Product Data

WeatherMaster®
Single Packaged Rooftop

6 to 12.5 Nominal Tons

ecoblue™ technology

Puron ADVANCE™

48/50GE**07, 08, 09, 12, 14

48GE: Single-Package Gas Heating/Electric Cooling Rooftop Units with Puron Advance™ Refrigerant (R-454B) and EcoBlue™ Technology
50GE: Electric Cooling Rooftop Units with Optional Electric Heat with Puron Advance™ Refrigerant (R-454B) and EcoBlue™ Technology

Features/Benefits

Introducing Carrier's WeatherMaster® rooftop units (RTUs) with Puron Advance™ and EcoBlue™ Fan Technology.

The WeatherMaster line has always stood for high efficiency cooling solutions that are innovative, high quality, and easy to use. Carrier's new 48/50GE rooftops continue that legacy with Puron Advance, our low global warming potential refrigerant. With high efficiency offerings, additional factory installed options, EcoBlue fan technology, locally available stock, and direct fit footprints, new installations and replacements are easier than ever.

New major design features include:

- Puron Advance (R-454B) refrigerant, which delivers a 75% reduction in global warming potential (GWP) compared to the original Puron (R-410A). Puron Advance's GWP of 466 easily exceeds the EPA (Environmental Protection Agency) requirement of <700 GWP.
- A patented, industry-first vane axial indoor fan system with an electronically commutated motor for simplicity and efficiency. When compared to traditional belt-driven forward curve fans, our reliable system has:
  - 75% fewer moving parts
  - Up to 40% greater efficiency
  - No fan belts, pulleys, shaft, or shaft bearings
  - Better sound and comfort due to slow ramp-up capability
  - Internal protection from phase reversal and phase loss situations
  - High external static capability
  - Slide-out blower assembly design
- Reliable and highly safety protected 2 stage cooling with tandem scroll compressors technology, fully active evaporator coil, and mixed air temperature protection on all models
- Unit control board (UCB) with intuitive indoor fan adjustment that uses simple dial and switch configuration
- Reliable copper tube/aluminum fin condenser coil with 5/16 in. tubing to help reduce refrigerant charge and weight versus prior designs

Designed to fit on existing roof curbs, Carrier 48/50GE 6 to 12.5 ton models make replacements even easier.

Two-speed staged air volume (SAV) indoor fan speed control helps deliver IEERs up to 17.7. All models are field convertible and capable of either vertical or horizontal airflow. The 12.5 ton models require a field-installed supply air kit.

With "no-strip" screw collars, handled access panels, and more, the unit is easy to install, easy to maintain, and easy to use. Your new 6 to 12.5 ton Carrier WeatherMaster RTU provides optimum comfort and control from a packaged rooftop.

Value-added features include:

- Optional Humidi-MiZer® adaptive dehumidification system for improved part load humidity performance
- SystemVu™ intuitive intelligent controls option that provides:
  - Large, full text, multi-line display
  - USB flash port for data transfer
  - Built-in i-Vu®, CCN, and BACnet®[1]
  - Easy to read refrigerant pressures shown via the display — no checking gauges
  - Quick LED Status for Run, Alert, and Fault
  - Conventional thermostat or sensor capabilities
  - Historical component runtime and starts
  - Supply air tempering
  - Network Service Tool compatible
- Single point gas and electrical connections
- TXV refrigerant metering devices on 6 to 12.5 ton models
- Scroll compressors with internal line-break overload protection
- Easy-to-access tool-less filter door, filter tracks that tilt out for filter removal and replacement, and filter size consistency across units

1. Third-party trademarks and logos are the property of their respective owners.

Table of contents

Features/Benefits (cont)

Easy to install

All 6 to 12.5 ton WeatherMaster units are field-convertible to horizontal airflow, which makes it easy to adjust to unexpected jobsite complications. The 12.5 ton models require a simple supply duct cover kit to field convert from factory vertical to horizontal. Our units are light, making them easy to replace and aiding in the structural approval process. Our standard integrated unit control board has simple, fast, clearly labeled plug-in connection points that reduce installation time. Should a job need additional features, our large control box provides room to work and mount Carrier accessories.

Easy to maintain

With the EcoBlue vane axial fan system and a direct drive ECM motor, belts and pulleys are a thing of the past. This frees up maintenance, installation and commissioning time. Should an adjustment be necessary, it can easily be made via the UCB in the control box. For regular service activities, our easy-access handles provide a quick solution to all commonly accessed service panels, and our sloped, corrosion-resistant composite drain pan sheds water and will not rust. Service gauge connections are included on compressor suction/discharge lines and before and after the filter drier to monitor system operation during maintenance.

Easy to use

Carrier's re-designed unit control board puts all connections and troubleshooting points in one convenient place. Most low voltage connections use the same board and are easy to access. Setting up the fan is simple using an intuitive switch and rotary dial arrangement. Our rooftops have high and low pressure switches, a new mixed air temperature switch, a filter drier, and 2 in. filters standard.

Puron Advance™ features

In 2018, Carrier announced Puron Advance (R-454B) as our next generation refrigerant for light commercial rooftops. With a GWP of 466 and similar working pressure and performance to R-410A, Puron Advance easily exceeds the EPA's new, stringent <700 GWP refrigerant requirement while minimizing unit redesign. Like other next generation refrigerants (R-32, etc.), R-454B is classified as an "A2L" refrigerant by ASHRAE®[1] (American Society of Heating, Refrigerating, and Air-Conditioning Engineers). This designation means that R-454B is "mildly flammable" under certain conditions. While this is a change from legacy "A1 — No Flame Propagation" refrigerants like Puron (R-410A), A2Ls are still very low on the flammability scale and quite safe for use. A2L refrigerants are difficult to ignite and have an extremely low flame speed — much less so than natural gas, propane, or even rubbing alcohol. At Carrier, we are committed to safety. As such, all of our Puron Advance rooftop units include a factory-installed dissipation control board and leak sensor designed to last the lifetime of the unit. This system is certified to UL 60335-2-40 and designed to work right away, without any field configuration or wiring. In the event of a leak, these systems are designed to automatically identify and resolve the issue by dissipating the refrigerant to minimize risk to equipment, buildings, or occupants.

EcoBlue™ Technology

Our direct drive EcoBlue indoor fan system uses vane axial fan and electronically commutated motor. The benefit is clear: when compared to legacy belt drive systems, this vane axial design has 75% fewer moving parts, uses up to 40% less energy, and has no belts, blower bearings, or shaft. The full fan and motor assembly also slides out for easier maintenance and service.

Streamlined control and integration

Carrier controllers make connecting WeatherMaster rooftops into existing building automation systems easy. The units are compatible with conventional thermostat controls or SystemVu controls for greater comfort, diagnostics, and building network integration.

Operating efficiency and flexibility

The 48/50GE rooftops exceed the DOE 2023 efficiency standard, as well as ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 90.1 and IECC®[1] (International Energy Conservation Code) requirements.

Comfort control

Carrier's patented Humidi-MiZer® adaptive dehumidification system is an all-inclusive factory-installed option on gas heating/electric cooling and electric cooling/electric heat models. This system provides reliable, flexible operation to meet indoor part load sensible and latent requirements as well as multiple gas heat and electric heat sized to fit an array of applications.

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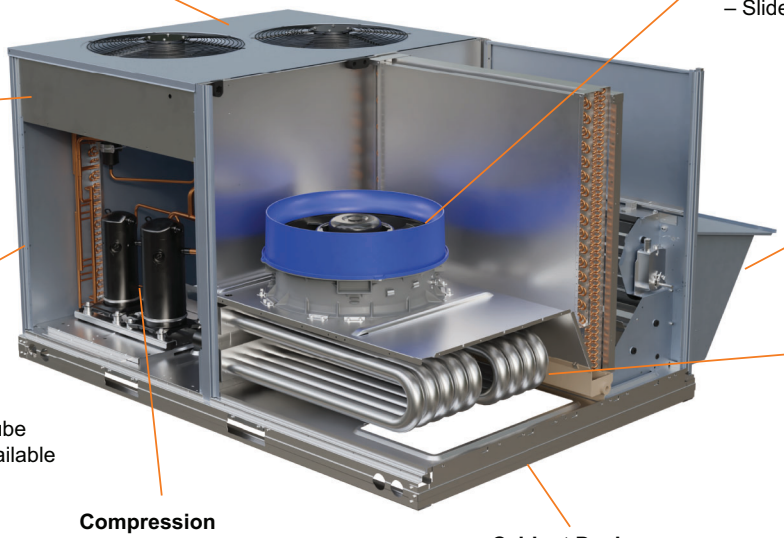
Features/Benefits (cont)

WeatherMaster® with ecoblue™ technology

48/50GE 6.0 – 8.5 Ton Models Shown



High Efficient Outdoor Fan
– Non-corrosive blades
– Balanced blades
– Efficient airflow collar

Vane Axial Indoor Fan
– Direct drive ECM
– Slow ramp up
– Phase loss protection
– No belts or pulleys
– Slide out design

Unit Controls
– Base unit controller
  Switch/dial fan setting
  Large terminal connections
– SystemVu™ control option

Air Management
– Factory - Field economizers
– 4 in. MERV-13 filters
– Tool-less Filter Access door

Efficient Coils
– Round tube/plate fin
– Copper/Aluminum
– Special coating available
– New 5/16 in. condenser tube
– Humidi-MiZer® system available
– TXV metering device

Heating
– Gas Heating
  Induced draft heat exchanger
  Multiple sizes available
  Efficient dimpled gas design
– Electric Heating
  Multiple sizes available
  Single point power

Compression
– Fully hermetic scroll
– Internally protected
– Tandem stage design
– Safety switch protected

Cabinet Design
– Heavy gauge base rails
– Large handled access panels
– Embossed strengthened base pan

Model number nomenclature

48GE Model Number Nomenclature

Position:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example:	4	8	G	E	D	M	0	7	A	2	A	5	-	0	A	0	A	0

Unit Heat Type
48 = Gas Heat Packaged Rooftop

Model Series - WeatherMaster®
GE — High Efficiency Puron Advance™

Heat Size
D = Low Heat
E = Medium Heat
F = High Heat
S = Low Heat with Stainless Steel Exchanger
R = Medium Heat with Stainless Steel Exchanger
T = High Heat with Stainless Steel Exchanger

Refrig. Systems Options
M = Two-Stage Cooling, Single Circuit
N = Two-Stage Cooling, Single Circuit with Humidi-MiZer® System[a]
P = Two-Stage Cooling, Single Circuit with Head Pressure Control

Cooling Tons
07 = 6.0 tons
08 = 7.5 tons
09 = 8.5 tons
12 = 10.0 tons
14 = 12.5 tons

Sensor Options
A = None
B = Return Air Smoke Detector (RA)[b]
C = Supply Air Smoke Detector (SA)
D = RA + SA Smoke Detector[b]
J = Condensate Overflow Switch (COFS)
K = Condensate Overflow Switch + RA Smoke Detectors[b]
L = Condensate Overflow Switch + RA and SA Smoke Detectors[b]
M = Condensate Overflow Switch + SA Smoke Detector

Fan Options
2 = Standard/Medium Static – EcoBlue™ Vane Axial Fan
3 = High Static – EcoBlue Vane Axial Fan
5 = Standard/Medium Static – EcoBlue Vane Axial Fan and Filter Status Switch
6 = High Static – EcoBlue Vane Axial Fan and Filter Status Switch

RTPF Coil Options (Outdoor – Indoor – Hail Guard)
A = Al/Cu – Al/Cu
B = Precoat Al/Cu – Al/Cu
C = E-coat Al/Cu – Al/Cu
D = E-coat Al/Cu – E-coat Al/Cu
M = Al/Cu – Al/Cu — Louvered Hail Guard
N = Precoat Al/Cu – Al/Cu — Louvered Hail Guard
P = E-coat Al/Cu – Al/Cu — Louvered Hail Guard
Q = E-coat Al/Cu – E-coat Al/Cu — Louvered Hail Guard
R = Cu/Cu – Al/Cu — Louvered Hail Guard
S = Cu/Cu – Cu/Cu — Louvered Hail Guard

Voltage
1 = 575-3-60
5 = 208/230-3-60
6 = 460-3-60

Design Revision
- = Factory Design Revision

Packaging
0 = Standard

Electrical Options
A = None
B = HACR Breaker
C = Non-Fused Disconnect (NFDC)
D = Thru-The-Base Connections (TTB)
E = HACR + TTB
F = NFDC + TTB
N = Phase Monitor Protection (PMR)
P = PMR + HACR
Q = PMR + NFDC
R = PMR + TTB
S = PMR + HACR + TTB
T = PMR + NFDC + TTB
1 = HSCCR[c] (High Short Circuit Current Rating)
2 = HSCCR[c] + TTB

Service Options
0 = None
1 = Unpowered Convenience Outlet (NPCO)
2 = Powered Convenience Outlet (PCO)[d]
3 = Hinged Panels (HP)
4 = Hinged Panels + NPCO
5 = Hinged Access Panels + PCO
6 = MERV-13 Filters (M13)
7 = NPCO + MERV-13 Filters
8 = PCO + MERV-13 Filters
9 = Hinged Panels + MERV-13 Filters
A = HP + NPCO + MERV-13 Filters
B = HP + PCO + MERV-13 Filters
C = Foil Faced Insulation (FF)
D = Foil Faced Insulation + NPCO
E = Foil Faced Insulation + PCO
F = Foil Faced Insulation + Hinged Panels
G = FF + HP + NPCO
H = FF + HP + PCO
J = Foil Faced Insulation + MERV-13 Filters
K = FF + NPCO + MERV-13 Filters
L = FF + PCO + MERV-13 Filters
M = FF + HP + MERV-13 Filters
N = FF + HP + NPCO + MERV-13 Filters
P = FF + HP + PCO + MERV-13 Filters

Intake / Exhaust Options
A = None
B = Standard Leak Economizer with Barometric Relief
F = Standard Leak Enthalpy Economizer with Barometric Relief
L = ULL (Ultra Low Leak) Temperature Economizer with Barometric Relief and CO_2 Sensor
M = ULL Enthalpy Economizer with Barometric Relief and CO_2 Sensor
U = ULL Temperature Economizer with Barometric Relief
W = ULL Enthalpy Economizer with Barometric Relief

Unit Controls
0 = Standard Electromechanical Controls (can be used with field installed economizers and dampers)
3 = SystemVu™ Controller
8 = Electromechanical Controls with POL224 EconomizerONE (with Fault Detection and Diagnostic)

NOTE (S):
[a] Units with Humidi-MiZer System include Head Pressure controller.
[b] Vertical airflow configuration only.
[c] Not available on the following models/options: 575V, Phase Loss Monitor, Non-Fused Disconnect, Powered Convience Outlet, Humidimizer, HACR Breaker or Size 12 units.
[d] Not available on Size 12 units with -5 voltage (208/230-3-60) and High Static Motor.

Model number nomenclature (cont)

50GE Model Number Nomenclature

Position:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example:	5	0	G	E	-	M	0	7	A	2	A	5	-	0	A	0	A	0

Unit Heat Type
50 = Electric Cooling/Electric Heat Packaged Rooftop

Model Series — WeatherMaster®
GE — High Efficiency Puron Advance™

Heat Size
- = No Heat
A = Low Electric Heat
B = Medium Electric Heat
C = High Electric Heat

Refrig. Systems Options
M = Two-Stage Cooling, Single Circuit
N = Two-Stage Cooling, Single Circuit with Humidi-MiZer® System[a]
P = Two-Stage Cooling, Single Circuit with Head Pressure Control

Nominal Tons
07 = 6 tons
08 = 7.5 tons
09 = 8.5 tons
12 = 10 tons
14 = 12.5 tons

Sensor Options
A = None
B = Return Air (RA) Smoke Detector[b]
C = Supply Air (SA) Smoke Detector
D = RA + SA Smoke Detector[b]
J = Condensate Overflow Switch
K = Condensate Overflow Switch and RA Smoke Detector[b]
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[c] Not available on the following models/options: 575V, Phase Loss Monitor, Non-Fused Disconnect, Powered Convience Outlet, Humidimizer, HACR Breaker or Size 12 units.
[d] Not available on Size 12 units with -5 voltage (208/230-3-60) and High Static Motor.

Capacity ratings

48GE AHRI Ratings[a,b,c,d]

48GE UNIT	COOLING STAGES	NOMINAL CAPACITY (tons)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	EER	IEER WITH 2-SPEED INDOOR FAN MOTOR	AHRI RATING CFM	AHRI PART LOAD CFM
48GE*M07	2	6.0	72	5.9	12.2	17.5	2400	1440
48GE*M08	2	7.5	90	7.4	12.2	17.5	3000	1800
48GE*M09	2	8.5	102	8.4	12.2	17.3	3000	1800
48GE*M12	2	10.0	118	9.8	12.1	17.5	3500	2100
48GE*M14	2	12.5	148	12.3	12.0	16.5	4700	2820

NOTE(S):

a. Rated in accordance with AHRI Standards 340/360.
b. Rating are based on:
Cooling Standard: 80°F (27°C) db, 67°F (19°C) wb indoor air temperature and 95°F (35°C) db outdoor air temperature.
IEER Standard: A measure that expresses cooling part-load EER efficiency for commercial unitary air-conditioning and heat pump equipment on the basis of weighted operation at various load capacities.
c. All 48GE units comply with ASHRAE 90.1-2019 (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) and DOE-2023 (Department of Energy) Energy Standard for minimum IEER requirements.
d. 48GE units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

LEGEND

AHRI — Air-Conditioning, Heating and Refrigeration Institute
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio

50GE AHRI Ratings[a,b,c,d]

50GE UNIT	COOLING STAGES	NOMINAL CAPACITY (tons)	NET COOLING CAPACITY (MBH)	TOTAL POWER (kW)	EER	IEER WITH 2-SPEED INDOOR FAN MOTOR	AHRI RATING CFM	AHRI PART LOAD CFM
50GE-M07	2	6.0	72	5.8	12.4	17.7	2400	1440
50GE-M08	2	7.5	90	7.3	12.4	17.7	3000	1800
50GE-M09	2	8.5	102	8.2	12.4	17.5	3000	1800
50GE-M12	2	10.0	118	9.6	12.3	17.7	3500	2100
50GE-M14	2	12.5	148	12.1	12.2	16.7	4700	2820

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d. 50GE units comply with US Energy Policy Act (2005). To evaluate code compliance requirements, refer to state and local codes.

LEGEND

AHRI — Air-Conditioning, Heating and Refrigeration Institute
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio
MBH — Btuh in thousands

Capacity ratings (cont)

Sound Ratings Table[a,b]

48/50GE UNIT	COOLING STAGES	OUTDOOR SOUND (dB) at 60 Hz								
		A-Weighted[c]	63	125	250	500	1000	2000	4000	8000
M07	2	82	90.1	82.6	81.0	79.4	77.0	73.0	70.4	66.7
M08	2	82	90.6	84.3	80.2	79.3	77.1	72.2	67.4	63.7
M09	2	82	88.6	85.0	81.6	79.5	77.4	74.1	71.0	66.3
M12	2	87	85.9	87.9	85.6	84.4	82.8	78.5	74.9	72.5
M14	2	83	89.3	86.0	82.9	80.7	78.5	73.6	69.6	64.5

NOTE(S):

a. Outdoor sound data is measured in accordance with AHRI.
b. Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure depends on specific environmental factors which normally do not match individual applications. Sound power values are independent of the environment and therefore more accurate.
c. A-weighted sound ratings filter out very high and very low frequencies, to better approximate the response of “average” human ear. A-weighted measurements for Carrier units are taken in accordance with AHRI.

LEGEND

dB — Decibel

Minimum - Maximum Airflow Ratings (cfm) — Natural Gas and Propane

48GE UNITS	HEAT LEVEL	COOLING			HEATING[a]	
		Minimum 2-Speed Airflow (Low Speed)	Minimum 2-Speed Airflow (High Speed)	Maximum Airflow cfm	Minimum Airflow cfm	Maximum Airflow cfm
48GE07**	LOW	1080	1800	3000	990	3640
	MED				1730	3160
	HIGH				1750	3250
48GE08**	LOW	1350	2250	3750	1730	3800
	MED				2100	3900
	HIGH				2240	4200
48GE09**	LOW	1530	2550	4250	1730	4750
	MED				2100	4560
	HIGH				2240	4800
48GE12**	LOW	1800	3000	5000	2100	5470
	MED				2580	6720
	HIGH				2710	5420
48GE14**	LOW	2250	3750	6250	1880	7500
	MED				2450	9000
	HIGH				3000	9000

NOTE(S):

a. Heating rating values are identical for aluminum heat exchangers and stainless steel heat exchangers.

Minimum - Maximum Airflow Ratings (cfm) — Cooling Units and Accessory Electric Heat

50GE UNITS	COOLING			ELECTRIC HEAT[a]	
	Minimum 2-Speed Airflow (Low Speed)	Minimum 2-Speed Airflow (High Speed)	Maximum Airflow cfm	Minimum Airflow cfm	Maximum Airflow cfm
50GE-*07	1080	1800	3000	1800	3000
50GE-*08	1350	2250	3750	2250	3750
50GE-*09	1530	2550	4250	2550	4250
50GE-*12	1800	3000	5000	3000	5000
50GE-*14	2250	3750	6250	3750	6250

NOTE(S):

a. Electric heat modules and single point kits are available as field-installed accessories for 50GE units.

Capacity ratings (cont)

Heat Rating Table — Natural Gas And Propane

48GE UNITS	GAS HEAT	AL/SS HEAT EXCHANGER		TEMPERATURE RISE (°F)	THERMAL EFFICIENCY (%)
		Input/Output Stage 1 (MBH)	Input/Output Stage 2 (MBH)		
48GE07**	LOW	55/41	72/59	15-55	82
	MED	90/66	125/103	30-55	82
	HIGH	115/96	150/123	35-65	82
48GE08**	LOW	90/66	125/103	25-55	82
	MED	120/98	180/148	35-65	82
	HIGH	180/146	224/181	40-75	81
48GE09**	LOW	90/66	180/148	20-55	82
	MED	120/98	224/181	30-65	82
	HIGH	180/146	250/205	35-75	81
48GE12**	LOW	120/98	180/148	25-65	82
	MED	180/146	224/181	25-65	81
	HIGH	200/164	250/205	35-70	82
48GE14**	LOW	120/98	150/121	15-60	81
	MED	144/116	180/146	15-55	81
	HIGH	192/155	240/195	20-60	81

LEGEND

MBH — Btuh in thousands

Physical data

48/50GE 6.0 to 7.5 Ton Physical Data

48/50GE UNIT	48/50GE*M07	48/50GE*N07	48/50GE*M08	48/50GE*N08
NOMINAL TONS	6.0	6.0	7.5	7.5
BASE UNIT OPERATING WT (lb) 48/50GE[a]	775/714	775/714	893/830	893/830
REFRIGERATION SYSTEM				
No. Circuits/No. Compressors/Type	1 / 2 / Scroll	1 / 2 / Scroll	1 / 2 / Scroll	1 / 2 / Scroll
Puron Advance™ (R-454B) Charge (lb-oz)	11-2	—	13-8	—
Humidi-MiZer® Puron Advance (R-454B) Charge (lb-oz)	—	17-0	—	19-10
Metering Device	TXV	—	TXV	—
Humidi-MiZer Metering Device	—	TXV	—	TXV
High-Pressure Trip/Reset (psig)	630/505	630/505	630/505	630/505
Low-Pressure Trip/Reset (psig)	54/117	54/117	54/117	54/117
EVAPORATOR COIL				
Material (Tube/Fin)	Cu/Al	Cu/Al	Cu/Al	Cu/Al
Coil Type	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF
Rows/FPI	3/15	3/15	4/15	4/15
Total Face Area (ft^2)	8.9	8.9	11.1	11.1
Condensate Drain Connection Size	3/4 in.	3/4 in.	3/4 in.	3/4 in.
CONDENSER COIL				
Material	Cu/Al	Cu/Al	Cu/Al	Cu/Al
Coil Type	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF
Rows/FPI	2/18	2/18	2/18	2/18
Total Face Area (ft^2)	20.5	20.5	25.1	25.1
HUMIDI-MIZER COIL				
Material	—	Cu/Al	—	Cu/Al
Coil Type	—	5/16 in. RTPF	—	5/16 in. RTPF
Rows/FPI	—	2/18	—	2/18
Total Face Area (ft^2)	—	6.0	—	8.0
EVAPORATOR FAN AND MOTOR				
Standard/Medium Static 3 Phase				
Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	1 / Direct
Maximum Cont bhp	2.4	2.4	2.4	2.4
Range (rpm)	250-2000	250-2000	250-2000	250-2000
Fan Qty/Type	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial
Fan Diameter (in.)	22	22	22	22
High Static 3 Phase				
Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	1 / Direct
Maximum Cont bhp	3	3	3	3
Range (rpm)	250-2200	250-2200	250-2200	250-2200
Fan Qty/Type	1/Vane Axial	1/Vane Axial	1/Vane Axial	1/Vane Axial
Fan Diameter (in.)	22	22	22	22
CONDENSER FAN AND MOTOR				
Qty / Motor Drive Type	2 / Direct	2 / Direct	2 / Direct	2 / Direct
Motor hp/rpm	1/4 / 1100	1 / 160-1100	1/4 / 1100	1/4 / 160-1100
Fan Diameter (in.)	22	22	22	22
FILTERS				
RA Filter Qty / Size (in.)	4 / 16 x 20 x 2	4 / 16 x 20 x 2	4 / 20 x 20 x 2	4 / 20 x 20 x 2
OA Inlet Screen Qty / Size (in.)	1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1

NOTE(S):

a. Base unit operating weight does not include weight of options.

LEGEND

bhp — brake horsepower
FPI — Fins Per Inch
OA — Outdoor Air
RA — Return Air

Physical data (cont)

48/50GE 8.5 to 10.0 Ton Physical Data

48/50GE UNIT	48/50GE*M09	48/50GE*N09	48/50GE*M12	48/50GE*N12
NOMINAL TONS	8.5	8.5	10.0	10.0
BASE UNIT OPERATING WT (lb) 48GE/50GE[a]	893/830	893/830	1034/971	1034/971
REFRIGERATION SYSTEM				
No. Circuits/No. Compressors/Type	1 / 2 / Scroll	1 / 2 / Scroll	1 / 2 / Scroll	1 / 2 / Scroll
Puron Advance™ (R-454B) Charge (lb-oz)	12-8	—	16-10	—
Humidi-MiZer® Puron Advance™ (R-454B) Charge (lb-oz)	—	18-10	—	23-13
Metering Device	TXV	—	TXV	—
Humidi-MiZer Metering Device	—	TXV	—	TXV
High-Pressure Trip/Reset (psig)	630/505	630/505	630/505	630/505
Low-Pressure Trip/Reset (psig)	54/117	54/117	54/117	54/117
EVAPORATOR COIL				
Material (Tube/Fin)	Cu/Al	Cu/Al	Cu/Al	Cu/Al
Coil Type	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF	3/8 in. RTPF
Rows/FPI	4/15	4/15	4/15	4/15
Total Face Area (ft^2)	11.1	11.1	11.1	11.1
Condensate Drain Connection Size	3/4 in.	3/4 in.	3/4 in.	3/4 in.
CONDENSER COIL				
Material	Cu/Al	Cu/Al	Cu/Al	Cu/Al
Coil Type	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF
Rows/FPI	2/18	2/18	3/18	3/18
Total Face Area (ft^2)	25.1	25.1	25.1	25.1
HUMIDI-MIZER COIL				
Material	—	Cu/Al	—	Cu/Al
Coil Type	—	5/16 in. RTPF	—	5/16 in. RTPF
Rows/FPI	—	2/18	—	2/18
Total Face Area (ft^2)	—	8.0	—	8.0
EVAPORATOR FAN AND MOTOR				
Standard/Medium Static 3 Phase				
Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	1 / Direct
Maximum Cont bhp	2.4	2.4	2.4	2.4
Range (rpm)	250-2000	250-2000	250-2200	250-2200
Fan Qty / Type	1 / Vane Axial	1 / Vane Axial	1 / Vane Axial	1 / Vane Axial
Fan Diameter (in.)	22	22	22	22
High Static 3 Phase				
Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	1 / Direct
Maximum Cont bhp	3	3	5	5
Range (rpm)	250-2200	250-2200	250-2200	250-2200
Fan Qty / Type	1 / Vane Axial	1 / Vane Axial	1 / Vane Axial	1 / Vane Axial
Fan Diameter (in.)	22	22	22	22
CONDENSER FAN AND MOTOR				
Qty / Motor Drive Type	2 / Direct	2 / Direct	1 / Direct	1 / Direct
Motor hp / rpm	1/4 / 1100	1/4 / 160-1100	1 / Multiple Speeds[b]	1 / Multiple Speeds[b]
Fan Diameter (in.)	22	22	22	22
FILTERS				
RA Filter Qty / Size (in.)	4 / 20 x 20 x 2	4 / 20 x 20 x 2	4 / 20 x 20 x 2	4 / 20 x 20 x 2
OA Inlet Screen Qty / Size (in.)	1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1	1 / 20 x 24 x 1

NOTE(S):

a. Base unit operating weight does not include weight of options.
b. 1050/770/450/350/265 rpm

LEGEND

bhp — brake horsepower
FPI — Fins Per Inch
OA — Outdoor Air
RA — Return Air

Physical data (cont)

48/50GE 12.5 Ton Physical Data

48/50GE UNIT	48/50GE*M14	48/50GE*N14
NOMINAL TONS	12.5	12.5
BASE UNIT OPERATING WT (lb) 48GE/50GE[a]	1390/1313	1390/1313
REFRIGERATION SYSTEM		
No. Circuits/No. Compressors/Type	1 / 2 / Scroll	1 / 2 / Scroll
Puron Advance™ (R-454B) Charge (lb-oz)	25-8	—
Humidi-MiZer® Puron Advance™ (R-454B) Charge (lb-oz)	—	32-5
Metering Device	TXV	—
Humidi-MiZer Metering Device	—	TXV
High-Pressure Trip/Reset (psig)	630/505	630/505
Low-Pressure Trip/Reset (psig)	54/117	54/117
EVAPORATOR COIL		
Material (Tube/Fin)	Cu/Al	Cu/Al
Coil Type	3/8 in. RTPF	3/8 in. RTPF
Rows/FPI	4/15	4/15
Total Face Area (ft^2)	17.5	17.5
Condensate Drain Connection Size	3/4 in.	3/4 in.
CONDENSER COIL		
Material	Cu/Al	Cu/Al
Coil Type	5/16 in. RTPF	5/16 in. RTPF
Rows/FPI	2/18	2/18
Total Face Area (ft^2)	46.2	46.2
HUMIDI-MIZER COIL		
Material	—	Cu/Al
Coil Type	—	5/16 in. RTPF
Rows/FPI	—	2/18
Total Face Area (ft^2)	—	8.0
EVAPORATOR FAN AND MOTOR		
Standard/Medium Static 3 Phase		
Motor Qty / Drive Type	1 / Direct	1 / Direct
Maximum Cont bhp	3	3
Range (rpm)	250-2200	250-2200
Fan Qty / Type	1 / Vane Axial	1 / Vane Axial
Fan Diameter (in.)	22	22
High Static 3 Phase		
Motor Qty / Drive Type	1 / Direct	1 / Direct
Maximum Cont bhp	5	5
Range (rpm)	250-2200	250-2200
Fan Qty / Type	1 / Vane Axial	1 / Vane Axial
Fan Diameter (in.)	22	22
CONDENSER FAN AND MOTOR		
Qty / Motor Drive Type	3 / Direct	3 / Direct
Motor hp / rpm	1/4 / 1100	1/4 / 1100
Fan Diameter (in.)	22	22
FILTERS		
RA Filter Qty / Size (in.)	6 / 18 x 24 x 2	6 / 18 x 24 x 2
OA Inlet Screen Qty / Size (in.)	Vertical: 2 / 24 x 27 x 1 Horizontal: 1 / 30 x 39 x 1	Vertical: 2 / 24 x 27 x 1 Horizontal: 1 / 30 x 39 x 1

NOTE(S):

a. Base unit operating weight does not include weight of options.

LEGEND

bhp — brake horsepower
FPI — Fins Per Inch
OA — Outdoor Air
RA — Return Air

Physical data (cont)

48GE 6.0 to 12.5 Ton Gas Heat Data

48GE UNIT	48GE**07	48GE**08	48GE**09	48GE**12	48GE**14
NOMINAL TONS	6.0	7.5	8.5	10.0	12.5
GAS CONNECTION					
No. of Gas Valves	1	1	1		1
Natural Gas Supply Line Pressure (in. wg)/(psig)	4-13 / 0.18-0.47	4-13 / 0.18-0.47	4-13 / 0.18-0.47	4-13 / 0.18-0.47	5-13 / 0.18-0.47
Liquid Propane Supply Line Pressure (in. wg)/(psig)	11-13 / 0.40-0.47	11-13 / 0.40-0.47	11-13 / 0.40-0.47	11-13 / 0.40-0.47	11-13 / 0.40-0.47
HEAT ANTICIPATOR SETTING (amps)					
First Stage	0.14	0.14	0.14	0.14	0.14
Second Stage	0.14	0.14	0.14	0.14	0.14
NATURAL GAS HEAT					
LOW					
No. of Stages / No. of Burners (total)	2 / 2	2 / 3	2 / 3	2 / 4	2 / 5
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT	3/4 in. NPT	3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115	225 / 145
Temperature Rise (°F)	15-55	25-55	20-55	25-65	15-60
MEDIUM					
No. of Stages / No. of Burners (total)	2 / 3	2 / 4	2 / 4	2 / 5	2 / 6
Connection Size	1/2 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115	225 / 145
Temperature Rise (°F)	30-65	35-65	30-65	25-65	15-55
HIGH					
No. of Stages / No. of Burners (total)	2 / 4	2 / 5	2 / 5	2 / 5	2 / 8
Connection Size	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115	225 / 145
Temperature Rise (°F)	35-65	40-75	35-75	35-70	20-60
LIQUID PROPANE HEAT					
LOW					
No. of Stages / No. of Burners (total)	2 / 2	2 / 3	2 / 3	2 / 4	2 / 5
Connection Size	1/2 in. NPT	1/2 in. NPT	1/2 in. NPT	3/4 in. NPT	3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115	225 / 145
Temperature Rise (°F)	15-55	25-55	20-55	25-65	15-60
MEDIUM					
No. of Stages / No. of Burners (total)	2 / 3	2 / 4	2 / 3	2 / 5	2 / 6
Connection Size	1/2 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115	225 / 145
Temperature Rise (°F)	30-55	35-65	30-65	25-65	15-55
HIGH					
No. of Stages / No. of Burners (total)	2 / 4	2 / 5	2 / 5	2 / 5	2 / 8
Connection Size	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
Rollout Switch Opens / Closes (°F)	195 / 115	195 / 115	195 / 115	195 / 115	225 / 145
Temperature Rise (°F)	35-65	40-75	35-75	35-70	20-60

Options and accessories

ITEM	FACTORY-INSTALLED OPTION	FIELD-INSTALLED ACCESSORY
GAS HEAT (48GE units only)		
Low, Medium, or High Gas Heat — Aluminized Heat Exchanger	X	
Low, Medium or High Gas Heat — Stainless Steel Heat Exchanger	X	
Propane Conversion Kit		X
High Altitude Conversion Kit		X
Flue Discharge Deflector		X
Flue Shield (07-12 sizes only)		X
ELECTRIC HEAT (50GE units only)		
Electric Resistance Heaters		X
Single Point Kits		X
CABINET		
Thru-the-Base Electrical or Gas-Line Connections	X	X
Hinged Access Panels	X	
MERV-8, 2 in. Filters		X
MERV-13, 2 in. Filters		X
MERV-13, 4 in. Filters	X	
4 in. Filter Rack (filters not included)		X
Disconnect Switch Bracket[a]		X
Supply Duct Cover[a]		X
COIL OPTIONS		
Cu/Cu Outdoor and/or Indoor Coils[b]	X	
Pre-coated Outdoor Coils	X	
Premium, E-Coated Outdoor and Indoor Coils	X	
HUMIDITY CONTROL		
Humidi-MiZer® Adaptive Dehumidification System	X	
CONDENSER PROTECTION		
Condenser Coil Hail Guard (louvered design)	X	X
CONTROLS		
Thermostats, Temperature Sensors, And Subbases		X
SystemVu™ DDC Communicating Controller[c]	X	
Smoke Detector (supply and/or return air)	X	X
Horn Strobe Annunciator[d]		X
Time Guard Compressor Delay Control Circuit		X
Phase Monitor	X	X
ECONOMIZERS AND OUTDOOR AIR DAMPERS		
EconomizerONE for Electromechanical Controls, complies with FDD (Standard and Ultra Low Leak damper models)[e]	X	X
Wi-Fi Stick for EconomizerONE (optional)		X
EconoMi$er® 2 for DDC controls (Low and Ultra Low Leak air damper models)[c]	X	X
Motorized Two-Position Outdoor-Air Damper		X

ITEM	FACTORY-INSTALLED OPTION	FIELD-INSTALLED ACCESSORY
ECONOMIZERS AND OUTDOOR AIR DAMPERS (cont)		
Manual Outdoor-Air Damper (25% and 50%)		X
Barometric Relief[f]	X	X
Power Exhaust, Prop Design		X
Condensate Overflow Switch	X	X
ECONOMIZER SENSORS AND IAQ DEVICES		
Single Dry Bulb Temperature Sensors[g]	X	X
Differential Dry Bulb Temperature Sensors[g]		X
Differential Enthalpy Sensors[g]		X
CO_2 Sensor (wall, duct, or unit mounted)[g]	X	X
INDOOR MOTOR AND DRIVE		
Multiple Motor and Drive Packages	X	
Fan Filter Status Switch	X	X
LOW AMBIENT CONTROLS		
Winter Start Kit[h,i]		X
Low Ambient Controller to 0°F (–18°C)[h,j]		X
POWER OPTIONS		
Convenience Outlet (powered)	X	
Convenience Outlet (unpowered)	X	
Convenience Outlet, 20 amp (unpowered)		X
Non-fused Disconnect[k]	X	
HACR breaker[l,m]	X	
High SCCR Protection[n]	X	
ROOF CURBS		
Roof Curb 14 in. (356 mm)		X
Roof Curb 24 in. (610 mm)		X

NOTE(S):

a. For Size 14 units only.
b. Cu/Cu coils are only available with louvered hail guards.
c. Models with SystemVu controls comply with California Title 24 Fault Detection and Diagnostic (FDD).
d. Requires a field-supplied 24V transformer for each application. See price pages for details.
e. FDD (Fault Detection and Diagnostic) capability per California Title 24 section 120.2.
f. Included with economizer.
g. Sensors used to optimize economizer performance.
h. See application data for assistance.
i. Not necessary on SystemVu units, as they are capable of operating at temperatures down to 25°F (4°C).
j. Size 12 models operate down to 0°F (–18°C) standard; Low Ambient control is not available.
k. Non-fused disconnect switch cannot be used when unit FLA electrical rating exceeds —
48GE 07-14: 80 amps, all voltages.
50GE 07-12 without factory installed electric heat:
208/230/3/60, 460/3/60 and 575/3/60 = 80 amps.
50GE 07-12 with factory installed electric heat:
208/230/3/60 = 100 amps, 460/3/60 and 575/3/60 = 80 amps.
50GE 14 — Non-fused disconnect switch cannot be used when electrical rating exceeds: 208/230/3/60 = 200 amps, 460/3/60 and 575/3/60 = 100 amps.
Carrier RTUBuilder automatically selects the amp limitations.
l. HACR circuit breaker cannot be used on 48GE 07-14 sizes when unit MOCP rating exceeds:
48GE 07-12:
208/230/3/60 = 80 amps
460/3/60 = 40 amps
575/3/60 = 35 amps
48GE 14:
208/230/3/60 = 80 amps
460/3/60 = 45 amps
575/3/60 = 30amps
Carrier RTUBuilder automatically selects the amps limitations.

Options and accessories (cont)

m. HACR circuit breaker cannot be used on 50GE 07-14 sizes when unit MOCP rating exceeds:
50GE 07-12 without factory installed electric heat:
208/230/3/60 = 80 amps
460/3/60 = 40 amps
575/3/60 = 35 amps
50GE 07-12 with factory installed electric heat:
208/230/3/60 = 100 amps
460/3/60 = 80 amps
575/3/60 = 60amps
50GE 14 without factory installed electric heat:
208/230/3/60 = 80 amps
460/3/60 = 45 amps
575/3/60 = 30 amps
50GE 14 with factory installed electric heat:
208/230/3/60 = 175 amps
460/3/60 = 80 amps
575/3/60 = 60 amps
Carrier RTUBuilder automatically selects the amps limitations.

n. High SCCR (Short Circuit Current Rating) is not available on the following: units with Humidi-MiZer system, HACR breaker, low ambient controls, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v. Not available on size 12 units due to control box constraints.

Factory-installed options

Economizer (dry-bulb or enthalpy)

Economizers save money. They bring in fresh, outside air for ventilation and provide outside air to cool your building. This is the preferred method of low-ambient cooling. When used with CO_2 sensors, economizers can provide even more savings by adjusting the ventilation air intake to just the correct amount.

Economizers are available, installed and tested by the factory, with either enthalpy or dry-bulb temperature inputs. Additional sensors are available as accessories to optimize the economizers.

Economizers include a gravity-controlled barometric relief damper to help equalize building pressure. This can be a cost effective solution to prevent building pressurization. Economizers are available in ultra low leak and standard low leak versions. They can be factory installed or easily field installed.

Unit mounted CO_2 sensor

The CO_2 sensor works with the economizer to intake only the correct amount of outside air for ventilation. As occupants fill your building, the CO_2 sensor detects their presence through increasing CO_2 levels and opens the economizer appropriately. When the occupants leave, the CO_2 levels decrease, and the sensor appropriately closes the economizer. This intelligent control of the ventilation air, called demand controlled ventilation (DCV), reduces the overall load on the rooftop, saving money. It is also available as a field-installed accessory.

Smoke detector (supply and/or return air)

Our smoke detectors make your application safer and your job easier. Carrier smoke detectors immediately shut down the rooftop unit when smoke is detected. They are available, installed by the factory, for supply air, return air, or both.

Optional Humidi-MiZer® adaptive dehumidification system

Carrier's Humidi-MiZer adaptive dehumidification system is an all-inclusive factory-installed option that can be ordered with any WeatherMaster® 48/50GE 07-14 rooftop unit.

This system expands the envelope of operation of Carrier's WeatherMaster rooftop products to provide unprecedented flexibility to meet year-round comfort conditions.

The Humidi-MiZer adaptive dehumidification system has a unique dual operational mode setting. It provides greater dehumidification of the occupied space through 2 modes of dehumidification operations in addition to its normal design cooling mode.

When coupled with the Humidi-MiZer system, the 48/50GE 07-14 rooftop is capable of operating in normal design cooling mode, sub-cooling mode, and hot gas reheat mode. Normal design cooling mode is when the unit will operate under its normal sequence of operation by cycling compressors to maintain comfort conditions.

Sub-cooling mode will operate to satisfy part load type conditions when the space requires combined sensible and a higher proportion of latent load control. Hot gas reheat mode operates when outdoor temperatures fall and latent capacity is required for humidity control. Hot gas reheat mode provides neutral air for maximum dehumidification operation.

NOTE: Humidi-MiZer system includes Low Ambient controller.

Thru-the-base connections

Thru-the-base connections, available as a factory option, are necessary to ensure proper connection and seal when routing wire and piping through the rooftop's basepan and curb. These couplings eliminate roof penetration and should be considered for gas lines, main power lines, and control power.

Hinged access panels

These specially designed hinged access panels allow access to unit's major components. Panels allow access to filters, the control box, and the indoor fan motor.

MERV-13 return air filters

This factory option upgrades the return air filters from standard unit filters to high efficiency 4 in. MERV-13 filters. This option uses non-woven MERV-13 filter media with a high strength, moisture-resistant frame. Filter media is securely fastened inside the filter frame on all 4 sides.

Cu/Cu (indoor and outdoor) coils

Copper fins and copper tubes are mechanically bonded to copper tubes and copper tube sheets. A polymer strip prevents coil assembly from contacting the sheet metal coil pan to minimize the potential for galvanic corrosion between coil and pan. Only available with louvered hail guards.

E-coated (outdoor and indoor) coils

These coils feature a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins. The coating process ensures complete coil encapsulation of tubes, fins, and headers.

Pre-coated outdoor coils

These coils feature a durable epoxy-phenolic coating that provides protection in mildly corrosive coastal environments. The coating minimizes galvanic action between dissimilar metals. The coating is applied to the aluminum fin stock prior to the fin stamping process to create an inert barrier between the aluminum fin and copper tube.

Options and accessories (cont)

Condenser coil hail guard

These sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact. This can be purchased as a factory-installed option or as a field-installed accessory.

Stainless steel heat exchanger (48GE units only)

For this option, the tubular heat exchanger is made out of a minimum 20 gauge type 409 stainless steel for applications where the mixed air going to the heat exchanger is expected to drop below 45°F (7°C). Stainless steel may be specified on applications where the presence of airborne contaminants require its use (applications such as paper mills) or in areas with very high outdoor humidity that may result in severe condensation in the heat exchanger during cooling operation.

Convenience outlet (powered or un-powered)

Reduce service and/or installation costs by including a convenience outlet in your specification. Carrier will install this service feature at our factory. It provides a convenient, 15 amp, 115-v GFCI receptacle with "Wet in Use" cover.

The "powered" option allows the installer to power the outlet from the line side of the disconnect or load side as required by code. The "unpowered" option is to be powered from a separate 115/120-v power source. This outlet is available as a 15 amp factory-installed option or a 20 amp field-installed accessory.

HACR Breaker

These manual reset devices provide overload and short circuit protection for the unit. Breakers are factory wired and mounted on the units, with an access cover to provide protection from the environment.

Non-fused disconnect

This OSHA-compliant, factory-installed safety switch allows a service technician to locally secure power to the rooftop. When selecting a factory-installed non-fused disconnect, note that they are sized for the unit as ordered from the factory. The sizing does not accommodate field-installed items such as power exhaust devices, etc. If field installing electric heat with factory-installed non-fused disconnect switch, a single point kit may or may not be required.

SystemVu™ controller

Carrier's SystemVu controller is an optional factory-installed and tested controller.

This option provides a whole new approach by using an intuitive, intelligent controller that not only monitors and controls the unit but also provides linkage to multiple building automation systems.

Each SystemVu controller makes it easy to set up, service, troubleshoot, access historical data, generate reports, and provide comfort Carrier is noted for.

Key features include:

- Easy-to-read backlit 4-line text screen for superior visibility
- Quick operational condition LEDs for Run, Alert, and Fault
- Simple navigation using large keypad buttons for Navigation arrows, Test, Back, Enter, and Menu.
- Capable of being controlled with a conventional thermostat, space sensor, or build automation system
- Service capabilities include:
  Auto run test
  Manual run test
  Component run hours and starts
  Commissioning reports
  Data logging
- Full range of diagnosis:
  Read refrigerant pressures without needing gauges
  Sensor faults
  Compressor reverse rotation
  Economizer diagnostics that meet California Title 24 requirements
- Quick data transfer via USB port:
  Unit configuration uploading/downloading
  Data logging
  Software upgrades
- Built in capacity for:
  i-Vu® open systems
  BACnet® systems
  CCN systems
- Configuration and alarm point capability:
  Contain over 100 alarm codes
  Contain over 260 status, troubleshooting, diagnostic, and maintenance points
  Contain over 270 control configuration setpoints

Condensate overflow switch

This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. This option:

- Includes an indicator light showing when the sensor is disconnected (blinking red) and when there has been more than 10 seconds of water contact (solid red — compressors disabled)
- Includes a 10-second delay to break, which eliminates nuisance trips from splashing or waves in the pan (sensor needs 10 seconds of constant water contact before tripping)
- Disables the compressor(s) operation when a condensate plug is detected but still allows fans to run for the economizer

Fan filter status switch and maintenance indicator

When the optional factory-installed filter maintenance indicator is used, a factory-installed differential pressure switch measures pressure drop across the outside air filter and activates a field-supplied dry contact indicator when the pressure differential exceeds the adjustable switch setpoint.

High Short Circuit Current Rating (SCCR) protection

This factory-installed option provides high short circuit current protection of 10 kA against high potential fault current situations for the compress and all indoor and outdoor fan motors. (A standard unit comes with a 5 kA rating.)

This option is not available on 575-v models or models with a factory-installed Humidi-MiZer system, low ambient controls, powered convenience outlet, phase loss monitor, HACR breaker, or non-fused disconnect. Not available on size 12 units due to control box constraints.

Options and accessories (cont)

Field-installed accessories

Condenser coil hail guard

These sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact. This can be purchased as a factory-installed option or as a field-installed accessory.

Differential enthalpy sensor

The differential enthalpy sensor is comprised of an outdoor and a return air enthalpy sensor to provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.

Wall or duct mounted CO_2 sensor

The IAQ sensor shall be available in duct or wall mount. The sensor provides demand ventilation indoor air quality (IAQ) control.

Propane conversion kit (48GE units only)

Convert your gas heat rooftop from standard natural gas operation to propane using this field-installed kit.

High altitude conversion kit (48GE units only)

High altitudes have less oxygen, which affects the fuel/air mixture in heat exchangers. In order to maintain a proper fuel/air mixture, heat exchangers operating in altitudes above 2000 ft (610 m) require different orifices. To select the correct burner orifices or determine the heat capacity for a high altitude application, use either the selection software or the unit's service manual. High altitudes have less oxygen, which means heat exchangers need less fuel. The new gas orifices in this field-installed kit make the necessary adjustment for high altitude applications. They restore the optimal fuel to air mixture and maintain healthy combustion on altitudes above 2000 ft (610 m).

NOTE: Typical natural gas heating value ranges from 975 to 1050 Btu/ft^3 at sea level nationally. The heating value goes down approximately 1.7% per every thousand feet of elevation. Standard factory orifices can typically be used up to 2000 ft (610 m) elevations without any operational issues.

Flue discharge deflector (48GE units only)

The flue discharge deflector is a useful accessory when flue gas recirculation is a concern. By venting the flue discharge upwards, the deflector minimizes the chance for a neighboring unit to intake the flue exhaust.

Filter rack kit (4 in.)

The 4 in. filter rack accessory kit is designed to hold 4 in. MERV-8 or MERV-13 filters. Filters not included in kit.

MERV-13 2 in. return air filters

This kit includes MERV-13 2 in. filters (quantity: 4) to accommodate unit filter rack size.

MERV-8 2 in. return air filters

This kit includes MERV-8 2 in. filters (quantity: 4) to accommodate unit filter rack size.

Phase monitor protection

The phase monitor control monitors the sequence of the 3-phase electrical system to provide a phase reversal protection and monitors the 3-phase voltage inputs to provide phase loss protection for the 3-phase device. It will work on either a Delta or Wye power connection.

Winter start kit

Carrier's winter start kit extends the low ambient limit of your rooftop to 25°F (–4°C). The kit bypasses the low pressure switch, preventing nuisance tripping of the low pressure switch. Other low ambient precautions may still be prudent.

Low ambient controller[1]

The low ambient controller is a head pressure controller kit designed to maintain the unit's condenser head pressure during periods of low ambient cooling operation. This device should be used as an alternative to economizer free cooling when economizer usage is either not appropriate o not desired. The low ambient controller will either cycle the outdoor fan motors or operate them at reduced speed to maintain the unit operation, depending on the model. This controller allows cooling operation down to 0°F (–18°C) ambient conditions.

Roof curb (14 in./356 mm or 24 in./610 mm)

This full perimeter roof curb with exhaust capability provides separate air streams for energy recovery from the exhaust air without supply air contamination.

Fan filter status switch and maintenance indicator

When a field-installed filter maintenance indicator is used, a field-installed differential pressure switch measures pressure drop across the outside air filter and activates a field-supplied dry contact indicator when the pressure differential exceeds the adjustable switch setpoint.

Power exhaust

This accessory provides superior internal building pressure control and may eliminate the need for costly external pressure control fans.

Manual OA damper

Manual outdoor air dampers are an economical way to bring in ventilation air. The dampers are available in 25% and 50% versions.

Motorized two-position damper

The Carrier two-position, motorized outdoor air damper admits up to 100% outside air. Using reliable, gear-driven technology, the two-position damper opens to allow ventilation air and closes when the rooftop stops, stopping unwanted infiltration.

Electric heaters (50GE units only)

Carrier offers a full line of accessory heaters. The heaters are very easy to use and install, and they are all pre-engineered and certified. Electric heaters are available as either factory-installed options or field-installed accessories.

Time Guard II control circuit

This accessory protects your compressor by preventing short-cycling in the event of some other failure by preventing the compressor from restarting for 30 seconds after stopping. (Not required with SystemVu™ controller or authorized commercial thermostats.)

Disconnect switch bracket

The accessory provides a pre-engineered and sized mounting bracket for applications requiring a unit-mounted fused

1. Size 12 models operate down to 0°F (-18°C) standard; Low Ambient controller is not available.

Options and accessories (cont)

and non-fused disconnect of greater than 100 amps. The bracket assures that no damage occurs to coils when mounting with screws and other fasteners (size 14 only).

Wi-Fi Stick for EconomizerONE (optional)

The accessory Wi-Fi/WLAN stick can be connected to the EconomizerONE POL224 economizer controller via the USB host interface. The Wi-Fi stick enables a wireless connection to be made between a smartphone and the economizer controller via the Climatix™[1] mobile application for commissioning, troubleshooting, and maintenance operations. The Wi-Fi stick is required to utilize the mobile application.

1. Third-party trademarks and logos are the property of their respective owners.

Climatix™ mobile application

The Climatix™ mobile application offers a best-in-class user interface and a simple step-by-step commissioning workflow using a mobile device. The user interface walks users through the setup of the controller and allows users to view the operating mode and parameters. Users can adjust setpoints, initiate damper tests, and save the final configuration as a favorite to expedite setup in the future.

The application is available on Android™[1] and Apple iOS®[1] platforms. The Wi-Fi stick for the EconomizerONE is required to join the Siemens-WiFi-Stick network and setup the controller on a smartphone.

NOTE: The Climatix app is not required to commission the EconomizerONE controller. The unit can be set up using the controller's on board button system.

Options and Accessory Weights[a]

OPTION / ACCESSORY NAME	48/50GE UNIT WEIGHT									
	07		08		09		12		14	
	lb	kg	lb	kg	lb	kg	lb	kg	lb	kg
Humidi-MiZer® System[b]	25	12	34	16	34	16	34	16	55	25
Power Exhaust	55	25	55	25	55	25	55	25	85	39
EconomizerONE or EconoMi$er® 2	75	34	75	34	75	34	75	34	135	62
Two-Position Damper	58	26	58	26	58	26	58	26	65	29
Manual Damper	18	8	18	8	18	8	18	8	25	11
High Gas Heat (48GE units only)	81	37	81	37	86	39	86	39	117	53
Hail Guard (louvered)	17	8	17	8	17	8	17	8	44	20
Cu/Cu Condenser Coil	85	39	85	39	100	46	150	68	180	82
Cu/Cu Evaporator Coil	50	23	100	46	100	46	100	46	120	55
Roof Curb (14 in. curb)	143	65	143	65	143	65	143	65	180	82
Roof Curb (24 in. curb)	245	112	245	112	245	112	245	112	255	116
CO_2 Sensor	2	1	2	1	2	1	2	1	2	1
Flue Discharge Deflector	7	3	7	3	7	3	7	3	7	3
Optional Indoor Motor[c]	30	14	30	14	30	14	0	0	0	0
Low Ambient Controller	9	4	9	4	9	4	9	4	9	4
Winter Start Kit	5	2	5	2	5	2	5	2	5	2
Return Air Smoke Detector	7	3	7	3	7	3	7	3	7	3
Supply Air Smoke Detector	7	3	7	3	7	3	7	3	7	3
Fan Filter Switch	2	1	2	1	2	1	2	1	2	1
Non-Fused Disconnect	15	7	15	7	15	7	15	7	15	7
Powered Convenience Outlet[d]	36	16	36	16	36	16	36	16	36	16
Unpowered Convenience Outlet	4	2	4	2	4	2	4	2	4	2
Enthalpy Sensor	2	1	2	1	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1	3	1

NOTE(S):

a. Where multiple variations are available, the heaviest combination is listed.
b. For Humidi-MiZer system, add Low Ambient controller weight.
c. Add the Optional Indoor Motor weight to the weight of the base unit.
d. Weight includes convenience outlet and convenience outlet transformer.

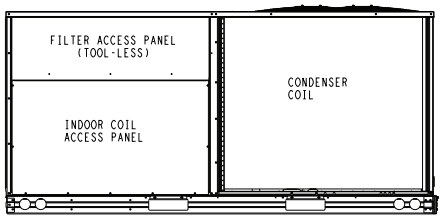
48GE**07-09 Base Unit Dimensions

NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

UNIT	OUTDOOR COIL TYPE	J	K	H
48GE-M07	RTPF	41 1/4 [1048]	33 3/4 [857]	15 7/8 [403]
48GE-M08	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]
48GE-M09	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]

RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)



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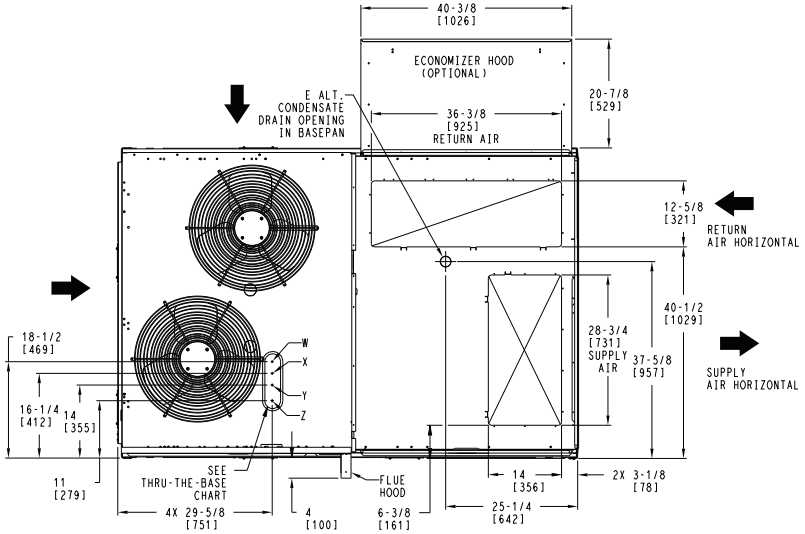


TOP

	CONNECTION SIZES
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	1/2"-14 NPT GAS CONNECTION 3/4"-14 NPT GAS CONNECTION
G	2 " [51] DIA POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART (FIELD INST)

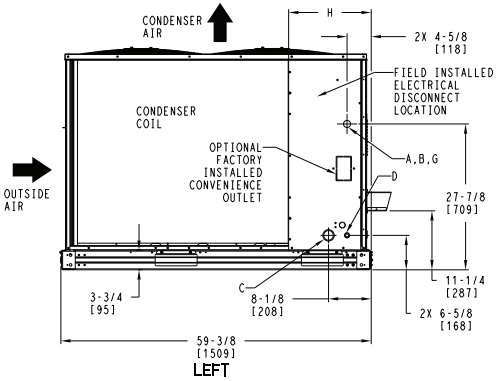
THESE HOLES REQUIRED FOR USE WITH ACCY KITS:
CRBTMPWR002A01: GAS THRU CURB
CRBTMPWR004A01: GAS THRU BASEPAN

	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002,004)	POWER	1 3/4" [44.4]
Z *	(004) 3/4" FPT	GAS	1 3/4" [44.4]
*	(002) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING. HOLE SIZE: 2" [50.8]		

THRU-THE-BASE CHART (FIOP)

FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED. **

**	FOR BELOW LISTED MODELS, A FIELD SUPPLIED 1/2" ADAPTER IS REQUIRED BETWEEN BASE PAN FITTING AND GAS VALVE: 48GED,S*08,09



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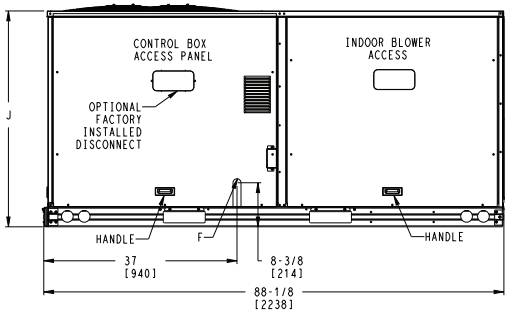

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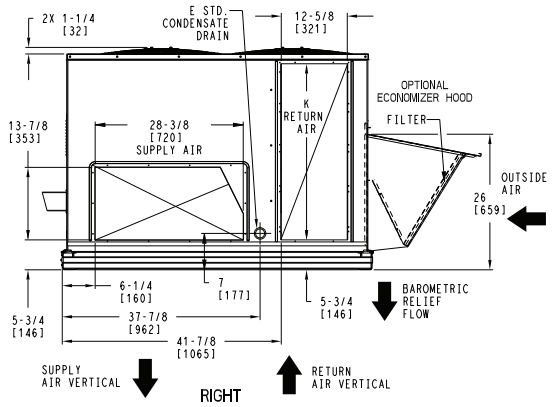


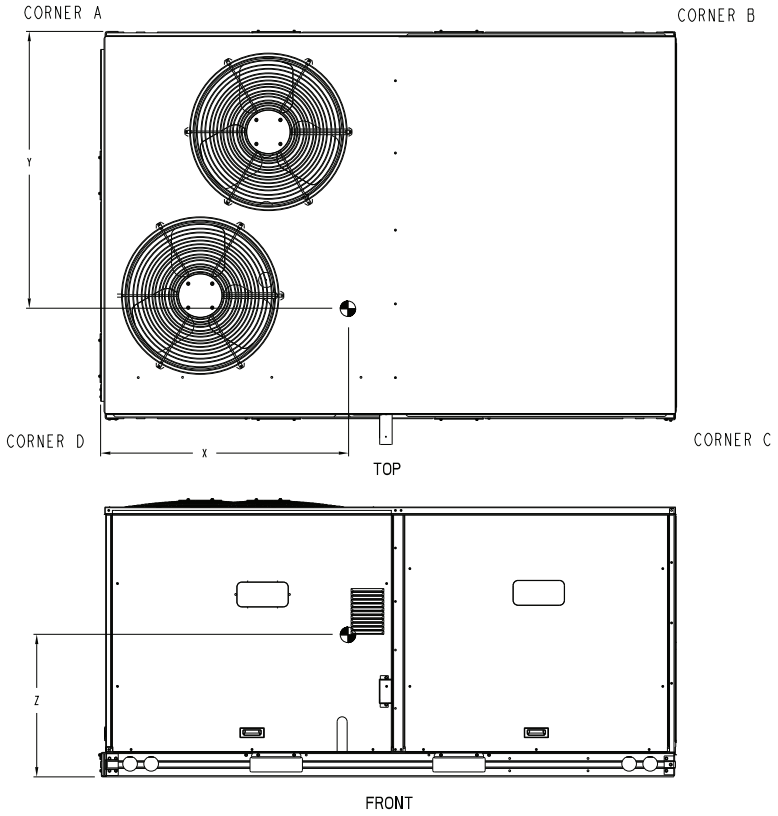
RIGHT

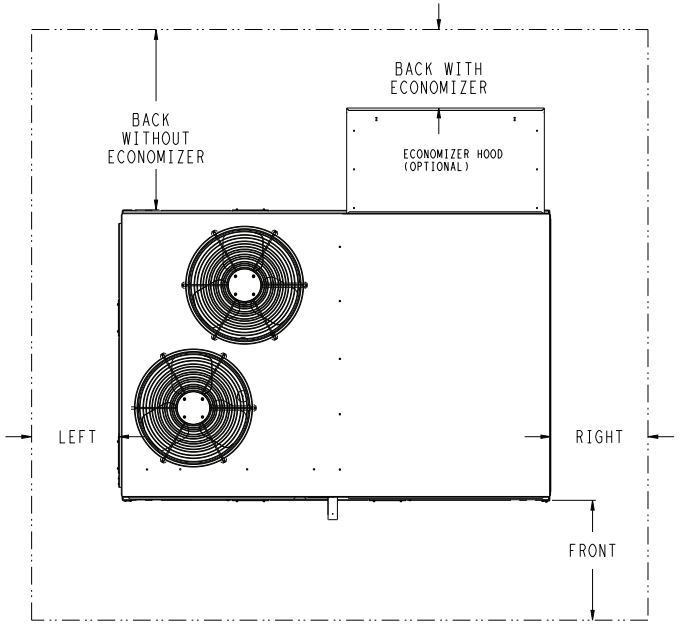
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:NSR	1 OF 3	5/20/24	-	48GE 07-09 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009899	REV -

48GE**07-09 Base Unit Dimensions (cont)

UNIT	OUTDOOR COIL TYPE	STD. UNIT WEIGHT ***		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48GE-M07	RTPF	775	352	187	85	159	72	198	90	232	105	40 1/2 [1029]	33 [838]	19 7/8 [505]
48GE-M08	RTPF	893	405	203	92	169	76	237	107	285	129	40 [1016]	34 3/4 [883]	18 5/8 [473]
48GE-M09	RTPF	893	405	203	92	169	76	237	107	285	129	40 [1016]	34 3/4 [883]	18 5/8 [473]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)														

*** STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.





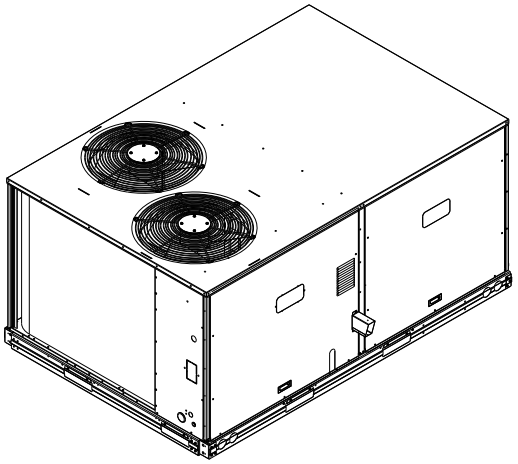
NOTE:

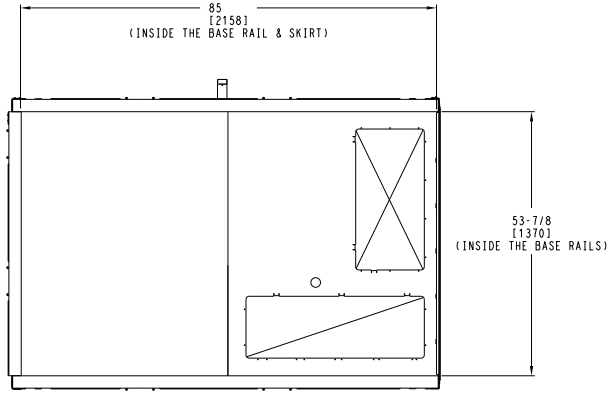
1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

	CLEARANCE		
	SERVICE WITH:	SERVICE WITH:	OPERATING
SURFACE	CONDUCTIVE BARRIER	NONCONDUCTIVE BARRIER	CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O ECON	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/ECON	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

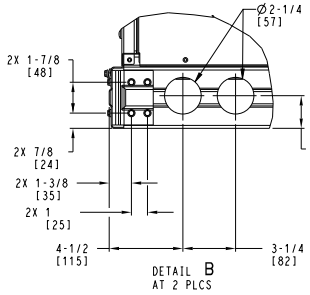
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:NSR	2 OF 3	5/20/24	-	48GE 07-09 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009899	REV -

48GE**07-09 Base Unit Dimensions (cont)

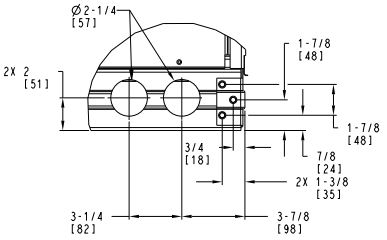




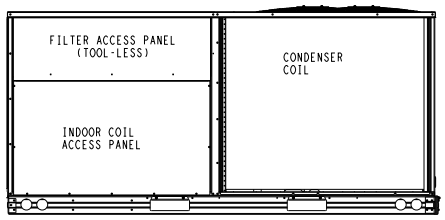
INSIDE BASERAIL DIMENSIONS
BOTTOM



DETAIL B
AT 2 PLCS



DETAIL C
AT 2 PLCS



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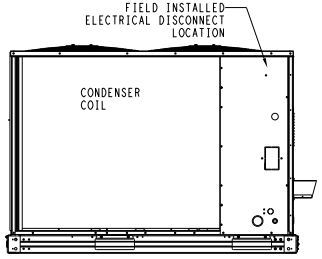

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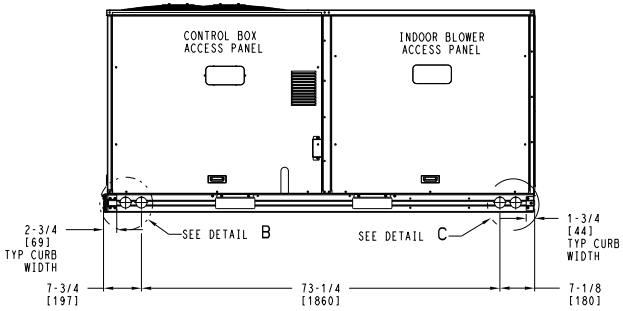


FRONT

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN: NSR	3 OF 3	5/20/24	-	48GE 07-09 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009899	-

48GE**12 Base Unit Dimensions

NOTES:

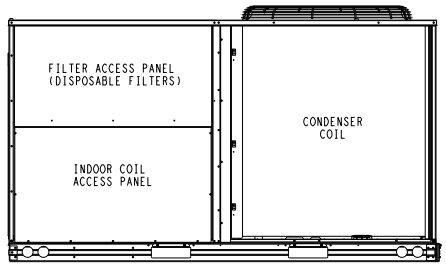
1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

UNIT	OUTDOOR COIL TYPE	H
48GE-M12	RTPF	15 7/8 [403]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)		

	CONNECTION SIZES
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	3/4"-14 NPT GAS CONNECTION
G	2" [51] DIA POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART
THESE HOLES REQUIRED FOR USE CRBTMPWR002A01,004A01

	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002,004)	POWER	1 3/4" [44.4]
Z*	(004) 3/4" FPT	GAS	1 5/8" [41.3]
	FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X, Y, & Z ARE PROVIDED		
*	(002) PROVIDES 3/4" FPT THRU CURB FLANGE & FITTING.		



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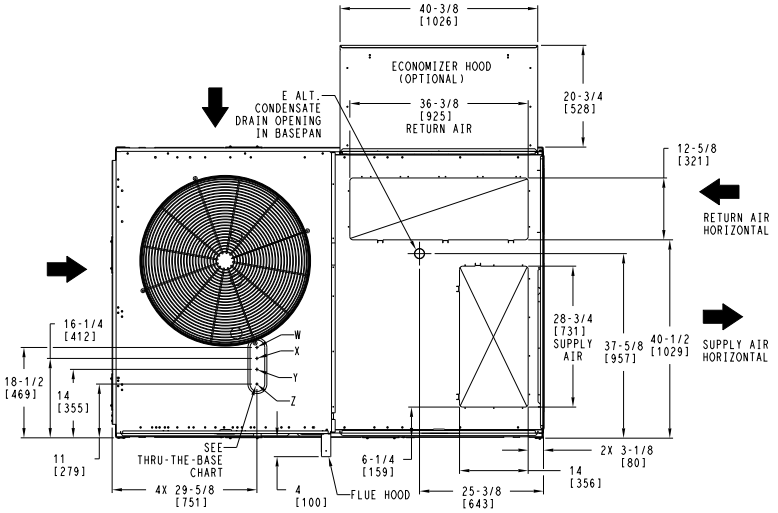

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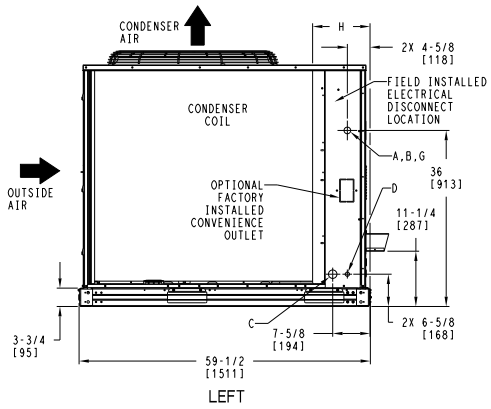

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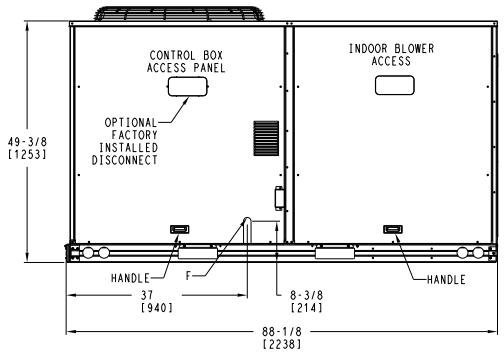

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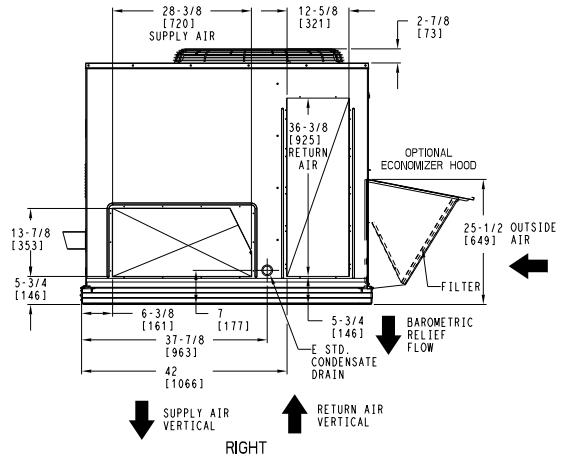


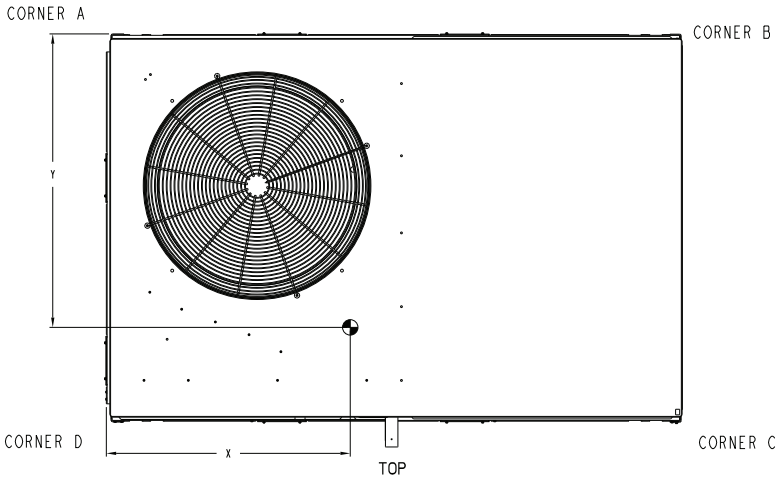
RIGHT

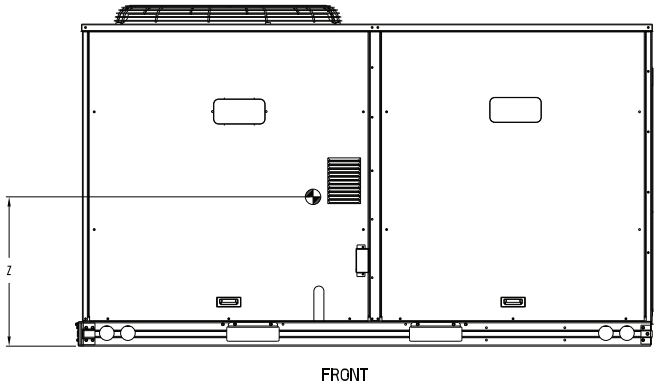
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:NSR	1 OF 3	5/21/24	-	48GE-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009900	REV -

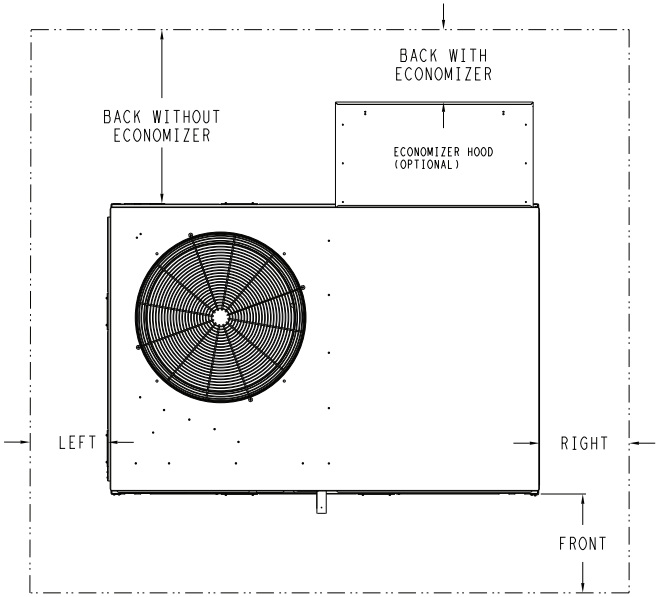
48GE**12 Base Unit Dimensions (cont)

UNIT	OUTDOOR COIL TYPE	STD. UNIT WEIGHT***		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48GE-M12	RTPF	1037	470	240	109	204	93	272	124	320	145	40 1/2 [1029]	34 [864]	20 1/2 [521]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)														

*** STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.







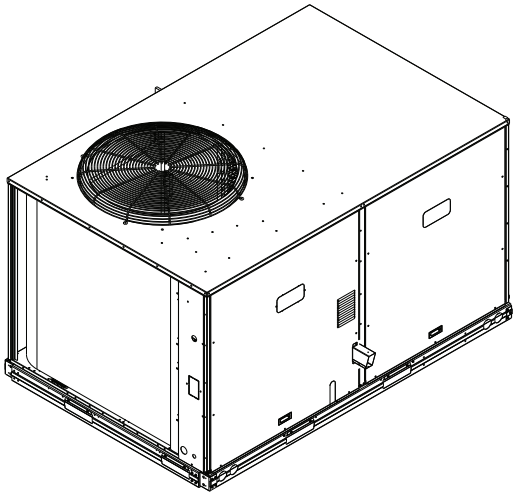
NOTE:

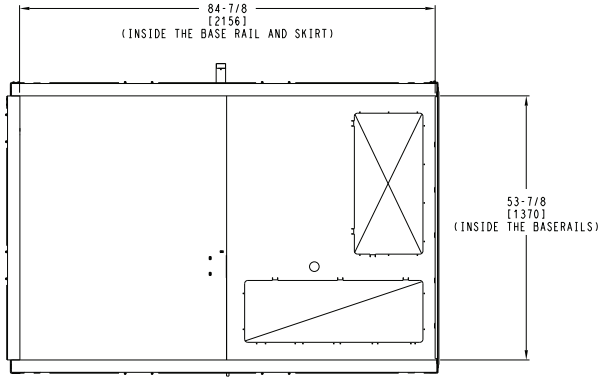
1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

	CLEARANCE		
	SERVICE WITH:	SERVICE WITH:	OPERATING
SURFACE	CONDUCTIVE BARRIER	NONCONDUCTIVE BARRIER	CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O ECON	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/ECON	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

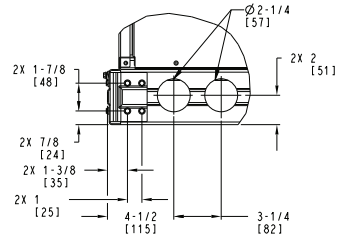
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		REV
U.S. ECCN:NSR	2 OF 3	5/21/24	-	48GE-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009900	-

48GE**12 Base Unit Dimensions (cont)

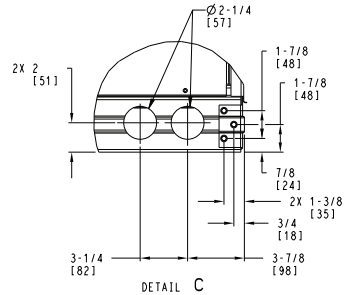




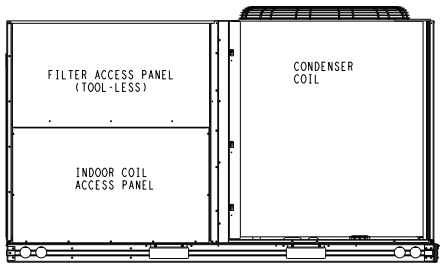
INSIDE BASERAIL DIMENSIONS
BOTTOM



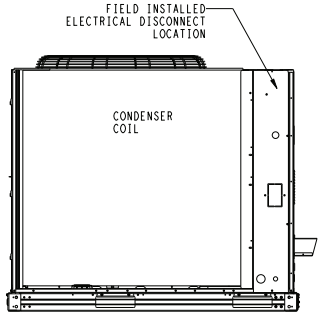
DETAIL B
AT 2 PLCS



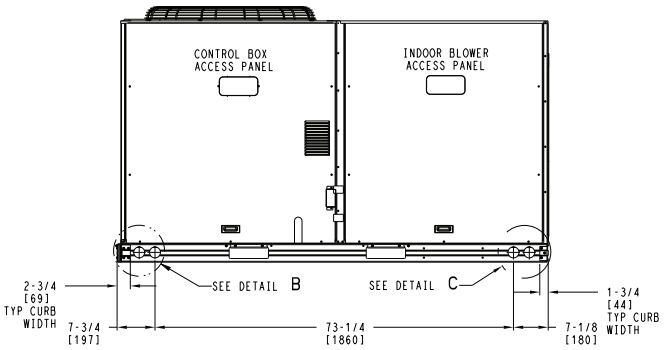
DETAIL C
AT 2 PLCS



BACK



LEFT



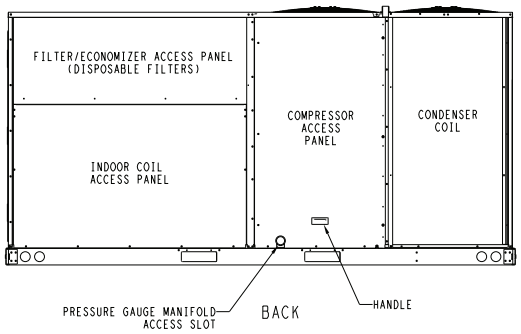
FRONT

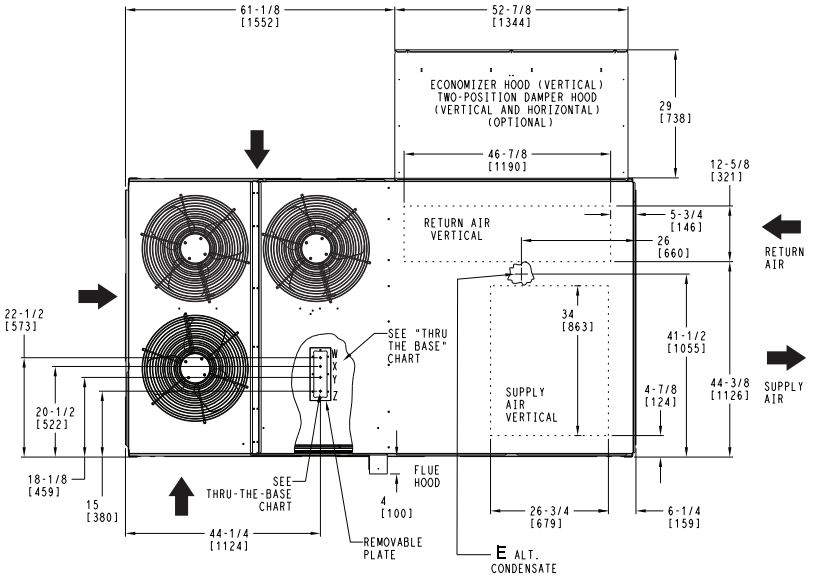
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	3 OF 3	5/21/24	-	48GE-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009900	-

48GE**14 Base Unit Dimensions

NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW

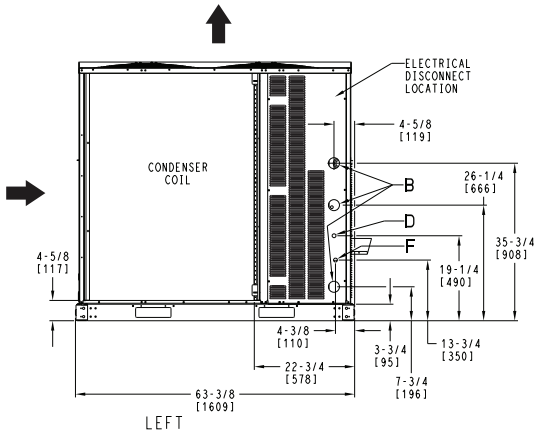


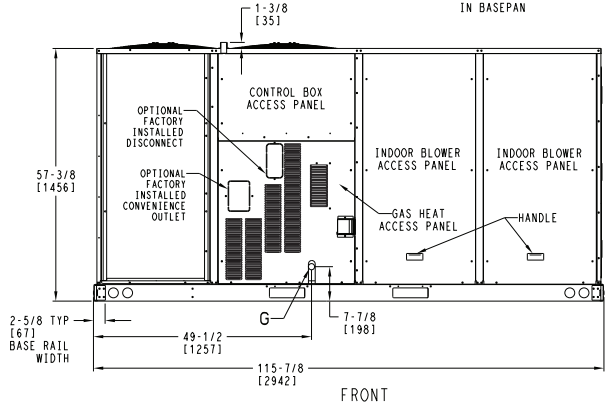


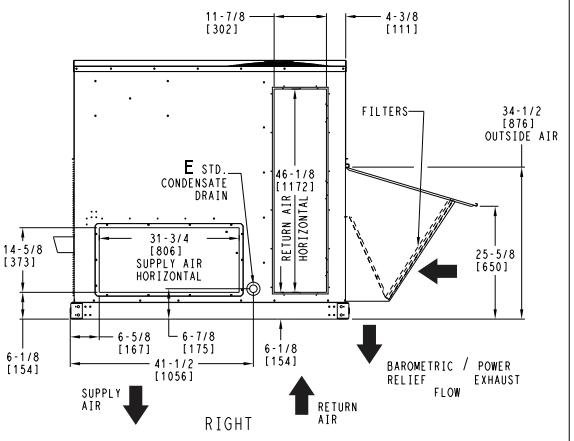
	CONNECTION SIZES
B	2 1/2" [64] DIA POWER SUPPLY HOLE
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	7/8" [22] DIA FIELD CONVENIENCE OUTLET HOLE
G	3/4"-14 NPT GAS CONNECTION

THRU-THE-BASE CHART
THESE HOLES REQUIRED FOR USE CRBTMPWR005A00,006A00,007A00

ACCESSORY NO.		THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
005	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/4"	POWER	1 1/2" [38.1]
	Z	3/4" PIPE	GAS	1 3/4" [44.5]
006	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/2"	POWER	2" [50.8]
	Z	3/4" PIPE	GAS	1 3/4" [44.5]
007	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	2"	POWER	2 1/2" [63.5]
	Z	3/4" PIPE	GAS	1 3/4" [44.5]
	FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR X & Y ARE PROVIDED AS SPECIFIED ON "006".			





