	111 003	148 004
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	24.1	24.1	24.1
No. Blades...Dia (mm)	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	26...107	18...28.8	20...82	26...107	20...32	28...115	22...90.2	30...123	24...98.4	32...131	24...98.4	32...131
Total Airflow (L/s)†	120 253	83 252	92 503	120 253	92 503	129 503	101 752	138 753	111 003	148 004	111 003	148 004
CONDENSER COILS												
Fins/m	669	669	669	669	669	669	669	669	669	669	669	669
No. Rows	4	4	4/3**	4	4	4	4	4	5	4	4	4
Total Face Area (sq m)	65.2	45.2	50.2	65.2	50.2	70.2	55.2	75.3	60.2	80.3	60.2	80.3
Maximum Working Pressure (kPa)	3103	3103	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.

**Module A/Module B.

Physical data — English



50 Hz UNITS — ENGLISH

UNIT SIZE 30GXN,R	080	083	090	093	106	108	115	118	125	128	135	138	150	153	160
OPERATING WEIGHT (lb)															
Cu-Al	6313	6907	6333	7201	7514	7662	7388	8649	7553	8664	7714	8789	8784	9,684	9,072
Cu-Cu	6988	7602	7008	7896	8209	8357	8083	9699	8248	9714	8414	9739	9834	11,084	10,172
REFRIGERANT TYPE	HFC-134a														
Refrigerant Charge (lb)															
Ckt-A/Ckt-B	106/96	128/123	115/96	135/123	150/123	135/123	160/123	170/151	160/141	190/151	175/175	190/175	156/228	263/178	181/243
COMPRESSORS	Semi-Hermetic, Twin Screw														
Quantity	2	2	2	2	2	2	2	2	2	2	2	2	2	2	2
Economized	No	No	No	No	No	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps															
Standard	6	6	6	6	6	6	6	6	6	6	6	6	6	6	6
Optional (maximum)	8	8	8	8	8	8	8	8	8	8	8	8	8	8	8
Min. Capacity Step (%)															
Standard	20	20	20	20	20	20	20	20	20	20	20	20	20	20	20
Optional	10	10	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	18.9	18.9	22.6	22.6	22.6	20.9	33.4	24	33.4	24	24	24	28.5
Maximum Refrigerant Pressure (psig)	220	220	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	300	300
FLUID CONNECTIONS (in.)	Victaulic Connections														
Inlet and Outlet	4	4	4	4	5	5	5	4	5	4	5	4	4	4	5
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	1/2	1/2
CONDENSER FANS	Shrouded Axial Type, Vertical Discharge														
Standard/Low Noise Type															
Fan Speed (rpm)	950	950	950	950	950	950	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	11...30	11...30	11...30	11...30	11...30	11...30
No. Fans...Total kW	4...6.4	6...9.6	4...6.4	6...9.6	6...9.6	6...9.6	6...9.6	8...12.8	6...9.6	8...12.8	6...9.6	8...12.8	8...12.8	10...16	8...12.8
Total Airflow (cfm)	39,200	58,800	39,200	58,800	58,800	58,800	58,800	78,400	58,800	78,400	58,800	78,400	78,400	98,000	78,400
High Static Type															
Fan Speed (rpm)	1445	1445	1445	1445	1445	1445	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	12...30	12...30	12...30	12...30	12...30	12...30
No. Fans...Total kW	4...16.4	6...24.6	4...16.4	6...24.6	6...24.6	6...24.6	6...24.6	8...32.8	6...24.6	8...32.8	6...24.6	8...32.8	8...32.8	10...41	8...32.8
Total Airflow (cfm)†	39,200	58,800	39,200	58,800	58,800	58,800	58,800	78,400	58,800	78,400	58,800	78,400	78,400	98,000	78,400
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	17	17
No. Rows	3	3	3	4	4	4	3	4	3	4	4	4	4	4	4
Total Face Area (sq ft)	135	162	135	162	162	162	162	216	162	216	162	216	216	270	216
Maximum Working Pressure (psig)	450	450	450	450	450	450	450	450	450	450	450	450	450	450	450

UNIT SIZE 30GXN,R	163	175	178	205	208	225	228	250	253	264	268	281	301	325	350
OPERATING WEIGHT (lb)															
Cu-Al	10,279	9,466	10,294	12,505	14,099	12,985	14,114	13,587	16,736	13,902	16,751	18,718	18,738	18,778	18,828
Cu-Cu	11,947	10,851	11,962	13,890	19,941	14,360	19,956	15,255	19,941	15,602	19,956	21,923	21,943	21,983	22,033
REFRIGERANT TYPE	HFC-134a														
Refrigerant Charge (lb)															
Ckt-A/Ckt-B	263/220	263/207	263/263	240/185	330/175	285/215	340/175	310/185	410/205	339/215	410/215	385/385	400/400	415/415	430/430
COMPRESSORS	Semi-Hermetic, Twin Screw														
Quantity	2	2	2	3	3	3	3	3	3	3	3	4	4	4	4
Economized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps															
Standard	6	6	6	8	8	8	8	8	8	8	8	10	10	10	10
Optional (maximum)	8	8	8	10	10	10	10	10	10	10	10	12	12	12	12
Min. Capacity Step (%)															
Standard	20	20	20	15	15	15	15	15	15	15	15	10	10	10	10
Optional	10	10	10	10	10	10	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	28.5	28.5	38.5	38.5	43.1	43.1	47.2	47.2	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	220	220	220	220	220	220
Maximum Fluid Side Pressure (psig)	300	300	300	300	300	300	300	300	300	300	300	300	300	300	300
FLUID CONNECTIONS (in.)	Victaulic Connections														
Inlet and Outlet	5	5	5	6	6	6	6	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	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)	950	950	950	950	950	950	950	950	950	950	960	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	11...30	11...30	11...30	11...30	11...30	11...30
No. Fans...Total kW	12...19.2	10...16	12...19.2	10...16	14...22.4	10...16	14...22.4	12...19.2	16...25.6	12...19.2	16...25.6	16...25.6	16...25.6	16...25.6	16...25.6
Total Airflow (cfm)	117,600	98,000	117,600	98,000	137,200	98,000	137,200	117,600	158,600	117,600	158,600	156,800	156,800	156,800	156,800
High Static Type															
Fan Speed (rpm)	1445	1445	1445	1445	1445	1445	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	12...30	12...30	12...30	12...30	12...30	12...30
No. Fans...Total kW	12...49.2	10...16	12...49.2	10...16	14...57.4	10...16	14...57.4	12...49.2	16...65.6	12...49.2	16...65.6	16...65.6	16...65.6	16...65.6	16...65.6
Total Airflow (cfm)†	117,600	98,000	117,600	98,000	137,200	98,000	137,200	117,600	158,600	117,600	158,600	158,600	158,600	158,600	158,600
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	17	17
No. Rows	4	3	4	3	4	4	3	4	4	4	4	4	4	4	4
Total Face Area (sq ft)	324	270	324	270	378	270	378	324	432	324	432	432	432	432	432
Maximum Working Pressure (psig)	450	450	450	450	450	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 — English (cont)



50 Hz DUPLEX UNITS — ENGLISH

UNIT SIZE 30GXN,R	220	240	275	283	300	303	320	328	345	353	365	373
OPERATING WEIGHT (lb)												
Cu-Al	13,886	14,942	15,429	18,473	16,786	19,068	18,144	19,978	18,932	20,588	21,301	25,525
Cu-Cu	15,256	16,331	16,828	20,823	18,586	21,686	20,344	23,046	21,702	23,924	23,669	29,680
REFRIGERANT CHARGE												
Circuits Qty	4	4	4	4	4	4	4	4	4	4	4	4
Module A Ckt A/Ckt B (lb)	160/141	160/141	175/175	263/178	181/243	263/220	181/243	263/263	263/207	263/263	310/185	410/205
Module B Ckt A/Ckt B (lb)	115/96	160/123	175/175	190/175	175/175	190/175	181/243	263/178	263/207	263/263	175/175	190/175
COMPRESSORS												
Quantity	4	4	4	4	4	4	4	4	4	4	4	4
Economized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps												
Standard	12	12	12	12	12	12	12	12	12	12	14	14
Optional (maximum)	16	16	16	16	16	16	16	16	16	16	18	18
Min. Capacity Step (%)												
Standard	8	9.5	10	10	9	10	10	10	10	10	7.5	8
Optional	4	5	5	5	4.5	5	5	5	5	5	3.5	4
COOLER*												
Net Fluid Volume (gal)	52.3	56	66.8	48.0	61.9	52.5	57	52.5	57	57.0	80.6	71.2
Max Refrigerant Pressure (psig)	220	220	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	300	300
FLUID CONNECTIONS												
Inlet and Outlet (in.)	8	8	8	8	8	8	8	8	8	8	8	8
Cooler Interconnecting (in.)	8	8	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	2...1/2	2...1/2
CONDENSER FANS												
Standard/Low Noise Type												
Fan Speed (rpm)	1140	1140	1140	950	1140	950	1140	950	1140	950	1140	950
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
No. Fans...Total kW	10...16	12...19.2	12...19.2	18...28.8	14...22.4	20...32	16...25.6	22...35.2	20...32	24...38.4	18...28.8	24...38.4
Total Airflow (cfm)	98,000	117,600	117,600	176,400	137,200	196,000	156,800	215,600	196,000	235,200	176,400	235,200
High Static Type												
Fan Speed (rpm)	1750	1750	1750	1445	1750	1445	1750	1445	1750	1445	1750	1445
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
No. Fans...Total kW	10...41	12...49.2	12...49.2	18...73.8	14...57.4	20...82	16...65.6	22...90.2	20...82	24...98.4	18...73.8	24...98.4
Total Airflow (cfm)†	98,000	117,600	117,600	176,400	137,200	196,000	156,800	215,600	196,000	235,200	176,400	235,200
CONDENSER COILS												
Fins/in.	17	17	17	17	17	17	17	17	17	17	17	17
No. Rows	3	3	4	4	4	4	4	4	3	4	3/4**	4
Total Face Area (sq ft)	297	324	324	486	378	540	432	593	540	594	486	648
Maximum Working Pressure (psig)	450	450	450	450	450	450	450	450	450	450	450	450

UNIT SIZE 30GXN,R	393	395	410	418	440	453	470	478	495	503	520	528
OPERATING WEIGHT (lb)												
Cu-Al	26,420	21,616	25,490	26,435	25,970	28,228	26,572	30,850	27,174	33,472	27,804	33,502
Cu-Cu	31,025	24,016	28,250	31,040	28,720	39,912	29,615	39,897	30,510	33,502	31,204	39,912
REFRIGERANT CHARGE												
Circuits Qty	4	4	4	4	4	4	4	4	4	4	4	4
Module A Ckt A/Ckt B (lb)	410/205	339/215	285/215	410/215	285/215	340/175	310/185	410/205	310/185	410/205	339/215	410/215
Module B Ckt A/Ckt B (lb)	263/178	175/175	240/185	263/178	285/215	340/175	285/215	340/175	310/185	410/205	339/215	410/215
COMPRESSORS												
Quantity	5	5	6	5	6	6	6	6	6	6	6	6
Economized	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes	Yes
No. Capacity Steps												
Standard	14	14	16	14	16	16	16	16	16	16	16	16
Optional (maximum)	18	18	20	18	20	20	20	20	20	20	20	20
Min. Capacity Step (%)												
Standard	8	7	7.5	8	7.5	7.5	8	8	7.5	7.5	7.5	7.5
Optional	4	3.5	5	4	5	5	4	4	5	5	5	5
COOLER*												
Net Fluid Volume (gal)	71.2	80.6	81.6	71.2	86.2	86.2	90.3	90.3	94.4	94.4	94.4	94.4
Max Refrigerant Pressure (psig)	220	220	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	300	300
FLUID CONNECTIONS												
Inlet and Outlet (in.)	8	8	8	8	8	8	8	8	8	8	8	8
Cooler Interconnecting (in.)	8	8	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	2...1/2	2...1/2
CONDENSER FANS												
Standard/Low Noise Type												
Fan Speed (rpm)	950	1140	1140	950	1140	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	11...30	11...30	11...30
No. Fans...Total kW	26...41.6	18...28.8	20...32	26...41.6	20...32	28...44.8	22...35.2	30...48	24...38.4	32...51.2	24...38.4	32...51.2
Total Airflow (cfm)	254,800	176,400	196,000	254,800	196,000	274,400	215,600	294,000	235,200	313,600	235,200	313,600
High Static Type												
Fan Speed (rpm)	1445	1750	1750	1445	1750	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	12...30	12...30	12...30
No. Fans...Total kW	26...107	18...73.8	20...82	26...107	20...82	28...115	22...90.2	30...123	24...98.4	32...131	24...98.4	32...131
Total Airflow (cfm)†	254,800	176,400	196,000	254,800	196,000	274,400	215,600	294,000	235,200	313,600	235,200	313,600
CONDENSER COILS												
Fins/in.	17	17	17	17	17	17	17	17	17	17	17	17
No. Rows	4	4	4/3**	4	4	4	4	4	4	4	4	4
Total Face Area (sq ft)	702	486	540	701	540	756	594	810	648	864	648	864
Maximum Working Pressure (psig)	450	450	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.

**Module A/Module B.

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
Low-Ambient Protection	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
Trim Kit		X
Energy Management Module	X	X
High Ambient Fans	X	
Duplex Flex Pipe		X

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 and all high efficiency models).

125 F (51.7 C) electric service rating — Higher electric service temperature ratings allows maximum ambient temperature operation.

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). Cooler head insulation is required with this option.

IMPORTANT: Adding antifreeze solution is the only certain means of protecting the unit from freeze-up if heater fails or electrical service is interrupted during low temperatures.

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 selection or demand limit control from a 4 to 20 mA signal, 2-step 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.

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.

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 operation Motormaster® 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. (Motormaster control cannot be used with high-static fan option.)

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

High-static 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). (Not for use with Motormaster control.)

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

High ambient fans — This option increases condenser airflow through the use of a variation of the Flying Bird fan and higher capacity motors and provides better performance at extreme ambient temperature. (Not for use with Motormaster control.)

Options and accessories (cont)



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 74 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.

Field-installed accessories

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. (for indoor use only)

Chillervisor System Manager III multi-unit control — This accessory allows sequencing of between 3 and 8 chillers in parallel. 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 head pressure control — Permits starting and operating down to -20 F (-29 C) outside ambient temperature. Requires field-installed wind baffles. (Motormaster control cannot be used with high-static fan option.)

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 selection or demand limit control from a 4 to 20 mA signal; 2-step 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.

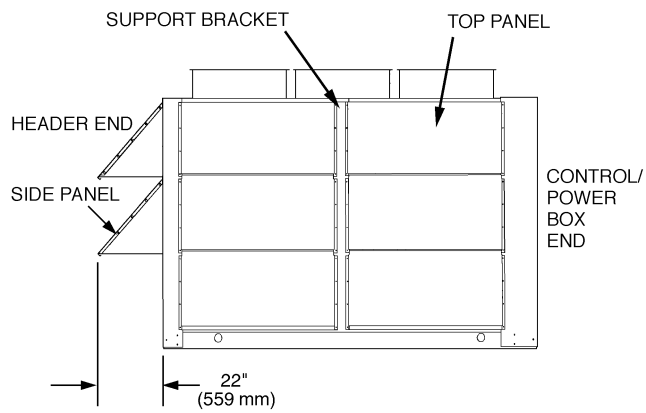
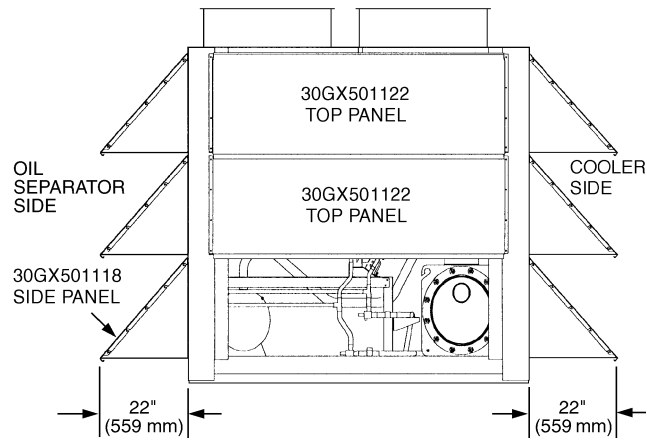
Cooler head insulation — This accessory is designed with flexible, 3/4-in. (19 mm) PVC foam (closed-cell) to insulate the cooler heads and economizer vessel to minimize heat loss and head sweating.

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.

Duplex trim kit accessory — The duplex trim kit accessory is available for field installation between unit modules. The kit contains sheet metal base rail pieces and all required mounting hardware. The kit also allows for inter-connecting piping support.

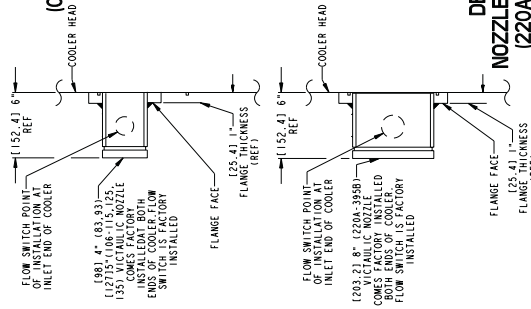
Duplex flex pipe — An 8 in. x 16 in. flexible pipe is available for duplex piping to provide chilled water vibration isolation and to complete piping between modules.

TYPICAL ACCESSORY SOUND REDUCTION/HAIL GUARD/ WIND BAFFLE HOODS

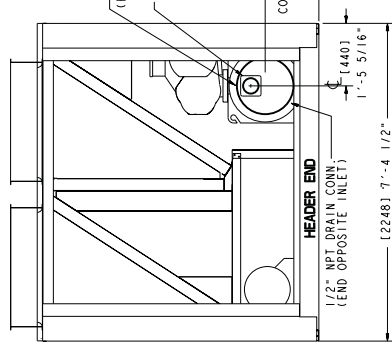


30GXN,R083, 093, 106, 108, 115, 125, 135

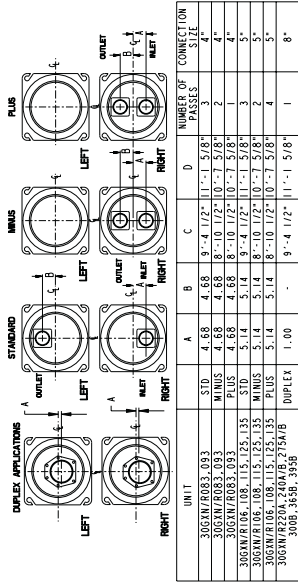
DETAIL "A" NOZZLE CONNECTIONS (083,093-115,125,135 SIZES)



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

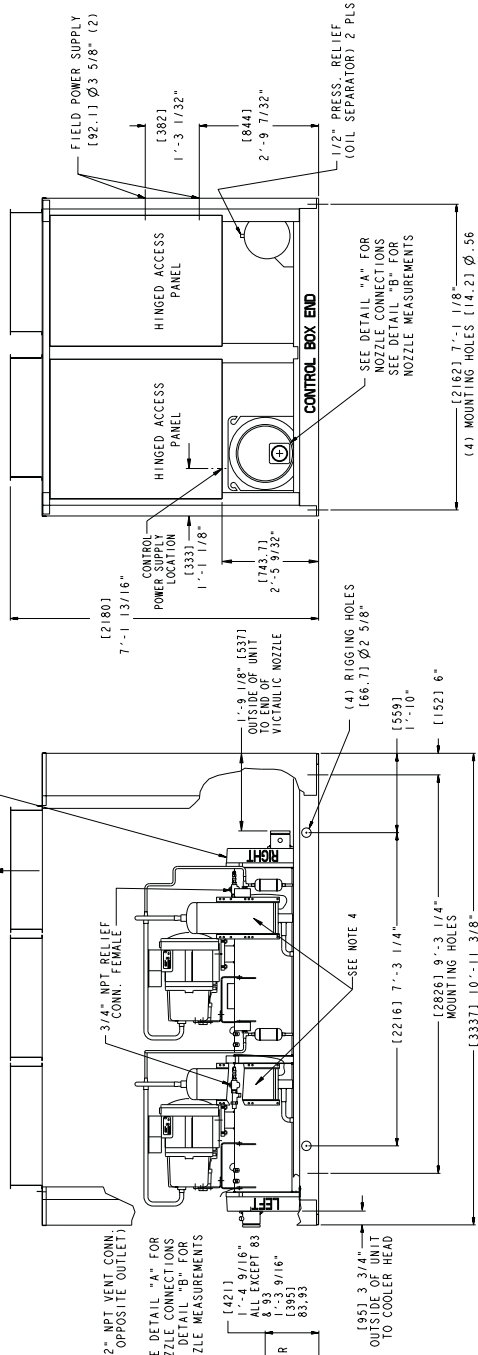


UNIT	TOTAL OPERATING WEIGHT LBS	TOTAL OPERATING WEIGHT KG	TOTAL OPERATING WEIGHT LBS	TOTAL OPERATING WEIGHT KG
30GXN/R083	6907	3133	7602	3448
30GXN/R093	7514	3408	8209	3724
30GXN/R108	7662	3475	8357	3791
30GXN/R115, 240B	7388	3351	8053	3667
30GXN/R125, 220A, 240A	7553	3426	8248	3741
30GXN/R135, 275A/B	7714	3499	8414	3817
300B-395B-395B				

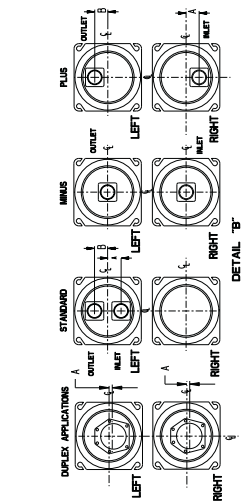


DETAIL "B"

- NOTES: 1. 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.
 2. UNITS WITH HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP: DO NOT RESTRICT IN ANY WAY.
 ENDS: (1524 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.
 SIDES: (1829 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.
 3. SEE INSTALLATION INSTRUCTIONS FOR ALL OTHER VALUES.
 CLEARANCE EITHER END
4. FLOWMETERS ARE FACTORY INSTALLED ON SIZES 108, 115, 125, 135 ONLY.
 STANDARD ELECTRONIC EXPANSION VALVES ARE INSTALLED ON 106, 108, 115, 125, 135 SIZES.
 5. FLUID NOZZLE.
 6. REFER TO DRAWING 30GX504491 FOR SIZE 220 INLET/OUTLET INLET/OUTLET PIPING.
 REFER TO DRAWING 30GX504492 FOR SIZES 240 & 275 INLET/OUTLET PIPING.
 REFER TO DRAWING 30GX504493 FOR SIZES 300 INLET/OUTLET PIPING.
 REFER TO DRAWING 30GX504496 FOR SIZES 365 INLET/OUTLET PIPING.

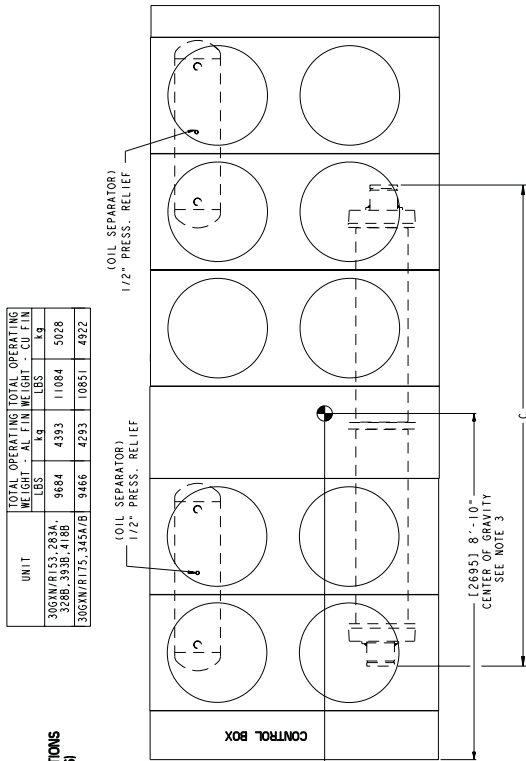
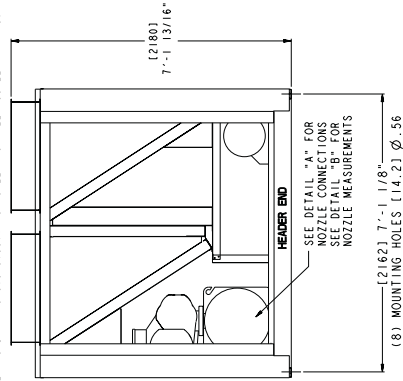


30GXN,R153, 175

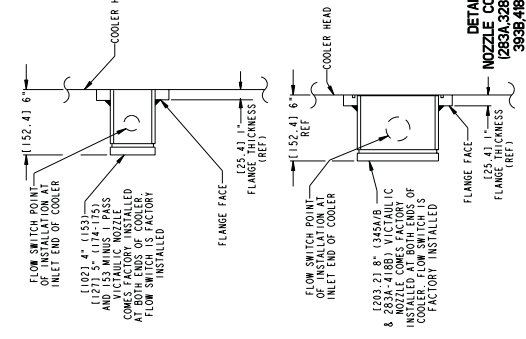


UNIT	A	B	C	NUMBER OF CONNECTION PASSES
30GXN/R153 STD	4.68	4.68	11'-6 1/2"	1
30GXN/R153 M MINUS	-	-	12'-0 1/2"	1
30GXN/R153 PLUS	4.68	4.68	12'-0 1/2"	3
30GXN/R175 STD	5.14	5.14	11'-6 1/2"	2
30GXN/R175 PLUS	5.14	5.14	12'-0 1/2"	3
30GXN/R145A/B DUPLEX	1.00	-	12'-0 1/2"	1
30GXN/R283A, 328B, 393B, 418B	-	-	12'-0 1/2"	1

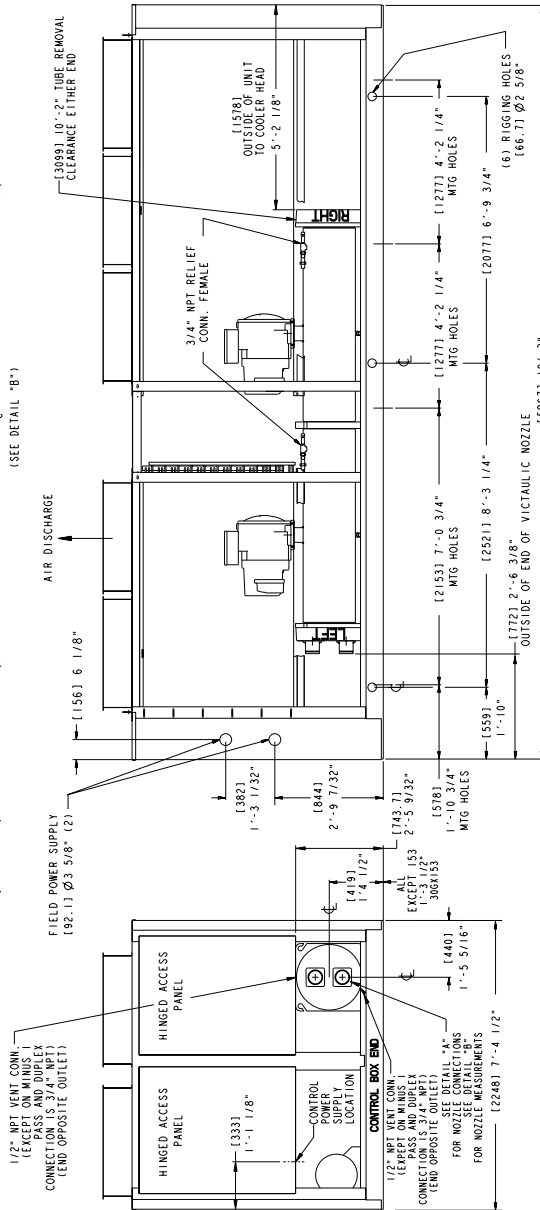
- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - (11524 MM) 5 FT. FROM SOLID SURFACE.
 SIDES - (11829 MM) 6 FT. FROM SOLID SURFACE.
 FLOW AS FOLLOWS. HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS.
 2. UNITS WITH HOODS - DO NOT RESTRICT IN ANY WAY.
 ENDS - (11524 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
 SIDES - (11829 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.
 3. CENTER OF GRAVITY SHOWN IS FOR UNITS WITH HOODS.
 4. SEE INSTALLATION INSTRUCTIONS FOR ALL OTHER VALUES.
 5. FLOW SWITCH IS FACTORY INSTALLED IN THE ENTERING AIR DUCT.
 6. REFER TO DRAWING 30GX502945 FOR SIZE 283 INLET/OUTLET PIPING.
 7. REFER TO DRAWING 30GX502997 FOR SIZE 328 INLET/OUTLET PIPING.
 8. REFER TO DRAWING 30GX504495 FOR SIZE 345 INLET/OUTLET PIPING.
 9. REFER TO DRAWING 30GX505300 FOR SIZE 388 INLET/OUTLET PIPING.
 10. REFER TO DRAWING 30GX505300 FOR SIZE 418 INLET/OUTLET PIPING.



