



Product Data

WeatherMaster® Single Package Heat Pump Rooftop

6 to 10 Nominal Tons

ecoblue™  technology



50GEQ*07, 08, 09, 12

Single-Packaged Heat Pump with Optional Electric
Heat and Puron Advance™ Refrigerant (R-454B)

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

The WeatherMaster line have always stood for cooling solutions that are innovative, high quality, and easy to use. Carrier's new 50GEQ rooftops continue our legacy of progress with Puron Advance, our low global warming potential refrigerant. With competitive efficiencies, 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 efficient indoor fan system with an electronically commutated variable speed 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 control 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 2 stage cooling with tandem scroll compressors technology and fully active evaporator coil
- 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 50GEQ 6 to 10 ton models make replacements even easier.

Two-stage cooling capacity control delivers efficiencies of up to 17.6 IEER and 3.7 COP. All models are field convertible and capable of either vertical or horizontal air-flow.

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 10 ton Carrier WeatherMaster RTU provides optimum comfort and control from a packaged rooftop.

Value-added features include:

- Puron Advance refrigerant (R-454B)
- SystemVu™ intuitive, intelligent controls option
- Single point electrical connections
- TXV refrigerant metering system
- 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

Easy to install

All 6 to 10 ton WeatherMaster units are field-convertible to horizontal air-flow, which makes it easy to adjust to unexpected jobsite complications. The 10 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 (UCB) 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 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.

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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 filter drier, and 2 in. filters standard.

Heat pump flexibility

50GEQ models offer onboard electro-mechanical heating standard. Our robust systems are rigorously tested to ensure reliable reverse cycle heating operation. The result is a clean, environmentally responsible heat source to keep occupants comfortable year-round. All 50GEQ models can be easily controlled with a standard thermostat and remove the need to burn fossil fuels to heat your building. Should you need supplemental heat, we offer a full line of single point powered electric heaters that can easily be installed at site.

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 (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 design 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.