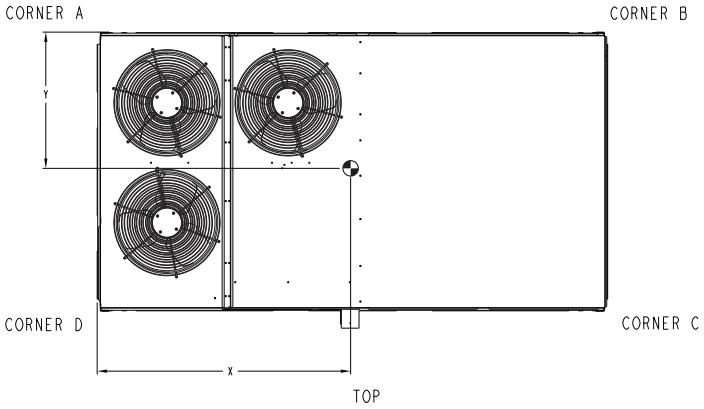


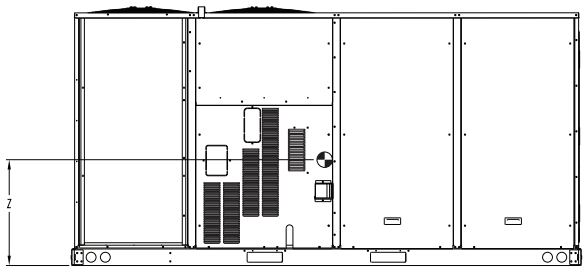
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:NSR	1 OF 2	5/21/24	-	48GE 14 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009901	REV -

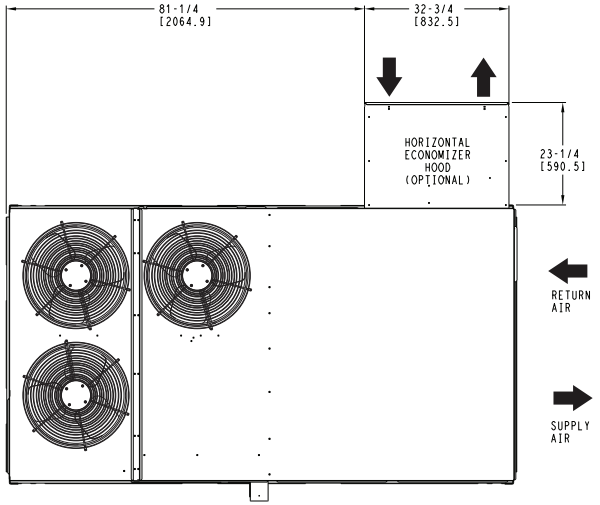
48GE**14 Base Unit Dimensions (cont)

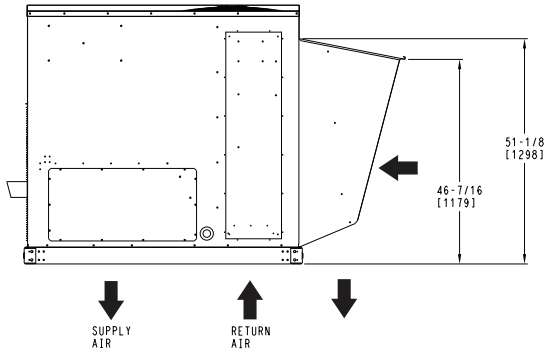
UNIT	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
48GE-M14	1390	631	330	150	336	153	365	166	358	163	58 1/2 [1486]	33 [838]	21 1/8 [537]

STANDARD UNIT WEIGHT IS WITH LOW HEAT & WITHOUT PACKAGING.
FOR OPTIONS & ACCESSORIES, REFER THE PRODUCT DATA CATALOG.







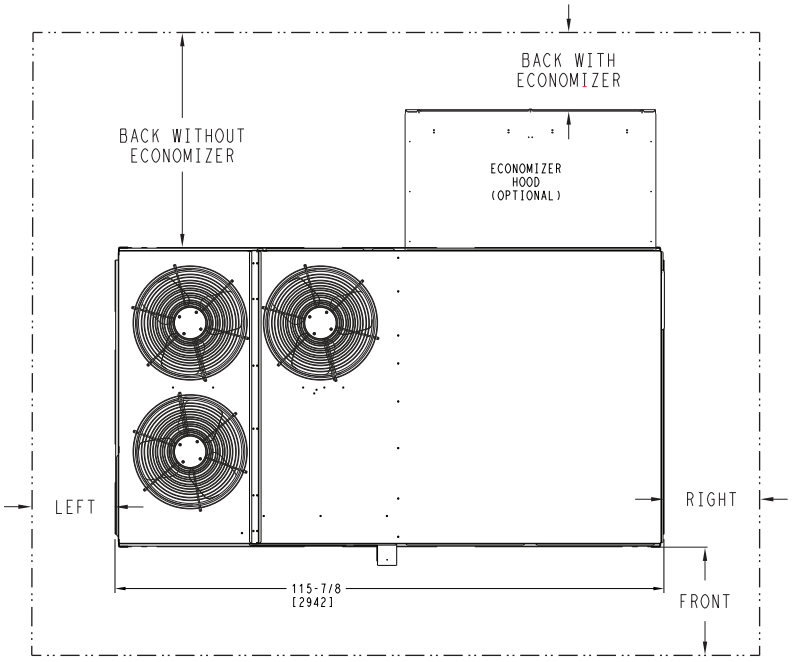


HORIZONTAL ECONOMIZER

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	2 OF 2	5/21/24	-	48GE 14 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48TM009901	-

Base unit dimensions (cont)

48GE**14 Base Unit Dimensions — Clearances



CLEARANCE[a, b]			
SURFACE	**Service with Conductive Barrier**	**Service with Non-conductive Barrier**	**Operating Clearance**
FRONT	48 in. (1219 mm)	36 in. (914 mm)	18 in. (457 mm)
LEFT	48 in. (1219 mm)	42 in. (1067 mm)	18 in. (457 mm)
BACK W/O ECONOMIZER	48 in. (1219 mm)	42 in. (1067 mm)	18 in. (457 mm)
BACK W/ ECONOMIZER	36 in. (914 mm)	36 in. (914 mm)	18 in. (457 mm)
RIGHT	36 in. (914 mm)	36 in. (914 mm)	18 in. (457 mm)
LEFT	72 in. (1829 mm)	72 in. (1829 mm)	72 in. (1829 mm)

NOTE(S):

a. For all minimum clearances local codes or jurisdictions may prevail.
b. See page 20 for 48GE 07-09 clearances, See page 23 for 48GE 12 clearances.

50GE-*07-09 Base Unit Dimensions

NOTES:

1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

UNIT	OUTDOOR COIL TYPE	J	K	H
50GE-M07	RTPF	41 1/4 [1048]	33 3/4 [857]	15 7/8 [403]
50GE-M08	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]
50GE-M09	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)				

CONNECTION SIZES	
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
G	2" [51] DIA POWER SUPPLY KNOCK-OUT

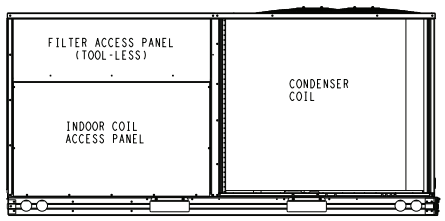
THRU-THE-BASE CHART (FIELD INST)

THESE HOLES REQUIRED FOR USE WITH ACCY KITS: CRBTMPWR002A01

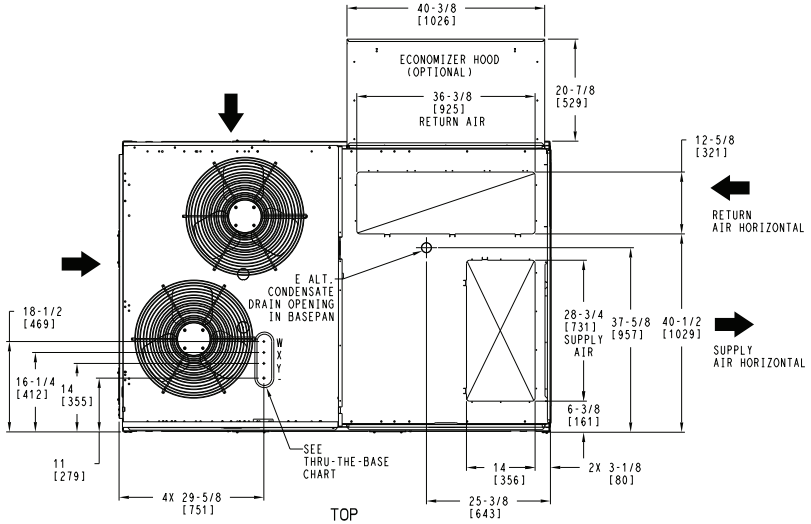
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002)	POWER	1 3/4" [44.4]

THRU-THE-BASE CHART (FIOP)

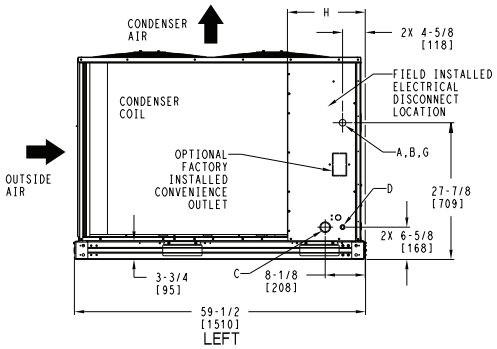
FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X & Y ARE PROVIDED: (1) 1/2" & (1) 1 1/4" ELECTRICAL FITTINGS.



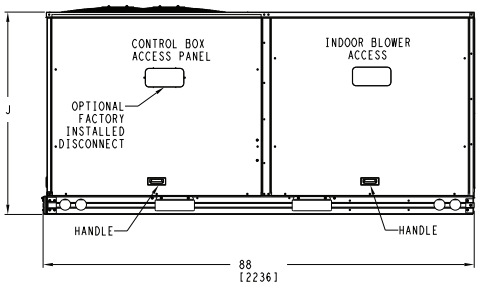
BACK



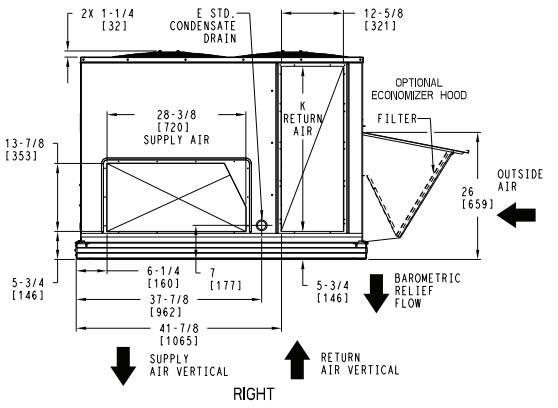
TOP



LEFT



FRONT



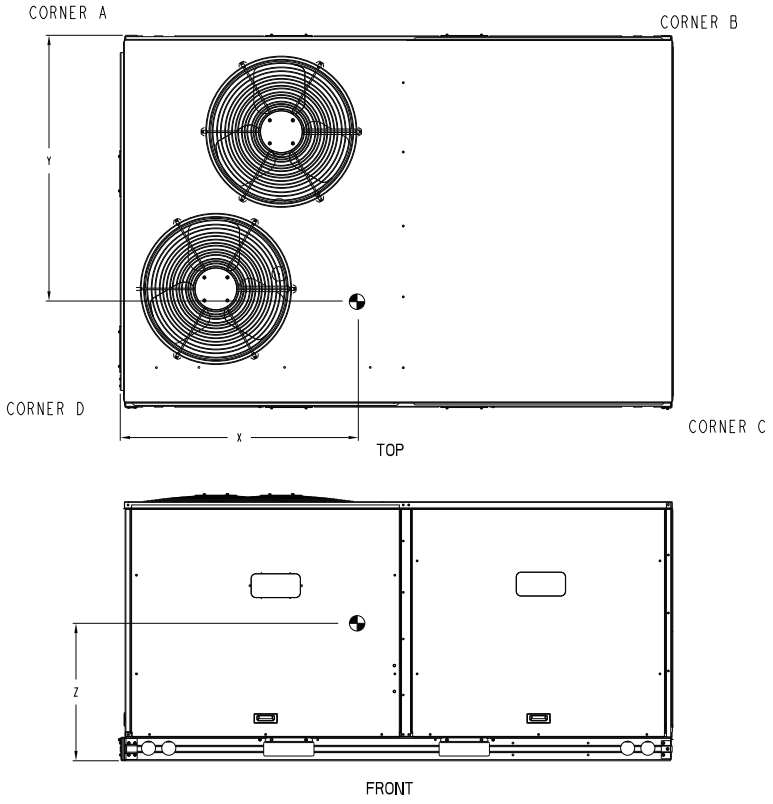
RIGHT

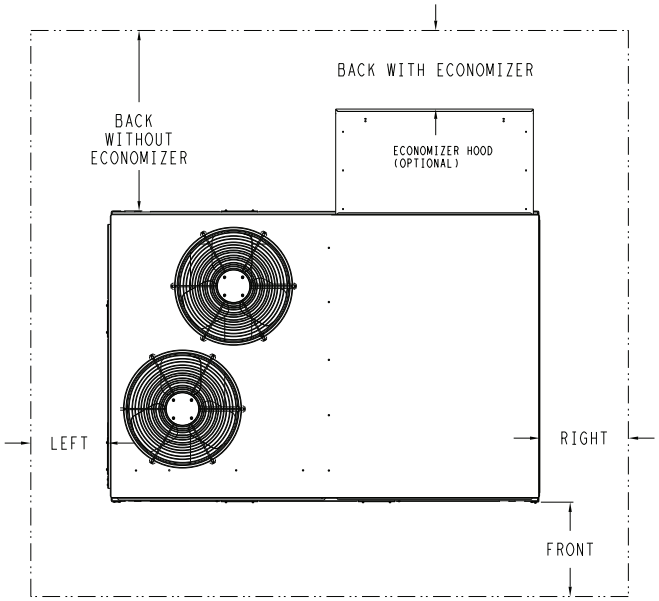
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	1 OF 3	5/24/24	-	50GE 07-09 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM009908	-

50GE-*07-09 Base Unit Dimensions (cont)

UNIT	OUTDOOR COIL TYPE	STD. UNIT WEIGHT ***		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50GE-M07	RTPF	714	324	174	79	144	65	180	82	216	98	40 [1016]	33 [838]	19 7/8 [505]
50GE-M08	RTPF	830	376	192	87	153	69	214	97	270	123	39 [991]	34 3/4 [883]	18 5/8 [473]
50GE-M09	RTPF	830	376	192	87	153	69	214	97	270	123	39 [991]	34 3/4 [883]	18 5/8 [473]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)														

*** STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.





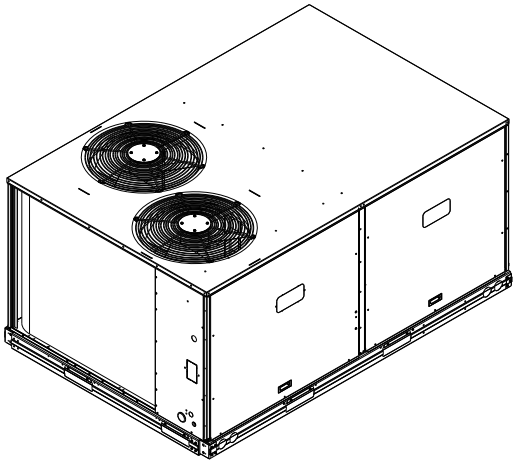
NOTE:

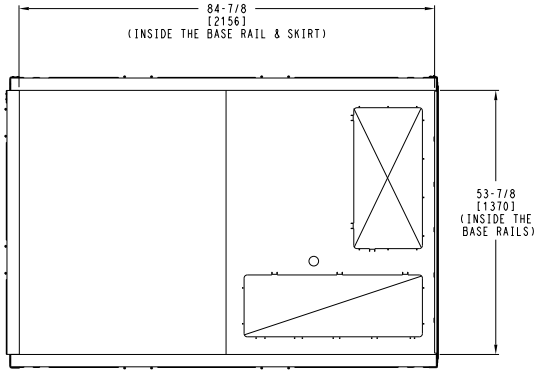
1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

CLEARANCE			
	SERVICE WITH:	SERVICE WITH:	OPERATING
SURFACE	CONDUCTIVE BARRIER	NONCONDUCTIVE BARRIER	CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O ECON	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/ECON	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:NSR	2 OF 3	5/24/24	-	50GE 07-09 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM009908	REV -

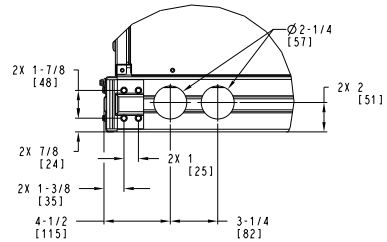
50GE-*07-09 Base Unit Dimensions (cont)



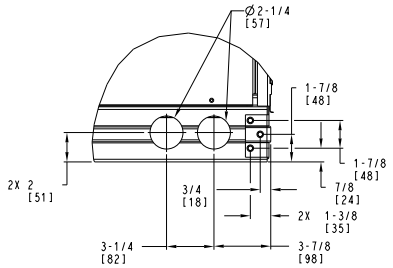


INSIDE BASERAIL DIMENSIONS

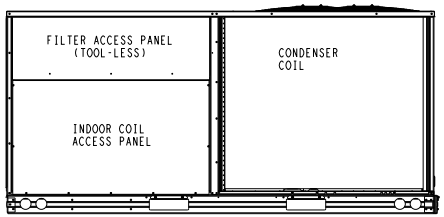
BOTTOM



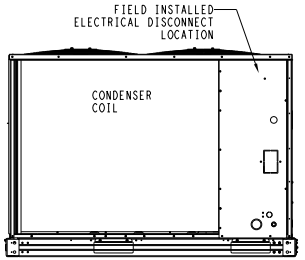
DETAIL B
AT 2 PLCS



DETAIL C
AT 2 PLCS



BACK



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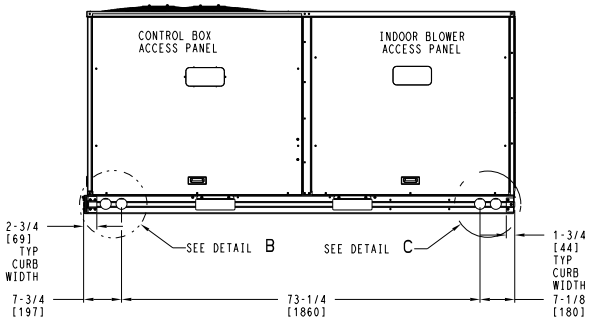


FRONT

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	3 OF 3	5/24/24	-	50GE 07-09 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM009908	-

50GE-*12 Base Unit Dimensions

NOTES:

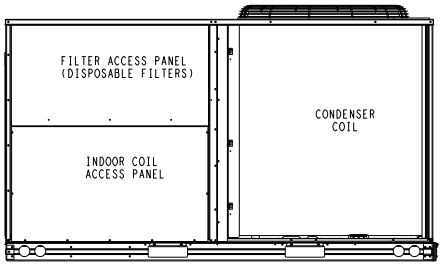
1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW
4. ALL VIEW DRAWN USING 3RD ANGLE

UNIT	OUTDOOR COIL TYPE	H
50GE-M12	RTPF	15 7/8 [403]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)		

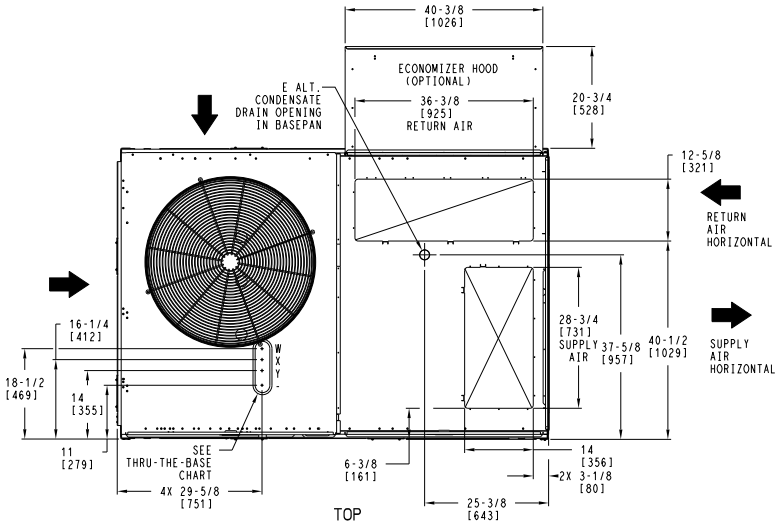
	CONNECTION SIZES
A	1 3/8" [35] DIA FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA GAUGE ACCESS PLUG
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
G	2" [51] DIA POWER SUPPLY KNOCK-OUT

THRU-THE-BASE CHART
THESE HOLES REQUIRED FOR USE CRBTMPWR002A01

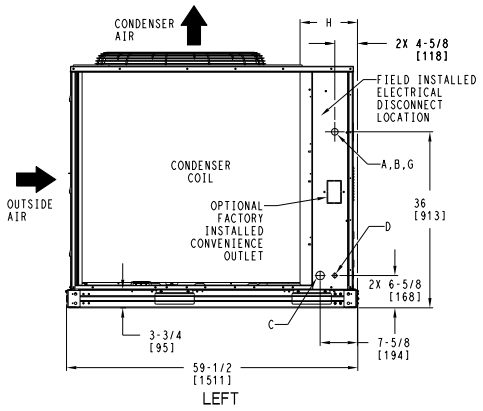
	THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
W	1/2"	ACC.	7/8" [22.2]
X	1/2"	24V	7/8" [22.2]
Y	1 1/4" (002)	POWER	1 3/4" [44.4]
	FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR ONLY X & Y ARE PROVIDED		



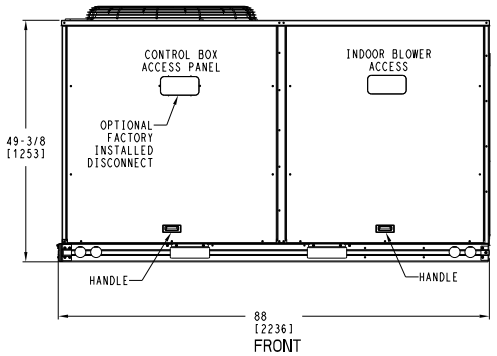
BACK



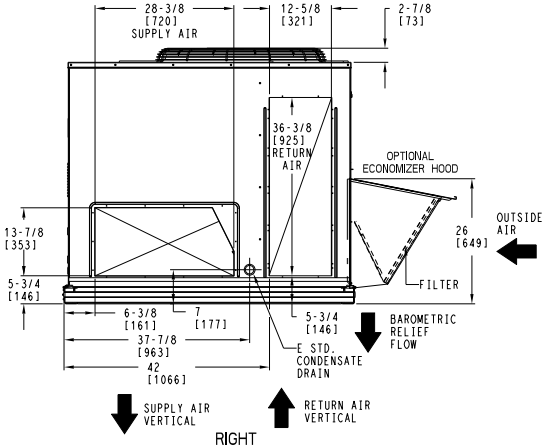
TOP



LEFT



FRONT



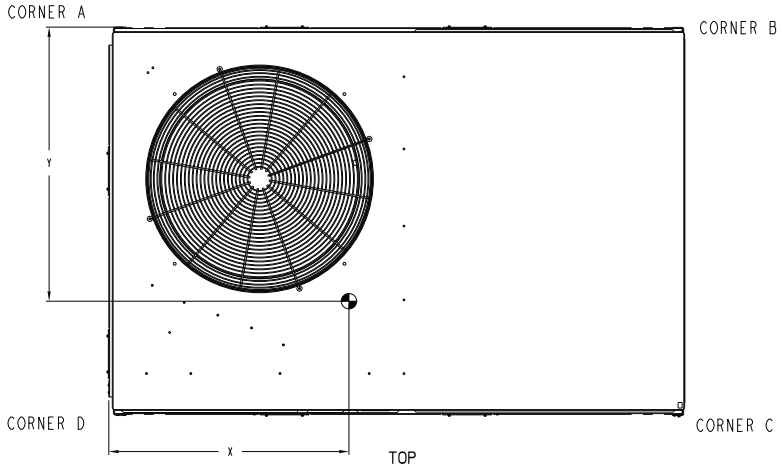
RIGHT

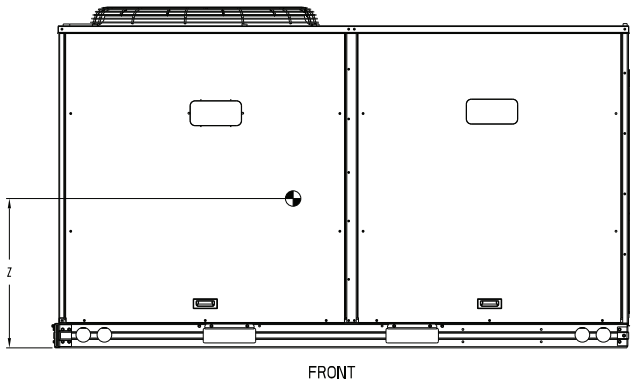
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:NSR	1 OF 3	5/24/24	-	50GE-12 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM009909	REV -

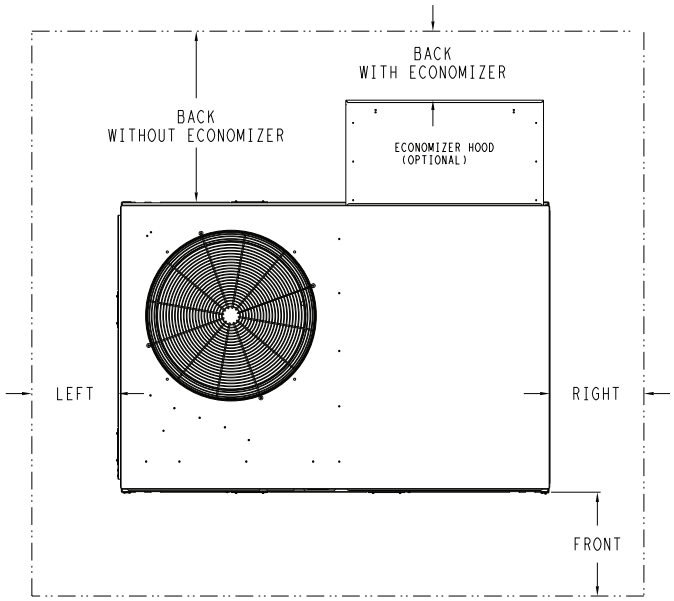
50GE-*12 Base Unit Dimensions (cont)

UNIT	OUTDOOR COIL TYPE	STD. UNIT WEIGHT***		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
		LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50GE-M12	RTPF	971	440	234	106	182	82	242	110	312	142	38 1/2 [978]	34 [864]	20 1/2 [521]
RTPF - ROUND TUBE, PLATE FIN (COPPER/ALUM)														

*** STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT AND WITHOUT PACKAGING.
FOR OTHER OPTIONS AND ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.







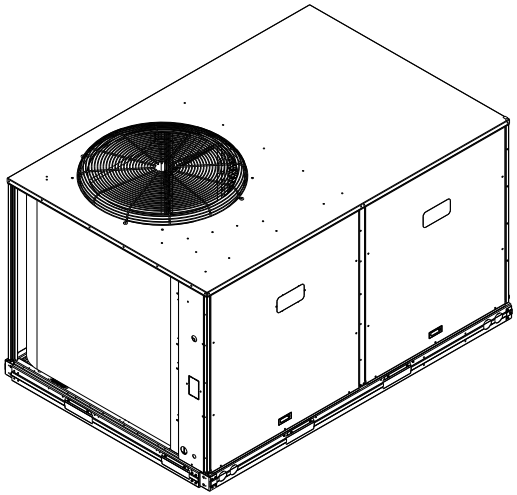
NOTE:

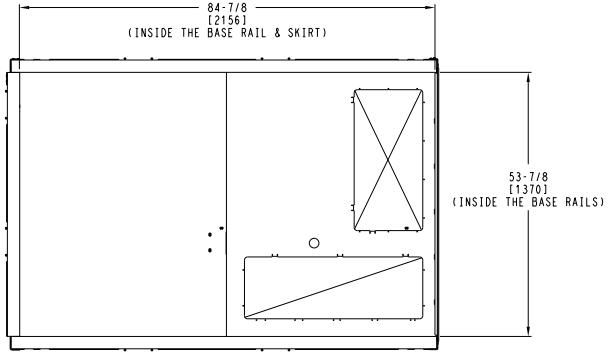
1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

	CLEARANCE		
	SERVICE WITH:	SERVICE WITH:	OPERATING
SURFACE	CONDUCTIVE BARRIER	NONCONDUCTIVE BARRIER	CLEARANCE
FRONT	48 [1219mm]	36 [914mm]	18 [457mm]
LEFT	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/O ECON	48 [1219mm]	42 [1067mm]	18 [457mm]
BACK W/ECON	36 [914mm]	36 [914mm]	18 [457mm]
RIGHT	36 [914mm]	36 [914mm]	18 [457mm]
TOP	72 [1829mm]	72 [1829mm]	72 [1829mm]

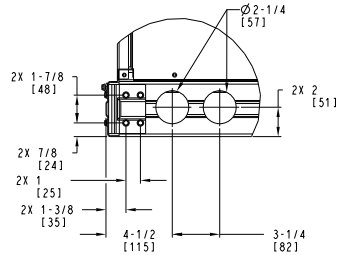
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	2 OF 3	5/24/24	-	50GE-12 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM009909	-

50GE-*12 Base Unit Dimensions (cont)

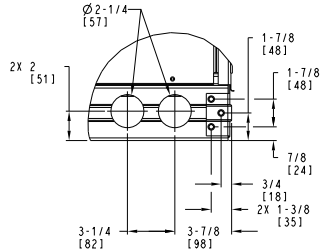




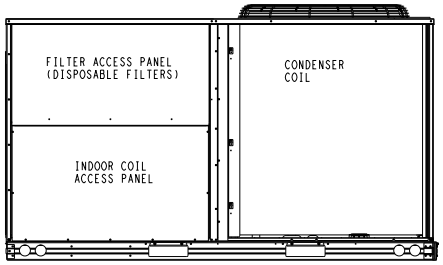
INSIDE BASERAIL DIMENSIONS
BOTTOM



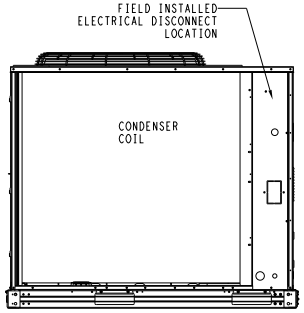
DETAIL B
TYP 2 PLCS



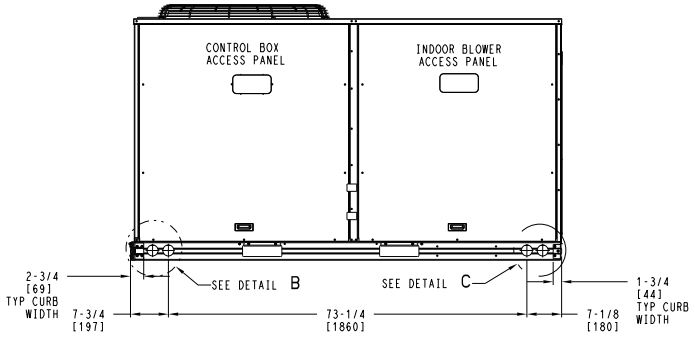
DETAIL C
TYP 2 PLCS



BACK



LEFT



FRONT

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	3 OF 3	5/24/24	-	50GE-12 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM009909	-

50GE-*14 Base Unit Dimensions

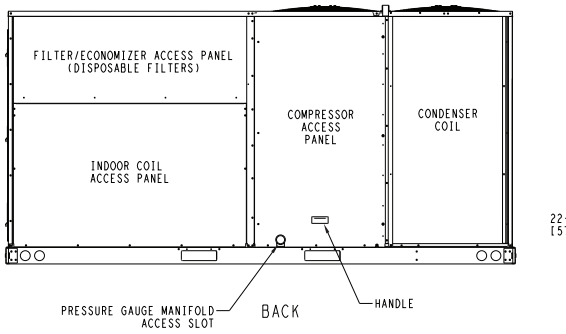
NOTES:

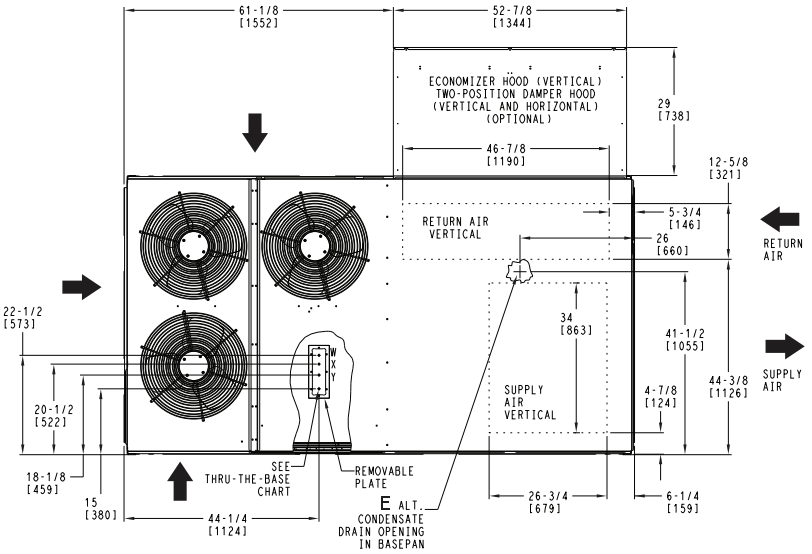
1. DIMENSIONS ARE IN INCHES, DIMENSIONS IN [ ] ARE IN MILLIMETERS.
2. CENTER OF GRAVITY
3. DIRECTION OF AIR FLOW

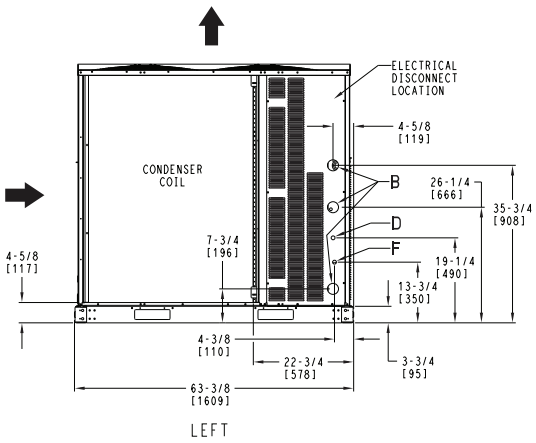
	CONNECTION SIZES
B	2 1/2" [64] DIA POWER SUPPLY HOLE
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	7/8" [22] DIA FIELD CONVENIENCE OUTLET HOLE

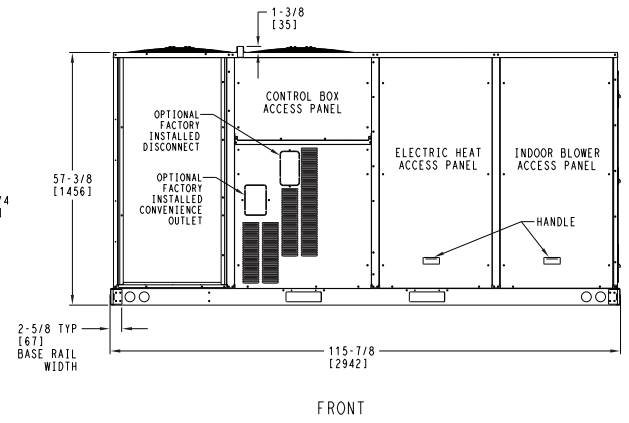
THRU-THE-BASE CHART
THESE HOLES REQUIRED FOR USE
CRBTMPWR005A00,006A00,007A00

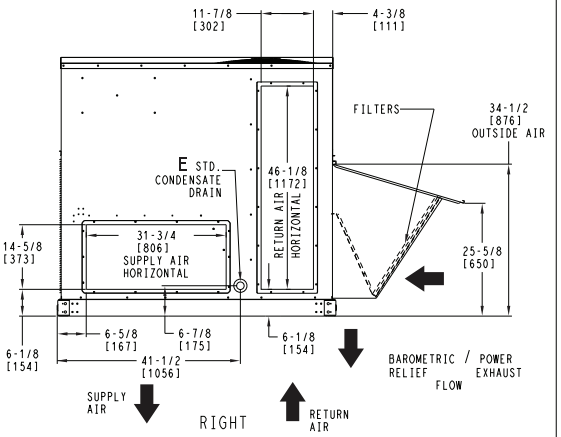
ACCESSORY NO.		THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
005	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/4"	POWER	1 1/2" [38.1]
006	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/2"	POWER	2" [50.8]
007	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	2"	POWER	2 1/2" [63.5]
	FOR "THRU-THE-BASEPAN" FACTORY OPTION, FITTINGS FOR X & Y ARE PROVIDED AS SPECIFIED ON "006".			









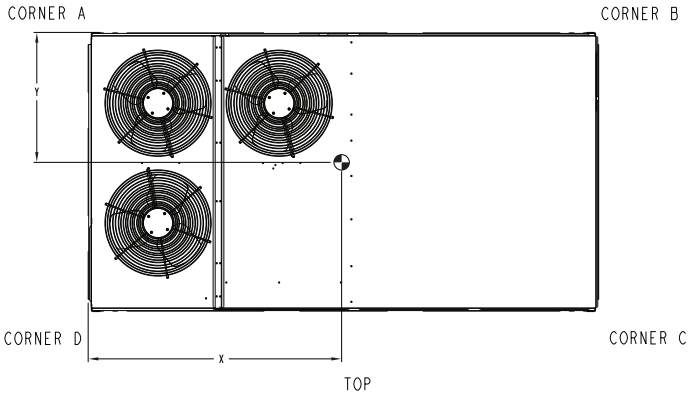


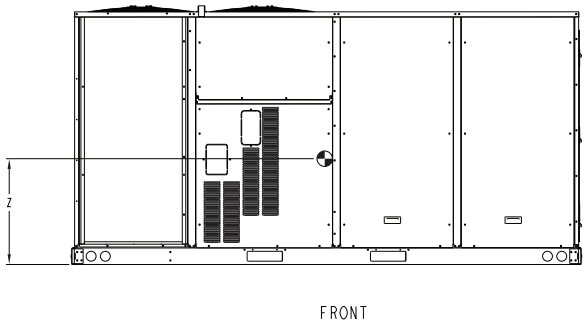
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES		
U.S. ECCN:NSR	1 OF 2	5/24/24	-	50GE 14 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM009910	REV -

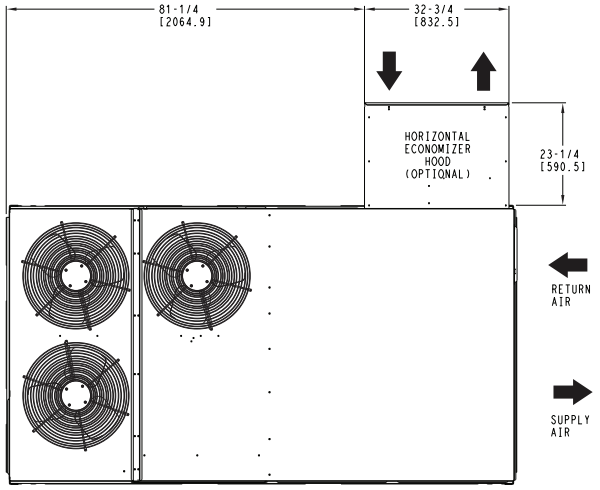
50GE-*14 Base Unit Dimensions (cont)

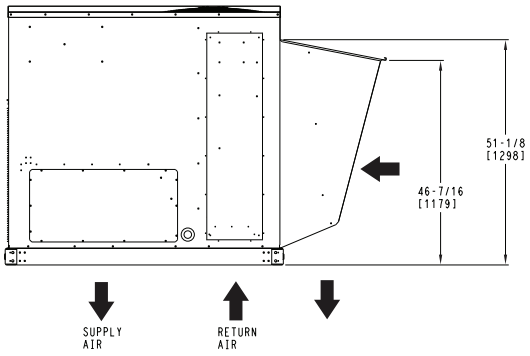
UNIT	STD UNIT WEIGHT		CORNER WEIGHT (A)		CORNER WEIGHT (B)		CORNER WEIGHT (C)		CORNER WEIGHT (D)		C.G.		
	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	LBS.	KG.	X	Y	Z
50GE-M14	1313	596	324	147	305	138	331	150	353	160	56 1/8 [1426]	33 [838]	21 1/8 [537]

STANDARD UNIT WEIGHT IS WITHOUT ELECTRIC HEAT & WITHOUT PACKAGING.
FOR OPTIONS & ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.







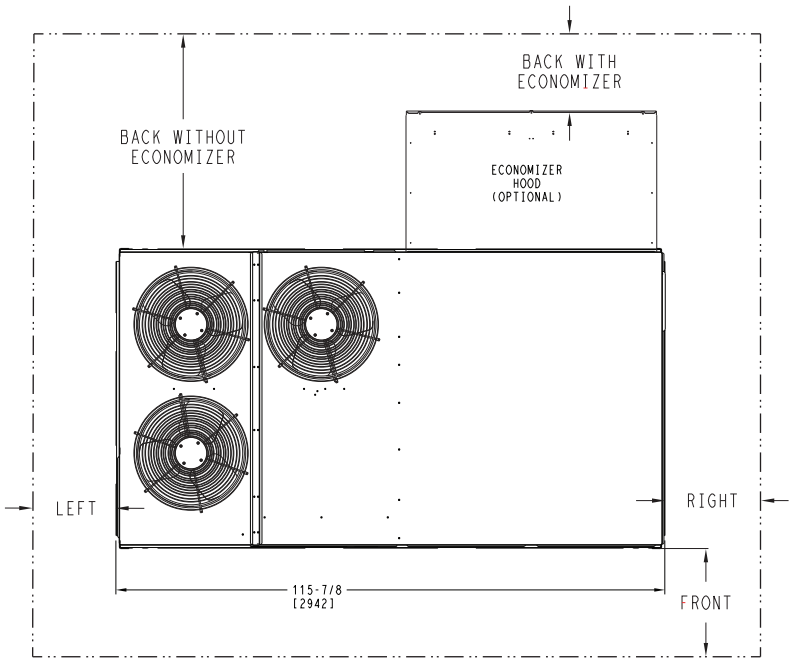


HORIZONTAL ECONOMIZER

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	2 OF 2	5/24/24	-	50GE 14 SINGLE ZONE ELECTRICAL COOLING WITH ELECTRIC HEAT	48TM009910	-

Base unit dimensions (cont)

50GE**14 Base Unit Dimensions — Clearances



CLEARANCE[a, b]			
SURFACE	**Service with Conductive Barrier**	**Service with Non-conductive Barrier**	**Operating Clearance**
FRONT	48 in. (1219 mm)	36 in. (914 mm)	18 in. (457 mm)
LEFT	48 in. (1219 mm)	42 in. (1067 mm)	18 in. (457 mm)
BACK W/O ECONOMIZER	48 in. (1219 mm)	42 in. (1067 mm)	18 in. (457 mm)
BACK W/ ECONOMIZER	36 in. (914 mm)	36 in. (914 mm)	18 in. (457 mm)
RIGHT	36 in. (914 mm)	36 in. (914 mm)	18 in. (457 mm)
LEFT	72 in. (1829 mm)	72 in. (1829 mm)	72 in. (1829 mm)

NOTE(S):

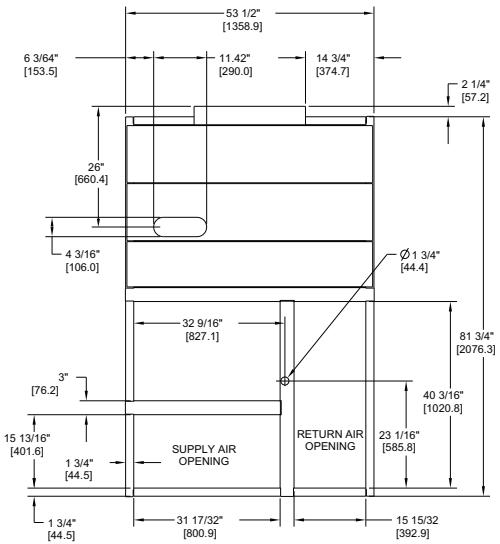
a. For all minimum clearances local codes or jurisdictions may prevail.
b. See page 29 for 48GE 07-09 clearances, See page 32 for 48GE 12 clearances.

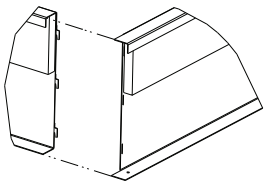
Roof Curb Dimensions — 48/50GE 07-12

ROOF CURB ACCESSORY #	A
CRRFCURB003A01	14" [356]
CRRFCURB004A01	24" [610]

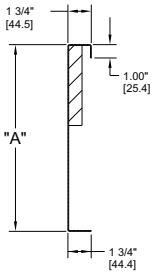
NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 25.4 [1"] THK. POLYURETHANE FOAM, 44.5 [1-3/4] # DENSITY.
3. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
4. ROOFCURB: 18 GAGE STEEL.
5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
6. SERVICE CLEARANCE 4 FEET ON EACH SIDE.
7. ▨ DIRECTION OF AIR FLOW.
8. CONNECTOR PACKAGE CRBTMPWR002A01 IS FOR THRU-THE-CURB GAS TYPE PACKAGE CRBTMPWR004A01 IS FOR THRU-THE-BOTTOM TYPE GAS CONNECTIONS.

CONNECTOR PKG. ACC.	GAS CONNECTION TYPE	GAS FITTING	POWER WIRING FITTING	CONTROL WIRING FITTING	ACCESSORY CONVENIENCE OUTLET WIRING CONNECTOR
CRBTMPWR002A01	THRU THE CURB	3/4" [19] NPT	1 1/4" [31.7] NPT	1/2" [12.7] NPT	1/2" [12.7] NPT
CRBTMPWR004A01	THRU THE BOTTOM				

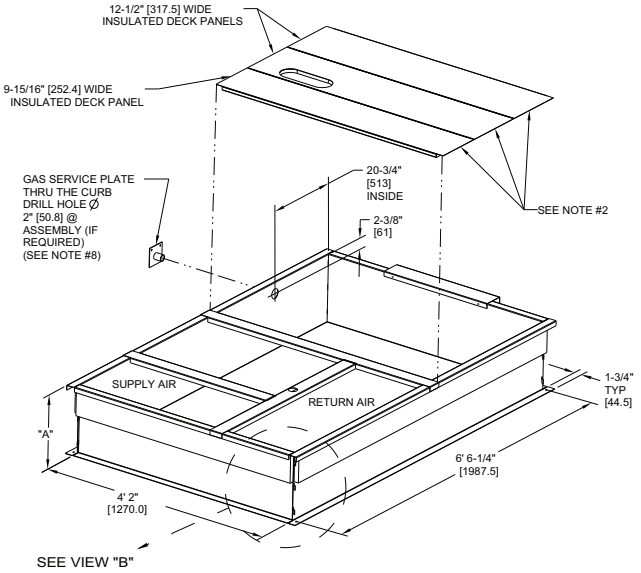




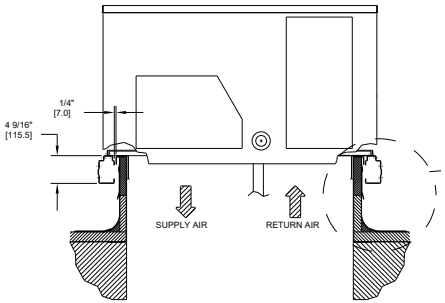
VIEW "B"
CORNER DETAIL

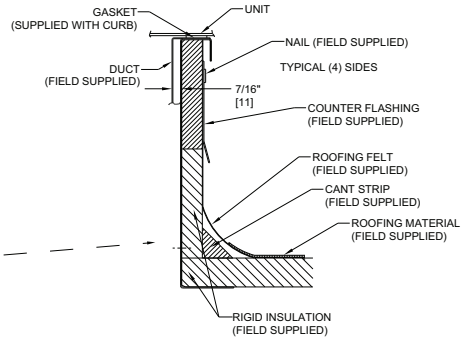


SECTION THRU SIDE



CERTIFIED DRAWING





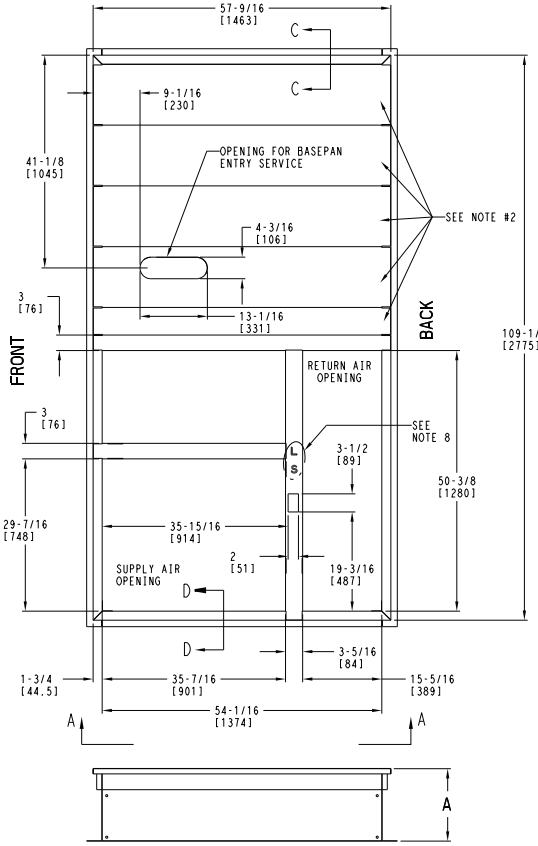
REV	REVISION RECORD	DATE	BY	CHK'D	APP'D	ECN NO.
C	6' 61/4" WAS 6' 7 1/6", 4'2' WAS 4' 2 13/16"; 18 GA WAS 16 GA.; 15 13/16" WAS 15 15/16"; NAIL FIELD SUPPLIED WAS WITH CURB	4/22/13	MMC	-	-	1067898

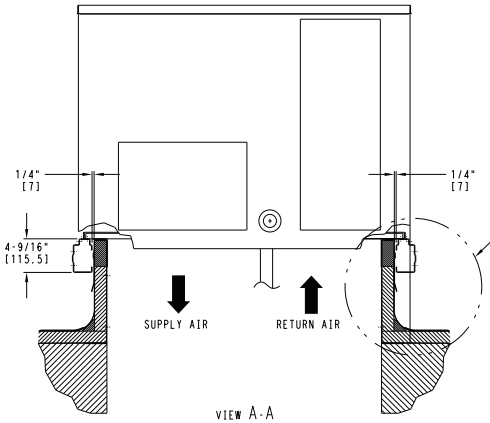
DRAWING RELEASE LEVEL:	PRODUCTION		
THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: 1 DEC ± - 2 DEC ± - 3 DEC ± - ANG ± -	THIS DOCUMENT AND THE INFORMATION CONTAINED THEREIN IS PROPRIETARY TO CARRIER CORPORATION AND SHALL NOT BE USED OR DISCLOSED TO OTHERS, IN WHOLE OR IN PART, WITHOUT THE WRITTEN AUTHORIZATION OF CARRIER CORPORATION.	
MATERIAL - - -	AUTHORIZATION NUMBER 1029120	TITLE	CURB ASY, ROOF
ENGINEERING REQUIREMENTS T-005, Y-002	ENGINEERING - - MANUFACTURING - -	SIZE D	DRAWING NUMBER 50HJ405012 SHEET 5 OF 5 REV C
WEIGHT: -	DRAFTER MMC 12/16/09 CHECKER - -		
SURFACE FINISH - MFG/PURCH PURCH	MODEL (INTERNAL USE ONLY)	NEXT DRAWING -	SCALE N/A DISTRIBUTION -

Roof Curb Dimensions — 48/50GE 14

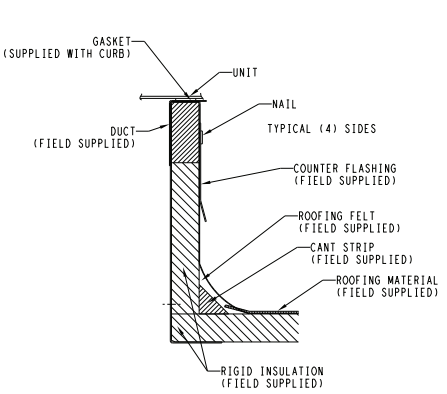
ROOF CURB ACCESSORY #	A
CRRFCURB074A00	14" [356]
CRRFCURB075A00	24" [610]

NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 1/2" THK. NEOPRENE FOAM, 1.0# DENSITY.
3. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
4. ROOFCURB SIDEWALLS: 16 GAGE STEEL.
5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
6. SERVICE CLEARANCE 4 FT ON EACH SIDE.
7. ➡ DIRECTION OF AIR FLOW.
8. "L" & "S" DESIGNATIONS DENOTE LOCATION OF COMMON CROSS RAIL. (POSITION "L" FOR LARGE DUCT OPENING CURB).

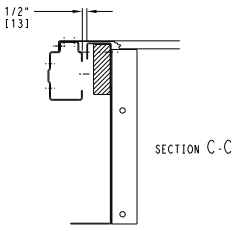


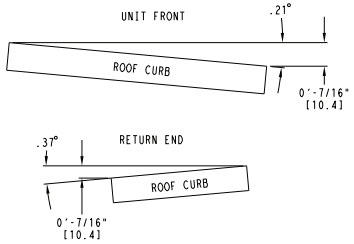


VIEW A-A

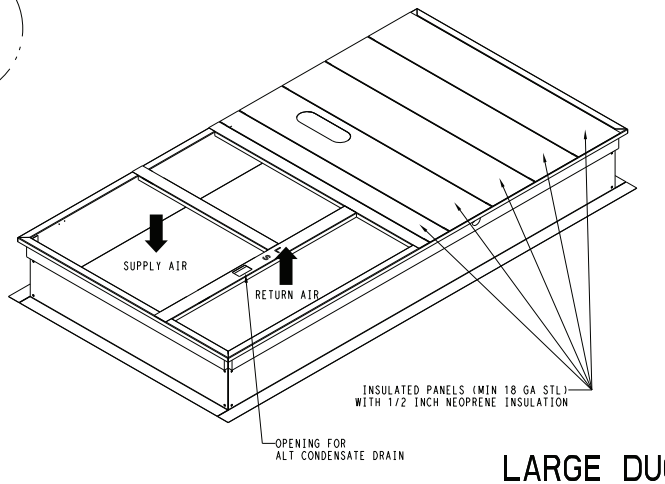


DETAIL E





MAX CURB LEVELING TOLERANCES



LARGE DUCT OPENINGS

50TM500780	REV B

48/50GE**07 Two Stage Cooling Capacities

48/50GE**07				AMBIENT TEMPERATURE (°F)															
				85			95			105			115			125		
				EA (db)			EA (db)			EA (db)			EA (db)			EA (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1800 cfm	EA (wb)	58	TC	66.3	66.3	74.7	64.1	64.1	72.2	61.6	61.6	69.4	58.9	58.9	66.4	55.9	55.9	63.0
			SHC	57.9	66.3	74.7	55.9	64.1	72.2	53.8	61.6	69.4	51.4	58.9	66.4	48.8	55.9	63.0
		62	TC	69.9	69.9	70.7	67.0	67.0	69.4	63.8	63.8	67.8	60.4	60.4	66.2	56.6	56.6	64.1
			SHC	52.2	61.5	70.7	50.9	60.1	69.4	49.4	58.6	67.8	47.8	57.0	66.2	45.9	55.0	64.1
		67	TC	76.7	76.7	76.7	73.6	73.6	73.6	70.2	70.2	70.2	66.4	66.4	66.4	62.3	62.3	62.3
			SHC	43.0	52.2	61.4	41.6	50.8	60.1	40.2	49.5	58.7	38.7	47.9	57.2	37.0	46.3	55.6
		72	TC	84.2	84.2	84.2	80.8	80.8	80.8	77.1	77.1	77.1	73.0	73.0	73.0	68.6	68.6	68.6
			SHC	33.6	42.6	51.5	32.3	41.3	50.4	30.9	39.9	49.0	29.3	38.5	47.6	27.7	36.9	46.0
		76	TC	—	90.9	90.9	—	87.2	87.2	—	83.2	83.2	—	78.9	78.9	—	74.1	74.1
			SHC	—	34.5	44.4	—	33.4	43.3	—	32.1	39.5	—	30.7	39.1	—	29.2	37.8
2100 cfm	EA (wb)	58	TC	69.9	69.9	78.8	67.5	67.5	76.1	64.9	64.9	73.1	62.0	62.0	69.9	58.8	58.8	66.2
			SHC	61.0	69.9	78.8	58.9	67.5	76.1	56.7	64.9	73.1	54.1	62.0	69.9	51.3	58.8	66.2
		62	TC	72.1	72.1	77.4	69.1	69.1	75.9	65.8	65.8	74.1	62.7	62.7	71.3	58.7	58.7	68.8
			SHC	56.2	66.8	77.4	54.7	65.3	75.9	53.1	63.6	74.1	51.0	61.2	71.3	48.7	58.7	68.8
		67	TC	79.0	79.0	79.0	75.6	75.6	75.6	72.1	72.1	72.1	68.1	68.1	68.1	63.8	63.8	63.8
			SHC	45.6	56.2	66.9	44.2	54.9	65.6	42.8	53.5	64.2	41.2	51.9	62.6	39.5	50.2	61.0
		72	TC	86.5	86.5	86.5	82.9	82.9	82.9	79.0	79.0	79.0	74.8	74.8	74.8	70.2	70.2	70.2
			SHC	34.6	45.1	55.6	33.3	43.8	54.4	31.8	42.4	53.0	30.3	40.9	51.5	28.6	39.3	49.9
		76	TC	—	93.2	93.2	—	89.3	89.3	—	85.1	85.1	—	80.6	80.6	—	75.6	75.6
			SHC	—	36.0	45.0	—	34.8	44.3	—	33.4	43.3	—	31.9	42.0	—	30.3	40.6
2400 cfm	EA (wb)	58	TC	73.0	73.0	82.2	70.4	70.4	79.4	67.6	67.6	76.2	64.5	64.5	72.7	61.1	61.1	68.9
			SHC	63.7	73.0	82.2	61.5	70.4	79.4	59.0	67.6	76.2	56.3	64.5	72.7	53.4	61.1	68.9
		62	TC	73.9	73.9	83.2	70.9	70.9	81.1	68.5	68.5	76.8	64.6	64.6	75.6	61.2	61.2	71.6
			SHC	59.6	71.4	83.2	57.9	69.5	81.1	55.1	65.9	76.8	53.6	64.6	75.6	50.8	61.2	71.6
		67	TC	80.7	80.7	80.7	77.2	77.2	77.2	73.5	73.5	73.5	69.4	69.4	69.4	65.0	65.0	66.0
			SHC	48.0	60.1	72.2	46.6	58.7	70.8	45.2	57.3	69.4	43.6	55.7	67.8	41.8	53.9	66.0
		72	TC	88.3	88.3	88.3	84.6	84.6	84.6	80.5	80.5	80.5	76.1	76.1	76.1	71.3	71.3	71.3
			SHC	35.5	47.5	59.4	34.1	46.1	58.2	32.7	44.7	56.8	31.1	43.2	55.2	29.4	41.5	53.6
		76	TC	—	95.0	95.0	—	91.0	91.0	—	86.6	86.6	—	81.9	81.9	—	76.8	76.8
			SHC	—	37.2	48.3	—	35.9	47.2	—	34.5	46.0	—	32.9	44.6	—	31.3	43.0
2700 cfm	EA (wb)	58	TC	75.6	75.6	85.2	72.9	72.9	82.1	69.9	69.9	78.8	66.7	66.7	75.1	63.1	63.1	71.1
			SHC	66.0	75.6	85.2	63.6	72.9	82.1	61.0	69.9	78.8	58.2	66.7	75.1	55.1	63.1	71.1
		62	TC	76.6	76.6	86.8	73.3	73.3	84.3	70.0	70.0	81.9	66.7	66.7	78.0	63.2	63.2	73.9
			SHC	62.5	74.6	86.8	60.7	72.5	84.3	58.1	70.0	81.9	55.4	66.7	78.0	52.5	63.2	73.9
		67	TC	82.0	82.0	82.0	78.5	78.5	78.5	74.6	74.6	74.6	70.4	70.4	72.8	65.9	65.9	70.8
			SHC	50.3	63.8	77.3	48.9	62.4	75.9	47.4	60.9	74.3	45.8	59.3	72.8	44.0	57.4	70.8
		72	TC	89.7	89.7	89.7	85.9	85.9	85.9	81.7	81.7	81.7	77.2	77.2	77.2	72.3	72.3	72.3
			SHC	36.3	49.7	63.0	34.9	48.3	61.7	33.5	46.9	60.3	31.9	45.3	58.8	30.2	43.7	57.1
		76	TC	—	96.4	96.4	—	92.2	92.2	—	87.7	87.7	—	82.8	82.8	—	77.6	77.6
			SHC	—	38.1	50.9	—	36.8	49.7	—	35.4	48.3	—	33.8	46.9	—	32.1	45.3
3000 cfm	EA (wb)	58	TC	77.8	77.8	87.7	75.0	75.0	84.5	71.9	71.9	81.0	68.5	68.5	77.2	64.8	64.8	73.0
			SHC	67.9	77.8	87.7	65.4	75.0	84.5	62.8	71.9	81.0	59.8	68.5	77.2	56.6	64.8	73.0
		62	TC	79.0	79.0	90.9	75.0	75.0	87.8	72.0	72.0	84.2	68.6	68.6	80.2	64.9	64.9	75.9
			SHC	64.8	77.9	90.9	62.3	75.0	87.8	59.8	72.0	84.2	57.0	68.6	80.2	53.9	64.9	75.9
		67	TC	83.2	83.2	83.2	79.4	79.4	80.5	75.6	75.6	79.1	71.3	71.3	77.4	66.7	66.7	75.4
			SHC	52.5	67.3	82.2	51.0	65.8	80.5	49.6	64.4	79.1	47.9	62.6	77.4	46.2	60.8	75.4
		72	TC	90.9	90.9	90.9	86.9	86.9	86.9	82.6	82.6	82.6	78.0	78.0	78.0	73.0	73.0	73.0
			SHC	37.0	51.7	66.5	35.6	50.4	65.2	34.1	48.9	63.7	32.6	47.4	62.2	30.9	45.7	60.5
		76	TC	—	97.5	97.5	—	93.2	93.2	—	88.6	88.6	—	83.6	83.6	—	78.2	78.2
			SHC	—	38.9	53.1	—	37.6	51.9	—	36.1	50.5	—	34.6	49.0	—	32.9	47.3

LEGEND

— — Do Not Operate
cfm — Cubic Feet Per Minute (Supply Air)
EA (db) — Entering Air Temperature (dry bulb)
EA (wb) — Entering Air Temperature (wet bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 8.

Performance data (cont)

48/50GE**07 Single Stage Cooling Capacities

48/50GE**07				AMBIENT TEMPERATURE (°F)															
				85			95			105			115			125		
				EA (db)			EA (db)			EA (db)			EA (db)			EA (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1125 cfm	EA (wb)	58	TC	41.8	41.8	47.1	40.4	40.4	45.6	38.9	38.9	43.8	37.2	37.2	41.9	35.3	35.3	39.8
			SHC	36.5	41.8	47.1	35.3	40.4	45.6	33.9	38.9	43.8	32.4	37.2	41.9	30.8	35.3	39.8
		62	TC	43.7	43.7	45.2	41.9	41.9	44.3	39.9	39.9	43.3	37.8	37.8	42.3	35.9	35.9	39.4
			SHC	33.2	39.2	45.2	32.3	38.3	44.3	31.4	37.4	43.3	30.4	36.3	42.3	28.5	33.9	39.4
		67	TC	48.2	48.2	48.2	46.2	46.2	46.2	44.0	44.0	44.0	41.7	41.7	41.7	39.1	39.1	39.1
			SHC	27.4	33.4	39.4	26.5	32.5	38.6	25.6	31.6	37.7	24.6	30.6	36.7	23.6	29.6	35.6
		72	TC	53.1	53.1	53.1	50.9	50.9	50.9	48.6	48.6	48.6	46.0	46.0	46.0	43.3	43.3	43.3
			SHC	21.4	27.5	33.5	20.5	26.6	32.7	19.7	25.7	31.8	18.7	24.8	30.8	17.7	23.7	29.8
		76	TC	—	57.3	57.3	—	55.0	55.0	—	52.5	52.5	—	49.8	49.8	—	46.8	46.8
			SHC	—	22.6	28.8	—	21.8	28.0	—	20.9	27.1	—	19.9	26.1	—	18.9	25.1
1325 cfm	EA (wb)	58	TC	44.3	44.3	50.0	42.8	42.8	48.2	41.1	41.1	46.3	39.3	39.3	44.3	37.3	37.3	42.0
			SHC	38.7	44.3	50.0	37.4	42.8	48.2	35.9	41.1	46.3	34.3	39.3	44.3	32.5	37.3	42.0
		62	TC	45.2	45.2	50.0	43.3	43.3	49.0	41.9	41.9	45.6	39.6	39.6	45.1	37.3	37.3	43.6
			SHC	36.0	43.0	50.0	35.1	42.1	49.0	33.0	39.3	45.6	32.2	38.7	45.1	31.0	37.3	43.6
		67	TC	49.7	49.7	49.7	47.6	47.6	47.6	45.3	45.3	45.3	42.8	42.8	42.8	40.1	40.1	40.1
			SHC	29.2	36.3	43.3	28.3	35.4	42.4	27.4	34.4	41.5	26.4	33.4	40.5	25.3	32.4	39.4
		72	TC	54.7	54.7	54.7	52.4	52.4	52.4	49.9	49.9	49.9	47.3	47.3	47.3	44.4	44.4	44.4
			SHC	22.2	29.3	36.4	21.3	28.4	35.5	20.4	27.5	34.6	19.4	26.5	33.6	18.4	25.5	32.6
		76	TC	—	59.0	59.0	—	56.5	56.5	—	53.9	53.9	—	51.0	51.0	—	48.0	48.0
			SHC	—	23.6	30.8	—	22.7	29.9	—	21.8	29.0	—	20.9	28.0	—	19.8	27.0
1500 cfm	EA (wb)	58	TC	46.2	46.2	52.1	44.6	44.6	50.2	42.8	42.8	48.2	40.8	40.8	46.0	38.7	38.7	43.6
			SHC	40.3	46.2	52.1	38.9	44.6	50.2	37.3	42.8	48.2	35.6	40.8	46.0	33.8	38.7	43.6
		62	TC	46.9	46.9	51.9	45.3	45.3	49.4	42.8	42.8	50.1	40.9	40.9	47.8	38.7	38.7	45.3
			SHC	37.4	44.6	51.9	35.7	42.6	49.4	35.6	42.8	50.1	33.9	40.9	47.8	32.2	38.7	45.3
		67	TC	50.7	50.7	50.7	48.5	48.5	48.5	46.1	46.1	46.1	43.6	43.6	43.7	40.8	40.8	42.6
			SHC	30.7	38.7	46.6	29.8	37.8	45.7	28.9	36.8	44.7	27.9	35.8	43.7	26.8	34.7	42.6
		72	TC	55.8	55.8	55.8	53.4	53.4	53.4	50.8	50.8	50.8	48.1	48.1	48.1	45.1	45.1	45.1
			SHC	22.8	30.8	38.8	21.9	29.9	37.9	21.0	29.0	37.0.	20.0	28.0	36.0	19.0	26.9	34.9
		76	TC	—	60.1	60.1	—	57.6	57.6	—	54.8	54.8	—	51.9	51.9	—	48.8	48.8
			SHC	—	24.4	32.4	—	23.5	31.6	—	22.6	30.6	—	21.6	29.7	—	20.6	28.6
1700 cfm	EA (wb)	58	TC	48.0	48.0	54.1	46.3	46.3	52.1	44.4	44.4	50.0	42.4	42.4	47.7	40.1	40.1	45.2
			SHC	41.9	48.0	54.1	40.4	46.3	52.1	38.7	44.4	50.0	37.0	42.4	47.7	35.0	40.1	45.2
		62	TC	48.0	48.0	56.2	46.3	46.3	54.2	44.4	44.4	52.0	42.4.	42.4	49.6	40.1	40.1	46.9
			SHC	39.9	48.0	56.2	38.5	46.3	54.2	36.9	44.4	52.0	35.2	42.4	49.6	33.3	40.1	46.9
		67	TC	51.6	51.6	51.6	49.4	49.4	49.4	46.9	46.9	48.4	44.3	44.3	47.3	41.5	41.5	46.1
			SHC	32.4	41.3	50.3	31.5	40.4	49.4	30.5	39.5	48.4	29.5	38.4	47.3	28.4	37.3	46.1
		72	TC	56.8	56.8	56.8	54.3	54.3	54.3	51.7	51.7	51.7	48.8	48.8	48.8	45.7	45.7	45.7
			SHC	23.5	32.4	41.4	22.6	31.5	40.5	21.6	30.6	39.6	20.6	29.6	38.6	19.6	28.5	37.5
		76	TC	—	61.1	61.1	—	58.5	58.5	—	55.7	55.7	—	52.7	52.7	—	49.4	49.4
			SHC	—	25.2	34.2	—	24.3	33.4	—	23.4	32.4	—	22.4	31.4	—	21.3	30.4
1875 cfm	EA (wb)	58	TC	49.4	49.4	55.6	47.6	47.6	53.6	45.6	45.6	51.4	43.5	43.5	49.0	41.1	41.1	46.4
			SHC	43.1	49.4	55.6	41.5	47.6	53.6	39.8	45.6	51.4	37.9	43.5	49.0	35.9	41.1	46.4
		62	TC	49.4	49.4	57.8	47.6	47.6	55.7	45.6	45.6	53.4	43.5	43.5	50.9	41.2	41.2	48.1
			SHC	41.0	49.4	57.8	39.5	47.6	55.7	37.9	45.6	53.4	36.1	43.5	50.9	34.2	41.2	48.1
		67	TC	52.3	52.3	53.4	50.0	50.0	52.4	47.5	47.5	51.4	44.8	44.8	50.3	42.0	42.0	49.1
			SHC	33.8	43.6	53.4	32.9	42.7	52.4	31.9	41.7	51.4	30.9	40.6	50.3	29.8	39.4	49.1
		72	TC	57.5	57.5	57.5	54.9	54.9	54.9	52.2	52.2	52.2	49.3	49.3	49.3	46.2	46.2	46.2
			SHC	24.0	33.8	43.7	23.1	32.9	42.8	22.1	32.0	41.8	21.1	31.0	40.8	20.1	29.9	39.7
		76	TC	—	61.9	61.9	—	59.2	59.2	—	56.3	56.3	—	53.2	53.2	—	49.9	49.9
			SHC	—	25.8	35.8	—	24.9	34.9	—	24.0	33.9	—	23.0	32.9	—	22.0	31.9

NOTE: See minimum-maximum airflow ratings on page 8.