DETAIL "A"
 NOZZLE CONNECTIONS
 (153, 175 SIZES)



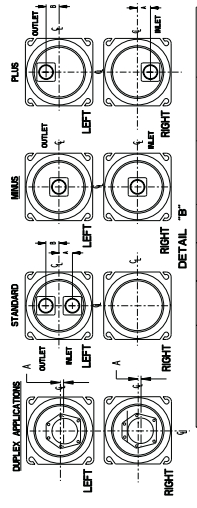
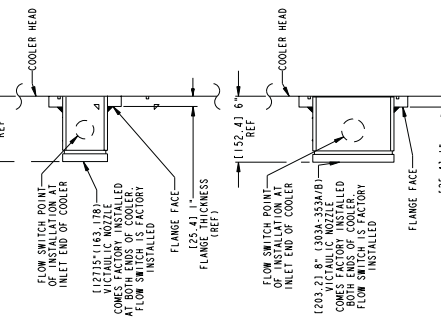
DETAIL "A"
 NOZZLE CONNECTIONS
 (283A, 328B, 393B, 418B SIZES)



DETAIL "B"

30GXN,R163, 178

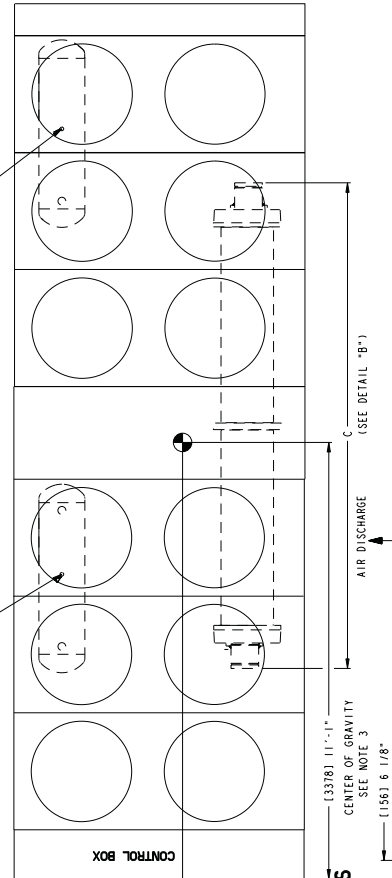
DETAIL "A" NOZZLE CONNECTIONS (163,178 SIZE)



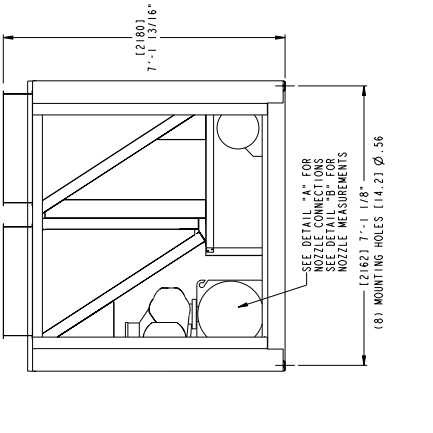
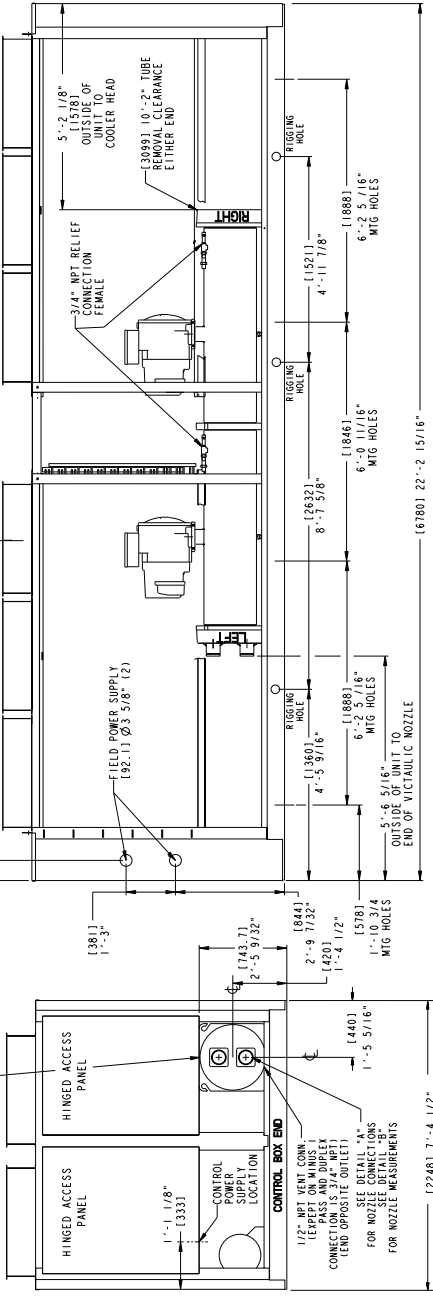
UNIT	A	B	C	NUMBER OF CONNECTION PASSES	SIZE
30GXN/R163, 178	STD	5.14	5.14	11'-6 1/2"	2
30GXN/R163, 178	MINUS	-	-	12'-0 1/2"	1
30GXN/R163, 178	PLUS	5.14	5.14	12'-0 1/2"	3
30GXN/R303A, 328A, 353A/B	DUPLEX	1.00	-	12'-0 1/2"	1
					8"

UNIT	WEIGHT - AL	WEIGHT - CU	FIN
	LBS	KG	LBS
30GXN/R163, 303A	10279	4662	11947
30GXN/R178, 328A, 353A/B	10274	4669	11962
30GXN/R163, 178	5419		5419

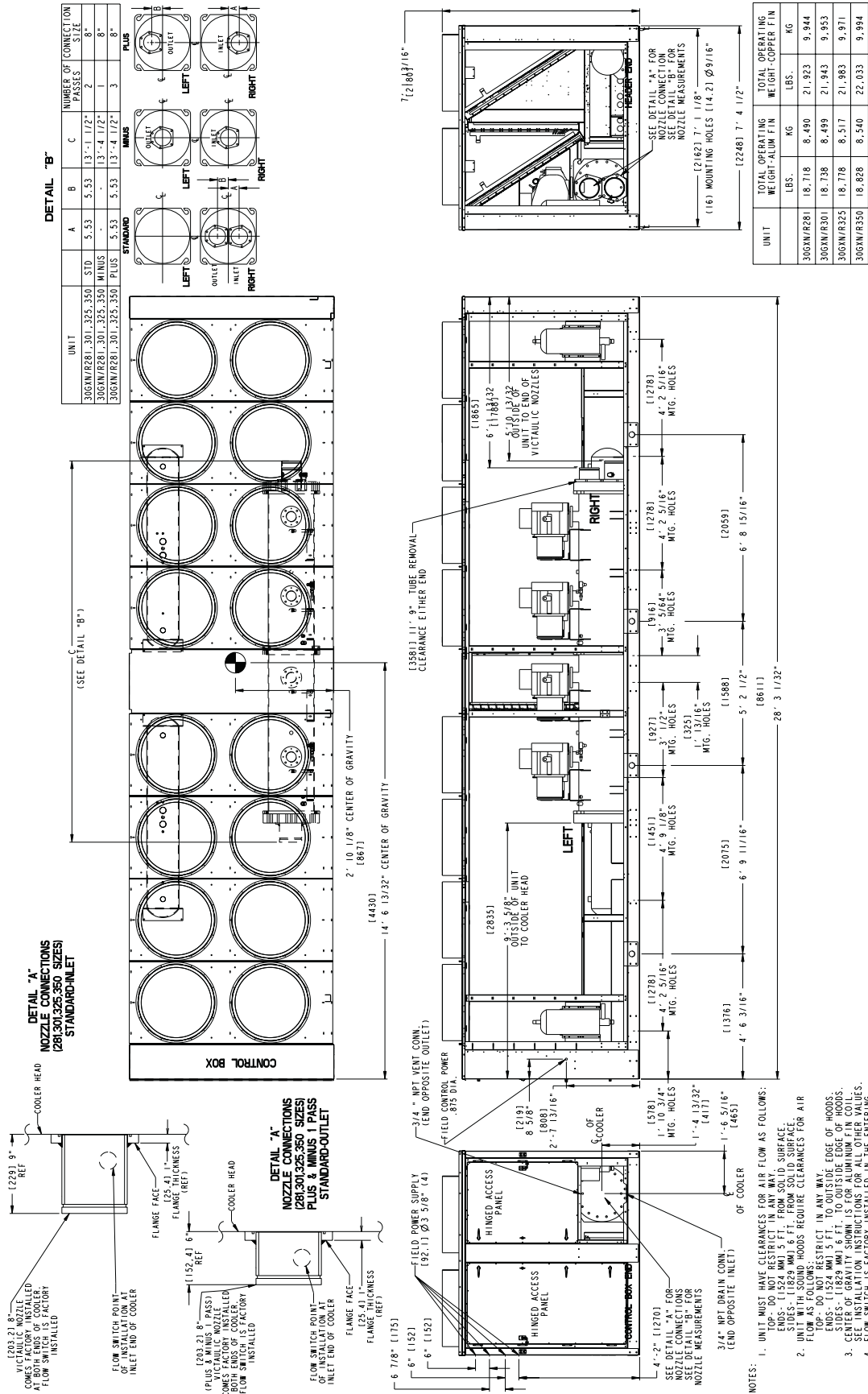
NOTES:
 1. UNITS DO NOT HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 SIDES - (1829 MM) 6 FT. FROM SOLID SURFACE.
 ENDS - (1524 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
 2. UNITS DO NOT RESTRICT IN ANY WAY.
 TOP - DO NOT RESTRICT IN ANY WAY.
 SIDES - (1829 MM) 6 FT. FROM SOLID SURFACE.
 ENDS - (1524 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
 3. CENTER OF GRAVITY SHOWN IS FOR MINIMUM FIN COILS.
 4. FLOW SWITCH IS FACTORY INSTALLED IN THE ENTERING REFER TO DRAWING 30GX505296 FOR SIZE 303 INLET/OUTLET PIPING.
 5. REFER TO DRAWING 30GX505297 FOR SIZE 328 INLET/OUTLET PIPING.
 6. REFER TO DRAWING 30GX505298 FOR SIZE 353 INLET/OUTLET PIPING.



DETAIL "A" NOZZLE CONNECTIONS (303A,328A & 353A/B SIZES)



30GXN.R281-350



- NOTES:**
- 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 - 1829 MM (6 FT.) FROM SOLID SURFACE.
2. UNIT MUST BE INSTALLED ON A LEVEL SURFACE.
3. FLOOR JOISTS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
TOP - DO NOT RESTRICT IN ANY WAY.
ENDS - 11524 MM (5 FT.) FROM SOLID SURFACE.
SIDES - 1829 MM (6 FT.) FROM SOLID SURFACE.
4. CENTER OF GRAVITY SHOWN IS FOR ALUMINUM FIN COILS.
SEE INSTALLATION INSTRUCTIONS FOR ALL OTHER VALUES.
5. FLOW SWITCH IS FACTORY INSTALLED IN THE ENTERING FLOW NOZZLE.

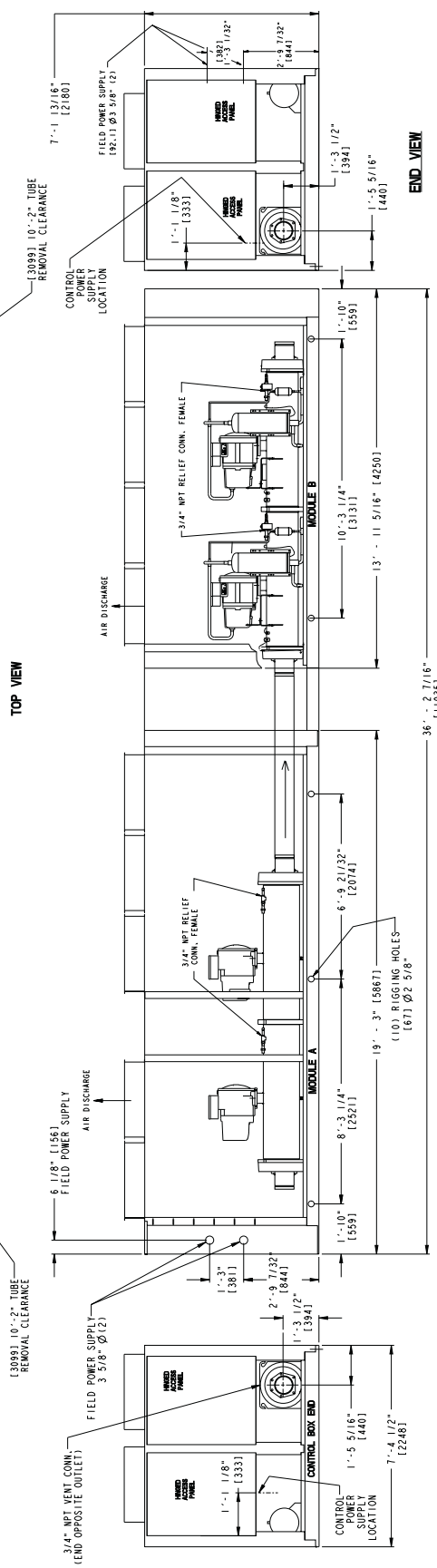
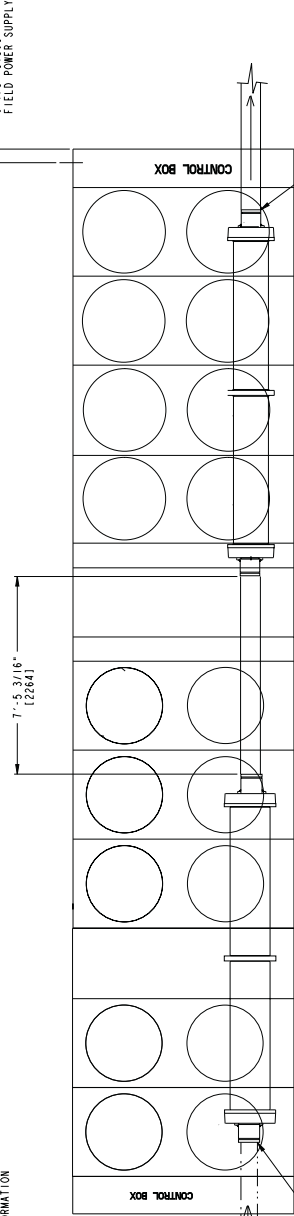
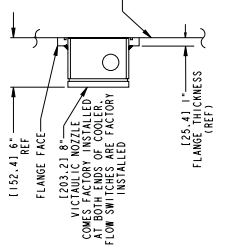
Dimensions (cont)



30GXN,R283

UNIT	TOTAL OPERATING TOTAL OPERATING WEIGHT - ALL FIN WEIGHT - CU FIN	
	LBS	kg
30GXN/R283	18473	8334
	20823	9446

- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY. SURFACE.
 SIDES - 11829 MM (4 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 (4 FT) TO OUTSIDE EDGE OF HOODS.
 3. REFER TO DRAWINGS 30GX05245 & 5246 FOR INFORMATION NOT INCLUDED IN THIS DRAWING.



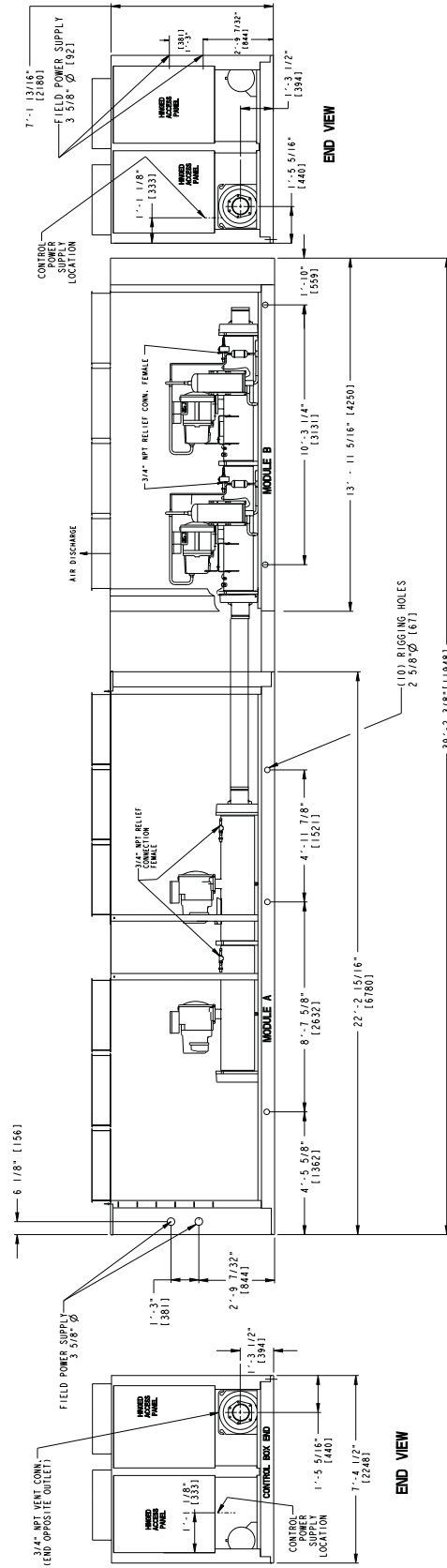
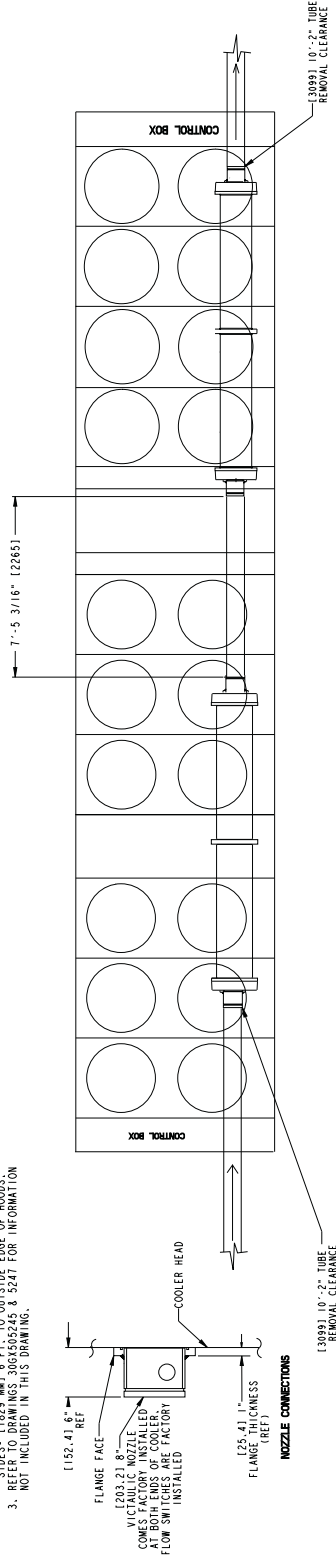
Dimensions (cont)



30GXN, R303

UNIT	TOTAL OPERATING WEIGHT - AL. FIN	TOTAL OPERATING WEIGHT - CU. FIN
30GXN/R303	19060 LBS	21866 LBS

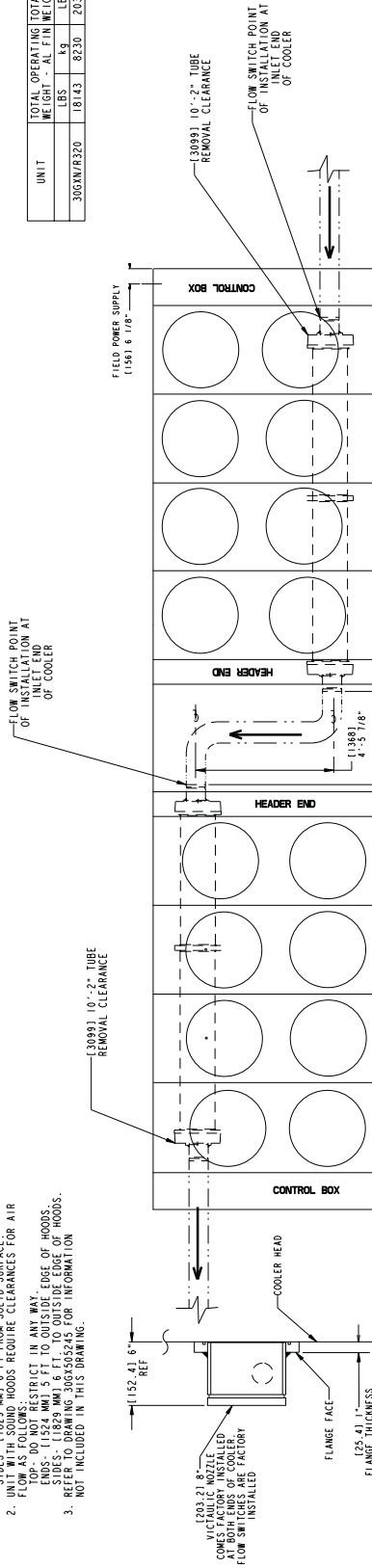
- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - (1524 MM) 5 FT. FROM SOLID SURFACE.
 SIDES - (1829 MM) 6 FT. FROM SOLID SURFACE.
 2. UNIT COOLER HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - (1524 MM) 5 FT. TO OUTSIDE EDGE OF HOODS.
 SIDES - (1829 MM) 6 FT. FROM SOLID SURFACE.
 3. REFER TO DRAWINGS 306X505245 & 5247 FOR INFORMATION NOT INCLUDED IN THIS DRAWING.



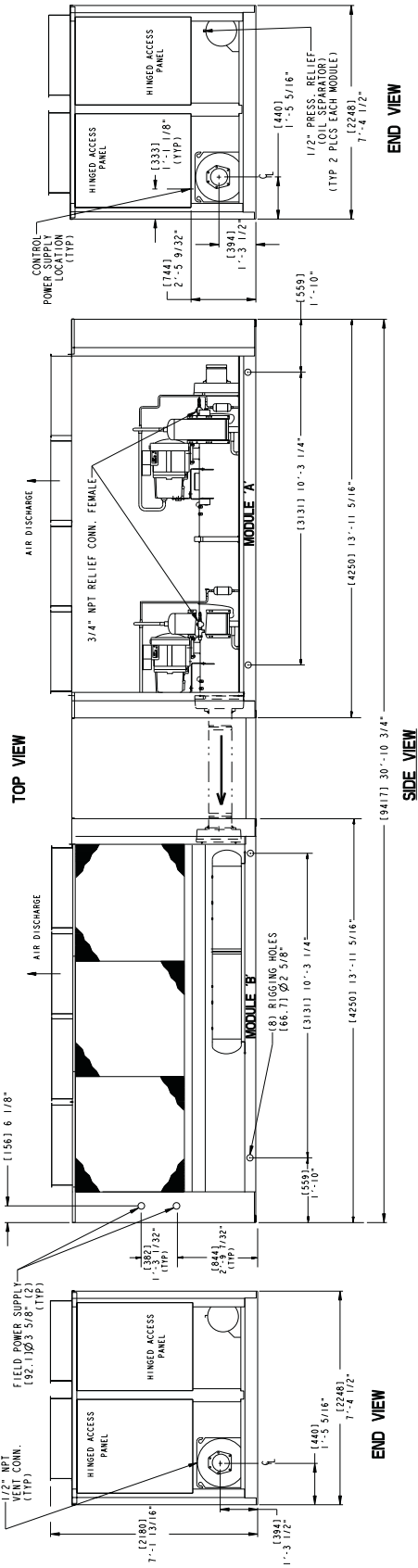
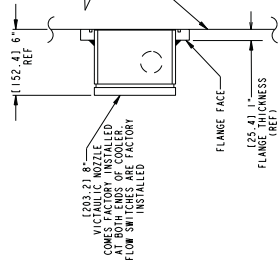
30GXN,R320

- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP- DO NOT RESTRICT IN ANY WAY TO SURFACE.
 SIDES- (1)829 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 TO SURFACE.
 SIDES- (1)829 MM) 5 FT TO OUTSIDE EDGE OF HOODS.
 ENDS- (1)829 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.
 3. REFER TO DRAWING 30G5024S FOR INFORMATION NOT INCLUDED IN THIS DRAWING.

UNIT	TOTAL OPERATING WEIGHT - ALL FIN		TOTAL OPERATING WEIGHT - CU FIN	
	LBS	KG	LBS	KG
30GXN/R320	18143	8230	20343	9227



NOZZLE CONNECTIONS



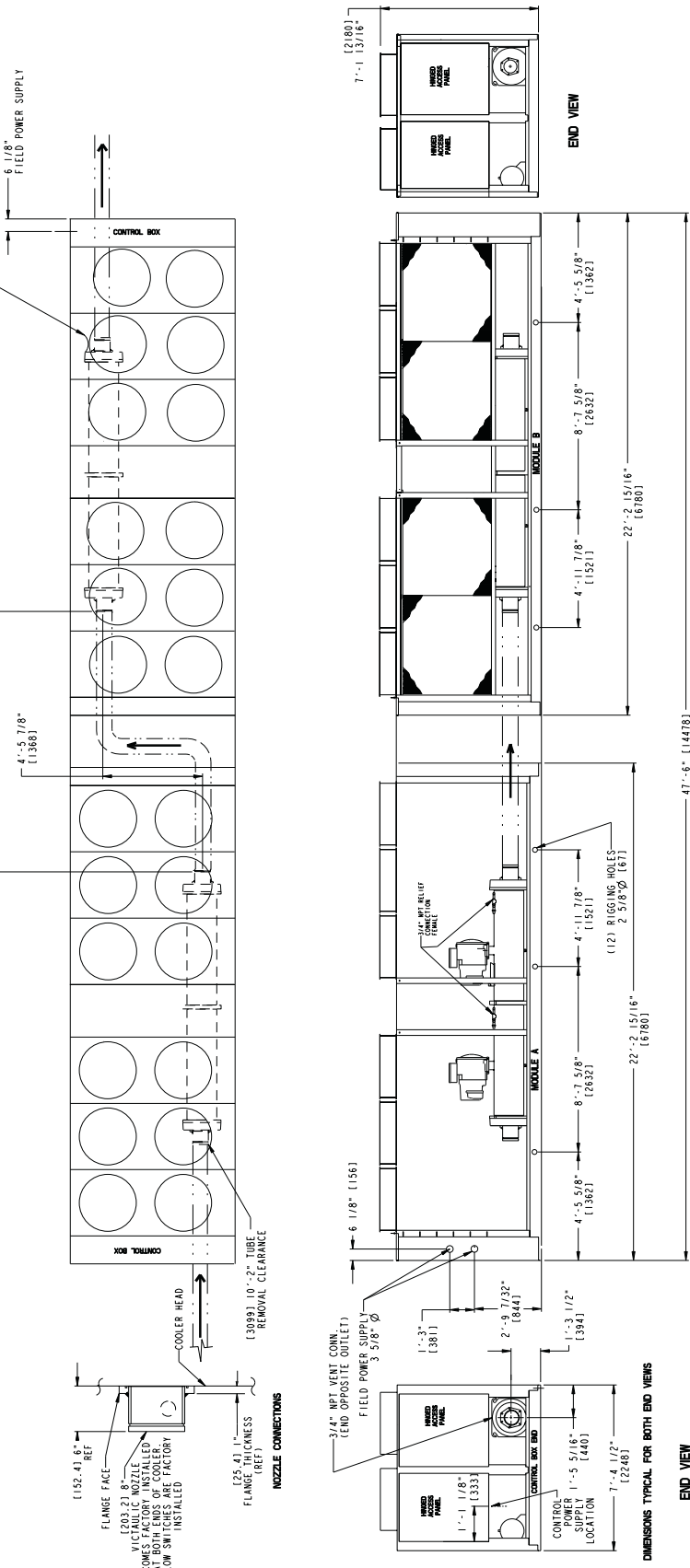
Dimensions (cont)



30GXN,R353

UNIT	TOTAL OPERATING WEIGHT		TOTAL OPERATING HEIGHT	
	kg	lbs	ft	in
30GXN/R353	20588	45336	23.924	108.52

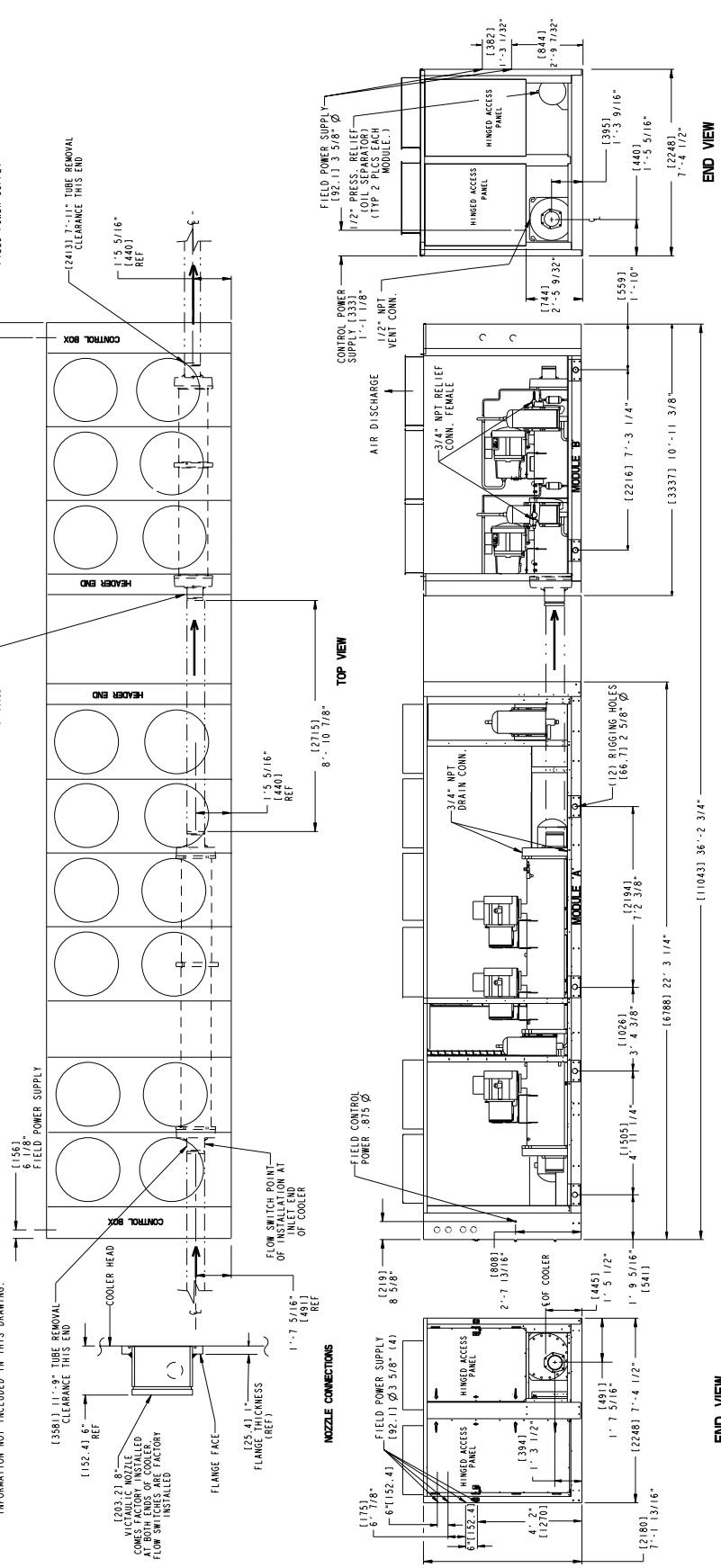
- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP- DO NOT RESTRICT IN ANY WAY.
 ENDS- 1152.41 5 FT. FROM SOLID SURFACE.
 SIDES- 1152.41 5 FT. FROM SOLID SURFACE.
 2. FLOW AS FOLLOWS: ROOFS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP- DO NOT RESTRICT IN ANY WAY.
 ENDS- 1152.41 5 FT. FROM SOLID SURFACE.
 3. REFER TO DRAWING 306X505247 FOR INFORMATION NOT INCLUDED IN THIS DRAWING.