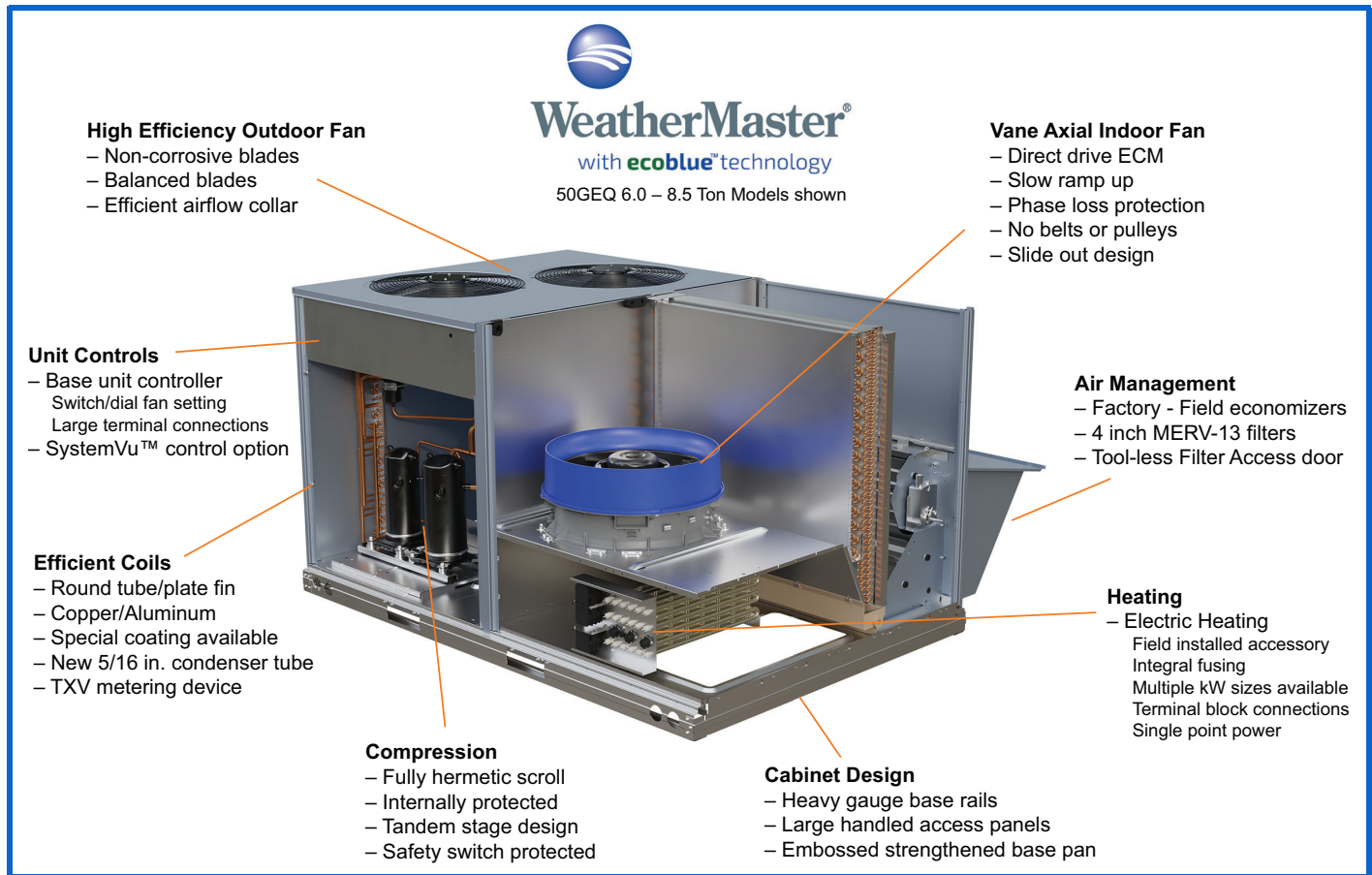
Streamlined control and integration

Carrier controllers make connecting WeatherMaster rooftop heat pump units to 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 50GEQ packaged rooftops exceed ASHRAE 90.1 and IECC®¹ (International Energy Conservation Code) minimum IEER efficiency requirements.

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



50GEQ 07-12 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	Q	M	1	2	A	2	A	5	-	0	A	0	A	0

Unit Type

50 – Cooling Packaged Rooftop

Model Series

GE – High Efficiency Puron Advance™

Heat Size

Q = Heat Pump
(Field-Installed Electric Heat)

Refrigerant Systems Options

M = Two Stage Cooling, Single Circuit

Tonnage

07 = 6.0 tons
08 = 7.5 tons
09 = 8.5 tons
12 = 10.0 tons

Sensor Options

A = None
B = Return Air Smoke Detector (RA)
C = Supply Air Smoke Detector (SA)
D = RA + SA Smoke Detector
J = Condensate Overflow Switch (COFS)
K = Condensate Overflow Switch + RA Smoke Detector
L = Condensate Overflow Switch + RA and SA Smoke Detectors
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 Assigned

NOTE(S):

^a Not available on the following models/options:
575V, Low Ambient/Head Pressure Control, Phase Loss Monitor, Non-Fused Disconnect, HACR, Powered Convenience Outlet.
^b FDD (Fault Detection and Diagnostic) capability per California Title 24 section 120.2.

Packaging & Seismic Compliance

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^a (High Short Circuit Current Rating)
2 = HSCCR^a + TTB

Service Options

0 = None
1 = Unpowered Convenience Outlet (NPCO)
2 = Powered Convenience Outlet (PCO)
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 CO₂ Sensor
M = ULL Enthalpy Economizer with Barometric Relief and CO₂ Sensor
U = ULL Temperature Economizer with Barometric Relief
W = ULL Enthalpy Economizer with Barometric Relief

Base Unit Controls

0 = Standard Electromechanical Controls (can be used with field installed economizers and dampers)
3 = SystemVu™ Controllor
8 = Electromechanical Controls with POL224 (includes FDD^b)

50GEQ*07-12 AHRI Ratings^{a,b,c}

COOLING MODE								
UNIT	Cooling Stages	Nominal Capacity (tons)	Net Cooling Capacity (Btuh)	Total Power (kW)	EER	IEER with 2-Speed Indoor Fan Motor	AHRI Rating cfm	AHRI Part Load cfm
50GEQ*07	2	6.0	72,000	5.7	12.60	17.4	2600	1560
50GEQ*08	2	7.5	90,000	7.4	12.20	17.0	3000	1700
50GEQ*09	2	8.5	100,000	8.2	12.20	17.6	3200	1600
50GEQ*12	2	10.0	116,000	9.6	12.10	16.8	4400	2640
HEATING MODE								
UNIT	Heating, Low 17°F (−8°C) Ambient		Heating, High 47°F (8°C) Ambient		AHRI Rating cfm			
	Net Capacity (Btuh)	COP	Net Capacity (Btuh)	COP				
50GEQ*07	36,000	2.30	67,000	3.70	2600			
50GEQ*08	45,000	2.30	87,000	3.60	3000			
50GEQ*09	52,000	2.35	94,000	3.50	3200			
50GEQ*12	60,000	2.35	108,000	3.50	4400			

NOTE(S):

- Rated in accordance with AHRI Standards 340/360.
- 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.
- All 50GEQ 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.