LEGEND

— — Do Not Operate
cfm — Cubic Feet Per Minute (Supply Air)
EA (db) — Entering Air Temperature (dry bulb)
EA (wb) — Entering Air Temperature (wet bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

48/50GE*N07 — Unit with Humidi-MiZer® System in Subcooling Mode — Cooling Capacities

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — SCFM/BF (80°F db)								
		1800/0.12			2400 /0.15			3000/0.20		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	74.0	67.0	59.0	81.0	72.0	64.0	85.0	75.0	67.0
	SHC	28.0	37.0	45.0	35.0	45.0	55.0	40.0	53.0	64.0
	kW	3.8	3.7	3.7	3.8	3.7	3.7	3.8	3.7	3.7
85	TC	71.0	63.0	55.0	76.0	68.0	60.0	80.0	71.0	63.0
	SHC	25.0	33.0	41.0	31.0	41.0	52.0	36.0	48.0	60.0
	kW	4.2	4.2	4.1	4.3	4.2	4.2	4.3	4.2	4.2
95	TC	67.0	59.0	52.0	72.0	63.0	56.0	75.0	66.0	59.0
	SHC	21.0	30.0	38.0	27.0	37.0	48.0	31.0	44.0	56.0
	kW	4.8	4.7	4.7	4.8	4.8	4.7	4.8	4.8	4.7
105	TC	63.0	55.0	48.0	67.0	59.0	52.0	70.0	62.0	55.0
	SHC	18.0	26.0	35.0	22.0	34.0	44.0	27.0	40.0	52.0
	kW	5.4	5.3	5.3	5.4	5.4	5.3	5.5	5.4	5.4
115	TC	58.0	51.0	44.0	62.0	54.0	48.0	64.0	57.0	50.0
	SHC	13.0	22.0	31.0	18.0	29.0	41.0	22.0	36.0	48.0
	kW	6.1	6.0	6.0	6.1	6.1	6.0	6.2	6.1	6.0
125	TC	53.0	46.0	40.0	56.0	49.0	43.0	59.0	52.0	46.0
	SHC	9.0	18.0	27.0	13.0	25.0	37.0	17.0	32.0	44.0
	kW	6.9	6.8	6.8	6.9	6.9	6.8	6.9	6.9	6.8

48/50GE*N07 — Unit with Humidi-MiZer System in Hot Gas Reheat Mode — Cooling Capacities

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — Ewb (°F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — cfm								
		1800	2400	3000	1800	2400	3000	1800	2400	3000
80	TC	32.5	35.1	36.7	33.6	36.2	37.9	34.5	37.2	38.9
	SHC	6.7	12.9	19.0	3.0	8.3	13.5	-0.1	4.4	8.9
	kW	3.8	3.7	3.7	3.8	3.7	3.7	3.8	3.7	3.7
75	TC	33.6	36.3	38.1	34.8	37.6	39.3	35.8	38.6	40.3
	SHC	7.9	14.1	20.3	4.3	9.6	14.9	1.1	5.7	10.3
	kW	3.8	3.7	3.7	3.8	3.7	3.7	3.8	3.7	3.7
70	TC	34.7	37.6	39.3	36.0	38.9	40.7	37.1	40.0	41.8
	SHC	9.0	15.4	21.5	5.5	10.9	16.2	2.4	7.0	11.6
	kW	3.8	3.7	3.7	3.8	3.7	3.7	3.8	3.7	3.7
60	TC	36.9	39.9	41.8	38.3	41.3	43.3	39.4	42.6	44.4
	SHC	11.2	17.7	23.9	7.8	13.4	18.8	4.7	9.6	14.2
	kW	3.8	3.7	3.7	3.8	3.7	3.7	3.8	3.7	3.7
50	TC	38.9	42.2	44.1	40.3	43.6	45.6	41.7	44.9	46.9
	SHC	13.3	20.0	26.2	9.8	15.6	21.1	6.9	11.9	16.7
	kW	3.8	3.7	3.7	3.8	3.7	3.7	3.8	3.7	3.7
40	TC	40.8	44.0	46.1	42.4	45.7	47.8	43.7	47.1	49.2
	SHC	15.1	21.9	28.3	11.9	17.7	23.3	9.0	14.1	19.0
	kW	3.8	3.7	3.7	3.8	3.7	3.7	3.8	3.7	3.7

LEGEND

Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Power Input
SCFM/BF — Standard Cubic Feet per Minute/Bypass Factor
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

48/50GE**08 Two Stage Cooling Capacities

48/50GE**08				AMBIENT TEMPERATURE (°F)															
				85			95			105			115			125		
				EA (db)			EA (db)			EA (db)			EA (db)			EA (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2250 cfm	EA (wb)	58	TC	79.0	79.0	89.3	75.9	75.9	85.8	72.4	72.4	82.0	68.6	68.6	77.9	64.5	64.5	73.2
			SHC	68.7	79.0	89.3	65.9	75.9	85.8	62.8	72.4	82.0	59.4	68.6	77.9	55.8	64.5	73.2
		62	TC	83.6	83.6	83.9	79.6	79.6	81.7	75.3	75.3	79.5	70.6	70.6	76.9	65.5	65.5	74.2
			SHC	61.6	72.8	83.9	59.4	70.6	81.7	57.2	68.3	79.5	54.7	65.8	76.9	52.0	63.1	74.2
		67	TC	91.9	91.9	91.9	87.5	87.5	87.5	82.8	82.8	82.8	77.8	77.8	77.8	72.3	72.3	72.3
			SHC	50.5	61.6	72.7	48.3	59.4	70.6	46.0	57.3	68.4	43.8	54.9	66.1	41.2	52.4	63.6
		72	TC	100.5	100.5	100.5	96.0	96.0	96.0	91.1	91.1	91.1	85.7	85.7	85.7	79.9	79.9	79.9
			SHC	39.1	50.1	61.0	37.0	48.0	59.0	34.9	45.8	56.8	32.5	43.5	54.5	30.0	41.0	52.2
		76	TC	—	108.3	108.3	—	103.5	103.5	—	98.2	98.2	—	92.6	92.6	—	86.4	86.4
			SHC	—	40.4	52.1	—	38.6	50.3	—	36.5	45.9	—	34.2	44.4	—	31.8	42.3
2650 cfm	EA (wb)	58	TC	83.8	83.8	94.7	80.4	80.4	90.9	76.7	76.7	86.9	72.8	72.8	82.4	68.2	68.2	77.5
			SHC	72.9	83.8	94.7	69.8	80.4	90.9	66.6	76.7	86.9	63.0	72.8	82.4	59.1	68.2	77.5
		62	TC	86.5	86.5	92.8	82.3	82.3	90.4	77.8	77.8	87.9	73.1	73.1	84.6	68.7	68.7	79.6
			SHC	66.9	79.9	92.8	64.6	77.5	90.4	62.2	75.0	87.9	59.3	71.9	84.6	55.7	67.6	79.6
		67	TC	94.8	94.8	94.8	90.2	90.2	90.2	85.2	85.2	85.2	80.0	80.0	80.0	75.5	75.5	75.5
			SHC	54.0	67.0	80.0	51.8	64.8	77.9	49.4	62.6	75.6	47.1	60.2	73.2	45.4	58.8	72.1
		72	TC	103.6	103.6	103.6	98.8	98.8	98.8	93.6	93.6	93.6	88.2	88.2	88.2	81.9	81.9	81.9
			SHC	40.5	53.4	66.2	38.5	51.3	64.3	36.2	49.1	62.1	33.8	46.9	59.8	31.3	44.3	57.3
		76	TC	—	111.4	111.4	—	106.3	106.3	—	100.7	100.7	—	95.0	95.0	—	88.5	88.5
			SHC	—	42.4	53.9	—	40.4	52.3	—	38.2	50.4	—	35.9	48.4	—	33.5	46.1
3000 cfm	EA (wb)	58	TC	87.3	87.3	98.7	83.7	83.7	94.7	79.9	79.9	90.4	75.7	75.7	85.7	71.0	71.0	80.5
			SHC	76.0	87.3	98.7	72.9	83.7	94.7	69.5	79.9	90.4	65.7	75.7	85.7	61.4	71.0	80.5
		62	TC	88.5	88.5	99.7	84.3	84.3	96.8	80.6	80.6	92.6	75.7	75.7	89.1	71.1	71.1	83.7
			SHC	71.0	85.3	99.7	68.4	82.6	96.8	65.3	79.0	92.6	62.4	75.7	89.1	58.3	71.1	83.7
		67	TC	96.6	96.6	96.6	91.9	91.9	91.9	87.3	87.3	87.3	81.4	81.4	81.4	75.8	75.8	76.7
			SHC	56.8	71.4	86.1	54.6	69.3	84.0	53.1	68.3	83.5	50.2	65.2	80.1	47.3	62.0	76.7
		72	TC	105.8	105.8	105.8	100.7	100.7	100.7	95.4	95.4	95.4	89.6	89.6	89.6	83.3	83.3	83.3
			SHC	41.8	56.3	70.8	39.6	54.1	68.7	37.3	51.9	66.5	34.9	49.5	64.2	32.3	47.0	61.6
		76	TC	—	113.5	113.5	—	108.3	108.3	—	102.5	102.5	—	96.5	96.5	—	89.9	89.9
			SHC	—	43.8	57.6	—	41.8	55.7	—	39.6	53.7	—	37.2	51.4	—	34.8	49.0
3400 cfm	EA (wb)	58	TC	90.7	90.7	102.4	86.9	86.9	98.3	82.9	82.9	93.7	78.4	78.4	88.8	73.5	73.5	83.3
			SHC	79.0	90.7	102.4	75.7	86.9	98.3	72.0	82.9	93.7	68.0	78.4	88.8	63.7	73.5	83.3
		62	TC	91.9	91.9	102.4	87.0	87.0	102.2	83.1	83.1	97.6	78.5	78.5	92.4	73.6	73.6	86.8
			SHC	73.2	87.8	102.4	71.9	87.0	102.2	68.5	83.1	97.6	64.7	78.5	92.4	60.5	73.6	86.8
		67	TC	98.7	98.7	98.7	93.8	93.8	93.8	88.9	88.9	90.3	83.0	83.0	86.2	76.8	76.8	83.1
			SHC	58.8	75.4	91.9	56.6	73.2	89.9	57.4	73.8	90.3	53.0	69.6	86.2	50.3	66.7	83.1
		72	TC	107.6	107.6	107.6	102.3	102.3	102.3	97.0	97.0	97.0	83.0	83.0	86.2	84.4	84.4	84.4
			SHC	42.9	59.3	75.7	40.7	57.2	73.6	38.5	54.9	71.3	53.0	69.6	86.2	33.5	49.9	66.4
		76	TC	—	115.4	115.4	—	110.0	110.0	—	104.2	104.2	—	97.9	97.9	—	91.0	91.0
			SHC	—	45.4	61.0	—	43.2	59.2	—	41.0	57.0	—	38.7	54.7	—	36.1	52.4
3750 cfm	EA (wb)	58	TC	93.3	93.3	105.4	89.4	89.4	101.0	85.2	85.2	96.4	80.6	80.6	91.2	75.5	75.5	85.5
			SHC	81.3	93.3	105.4	77.8	89.4	101.0	74.1	85.2	96.4	69.9	80.6	91.2	65.4	75.5	85.5
		62	TC	93.6	93.6	108.5	89.5	89.5	105.0	85.2	85.2	100.1	80.6	80.6	94.9	75.6	75.6	89.0
			SHC	76.8	92.6	108.5	74.0	89.5	105.0	70.3	85.2	100.1	66.4	80.6	94.9	62.2	75.6	89.0
		67	TC	103.2	103.2	103.2	94.8	94.8	96.4	89.4	89.4	93.9	83.8	83.8	91.3	77.7	77.7	88.6
			SHC	66.6	84.8	102.9	60.3	78.3	96.4	57.9	76.0	93.9	55.5	73.4	91.3	52.8	70.7	88.6
		72	TC	108.8	108.8	108.8	103.6	103.6	103.6	97.8	97.8	97.8	91.9	91.9	91.9	85.2	85.2	85.2
			SHC	43.8	61.8	79.9	41.7	59.7	77.7	39.3	57.4	75.4	36.9	55.0	73.0	34.4	52.4	70.6
		76	TC	—	116.7	116.7	—	111.2	111.2	—	105.4	105.4	—	98.8	98.8	—	91.9	91.9
			SHC	—	46.5	64.0	—	44.4	61.9	—	42.1	59.8	—	39.8	57.6	—	37.2	55.1

LEGEND

— — Do Not Operate
cfm — Cubic Feet Per Minute (Supply Air)
EA (db) — Entering Air Temperature (dry bulb)
EA (wb) — Entering Air Temperature (wet bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 8.

Performance data (cont)

48/50GE**08 Single Stage Cooling Capacities

48/50GE**08				AMBIENT TEMPERATURE (°F)															
				85			95			105			115			125		
				EA (db)			EA (db)			EA (db)			EA (db)			EA (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1150 cfm	EA (wb)	58	TC	53.9	53.9	60.8	52.2	52.2	58.9	50.3	50.3	56.7	48.1	48.1	54.3	45.7	45.7	51.6
			SHC	47.0	53.9	60.8	45.5	52.2	58.9	43.8	50.3	56.7	41.9	48.1	54.3	39.8	45.7	51.6
		62	TC	57.6	57.6	57.6	55.4	55.4	55.4	52.9	52.9	53.9	50.0	50.0	52.5	46.9	46.9	51.0
			SHC	41.9	49.1	56.2	40.9	48.0	55.2	39.6	46.8	53.9	38.2	45.4	52.5	36.7	43.9	51.0
		67	TC	63.2	63.2	63.2	60.7	60.7	60.7	58.1	58.1	58.1	55.1	55.1	55.1	51.7	51.7	51.7
			SHC	34.8	41.9	49.0	33.7	40.8	48.0	32.5	39.7	46.8	31.2	38.4	45.5	29.8	36.9	44.1
		72	TC	69.2	69.2	69.2	66.6	66.6	66.6	63.7	63.7	63.7	60.5	60.5	60.5	56.9	56.9	56.9
			SHC	27.7	34.6	41.5	26.6	33.5	40.5	25.4	32.4	39.4	24.0	31.1	38.1	22.6	29.7	36.8
		76	TC	—	74.5	74.5	—	71.7	71.7	—	68.6	68.6	—	65.1	65.1	—	61.5	61.5
			SHC	—	28.4	35.8	—	27.3	34.7	—	26.3	33.7	—	25.1	30.9	—	23.8	30.3
1350 cfm	EA (wb)	58	TC	57.4	57.4	64.7	55.5	55.5	62.6	53.4	53.4	60.3	51.1	51.1	57.6	48.4	48.4	54.7
			SHC	50.0	57.4	64.7	48.4	55.5	62.6	46.6	53.4	60.3	44.5	51.1	57.6	42.2	48.4	54.7
		62	TC	59.7	59.7	62.3	57.4	57.4	61.2	54.7	54.7	59.9	51.8	51.8	58.3	48.7	48.7	56.4
			SHC	45.6	54.0	62.3	44.4	52.8	61.2	43.1	51.5	59.9	41.7	50.0	58.3	39.9	48.2	56.4
		67	TC	65.4	65.4	65.4	62.9	62.9	62.9	60.0	60.0	60.0	56.8	56.8	56.8	53.3	53.3	53.3
			SHC	37.2	45.6	54.0	36.1	44.5	52.9	34.8	43.3	51.7	33.5	41.9	50.4	32.1	40.5	48.9
		72	TC	71.6	71.6	71.6	68.8	68.8	68.8	65.7	65.7	65.7	62.3	62.3	62.3	58.5	58.5	58.5
			SHC	28.7	36.9	45.2	27.5	35.8	44.1	26.3	34.6	42.9	25.0	33.3	41.7	23.6	31.9	40.3
		76	TC	—	76.9	76.9	—	73.9	73.9	—	70.7	70.7	—	67.0	67.0	—	63.0	63.0
			SHC	—	29.8	38.6	—	28.7	36.0	—	27.6	35.3	—	26.3	34.2	—	24.9	33.0
1500 cfm	EA (wb)	58	TC	59.7	59.7	67.4	57.7	57.7	65.1	55.5	55.5	62.7	53.1	53.1	59.9	50.3	50.3	56.8
			SHC	52.1	59.7	67.4	50.4	57.7	65.1	48.4	55.5	62.7	46.3	53.1	59.9	43.8	50.3	56.8
		62	TC	61.1	61.1	67.0	58.9	58.9	65.7	56.0	56.0	64.0	53.4	53.4	61.7	50.3	50.3	59.0
			SHC	48.3	57.6	67.0	47.1	56.4	65.7	45.6	54.8	64.0	43.8	52.7	61.7	41.7	50.3	59.0
		67	TC	66.8	66.8	66.8	64.1	64.1	64.1	61.3	61.3	61.3	57.8	57.8	57.8	54.2	54.2	54.2
			SHC	39.0	48.4	57.8	37.8	47.3	56.7	36.6	46.1	55.5	35.2	44.7	54.1	33.8	43.2	52.7
		72	TC	73.1	73.1	73.1	70.1	70.1	70.1	66.9	66.9	66.9	63.4	63.4	63.4	59.5	59.5	59.5
			SHC	29.4	38.7	48.0	28.3	37.6	46.9	27.0	36.4	45.7	25.7	35.0	44.4	24.2	33.6	43.0
		76	TC	—	78.5	78.5	—	75.3	75.3	—	71.9	71.9	—	68.1	68.1	—	64.0	64.0
			SHC	—	30.8	39.3	—	29.7	38.4	—	28.5	37.4	—	27.2	36.2	—	25.8	34.9
1700 cfm	EA (wb)	58	TC	62.2	62.2	70.2	60.1	60.1	67.8	57.8	57.8	65.2	55.2	55.2	62.2	52.2	52.2	59.0
			SHC	54.3	62.2	70.2	52.5	60.1	67.8	50.4	57.8	65.2	48.1	55.2	62.2	45.5	52.2	59.0
		62	TC	62.7	62.7	71.9	60.4	60.4	69.7	57.9	57.9	67.8	55.2	55.2	64.7	52.3	52.3	61.3
			SHC	51.2	61.6	71.9	49.6	59.7	69.7	48.0	57.9	67.8	45.8	55.2	64.7	43.3	52.3	61.3
		67	TC	68.2	68.2	68.2	65.4	65.4	65.4	62.3	62.3	62.3	58.9	58.9	58.9	55.2	55.2	57.2
			SHC	41.1	51.8	62.4	40.0	50.7	61.4	38.7	49.4	60.1	37.3	48.0	58.7	35.9	46.5	57.2
		72	TC	74.5	74.5	74.5	71.5	71.5	71.5	68.2	68.2	68.2	64.5	64.5	64.5	60.5	60.5	60.5
			SHC	30.3	40.8	51.3	29.1	39.7	50.3	27.9	38.5	49.1	26.5	37.1	47.7	25.0	35.7	46.3
		76	TC	—	79.9	79.9	—	76.7	76.7	—	73.1	73.1	—	69.2	69.2	—	65.0	65.0
			SHC	—	31.9	41.9	—	30.8	40.9	—	29.5	39.8	—	28.2	38.6	—	26.9	37.2
1900 cfm	EA (wb)	58	TC	64.0	64.0	72.1	61.8	61.8	69.7	59.3	59.3	66.9	56.6	56.6	63.9	53.6	53.6	60.5
			SHC	55.8	64.0	72.1	53.9	61.8	69.7	51.7	59.3	66.9	49.4	56.6	63.9	46.7	53.6	60.5
		62	TC	63.8	63.8	75.0	61.9	61.9	72.4	59.4	59.4	69.6	56.7	56.7	66.4	53.6	53.6	62.8
			SHC	52.7	63.8	75.0	51.3	61.9	72.4	49.3	59.4	69.6	47.0	56.7	66.4	44.4	53.6	62.8
		67	TC	69.1	69.1	69.1	66.3	66.3	66.3	63.1	63.1	63.7	59.6	59.6	62.2	55.8	55.8	60.6
			SHC	42.8	54.5	66.1	41.7	53.3	64.9	40.4	52.0	63.7	38.9	50.6	62.2	37.4	49.0	60.6
		72	TC	75.4	75.4	75.4	72.3	72.3	72.3	68.9	68.9	68.9	65.2	65.2	65.2	61.1	61.1	61.1
			SHC	30.9	42.4	54.0	29.8	41.3	52.9	28.5	40.1	51.6	27.1	38.7	50.3	25.7	37.3	48.9
		76	TC	—	80.9	80.9	—	77.6	77.6	—	73.9	73.9	—	69.9	69.9	—	65.6	65.6
			SHC	—	32.7	43.8	—	31.6	42.8	—	30.3	41.6	—	29.0	40.3	—	27.6	39.0

LEGEND

— — Do Not Operate
cfm — Cubic Feet Per Minute (Supply Air)
EA (db) — Entering Air Temperature (dry bulb)
EA (wb) — Entering Air Temperature (wet bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 8.

Performance data (cont)

48/50GE*N08 — Unit with Humidi-MiZer® System in Subcooling Mode — Cooling Capacities

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — SCFM/BF (80°F db)								
		2250/0.11			3000/0.14			3750/0.15		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	106.5	96.2	85.4	112.7	100.8	92.7	117.4	106.9	95.5
	SHC	45.7	57.5	67.8	51.8	66.5	83.6	58.4	78.7	93.8
	kW	4.8	4.7	4.6	4.8	4.7	4.7	4.8	4.8	4.7
85	TC	101.0	90.4	80.6	106.2	95.3	85.3	110.8	100.2	89.4
	SHC	40.4	52.1	63.4	45.7	61.3	76.6	52.3	72.5	87.8
	kW	5.4	5.3	5.2	5.4	5.3	5.2	5.4	5.4	5.3
95	TC	94.2	83.0	75.6	98.3	90.5	80.8	103.3	92.5	85.7
	SHC	34.1	45.0	58.7	38.3	56.9	72.2	45.3	65.1	84.1
	kW	6.0	5.9	5.9	6.0	6.0	5.9	6.1	6.0	6.0
105	TC	85.3	79.2	69.8	93.7	84.4	75.2	95.8	87.8	79.6
	SHC	26.1	41.7	53.4	34.3	51.4	67.2	38.4	61.0	74.4
	kW	6.7	6.7	6.6	6.8	6.8	6.7	6.8	6.8	6.7
115	TC	79.7	71.1	64.2	86.2	77.5	68.2	90.6	80.5	72.4
	SHC	21.1	34.3	48.3	27.6	45.3	61.1	33.9	54.5	72.3
	kW	7.6	7.5	7.5	7.7	7.6	7.5	7.7	7.6	7.6
125	TC	74.5	64.1	57.1	78.1	68.8	61.3	81.3	73.1	65.4
	SHC	17.0	28.3	42.2	20.7	37.7	55.0	25.9	48.3	65.4
	kW	8.6	8.4	8.4	8.6	8.5	8.4	8.6	8.5	8.5

48/50GE*N08 — Unit with Humidi-MiZer System in Hot Gas Reheat Mode — Cooling Capacities

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — Ewb (°F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — cfm								
		2250	3000	3750	2250	3000	3750	2250	3000	3750
80	TC	22.0	23.0	23.0	23.0	24.0	25.0	24.0	26.0	26.0
	SHC	–3.0	0.0	3.0	–5.0	–3.0	–1.0	–8.0	–7.0	–5.0
	kW	5.6	5.6	5.6	5.6	5.6	5.5	5.6	5.6	5.5
75	TC	22.0	24.0	24.0	24.0	26.0	26.0	25.0	27.0	27.0
	SHC	–2.0	1.0	4.0	–5.0	–2.0	0.0	–7.0	–6.0	–4.0
	kW	5.6	5.6	5.6	5.6	5.6	5.5	5.6	5.6	5.5
70	TC	23.0	25.0	25.0	25.0	26.0	27.0	26.0	28.0	28.0
	SHC	–1.0	2.0	5.0	–4.0	–1.0	1.0	–7.0	–5.0	–3.0
	kW	5.6	5.6	5.6	5.6	5.6	5.5	5.6	5.6	5.5
60	TC	25.0	27.0	27.0	27.0	28.0	29.0	28.0	30.0	30.0
	SHC	1.0	4.0	7.0	–2.0	0.0	2.0	–5.0	–3.0	–1.0
	kW	5.6	5.6	5.6	5.6	5.6	5.5	5.6	5.6	5.5
50	TC	27.0	28.0	29.0	28.0	30.0	30.0	29.0	31.0	32.0
	SHC	2.0	5.0	8.0	–1.0	2.0	4.0	–3.0	–1.0	1.0
	kW	5.6	5.6	5.6	5.6	5.6	5.5	5.6	5.6	5.5
40	TC	28.0	30.0	30.0	29.0	31.0	32.0	31.0	33.0	33.0
	SHC	3.0	7.0	10.0	1.0	3.0	6.0	–2.0	0.0	2.0
	kW	5.6	5.6	5.6	5.6	5.6	5.5	5.6	5.6	5.5

LEGEND

Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Power Input
SCFM/BF — Standard Cubic Feet per Minute/Bypass Factor
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

48/50GE**09 Two Stage Cooling Capacities

48/50GE**09				AMBIENT TEMPERATURE (°F)															
				85			95			105			115			125		
				EA (db)			EA (db)			EA (db)			EA (db)			EA (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2550 cfm	EA (wb)	58	TC	97.8	97.8	110.6	93.4	93.4	105.7	88.6	88.6	100.5	83.5	83.5	94.8	77.9	77.9	88.7
			SHC	85.1	97.8	110.6	81.1	93.4	105.7	76.7	88.6	100.5	72.1	83.5	94.8	67.1	77.9	88.7
		62	TC	103.2	103.2	104.9	97.8	97.8	101.0	91.8	91.8	98.5	85.5	85.5	94.4	80.0	80.0	87.5
			SHC	76.8	90.9	104.9	73.0	87.0	101.0	70.5	84.5	98.5	66.3	80.4	94.4	61.4	74.4	87.5
		67	TC	113.8	113.8	113.8	107.8	107.8	107.8	101.6	101.6	101.6	94.8	94.8	94.8	87.4	87.4	87.4
			SHC	63.3	77.4	91.4	60.4	74.4	88.4	57.1	71.1	85.1	53.3	67.3	81.3	49.8	63.8	77.8
		72	TC	125.4	125.4	125.4	119.0	119.0	119.0	112.1	112.1	112.1	104.8	104.8	104.8	97.1	97.1	97.1
			SHC	48.7	62.7	76.7	46.7	60.7	74.7	43.2	57.2	71.2	39.4	53.4	67.5	36.5	50.5	64.5
		76	TC	—	135.4	135.4	—	128.6	128.6	—	121.3	121.3	—	113.7	113.7	—	105.4	105.4
			SHC	—	52.8	66.8	—	48.9	62.9	—	46.1	60.1	—	42.1	56.1	—	39.0	53.0
3000 cfm	EA (wb)	58	TC	104.8	104.8	118.3	100.0	100.0	113.0	94.9	94.9	107.4	89.3	89.3	101.4	83.3	83.3	94.7
			SHC	91.3	104.8	118.3	87.0	100.0	113.0	82.3	94.9	107.4	77.3	89.3	101.4	72.0	83.3	94.7
		62	TC	107.5	107.5	116.5	101.8	101.8	114.1	95.6	95.6	110.1	89.5	89.5	105.5	83.5	83.5	98.7
			SHC	83.5	100.0	116.5	81.4	97.7	114.1	77.4	93.7	110.1	73.5	89.5	105.5	68.3	83.5	98.7
		67	TC	118.2	118.2	118.2	111.9	111.9	111.9	105.1	105.1	105.1	98.1	98.1	98.1	90.4	90.4	90.4
			SHC	67.4	83.9	100.4	65.2	81.7	98.2	61.3	77.8	94.3	58.1	74.6	91.1	54.0	70.5	87.0
		72	TC	129.9	129.9	129.9	123.2	123.2	123.2	116.0	116.0	116.0	108.2	108.2	108.2	100.2	100.2	100.2
			SHC	51.1	67.6	84.1	48.8	65.3	81.8	45.0	61.5	78.0	41.9	58.4	74.9	38.6	55.1	71.6
		76	TC	—	140.0	140.0	—	132.9	132.9	—	125.5	125.5	—	117.3	117.3	—	108.6	108.6
			SHC	—	54.6	71.1	—	51.8	68.3	—	48.9	65.4	—	45.7	62.2	—	41.3	57.8
3400 cfm	EA (wb)	58	TC	110.2	110.2	124.4	105.1	105.1	118.8	99.7	99.7	112.7	93.8	93.8	106.3	87.5	87.5	99.3
			SHC	96.0	110.2	124.4	91.5	105.1	118.8	86.6	99.7	112.7	81.3	93.8	106.3	75.7	87.5	99.3
		62	TC	110.8	110.8	127.1	105.3	105.3	123.6	99.8	99.8	117.2	94.0	94.0	110.6	87.6	87.6	103.3
			SHC	90.1	108.6	127.1	86.9	105.3	123.6	82.4	99.8	117.2	77.3	94.0	110.6	71.9	87.6	103.3
		67	TC	121.4	121.4	121.4	114.8	114.8	114.8	107.9	107.9	107.9	100.6	100.6	100.6	92.7	92.7	96.6
			SHC	72.3	91.0	109.7	68.6	87.3	106.0	65.4	84.1	102.8	62.8	81.5	100.2	59.2	77.9	96.6
		72	TC	133.2	133.2	133.2	126.2	126.2	126.2	118.7	118.7	118.7	110.7	110.7	110.7	102.5	102.5	102.5
			SHC	53.2	71.9	90.6	50.7	69.4	88.1	47.8	66.5	85.2	44.4	63.1	81.8	40.8	59.5	78.2
		76	TC	—	143.4	143.4	—	136.0	136.0	—	128.4	128.4	—	—	—	—	—	—
			SHC	—	57.4	76.1	—	54.4	73.1	—	51.4	70.1	—	—	—	—	—	—
3850 cfm	EA (wb)	58	TC	115.4	115.4	130.2	110.2	110.2	124.4	104.5	104.5	118.1	98.3	98.3	111.2	91.6	91.6	103.7
			SHC	100.6	115.4	130.2	96.0	110.2	124.4	91.0	104.5	118.1	85.4	98.3	111.2	79.6	91.6	103.7
		62	TC	115.6	115.6	135.3	110.2	110.2	129.1	104.5	104.5	122.5	98.4	98.4	115.6	91.8	91.8	108.1
			SHC	95.9	115.6	135.3	91.4	110.2	129.1	86.5	104.5	122.5	81.3	98.4	115.6	75.5	91.8	108.1
		67	TC	124.4	124.4	124.4	117.7	117.7	117.7	110.6	110.6	112.7	103.1	103.1	109.7	95.0	95.0	105.5
			SHC	77.3	98.3	119.3	74.4	95.4	116.3	70.8	91.8	112.7	67.7	88.7	109.7	63.6	84.6	105.5
		72	TC	136.4	136.4	136.4	129.2	129.2	129.2	121.4	121.4	121.4	113.2	113.2	113.2	104.8	104.8	104.8
			SHC	56.6	77.7	98.9	52.5	73.6	94.8	49.3	70.4	91.6	45.6	66.8	88.0	42.8	63.9	85.1
		76	TC	—	146.7	146.7	—	139.1	139.1	—	—	—	—	—	—	—	—	—
			SHC	—	60.2	81.3	—	57.0	78.0	—	—	—	—	—	—	—	—	—
4250 cfm	EA (wb)	58	TC	119.7	119.7	134.9	114.3	114.3	128.8	108.4	108.4	122.4	101.9	101.9	115.3	95.0	95.0	107.4
			SHC	104.5	119.7	134.9	99.8	114.3	128.8	94.4	108.4	122.4	88.6	101.9	115.3	82.6	95.0	107.4
		62	TC	119.9	119.9	140.2	114.3	114.3	133.7	108.3	108.3	127.0	102.1	102.1	119.8	95.2	95.2	111.8
			SHC	99.6	119.9	140.2	94.9	114.3	133.7	89.6	108.3	127.0	84.3	102.1	119.8	78.6	95.2	111.8
		67	TC	126.9	126.9	128.5	120.1	120.1	125.2	112.8	112.8	121.3	105.0	105.0	117.6	97.0	97.0	114.3
			SHC	82.2	105.4	128.5	78.9	102.1	125.2	75.0	98.1	121.3	71.4	94.5	117.6	68.0	91.2	114.3
		72	TC	138.9	138.9	138.9	131.6	131.6	131.6	123.7	123.7	123.7	115.4	115.4	115.4	106.7	106.7	106.7
			SHC	58.6	82.0	105.3	55.6	78.9	102.3	52.1	75.5	98.8	48.2	71.5	94.9	44.9	68.3	91.7
		76	TC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			SHC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

— — Do Not Operate
cfm — Cubic Feet Per Minute (Supply Air)
EA (db) — Entering Air Temperature (dry bulb)
EA (wb) — Entering Air Temperature (wet bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 8.

Performance data (cont)

48/50GE**09 Single Stage Cooling Capacities

48/50GE**09				AMBIENT TEMPERATURE (°F)															
				85			95			105			115			125		
				EA (db)			EA (db)			EA (db)			EA (db)			EA (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1550 cfm	EA (wb)	58	TC	59.4	59.4	67.1	57.6	57.6	64.9	55.4	55.4	62.5	53.0	53.0	59.8	50.3	50.3	56.8
			SHC	51.8	59.4	67.1	50.2	57.6	64.9	48.2	55.4	62.5	46.1	53.0	59.8	43.8	50.3	56.8
		62	TC	63.0	63.0	63.0	60.4	60.4	61.7	57.7	57.7	60.3	54.6	54.6	58.8	51.3	51.3	57.1
			SHC	46.6	54.8	62.9	45.3	53.5	61.7	44.0	52.2	60.3	42.4	50.6	58.8	40.8	49.0	57.1
		67	TC	69.3	69.3	69.3	66.4	66.4	66.4	63.4	63.4	63.4	60.1	60.1	60.1	56.3	56.3	56.3
			SHC	38.5	46.6	54.8	37.2	45.4	53.5	35.9	44.0	52.2	34.4	42.6	50.8	32.8	41.0	49.2
		72	TC	76.0	76.0	76.0	72.9	72.9	72.9	69.7	69.7	69.7	66.0	66.0	66.0	62.0	62.0	62.0
			SHC	30.4	38.3	46.2	29.1	37.1	45.0	27.7	35.7	43.8	26.2	34.3	42.4	24.6	32.7	40.8
		76	TC	—	82.0	82.0	—	78.7	78.7	—	75.3	75.3	—	71.3	71.3	—	67.0	67.0
			SHC	—	31.2	39.7	—	30.1	38.7	—	29.0	37.5	—	27.6	34.8	—	26.0	33.6
1800 cfm	EA (wb)	58	TC	62.7	62.7	70.8	60.7	60.7	68.5	58.3	58.3	65.8	55.8	55.8	63.0	52.9	52.9	59.8
			SHC	54.7	62.7	70.8	52.9	60.7	68.5	50.8	58.3	65.8	48.6	55.8	63.0	46.1	52.9	59.8
		62	TC	65.0	65.0	68.9	62.5	62.5	67.7	59.6	59.6	66.1	56.3	56.3	64.3	53.1	53.1	61.7
			SHC	50.1	59.5	68.9	48.9	58.3	67.7	47.4	56.8	66.1	45.7	55.0	64.3	43.6	52.6	61.7
		67	TC	71.3	71.3	71.3	68.4	68.4	68.4	65.2	65.2	65.2	61.6	61.6	61.6	57.8	57.8	57.8
			SHC	40.8	50.2	59.6	39.5	49.0	58.4	38.2	47.6	57.1	36.7	46.1	55.6	35.0	44.5	54.0
		72	TC	78.3	78.3	78.3	75.1	75.1	75.1	71.7	71.7	71.7	67.8	67.8	67.8	63.6	63.6	63.6
			SHC	31.4	40.6	49.9	30.1	39.4	48.7	28.7	38.0	47.3	27.2	36.6	45.9	25.6	35.0	44.3
		76	TC	—	84.2	84.2	—	81.0	81.0	—	77.0	77.0	—	73.0	73.0	—	68.5	68.5
			SHC	—	32.7	40.4	—	31.5	39.9	—	30.2	38.8	—	28.8	37.6	—	27.2	36.2
2050 cfm	EA (wb)	58	TC	65.5	65.5	73.9	63.3	63.3	71.4	60.9	60.9	68.7	58.1	58.1	65.6	55.0	55.0	62.1
			SHC	57.2	65.5	73.9	55.2	63.3	71.4	53.1	60.9	68.7	50.6	58.1	65.6	47.9	55.0	62.1
		62	TC	66.6	66.6	74.5	63.9	63.9	72.9	61.1	61.1	70.6	58.6	58.6	66.7	55.1	55.1	64.6
			SHC	53.4	63.9	74.5	51.9	62.4	72.9	50.1	60.4	70.6	47.5	57.1	66.7	45.6	55.1	64.6
		67	TC	72.9	72.9	72.9	70.0	70.0	70.0	66.6	66.6	66.6	63.0	63.0	63.0	58.8	58.8	58.8
			SHC	43.0	53.7	64.4	41.8	52.4	63.1	40.3	51.0	61.7	38.8	49.5	60.3	37.2	47.9	58.6
		72	TC	80.1	80.1	80.1	76.6	76.6	76.6	73.1	73.1	73.1	69.1	69.1	69.1	64.6	64.6	64.6
			SHC	32.3	42.8	53.3	30.9	41.5	52.1	29.6	40.2	50.7	28.1	38.7	49.3	26.4	37.0	47.7
		76	TC	—	85.9	85.9	—	82.6	82.6	—	78.5	78.5	—	74.4	74.4	—	69.6	69.6
			SHC	—	33.9	43.6	—	32.7	42.6	—	31.3	41.4	—	29.8	40.1	—	28.2	38.6
2300 cfm	EA (wb)	58	TC	68.0	68.0	76.6	65.7	65.7	74.1	63.0	63.0	71.1	60.1	60.1	67.8	56.9	56.9	64.3
			SHC	59.3	68.0	76.6	57.3	65.7	74.1	54.9	63.0	71.1	52.4	60.1	67.8	49.6	56.9	64.3
		62	TC	68.2	68.2	78.8	65.7	65.7	76.9	63.1	63.1	73.9	60.1	60.1	70.5	57.0	57.0	66.8
			SHC	56.0	67.4	78.8	54.4	65.7	76.9	52.3	63.1	73.9	49.8	60.1	70.5	47.2	57.0	66.8
		67	TC	74.2	74.2	74.2	71.2	71.2	71.2	67.7	67.7	67.7	64.0	64.0	64.8	59.7	59.7	63.0
			SHC	45.1	57.1	69.0	43.9	55.8	67.8	42.4	54.4	66.3	40.9	52.8	64.8	39.2	51.1	63.0
		72	TC	81.3	81.3	81.3	77.9	77.9	77.9	74.1	74.1	74.1	70.0	70.0	70.0	65.5	65.5	65.5
			SHC	33.1	44.9	56.7	31.8	43.6	55.4	30.3	42.2	54.0	28.8	40.7	52.6	27.2	39.1	50.9
		76	TC	—	87.3	87.3	—	83.7	83.7	—	79.9	79.9	—	75.3	75.3	—	70.6	70.6
			SHC	—	34.9	46.2	—	33.7	45.0	—	32.4	43.8	—	30.8	42.4	—	29.2	40.9
2550 cfm	EA (wb)	58	TC	70.1	70.1	79.0	67.6	67.6	76.2	65.0	65.0	73.3	61.8	61.8	69.8	58.4	58.4	66.0
			SHC	61.1	70.1	79.0	58.9	67.6	76.2	56.6	65.0	73.3	53.9	61.8	69.8	50.9	58.4	66.0
		62	TC	70.1	70.1	82.1	67.7	67.7	79.2	65.0	65.0	76.1	61.9	61.9	72.5	58.6	58.6	68.6
			SHC	58.2	70.1	82.1	56.1	67.7	79.2	53.9	65.0	76.1	51.3	61.9	72.5	48.5	58.6	68.6
		67	TC	75.3	75.3	75.3	72.1	72.1	72.2	68.5	68.5	70.7	64.7	64.7	69.1	60.4	60.4	67.3
			SHC	47.2	60.3	73.5	45.9	59.0	72.2	44.4	57.5	70.7	42.8	55.9	69.1	41.1	54.2	67.3
		72	TC	82.4	82.4	82.4	79.1	79.1	79.1	75.0	75.0	75.0	70.9	70.9	70.9	66.3	66.3	66.3
			SHC	33.8	46.9	59.9	32.6	45.6	58.7	31.1	44.2	57.3	29.6	42.7	55.8	27.9	41.0	54.1
		76	TC	—	88.6	88.6	—	84.7	84.7	—	81.0	81.0	—	76.2	76.2	—	—	—
			SHC	—	36.0	48.5	—	34.6	47.3	—	33.4	46.1	—	31.8	44.6	—	—	—

LEGEND

— — Do Not Operate
cfm — Cubic Feet Per Minute (Supply Air)
EA (db) — Entering Air Temperature (dry bulb)
EA (wb) — Entering Air Temperature (wet bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 8.

Performance data (cont)

48/50GE*N09 — Unit with Humidi-MiZer® System in Subcooling Mode — Cooling Capacities

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — SCFM/BF (80°F db)								
		2550/0.06			3400/0.07			4250/0.09		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	115.7	104.9	93.3	126.6	114.6	102.8	132.7	119.7	107.4
	SHC	49.7	63.5	75.2	60.7	78.0	94.2	68.5	89.9	105.9
	kW	5.3	5.3	5.2	5.4	5.4	5.3	5.4	5.4	5.3
85	TC	105.8	94.0	87.4	119.2	106.5	95.9	126.3	113.4	103.7
	SHC	40.4	53.0	69.7	53.6	70.3	87.7	62.6	84.0	102.5
	kW	6.0	5.9	5.9	6.1	6.0	6.0	6.2	6.1	6.0
95	TC	100.9	90.8	80.5	108.0	98.9	88.6	117.1	105.3	96.4
	SHC	35.8	50.1	63.2	43.4	63.3	80.8	53.7	76.3	95.6
	kW	6.8	6.7	6.7	6.8	6.8	6.7	6.9	6.8	6.8
105	TC	94.1	83.3	73.4	103.0	91.0	80.9	108.8	97.6	84.0
	SHC	29.7	43.2	56.5	38.8	56.0	73.7	46.1	69.3	77.2
	kW	7.6	7.6	7.5	7.7	7.6	7.5	7.7	7.6	7.5
115	TC	86.2	75.7	65.8	93.8	82.9	72.5	99.9	86.8	79.5
	SHC	22.9	36.3	49.7	30.4	48.7	65.8	38.0	59.3	79.5
	kW	8.6	8.5	8.4	8.7	8.5	8.4	8.7	8.5	8.5
125	TC	77.0	66.9	58.1	84.3	72.7	64.5	90.1	78.2	71.2
	SHC	14.9	28.6	42.8	22.1	39.7	58.8	29.3	52.0	71.2
	kW	9.6	9.5	9.4	9.6	9.5	9.4	9.7	9.5	9.5

48/50GE*N09 — Unit with Humidi-MiZer System in Hot Gas Reheat Mode — Cooling Capacities

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — Ewb (°F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — cfm								
		2550	3400	4250	2550	3400	4250	2550	3400	4250
80	TC	35.7	40.7	45.5	37.2	42.1	47.0	38.5	43.4	48.3
	SHC	2.4	11.4	21.8	–2.2	5.0	13.5	–5.9	–0.3	6.6
	kW	5.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
75	TC	37.8	42.9	47.8	39.5	44.6	49.6	40.8	45.9	50.9
	SHC	4.4	13.6	24.1	–0.1	7.3	16.0	–3.9	1.9	9.0
	kW	5.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
70	TC	40.1	45.3	50.2	41.7	47.0	52.0	43.1	48.3	53.4
	SHC	6.6	15.9	26.6	1.9	9.5	18.4	–2.0	4.1	11.4
	kW	5.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
60	TC	44.4	50.0	55.1	46.2	51.7	56.9	47.7	53.1	58.4
	SHC	10.8	20.6	31.4	6.0	14.1	23.2	2.0	8.6	16.2
	kW	5.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
50	TC	48.7	54.4	59.6	50.6	56.3	61.7	52.1	57.8	63.2
	SHC	15.0	24.9	36.0	10.2	18.6	28.0	6.1	13.1	21.0
	kW	5.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2
40	TC	52.9	58.8	64.2	55.0	60.9	66.3	56.6	62.5	68.0
	SHC	19.1	29.3	40.6	14.4	23.1	32.7	10.2	17.5	25.8
	kW	5.3	5.2	5.2	5.2	5.2	5.2	5.2	5.2	5.2

LEGEND

Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Power Input
SCFM/BF — Standard Cubic Feet per Minute/Bypass Factor
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

48/50GE**12 Two Stage Cooling Capacities

48/50GE**12				AMBIENT TEMPERATURE (°F)															
				85			95			105			115			125		
				EA (db)			EA (db)			EA (db)			EA (db)			EA (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
3000 cfm	EA (wb)	58	TC	105.2	105.2	119.6	99.0	99.0	112.9	92.6	92.6	105.9	85.8	85.8	98.5	78.7	78.7	90.8
			SHC	90.7	105.2	119.6	85.1	99.0	112.9	79.2	92.6	105.9	73.1	85.8	98.5	66.7	78.7	90.8
		62	TC	111.8	111.8	112.5	104.3	104.3	107.9	96.4	96.4	103.1	88.3	88.3	98.2	79.9	79.9	92.9
			SHC	81.1	96.8	112.5	76.5	92.2	107.9	71.8	87.4	103.1	66.9	82.6	98.2	61.9	77.4	92.9
		67	TC	124.3	124.3	124.3	116.3	116.3	116.3	108.1	108.1	108.1	99.5	99.5	99.5	90.5	90.5	90.5
			SHC	66.1	81.6	97.2	61.5	77.1	92.7	56.9	72.5	88.1	52.1	67.8	83.5	47.3	63.0	78.7
		72	TC	138.1	138.1	138.1	129.6	129.6	129.6	120.8	120.8	120.8	111.6	111.6	111.6	102.2	102.2	102.2
			SHC	51.1	66.3	81.5	46.5	61.8	77.1	41.8	57.2	72.6	37.1	52.5	67.9	32.2	47.7	63.2
		76	TC	—	150.5	150.5	—	141.3	141.3	—	131.8	131.8	—	122.1	122.1	—	112.2	112.2
			SHC	—	53.3	69.8	—	49.2	65.7	—	44.7	58.1	—	40.1	54.4	—	35.4	50.2
3500 cfm	EA (wb)	58	TC	112.0	112.0	127.2	105.4	105.4	120.1	98.6	98.6	112.7	91.6	91.6	105.0	84.1	84.1	96.8
			SHC	96.8	112.0	127.2	90.8	105.4	120.1	84.6	98.6	112.7	78.2	91.6	105.0	71.5	84.1	96.8
		62	TC	115.8	115.8	124.5	108.5	108.5	120.6	100.1	100.1	114.7	92.1	92.1	108.7	85.2	85.2	98.9
			SHC	88.4	106.4	124.5	84.2	102.4	120.6	78.8	96.7	114.7	73.5	91.1	108.7	66.3	82.6	98.9
		67	TC	128.5	128.5	128.5	120.2	120.2	120.2	111.6	111.6	111.6	102.7	102.7	102.7	93.3	93.3	93.3
			SHC	70.8	88.9	106.9	66.2	84.3	102.4	61.5	79.6	97.7	56.7	74.8	92.9	51.8	69.9	88.0
		72	TC	142.4	142.4	142.4	133.6	133.6	133.6	124.3	124.3	124.3	114.8	114.8	114.8	105.0	105.0	105.0
			SHC	53.1	70.8	88.5	48.4	66.2	84.0	43.7	61.5	79.4	38.8	56.7	74.6	33.9	51.9	69.9
		76	TC	—	154.5	154.5	—	145.0	145.0	—	135.3	135.3	—	125.3	125.3	—	115.0	115.0
			SHC	—	56.1	71.5	—	51.6	67.9	—	46.9	63.8	—	42.2	59.4	—	37.4	54.9
4000 cfm	EA (wb)	58	TC	117.7	117.7	133.5	110.8	110.8	126.1	103.8	103.8	118.4	96.4	96.4	110.3	88.6	88.6	101.8
			SHC	101.8	117.7	133.5	95.6	110.8	126.1	89.2	103.8	118.4	82.5	96.4	110.3	75.4	88.6	101.8
		62	TC	119.3	119.3	135.6	111.6	111.6	130.0	103.9	103.9	123.4	96.8	96.8	115.4	88.7	88.7	106.4
			SHC	95.1	115.3	135.6	90.0	110.0	130.0	84.4	103.9	123.4	78.1	96.8	115.4	71.1	88.7	106.4
		67	TC	131.8	131.8	131.8	123.2	123.2	123.2	114.3	114.3	114.3	105.1	105.1	105.1	95.6	95.6	97.1
			SHC	75.3	95.7	116.2	70.6	91.1	111.6	65.8	86.3	106.8	61.0	81.6	102.1	56.1	76.6	97.1
		72	TC	145.8	145.8	145.8	136.6	136.6	136.6	127.0	127.0	127.0	117.3	117.3	117.3	114.0	114.0	114.0
			SHC	54.8	75.0	95.2	50.1	70.3	90.6	45.3	65.5	85.8	40.4	60.7	81.1	42.4	62.8	83.1
		76	TC	—	157.8	157.8	—	148.0	148.0	—	138.0	138.0	—	132.2	132.2	—	—	—
			SHC	—	58.2	77.1	—	53.6	72.8	—	48.9	68.4	—	48.7	68.4	—	—	—
4500 cfm	EA (wb)	58	TC	122.6	122.6	139.0	115.5	115.5	131.2	108.1	108.1	123.2	100.4	100.4	114.8	92.4	92.4	106.0
			SHC	106.2	122.6	139.0	99.7	115.5	131.2	93.0	108.1	123.2	86.1	100.4	114.8	78.8	92.4	106.0
		62	TC	123.8	123.8	142.0	117.3	117.3	132.5	108.2	108.2	128.4	100.5	100.5	119.7	92.5	92.5	110.6
			SHC	99.6	120.8	142.0	92.7	112.6	132.5	88.1	108.2	128.4	81.3	100.5	119.7	74.3	92.5	110.6
		67	TC	134.4	134.4	134.4	125.6	125.6	125.6	116.5	116.5	116.5	107.1	107.1	110.9	97.6	97.6	106.6
			SHC	79.5	102.4	125.2	74.8	97.7	120.5	70.1	92.9	115.7	65.2	88.1	110.9	60.6	83.6	106.6
		72	TC	148.3	148.3	148.3	138.9	138.9	138.9	129.2	129.2	129.2	119.2	119.2	119.2	109.0	109.0	109.0
			SHC	56.3	78.9	101.5	51.6	74.2	96.8	46.7	69.4	92.1	41.9	64.5	87.2	36.9	59.6	82.3
		76	TC	—	160.4	160.4	—	150.4	150.4	—	140.1	140.1	—	—	—	—	—	—
			SHC	—	60.0	81.6	—	55.3	77.2	—	50.5	72.6	—	—	—	—	—	—
5000 cfm	EA (wb)	58	TC	126.8	126.8	143.7	119.4	119.4	135.6	111.8	111.8	127.3	103.8	103.8	118.6	102.3	102.3	112.7
			SHC	109.9	126.8	143.7	103.2	119.4	135.6	96.3	111.8	127.3	89.1	103.8	118.6	91.8	102.3	112.7
		62	TC	130.2	130.2	141.8	119.6	119.6	141.2	111.9	111.9	132.6	103.9	103.9	123.6	102.5	102.5	121.1
			SHC	100.9	121.3	141.8	97.9	119.6	141.2	91.2	111.9	132.6	84.2	103.9	123.6	83.8	102.5	121.1
		67	TC	136.5	136.5	136.5	127.5	127.5	129.1	118.2	118.2	124.5	108.6	108.6	119.4	105.5	105.5	121.1
			SHC	83.6	108.8	133.9	78.9	104.0	129.1	74.2	99.3	124.5	69.2	94.3	119.4	71.1	96.1	121.1
		72	TC	150.5	150.5	150.5	140.8	140.8	140.8	130.9	130.9	130.9	120.8	120.8	120.8	117.2	117.2	117.2
			SHC	57.7	82.6	107.5	52.9	77.9	102.8	48.1	73.1	98.0	43.2	68.2	93.2	45.2	70.3	95.3
		76	TC	—	162.4	162.4	—	152.3	152.3	—	—	—	—	—	—	—	—	—
			SHC	—	61.6	85.8	—	56.8	81.1	—	—	—	—	—	—	—	—	—

LEGEND

— — Do Not Operate
cfm — Cubic Feet Per Minute (Supply Air)
EA (db) — Entering Air Temperature (dry bulb)
EA (wb) — Entering Air Temperature (wet bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 8.

Performance data (cont)

48/50GE**12 Single Stage Cooling Capacities

48/50GE**12				AMBIENT TEMPERATURE (°F)															
				85			95			105			115			125		
				EA (db)			EA (db)			EA (db)			EA (db)			EA (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1800 cfm	EA (wb)	58	TC	66.1	66.1	75.0	62.7	62.7	71.3	59.1	59.1	67.4	55.2	55.2	63.2	51.0	51.0	58.5
			SHC	57.2	66.1	75.0	54.1	62.7	71.3	50.8	59.1	67.4	47.3	55.2	63.2	43.6	51.0	58.5
		62	TC	70.0	70.0	70.6	65.8	65.8	68.3	61.4	61.4	65.6	56.7	56.7	63.0	51.6	51.6	59.7
			SHC	51.2	60.9	70.6	48.9	58.6	68.3	46.2	55.9	65.6	43.6	53.3	63.0	40.5	50.1	59.7
		67	TC	77.4	77.4	77.4	73.0	73.0	73.0	68.2	68.2	68.2	63.1	63.1	63.1	57.5	57.5	57.5
			SHC	42.2	51.9	61.6	39.2	48.9	58.6	36.7	46.4	56.1	34.5	44.2	53.9	31.7	41.4	51.1
		72	TC	85.7	85.7	85.7	80.8	80.8	80.8	75.6	75.6	75.6	70.1	70.1	70.1	63.4	63.4	63.4
			SHC	32.3	42.0	51.7	29.9	39.6	49.3	27.4	37.1	46.8	24.6	34.3	44.0	22.0	31.7	41.4
		76	TC	—	92.7	92.7	—	87.5	87.5	—	82.0	82.0	—	75.8	75.8	—	69.6	69.6
			SHC	—	34.3	43.8	—	32.4	41.9	—	29.5	39.1	—	26.5	36.1	—	24.4	34.0
2100 cfm	EA (wb)	58	TC	70.4	70.4	79.8	66.7	66.7	75.9	62.9	62.9	71.5	58.7	58.7	67.0	54.2	54.2	62.0
			SHC	60.9	70.4	79.8	57.6	66.7	75.9	54.2	62.9	71.5	50.4	58.7	67.0	46.3	54.2	62.0
		62	TC	72.6	72.6	78.0	68.2	68.2	76.0	63.6	63.6	72.9	59.3	59.3	68.2	54.2	54.2	64.8
			SHC	55.5	66.8	78.0	53.6	64.8	76.0	50.5	61.7	72.9	46.9	57.5	68.2	43.7	54.2	64.8
		67	TC	80.1	80.1	80.1	75.3	75.3	75.3	70.3	70.3	70.3	64.9	64.9	64.9	58.7	58.7	58.7
			SHC	44.7	56.0	67.4	42.2	53.5	64.8	40.0	51.3	62.6	37.4	48.7	60.0	33.9	45.2	56.6
		72	TC	88.3	88.3	88.3	83.2	83.2	83.2	77.7	77.7	77.7	71.9	71.9	71.9	65.6	65.6	65.6
			SHC	33.7	45.0	56.4	31.1	42.4	53.7	29.1	40.4	51.7	26.1	37.4	48.7	22.8	34.1	45.4
		76	TC	—	95.4	95.4	—	89.9	89.9	—	84.1	84.1	—	77.9	77.9	—	—	—
			SHC	—	36.2	47.3	—	33.3	44.3	—	31.1	42.2	—	28.0	39.1	—	—	—
2400 cfm	EA (wb)	58	TC	73.9	73.9	83.8	70.0	70.0	79.6	65.9	65.9	75.1	61.5	61.5	70.1	56.7	56.7	64.9
			SHC	64.0	73.9	83.8	60.5	70.0	79.6	56.8	65.9	75.1	53.0	61.5	70.1	48.6	56.7	64.9
		62	TC	74.7	74.7	85.9	71.6	71.6	77.9	66.0	66.0	78.2	61.6	61.6	73.0	56.8	56.8	67.6
			SHC	60.5	73.2	85.9	55.2	66.6	77.9	53.9	66.0	78.2	50.1	61.6	73.0	46.0	56.8	67.6
		67	TC	82.0	82.0	82.0	77.1	77.1	77.1	71.9	71.9	71.9	66.3	66.3	66.3	60.2	60.2	62.2
			SHC	47.9	60.7	73.5	45.0	57.8	70.6	42.5	55.3	68.1	39.6	52.4	65.2	36.6	49.4	62.2
		72	TC	90.3	90.3	90.3	84.9	84.9	84.9	79.3	79.3	79.3	73.2	73.2	73.2	66.3	66.3	66.3
			SHC	35.0	47.8	60.6	32.2	45.0	57.8	30.0	42.8	55.6	26.7	39.5	52.3	24.4	37.2	50.0
		76	TC	—	97.3	97.3	—	91.7	91.7	—	85.6	85.6	—	—	—	—	—	—
			SHC	—	38.0	50.6	—	34.8	47.5	—	32.5	45.2	—	—	—	—	—	—
2700 cfm	EA (wb)	58	TC	76.9	76.9	87.1	72.9	72.9	82.7	68.5	68.5	77.9	63.7	63.7	72.6	58.8	58.8	67.1
			SHC	66.6	76.9	87.1	63.1	72.9	82.7	59.2	68.5	77.9	54.8	63.7	72.6	50.5	58.8	67.1
		62	TC	77.0	77.0	90.7	73.0	73.0	86.0	68.6	68.6	81.1	63.8	63.8	75.7	59.0	59.0	70.1
			SHC	63.3	77.0	90.7	59.9	73.0	86.0	56.2	68.6	81.1	51.9	63.8	75.7	47.8	59.0	70.1
		67	TC	83.6	83.6	83.6	78.5	78.5	78.5	73.1	73.1	73.6	67.4	67.4	70.9	60.9	60.9	67.8
			SHC	50.8	65.2	79.6	47.6	62.0	76.4	44.8	59.2	73.6	42.4	56.6	70.9	39.3	53.6	67.8
		72	TC	91.8	91.8	91.8	86.3	86.3	86.3	80.5	80.5	80.5	74.1	74.1	74.1	67.1	67.1	67.1
			SHC	36.1	50.5	64.9	33.9	48.3	62.7	30.7	45.1	59.5	27.9	42.3	56.7	24.5	38.9	53.3
		76	TC	—	98.9	98.9	—	—	—	—	—	—	—	—	—	—	—	—
			SHC	—	38.6	52.7	—	—	—	—	—	—	—	—	—	—	—	—
3000 cfm	EA (wb)	58	TC	79.4	79.4	90.0	75.3	75.3	85.3	70.8	70.8	80.4	66.0	66.0	75.0	60.7	60.7	69.3
			SHC	68.9	79.4	90.0	65.2	75.3	85.3	61.2	70.8	80.4	56.9	66.0	75.0	52.2	60.7	69.3
		62	TC	79.6	79.6	93.6	75.4	75.4	88.9	70.9	70.9	83.7	65.6	65.6	77.8	60.8	60.8	72.2
			SHC	65.6	79.6	93.6	61.8	75.4	88.9	58.0	70.9	83.7	53.4	65.6	77.8	49.4	60.8	72.2
		67	TC	84.8	84.8	84.8	79.6	79.6	81.9	74.1	74.1	79.6	68.3	68.3	76.6	62.0	62.0	73.4
			SHC	52.8	68.7	84.5	50.2	66.1	81.9	47.9	63.7	79.6	45.0	60.8	76.6	42.0	57.7	73.4
		72	TC	93.0	93.0	93.0	87.4	87.4	87.4	81.5	81.5	81.5	75.2	75.2	75.2	68.4	68.4	68.4
			SHC	37.2	53.0	68.9	34.9	50.7	66.5	31.4	47.3	63.1	29.3	45.1	60.9	25.9	41.7	57.6
		76	TC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—
			SHC	—	—	—	—	—	—	—	—	—	—	—	—	—	—	—

LEGEND

— — Do Not Operate
cfm — Cubic Feet Per Minute (Supply Air)
EA (db) — Entering Air Temperature (dry bulb)
EA (wb) — Entering Air Temperature (wet bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 8.

Performance data (cont)

48/50GE*N12 — Unit with Humidi-MiZer® System in Subcooling Mode — Cooling Capacities

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — SCFM/BF (80°F db)								
		3000/0.06			4000/0.08			5000/0.10		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	125.0	115.0	102.0	131.0	123.0	110.0	138.0	123.0	112.0
	SHC	48.0	66.0	80.0	54.0	80.0	98.0	65.0	88.0	111.0
	kW	7.0	6.9	6.7	7.2	7.0	6.7	7.3	7.0	6.8
85	TC	122.0	106.0	97.0	128.0	110.0	100.0	124.0	112.0	103.0
	SHC	46.0	57.0	74.0	51.0	68.0	90.0	52.0	78.0	95.0
	kW	7.9	7.6	7.6	8.0	7.7	7.5	8.0	7.8	7.6
95	TC	108.0	101.0	90.0	116.0	103.0	90.0	112.0	105.0	94.0
	SHC	33.0	54.0	69.0	41.0	62.0	81.0	41.0	72.0	87.0
	kW	8.7	8.7	8.5	8.9	8.7	8.5	8.9	8.8	8.5
105	TC	111.0	92.0	83.0	106.0	93.0	82.0	106.0	93.0	86.0
	SHC	35.0	46.0	63.0	33.0	53.0	73.0	35.0	62.0	61.0
	kW	8.8	9.8	9.6	10.0	9.7	9.5	10.0	9.8	9.6
115	TC	88.0	82.0	76.0	94.0	81.0	74.0	96.0	83.0	74.0
	SHC	15.0	36.0	57.0	22.0	42.0	65.0	27.0	53.0	74.0
	kW	10.9	10.9	10.9	11.1	10.9	10.8	11.2	11.0	10.8
125	TC	81.0	71.0	67.0	83.0	71.0	65.0	83.0	71.0	63.0
	SHC	9.0	27.0	49.0	12.0	34.0	57.0	16.0	41.0	57.0
	kW	12.3	12.2	12.1	12.4	12.2	12.1	12.5	12.2	12.0

48/50GE*N12 — Unit with Humidi-MiZer System in Hot Gas Reheat Mode — Cooling Capacities

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — Ewb (°F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — cfm								
		3000	4000	5000	3000	4000	5000	3000	4000	5000
80	TC	53.7	54.5	53.2	57.3	58.1	56.8	60.5	61.4	60.1
	SHC	12.5	7.5	3.4	13.3	7.9	3.6	14.1	8.4	3.8
	kW	6.5	6.5	6.5	6.5	6.5	6.5	6.6	6.6	6.6
75	TC	59.9	61.2	60.3	63.7	64.9	64.0	67.0	68.3	67.4
	SHC	19.0	13.9	9.5	20.2	14.8	10.1	21.2	15.5	10.6
	kW	6.2	6.2	6.2	6.2	6.2	6.3	6.3	6.3	6.3
70	TC	66.3	68.2	67.7	70.1	72.1	71.5	73.5	75.6	75.1
	SHC	25.5	20.6	16.0	27.0	21.8	16.9	28.3	22.8	17.7
	kW	5.9	5.9	6.0	6.0	6.0	6.0	6.0	6.0	6.0
60	TC	79.0	82.2	82.6	83.1	86.3	86.6	86.5	90.0	90.4
	SHC	38.7	34.3	29.6	40.7	36.0	31.0	42.4	37.5	32.4
	kW	5.4	5.4	5.5	5.4	5.5	5.5	5.5	5.5	5.5
50	TC	92.3	96.8	98.2	96.6	101.2	102.5	100.3	105.0	106.4
	SHC	52.6	48.9	44.6	55.1	51.2	46.5	57.2	53.1	48.3
	kW	4.9	5.0	5.0	4.9	5.0	5.0	5.0	5.0	5.1
40	TC	106.1	112.0	114.3	110.5	116.4	118.6	114.3	120.3	122.5
	SHC	67.5	64.8	60.8	70.3	67.3	63.1	72.7	69.6	65.2
	kW	4.4	4.5	4.6	4.5	4.5	4.6	4.5	4.6	4.6

LEGEND

Edb — Entering Dry Bulb
Ewb — Entering Wet Bulb
kW — Compressor Power Input
SCFM/BF — Standard Cubic Feet per Minute/Bypass Factor
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

48/50GE**14 Two Stage Cooling Capacities

48/50GE**14				AMBIENT TEMPERATURE (°F)															
				85			95			105			115			125		
				EA (db)			EA (db)			EA (db)			EA (db)			EA (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
3750 cfm	EA (wb)	58	TC	136.6	136.6	155.3	129.4	129.4	147.5	121.7	121.7	139.1	113.6	113.6	130.2	104.9	104.9	120.7
			SHC	117.9	136.6	155.3	111.3	129.4	147.5	104.4	121.7	139.1	96.9	113.6	130.2	89.1	104.9	120.7
		62	TC	144.1	144.1	146.6	135.7	135.7	141.4	126.4	126.4	135.8	116.5	116.5	130.1	106.0	106.0	124.1
			SHC	105.5	126.1	146.6	100.3	120.8	141.4	94.7	115.3	135.8	88.9	109.5	130.1	83.0	103.5	124.1
		67	TC	158.5	158.5	158.5	150.6	150.6	150.6	141.7	141.7	141.7	131.3	131.3	131.3	120.0	120.0	120.0
			SHC	85.1	105.7	126.3	80.3	100.9	121.5	75.1	95.7	116.3	69.4	90.0	110.5	63.4	83.9	104.5
		72	TC	173.2	173.2	173.2	165.4	165.4	165.4	157.4	157.4	157.4	147.6	147.6	147.6	135.7	135.7	135.7
			SHC	64.2	84.8	105.5	59.6	80.3	100.9	55.0	75.6	96.2	49.7	70.3	90.9	43.8	64.4	85.0
		76	TC	—	186.1	186.1	—	178.3	178.3	—	170.5	170.5	—	161.4	161.4	—	149.3	149.3
			SHC	—	68.1	88.6	—	63.6	84.2	—	59.2	79.8	—	54.4	74.9	—	48.5	69.1
4400 cfm	EA (wb)	58	TC	146.0	146.0	165.7	138.7	138.7	157.8	130.6	130.6	149.0	121.8	121.8	139.4	112.6	112.6	129.3
			SHC	126.2	146.0	165.7	119.5	138.7	157.8	112.1	130.6	149.0	104.2	121.8	139.4	95.9	112.6	129.3
		62	TC	149.2	149.2	164.1	140.9	140.9	159.0	131.5	131.5	153.4	122.0	122.0	145.5	112.7	112.7	135.1
			SHC	115.9	140.0	164.1	110.8	134.9	159.0	105.3	129.3	153.4	98.5	122.0	145.5	90.4	112.7	135.1
		67	TC	163.1	163.1	163.1	155.1	155.1	155.1	146.5	146.5	146.5	135.8	135.8	135.8	124.1	124.1	124.1
			SHC	91.7	115.8	140.0	86.9	111.1	135.2	81.9	106.1	130.2	76.2	100.3	124.4	70.1	94.2	118.3
		72	TC	177.8	177.8	177.8	169.8	169.8	169.8	161.7	161.7	161.7	152.2	152.2	152.2	139.9	139.9	139.9
			SHC	67.1	91.3	115.5	62.5	86.7	110.9	57.9	82.1	106.3	52.9	77.0	101.2	46.8	71.0	95.2
		76	TC	—	190.7	190.7	—	182.2	182.2	—	175.0	175.0	—	165.9	165.9	—	153.6	153.6
			SHC	—	71.6	95.8	—	67.0	91.1	—	62.8	87.0	—	58.0	82.1	—	52.2	76.3
5000 cfm	EA (wb)	58	TC	153.0	153.0	173.5	145.6	145.6	165.6	137.3	137.3	156.5	128.2	128.2	146.6	118.5	118.5	135.9
			SHC	132.4	153.0	173.5	125.7	145.6	165.6	118.1	137.3	156.5	109.9	128.2	146.6	101.1	118.5	135.9
		62	TC	154.0	154.0	176.8	145.6	145.6	172.2	137.5	137.5	163.2	128.4	128.4	152.9	118.7	118.7	141.9
			SHC	123.8	150.3	176.8	118.9	145.6	172.2	111.9	137.5	163.2	103.9	128.4	152.9	95.4	118.7	141.9
		67	TC	166.2	166.2	166.2	158.2	158.2	158.2	149.6	149.6	149.6	139.0	139.0	139.0	126.9	126.9	130.8
			SHC	97.5	124.9	152.3	92.8	120.2	147.6	87.9	115.2	142.6	82.2	109.6	136.9	76.0	103.4	130.8
		72	TC	180.8	180.8	180.8	172.7	172.7	172.7	164.5	164.5	164.5	155.3	155.3	155.3	142.8	142.8	142.8
			SHC	69.6	97.0	124.5	65.0	92.5	119.9	60.4	87.9	115.3	55.5	82.9	110.3	49.4	76.9	104.3
		76	TC	—	194.0	194.0	—	185.2	185.2	—	177.4	177.4	—	168.9	168.9	—	156.5	156.5
			SHC	—	74.7	102.1	—	70.1	97.4	—	65.7	93.1	—	61.2	88.6	—	55.4	82.8
5650 cfm	EA (wb)	58	TC	158.7	158.7	179.9	151.5	151.5	172.1	143.5	143.5	163.4	134.1	134.1	153.1	124.0	124.0	142.0
			SHC	137.5	158.7	179.9	130.9	151.5	172.1	123.6	143.5	163.4	115.1	134.1	153.1	105.9	124.0	142.0
		62	TC	159.0	159.0	187.4	151.5	151.5	179.0	143.9	143.9	170.5	134.3	134.3	159.7	124.1	124.1	148.2
			SHC	130.7	159.0	187.4	124.0	151.5	179.0	117.2	143.9	170.5	108.9	134.3	159.7	100.0	124.1	148.2
		67	TC	168.8	168.8	168.8	160.7	160.7	160.7	152.2	152.2	155.8	141.7	141.7	150.2	129.4	129.4	144.0
			SHC	103.6	134.5	165.4	98.9	129.8	160.7	94.0	124.9	155.8	88.5	119.3	150.2	82.3	113.1	144.0
		72	TC	183.2	183.2	183.2	175.0	175.0	175.0	166.8	166.8	166.8	157.9	157.9	157.9	145.2	145.2	145.2
			SHC	72.1	103.1	134.1	67.5	98.5	129.5	62.9	93.9	124.9	58.1	89.1	120.1	52.1	83.1	114.0
		76	TC	—	196.2	196.2	—	187.6	187.6	—	179.9	179.9	—	171.4	171.4	—	158.9	158.9
			SHC	—	77.8	108.7	—	73.2	104.1	—	69.0	99.8	—	64.4	95.3	—	58.7	89.6
6250 cfm	EA (wb)	58	TC	163.3	163.3	185.0	156.0	156.0	177.1	148.4	148.4	168.9	138.8	138.8	158.4	128.3	128.3	146.8
			SHC	141.6	163.3	185.0	134.9	156.0	177.1	127.9	148.4	168.9	119.3	138.8	158.4	109.8	128.3	146.8
		62	TC	163.3	163.3	192.3	156.1	156.1	184.3	148.3	148.3	175.6	139.0	139.0	165.2	128.4	128.4	153.2
			SHC	134.3	163.3	192.3	127.9	156.1	184.3	121.0	148.3	175.6	112.9	139.0	165.2	103.7	128.4	153.2
		67	TC	170.7	170.7	177.3	162.5	162.5	172.6	154.1	154.1	167.8	143.7	143.7	162.3	131.3	131.3	156.0
			SHC	109.1	143.2	177.3	104.4	138.5	172.6	99.6	133.7	167.8	94.1	128.2	162.3	87.9	122.0	156.0
		72	TC	185.0	185.0	185.0	176.7	176.7	176.7	168.5	168.5	168.5	159.7	159.7	159.7	147.0	147.0	147.0
			SHC	74.4	108.6	142.8	69.7	104.0	138.2	65.2	99.4	133.6	60.5	94.7	128.9	54.5	88.7	122.9
		76	TC	—	197.9	197.9	—	189.4	189.4	—	181.6	181.6	—	173.3	173.3	—	160.7	160.7
			SHC	—	80.6	114.8	—	76.1	110.2	—	71.8	105.9	—	67.4	101.5	—	61.6	95.7

LEGEND

— — Do Not Operate
cfm — Cubic Feet Per Minute (Supply Air)
EA (db) — Entering Air Temperature (dry bulb)
EA (wb) — Entering Air Temperature (wet bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 8.

Performance data (cont)

48/50GE**14 Single Stage Cooling Capacities

48/50GE**14				AMBIENT TEMPERATURE (°F)															
				85			95			105			115			125		
				EA (db)			EA (db)			EA (db)			EA (db)			EA (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2475 Cfm	EA (wb)	58	TC	86.0	86.0	97.5	78.3	78.3	89.8	72.6	72.6	83.7	66.7	66.7	77.3	60.6	60.6	70.7
			SHC	74.5	86.0	97.5	66.8	78.3	89.8	61.6	72.6	83.7	56.1	66.7	77.3	50.5	60.6	70.7
		62	TC	87.5	87.5	91.7	81.6	81.6	87.7	74.9	74.9	83.4	67.9	67.9	79.0	61.4	61.4	71.1
			SHC	64.5	78.1	91.7	60.5	74.1	87.7	56.2	69.8	83.4	51.8	65.4	79.0	45.3	58.2	71.1
		67	TC	99.5	99.5	99.5	92.6	92.6	92.6	85.4	85.4	85.4	77.9	77.9	77.9	70.0	70.0	70.0
			SHC	52.1	65.7	79.3	47.8	61.4	75.0	43.4	56.9	70.5	38.8	52.4	66.0	34.3	47.8	61.4
		72	TC	110.8	110.8	110.8	103.9	103.9	103.9	96.8	96.8	96.8	88.9	88.9	88.9	81.6	81.6	81.6
			SHC	39.0	52.6	66.2	34.8	48.4	62.1	30.6	44.2	57.8	26.1	39.7	53.3	21.6	35.2	48.9
		76	TC	—	119.1	119.1	—	112.9	112.9	—	106.2	106.2	—	98.4	98.4	—	90.8	90.8
			SHC	—	41.6	55.3	—	37.8	51.4	—	33.8	47.4	—	29.4	43.0	—	25.0	38.6
2904 Cfm	EA (wb)	58	TC	90.2	90.2	102.9	84.4	84.4	96.6	78.4	78.4	90.1	72.1	72.1	83.3	65.5	65.5	76.2
			SHC	77.6	90.2	102.9	72.3	84.4	96.6	66.7	78.4	90.1	60.9	72.1	83.3	54.9	65.5	76.2
		62	TC	91.5	91.5	105.0	85.7	85.7	101.7	78.6	78.6	94.2	72.3	72.3	87.3	65.7	65.7	79.9
			SHC	73.3	89.1	105.0	69.7	85.7	101.7	62.9	78.6	94.2	57.3	72.3	87.3	51.4	65.7	79.9
		67	TC	102.7	102.7	102.7	96.0	96.0	96.0	88.6	88.6	88.6	80.7	80.7	80.7	72.4	72.4	72.4
			SHC	57.2	73.1	89.0	52.5	68.5	84.4	48.1	64.0	80.0	43.5	59.5	75.4	38.8	54.8	70.7
		72	TC	113.7	113.7	113.7	107.0	107.0	107.0	100.0	100.0	100.0	91.9	91.9	91.9	83.1	83.1	83.1
			SHC	41.0	57.0	72.9	37.0	52.9	68.9	32.8	48.7	64.7	28.2	44.2	60.2	23.5	39.5	55.4
		76	TC	—	122.5	122.5	—	116.1	116.1	—	109.3	109.3	—	101.5	101.5	—	92.2	92.2
			SHC	—	44.2	60.2	—	40.3	56.3	—	36.3	52.3	—	32.0	47.9	—	27.2	43.2
3300 Cfm	EA (wb)	58	TC	95.3	95.3	108.5	89.3	89.3	102.0	82.9	82.9	95.2	76.3	76.3	88.0	69.4	69.4	80.5
			SHC	82.1	95.3	108.5	76.5	89.3	102.0	70.7	82.9	95.2	64.7	76.3	88.0	58.3	69.4	80.5
		62	TC	95.7	95.7	112.2	89.4	89.4	106.4	83.1	83.1	99.4	76.5	76.5	92.1	68.9	68.9	82.6
			SHC	77.4	94.8	112.2	72.4	89.4	106.4	66.7	83.1	99.4	60.9	76.5	92.1	52.8	67.7	82.6
		67	TC	106.0	106.0	106.0	98.8	98.8	98.8	90.0	90.0	90.0	81.9	81.9	83.5	74.2	74.2	79.1
			SHC	60.0	77.7	95.4	56.8	74.9	93.0	51.8	69.9	87.9	47.4	65.4	83.5	42.9	61.0	79.1
		72	TC	116.0	116.0	116.0	109.1	109.1	109.1	102.1	102.1	102.1	94.0	94.0	94.0	85.0	85.0	85.0
			SHC	42.8	60.9	78.9	38.8	56.9	75.1	34.6	52.7	70.9	30.1	48.2	66.3	25.3	43.4	61.5
		76	TC	—	124.8	124.8	—	118.2	118.2	—	111.4	111.4	—	103.6	103.6	—	94.1	94.1
			SHC	—	46.4	64.6	—	42.5	60.6	—	38.5	56.6	—	34.2	52.3	—	29.3	47.5
3729 Cfm	EA (wb)	58	TC	100.0	100.0	113.7	93.7	93.7	106.9	87.1	87.1	99.8	80.2	80.2	92.3	73.0	73.0	84.5
			SHC	86.3	100.0	113.7	80.5	93.7	106.9	74.4	87.1	99.8	68.1	80.2	92.3	61.5	73.0	84.5
		62	TC	100.1	100.1	119.4	93.8	93.8	111.5	87.3	87.3	104.2	80.3	80.3	96.5	73.1	73.1	88.4
			SHC	82.3	100.8	119.4	76.2	93.8	111.5	70.3	87.3	104.2	64.2	80.3	96.5	57.7	73.1	88.4
		67	TC	109.5	109.5	109.5	100.3	100.3	101.9	92.2	92.2	96.3	84.1	84.1	92.7	75.8	75.8	88.1
			SHC	63.3	82.7	102.0	61.0	81.4	101.9	55.9	76.1	96.3	51.8	72.2	92.7	47.2	67.6	88.1
		72	TC	117.9	117.9	117.9	110.8	110.8	110.8	103.8	103.8	103.8	95.8	95.8	95.8	86.5	86.5	86.5
			SHC	44.7	65.2	85.7	40.6	61.1	81.6	36.4	56.9	77.4	32.0	52.5	73.0	27.1	47.6	68.1
		76	TC	—	126.9	126.9	—	120.0	120.0	—	113.2	113.2	—	105.4	105.4	—	95.7	95.7
			SHC	—	48.7	69.2	—	44.7	65.2	—	40.7	61.2	—	36.5	57.0	—	31.6	52.1
4125 Cfm	EA (wb)	58	TC	103.5	103.5	117.6	97.1	97.1	110.8	90.4	90.4	103.5	83.3	83.3	95.8	75.8	75.8	87.6
			SHC	89.4	103.5	117.6	83.5	97.1	110.8	77.4	90.4	103.5	70.8	83.3	95.8	64.0	75.8	87.6
		62	TC	103.5	103.5	122.3	97.3	97.3	115.5	90.6	90.6	108.0	83.4	83.4	100.1	75.9	75.9	91.7
			SHC	84.7	103.5	122.3	79.1	97.3	115.5	73.1	90.6	108.0	66.8	83.4	100.1	60.1	75.9	91.7
		67	TC	112.3	112.3	112.3	101.7	101.7	110.0	94.1	94.1	105.6	85.8	85.8	101.0	77.7	77.7	96.5
			SHC	65.1	85.5	106.0	64.8	87.4	110.0	60.4	83.0	105.6	55.8	78.4	101.0	51.3	73.9	96.5
		72	TC	120.3	120.3	120.3	111.9	111.9	111.9	105.1	105.1	105.1	97.0	97.0	97.0	88.0	88.0	88.0
			SHC	46.6	69.2	91.8	42.1	64.8	87.4	38.1	60.7	83.4	33.6	56.3	78.9	28.9	51.5	74.2
		76	TC	—	128.4	128.4	—	121.3	121.3	—	114.6	114.6	—	106.7	106.7	—	96.8	96.8
			SHC	—	50.8	73.5	—	46.7	69.4	—	42.8	65.4	—	38.5	61.1	—	33.6	56.2

LEGEND

— — Do Not Operate
cfm — Cubic Feet Per Minute (Supply Air)
EA (db) — Entering Air Temperature (dry bulb)
EA (wb) — Entering Air Temperature (wet bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

NOTE: See minimum-maximum airflow ratings on page 8.