30GXN, R365, 395

UNIT	TOTAL OPERATING HEIGHT - CO. FIN	TOTAL OPERATING HEIGHT - CU. FIN
30GXN/R365	21302	23910
30GXN/R395	21817	24011

- 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 - 11828 MM (5 FT.) FROM SOLID SURFACE.
 2. UNIT REQUIRES HOODS TO PROVIDE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - 11524 MM (5 FT.) TO OUTSIDE EDGE OF HOODS.
 3. REFER TO DRAWINGS 30G504358 & 30G55244 FOR INFORMATION NOT INCLUDED IN THIS DRAWING.



TOP VIEW

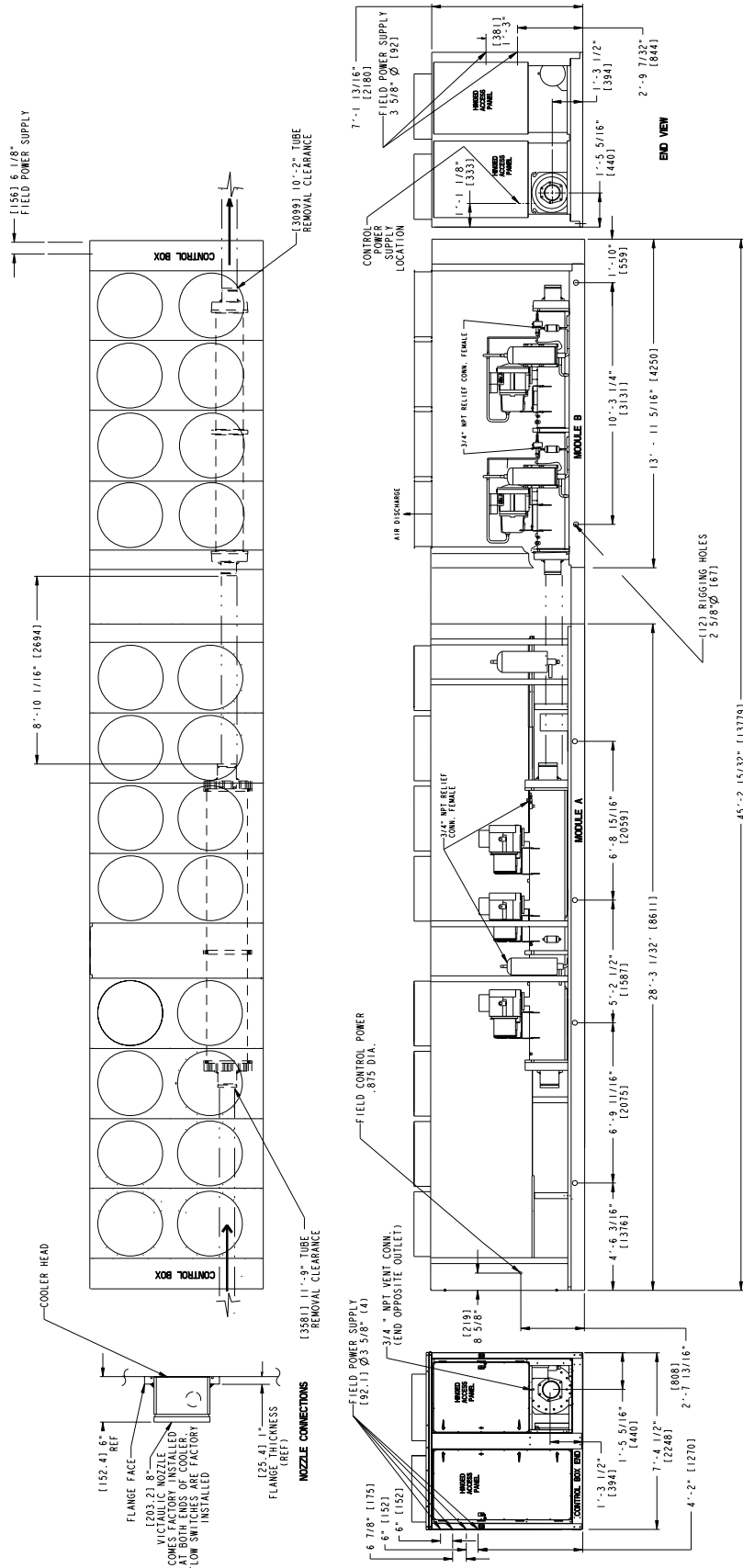
SIDE VIEW

END VIEW

30GXN,R373

UNIT	TOTAL OPERATING WEIGHT LBS.	TOTAL OPERATING HEIGHT INCHES	TOTAL OPERATING WEIGHT LBS.
30GXN/R373	25325	11532	29680

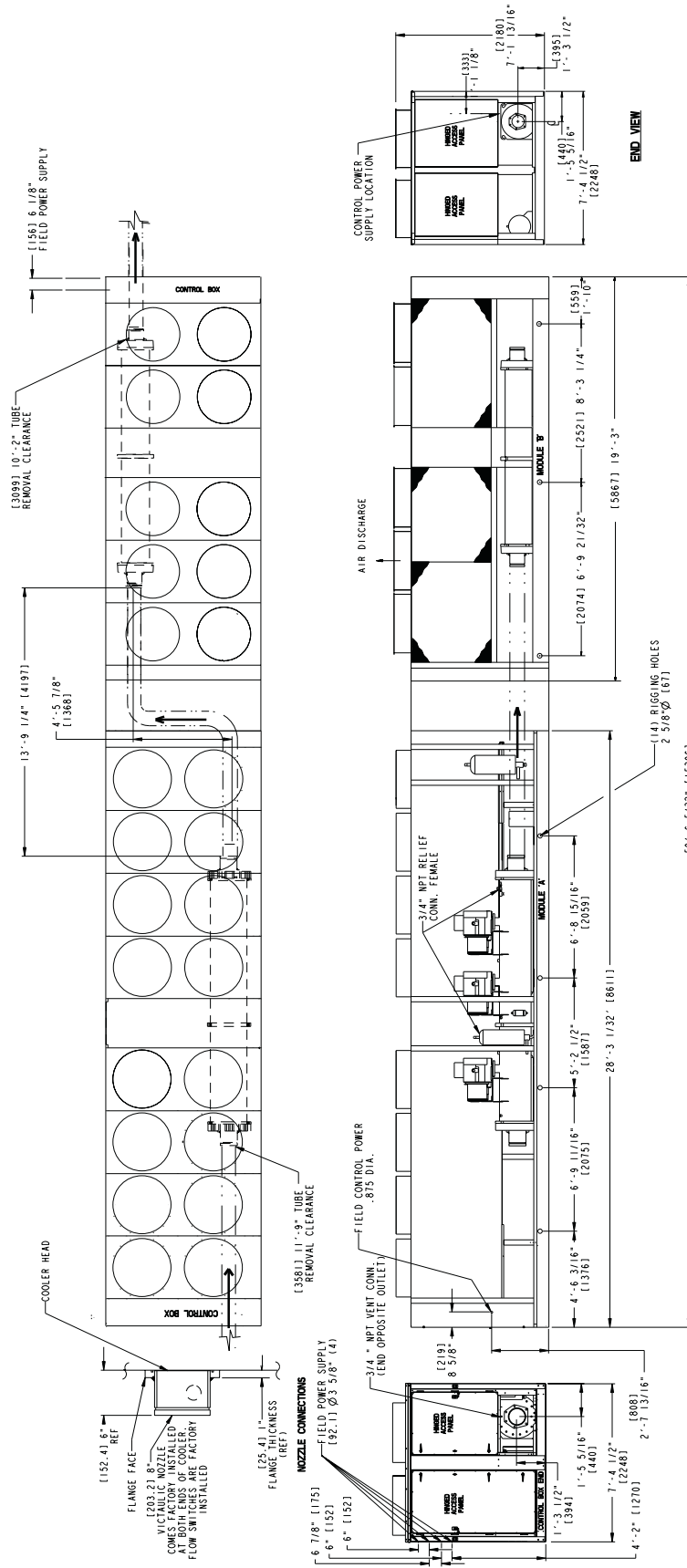
- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP- DO NOT RESTRICT IN ANY WAY.
 ENDS- 11524 MM (5 FT.) FROM SOLID SURFACE.
 SIDES- 11524 MM (5 FT.) FROM SOLID SURFACE.
 2. UNIT WITH SOUND HODDS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP- DO NOT RESTRICT IN ANY WAY.
 ENDS- 11524 MM (5 FT.) FROM SOLID SURFACE.
 SIDES- 11524 MM (5 FT.) FROM SOLID SURFACE.
 3. REFER TO DRAWINGS 30GX50524S & 5249 FOR INFORMATION NOT INCLUDED IN THIS DRAWING.



30GXN, R393, 418

- 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. HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP-- DO NOT RESTRICT IN ANY WAY.
 ENDS-- (1524 MM) 5 FT. FROM SOLID SURFACE.
 3. REFER TO DRAWINGS 30G50246 & 3249 FOR INFORMATION NOT INCLUDED IN THIS DRAWING.

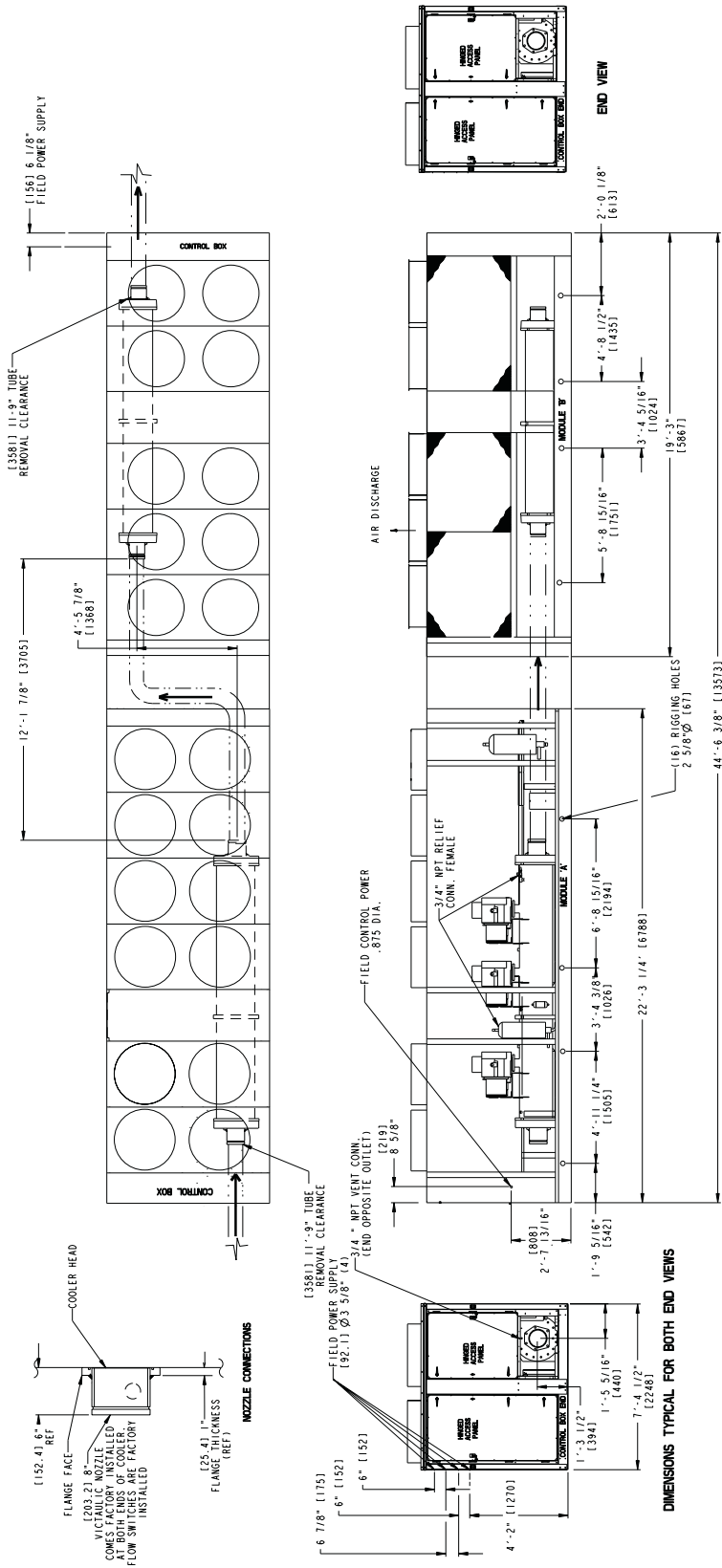
UNIT	TOTAL OPERATING WEIGHT - ALL FIN WEIGHT - CO. FIN	LOS	TOTAL OPERATING WEIGHT - CO. FIN
30GXN/R393	28450	1984	31023
30GXN/R418	28453	1991	31144



30GXN,R470

UNIT	TOTAL OPERATING WEIGHT		TOTAL OPERATING WEIGHT	
	LBS	KG	LBS	KG
30GXN/R470	26572	12180	29615	13343

- 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.
 2. UNIT WITH SOUND HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP - DO NOT RESTRICT IN ANY WAY.
 ENDS - 11629 MM (6 FT.) TO OUTSIDE EDGE OF HOODS.
 SIDES - 11629 MM (6 FT.) TO OUTSIDE EDGE OF HOODS.
 3. REFER TO DRAWINGS 30G4504358 & 4359 FOR INFORMATION NOT INCLUDED IN THIS DRAWING.

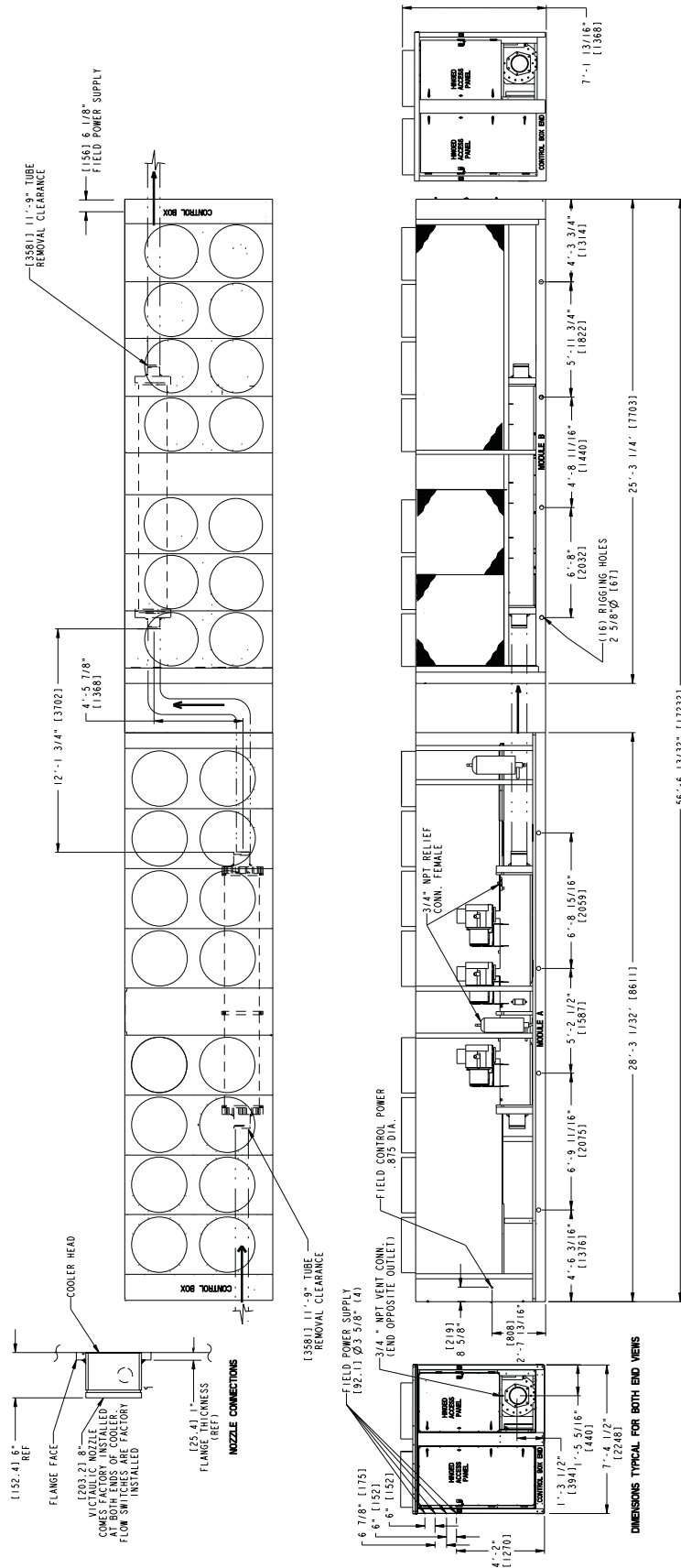


DIMENSIONS TYPICAL FOR BOTH END VIEWS

30GXN,R478

- NOTES: 1. UNIT MUST HAVE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 2. UNIT WITH SOUND HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 3. NOT INCLUDED IN THIS DRAWING.

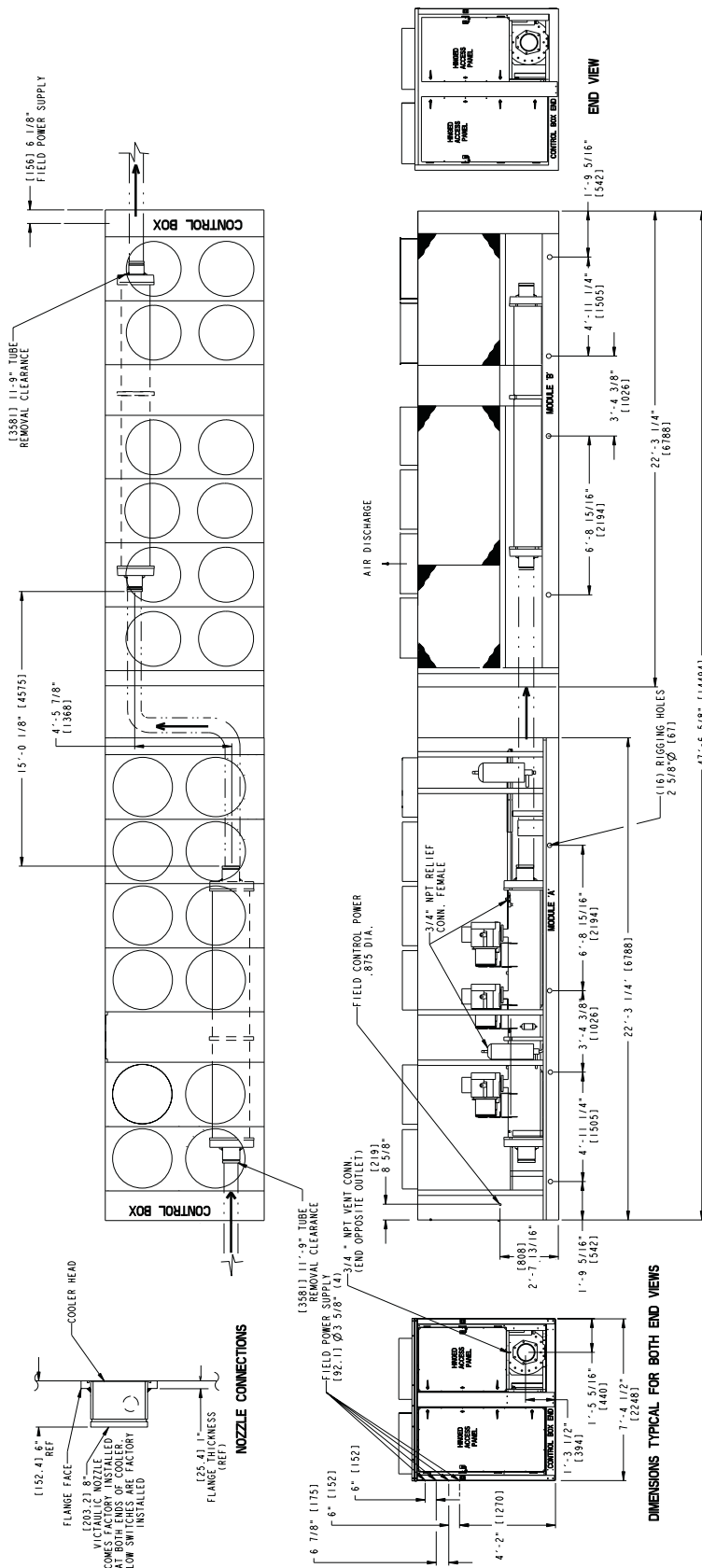
UNIT	TOTAL OPERATING WEIGHT - LBS	TOTAL OPERATING WEIGHT - AL	TOTAL OPERATING WEIGHT - CU FIN
30GXN,R478	30850	13993	39897



30GXN,R495, 520

UNIT	TOTAL OPERATING WEIGHT		TOTAL OPERATING HEIGHT	
	LEBS	KG	IN	MM
30GXN/R495	2174	12326	305.0	13840
30GXN/R520	2780	12612	312.0	14152

- 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- (1824 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.
 2. UNIT WITH SOUND HOODS REQUIRE CLEARANCES FOR AIR FLOW AS FOLLOWS:
 TOP- DO NOT RESTRICT IN ANY WAY. EDGE OF HOODS.
 SIDES- (1824 MM) 6 FT. TO OUTSIDE EDGE OF HOODS.
 3. REFER TO DRAWINGS 30G594356 FOR INFORMATION NOT INCLUDED IN THIS DRAWING.

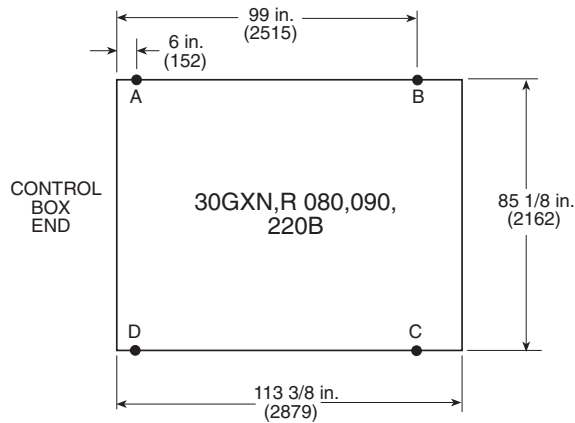


DIMENSIONS TYPICAL FOR BOTH END VIEWS

Dimensions (cont)



MOUNTING WEIGHTS



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

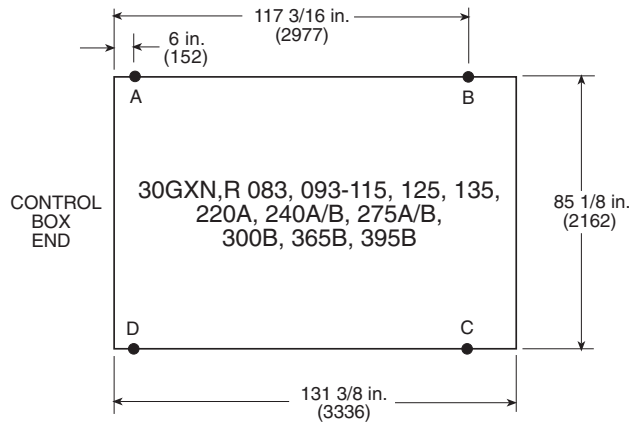
UNIT 30GXN,R	DISTRIBUTION POINTS			
	A	B	C	D
080	1384 (628)	2686 (1218)	1355 (614)	888 (403)
090, 220B	1388 (630)	2697 (1224)	1358 (616)	890 (404)

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

UNIT 30GXN,R	DISTRIBUTION POINTS			
	A	B	C	D
080	1486 (674)	2922 (1325)	1590 (721)	990 (449)
090, 220B	1490 (676)	2933 (1330)	1593 (723)	992 (450)

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
083	1744 (791)	2623 (1190)	1416 (642)	1125 (510)
093	1810 (821)	2704 (1227)	1497 (679)	1190 (540)
106	1895 (860)	2867 (1300)	1540 (698)	1213 (550)
108	1936 (878)	2944 (1335)	1560 (707)	1223 (555)
115, 240B	1875 (850)	2867 (1301)	1483 (673)	1162 (527)
125, 220A, 240A	1920 (871)	2953 (1339)	1506 (683)	1174 (527)
135, 275A/B, 300B, 365B, 395B	1954 (886)	3006 (1364)	1551 (703)	1203 (546)

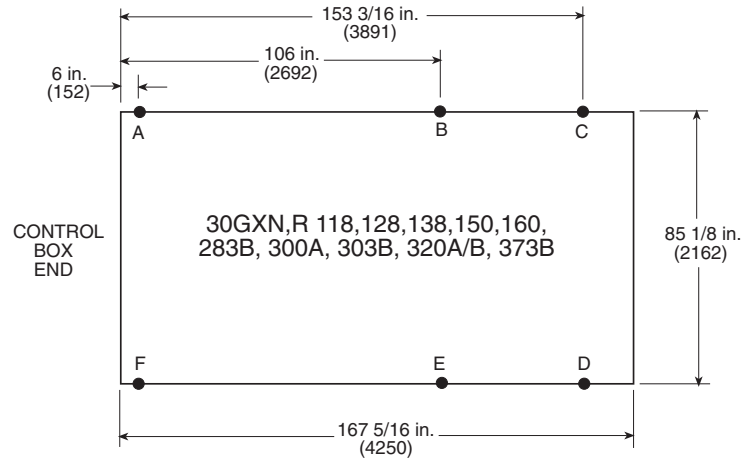
WEIGHT DISTRIBUTION, COPPER-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS			
	A	B	C	D
083	1860 (843)	2855 (1295)	1648 (747)	1240 (562)
093	1925 (873)	2936 (1332)	1729 (784)	1306 (592)
106	2011 (912)	3099 (1406)	1772 (804)	1328 (602)
108	2051 (930)	3176 (1440)	1792 (813)	1339 (607)
115, 240B	1990 (903)	3099 (1406)	1716 (778)	1278 (580)
125, 220A, 240A	2035 (923)	3185 (1445)	1738 (788)	1290 (585)
135, 275A/B, 300B, 365B, 395B	2070 (939)	3240 (1470)	1784 (809)	1320 (599)

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.

MOUNTING WEIGHTS (cont)



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

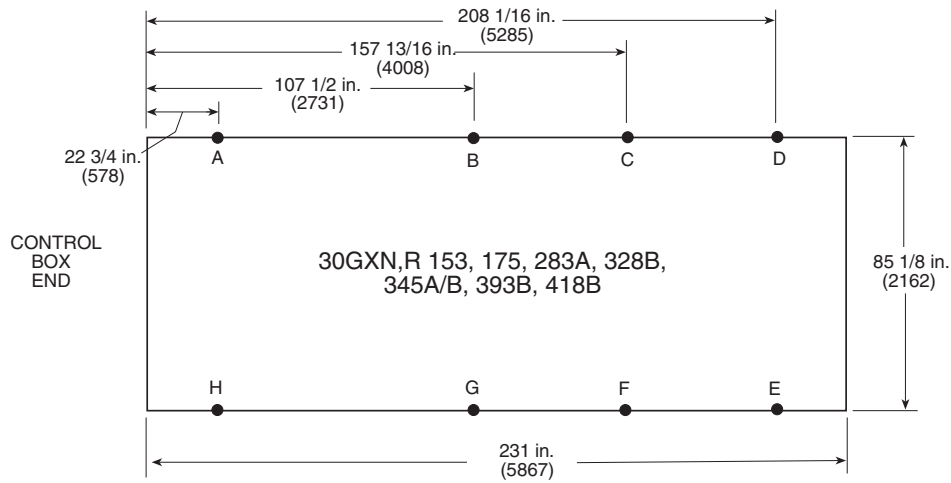
UNIT 30GXN,R	DISTRIBUTION POINTS					
	A	B	C	D	E	F
118	1757 (797)	2001 (907)	1524 (691)	809 (367)	1261 (572)	1298 (589)
128	1760 (798)	2005 (910)	1528 (693)	810 (367)	1262 (573)	1299 (589)
138, 283B, 303B, 373B	1765 (801)	2014 (913)	1534 (696)	811 (368)	1265 (574)	1300 (590)
150	1770 (803)	1982 (899)	1666 (756)	928 (421)	1180 (535)	1258 (570)
160, 300A, 320A/B	1830 (830)	2075 (941)	1743 (790)	948 (430)	1204 (546)	1273 (577)

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

UNIT 30GXN,R	DISTRIBUTION POINTS					
	A	B	C	D	E	F
118	1912 (867)	2154 (977)	1740 (789)	1025 (465)	1415 (642)	1453 (659)
128	1915 (869)	2159 (979)	1744 (791)	1026 (465)	1416 (642)	1454 (659)
138, 283B, 303B, 373B	1920 (871)	2167 (983)	1751 (794)	1028 (466)	1418 (643)	1455 (660)
150	1923 (872)	2156 (978)	1864 (846)	1126 (511)	1354 (614)	1410 (640)
160, 300A, 320A/B	1993 (904)	2257 (1024)	1947 (883)	1152 (523)	1386 (629)	1436 (652)

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
153, 283A, 328B, 393B, 418B	1278 (580)	1230 (558)	766 (347)	587 (266)	556 (252)	1386 (629)	2076 (942)	1805 (819)
175, 345A/B	1246 (565)	1192 (541)	744 (337)	562 (255)	531 (241)	1370 (621)	2045 (927)	1778 (806)

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

UNIT 30GXN,R	DISTRIBUTION POINTS							
	A	B	C	D	E	F	G	H
153, 283A, 328B, 393B, 418B	1414 (641)	1446 (656)	935 (424)	766 (348)	735 (333)	1556 (706)	2291 (1039)	1941 (880)
175, 345A/B	1380 (626)	1405 (637)	911 (413)	739 (335)	708 (321)	1537 (697)	2258 (1024)	1913 (868)

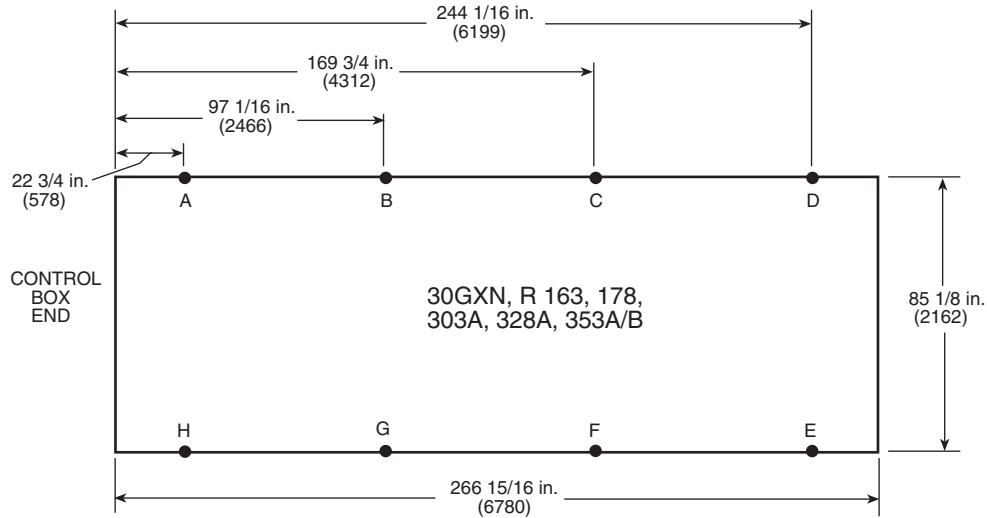
NOTES:

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 (cont)



MOUNTING WEIGHTS (cont)



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

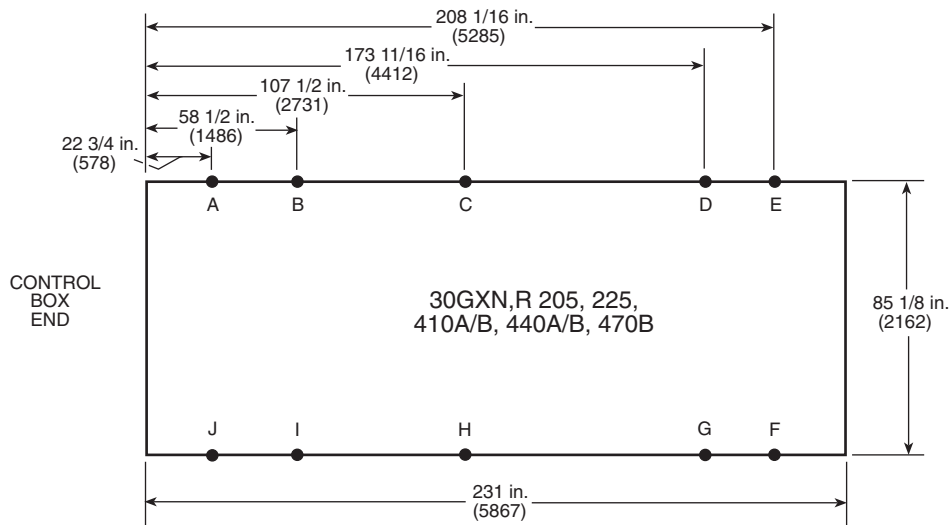
UNIT 30GXN,R	DISTRIBUTION POINTS							
	A	B	C	D	E	F	G	H
163,303A	905 (411)	1236 (560)	1184 (537)	825 (374)	996 (452)	2006 (910)	2061 (935)	1067 (484)
178,328A, 353A/B	907 (412)	1246 (565)	1194 (541)	828 (376)	1009 (457)	2044 (927)	2099 (952)	1075 (488)

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

UNIT 30GXN,R	DISTRIBUTION POINTS							
	A	B	C	D	E	F	G	H
163,303A	1116 (506)	1409 (639)	1419 (644)	1039 (471)	1211 (549)	2241 (1017)	2234 (1013)	1277 (579)
178,328A, 353A/B	1118 (507)	1419 (644)	1429 (648)	1043 (473)	1223 (555)	2279 (1034)	2273 (1031)	1285 (583)

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
205, 410B	800 (363)	1044 (474)	1176 (534)	1110 (504)	645 (293)	1000 (454)	1723 (782)	1825 (828)	1621 (735)	1241 (563)
225, 410A, 440A/B, 470B	854 (387)	1113 (505)	1253 (568)	1182 (536)	687 (312)	1066 (483)	1836 (833)	1944 (882)	1728 (784)	1322 (600)

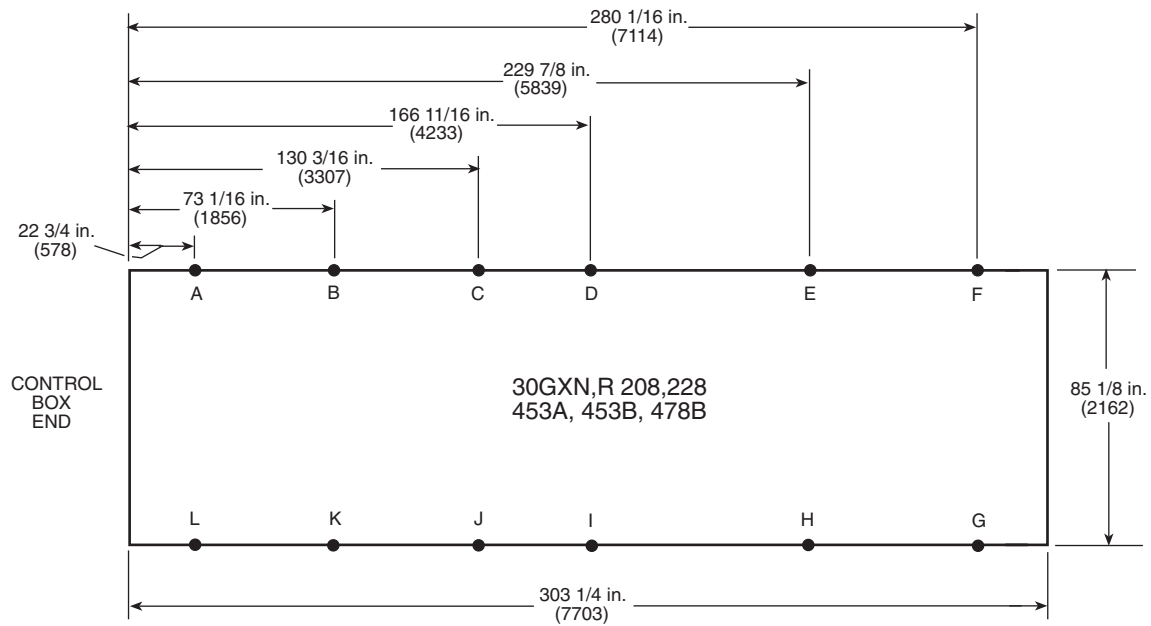
WEIGHT DISTRIBUTION, COPPER-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS									
	A	B	C	D	E	F	G	H	I	J
205, 410B	913 (414)	1180 (535)	1341 (608)	1266 (574)	736 (334)	1141 (518)	1966 (892)	2082 (944)	1880 (839)	1441 (642)
225, 410A, 440A/B, 470B	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.

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	K	L
208	716 (325)	570 (259)	754 (342)	1263 (573)	769 (349)	983 (446)	1638 (743)	1617 (734)	2404 (1090)	1821 (826)	847 (384)	716 (325)
228, 453A/B, 478B	716 (325)	570 (259)	755 (342)	1264 (573)	769 (349)	983 (446)	1640 (744)	1620 (735)	2407 (1092)	1824 (827)	848 (385)	716 (325)

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

UNIT 30GXN,R	DISTRIBUTION POINTS											
	A	B	C	D	E	F	G	H	I	J	K	L
208	948 (430)	726 (329)	816 (370)	1438 (652)	846 (384)	1169 (530)	1824 (827)	1695 (769)	2578 (1170)	1883 (854)	1003 (455)	948 (430)
228, 453A/B, 478B	948 (430)	726 (329)	817 (371)	1439 (653)	847 (384)	1170 (531)	1826 (828)	1697 (770)	2582 (1171)	1886 (856)	1005 (455)	948 (430)

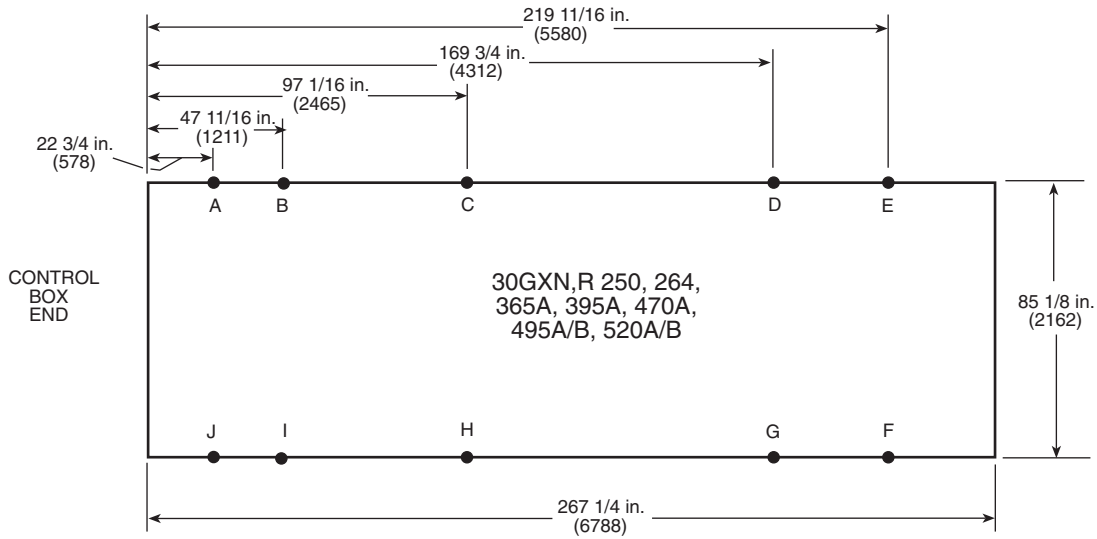
NOTES:

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 (cont)



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
250, 365A, 470A, 495A/B	915 (415)	1148 (521)	1249 (567)	1163 (527)	868 (394)	1340 (608)	1793 (813)	1927 (874)	1772 (804)	1412 (640)
264, 395A, 520A/B	936 (425)	1176 (533)	1278 (580)	1189 (539)	888 (403)	1371 (622)	1835 (832)	1971 (894)	1813 (822)	1445 (656)

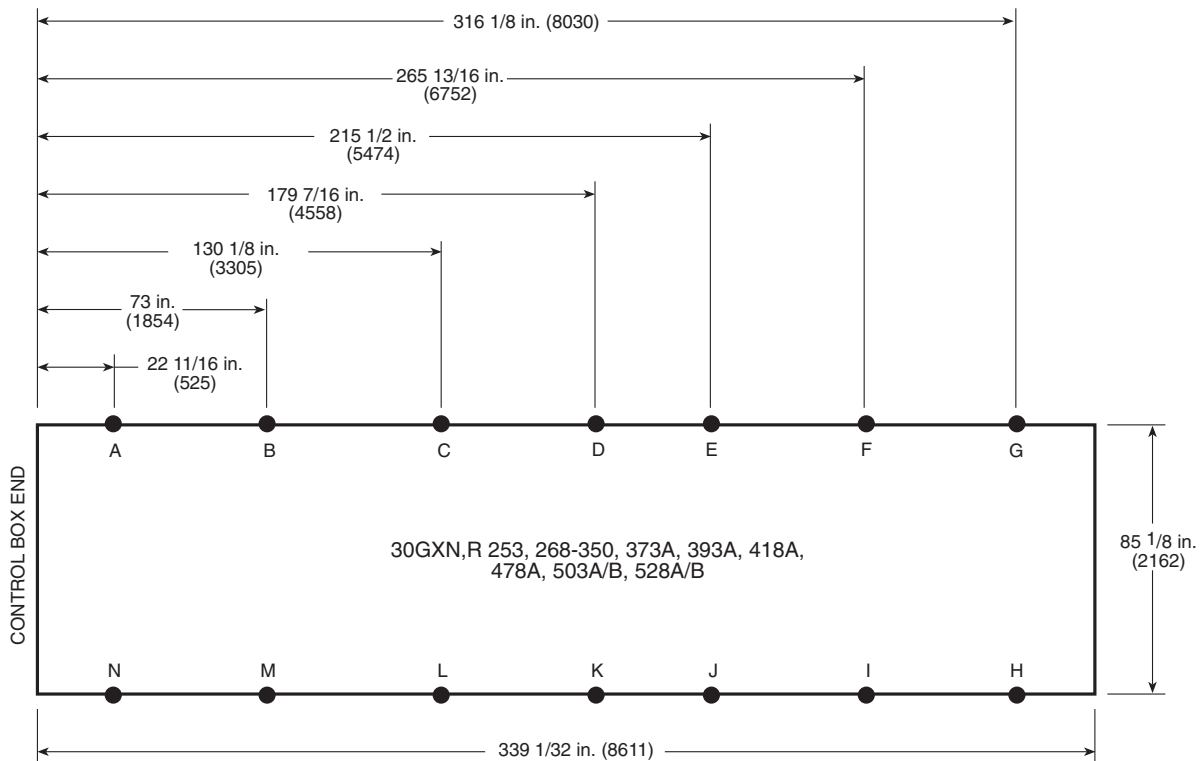
WEIGHT DISTRIBUTION, COPPER-FIN UNITS — lb (kg)

UNIT 30GXN,R	DISTRIBUTION POINTS									
	A	B	C	D	E	F	G	H	I	J
250, 365A, 470A, 495A/B	1027 (466)	1290 (585)	1402 (636)	1305 (592)	775 (442)	1504 (682)	2013 (913)	2164 (981)	1990 (903)	1585 (719)
264, 395A, 520A/B	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.

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	K	L	M	N
253, 373A, 393A, 478A, 503A/B	820 (372)	661 (300)	1047 (475)	1360 (617)	637 (289)	1006 (457)	842 (382)	907 (411)	2001 (907)	957 (434)	2451 (1112)	2290 (1039)	936 (425)	820 (372)
268, 418A, 528A/B	820 (372)	661 (300)	1048 (475)	1361 (617)	638 (289)	1007 (457)	842 (382)	907 (411)	2004 (909)	958 (434)	2454 (1113)	2294 (1041)	937 (425)	820 (372)
281	744 (337)	635 (288)	1253 (568)	1335 (606)	1089 (494)	787 (357)	795 (361)	860 (390)	1365 (619)	2700 (1225)	2442 (1108)	2830 (1284)	599 (272)	816 (370)
301	744 (337)	635 (288)	1254 (569)	1336 (606)	1090 (495)	788 (357)	795 (361)	860 (390)	1367 (620)	2705 (1227)	2446 (1109)	2835 (1286)	599 (272)	816 (370)
325	744 (337)	635 (288)	1256 (570)	1338 (607)	1093 (496)	789 (358)	795 (361)	860 (390)	1371 (622)	2714 (1231)	2454 (1113)	2845 (1290)	599 (272)	816 (370)
350	744 (337)	636 (288)	1260 (571)	1341 (608)	1096 (497)	790 (358)	795 (361)	860 (390)	1376 (624)	2726 (1237)	2463 (1117)	2857 (1296)	600 (272)	816 (370)

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
253, 373A, 393A, 478A, 503A/B	1121 (509)	879 (398)	1215 (551)	1637 (742)	857 (389)	1101 (500)	1166 (529)	1231 (558)	2095 (950)	1177 (534)	2728 (1237)	2459 (1115)	1154 (523)	1121 (509)
268, 418A, 528A/B	1121 (509)	879 (399)	1216 (552)	1638 (743)	857 (389)	1102 (500)	1166 (529)	1231 (558)	2098 (952)	1178 (534)	2731 (1239)	2462 (1117)	1155 (524)	1121 (509)
281	957 (434)	840 (381)	1519 (689)	1619 (734)	1308 (593)	879 (399)	1119 (508)	1184 (537)	1456 (661)	2919 (1324)	2726 (1237)	3096 (1404)	803 (364)	1030 (467)
301	957 (434)	840 (381)	1520 (689)	1620 (735)	1309 (594)	879 (399)	1119 (508)	1184 (537)	1458 (661)	2923 (1326)	2730 (1238)	3101 (1407)	803 (364)	1030 (467)
325	957 (434)	840 (381)	1522 (691)	1622 (736)	1312 (595)	880 (399)	1119 (508)	1184 (537)	1462 (663)	2933 (1330)	2738 (1242)	3111 (1411)	804 (365)	1030 (467)
350	957 (434)	840 (381)	1526 (692)	1625 (737)	1315 (596)	882 (400)	1119 (508)	1184 (537)	1467 (666)	2945 (1336)	2748 (1246)	3123 (1416)	804 (365)	1030 (467)

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.

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) 0.000018

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 49 and pressure drop curves on page 56, determine operating data for selected unit.

Unit 30GXN115
Capacity 363.7 kW
Compressor Motor Power Input 130.7 kW
Cooler Water Flow 15.6 L/s
Cooler Pressure Drop 32.2 kPa

ENGLISH (50 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 47 and pressure drop curves on page 56, determine operating data for selected unit.

Unit 30GXN115
Capacity 105.4 tons
Power Input 131.7 kW
Cooler Water Flow 252.7 gpm
Cooler Pressure Drop 13.8 ft of water

Performance data



50 Hz ENGLISH STANDARD UNITS

LCWT (F)	UNIT SIZE 30GXN,R	CONDENSER ENTERING AIR TEMPERATURE (F)														
		85			95			105			115			125		
		Cap. Tons	Input kW	Cooler Flow Rate (Gpm)	Cap. Tons	Input kW	Cooler Flow Rate (Gpm)	Cap. Tons	Input kW	Cooler Flow Rate (Gpm)	Cap. Tons	Input kW	Cooler Flow Rate (Gpm)	Cap. Tons	Input kW	Cooler Flow Rate (Gpm)
40.00	080	75.3	83.8	180.4	69.3	88.5	165.9	63.1	93.7	151.0	57.1	100.7	136.6	51.5	108.6	123.2
	090	83.1	96.1	198.8	76.4	101.2	182.9	69.5	107.9	166.4	63.1	116.0	151.1	56.5	123.2	135.3
	106	95.4	107.2	228.3	87.9	113.0	210.5	80.1	120.4	191.7	72.6	129.0	173.7	65.6	137.9	157.1
	115	103.4	118.1	247.6	98.5	128.5	235.9	93.4	140.9	223.5	88.2	155.1	211.1	62.8	136.2	150.3
	125	112.0	129.6	268.2	106.0	140.8	253.8	100.7	154.2	241.1	95.0	170.4	227.4	65.8	153.0	157.5
	135	122.1	139.4	292.4	115.7	151.2	277.0	109.8	166.0	262.8	103.5	183.2	247.8	56.0	136.8	133.9
	150	132.9	153.3	318.1	122.3	160.6	292.9	112.0	171.3	268.0	102.1	183.5	244.4	92.8	195.4	222.1
	160	148.3	172.3	355.0	140.7	186.6	336.8	133.8	203.9	320.2	126.0	224.4	301.6	76.5	178.6	183.1
	175	157.3	187.0	376.5	150.2	202.5	359.6	142.2	220.6	340.3	134.0	241.5	320.8	86.1	196.8	206.2
	205	181.8	216.8	435.1	172.6	235.5	413.1	163.4	257.0	391.1	153.8	283.1	368.1	98.6	208.5	236.0
	220	197.9	226.6	474.6	184.5	243.2	442.8	172.0	262.6	413.0	159.5	287.1	382.5	124.1	277.4	298.0
	225	202.4	239.1	484.5	192.6	259.7	461.0	182.0	283.9	435.7	170.7	311.6	408.6	108.4	224.6	259.4
	240	219.7	249.3	526.8	208.4	271.2	499.4	197.6	296.4	473.8	186.3	327.4	447.1	130.3	290.1	312.4
	250	222.4	269.7	532.4	212.2	291.9	508.0	200.8	319.1	480.8	188.9	349.6	452.1	110.7	226.8	265.0
	264	237.0	283.0	567.3	226.3	306.7	541.7	213.6	335.3	511.4	200.3	366.9	479.5	112.5	227.4	269.3
	275	246.8	279.8	592.2	233.7	303.7	560.6	221.7	332.6	531.6	209.0	367.6	500.7	112.5	274.1	269.7
	281	260.8	299.9	624.3	247.2	326.5	591.8	235.0	355.5	562.7	221.7	391.9	530.8	207.5	432.9	496.7
	300	275.5	313.1	660.1	261.0	340.0	626.0	248.3	371.6	595.7	234.1	410.2	561.7	135.0	316.6	323.9
	301	282.1	325.6	675.4	266.6	354.1	638.2	254.0	386.0	608.1	239.2	425.4	572.6	211.9	469.3	507.4
	320	304.1	347.0	730.2	288.2	376.4	691.1	274.3	410.9	657.3	258.7	451.8	620.5	157.6	358.8	377.9
	325	302.8	363.2	724.7	287.9	393.6	689.1	273.5	430.7	654.7	257.8	473.5	617.1	151.1	324.3	361.8
	345	322.1	377.3	772.1	308.1	408.5	738.4	291.3	444.6	698.8	275.2	486.8	659.5	178.1	395.5	427.5
	350	325.8	403.1	779.8	311.9	437.5	746.5	294.3	478.3	704.6	276.3	525.4	661.3	162.9	349.3	389.9
	365	351.1	412.8	841.6	333.8	447.0	801.6	316.7	488.8	759.0	298.3	536.2	715.7	170.4	366.0	409.2
	395	365.5	425.8	875.9	347.6	461.3	833.6	329.5	504.7	789.7	309.7	553.4	743.7	172.3	366.4	413.7
	410	395.3	461.2	948.4	375.1	500.9	899.3	355.5	546.2	852.2	332.1	599.3	797.4	214.4	436.7	514.0
	440	416.4	483.8	998.9	395.5	525.3	948.9	374.5	573.2	897.7	349.4	627.8	837.7	224.4	452.9	538.3
	470	436.5	515.1	1046.6	415.1	558.5	995.7	393.3	608.5	943.5	369.6	667.5	885.8	227.0	454.8	544.3
495	456.8	545.4	1094.8	435.0	590.7	1043.8	412.5	643.9	989.7	388.1	705.7	929.9	229.3	457.1	550.2	
520	486.1	571.6	1165.5	463.2	619.8	1110.4	438.4	676.0	1050.4	409.1	738.5	981.6	233.2	457.9	559.5	
44.00	080	81.3	87.4	195.0	75.3	92.1	180.4	68.5	97.0	164.3	61.9	103.6	148.3	55.9	111.6	134.0
	090	89.7	100.4	215.1	82.8	105.5	198.5	75.5	111.8	180.9	68.3	119.4	163.8	58.3	124.7	139.9
	106	103.6	111.7	248.3	95.6	117.5	229.1	87.3	124.6	209.2	79.2	132.8	189.8	67.0	138.4	160.5
	115	110.6	121.0	265.1	105.4	131.7	252.7	99.7	143.7	239.0	94.2	157.7	225.8	67.3	138.5	161.3
	125	119.8	132.9	287.1	113.3	144.9	271.6	107.4	157.4	257.6	101.4	173.4	243.1	68.2	154.2	163.5
	135	131.2	142.7	314.6	123.7	155.4	296.5	117.4	168.8	281.5	110.7	186.2	265.5	60.1	138.4	144.0
	150	144.3	159.9	345.9	133.5	167.5	320.1	122.3	177.1	293.1	111.5	188.8	267.4	101.1	201.6	242.4
	160	159.2	176.2	381.5	150.2	191.6	360.1	143.0	207.9	342.9	134.8	228.4	323.2	82.0	180.6	196.7
	175	167.9	192.1	402.5	160.7	207.7	385.3	151.7	225.8	363.7	142.3	245.7	341.1	92.5	199.4	221.7
	205	194.7	222.7	466.7	184.5	242.0	442.2	174.6	262.6	418.5	164.3	287.8	393.8	105.9	211.2	253.9
	220	212.8	234.7	510.8	198.9	251.8	477.8	185.1	270.3	444.6	170.0	292.7	408.8	128.8	280.5	308.3
	225	216.8	246.0	519.7	205.3	266.8	492.2	194.5	290.5	466.3	179.2	316.2	429.5	116.2	228.3	278.6
	240	234.5	256.0	563.3	223.1	278.8	535.6	211.1	303.3	506.5	196.6	331.6	472.0	136.9	294.3	328.7
	250	238.2	277.7	570.9	225.9	300.6	541.6	214.4	326.7	514.0	200.4	356.0	480.4	118.8	230.5	284.9
	264	254.0	291.0	608.8	240.8	315.2	577.3	228.3	343.0	547.4	213.9	374.3	512.8	120.9	230.8	289.8
	275	264.5	287.0	635.9	250.4	312.2	601.5	237.4	339.5	570.1	222.2	372.7	533.2	121.1	278.2	290.9
	281	277.5	308.1	665.3	265.5	334.6	636.5	250.7	364.8	601.0	237.4	399.5	569.0	218.4	438.1	523.5
	300	294.7	321.5	708.0	279.3	349.2	670.2	264.9	379.7	636.8	250.3	416.8	601.2	145.2	322.1	349.0
	301	301.0	334.3	721.6	285.5	363.5	684.4	271.1	395.3	649.8	255.8	434.2	613.2	212.1	469.3	508.4
	320	325.2	355.5	780.4	308.2	386.3	739.4	292.8	419.4	703.2	276.5	459.8	663.3	169.4	365.9	407.4
	325	324.2	372.6	777.1	306.6	404.5	735.0	292.0	439.6	700.1	275.2	482.9	659.7	162.3	329.6	389.0
	345	343.2	387.4	824.5	328.8	418.9	789.1	311.3	455.1	747.0	288.5	492.2	692.2	191.5	402.9	459.2
	350	348.3	415.0	834.9	331.6	449.6	794.9	314.0	490.2	752.8	287.5	532.7	689.3	174.5	354.1	418.4
	365	376.0	424.2	902.5	355.5	459.9	853.5	338.1	499.3	812.6	309.0	541.7	742.5	183.1	370.5	440.1
	395	391.6	437.1	940.4	370.1	473.8	888.2	352.0	515.5	845.7	320.8	558.8	771.4	185.2	370.7	445.3
	410	422.6	473.7	1014.9	400.3	514.4	961.7	379.5	558.4	910.9	344.8	605.1	828.0	226.4	442.3	543.5
	440	444.9	497.4	1067.4	421.7	539.3	1012.7	399.7	586.7	960.2	360.1	633.3	862.5	237.2	459.8	569.6
	470	466.7	529.3	1120.1	441.9	573.8	1062.2	419.7	623.0	1007.9	379.6	672.1	911.4	243.6	463.7	585.2
495	488.4	561.3	1172.6	462.8	607.6	1110.8	439.8	659.1	1056.3	401.3	712.5	963.3	246.3	465.7	591.7	
520	520.2	587.4	1250.0	492.5	636.2	1182.4	468.0	692.0	1123.2	424.5	746.0	1019.0	250.7	466.4	602.2	

See Legend on page 53.

Performance data (cont)



50 Hz ENGLISH STANDARD UNITS (cont)

LCWT (F)	UNIT SIZE 30GXN,R	CONDENSER ENTERING AIR TEMPERATURE (F)														
		85			95			105			115			125		
		Cap. Tons	Input kW	Cooler Flow Rate (Gpm)	Cap. Tons	Input kW	Cooler Flow Rate (Gpm)	Cap. Tons	Input kW	Cooler Flow Rate (Gpm)	Cap. Tons	Input kW	Cooler Flow Rate (Gpm)	Cap. Tons	Input kW	Cooler Flow Rate (Gpm)
48.00	080	87.6	91.2	210.2	81.2	96.1	194.9	74.3	101.1	178.4	67.2	107.1	161.3	60.5	114.6	145.2
	090	96.8	105.0	232.4	89.5	110.3	214.7	81.7	116.4	196.0	74.0	123.6	177.7	60.3	125.9	144.7
	106	112.0	116.5	268.7	103.7	122.3	248.9	95.2	128.8	228.4	86.2	136.7	207.0	69.3	139.6	166.2
	115	117.9	124.1	282.8	112.2	135.4	269.3	106.5	146.8	255.6	97.6	159.4	234.2	71.9	141.3	172.6
	125	127.5	136.4	305.9	121.1	148.7	290.6	114.4	161.2	274.6	104.2	174.5	250.2	70.7	156.3	169.7
	135	139.7	146.4	335.3	132.6	159.5	318.2	125.3	172.9	300.6	116.2	188.3	278.9	64.6	142.3	155.1
	150	156.3	166.8	375.2	145.3	174.6	348.6	133.3	183.1	319.9	121.3	194.6	291.1	103.5	203.0	248.3
	160	169.4	181.0	406.6	161.0	196.6	386.3	152.4	212.9	365.7	144.0	232.4	345.5	88.0	185.7	211.2
	175	178.9	197.2	429.3	171.1	213.2	410.6	162.3	231.1	389.4	147.4	248.6	353.7	99.5	203.7	238.9
	205	207.3	228.8	497.5	197.0	248.3	472.9	186.3	269.4	447.1	170.8	290.5	409.8	113.3	214.8	272.0
	220	227.2	242.8	546.2	213.9	260.3	513.9	198.9	279.2	478.7	178.2	297.5	428.3	132.5	283.2	318.3
	225	231.5	252.9	555.7	218.8	274.2	525.2	207.4	297.7	497.7	181.2	317.3	434.8	120.8	231.2	289.9
	240	249.2	262.8	599.2	237.8	286.1	571.6	224.9	310.5	540.5	203.2	334.5	487.9	142.9	297.7	343.7
	250	254.4	285.6	610.6	240.1	309.2	576.2	228.5	334.3	548.3	200.5	356.1	481.3	127.4	235.3	305.6
	264	271.5	298.7	651.5	255.7	323.5	613.8	243.6	350.8	584.7	211.8	372.8	508.4	129.7	235.4	311.4
	275	281.8	294.0	677.0	267.9	320.3	643.9	253.1	347.4	608.5	232.4	376.6	558.4	130.7	284.7	314.6
	281	295.0	315.8	707.9	284.3	342.7	682.2	267.3	373.8	641.6	253.5	407.5	608.4	218.5	438.1	524.4
	300	313.8	329.6	753.8	298.6	358.1	718.4	282.2	388.0	677.8	264.7	427.4	636.1	156.6	329.7	376.8
	301	319.6	343.5	767.1	305.6	372.7	733.3	288.3	405.6	691.9	272.8	442.1	654.7	212.2	469.4	509.2
	320	345.7	365.1	831.0	329.5	396.0	793.0	311.4	429.4	749.2	292.4	467.0	702.8	181.3	374.0	435.9
	325	345.6	382.6	829.4	327.1	415.7	785.1	310.7	450.3	745.8	293.1	491.9	703.4	173.9	337.4	417.3
	345	365.1	397.4	876.8	349.4	430.1	839.5	332.1	466.0	799.5	298.4	499.6	717.2	204.6	411.5	492.4
	350	371.7	426.4	892.0	351.7	461.9	844.1	334.4	501.4	802.6	287.7	532.7	690.5	186.8	363.0	448.4
	365	400.7	435.8	963.4	379.0	473.1	910.7	359.6	511.6	863.6	315.9	544.5	760.0	196.1	391.3	471.5
	395	417.9	448.8	1004.6	394.6	487.0	948.8	374.6	527.5	900.0	327.9	561.7	788.7	198.7	388.0	477.6
410	449.3	487.0	1079.1	426.8	528.2	1025.6	403.4	582.5	969.5	351.8	607.8	845.8	235.1	446.7	565.2	
440	474.0	511.2	1138.8	449.1	554.0	1078.4	424.8	612.7	1020.4	362.5	634.5	870.5	243.1	463.4	584.3	
470	497.1	544.6	1194.5	470.6	589.9	1130.6	445.8	648.2	1070.5	383.7	674.7	921.7	256.2	496.8	615.6	
495	520.1	577.8	1250.0	492.2	625.1	1182.5	466.9	688.0	1121.8	403.9	714.3	970.7	261.6	502.4	629.8	
520	554.4	603.9	1331.8	523.9	653.8	1259.4	497.1	722.9	1194.4	427.3	748.4	1026.7	266.7	495.2	641.2	

See Legend on page 53.