Performance data (cont)

48/50GE*N14 — Unit with Humidi-MiZer® System in Subcooling Mode — Cooling Capacities

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — SCFM/BF (80°F db)								
		3750/0.04			5000/0.09			6250/0.15		
		Air Entering Evaporator — Ewb (°F)								
		72	67	62	72	67	62	72	67	62
75	TC	158.3	151.2	136.0	178.3	153.2	139.0	185.1	155.2	145.9
	SHC	61.1	89.1	106.6	80.2	97.3	123.4	110.4	105.7	142.6
	kW	8.1	8.2	8.1	8.5	8.1	8.0	8.9	8.0	8.0
85	TC	158.4	142.2	128.4	159.8	145.5	138.0	164.6	158.1	144.0
	SHC	61.0	80.4	99.5	62.1	89.9	122.4	68.8	111.0	140.1
	kW	9.3	9.1	9.0	9.2	9.1	9.0	9.2	9.3	9.1
95	TC	143.1	128.8	115.6	156.8	141.5	124.6	162.4	146.8	134.9
	SHC	46.4	67.2	87.0	59.2	86.2	109.7	66.5	100.0	118.5
	kW	10.2	10.1	9.9	10.4	10.2	10.0	10.5	10.3	10.1
105	TC	132.8	119.0	107.1	141.6	131.5	115.1	144.3	133.0	121.3
	SHC	36.7	58.0	78.9	44.9	76.8	100.9	49.1	87.0	115.5
	kW	11.4	11.3	11.1	11.5	11.4	11.2	11.5	11.4	11.2
115	TC	126.8	113.4	101.4	134.3	120.8	106.4	134.1	122.1	113.5
	SHC	31.5	53.1	74.4	38.3	67.0	93.1	39.6	77.0	99.5
	kW	12.7	12.6	12.4	12.9	12.6	12.4	12.9	12.7	12.5
125	TC	115.0	101.5	89.1	121.6	107.2	95.7	125.8	111.7	101.3
	SHC	21.0	42.4	63.4	26.8	54.7	83.7	32.1	67.7	97.6
	kW	14.1	13.9	13.7	14.2	14.0	13.8	14.3	14.1	13.8

48/50GE*N14 — Unit with Humidi-MiZer System in Hot Gas Reheat Mode — Cooling Capacities

TEMP (°F) AIR ENTERING CONDENSER (Edb)		AIR ENTERING EVAPORATOR — Ewb (°F)								
		75 Dry Bulb 62.5 Wet Bulb (50% Relative)			75 Dry Bulb 64 Wet Bulb (56% Relative)			75 Dry Bulb 65.3 Wet Bulb (60% Relative)		
		Air Entering Evaporator — cfm								
		3750	5000	6250	3750	5000	6250	3750	5000	6250
80	TC	66.3	66.8	67.0	67.3	68.0	67.0	72.2	70.2	68.1
	SHC	19.7	14.3	12.9	20.0	14.5	12.9	21.5	15.0	13.1
	kW	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
75	TC	68.4	71.3	69.4	73.6	72.0	70.8	72.5	72.7	71.7
	SHC	21.9	19.7	13.6	23.6	19.9	13.9	23.2	20.0	14.1
	kW	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
70	TC	72.9	74.0	74.4	75.4	74.0	73.5	74.5	75.9	75.2
	SHC	26.2	21.7	16.2	27.1	21.7	16.0	26.8	22.2	16.4
	kW	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
60	TC	75.9	84.4	78.6	78.0	85.6	78.4	87.0	85.8	84.6
	SHC	29.4	26.9	25.4	30.2	27.2	25.3	33.7	27.3	27.3
	kW	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
50	TC	81.8	88.7	85.3	89.0	89.6	84.5	89.0	86.3	92.6
	SHC	35.2	35.3	28.9	38.3	35.6	28.6	38.3	34.3	31.3
	kW	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0
40	TC	98.3	91.3	94.7	89.6	92.7	93.9	97.5	99.4	98.2
	SHC	51.2	36.8	37.3	46.7	37.4	36.9	50.8	40.1	38.6
	kW	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0	8.0

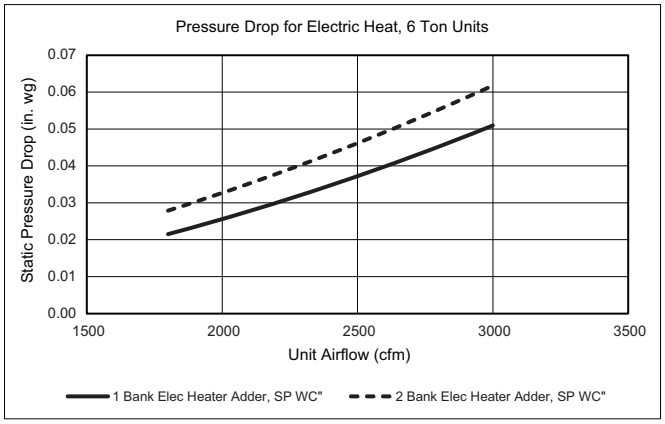
LEGEND

Edb — Entering dry bulb
Ewb — Entering wet bulb
kW — compressor Power Input
SCFM/BF — Standard Cubic Feet per Minute/Bypass Factor
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

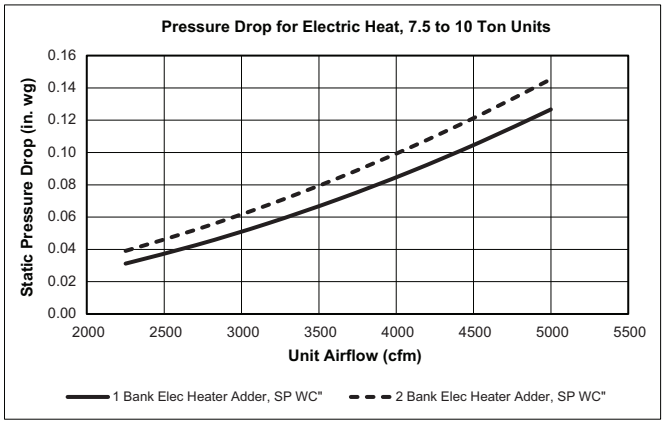
Performance data (cont)

Pressure Drops for Electric Heating Units

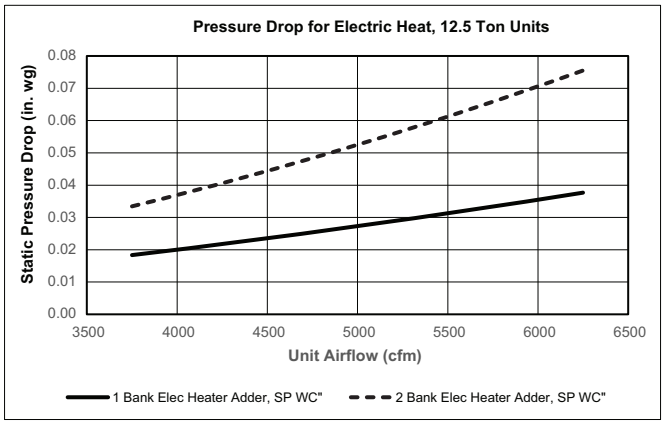
6 Ton Units



7.5, 8.5 and 10 Ton Units



12.5 Ton Units



Performance data (cont)

Pressure Drops for Gas Heating Units

Gas Heat Stages

48GE UNIT SIZE	HEAT SIZE		
	LOW	MEDIUM	HIGH
07	2	2	2
08	2	2	2
09	2	2	2
12	2	2	2
14	2	2	2

Gas Heat Static Pressure Deductions (in. wg) — 6 To 8.5 Ton Units

CFM	1800	2210	2615	3025	3435	3840	4250
High Gas Heat Deduction	–0.04	–0.04	–0.03	–0.03	–0.02	–0.01	0.01
Medium Gas Heat Deduction	0.00	0.01	0.02	0.03	0.04	0.06	0.08
Low Gas Heat Deduction	0.02	0.03	0.05	0.07	0.09	0.12	0.15

Gas Heat Static Pressure Deductions (in. wg) — 10 Ton Units

CFM	3000	3335	3665	4000	4335	4665	5000
Medium Gas Heat Deduction	0.00	0.01	0.02	0.03	0.05	0.06	0.07
Low Gas Heat Deduction	–0.03	–0.01	0.01	0.03	0.06	0.08	0.12

Gas Heat Static Pressure Deductions (in. wg) — 12.5 Ton Units

CFM	3750	4165	4585	5000	5415	5835	6250
High Gas Heat Deduction	0.10	0.11	0.12	0.14	0.15	0.17	0.18
Medium Gas Heat Deduction	0.17	0.19	0.21	0.24	0.26	0.28	0.30
Low Gas Heat Deduction	0.16	0.18	0.20	0.22	0.24	0.26	0.28

Performance data (cont)

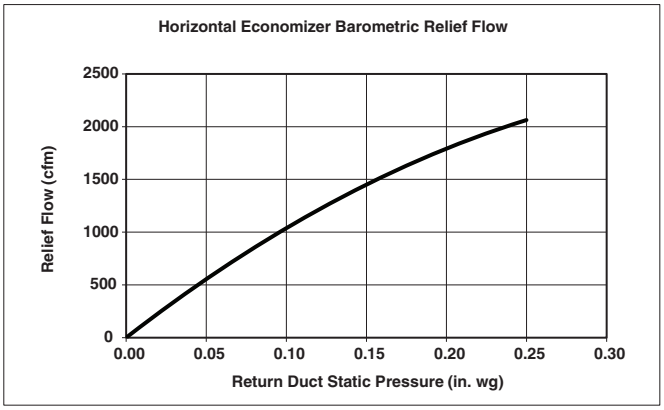
Field-installed Accessory Electric Heater Data

50GE UNIT SIZE	VOLTAGE	HEATER MODEL NUMBER	HEAT STAGES
07	208/230	CRHEATER410A00	1
		CRHEATER411A00	1
		CRHEATER412A00	1
		CRHEATER413A00	2
		CRHEATER414A00	2
	460	CRHEATER418A00	1
		CRHEATER419A00	1
		CRHEATER420A00	1
		CRHEATER421A00	2
	575	CRHEATER425A00	1
		CRHEATER426A00	2
08	208/230	CRHEATER411A00	1
		CRHEATER412A00	1
		CRHEATER414A00	2
		CRHEATER415A00	2
		CRHEATER416A00	2
	460	CRHEATER190A00	1
		CRHEATER420A00	1
		CRHEATER421A00	2
		CRHEATER422A00	2
		CRHEATER423A00	2
	575	CRHEATER425A00	1
		CRHEATER427A00	2
09	208/230	CRHEATER411A00	1
		CRHEATER412A00	1
		CRHEATER414A00	2
		CRHEATER415A00	2
		CRHEATER416A00	2
	460	CRHEATER419A00	1
		CRHEATER420A00	1
		CRHEATER421A00	2
		CRHEATER422A00	2
		CRHEATER423A00	2
	575	CRHEATER425A00	1
		CRHEATER427A00	2
12	208/230	CRHEATER411A00	1
		CRHEATER412A00	1
		CRHEATER415A00	2
		CRHEATER416A00	2
		CRHEATER417A00	2
	460	CRHEATER420A00	1
		CRHEATER422A00	2
		CRHEATER423A00	2
		CRHEATER424A00	2
	575	CRHEATER425A00	2
		CRHEATER427A00	2
		CRHEATER428A00	2
14	208/230	CRHEATER412A00	1
		CRHEATER414A00	2
		CRHEATER415A00	2
		CRHEATER416A00	2
		CRHEATER417A00	2
	460	CRHEATER420A00	1
		CRHEATER421A00	2
		CRHEATER422A00	2
		CRHEATER423A00	2
		CRHEATER424A00	2
	575	CRHEATER425A00	1
		CRHEATER426A00	2
		CRHEATER427A00	2
		CRHEATER428A00	2

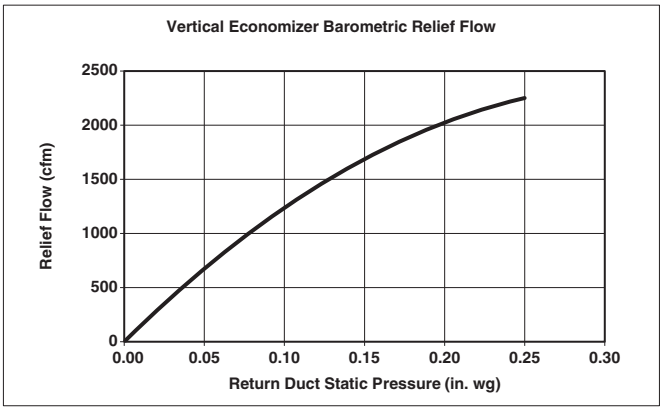
Performance data (cont)

Economizer Barometric Relief and Damper Leakage — 6 to 10 Ton Units (Sizes 07-12)

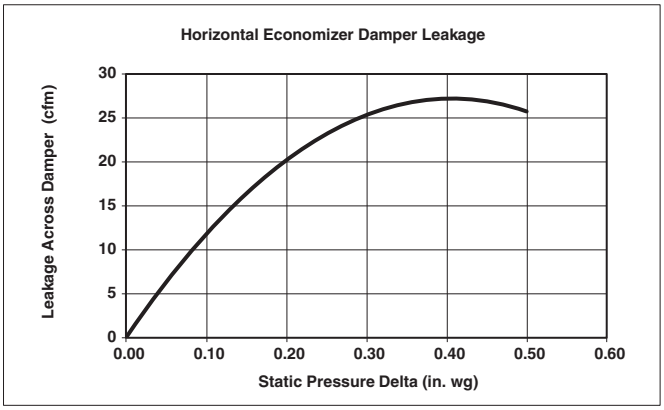
Horizontal Economizer Barometric Relief



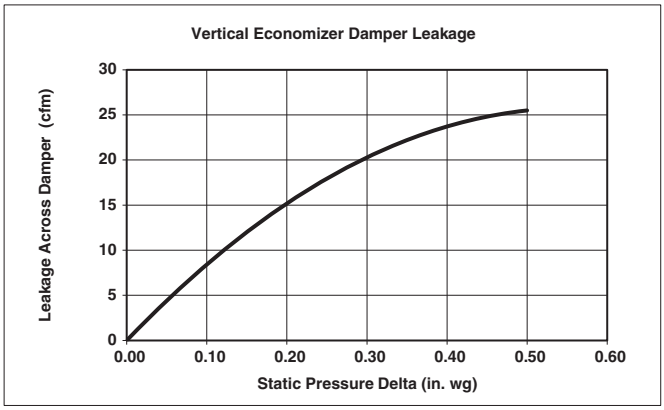
Vertical Economizer Barometric Relief



Horizontal Economizer Damper Leakage



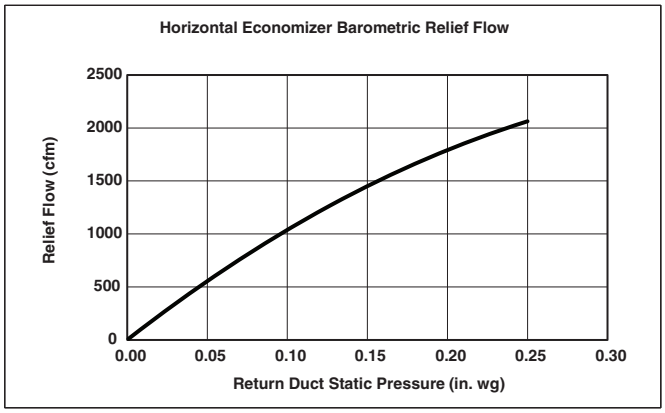
Vertical Economizer Damper Leakage



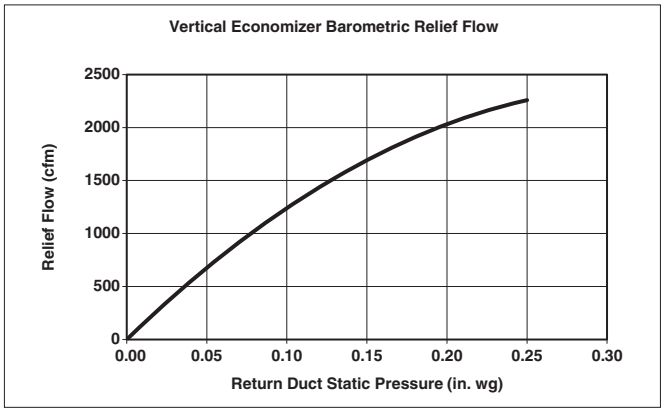
Performance data (cont)

Economizer Barometric Relief and Damper Leakage — 12.5 Ton Units (Size 14)

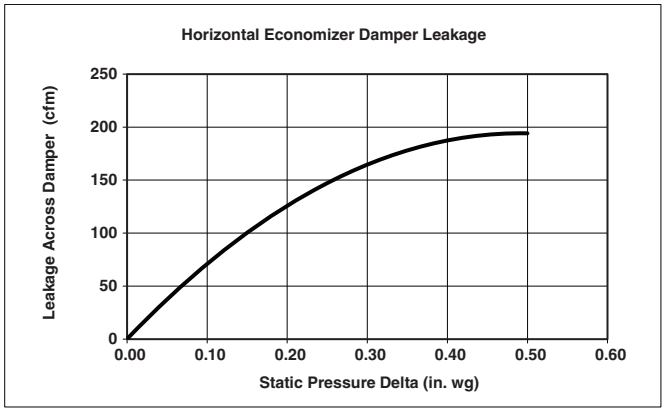
Horizontal Economizer Barometric Relief



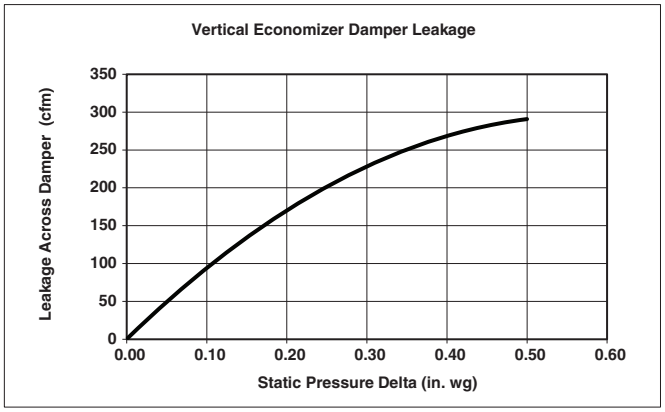
Vertical Economizer Barometric Relief



Horizontal Economizer Damper Leakage

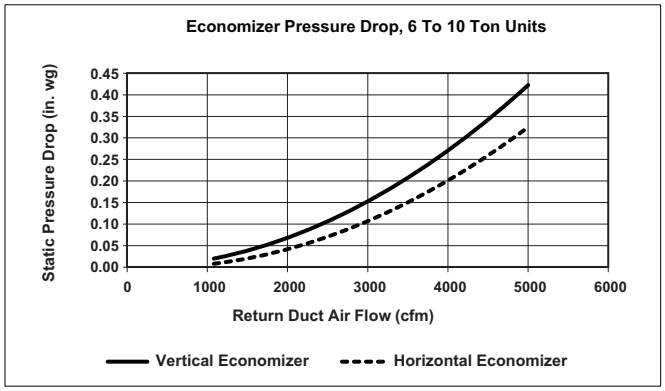


Vertical Economizer Damper Leakage

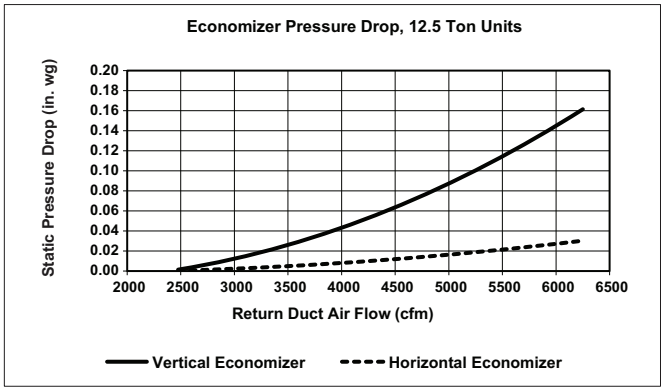


Economizer Pressure Drop 6.0 to 12.5 Ton Units

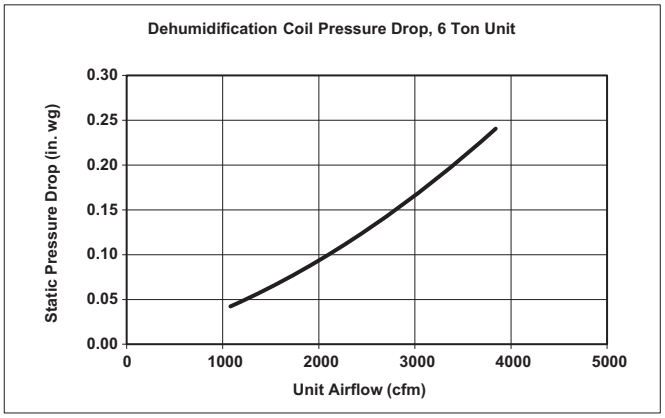
6 to 10 Ton Units (Sizes 07-12)

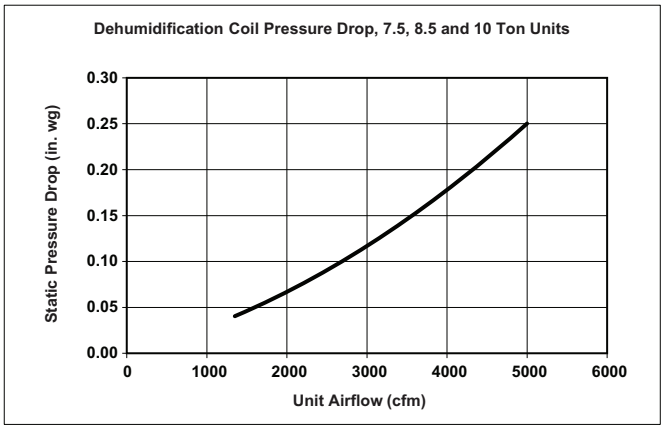


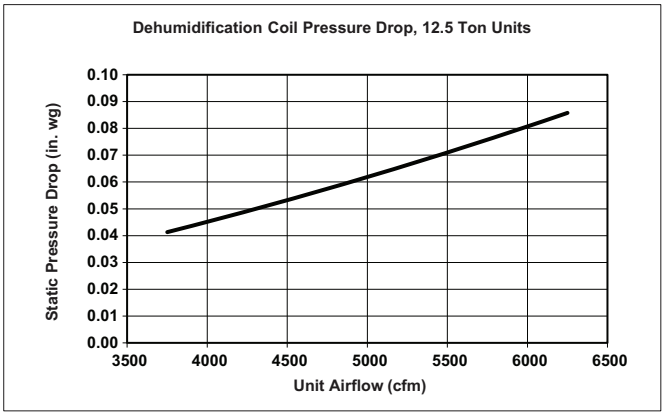
12.5 Ton Units (Size 14)



Humidi-MiZer® Coil Pressure Drops — 6 To 12.5 Ton Units







General Fan Performance Notes

1. Interpolation is permissible. Do not extrapolate.
2. External static pressure is the static pressure difference between the return duct and the supply duct plus the static pressure caused by any FIOPs or accessories.
3. Tabular data accounts for pressure loss due to clean filters, unit casing, wet coils, and highest gas heat exchanger (when gas heat unit).
4. Factory options and accessories may effect static pressure losses. Gas heat unit fan tables assume highest gas heat models; for fan selections with low or medium heat models, the user must deduct low and medium heat static pressures. Selection software is available, through your salesperson, to help you select the best motor/drive combination for your application.
5. The fan performance tables offer motor recommendations. In cases when 2 motors would work, the lower horsepower option is recommended.
6. Fan tables for 48GE units include highest gas heat. Utilize static pressure deduction tables on page 55 for lower gas heat capacities.
7. For information on the electrical properties of the fan motors, please see the Electrical information section of this book.
8. For more information on the performance limits of the fan motors, see the application data section of this book.
9. The EPACT (Energy Policy Act of 1992) regulates energy requirements for specific types of indoor fan motors. Motors regulated by EPACT include any general purpose, T-frame (3-digit, 143 and larger), single-speed, foot mounted, polyphase, squirrel cage induction motors of NEMA (National Electrical Manufacturers Association) design A and B, manufactured for use in the United States. Ranging from 1 to 200 Hp, these continuous-duty motors operate on 230 and 460 volt, 60 Hz power. If a motor does not fit into these specifications, the motor does not have to be replaced by an EPACT compliant energy-efficient motor. Variable-speed motors are exempt from EPACT compliance requirements.

Fan data (cont)

48GEFM07 — 6 Ton Vertical Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1800	892	0.27	1029	0.41	1148	0.57	1255	0.75	1353	0.94
1950	942	0.32	1073	0.47	1188	0.63	1293	0.82	1388	1.01
2100	993	0.37	1119	0.53	1230	0.70	1332	0.89	1425	1.09
2250	1045	0.43	1166	0.60	1274	0.78	1372	0.97	1463	1.18
2400	1098	0.50	1214	0.67	1318	0.86	1413	1.06	1503	1.28
2550	1151	0.57	1263	0.75	1364	0.95	1456	1.16	1543	1.38
2700	1205	0.65	1313	0.84	1410	1.04	1501	1.26	1585	1.48
2850	1259	0.74	1363	0.94	1458	1.15	1546	1.37	1628	1.60
3000	1314	0.83	1415	1.04	1507	1.26	1592	1.48	1672	1.71

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1800	1444	1.14	1529	1.35	1608	1.57	1683	1.81	1755	2.05
1950	1477	1.22	1561	1.44	1639	1.67	1714	1.90	1785	2.15
2100	1512	1.31	1594	1.53	1672	1.77	1746	2.01	1816	2.26
2250	1548	1.40	1629	1.63	1705	1.87	1778	2.12	1848	2.38
2400	1586	1.50	1665	1.73	1740	1.98	1812	2.24	1881	2.50
2550	1625	1.61	1702	1.85	1776	2.10	1847	2.36	1914	2.62
2700	1665	1.72	1741	1.97	1813	2.22	1883	2.49	1949	2.76
2850	1706	1.84	1781	2.09	1852	2.35	1920	2.62	1985	2.89
3000	1749	1.96	1821	2.22	1891	2.48	1958	2.75	2022	3.03

Std/Med Static 892-2000 rpm, 2.4 maximum bhp

High Static 892-2200 rpm, 3.0 maximum bhp

48GEFM07 — Standard/Medium Static — 6 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	892	0.27	1029	0.41	1148	0.57	1255	0.75	1353	0.94
1950	942	0.32	1073	0.47	1188	0.63	1293	0.82	1388	1.01
2100	993	0.37	1119	0.53	1230	0.70	1332	0.89	1425	1.09
2250	1045	0.43	1166	0.60	1274	0.78	1372	0.97	1463	1.18
2400	1098	0.50	1214	0.67	1318	0.86	1413	1.06	1503	1.28
2550	1151	0.57	1263	0.75	1364	0.95	1456	1.16	1543	1.38
2700	1205	0.65	1313	0.84	1410	1.04	1501	1.26	1585	1.48
2850	1259	0.74	1363	0.94	1458	1.15	1546	1.37	1628	1.60
3000	1314	0.83	1415	1.04	1507	1.26	1592	1.48	1672	1.71

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	1444	7.1	1529	7.6	1608	8.0	1683	8.4	1755	8.7
1950	1477	7.3	1561	7.7	1639	8.1	1714	8.5	1785	8.9
2100	1512	7.5	1594	7.9	1672	8.3	1746	8.7	1816	9.1
2250	1548	7.7	1629	8.1	1705	8.5	1778	8.9	1848	9.2
2400	1586	7.9	1665	8.3	1740	8.7	1812	9.0	1881	9.4
2550	1625	8.1	1702	8.5	1776	8.8	1847	9.2	—	—
2700	1665	8.3	1741	8.7	1813	9.0	1883	9.4	—	—
2850	1706	8.5	1781	8.9	1852	9.2	—	—	—	—
3000	1749	8.7	1821	9.1	1891	9.4	—	—	—	—

Std/Med Static 892-2000 rpm

Fan data (cont)

48GEFM07 — High Static — 6 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	892	4.0	1029	4.6	1148	5.1	1255	5.6	1353	6.1
1950	942	4.2	1073	4.8	1188	5.3	1293	5.8	1388	6.3
2100	993	4.4	1119	5.0	1230	5.5	1332	6.0	1425	6.4
2250	1045	4.7	1166	5.2	1274	5.7	1372	6.2	1463	6.6
2400	1098	4.9	1214	5.4	1318	5.9	1413	6.4	1503	6.8
2550	1151	5.2	1263	5.7	1364	6.1	1456	6.6	1543	7.0
2700	1205	5.4	1313	5.9	1410	6.4	1501	6.8	1585	7.2
2850	1259	5.7	1363	6.1	1458	6.6	1546	7.0	1628	7.4
3000	1314	5.9	1415	6.4	1507	6.8	1592	7.2	1672	7.6

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	1444	6.5	1529	6.9	1608	7.3	1683	7.6	1755	7.9
1950	1477	6.7	1561	7.1	1639	7.4	1714	7.8	1785	8.1
2100	1512	6.8	1594	7.2	1672	7.6	1746	7.9	1816	8.2
2250	1548	7.0	1629	7.4	1705	7.7	1778	8.1	1848	8.4
2400	1586	7.2	1665	7.5	1740	7.9	1812	8.2	1881	8.5
2550	1625	7.3	1702	7.7	1776	8.0	1847	8.4	1914	8.7
2700	1665	7.5	1741	7.9	1813	8.2	1883	8.5	1949	8.8
2850	1706	7.7	1781	8.1	1852	8.4	1920	8.7	1985	9.0
3000	1749	7.9	1821	8.3	1891	8.6	1958	8.9	2022	9.2

High Static 892-2200 rpm

Fan data (cont)

48GEFM08 — 7.5 Ton Vertical Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2250	1001	0.37	1118	0.52	1225	0.69	1323	0.86	1414	1.06
2440	1065	0.45	1176	0.60	1278	0.77	1373	0.96	1460	1.15
2625	1129	0.53	1234	0.69	1331	0.87	1422	1.06	1508	1.26
2815	1196	0.62	1295	0.79	1388	0.97	1475	1.17	1558	1.38
3000	1261	0.72	1355	0.90	1444	1.09	1528	1.29	1608	1.50
3190	1329	0.84	1418	1.02	1503	1.21	1584	1.42	1661	1.64
3375	1396	0.96	1481	1.14	1562	1.34	1640	1.55	1715	1.78
3565	1465	1.09	1546	1.28	1624	1.49	1699	1.70	1771	1.93
3750	1533	1.23	1610	1.42	1685	1.63	1757	1.85	1826	2.08

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2250	1498	1.26	1578	1.47	1653	1.69	1724	1.91	1792	2.15
2440	1543	1.36	1620	1.58	1694	1.80	1765	2.04	1832	2.28
2625	1588	1.47	1664	1.69	1736	1.92	1805	2.16	1871	2.41
2815	1636	1.60	1710	1.82	1781	2.06	1849	2.30	1914	2.55
3000	1684	1.72	1757	1.96	1826	2.20	1892	2.44	1957	2.70
3190	1735	1.86	1806	2.10	1873	2.34	1939	2.60	2001	2.86
3375	1786	2.01	1855	2.25	1921	2.50	1985	2.76	2047	3.02
3565	1840	2.16	1907	2.41	1972	2.66	2034	2.92	2094	3.19
3750	1894	2.32	1959	2.56	2022	2.82	2083	3.08	—	—

Std/Med Static 1001-2000 rpm, 2.4 maximum bhp

High Static 1001-2200 rpm, 3.0 maximum bhp

48GEFM08 — Standard/Medium Static — 7.5 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	1001	4.9	1118	5.5	1225	6.0	1323	6.5	1414	7.0
2440	1065	5.2	1176	5.8	1278	6.3	1373	6.8	1460	7.2
2625	1129	5.5	1234	6.1	1331	6.6	1422	7.0	1508	7.5
2815	1196	5.9	1295	6.4	1388	6.9	1475	7.3	1558	7.7
3000	1261	6.2	1355	6.7	1444	7.1	1528	7.6	1608	8.0
3190	1329	6.5	1418	7.0	1503	7.4	1584	7.9	1661	8.3
3375	1396	6.9	1481	7.3	1562	7.7	1640	8.1	1715	8.5
3565	1465	7.2	1546	7.7	1624	8.1	1699	8.5	1771	8.8
3750	1533	7.6	1610	8.0	1685	8.4	1757	8.8	1826	9.1

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	1498	7.4	1578	7.8	1653	8.2	1724	8.6	1792	8.9
2440	1543	7.6	1620	8.0	1694	8.4	1765	8.8	1832	9.1
2625	1588	7.9	1664	8.3	1736	8.6	1805	9.0	1871	9.3
2815	1636	8.1	1710	8.5	1781	8.9	1849	9.2	—	—
3000	1684	8.4	1757	8.8	1826	9.1	1892	9.4	—	—
3190	1735	8.6	1806	9.0	1873	9.3	—	—	—	—
3375	1786	8.9	1855	9.3	1921	9.6	—	—	—	—
3565	1840	9.2	1907	9.5	—	—	—	—	—	—
3750	1894	9.5	—	—	—	—	—	—	—	—

Std/Med Static 1001-2000 rpm

Fan data (cont)

48GEFM08 — High Static — 7.5 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	1001	4.5	1118	5.0	1225	5.5	1323	6.0	1414	6.4
2440	1065	4.8	1176	5.3	1278	5.7	1373	6.2	1460	6.6
2625	1129	5.1	1234	5.5	1331	6.0	1422	6.4	1508	6.8
2815	1196	5.4	1295	5.8	1388	6.3	1475	6.7	1558	7.0
3000	1261	5.7	1355	6.1	1444	6.5	1528	6.9	1608	7.3
3190	1329	6.0	1418	6.4	1503	6.8	1584	7.2	1661	7.5
3375	1396	6.3	1481	6.7	1562	7.1	1640	7.4	1715	7.8
3565	1465	6.6	1546	7.0	1624	7.3	1699	7.7	1771	8.0
3750	1533	6.9	1610	7.3	1685	7.6	1757	8.0	1826	8.3

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	1498	6.8	1578	7.1	1653	7.5	1724	7.8	1792	8.1
2440	1543	7.0	1620	7.3	1694	7.7	1765	8.0	1832	8.3
2625	1588	7.2	1664	7.5	1736	7.9	1805	8.2	1871	8.5
2815	1636	7.4	1710	7.7	1781	8.1	1849	8.4	1914	8.7
3000	1684	7.6	1757	8.0	1826	8.3	1892	8.6	1957	8.9
3190	1735	7.9	1806	8.2	1873	8.5	1939	8.8	2001	9.1
3375	1786	8.1	1855	8.4	1921	8.7	1985	9.0	2047	9.3
3565	1840	8.3	1907	8.6	1972	8.9	2034	9.2	2094	9.5
3750	1894	8.6	1959	8.9	2022	9.2	2083	9.5	—	—

High Static 1001-2200 rpm

Fan data (cont)

48GEFM09 — 8.5 Ton Vertical Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	1108	0.51	1215	0.67	1314	0.85	1406	1.04	1493	1.24
2765	1183	0.61	1283	0.78	1378	0.97	1466	1.17	1549	1.38
2975	1258	0.73	1352	0.91	1442	1.10	1526	1.30	1606	1.52
3190	1335	0.87	1424	1.05	1509	1.25	1590	1.46	1667	1.69
3400	1411	1.01	1495	1.20	1576	1.41	1654	1.63	1728	1.86
3615	1490	1.18	1570	1.38	1647	1.59	1721	1.82	1792	2.05
3825	1567	1.35	1643	1.56	1716	1.78	1788	2.01	1856	2.25
4040	1647	1.55	1719	1.76	1789	1.98	1857	2.22	1923	2.46
4250	1725	1.74	1794	1.96	1861	2.19	1926	2.43	1990	2.68

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	1574	1.46	1650	1.68	1723	1.91	1793	2.15	1859	2.40
2765	1628	1.60	1703	1.83	1774	2.07	1842	2.31	1907	2.57
2975	1683	1.75	1755	1.98	1825	2.23	1891	2.48	1955	2.74
3190	1741	1.92	1811	2.16	1879	2.41	1944	2.67	2007	2.94
3400	1799	2.10	1868	2.35	1934	2.61	1997	2.87	2059	3.15
3615	1861	2.30	1927	2.55	1991	2.81	2053	3.08	—	—
3825	1923	2.50	1987	2.76	2049	3.02	—	—	—	—
4040	1987	2.72	2050	2.98	—	—	—	—	—	—
4250	2052	2.94	—	—	—	—	—	—	—	—

Std/Med Static 1108-2000 rpm, 2.4 maximum bhp

High Static 1108-2200 rpm, 5.0 maximum bhp

48GEFM09 — Standard/Medium Static — 8.5 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1108	5.4	1215	6.0	1314	6.5	1406	6.9	1493	7.4
2765	1183	5.8	1283	6.3	1378	6.8	1466	7.3	1549	7.7
2975	1258	6.2	1352	6.7	1442	7.1	1526	7.6	1606	8.0
3190	1335	6.6	1424	7.0	1509	7.5	1590	7.9	1667	8.3
3400	1411	7.0	1495	7.4	1576	7.8	1654	8.2	1728	8.6
3615	1490	7.4	1570	7.8	1647	8.2	1721	8.6	1792	8.9
3825	1567	7.8	1643	8.2	1716	8.5	1788	8.9	1856	9.3
4040	1647	8.2	1719	8.6	1789	8.9	1857	9.3	1923	9.6
4250	1725	8.6	1794	8.9	1861	9.3	1926	9.6	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1574	7.8	1650	8.2	1723	8.6	1793	8.9	1859	9.3
2765	1628	8.1	1703	8.5	1774	8.8	1842	9.2	—	—
2975	1683	8.4	1755	8.7	1825	9.1	1891	9.4	—	—
3190	1741	8.7	1811	9.0	1879	9.4	—	—	—	—
3400	1799	9.0	1868	9.3	—	—	—	—	—	—
3615	1861	9.3	1927	9.6	—	—	—	—	—	—
3825	1923	9.6	—	—	—	—	—	—	—	—
4040	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1108-2000 rpm

Fan data (cont)

48GEFM09 — High Static — 8.5 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1108	5.0	1215	5.5	1314	5.9	1406	6.3	1493	6.7
2765	1183	5.3	1283	5.8	1378	6.2	1466	6.6	1549	7.0
2975	1258	5.7	1352	6.1	1442	6.5	1526	6.9	1606	7.3
3190	1335	6.0	1424	6.4	1509	6.8	1590	7.2	1667	7.5
3400	1411	6.4	1495	6.7	1576	7.1	1654	7.5	1728	7.8
3615	1490	6.7	1570	7.1	1647	7.4	1721	7.8	1792	8.1
3825	1567	7.1	1643	7.4	1716	7.8	1788	8.1	1856	8.4
4040	1647	7.4	1719	7.8	1789	8.1	1857	8.4	1923	8.7
4250	1725	7.8	1794	8.1	1861	8.4	1926	8.7	1990	9.0

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1574	7.1	1650	7.5	1723	7.8	1793	8.1	1859	8.4
2765	1628	7.4	1703	7.7	1774	8.0	1842	8.3	1907	8.6
2975	1683	7.6	1755	7.9	1825	8.3	1891	8.6	1955	8.9
3190	1741	7.9	1811	8.2	1879	8.5	1944	8.8	2007	9.1
3400	1799	8.1	1868	8.5	1934	8.8	1997	9.1	2059	9.3
3615	1861	8.4	1927	8.7	1991	9.0	2053	9.3	—	—
3825	1923	8.7	1987	9.0	2049	9.3	—	—	—	—
4040	1987	9.0	2050	9.3	—	—	—	—	—	—
4250	2052	9.3	—	—	—	—	—	—	—	—

High Static 1108-2200 rpm

Fan data (cont)

48GEFM12 — 10 Ton Vertical Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	1266	0.74	1360	0.92	1449	1.12	1534	1.32	1613	1.54
3250	1357	0.91	1444	1.09	1528	1.29	1608	1.51	1684	1.73
3500	1448	1.09	1530	1.28	1609	1.49	1685	1.72	1758	1.95
3750	1539	1.29	1617	1.49	1691	1.71	1764	1.94	1833	2.18
4000	1632	1.51	1705	1.72	1775	1.94	1844	2.18	1911	2.42
4250	1725	1.74	1794	1.96	1861	2.19	1926	2.43	1990	2.68
4500	1818	1.99	1884	2.22	1948	2.45	2010	2.69	2071	2.94
4750	1912	2.25	1974	2.47	2035	2.71	2095	2.96	2153	3.21
5000	2006	2.51	2066	2.74	2124	2.98	2181	3.23	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	1689	1.77	1762	2.01	1831	2.25	1897	2.50	1961	2.77
3250	1757	1.97	1827	2.21	1894	2.47	1959	2.73	2021	3.00
3500	1828	2.19	1895	2.44	1960	2.70	2023	2.97	2084	3.25
3750	1900	2.42	1965	2.68	2028	2.95	2089	3.22	2148	3.50
4000	1975	2.67	2038	2.94	2099	3.21	2158	3.49	—	—
4250	2052	2.94	2112	3.20	2171	3.48	—	—	—	—
4500	2130	3.20	2188	3.47	—	—	—	—	—	—
4750	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1266-2200 rpm, 3.0 maximum bhp

High Static 1266-2200 rpm, 5.0 maximum bhp

48GEFM12 — Standard/Medium Static — 10 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1266	6.2	1360	6.7	1449	7.2	1534	7.6	1613	8.0
3250	1357	6.7	1444	7.1	1528	7.6	1608	8.0	1684	8.4
3500	1448	7.2	1530	7.6	1609	8.0	1685	8.4	1758	8.8
3750	1539	7.6	1617	8.0	1691	8.4	1764	8.8	1833	9.1
4000	1632	8.1	1705	8.5	1775	8.8	1844	9.2	1911	9.5
4250	1725	8.6	1794	8.9	1861	9.3	1926	9.6	—	—
4500	1818	9.1	1884	9.4	1948	9.7	—	—	—	—
4750	1912	9.5	1974	9.9	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1689	8.4	1762	8.8	1831	9.1	1897	9.5	—	—
3250	1757	8.8	1827	9.1	1894	9.5	—	—	—	—
3500	1828	9.1	1895	9.5	—	—	—	—	—	—
3750	1900	9.5	—	—	—	—	—	—	—	—
4000	—	—	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—
4750	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1266-2200 rpm

Fan data (cont)

48GEFM12 — High Static — 10 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1266	5.7	1360	6.1	1449	6.5	1534	6.9	1613	7.3
3250	1357	6.1	1444	6.5	1528	6.9	1608	7.3	1684	7.6
3500	1448	6.5	1530	6.9	1609	7.3	1685	7.6	1758	8.0
3750	1539	6.9	1617	7.3	1691	7.7	1764	8.0	1833	8.3
4000	1632	7.4	1705	7.7	1775	8.0	1844	8.4	1911	8.7
4250	1725	7.8	1794	8.1	1861	8.4	1926	8.7	1990	9.0
4500	1818	8.2	1884	8.5	1948	8.8	2010	9.1	2071	9.4
4750	1912	8.7	1974	9.0	2035	9.2	2095	9.5	2153	9.8
5000	2006	9.1	2066	9.4	2124	9.6	2181	9.9	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1689	7.6	1762	8.0	1831	8.3	1897	8.6	1961	8.9
3250	1757	8.0	1827	8.3	1894	8.6	1959	8.9	2021	9.2
3500	1828	8.3	1895	8.6	1960	8.9	2023	9.2	2084	9.5
3750	1900	8.6	1965	8.9	2028	9.2	2089	9.5	2148	9.8
4000	1975	9.0	2038	9.3	2099	9.5	2158	9.8	—	—
4250	2052	9.3	2112	9.6	2171	9.9	—	—	—	—
4500	2130	9.7	2188	9.9	—	—	—	—	—	—
4750	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—

High Static 1266-2200 rpm

Fan data (cont)

48GEFM14 — 12.5 Ton Vertical Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3750	1076	0.65	1171	0.84	1267	1.07	1361	1.32	1452	1.61
4065	1151	0.80	1238	0.99	1327	1.23	1415	1.49	1501	1.77
4375	1226	0.96	1307	1.17	1389	1.40	1471	1.66	1552	1.96
4690	1303	1.15	1378	1.36	1455	1.61	1532	1.87	1608	2.17
5000	1380	1.36	1450	1.58	1521	1.82	1593	2.09	1665	2.39
5315	1458	1.59	1524	1.82	1591	2.07	1659	2.35	1726	2.64
5625	1536	1.84	1598	2.07	1661	2.33	1725	2.61	1789	2.91
5940	1615	2.11	1674	2.35	1733	2.61	1793	2.89	1854	3.19
6250	1693	2.39	1749	2.64	1805	2.90	1862	3.19	1920	3.49

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3750	1539	1.91	1622	2.24	1701	2.59	1776	2.94	1847	3.31
4065	1584	2.08	1664	2.42	1741	2.77	1815	3.13	1885	3.51
4375	1632	2.27	1709	2.61	1783	2.96	1855	3.34	1924	3.73
4690	1683	2.48	1757	2.83	1828	3.18	1898	3.56	1966	3.96
5000	1737	2.72	1807	3.06	1876	3.42	1943	3.80	2009	4.20
5315	1794	2.97	1861	3.31	1927	3.68	1991	4.06	2055	4.46
5625	1853	3.23	1916	3.57	1979	3.94	2041	4.32	2103	4.73
5940	1915	3.52	1975	3.86	2035	4.22	2095	4.61	2154	5.01
6250	1977	3.81	2035	4.16	2093	4.52	2150	4.90	—	—

Std/Med Static 1076-2200 rpm, 3.0 maximum bhp

High Static 1076-2200 rpm, 5.0 maximum bhp

48GEFM14 — Standard/Medium Static — 12.5 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1076	4.8	1171	5.3	1267	5.7	1361	6.1	1452	6.5
4065	1151	5.2	1238	5.6	1327	6.0	1415	6.4	1501	6.8
4375	1226	5.5	1307	5.9	1389	6.3	1471	6.6	1552	7.0
4690	1303	5.9	1378	6.2	1455	6.6	1532	6.9	1608	7.3
5000	1380	6.2	1450	6.5	1521	6.9	1593	7.2	1665	7.5
5315	1458	6.6	1524	6.9	1591	7.2	1659	7.5	1726	7.8
5625	1536	6.9	1598	7.2	1661	7.5	1725	7.8	1789	8.1
5940	1615	7.3	1674	7.6	1733	7.8	1793	8.1	1854	8.4
6250	1693	7.7	1749	7.9	1805	8.2	1862	8.4	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1539	6.9	1622	7.3	1701	7.7	1776	8.0	—	—
4065	1584	7.2	1664	7.5	1741	7.9	1815	8.2	—	—
4375	1632	7.4	1709	7.7	1783	8.1	—	—	—	—
4690	1683	7.6	1757	8.0	1828	8.3	—	—	—	—
5000	1737	7.9	1807	8.2	—	—	—	—	—	—
5315	1794	8.1	—	—	—	—	—	—	—	—
5625	—	—	—	—	—	—	—	—	—	—
5940	—	—	—	—	—	—	—	—	—	—
6250	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1076-2200 rpm

Fan data (cont)

48GEFM14 — High Static — 12.5 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1076	4.8	1171	5.3	1267	5.7	1361	6.1	1452	6.5
4065	1151	5.2	1238	5.6	1327	6.0	1415	6.4	1501	6.8
4375	1226	5.5	1307	5.9	1389	6.3	1471	6.6	1552	7.0
4690	1303	5.9	1378	6.2	1455	6.6	1532	6.9	1608	7.3
5000	1380	6.2	1450	6.5	1521	6.9	1593	7.2	1665	7.5
5315	1458	6.6	1524	6.9	1591	7.2	1659	7.5	1726	7.8
5625	1536	6.9	1598	7.2	1661	7.5	1725	7.8	1789	8.1
5940	1615	7.3	1674	7.6	1733	7.8	1793	8.1	1854	8.4
6250	1693	7.7	1749	7.9	1805	8.2	1862	8.4	1920	8.7

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1539	6.9	1622	7.3	1701	7.7	1776	8.0	1847	8.4
4065	1584	7.2	1664	7.5	1741	7.9	1815	8.2	1885	8.5
4375	1632	7.4	1709	7.7	1783	8.1	1855	8.4	1924	8.7
4690	1683	7.6	1757	8.0	1828	8.3	1898	8.6	1966	8.9
5000	1737	7.9	1807	8.2	1876	8.5	1943	8.8	2009	9.1
5315	1794	8.1	1861	8.4	1927	8.7	1991	9.0	2055	9.3
5625	1853	8.4	1916	8.7	1979	9.0	2041	9.3	2103	9.6
5940	1915	8.7	1975	9.0	2035	9.2	2095	9.5	2154	9.8
6250	1977	9.0	2035	9.2	2093	9.5	2150	9.8	—	—

High Static 1076-2200 rpm

Fan data (cont)

48GEFM07 — 6 Ton Horizontal Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1800	848	0.23	993	0.37	1119	0.53	1231	0.71	1334	0.90
1950	893	0.27	1032	0.42	1154	0.58	1263	0.76	1364	0.96
2100	940	0.31	1073	0.47	1190	0.64	1297	0.82	1395	1.03
2250	987	0.36	1114	0.52	1228	0.70	1332	0.89	1428	1.10
2400	1035	0.42	1157	0.58	1267	0.76	1368	0.96	1462	1.17
2550	1084	0.48	1201	0.65	1307	0.84	1405	1.04	1497	1.26
2700	1134	0.54	1246	0.72	1349	0.91	1444	1.12	1533	1.34
2850	1184	0.61	1292	0.80	1391	1.00	1484	1.21	1571	1.43
3000	1234	0.69	1338	0.88	1434	1.08	1525	1.30	1610	1.53

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1800	1428	1.10	1515	1.32	1597	1.54	1674	1.78	1747	2.02
1950	1457	1.17	1543	1.39	1625	1.62	1702	1.86	1774	2.11
2100	1487	1.24	1572	1.47	1653	1.71	1729	1.95	1802	2.21
2250	1517	1.32	1602	1.55	1682	1.79	1757	2.04	1829	2.31
2400	1550	1.40	1633	1.64	1711	1.88	1786	2.14	1858	2.41
2550	1583	1.48	1665	1.73	1742	1.98	1816	2.24	1887	2.52
2700	1618	1.58	1698	1.82	1774	2.08	1847	2.35	1917	2.62
2850	1653	1.67	1732	1.92	1807	2.18	1878	2.45	1947	2.73
3000	1690	1.77	1767	2.02	1841	2.29	1911	2.56	1979	2.84

Std/Med Static 848-2000 rpm, 2.4 maximum bhp

High Static 848-2200 rpm, 3.0 maximum bhp

48GEFM07 — Standard/Medium Static — 6 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	848	4.1	993	4.8	1119	5.5	1231	6.0	1334	6.6
1950	893	4.3	1032	5.0	1154	5.6	1263	6.2	1364	6.7
2100	940	4.5	1073	5.2	1190	5.8	1297	6.4	1395	6.9
2250	987	4.8	1114	5.4	1228	6.0	1332	6.6	1428	7.1
2400	1035	5.0	1157	5.7	1267	6.2	1368	6.7	1462	7.2
2550	1084	5.3	1201	5.9	1307	6.4	1405	6.9	1497	7.4
2700	1134	5.5	1246	6.1	1349	6.7	1444	7.1	1533	7.6
2850	1184	5.8	1292	6.4	1391	6.9	1484	7.3	1571	7.8
3000	1234	6.1	1338	6.6	1434	7.1	1525	7.6	1610	8.0

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	1428	7.1	1515	7.5	1597	7.9	1674	8.3	1747	8.7
1950	1457	7.2	1543	7.6	1625	8.1	1702	8.5	1774	8.8
2100	1487	7.4	1572	7.8	1653	8.2	1729	8.6	1802	9.0
2250	1517	7.5	1602	8.0	1682	8.4	1757	8.8	1829	9.1
2400	1550	7.7	1633	8.1	1711	8.5	1786	8.9	1858	9.3
2550	1583	7.9	1665	8.3	1742	8.7	1816	9.1	1887	9.4
2700	1618	8.0	1698	8.4	1774	8.8	1847	9.2	—	—
2850	1653	8.2	1732	8.6	1807	9.0	1878	9.4	—	—
3000	1690	8.4	1767	8.8	1841	9.2	—	—	—	—

Std/Med Static 848-2000 rpm

Fan data (cont)

48GEFM07 — High Static — 6 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	848	3.8	993	4.4	1119	5.0	1231	5.5	1334	6.0
1950	893	4.0	1032	4.6	1154	5.2	1263	5.7	1364	6.1
2100	940	4.2	1073	4.8	1190	5.3	1297	5.8	1395	6.3
2250	987	4.4	1114	5.0	1228	5.5	1332	6.0	1428	6.4
2400	1035	4.6	1157	5.2	1267	5.7	1368	6.2	1462	6.6
2550	1084	4.8	1201	5.4	1307	5.9	1405	6.3	1497	6.8
2700	1134	5.1	1246	5.6	1349	6.1	1444	6.5	1533	6.9
2850	1184	5.3	1292	5.8	1391	6.3	1484	6.7	1571	7.1
3000	1234	5.5	1338	6.0	1434	6.5	1525	6.9	1610	7.3

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	1428	6.4	1515	6.8	1597	7.2	1674	7.6	1747	7.9
1950	1457	6.6	1543	7.0	1625	7.3	1702	7.7	1774	8.0
2100	1487	6.7	1572	7.1	1653	7.5	1729	7.8	1802	8.2
2250	1517	6.8	1602	7.2	1682	7.6	1757	8.0	1829	8.3
2400	1550	7.0	1633	7.4	1711	7.7	1786	8.1	1858	8.4
2550	1583	7.2	1665	7.5	1742	7.9	1816	8.2	1887	8.6
2700	1618	7.3	1698	7.7	1774	8.0	1847	8.4	1917	8.7
2850	1653	7.5	1732	7.8	1807	8.2	1878	8.5	1947	8.8
3000	1690	7.6	1767	8.0	1841	8.3	1911	8.7	1979	9.0

High Static 848-2200 rpm

Fan data (cont)

48GEFM08 — 7.5 Ton Horizontal Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2250	946	0.31	1072	0.46	1188	0.62	1294	0.81	1390	1.00
2440	1004	0.37	1123	0.52	1234	0.69	1336	0.88	1430	1.08
2625	1062	0.44	1174	0.59	1280	0.77	1379	0.96	1471	1.17
2815	1123	0.52	1229	0.68	1329	0.85	1424	1.05	1513	1.26
3000	1183	0.60	1283	0.76	1379	0.95	1470	1.15	1557	1.36
3190	1246	0.69	1340	0.86	1431	1.05	1519	1.25	1603	1.47
3375	1307	0.79	1397	0.96	1484	1.16	1568	1.36	1649	1.59
3565	1371	0.90	1456	1.07	1539	1.27	1620	1.48	1698	1.70
3750	1433	1.00	1514	1.19	1594	1.38	1671	1.59	1747	1.82

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2250	1479	1.20	1561	1.41	1639	1.64	1712	1.87	1782	2.10
2440	1518	1.29	1599	1.51	1676	1.74	1749	1.97	1818	2.22
2625	1556	1.38	1637	1.61	1713	1.84	1785	2.08	1854	2.33
2815	1597	1.48	1677	1.72	1752	1.96	1823	2.20	1891	2.46
3000	1639	1.59	1716	1.82	1790	2.07	1861	2.33	1928	2.59
3190	1682	1.70	1759	1.95	1831	2.20	1901	2.46	1967	2.72
3375	1726	1.82	1801	2.07	1872	2.32	1940	2.58	2006	2.85
3565	1773	1.94	1845	2.19	1915	2.44	1982	2.71	2047	2.99
3750	1820	2.06	1890	2.31	1958	2.56	2024	2.83	2088	3.11

Std/Med Static 946-2000 rpm, 2.4 maximum bhp

High Static 946-2200 rpm, 3.0 maximum bhp

48GEFM08 — Standard/Medium Static — 7.5 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	946	4.6	1072	5.2	1188	5.8	1294	6.4	1390	6.9
2440	1004	4.9	1123	5.5	1234	6.1	1336	6.6	1430	7.1
2625	1062	5.2	1174	5.8	1280	6.3	1379	6.8	1471	7.3
2815	1123	5.5	1229	6.0	1329	6.5	1424	7.0	1513	7.5
3000	1183	5.8	1283	6.3	1379	6.8	1470	7.3	1557	7.7
3190	1246	6.1	1340	6.6	1431	7.1	1519	7.5	1603	8.0
3375	1307	6.4	1397	6.9	1484	7.3	1568	7.8	1649	8.2
3565	1371	6.8	1456	7.2	1539	7.6	1620	8.0	1698	8.4
3750	1433	7.1	1514	7.5	1594	7.9	1671	8.3	1747	8.7

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	1479	7.3	1561	7.7	1639	8.1	1712	8.5	1782	8.9
2440	1518	7.5	1599	7.9	1676	8.3	1749	8.7	1818	9.1
2625	1556	7.7	1637	8.1	1713	8.5	1785	8.9	1854	9.2
2815	1597	7.9	1677	8.3	1752	8.7	1823	9.1	1891	9.4
3000	1639	8.1	1716	8.5	1790	8.9	1861	9.3	—	—
3190	1682	8.4	1759	8.8	1831	9.1	1901	9.5	—	—
3375	1726	8.6	1801	9.0	1872	9.3	—	—	—	—
3565	1773	8.8	1845	9.2	1915	9.6	—	—	—	—
3750	1820	9.1	1890	9.4	—	—	—	—	—	—

Std/Med Static 946-2000 rpm

Fan data (cont)

48GEFM08 — High Static — 7.5 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	946	4.2	1072	4.8	1188	5.3	1294	5.8	1390	6.3
2440	1004	4.5	1123	5.0	1234	5.5	1336	6.0	1430	6.4
2625	1062	4.7	1174	5.3	1280	5.8	1379	6.2	1471	6.6
2815	1123	5.0	1229	5.5	1329	6.0	1424	6.4	1513	6.8
3000	1183	5.3	1283	5.8	1379	6.2	1470	6.6	1557	7.0
3190	1246	5.6	1340	6.0	1431	6.5	1519	6.9	1603	7.2
3375	1307	5.9	1397	6.3	1484	6.7	1568	7.1	1649	7.5
3565	1371	6.2	1456	6.6	1539	6.9	1620	7.3	1698	7.7
3750	1433	6.5	1514	6.8	1594	7.2	1671	7.6	1747	7.9

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	1479	6.7	1561	7.1	1639	7.4	1712	7.7	1782	8.1
2440	1518	6.9	1599	7.2	1676	7.6	1749	7.9	1818	8.2
2625	1556	7.0	1637	7.4	1713	7.8	1785	8.1	1854	8.4
2815	1597	7.2	1677	7.6	1752	7.9	1823	8.3	1891	8.6
3000	1639	7.4	1716	7.8	1790	8.1	1861	8.4	1928	8.7
3190	1682	7.6	1759	8.0	1831	8.3	1901	8.6	1967	8.9
3375	1726	7.8	1801	8.2	1872	8.5	1940	8.8	2006	9.1
3565	1773	8.0	1845	8.4	1915	8.7	1982	9.0	2047	9.3
3750	1820	8.2	1890	8.6	1958	8.9	2024	9.2	2088	9.5

High Static 946-2200 rpm

Fan data (cont)

48GEFM09 — 8.5 Ton Horizontal Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	1043	0.42	1158	0.58	1265	0.76	1365	0.95	1458	1.16
2765	1112	0.51	1219	0.67	1321	0.85	1417	1.05	1507	1.27
2975	1180	0.60	1281	0.77	1377	0.96	1469	1.16	1556	1.38
3190	1251	0.71	1345	0.89	1437	1.08	1524	1.29	1608	1.51
3400	1321	0.83	1411	1.01	1497	1.21	1581	1.42	1661	1.65
3615	1394	0.97	1478	1.15	1560	1.35	1640	1.57	1717	1.80
3825	1465	1.11	1545	1.30	1623	1.50	1699	1.72	1774	1.96
4040	1539	1.26	1614	1.46	1689	1.67	1762	1.89	1833	2.13
4250	1611	1.42	1683	1.62	1754	1.83	1824	2.06	1892	2.30

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	1545	1.38	1626	1.60	1702	1.84	1774	2.08	1843	2.34
2765	1591	1.49	1671	1.73	1746	1.97	1818	2.22	1886	2.48
2975	1638	1.61	1716	1.86	1790	2.11	1861	2.37	1928	2.63
3190	1688	1.75	1764	2.00	1837	2.26	1906	2.52	1973	2.80
3400	1738	1.89	1813	2.15	1884	2.41	1952	2.68	2017	2.96
3615	1792	2.05	1864	2.31	1933	2.57	2000	2.85	2064	3.13
3825	1846	2.21	1915	2.47	1983	2.74	2048	3.02	—	—
4040	1902	2.38	1970	2.65	2035	2.92	—	—	—	—
4250	1959	2.56	2025	2.82	2088	3.09	—	—	—	—

Std/Med Static 1043-2000 rpm, 2.4 maximum bhp

High Static 1043-2200 rpm, 5.0 maximum bhp

48GEFM09 — Standard/Medium Static — 8.5 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1043	5.1	1158	5.7	1265	6.2	1365	6.7	1458	7.2
2765	1112	5.4	1219	6.0	1321	6.5	1417	7.0	1507	7.5
2975	1180	5.8	1281	6.3	1377	6.8	1469	7.3	1556	7.7
3190	1251	6.1	1345	6.6	1437	7.1	1524	7.6	1608	8.0
3400	1321	6.5	1411	7.0	1497	7.4	1581	7.8	1661	8.3
3615	1394	6.9	1478	7.3	1560	7.7	1640	8.1	1717	8.5
3825	1465	7.2	1545	7.7	1623	8.1	1699	8.5	1774	8.8
4040	1539	7.6	1614	8.0	1689	8.4	1762	8.8	1833	9.1
4250	1611	8.0	1683	8.4	1754	8.7	1824	9.1	1892	9.4

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1545	7.7	1626	8.1	1702	8.5	1774	8.8	1843	9.2
2765	1591	7.9	1671	8.3	1746	8.7	1818	9.1	1886	9.4
2975	1638	8.1	1716	8.5	1790	8.9	1861	9.3	—	—
3190	1688	8.4	1764	8.8	1837	9.2	1906	9.5	—	—
3400	1738	8.7	1813	9.0	1884	9.4	—	—	—	—
3615	1792	8.9	1864	9.3	—	—	—	—	—	—
3825	1846	9.2	1915	9.6	—	—	—	—	—	—
4040	1902	9.5	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1043-2000 rpm

Fan data (cont)

48GEFM09 — High Static — 8.5 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1043	4.7	1158	5.2	1265	5.7	1365	6.1	1458	6.6
2765	1112	5.0	1219	5.5	1321	5.9	1417	6.4	1507	6.8
2975	1180	5.3	1281	5.8	1377	6.2	1469	6.6	1556	7.0
3190	1251	5.6	1345	6.1	1437	6.5	1524	6.9	1608	7.3
3400	1321	5.9	1411	6.4	1497	6.8	1581	7.1	1661	7.5
3615	1394	6.3	1478	6.7	1560	7.0	1640	7.4	1717	7.8
3825	1465	6.6	1545	7.0	1623	7.3	1699	7.7	1774	8.0
4040	1539	6.9	1614	7.3	1689	7.6	1762	8.0	1833	8.3
4250	1611	7.3	1683	7.6	1754	7.9	1824	8.3	1892	8.6

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1545	7.0	1626	7.4	1702	7.7	1774	8.0	1843	8.4
2765	1591	7.2	1671	7.6	1746	7.9	1818	8.2	1886	8.6
2975	1638	7.4	1716	7.8	1790	8.1	1861	8.4	1928	8.7
3190	1688	7.6	1764	8.0	1837	8.3	1906	8.6	1973	9.0
3400	1738	7.9	1813	8.2	1884	8.5	1952	8.9	2017	9.2
3615	1792	8.1	1864	8.4	1933	8.8	2000	9.1	2064	9.4
3825	1846	8.4	1915	8.7	1983	9.0	2048	9.3	—	—
4040	1902	8.6	1970	8.9	2035	9.2	—	—	—	—
4250	1959	8.9	2025	9.2	2088	9.5	—	—	—	—

High Static 1043-2200 rpm

Fan data (cont)

48GEFM12 — 10 Ton Horizontal Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	1188	0.62	1288	0.78	1384	0.97	1475	1.18	1562	1.40
3250	1271	0.75	1364	0.92	1454	1.12	1540	1.33	1623	1.55
3500	1355	0.89	1441	1.07	1526	1.27	1608	1.49	1687	1.72
3750	1439	1.05	1521	1.24	1600	1.45	1678	1.67	1753	1.90
4000	1525	1.23	1601	1.42	1676	1.63	1750	1.86	1822	2.10
4250	1611	1.42	1683	1.62	1754	1.83	1824	2.06	1892	2.30
4500	1697	1.62	1765	1.82	1833	2.04	1899	2.27	1965	2.51
4750	1784	1.83	1849	2.03	1913	2.25	1976	2.48	2038	2.72
5000	1872	2.04	1933	2.25	1994	2.47	2054	2.70	2114	2.94

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	1644	1.63	1722	1.87	1796	2.13	1866	2.38	1933	2.65
3250	1702	1.79	1778	2.04	1850	2.30	1919	2.57	1985	2.84
3500	1763	1.96	1836	2.22	1906	2.48	1974	2.76	2039	3.04
3750	1826	2.15	1897	2.41	1965	2.68	2031	2.96	2094	3.24
4000	1892	2.35	1960	2.61	2026	2.89	2090	3.17	2152	3.46
4250	1959	2.56	2025	2.82	2088	3.09	2150	3.38	—	—
4500	2029	2.77	2092	3.03	2153	3.31	—	—	—	—
4750	2100	2.98	2160	3.24	—	—	—	—	—	—
5000	2173	3.19	—	—	—	—	—	—	—	—

Std/Med Static 1188-2200 rpm, 3.0 maximum bhp

High Static 1188-2200 rpm, 5.0 maximum bhp

48GEFM12 — Standard/Medium Static — 10 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1188	5.8	1288	6.3	1384	6.8	1475	7.3	1562	7.7
3250	1271	6.3	1364	6.7	1454	7.2	1540	7.6	1623	8.1
3500	1355	6.7	1441	7.1	1526	7.6	1608	8.0	1687	8.4
3750	1439	7.1	1521	7.5	1600	7.9	1678	8.3	1753	8.7
4000	1525	7.6	1601	7.9	1676	8.3	1750	8.7	1822	9.1
4250	1611	8.0	1683	8.4	1754	8.7	1824	9.1	1892	9.4
4500	1697	8.4	1765	8.8	1833	9.1	1899	9.5	1965	9.8
4750	1784	8.9	1849	9.2	1913	9.6	1976	9.9	—	—
5000	1872	9.3	1933	9.7	1994	10.0	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1644	8.2	1722	8.6	1796	9.0	1866	9.3	—	—
3250	1702	8.5	1778	8.9	1850	9.2	—	—	—	—
3500	1763	8.8	1836	9.2	1906	9.5	—	—	—	—
3750	1826	9.1	1897	9.5	—	—	—	—	—	—
4000	1892	9.4	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—
4750	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1188-2200 rpm

Fan data (cont)

48GEFM12 — High Static — 10 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1188	5.3	1288	5.8	1384	6.2	1475	6.7	1562	7.1
3250	1271	5.7	1364	6.1	1454	6.6	1540	7.0	1623	7.3
3500	1355	6.1	1441	6.5	1526	6.9	1608	7.3	1687	7.6
3750	1439	6.5	1521	6.9	1600	7.2	1678	7.6	1753	7.9
4000	1525	6.9	1601	7.2	1676	7.6	1750	7.9	1822	8.3
4250	1611	7.3	1683	7.6	1754	7.9	1824	8.3	1892	8.6
4500	1697	7.7	1765	8.0	1833	8.3	1899	8.6	1965	8.9
4750	1784	8.1	1849	8.4	1913	8.7	1976	9.0	2038	9.3
5000	1872	8.5	1933	8.8	1994	9.0	2054	9.3	2114	9.6

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1644	7.4	1722	7.8	1796	8.1	1866	8.5	1933	8.8
3250	1702	7.7	1778	8.1	1850	8.4	1919	8.7	1985	9.0
3500	1763	8.0	1836	8.3	1906	8.6	1974	9.0	2039	9.3
3750	1826	8.3	1897	8.6	1965	8.9	2031	9.2	2094	9.5
4000	1892	8.6	1960	8.9	2026	9.2	2090	9.5	2152	9.8
4250	1959	8.9	2025	9.2	2088	9.5	2150	9.8	—	—
4500	2029	9.2	2092	9.5	2153	9.8	—	—	—	—
4750	2100	9.5	2160	9.8	—	—	—	—	—	—
5000	2173	9.9	—	—	—	—	—	—	—	—

High Static 1188-2200 rpm

Fan data (cont)

48GEFM14 — 12.5 Ton Horizontal Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3750	1079	0.66	1174	0.85	1270	1.08	1364	1.33	1454	1.61
4065	1154	0.81	1242	1.00	1330	1.23	1418	1.49	1504	1.78
4375	1229	0.97	1310	1.18	1393	1.41	1475	1.68	1556	1.97
4690	1306	1.16	1382	1.38	1459	1.62	1535	1.88	1612	2.18
5000	1383	1.37	1454	1.59	1525	1.84	1598	2.11	1670	2.41
5315	1462	1.61	1528	1.83	1595	2.09	1663	2.36	1731	2.67
5625	1540	1.86	1602	2.09	1665	2.35	1729	2.63	1793	2.93
5940	1619	2.13	1678	2.37	1738	2.63	1798	2.91	1859	3.22
6250	1698	2.42	1754	2.66	1810	2.93	1867	3.21	1925	3.52

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3750	1540	1.92	1623	2.25	1701	2.59	1775	2.94	1846	3.30
4065	1586	2.09	1666	2.42	1742	2.77	1815	3.13	1885	3.51
4375	1635	2.29	1711	2.62	1785	2.97	1856	3.34	1925	3.73
4690	1687	2.50	1760	2.84	1831	3.20	1900	3.57	1967	3.97
5000	1741	2.73	1811	3.08	1879	3.44	1946	3.82	2011	4.21
5315	1798	2.99	1865	3.33	1930	3.69	1995	4.08	2058	4.48
5625	1857	3.25	1921	3.60	1984	3.97	2045	4.35	2106	4.75
5940	1920	3.55	1980	3.89	2040	4.25	2099	4.63	2158	5.04
6250	1983	3.85	2040	4.19	2098	4.56	2154	4.93	—	—

Std/Med Static 1079-2200 rpm, 3.0 maximum bhp

High Static 1079-2200 rpm, 5.0 maximum bhp

48GEFM14 — Standard/Medium Static — 12.5 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1079	4.8	1174	5.3	1270	5.7	1364	6.1	1454	6.6
4065	1154	5.2	1242	5.6	1330	6.0	1418	6.4	1504	6.8
4375	1229	5.5	1310	5.9	1393	6.3	1475	6.7	1556	7.0
4690	1306	5.9	1382	6.2	1459	6.6	1535	6.9	1612	7.3
5000	1383	6.2	1454	6.6	1525	6.9	1598	7.2	1670	7.6
5315	1462	6.6	1528	6.9	1595	7.2	1663	7.5	1731	7.8
5625	1540	7.0	1602	7.2	1665	7.5	1729	7.8	1793	8.1
5940	1619	7.3	1678	7.6	1738	7.9	1798	8.1	—	—
6250	1698	7.7	1754	7.9	1810	8.2	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1540	7.0	1623	7.3	1701	7.7	1775	8.0	—	—
4065	1586	7.2	1666	7.5	1742	7.9	1815	8.2	—	—
4375	1635	7.4	1711	7.7	1785	8.1	—	—	—	—
4690	1687	7.6	1760	8.0	1831	8.3	—	—	—	—
5000	1741	7.9	1811	8.2	—	—	—	—	—	—
5315	1798	8.1	—	—	—	—	—	—	—	—
5625	—	—	—	—	—	—	—	—	—	—
5940	—	—	—	—	—	—	—	—	—	—
6250	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1079-2200 rpm

Fan data (cont)

48GEFM14 — High Static — 12.5 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1079	4.8	1174	5.3	1270	5.7	1364	6.1	1454	6.6
4065	1154	5.2	1242	5.6	1330	6.0	1418	6.4	1504	6.8
4375	1229	5.5	1310	5.9	1393	6.3	1475	6.7	1556	7.0
4690	1306	5.9	1382	6.2	1459	6.6	1535	6.9	1612	7.3
5000	1383	6.2	1454	6.6	1525	6.9	1598	7.2	1670	7.6
5315	1462	6.6	1528	6.9	1595	7.2	1663	7.5	1731	7.8
5625	1540	7.0	1602	7.2	1665	7.5	1729	7.8	1793	8.1
5940	1619	7.3	1678	7.6	1738	7.9	1798	8.1	1859	8.4
6250	1698	7.7	1754	7.9	1810	8.2	1867	8.5	1925	8.7

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1540	7.0	1623	7.3	1701	7.7	1775	8.0	1846	8.4
4065	1586	7.2	1666	7.5	1742	7.9	1815	8.2	1885	8.5
4375	1635	7.4	1711	7.7	1785	8.1	1856	8.4	1925	8.7
4690	1687	7.6	1760	8.0	1831	8.3	1900	8.6	1967	8.9
5000	1741	7.9	1811	8.2	1879	8.5	1946	8.8	2011	9.1
5315	1798	8.1	1865	8.5	1930	8.8	1995	9.1	2058	9.3
5625	1857	8.4	1921	8.7	1984	9.0	2045	9.3	2106	9.6
5940	1920	8.7	1980	9.0	2040	9.3	2099	9.5	2158	9.8
6250	1983	9.0	2040	9.3	2098	9.5	2154	9.8	—	—

High Static 1079-2200 rpm

Fan data (cont)

50GE-M07 — 6 Ton Vertical Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1800	799	0.19	952	0.33	1081	0.48	1194	0.64	1297	0.83
1950	845	0.23	993	0.37	1118	0.53	1228	0.70	1329	0.89
2100	893	0.27	1035	0.42	1156	0.58	1264	0.76	1362	0.95
2250	942	0.32	1079	0.47	1196	0.64	1301	0.83	1397	1.03
2400	992	0.37	1124	0.53	1237	0.71	1340	0.90	1433	1.11
2550	1044	0.43	1170	0.60	1280	0.79	1380	0.98	1471	1.19
2700	1096	0.49	1217	0.67	1324	0.86	1421	1.07	1511	1.28
2850	1148	0.56	1266	0.75	1369	0.95	1463	1.16	1551	1.38
3000	1202	0.64	1315	0.83	1415	1.04	1507	1.26	1593	1.48

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1800	1392	1.02	1480	1.23	1562	1.44	1640	1.67	1714	1.91
1950	1422	1.09	1509	1.30	1590	1.52	1667	1.75	1740	1.99
2100	1453	1.16	1539	1.38	1619	1.60	1696	1.84	1768	2.09
2250	1486	1.24	1570	1.46	1650	1.69	1725	1.93	1797	2.19
2400	1521	1.32	1603	1.55	1681	1.79	1756	2.03	1827	2.29
2550	1557	1.41	1638	1.65	1715	1.89	1788	2.14	1858	2.40
2700	1594	1.51	1674	1.75	1749	1.99	1821	2.25	1890	2.51
2850	1633	1.61	1711	1.85	1785	2.10	1856	2.37	1924	2.63
3000	1673	1.72	1749	1.96	1822	2.22	1891	2.48	1958	2.75

Std/Med Static 799-2000 rpm, 2.4 maximum bhp

High Static 799-2200 rpm, 3.0 maximum bhp

50GE-M07 — Standard/Medium Static — 6 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	799	3.8	952	4.6	1081	5.3	1194	5.9	1297	6.4
1950	845	4.1	993	4.8	1118	5.5	1228	6.0	1329	6.5
2100	893	4.3	1035	5.0	1156	5.7	1264	6.2	1362	6.7
2250	942	4.6	1079	5.3	1196	5.9	1301	6.4	1397	6.9
2400	992	4.8	1124	5.5	1237	6.1	1340	6.6	1433	7.1
2550	1044	5.1	1170	5.7	1280	6.3	1380	6.8	1471	7.3
2700	1096	5.4	1217	6.0	1324	6.5	1421	7.0	1511	7.5
2850	1148	5.6	1266	6.2	1369	6.8	1463	7.2	1551	7.7
3000	1202	5.9	1315	6.5	1415	7.0	1507	7.5	1593	7.9

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	1392	6.9	1480	7.3	1562	7.7	1640	8.1	1714	8.5
1950	1422	7.0	1509	7.5	1590	7.9	1667	8.3	1740	8.7
2100	1453	7.2	1539	7.6	1619	8.0	1696	8.4	1768	8.8
2250	1486	7.4	1570	7.8	1650	8.2	1725	8.6	1797	9.0
2400	1521	7.5	1603	8.0	1681	8.4	1756	8.7	1827	9.1
2550	1557	7.7	1638	8.1	1715	8.5	1788	8.9	1858	9.3
2700	1594	7.9	1674	8.3	1749	8.7	1821	9.1	1890	9.4
2850	1633	8.1	1711	8.5	1785	8.9	1856	9.3	—	—
3000	1673	8.3	1749	8.7	1822	9.1	1891	9.4	—	—

Std/Med Static 799-2000 rpm

Fan data (cont)

50GE-M07 — High Static — 6 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	799	3.5	952	4.2	1081	4.8	1194	5.4	1297	5.8
1950	845	3.7	993	4.4	1118	5.0	1228	5.5	1329	6.0
2100	893	4.0	1035	4.6	1156	5.2	1264	5.7	1362	6.1
2250	942	4.2	1079	4.8	1196	5.4	1301	5.9	1397	6.3
2400	992	4.4	1124	5.0	1237	5.6	1340	6.0	1433	6.5
2550	1044	4.7	1170	5.2	1280	5.8	1380	6.2	1471	6.6
2700	1096	4.9	1217	5.5	1324	6.0	1421	6.4	1511	6.8
2850	1148	5.1	1266	5.7	1369	6.2	1463	6.6	1551	7.0
3000	1202	5.4	1315	5.9	1415	6.4	1507	6.8	1593	7.2

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	1392	6.3	1480	6.7	1562	7.1	1640	7.4	1714	7.8
1950	1422	6.4	1509	6.8	1590	7.2	1667	7.5	1740	7.9
2100	1453	6.6	1539	6.9	1619	7.3	1696	7.7	1768	8.0
2250	1486	6.7	1570	7.1	1650	7.5	1725	7.8	1797	8.1
2400	1521	6.9	1603	7.2	1681	7.6	1756	8.0	1827	8.3
2550	1557	7.0	1638	7.4	1715	7.8	1788	8.1	1858	8.4
2700	1594	7.2	1674	7.6	1749	7.9	1821	8.3	1890	8.6
2850	1633	7.4	1711	7.7	1785	8.1	1856	8.4	1924	8.7
3000	1673	7.6	1749	7.9	1822	8.3	1891	8.6	1958	8.9

High Static 799-2200 rpm

Fan data (cont)

50GE-M08 — 7.5 Ton Vertical Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2250	932	0.30	1056	0.44	1168	0.59	1271	0.77	1365	0.95
2440	992	0.36	1109	0.51	1216	0.67	1315	0.84	1407	1.03
2625	1053	0.43	1162	0.58	1265	0.74	1360	0.92	1449	1.12
2815	1116	0.51	1219	0.66	1317	0.83	1408	1.02	1495	1.22
3000	1178	0.59	1276	0.75	1369	0.93	1457	1.12	1541	1.32
3190	1242	0.68	1335	0.85	1424	1.03	1509	1.23	1590	1.43
3375	1306	0.78	1394	0.95	1479	1.14	1561	1.34	1639	1.55
3565	1372	0.90	1456	1.07	1537	1.26	1615	1.46	1691	1.68
3750	1436	1.01	1517	1.19	1594	1.38	1670	1.59	1742	1.80

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2250	1453	1.15	1535	1.35	1612	1.56	1685	1.79	1755	2.02
2440	1493	1.23	1573	1.44	1649	1.66	1722	1.89	1790	2.12
2625	1533	1.32	1612	1.54	1687	1.76	1758	2.00	1826	2.24
2815	1576	1.43	1654	1.65	1727	1.88	1797	2.11	1864	2.36
3000	1620	1.53	1696	1.76	1768	1.99	1836	2.23	1903	2.49
3190	1667	1.65	1740	1.88	1811	2.12	1878	2.36	1943	2.62
3375	1713	1.77	1785	2.00	1854	2.25	1920	2.49	1984	2.75
3565	1763	1.90	1833	2.14	1900	2.38	1965	2.63	2027	2.89
3750	1812	2.03	1880	2.26	1946	2.51	2009	2.76	2071	3.03

Std/Med Static 932-2000 rpm, 2.4 maximum bhp

High Static 932-2200 rpm, 3.0 maximum bhp

50GE-M08 — Standard/Medium Static — 7.5 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	932	4.5	1056	5.1	1168	5.7	1271	6.3	1365	6.7
2440	992	4.8	1109	5.4	1216	6.0	1315	6.5	1407	7.0
2625	1053	5.1	1162	5.7	1265	6.2	1360	6.7	1449	7.2
2815	1116	5.5	1219	6.0	1317	6.5	1408	7.0	1495	7.4
3000	1178	5.8	1276	6.3	1369	6.8	1457	7.2	1541	7.6
3190	1242	6.1	1335	6.6	1424	7.0	1509	7.5	1590	7.9
3375	1306	6.4	1394	6.9	1479	7.3	1561	7.7	1639	8.1
3565	1372	6.8	1456	7.2	1537	7.6	1615	8.0	1691	8.4
3750	1436	7.1	1517	7.5	1594	7.9	1670	8.3	1742	8.7

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	1453	7.2	1535	7.6	1612	8.0	1685	8.4	1755	8.7
2440	1493	7.4	1573	7.8	1649	8.2	1722	8.6	1790	8.9
2625	1533	7.6	1612	8.0	1687	8.4	1758	8.8	1826	9.1
2815	1576	7.8	1654	8.2	1727	8.6	1797	9.0	1864	9.3
3000	1620	8.0	1696	8.4	1768	8.8	1836	9.2	1903	9.5
3190	1667	8.3	1740	8.7	1811	9.0	1878	9.4	—	—
3375	1713	8.5	1785	8.9	1854	9.2	1920	9.6	—	—
3565	1763	8.8	1833	9.1	1900	9.5	—	—	—	—
3750	1812	9.0	1880	9.4	1946	9.7	—	—	—	—

Std/Med Static 932-2000 rpm

Fan data (cont)

50GE-M08 — High Static — 7.5 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	932	4.1	1056	4.7	1168	5.2	1271	5.7	1365	6.1
2440	992	4.4	1109	5.0	1216	5.5	1315	5.9	1407	6.3
2625	1053	4.7	1162	5.2	1265	5.7	1360	6.1	1449	6.5
2815	1116	5.0	1219	5.5	1317	5.9	1408	6.3	1495	6.7
3000	1178	5.3	1276	5.7	1369	6.2	1457	6.6	1541	7.0
3190	1242	5.6	1335	6.0	1424	6.4	1509	6.8	1590	7.2
3375	1306	5.9	1394	6.3	1479	6.7	1561	7.1	1639	7.4
3565	1372	6.2	1456	6.6	1537	6.9	1615	7.3	1691	7.7
3750	1436	6.5	1517	6.8	1594	7.2	1670	7.6	1742	7.9

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	1453	6.6	1535	6.9	1612	7.3	1685	7.6	1755	7.9
2440	1493	6.7	1573	7.1	1649	7.5	1722	7.8	1790	8.1
2625	1533	6.9	1612	7.3	1687	7.6	1758	8.0	1826	8.3
2815	1576	7.1	1654	7.5	1727	7.8	1797	8.1	1864	8.4
3000	1620	7.3	1696	7.7	1768	8.0	1836	8.3	1903	8.6
3190	1667	7.5	1740	7.9	1811	8.2	1878	8.5	1943	8.8
3375	1713	7.8	1785	8.1	1854	8.4	1920	8.7	1984	9.0
3565	1763	8.0	1833	8.3	1900	8.6	1965	8.9	2027	9.2
3750	1812	8.2	1880	8.5	1946	8.8	2009	9.1	2071	9.4

High Static 932-2200 rpm

Fan data (cont)

50GE-M09 — 8.5 Ton Vertical Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	1033	0.41	1145	0.56	1249	0.73	1346	0.91	1436	1.10
2765	1104	0.50	1209	0.65	1308	0.83	1401	1.02	1488	1.22
2975	1175	0.60	1273	0.76	1367	0.94	1456	1.13	1540	1.34
3190	1248	0.71	1341	0.88	1430	1.06	1515	1.27	1595	1.48
3400	1321	0.83	1409	1.01	1493	1.20	1574	1.41	1652	1.62
3615	1396	0.97	1479	1.15	1559	1.35	1636	1.56	1711	1.78
3825	1469	1.11	1548	1.30	1625	1.51	1699	1.72	1771	1.95
4040	1545	1.28	1620	1.47	1693	1.68	1764	1.90	1833	2.13
4250	1620	1.44	1692	1.65	1761	1.86	1829	2.08	1896	2.32

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	1521	1.31	1600	1.53	1676	1.76	1747	1.99	1816	2.23
2765	1570	1.43	1647	1.65	1721	1.89	1791	2.13	1859	2.38
2975	1619	1.56	1695	1.79	1767	2.03	1836	2.27	1902	2.53
3190	1672	1.70	1746	1.94	1816	2.18	1884	2.43	1948	2.69
3400	1726	1.85	1797	2.09	1866	2.34	1932	2.60	1995	2.86
3615	1783	2.02	1852	2.26	1918	2.51	1983	2.78	2045	3.05
3825	1840	2.19	1907	2.44	1972	2.70	2034	2.96	—	—
4040	1900	2.37	1965	2.63	2028	2.89	2089	3.16	—	—
4250	1960	2.56	2023	2.81	2084	3.08	—	—	—	—

Std/Med Static 1033-2000 rpm, 2.4 maximum bhp

High Static 1033-2200 rpm, 5.0 maximum bhp

50GE-M09 — Standard/Medium Static — 8.5 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1033	5.0	1145	5.6	1249	6.1	1346	6.6	1436	7.1
2765	1104	5.4	1209	5.9	1308	6.4	1401	6.9	1488	7.4
2975	1175	5.8	1273	6.3	1367	6.7	1456	7.2	1540	7.6
3190	1248	6.1	1341	6.6	1430	7.1	1515	7.5	1595	7.9
3400	1321	6.5	1409	7.0	1493	7.4	1574	7.8	1652	8.2
3615	1396	6.9	1479	7.3	1559	7.7	1636	8.1	1711	8.5
3825	1469	7.3	1548	7.7	1625	8.1	1699	8.5	1771	8.8
4040	1545	7.7	1620	8.0	1693	8.4	1764	8.8	1833	9.1
4250	1620	8.0	1692	8.4	1761	8.8	1829	9.1	1896	9.5

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1521	7.5	1600	7.9	1676	8.3	1747	8.7	1816	9.1
2765	1570	7.8	1647	8.2	1721	8.6	1791	8.9	1859	9.3
2975	1619	8.0	1695	8.4	1767	8.8	1836	9.2	1902	9.5
3190	1672	8.3	1746	8.7	1816	9.1	1884	9.4	—	—
3400	1726	8.6	1797	9.0	1866	9.3	—	—	—	—
3615	1783	8.9	1852	9.2	1918	9.6	—	—	—	—
3825	1840	9.2	1907	9.5	—	—	—	—	—	—
4040	1900	9.5	—	—	—	—	—	—	—	—
4250	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1033-2000 rpm

Fan data (cont)

50GE-M09 — High Static — 8.5 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1033	4.6	1145	5.1	1249	5.6	1346	6.1	1436	6.5
2765	1104	4.9	1209	5.4	1308	5.9	1401	6.3	1488	6.7
2975	1175	5.3	1273	5.7	1367	6.2	1456	6.6	1540	7.0
3190	1248	5.6	1341	6.0	1430	6.4	1515	6.8	1595	7.2
3400	1321	5.9	1409	6.3	1493	6.7	1574	7.1	1652	7.5
3615	1396	6.3	1479	6.7	1559	7.0	1636	7.4	1711	7.7
3825	1469	6.6	1548	7.0	1625	7.3	1699	7.7	1771	8.0
4040	1545	7.0	1620	7.3	1693	7.7	1764	8.0	1833	8.3
4250	1620	7.3	1692	7.7	1761	8.0	1829	8.3	1896	8.6

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1521	6.9	1600	7.2	1676	7.6	1747	7.9	1816	8.2
2765	1570	7.1	1647	7.4	1721	7.8	1791	8.1	1859	8.4
2975	1619	7.3	1695	7.7	1767	8.0	1836	8.3	1902	8.6
3190	1672	7.6	1746	7.9	1816	8.2	1884	8.5	1948	8.8
3400	1726	7.8	1797	8.1	1866	8.5	1932	8.8	1995	9.1
3615	1783	8.1	1852	8.4	1918	8.7	1983	9.0	2045	9.3
3825	1840	8.3	1907	8.6	1972	8.9	2034	9.2	—	—
4040	1900	8.6	1965	8.9	2028	9.2	2089	9.5	—	—
4250	1960	8.9	2023	9.2	2084	9.5	—	—	—	—

High Static 1033-2200 rpm

Fan data (cont)

50GE-M12 — 10 Ton Vertical Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	1181	0.60	1279	0.77	1372	0.95	1461	1.14	1544	1.35
3250	1264	0.73	1356	0.91	1443	1.09	1527	1.29	1607	1.51
3500	1348	0.88	1434	1.06	1517	1.25	1596	1.46	1673	1.68
3750	1433	1.04	1514	1.23	1592	1.43	1667	1.64	1740	1.86
4000	1518	1.21	1595	1.41	1669	1.61	1740	1.83	1810	2.06
4250	1605	1.41	1677	1.60	1747	1.81	1815	2.03	1882	2.27
4500	1691	1.60	1760	1.81	1826	2.02	1892	2.24	1955	2.48
4750	1778	1.81	1843	2.01	1907	2.23	1969	2.46	2030	2.69
5000	1866	2.02	1928	2.23	1988	2.44	2048	2.67	2106	2.91

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	1624	1.57	1699	1.80	1771	2.04	1840	2.29	1906	2.54
3250	1684	1.73	1757	1.97	1827	2.21	1894	2.47	1958	2.72
3500	1746	1.91	1817	2.15	1884	2.40	1950	2.66	2013	2.92
3750	1811	2.10	1879	2.34	1945	2.60	2008	2.86	2070	3.13
4000	1878	2.30	1943	2.55	2007	2.81	2069	3.08	2128	3.35
4250	1947	2.51	2010	2.76	2071	3.02	2131	3.29	2189	3.56
4500	2017	2.72	2078	2.97	2138	3.24	2195	3.50	—	—
4750	2090	2.94	2148	3.19	—	—	—	—	—	—
5000	2164	3.15	—	—	—	—	—	—	—	—

Std/Med Static 1181-2200 rpm, 3.0 maximum bhp

High Static 1181-2200 rpm, 5.0 maximum bhp

50GE-M12 — Standard/Medium Static — 10 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1181	5.8	1279	6.3	1372	6.8	1461	7.2	1544	7.7
3250	1264	6.2	1356	6.7	1443	7.1	1527	7.6	1607	8.0
3500	1348	6.6	1434	7.1	1517	7.5	1596	7.9	1673	8.3
3750	1433	7.1	1514	7.5	1592	7.9	1667	8.3	1740	8.7
4000	1518	7.5	1595	7.9	1669	8.3	1740	8.7	1810	9.0
4250	1605	8.0	1677	8.3	1747	8.7	1815	9.0	1882	9.4
4500	1691	8.4	1760	8.8	1826	9.1	1892	9.4	1955	9.8
4750	1778	8.9	1843	9.2	1907	9.5	1969	9.8	—	—
5000	1866	9.3	1928	9.6	1988	9.9	—	—	—	—

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1624	8.1	1699	8.5	1771	8.8	1840	9.2	1906	9.5
3250	1684	8.4	1757	8.8	1827	9.1	1894	9.5	—	—
3500	1746	8.7	1817	9.1	1884	9.4	—	—	—	—
3750	1811	9.0	1879	9.4	—	—	—	—	—	—
4000	1878	9.4	1943	9.7	—	—	—	—	—	—
4250	1947	9.7	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—
4750	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1181-2200 rpm

Fan data (cont)

50GE-M12 — High Static — 10 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1181	5.3	1279	5.7	1372	6.2	1461	6.6	1544	7.0
3250	1264	5.7	1356	6.1	1443	6.5	1527	6.9	1607	7.3
3500	1348	6.1	1434	6.5	1517	6.8	1596	7.2	1673	7.6
3750	1433	6.5	1514	6.8	1592	7.2	1667	7.5	1740	7.9
4000	1518	6.9	1595	7.2	1669	7.5	1740	7.9	1810	8.2
4250	1605	7.3	1677	7.6	1747	7.9	1815	8.2	1882	8.5
4500	1691	7.7	1760	8.0	1826	8.3	1892	8.6	1955	8.9
4750	1778	8.1	1843	8.4	1907	8.6	1969	8.9	2030	9.2
5000	1866	8.5	1928	8.7	1988	9.0	2048	9.3	2106	9.6

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1624	7.3	1699	7.7	1771	8.0	1840	8.3	1906	8.6
3250	1684	7.6	1757	8.0	1827	8.3	1894	8.6	1958	8.9
3500	1746	7.9	1817	8.2	1884	8.5	1950	8.8	2013	9.1
3750	1811	8.2	1879	8.5	1945	8.8	2008	9.1	2070	9.4
4000	1878	8.5	1943	8.8	2007	9.1	2069	9.4	2128	9.7
4250	1947	8.8	2010	9.1	2071	9.4	2131	9.7	2189	9.9
4500	2017	9.2	2078	9.4	2138	9.7	2195	10.0	—	—
4750	2090	9.5	2148	9.8	—	—	—	—	—	—
5000	2164	9.8	—	—	—	—	—	—	—	—

High Static 1181-2200 rpm

Fan data (cont)

50GE-M14 — 12.5 Ton Vertical Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3750	1001	0.53	1094	0.69	1190	0.89	1286	1.12	1379	1.38
4065	1075	0.65	1160	0.82	1248	1.02	1337	1.25	1424	1.51
4375	1148	0.79	1227	0.97	1308	1.17	1390	1.40	1473	1.67
4690	1224	0.96	1297	1.14	1372	1.35	1449	1.59	1525	1.85
5000	1299	1.14	1367	1.32	1437	1.54	1509	1.78	1581	2.05
5315	1375	1.34	1440	1.53	1505	1.75	1572	2.00	1640	2.27
5625	1451	1.55	1512	1.76	1574	1.98	1637	2.23	1700	2.50
5940	1529	1.79	1586	2.00	1644	2.23	1704	2.48	1763	2.75
6250	1606	2.04	1660	2.26	1715	2.49	1771	2.74	1828	3.01

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3750	1469	1.67	1555	1.97	1638	2.31	1716	2.65	1790	3.01
4065	1510	1.80	1593	2.12	1673	2.45	1749	2.80	1822	3.17
4375	1554	1.96	1633	2.28	1710	2.62	1784	2.97	1856	3.34
4690	1602	2.14	1677	2.46	1751	2.80	1823	3.16	1893	3.54
5000	1653	2.34	1724	2.66	1794	2.99	1864	3.36	1931	3.73
5315	1707	2.56	1775	2.87	1842	3.21	1908	3.57	1973	3.95
5625	1764	2.79	1828	3.10	1892	3.44	1955	3.80	2018	4.18
5940	1824	3.04	1885	3.36	1945	3.69	2006	4.05	2065	4.41
6250	1885	3.31	1943	3.62	2000	3.95	2058	4.30	2115	4.67

Std/Med Static 1001-2200 rpm, 3.0 maximum bhp

High Static 1001-2200 rpm, 5.0 maximum bhp

50GE-M14 — Standard/Medium Static — 12.5 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1001	4.5	1094	4.9	1190	5.3	1286	5.8	1379	6.2
4065	1075	4.8	1160	5.2	1248	5.6	1337	6.0	1424	6.4
4375	1148	5.1	1227	5.5	1308	5.9	1390	6.3	1473	6.6
4690	1224	5.5	1297	5.8	1372	6.2	1449	6.5	1525	6.9
5000	1299	5.8	1367	6.2	1437	6.5	1509	6.8	1581	7.1
5315	1375	6.2	1440	6.5	1505	6.8	1572	7.1	1640	7.4
5625	1451	6.5	1512	6.8	1574	7.1	1637	7.4	1700	7.7
5940	1529	6.9	1586	7.2	1644	7.4	1704	7.7	1763	8.0
6250	1606	7.3	1660	7.5	1715	7.8	1771	8.0	1828	8.3

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1469	6.6	1555	7.0	1638	7.4	1716	7.8	1790	8.1
4065	1510	6.8	1593	7.2	1673	7.6	1749	7.9	1822	8.3
4375	1554	7.0	1633	7.4	1710	7.7	1784	8.1	—	—
4690	1602	7.2	1677	7.6	1751	7.9	1823	8.3	—	—
5000	1653	7.5	1724	7.8	1794	8.1	—	—	—	—
5315	1707	7.7	1775	8.0	—	—	—	—	—	—
5625	1764	8.0	1828	8.3	—	—	—	—	—	—
5940	1824	8.3	—	—	—	—	—	—	—	—
6250	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1001-2200 rpm

Fan data (cont)

50GE-M14 — High Static — 12.5 Ton Vertical Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1001	4.5	1094	4.9	1190	5.3	1286	5.8	1379	6.2
4065	1075	4.8	1160	5.2	1248	5.6	1337	6.0	1424	6.4
4375	1148	5.1	1227	5.5	1308	5.9	1390	6.3	1473	6.6
4690	1224	5.5	1297	5.8	1372	6.2	1449	6.5	1525	6.9
5000	1299	5.8	1367	6.2	1437	6.5	1509	6.8	1581	7.1
5315	1375	6.2	1440	6.5	1505	6.8	1572	7.1	1640	7.4
5625	1451	6.5	1512	6.8	1574	7.1	1637	7.4	1700	7.7
5940	1529	6.9	1586	7.2	1644	7.4	1704	7.7	1763	8.0
6250	1606	7.3	1660	7.5	1715	7.8	1771	8.0	1828	8.3

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1469	6.6	1555	7.0	1638	7.4	1716	7.8	1790	8.1
4065	1510	6.8	1593	7.2	1673	7.6	1749	7.9	1822	8.3
4375	1554	7.0	1633	7.4	1710	7.7	1784	8.1	1856	8.4
4690	1602	7.2	1677	7.6	1751	7.9	1823	8.3	1893	8.6
5000	1653	7.5	1724	7.8	1794	8.1	1864	8.4	1931	8.8
5315	1707	7.7	1775	8.0	1842	8.3	1908	8.7	1973	9.0
5625	1764	8.0	1828	8.3	1892	8.6	1955	8.9	2018	9.2
5940	1824	8.3	1885	8.5	1945	8.8	2006	9.1	2065	9.4
6250	1885	8.5	1943	8.8	2000	9.1	2058	9.3	2115	9.6

High Static 1001-2200 rpm

Fan data (cont)

50GE-M07 — 6 Ton Horizontal Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1800	752	0.16	912	0.29	1047	0.43	1167	0.60	1275	0.78
1950	794	0.19	947	0.32	1078	0.47	1195	0.65	1301	0.83
2100	838	0.22	984	0.36	1111	0.52	1225	0.69	1329	0.89
2250	883	0.26	1023	0.40	1146	0.57	1256	0.75	1358	0.94
2400	929	0.30	1063	0.45	1182	0.62	1289	0.80	1388	1.00
2550	977	0.35	1104	0.50	1219	0.68	1324	0.87	1421	1.07
2700	1025	0.40	1147	0.56	1258	0.74	1360	0.94	1454	1.14
2850	1074	0.46	1191	0.62	1298	0.81	1397	1.01	1489	1.22
3000	1123	0.52	1236	0.69	1339	0.88	1435	1.08	1525	1.30

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
1800	1374	0.98	1465	1.19	1550	1.41	1630	1.64	1705	1.88
1950	1399	1.04	1489	1.25	1574	1.47	1653	1.71	1729	1.95
2100	1425	1.09	1514	1.31	1598	1.54	1677	1.78	1753	2.03
2250	1452	1.15	1540	1.38	1623	1.61	1702	1.86	1777	2.11
2400	1481	1.22	1568	1.45	1650	1.69	1728	1.94	1802	2.20
2550	1511	1.29	1597	1.52	1677	1.77	1754	2.02	1828	2.29
2700	1543	1.37	1627	1.60	1706	1.85	1782	2.11	1855	2.38
2850	1576	1.45	1658	1.69	1736	1.94	1811	2.20	1883	2.47
3000	1610	1.53	1691	1.77	1767	2.02	1841	2.29	1912	2.56

Std/Med Static752-2000 rpm, 2.4 maximum bhp

High Static 752-2200 rpm, 3.0 maximum bhp

50GE-M07 — Standard/Medium Static — 6 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	752	3.6	912	4.4	1047	5.1	1167	5.7	1275	6.3
1950	794	3.8	947	4.6	1078	5.3	1195	5.9	1301	6.4
2100	838	4.0	984	4.8	1111	5.4	1225	6.0	1329	6.5
2250	883	4.3	1023	5.0	1146	5.6	1256	6.2	1358	6.7
2400	929	4.5	1063	5.2	1182	5.8	1289	6.3	1388	6.9
2550	977	4.7	1104	5.4	1219	6.0	1324	6.5	1421	7.0
2700	1025	5.0	1147	5.6	1258	6.2	1360	6.7	1454	7.2
2850	1074	5.2	1191	5.8	1298	6.4	1397	6.9	1489	7.4
3000	1123	5.5	1236	6.1	1339	6.6	1435	7.1	1525	7.6

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	1374	6.8	1465	7.2	1550	7.7	1630	8.1	1705	8.5
1950	1399	6.9	1489	7.4	1574	7.8	1653	8.2	1729	8.6
2100	1425	7.0	1514	7.5	1598	7.9	1677	8.3	1753	8.7
2250	1452	7.2	1540	7.6	1623	8.1	1702	8.5	1777	8.9
2400	1481	7.3	1568	7.8	1650	8.2	1728	8.6	1802	9.0
2550	1511	7.5	1597	7.9	1677	8.3	1754	8.7	1828	9.1
2700	1543	7.6	1627	8.1	1706	8.5	1782	8.9	1855	9.3
2850	1576	7.8	1658	8.2	1736	8.6	1811	9.0	1883	9.4
3000	1610	8.0	1691	8.4	1767	8.8	1841	9.2	—	—

Std/Med Static 752-2000 rpm

Fan data (cont)

50GE-M07 — High Static — 6 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	752	3.3	912	4.1	1047	4.7	1167	5.2	1275	5.7
1950	794	3.5	947	4.2	1078	4.8	1195	5.4	1301	5.9
2100	838	3.7	984	4.4	1111	5.0	1225	5.5	1329	6.0
2250	883	3.9	1023	4.6	1146	5.1	1256	5.6	1358	6.1
2400	929	4.1	1063	4.8	1182	5.3	1289	5.8	1388	6.3
2550	977	4.4	1104	4.9	1219	5.5	1324	6.0	1421	6.4
2700	1025	4.6	1147	5.1	1258	5.7	1360	6.1	1454	6.6
2850	1074	4.8	1191	5.3	1298	5.8	1397	6.3	1489	6.7
3000	1123	5.0	1236	5.6	1339	6.0	1435	6.5	1525	6.9

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
1800	1374	6.2	1465	6.6	1550	7.0	1630	7.4	1705	7.7
1950	1399	6.3	1489	6.7	1574	7.1	1653	7.5	1729	7.8
2100	1425	6.4	1514	6.8	1598	7.2	1677	7.6	1753	7.9
2250	1452	6.5	1540	7.0	1623	7.3	1702	7.7	1777	8.0
2400	1481	6.7	1568	7.1	1650	7.5	1728	7.8	1802	8.2
2550	1511	6.8	1597	7.2	1677	7.6	1754	7.9	1828	8.3
2700	1543	7.0	1627	7.4	1706	7.7	1782	8.1	1855	8.4
2850	1576	7.1	1658	7.5	1736	7.9	1811	8.2	1883	8.5
3000	1610	7.3	1691	7.7	1767	8.0	1841	8.3	1912	8.7

High Static 752-2200 rpm

Fan data (cont)

50GE-M08 — 7.5 Ton Horizontal Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2250	873	0.25	1004	0.38	1126	0.53	1237	0.70	1338	0.89
2440	927	0.29	1051	0.43	1167	0.59	1274	0.76	1373	0.95
2625	982	0.35	1098	0.48	1208	0.65	1311	0.83	1408	1.02
2815	1040	0.41	1148	0.55	1252	0.71	1352	0.90	1445	1.10
3000	1097	0.48	1199	0.62	1298	0.79	1393	0.98	1484	1.18
3190	1156	0.55	1252	0.70	1346	0.87	1437	1.06	1525	1.27
3375	1214	0.63	1305	0.79	1395	0.96	1482	1.15	1566	1.36
3565	1275	0.72	1361	0.88	1446	1.05	1530	1.25	1611	1.46
3750	1334	0.81	1416	0.97	1498	1.15	1578	1.34	1656	1.55

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2250	1431	1.09	1517	1.30	1597	1.51	1673	1.74	1744	1.97
2440	1464	1.16	1549	1.37	1629	1.59	1704	1.83	1775	2.06
2625	1498	1.23	1582	1.45	1661	1.68	1736	1.92	1807	2.16
2815	1533	1.31	1616	1.54	1694	1.77	1769	2.01	1839	2.26
3000	1569	1.39	1651	1.63	1728	1.86	1801	2.11	1871	2.37
3190	1608	1.49	1688	1.72	1764	1.96	1836	2.21	1905	2.47
3375	1647	1.58	1725	1.82	1799	2.06	1871	2.32	1939	2.58
3565	1689	1.68	1765	1.91	1838	2.16	1908	2.42	1975	2.68
3750	1731	1.77	1805	2.01	1876	2.25	1944	2.51	2011	2.78

Std/Med Static 873-2000 rpm, 2.4 maximum bhp

High Static 873-2200 rpm, 3.0 maximum bhp

50GE-M08 — Standard/Medium Static — 7.5 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	873	4.2	1004	4.9	1126	5.5	1237	6.1	1338	6.6
2440	927	4.5	1051	5.1	1167	5.7	1274	6.3	1373	6.8
2625	982	4.8	1098	5.4	1208	5.9	1311	6.5	1408	7.0
2815	1040	5.1	1148	5.6	1252	6.2	1352	6.7	1445	7.1
3000	1097	5.4	1199	5.9	1298	6.4	1393	6.9	1484	7.3
3190	1156	5.7	1252	6.2	1346	6.6	1437	7.1	1525	7.6
3375	1214	6.0	1305	6.4	1395	6.9	1482	7.3	1566	7.8
3565	1275	6.3	1361	6.7	1446	7.2	1530	7.6	1611	8.0
3750	1334	6.6	1416	7.0	1498	7.4	1578	7.8	1656	8.2

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	1431	7.1	1517	7.5	1597	7.9	1673	8.3	1744	8.7
2440	1464	7.2	1549	7.7	1629	8.1	1704	8.5	1775	8.8
2625	1498	7.4	1582	7.9	1661	8.3	1736	8.6	1807	9.0
2815	1533	7.6	1616	8.0	1694	8.4	1769	8.8	1839	9.2
3000	1569	7.8	1651	8.2	1728	8.6	1801	9.0	1871	9.3
3190	1608	8.0	1688	8.4	1764	8.8	1836	9.2	1905	9.5
3375	1647	8.2	1725	8.6	1799	9.0	1871	9.3	—	—
3565	1689	8.4	1765	8.8	1838	9.2	1908	9.5	—	—
3750	1731	8.6	1805	9.0	1876	9.4	1944	9.7	—	—

Std/Med Static 873-2000 rpm

Fan data (cont)

50GE-M08 — High Static — 7.5 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	873	3.9	1004	4.5	1126	5.0	1237	5.6	1338	6.0
2440	927	4.1	1051	4.7	1167	5.2	1274	5.7	1373	6.2
2625	982	4.4	1098	4.9	1208	5.4	1311	5.9	1408	6.3
2815	1040	4.6	1148	5.1	1252	5.6	1352	6.1	1445	6.5
3000	1097	4.9	1199	5.4	1298	5.8	1393	6.3	1484	6.7
3190	1156	5.2	1252	5.6	1346	6.1	1437	6.5	1525	6.9
3375	1214	5.4	1305	5.9	1395	6.3	1482	6.7	1566	7.1
3565	1275	5.7	1361	6.1	1446	6.5	1530	6.9	1611	7.3
3750	1334	6.0	1416	6.4	1498	6.8	1578	7.1	1656	7.5

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2250	1431	6.5	1517	6.8	1597	7.2	1673	7.6	1744	7.9
2440	1464	6.6	1549	7.0	1629	7.4	1704	7.7	1775	8.0
2625	1498	6.8	1582	7.1	1661	7.5	1736	7.9	1807	8.2
2815	1533	6.9	1616	7.3	1694	7.7	1769	8.0	1839	8.3
3000	1569	7.1	1651	7.5	1728	7.8	1801	8.2	1871	8.5
3190	1608	7.3	1688	7.6	1764	8.0	1836	8.3	1905	8.6
3375	1647	7.4	1725	7.8	1799	8.1	1871	8.5	1939	8.8
3565	1689	7.6	1765	8.0	1838	8.3	1908	8.7	1975	9.0
3750	1731	7.8	1805	8.2	1876	8.5	1944	8.8	2011	9.1

High Static 873-2200 rpm

Fan data (cont)

50GE-M09 — 8.5 Ton Horizontal Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	964	0.33	1083	0.47	1196	0.64	1301	0.82	1398	1.02
2765	1029	0.40	1140	0.55	1246	0.72	1346	0.90	1441	1.11
2975	1094	0.48	1197	0.63	1297	0.80	1393	0.99	1484	1.20
3190	1161	0.57	1258	0.72	1352	0.90	1443	1.09	1531	1.31
3400	1228	0.67	1319	0.83	1408	1.01	1495	1.20	1579	1.42
3615	1297	0.78	1382	0.94	1467	1.12	1549	1.32	1630	1.54
3825	1365	0.89	1446	1.06	1526	1.25	1604	1.45	1681	1.67
4040	1435	1.02	1512	1.20	1587	1.38	1662	1.59	1736	1.81
4250	1504	1.16	1577	1.33	1649	1.52	1721	1.73	1791	1.95

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	1489	1.23	1573	1.45	1652	1.68	1727	1.92	1798	2.17
2765	1529	1.32	1612	1.55	1691	1.79	1765	2.04	1835	2.29
2975	1570	1.42	1652	1.66	1729	1.90	1802	2.15	1872	2.41
3190	1614	1.53	1694	1.77	1770	2.02	1842	2.27	1911	2.54
3400	1659	1.65	1737	1.89	1811	2.14	1882	2.40	1950	2.67
3615	1707	1.77	1782	2.02	1855	2.27	1924	2.54	1991	2.81
3825	1756	1.90	1829	2.15	1899	2.41	1967	2.68	2033	2.95
4040	1808	2.05	1878	2.29	1946	2.55	2013	2.82	2077	3.10
4250	1860	2.19	1928	2.44	1994	2.69	2059	2.97	—	—

Std/Med Static 964-2000 rpm, 2.4 maximum bhp

High Static 964-2200 rpm, 5.0 maximum bhp

50GE-M09 — Standard/Medium Static — 8.5 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	964	4.7	1083	5.3	1196	5.9	1301	6.4	1398	6.9
2765	1029	5.0	1140	5.6	1246	6.1	1346	6.6	1441	7.1
2975	1094	5.3	1197	5.9	1297	6.4	1393	6.9	1484	7.3
3190	1161	5.7	1258	6.2	1352	6.7	1443	7.1	1531	7.6
3400	1228	6.0	1319	6.5	1408	7.0	1495	7.4	1579	7.8
3615	1297	6.4	1382	6.8	1467	7.3	1549	7.7	1630	8.1
3825	1365	6.7	1446	7.2	1526	7.6	1604	8.0	1681	8.4
4040	1435	7.1	1512	7.5	1587	7.9	1662	8.3	1736	8.6
4250	1504	7.4	1577	7.8	1649	8.2	1721	8.6	1791	8.9

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1489	7.4	1573	7.8	1652	8.2	1727	8.6	1798	9.0
2765	1529	7.6	1612	8.0	1691	8.4	1765	8.8	1835	9.2
2975	1570	7.8	1652	8.2	1729	8.6	1802	9.0	1872	9.3
3190	1614	8.0	1694	8.4	1770	8.8	1842	9.2	1911	9.5
3400	1659	8.2	1737	8.6	1811	9.0	1882	9.4	—	—
3615	1707	8.5	1782	8.9	1855	9.3	1924	9.6	—	—
3825	1756	8.7	1829	9.1	1899	9.5	—	—	—	—
4040	1808	9.0	1878	9.4	—	—	—	—	—	—
4250	1860	9.3	1928	9.6	—	—	—	—	—	—

Std/Med Static 964-2200 rpm

Fan data (cont)

50GE-M09 — High Static — 8.5 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	964	4.3	1083	4.8	1196	5.4	1301	5.9	1398	6.3
2765	1029	4.6	1140	5.1	1246	5.6	1346	6.1	1441	6.5
2975	1094	4.9	1197	5.4	1297	5.8	1393	6.3	1484	6.7
3190	1161	5.2	1258	5.7	1352	6.1	1443	6.5	1531	6.9
3400	1228	5.5	1319	5.9	1408	6.3	1495	6.7	1579	7.1
3615	1297	5.8	1382	6.2	1467	6.6	1549	7.0	1630	7.4
3825	1365	6.1	1446	6.5	1526	6.9	1604	7.2	1681	7.6
4040	1435	6.5	1512	6.8	1587	7.2	1662	7.5	1736	7.9
4250	1504	6.8	1577	7.1	1649	7.5	1721	7.8	1791	8.1

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
2550	1489	6.7	1573	7.1	1652	7.5	1727	7.8	1798	8.1
2765	1529	6.9	1612	7.3	1691	7.7	1765	8.0	1835	8.3
2975	1570	7.1	1652	7.5	1729	7.8	1802	8.2	1872	8.5
3190	1614	7.3	1694	7.7	1770	8.0	1842	8.3	1911	8.7
3400	1659	7.5	1737	7.9	1811	8.2	1882	8.5	1950	8.8
3615	1707	7.7	1782	8.1	1855	8.4	1924	8.7	1991	9.0
3825	1756	8.0	1829	8.3	1899	8.6	1967	8.9	2033	9.2
4040	1808	8.2	1878	8.5	1946	8.8	2013	9.1	2077	9.4
4250	1860	8.4	1928	8.7	1994	9.0	2059	9.3	—	—

High Static 964-2200 rpm

Fan data (cont)

50GE-M12 — 10 Ton Horizontal Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	1100	0.49	1202	0.64	1301	0.81	1396	1.00	1487	1.21
3250	1176	0.59	1270	0.74	1363	0.92	1453	1.11	1539	1.32
3500	1252	0.70	1341	0.86	1428	1.04	1512	1.24	1595	1.45
3750	1330	0.83	1413	1.00	1495	1.18	1575	1.38	1653	1.60
4000	1409	0.97	1487	1.14	1563	1.33	1639	1.53	1714	1.75
4250	1488	1.12	1561	1.29	1634	1.48	1706	1.69	1776	1.90
4500	1568	1.28	1637	1.45	1706	1.65	1774	1.85	1841	2.07
4750	1648	1.44	1714	1.62	1779	1.81	1844	2.02	1908	2.23
5000	1728	1.61	1791	1.79	1853	1.98	1915	2.19	1976	2.40

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3000	1573	1.43	1654	1.66	1732	1.91	1805	2.16	1875	2.42
3250	1622	1.55	1702	1.79	1777	2.04	1849	2.29	1919	2.57
3500	1674	1.68	1751	1.92	1825	2.18	1895	2.44	1964	2.72
3750	1729	1.83	1803	2.07	1874	2.33	1943	2.59	2010	2.87
4000	1786	1.98	1857	2.22	1926	2.48	1993	2.75	2058	3.03
4250	1846	2.14	1914	2.38	1980	2.64	2045	2.91	2108	3.18
4500	1908	2.30	1973	2.54	2036	2.80	2099	3.06	2160	3.34
4750	1971	2.46	2034	2.71	2095	2.96	2155	3.22	—	—
5000	2036	2.63	2096	2.87	2155	3.11	—	—	—	—

Std/Med Static 1100-2200 rpm, 3.0 maximum bhp

High Static 1100-2200 rpm, 5.0 maximum bhp

50GE-M12 — Standard/Medium Static — 10 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1100	5.4	1202	5.9	1301	6.4	1396	6.9	1487	7.4
3250	1176	5.8	1270	6.2	1363	6.7	1453	7.2	1539	7.6
3500	1252	6.2	1341	6.6	1428	7.1	1512	7.5	1595	7.9
3750	1330	6.6	1413	7.0	1495	7.4	1575	7.8	1653	8.2
4000	1409	7.0	1487	7.4	1563	7.8	1639	8.1	1714	8.5
4250	1488	7.4	1561	7.7	1634	8.1	1706	8.5	1776	8.8
4500	1568	7.8	1637	8.1	1706	8.5	1774	8.8	1841	9.2
4750	1648	8.2	1714	8.5	1779	8.9	1844	9.2	1908	9.5
5000	1728	8.6	1791	8.9	1853	9.2	1915	9.6	1976	9.9

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1573	7.8	1654	8.2	1732	8.6	1805	9.0	1875	9.4
3250	1622	8.1	1702	8.5	1777	8.9	1849	9.2	—	—
3500	1674	8.3	1751	8.7	1825	9.1	1895	9.5	—	—
3750	1729	8.6	1803	9.0	1874	9.4	—	—	—	—
4000	1786	8.9	1857	9.3	1926	9.6	—	—	—	—
4250	1846	9.2	1914	9.6	—	—	—	—	—	—
4500	1908	9.5	1973	9.9	—	—	—	—	—	—
4750	1971	9.9	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1100-2200 rpm

Fan data (cont)

50GE-M12 — High Static — 10 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1100	4.9	1202	5.4	1301	5.9	1396	6.3	1487	6.7
3250	1176	5.3	1270	5.7	1363	6.1	1453	6.6	1539	6.9
3500	1252	5.6	1341	6.0	1428	6.4	1512	6.8	1595	7.2
3750	1330	6.0	1413	6.4	1495	6.7	1575	7.1	1653	7.5
4000	1409	6.3	1487	6.7	1563	7.1	1639	7.4	1714	7.8
4250	1488	6.7	1561	7.1	1634	7.4	1706	7.7	1776	8.0
4500	1568	7.1	1637	7.4	1706	7.7	1774	8.0	1841	8.3
4750	1648	7.5	1714	7.8	1779	8.1	1844	8.4	1908	8.7
5000	1728	7.8	1791	8.1	1853	8.4	1915	8.7	1976	9.0

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3000	1573	7.1	1654	7.5	1732	7.8	1805	8.2	1875	8.5
3250	1622	7.3	1702	7.7	1777	8.0	1849	8.4	1919	8.7
3500	1674	7.6	1751	7.9	1825	8.3	1895	8.6	1964	8.9
3750	1729	7.8	1803	8.2	1874	8.5	1943	8.8	2010	9.1
4000	1786	8.1	1857	8.4	1926	8.7	1993	9.0	2058	9.3
4250	1846	8.4	1914	8.7	1980	9.0	2045	9.3	2108	9.6
4500	1908	8.7	1973	9.0	2036	9.2	2099	9.5	2160	9.8
4750	1971	8.9	2034	9.2	2095	9.5	2155	9.8	—	—
5000	2036	9.2	2096	9.5	2155	9.8	—	—	—	—

High Static 1100-2200 rpm

Fan data (cont)

50GE-M14 — 12.5 Ton Horizontal Supply (rpm - bhp)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3750	1003	0.53	1097	0.69	1193	0.89	1289	1.12	1382	1.39
4065	1077	0.65	1163	0.82	1251	1.03	1340	1.26	1427	1.52
4375	1151	0.80	1230	0.97	1312	1.18	1394	1.42	1476	1.68
4690	1227	0.96	1300	1.14	1376	1.36	1452	1.60	1529	1.86
5000	1302	1.14	1371	1.34	1441	1.55	1513	1.79	1585	2.06
5315	1379	1.35	1443	1.54	1509	1.77	1576	2.01	1644	2.28
5625	1455	1.57	1516	1.77	1578	2.00	1641	2.25	1705	2.52
5940	1533	1.81	1590	2.01	1649	2.25	1708	2.50	1768	2.77
6250	1609	2.06	1664	2.27	1720	2.51	1776	2.76	1833	3.04

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
3750	1471	1.67	1557	1.98	1638	2.31	1716	2.65	1789	3.01
4065	1513	1.82	1595	2.13	1674	2.46	1750	2.81	1823	3.18
4375	1557	1.97	1636	2.29	1712	2.62	1786	2.98	1857	3.35
4690	1606	2.16	1681	2.48	1754	2.81	1825	3.17	1895	3.55
5000	1657	2.36	1728	2.67	1798	3.01	1867	3.37	1934	3.75
5315	1712	2.58	1779	2.89	1846	3.23	1912	3.59	1977	3.97
5625	1769	2.81	1833	3.13	1896	3.46	1959	3.82	2022	4.20
5940	1829	3.07	1890	3.38	1950	3.72	2010	4.07	2070	4.44
6250	1890	3.33	1948	3.65	2005	3.98	2063	4.33	2120	4.70

Std/Med Static 1003-2200 rpm, 3.0 maximum bhp

High Static 1003-2200 rpm, 5.0 maximum bhp

50GE-M14 — Standard/Medium Static — 12.5 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1003	4.5	1097	4.9	1193	5.4	1289	5.8	1382	6.2
4065	1077	4.8	1163	5.2	1251	5.6	1340	6.0	1427	6.4
4375	1151	5.2	1230	5.5	1312	5.9	1394	6.3	1476	6.7
4690	1227	5.5	1300	5.8	1376	6.2	1452	6.5	1529	6.9
5000	1302	5.9	1371	6.2	1441	6.5	1513	6.8	1585	7.2
5315	1379	6.2	1443	6.5	1509	6.8	1576	7.1	1644	7.4
5625	1455	6.6	1516	6.8	1578	7.1	1641	7.4	1705	7.7
5940	1533	6.9	1590	7.2	1649	7.5	1708	7.7	1768	8.0
6250	1609	7.3	1664	7.5	1720	7.8	1776	8.0	1833	8.3

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1471	6.6	1557	7.0	1638	7.4	1716	7.8	1789	8.1
4065	1513	6.8	1595	7.2	1674	7.6	1750	7.9	1823	8.3
4375	1557	7.0	1636	7.4	1712	7.7	1786	8.1	—	—
4690	1606	7.3	1681	7.6	1754	7.9	1825	8.3	—	—
5000	1657	7.5	1728	7.8	1798	8.1	—	—	—	—
5315	1712	7.7	1779	8.1	—	—	—	—	—	—
5625	1769	8.0	1833	8.3	—	—	—	—	—	—
5940	1829	8.3	—	—	—	—	—	—	—	—
6250	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1003-2200 rpm

Fan data (cont)

50GE-M14 — High Static — 12.5 Ton Horizontal Supply (rpm - vdc)

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	0.2		0.4		0.6		0.8		1.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1003	4.5	1097	4.9	1193	5.4	1289	5.8	1382	6.2
4065	1077	4.8	1163	5.2	1251	5.6	1340	6.0	1427	6.4
4375	1151	5.2	1230	5.5	1312	5.9	1394	6.3	1476	6.7
4690	1227	5.5	1300	5.8	1376	6.2	1452	6.5	1529	6.9
5000	1302	5.9	1371	6.2	1441	6.5	1513	6.8	1585	7.2
5315	1379	6.2	1443	6.5	1509	6.8	1576	7.1	1644	7.4
5625	1455	6.6	1516	6.8	1578	7.1	1641	7.4	1705	7.7
5940	1533	6.9	1590	7.2	1649	7.5	1708	7.7	1768	8.0
6250	1609	7.3	1664	7.5	1720	7.8	1776	8.0	1833	8.3

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc	rpm	vdc
3750	1471	6.6	1557	7.0	1638	7.4	1716	7.8	1789	8.1
4065	1513	6.8	1595	7.2	1674	7.6	1750	7.9	1823	8.3
4375	1557	7.0	1636	7.4	1712	7.7	1786	8.1	1857	8.4
4690	1606	7.3	1681	7.6	1754	7.9	1825	8.3	1895	8.6
5000	1657	7.5	1728	7.8	1798	8.1	1867	8.5	1934	8.8
5315	1712	7.7	1779	8.1	1846	8.4	1912	8.7	1977	9.0
5625	1769	8.0	1833	8.3	1896	8.6	1959	8.9	2022	9.2
5940	1829	8.3	1890	8.6	1950	8.8	2010	9.1	2070	9.4
6250	1890	8.6	1948	8.8	2005	9.1	2063	9.4	2120	9.6

High Static 1003-2200 rpm

Legend and Notes

Applicable for Electrical Data Tables on pages 102-129

LEGEND

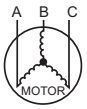
BRKR	— Circuit Breaker
C.O.	— Convenience Outlet
FLA	— Full Load Amps
IFM	— Indoor Fan Motor
LRA	— Locked Rotor Amps
MCA	— Minimum Circuit Amps
P.E.	— Power Exhaust
PWRD C.O.	— Powered Convenience Outlet
RLA	— Rated Load Amps
SCCR	— Short Circuit Current Rating
UNPWR C.O.	— Unpowered Convenience Outlet

NOTES:

1. In compliance with NEC requirements for multi-motor and combination load equipment (refer to NEC Articles 430 and 440), the overcurrent protective device for the unit shall be fuse or HACR breaker. Canadian units may be fuse or circuit breaker.
2. For 208/230 v units, where one value is show it is the same for either 208 or 230 volts.
3. **Unbalanced 3-Phase Supply Voltage**: Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance.

$$\text{\% Voltage Imbalance} = 100 \times \frac{\text{max voltage deviation from average voltage}}{\text{average voltage}}$$

Example: Supply voltage is 230-3-60



AB = 224-v
BC = 231-v
AC = 226-v

$$\text{Average Voltage} = \frac{(224 + 231 + 226)}{3} = \frac{681}{3} = 227$$

Determine maximum deviation from average voltage.

(AB) 227-224 = 3-v

(BC) 231-227 = 4-v

(AC) 227-226 = 1-v

Maximum deviation is 4-v.

Determine percent of voltage imbalance.

$$\text{\% Voltage Imbalance} = 100x \frac{4}{227} = 1.76\%$$

This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

IMPORTANT: If the supply voltage phase imbalance is more than 2%, contact your local electric utility company immediately.

Electrical data (cont)

48/50GE**07-14 Cooling Electrical Data

48/50GE UNIT SIZE	V-Ph-Hz	UNIT VOLTAGE RANGE		COMP 1		COMP 2		OFM (EA)		STD SCCR kA	HIGH SCCR kA	IFM			COMBUSTION FAN MOTOR (48 SERIES ONLY)	POWER EXHAUST	
		MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA			TYPE	EFFCY AT FULL LOAD	FLA	FLA	KIT QTY	FLA (EA KIT)
07	208-3-60	187	253	12.8	103	8.3	68	325	1.5	5	10	MED	90%	6.4	0.48	1	3.8
												HIGH	90%	7.5			
	230-3-60	187	253	12.8	103	8.3	68	325	1.5	5	10	MED	90%	6.4	0.48	1	3.8
												HIGH	90%	7.5			
	460-3-60	414	506	5.8	50	5.1	38	325	0.8	5	10	MED	90%	3.0	0.25	1	1.8
												HIGH	90%	3.5			
	575-3-60	518	633	5.1	41	3.5	24	325	0.6	5	—	MED	90%	2.5	0.24	1	3.8
												HIGH	90%	3.0			
08	208-3-60	187	253	16.0	156	12.8	98	325	1.5	5	10	MED	90%	6.4	0.48	1	3.8
												HIGH	90%	7.5			
	230-3-60	187	253	16.0	156	12.8	98	325	1.5	5	10	MED	90%	6.4	0.48	1	3.8
												HIGH	90%	7.5			
	460-3-60	414	506	7.7	69	5.1	44	325	0.8	5	10	MED	90%	3.0	0.25	1	1.8
												HIGH	90%	3.5			
	575-3-60	518	633	6.4	48	4.5	27	325	0.6	5	—	MED	90%	2.5	0.24	1	3.8
												HIGH	90%	3.0			
09	208-3-60	187	253	18.6	155	12.8	103	325	1.5	5	10	MED	90%	6.4	0.48	1	3.8
												HIGH	90%	7.5			
	230-3-60	187	253	18.6	155	12.8	103	325	1.5	5	10	MED	90%	6.4	0.48	1	3.8
												HIGH	90%	7.5			
	460-3-60	414	506	8.3	58	5.8	50	325	0.8	5	10	MED	90%	3.0	0.25	1	1.8
												HIGH	90%	3.5			
	575-3-60	518	633	7.7	48	5.1	41	325	0.6	5	—	MED	90%	2.5	0.24	1	3.8
												HIGH	90%	3.0			
12	208-3-60	187	253	21.1	157	12.8	120	1070	7.4	5	—	MED	90%	6.4	0.48	1	3.8
												HIGH	90%	12.6			
	230-3-60	187	253	21.1	157	12.8	120	1070	7.4	5	—	MED	90%	6.4	0.48	1	3.8
												HIGH	90%	12.6			
	460-3-60	414	506	9.1	75	6.0	49	1070	7.4	5	—	MED	90%	3.0	0.25	1	1.8
												HIGH	90%	5.6			
	575-3-60	518	633	7.7	48	5.8	41	1070	7.4	5	—	MED	90%	2.5	0.24	1	3.8
												HIGH	90%	4.6			
14	208-3-60	187	253	24.4	200	16.0	156	280	1.5	5	10	MED	90%	7.5	0.48	1	3.8
												HIGH	90%	12.6			
	230-3-60	187	253	24.4	200	16.0	156	280	1.5	5	10	MED	90%	7.5	0.48	1	3.8
												HIGH	90%	12.6			
	460-3-60	414	506	11.9	103	7.7	69	280	0.8	5	10	MED	90%	3.5	0.25	1	1.8
												HIGH	90%	5.6			
	575-3-60	518	633	9.4	78	6.4	48	280	0.6	5	—	MED	90%	3.0	0.24	1	3.8
												HIGH	90%	4.6			

Electrical data (cont)

48GE**07-14 MCA MOCP Electrical Data

48GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	HIGH SCCR kA[a]	NO CONVENIENCE OUTLET OR UNPOWERED CONVENIENCE OUTLET							
					NO POWER EXHAUST				WITH POWER EXHAUST (powered from unit)			
					MCA	FUSE OR HACR BREAKER	DISCONNECT SIZE		MCA	FUSE OR HACR BREAKER	DISCONNECT SIZE	
							FLA	LRA			FLA	LRA
48GE**07	208/230-3-60	STD/MED	5	10	34	45	35	188	38	50	39	192
		HIGH	5	10	35	45	36	190	39	50	41	194
	460-3-60	STD/MED	5	10	17	20	18	96	19	25	20	98
		HIGH	5	10	18	20	18	99	20	25	20	101
	575-3-60	STD/MED	5	—	14	15	14	73	18	20	19	77
		HIGH	5	—	15	20	15	74	18	20	19	78
48GE**08	208/230-3-60	STD/MED	5	10	43	50	44	271	46	60	48	275
		HIGH	5	10	44	50	45	273	48	60	50	277
	460-3-60	STD/MED	5	10	20	25	20	121	22	25	22	123
		HIGH	5	10	20	25	21	124	22	25	23	126
	575-3-60	STD/MED	5	—	17	20	17	83	20	25	21	87
		HIGH	5	—	17	20	17	84	21	25	22	88
48GE**09	208/230-3-60	STD/MED	5	10	46	60	47	275	50	60	51	279
		HIGH	5	10	47	60	48	277	51	60	53	281
	460-3-60	STD/MED	5	10	21	25	22	116	23	30	24	118
		HIGH	5	10	22	25	22	119	24	30	24	121
	575-3-60	STD/MED	5	—	19	25	19	97	23	25	23	101
		HIGH	5	—	19	25	20	98	23	30	24	102
48GE**12	208/230-3-60	STD/MED	5	—	53	60	55	293	57	70	59	297
		HIGH	5	—	60	80	62	302	63	80	66	306
	460-3-60	STD/MED	5	—	28	35	29	135	30	35	31	137
		HIGH	5	—	31	35	32	139	33	40	34	141
	575-3-60	STD/MED	5	—	26	30	27	100	30	35	31	104
		HIGH	5	—	28	30	29	102	32	35	34	106
48GE**14	208/230-3-60	STD/MED	5	10	59	80	60	379	63	80	65	383
		HIGH	5	10	64	80	66	386	68	80	70	390
	460-3-60	STD/MED	5	10	29	40	29	185	31	40	31	187
		HIGH	5	10	31	40	32	186	33	40	34	188
	575-3-60	STD/MED	5	—	23	30	24	137	27	30	28	141
		HIGH	5	—	25	30	26	138	29	35	30	142

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

48GE**07-14 MCA MOCP Electrical Data (cont)

48GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	WITH POWERED CONVENIENCE OUTLET							
				NO POWER EXHAUST				WITH POWER EXHAUST (powered from unit)			
				MCA	FUSE OR HACR BREAKER	DISCONNECT SIZE		MCA	FUSE OR HACR BREAKER	DISCONNECT SIZE	
						FLA	LRA			FLA	LRA
48GE**07	208/230-3-60	STD/MED	5	39	50	41	193	43	50	45	197
		HIGH	5	40	50	42	195	44	50	46	199
	460-3-60	STD/MED	5	20	25	20	98	21	25	22	100
		HIGH	5	20	25	21	101	22	25	23	103
	575-3-60	STD/MED	5	16	20	16	75	20	25	20	79
		HIGH	5	16	20	17	76	20	25	21	80
48GE**08	208/230-3-60	STD/MED	5	47	60	49	276	51	60	54	280
		HIGH	5	49	60	51	278	52	60	55	282
	460-3-60	STD/MED	5	22	25	23	123	24	30	25	125
		HIGH	5	22	25	23	126	24	30	25	128
	575-3-60	STD/MED	5	18	20	19	85	22	25	23	89
		HIGH	5	19	25	19	86	23	25	24	90
48GE**09	208/230-3-60	STD/MED	5	51	60	52	280	55	60	57	284
		HIGH	5	52	60	54	282	56	60	58	286
	460-3-60	STD/MED	5	23	30	24	118	25	30	26	120
		HIGH	5	24	30	25	121	26	30	27	123
	575-3-60	STD/MED	5	21	25	21	99	24	30	25	103
		HIGH	5	21	25	22	100	25	30	26	104
48GE**12	208/230-3-60	STD/MED	5	58	70	60	298	62	80	65	302
		HIGH	5	64	80	68	307	68	80	72	311
	460-3-60	STD/MED	5	30	35	32	137	32	40	34	139
		HIGH	5	33	40	35	141	35	40	37	143
	575-3-60	STD/MED	5	27	30	29	102	31	35	33	106
		HIGH	5	30	35	31	104	33	40	36	108
48GE**14	208/230-3-60	STD/MED	5	64	80	66	384	68	80	70	388
		HIGH	5	69	80	72	391	73	80	76	395
	460-3-60	STD/MED	5	31	40	32	187	33	40	34	189
		HIGH	5	33	40	34	188	35	45	36	190
	575-3-60	STD/MED	5	25	30	26	139	29	35	30	143
		HIGH	5	27	30	27	140	31	35	32	144

Electrical data (cont)

50GE-*07 MCA MOCP Electrical Data

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	HIGH SCCR kA[a]	ELECTRIC HEATER			NO CONVENIENCE OUTLET or UNPOWERED CONVENIENCE OUTLET							
								NO POWER EXHAUST				WITH POWER EXHAUST (powered from unit)			
					CRHEATER ****00	NOM (kW)	FLA	MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		MCA	FUSE OR HACR BRKR	DISCONNECT SIZE	
										FLA	LRA			FLA	LRA
50GE-*07	208/230-3-60	STD/ MED	5	10	—	—	—	34	45	35	188	38	50	39	192
					410A	4.9/6.5	13.6/15.6	34/34	45/45	35/35	188/188	38/38	50/50	39/39	192/192
					411A	7.8/10.4	21.7/25.0	36/40	45/45	35/36	188/188	40/44	50/50	39/40	192/192
					412A	12.0/16.0	33.4/38.5	50/57	50/60	46/52	188/188	55/61	60/70	50/56	192/192
					413A	15.8/21.0	43.8/50.5	63/72	70/80	58/65	188/188	68/76	70/80	62/70	192/192
					414A	18.8/25.0	52.1/60.1	74/84	80/90	67/76	188/188	78/88	80/90	72/81	192/192
		HIGH	5	10	—	—	—	35	45	36	190	39	50	41	194
					410A	4.9/6.5	13.6/15.6	35/35	45/45	36/36	190/190	39/39	50/50	41/41	194/194
					411A	7.8/10.4	21.7/25.0	37/41	45/45	36/37	190/190	42/46	50/50	41/42	194/194
					412A	12.0/16.0	33.4/38.5	52/58	60/60	47/53	190/190	56/63	60/70	51/57	194/194
					413A	15.8/21.0	43.8/50.5	65/73	70/80	59/67	190/190	69/78	70/80	63/71	194/194
					414A	18.8/25.0	52.1/60.1	75/85	80/90	69/78	190/190	80/90	80/90	73/82	194/194
	460-3-60	STD/ MED	5	10	—	—	—	17	20	18	96	19	25	20	98
					418A	6.0	7.2	17	20	18	96	19	25	20	98
					419A	11.5	13.8	21	25	19	96	24	25	21	98
					420A	15.0	18.0	27	30	24	96	29	30	26	98
					421A	25.0	30.1	42	45	38	96	44	45	40	98
		HIGH	5	10	—	—	—	18	20	18	99	20	25	20	101
					418A	6.0	7.2	18	20	18	99	20	25	20	101
					419A	11.5	13.8	22	25	20	99	24	25	22	101
					420A	15.0	18.0	27	30	25	99	30	30	27	101
					421A	25.0	30.1	42	45	39	99	45	45	41	101
	575-3-60	STD/ MED	5	—	—	—	—	14	15	14	73	18	20	19	77
					425A	18.0	17.3	25	25	23	73	30	30	27	77
					426A	24.8	23.9	33	35	30	73	38	40	35	77
		HIGH	5	—	—	—	—	15	20	15	74	18	20	19	78
					425A	18.0	17.3	26	30	23	74	31	35	28	78
					426A	24.8	23.9	34	35	31	74	39	40	35	78

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*07 MCA MOCP Electrical Data (cont)

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	ELECTRIC HEATER			WITH POWERED CONVENIENCE OUTLET							
							NO POWER EXHAUST				WITH POWER EXHAUST (powered from unit)			
				CRHEATER ****00	NOM (kW)	FLA	MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		MCA	FUSE OR HACR BRKR	DISCONNECT SIZE	
									FLA	LRA			FLA	LRA
50GE-*07	208/230-3-60	STD/ MED	5	—	—	—	39	50	41	193	43	50	45	197
				410A	4.9/6.5	13.6/15.6	39/39	50/50	41/41	193/193	43/43	50/50	45/45	197/197
				411A	7.8/10.4	21.7/25.0	42/46	50/50	41/42	193/193	46/50	50/60	45/46	197/197
				412A	12.0/16.0	33.4/38.5	56/63	60/70	51/57	193/193	61/67	70/70	56/62	197/197
				413A	15.8/21.0	43.8/50.5	69/78	70/80	63/71	193/193	74/82	80/90	68/75	197/197
				414A	18.8/25.0	52.1/60.1	80/90	80/90	73/82	193/193	84/94	90/100	77/86	197/197
		HIGH	5	—	—	—	40	50	42	195	44	50	46	199
				410A	4.9/6.5	13.6/15.6	40/40	50/50	42/42	195/195	44/44	50/50	46/46	199/199
				411A	7.8/10.4	21.7/25.0	43/47	50/50	42/43	195/195	48/52	50/60	46/47	199/199
				412A	12.0/16.0	33.4/38.5	58/64	60/70	53/58	195/195	62/69	70/70	57/63	199/199
				413A	15.8/21.0	43.8/50.5	71/79	80/80	65/72	195/195	75/84	80/90	69/77	199/199
				414A	18.8/25.0	52.1/60.1	81/91	90/100	74/83	195/195	86/96	90/100	78/88	199/199
	460-3-60	STD/ MED	5	—	—	—	20	25	20	98	21	25	22	100
				418A	6.0	7.2	20	25	20	98	21	25	22	100
				419A	11.5	13.8	24	25	22	98	26	30	24	100
				420A	15.0	18.0	29	30	27	98	32	35	29	100
				421A	25.0	30.1	45	45	41	98	47	50	43	100
		HIGH	5	—	—	—	20	25	21	101	22	25	23	103
				418A	6.0	7.2	20	25	21	101	22	25	23	103
				419A	11.5	13.8	25	25	22	101	27	30	24	103
				420A	15.0	18.0	30	30	27	101	32	35	29	103
				421A	25.0	30.1	45	45	41	101	47	50	43	103
	575-3-60	STD/ MED	5	—	—	—	16	20	16	75	20	25	20	79
				425A	18.0	17.3	27	30	25	75	32	35	29	79
				426A	24.8	23.9	36	40	32	75	40	40	37	79
		HIGH	5	—	—	—	16	20	17	76	20	25	21	80
				425A	18.0	17.3	28	30	25	76	33	35	30	80
				426A	24.8	23.9	36	40	33	76	41	45	37	80

Electrical data (cont)

50GE-*08 MCA MOCP Electrical Data

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	HIGH SCCR kA[a]	ELECTRIC HEATER			NO CONVENIENCE OUTLET or UNPOWERED CONVENIENCE OUTLET							
								NO POWER EXHAUST				WITH POWER EXHAUST (powered from unit)			
										DISCONNECT SIZE				DISCONNECT SIZE	
					CRHEATER ****00	NOM (kW)	FLA	MCA	FUSE OR HACR BRKR	FLA	LRA	MCA	FUSE OR HACR BRKR	FLA	LRA
50GE-*08	208/230-3-60	STD/MED	5	10	—	—	—	43	50	44	271	46	60	48	275
					411A	7.8/10.4	21.7/25.0	43/43	50/50	44/44	271/271	46/46	60/60	48/48	275/275
					412A	12.0/16.0	33.4/38.5	50/57	50/60	46/52	271/271	55/61	60/70	50/56	275/275
					414A	18.8/25.0	52.1/60.1	74/84	80/90	67/76	271/271	78/88	80/90	72/81	275/275
					415A	24.0/32.0	66.7/77.0	92/105	100/110	84/96	271/271	97/109	100/110	88/100	275/275
					416A	31.8/42.4	88.4/102.0	119/136	125/150	109/125	271/271	124/141	125/150	113/129	275/275
		HIGH	5	10	—	—	—	44	50	45	273	48	60	50	277
					411A	7.8/10.4	21.7/25.0	44/44	50/50	45/45	273/273	48/48	60/60	50/50	277/277
					412A	12.0/16.0	33.4/38.5	52/58	60/60	47/53	273/273	56/63	60/70	51/57	277/277
					414A	18.8/25.0	52.1/60.1	75/85	80/90	69/78	273/273	80/90	80/90	73/82	277/277
					415A	24.0/32.0	66.7/77.0	93/106	100/110	85/97	273/273	98/111	100/125	90/102	277/277
					416A	31.8/42.4	88.4/102.0	120/137	125/150	110/126	273/273	125/142	125/150	115/130	277/277
	460-3-60	STD/MED	5	10	—	—	—	20	25	20	121	22	25	22	123
					419A	11.5	13.8	21	25	20	121	24	25	22	123
					420A	15.0	18.0	27	30	24	121	29	30	26	123
					421A	25.0	30.1	42	45	38	121	44	45	40	123
					422A	33.0	39.7	54	60	49	121	56	60	51	123
					423A	41.7	50.2	67	70	61	121	69	70	63	123
		HIGH	5	10	—	—	—	20	25	21	124	22	25	23	126
					419A	11.5	13.8	22	25	21	124	24	25	23	126
					420A	15.0	18.0	27	30	25	124	30	30	27	126
					421A	25.0	30.1	42	45	39	124	45	45	41	126
					422A	33.0	39.7	54	60	50	124	57	60	52	126
					423A	41.7	50.2	68	70	62	124	70	70	64	126
	575-3-60	STD/MED	5	—	—	—	—	17	20	17	83	20	25	21	87
					425A	18.0	17.3	25	25	23	83	30	30	27	87
					427A	36.0	34.6	47	50	43	83	52	60	47	87
		HIGH	5	—	—	—	—	17	20	17	84	21	25	22	88
					425A	18.0	17.3	26	30	23	84	31	35	28	88
					427A	36.0	34.6	47	50	43	84	52	60	48	88

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*08 MCA MOCP Electrical Data (cont)

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	ELECTRIC HEATER			WITH POWERED CONVENIENCE OUTLET							
							NO POWER EXHAUST				WITH POWER EXHAUST (powered from unit)			
				CRHEATER ****00	NOM (kW)	FLA	MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		MCA	FUSE OR HACR BRKR	DISCONNECT SIZE	
									FLA	LRA			FLA	LRA
50GE-*08	208/230-3-60	STD/ MED	5	—	—	—	47	60	49	276	51	60	54	280
				411A	7.8/10.4	21.7/25.0	47/47	60/60	49/49	276/276	51/51	60/60	54/54	280/280
				412A	12.0/16.0	33.4/38.5	56/63	60/70	51/57	276/276	61/67	70/70	56/62	280/280
				414A	18.8/25.0	52.1/60.1	80/90	80/90	73/82	276/276	84/94	90/100	77/86	280/280
				415A	24.0/32.0	66.7/77.0	98/111	100/125	90/101	276/276	103/115	110/125	94/106	280/280
				416A	31.8/42.4	88.4/102.0	125/142	125/150	115/130	276/276	130/147	150/150	119/135	280/280
		HIGH	5	—	—	—	49	60	51	278	52	60	55	282
				411A	7.8/10.4	21.7/25.0	49/49	60/60	51/51	278/278	52/52	60/60	55/55	282/282
				412A	12.0/16.0	33.4/38.5	58/64	60/70	53/58	278/278	62/69	70/70	57/63	282/282
				414A	18.8/25.0	52.1/60.1	81/91	90/100	74/83	278/278	86/96	90/100	78/88	282/282
				415A	24.0/32.0	66.7/77.0	99/112	100/125	91/103	278/278	104/117	110/125	95/107	282/282
				416A	31.8/42.4	88.4/102.0	126/143	150/150	116/131	278/278	131/148	150/150	120/136	282/282
	460-3-60	STD/ MED	5	—	—	—	22	25	23	123	24	30	25	125
				419A	11.5	13.8	24	25	23	123	26	30	25	125
				420A	15.0	18.0	29	30	27	123	32	35	29	125
				421A	25.0	30.1	45	45	41	123	47	50	43	125
				422A	33.0	39.7	57	60	52	123	59	60	54	125
				423A	41.7	50.2	70	70	64	123	72	80	66	125
		HIGH	5	—	—	—	22	25	23	126	24	30	25	128
				419A	11.5	13.8	25	25	23	126	27	30	25	128
				420A	15.0	18.0	30	30	27	126	32	35	29	128
				421A	25.0	30.1	45	45	41	126	47	50	43	128
				422A	33.0	39.7	57	60	52	126	59	60	54	128
				423A	41.7	50.2	70	70	64	126	73	80	66	128
	575-3-60	STD/ MED	5	—	—	—	18	20	19	85	22	25	23	89
				425A	18.0	17.3	27	30	25	85	32	35	29	89
				427A	36.0	34.6	49	50	45	85	54	60	49	89
		HIGH	5	—	—	—	19	25	19	86	23	25	24	90
				425A	18.0	17.3	28	30	25	86	33	35	30	90
				427A	36.0	34.6	50	50	45	86	54	60	50	90

Electrical data (cont)

50GE-*09 MCA MOCP Electrical Data

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	HIGH SCCR kA[a]	ELECTRIC HEATER			NO CONVENIENCE OUTLET or UNPOWERED CONVENIENCE OUTLET							
								NO POWER EXHAUST				WITH POWER EXHAUST (powered from unit)			
										DISCONNECT SIZE				DISCONNECT SIZE	
					CRHEATER ****00	NOM (kW)	FLA	MCA	FUSE OR HACR BRKR	FLA	LRA	MCA	FUSE OR HACR BRKR	FLA	LRA
50GE-*09	208/230-3-60	STD/MED	5	10	—	—	—	46	60	47	275	50	60	51	279
					411A	7.8/10.4	21.7/25.0	46/46	60/60	47/47	275/275	50/50	60/60	51/51	279/279
					412A	12.0/16.0	33.4/38.5	50/57	60/60	47/52	275/275	55/61	60/70	51/56	279/279
					414A	18.8/25.0	52.1/60.1	74/84	80/90	67/76	275/275	78/88	80/90	72/81	279/279
					415A	24.0/32.0	66.7/77.0	92/105	100/110	84/96	275/275	97/109	100/110	88/100	279/279
					416A	31.8/42.4	88.4/102.0	119/136	125/150	109/125	275/275	124/141	125/150	113/129	279/279
		HIGH	5	10	—	—	—	47	60	48	277	51	60	53	281
					411A	7.8/10.4	21.7/25.0	47/47	60/60	48/48	277/277	51/51	60/60	53/53	281/281
					412A	12.0/16.0	33.4/38.5	52/58	60/60	48/53	277/277	56/63	60/70	53/57	281/281
					414A	18.8/25.0	52.1/60.1	75/85	80/90	69/78	277/277	80/90	80/90	73/82	281/281
					415A	24.0/32.0	66.7/77.0	93/106	100/110	85/97	277/277	98/111	100/125	90/102	281/281
					416A	31.8/42.4	88.4/102.0	120/137	125/150	110/126	277/277	125/142	125/150	115/130	281/281
	460-3-60	STD/MED	5	10	—	—	—	21	25	22	116	23	30	24	118
					419A	11.5	13.8	21	25	22	116	24	30	24	118
					420A	15.0	18.0	27	30	24	116	29	30	26	118
					421A	25.0	30.1	42	45	38	116	44	45	40	118
					422A	33.0	39.7	54	60	49	116	56	60	51	118
					423A	41.7	50.2	67	70	61	116	69	70	63	118
		HIGH	5	10	—	—	—	22	25	22	119	24	30	24	121
					419A	11.5	13.8	22	25	22	119	24	30	24	121
					420A	15.0	18.0	27	30	25	119	30	30	27	121
					421A	25.0	30.1	42	45	39	119	45	45	41	121
					422A	33.0	39.7	54	60	50	119	57	60	52	121
					423A	41.7	50.2	68	70	62	119	70	70	64	121
	575-3-60	STD/MED	5	—	—	—	—	19	25	19	97	23	25	23	101
					425A	18.0	17.3	25	25	23	97	30	30	27	101
					427A	36.0	34.6	47	50	43	97	52	60	47	101
		HIGH	5	—	—	—	—	19	25	20	98	23	30	24	102
					425A	18.0	17.3	26	30	23	98	31	35	28	102
					427A	36.0	34.6	47	50	43	98	52	60	48	102

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*09 MCA MOCP Electrical Data (cont)

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	ELECTRIC HEATER			WITH POWERED CONVENIENCE OUTLET							
							NO POWER EXHAUST				WITH POWER EXHAUST (powered from unit)			
				CRHEATER ****00	NOM (kW)	FLA	MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		MCA	FUSE OR HACR BRKR	DISCONNECT SIZE	
									FLA	LRA			FLA	LRA
50GE-*09	208/230-3-60	STD/ MED	5	—	—	—	51	60	52	280	55	60	57	284
				411A	7.8/10.4	21.7/25.0	51/51	60/60	52/52	280/280	55/55	60/60	57/57	284/284
				412A	12.0/16.0	33.4/38.5	56/63	60/70	52/57	280/280	61/67	70/70	57/62	284/284
				414A	18.8/25.0	52.1/60.1	80/90	80/90	73/82	280/280	84/94	90/100	77/86	284/284
				415A	24.0/32.0	66.7/77.0	98/111	100/125	90/101	280/280	103/115	110/125	94/106	284/284
				416A	31.8/42.4	88.4/102.0	125/142	125/150	115/130	280/280	130/147	150/150	119/135	284/284
		HIGH	5	—	—	—	52	60	54	282	56	60	58	286
				411A	7.8/10.4	21.7/25.0	52/52	60/60	54/54	282/282	56/56	60/60	58/58	286/286
				412A	12.0/16.0	33.4/38.5	58/64	60/70	54/58	282/282	62/69	70/70	58/63	286/286
				414A	18.8/25.0	52.1/60.1	81/91	90/100	74/83	282/282	86/96	90/100	78/88	286/286
				415A	24.0/32.0	66.7/77.0	99/112	100/125	91/103	282/282	104/117	110/125	95/107	286/286
				416A	31.8/42.4	88.4/102.0	126/143	150/150	116/131	282/282	131/148	150/150	120/136	286/286
	460-3-60	STD/ MED	5	—	—	—	23	30	24	118	25	30	26	120
				419A	11.5	13.8	24	30	24	118	26	30	26	120
				420A	15.0	18.0	29	30	27	118	32	35	29	120
				421A	25.0	30.1	45	45	41	118	47	50	43	120
				422A	33.0	39.7	57	60	52	118	59	60	54	120
				423A	41.7	50.2	70	70	64	118	72	80	66	120
		HIGH	5	—	—	—	24	30	25	121	26	30	27	123
				419A	11.5	13.8	25	30	25	121	27	30	27	123
				420A	15.0	18.0	30	30	27	121	32	35	29	123
				421A	25.0	30.1	45	45	41	121	47	50	43	123
				422A	33.0	39.7	57	60	52	121	59	60	54	123
				423A	41.7	50.2	70	70	64	121	73	80	66	123
	575-3-60	STD/ MED	5	—	—	—	21	25	21	99	24	30	25	103
				425A	18.0	17.3	27	30	25	99	32	35	29	103
				427A	36.0	34.6	49	50	45	99	54	60	49	103
		HIGH	5	—	—	—	21	25	22	100	25	30	26	104
				425A	18.0	17.3	28	30	25	100	33	35	30	104
				427A	36.0	34.6	50	50	45	100	54	60	50	104

Electrical data (cont)

50GE-*12 MCA MOCP Electrical Data

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	ELECTRIC HEATER			NO CONVENIENCE OUTLET or UNPOWERED CONVENIENCE OUTLET							
							NO POWER EXHAUST				WITH POWER EXHAUST (powered from unit)			
									DISCONNECT SIZE				DISCONNECT SIZE	
				CRHEATER ****00	NOM (kW)	FLA	MCA	FUSE OR HACR BRKR	FLA	LRA	MCA	FUSE OR HACR BRKR	FLA	LRA
50GE-*12	208/230-3-60	STD/ MED	5	—	—	—	53	60	55	293	57	70	59	297
				411A	7.8/10.4	21.7/25.0	53/53	60/60	55/55	293/293	57/57	70/70	59/59	297/297
				412A	12.0/16.0	33.4/38.5	53/57	60/60	55/55	293/293	57/61	70/70	59/59	297/297
				415A	24.0/32.0	66.7/77.0	92/105	100/110	84/96	293/293	97/109	100/110	88/100	297/297
				416A	31.8/42.4	88.4/102.0	119/136	125/150	109/125	293/293	124/141	125/150	113/129	297/297
				417A	37.6/50.0	104.2/120.3	139/129	150/150	127/146	293/293	143/134	150/150	132/150	297/297
		HIGH	5	—	—	—	60	80	62	302	63	80	66	306
				411A	7.8/10.4	21.7/25.0	60/60	80/80	62/62	302/302	63/63	80/80	66/66	306/306
				412A	12.0/16.0	33.4/38.5	60/64	80/80	62/62	302/302	63/69	80/80	66/66	306/306
				415A	24.0/32.0	66.7/77.0	100/112	100/125	91/103	302/302	104/117	110/125	96/107	306/306
				416A	31.8/42.4	88.4/102.0	127/144	150/150	116/132	302/302	131/148	150/150	121/136	306/306
				417A	37.6/50.0	104.2/120.3	146/137	150/150	134/153	302/302	151/141	175/175	139/157	306/306
	460-3-60	STD/ MED	5	—	—	—	28	35	29	135	30	35	31	137
				420A	15.0	18.0	28	35	29	135	30	35	31	137
				422A	33.0	39.7	54	60	49	135	56	60	51	137
				423A	41.7	50.2	67	70	61	135	69	70	63	137
				424A	50.0	60.1	64	70	73	135	67	70	75	137
		HIGH	5	—	—	—	31	35	32	139	33	40	34	141
				420A	15.0	18.0	31	35	32	139	33	40	34	141
				422A	33.0	39.7	57	60	52	139	59	60	54	141
				423A	41.7	50.2	70	70	64	139	72	80	66	141
				424A	50.0	60.1	68	80	76	139	70	80	78	141
	575-3-60	STD/ MED	5	—	—	—	26	30	27	100	30	35	31	104
				425A	18.0	17.3	26	30	27	100	30	35	31	104
				427A	36.0	34.6	47	50	43	100	52	60	47	104
				428A	50.0	48.1	52	60	58	100	56	60	63	104
		HIGH	5	—	—	—	28	30	29	102	32	35	34	106
				425A	18.0	17.3	28	30	29	102	33	35	34	106
				427A	36.0	34.6	49	50	45	102	54	60	49	106
				428A	50.0	48.1	54	60	61	102	59	60	65	106

Electrical data (cont)

50GE-*12 MCA MOCP Electrical Data (cont)

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	ELECTRIC HEATER			WITH POWERED CONVENIENCE OUTLET							
							NO POWER EXHAUST				WITH POWER EXHAUST (powered from unit)			
				CRHEATER ****00	NOM (kW)	FLA	MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		MCA	FUSE OR HACR BRKR	DISCONNECT SIZE	
									FLA	LRA			FLA	LRA
50GE-*12	208/230-3-60	STD/ MED	5	—	—	—	58	70	60	298	62	80	65	302
				411A	7.8/10.4	21.7/25.0	58/58	70/70	60/60	298/298	62/62	80/80	65/65	302/302
				412A	12.0/16.0	33.4/38.5	58/63	70/70	60/60	298/298	62/67	80/80	65/65	302/302
				415A	24.0/32.0	66.7/77.0	98/111	100/125	90/101	298/298	103/115	110/125	94/106	302/302
				416A	31.8/42.4	88.4/102.0	125/142	125/150	115/130	298/298	130/147	150/150	119/135	302/302
				417A	37.6/50.0	104.2/120.3	145/135	150/150	133/151	298/298	149/140	150/150	137/156	302/302
		HIGH	5	—	—	—	64	80	68	307	68	80	72	311
				411A	7.8/10.4	21.7/25.0	64/64	80/80	68/68	307/307	68/68	80/80	72/72	311/311
				412A	12.0/16.0	33.4/38.5	64/70	80/80	68/68	307/307	69/75	80/80	72/72	311/311
				415A	24.0/32.0	66.7/77.0	106/118	110/125	97/109	307/307	110/123	110/125	101/113	311/311
				416A	31.8/42.4	88.4/102.0	133/150	150/150	122/137	307/307	137/154	150/175	126/142	311/311
				417A	37.6/50.0	104.2/120.3	152/143	175/175	140/158	307/307	157/147	175/175	144/163	311/311
	460-3-60	STD/ MED	5	—	—	—	30	35	32	137	32	40	34	139
				420A	15.0	18.0	30	35	32	137	32	40	34	139
				422A	33.0	39.7	57	60	52	137	59	60	54	139
				423A	41.7	50.2	70	70	64	137	72	80	66	139
				424A	50.0	60.1	67	70	75	137	69	80	77	139
		HIGH	5	—	—	—	33	40	35	141	35	40	37	143
				420A	15.0	18.0	33	40	35	141	35	40	37	143
				422A	33.0	39.7	60	60	55	141	62	70	57	143
				423A	41.7	50.2	73	80	67	141	75	80	69	143
				424A	50.0	60.1	70	80	78	141	73	80	80	143
	575-3-60	STD/ MED	5	—	—	—	27	30	29	102	31	35	33	106
				425A	18.0	17.3	27	30	29	102	32	35	33	106
				427A	36.0	34.6	49	50	45	102	54	60	49	106
				428A	50.0	48.1	54	60	60	102	59	60	65	106
		HIGH	5	—	—	—	30	35	31	104	33	40	36	108
				425A	18.0	17.3	30	35	31	104	35	40	36	108
				427A	36.0	34.6	52	60	47	104	56	60	51	108
				428A	50.0	48.1	56	60	63	104	61	70	67	108

Electrical data (cont)

50GE-*14 MCA MOCP Electrical Data

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	HIGH SCCR kA[a]	ELECTRIC HEATER			NO CONVENIENCE OUTLET or UNPOWERED CONVENIENCE OUTLET							
								NO POWER EXHAUST				WITH POWER EXHAUST (powered from unit)			
					CRHEATER ****00	NOM (kW)	FLA	MCA	FUSE OR HACR BRKR	DISCONNECT SIZE		MCA	FUSE OR HACR BRKR	DISCONNECT SIZE	
										FLA	LRA			FLA	LRA
50GE-*14	208/230-3-60	STD/ MED	5	10	—	—	—	59	80	60	379	63	80	65	383
					412A	12.0/16.0	33.4/38.5	59/59	80/80	60/60	379/379	63/63	80/80	65/65	383/383
					414A	18.8/25.0	52.1/60.1	75/85	80/90	69/78	379/379	80/90	80/90	73/82	383/383
					415A	24.0/32.0	66.7/77.0	93/106	100/110	85/97	379/379	98/111	100/125	90/102	383/383
					416A	31.8/42.4	88.4/102.0	120/137	125/150	110/126	379/379	125/142	125/150	115/130	383/383
					417A	37.6/50.0	104.2/120.3	140/130	150/150	128/147	379/379	145/135	150/150	133/151	383/383
		HIGH	5	10	—	—	—	64	80	66	386	68	80	70	390
					412A	12.0/16.0	33.4/38.5	64/64	80/80	66/66	386/386	68/69	80/80	70/70	390/390
					414A	18.8/25.0	52.1/60.1	81/91	90/100	74/84	386/386	86/96	90/100	79/88	390/390
					415A	24.0/32.0	66.7/77.0	100/112	100/125	91/103	386/386	104/117	110/125	96/107	390/390
					416A	31.8/42.4	88.4/102.0	127/144	150/150	116/132	386/386	131/148	150/150	121/136	390/390
					417A	37.6/50.0	104.2/120.3	146/137	150/150	134/153	386/386	151/141	175/175	139/157	390/390
	460-3-60	STD/ MED	5	10	—	—	—	29	40	29	185	31	40	31	187
					420A	15.0	18.0	29	40	29	185	31	40	31	187
					421A	25.0	30.1	42	45	39	185	45	45	41	187
					422A	33.0	39.7	54	60	50	185	57	60	52	187
					423A	41.7	50.2	68	70	62	185	70	70	64	187
					424A	50.0	60.1	65	70	73	185	67	70	75	187
		HIGH	5	10	—	—	—	31	40	32	186	33	40	34	188
					420A	15.0	18.0	31	40	32	186	33	40	34	188
					421A	25.0	30.1	45	45	41	186	47	50	43	188
					422A	33.0	39.7	57	60	52	186	59	60	54	188
					423A	41.7	50.2	70	70	64	186	72	80	66	188
					424A	50.0	60.1	68	80	76	186	70	80	78	188
	575-3-60	STD/ MED	5	—	—	—	—	23	30	24	137	27	30	28	141
					425A	18.0	17.3	26	30	24	137	31	35	28	141
					426A	24.8	23.9	34	35	31	137	39	40	35	141
					427A	36.0	34.6	47	50	43	137	52	60	48	141
					428A	50.0	48.1	52	60	59	137	57	60	63	141
		HIGH	5	—	—	—	—	25	30	26	138	29	35	30	142
					425A	18.0	17.3	28	30	26	138	33	35	30	142
					426A	24.8	23.9	36	40	33	138	41	45	37	142
					427A	36.0	34.6	49	50	45	138	54	60	49	142
					428A	50.0	48.1	54	60	61	138	59	60	65	142

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*14 MCA MOCP Electrical Data (cont)