50 Hz SI STANDARD UNITS

LCWT (C)	UNIT SIZE 30GXN,R	CONDENSER ENTERING AIR TEMPERATURE (C)														
		30			35			40			45			50		
		Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)
5.00	080	268.1	85.2	11.5	249.1	89.4	10.7	229.1	93.8	9.8	208.5	99.9	8.9	190.8	107.0	8.2
	090	295.5	97.7	12.7	274.2	102.2	11.8	251.7	108.1	10.8	230.8	115.1	9.9	211.4	122.9	9.1
	106	340.1	108.7	14.6	315.7	114.0	13.6	290.1	120.7	12.5	266.0	128.3	11.4	242.9	136.6	10.4
	115	368.2	119.8	15.8	352.6	129.3	15.1	335.7	140.2	14.4	319.2	152.6	13.7	230.1	133.1	9.9
	125	398.7	131.5	17.1	379.0	141.7	16.3	362.0	153.4	15.5	343.8	167.8	14.8	251.6	148.7	10.8
	135	434.9	141.4	18.7	413.8	152.3	17.8	394.9	164.9	17.0	375.0	180.3	16.1	260.2	164.5	11.2
	150	473.9	155.6	20.3	440.3	162.3	18.9	406.1	171.6	17.4	374.4	182.3	16.1	343.8	193.6	14.8
	160	528.1	174.6	22.7	502.9	187.8	21.6	481.2	202.8	20.7	456.5	221.0	19.6	408.2	240.8	17.5
	175	559.9	189.6	24.0	537.5	203.7	23.1	511.1	219.9	21.9	485.5	237.7	20.8	316.1	192.3	13.6
	205	647.1	220.0	27.8	617.3	237.0	26.5	587.5	256.0	25.2	556.7	278.6	23.9	360.5	203.7	15.5
	220	704.5	230.1	30.3	661.4	245.1	28.4	620.9	261.9	26.7	580.7	283.4	25.0	469.1	273.1	20.2
	225	720.1	243.0	30.9	688.6	261.3	29.6	654.9	282.9	28.1	618.6	307.0	26.6	396.4	220.1	17.0
	240	781.9	253.4	33.6	745.3	273.6	32.0	710.0	295.6	30.6	674.8	322.5	29.0	490.1	284.0	21.1
	250	791.3	273.8	34.0	758.2	294.0	32.5	722.4	318.1	31.0	683.8	344.5	29.4	405.0	222.0	17.4
	264	843.3	287.3	36.2	808.5	308.9	34.7	788.7	334.1	33.0	725.8	361.3	31.2	411.9	222.4	17.7
	275	879.4	283.8	37.8	836.4	306.0	36.0	797.9	330.9	34.3	757.4	361.5	32.5	523.5	331.4	22.5
	281	928.6	304.2	39.9	885.3	328.6	38.0	844.3	354.9	36.2	803.2	386.1	34.5	575.8	421.4	32.5
	300	980.6	317.9	42.1	933.7	342.2	40.2	892.3	370.1	38.4	847.7	403.9	36.5	663.7	405.6	28.6
	301	1004.1	330.5	43.1	953.1	356.5	40.9	913.4	384.4	39.2	866.5	419.2	37.2	817.3	457.7	35.1
	320	1082.4	352.0	46.6	1030.4	379.2	44.3	985.7	409.2	42.4	936.6	445.2	40.3	818.5	482.3	35.2
	325	1077.4	368.4	46.2	1028.8	396.3	44.2	983.5	428.8	42.2	933.3	466.6	40.1	808.4	508.7	34.7
	345	1146.2	382.8	49.3	1101.9	411.0	47.4	1047.6	443.5	45.1	995.8	479.6	42.8	654.7	387.1	28.2
	350	1158.7	409.2	49.7	1114.3	440.3	47.8	1058.8	477.1	45.5	1000.2	516.7	42.9	596.2	341.5	25.6
	365	1249.1	419.2	53.7	1192.6	450.4	51.3	1138.8	487.0	48.9	1079.8	529.2	46.5	684.0	389.7	29.4
	395	1300.7	432.1	55.9	1242.1	464.6	53.4	1185.4	502.3	51.0	1121.8	546.0	48.2	691.2	389.8	29.7
410	1406.6	468.1	60.5	1340.7	504.4	57.7	1278.8	543.8	54.9	1210.7	591.2	52.1	784.5	427.5	33.7	
440	1481.4	491.0	63.7	1413.3	528.7	60.8	1347.1	571.2	57.9	1273.5	620.1	54.7	821.6	443.9	35.3	
470	1552.8	522.8	66.8	1483.3	562.0	63.8	1414.5	606.8	60.9	1338.2	658.5	57.5	830.4	446.1	35.7	
495	1624.9	553.8	69.8	1554.2	594.6	66.9	1483.3	641.7	63.8	1404.5	696.0	60.4	839.4	447.7	36.1	
520	1729.1	580.2	74.4	1654.8	623.6	71.1	1576.9	673.8	67.8	1489.6	729.9	64.1	853.8	448.2	36.7	
6.00	080	277.5	86.8	11.9	258.4	91.0	11.1	237.4	95.4	10.2	216.6	101.2	9.3	198.1	108.2	8.5
	090	306.3	99.6	13.2	284.3	104.1	12.2	261.4	109.9	11.2	239.3	116.7	10.3	219.1	124.6	9.4
	106	352.8	110.8	15.2	328.0	116.1	14.1	301.9	122.5	13.0	276.9	129.9	11.9	252.7	138.1	10.9
	115	379.3	121.2	16.3	363.7	130.7	15.6	345.7	141.6	14.8	328.8	154.0	14.1	237.5	134.3	10.2
	125	411.1	133.0	17.7	390.7	143.5	16.8	372.7	154.9	16.0	354.1	169.1	15.2	257.3	149.8	11.0
	135	449.2	142.9	19.3	426.5	154.1	18.3	407.1	166.2	17.5	386.6	181.6	16.6	263.8	165.1	11.3
	150	491.4	158.5	21.1	457.7	165.4	19.7	422.5	174.2	18.1	389.2	184.7	16.7	357.0	196.1	15.3
	160	545.5	176.3	23.4	517.9	189.9	22.2	495.9	204.6	21.3	470.7	222.6	20.2	410.8	240.9	17.6
	175	576.5	192.1	24.8	554.2	206.0	23.8	526.2	222.0	22.6	500.5	239.8	21.5	326.7	193.7	14.0
	205	667.8	222.7	28.7	635.5	240.0	27.3	605.5	255.5	26.0	573.7	280.9	24.6	372.3	205.1	16.0
	220	728.5	233.7	31.3	684.0	249.1	29.4	642.1	265.6	27.7	600.0	286.3	25.9	482.1	274.9	20.7
	225	742.7	245.9	31.9	708.7	264.5	30.4	674.9	285.8	29.0	637.2	310.2	27.4	409.3	221.8	17.6
	240	805.5	256.2	34.7	769.0	276.7	33.1	731.8	298.4	31.5	695.3	324.9	29.9	501.7	285.3	21.6
	250	816.0	277.5	35.1	779.8	297.9	33.5	743.9	321.4	32.0	704.2	348.2	30.2	418.2	223.7	18.0
	264	870.0	290.9	37.4	831.5	312.6	35.7	792.0	337.7	34.0	747.8	365.3	32.1	425.5	224.0	18.3
	275	907.7	286.9	39.1	862.3	309.9	37.1	822.7	334.4	35.4	781.5	364.5	33.6	533.7	332.1	23.0
	281	954.9	308.0	41.0	914.2	332.3	39.3	869.1	359.1	37.3	828.2	389.5	35.6	781.7	425.1	33.6
	300	1010.9	321.6	43.5	962.6	346.4	41.5	918.8	373.9	39.5	874.0	406.9	37.6	672.5	405.9	28.9
	301	1035.5	334.0	44.5	983.3	360.6	42.2	940.1	388.8	40.4	893.0	423.0	38.4	835.1	460.4	35.9
	320	1115.6	355.9	48.0	1061.8	383.4	45.7	1015.2	413.3	43.7	965.1	449.3	41.5	822.6	481.9	35.3
	325	1111.1	372.8	47.7	1058.4	401.2	45.5	1012.7	432.8	43.5	961.1	471.3	41.3	812.8	508.2	34.9
	345	1179.2	387.2	50.8	1134.6	415.7	48.8	1079.3	448.2	46.5	1025.4	484.0	44.1	676.6	390.6	29.1
	350	1193.9	414.7	51.3	1145.3	445.8	49.2	1090.1	482.2	46.8	1029.8	521.7	44.2	615.2	343.6	26.4
	365	1288.3	424.2	55.4	1227.1	456.2	52.8	1173.0	491.3	50.5	1122.2	533.9	47.8	701.0	392.2	30.2
	395	1341.7	437.2	57.7	1277.9	470.2	54.9	1221.0	507.5	52.5	1155.9	551.4	49.7	709.1	392.2	30.5
410	1449.9	473.7	62.4	1380.6	510.1	59.4	1316.1	550.0	56.6	1238.7	594.8	53.3	810.1	430.6	34.9	
440	1526.5	497.0	65.7	1455.0	535.1	62.6	1386.9	577.4	59.7	1303.6	624.0	56.0	848.3	447.7	36.5	
470	1600.3	529.2	68.8	1525.2	569.2	65.7	1456.5	613.1	62.7	1377.7	664.7	59.3	857.5	450.0	36.9	
495	1674.6	560.8	72.0	1597.9	602.5	68.7	1526.6	648.7	65.7	1445.8	702.5	62.2	866.8	452.0	37.3	
520	1782.7	587.6	76.7	1700.9	631.5	73.2	1624.3	681.0	69.8	1534.4	736.8	66.0	881.7	452.3	38.0	
7.00	080	287.2	88.5	12.3	267.7	92.7	11.5	246.6	97.0	10.6	225.0	102.7	9.7	205.5	109.6	8.8
	090	316.7	101.6	13.6	294.6	106.2	12.7	271.0	111.8	11.6	248.1	118.5	10.7	224.4	125.6	9.6
	106	365.5	112.9	15.7	340.4	118.3	14.6	314.2	124.4	13.5	287.9	131.5	12.4	262.3	139.8	11.3
	115	390.9	122.4	16.8	374.2	132.4	16.1	356.3	142.8	15.3	338.5	155.3	14.5	245.2	135.6	10.5
	125	423.3	134.6	18.2	402.5	145.4	17.3	385.5	156.5	16.5	364.2	170.8	15.7	263.2	151.4	11.3
	135	463.6	144.5	19.9	439.3	156.1	18.9	419.3	167.6	18.0	398.3	183.0	17.1	267.6	166.1	11.5
	150	509.9	161.6	21.9	476.3	168.6	20.5	439.6	176.8	18.9	404.3	187.2	17.4	371.7	198.5	16.0
	160	562.5	178.4	24.2	533.8	192.5	22.9	510.4	206.9	21.9	484.9	225.0	20.8	409.4	241.1	17.6
	175	593.6	194.4	25.5	571.0	208.3	24.5	542.2	224.5	23.3	515.4	242.4	22.2	337.8	195.1	14.5
	205	688.2	225.3	29.6	655.3	243.0	28.2	623.8	261.5	26.8	590.9	283.6	25.4	384.6	206.3	16.5
	220	751.4	237.5	32.3	707.8	253.0	30.5	663.1	269.6	28.6	619.9	289.8	26.7	494.0	277.5	21.3
	225	765.9	249.0	32.9	728.9	268.0	31.3	695.3	288.9	29.9	656.5	313.3	28.2	422.4	223.4	18.2
	240	829.1	259.2	35.7	792.4	279.9	34.1	753.7	301.7	32.4	716.4	327.3	30.7	513.5	287.3	22.1
	250	841.2	281.2	36.2	801.8	301.8	34.5	765.9	324.9	32.9	724.8	352.0	31.2	431.7	225.5	18.6
	264	897.0	294.5	38.6	854.8	316.4	36.7	816.0	341.2	35.1	770.4	369.1	33.1	439.4	225.6	18.9
	275	935.2	290.4													

Performance data (cont)



50 Hz SI STANDARD UNITS (cont)

LCWT (C)	UNIT SIZE 30GXN,R	CONDENSER ENTERING AIR TEMPERATURE (C)														
		30			35			40			45			50		
		Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)
8.00	080	297.0	90.2	12.8	277.2	94.5	11.9	255.7	98.9	11.0	233.8	104.2	10.1	212.8	111.0	9.1
	090	328.0	103.6	14.1	305.1	108.3	13.1	280.9	113.8	12.1	257.5	120.3	11.1	226.9	126.1	9.8
	106	378.9	115.1	16.3	353.6	120.4	15.2	326.4	126.4	14.0	299.3	133.3	12.9	268.8	141.0	11.6
	115	402.4	124.0	17.3	384.8	134.0	16.5	366.8	144.3	15.8	348.5	156.6	15.0	253.0	136.5	10.9
	125	435.7	136.2	18.7	414.7	147.2	17.8	394.6	158.2	17.0	375.4	171.6	16.1	267.2	151.7	11.5
	135	478.1	146.0	20.6	453.7	157.9	19.5	431.8	169.7	18.6	410.0	184.6	17.6	271.4	166.9	11.7
	150	528.9	164.8	22.7	493.7	171.8	21.2	457.7	179.6	19.7	420.0	189.8	18.1	385.7	201.2	16.6
	160	579.3	180.5	24.9	550.9	194.5	23.7	525.2	209.4	22.6	499.5	226.8	21.5	408.3	241.1	17.6
	175	610.9	196.7	26.3	587.4	210.9	25.3	558.9	227.1	24.0	526.7	244.3	22.6	349.3	196.8	15.0
	205	708.1	228.2	30.4	675.1	245.8	29.0	642.4	264.5	27.6	608.6	286.0	26.2	396.5	207.9	17.0
	220	774.9	241.2	33.4	731.6	256.7	31.5	685.1	273.8	29.5	634.3	292.0	27.3	501.3	278.6	21.6
	225	789.7	252.0	34.0	749.8	271.2	32.2	715.9	292.0	30.8	668.1	314.8	28.7	435.9	225.4	18.7
	240	852.4	262.0	36.7	815.3	283.3	35.1	775.9	305.0	33.4	730.5	329.4	31.5	525.9	289.3	22.7
	250	866.9	284.7	37.3	824.1	305.7	35.4	788.4	328.3	33.9	746.4	355.5	32.1	445.5	227.6	19.2
	264	924.6	298.1	39.8	878.3	320.1	37.8	840.4	344.6	36.1	793.4	373.1	34.1	453.7	227.6	19.5
	275	963.1	293.5	41.4	917.0	317.0	39.5	872.8	341.2	37.6	826.5	369.3	35.6	549.0	335.5	23.7
	281	1009.3	315.2	43.4	973.6	339.3	41.9	921.0	367.0	39.6	879.3	396.5	37.8	830.3	432.2	35.7
	300	1072.5	329.0	46.2	1022.2	354.7	44.0	972.8	381.4	41.9	926.2	413.6	39.9	678.4	407.7	29.2
	301	1093.9	342.5	47.0	1046.3	368.9	45.0	994.6	398.0	42.8	947.4	430.6	40.7	843.9	461.0	36.3
	320	1181.9	364.3	51.0	1128.0	392.2	48.6	1073.7	422.0	46.3	1023.4	456.2	44.1	818.0	481.8	35.2
	325	1180.3	381.7	50.8	1120.7	411.0	48.2	1072.4	442.0	46.1	1018.4	479.8	43.8	807.7	508.6	34.7
	345	1247.5	396.7	53.7	1199.9	425.4	51.7	1145.4	457.6	49.3	1069.9	491.0	46.1	721.7	398.7	31.1
	350	1266.6	425.0	54.5	1208.6	456.8	52.0	1154.6	492.6	49.6	1073.5	529.9	46.2	654.4	350.7	28.1
	365	1368.6	434.6	58.9	1299.1	467.7	55.9	1241.1	502.0	53.5	1155.0	540.1	49.8	738.9	399.0	31.8
	395	1425.9	447.3	61.4	1351.8	481.5	58.2	1292.9	517.7	55.6	1201.1	557.5	51.7	747.1	398.9	32.2
410	1535.6	485.6	66.1	1463.9	522.7	63.1	1393.2	562.7	60.0	1283.5	601.5	55.2	860.9	441.5	37.1	
440	1617.9	509.5	69.6	1539.8	548.2	66.3	1467.9	590.4	63.2	1348.2	630.7	58.0	902.0	464.2	38.8	
470	1697.4	542.4	73.1	1613.1	583.5	69.4	1540.6	627.4	66.3	1420.9	671.4	61.2	911.3	463.5	39.2	
495	1775.9	575.3	76.5	1689.1	618.0	72.7	1614.2	663.7	69.5	1491.7	711.2	64.2	921.4	466.2	39.7	
520	1892.2	601.6	81.4	1797.8	646.8	77.4	1718.0	696.0	74.0	1585.0	745.9	68.2	938.5	464.3	40.4	
10.00	080	317.1	93.7	13.6	296.3	98.2	12.8	274.6	102.6	11.8	251.4	107.4	10.8	228.5	113.8	9.8
	090	350.1	108.1	15.1	326.4	112.9	14.0	302.0	117.9	13.0	276.4	124.1	11.9	232.9	127.1	10.0
	106	406.2	119.6	17.5	379.9	124.8	16.4	351.2	130.3	15.1	322.5	137.4	13.9	275.9	142.0	11.9
	115	425.1	127.0	18.3	407.4	137.0	17.5	388.8	147.5	16.7	364.7	159.0	15.7	269.0	138.6	11.6
	125	459.8	139.5	19.8	440.2	150.4	18.9	417.0	162.1	17.9	389.6	173.6	16.8	275.4	152.7	11.9
	135	504.2	149.6	21.7	482.4	161.5	20.8	457.2	173.8	19.7	434.1	187.1	18.7	279.9	168.4	12.0
	150	567.9	171.2	24.4	531.9	178.4	22.9	493.4	185.7	21.2	454.1	195.5	19.5	412.7	205.8	17.8
	160	611.3	184.9	26.3	585.4	198.9	25.2	555.2	213.9	23.9	529.1	230.2	22.8	408.9	240.9	17.6
	175	645.7	201.4	27.8	619.8	216.0	26.7	593.0	232.0	25.5	545.0	247.3	23.5	372.3	201.7	16.0
	205	748.4	233.6	32.2	715.3	251.5	30.8	679.8	270.7	29.3	632.3	288.7	27.2	420.6	212.1	18.1
	220	816.9	248.2	35.2	774.5	264.4	33.4	726.5	281.0	31.3	663.3	297.2	28.6	508.8	279.8	21.9
	225	835.5	258.6	36.0	794.3	278.0	34.2	756.0	299.1	32.5	684.4	316.7	29.5	463.1	230.6	19.9
	240	895.3	267.9	38.6	855.1	289.0	36.9	813.5	311.0	35.1	759.1	333.2	32.7	542.2	291.0	23.4
	250	918.7	292.0	39.5	871.2	313.8	37.5	831.8	336.5	35.8	756.7	357.1	32.6	0	0	0
	264	980.3	305.2	42.2	928.9	328.0	40.0	887.0	352.7	38.2	805.4	374.7	34.7	481.1	233.3	20.7
	275	1009.4	299.3	43.5	966.3	323.3	41.6	916.3	348.2	39.5	860.7	373.4	37.1	557.3	336.7	24.0
	281	1065.0	322.3	45.8	1030.5	347.3	44.4	979.0	375.3	42.1	929.2	405.5	40.0	864.9	436.9	37.2
	300	1127.4	336.2	48.7	1080.7	362.1	46.6	1025.4	389.4	44.2	970.5	424.7	41.8	685.1	409.1	29.5
	301	1153.3	350.7	49.6	1110.4	377.3	47.8	1050.7	407.1	45.2	1002.2	438.7	43.1	845.5	461.4	36.4
	320	1242.3	372.4	53.5	1192.4	400.3	51.4	1126.1	430.1	48.6	1070.8	479.1	46.2	820.9	482.0	35.4
	325	1246.2	391.1	53.6	1188.7	420.9	51.2	1131.3	452.5	48.7	1075.9	487.7	46.3	809.5	508.5	34.8
	345	1308.2	404.6	56.3	1256.7	434.5	54.3	1201.6	474.0	51.8	1094.5	495.2	47.2	755.6	405.5	32.6
	350	1341.1	435.8	57.7	1272.6	467.6	54.8	1218.9	503.3	52.5	1075.5	530.7	46.3	693.9	359.3	29.9
	365	1437.1	444.2	62.0	1368.6	478.0	59.0	1301.1	521.7	56.0	1176.2	542.2	50.7	765.5	417.0	33.0
	395	1507.2	458.2	64.9	1434.3	493.5	61.8	1358.5	566.9	58.5	1222.2	559.5	52.7	775.4	411.2	33.4
410	1606.6	495.6	69.2	1533.6	533.4	66.1	1454.2	595.2	62.7	1312.7	604.8	56.5	892.6	444.5	38.5	
440	1695.1	520.6	73.0	1614.4	559.7	69.5	1530.4	634.3	65.9	1365.3	632.8	58.7	936.9	465.4	40.4	
470	1776.6	553.9	76.5	1690.4	595.6	72.9	1605.3	665.1	69.1	1433.3	672.8	61.7	949.5	479.8	40.9	
495	1859.8	587.9	80.1	1768.5	631.4	76.2	1680.5	712.9	72.4	1512.0	713.8	65.1	959.8	483.2	41.3	
520	1990.6	615.6	85.7	1881.8	659.6	81.1	1791.0	738.7	77.1	1598.6	748.0	68.9	978.2	476.9	42.1	

See Legend on page 53.



50 Hz ENGLISH HIGH EFFICIENCY UNITS

LCWT (F)	UNIT SIZE 30GXN,R	CONDENSER ENTERING AIR TEMPERATURE (F)														
		85			95			105			115			125		
		Cap. Tons	Input kW	Cooler Flow Rate (Gpm)	Cap. Tons	Input kW	Cooler Flow Rate (Gpm)	Cap. Tons	Input kW	Cooler Flow Rate (Gpm)	Cap. Tons	Input kW	Cooler Flow Rate (Gpm)	Cap. Tons	Input kW	Cooler Flow Rate (Gpm)
40.00	083	75.3	80.7	180.2	69.8	85.3	167.1	63.9	90.2	152.9	57.5	96.0	137.7	51.7	103.6	123.7
	093	82.7	89.1	197.9	76.9	94.2	184.1	70.5	99.5	168.7	63.7	106.1	152.6	57.5	114.5	137.5
	108	93.5	103.3	223.7	89.1	113.1	213.4	84.2	123.2	201.5	79.5	135.9	190.2	74.4	150.8	178.1
	118	101.5	110.7	243.0	98.2	121.2	235.1	92.5	132.5	221.4	87.6	144.9	209.8	82.5	161.2	197.4
	128	110.4	122.2	264.4	106.2	133.3	254.3	100.2	145.2	239.9	95.0	159.3	227.5	89.5	176.6	214.2
	138	121.7	136.8	291.2	116.1	149.1	277.8	109.9	161.9	263.1	104.1	178.6	249.2	98.0	198.0	234.6
	153	133.7	149.1	320.1	127.2	161.6	304.5	120.7	175.3	289.0	114.2	192.1	273.3	107.0	211.1	256.2
	163	144.7	161.4	346.5	139.0	174.9	332.7	131.5	189.9	314.9	124.8	207.0	298.7	117.4	227.6	281.1
	178	158.6	179.4	379.6	150.8	193.7	361.0	143.2	210.0	342.7	135.2	229.2	323.7	126.5	251.0	302.8
	208	190.7	208.5	456.6	183.4	226.9	439.0	173.5	246.4	415.4	164.8	269.9	394.6	155.7	298.7	372.7
	228	199.4	222.8	477.3	190.4	241.9	455.9	180.7	262.6	432.5	171.2	287.9	409.8	160.9	317.5	385.3
	253	226.9	255.3	543.2	217.3	277.1	520.2	205.9	301.7	492.8	195.2	330.7	467.3	183.3	364.3	438.8
	268	236.5	274.7	566.2	226.3	297.4	541.7	214.2	324.0	512.8	202.5	354.7	484.8	111.6	218.9	267.2
	283	261.3	288.1	626.6	250.0	312.8	599.8	236.5	339.7	567.4	224.4	373.0	538.0	210.9	412.2	505.4
	303	273.0	301.0	655.3	262.2	326.8	628.8	248.2	354.9	595.4	235.5	388.9	565.3	221.9	429.8	532.2
	328	299.3	331.8	718.4	285.8	358.8	685.2	270.8	389.1	649.1	256.7	425.4	615.8	240.7	466.9	577.5
	353	325.6	362.5	780.4	311.0	391.4	746.9	294.7	424.6	707.4	279.3	463.1	669.3	261.7	507.6	627.7
	373	356.0	395.4	853.7	341.7	429.6	820.1	323.0	467.5	774.3	307.0	513.0	737.0	288.7	567.6	692.1
	393	364.2	404.4	872.7	348.0	437.5	834.6	329.8	474.4	790.5	313.1	519.1	752.0	289.5	569.1	694.3
	418	377.8	427.6	905.6	361.3	463.0	865.7	341.9	503.7	820.7	324.0	551.3	776.7	225.3	433.7	540.4
453	407.6	449.9	978.1	390.7	488.4	937.3	370.3	530.8	887.5	351.3	580.5	842.1	330.7	640.2	792.6	
478	435.9	482.5	1045.5	418.5	523.4	1003.8	395.9	569.5	949.9	376.2	623.5	901.8	353.8	688.5	848.3	
503	464.2	515.3	1112.6	446.1	559.0	1069.0	422.0	609.1	1012.1	401.0	666.5	962.1	377.0	735.6	903.7	
528	484.0	554.7	1160.6	464.2	600.7	1112.5	439.1	654.4	1052.4	414.8	715.3	995.5	231.0	441.6	554.2	
44.00	083	81.3	83.8	194.9	75.6	88.2	181.3	69.5	93.4	166.7	63.0	98.5	151.0	56.3	105.7	135.0
	093	89.2	92.7	213.8	83.2	97.6	199.3	76.6	103.1	183.7	69.6	109.1	166.7	62.5	117.0	149.9
	108	99.6	106.0	238.7	95.8	115.9	229.6	90.2	126.7	216.3	85.2	138.5	204.2	76.7	151.9	183.8
	118	108.2	113.6	259.4	104.9	124.2	251.4	99.9	135.9	239.4	94.1	148.6	225.5	88.6	164.1	212.4
	128	117.8	125.4	282.4	114.1	136.7	273.6	107.7	149.5	258.3	101.9	162.7	244.3	96.1	179.9	230.3
	138	129.6	140.5	310.8	125.1	153.0	300.0	117.8	167.0	282.4	111.6	182.0	267.6	105.1	201.8	251.9
	153	142.5	152.6	341.6	137.0	165.2	328.3	129.0	179.4	309.3	122.5	195.5	293.7	114.8	214.9	275.3
	163	154.4	165.8	370.1	149.2	179.4	357.7	141.1	194.9	338.3	134.0	211.7	321.1	126.0	232.5	302.1
	178	169.2	184.4	405.6	162.5	199.0	389.5	153.1	215.7	367.0	145.4	234.7	348.6	136.1	256.8	326.2
	208	203.2	213.6	487.2	197.2	232.4	472.7	186.2	253.5	446.4	176.6	274.9	423.5	166.9	304.1	400.1
	228	212.5	229.1	509.3	204.8	248.6	490.8	193.5	270.3	463.8	183.6	294.4	440.0	172.6	324.1	413.9
	253	241.9	262.1	580.0	233.7	284.2	560.3	220.3	309.9	528.0	209.5	337.9	502.2	196.8	372.6	471.8
	268	252.3	282.9	604.8	242.3	305.9	580.8	228.6	333.1	548.0	214.6	362.0	514.6	119.8	222.8	287.1
	283	278.1	295.2	667.2	268.3	320.9	644.4	253.4	349.3	608.7	240.1	380.6	576.8	223.6	418.3	536.8
	303	290.6	309.2	697.8	280.9	335.9	674.0	266.5	365.4	640.4	252.2	398.2	605.8	237.7	437.5	571.3
	328	318.7	340.6	764.8	306.8	368.2	735.9	289.8	399.4	695.8	274.9	434.9	659.6	258.0	476.1	619.8
	353	346.8	372.8	832.9	333.8	402.5	801.0	315.5	436.2	757.1	299.3	474.4	719.3	280.8	518.4	673.8
	373	379.1	406.0	909.9	366.3	441.6	878.9	346.7	481.1	832.7	328.6	525.2	788.5	309.6	579.1	744.4
	393	387.8	415.2	931.3	373.6	449.4	896.6	353.5	487.6	848.5	335.3	530.7	806.2	307.2	578.3	737.1
	418	402.1	439.6	966.0	386.2	476.2	927.4	366.0	517.3	878.1	343.1	562.1	824.2	241.4	442.1	580.1
453	434.0	462.5	1042.8	419.0	501.9	1006.4	396.7	546.2	953.0	376.2	594.6	902.9	352.2	652.1	845.9	
478	464.0	495.8	1113.5	448.1	538.4	1075.0	424.8	585.7	1020.1	402.5	639.0	967.0	379.1	702.4	910.2	
503	494.2	529.1	1186.5	477.8	574.6	1146.9	452.5	625.8	1085.6	429.2	683.1	1030.2	404.0	751.7	970.6	
528	515.4	571.2	1238.5	495.2	618.6	1188.9	469.2	672.8	1126.1	438.5	730.6	1052.5	247.8	450.9	595.3	
48.00	083	87.7	86.8	210.5	81.6	91.7	195.9	75.4	96.7	180.9	68.7	102.0	164.8	61.5	108.4	147.6
	093	96.1	96.1	230.6	89.7	101.3	215.2	83.0	106.8	199.1	75.7	112.6	181.7	68.1	119.9	163.4
	108	105.9	108.7	254.1	102.3	118.8	245.6	96.8	130.0	232.4	91.1	141.6	218.6	79.1	152.7	189.8
	118	115.3	116.3	276.7	111.7	127.2	268.1	107.6	139.2	258.1	100.8	152.8	241.9	95.0	167.0	228.0
	128	125.4	128.8	301.0	121.6	140.5	291.7	116.2	153.5	278.8	109.2	167.4	262.0	102.9	183.3	246.9
	138	138.0	144.5	331.1	133.6	157.4	320.6	126.6	172.0	303.9	119.4	186.9	286.6	111.4	205.2	267.4
	153	151.5	156.2	363.6	146.4	169.3	351.4	138.4	183.8	332.2	130.9	199.6	314.2	119.0	217.1	285.6
	163	164.2	170.2	394.1	159.0	184.4	381.6	151.9	200.0	364.5	143.2	217.7	343.7	135.0	237.0	324.1
	178	180.1	189.5	432.3	173.8	204.8	417.1	164.3	221.7	394.4	155.5	240.9	373.2	145.9	262.8	350.2
	208	216.2	219.4	518.9	209.8	238.6	503.5	200.5	260.1	481.2	189.0	283.0	453.6	178.5	309.3	428.4
	228	226.1	235.4	542.6	218.8	255.7	525.0	207.6	278.2	498.2	196.3	302.3	471.1	182.7	329.7	438.4
	253	257.2	269.2	617.4	249.0	292.7	597.6	237.0	318.5	568.7	223.7	347.5	536.8	210.8	380.5	505.8
	268	268.2	291.2	643.7	257.5	315.6	618.0	244.8	342.6	587.5	224.4	368.9	538.6	128.0	228.2	307.3
	283	295.3	302.8	710.2	286.1	329.5	687.5	271.8	358.5	653.5	256.2	389.6	616.0	236.0	424.9	566.9
	303	308.8	317.2	741.7	299.4	345.1	720.4	285.8	375.6	686.8	269.4	409.0	647.9	253.1	445.9	608.3
	328	338.4	349.1	814.2	327.3	378.3	787.7	310.6	409.9	747.3	293.1	446.5	704.4	268.8	482.0	646.6
	353	368.5	382.9	885.1	356.1	414.4	856.5	338.1	448.3	813.2	318.1	487.2	764.5	294.5	526.7	707.7
	373	402.6	416.9	968.0	390.3	454.3	938.2	372.1	494.8	893.9	350.5	539.1	842.1	330.9	591.1	796.0
	393	411.9	425.7	990.4	398.9	462.0	959.1	378.8	500.9	910.4	357.9	542.9	859.3	322.8	586.8	775.4
	418	427.1	451.2	1026.3	411.2	489.8	988.8	391.1	531.4	940.3	361.3	572.7	867.7	254.8	451.1	612.4
453	461.1	475.4	1107.8	446.7	516.3	1072.6	425.5	561.8	1022.5	401.6	612.5	965.8	368.4	660.9	884.9	
478	492.9	508.9	1184.6	477.7	553.4	1148.0	455.5	602.3	1094.2	429.5	655.8	1032.2	403.1	716.1	968.8	
503	524.9	543.0	1262.2	508.7	591.0	1222.2	485.8	642.9	1167.5	457.8	701.9	1099.5	430.0	766.2	1032.9	
528	547.4	587.5	1314.8	526.1	637.8	1265.4	501.4	692.0	1205.0	457.9	744.1	1100.1	264.0	462.0	635.2	

See Legend on page 53.