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	ELECTRIC HEATER			WITH POWERED CONVENIENCE OUTLET							
							NO POWER EXHAUST				WITH POWER EXHAUST (powered from unit)			
									DISCONNECT SIZE				DISCONNECT SIZE	
				CRHEATER ****00	NOM (kW)	FLA	MCA	FUSE OR HACR BRKR	FLA	LRA	MCA	FUSE OR HACR BRKR	FLA	LRA
50GE-*14	208/230-3-60	STD/ MED	5	—	—	—	64	80	66	384	68	80	70	388
				412A	12.0/16.0	33.4/38.5	64/64	80/80	66/66	384/384	68/69	80/80	70/70	388/388
				414A	18.8/25.0	52.1/60.1	81/91	90/100	74/83	384/384	86/96	90/100	78/88	388/388
				415A	24.0/32.0	66.7/77.0	99/112	100/125	91/103	384/384	104/117	110/125	95/107	388/388
				416A	31.8/42.4	88.4/102.0	126/143	150/150	116/131	384/384	131/148	150/150	120/136	388/388
				417A	37.6/50.0	104.2/120.3	146/136	150/150	134/152	384/384	151/141	175/150	138/157	388/388
		HIGH	5	—	—	—	69	80	72	391	73	80	76	395
				412A	12.0/16.0	33.4/38.5	69/70	80/80	72/72	391/391	73/75	80/80	76/76	395/395
				414A	18.8/25.0	52.1/60.1	87/97	90/100	80/89	391/391	92/102	100/110	84/93	395/395
				415A	24.0/32.0	66.7/77.0	106/118	110/125	97/109	391/391	110/123	110/125	101/113	395/395
				416A	31.8/42.4	88.4/102.0	133/150	150/150	122/137	391/391	137/154	150/175	126/142	395/395
				417A	37.6/50.0	104.2/120.3	152/143	175/175	140/158	391/391	157/147	175/175	144/163	395/395
	460-3-60	STD/ MED	5	—	—	—	31	40	32	187	33	40	34	189
				420A	15.0	18.0	31	40	32	187	33	40	34	189
				421A	25.0	30.1	45	45	41	187	47	50	43	189
				422A	33.0	39.7	57	60	52	187	59	60	54	189
				423A	41.7	50.2	70	70	64	187	73	80	66	189
				424A	50.0	60.1	68	80	76	187	70	80	78	189
		HIGH	5	—	—	—	33	40	34	188	35	45	36	190
				420A	15.0	18.0	33	40	34	188	35	45	36	190
				421A	25.0	30.1	48	50	44	188	50	50	46	190
				422A	33.0	39.7	60	60	55	188	62	70	57	190
				423A	41.7	50.2	73	80	67	188	75	80	69	190
				424A	50.0	60.1	70	80	78	188	73	80	80	190
	575-3-60	STD/ MED	5	—	—	—	25	30	26	139	29	35	30	143
				425A	18.0	17.3	28	30	26	139	33	35	30	143
				426A	24.8	23.9	36	40	33	139	41	45	37	143
				427A	36.0	34.6	50	50	45	139	54	60	50	143
				428A	50.0	48.1	54	60	61	139	59	60	65	143
		HIGH	5	—	—	—	27	30	27	140	31	35	32	144
				425A	18.0	17.3	30	30	27	140	35	35	32	144
				426A	24.8	23.9	38	40	35	140	43	45	39	144
				427A	36.0	34.6	52	60	47	140	56	60	51	144
				428A	50.0	48.1	56	60	63	140	61	70	67	144

Electrical data (cont)

50GE-*07 Electric Heat Data — Without Non-fused Disconnect

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	HIGH SCCR kA[a]	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
									NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
									NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M07	208/230-3-60	STD/ MED	CRHEATER410A00	6.5	5	10	4.9/6.0	16.7/20.4	042	042	042	042
			CRHEATER411A00	10.4	5	10	7.8/9.6	26.7/32.6	042	042	042	042
			CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	042	043	043	043
			CRHEATER413A00	21.0	5	10	15.8/19.3	53.8/65.8	043	043	043	043
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	043	043	043	043
		HIGH	CRHEATER410A00	6.5	5	10	4.9/6.0	16.7/20.4	042	042	042	042
			CRHEATER411A00	10.4	5	10	7.8/9.6	26.7/32.6	042	042	042	042
			CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	042	043	043	043
			CRHEATER413A00	21.0	5	10	15.8/19.3	53.8/65.8	043	043	043	043
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	043	043	043	043
	460-3-60	STD/ MED	CRHEATER418A00	6.0	5	10	5.5	18.8	042	042	042	042
			CRHEATER419A00	11.5	5	10	10.6	36.0	042	042	042	042
			CRHEATER420A00	15.0	5	10	13.8	47.0	042	042	042	042
			CRHEATER421A00	25.0	5	10	23.0	78.3	042	042	042	042
		HIGH	CRHEATER418A00	6.0	5	10	5.5	18.8	042	042	042	042
			CRHEATER419A00	11.5	5	10	10.6	36.0	042	042	042	042
			CRHEATER420A00	15.0	5	10	13.8	47.0	042	042	042	042
			CRHEATER421A00	25	5	10	23.0	78.3	042	042	042	042
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	—	16.5	56.4	042	042	042	042
			CRHEATER426A00	24.8	5	—	22.8	77.7	042	042	042	042
		HIGH	CRHEATER425A00	18.0	5	—	16.5	56.4	042	042	042	042
			CRHEATER426A00	24.8	5	—	22.8	77.7	042	042	042	042

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*07 Electric Heat Data — Without Non-fused Disconnect (cont)

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	HIGH SCCR kA[a]	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	HSCCR SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
									NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
									NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M07	208/230-3-60	STD/ MED	CRHEATER410A00	6.5	5	10	4.9/6.0	16.7/20.4	064	064	064	064
			CRHEATER411A00	10.4	5	10	7.8/9.6	26.7/32.6	064	064	064	064
			CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	064	064	064	064
			CRHEATER413A00	21.0	5	10	15.8/19.3	53.8/65.8	065	065	065	065
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	065	065	065	065
		HIGH	CRHEATER410A00	6.5	5	10	4.9/6.0	16.7/20.4	064	064	064	064
			CRHEATER411A00	10.4	5	10	7.8/9.6	26.7/32.6	064	064	064	064
			CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	064	064	064	064
			CRHEATER413A00	21.0	5	10	15.8/19.3	53.8/65.8	065	065	065	065
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	065	065	065	065
	460-3-60	STD/ MED	CRHEATER418A00	6.0	5	10	5.5	18.8	064	064	064	064
			CRHEATER419A00	11.5	5	10	10.6	36.0	064	064	064	064
			CRHEATER420A00	15.0	5	10	13.8	47.0	064	064	064	064
			CRHEATER421A00	25	5	10	23.0	78.3	065	065	065	065
		HIGH	CRHEATER418A00	6.0	5	10	5.5	18.8	064	064	064	064
			CRHEATER419A00	11.5	5	10	10.6	36.0	064	064	064	064
			CRHEATER420A00	15.0	5	10	13.8	47.0	064	064	064	064
			CRHEATER421A00	25.0	5	10	23.0	78.3	065	065	065	065
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	—	16.5	56.4	064	064	064	064
			CRHEATER426A00	24.8	5	—	22.8	77.7	065	065	065	065
		HIGH	CRHEATER425A00	18.0	5	—	16.5	56.4	064	064	064	064
			CRHEATER426A00	24.8	5	—	22.8	77.7	065	065	065	065

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*07 Electric Heat Data — With Non-fused Disconnect

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
								NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
								NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M07	208/230-3-60	STD/ MED	CRHEATER410A00	6.5	5	4.9/6.0	16.7/20.4	042	042	042	042
			CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	042	042	042	042
			CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	042	043	043	043
			CRHEATER413A00	21.0	5	15.8/19.3	53.8/65.8	043	043	043	043
			CRHEATER414A00	25.0	5	18.8/23.0	64.1/78.3	043	043	043	043
		HIGH	CRHEATER410A00	6.5	5	4.9/6.0	16.7/20.4	042	042	042	042
			CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	042	042	042	042
			CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	042	043	043	043
			CRHEATER413A00	21.0	5	15.8/19.3	53.8/65.8	043	043	043	043
			CRHEATER414A00	25.0	5	18.8/23.0	64.1/78.3	043	043	043	043
	460-3-60	STD/ MED	CRHEATER418A00	6.0	5	5.5	18.8	042	042	042	042
			CRHEATER419A00	11.5	5	10.6	36.0	042	042	042	042
			CRHEATER420A00	15.0	5	13.8	47.0	042	042	042	042
			CRHEATER421A00	25.0	5	23.0	78.3	042	042	042	042
		HIGH	CRHEATER418A00	6.0	5	5.5	18.8	042	042	042	042
			CRHEATER419A00	11.5	5	10.6	36.0	042	042	042	042
			CRHEATER420A00	15.0	5	13.8	47.0	042	042	042	042
			CRHEATER421A00	25.0	5	23.0	78.3	042	042	042	042
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	16.5	56.4	042	042	042	042
			CRHEATER426A00	24.8	5	22.8	77.7	042	042	042	042
		HIGH	CRHEATER425A00	18.0	5	16.5	56.4	042	042	042	042
			CRHEATER426A00	24.8	5	22.8	77.7	042	042	042	042

Electrical data (cont)

50GE-*08 Electric Heat Data — Without Non-fused Disconnect

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	HIGH SCCR kA[a]	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
									NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
									NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M08	208/230-3-60	STD/ MED	CRHEATER411A00	10.4	5	10	7.8/9.6	26.7/32.6	047	047	047	047
			CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	047	049	049	049
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	049	049	049	049
			CRHEATER415A00	32.0	5	10	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	10	31.8/38.9	108.7/132.9	051	051	051	051
		HIGH	CRHEATER411A00	10.4	5	10	7.8/9.6	26.7/32.6	047	047	047	047
			CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	047	049	049	049
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	049	049	049	049
			CRHEATER415A00	32.0	5	10	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	10	31.8/38.9	108.7/132.9	051	051	051	051
	460-3-60	STD/ MED	CRHEATER419A00	11.5	5	10	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5	10	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5	10	23.0	78.3	047	047	047	047
			CRHEATER422A00	33.0	5	10	30.3	103.4	047	047	047	047
			CRHEATER423A00	41.7	5	10	38.3	130.7	050	050	050	050
		HIGH	CRHEATER419A00	11.5	5	10	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5	10	13.8	47.0	047	047	047	047
			CRHEATER421A00	25	5	10	23.0	78.3	047	047	047	047
			CRHEATER422A00	33.0	5	10	30.3	103.4	047	047	047	047
			CRHEATER423A00	41.7	5	10	38.3	130.7	050	050	050	050
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	—	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	—	33.1	112.8	047	047	047	047
		HIGH	CRHEATER425A00	18.0	5	—	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	—	33.1	112.8	047	047	047	047

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*08 Electric Heat Data — Without Non-fused Disconnect (cont)

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	HIGH SCCR kA[a]	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	HSCCR SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
									NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
									NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M08	208/230-3-60	STD/ MED	CRHEATER411A00	10.4	5	10	7.8/9.6	26.7/32.6	067	067	067	067
			CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	067	067	067	067
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	068	068	068	068
			CRHEATER415A00	32.0	5	10	24.0/29.4	82.0/100.3	068	068	068	068
			CRHEATER416A00	42.4	5	10	31.8/38.9	108.7/132.9	069	069	069	069
		HIGH	CRHEATER411A00	10.4	5	10	7.8/9.6	26.7/32.6	067	067	067	067
			CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	067	067	067	067
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	068	068	068	068
			CRHEATER415A00	32.0	5	10	24.0/29.4	82.0/100.3	068	068	068	068
			CRHEATER416A00	42.4	5	10	31.8/38.9	108.7/132.9	069	069	069	069
	460-3-60	STD/ MED	CRHEATER419A00	11.5	5	10	10.6	36.0	067	067	067	067
			CRHEATER420A00	15.0	5	10	13.8	47.0	067	067	067	067
			CRHEATER421A00	25.0	5	10	23.0	78.3	068	068	068	068
			CRHEATER422A00	33.0	5	10	30.3	103.4	068	068	068	068
			CRHEATER423A00	41.7	5	10	38.3	130.7	068	068	068	068
		HIGH	CRHEATER419A00	11.5	5	10	10.6	36.0	067	067	067	067
			CRHEATER420A00	15.0	5	10	13.8	47.0	067	067	067	067
			CRHEATER421A00	25.0	5	10	23.0	78.3	068	068	068	068
			CRHEATER422A00	33.0	5	10	30.3	103.4	068	068	068	068
			CRHEATER423A00	41.7	5	10	38.3	130.7	068	068	068	068
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	—	16.5	56.4	067	067	067	067
			CRHEATER427A00	36.0	5	—	33.1	112.8	068	068	068	068
		HIGH	CRHEATER425A00	18.0	5	—	16.5	56.4	067	067	067	067
			CRHEATER427A00	36.0	5	—	33.1	112.8	068	068	068	068

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*08 Electric Heat Data — With Non-fused Disconnect

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
								NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
								NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M08	208/230-3-60	STD/ MED	CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	047	047	047	047
			CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	047	049	049	049
			CRHEATER414A00	25.0	5	18.8/23.0	64.1/78.3	049	049	049	049
			CRHEATER415A00	32.0	5	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	051	051	051	051
		HIGH	CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	047	047	047	047
			CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	047	049	049	049
			CRHEATER414A00	25.0	5	18.8/23.0	64.1/78.3	049	049	049	049
			CRHEATER415A00	32.0	5	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	051	051	051	051
	460-3-60	STD/ MED	CRHEATER419A00	11.5	5	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5	23.0	78.3	047	047	047	047
			CRHEATER422A00	33.0	5	30.3	103.4	047	047	047	047
			CRHEATER423A00	41.7	5	38.3	130.7	050	050	050	050
		HIGH	CRHEATER419A00	11.5	5	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5	23.0	78.3	047	047	047	047
			CRHEATER422A00	33.0	5	30.3	103.4	047	047	047	047
			CRHEATER423A00	41.7	5	38.3	130.7	050	050	050	050
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	33.1	112.8	047	047	047	047
		HIGH	CRHEATER425A00	18.0	5	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	33.1	112.8	047	047	047	047

Electrical data (cont)

50GE-*09 Electric Heat Data — Without Non-fused Disconnect

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	HIGH SCCR kA[a]	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
									NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
									NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M09	208/230-3-60	STD/ MED	CRHEATER411A00	10.4	5	10	7.8/9.6	26.7/32.6	047	047	047	047
			CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	047	049	049	049
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	049	049	049	049
			CRHEATER415A00	32.0	5	10	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	10	31.8/38.9	108.7/132.9	051	051	051	051
		HIGH	CRHEATER411A00	10.4	5	10	7.8/9.6	26.7/32.6	047	047	047	047
			CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	047	049	049	049
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	049	049	049	049
			CRHEATER415A00	32.0	5	10	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	10	31.8/38.9	108.7/132.9	051	051	051	051
	460-3-60	STD/ MED	CRHEATER419A00	11.5	5	10	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5	10	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5	10	23.0	78.3	047	047	047	047
			CRHEATER422A00	33.0	5	10	30.3	103.4	047	047	047	047
			CRHEATER423A00	41.7	5	10	38.3	130.7	050	050	050	050
		HIGH	CRHEATER419A00	11.5	5	10	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5	10	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5	10	23.0	78.3	047	047	047	047
			CRHEATER422A00	33.0	5	10	30.3	103.4	047	047	047	047
			CRHEATER423A00	41.7	5	10	38.3	130.7	050	050	050	050
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	—	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	—	33.1	112.8	047	047	047	047
		HIGH	CRHEATER425A00	18.0	5	—	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	—	33.1	112.8	047	047	047	047

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*09 Electric Heat Data — Without Non-fused Disconnect (cont)

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	HIGH SCCR kA[a]	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	HSCCR SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
									NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
									NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M09	208/230-3-60	STD/ MED	CRHEATER411A00	10.4	5	10	7.8/9.6	26.7/32.6	067	067	067	067
			CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	067	067	067	067
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	068	068	068	068
			CRHEATER415A00	32.0	5	10	24.0/29.4	82.0/100.3	068	068	068	068
			CRHEATER416A00	42.4	5	10	31.8/38.9	108.7/132.9	069	069	069	069
		HIGH	CRHEATER411A00	10.4	5	10	7.8/9.6	26.7/32.6	067	067	067	067
			CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	067	067	067	067
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	068	068	068	068
			CRHEATER415A00	32.0	5	10	24.0/29.4	82.0/100.3	068	068	068	068
			CRHEATER416A00	42.4	5	10	31.8/38.9	108.7/132.9	069	069	069	069
	460-3-60	STD/ MED	CRHEATER419A00	11.5	5	10	10.6	36.0	067	067	067	067
			CRHEATER420A00	15.0	5	10	13.8	47.0	067	067	067	067
			CRHEATER421A00	25.0	5	10	23.0	78.3	068	068	068	068
			CRHEATER422A00	33.0	5	10	30.3	103.4	068	068	068	068
			CRHEATER423A00	41.7	5	10	38.3	130.7	068	068	068	068
		HIGH	CRHEATER419A00	11.5	5	10	10.6	36.0	067	067	067	067
			CRHEATER420A00	15.0	5	10	13.8	47.0	067	067	067	067
			CRHEATER421A00	25.0	5	10	23.0	78.3	068	068	068	068
			CRHEATER422A00	33.0	5	10	30.3	103.4	068	068	068	068
			CRHEATER423A00	41.7	5	10	38.3	130.7	068	068	068	068
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	—	16.5	56.4	067	067	067	067
			CRHEATER427A00	36.0	5	—	33.1	112.8	068	068	068	068
		HIGH	CRHEATER425A00	18.0	5	—	16.5	56.4	067	067	067	067
			CRHEATER427A00	36.0	5	—	33.1	112.8	068	068	068	068

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*09 Electric Heat Data — With Non-fused Disconnect

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
								NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
								NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M09	208/230-3-60	STD/ MED	CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	047	047	047	047
			CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	047	049	049	049
			CRHEATER414A00	25.0	5	18.8/23.0	64.1/78.3	049	049	049	049
			CRHEATER415A00	32.0	5	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	051	051	051	051
		HIGH	CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	047	047	047	047
			CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	047	049	049	049
			CRHEATER414A00	25.0	5	18.8/23.0	64.1/78.3	049	049	049	049
			CRHEATER415A00	32.0	5	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	051	051	051	051
	460-3-60	STD/ MED	CRHEATER419A00	11.5	5	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5	23.0	78.3	047	047	047	047
			CRHEATER422A00	33.0	5	30.3	103.4	047	047	047	047
			CRHEATER423A00	41.7	5	38.3	130.7	050	050	050	050
		HIGH	CRHEATER419A00	11.5	5	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5	23.0	78.3	047	047	047	047
			CRHEATER422A00	33.0	5	30.3	103.4	047	047	047	047
			CRHEATER423A00	41.7	5	38.3	130.7	050	050	050	050
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	33.1	112.8	047	047	047	047
		HIGH	CRHEATER425A00	18.0	5	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	33.1	112.8	047	047	047	047

Electrical data (cont)

50GE-*12 Electric Heat Data — Without Non-fused Disconnect

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	HIGH SCCR kA[a]	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
									NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
									NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M12	208/230-3-60	STD/MED	CRHEATER411A00	10.4	5	—	7.8/9.6	26.7/32.6	047	049	049	049
			CRHEATER412A00	16.0	5	—	12.0/14.7	41.0/50.1	047	049	049	049
			CRHEATER415A00	32.0	5	—	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	—	31.8/38.9	108.7/132.9	051	051	051	051
			CRHEATER417A00	50.0	5	—	37.6/45.9	128.1/156.7	051	051	051	051
		HIGH	CRHEATER411A00	10.4	5	—	7.8/9.6	26.7/32.6	049	049	049	049
			CRHEATER412A00	16.0	5	—	12.0/14.7	41.0/50.1	049	049	049	049
			CRHEATER415A00	32.0	5	—	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	—	31.8/38.9	108.7/132.9	051	051	051	051
			CRHEATER417A00	50.0	5	—	37.6/45.9	128.1/156.7	051	051	051	051
	460-3-60	STD/MED	CRHEATER420A00	15.0	5	—	13.8	47.0	047	047	047	047
			CRHEATER422A00	33.0	5	—	30.3	103.4	047	047	047	047
			CRHEATER423A00	41.7	5	—	38.3	130.7	050	050	050	050
			CRHEATER424A00	50.0	5	—	45.9	156.7	050	050	050	050
		HIGH	CRHEATER420A00	15.0	5	—	13.8	47.0	047	047	047	047
			CRHEATER422A00	33.0	5	—	30.3	103.4	047	047	047	050
			CRHEATER423A00	41.7	5	—	38.3	130.7	050	050	050	050
			CRHEATER424A00	50.0	5	—	45.9	156.7	050	050	050	050
	575-3-60	STD/MED	CRHEATER425A00	18.0	5	—	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	—	33.1	112.8	047	047	047	047
			CRHEATER428A00	50.0	5	—	45.9	156.7	047	047	047	047
		HIGH	CRHEATER425A00	18.0	5	—	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	—	33.1	112.8	047	047	047	047
			CRHEATER428A00	50.0	5	—	45.9	156.7	047	047	047	050

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*12 Electric Heat Data — Without Non-fused Disconnect (cont)

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	HIGH SCCR kA[a]	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	HSCCR SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
									NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
									NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M12	208/230-3-60	STD/ MED	CRHEATER411A00	10.4	5	—	7.8/9.6	26.7/32.6	067	067	067	067
			CRHEATER412A00	16.0	5	—	12.0/14.7	41.0/50.1	067	067	067	067
			CRHEATER415A00	32.0	5	—	24.0/29.4	82.0/100.3	068	068	068	068
			CRHEATER416A00	42.4	5	—	31.8/38.9	108.7/132.9	069	069	069	069
			CRHEATER417A00	50.0	5	—	37.6/45.9	128.1/156.7	069	069	069	069
		HIGH	CRHEATER411A00	10.4	5	—	7.8/9.6	26.7/32.6	067	067	067	067
			CRHEATER412A00	16.0	5	—	12.0/14.7	41.0/50.1	067	067	067	067
			CRHEATER415A00	32.0	5	—	24.0/29.4	82.0/100.3	068	068	068	068
			CRHEATER416A00	42.4	5	—	31.8/38.9	108.7/132.9	069	069	069	069
			CRHEATER417A00	50.0	5	—	37.6/45.9	128.1/156.7	069	069	069	069
	460-3-60	STD/ MED	CRHEATER420A00	15.0	5	—	13.8	47.0	067	067	067	067
			CRHEATER422A00	33.0	5	—	30.3	103.4	068	068	068	068
			CRHEATER423A00	41.7	5	—	38.3	130.7	068	068	068	068
			CRHEATER424A00	50.0	5	—	45.9	156.7	068	068	068	068
		HIGH	CRHEATER420A00	15.0	5	—	13.8	47.0	067	067	067	067
			CRHEATER422A00	33.0	5	—	30.3	103.4	068	068	068	068
			CRHEATER423A00	41.7	5	—	38.3	130.7	068	068	068	068
			CRHEATER424A00	50.0	5	—	45.9	156.7	068	068	068	068
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	—	16.5	56.4	067	067	067	067
			CRHEATER427A00	36.0	5	—	33.1	112.8	068	068	068	068
			CRHEATER428A00	50.0	5	—	45.9	156.7	068	068	068	068
		HIGH	CRHEATER425A00	18.0	5	—	16.5	56.4	067	067	067	067
			CRHEATER427A00	36.0	5	—	33.1	112.8	068	068	068	068
			CRHEATER428A00	50.0	5	—	45.9	156.7	068	068	068	068

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*12 Electric Heat Data — With Non-fused Disconnect

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
								NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
								NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M12	208/230-3-60	STD/ MED	CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	047	049	049	049
			CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	047	049	049	049
			CRHEATER415A00	32.0	5	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	051	051	051	051
			CRHEATER417A00	50.0	5	37.6/45.9	128.1/156.7	051	051	051	051
		HIGH	CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	049	049	049	049
			CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	049	049	049	049
			CRHEATER415A00	32.0	5	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	051	051	051	051
			CRHEATER417A00	50.0	5	37.6/45.9	128.1/156.7	051	051	051	051
	460-3-60	STD/ MED	CRHEATER420A00	15.0	5	13.8	47.0	047	047	047	047
			CRHEATER422A00	33.0	5	30.3	103.4	047	047	047	047
			CRHEATER423A00	41.7	5	38.3	130.7	050	050	050	050
			CRHEATER424A00	50.0	5	45.9	156.7	050	050	050	050
		HIGH	CRHEATER420A00	15.0	5	13.8	47.0	047	047	047	047
			CRHEATER422A00	33.0	5	30.3	103.4	047	047	047	050
			CRHEATER423A00	41.7	5	38.3	130.7	050	050	050	050
			CRHEATER424A00	50.0	5	45.9	156.7	050	050	050	050
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	33.1	112.8	047	047	047	047
			CRHEATER428A00	50.0	5	45.9	156.7	047	047	047	047
		HIGH	CRHEATER425A00	18.0	5	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	33.1	112.8	047	047	047	047
			CRHEATER428A00	50.0	5	45.9	156.7	047	047	047	050

Electrical data (cont)

50GE-*14 Electric Heat Data — Without Non-fused Disconnect

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	HIGH SCCR kA[a]	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
									NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
									NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M14	208/230-3-60	STD/ MED	CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	049	049	049	049
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	049	049	049	049
			CRHEATER415A00	32.0	5	10	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	10	31.8/38.9	108.7/132.9	051	051	051	051
			CRHEATER417A00	50.0	5	10	37.6/45.9	128.1/156.7	051	051	051	051
		HIGH	CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	049	049	049	049
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	049	049	049	049
			CRHEATER415A00	32.0	5	10	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	10	31.8/38.9	108.7/132.9	051	051	051	051
			CRHEATER417A00	50.0	5	10	37.6/45.9	128.1/156.7	051	051	051	051
	460-3-60	STD/ MED	CRHEATER420A00	15.0	5	10	13.8	47.0	—	—	—	—
			CRHEATER421A00	25.0	5	10	23.0	78.3	047	047	047	047
			CRHEATER422A00	33.0	5	10	30.3	103.4	047	047	047	047
			CRHEATER423A00	41.7	5	10	38.3	130.7	050	050	050	050
			CRHEATER424A00	50.0	5	10	45.9	156.7	050	050	050	050
		HIGH	CRHEATER420A00	15.0	5	10	13.8	47.0	—	—	—	—
			CRHEATER421A00	25.0	5	10	23.0	78.3	047	047	047	047
			CRHEATER422A00	33.0	5	10	30.3	103.4	047	047	047	050
			CRHEATER423A00	41.7	5	10	38.3	130.7	050	050	050	050
			CRHEATER424A00	50.0	5	10	45.9	156.7	050	050	050	050
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	—	16.5	56.4	—	—	—	—
			CRHEATER426A00	24.8	5	—	22.8	77.7	047	047	047	047
			CRHEATER427A00	36.0	5	—	33.1	112.8	047	047	047	047
			CRHEATER428A00	50.0	5	—	45.9	156.7	047	047	047	047
		HIGH	CRHEATER425A00	18.0	5	—	16.5	56.4	—	—	—	—
			CRHEATER426A00	24.8	5	—	22.8	77.7	047	047	047	047
			CRHEATER427A00	36.0	5	—	33.1	112.8	047	047	047	047
			CRHEATER428A00	50.0	5	—	45.9	156.7	047	047	047	050

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

50GE-*14 Electric Heat Data — Without Non-fused Disconnect (cont)

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	HIGH SCCR kA[a]	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	HSCCR SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
									NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
									NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M14	208/230-3-60	STD/MED	CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	067	067	067	067
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	068	068	068	068
			CRHEATER415A00	32.0	5	10	24.0/29.4	82.0/100.3	068	068	068	068
			CRHEATER416A00	42.4	5	10	31.8/38.9	108.7/132.9	069	069	069	069
			CRHEATER417A00	50.0	5	10	37.6/45.9	128.1/156.7	069	069	069	069
		HIGH	CRHEATER412A00	16.0	5	10	12.0/14.7	41.0/50.1	067	067	067	067
			CRHEATER414A00	25.0	5	10	18.8/23.0	64.1/78.3	068	068	068	068
			CRHEATER415A00	32.0	5	10	24.0/29.4	82.0/100.3	068	068	068	068
			CRHEATER416A00	42.4	5	10	31.8/38.9	108.7/132.9	069	069	069	069
			CRHEATER417A00	50.0	5	10	37.6/45.9	128.1/156.7	069	069	069	069
	460-3-60	STD/MED	CRHEATER420A00	15.0	5	10	13.8	47.0	067	067	067	067
			CRHEATER421A00	25.0	5	10	23.0	78.3	068	068	068	068
			CRHEATER422A00	33.0	5	10	30.3	103.4	068	068	068	068
			CRHEATER423A00	41.7	5	10	38.3	130.7	068	068	068	068
			CRHEATER424A00	50.0	5	10	45.9	156.7	068	068	068	068
		HIGH	CRHEATER420A00	15.0	5	10	13.8	47.0	067	067	067	067
			CRHEATER421A00	25.0	5	10	23.0	78.3	068	068	068	068
			CRHEATER422A00	33.0	5	10	30.3	103.4	068	068	068	068
			CRHEATER423A00	41.7	5	10	38.3	130.7	068	068	068	068
			CRHEATER424A00	50.0	5	10	45.9	156.7	068	068	068	068
	575-3-60	STD/MED	CRHEATER425A00	18.0	5	—	16.5	56.4	067	067	067	067
			CRHEATER426A00	24.8	5	—	22.8	77.7	068	068	068	068
			CRHEATER427A00	36.0	5	—	33.1	112.8	068	068	068	068
			CRHEATER428A00	50.0	5	—	45.9	156.7	068	068	068	068
		HIGH	CRHEATER425A00	18.0	5	—	16.5	56.4	067	067	067	067
			CRHEATER426A00	24.8	5	—	22.8	77.7	068	068	068	068
			CRHEATER427A00	36.0	5	—	33.1	112.8	068	068	068	068
			CRHEATER428A00	50.0	5	—	45.9	156.7	068	068	068	068

NOTE(S):

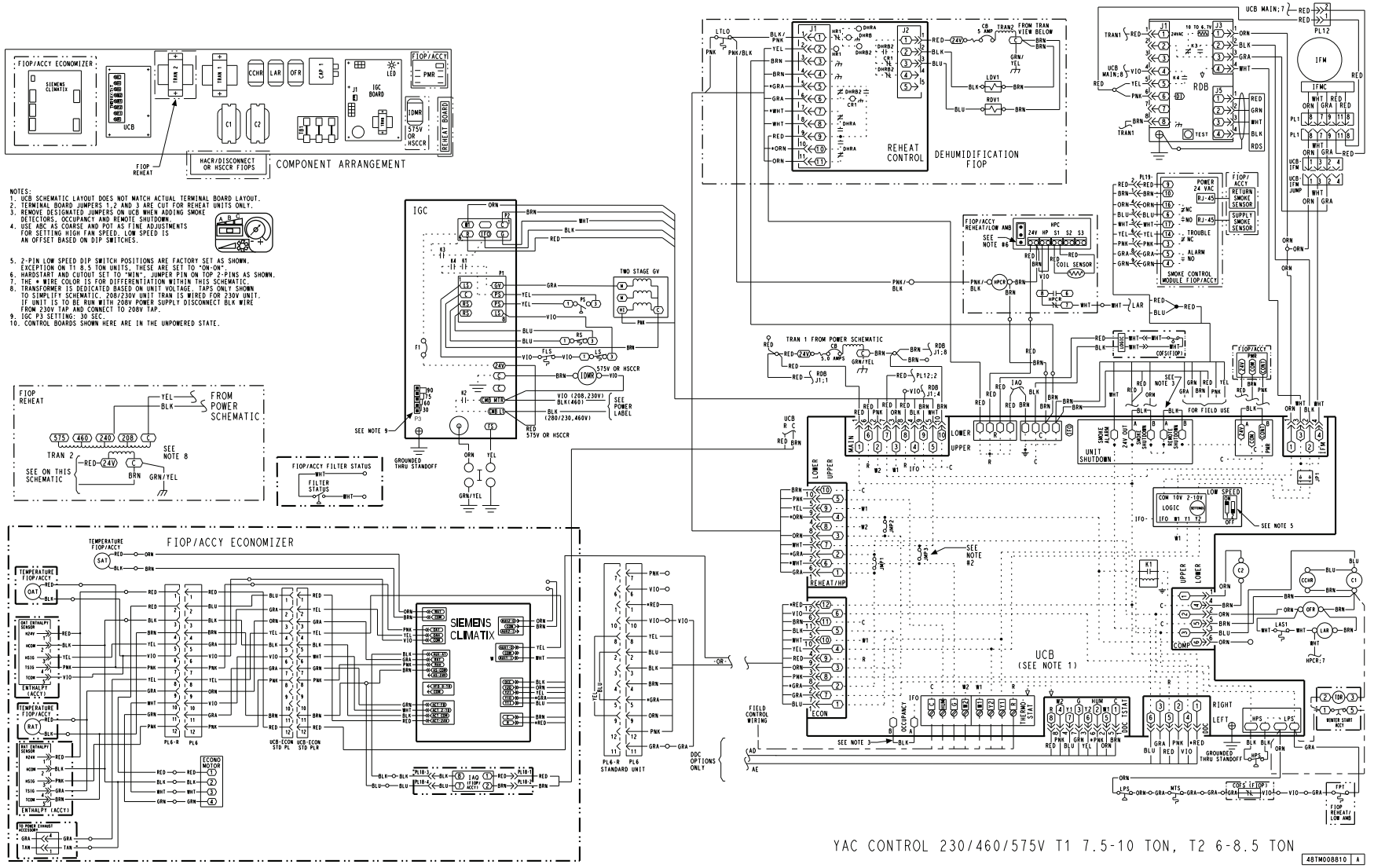
a. High SCCR (Short Circuit Current Rating) is not available on units with Humidi-MiZer system, powered convenience outlet, phase loss monitor, non-fused disconnect, or 575-v.

Electrical data (cont)

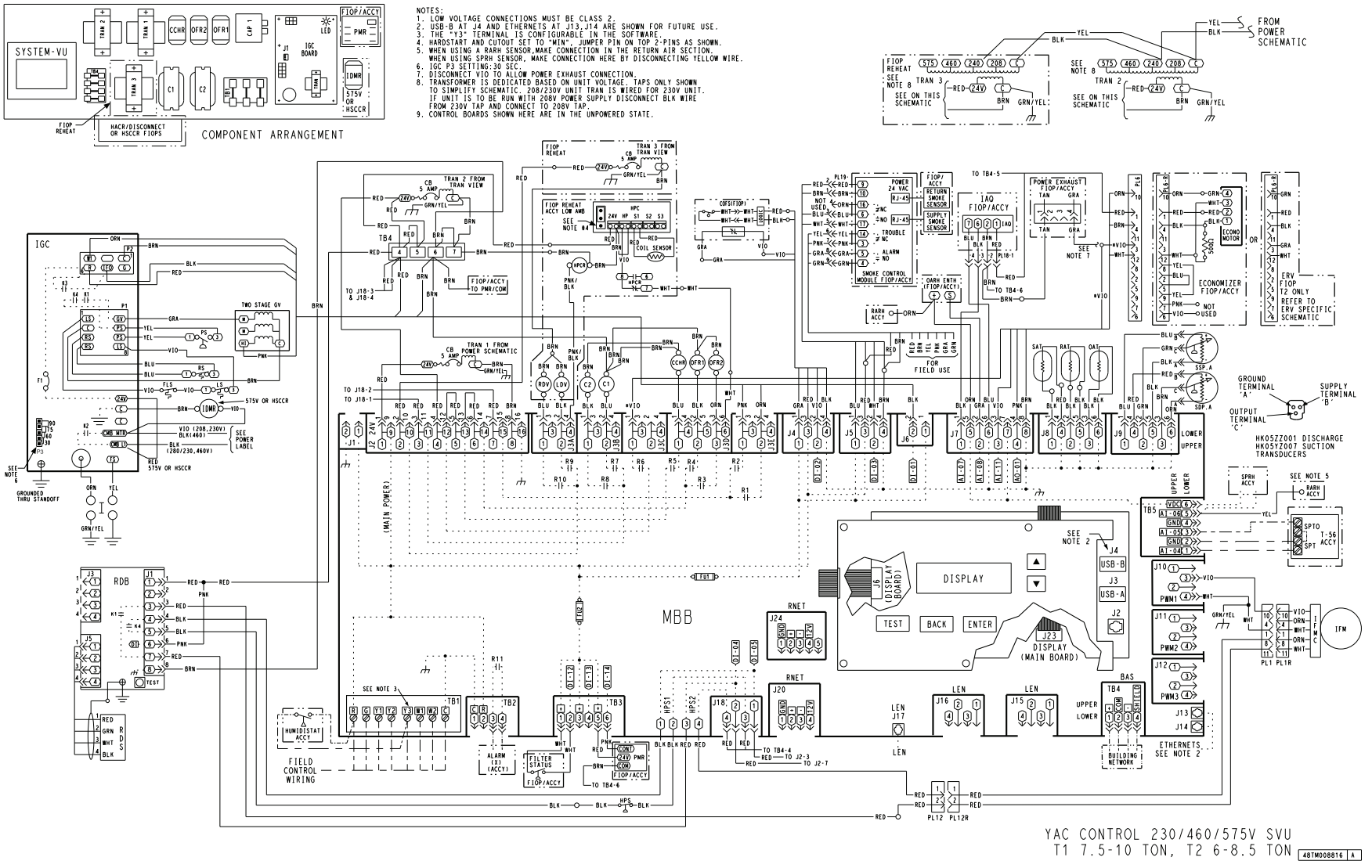
50GE-*14 Electric Heat Data — With Non-fused Disconnect

50GE UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER PART NUMBER	NOM (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT PART NUMBER CRSINGLEXXXA00			
								NO C.O. OR UNPOWERED C.O.		WITH PWRD C.O.	
								NO P.E.	WITH P.E. (pwrd fr/unit)	NO P.E	WITH P.E. (pwrd fr/unit)
50GE-M14	208/230-3-60	STD/ MED	CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	049	049	049	049
			CRHEATER414A00	25.0	5	18.8/23.0	64.1/78.3	049	049	049	049
			CRHEATER415A00	32.0	5	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	051	051	051	051
			CRHEATER417A00	50.0	5	37.6/45.9	128.1/156.7	051	051	051	051
		HIGH	CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	049	049	049	049
			CRHEATER414A00	25.0	5	18.8/23.0	64.1/78.3	049	049	049	049
			CRHEATER415A00	32.0	5	24.0/29.4	82.0/100.3	049	049	049	049
			CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	051	051	051	051
			CRHEATER417A00	50.0	5	37.6/45.9	128.1/156.7	051	051	051	051
	460-3-60	STD/ MED	CRHEATER420A00	15.0	5	13.8	47.0	—	—	—	—
			CRHEATER421A00	25.0	5	23.0	78.3	047	047	047	047
			CRHEATER422A00	33.0	5	30.3	103.4	047	047	047	047
			CRHEATER423A00	41.7	5	38.3	130.7	050	050	050	050
			CRHEATER424A00	50.0	5	45.9	156.7	050	050	050	050
		HIGH	CRHEATER420A00	15.0	5	13.8	47.0	—	—	—	—
			CRHEATER421A00	25.0	5	23.0	78.3	047	047	047	047
			CRHEATER422A00	33.0	5	30.3	103.4	047	047	047	050
			CRHEATER423A00	41.7	5	38.3	130.7	050	050	050	050
			CRHEATER424A00	50.0	5	45.9	156.7	050	050	050	050
	575-3-60	STD/ MED	CRHEATER425A00	18.0	5	16.5	56.4	—	—	—	—
			CRHEATER426A00	24.8	5	22.8	77.7	047	047	047	047
			CRHEATER427A00	36.0	5	33.1	112.8	047	047	047	047
			CRHEATER428A00	50.0	5	45.9	156.7	047	047	047	047
		HIGH	CRHEATER425A00	18.0	5	16.5	56.4	—	—	—	—
			CRHEATER426A00	24.8	5	22.8	77.7	047	047	047	047
			CRHEATER427A00	36.0	5	33.1	112.8	047	047	047	047
			CRHEATER428A00	50.0	5	45.9	156.7	047	047	047	050

Typical Control Wiring Diagram — 48GE 07-09 230/460/575-3-60 Unit with Electromechanical Controller and POL224 Economizer

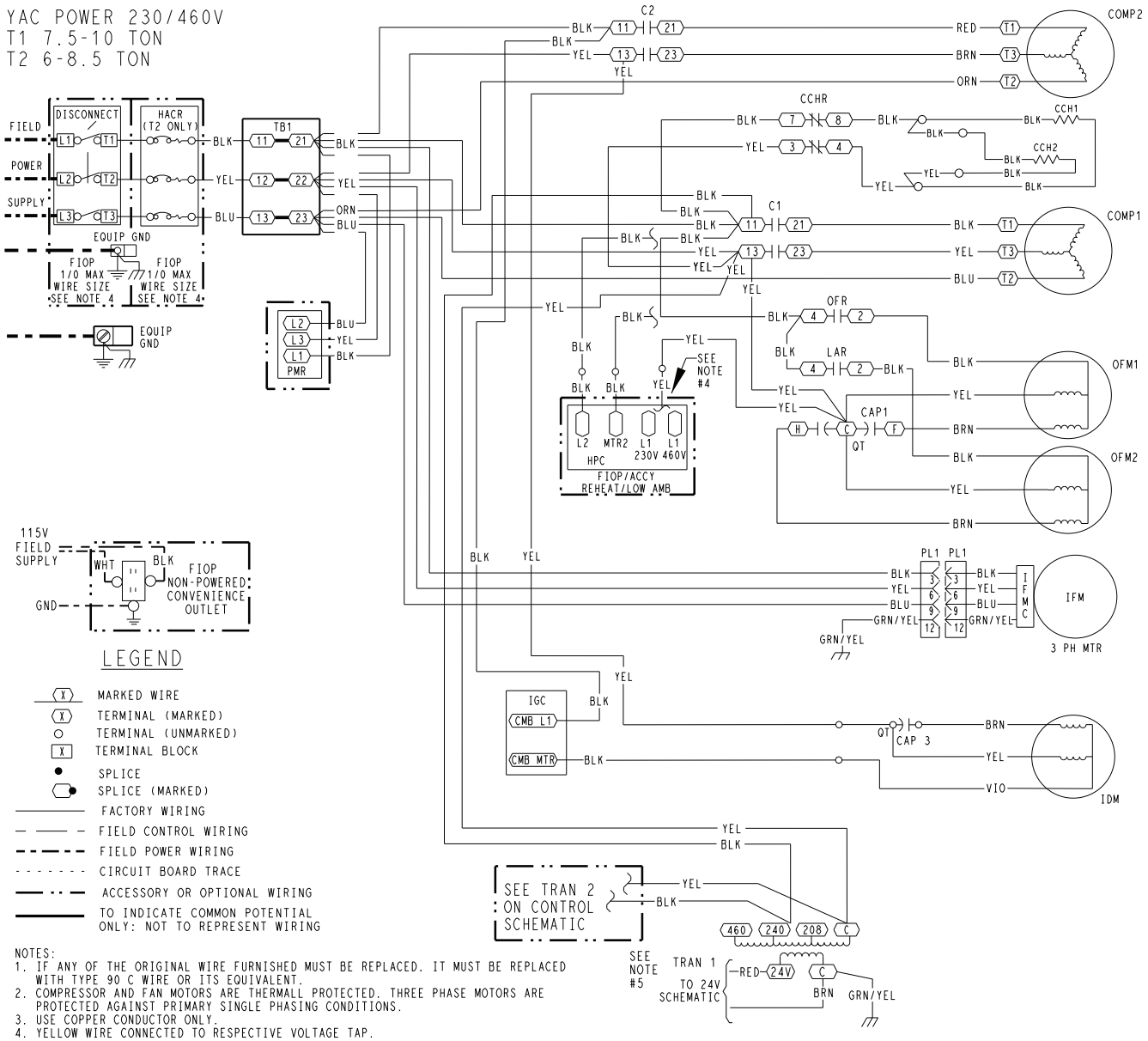


Typical Control Wiring Diagram — 48GE 07-09 230/460/575-3-60 Unit with SystemVu™ Controller



Typical wiring diagrams (cont)

Typical Power Wiring Diagram — 48GE 07-09 230/460-3-60 Unit with Electromechanical Controller



LEGEND

- MARKED WIRE
- TERMINAL (MARKED)
- TERMINAL (UNMARKED)
- TERMINAL BLOCK
- SPLICE
- SPLICE (MARKED)
- FACTORY WIRING
- FIELD CONTROL WIRING
- FIELD POWER WIRING
- CIRCUIT BOARD TRACE
- ACCESSORY OR OPTIONAL WIRING
- TO INDICATE COMMON POTENTIAL ONLY: NOT TO REPRESENT WIRING

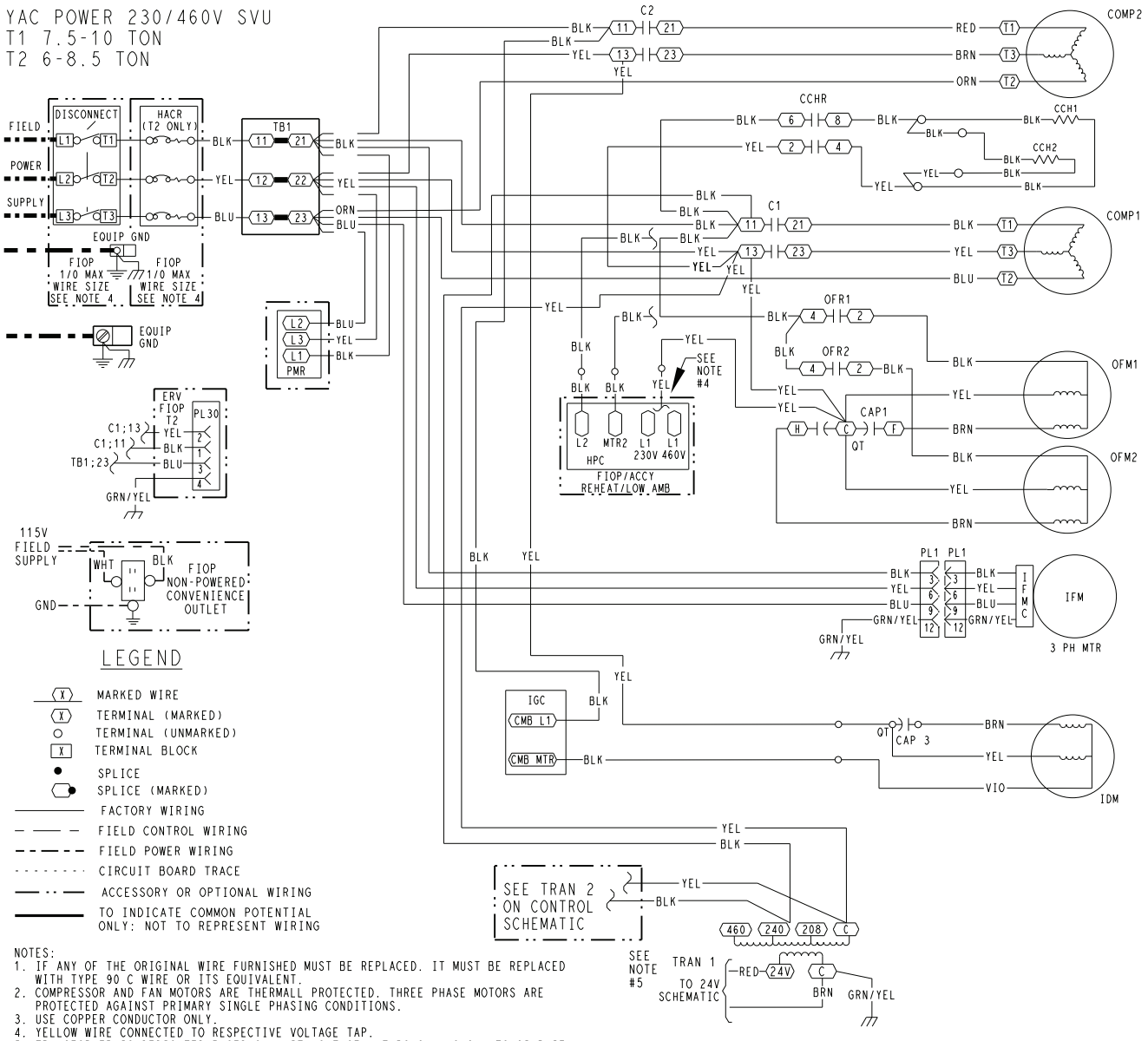
NOTES:
1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED. IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. COMPRESSOR AND FAN MOTORS ARE THERMALL PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
3. USE COPPER CONDUCTOR ONLY.
4. YELLOW WIRE CONNECTED TO RESPECTIVE VOLTAGE TAP.
5. TRANSFORMER IS DEDICATED BASED ON UNIT VOLTAGE. TAPS ONLY SHOWN TO SIMPLIFY SCHEMATIC. 208/230V UNIT TRAN IS WIRED FOR 230V UNIT. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY DISCONNECT BLK WIRE FROM 230V TAP AND CONNECT TO 208V TAP.

ACCY	ACCESSORY
AMB	AMBIENT
C	CONTACTOR,COMPRESSOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CCH	CRANKCASE HEATER
CCHR	CRANKCASE HEATER RELAY
CMB	COMBUSTION
COFS	CONDENSATE OVERFLOW SWT
COMP	COMPRESSOR MOTOR
DDC	DIRECT DIGITAL CONTROL
ERV	ENERGY RECOVERY VENTILATOR
FIOP	FACTORY INSTALLED OPTION
FLS	FAN LIMIT SWITCH
FPT	FREEZE PROTECTION THERMOSTAT
FSD	FIRE SHUT DOWN
FS	FLAME SENSOR
FU	FUSE
GND	GROUND
GVR	GAS VALVE RELAY
HPC	HEAD PRESSURE CONTROL
HPS	HIGH PRESSURE SWITCH
HS	HALL EFFECT SENSOR
I	IGNITOR
IAQ	INDOOR AIR QUALITY SENSORS
IDM	INDUCED DRAFT MOTOR
IFCB	INDOOR FAN CIRCUIT BREAKER
IFM	INDOOR FAN MOTOR
IFMC	INDOOR FAN CONTROLLER
IGC	INTEGRATED GAS CONTROL
JMP	JUMPER
LA	LOW AMBIENT
LAR	LOW AMBIENT RELAY
LDV	LIQUID DIVERTER VALVE
LPS	LOW PRESSURE SWITCH
LSM	LIMIT SWITCH (MANUAL RESET)
LS	LIMIT SWITCH
LTLO	LOW TEMPERATURE LOCKOUT
MGV	MAIN GAS VALVE
MOV	VOLTAGE RESTRICTOR
MTR	MOTOR
MTS	MIXED AIR TEMPERATURE SWITCH
OAQ	OUTDOOR AIR QUALITY
OARH	OUTSIDE AIR RELATIVE HUMIDITY
OAT	OUTDOOR AIR TEMP. SENSOR
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
OL	OVERLOAD
PL	PLUG ASSEMBLY
POT	POTENTIOMETER
PMR	PHASE MONITOR RELAY
QT	QUADRUPLE TERMINAL
RARH	RETURN AIR RELATIVE HUMIDITY
RAT	RETURN AIR TEMP. SENSOR
RDB	REFRIGERANT DISSIPATION BOARD
RDS	REFRIGERANT DISSIPATION SENSOR
RDV	REHEAT DISCHARGE VALVE
RS	ROLLOUT SWITCH
SAT	SUPPLY AIR TEMP. SENSOR
SEN	SENSOR
SPRH	SPACE RELATIVE HUMIDITY
SPT	SPACE TEMPERATURE SENSOR
SPTO	SPACE TEMPERATURE OFFSET
STD	STANDARD
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY(WINTER START)
TRAN	TRANSFORMER
UCB	UNIT CONTROL BOARD

48TM005719 | F

Typical wiring diagrams (cont)

Typical Power Wiring Diagram — 48GE 07-09 230/460-3-60 Unit with SystemVu™ Controller

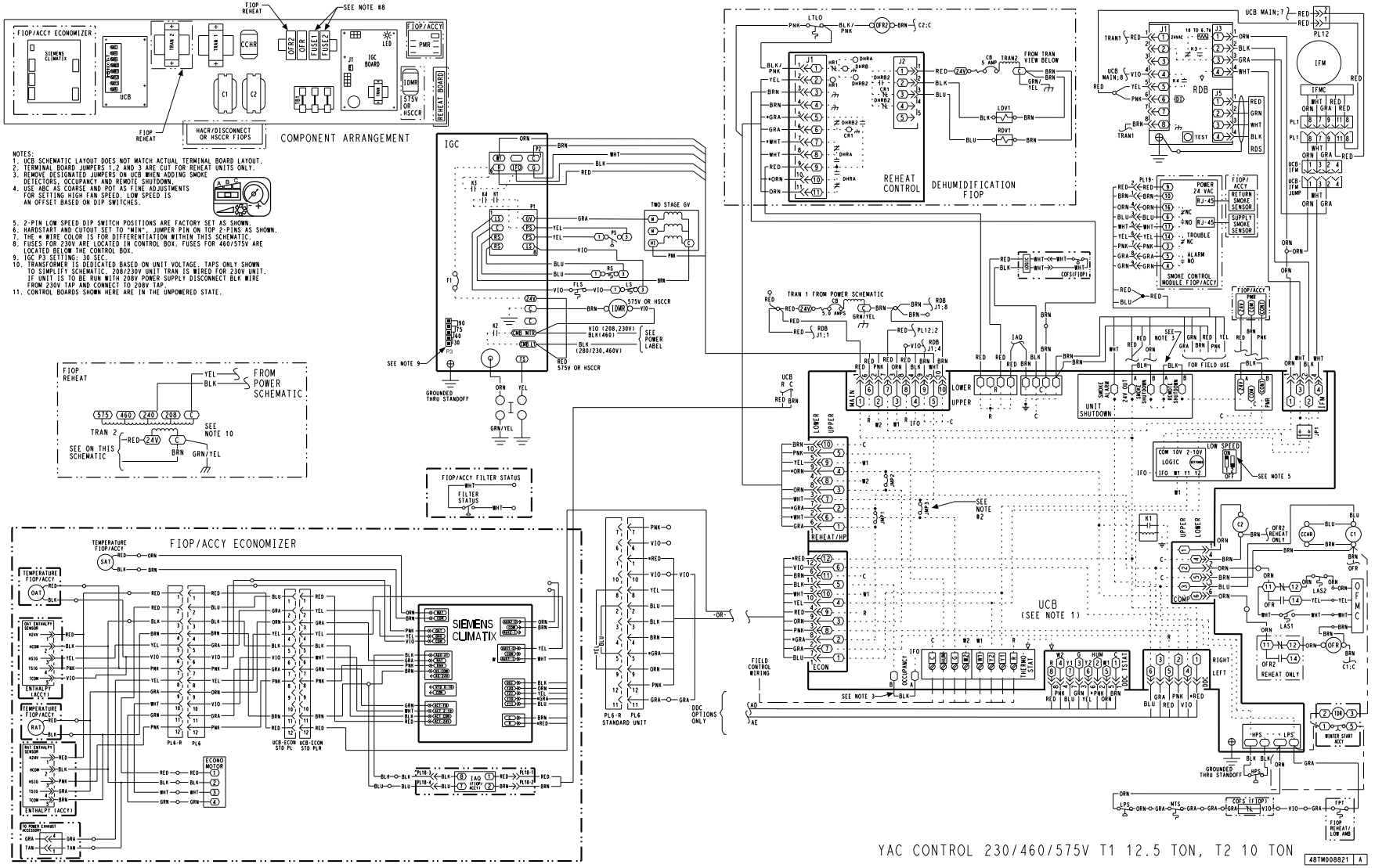


NOTES:
1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED. IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. COMPRESSOR AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
3. USE COPPER CONDUCTOR ONLY.
4. YELLOW WIRE CONNECTED TO RESPECTIVE VOLTAGE TAP.
5. TRANSFORMER IS DEDICATED BASED ON UNIT VOLTAGE. TAPS ONLY SHOWN TO SIMPLIFY SCHEMATIC. 208/230V UNIT TRAN IS WIRED FOR 230V UNIT. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY DISCONNECT BLK WIRE FROM 230V TAP AND CONNECT TO 208V TAP.

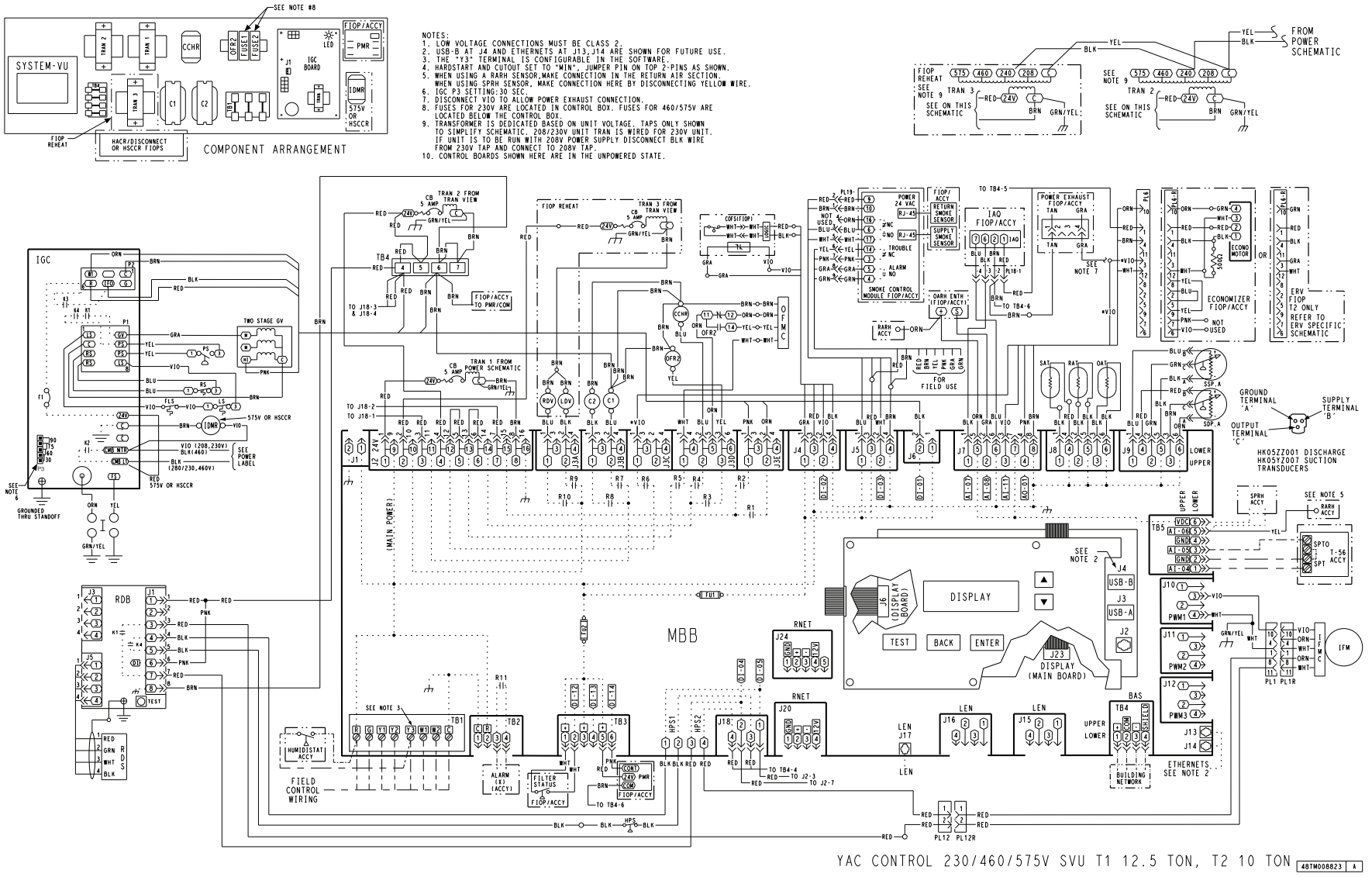
ACCY	ACCESSORY
AMB	AMBIENT
C	CONTACTOR,COMPRESSOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CCH	CRANKCASE HEATER
CCHR	CRANKCASE HEATER RELAY
CMB	COMBUSTION
COFS	CONDENSATE OVERFLOW SWT
COMP	COMPRESSOR MOTOR
DDC	DIRECT DIGITAL CONTROL
ERV	ENERGY RECOVERY VENTILATOR
FIOP	FACTORY INSTALLED OPTION
FLS	FAN LIMIT SWITCH
FPT	FREEZE PROTECTION THERMOSTAT
FSD	FIRE SHUT DOWN
FS	FLAME SENSOR
FU	FUSE
GND	GROUND
GVR	GAS VALVE RELAY
HPC	HEAD PRESSURE CONTROL
HPS	HIGH PRESSURE SWITCH
HS	HALL EFFECT SENSOR
I	IGNITOR
IAQ	INDOOR AIR QUALITY SENSORS
IDM	INDUCED DRAFT MOTOR
IFCB	INDOOR FAN CIRCUIT BREAKER
IFM	INDOOR FAN MOTOR
IFMC	INDOOR FAN CONTROLLER
IGC	INTEGRATED GAS CONTROL
JMP	JUMPER
LA	LOW AMBIENT
LDV	LIQUID DIVERTER VALVE
LPS	LOW PRESSURE SWITCH
LSM	LIMIT SWITCH (MANUAL RESET)
LS	LIMIT SWITCH
LTLO	LOW TEMPERATURE LOCKOUT
MGV	MAIN GAS VALVE
MOV	VOLTAGE RESTRICTOR
MTR	MOTOR
MTS	MIXED AIR TEMPERATURE SWITCH
OAQ	OUTDOOR AIR QUALITY
OARH	OUTSIDE AIR RELATIVE HUMIDITY
OAT	OUTDOOR AIR TEMP. SENSOR
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
OL	OVERLOAD
PL	PLUG ASSEMBLY
POT	POTENTIOMETER
PMR	PHASE MONITOR RELAY
QT	QUADRUPLE TERMINAL
RARH	RETURN AIR RELATIVE HUMIDITY
RAT	RETURN AIR TEMP. SENSOR
RDB	REFRIGERANT DISSIPATION BOARD
RDS	REFRIGERANT DISSIPATION SENSOR
RDV	REHEAT DISCHARGE VALVE
RS	ROLLOUT SWITCH
SAT	SUPPLY AIR TEMP. SENSOR
SEN	SENSOR
SPRH	SPACE RELATIVE HUMIDITY
SPT	SPACE TEMPERATURE SENSOR
SPTO	SPACE TEMPERATURE OFFSET
STD	STANDARD
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY(WINTER START)
TRAN	TRANSFORMER
UCB	UNIT CONTROL BOARD

48TM008212 | C

Typical Control Wiring Diagram — 48GE 12 230/460/575-3-60 Unit with Electromechanical Controller and POL224 Economizer

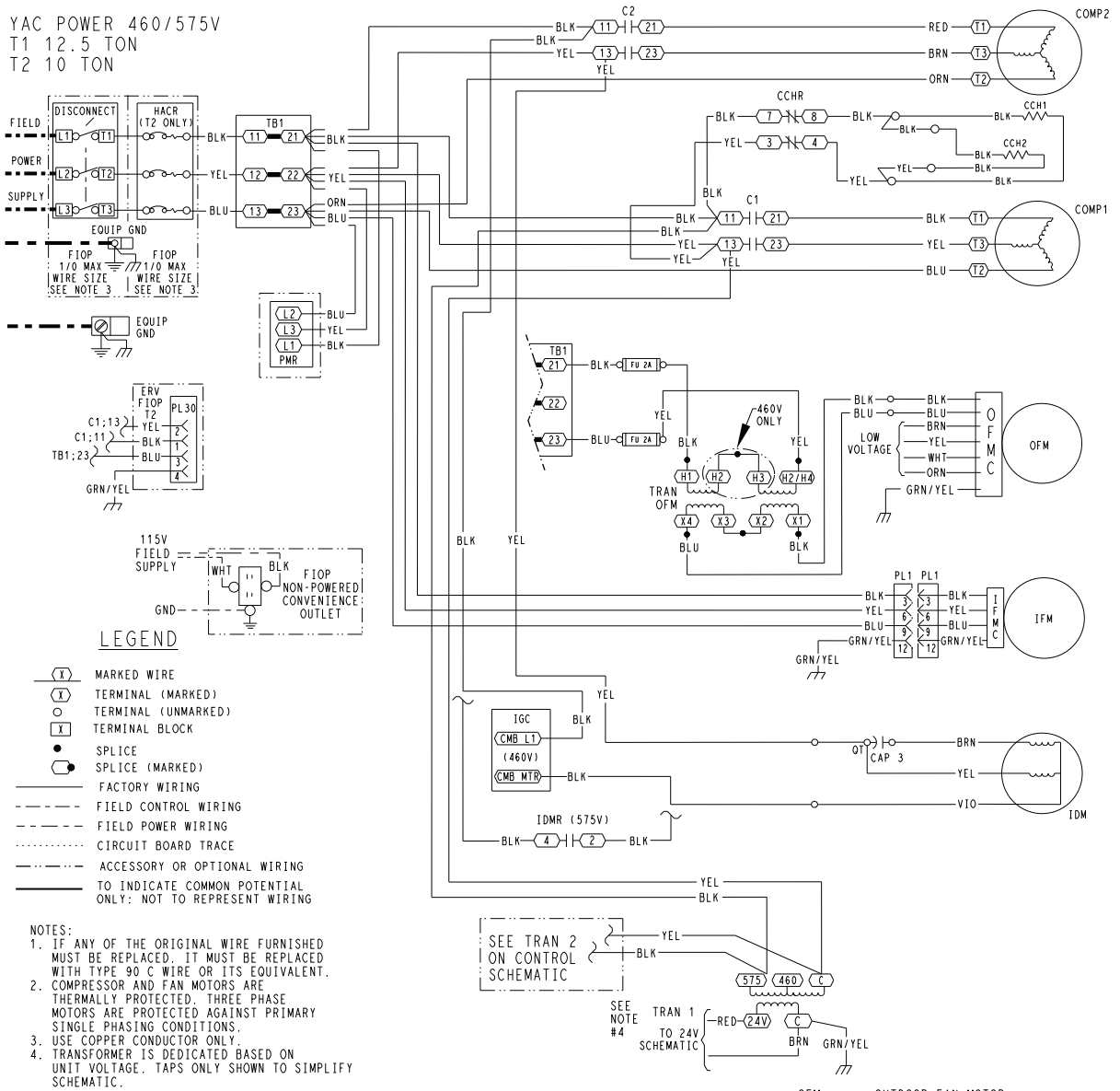


Typical Control Wiring Diagram — 48GE 12 230/460/575-3-60 Unit with SystemVu™ Controller



Typical wiring diagrams (cont)

Typical Power Wiring Diagram — 48GE 12 208/230/460-3-60 Unit
Electromechanical and SystemVu Controllers

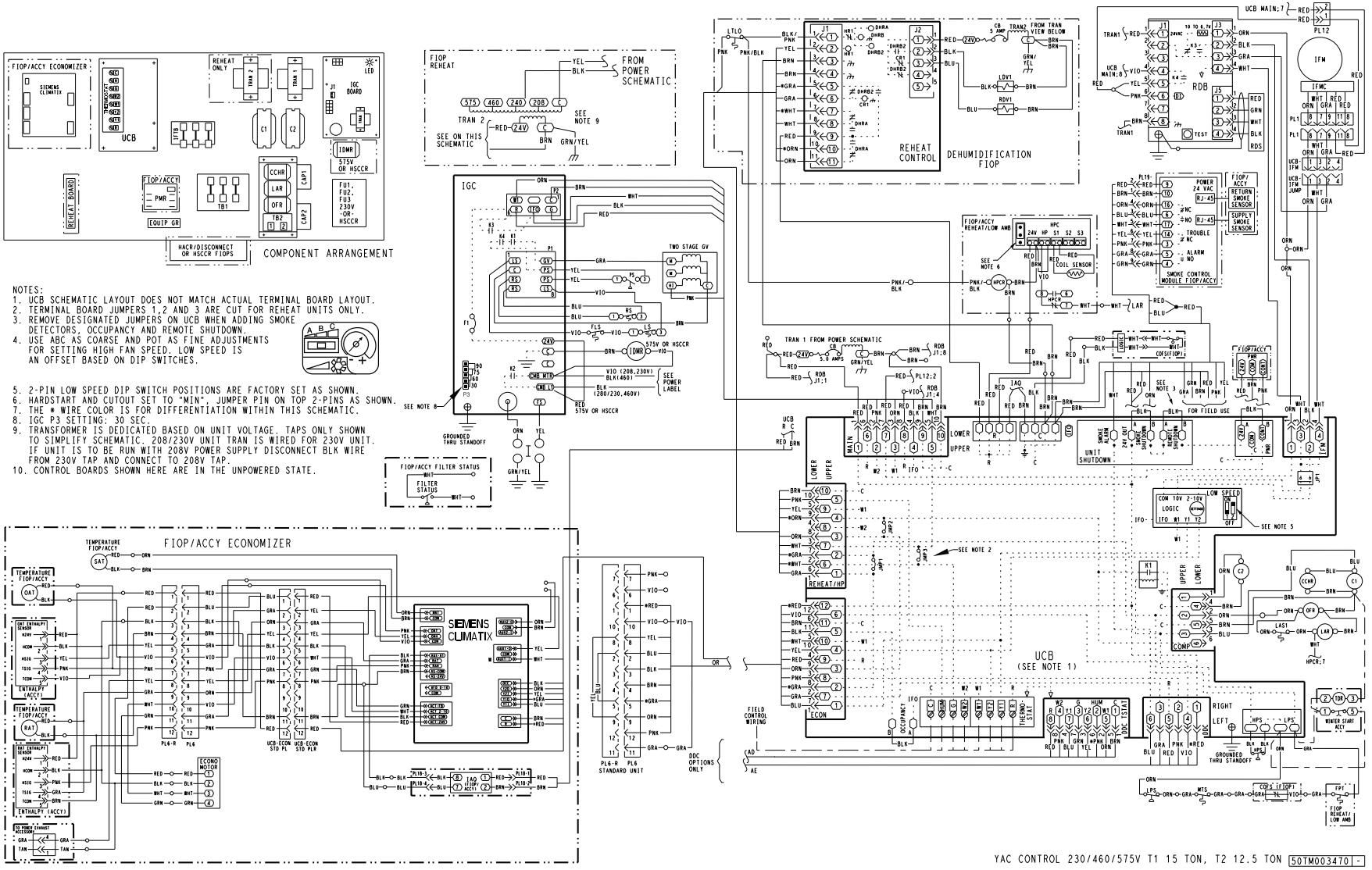


NOTES:
1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. COMPRESSOR AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
3. USE COPPER CONDUCTOR ONLY.
4. TRANSFORMER IS DEDICATED BASED ON UNIT VOLTAGE. TAPS ONLY SHOWN TO SIMPLIFY SCHEMATIC.

ACCY	ACCESSORY
AMB	AMBIENT
C	CONTACTOR,COMPRESSOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CCH	CRANKCASE HEATER
CCHR	CRANKCASE HEATER RELAY
CMB	COMBUSTION
COFS	CONDENSATE OVERFLOW SWT
COMP	COMPRESSOR MOTOR
DDC	DIRECT DIGITAL CONTROL
ERV	ENERGY RECOVERY VENTILATOR
FIOP	FACTORY INSTALLED OPTION
FLS	FAN LIMIT SWITCH
FPT	FREEZE PROTECTION THERMOSTAT
FSD	FIRE SHUT DOWN
FS	FLAME SENSOR
FU	FUSE
GND	GROUND
GVR	GAS VALVE RELAY
HPC	HEAD PRESSURE CONTROL
HPS	HIGH PRESSURE SWITCH
HS	HALL EFFECT SENSOR
I	IGNITOR
IAQ	INDOOR AIR QUALITY SENSORS
IDM	INDUCED DRAFT MOTOR
IFCB	INDOOR FAN CIRCUIT BREAKER
IFM	INDOOR FAN MOTOR
IFMC	INDOOR FAN CONTROLLER
IGC	INTEGRATED GAS CONTROL
JMP	JUMPER
LA	LOW AMBIENT
LDV	LIQUID DIVERTER VALVE
LPS	LOW PRESSURE SWITCH
LSM	LIMIT SWITCH (MANUAL RESET)
LS	LIMIT SWITCH
LTLO	LOW TEMPERATURE LOCKOUT
MGV	MAIN GAS VALVE
MOV	VOLTAGE RESTRICTOR
MTR	MOTOR
MTS	MIXED AIR TEMPERATURE SWITCH
OAQ	OUTDOOR AIR QUALITY
OARH	OUTSIDE AIR RELATIVE HUMIDITY
OAT	OUTDOOR AIR TEMP. SENSOR
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
OL	OVERLOAD
PL	PLUG ASSEMBLY
POT	POTENTIOMETER
PMR	PHASE MONITOR RELAY
QT	QUADRUPLE TERMINAL
RARH	RETURN AIR RELATIVE HUMIDITY
RAT	RETURN AIR TEMP. SENSOR
RDB	REFRIGERANT DISSIPATION BOARD
RDS	REFRIGERANT DISSIPATION SENSOR
RDV	REHEAT DISCHARGE VALVE
RS	ROLLOUT SWITCH
SAT	SUPPLY AIR TEMP. SENSOR
SEN	SENSOR
SPRH	SPACE RELATIVE HUMIDITY
SPT	SPACE TEMPERATURE SENSOR
SPTO	SPACE TEMPERATURE OFFSET
STD	STANDARD
TB	TERMINAL BLOCK
TDR	TIME DELAY RELAY(WINTER START)
TRAN	TRANSFORMER
UCB	UNIT CONTROL BOARD

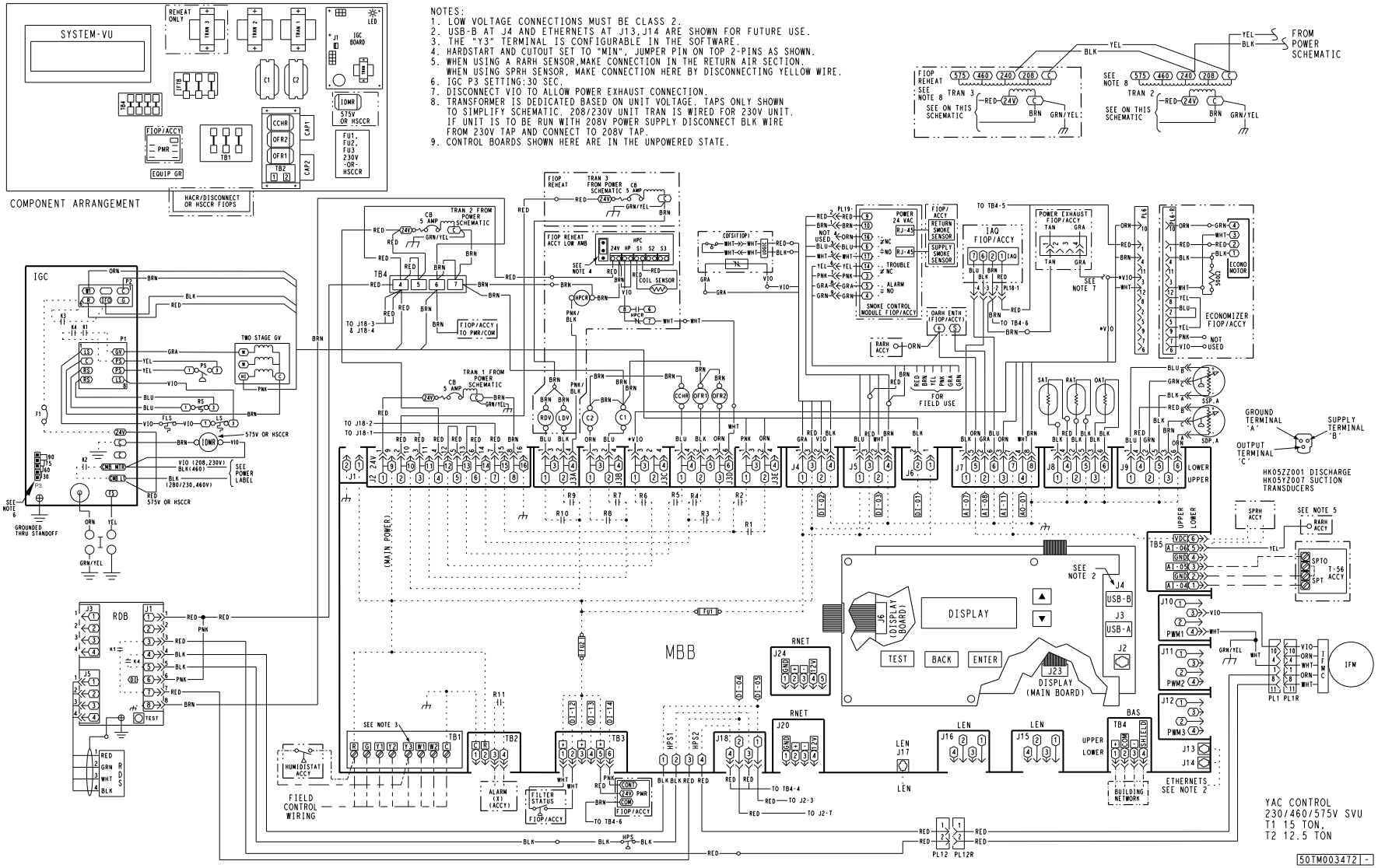
48TM005990 | E

Typical Control Wiring Diagram — 48GE 14 230/460/575-3-60 Unit with Electromechanical Controller



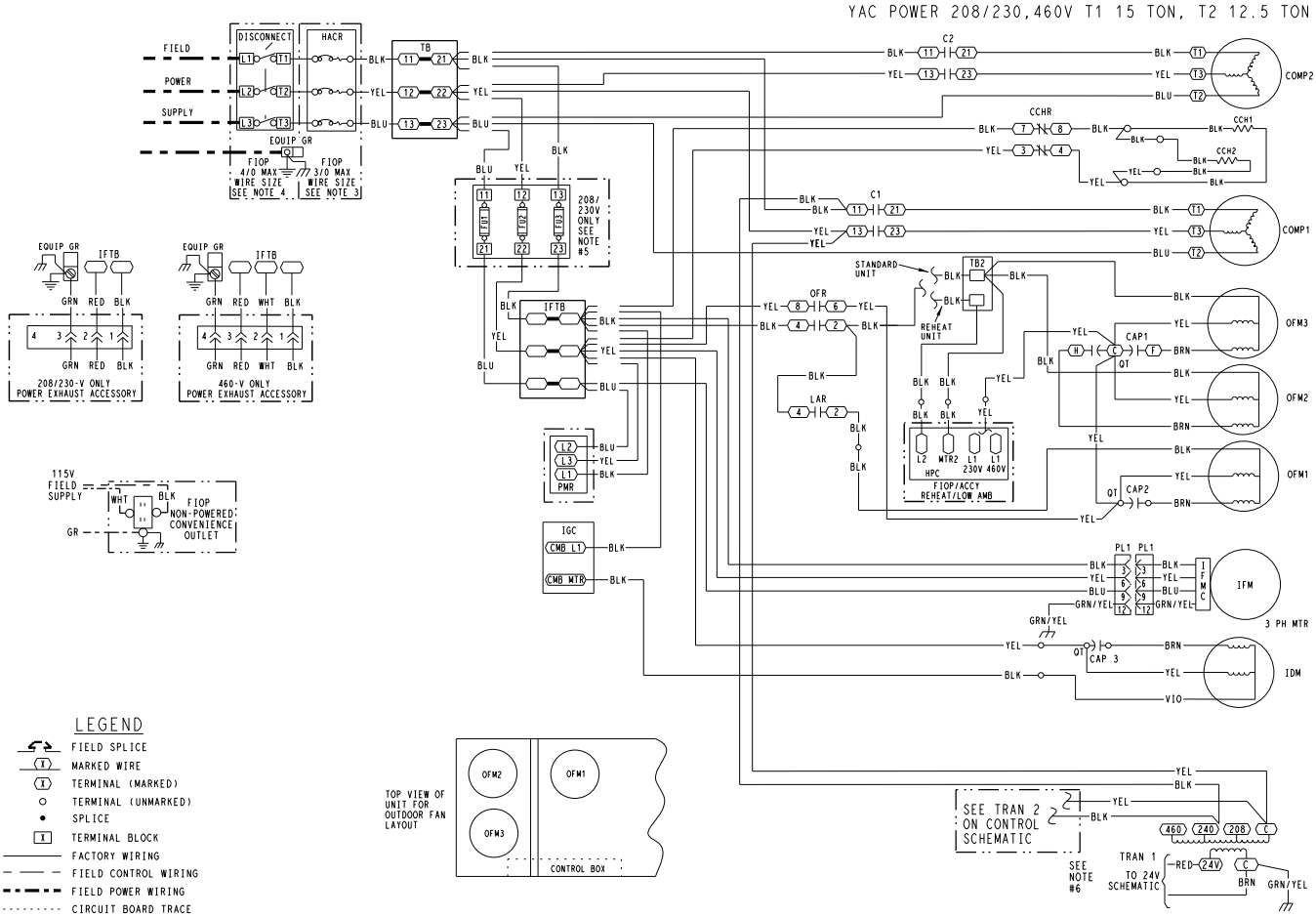
NOTES:
1. UCB SCHEMATIC LAYOUT DOES NOT MATCH ACTUAL TERMINAL BOARD LAYOUT.
2. TERMINAL BOARD JUMPERS 1,2 AND 3 ARE CUT FOR REHEAT UNITS ONLY.
3. REMOVE DESIGNATED JUMPERS ON UCB WHEN ADDING SMOKE DETECTORS, OCCUPANCY AND REMOTE SHUTDOWN.
4. USE ABC AS COARSE AND POT AS FINE ADJUSTMENTS FOR SETTING HIGH FAN SPEED. LOW SPEED IS AN OFFSET BASED ON DIP SWITCHES.
5. 2-PIN LOW SPEED DIP SWITCH POSITIONS ARE FACTORY SET AS SHOWN.
6. HARDSTART AND CUTOUT SET TO "MIN", JUMPER PIN ON TOP 2-PINS AS SHOWN.
7. THE * WIRE COLOR IS FOR DIFFERENTIATION WITHIN THIS SCHEMATIC.
8. IGC P3 SETTING: 30 SEC.
9. TRANSFORMER IS DEDICATED BASED ON UNIT VOLTAGE. TAPS ONLY SHOWN TO SIMPLIFY SCHEMATIC. 208/230V UNIT TRAN IS WIRED FOR 230V UNIT. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY DISCONNECT BLK WIRE FROM 230V TAP AND CONNECT TO 208V TAP.
10. CONTROL BOARDS SHOWN HERE ARE IN THE UNPOWERED STATE.