Performance data (cont)



50 Hz SI HIGH EFFICIENCY UNITS

LCWT (C)	UNIT SIZE 30GXN,R	CONDENSER ENTERING AIR TEMPERATURE (C)														
		30			35			40			45			50		
		Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)
5.00	083	268.0	81.9	11.5	250.6	86.0	10.8	231.9	90.5	10.0	211.6	95.3	9.1	191.6	101.6	8.2
	093	294.4	90.4	12.6	275.6	95.1	11.8	255.5	99.8	11.0	234.1	105.3	10.0	212.9	112.4	9.1
	108	333.0	104.8	14.3	319.6	113.7	13.7	302.7	123.1	13.0	287.8	133.7	12.4	271.8	146.8	11.7
	118	361.6	112.5	15.5	351.5	122.0	15.1	333.5	132.2	14.3	317.3	142.9	13.6	301.0	156.8	12.9
	128	393.6	123.9	16.9	380.7	134.1	16.3	360.7	145.0	15.5	344.0	156.8	14.8	326.4	172.1	14.0
	138	433.4	138.9	18.6	416.1	150.0	17.9	395.4	161.8	17.0	376.9	175.8	16.2	357.6	192.6	15.3
	153	476.3	151.1	20.4	455.9	162.4	19.6	433.9	174.9	18.6	413.8	189.3	17.8	391.0	206.0	16.8
	163	515.8	163.8	22.1	498.3	175.9	21.4	473.1	189.6	20.3	451.9	204.2	19.4	428.5	222.4	18.4
	178	565.0	181.9	24.3	540.5	195.1	23.2	514.6	209.7	22.1	490.4	226.4	21.1	462.4	245.5	19.8
	208	679.7	211.6	29.2	657.2	228.2	28.2	624.0	246.1	26.8	596.3	265.6	25.6	567.3	291.1	24.4
	228	710.3	226.2	30.5	682.4	243.5	29.3	649.4	262.3	27.9	619.8	283.9	26.6	587.4	309.7	25.2
	253	808.4	259.1	34.7	778.7	278.9	33.4	739.7	301.1	31.8	707.2	325.9	30.4	669.4	356.0	28.7
	268	842.1	278.9	36.1	809.7	299.5	34.8	769.4	323.4	33.0	733.6	349.8	31.5	407.7	214.3	17.5
	283	930.6	292.4	40.1	895.4	314.9	38.5	850.3	339.4	36.6	811.9	367.5	34.9	769.3	401.6	33.1
	303	972.5	305.6	41.8	938.4	329.1	40.4	893.5	354.9	38.4	852.1	384.0	36.7	809.1	418.7	34.8
	328	1065.8	336.7	45.9	1023.6	361.1	44.0	973.5	388.6	41.8	929.4	420.0	40.0	879.0	456.1	37.8
	353	1159.6	367.9	49.8	1113.6	394.3	47.9	1059.7	424.0	45.6	1011.5	457.7	43.5	955.8	496.2	41.1
	373	1268.2	401.5	54.5	1224.1	432.4	52.6	1162.1	467.0	49.9	1110.6	505.9	47.7	1053.3	553.4	45.3
	393	1297.2	410.4	55.7	1246.3	440.5	53.6	1185.9	473.8	51.1	1133.2	512.5	48.7	1073.2	557.2	46.2
	418	1344.7	434.2	57.8	1292.8	466.3	55.6	1230.1	502.9	52.9	1172.5	544.4	50.4	821.8	424.0	35.4
453	1451.9	456.9	62.5	1399.1	491.8	60.2	1331.3	530.2	57.2	1271.5	573.0	54.6	1205.5	624.9	51.9	
478	1552.8	489.7	66.8	1497.9	527.2	64.4	1425.1	568.9	61.3	1360.5	615.8	58.5	1290.5	671.5	55.5	
503	1653.6	522.9	71.1	1596.8	563.0	68.6	1518.6	608.2	65.3	1450.6	658.3	62.4	1375.5	718.3	59.2	
528	1722.8	563.3	74.1	1659.4	605.3	71.3	1579.0	653.4	67.8	1504.1	707.0	64.7	843.2	432.7	36.3	
6.00	083	277.4	83.3	11.9	259.7	87.3	11.2	240.9	91.9	10.3	220.4	96.5	9.5	199.4	102.7	8.6
	093	304.8	92.0	13.1	285.5	96.6	12.3	265.3	101.4	11.4	243.5	106.7	10.5	221.4	113.6	9.5
	108	342.5	106.1	14.7	329.9	115.0	14.2	312.6	124.6	13.4	297.0	134.9	12.8	280.6	148.0	12.1
	118	372.3	113.7	16.0	361.9	123.3	15.5	345.5	133.6	14.8	327.5	144.7	14.1	310.8	158.1	13.4
	128	405.2	125.4	17.4	393.0	135.7	16.9	373.0	146.8	16.0	354.9	158.5	15.2	337.0	173.6	14.5
	138	446.0	140.6	19.2	430.4	151.9	18.5	407.9	164.0	17.5	388.8	177.3	16.7	368.9	194.6	15.8
	153	490.1	152.8	21.1	471.4	164.1	20.2	447.1	176.7	19.2	427.1	190.8	18.3	403.7	207.7	17.3
	163	530.9	165.7	22.8	514.1	178.0	22.1	488.5	191.8	21.0	466.5	206.6	20.0	442.2	224.6	19.0
	178	581.7	184.3	25.0	559.0	197.4	24.0	530.4	212.2	22.8	506.9	228.8	21.8	478.1	248.1	20.5
	208	699.3	213.9	30.0	679.5	230.6	29.2	644.4	249.1	27.7	615.1	268.2	26.4	585.3	293.5	25.1
	228	730.9	229.0	31.4	705.2	246.5	30.3	670.0	265.7	28.8	639.6	286.8	27.5	606.1	312.9	26.0
	253	832.1	262.2	35.7	805.1	282.0	34.6	762.7	304.7	32.8	730.0	329.2	31.4	691.0	359.6	29.7
	268	866.8	282.7	37.2	835.1	303.4	35.9	792.3	327.4	34.0	756.2	353.9	32.5	420.5	216.3	18.1
	283	957.4	295.7	41.2	924.3	318.6	39.8	877.5	343.6	37.8	836.6	371.0	36.0	793.9	405.0	34.2
	303	1000.4	309.3	43.0	967.7	333.3	41.6	922.7	359.3	39.7	878.5	388.1	37.8	834.8	422.5	35.9
	328	1096.8	340.5	47.2	1056.6	365.4	45.5	1003.7	393.2	43.2	958.2	424.3	41.2	907.3	460.2	39.0
	353	1193.3	372.5	51.4	1149.7	399.3	49.4	1092.6	429.4	47.0	1043.0	462.8	44.9	987.0	501.3	42.4
	373	1304.9	406.2	56.1	1262.5	437.9	54.3	1200.2	473.2	51.7	1144.5	511.7	49.2	1087.0	558.5	46.8
	393	1334.9	415.2	57.4	1287.0	445.9	55.3	1223.9	479.9	52.7	1168.1	517.9	50.2	1108.1	562.5	47.6
	418	1383.8	439.4	59.6	1331.9	472.3	57.3	1268.2	509.2	54.5	1207.5	550.5	52.0	848.2	428.0	36.5
453	1493.5	462.6	64.3	1444.2	497.8	62.2	1374.1	537.0	59.1	1310.9	579.7	56.4	1244.1	630.8	53.5	
478	1597.5	495.7	68.7	1544.5	533.9	66.4	1471.2	576.0	63.3	1402.3	622.7	60.4	1332.1	678.0	57.3	
503	1701.2	529.2	73.2	1646.7	569.9	70.8	1567.4	615.5	67.4	1495.6	665.6	64.3	1419.6	725.1	61.1	
528	1772.4	570.7	76.2	1708.5	613.2	73.5	1626.9	661.5	70.0	1544.9	714.4	66.4	870.6	437.3	37.5	
7.00	083	287.2	84.8	12.3	269.2	88.7	11.6	250.0	93.3	10.7	229.1	98.0	9.8	207.8	103.8	8.9
	093	315.2	93.7	13.5	295.8	98.1	12.7	275.0	103.1	11.8	253.0	108.2	10.9	229.9	114.9	9.9
	108	352.2	107.4	15.1	340.4	116.2	14.6	322.5	126.1	13.9	306.3	136.3	13.2	289.6	149.1	12.4
	118	383.1	115.1	16.5	372.5	124.6	16.0	357.5	135.2	15.4	337.9	146.6	14.5	320.9	159.4	13.8
	128	416.9	127.0	17.9	405.4	137.3	17.4	385.7	148.9	16.6	366.3	160.5	15.7	347.8	175.1	14.9
	138	458.9	142.2	19.7	444.9	153.6	19.1	421.1	166.3	18.1	401.1	179.3	17.2	380.6	196.2	16.4
	153	504.2	154.4	21.7	487.0	165.6	20.9	460.9	178.8	19.8	440.3	192.5	18.9	416.4	209.6	17.9
	163	546.4	167.7	23.5	530.1	180.1	22.8	504.8	194.1	21.7	481.1	209.2	20.7	456.6	226.6	19.6
	178	598.8	186.6	25.7	577.9	199.7	24.8	546.8	214.8	23.5	523.2	231.4	22.5	493.9	251.0	21.2
	208	719.5	216.2	30.9	700.1	233.3	30.1	666.6	252.3	28.6	634.4	271.8	27.3	603.6	295.9	25.9
	228	752.0	231.9	32.3	727.7	249.6	31.3	691.0	269.2	29.7	659.8	290.0	28.4	625.4	316.0	26.9
	253	856.3	265.3	36.8	830.4	285.4	35.7	788.4	308.5	33.9	752.2	333.5	32.3	713.2	363.2	30.7
	268	892.2	286.4	38.3	860.0	307.5	37.0	817.5	331.7	35.1	778.2	358.6	33.4	433.4	218.3	18.6
	283	984.0	299.0	42.3	953.5	322.2	41.0	905.5	347.9	39.0	861.8	374.9	37.1	818.2	408.4	35.2
	303	1028.4	313.1	44.3	997.5	337.4	42.9	952.7	363.8	41.0	905.2	392.6	39.0	860.7	426.2	37.1
	328	1127.8	344.7	48.5	1089.6	369.8	46.9	1035.6	397.6	44.6	987.4	428.6	42.5	935.6	464.9	40.3
	353	1227.3	377.2	52.8	1185.5	404.3	51.1	1127.7	434.5	48.5	1074.5	468.2	46.3	1018.3	506.7	43.8
	373	1341.6	411.2	57.7	1301.0	443.6	56.0	1239.3	479.1	53.4	1179.1	517.5	50.8	1121.1	563.8	48.2
	393	1372.6	420.1	59.1	1327.4	451.3	57.1	1262.9	485.7	54.3	1203.7	523.0	51.9	1139.4	567.3	49.0
	418	1422.5	444.9	61.3	1371.5	478.2	59.0	1307.2	515.0	56.2	1239.4	555.6	53.4	875.9	432.9	37.7
453	1536.0	468.1	66.1	1488.1	504.2	64.1	1418.0	543.9	61.1	1350.5	586.7	58.1	1282.2	636.9	55.2	
478	1642.1	501.9	70.7	1591.4	540.8	68.5	1518.2	583.3	65.3	1444.8	629.9	62.2	1373.1	684.6	59.1	
503	1748.9	535.8	75.3	1697.0	577.0	73.0	1618.1	623.0	69.6	1540.2	673.6	66.2	1463.8	732.3	63.0	
528	1822.3	578.5	78.5	1757.8	621.5	75.7	1677.0	669.9	72.2	1585.3	722.5	68.3	898.5	442.3	38.7	

See Legend on page 53.



50 Hz SI HIGH EFFICIENCY UNITS (cont)

LCWT (C)	UNIT SIZE 30GXN,R	CONDENSER ENTERING AIR TEMPERATURE (C)														
		30			35			40			45			50		
		Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)	Cap. kW	Input kW	Cooler Flow Rate (l/s)
8.00	083	297.4	86.1	12.8	278.7	90.2	12.0	259.2	94.8	11.1	238.3	99.5	10.2	216.4	105.0	9.3
	093	325.8	95.3	14.0	306.1	99.8	13.2	285.3	104.7	12.3	262.6	109.9	11.3	239.4	116.2	10.3
	108	362.2	108.7	15.6	350.8	117.6	15.1	333.0	127.6	14.3	315.7	137.8	13.6	298.5	150.4	12.8
	118	394.2	116.4	17.0	383.2	126.0	16.5	369.8	136.6	15.9	348.8	148.5	15.0	331.1	160.9	14.2
	128	429.0	128.5	18.4	417.0	139.0	17.9	399.3	150.5	17.2	377.9	162.8	16.2	358.9	176.5	15.4
	138	472.0	143.9	20.3	458.4	155.6	19.7	435.3	168.6	18.7	413.6	181.7	17.8	392.3	198.1	16.9
	153	518.6	156.0	22.3	502.1	167.5	21.6	476.0	180.7	20.5	453.6	194.4	19.5	429.7	211.3	18.5
	163	562.1	169.8	24.2	545.7	182.3	23.5	521.9	196.4	22.4	495.9	211.7	21.3	471.2	228.6	20.3
	178	616.1	188.9	26.5	595.8	202.4	25.6	564.8	217.6	24.3	538.8	234.2	23.2	510.1	253.7	21.9
	208	739.9	218.8	31.8	720.0	236.1	31.0	689.0	255.3	29.6	654.2	275.4	28.1	622.5	298.2	26.8
	228	773.4	234.9	33.3	750.6	252.6	32.3	713.9	272.7	30.7	679.8	294.0	29.2	645.1	319.1	27.7
	253	881.0	268.5	37.9	854.3	289.2	36.7	814.8	312.4	35.0	774.8	337.7	33.3	736.0	366.8	31.6
	268	917.8	290.1	39.5	884.1	311.8	38.0	843.4	335.9	36.3	796.8	362.2	34.3	766.7	392.6	33.6
	283	1011.1	302.3	43.5	981.4	326.1	42.2	935.1	351.9	40.3	887.6	379.2	38.3	843.5	411.7	36.4
	303	1057.0	316.6	45.6	1027.1	341.4	44.2	983.5	368.4	42.3	932.9	397.4	40.2	887.4	430.7	38.2
	328	1159.1	348.6	49.9	1122.5	374.2	48.3	1068.9	402.2	46.1	1015.8	433.4	43.8	965.0	469.2	41.5
	353	1261.7	381.9	54.3	1220.9	409.7	52.6	1163.4	439.9	50.1	1106.3	473.7	47.6	1050.0	512.4	45.2
	373	1378.6	416.1	59.4	1338.9	449.2	57.7	1279.6	485.2	55.1	1213.9	524.0	52.3	1155.3	569.2	49.7
	393	1410.4	425.2	60.8	1367.8	456.9	58.9	1303.4	491.7	56.1	1239.1	528.8	53.4	1168.2	571.5	50.3
	418	1461.8	450.4	63.0	1411.2	484.3	60.8	1347.2	521.4	58.0	1267.3	560.3	54.5	904.9	437.2	39.0
	453	1578.6	474.2	67.9	1532.0	510.5	66.0	1463.4	550.9	63.0	1391.2	594.1	59.9	1321.7	643.2	56.9
	478	1687.5	508.0	72.7	1638.2	547.6	70.5	1567.1	590.5	67.4	1487.7	637.6	64.1	1415.8	691.4	61.0
	503	1797.7	542.1	77.4	1745.6	584.5	75.2	1670.9	630.6	71.9	1585.5	681.9	68.2	1509.2	739.6	65.0
	528	1873.1	585.9	80.6	1805.9	630.3	77.9	1728.0	678.4	74.4	1618.9	729.1	69.8	927.4	447.2	40.0
	10.00	083	317.8	88.9	13.7	298.1	93.5	12.8	278.1	97.8	12.0	256.9	102.6	11.1	233.8	107.6
093		347.9	98.5	15.0	327.2	103.1	14.1	305.4	108.2	13.1	282.8	113.4	12.2	258.3	119.1	11.1
108		382.5	111.1	16.5	370.7	120.5	16.0	355.2	130.4	15.3	335.0	141.3	14.4	310.7	152.0	13.4
118		416.9	118.9	17.9	405.1	128.8	17.4	392.4	139.8	16.9	372.6	152.0	16.0	352.1	164.6	15.2
128		453.6	131.6	19.5	440.8	142.4	19.0	425.5	154.3	18.3	402.1	167.1	17.3	381.2	179.8	16.4
138		498.7	147.7	21.5	484.2	159.7	20.8	464.5	172.9	20.0	439.0	186.9	18.9	416.4	201.5	17.9
153		547.2	159.3	23.5	530.8	171.6	22.8	507.5	184.5	21.8	480.2	198.7	20.7	456.3	214.3	19.6
163		593.5	173.8	25.5	576.8	186.8	24.8	556.1	201.0	23.9	526.3	216.9	22.7	500.6	233.6	21.5
178		650.5	193.8	28.0	630.5	207.9	27.1	602.6	223.1	25.9	570.2	240.0	24.5	542.3	258.8	23.3
208		781.6	224.1	33.6	760.4	241.6	32.7	734.9	261.2	31.6	694.5	282.3	29.9	660.5	303.0	28.4
228		816.8	240.8	35.2	793.1	259.4	34.1	761.2	279.7	32.8	720.6	301.8	31.0	684.7	325.3	29.5
253		929.4	275.2	40.0	902.9	296.8	38.9	868.7	320.0	37.4	820.6	346.0	35.3	781.7	374.1	33.6
268		968.1	298.0	41.7	933.0	320.6	40.2	894.8	344.7	38.5	826.5	367.9	35.6	776.4	226.2	20.5
283		1066.5	309.3	46.0	1032.2	333.3	44.5	991.0	359.4	42.7	937.0	387.8	40.4	882.1	436.6	38.0
303		1111.1	323.6	47.9	1080.6	349.3	46.6	1040.5	376.8	44.8	982.6	406.0	42.3	931.2	451.1	40.2
328		1212.8	355.3	52.3	1177.5	382.1	50.8	1128.1	410.2	48.7	1066.8	441.9	46.0	1009.1	493.4	43.5
353		1321.6	390.0	56.9	1282.2	419.2	55.2	1228.8	449.4	52.9	1157.7	483.2	50.0	1097.0	564.2	47.4
373		1454.3	426.1	62.7	1414.4	460.6	60.9	1362.7	497.0	58.7	1289.2	537.8	55.5	1217.2	649.6	52.5
393		1487.5	434.7	64.1	1446.4	468.5	62.3	1387.5	503.5	59.8	1315.2	542.0	56.6	1218.8	591.0	52.5
418		1541.3	461.1	66.4	1490.6	496.9	64.2	1429.4	534.2	61.6	1317.6	568.9	56.8	943.4	442.7	40.6
453		1653.9	484.4	71.2	1606.5	522.2	69.2	1544.4	563.1	66.6	1463.1	607.7	63.0	1381.9	667.0	59.5
478		1771.4	518.9	76.3	1721.9	560.1	74.2	1656.9	603.8	71.3	1570.0	652.7	67.6	1480.7	771.4	63.8
503		1882.5	553.1	81.1	1830.2	597.3	78.9	1763.0	644.0	75.9	1659.3	695.1	71.5	1577.0	774.8	67.9
528		1965.7	599.7	84.8	1896.6	646.3	81.5	1815.4	700.4	78.3	1671.2	739.1	72.0	969.5	455.1	41.8

LEGEND

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

Performance data (cont)



UNIT OPERATING RANGE*

ITEM			MAX		MIN		NOMINAL	
Cooler Leaving Fluid Temperature†			60 F (15 C)		40 F (4.4 C)		—	
Cooler Entering Fluid Temperature**			70 F (21.1 C)		45 F (7.2 C)		—	
Cooler Flow Rates 30GXN,R	Cooler	Number of Passes	Max Cooler Temp Difference		Reference Min Flow Rate†		Nominal Flow Rate	
			F	C	Gpm	L/s	Gpm	L/s
080, 083	minus 1 pass	2	13	7.4	136	8.6	182	11.5
	std	3	20	11.1	91	5.7		
	plus 1 pass	4	27	14.8	68	4.3		
090, 093	minus 1 pass	2	13	7.4	149	9.4	199	12.6
	std	3	20	11.1	100	6.3		
	plus 1 pass	4	27	14.8	75	4.7		
106, 108	minus 1 pass	2	13	7.4	176	11.1	234	14.8
	std	3	20	11.1	117	7.4		
	plus 1 pass	4	27	14.8	88	5.5		
115	minus 1 pass	2	13	7.4	191	12.0	254	16.1
	std	3	20	11.1	127	8.0		
	plus 1 pass	4	27	14.8	95	6.0		
118	minus 1 pass	1	10	5.6	254	16.1	254	16.1
	std	2	20	11.1	127	8.0		
	plus 1 pass	3	30	16.7	85	5.4		
125	minus 1 pass	2	13	7.4	209	13.2	278	17.6
	std	3	20	11.1	139	8.8		
	plus 1 pass	4	27	14.8	104	6.6		
128	minus 1 pass	1	10	5.6	278	17.6	278	17.6
	std	2	20	11.1	139	8.8		
	plus 1 pass	3	30	16.7	93	5.9		
135	minus 1 pass	2	13	7.4	229	14.4	305	19.2
	std	3	20	11.1	152	9.6		
	plus 1 pass	4	27	14.8	114	7.2		
138	minus 1 pass	1	10	5.6	305	19.2	305	19.2
	std	2	20	11.1	152	9.6		
	plus 1 pass	3	30	16.7	102	6.4		
150, 153	minus 1 pass	1	10	5.6	336	21.2	336	21.2
	std	2	20	11.1	168	10.6		
	plus 1 pass	3	30	16.7	112	7.1		
160, 163	minus 1 pass	1	10	5.6	364	23.0	364	23.0
	std	2	20	11.1	182	11.5		
	plus 1 pass	3	30	16.7	121	7.7		
175, 178††	minus 1 pass	1	10	5.6	401	25.3	401	25.3
	std	2	20	11.1	200	12.6		
	plus 1 pass	3	30	16.7	134	8.4		
205, 208††	minus 1 pass	1	10	5.6	461	29.1	461	29.1
	std	2	20	11.1	230	14.5		
	plus 1 pass	3	30	16.7	154	9.7		
225, 228††	minus 1 pass	1	10	5.6	502	31.6	502	31.6
	std	2	20	11.1	251	15.8		
	plus 1 pass	3	30	16.7	167	10.5		
250, 253††	minus 1 pass	1	10	5.6	562	35.4	562	35.4
	std	2	20	11.1	281	17.7		
	plus 1 pass	3	30	16.7	187	11.8		
264, 268††	minus 1 pass	1	10	5.6	588	37.1	588	37.1
	std	2	20	11.1	294	18.6		
	plus 1 pass	3	30	16.7	196	12.4		
281††	minus 1 pass	1	10	5.6	641	40.5	641	40.5
	std	2	20	11.1	321	20.2		
	plus 1 pass	3	30	16.7	214	13.5		
301††	minus 1 pass	1	10	5.6	689	43.4	689	43.4
	std	2	20	11.1	344	21.7		
	plus 1 pass	3	30	16.7	230	14.5		
325††	minus 1 pass	1	10	5.6	741	46.8	741	46.8
	std	2	20	11.1	371	23.4		
	plus 1 pass	3	30	16.7	247	15.6		
350††	minus 1 pass	1	10	5.6	801	50.5	801	50.5
	std	2	20	11.1	401	25.3		
	plus 1 pass	3	30	16.7	267	16.8		

*Maximum ambient temperature and percent of unit capacity will vary based on unit load and return water temperature. All models are qualified for use at 125 F (46 C). Some models may require the high ambient fan option. Contact your local Carrier representative to obtain performance data using the Carrier electronic catalog.

†For applications requiring cooler leaving water temperature operation at less than 40 F (4.4 C), the units require the use of antifreeze and application may require one of the special order brine options. Contact your local Carrier representative for more information.

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

††Requires optional or accessory low ambient kit for operation below 15 F (-9 C). All other models require the low ambient control for operation below 0° F (-17.8 C).

NOTES:

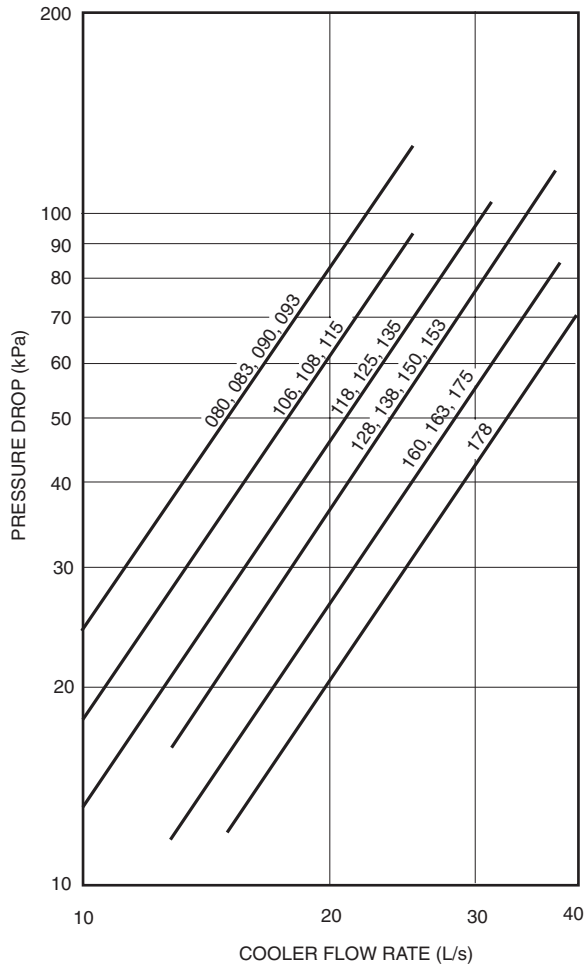
1. The 30GXN,R units will start with loop temperatures up to 95 F (35 C).
2. Nominal flow rates required at ARI conditions 44 F (7 C) leaving fluid temperature, 54 F (12 C) entering water temperature, 95 F (35 C) ambient. Fouling factor 0.00018 ft²-hr-F/Btu (0.00018 m²-K/kW).
3. To obtain proper temperature control, cooler loop fluid volume must be at least 3 gal/ton (3.23 L/kW) of chiller nominal capacity for air conditioning and at least 6 gal/ton (6.5 L/kW) for process applications or systems that must operate in low ambient temperatures (below 32 F [0° C]).
4. Where winds of 5 mph (2.2 m/s) or greater are anticipated at outdoor ambient temperatures below 32 F (0° C), wind baffles are required.