Typical Control Wiring Diagram — 48GE 14 230/460/575-3-60 Unit with SystemVu™ Controller



Typical wiring diagrams (cont)

Typical Power Wiring Diagram — 48GE 14 208/230/460-3-60 Unit with Electromechanical Controller



LEGEND

- FIELD SPLICE
- MARKED WIRE
- TERMINAL (MARKED)
- TERMINAL (UNMARKED)
- SPLICE
- TERMINAL BLOCK
- FACTORY WIRING
- FIELD CONTROL WIRING
- FIELD POWER WIRING
- CIRCUIT BOARD TRACE
- ACCESSORY OR FIOP
- TO INDICATE COMMON POTENTIAL ONLY: NOT TO REPRESENT WIRING

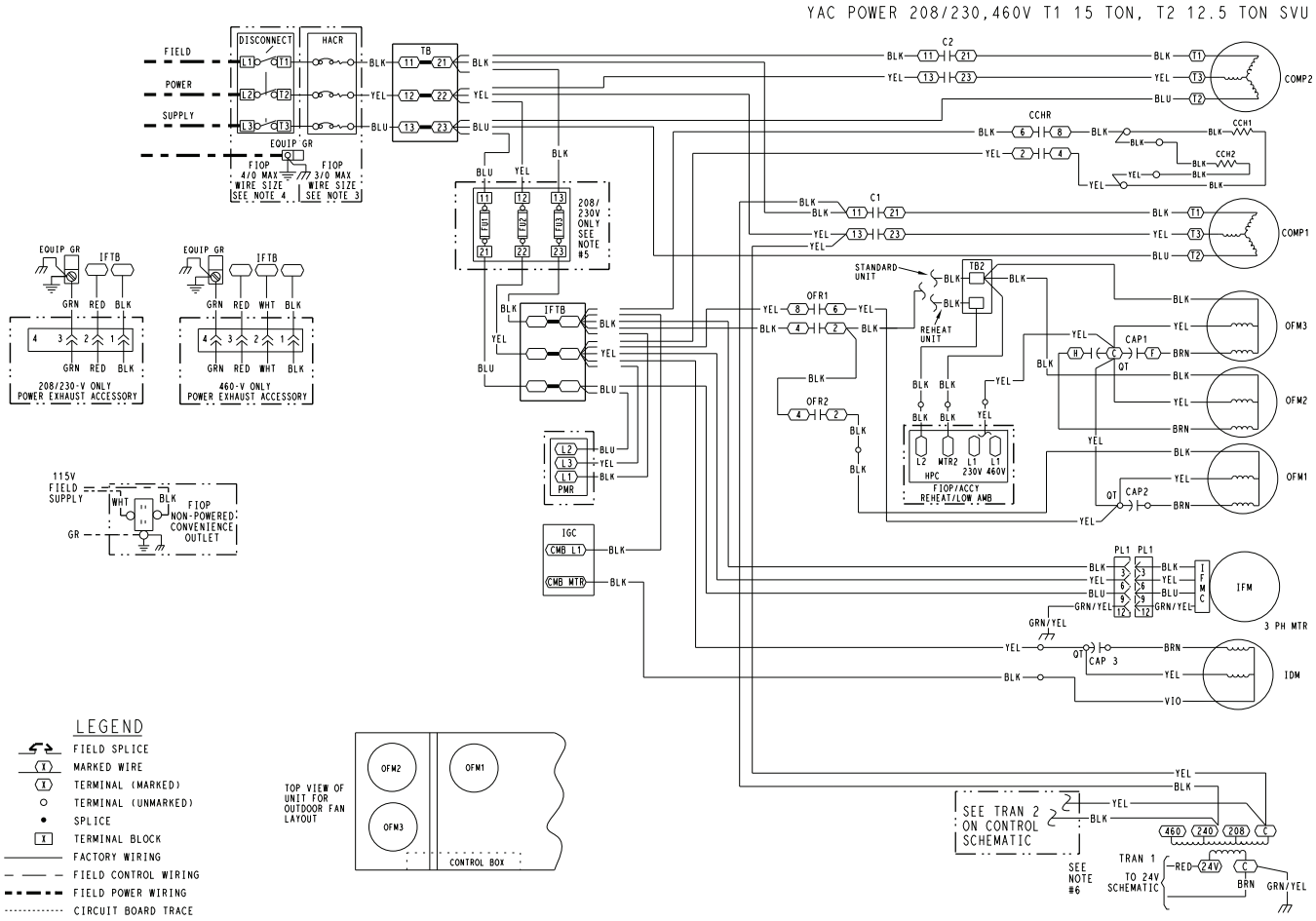
NOTES:
1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. COMPRESSOR AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
3. USE COPPER, COPPER CLAD ALUMINUM OR ALUMINUM CONDUCTORS.
4. USE COPPER CONDUCTORS ONLY.
5. FU1, FU2, AND FU3, REPLACE WITH 250V 60A BUSSMAN FRNR 60.
6. TRANSFORMER IS DEDICATED BASED ON UNIT VOLTAGE. TAPS ONLY SHOWN TO SIMPLIFY SCHEMATIC. 208/230V UNIT TRAN IS WIRED FOR 230V UNIT. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY DISCONNECT BLK WIRE FROM 230V TAP AND CONNECT TO 200V TAP.

ACCY	ACCESSORY
AMB	AMBIENT
C	CONTACTOR,COMPRESSOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CCH	CRANKCASE HEATER
CCHR	CRANKCASE HEATER RELAY
CMB	COMBUSTION
COFS	CONDENSATE OVERFLOW SWT
COMP	COMPRESSOR MOTOR
DDC	DIRECT DIGITAL CONTROL
EHR	ELECTRIC HEATER RELAY
ERV	ENERGY RECOVERY VENTILATOR
FIOP	FACTORY INSTALLED OPTION
FLS	FAN LIMIT SWITCH
FPT	FREEZE PROTECTION THERMOSTAT
FSD	FIRE SHUT DOWN
FS	FLAME SENSOR
FU	FUSE
GND	GROUND
GVR	GAS VALVE RELAY
HPC	HEAD PRESSURE CONTROL
HPS	HIGH PRESSURE SWITCH
HS	HALL EFFECT SENSOR
I	IGNITOR
IAQ	INDOOR AIR QUALITY SENSORS
IDM	INDUCED DRAFT MOTOR
IFCB	INDOOR FAN CIRCUIT BREAKER
IFM	INDOOR FAN MOTOR
IFMC	INDOOR FAN CONTROLLER
IGC	INTEGRATED GAS CONTROL
IFTB	INDOOR FAN TERMINAL BLOCK
JMP	JUMPER
LA	LOW AMBIENT
LAR	LOW AMBIENT RELAY
LDV	LIQUID DIVERTER VALVE
LPS	LOW PRESSURE SWITCH
LSM	LIMIT SWITCH (MANUAL RESET)
LS	LIMIT SWITCH
LTLO	LOW TEMPERATURE LOCKOUT
MGV	MAIN GAS VALVE
MOV	VOLTAGE RESTRICTOR
MTR	MOTOR
MTS	MIXED AIR TEMPERATURE SWITCH
OAQ	OUTDOOR AIR QUALITY
OARH	OUTSIDE AIR RELATIVE HUMIDITY
OAT	OUTDOOR AIR TEMP. SENSOR
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
OL	OVERLOAD
PL	PLUG ASSEMBLY
POT	POTENTIOMETER
PMR	PHASE MONITOR RELAY
QT	QUADRUPLE TERMINAL
RARH	RETURN AIR RELATIVE HUMIDITY
RAT	RETURN AIR TEMP. SENSOR
RDB	REFRIGERANT DISSIPATION BOARD
RDS	REFRIGERANT DISSIPATION SENSOR
RDV	REHEAT DISCHARGE VALVE
RS	ROLLOUT SWITCH
RVSR	REVERSING VALVE SOLENOID RELAY
SAT	SUPPLY AIR TEMP. SENSOR
SEN	SENSOR
SPRH	SPACE RELATIVE HUMIDITY
SPT	SPACE TEMPERATURE SENSOR
SPTO	SPACE TEMPERATURE OFFSET
STD	STANDARD
TB	TERMINAL BLOCK
TBR	TEMPERATURE BYPASS RELAY
TDR	TIME DELAY RELAY (WINTER START)
TRAN	TRANSFORMER
UCB	UNIT CONTROL BOARD

50TM001914 D

Typical wiring diagrams (cont)

Typical Power Wiring Diagram — 48GE 14 208/230/460-3-60 Unit with SystemVu™ Controller



LEGEND

- FIELD SPLICE
- MARKED WIRE
- TERMINAL (MARKED)
- TERMINAL (UNMARKED)
- SPLICE
- TERMINAL BLOCK
- FACTORY WIRING
- FIELD CONTROL WIRING
- FIELD POWER WIRING
- CIRCUIT BOARD TRACE
- ACCESSORY OR FIOP
- TO INDICATE COMMON POTENTIAL ONLY: NOT TO REPRESENT WIRING

NOTES:
1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
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4. USE COPPER CONDUCTORS ONLY.
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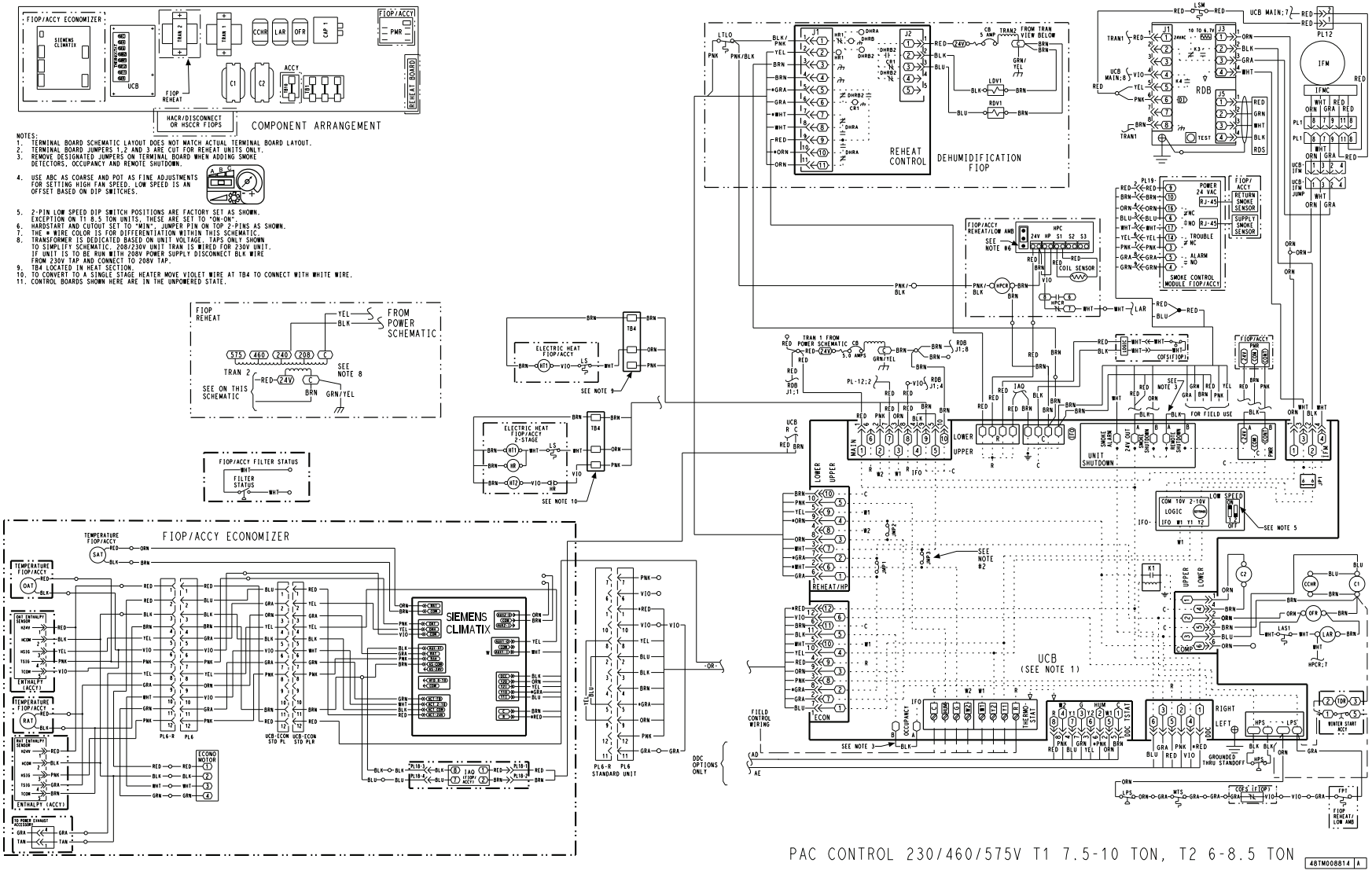
6. TRANSFORMER IS DEDICATED BASED ON UNIT VOLTAGE. TAPS ONLY SHOWN TO SIMPLIFY SCHEMATIC. 208/230V UNIT TRAN IS WIRED FOR 230V UNIT. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY DISCONNECT BLK WIRE FROM 230V TAP AND CONNECT TO 200V TAP.

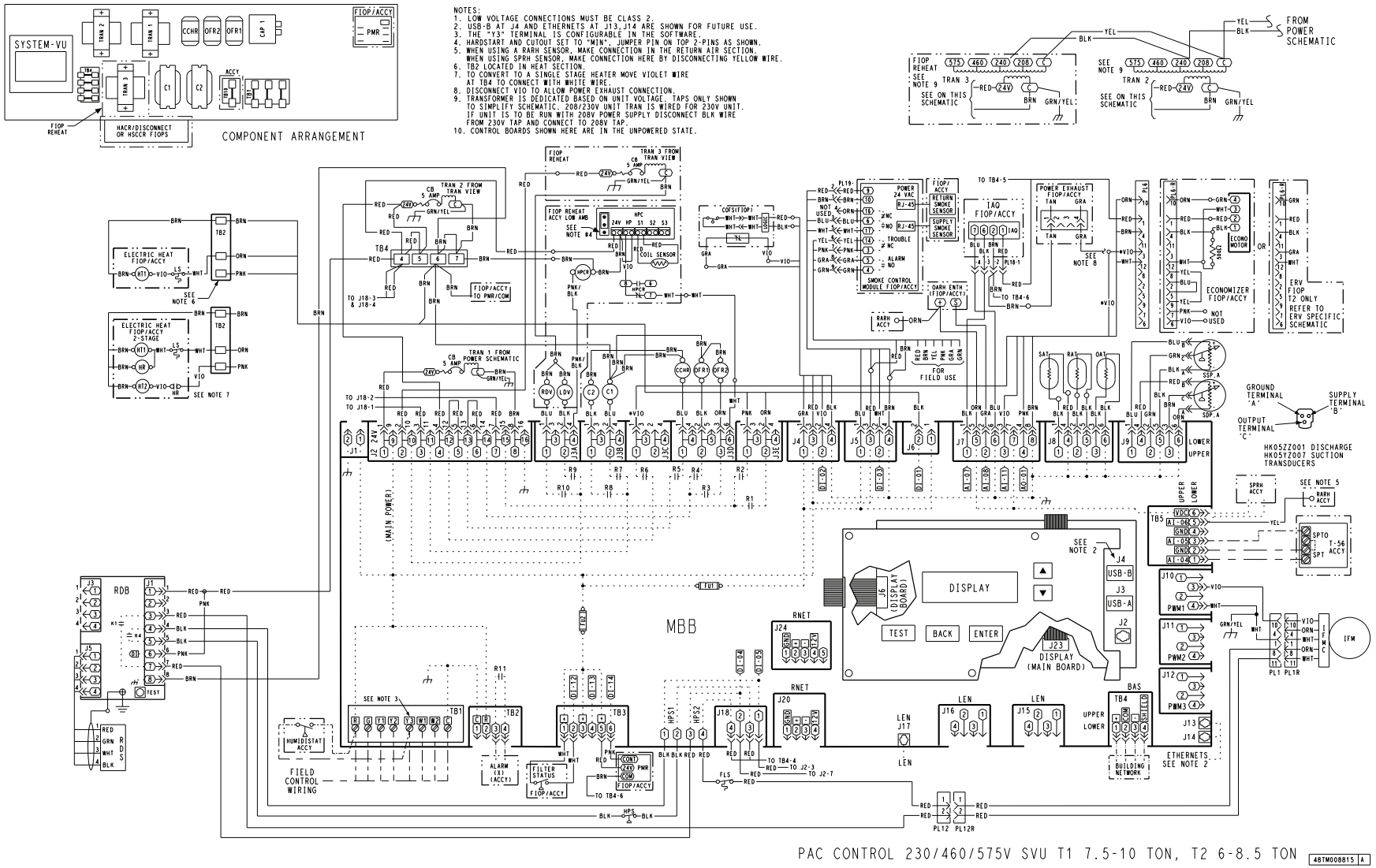
ACCY	ACCESSORY
AMB	AMBIENT
C	CONTACTOR,COMPRESSOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CCH	CRANKCASE HEATER
CCHR	CRANKCASE HEATER RELAY
CMB	COMBUSTION
COFS	CONDENSATE OVERFLOW SWT
COMP	COMPRESSOR MOTOR
DDC	DIRECT DIGITAL CONTROL
EHR	ELECTRIC HEATER RELAY
ERV	ENERGY RECOVERY VENTILATOR
FIOP	FACTORY INSTALLED OPTION
FLS	FAN LIMIT SWITCH
FPT	FREEZE PROTECTION THERMOSTAT
FSD	FIRE SHUT DOWN
FS	FLAME SENSOR
FU	FUSE
GND	GROUND
GVR	GAS VALVE RELAY
HPC	HEAD PRESSURE CONTROL
HPS	HIGH PRESSURE SWITCH
HS	HALL EFFECT SENSOR
I	IGNITOR
IAQ	INDOOR AIR QUALITY SENSORS
IDM	INDUCED DRAFT MOTOR
IFCB	INDOOR FAN CIRCUIT BREAKER
IFM	INDOOR FAN MOTOR
IFMC	INDOOR FAN CONTROLLER
IGC	INTEGRATED GAS CONTROL
IFTB	INDOOR FAN TERMINAL BLOCK
JMP	JUMPER
LA	LOW AMBIENT
LAR	LOW AMBIENT RELAY
LDV	LIQUID DIVERTER VALVE
LPS	LOW PRESSURE SWITCH
LSM	LIMIT SWITCH (MANUAL RESET)
LS	LIMIT SWITCH
LTLO	LOW TEMPERATURE LOCKOUT
MGV	MAIN GAS VALVE
MOV	VOLTAGE RESTRICTOR
MTR	MOTOR
MTS	MIXED AIR TEMPERATURE SWITCH
OAQ	OUTDOOR AIR QUALITY
OARH	OUTSIDE AIR RELATIVE HUMIDITY
OAT	OUTDOOR AIR TEMP. SENSOR
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
OL	OVERLOAD
PL	PLUG ASSEMBLY
POT	POTENTIOMETER
PWR	PHASE MONITOR RELAY
QT	QUADRUPLE TERMINAL
RARH	RETURN AIR RELATIVE HUMIDITY
RAT	RETURN AIR TEMP. SENSOR
RDB	REFRIGERANT DISSIPATION BOARD
RDS	REFRIGERANT DISSIPATION SENSOR
RDV	REHEAT DISCHARGE VALVE
RS	ROLLOUT SWITCH
RVSR	REVERSING VALVE SOLENOID RELAY
SAT	SUPPLY AIR TEMP. SENSOR
SEN	SENSOR
SPRH	SPACE RELATIVE HUMIDITY
SPT	SPACE TEMPERATURE SENSOR
SPTO	SPACE TEMPERATURE OFFSET
STD	STANDARD
TB	TERMINAL BLOCK
TBR	TEMPERATURE BYPASS RELAY
TDR	TIME DELAY RELAY(WINTER START)
TRAN	TRANSFORMER
UCB	UNIT CONTROL BOARD

50TM002657 B

Typical Control Wiring Diagram — 50GE 07-09 230/460/575-3-60 Unit with Electromechanical Controller and POL224 Economizer

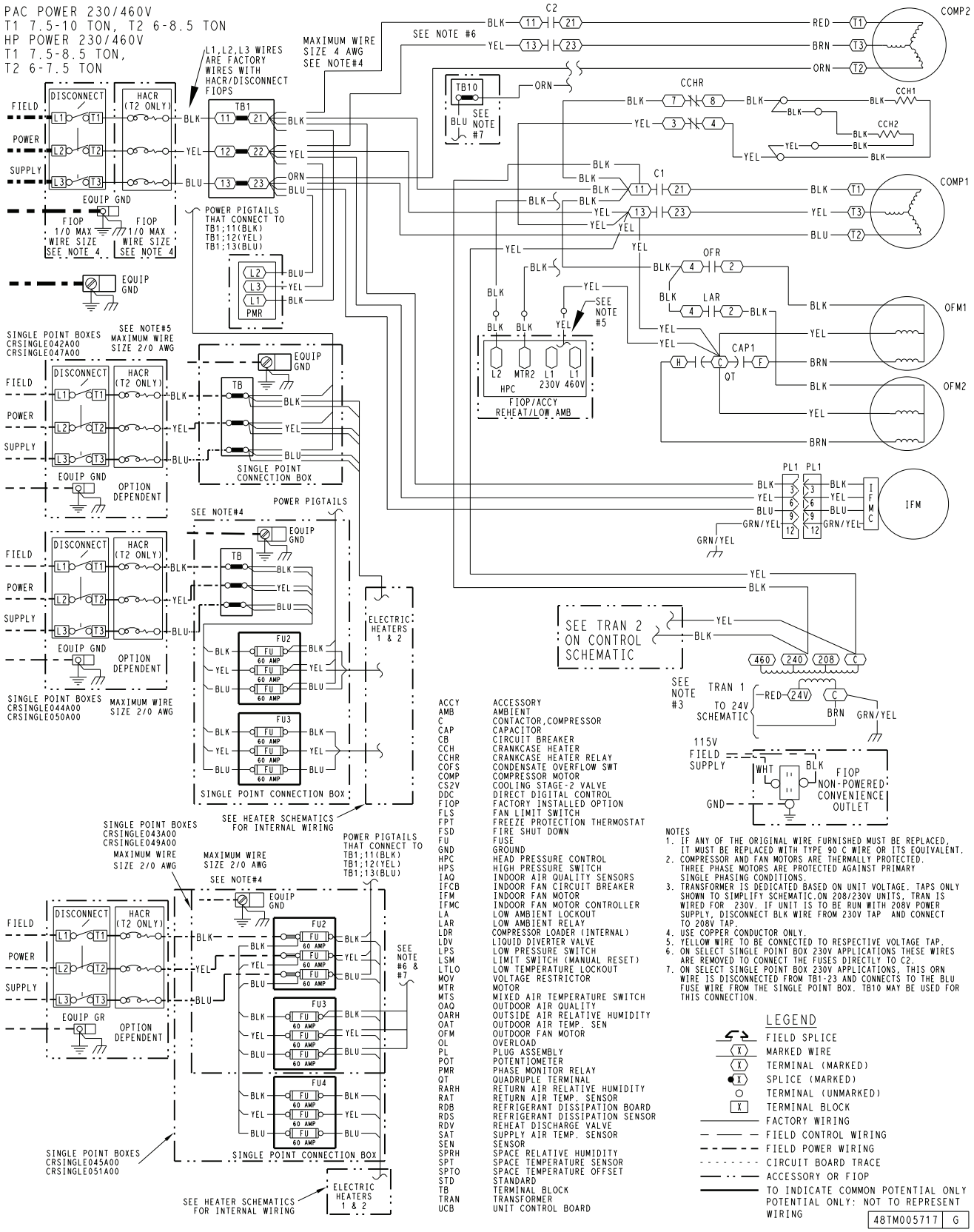


Typical Control Wiring Diagram — 50GE 07-09 230/460/575-3-60 Unit with SystemVu™ Controller



Typical wiring diagrams (cont)

Typical Power Wiring Diagram — 50GE 07-09 230/460-3-60 Unit with Electromechanical Controller



ACCY	ACCESSORY
AMB	AMBIENT
C	CONTACTOR,COMPRESSOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CCH	CRANKCASE HEATER
CCHR	CRANKCASE HEATER RELAY
COFS	CONDENSATE OVERFLOW SWT
COMP	COMPRESSOR MOTOR
CS2V	COOLING STAGE-2 VALVE
DDC	DIRECT DIGITAL CONTROL
FIOP	FACTORY INSTALLED OPTION
FLS	FAN LIMIT SWITCH
FPT	FREEZE PROTECTION THERMOSTAT
FSD	FIRE SHUT DOWN
FU	FUSE
GND	GROUND
HPC	HEAD PRESSURE CONTROL
HPS	HIGH PRESSURE SWITCH
IAQ	INDOOR AIR QUALITY SENSORS
IFCB	INDOOR FAN CIRCUIT BREAKER
IFM	INDOOR FAN MOTOR
IFMC	INDOOR FAN MOTOR CONTROLLER
LA	LOW AMBIENT LOCKOUT
LAR	LOW AMBIENT RELAY
LDR	COMPRESSOR LOADER (INTERNAL)
LDV	LIQUID DIVERTER VALVE
LPS	LOW PRESSURE SWITCH
LSM	LIMIT SWITCH (MANUAL RESET)
LTLO	LOW TEMPERATURE LOCKOUT
MOV	VOLTAGE RESTRICTOR
MTR	MOTOR
MTS	MIXED AIR TEMPERATURE SWITCH
OAQ	OUTDOOR AIR QUALITY
OARH	OUTSIDE AIR RELATIVE HUMIDITY
OAT	OUTDOOR AIR TEMP. SEN
OFM	OUTDOOR FAN MOTOR
OL	OVERLOAD
PL	PLUG ASSEMBLY
POT	POTENTIOMETER
PMR	PHASE MONITOR RELAY
QT	QUADRUPLE TERMINAL
RARH	RETURN AIR RELATIVE HUMIDITY
RAT	RETURN AIR TEMP. SENSOR
RDB	REFRIGERANT DISSIPATION BOARD
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SAT	SUPPLY AIR TEMP. SENSOR
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SPRH	SPACE RELATIVE HUMIDITY
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UCB	UNIT CONTROL BOARD

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4. USE COPPER CONDUCTOR ONLY.
5. YELLOW WIRE TO BE CONNECTED TO RESPECTIVE VOLTAGE TAP.
6. ON SELECT SINGLE POINT BOX 230V APPLICATIONS THESE WIRES ARE REMOVED TO CONNECT THE FUSES DIRECTLY TO C2.
7. ON SELECT SINGLE POINT BOX 230V APPLICATIONS, THIS ORN WIRE IS DISCONNECTED FROM TB1-23 AND CONNECTS TO THE BLU FUSE WIRE FROM THE SINGLE POINT BOX. TB10 MAY BE USED FOR THIS CONNECTION.

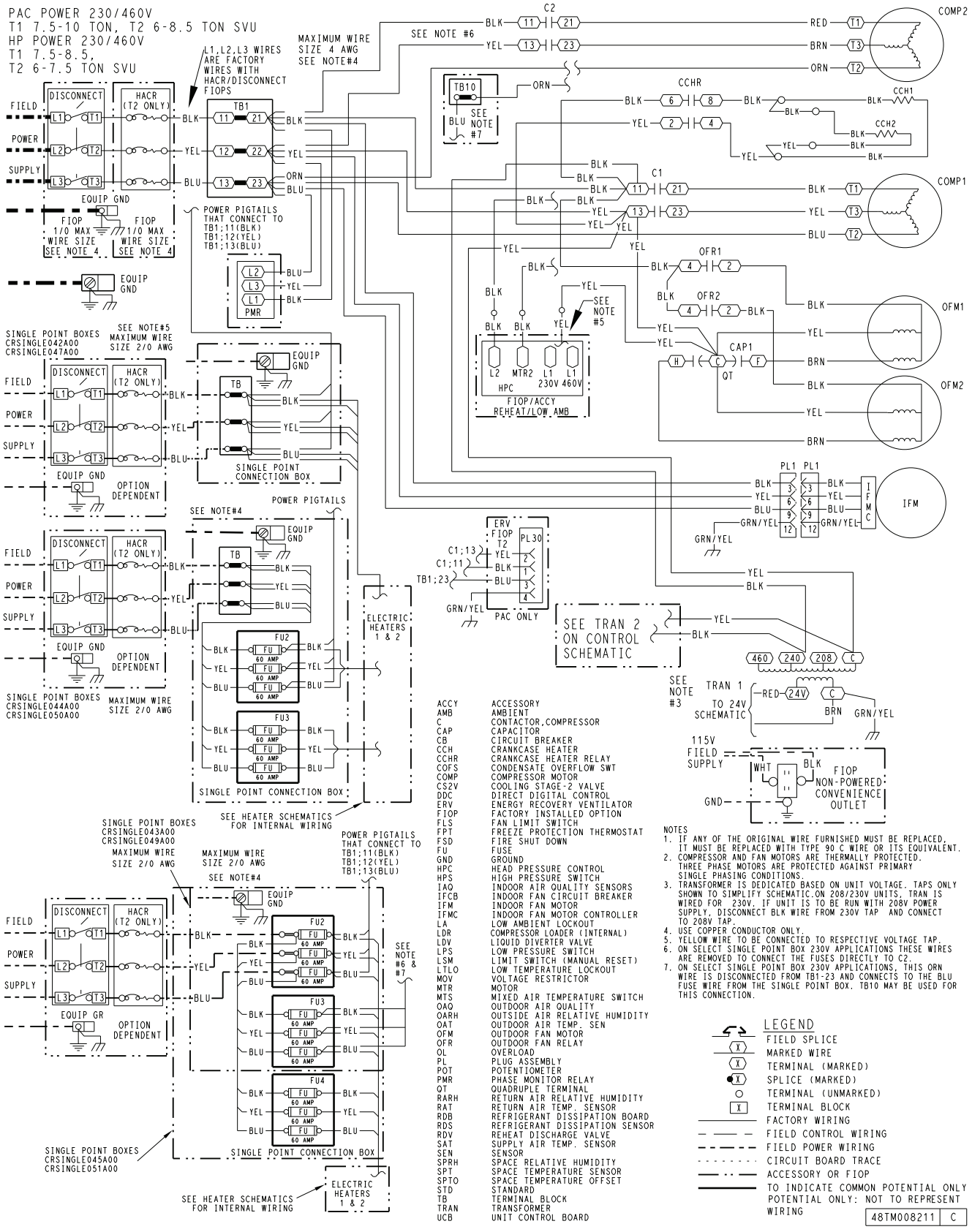
LEGEND

	FIELD SPLICE
X	MARKED WIRE
X	TERMINAL (MARKED)
X	SPLICE (MARKED)
	TERMINAL (UNMARKED)
X	TERMINAL BLOCK
	FACTORY WIRING
	FIELD CONTROL WIRING
	FIELD POWER WIRING
	CIRCUIT BOARD TRACE
	ACCESSORY OR FIOP
	TO INDICATE COMMON POTENTIAL ONLY POTENTIAL ONLY: NOT TO REPRESENT WIRING

48TM005717 G

Typical wiring diagrams (cont)

Typical Power Wiring Diagram — 50GE 07-09 230/460-3-60 Unit with SystemVu™ Controller



ACCY	ACCESSORY
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ERV	ENERGY RECOVERY VENTILATOR
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HPC	HEAD PRESSURE CONTROL
HPS	HIGH PRESSURE SWITCH
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IFCB	INDOOR FAN CIRCUIT BREAKER
IFM	INDOOR FAN MOTOR
IFMC	INDOOR FAN MOTOR CONTROLLER
LA	LOW AMBIENT LOCKOUT
LDR	COMPRESSOR LOADER (INTERNAL)
LDV	LIQUID DIVERTER VALVE
LPS	LOW PRESSURE SWITCH
LSM	LIMIT SWITCH (MANUAL RESET)
LTLO	LOW TEMPERATURE LOCKOUT
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OARH	OUTSIDE AIR RELATIVE HUMIDITY
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OFM	OUTDOOR FAN MOTOR
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POT	POTENTIOMETER
PWR	PHASE MONITOR RELAY
QT	QUADRUPLE TERMINAL
RARH	RETURN AIR RELATIVE HUMIDITY
RAT	RETURN AIR TEMP. SENSOR
RDB	REFRIGERANT DISSIPATION BOARD
RDS	REFRIGERANT DISSIPATION SENSOR
RDV	REHEAT DISCHARGE VALVE
SAT	SUPPLY AIR TEMP. SENSOR
SEN	SENSOR
SPRH	SPACE RELATIVE HUMIDITY
SPT	SPACE TEMPERATURE SENSOR
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STD	STANDARD
TB	TERMINAL BLOCK
TRAN	TRANSFORMER
UCB	UNIT CONTROL BOARD

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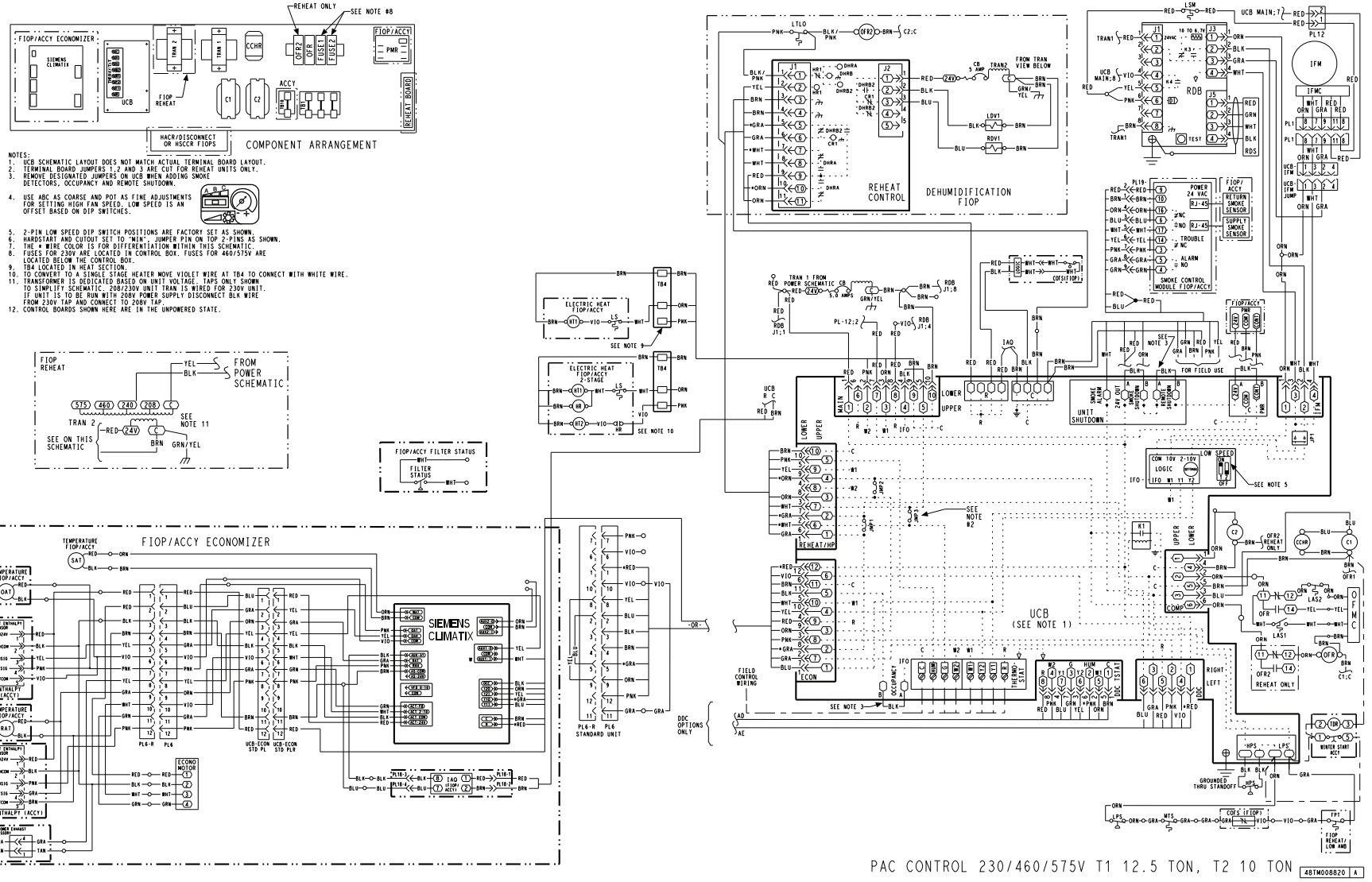
4. USE COPPER CONDUCTOR ONLY.
5. YELLOW WIRE TO BE CONNECTED TO RESPECTIVE VOLTAGE TAP.
6. ON SELECT SINGLE POINT BOX 230V APPLICATIONS THESE WIRES ARE REMOVED TO CONNECT THE FUSES DIRECTLY TO C2.
7. ON SELECT SINGLE POINT BOX 230V APPLICATIONS, THIS ORN WIRE IS DISCONNECTED FROM TB1-23 AND CONNECTS TO THE BLU FUSE WIRE FROM THE SINGLE POINT BOX. TB10 MAY BE USED FOR THIS CONNECTION.

LEGEND

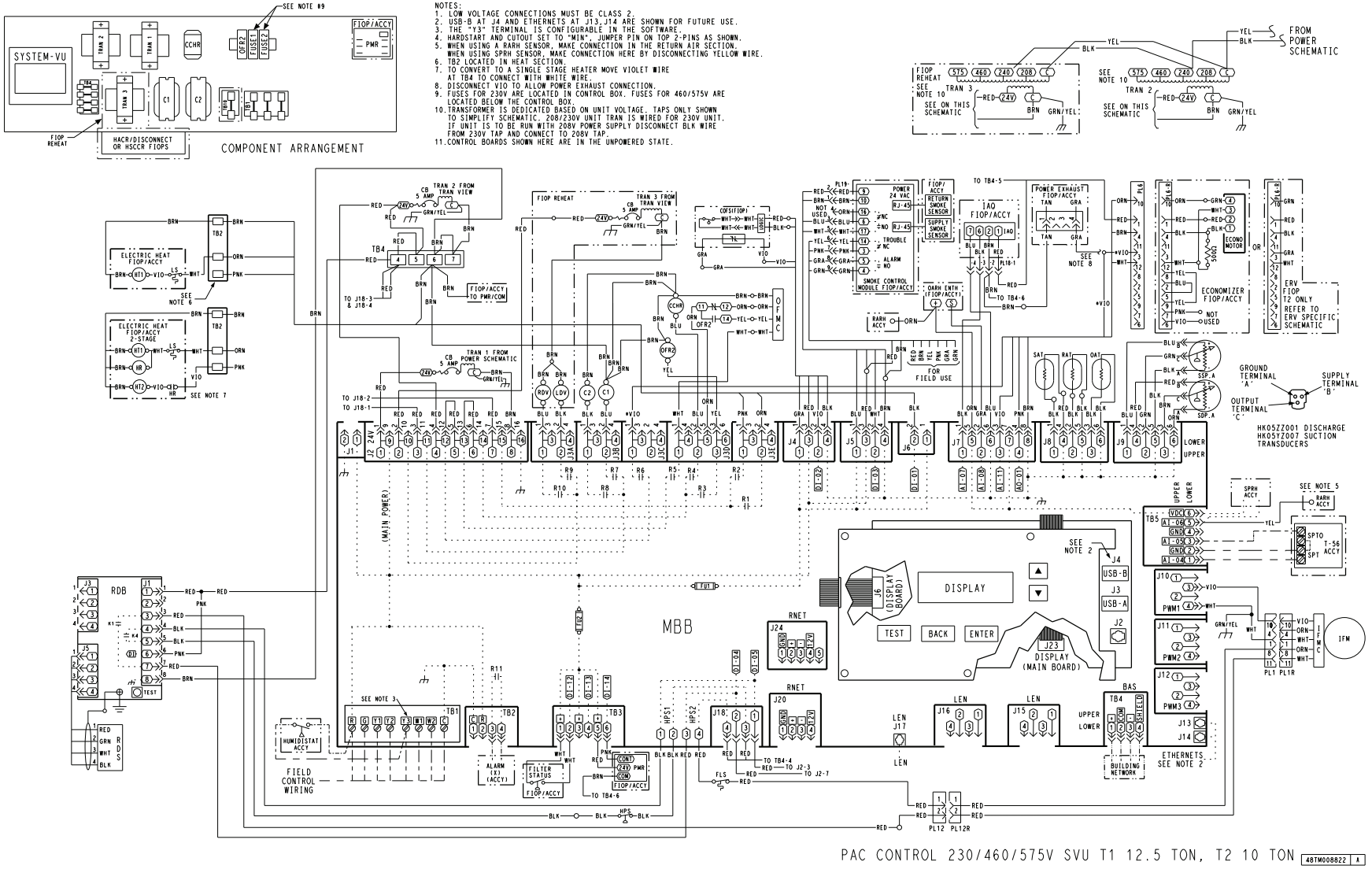
	FIELD SPLICE
(X)	MARKED WIRE
(X)	TERMINAL (MARKED)
(X)	SPLICE (MARKED)
	TERMINAL (UNMARKED)
[X]	TERMINAL BLOCK
	FACTORY WIRING
	FIELD CONTROL WIRING
	FIELD POWER WIRING
	CIRCUIT BOARD TRACE
	ACCESSORY OR FIOP
	TO INDICATE COMMON POTENTIAL ONLY POTENTIAL ONLY: NOT TO REPRESENT WIRING

48TM008211 | C

Typical Control Wiring Diagram — 50GE 12 230/460/575-3-60 Unit with Electromechanical Controller and POL224 Economizer

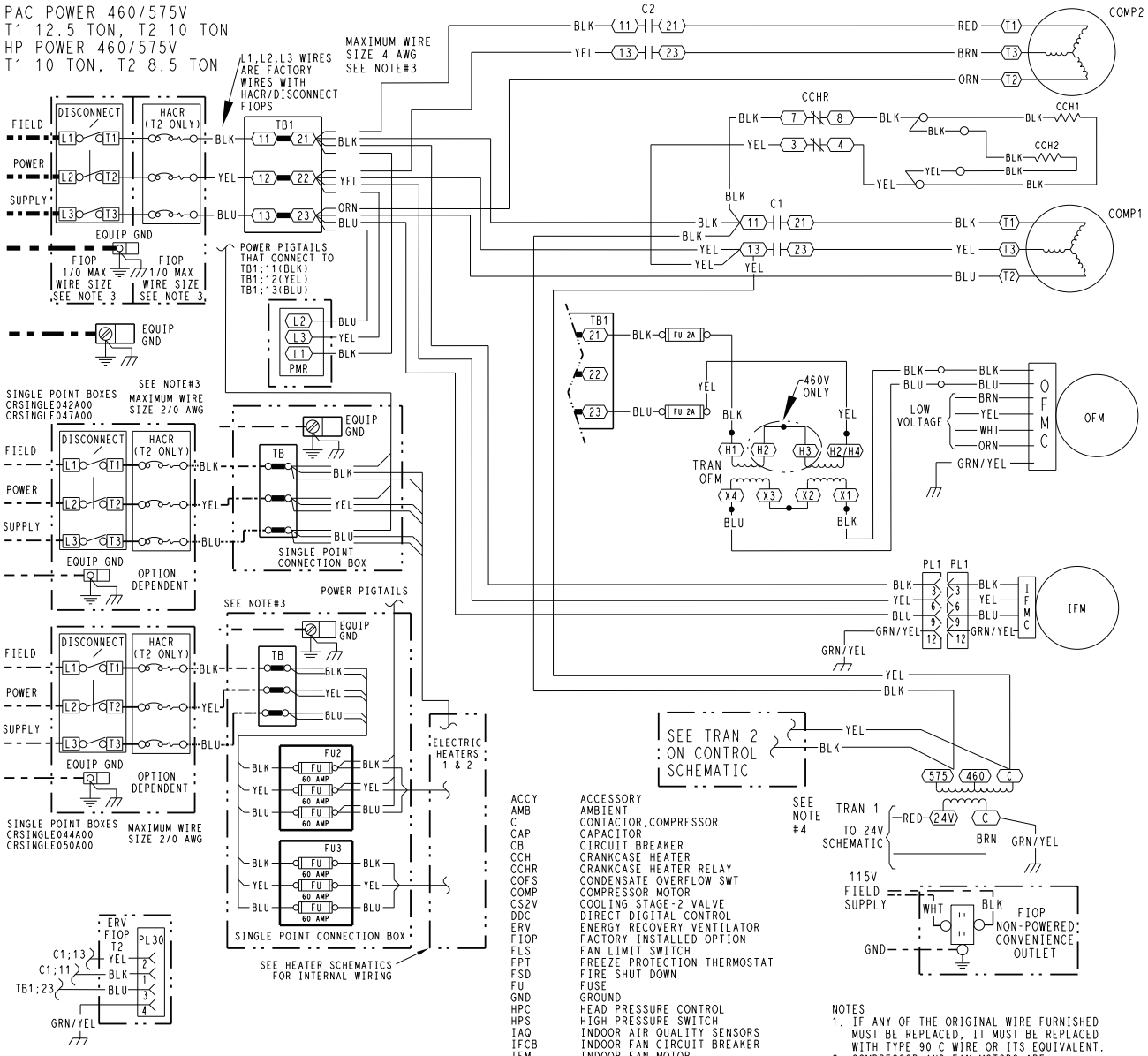


Typical Control Wiring Diagram — 50GE 12 230/460/575-3-60 Unit with SystemVu™ Controller



Typical wiring diagrams (cont)

Typical Power Wiring Diagram — 50GE 12 208/230/460-3-60 Unit
Electromechanical and SystemVu Controllers



ACCY	ACCESSORY
AMB	AMBIENT
C	CONTACTOR,COMPRESSOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CCH	CRANKCASE HEATER
CCHR	CRANKCASE HEATER RELAY
COFS	CONDENSATE OVERFLOW SWT
COMP	COMPRESSOR MOTOR
CS2V	COOLING STAGE-2 VALVE
DDC	DIRECT DIGITAL CONTROL
ERV	ENERGY RECOVERY VENTILATOR
FIOP	FACTORY INSTALLED OPTION
FLS	FAN LIMIT SWITCH
FPT	FREEZE PROTECTION THERMOSTAT
FSD	FIRE SHUT DOWN
FU	FUSE
GND	GROUND
HPC	HEAD PRESSURE CONTROL
HPS	HIGH PRESSURE SWITCH
IAQ	INDOOR AIR QUALITY SENSORS
IFCB	INDOOR FAN CIRCUIT BREAKER
IFM	INDOOR FAN MOTOR
IFMC	INDOOR FAN MOTOR CONTROLLER
LA	LOW AMBIENT LOCKOUT
LDR	COMPRESSOR LOADER (INTERNAL)
LDV	LIQUID DIVERTER VALVE
LPS	LOW PRESSURE SWITCH
LSM	LIMIT SWITCH (MANUAL RESET)
LTLO	LOW TEMPERATURE LOCKOUT
MOV	VOLTAGE RESTRICTOR
MTR	MOTOR
MTS	MIXED AIR TEMPERATURE SWITCH
OAQ	OUTDOOR AIR QUALITY
OARH	OUTSIDE AIR RELATIVE HUMIDITY
OAT	OUTDOOR AIR TEMP. SEN
OFM	OUTDOOR FAN MOTOR
OL	OVERLOAD
PL	PLUG ASSEMBLY
POT	POTENTIOMETER
PMR	PHASE MONITOR RELAY
QT	QUADRUPLE TERMINAL
RARH	RETURN AIR RELATIVE HUMIDITY
RAT	RETURN AIR TEMP. SENSOR
RDB	REFRIGERANT DISSIPATION BOARD
RDS	REFRIGERANT DISSIPATION SENSOR
RDV	REHEAT DISCHARGE VALVE
SAT	SUPPLY AIR TEMP. SENSOR
SEN	SENSOR
SPRH	SPACE RELATIVE HUMIDITY
SPT	SPACE TEMPERATURE SENSOR
SPTO	SPACE TEMPERATURE OFFSET
STD	STANDARD
TB	TERMINAL BLOCK
TRAN	TRANSFORMER
UCB	UNIT CONTROL BOARD

NOTES
1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. COMPRESSOR AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
3. USE COPPER CONDUCTOR ONLY.
4. TRANSFORMER IS DEDICATED BASED ON UNIT VOLTAGE. TAPS ONLY SHOWN TO SIMPLIFY SCHEMATIC.

LEGEND

	FIELD SPLICE
X	MARKED WIRE
X	TERMINAL (MARKED)
X	SPLICE (MARKED)
	TERMINAL (UNMARKED)
X	TERMINAL BLOCK
	FACTORY WIRING
	FIELD CONTROL WIRING
	FIELD POWER WIRING
	CIRCUIT BOARD TRACE
	ACCESSORY OR FIOP
	TO INDICATE COMMON POTENTIAL ONLY POTENTIAL ONLY: NOT TO REPRESENT WIRING

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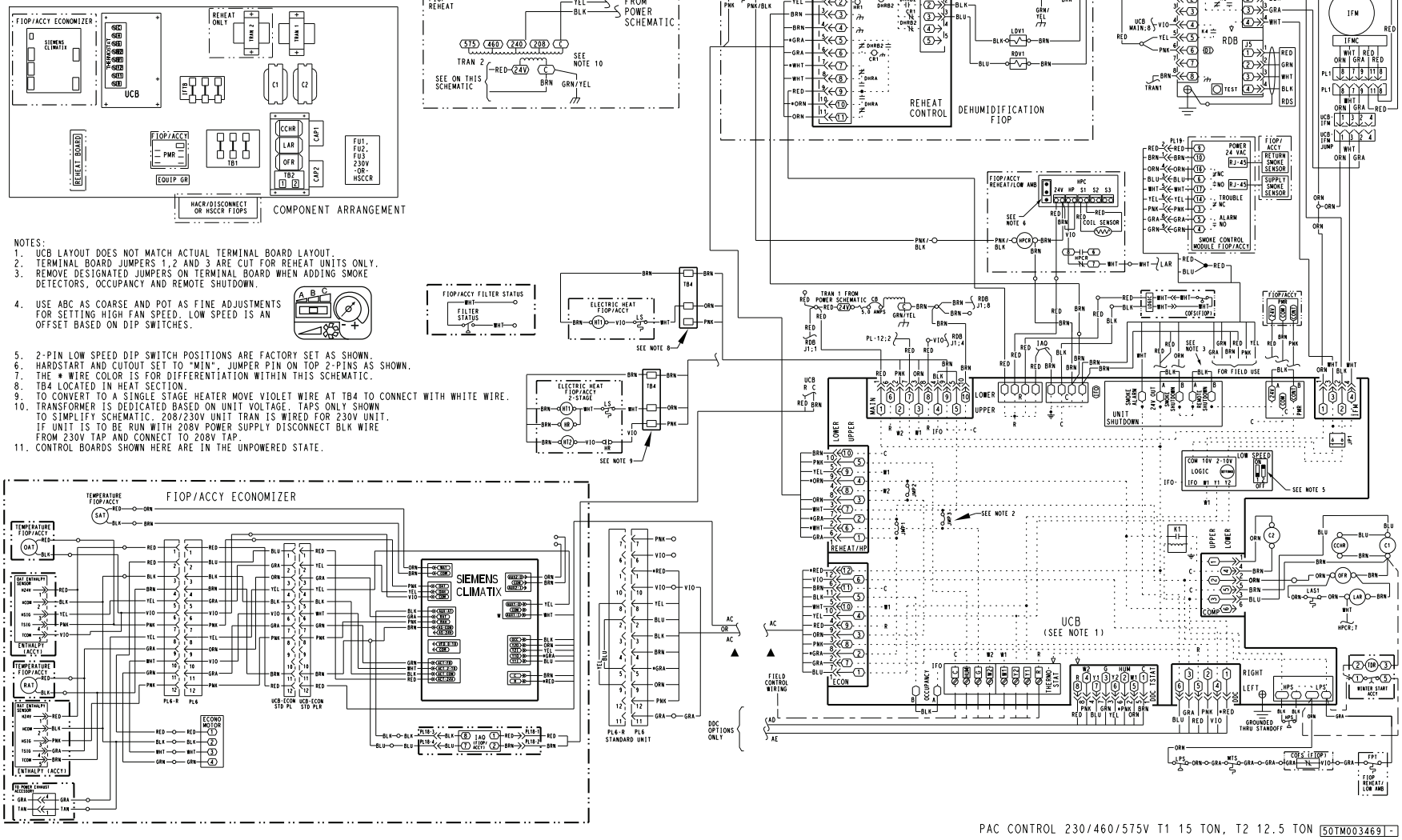
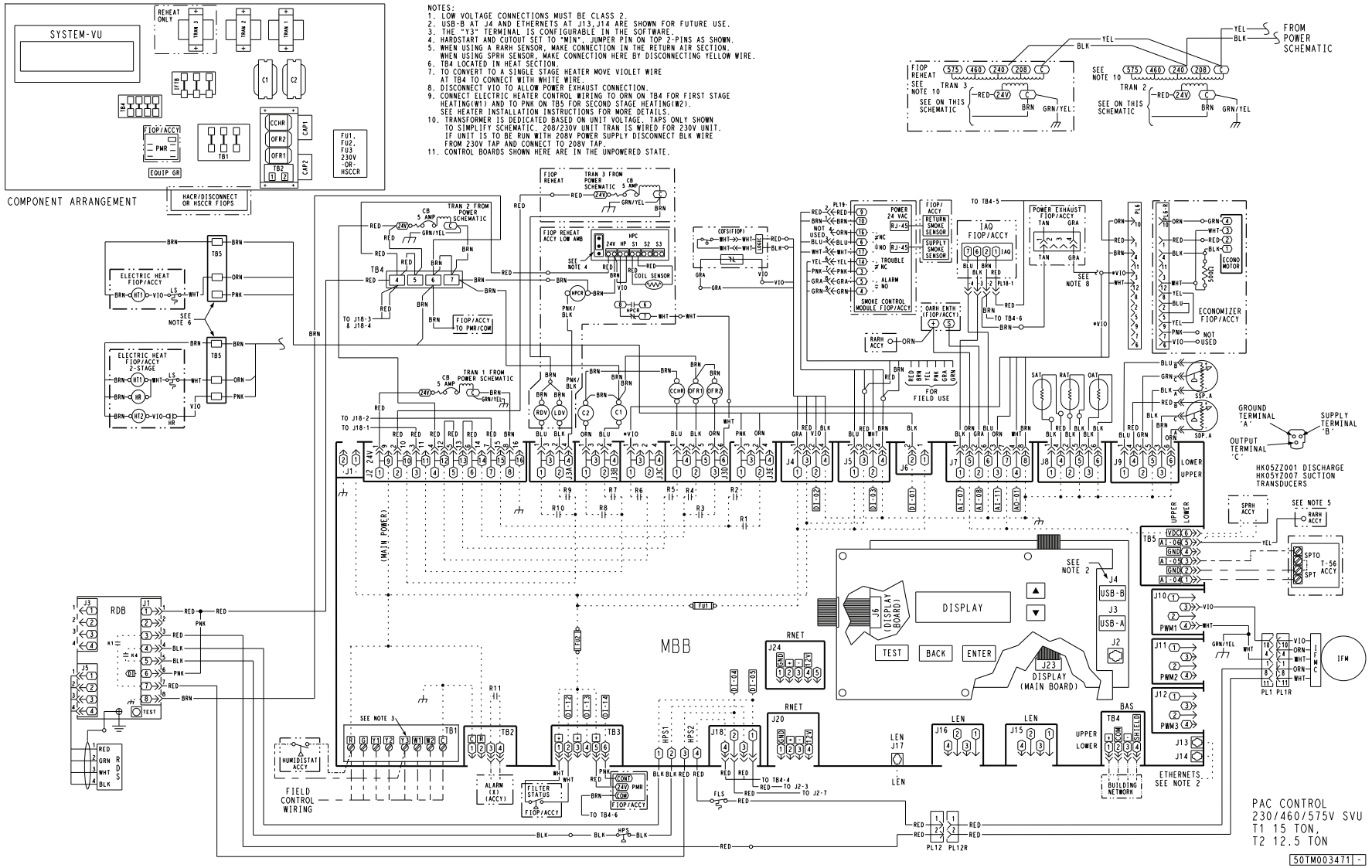
Typical Control Wiring Diagram — 50GE 14 230/460/575-3-60 Unit with Electromechanical Controller and POL224 Economizer



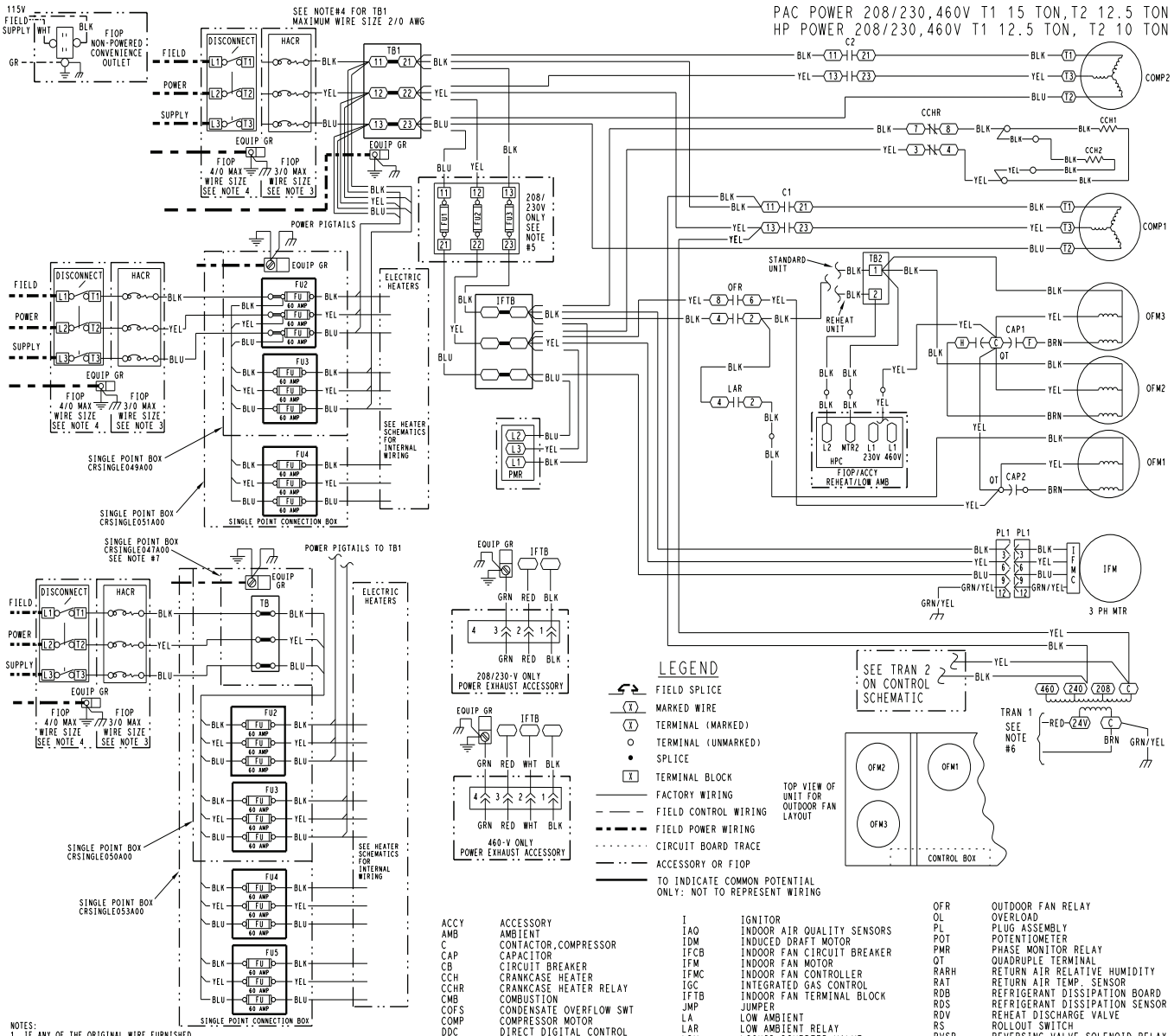
NOTES:
1. UCB LAYOUT DOES NOT MATCH ACTUAL TERMINAL BOARD LAYOUT.
2. TERMINAL BOARD JUMPERS 1,2 AND 3 ARE CUT FOR REHEAT UNITS ONLY.
3. REMOVE DESIGNATED JUMPERS ON TERMINAL BOARD WHEN ADDING SMOKE DETECTORS, OCCUPANCY AND REMOTE SHUTDOWN.
4. USE ABC AS COARSE AND POT AS FINE ADJUSTMENTS FOR SETTING HIGH FAN SPEED. LOW SPEED IS AN OFFSET BASED ON DIP SWITCHES.
5. 2-PIN LOW SPEED DIP SWITCH POSITIONS ARE FACTORY SET AS SHOWN.
6. HARDSTART AND CUTOUT SET TO "MIN", JUMPER PIN ON TOP 2-PINS AS SHOWN.
7. THE * WIRE COLOR IS FOR DIFFERENTIATION WITHIN THIS SCHEMATIC.
8. TB4 LOCATED IN HEAT SECTION.
9. TO CONVERT TO A SINGLE STAGE HEATER MOVE VIOLET WIRE AT TB4 TO CONNECT WITH WHITE WIRE.
10. TRANSFORMER IS DEDICATED BASED ON UNIT VOLTAGE. TAPS ONLY SHOWN TO SIMPLIFY SCHEMATIC. 208/230V UNIT TRAN IS WIRED FOR 230V UNIT. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY DISCONNECT BLK WIRE FROM 230V TAP AND CONNECT TO 208V TAP.
11. CONTROL BOARDS SHOWN HERE ARE IN THE UNPOWERED STATE.

Typical Control Wiring Diagram — 50GE 14 230/460/575-3-60 Unit with SystemVu™ Controller



Typical wiring diagrams (cont)

Typical Power Wiring Diagram — 50GE 14 208/230/460-3-60 Unit with Electromechanical Controller



NOTES:
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2. COMPRESSOR AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
3. USE COPPER, COPPER CLAD ALUMINUM OR ALUMINUM CONDUCTORS.
4. USE COPPER CONDUCTORS ONLY.
5. FU1, FU2, AND FU3, REPLACE WITH 250V 60A BUSSMAN FRNR 60.
6. TRANSFORMER IS DEDICATED BASED ON UNIT VOLTAGE. TAPS ONLY SHOWN TO SIMPLIFY SCHEMATIC. 208/230V UNIT TRAN IS WIRED FOR 230V UNIT. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY DISCONNECT BLK WIRE FROM 230V TAP AND CONNECT TO 200V TAP.
7. CRSINGLE047A00 IS ONLY A TERMINAL BLOCK TO DISTRIBUTE POWER TO THE CONTROL BOX TB1 AND ELECTRIC HEATERS.

ACCY	ACCESSORY
AMB	AMBIENT
C	CONTACTOR,COMPRESSOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CCH	CRANKCASE HEATER
CCHR	CRANKCASE HEATER RELAY
CMB	COMBUSTION
COFS	CONDENSATE OVERFLOW SWT
COMP	COMPRESSOR MOTOR
DDC	DIRECT DIGITAL CONTROL
EHR	ELECTRIC HEATER RELAY
ERV	ENERGY RECOVERY VENTILATOR
FIOP	FACTORY INSTALLED OPTION
FLS	FAN LIMIT SWITCH
FPT	FREEZE PROTECTION THERMOSTAT
FSD	FIRE SHUT DOWN
FS	FLAME SENSOR
FU	FUSE
GND	GROUND
GVR	GAS VALVE RELAY
HPC	HEAD PRESSURE CONTROL
HPS	HIGH PRESSURE SWITCH
HS	HALL EFFECT SENSOR
I	IGNITOR
IAQ	INDOOR AIR QUALITY SENSORS
IDM	INDUCED DRAFT MOTOR
IFCB	INDOOR FAN CIRCUIT BREAKER
IFM	INDOOR FAN MOTOR
IFMC	INDOOR FAN CONTROLLER
IGC	INTEGRATED GAS CONTROL
IFTB	INDOOR FAN TERMINAL BLOCK
JMP	JUMPER
LA	LOW AMBIENT
LAR	LOW AMBIENT RELAY
LDV	LIQUID DIVERTER VALVE
LPS	LOW PRESSURE SWITCH
LSM	LIMIT SWITCH (MANUAL RESET)
LS	LIMIT SWITCH
LTLO	LOW TEMPERATURE LOCKOUT
MGV	MAIN GAS VALVE
MOV	VOLTAGE RESTRICTOR
MTR	MOTOR
MTS	MIXED AIR TEMPERATURE SWITCH
OAQ	OUTDOOR AIR QUALITY
OARH	OUTSIDE AIR RELATIVE HUMIDITY
OAT	OUTDOOR AIR TEMP. SENSOR
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
OL	OVERLOAD
PL	PLUG ASSEMBLY
POT	POTENTIOMETER
PMR	PHASE MONITOR RELAY
QT	QUADRUPLE TERMINAL
RARH	RETURN AIR RELATIVE HUMIDITY
RAT	RETURN AIR TEMP. SENSOR
RDB	REFRIGERANT DISSIPATION BOARD
RDS	REFRIGERANT DISSIPATION SENSOR
RDV	REHEAT DISCHARGE VALVE
RS	ROLLOUT SWITCH
RVSR	REVERSING VALVE SOLENOID RELAY
SAT	SUPPLY AIR TEMP. SENSOR
SEN	SENSOR
SPRH	SPACE RELATIVE HUMIDITY
SPT	SPACE TEMPERATURE SENSOR
SPTO	SPACE TEMPERATURE OFFSET
STD	STANDARD
TB	TERMINAL BLOCK
TBR	TEMPERATURE BYPASS RELAY
TDR	TIME DELAY RELAY(WINTER START)
TRAN	TRANSFORMER
UCB	UNIT CONTROL BOARD

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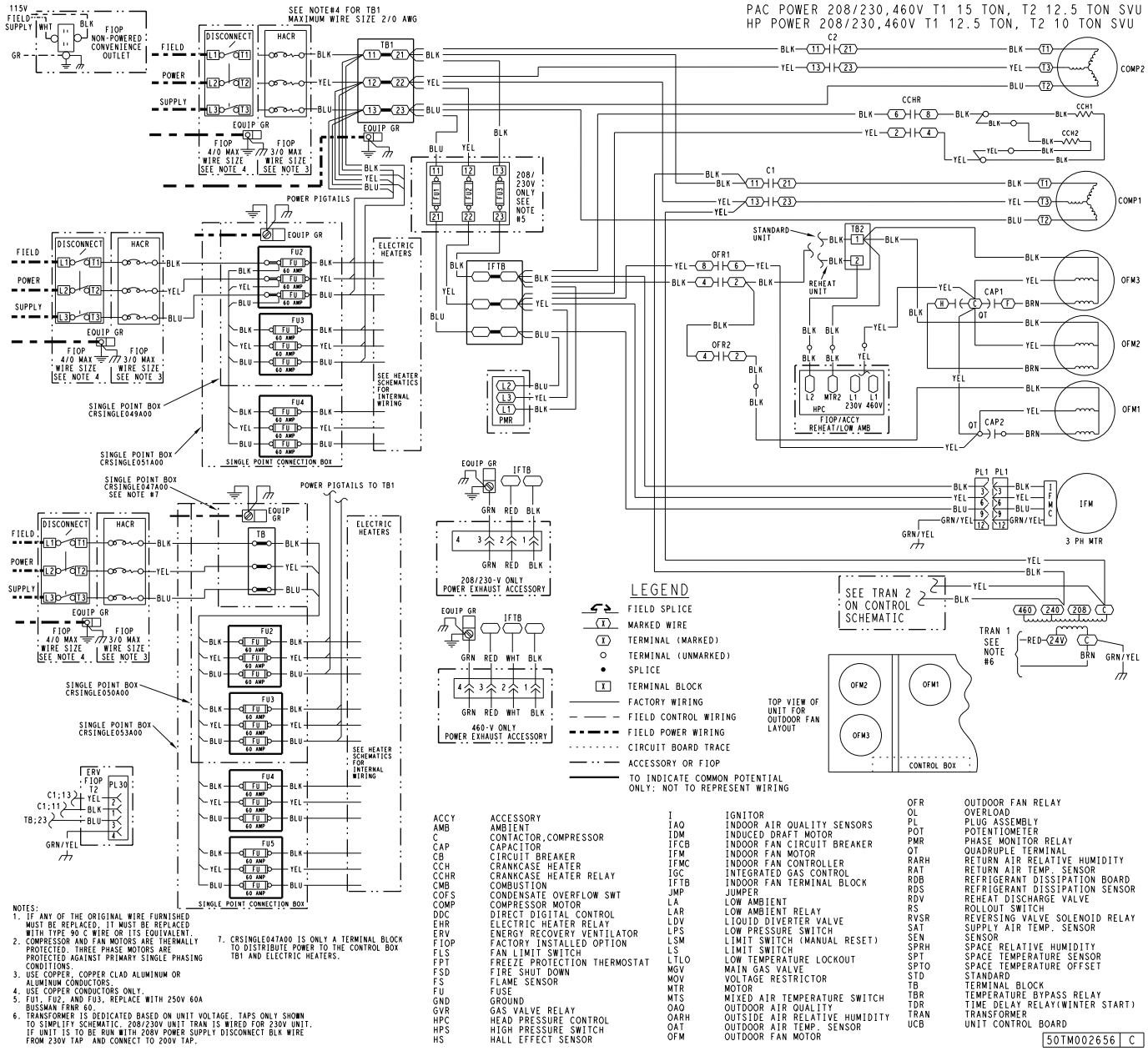
Typical wiring diagrams (cont)

Typical Power Wiring Diagram — 50GE 14 575-3-60 Unit with SystemVu™ Controller



NOTES:
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3. USE COPPER, COPPER CLAD ALUMINUM OR ALUMINUM CONDUCTORS.
4. USE COPPER CONDUCTORS ONLY.
5. FU1, FU2, AND FU3, REPLACE WITH 250V 60A BUSSMAN FRNR 60.
6. TRANSFORMER IS DEDICATED BASED ON UNIT VOLTAGE. TAPS ONLY SHOWN TO SIMPLIFY SCHEMATIC. 208/230V UNIT TRAN IS WIRED FOR 230V UNIT. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY DISCONNECT BLK WIRE FROM 230V TAP AND CONNECT TO 200V TAP.
7. CRSINGLE047A00 IS ONLY A TERMINAL BLOCK TO DISTRIBUTE POWER TO THE CONTROL BOX TB1 AND ELECTRIC HEATERS.

ACCY	ACCESSORY
AMB	AMBIENT
C	CONTACTOR,COMPRESSOR
CAP	CAPACITOR
CB	CIRCUIT BREAKER
CCH	CRANKCASE HEATER
CCHR	CRANKCASE HEATER RELAY
CMB	COMBUSTION
COFS	CONDENSATE OVERFLOW SWT
COMP	COMPRESSOR MOTOR
DDC	DIRECT DIGITAL CONTROL
EHR	ELECTRIC HEATER RELAY
ERV	ENERGY RECOVERY VENTILATOR
FIOP	FACTORY INSTALLED OPTION
FLS	FAN LIMIT SWITCH
FPT	FREEZE PROTECTION THERMOSTAT
FSD	FIRE SHUT DOWN
FS	FLAME SENSOR
FU	FUSE
GND	GROUND
GVR	GAS VALVE RELAY
HPC	HEAD PRESSURE CONTROL
HPS	HIGH PRESSURE SWITCH
HS	HALL EFFECT SENSOR
I	IGNITOR
IAQ	INDOOR AIR QUALITY SENSORS
IDM	INDUCED DRAFT MOTOR
IFCB	INDOOR FAN CIRCUIT BREAKER
IFM	INDOOR FAN MOTOR
IFMC	INDOOR FAN CONTROLLER
IGC	INTEGRATED GAS CONTROL
IFTB	INDOOR FAN TERMINAL BLOCK
JMP	JUMPER
LA	LOW AMBIENT
LAR	LOW AMBIENT RELAY
LDV	LIQUID DIVERTER VALVE
LPS	LOW PRESSURE SWITCH
LSM	LIMIT SWITCH (MANUAL RESET)
LS	LIMIT SWITCH
LTLO	LOW TEMPERATURE LOCKOUT
MGV	MAIN GAS VALVE
MOV	VOLTAGE RESTRICTOR
MTR	MOTOR
MTS	MIXED AIR TEMPERATURE SWITCH
OAQ	OUTDOOR AIR QUALITY
OARH	OUTSIDE AIR RELATIVE HUMIDITY
OAT	OUTDOOR AIR TEMP. SENSOR
OFM	OUTDOOR FAN MOTOR
OFR	OUTDOOR FAN RELAY
OL	OVERLOAD
PL	PLUG ASSEMBLY
POT	POTENTIOMETER
PMR	PHASE MONITOR RELAY
QT	QUADRUPLE TERMINAL
RARH	RETURN AIR RELATIVE HUMIDITY
RAT	RETURN AIR TEMP. SENSOR
RDB	REFRIGERANT DISSIPATION BOARD
RDS	REFRIGERANT DISSIPATION SENSOR
RDV	REHEAT DISCHARGE VALVE
RS	ROLLOUT SWITCH
RVSR	REVERSING VALVE SOLENOID RELAY
SAT	SUPPLY AIR TEMP. SENSOR
SEN	SENSOR
SPRH	SPACE RELATIVE HUMIDITY
SPT	SPACE TEMPERATURE SENSOR
SPTO	SPACE TEMPERATURE OFFSET
STD	STANDARD
TB	TERMINAL BLOCK
TBR	TEMPERATURE BYPASS RELAY
TDR	TIME DELAY RELAY(WINTER START)
TRAN	TRANSFORMER
UCB	UNIT CONTROL BOARD

50TM002656 C

Sequence of operation

General

The sequence below describes the sequence of operation for an electromechanical unit with and without a factory-installed EconomizerONE (POL224 controller). For information regarding a direct digital controller, see the start-up, operations, and troubleshooting manual for the applicable controller.

Dissipation

When the factory-installed dissipation system detects a level of refrigerant leak in the unit, a safety dissipation mode will be activated. During this dissipation mode, the thermostat will be disabled and the indoor fan will run at 66% of the maximum speed of the motor. When the refrigerant leak levels are normal for 5 minutes, the unit will return to normal operation.

Electromechanical units without economizer

Cooling (2-stage units)

When the thermostat calls for cooling, terminals G and Y1 are energized. The indoor fan will run at the low fan speed and the C1 compressor contactor (CC) is energized, causing the compressor and outdoor fan to run. The low indoor fan speed is 50% or 60% of the user-set fan speed, depending on unit size.

If additional cooling is needed, then the thermostat will add the call for Y2. This will increase the indoor fan speed to the user-set fan speed and energize the C2 contactor and second compressor for full compressor capacity. The outdoor fan is the same speed for Y1 and Y2.

When the thermostat removes the call for Y2 but leaves the Y1, the indoor fan will slow to the reduced percentage of the user-set fan speed, the C2 contactor will de-energize, the second compressor will turn off, and the outdoor fan will remain on. When the thermostat removes the call for Y1, the compressor contactor will de-energize, shutting down the compressor and the outdoor fan. When the thermostat removes the call for G, the indoor fan will turn off after the specific unit fan off delay.

NOTE: Per ASHRAE 90.1-2019 and IECC-2018 standards, during the first stage cooling operation, the Unit Control Board (UCB) will adjust the fan motor speed to provide 50% or 60% of the total cfm established for the unit.

Gas heating (48GE units)

NOTE: WeatherMaster® units have 2 stages of gas heat.

When the thermostat calls for heating, power is sent to W on the Integrated Gas Controller (IGC) board. An LED (light-emitting diode) on the IGC board turns on and remains on during normal operation. A check is made to ensure that the roll-out switch and limit switch are closed. If the check was successful, then the induced-draft motor is energized, and when its speed is satisfactory, as proven by the flue gas pressure switch, the ignition activation period begins. The burners will ignite within 5 seconds. If the burners do not light, there is a 22 second delay before another 5 second attempt. This sequence is repeated for 15 minutes or until the burners light. If, after the 15 minutes, the burners still have not lit, heating is locked out. To reset the control, break 24-v power to the thermostat.

When ignition occurs, the IGC board will continue to monitor the condition of the roll-out switch, the limit switches, the flue gas pressure switch, and the flame sensor. Forty-five seconds after ignition occurs, assuming the unit is controlled through a room thermostat set for fan auto, the indoor-fan motor will energize (and the outdoor-air dampers will open to their minimum position). If, for some reason, the over-temperature limit opens prior to the start of the indoor fan blower, then the unit will shorten the 45 second delay to 5 seconds less than the time from initiation of heat to when the limit tripped. Gas will not be interrupted to the burners and heating will continue. Once the fan-on delay has been modified, it will not change back to 45 seconds until power is reset to the control. On units with 2 stages of heat, when additional heat is required, W2 closes and initiates power to the second stage of the main gas valve. When the thermostat is satisfied, W1 and W2 open and the gas valve closes, interrupting the flow of gas to the main burners. If the unit is controlled through a room thermostat set for fan auto, then the indoor-fan motor will continue to operate for an additional 45 seconds and then stop. A LED indicator is provided on the IGC to monitor operation.

Electric heating (50GE units)

NOTE: 50GE units are sold as cooling only. If electric heaters are required, use only factory-approved heaters. They will operate as follows.

Units have either 1 or 2 stages of electric heat. When the thermostat calls for heating, power is applied to G and the W1 terminals at the unit. The unit control will energize the indoor fan contactor and the first stage of electric heat. On units with 2-stage heating, when additional heating is required, the second stage of electric heat (if equipped) will be energized when power is applied at the W2 terminal on the unit.

IMPORTANT: The thermostat must be configured for Electric Heat so it will energize G with the W1 call.

Electromechanical units with factory-installed EconomizerONE

When free cooling is not available, the compressors will be controlled by the zone thermostat. When free cooling is available, the outdoor-air damper is modulated by the EconomizerONE control to provide a 50°F (10°C) to 55°F (13°C) mixed-air temperature into the zone. As the mixed air temperature fluctuates above 55°F (13°C) or below 50°F (10°C), dampers will be modulated (open or close) to bring the mixed-air temperature back within control. If mechanical cooling is utilized with free cooling, then the outdoor-air damper will maintain its current position at the time the compressor is started. If the increase in cooling capacity causes the mixed-air temperature to drop below 45°F (7°C), then the outdoor-air damper position will be decreased to the minimum position. If the mixed-air temperature continues to fall, the outdoor-air damper will close. Control returns to normal once the mixed-air temperature rises above 48°F (9°C). The power exhaust fans will be energized and de-energized, if installed, as the outdoor-air damper opens and closes.

If field-installed accessory CO_2 sensors are connected to the EconomizerONE control, then a demand controlled ventilation strategy will begin to operate. As the CO_2 level in the zone increases above the CO_2 setpoint (on the EconomizerONE controller), the minimum position of the damper will be increased proportionally until the Maximum Ventilation setting is reached. As the CO_2 level decreases

because of the increase in fresh air, the outdoor-air damper will follow the higher demand condition from either the DCV mode or from the free cooling mode. For EconomizerONE operation, there must be a thermostat call for the fan (G). If the unit is occupied and the fan is on, then the damper will operate at minimum position. Otherwise, the damper will be closed.

When the EconomizerONE control is in the occupied mode and a call for cooling exists (Y1 on the thermostat), the control will first check for indoor fan operation. If the fan is not on, then cooling will not be activated. If the fan is on, then the control will open the EconomizerONE damper to the minimum position.

On the initial power to the EconomizerONE control, it will take the damper up to 2-1/2 minutes before it begins to position itself. After the initial power-up, further changes in damper position can take up to 90 seconds to initiate. Damper movement from fully closed to fully open (or vice versa) will take between 1-1/2 and 2-1/2 minutes. If free cooling can be used, as determined from the appropriate changeover command (dry bulb, outdoor enthalpy, differential dry bulb, or differential enthalpy), then the control will modulate the dampers open and closed to maintain the mixed-air temperature setpoint at 50°F (10°C) to 55°F (13°C). If there is a further demand for cooling (cooling second stage — Y2 is energized), then the control will bring on compressor stage 1 to maintain the mixed-air temperature setpoint. The EconomizerONE damper will be open at maximum position.

NOTE: For 2-speed units, the EconomizerONE controller will adjust the damper position as the Indoor Fan Speed changes, per its configured values.

Heating

The sequence of operation for heating is the same as for an electromechanical unit without an economizer. The only difference is how the economizer acts. The economizer will stay at the Economizer Minimum Position while the evaporator fan is operating. The outdoor-air damper is closed when the indoor fan is not operating. Refer to the unit's service and maintenance manual for further details.

Optional Humidi-MiZer® dehumidification system

Units with the factory-installed Humidi-MiZer system option are capable of providing multiple modes of improved dehumidification as a variation of the normal cooling cycle. The Humidi-MiZer system option includes additional valves in the liquid line and discharge line of each refrigerant circuit, a small reheat condenser coil downstream of the evaporator, and variable-speed control of some or all outdoor fans. Operation of the revised refrigerant circuit for each mode is described below.

The Humidi-MiZer system provides 3 sub-modes of operation: Cool, Reheat1, and Reheat2.

Cool — provides a normal ratio of sensible and latent cooling effect from the evaporator coil.

Reheat1 — provides increased latent cooling while slightly reducing the sensible cooling effect.

Reheat2 — provides normal latent cooling but with null or minimum sensible cooling effect delivered to the space.

The Reheat1 and Reheat2 modes are available when the unit is not in a heating mode and when the low ambient lockout switch is closed.

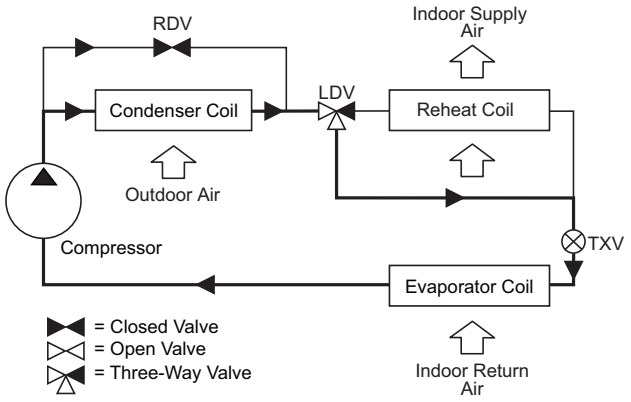
Refer to the figures on the next page for piping flow diagrams.

SystemVu™ controller (factory option)

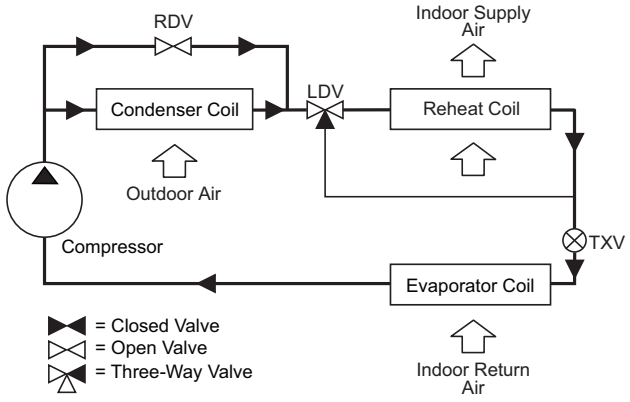
For details on operating 48/50GE units equipped with the factory-installed SystemVu controller option, refer to *GE/GE Series Single Package Rooftop Units with SystemVu Controller Controls, Start-Up, Operation and Troubleshooting* manual.

Sequence of operation (cont)

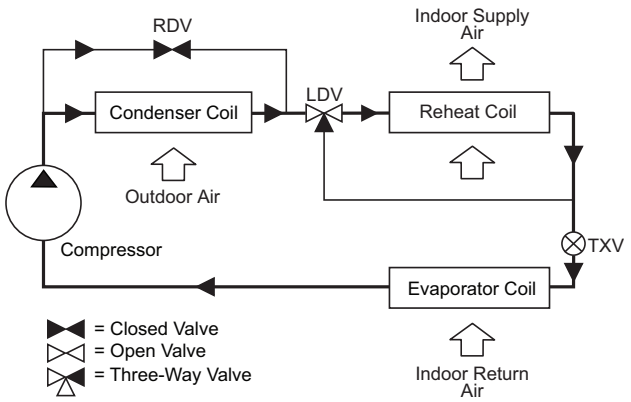
Normal Cooling Mode



Hot Gas Reheat Mode (Reheat2)



Subcooling Mode (Reheat1)



LEGEND

RDV — Reheat Discharge Valve
TWV — Three-Way Valve
TXV — Thermostatic Expansion Valve

Minimum operating ambient temperature (cooling)

In mechanical cooling mode, your Carrier rooftop unit can safely operate down to an outdoor ambient temperature of 40°F (4°C) [0°F (–18°C) for size 12 models]. It is possible to provide cooling at lower outdoor ambient temperatures by using less outside air, economizers, and/or accessory low ambient kits.

Maximum operating ambient temperature (cooling)

The maximum operating ambient temperature for cooling mode is 125°F (52°C). While cooling operation above 125°F (52°C) may be possible, it could cause reduced performance, reduced reliability, or a protective action by the unit's internal safety devices.

Multiple motor and drive packages

Some applications need larger horsepower motors, some need more airflow, and some need both. Regardless of the case, your Carrier expert has a factory installed combination to meet your application. A wide selection of motors are available, factory installed, to handle nearly any application.

Stainless steel heat exchanger (48GE units only)

For this option, the tubular heat exchanger is made out of a minimum 20 gauge type 409 stainless steel for applications where the mixed air to the heat exchanger is expected to drop below 45°F (7°C). Stainless steel may be specified on applications where the presence of airborne contaminants require its use (applications such as paper mills) or in area with very high outdoor humidity that may result in severe condensation in the heat exchanger during cooling operation.

Minimum mixed air temperature (heating) (48GE units only)

Using the factory settings, the minimum temperatures for mixed air (the combined temperature of the warm return air and the cold outdoor air) entering the dimpled gas heat exchangers are shown in the following table.

Minimum Temperature for Mixed Air Temperature

ALUMINIZED	STAINLESS STEEL
50°F (10°C) Continuous	40°F (4°C) Continuous
45°F (7°C) Intermittent	35°F (2°C) Intermittent

Operating at lower mixed-air temperatures may be possible if a field-supplied, outdoor-air thermostat initiates both heat stages when the temperature is less than the minimum temperatures listed above. Please contact your local Carrier representative for assistance.

Minimum and maximum airflow (heating and cooling)

To maintain safe and reliable operation of your rooftop, operate within the heating airflow limits during heating mode and cooling airflow limits during cooling mode. Operating above the maximum may cause blow-off, undesired airflow noise, or airflow-related problems with the rooftop unit. Operating below the minimum may cause problems with coil freeze-up and unsafe heating operation. Heating and cooling limitations differ when evaluating operating cfm. The minimum value is the HIGHER of the cooling and heating minimum cfm values published on page 8 and the maximum value is the LOWER of the cooling and heating maximum values published on page 8.

Heating-to-cooling changeover

Your unit will automatically change from heating to cooling mode when using a thermostat with an auto-changeover feature.

Airflow

All units are draw-through in cooling mode and blow-through in heating mode.

Outdoor air application strategies

Economizers reduce operating expenses and compressor run time by providing a free source of cooling and a means of ventilation to match changing needs. In fact, they should be considered for most applications. Also, consider the various economizer control methods and their benefits, as well as sensors required to accomplish your application goals. Please contact your local Carrier representative for assistance.

Motor limits, brake horsepower (bhp)

Due to the internal design of Carrier units, the air path, and specially designed motors, the full horsepower (maximum continuous bhp) band, as listed in the Fan Performance tables, can be used with the utmost confidence. There is no need for extra safety factors, as Carrier motors are designed and rigorously tested to use the entire listed bhp range without either nuisance tripping or premature motor failure.

Propane heating (48GE units only)

Propane has different physical qualities than natural gas. As a result, propane requires a different fuel to air mixture. To optimize the fuel/air mixture for propane, Carrier sells different burner orifices in an easy-to-install accessory kit. To select the correct burner orifices or determine the heat capacity for a propane application, use either the selection software or the unit's service manual.

High altitude heating

High altitudes have less oxygen, which affects the fuel/air mixture in heat exchangers. In order to maintain a proper fuel/air mixture, heat exchangers operating in altitudes above 2000 ft (610 m) require different orifices. To select the correct burner orifices or determine the heat capacity for a high altitude application, use either the selection software or the unit's service manual.

High altitudes have less oxygen, which means heat exchangers need less fuel. The new gas orifices in Carrier's field-installed kit make the necessary adjustment for high altitude applications. They restore the optimal fuel to air mixture and maintain healthy combustion at altitudes above 2000 ft (610 m).

NOTE: Typical natural gas heating value ranges from 975 to 1050 Btu/ft^3 at sea level nationally. The heating value goes down approximately 1.7% per every thousand feet of elevation. Standard factory orifices can typically be used up to 2000 ft (610 m) elevation without any operational issues.

Sizing a rooftop

Bigger is not necessarily better — while an air conditioner needs to have enough capacity to meet the design loads, it

does not need excess capacity. In fact, excess capacity typically results in very poor part load performance and humidity control.

Using higher design temperatures than ASHRAE recommends for your location and adding "safety factors" to the calculated load are both signs of oversizing. Oversizing an air conditioner leads to poor humidity control, reduced efficiency, higher utility bills, larger indoor temperature swings, excessive noise, and increased wear and tear on the air conditioner.

Rather than oversizing an air conditioner, engineers should "right-size" or even slightly "under-size" air conditioners. Correctly sizing an air conditioner controls humidity better, promotes efficiency, reduces utility bills, extends equipment life, and maintains even, comfortable temperatures. Please contact your local Carrier representative for assistance.

Low ambient applications

The optional Carrier economizer can adequately cool your space by bringing in fresh, cool outside air. In fact, when a unit is equipped with an economizer, accessory low-ambient kit may not be necessary. In low ambient conditions, unless the outdoor air is excessively humid or contaminated, economizer-based "free cooling" is the preferred, less costly, and energy-conscious method. In low ambient applications where outside air might not be desired (such as contaminated or excessively humid outdoor environments), your Carrier rooftop can operate to ambient temperatures down to 0°F (–18°C) using the recommended accessory low ambient controller.

Guide specifications — 48GE

Note about this specification:
This specification is in the "Masterformat" as published by the Construction Specification Institute. Please feel free to copy this specification directly into your building spec.

Puron ADVANCE™

Gas Heat/Electric Cooling Packaged Rooftop

HVAC Guide Specifications

Size Range: **6 to 12.5 Nominal Tons**
Carrier Model Number: **48GE**07-14**

Part 1 — (23 06 80) Schedules for Decentralized HVAC Equipment

1.01 (23 06 80.13) Decentralized Unitary HVAC Equipment Schedule

A. (23 06 80.13.A.) Rooftop Unit (RTU) Schedule:

1. Schedule is per the project specification requirements.

Part 2 — (23 07 16) HVAC Equipment Insulation

2.01 (23 07 16.13) Decentralized, Rooftop Units:

A. (23 07 16.13.A.) Evaporator Fan Compartment:

1. Interior cabinet surfaces shall be insulated with a minimum 1/2 in. thick, minimum 1-1/2 lb density, flexible fiberglass insulation bonded with a phenolic binder, neoprene coated on the air side.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

B. (23 07 16.13.B.) Gas Heat Compartment:

1. Aluminum foil-faced fiberglass insulation shall be used.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

Part 3 — (23 09 13) Instrumentation and Control Devices for HVAC

3.01 (23 09 13.23) Sensors and Transmitters

A. (23 09 13.23.A.) Thermostats:

1. Thermostat must:
   a. energize both "W" and "G" when calling for heat.
   b. have capability to energize 1 or 2 stages of cooling, and 2 different stages of heating.
   c. include capability for occupancy scheduling.

Part 4 — (23 09 23) Direct Digital Control system for HVAC

4.01 (23 09 23.13) Decentralized, Rooftop Units:

A. (23 09 23.13.A.) SystemVu™ intelligent integrated Direct Digital Control (DDC) shall provide:

1. Integrated unit operation for comfort cooling, heating ventilation as well as all monitoring, recording and reporting capabilities. Controller shall also provide diagnostics and alarms of abnormal unit operation through the controller. Controller shall have an intuitive user display and be able to be used in a standalone operation or via building automation system (BAS).
2. Quick Unit Status LEDs of: RUN — meaning all systems are go, ALERT — that indicates there is currently a non-critical issue with the unit, like filters need to be replaced and FAULT — that indicates the unit has a critical issue and will possibly shut down.
3. Six large navigation keys for easy access. Navigation keys shall consist of: TEST, BACK, ENTER, and MENU along with UP and DOWN arrows.
4. Full back lit user display with 4 line by 30 character text capabilities. Display menu shall be designed to provide guided major menus and sub menus main menus provided below:
   a. Shutdown Unit
   b. Run Status
   c. Settings
   d. Alerts/Faults
   e. Service
   f. Inputs
   g. Outputs
   h. USB
5. The capability for standalone operation with conventional thermostat/sensor or use with building automation systems (BAS) of Carrier i-Vu®, BACnet®[1] MS/PT and Carrier Comfort Network® (CCN) systems. No special modules or boards are required for these capabilities. Has the capability to work with Equipment Touch™ and System Touch™ devices and ZS Sensors.
6. The ability to read refrigerant pressures at display or via BAS network of Discharge Pressure and Suction Pressure. The need for traditional refrigerant gauges is not required.
7. USB Data Port for flash drive interaction. This will allow the transfer of data for uploads, downloads, perform software upgrades, back-up and restore data and file transfer data such as component number of starts and run hours.
8. Reverse Rotation Protection of compressors if field 3-phase wiring is misapplied.

1. Third-party trademarks and logos are the property of their respective owners.

9. Provide Service Capabilities of:
   a. Auto run test
   b. Manual run test
   c. Component run hours and starts
   d. Commissioning reports
   e. Data logging
   f. Alarm history
10. Economizer control and diagnostics. Set up economizer operation, receive feedback from actuator. Also meets the most recent California Title 24, ASHRAE®[1] 90.1 and IECC®[1] Fault Detection and Diagnostic (FDD) requirements.
11. Unit cooling operation down to 40°F (4°C).
12. Controller shall have easy access connections around the controller perimeter area and consist of Mate-N-Lok, terminal block and RJ style modular jack connections.
13. 365 day real time clock, 20 holiday schedules along with occupied and unoccupied scheduling.
14. Auto-Recognition for easy installation and commissioning of devices like economizers, space sensors etc.
15. A 5°F (3°C) temperature difference between cooling and heating setpoints to meet the latest ASHRAE 90.1 Energy Standard.
16. Return air sensor, supply air sensor and outdoor air sensor to help monitor and provide data for the unit comfort operation, diagnostic and alarms.
17. Use of Carrier's field accessory Equipment Touch and System Touch devices.
18. Units with the factory-installed Humidi-MiZer® system option are capable of providing multiple modes of improved dehumidification as a variation of the normal cooling cycle.
19. Supply Air Tempering control operates the gas or electric heat to maintain a minimum supply air temperature during conditions where very cold outdoor air causes the supply air temperature to fall below the configured Supply Air Tempering Setpoint. This occurs during periods where DCV is active and increasing the amount of outdoor air or in cases where the system is operating at very low airflow and the calculated economizer position has increased to maintain a constant ventilation rate.
20. Demand limiting in SystemVu™ is achieved through setpoint expansion. The systems heating and cooling setpoints are expanded in steps or levels. The degree to which the setpoints may be expanded is defined by the 6 demand level offsets and the 2 commanded demand limit levels.
21. 3-year limited part warranty.

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Part 5 — (23 09 33) Electric and Electronic Control System for HVAC

5.01 (23 09 33.13) Decentralized, Rooftop Units:

A. (23 09 33.13.A.) General:
   1. Shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side. Transformer shall have 75VA capability.
   2. Shall utilize color-coded wiring.
   3. Shall include a Unit Control Board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, gas controller, economizer, thermostat, DDC control options, and low and high pressure switches. Controller shall also provide an intuitive means to adjust the indoor fan speed through a simple switch and pot adjustment design.
   4. The heat exchanger shall be controlled by an integrated gas controller (IGC) microprocessor. See heat exchanger section of this specification.
   5. Unit shall include a minimum of one 8-pin screw terminal connection board for connection of control wiring.

B. (23 09 33.13.B.) Safeties:
   1. Compressor over-temperature, over-current. High internal pressure differential.
   2. Low Pressure Switch:

      Low pressure switch shall use different color wire than the high pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
   3. High Pressure Switch:

      High pressure switch shall use different color wire than the low pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
   4. Mixed Air Auto Reset Temperature Switch:
      a. All cooling units contain a low return air (or mixed air - depending on unit configuration) temperature switch for compressor protection. The switch prevents compressor operation at mixed air temperatures below 60°F (15°C) to ensure long term reliability but allows continued fan and economizer operation (if in-stalled). The switch will automatically reset when the return/mixed air temperature warms above 65°F (18°C) and will allow compressor operation to continue.
   5. Automatic reset, motor thermal overload protector.
   6. Heating section shall be provided with the following minimum protections:
      a. High temperature limit switches.
      b. Induced draft motor pressure switch.

c. Flame rollout switch.
d. Flame proving controls.

7. A2L Refrigerant Leak Dissipation System (Electromechanical):
   a. Leak dissipation system shall consist of control board and A2L sensor certified to UL-60335-2-40.
   b. System shall be designed for the life of the unit.
   c. Dissipation system shall be automatic, ship pre-wired, and require no additional field connections to thermostat to function.
   d. Refrigerant leak sensor shall be installed in UL-certified location and orientation. Sensor shall be self-correcting and resettable. Single use refrigerant leak sensor shall not be permitted.
   e. Factory-installed dissipation controller shall use onboard microprocessor and include:
      1) Automatic reset after a dissipation event has occurred.
      2) Onboard LED with flash code to indicate current unit status and hardware failures.
      3) Depressible "Test" button to allow for a system test and recall/reset of leak detection history.
      4) 24-v dry contact alarm terminal to allow for external notification of leak detection.
   f. Dissipation control board shall be accessible via normal maintenance locations and LED shall be visible.
   g. Dissipation system shall "Fail Safe" per UL requirements.
   h. Dissipation shall allow smoke and building fire systems to override in case of event.
8. A2L Refrigerant Leak Dissipation System (SystemVu):
   a. Leak dissipation system shall consist of control board and A2L sensor certified to UL-60335-2-40, integrated with SystemVu controller.
   b. System shall be designed for the life of the unit.
   c. Dissipation system shall be automatic, ship pre-wired, and require no additional field connections to function.
   d. Refrigerant leak sensor shall be installed in UL-certified location and orientation. Sensor shall be self-correcting and resettable. Single use refrigerant leak sensor shall not be permitted.
   e. Factory-installed dissipation system shall use onboard microprocessor and include:
      1) Automatic leak detection and dissipation algorithm.
      2) Automatic reset after a dissipation event has occurred.
      3) Onboard LED with flash code to indicate current unit status and hardware failures.
      4) Depressible "Test" button to allow for a system test and recall/reset of leak detection history.
      5) 24-v dry contact alarm terminal on dissipation control board to allow for external notification of leak detection.
      6) Ability to notify BAS system of dissipation event via readable alarm point through SystemVu.
      7) Recallable dissipation alarm history on SystemVu controller.
   f. Dissipation control board shall be accessible via normal maintenance locations and LED shall be visible.
   g. Dissipation system shall "Fail Safe" per UL requirements.
   h. Dissipation shall allow smoke and building fire systems to override in case of event.

Part 6 — (23 09 93) Sequence of Operations for HVAC Controls

6.01 (23 09 93.13) Decentralized, Rooftop Units:
   A. (23 09 93.13.A.) INSERT SEQUENCE OF OPERATION

Part 7 — (23 40 13) Panel Air Filters

7.01 (23 40 13.13) Decentralized, Rooftop Units:
   A. (23 40 13.13.A.) Standard Filter Section:
      1. Shall consist of factory installed, low velocity, disposable 2 in. thick fiberglass filters of commercially available sizes.
      2. Unit shall use only one filter size. Multiple sizes are not acceptable.
      3. Filters shall be accessible through an access panel with "no-tool" removal as described in the unit cabinet section of this specification (23 81 19.13.G).

Part 8 — (23 81 19) Self-Contained Air Conditioners

8.01 (23 81 19.13) Small-Capacity Self-Contained Air Conditioners:
   A. (23 81 19.13.A.) General:
      1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing a fully hermetic scroll compressors for cooling duty and gas combustion for heating duty.
      2. Factory assembled, single-piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.
      3. Unit shall use Puron Advance™ (R-454B) refrigerant.
      4. Unit shall be installed in accordance with the manufacturer's instructions.

5. Unit must be selected and installed in compliance with local, state, and federal codes.

B. (23 81 19.13.B.) Quality Assurance:
1. Unit meets DOE and ASHRAE 90.1 minimum efficiency requirements.
2. Unit shall be rated in accordance with AHRI Standards 340/360.
3. Unit shall be designed to conform to ASHRAE 15.
4. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
5. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
6. Unit casing shall be capable of withstanding 500 hour salt spray exposure per ASTM B117 (scribed specimen).
7. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered by ISO 9001:2015.
8. Roof curb shall be designed to conform to NRCA Standards.
9. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
10. Unit shall be designed in accordance with UL Standard 60335-1 and 60335-2-40, including testing to withstand rain. Unit shall be IPX4 rated.
11. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
12. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.

C. (23 81 19.13.C.) Delivery, Storage, and Handling:
1. Unit shall be stored and handled per manufacturer's recommendations.
2. Lifted by crane requires either shipping top panel or spreader bars.
3. Unit shall only be stored or positioned in the upright position.

D. (23 81 19.13.D.) Project Conditions:
1. As specified in the contract.

E. (23 81 19.13.E.) Operating Characteristics:
1. Unit shall be capable of starting and running at 115°F (46°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 340/360 at ±10% voltage.
2. Compressor with standard controls shall be capable of operation down to 40°F (4°C) ambient outdoor temperatures. Accessory winter start kit is necessary if mechanically cooling at ambient temperatures down to 25°F (–4°C).
3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
4. Unit shall be factory configured for vertical supply and return configurations.
5. Unit shall be field convertible from vertical to horizontal airflow on all models. No special kit required except on 14 size models that require a Supply Duct Kit field installed for horizontal air flow.
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

F. (23 81 19.13.F.) Electrical Requirements:
1. Main power supply voltage, phase, and frequency must match those required by the manufacturer.

G. (23 81 19.13.G.) Unit Cabinet:
1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a prepainted baked enamel finish on all externally exposed surfaces.
2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 inches minimum, gloss (per ASTM D523, 60°F/16°C): 60, Hardness: H-2H Pencil hardness.
3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2 in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the heat compartment.
4. Base of unit shall have a minimum of 4 locations for thru-the-base gas and electrical connections (factory-installed or field-installed), standard.
5. Base Rail:
   a. Unit shall have base rails on a minimum of 2 sides.
   b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
   c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
   d. Base rail shall be a minimum of 16 gauge thickness.
6. Condensate Pan and Connections:
   a. Shall be a sloped condensate drain pan made of a corrosion resistant material.
   b. Shall comply with ASHRAE Standard 62.
   c. Shall use a 3/4 in. 14 NPT drain connection, possible either through the bottom or side of the drain pan. Connection shall be made per manufacturer's recommendations.

7. Top Panel:
   a. Shall be a single piece top panel on 06-12 models and 2 piece on 14 size models.
8. Gas Connections:
   a. All gas piping connecting to unit gas valve shall enter the unit cabinet at a single location on side of unit (horizontal plane).
   b. Thru-the-Base Capability:
      1) Standard unit shall have a thru-the-base gas-line location using a raised, embossed portion of the unit basepan.
      2) Optional, factory approved, water-tight connection method must be used for thru-the-base gas connections.
      3) No basepan penetration, other than those authorized by the manufacturer, is permitted.
9. Electrical Connections:
   a. All unit power wiring shall enter unit cabinet at a single, factory prepared, knockout location.
   b. Thru-the-Base Capability:
      1) Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
      2) Optional, factory approved, water-tight connection method must be used for thru-the-base electrical connections.
      3) No basepan penetration, other than those authorized by the manufacturer, is permitted.
10. Component Access Panels (standard):
   a. Cabinet panels shall be easily removable for servicing.
   b. Unit shall have one factory installed, tool-less, removable, filter access panel.
   c. Panels covering control box, indoor fan, indoor fan motor, gas components (where applicable), and compressors shall have molded composite handles.
   d. Handles shall be UV modified, composite. They shall be permanently attached, and recessed into the panel.
   e. Screws on the vertical portion of all removable access panel shall engage into heat resistant, molded composite collars.
   f. Collars shall be removable and easily replaceable using manufacturer recommended parts.

H. (23 81 19.13.H.) Gas Heat:
1. General:
   a. Heat exchanger shall be an induced draft design. Positive pressure heat exchanger designs shall not be allowed.
   b. Shall incorporate a direct-spark ignition system and redundant main gas valve.
   c. Gas supply pressure at the inlet to the roof-top unit gas valve must match that required by the manufacturer.
2. The heat exchanger shall be controlled by an integrated gas controller (IGC) microprocessor.
   a. IGC board shall notify users of fault using an LED (light-emitting diode).
   b. The LED shall be visible without removing the control box access panel.
   c. IGC board shall contain algorithms that modify evaporator fan operation to prevent future cycling on high temperature limit switch.
   d. Unit shall be equipped with anti-cycle protection with one short cycle on unit flame rollout switch or 4 continuous short cycles on the high temperature limit switch. Fault indication shall be made using an LED.
3. Standard Heat Exchanger Construction:
   a. Heat exchanger shall be of the tubular-section type constructed of a minimum of 20-gauge steel coated with a nominal 1.2 mil aluminum-silicone alloy for corrosion resistance.
   b. Burners shall be of the in-shot type constructed of aluminum-coated steel.
   c. Burners shall incorporate orifices for rated heat output up to 2000 ft (610 m) elevation. Additional accessory kits may be required for applications above 2000 ft (610 m) elevation, depending on local gas supply conditions.
   d. Each heat exchanger tube shall contain multiple dimples for increased heating effectiveness.
4. Optional Stainless Steel Heat Exchanger Construction:
   a. Use energy saving, direct-spark ignition system.
   b. Use a redundant main gas valve.
   c. Burners shall be of the in-shot type constructed of aluminum-coated steel.
   d. All gas piping shall enter the unit cabinet at a single location on side of unit (horizontal plane).
   e. The optional stainless steel heat exchanger shall be of the tubular-section type, constructed of a minimum of 20-gauge type 409 stainless steel.
   f. Type 409 stainless steel shall be used in heat exchanger tubes and vestibule plate.
   g. Complete stainless steel heat exchanger allows for greater application flexibility.
5. Induced Draft Combustion Motor and Blower:
   a. Shall be a direct-drive, single inlet, forward-curved centrifugal type.

b. Shall be made from steel with a corrosion resistant finish.
c. Shall have permanently lubricated sealed bearings.
d. Shall have inherent thermal overload protection.
e. Shall have an automatic reset feature.

I. (23 81 19.13.I.) Coils:
1. Standard Aluminum Fin-Copper Tube Coils:
a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internal helically grooved copper tubes with all joints brazed.
b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to UL 60335-2-40 burst test at 1775 psig.
c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 60335-2-40 burst test at 1980 psig.
2. Optional Pre-coated Aluminum-Fin Condenser Coils:
a. Shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments.
b. 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.
c. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.
d. Corrosion durability of fin stock shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117.
e. Corrosion durability of fin stock shall be confirmed through testing to have no visible corrosion after 48 hour immersion in a room temperature solution of 5% salt, 1% acetic acid.
f. Fin stock coating shall pass 2000 hours of the following: one week exposure in the prohesion chamber followed by one week of accelerated ultraviolet light testing. Prohesion chamber: the solution shall contain 3.5% sodium chloride and 0.35% ammonium sulfate. The exposure cycle is one hour of salt fog application at ambient followed by one hour drying at 95°F (35°C).
3. Optional Copper-Fin Evaporator and Condenser Coils:
a. Shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets.
b. Galvanized steel tube sheets shall not be acceptable.
c. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.
4. Optional E-coated Aluminum-Fin Evaporator and Condenser Coils:
a. Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins.
b. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.
c. Color shall be high gloss black with gloss per ASTM D523.
d. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges.
e. Superior hardness characteristics of 2H per ASTM D3363 and cross-hatch adhesion of 4B-5B per ASTM D3359.
f. Impact resistance shall be up to 160 in. lb (ASTM D2794).
g. Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247 and ASTM D870).
h. Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117.

J. (23 81 19.13.J.) Refrigerant Components:
1. Refrigerant circuit shall include the following control, safety, and maintenance features:
a. Thermostatic Expansion Valve (TXV) shall help provide optimum performance across the entire operating range. Shall contain removable power element to allow change out of power element and bulb without removing the valve body.
b. Refrigerant filter drier, solid core design with pre and post-filter service gauge connections for filter diagnostics and maintenance.
c. Service gauge connections on suction and discharge lines.
d. Pressure gauge access through a specially designed access port in the top panel of the unit.
2. There shall be gauge line access port in the skin of the rooftop:
a. The gauge access port shall enable maintenance personnel to route their pressure gauge lines.
b. This gauge access port shall facilitate correct and accurate condenser pressure readings by enabling the reading with the compressor access panel on.

3. Compressors:
   a. Unit shall use tandem scroll compressor assembly on a single refrigeration circuit with two stages of cooling for efficient comfort cooling operation.
   b. Evaporator coils shall be a full active design to help better control latent removal and minimize unconditioned bypass air.
   c. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
   d. Compressors shall be internally protected from high discharge temperature conditions.
   e. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
   f. Compressor shall be factory-mounted on rubber grommets.
   g. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
   h. Crankcase heaters shall not be required for normal operating range, unless required by the manufacturer due to refrigerant charge limits.

K. (23 81 19.13.K.) Filter Section:
1. Filters access is specified in the unit cabinet section of this specification.
2. Filters shall be held in place by a pivoting filter tray, facilitating easy removal and installation.
3. Shall consist of factory installed, low velocity, throw-away 2 in. thick fiberglass filters.
4. Filters shall be standard, commercially available sizes.
5. Only one size filter per unit is allowed.

L. (23 81 19.13.L.) Evaporator Fan and Motor with EcoBlue™ Technology:
1. Direct Drive Evaporator Fan Motor:
   a. Shall be an ECM motor design.
   b. Shall be direct drive design for all static options.
   c. Shall have permanently lubricated bearings.
   d. Shall have inherent automatic-reset thermal overload protection.
   e. Shall have slow ramp up to speed capabilities.
   f. Shall require no fan/motor belts for operation, adjustments and or initial fan speed set up.
   g. Fan DC voltage set up on Unit Control Board shall eliminate the need of removal of blower access door, required on conventional belt drive systems.
   h. Shall be internally protected from electrical phase reversal.
2. Evaporator Fan:
   a. Speed shall be easily set with dedicated selection switch and adjustment pot on unit control board or through SystemVu™ controller.
   b. Shall provide 2 stage cooling capacity control, the indoor fan speed is automatically controlled to meet the code-compliant <66% low fan speed and 100% at full fan speed operation.
   c. Blower fan shall be a Vane Axial fan design with fan assembly secured directly to ECM motor. Additional shafts, belts, pulleys/sheaves, and bearing blocks to drive fan shall not be permitted or necessary.
   d. Additional variable frequency drive to control fan motor speed shall not be permitted or necessary. All speed control electronics must be onboard fan motor assembly.
   e. Shall be constructed of an aluminum stator or high impact composite material on stator, rotor and air inlet casing.
   f. Shall be a patented/pending design with a corrosion resistant material.
   g. Fan assembly design shall be integrated to fan deck, dynamically balanced, and require no additional vibration isolation for normal operation.
   h. Shall have slow ramp up to speed capabilities to help reduce sound and comfort issues typically associated with single speed belt drive systems.
   i. Shall be a slide out design with removal of a few support brackets.
3. Shall include an easily accessible Unit Control Board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, gas controller, economizer, thermostat, DDC control options, and low, high and mixed air temperature switches. Controller shall also provide an intuitive means to adjust the indoor fan speed through a simple switch and pot adjustment design.

M. (23 81 19.13.M.) Condenser Fans and Motors:
1. Condenser Fan Motors:
   a. Shall be a totally enclosed motor.
   b. Shall use permanently lubricated bearings.
   c. Shall have inherent thermal overload protection with an automatic reset feature.
   d. Shall use a shaft-down design on all sizes.
2. Condenser Fans:
   a. Shall be a direct-driven propeller type fan.
   b. Shall have galvalum blades riveted to steel spider that have corrosion-resistant properties and shall be dynamically balanced.

N. (23 81 19.13.N.) Special Features Options and Accessories:

1. Integrated EconomizerONE and EconoMi$er® 2 Low Leak Rate Models.
   a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
   b. Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory installed option.
   c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
   d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below set points.
   e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
   f. Low leak rate shall be equipped with dampers not to exceed 2% leakage at 1 in. wg pressure differential.
   g. Economizer controller on EconomizerONE models shall be Siemens POL224 that provides:
      1) Combined minimum and DCV maximum damper position potentiometers with compressor staging relay.
      2) Optional configuration via WLAN stick and Siemens Climatix™[1] smartphone app for easy setup.
      3) Functions with solid-state analog enthalpy or dry bulb changeover control sensing.
      4) LED indicators for free cooling, sensor, and damper operation.
      5) One-line LCD interface screen for setup, configuration, and troubleshooting.
      6) On-board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24, ASHRAE 90.1 and IECC.
      7) Sensor failure loss of communication identification.
      8) Capabilities for use with multiple-speed or single speed indoor fan systems.
      9) Digital sensors: dry bulb and enthalpy.
   h. Economizer controller on EconoMi$er 2 models with SystemVu™ controllers shall be a 4 to 20 mA design controlled directly by the controller. SystemVu controllers meet California Title 24, ASHRAE 90.1, and IECC Fault Detection and Diagnostic (FDD) requirements.
   i. Shall be capable of introducing up to 100% outdoor air.
   j. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1 requirements.
   k. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
   l. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory-installed economizers only. Outdoor air sensor setpoint shall be adjustable and shall range from 40°F to 100°F (4°C to 38°C). Additional sensor options shall be available as accessories.
   m. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.
   n. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
   o. Dampers shall be completely closed when the unit is in the unoccupied mode.
   p. Economizer controller shall accept a 0 to 10 vdc CO_2 sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
   q. Compressor lockout temperature on POL224 control is adjustable from –45°F to 80°F (–43°C to 26°C), set at a factory default of 32°F (0°C).
   r. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
   s. Contains LED indicators for free cooling, sensor, and damper operation.
2. Integrated EconoMi$er 2 and EconomizerONE Ultra Low Leak Rate Models.
   a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
   b. Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory installed option.
   c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
   d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below set points.

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e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.

f. Ultra Low Leak design meets California Title 24 section 140.4 and ASHRAE 90.1 requirements for 4 cfm per sq ft on the outside air dampers and 10 cfm per sq ft on the return dampers.

g. Economizer controller on EconomizerONE models shall be the Siemens POL224 that provides:

1) One-line LCD interface screen for setup, configuration and troubleshooting.

2) Optional configuration via WLAN stick and Siemens Climatix™ smartphone app for easy setup.

3) On-board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24, ASHRAE 90.1 and IECC.

4) Sensor failure loss of communication identification.

5) Capabilities for use with multiple-speed indoor fan systems.

6) Digital sensors: dry bulb and enthalpy.

h. Economizer controller on EconoMi$er® 2 models with SystemVu™ controllers shall be a 4 to 20 mA design controlled directly by the controller. SystemVu controllers meet California Title 24, ASHRAE 90.1, and IECC Fault Detection and Diagnostic (FDD) requirements.

i. Shall be capable of introducing up to 100% outdoor air.

j. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1 requirements.

k. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.

l. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory-installed economizers only. Outdoor air sensor setpoint shall be adjustable and shall range from 40°F to 100°F (4°C to 38°C). Additional sensor options shall be available as accessories.

m. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.

n. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.

o. Dampers shall be completely closed when the unit is in the unoccupied mode.

p. Economizer controller shall accept a 0 to 10 vdc CO_2 sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.

q. Compressor lockout temperature on POL224 control is adjustable from –45°F to 80°F (–43°C to 26°C), set at a factory default of 32°F (0°C).

r. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.

s. Contains LED indicators for free cooling, sensor, and damper operation.

3. Wi-Fi/WLAN stick for EconomizerONE POL224 (field-installed):

This item allows use of the Siemens Climatix™ mobile application.

4. Two-Position Damper (field-installed only):

a. Damper shall be a Two-Position Damper. Damper travel shall be from the full closed position to the field adjustable %-open setpoint.

b. Damper shall include adjustable damper travel from 25% to 100% (full open).

c. Damper shall include single or dual blade, gear driven dampers and actuator motor.

d. Actuator shall be direct coupled to damper gear. No linkage arms or control rods shall be acceptable.

e. Damper will admit up to 100% outdoor air for applicable rooftop units.

f. Damper shall close upon indoor (evaporator) fan shutoff and/or loss of power.

g. The damper actuator shall plug into the rooftop unit's wiring harness plug. No hard wiring shall be required.

h. Outside air hood shall include aluminum water entrainment filter.

5. Manual Damper (field-installed only):

a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 25 or 50% outdoor air for year round ventilation.

6. Humidi-MiZer® Adaptive Dehumidification System:

The Humidi-MiZer Adaptive Dehumidification System shall be factory installed and shall provide greater dehumidification of the occupied space by 2 modes of dehumidification operations in addition to its normal design cooling mode:

a. Subcooling mode further sub cools the hot liquid refrigerant leaving the condenser coil

when both temperature and humidity in the space are not satisfied.

b. Hot gas reheat mode shall mix a portion of the hot gas from the discharge of the compressor with the hot liquid refrigerant leaving the condenser coil to create a 2-phase heat transfer in the system, resulting in a neutral leaving air temperature when only humidity in the space is not satisfied.

c. Includes low ambient controller.

7. Low Ambient Control Package:
   a. Controller shall control coil head pressure by condenser fan speed modulation or condenser fan cycling and wind baffles.
   b. Shall consist of solid-state control and condenser coil temperature sensor to maintain condensing temperature between 90°F (32°C) and 110°F (43°C) at outdoor ambient temperatures down to –20°F (–29°C). For full low ambient control range, winter start kit is required.
8. Propane Gas Conversion Kit:
   a. Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit for use with liquefied propane, up to 2000 ft (610 m) elevation.
   b. Additional accessory kits may be required for applications above 2000 ft (610 m) elevation.
9. Flue Shield (07-12 sizes only):
   a. Flue shield shall provide protection from the hot sides of the gas flue hood.
10. Condenser Coil Hail Guard Assembly (Factory or field-installed):
    a. Shall protect against hail and additional coil damage.
    b. Shall be louvered type.
11. Unit-Mounted, Non-Fused Disconnect Switch:
    a. Available on units with factory equipped FLA of 80 amps or less.
    b. Switch shall be factory installed, internally mounted.
    c. National Electric Code (NEC) and UL approved non-fused switch shall provide unit power shutoff.
    d. Shall be accessible from outside the unit.
    e. Shall provide local shutdown and lockout capability.
    f. Sized only for the unit as ordered from the factory. Does not accommodate field-installed devices.
12. Convenience Outlet:
    a. Factory-Installed Powered Convenience Outlet:
       1) Outlet shall be powered from main line power to the rooftop unit.
       2) Outlet shall be powered from line side or load side of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be UL certified and rated for additional outlet amperage.
       3) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
       4) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
       5) Voltage required to operate convenience outlet shall be provided by a factory installed step-down transformer.
       6) Outlet shall be accessible from outside the unit.
       7) Outlet shall include a field installed “Wet in Use” cover.
    b. Factory-Installed Non-Powered Convenience Outlet:
       1) Outlet shall be powered from a separate 115/120-v power source.
       2) A transformer shall not be included.
       3) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
       4) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
       5) Outlet shall be accessible from outside the unit.
       6) Outlet shall include a field installed “Wet in Use” cover.
    c. Field-Installed Non-Powered Convenience Outlet:
       1) Outlet shall be powered from a separate 115/120v power source.
       2) A transformer shall not be included.
       3) Outlet shall be field-installed and internally mounted with easily accessible 115-v female receptacle.
       4) Outlet shall include 20 amp GFI receptacles. This kit provides a flexible installation method which allows code compliance for height requirements of the GFCI outlet from the finished roof surface as well as the capability to relocate the outlet to a more convenient location.
       5) Outlet shall be accessible from outside the unit.

6) Outlet shall include a field installed "Wet in Use" cover.

13. Flue Discharge Deflector:
    a. Flue discharge deflector shall direct unit exhaust vertically instead of horizontally.
    b. Deflector shall be defined as a "natural draft" device by the National Fuel and Gas (NFG) code.
14. Thru-the-Base Connectors:
    a. Kits shall provide connectors to permit gas and electrical connections to be brought to the unit through the unit basepan.
    b. Minimum of 4 connection locations per unit.
15. Supply Duct Cover (size 14 only):
    a. Required when field converting the factory standard vertical duct supply to horizontal duct supply configuration. One required per unit.
16. Propeller Power Exhaust:
    a. Power exhaust shall be used in conjunction with an integrated economizer.
    b. Independent modules for vertical or horizontal return configurations shall be available.
    c. Horizontal power exhaust shall be mounted in return ductwork.
    d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0 to 100% adjustable setpoint on the economizer control.
17. Roof Curbs (Vertical):
    a. Full perimeter roof curb with exhaust capability providing separate air streams for energy recovery from the exhaust air without supply air contamination.
    b. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
    c. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
18. High Altitude Gas Conversion Kit:

    Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit to operate from 2000 to 7000 ft (610 to 2134 m) elevation with natural gas or from 0 to 7000 ft (0 to 2134 m) elevation with liquefied propane.
19. Outdoor Air Enthalpy Sensor:

    The outdoor air enthalpy sensor shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the unit will provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.
20. Return Air Enthalpy Sensor:

    The return air enthalpy sensor shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
21. Indoor Air Quality (CO_2) Sensor:
    a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
    b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The setpoint shall have adjustment capability.
22. Smoke Detectors:
    a. Shall be a 4-Wire controller and detector.
    b. Shall be environmentally compensated with differential sensing for reliable, stable, and drift-free sensitivity.
    c. Shall use magnet-activated test/reset sensor switches.
    d. Shall have tool-less connection terminal access.
    e. Shall have a recessed momentary switch for testing and resetting the detector.
    f. Controller shall include:
        1) One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel.
        2) Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment.
        3) One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station.
        4) Capable of direct connection to 2 individual detector modules.
        5) Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.
23. Winter Start Kit:
    a. Shall contain a bypass device around the low pressure switch.
    b. Shall be required when mechanical cooling is required below 40°F (4°C).
    c. Shall not be required to operate an economizer for cooling when below an outdoor ambient of 40°F (4°C).
    d. Is not compatible with SystemVu controls.
24. Time Guard:
    a. Shall prevent compressor short-cycling by providing a 5-minute delay (±2 minutes) before restarting a compressor after shutdown for any reason.
    b. One device shall be required per compressor.

Guide specifications — 48GE (cont)

25. Disconnect Switch Bracket (size 14 only):

    Provides a pre-engineered and sized mounting bracket for applications requiring a unit mounted fused and non-fused disconnect of greater than 100 amps. Bracket assures that no damage will occur to coils when mounting with screws and other fasteners.

26. Hinged Access Panels:
    a. Shall provide easy access through integrated quarter turn latches.
    b. Shall be on major panels of: filter, control box, fan motor, and compressor.

27. Condensate Overflow Switch:

    This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. It includes:
    a. Indicator light — solid red (more than 10 seconds on water contact — compressors disabled), blinking red (sensor disconnected).
    b. 10 second delay to break — eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping).
    c. Disables the compressors operation when condensate plug is detected, but still allows fans to run for economizer.

28. 4 in. MERV-13 Return Air Filters (factory-installed only):
    a. Factory option to upgrade standard unit filters to 4 in. MERV-13 filters.
    b. Upgraded option shall include factory-installed 4 in. filter rack
    c. Shall not be compatible with horizontal units with field installed economizers.

29. 4 in. Return Air Rack (field-installed only):
    a. Accessory kit is designed to hold 4 in. MERV-8 or MERV-13 filters. Filters not included in kit.
    b. Shall not be compatible with horizontal units with field installed economizers.

30. 2 in. MERV-13 Return Air Filters:
    a. Accessory kit to field upgrade standard unit filters to 2 in. MERV-13 filters.
    b. Correct size and quantity of filters shall ship in a single box.

31. 2 in. MERV-8 Return Air Filters:
    a. Accessory kit to field upgrade standard unit filters to 2 in. MERV-8 filters.
    b. Correct size and quantity of filters shall ship in a single box.

32. Phase Monitor Control:
    a. Shall monitor the sequence of 3-phase electrical system to provide a phase reversal protection.
    b. Shall monitor the 3-phase voltage inputs to provide a phase loss protection for the 3-phase device.
    c. Will work on either a Delta or Wye power connection.

33. Horn/Strobe Annunciator:
    a. Provides an audible/visual signaling device for use with factory-installed option or field installed accessory smoke detectors.
    b. Requires installation of a field-supplied 24-v transformer suitable for 4.2 VA (AC) or 3.0 VA (DC) per horn/strobe accessory.
    c. Requires field-supplied electrical box, North American 1-gang box, 2 in. x 4 in. (51 mm x 102 mm).
    d. Shall have a clear colored lens.

34. High Short Circuit Current Rating (SCCR) Protection:
    a. Factory-installed option shall provide high short circuit current protection to compressor and all indoor and outdoor fan motors rated at 10 kA against high potential fault current situations. (Standard unit comes with 5 kA rating.)
    b. This option is not available with factory installed Humidi-MiZer system, powered convenience outlet, non-fused disconnect, low ambient controls, phase loss monitor/protection, and 575-v models.

Note about this specification:
This specification is in the "Masterformat" as published by the Construction Specification Institute. Please feel free to copy this specification directly into your building spec.

Puron ADVANCE™

Cooling Only/Electric Heat Packaged Rooftop

HVAC Guide Specifications

Size Range: **6 to 12.5 Nominal Tons**

Carrier Model Number: **50GE-*07-14**

Part 1 — (23 06 80) Schedules for Decentralized HVAC Equipment

1.01 (23 06 80.13) Decentralized Unitary HVAC Equipment Schedule:

A. (23 06 80.13.A.) Rooftop Unit (RTU) Schedule:

1. Schedule is per the project specification requirements.

Part 2 — (23 07 16) HVAC Equipment Insulation

2.01 (23 07 16.13) Decentralized, Rooftop Units:

A. (23 07 16.13.A.) Evaporator Fan Compartment:

1. Interior cabinet surfaces shall be insulated with a minimum 1/2 in. thick, minimum 1-1/2 lb density, flexible fiberglass insulation bonded with a phenolic binder, neoprene coated on the air side.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

B. (23 07 16.13.B.) Electric Heat Compartment:

1. Aluminum foil-faced fiberglass insulation shall be used.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

Part 3 — (23 09 13) Instrumentation and Control Devices for HVAC

3.01 (23 09 13.23) Sensors and Transmitters:

A. (23 09 13.23.A.) Thermostats:

1. Thermostat must:
   a. energize both "W" and "G" when calling for heat.
   b. have capability to energize 1 or 2 stages of cooling, and 2 different stages of heating.
   c. include capability for occupancy scheduling.

Part 4 — (23 09 23) Direct Digital Control System for HVAC

4.01 (23 09 23.13) Decentralized, Rooftop Units:

A. (23 09 23.13.A.) SystemVu™ intelligent integrated Direct Digital Control (DDC) shall provide:

1. Integrated unit operation for comfort cooling, heating ventilation as well as all monitoring, recording and reporting capabilities. Controller shall also provide diagnostics and alarms of abnormal unit operation through the controller. Controller shall have an intuitive user display and be able to be used in a standalone operation or via building automation system (BAS).
2. Quick Unit Status LEDs of: RUN — meaning all systems are go, ALERT — that indicates there is currently a non-critical issue with the unit, like filters need to be replaced and FAULT — that indicates the unit has a critical issue and will possibly shut down.
3. Six large navigation keys for easy access. Navigation keys shall consist of: TEST, BACK, ENTER, and MENU along with UP and DOWN arrows.
4. Full back lit user display with 4 line by 30 character text capabilities. Display menu shall be designed to provide guided major menus and sub menus main menus provided below:
   a. Shutdown Unit
   b. Run Status
   c. Settings
   d. Alerts/Faults
   e. Service
   f. Inputs
   g. Outputs
   h. USB
5. The capability for standalone operation with conventional thermostat/sensor or use with building automation systems (BAS) of Carrier i-Vu®, BACnet®[1] MS/PT and Carrier Comfort Network® (CCN) systems. No special modules or boards are required for these capabilities. Has the capability to work with Equipment Touch™ and System Touch™ devices and ZS Sensors.
6. The ability to read refrigerant pressures at display or via BAS network of; Discharge Pressure and Suction Pressure. The need for traditional refrigerant gauges is not required.
7. USB Data Port for flash drive interaction. This will allow the transfer of data for uploads, downloads, perform software upgrades, back-up and restore data and file transfer data such as component number of starts and run hours.

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8. Reverse Rotation Protection of compressors if field 3-phase wiring is misapplied.
9. Provide Service Capabilities of:
   a. Auto run test
   b. Manual run test
   c. Component run hours and starts
   d. Commissioning reports
   e. Data logging
   f. Alarm history
10. Economizer control and diagnostics. Set up economizer operation, receive feedback from actuator. Also meets the most recent California Title 24, ASHRAE®[1] 90.1 and IECC®[1] Fault Detection and Diagnostic (FDD) requirements.
11. Unit cooling operation down to 40°F (4°C).
12. Controller shall have easy access connections around the controller perimeter area and consist of Mate-N-Lok, terminal block and RJ style modular jack connections.
13. 365 day real time clock, 20 holiday schedules along with occupied and unoccupied scheduling.
14. Auto-Recognition for easy installation and commissioning of devices like economizers, space sensors, etc.
15. A 5°F (3°C) temperature difference between cooling and heating setpoints to meet the latest ASHRAE 90.1 Energy Standard.
16. Return air sensor, supply air sensor and outdoor air sensor to help monitor and provide data for the unit comfort operation, diagnostic and alarms.
17. Use of Carrier's field accessory Equipment Touch and System Touch devices.
18. Units with the factory-installed Humidi-MiZer® system option are capable of providing multiple modes of improved dehumidification as a variation of the normal cooling cycle.
19. Supply Air Tempering control operates the gas or electric heat to maintain a minimum supply air temperature during conditions where very cold outdoor air causes the supply air temperature to fall below the configured Supply Air Tempering Setpoint. This occurs during periods where DCV is active and increasing the amount of outdoor air or in cases where the system is operating at very low airflow and the calculated economizer position has increased to maintain a constant ventilation rate.
20. Demand limiting in SystemVu™ is achieved through setpoint expansion. The systems heating and cooling setpoints are expanded in steps or levels. The degree to which the setpoints may be expanded is defined by the 6 demand level offsets and the 2 commanded demand limit levels.
21. 3-year limited part warranty.

Part 5 — (23 09 33) Electric and Electronic Control System for HVAC

5.01 (23 09 33.13) Decentralized, Rooftop Units:

A. (23 09 33.13.A.) General:
   1. Shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side. Transformer shall have 75VA capability.
   2. Shall utilize color-coded wiring.
   3. Shall include a Unit Control Board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, economizer, thermostat, DDC control options, and low and high pressure switches. Controller shall also provide an intuitive means to adjust the indoor fan speed through a simple switch and pot adjustment design.
   4. Unit shall include a minimum of one 8-pin screw terminal connection board for connection of control wiring.

B. (23 09 33.13.B.) Safeties:
   1. Compressor over-temperature, over-current. High internal pressure differential.
   2. Low Pressure Switch:

      Low pressure switch shall use different color wire than the high pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
   3. High Pressure Switch:

      High pressure switch shall use different color wire than the low pressure switch. The purpose is to assist the installer and service technician to correctly wire and or troubleshoot the rooftop unit.
   4. Mixed Air Auto Reset Temperature Switch:

      All cooling units contain a low return air (or mixed air - depending on unit configuration) temperature switch for compressor protection. The switch prevents compressor operation at mixed air temperatures below 60°F (15°C) to ensure long term reliability but allows continued fan and economizer operation (if in-stalled). The switch will automatically reset when the return/mixed air temperature warms above 65°F (18°C) and will allow compressor operation to continue.
   5. Heating section shall be provided with the following minimum protections:

      a. High temperature limit switches.

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6. A2L Refrigerant Leak Dissipation System (Electromechanical):
   a. Leak dissipation system shall consist of control board and A2L sensor certified to UL 60335-2-40.
   b. System shall be designed for the life of the unit.
   c. Dissipation system shall be automatic, ship pre-wired, and require no additional field connections to thermostat to function.
   d. Refrigerant leak sensor shall be installed in UL-certified location and orientation. Sensor shall be self-correcting and resettable. Single use refrigerant leak sensor shall not be permitted.
   e. Factory-installed dissipation controller shall use onboard microprocessor and include:
      1) Automatic reset after a dissipation event has occurred.
      2) Onboard LED with flash code to indicate current unit status and hardware failures.
      3) Depressible "Test" button to allow for a system test and recall/reset of leak detection history.
      4) 24-v dry contact alarm terminal to allow for external notification of leak detection.
   f. Dissipation control board shall be accessible via normal maintenance locations and LED shall be visible.
   g. Dissipation system shall "Fail Safe" per UL requirements.
   h. Dissipation shall allow smoke and building fire systems to override in case of event.
7. A2L Refrigerant Leak Dissipation System (SystemVu):
   a. Leak dissipation system shall consist of control board and A2L sensor certified to UL 60335-2-40, integrated with SystemVu controller.
   b. System shall be designed for the life of the unit.
   c. Dissipation system shall be automatic, ship pre-wired, and require no additional field connections to function.
   d. Refrigerant leak sensor shall be installed in UL-certified location and orientation. Sensor shall be self-correcting and resettable. Single use refrigerant leak sensor shall not be permitted.
   e. Factory-installed dissipation system shall use onboard microprocessor and include:
      1) Automatic leak detection and dissipation algorithm.
      2) Automatic reset after a dissipation event has occurred.
      3) Onboard LED with flash code to indicate current unit status and hardware failures.
      4) Depressible "Test" button to allow for a system test and recall/reset of leak detection history.
      5) 24-v dry contact alarm terminal on dissipation control board to allow for external notification of leak detection.
      6) Ability to notify BAS system of dissipation event via readable alarm point through SystemVu.
      7) Recallable dissipation alarm history on SystemVu controller.
   f. Dissipation control board shall be accessible via normal maintenance locations and LED shall be visible.
   g. Dissipation system shall "Fail Safe" per UL requirements.
8. Dissipation shall allow smoke and building fire systems to override in case of event.

Part 6 — (23 09 93) Sequence of Operations for HVAC Controls

6.01 (23 09 93.13) Decentralized, Rooftop Units:

A. (23 09 93.13.A.) INSERT SEQUENCE OF OPERATION

Part 7 — (23 40 13) Panel Air Filters

7.01 (23 40 13.13) Decentralized, Rooftop Units:

A. (23 40 13.13.A.) Standard Filter Section:
   1. Shall consist of factory installed, low velocity, disposable 2 in. thick fiberglass filters of commercially available sizes.
   2. Unit shall use only one filter size. Multiple sizes are not acceptable.
   3. Filters shall be accessible through an access panel with "no-tool" removal as described in the unit cabinet section of this specification (23 81 19.13.G).

Part 8 — (23 81 19) Self-Contained Air Conditioners

8.01 (23 81 19.13) Small-Capacity Self-Contained Air Conditioners:

A. (23 81 19.13.A.) General:
   1. Outdoor, rooftop mounted, electrically controlled, heating and cooling unit utilizing fully hermetic scroll compressors for cooling duty.
   2. Factory assembled, single-piece heating and cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.
   3. Unit shall use Puron Advance™ (R-454B) refrigerant.
   4. Unit shall be installed in accordance with the manufacturer's instructions.
   5. Unit must be selected and installed in compliance with local, state, and federal codes.

B. (23 81 19.13.B.) Quality Assurance:
   1. Unit meets DOE and ASHRAE 90.1 minimum efficiency requirements.
   2. Unit shall be rated in accordance with AHRI Standards 340/360.
   3. Unit shall be designed to conform to ASHRAE 15.
   4. Unit shall be UL-tested and certified in accordance with ANSI Z21.47 Standards and UL-listed and certified under Canadian standards as a total package for safety requirements.
   5. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
   6. Unit casing shall be capable of withstanding 500 hour salt spray exposure per ASTM B117 (scribed specimen).
   7. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered by ISO 9001:2015.
   8. Roof curb shall be designed to conform to NRCA Standards.
   9. Unit shall be subjected to a completely automated run test on the assembly line. The data for each unit will be stored at the factory, and must be available upon request.
   10. Unit shall be designed in accordance with UL Standard 60335-1 and 60335-2-40, including tested to withstand rain. Unit shall be IPX4 rated.
   11. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
   12. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.

C. (23 81 19.13.C.) Delivery, Storage, and Handling:
   1. Unit shall be stored and handled per manufacturer's recommendations.
   2. Lifted by crane requires either shipping top panel or spreader bars.
   3. Unit shall only be stored or positioned in the upright position.

D. (23 81 19.13.D.) Project Conditions:
   1. As specified in the contract.

E. (23 81 19.13.E.) Operating Characteristics:
   1. Unit shall be capable of starting and running at 115°F (46°C) ambient outdoor temperature, meeting maximum load criteria of AHRI Standard 340/360 at ±10% voltage.
   2. Compressor with standard controls shall be capable of operation down to 40°F (4°C) ambient outdoor temperatures.
   3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
   4. Unit shall be factory configured for vertical supply and return configurations.
   5. Unit shall be field convertible from vertical to horizontal airflow on all models. No special kit required except on 16 size models that requires a Supply Duct Kit field installation for horizontal air flow.
   6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

F. (23 81 19.13.F.) Electrical Requirements:
   1. Main power supply voltage, phase, and frequency must match those required by the manufacturer.

G. (23 81 19.13.G.) Unit Cabinet:
   1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a prepainted baked enamel finish on all externally exposed surfaces.
   2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 in. minimum, gloss (per ASTM D523, 60°F/16°C): 60, Hardness: H-2H Pencil hardness.
   3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2 in. thick, 1 lb density, flexible fiberglass insulation, neoprene coated on the air side. Aluminum foil-faced fiberglass insulation shall be used in the heat compartment.
   4. Base of unit shall have a minimum of 4 locations for thru-the-base gas and electrical connections (factory-installed or field-installed), standard.
   5. Base Rail:
      a. Unit shall have base rails on a minimum of 2 sides.
      b. Holes shall be provided in the base rails for rigging shackles to facilitate maneuvering and overhead rigging.
      c. Holes shall be provided in the base rail for moving the rooftop by fork truck.
      d. Base rail shall be a minimum of 16 gauge thickness.
   6. Condensate Pan and Connections:
      a. Shall be a sloped condensate drain pan made of a corrosion resistant material.
      b. Shall comply with ASHRAE Standard 62.
      c. Shall use a 3/4 in. 14 NPT drain connection, possible either through the bottom or side of the drain pan. Connection shall be made per manufacturer's recommendations.
   7. Top Panel:
      a. Shall be a single piece top panel on 07-12 models and 2 piece on 14 size models.

8. Electrical Connections:
   a. All unit power wiring shall enter unit cabinet at a single, factory prepared, knockout location.
   b. Thru-the-Base Capability:
      1) Standard unit shall have a thru-the-base electrical location(s) using a raised, embossed portion of the unit basepan.
      2) Optional, factory approved, water-tight connection method must be used for thru-the-base electrical connections.
      3) No basepan penetration, other than those authorized by the manufacturer, is permitted.
9. Component Access Panels (standard):
   a. Cabinet panels shall be easily removable for servicing.
   b. Unit shall have one factory installed, tool-less, removable, filter access panel.
   c. Panels covering control box, indoor fan, indoor fan motor, gas components (where applicable), and compressors shall have molded composite handles.
   d. Handles shall be UV modified, composite. They shall be permanently attached, and recessed into the panel.
   e. Screws on the vertical portion of all removable access panel shall engage into heat resistant, molded composite collars.
   f. Collars shall be removable and easily replaceable using manufacturer recommended parts.

H. (23 81 19.13.H.) Coils:
1. Standard Aluminum Fin-Copper Tube Coils:
   a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internal helical grooved copper tubes with all joints brazed.
   b. Evaporator coils shall be leak tested to 150 psig, pressure tested to 450 psig, and qualified to UL 60335-2-40 burst test at 1775 psig.
   c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 60335-2-40 burst test at 1980 psig.
2. Optional Pre-coated Aluminum-Fin Condenser Coils:
   a. Shall have a durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments.
   b. 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.
   c. Epoxy-phenolic barrier shall minimize galvanic action between dissimilar metals.
   d. Corrosion durability of fin stock shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117.
   e. Corrosion durability of fin stock shall be confirmed through testing to have no visible corrosion after 48 hour immersion in a room temperature solution of 5% salt, 1% acetic acid.
   f. Fin stock coating shall pass 2000 hours of the following: one week exposure in the prohesion chamber followed by one week of accelerated ultraviolet light testing. Prohesion chamber: the solution shall contain 3.5% sodium chloride and 0.35% ammonium sulfate. The exposure cycle is one hour of salt fog application at ambient followed by one hour drying at 95°F (35°C).
3. Optional Copper-Fin Evaporator and Condenser Coils:
   a. Shall be constructed of copper fins mechanically bonded to copper tubes and copper tube sheets.
   b. Galvanized steel tube sheets shall not be acceptable.
   c. A polymer strip shall prevent coil assembly from contacting the sheet metal coil pan to minimize potential for galvanic corrosion between coil and pan.
4. Optional E-coated Aluminum-Fin Evaporator and Condenser Coils:
   a. Shall have a flexible epoxy polymer coating uniformly applied to all coil surface areas without material bridging between fins.
   b. Coating process shall ensure complete coil encapsulation of tubes, fins and headers.
   c. Color shall be high gloss black with gloss per ASTM D523.
   d. Uniform dry film thickness from 0.8 to 1.2 mil on all surface areas including fin edges.
   e. Superior hardness characteristics of 2H per ASTM D3363 and cross-hatch adhesion of 4B-5B per ASTM D3359.
   f. Impact resistance shall be up to 160 in.-lb (ASTM D2794).
   g. Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247 and ASTM D870).
   h. Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117.

I. (23 81 19.13.I.) Refrigerant Components:
   1. Refrigerant circuit shall include the following control, safety, and maintenance features:
      a. Thermostatic Expansion Valve (TXV) shall help provide optimum performance across the entire operating range. Shall contain removable power element to allow change out of power element and bulb without removing the valve body.
      b. Refrigerant filter drier, solid core design with pre and post-filter service gauge connections for filter diagnostics and maintenance.
      c. Service gauge connections on suction and discharge lines.
      d. Pressure gauge access through a specially designed access port in the top panel of the unit.
   2. There shall be gauge line access port in the skin of the rooftop:
      a. The gauge access port shall enable maintenance personnel to route their pressure gauge lines.
      b. This gauge access port shall facilitate correct and accurate condenser pressure readings by enabling the reading with the compressor access panel on.
   3. Compressors:
      a. Unit shall use tandem scroll compressor assembly on a single refrigeration circuit with two stages of cooling for efficient comfort cooling operation.
      b. Evaporator coils shall be a full active design to help better control latent removal and minimize unconditioned bypass air.
      c. Compressor motors shall be cooled by refrigerant gas passing through motor windings.
      d. Compressors shall be internally protected from high discharge temperature conditions.
      e. Compressors shall be protected from an over-temperature and over-amperage conditions by an internal, motor overload device.
      f. Compressor shall be factory-mounted on rubber grommets.
      g. Compressor motors shall have internal line break thermal, current overload and high pressure differential protection.
      h. Crankcase heaters shall not be required for normal operating range, unless required by the manufacturer due to refrigerant charge limits.

J. (23 81 19.13.J.) Filter Section:
   1. Filters access is specified in the unit cabinet section of this specification.
   2. Filters shall be held in place by a pivoting filter tray, facilitating easy removal and installation.
   3. Shall consist of factory installed, low velocity, throw-away 2 in. thick fiberglass filters.
   4. Filters shall be standard, commercially available sizes.
   5. Only one size filter per unit is allowed.

K. (23 81 19.13.K.) Evaporator Fan and Motor with EcoBlue™ Technology:
   1. Direct Drive Evaporator Fan Motor:
      a. Shall be an ECM motor design.
      b. Shall be direct drive design for all static options.
      c. Shall have permanently lubricated bearings.
      d. Shall have inherent automatic-reset thermal overload protection.
      e. Shall have slow ramp up to speed capabilities.
      f. Shall require no fan/motor belts for operation, adjustments and or initial fan speed set up.
      g. Fan DC voltage set up on unit control board shall eliminate the need of removal of blower access door, required on conventional belt drive systems.
      h. Shall be internally protected from electrical phase reversal.
   2. Evaporator Fan:
      a. Speed shall be easily set with dedicated selection switch and adjustment pot on unit control board or through SystemVu™ controller.
      b. Shall provide 2 stage cooling capacity control, the indoor fan speed is automatically controlled to meet the code-compliant <66% low fan speed and 100% at full fan speed operation.
      c. Blower fan shall be a vane axial fan design with fan assembly secured directly to ECM motor. Additional shafts, belts, pulleys/sheaves, and bearing blocks to drive fan shall not be permitted or necessary.
      d. Additional variable frequency drive to control fan motor speed shall not be permitted or necessary. All speed control electronics must be on board fan motor assembly.
      e. Shall be constructed of an aluminum stator or high impact composite material on stator, rotor and air inlet casing.
      f. Shall be a patented / pending design with a corrosion resistant material.
      g. Fan assembly design shall be integrated into fan deck, dynamically balanced, and require no additional vibration isolation for normal operation.
      h. Shall have slow ramp up to speed capabilities to help reduce sound and comfort issues typically associated with single speed belt drive systems.

i. Shall be a slide out design with removal of a few support brackets.

3. Shall include an easily accessible Unit Control Board to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, economizer, thermostat, DDC control options, and low, high and mixed air temperature switches. Controller shall also provide an intuitive means to adjust the indoor fan speed through a simple switch and pot adjustment design.

L. (23 81 19.13.L.) Condenser Fans and Motors:

1. Condenser Fan Motors:
   a. Shall be a totally enclosed motor.
   b. Shall use permanently lubricated bearings.
   c. Shall have inherent thermal overload protection with an automatic reset feature.
   d. Shall use a shaft-down design on all sizes.
2. Condenser Fans:
   a. Shall be a direct-driven propeller type fan.
   b. Shall have galvalum blades riveted to steel spider that have corrosion-resistant properties and shall be dynamically balanced.

M. (23 81 19.13.M.) Special Features Options and Accessories:

1. Integrated EconomizerONE and EconoMi$er® 2 Low Leak Rate Models.
   a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
   b. Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory installed option.
   c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
   d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
   e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
   f. Low leak rate shall be equipped with dampers not to exceed 2% leakage at 1 in. wg pressure differential.
   g. Economizer controller on EconomizerONE models shall be Siemens POL224 that provides:
      1) Combined minimum and DCV maximum damper position potentiometers with compressor staging relay.
      2) Optional configuration via WLAN stick and Siemens Climatix™[1] smartphone app for easy setup.
      3) Functions with solid-state analog enthalpy or dry bulb changeover control sensing.
      4) LED indicators for free cooling, sensor, and damper operation.
      5) One-line LCD interface screen for setup, configuration, and troubleshooting.
      6) On-board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24, ASHRAE 90.1, and IECC®[1].
      7) Sensor failure loss of communication identification.
      8) Capabilities for use with multiple-speed or single speed indoor fan systems.
      9) Digital sensors: dry bulb and enthalpy.
   h. Economizer controller on EconoMi$er 2 models with SystemVu™ controllers shall be a 4 to 20mA design controlled directly by the controller. SystemVu controllers meet California Title 24, ASHRAE 90.1, and IECC Fault Detection and Diagnostic (FDD) requirements.
   i. Shall be capable of introducing up to 100% outdoor air.
   j. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1 requirements.
   k. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
   l. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory installed only. Outdoor air sensor setpoint shall be adjustable and shall range from 40°F to 100°F (4°C to 38°C). Additional sensor options shall be available as accessories.
   m. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.
   n. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
   o. Dampers shall be completely closed when the unit is in the unoccupied mode.
   p. Economizer controller shall accept a 0 to 10 vdc CO_2 sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.

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q. Compressor lockout temperature on POL224 control is adjustable from –45°F to 80°F (–43°C to 26°C), set at a factory default of 32°F (0°C).

r. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.

s. Contains LED indication for free cooling, sensor, and damper operation.

2. Integrated EconoMi$er® 2 and EconomizerONE Ultra Low Leak Rate Models.

a. Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.

b. Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory-installed option.

c. Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.

d. Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below set points.

e. Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.

f. Ultra Low Leak design meets California Title 24 section 140.4 and ASHRAE 90.1 requirements for 4 cfm per sq ft on the outside air dampers and 10 cfm per sq ft on the return dampers.

g. Economizer controller on EconomizerONE models shall be the Siemens POL224 that provides:

1) One-line LCD interface screen for setup, configuration and troubleshooting.

2) Optional configuration via WLAN stick and Siemens Climatix™ smartphone app for easy setup.

3) On-board Fault Detection and Diagnostics (FDD) that senses and alerts when the economizer is not operating properly, per California Title 24, ASHRAE 90.1 and IECC.

4) Sensor failure loss of communication identification.

5) Capabilities for use with multiple-speed indoor fan systems.

6) Digital sensors: dry bulb and enthalpy.

h. Economizer controller on EconoMi$er 2 models with SystemVu™ controller shall be a 4 to 20 mA design controlled directly by the controller. SystemVu controllers meet California Title 24, ASHRAE 90.1, and IECC Fault Detection and Diagnostic (FDD) requirements.

i. Shall be capable of introducing up to 100% outdoor air.

j. Shall be equipped with a barometric relief damper capable of relieving up to 100% return air and contain seals that meet ASHRAE 90.1 requirements.

k. Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.

l. Dry bulb outdoor air temperature sensor shall be provided as standard. Enthalpy sensor is also available on factory installed only. Outdoor air sensor setpoint shall be adjustable and shall range from 40°F to 100°F (4°C to 38°C). Additional sensor options shall be available as accessories.

m. The economizer controller shall also provide control of an accessory power exhaust unit function. Factory set at 100%, with a range of 0% to 100%.

n. The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.

o. Dampers shall be completely closed when the unit is in the unoccupied mode.

p. Economizer controller shall accept a 0 to 10 vdc CO_2 sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.

q. Compressor lockout temperature on POL224 control is adjustable from –45°F to 80°F (–43°C to 26°C), set at a factory default of 32°F (0°C).

r. Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.

s. Contains LED indicators for free cooling, sensor, and damper operation.

3. Wi-Fi/WLAN stick for EconomizerONE POL224 (field-installed):

This item allows use of the Siemens Climatix™ mobile application.

4. Two-Position Damper (field-installed only):

a. Damper shall be a Two-Position Damper. Damper travel shall be from the full closed position to the field adjustable %-open setpoint.

b. Damper shall include adjustable damper travel from 25% to 100% (full open).

c. Damper shall include single or dual blade, gear driven dampers and actuator motor.

d. Actuator shall be direct coupled to damper gear. No linkage arms or control rods shall be acceptable.
e. Damper will admit up to 100% outdoor air for applicable rooftop units.
f. Damper shall close upon indoor (evaporator) fan shutoff and/or loss of power.
g. The damper actuator shall plug into the rooftop unit's wiring harness plug. No hard wiring shall be required.
h. Outside air hood shall include aluminum water entrainment filter.

5. Manual Damper (field-installed only):
   a. Manual damper package shall consist of damper, air inlet screen, and rain hood which can be preset to admit up to 25% or 50% outdoor air for year round ventilation.
6. Humidi-MiZer Adaptive Dehumidification System:
   The Humidi-MiZer® Adaptive Dehumidification System shall be factory installed and shall provide greater dehumidification of the occupied space by 2 modes of dehumidification operations in addition to its normal design cooling mode:
   a. Subcooling mode further sub cools the hot liquid refrigerant leaving the condenser coil when both temperature and humidity in the space are not satisfied.
   b. Hot gas reheat mode shall mix a portion of the hot gas from the discharge of the compressor with the hot liquid refrigerant leaving the condenser coil to create a 2-phase heat transfer in the system, resulting in a neutral leaving air temperature when only humidity in the space is not satisfied.
   c. Includes low ambient controller.
7. Low Ambient Control Package:
   a. Controller shall control coil head pressure by condenser fan speed modulation or condenser fan cycling and wind baffles.
   b. Shall consist of solid-state control and condenser coil temperature sensor to maintain condensing temperature between 90°F (32°C) and 110°F (43°C) at outdoor ambient temperatures down to –20°F (–29°C). For full low ambient control range, winter start kit is required.
8. Condenser Coil Hail Guard Assembly:
   a. Shall protect against hail and additional coil damage.
   b. Shall be louvered type.
9. Unit-Mounted, Non-Fused Disconnect Switch:
   a. Without factory installed electric heat:
      Available on 6 to 10 ton units with FLA of 80 amps or less. Available on 12.5 ton units with FLA of 100 amps or less (460/575V) or 200 amps or less (208/230V). Switch shall be factory installed, internally mounted.
   b. With factory installed electric heat:
      Available on 6 to 10 ton units with FLA of 80 amps or less (460/575V) or FLA of 100 amps or less (208/230V). Available on 12.5 ton units with FLA of 100 amps or less (460/575V) or 200 amps or less (208/230V).
   c. National Electric Code (NEC) and UL approved non-fused switch shall provide unit power shutoff.
   d. Shall be accessible from outside the unit.
   e. Shall provide local shutdown and lockout capability.
   f. Sized only for the unit as ordered from the factory. Does not accommodate field-installed devices.
10. Convenience Outlet:
    a. Factory-Installed Powered Convenience Outlet:
       1) Outlet shall be powered from main line power to the rooftop unit.
       2) Outlet shall be powered from line side or load side of disconnect by installing contractor, as required by code. If outlet is powered from load side of disconnect, unit electrical ratings shall be UL certified and rated for additional outlet amperage.
       3) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
       4) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
       5) Voltage required to operate convenience outlet shall be provided by a factory installed step-down transformer.
       6) Outlet shall be accessible from outside the unit.
       7) Outlet shall include a field installed "Wet in Use" cover.
    b. Factory-Installed Non-Powered Convenience Outlet:
       1) Outlet shall be powered from a separate 115/120-v power source.
       2) A transformer shall not be included.
       3) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
       4) Outlet shall include 15 amp GFI receptacles with independent fuse protection.
       5) Outlet shall be accessible from outside the unit.
       6) Outlet shall include a field installed "Wet in Use" cover.

c. Field-Installed Non-Powered Convenience Outlet:
   1) Outlet shall be powered from a separate 115/120v power source.
   2) A transformer shall not be included.
   3) Outlet shall be field-installed and internally mounted with easily accessible 115-v female receptacle.
   4) Outlet shall include 20 amp GFI receptacles. This kit provides a flexible installation method which allows code compliance for height requirements of the GFCI outlet from the finished roof surface as well as the capability to relocate the outlet to a more convenient location.
   5) Outlet shall be accessible from outside the unit.
   6) Outlet shall include a field installed "Wet in Use" cover.

11. Thru-the-Base Connectors:
    a. Kits shall provide connectors to permit electrical connections to be brought to the unit through the unit basepan.
    b. Minimum of 4 connection locations per unit.
12. Supply Duct Cover (size 14 only):
    a. Required when field converting the factory standard vertical duct supply to horizontal duct supply configuration. One required per unit.
13. Propeller Power Exhaust:
    a. Power exhaust shall be used in conjunction with an integrated economizer.
    b. Independent modules for vertical or horizontal return configurations shall be available.
    c. Horizontal power exhaust shall be mounted in return ductwork.
    d. Power exhaust shall be controlled by economizer controller operation. Exhaust fans shall be energized when dampers open past the 0 to 100% adjustable setpoint on the economizer control.
14. Roof Curbs (Vertical):
    a. Full perimeter roof curb with exhaust capability providing separate air streams for energy recovery from the exhaust air without supply air contamination.
    b. Formed galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.
    c. Permits installation and securing of ductwork to curb prior to mounting unit on the curb.
15. Outdoor Air Enthalpy Sensor:

    The outdoor air enthalpy sensor shall be used to provide single enthalpy control. When used in conjunction with a return air enthalpy sensor, the unit will provide differential enthalpy control. The sensor allows the unit to determine if outside air is suitable for free cooling.
16. Return Air Enthalpy Sensor:

    The return air enthalpy sensor shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
17. Indoor Air Quality (CO_2) Sensor:
    a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
    b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The setpoint shall have adjustment capability.
18. Smoke Detectors:
    a. Shall be a 4-wire controller and detector.
    b. Shall be environmentally compensated with differential sensing for reliable, stable, and drift-free sensitivity.
    c. Shall use magnet-activated test/reset sensor switches.
    d. Shall have tool-less connection terminal access.
    e. Shall have a recessed momentary switch for testing and resetting the detector.
    f. Controller shall include:
       1) One set of normally open alarm initiation contacts for connection to an initiating device circuit on a fire alarm control panel.
       2) Two Form-C auxiliary alarm relays for interface with rooftop unit or other equipment.
       3) One Form-C supervision (trouble) relay to control the operation of the Trouble LED on a remote test/reset station.
       4) Capable of direct connection to 2 individual detector modules.
       5) Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.
19. Winter Start Kit:
    a. Shall contain a bypass device around the low pressure switch.
    b. Shall be required when mechanical cooling is required below 40°F (4°C).
    c. Shall not be required to operate an economizer for cooling when below an outdoor ambient of 40°F (4°C).
    d. Is not compatible with SystemVu controls.
20. Time Guard:
    a. Shall prevent compressor short-cycling by providing a 5-minute delay (±2 minutes) before restarting a compressor after shutdown for any reason.
    b. One device shall be required per compressor.

21. Disconnect Switch Bracket (size 14 only):

    Provides a pre-engineered and sized mounting bracket for applications requiring a unit mounted fused and non-fused disconnect of greater than 100 amps. Bracket assures that no damage will occur to coils when mounting with screws and other fasteners.

22. Hinged Access Panels:
    a. Shall provide easy access through integrated quarter turn latches.
    b. Shall be on major panels of: filter, control box, fan motor, and compressor.

23. Condensate Overflow Switch:

    This sensor and related controller monitors the condensate level in the drain pan and shuts down compression operation when overflow conditions occur. It includes:
    a. Indicator light — solid red (more than 10 seconds on water contact — compressors disabled), blinking red (sensor disconnected).
    b. 10 second delay to break — eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping).
    c. Disables the compressors operation when condensate plug is detected, but still allows fans to run for Economizer.

24. 4 in. MERV-13 Return Air Filters (factory-installed only):
    a. Factory option to upgrade standard unit filters to 4 in. MERV-13 filters.
    b. Upgraded option shall include factory-installed 4 in. filter rack.
    c. Shall not be compatible with horizontal units with field-installed economizers.

25. 4 in. Return Air Rack (field-installed only):
    a. Accessory kit is designed to hold 4 in. MERV-8 or MERV-13 filters. Filters not included in kit.
    b. Shall not be compatible with horizontal units with field installed economizers.

26. 2 in. MERV-13 Return Air Filters:
    a. Accessory kit to field upgrade standard unit filters to 2 in. MERV-13 filters.
    b. Correct size and quantity of filters shall ship in a single box

27. 2 in. MERV-8 Return Air Filters:
    a. Accessory kit to field upgrade standard unit filters to 2 in. MERV-8 filters.
    b. Correct size and quantity of filters shall ship in a single box.

28. Phase Monitor Control:
    a. Shall monitor the sequence of 3-phase electrical system to provide a phase reversal protection.
    b. Shall monitor the 3-phase voltage inputs to provide a phase loss protection for the 3-phase device.
    c. Will work on either a Delta or Wye power connection.

29. Horn/Strobe Annunciator:
    a. Provides an audible/visual signaling device for use with factory-installed option or field installed accessory smoke detectors.
    b. Requires installation of a field-supplied 24-v transformer suitable for 4.2 VA (AC) or 3.0 VA (DC) per horn/strobe accessory.
    c. Requires field-supplied electrical box, North American 1-gang box, 2 in. x 4 in. (51 mm x 102 mm).
    d. Shall have a clear colored lens.

30. Electric Heat:
    a. Heating Section:
        1) Heater element open coil resistance wire, nickel-chrome alloy, 0.29 in. inside diameter, strung through ceramic insulators mounted on metal frame. Coil ends are staked and welded to terminal screw slots.
        2) Heater assemblies are provided with integral fusing for protection of internal heater circuits. Auto reset thermo limit controls, magnetic heater contactors (24-v coil), and terminal block all mounted in electric heater control box (minimum 18 ga galvanized steel) attached to end of heater assembly.

31. High Short Circuit Current Rating (SCCR) Protection:
    a. Factory-installed option shall provide high short circuit current protection to compressor and all indoor and outdoor fan motors rated at 10 kA against high potential fault current situations. (Standard unit comes with 5 kA rating.)
    b. This option is not available with factory installed HumidiMiZer system, powered convenience outlet, non-fused disconnect, low ambient controls, phase loss monitor/protection, HACR breaker, and 575-v models.

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