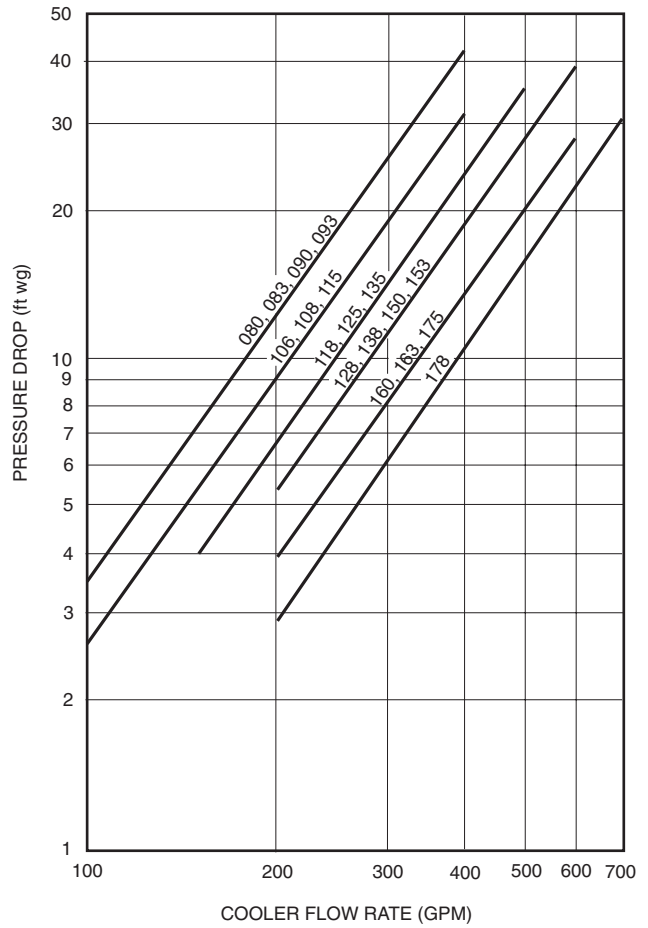
DUPLEX UNIT OPERATING RANGE

30GXN,R	COOLER	NO. OF PASSES	MAX. COOLER TEMPERATURE DIFFERENCE		REFERENCE MIN FLOW RATE		NOMINAL FLOW RATE	
			F	C	Gpm	L/s	Gpm	L/s
220	STD	1	20	11.1	278	17.5	477	30.1
240	STD	1	20	11.1	278	17.5	535	33.8
275	STD	1	20	11.1	305	19.2	601	37.9
283	STD	1	20	11.1	329	20.8	658	41.5
300	STD	1	20	11.1	364	23.0	670	42.3
303	STD	1	20	11.1	347	21.9	694	43.8
320	STD	1	20	11.1	364	23.0	739	46.6
328	STD	1	20	11.1	382	24.1	764	48.2
345	STD	1	20	11.1	401	25.3	789	49.8
353	STD	1	20	11.1	420	26.5	839	53.0
365	STD	1	20	11.1	562	35.5	853	53.8
373	STD	1	20	11.1	444	28.0	889	56.1
390	STD	1	20	11.1	588	37.1	909	57.3
393	STD	1	20	11.1	461	29.1	921	58.1
395	STD	1	20	11.1	588	37.1	888	56.0
410	STD	1	20	11.1	502	31.7	961	60.6
418	STD	1	20	11.1	475	30.0	950	59.9
440	STD	1	20	11.1	502	31.7	1012	63.8
470	STD	1	20	11.1	528	33.3	1056	66.6
478	STD	1	20	11.1	546	34.4	1091	68.8
495	STD	1	20	11.1	551	34.7	1101	69.5
503	STD	1	20	11.1	579	36.5	1158	73.0
520	STD	1	20	11.1	590	37.2	1181	74.5
528	STD	1	20	11.1	607	38.3	1214	76.6

Performance data (cont)

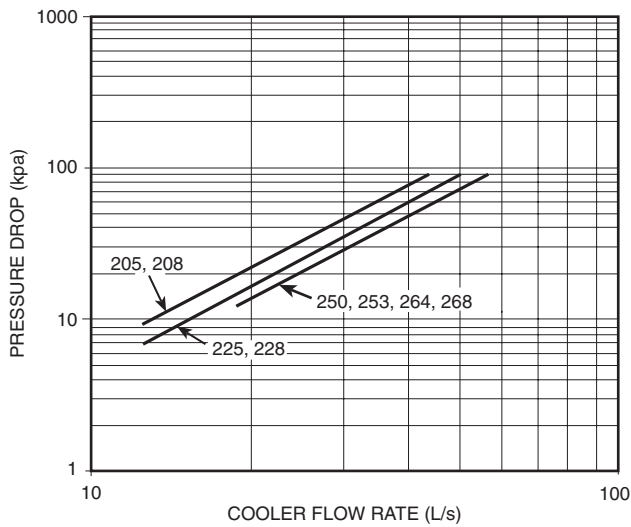


30GXN,R080-178 COOLER PRESSURE DROP — SI

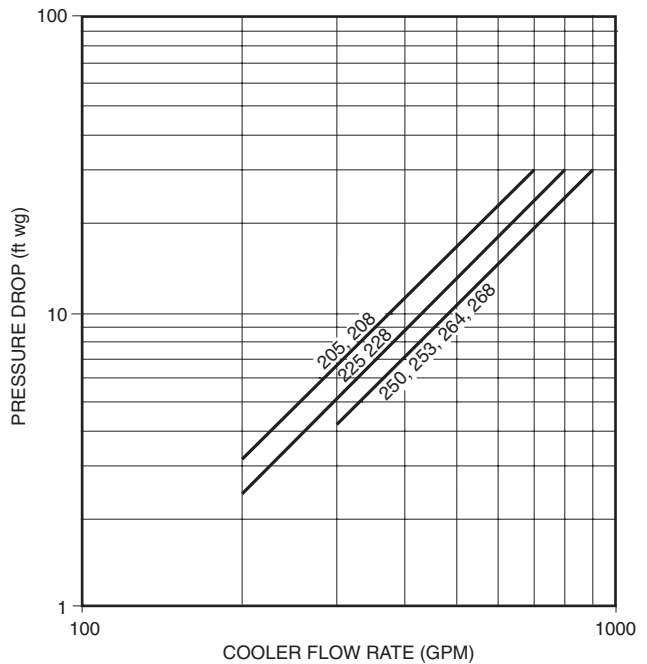


NOTE: Ft of water = 2.31 x psig.

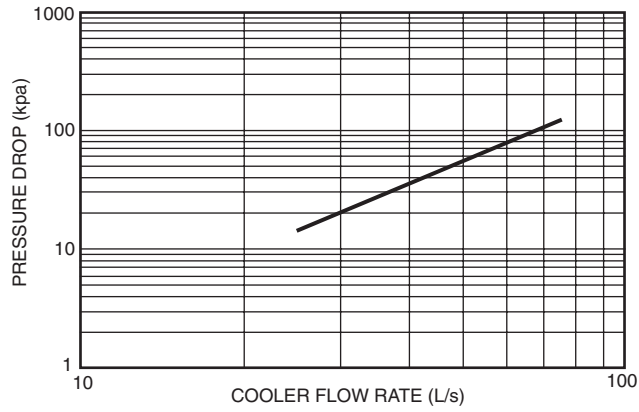
30GXN,R080-178 COOLER PRESSURE DROP — ENGLISH



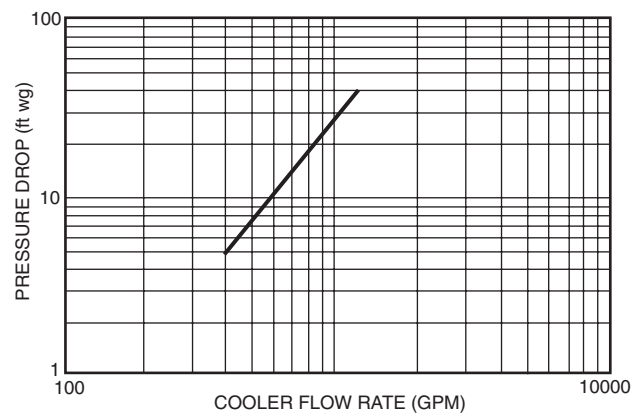
30GXN,R205-268 COOLER PRESSURE DROP — SI



30GXN,R205-268 COOLER PRESSURE DROP — ENGLISH



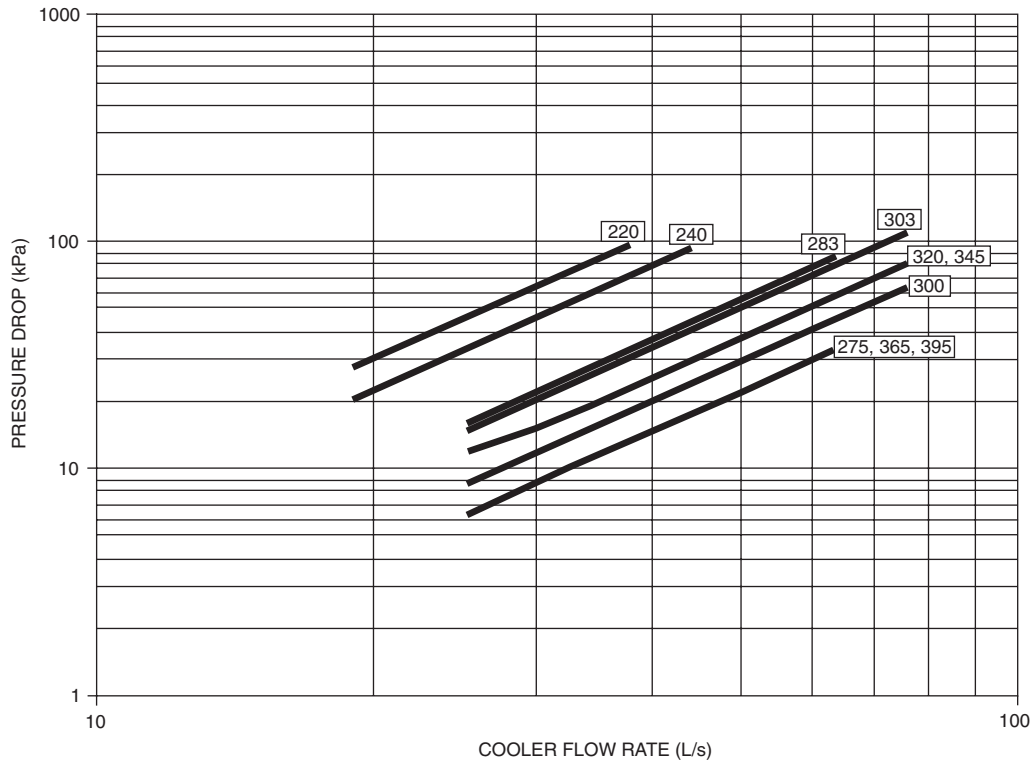
30GXN,R281-350 COOLER PRESSURE DROP — SI



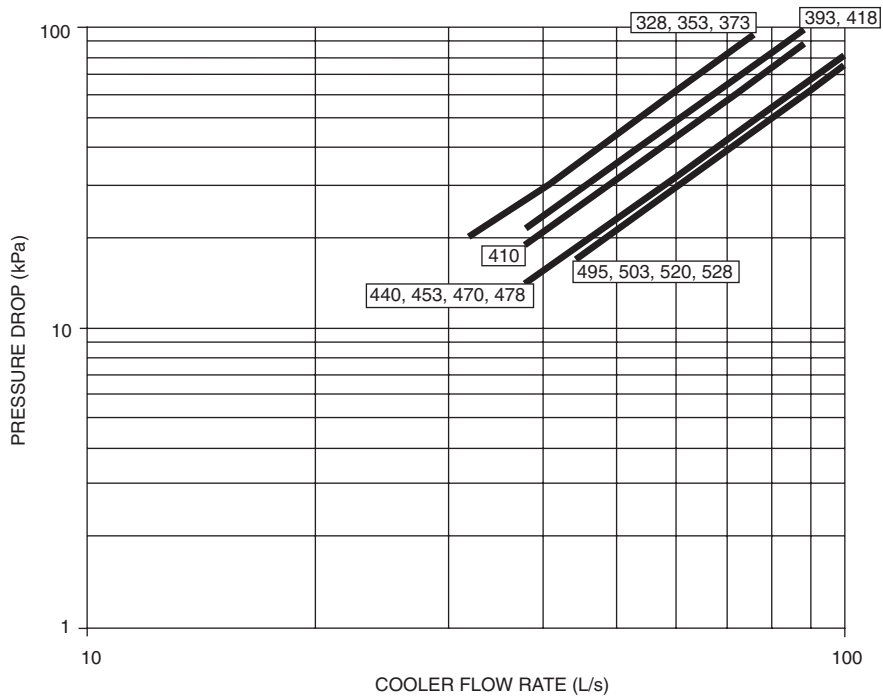
NOTE: Ft of water = 2.31 x psig.

30GXN,R281-350 COOLER PRESSURE DROP — ENGLISH

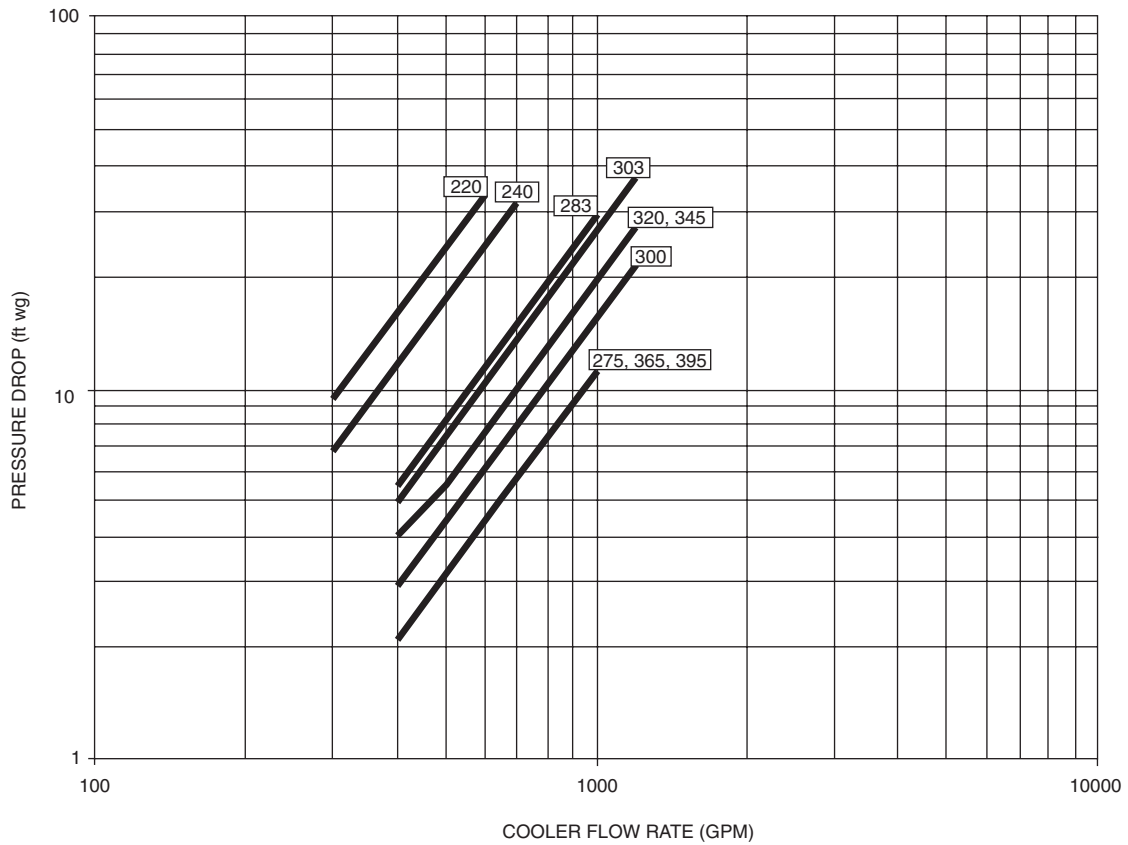
Performance data (cont)



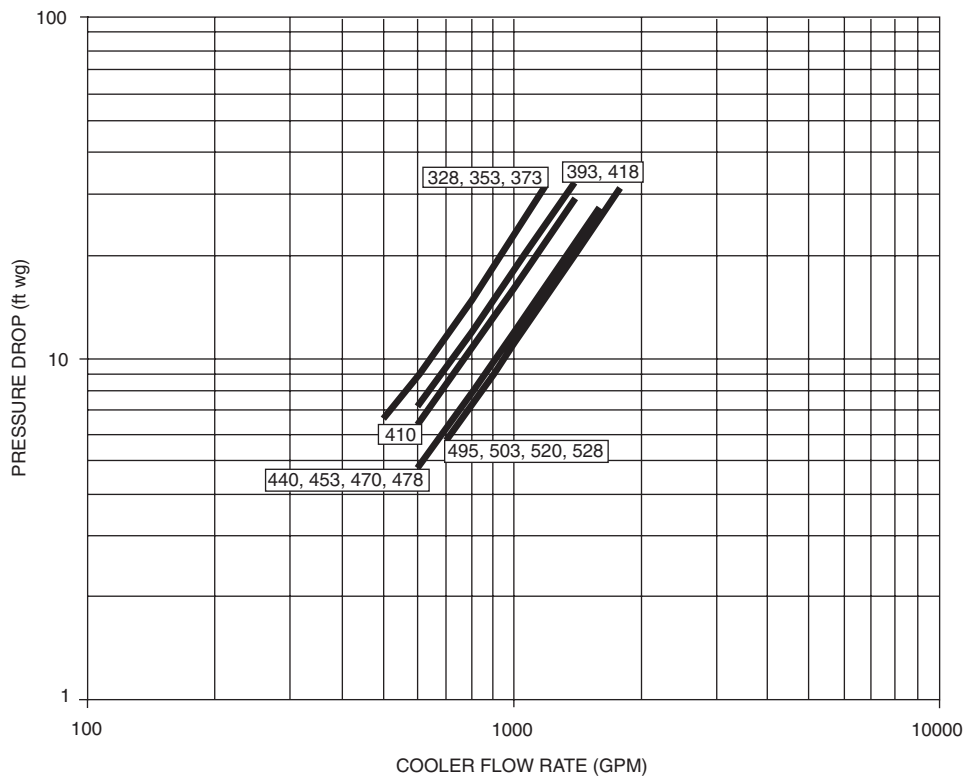
30GXN,R220-395 DUPLEX COOLER PRESSURE DROP — SI



30GXN,R328-528 DUPLEX COOLER PRESSURE DROP — SI

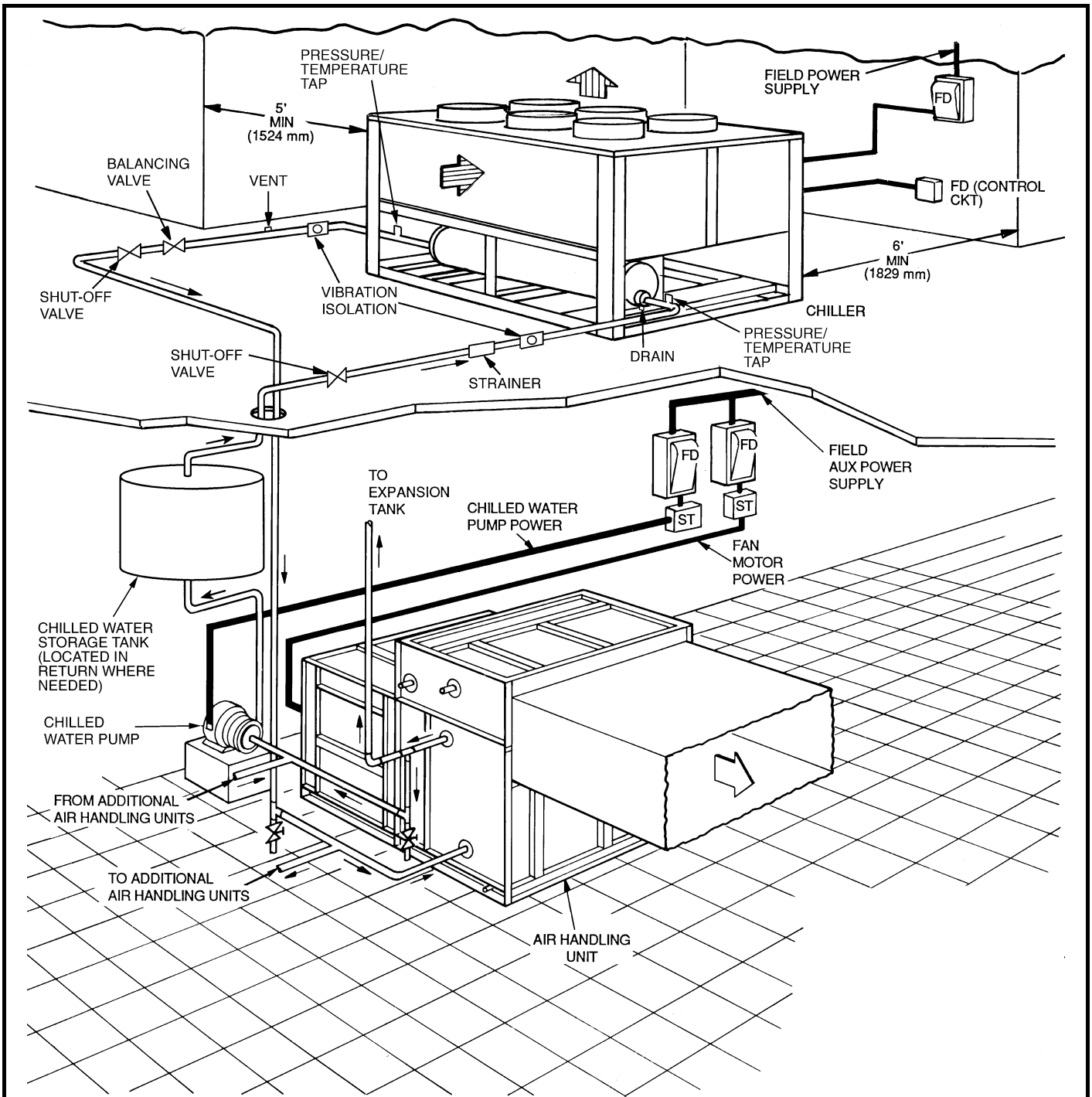


30GXN,R220-395 DUPLEX COOLER PRESSURE DROP — ENGLISH



30GXN,R328-528 DUPLEX COOLER PRESSURE DROP — ENGLISH

Typical piping and wiring



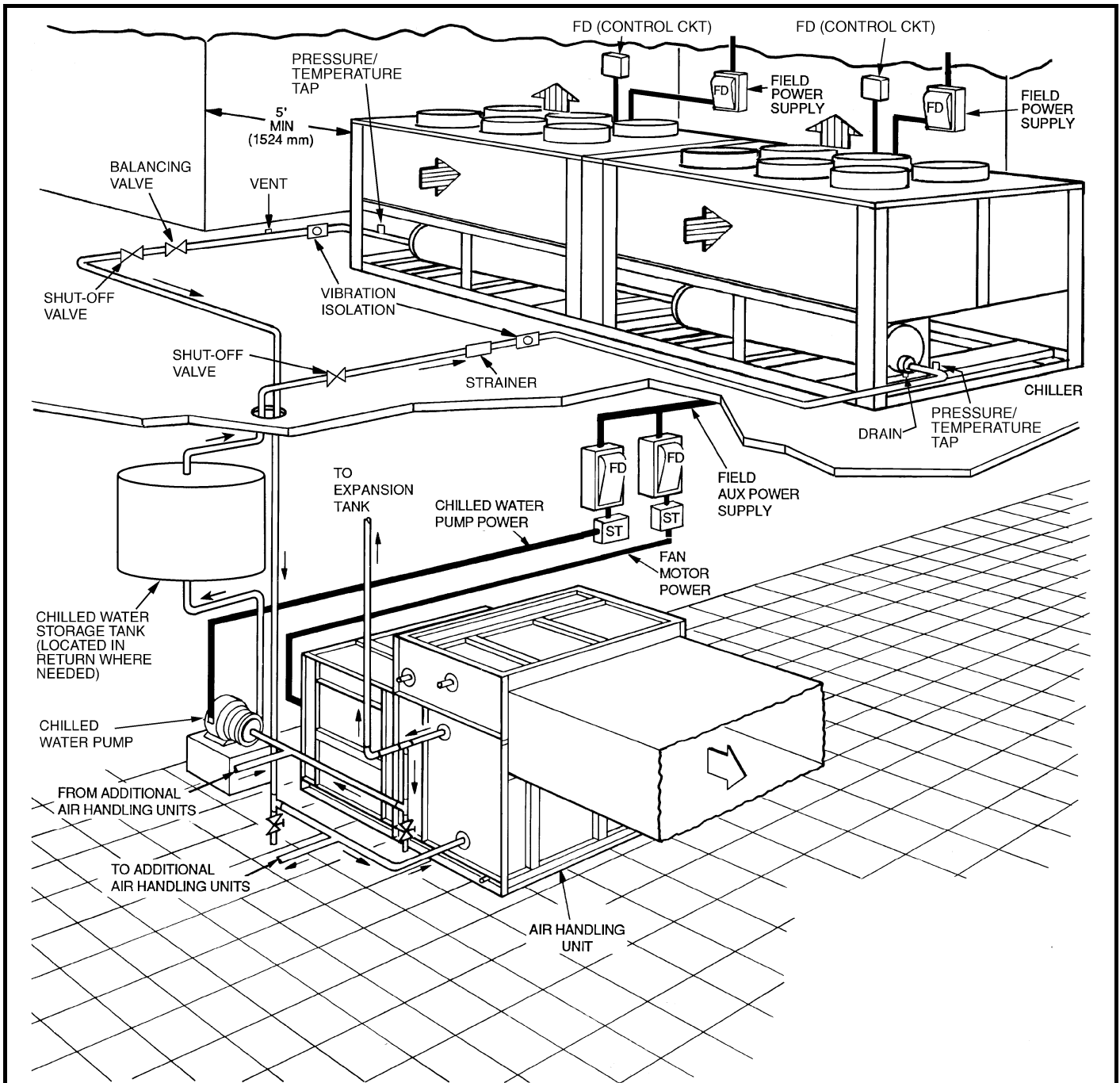
NOTES:

1. Chiller must be installed *level* ($1/8$ in. per linear foot, [1 cm per linear meter]) to maintain proper compressor oil return.
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.

LEGEND

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 *level* ($1/8$ in. per linear foot [1 cm per linear meter]) 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.

LEGEND

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



ELECTRICAL DATA 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	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
083	230-50	207	253	1	3	319.4	450	*	506.6	*	400	230-50	15
	380/415-50	342	440	1	3	192.8	250	802.9	313.9	225	225	230-50	15
090	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
093	230-50	207	253	1	6	352.0	500	*	577.6	*	400	230-50	15
	380/415-50	342	440	1	3	212.4	300	943.9	357.9	250	250	230-50	15
106	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
108	230-50	207	253	1	6	418.9	600	*	650.5	*	500	230-50	15
	380/415-50	342	440	1	3	252.8	350	1059.9	402.9	300	300	230-50	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
118	230-50	207	253	1	6	457.1	600	*	688.7	*	600	230-50	15
	380/415-50	342	440	1	3	275.9	350	1083.0	426.0	350	350	230-50	15
125	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
128	230-50	207	253	1	6	487.7	700	*	822.7	*	600	230-50	15
	380/415-50	342	440	1	3	294.4	400	1349.0	510.0	350	350	230-50	15
138	230-50	207	253	1	6	529.8	700	*	864.8	*	600	230-50	15
	380/415-50	342	440	1	3	319.8	450	1374.4	535.4	400	400	230-50	15
153	230-50	207	253	1	6	609.7	800	*	894.6	*	700	230-50	15
	380/415-50	342	440	1	3	368.0	500	1420.0	555.0	450	450	230-50	15
163	230-50	207	253	2	9	417.7/284†	700/500†	*	702.7/619.0†	*	500/350†	230-50	15
	380/415-50	342	440	1	6	389.3	500	1441.3	576.3	450	450	230-50	15
178	230-50	207	253	2	9	417.7/353†	800/600†	*	985.1/638.0	*	800/450†	230-50	15
	380/415-50	342	440	1	6	422.6	500	1474.6	609.6	500	500	230-50	15
208	230-50	207	253	2	9	511/358†	700/500†	*	846.2/590.0†	*	600/450†	230-50	15
	380/415-50	342	440	1	6	477	600	1531.1	692.1	600	600	230-50	15
228	230-50	207	253	2	9	580/358†	800/500†	*	901.4/590.0†	*	700/450†	230-50	15
	380/415-50	342	440	1	6	518	600	1570.1	725.4	600	600	230-50	15
253	230-50	207	253	2	12	635/404†	800/600†	*	920.4/739.0†	*	800/500†	230-50	15
	380/415-50	342	440	1	6	573	700	1624.8	780.0	700	700	230-50	15
268	230-50	207	253	2	12	635/473†	800/700†	*	920.4/758.0†	*	800/600†	230-50	15
	380/415-50	342	440	1	6	606	700	1658.0	793.0	700	700	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 RLA's 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.
†Circuit A/Circuit B.

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. On 230-3-50 units, cooler heaters, oil heaters and control circuiting power must be supplied from a separate source via a field-supplied disconnect. On 380/415-3-50 units, control voltage is tapped from line to neutral. No additional supply is required. If a separate power source is required, disconnect the wires between the control and power terminal blocks.
3. Maximum incoming wire size for each terminal block is 500 kcmil.
4. Maximum allowable supply voltage phase imbalance is voltage 2%.
5. Never operate a motor where a phase imbalance in supply voltage is greater than 2%.

IMPORTANT: Contact your local electric utility company immediately if the supply voltage phase imbalance is more than 2%.



ELECTRICAL DATA REDUCED AMBIENT 115 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	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
083	230-50	207	253	1	3	360.3	450	†	547.5	†	400	230-50	15
	380/415-50	342	440	1	3	217.0	300	827.1	338.1	250	250	230-50	15
090	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
093	230-50	207	253	1	6	392.8	500	†	618.5	†	450	230-50	15
	380/415-50	342	440	1	3	236.7	300	968.1	382.1	300	300	230-50	15
106	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
108	230-50	207	253	1	6	459.7	600	†	691.4	†	600	230-50	15
	380/415-50	342	440	1	3	277.1	350	1084.2	427.2	350	350	230-50	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
118	230-50	207	253	1	6	511.6	700	†	743.2	†	600	230-50	15
	380/415-50	342	440	1	3	308.2	400	1115.3	458.3	350	350	230-50	15
125	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
128	230-50	207	253	1	6	542.2	700	†	877.2	†	600	230-50	15
	380/415-50	342	440	1	3	326.7	450	1381.3	542.3	400	400	230-50	15
138	230-50	207	253	1	6	584.3	800	†	919.3	†	700	230-50	15
	380/415-50	342	440	1	3	352.1	450	1406.7	567.7	400	400	230-50	15
153	230-50	207	253	1	6	677.8	800	†	962.7	†	800	230-50	15
	380/415-50	342	440	1	6	408.4	500	1460.3	595.3	500	500	230-50	15
163	230-50	207	253	2	9	499.5/284*	700/500*	†	784.4/619.0	†	600/350*	230-50	15
	380/415-50	342	440	1	6	437.8	600	1489.7	624.7	500	500	230-50	15
178	230-50	207	253	2	9	528.3/353*	800/600*	†	813.2/638.0	†	600/450*	230-50	15
	380/415-50	342	440	1	6	471.1	600	1523.0	658.0	600	600	230-50	15
208	230-50	207	253	2	12	511/424*	700/600*	†	846.2/655.8*	†	600/500*	230-50	15
	380/415-50	342	440	1	6	533	600	1587.7	748.7	600	600	230-50	15
228	230-50	207	253	2	12	580/424*	800/600*	†	901.4/655.8	†	700/500*	230-50	15
	380/415-50	342	440	1	6	575	700	1626.7	781.9	700	700	230-50	15
253	230-50	207	253	2	12	635/479*	800/700*	†	920.4/814.2	†	800/600*	230-50	15
	380/415-50	342	440	1	6	637	800	1689.3	844.6	700	700	230-50	15
268	230-50	207	253	2	12	635/548*	800/800*	†	920.4/833.2	†	800/700*	230-50	15
	380/415-50	342	440	1	6	671	800	1722.6	857.6	800	800	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

*Circuit A/Circuit B.

†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. On 230-3-50 units, cooler heaters, oil heaters and control circuiting power must be supplied from a separate source via a field-supplied disconnect. On 380/415-3-50 units, control voltage is tapped from line to neutral. No additional supply is required. If a separate power source is required, disconnect the wires between the control and power terminal blocks.
3. Maximum incoming wire size for each terminal block is 500 kcmil.
4. Maximum allowable supply voltage phase imbalance is voltage 2%.
5. Never operate a motor where a phase imbalance in supply voltage is greater than 2%.

IMPORTANT: Contact your local electric utility company immediately if the supply voltage phase imbalance is more than 2%.

Electrical data (cont)



ELECTRICAL DATA HIGH AMBIENT 125 F DATA, STANDARD CONDENSER FAN

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	230-50	207	253	1	3	352.4	500	†	514.7	†	400	230-50	15
	380/415-50	342	440	1	3	212.8	300	807.6	318.6	250	250	230-50	15
083	230-50	207	253	1	3	328.3	450	†	510.1	†	400	230-50	15
	380/415-50	342	440	1	3	198.2	250	805.0	316.0	225	225	230-50	15
090	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
093	230-50	207	253	1	3	364.1	500	†	581.1	†	450	230-50	15
	380/415-50	342	440	1	3	219.8	300	946.0	360.0	250	250	230-50	15
106	230-50	207	253	1	6	462.6	700	†	649.4	†	600	230-50	15
	380/415-50	342	440	1	3	278.6	400	1059.1	402.1	350	350	230-50	15
108	230-50	207	253	1	6	438.4	600	†	663.6	†	500	230-50	15
	380/415-50	342	440	1	3	264.6	350	1067.8	410.8	300	300	230-50	15
115	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
118	230-50	207	253	1	6	481.0	600	†	706.2	†	600	230-50	15
	380/415-50	342	440	1	3	290.3	400	1093.6	436.6	350	350	230-50	15
125	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
128	230-50	207	253	1	6	540.3	700	†	840.2	†	700	230-50	15
	380/415-50	342	440	1	3	326.1	450	1359.6	520.6	400	400	230-50	15
135	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
138	230-50	207	253	1	6	570.0	800	†	869.9	†	700	230-50	15
	380/415-50	342	440	1	3	344.0	450	1377.5	538.5	400	400	230-50	15
150	230-50	207	253	1	6	605.4	800	†	900.6	†	700	230-50	15
	380/415-50	342	440	1	3	366.8	500	1395.7	556.7	450	450	230-50	15
153	230-50	207	253	1	6	653.0	800	†	899.7	†	800	230-50	15
	380/415-50	342	440	1	3	394.2	500	1423.0	558.0	450	450	230-50	15
160	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
163	230-50	207	253	2	9	456.0/319*	700/500*	†	702.7/619.0*	†	600/400*	230-50	15
	380/415-50	342	440	1	6	429.3	600	1458.2	593.2	500	500	230-50	15
175	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
178	230-50	207	253	2	12	456.0/319*	1000/700*	†	1015.8/638.0*	†	1000/500*	230-50	15
	380/415-50	342	440	1	6	464.2	600	1493.1	628.1	600	600	230-50	15
205	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)
208	230-50	207	253	2	12	574/365*	800/500*	†	874.3/590.0*	†	700/450*	230-50	15
	380/415-50	342	440	1	6	518	600	1551.1	712.1	600	600	230-50	15
225	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)
228	230-50	207	253	2	12	647/365*	800/500*	†	932.0/590.0*	†	800/450*	230-50	15
	380/415-50	342	440	1	6	561	700	1590.1	746.9	700	700	230-50	15
250	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)
253	230-50	207	253	2	12	704/439*	1000/600*	†	951.0/739.0*	†	800/600*	230-50	15
	380/415-50	342	440	1	6	631	800	1660.1	817.0	700	700	230-50	15
264	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)
268	230-50	207	253	2	12	704/511	1000/800	†	951.0/758.0	†	800/600*	230-50	15
	380/415-50	342	440	1	6	666	800	1695.0	830.0	800	800	230-50	15
281	230-50	207	253	1	6	689	800	†	853.6	†	800	230-50	15 (25)
	380/415-50	342	440	1	6	689	800	1718.8	853.6	800	800	230-50	15 (25)
301	230-50	207	253	2	9	365/417*	500/600*	1394.5/1446.7*	529.5/581.7*	450/500*	450/500*	230-50	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	230-50	207	253	2	12	424/476*	600/600*	1453.5/1505.7*	588.5/640.7*	500/600*	500/600*	230-50	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. On 230-3-50 units, cooler heaters, oil heaters and control circuiting power must be supplied from a separate source via a field-supplied disconnect. On 380/415-3-50 units, control voltage is tapped from line to neutral. No additional supply is required. If a separate power source is required, disconnect the wires between the control and power terminal blocks.
3. Maximum incoming wire size for each terminal block is 500 kcmil.
4. Maximum allowable supply voltage phase imbalance is voltage 2%.
5. Never operate a motor where a phase imbalance in supply voltage is greater than 2%.

IMPORTANT: Contact your local electric utility company immediately if the supply voltage phase imbalance is more than 2%.



ELECTRICAL DATA HIGH AMBIENT 125 F DATA, DUPLEX UNITS (Standard Condenser Fan)

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
283B, 303B, 373B	230-50	207	253	1	6	570.0	800	+	869.9	+	700	230-50	15
	380/415-50	342	440	1	3	344.0	450	1377.5	538.5	400	400	230-50	15
283A, 328B, 393B, 418B	230-50	207	253	1	6	653.0	800	+	899.7	+	800	230-50	15
	380/415-50	342	440	1	3	394.2	500	1423.0	558.0	450	450	230-50	15
303A	230-50	207	253	2	9	456.0/319*	700/500*	+	702.7/619.0*	+	600/400*	230-50	15
	380/415-50	342	440	1	6	429.3	600	1458.2	593.2	500	500	230-50	15
328A, 353A/B	230-50	207	253	2	12	456.0/391*	1000/700*	+	1015.8/638.0*	+	1000/500*	230-50	15
	380/415-50	342	440	1	6	464.2	600	1493.1	628.1	600	600	230-50	15
300A, 320A/B	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)
410A, 440A/B, 470B	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)
365A, 470A, 495A/B	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, 520A/B	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)
453A/B, 478B	230-50	207	253	2	12	647/365*	800/500*	+	932.0/590.0*	+	800/450*	230-50	15 (25)
	380/415-50	342	440	1	6	561	700	1590.1	746.9	700	700	230-50	15 (25)
373A, 393A, 478A, 503A/B	230-50	207	253	2	12	704/439*	1000/600*	+	951.0/739.0*	+	800/600*	230-50	15 (25)
	380/415-50	342	440	1	6	631	800	1660.1	817.0	700	700	230-50	15 (25)
418A, 528A/B	230-50	207	253	2	12	704/511*	1000/800*	+	951.0/758.0*	+	800/600*	230-50	15 (25)
	380/415-50	342	440	1	6	666	800	1695.0	830.0	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 — 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. On 230-3-50 units, cooler heaters, oil heaters and control circuiting power must be supplied from a separate source via a field-supplied disconnect. On 380/415-3-50 units, control voltage is tapped from line to neutral. No additional supply is required. If a separate power source is required, disconnect the wires between the control and power terminal blocks.
3. Maximum incoming wire size for each terminal block is 500 kcmil.
4. Maximum allowable supply voltage phase imbalance is voltage 2%.
5. Never operate a motor where a phase imbalance in supply voltage is greater than 2%.

IMPORTANT: Contact your local electric utility company immediately if the supply voltage phase imbalance is more than 2%.

Electrical data (cont)



ELECTRICAL DATA HIGH AMBIENT 125 F DATA, HIGH-STATIC CONDENSER FAN

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	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
083	230-50	207	253	1	3	369.2	500	†	551.0	†	450	230-50	15
	380/415-50	342	440	1	3	222.4	300	829.3	340.3	250	250	230-50	15
090	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
093	230-50	207	253	1	6	404.9	500	†	622.0	†	450	230-50	15
	380/415-50	342	440	1	3	244.0	300	970.3	384.3	300	300	230-50	15
106	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
108	230-50	207	253	1	6	479.2	600	†	704.5	†	600	230-50	15
	380/415-50	342	440	1	3	288.8	400	1092.1	435.1	350	350	230-50	15
115	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
118	230-50	207	253	1	6	535.4	700	†	760.7	†	600	230-50	15
	380/415-50	342	440	1	3	322.6	400	1125.9	468.9	400	400	230-50	15
125	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
128	230-50	207	253	1	6	594.7	800	†	894.7	†	700	230-50	15
	380/415-50	342	440	1	3	358.4	500	1391.9	552.9	400	400	230-50	15
135	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
138	230-50	207	253	1	6	624.4	800	†	924.4	†	700	230-50	15
	380/415-50	342	440	1	3	376.3	500	1409.8	570.8	450	450	230-50	15
150	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
153	230-50	207	253	1	6	721.1	1000	†	967.8	†	800	230-50	15
	380/415-50	342	440	1	6	434.5	600	1463.4	598.4	500	500	230-50	15
160	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
163	230-50	207	253	2	9	537/319	800/500	†	784.4/619.0	†	700/400	230-50	15
	380/415-50	342	440	1	6	477.8	600	1506.6	641.6	600	600	230-50	15
175	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
178	230-50	207	253	2	12	537.7/391	800/700	†	784.4/638.0	†	700/500	230-50	15
	380/415-50	342	440	1	6	512.7	700	1541.5	676.5	600	600	230-50	15
205	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)
208	230-50	207	253	2	12	574/430*	800/600*	†	874.3/655.8*	†	700/500*	230-50	15
	380/415-50	342	440	1	6	574	700	1607.6	768.6	700	700	230-50	15
225	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)
228	230-50	207	253	2	12	647/430*	800/600*	†	932.0/655.8	†	800/500*	230-50	15
	380/415-50	342	440	1	6	618	800	1646.6	803.5	700	700	230-50	15
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)
253	230-50	207	253	2	12	704/439*	1000/600*	†	951.0/739.0	†	800/600*	230-50	15
	380/415-50	342	440	1	6	631	800	1660.1	817.0	700	700	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

*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. On 230-3-50 units, cooler heaters, oil heaters and control circuiting power must be supplied from a separate source via a field-supplied disconnect. On 380/415-3-50 units, control voltage is tapped from line to neutral. No additional supply is required. If a separate power source is required, disconnect the wires between the control and power terminal blocks.
3. Maximum incoming wire size for each terminal block is 500 kcmil.
4. Maximum allowable supply voltage phase imbalance is voltage 2%.
5. Never operate a motor where a phase imbalance in supply voltage is greater than 2%.

IMPORTANT: Contact your local electric utility company immediately if the supply voltage phase imbalance is more than 2%.



ELECTRICAL DATA HIGH AMBIENT 125 F DATA, HIGH-STATIC CONDENSER FAN (cont)

UNIT 30GXN,R	UNIT VOLTAGE			POWER SUPPLY QTY. REQD	# Power Supply Conductors	MCA	MOCP	HIGH-STATIC CONDENSER FAN				CONTROL CIRCUIT	
	V-Hz (3 Ph)	Supplied						ICF		Rec Fuse Size		V-Hz (Single Ph)	MCA and MOCP**
		Min	Max					XL	WD	XL	WD		
264	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)
268	230-50	207	253	2	12	704/586*	1000/800*	†	951.0/739.0*	†	800/600*	230-50	15
	380/415-50	342	440	1	6	731	800	1759.6	894.6	800	800	230-50	15
281	380/415-50	342	440	1	6	754	800	1783.4	918.4	1000	1000	230-50	15 (25)
301	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	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	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. On 230-3-50 units, cooler heaters, oil heaters and control circuiting power must be supplied from a separate source via a field-supplied disconnect. On 380/415-3-50 units, control voltage is tapped from line to neutral. No additional supply is required. If a separate power source is required, disconnect the wires between the control and power terminal blocks.
3. Maximum incoming wire size for each terminal block is 500 kcmil.
4. Maximum allowable supply voltage phase imbalance is voltage 2%.
5. Never operate a motor where a phase imbalance in supply voltage is greater than 2%.

IMPORTANT: Contact your local electric utility company immediately if the supply voltage phase imbalance is more than 2%.

Electrical data (cont)



ELECTRICAL DATA HIGH AMBIENT 125 F DATA, DUPLEX UNITS (High Static Condenser Fan)

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
275A/B, 300B, 365B, 395B	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
283B, 303B, 373B	230-50	207	253	1	6	624.4	800	†	924.4	†	700	230-50	15
	380/415-50	342	440	1	3	376.3	500	1409.8	570.8	450	450	230-50	15
283A, 328B, 393B, 418B	230-50	207	253	1	6	721.1	1000	†	967.8	†	800	230-50	15
	380/415-50	342	440	1	6	434.5	600	1463.4	598.4	500	500	230-50	15
303A	230-50	207	253	2	9	537.7/319*	800/500*	†	784.4/619.0*	†	700/400*	230-50	15
	380/415-50	342	440	1	6	477.8	600	1506.6	641.6	600	600	230-50	15
328A, 353A, 353B	230-50	207	253	2	12	537.7/391*	800/700*	†	784.4/638.0*	†	700/500*	230-50	15
	380/415-50	342	440	1	6	512.7	700	1541.5	676.5	600	600	230-50	15
300A, 320A/B	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)
410A, 440A/B, 470B	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)
365A, 470A, 495A/B	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, 520A/B	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)
453A, 453B, 478B	230-50	207	253	2	12	647/430*	800/600*	†	932.0/655.8*	†	800/500*	230-50	15
	380/415-50	342	440	1	6	618	800	1646.6	803.5	700	700	230-50	15
373A, 393A, 478A, 503A, 503B	230-50	207	253	2	12	704/439*	1000/600*	†	951.0/739.0*	†	800/600*	230-60	15
	380/415-50	342	440	1	6	631	800	1660.1	817.0	700	700	230-60	15
418A, 528A, 528B	230-50	207	253	2	12	704/586*	1000/800*	†	951.0/833.2*	†	800/700*	230-50	15
	380/415-50	342	440	1	6	731	800	1759.6	894.6	800	800	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	—	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. On 230-3-50 units, cooler heaters, oil heaters and control circuiting power must be supplied from a separate source via a field-supplied disconnect. On 380/415-3-50 units, control voltage is tapped from line to neutral. No additional supply is required. If a separate power source is required, disconnect the wires between the control and power terminal blocks.
3. Maximum incoming wire size for each terminal block is 500 kcmil.
4. Maximum allowable supply voltage phase imbalance is voltage 2%.
5. Never operate a motor where a phase imbalance in supply voltage is greater than 2%.

IMPORTANT: Contact your local electric utility company immediately if the supply voltage phase imbalance is more than 2%.

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):

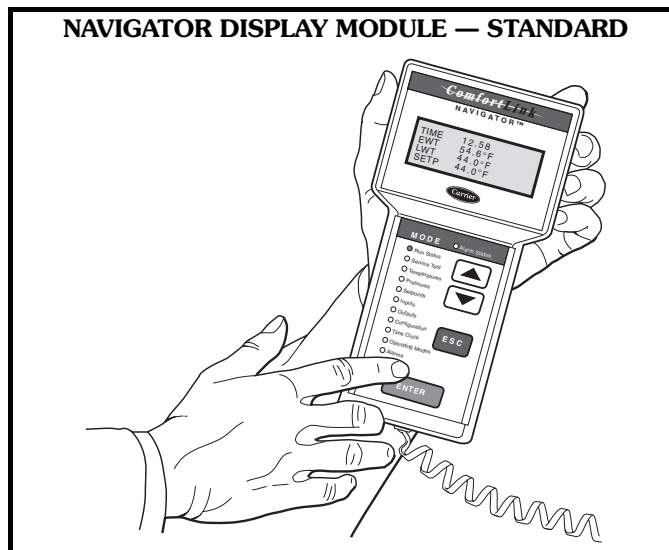
- perform service test procedures
- set schedules and set points
- identify operating mode and run status conditions
- display current temperatures and pressures being used by the control for internal calculations
- identify abnormal (alarm or alert) conditions
- configure unit operation

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 (10 C) or higher, the maximum operating pressure (MOP) feature limits the suction pressure to keep the chiller on line.

Normal operation — The entering fluid temperature sensor 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

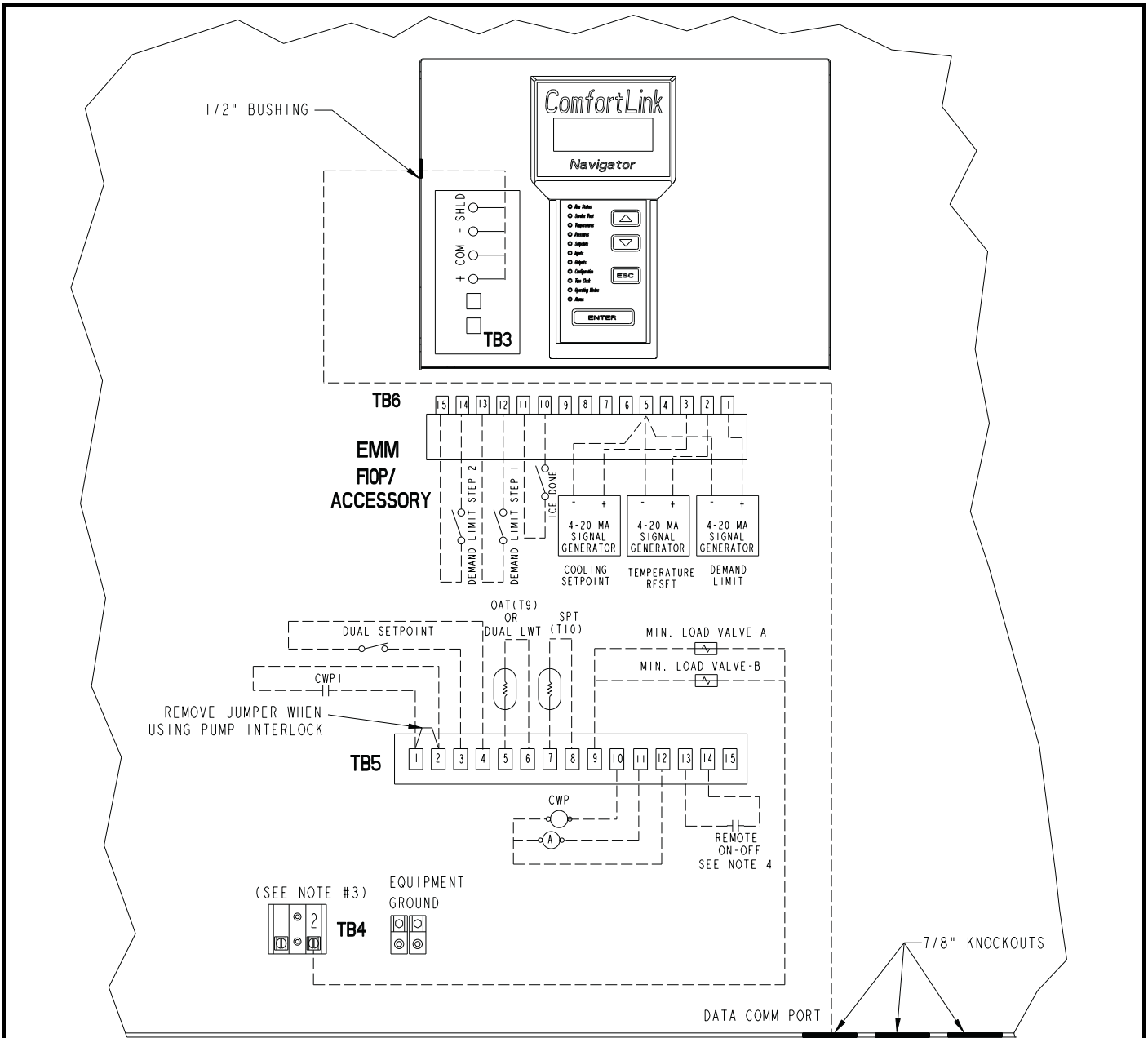
Additional information

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 thermistor for parallel operation.

ECOLOGIC η , ECOLOGIC™ control — ECOLOGIC and ECOLOGIC η 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 (10 C) 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



- 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

- NOTES:**
1. Factory wiring is in accordance with National Electrical Code (NEC) U.S.A. only. 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 380/415-v units) through a field-supplied disconnect with 15-amp maximum protection for 230-volt control circuit. Connect control circuit power to terminals 1 and 2 of TB4. Control circuit conductors for all units must be copper only. Control circuit power is factory wired for 380/415-v units. If a separate power source is required, disconnect the wires between the power terminal block and the control terminal block.
 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 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 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.

Application data



Leveling unit

Unit must be level within $\frac{1}{8}$ in. per ft (1 cm per meter) 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. (914.4 mm) 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.

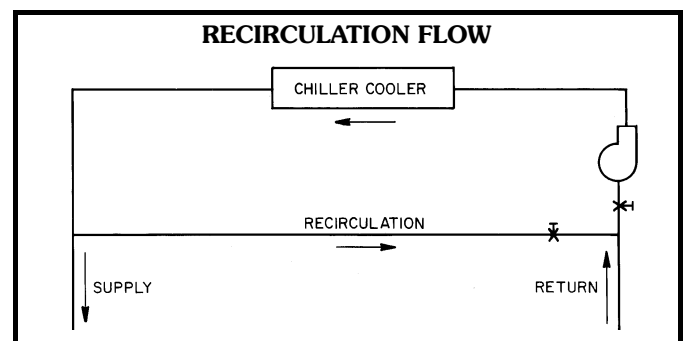
Cooler temperature rise

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.



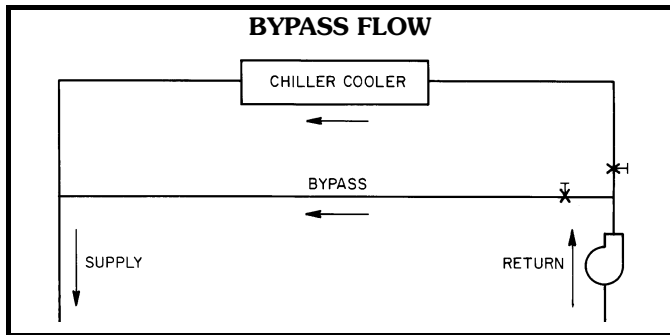
Application data (cont)



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.

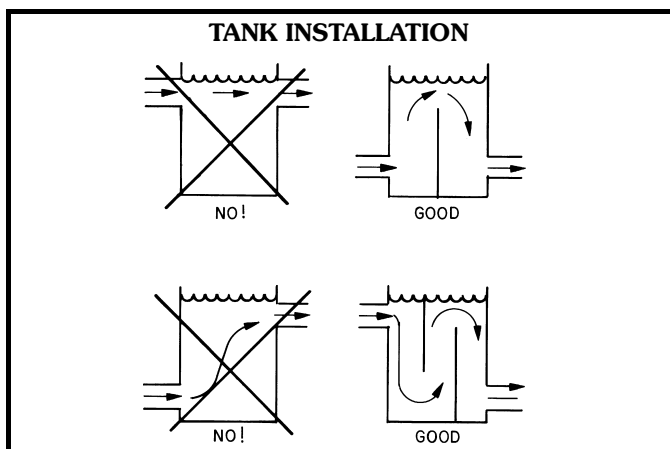
NOTE: Bypass flow is shown below.



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,R080-163
- 15 F (–9 C) for 30GXN,R175-528

If operation is intended below these limits, the Carrier accessory Motormaster® 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.

IMPORTANT: Adding antifreeze solution is the only certain means of protecting the unit from freeze-up if the cooler heater fails or electrical service is interrupted during low ambient temperatures.

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.

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.

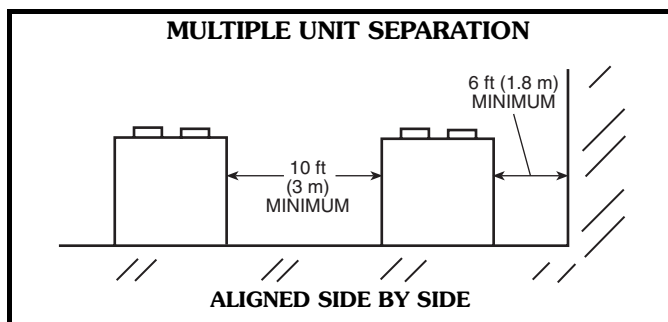
Series chillers

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 (914.4 mm) 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 (1.8 m) 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 230 v 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 62-68) should be used in determining need.

Vibration isolation

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

Application data (cont)



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.

Operating efficiency

Chiller full load operating efficiency is directly related to the annual operating cost of the machine. An increase in chiller efficiency can have a very dramatic impact on annual operating expense.

Guide specifications



Air-Cooled Liquid Chiller

HVAC Guide Specifications

Size Range: **80 to 525 Tons**
(267 to 1750 kW) Nominal (50 Hz)

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.).
- 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 9001:2000 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. Efficiency:

Chiller shall have a minimum full load operating efficiency of _____ EER as rated in accordance with and certified per ARI 550/590-98 (U.S.A. Standard).

C. 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.

D. 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.

E. 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 10% of full load. 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 4 microns.
6. Rubber-in-shear isolation.

F. 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 mechanical grooved 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.
9. Low Ambient Protection: Unit shall have factory-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).

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).
3. 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 106-528 units), and complete operating charge of both refrigerant HFC-134a and compressor oil.

Guide specifications (cont)



4. The chiller shall include the ability to isolate the refrigerant charge in either the cooler or the condenser.

H. 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) 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).
- 3) 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.
- 4) Seven-day time schedule.
- 5) Leaving chilled fluid temperature reset from return fluid, outdoor-air temperature, space temperature, or 4 to 20 mA input.
- 6) Demand limit control with 2-stage control (0 to 100% each) or through 4 to 20 mA input (0 to 100%).
- 7) Chilled water pump start/stop control.
- 8) Dual chiller control for series chiller applications without addition of hardware modules or additional thermistors.
- 9) Amperage readout per compressor with %MTA per compressor.
- 10) Auto-restart after power failure.

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

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 displayed shall include:

- 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.
- 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.
- I. Operating Characteristics:
- 1. Unit shall be capable of starting and running at outdoor ambient temperatures from 32 F to 125 F (0° to 52 C) for 080-178 units and 15 to 125 F (-11 to 52 C) for 205-525 units.
 - 2. Unit shall be capable of starting up with 95 F (35 C) entering fluid temperature to the cooler.
- J. Motors:
- Condenser-fan motors shall be totally enclosed 3-phase type with permanently lubricated bearings and Class F insulation.
- K. 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 230 v, single-phase.
 - 5. Unit shall be shipped with factory control and power wiring installed.
- L. 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.
 - a. Factory-mounted or field-supplied low ambient head pressure control shall be accomplished via electronic variable speed condenser fan motor drive system.
- 3. Low Ambient Protection:
Unit shall be supplied with factory mounted cooler head heaters and liquid line valves combined with a pumpdown cycle to provide cooler freeze protection down to 0° F (-17.7 C).
 - 4. Non-Fused Disconnect:
Unit shall be supplied with factory-installed, non-fused electrical disconnect for main power supply.
 - 5. Loss-of-Flow Protection:
Unit shall be supplied with factory-installed thermal dispersion type proof-of-flow sensing switch.
 - 6. 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-Coat 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 65-90% per ASTM ID523-89 (U.S.A. Standard). 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 (U.S.A. Standard) and cross hatch adhesion of 4B-5B per ASTM D3359-93 (U.S.A. Standard). Impact resistance shall be up to 160 in./lbs. (ASTM D2794-93, U.S.A. Standard). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92, U.S.A. Standards). Corrosion durability shall be confirmed through testing to no less than 3000 hours salt spray per ASTM B117-90 (U.S.A. Standard). Coil construction shall be aluminum fins mechanically bonded to copper tubes.

- d. E-Coat 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 65-90% per ASTM D523-89 (U.S.A. Standard). 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 (U.S.A. Standard) and cross hatch adhesion of 4B-5B per ASTM D3359-93 (U.S.A. Standard). Impact resistance shall be up to 160 in./lbs. (ASTM D2794-93, U.S.A. Standard). Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92, U.S.A. Standards). Corrosion durability shall be confirmed through testing to no less than 3000 hours salt spray per ASTM B117-90 (U.S.A. Standard). Coil construction shall be copper-fins mechanically bonded to copper tubes with 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.
7. Remote Enhanced Display:
Unit shall be supplied with indoor-mounted, remote, 40-character per line, 16-line display panel for field installation.
 8. 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 (40 C).
 9. Chiller System Manager Multi-Unit Control:
Field-installed control shall sequence between 2 and 8 chillers in parallel in a single system. System shall control chilled and condenser water pumps.
 10. Minimum Load Control:
Unit shall be equipped with factory (or field) installed, microprocessor-controlled, minimum-load control that shall permit unit operation below 10% capacity.
 11. 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 selection or demand limit control; 2-step 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.
 12. Security Guards:
Unit shall be supplied with factory (or field) installed, PVC-coated grilles to protect the condenser, cooler, and compressor.
 - *13. 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 provide additional condenser air flow and additional capacity up to 125 F (52 C).
 14. Sound Reduction Enclosures/Hail Guards/Wind Baffles:
Field-installed accessory kit shall include sheet metal hoods with sound absorbing panels designed to reduce sound levels, protect coils from hail damage and baffle the wind for low ambient operation.
 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. 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.
 17. 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.
 18. Cooler Head Insulation:
Unit shall be supplied with field-installed cooler insulation that shall cover the cooler heads.
 19. Suction Isolation Valves:
Unit shall be supplied with factory-installed suction isolation valves.
 20. 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.