LEGEND

- AHRI** — Air-Conditioning, Heating and Refrigeration Institute
COP — Coefficient of Performance
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio



Sound Rating Tables ^a

50GEQ UNIT	COOLING STATES	OUTDOOR SOUND (dB) AT 60 Hz ^b								
		A-WEIGHTED ^c	63	125	250	500	1000	2000	4000	8000
M07	2	81	86.7	82.7	79.1	78.4	75.4	71.2	67.8	62.9
M08	2	83	87.3	81.6	79.7	80.6	79.0	73.5	69.2	66.1
M09	2	87	61.7	74.7	77.4	82.6	84.9	81.9	78.8	75.9
M12	2	83	61.0	67.3	75.1	77.7	78.1	75.5	71.2	66.7

NOTE(S):

- 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.
- Outdoor sound data is measured in accordance with AHRI.
- 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) — Cooling Units and Accessory Electric Heat

UNIT	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
50GEQ*07	1080	1800	3000	1800	3000
50GEQ*08	1125	2250	3750	2250	3750
50GEQ*09	1275	2550	4250	2550	4250
50GEQ*12	1800	3000	5000	3000	5000

NOTE(S):

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

50GEQ 6 to 10 Ton Physical Data

50GEQ UNIT	50GEQ*07	50GEQ*08	50GEQ*09	50GEQ*12
NOMINAL TONS	6.0	7.5	8.5	10.0
BASE UNIT OPERATING WT (lb) ^a	776	812	947	1219
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)	15-0	16-11	19-0	20-8
Cooling Metering Device	TXV	TXV	TXV	TXV
Heating Metering Device	TXV	TXV	TXV	TXV
High-Pressure Trip/Reset (psig)	630/505	630/505	630/505	630/505
Loss of Charge Trip/Reset (psig)	27/44	27/44	27/44	27/44
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	4/15	4/15	3/15
Total Face Area (ft²)	11.1	11.1	11.1	17.5
Condensate Drain Connection Size	3/4 in.	3/4 in.	3/4 in.	3/4 in.
CONDENSER COIL				
Material (Tube/Fin)	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	2/18
Total Face Area (ft²)	25.1	25.1	25.1	36.1
EVAPORATOR FAN AND MOTOR				
Standard/Medium Static 3 Phase				
Motor Qty / Drive Type	1 / Direct	1 / Direct	1 / Direct	1 / Direct
Max 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
Max Cont bhp	3	3	3	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	3 / Direct
Motor hp / rpm	1/4 / 1100	1/4 / 1100	1 / Multiple Speeds ^b	1 / 1100
Fan Diameter (in.)	22	22	30	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	6 / 18 x 24 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	V 2 / 24 x 27 H 1 / 30 x 39 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

Options and accessories



ITEM	FACTORY- INSTALLED OPTION	FIELD- INSTALLED ACCESSORY
ELECTRIC HEAT		
Electric Resistance Heaters		X
Single Point Kits		X
CABINET		
Thru-the-Base Electrical Connections	X	X
Hinged Access Panels	X	
MERV-13, 4 in. Filters	X	
MERV-13, 2 in. Filters		X
MERV-8, 2 in. Filters		X
4 in. Filter Rack (filters not included)		X
Louvered Hail Guard	X	X
Disconnect Switch Bracket ^a		X
Supply Duct Cover ^a		X
COIL OPTIONS		
Cu/Cu Indoor and/or Outdoor Coils ^b	X	
Pre-coated Outdoor Coils	X	
Premium, E-Coated Indoor and/or Outdoor Coils	X	
CONTROLS		
Thermostats, Temperature Sensors, and Subbases		X
SystemVu™ DDC Communicating Controller	X	
Smoke Detector (supply and/or return air)	X	X
Horn Strobe Annunciator ^c		X
Time Guard II Compressor Delay Control Circuit		X
Phase Monitor	X	X
ECONOMIZERS AND OUTDOOR AIR DAMPERS		
EconomizerONE for Electromechanical Controls, complies with FDD (Low and Ultra Low Leak damper models) ^d	X	X
Wi-Fi Stick for EconomizerONE (optional)		X
EconoMi\$er® 2 for DDC controls (Low and Ultra Low Leak air damper models) ^e	X	X
Motorized Two-Position Outdoor-Air Damper		X
Manual Outdoor-Air Damper (25% and 50%)		X
Barometric Relief ^f	X	X
Power Exhaust — Prop Design		X
Condensate Overflow switch	X	X

ITEM	FACTORY- INSTALLED OPTION	FIELD- INSTALLED ACCESSORY
ECONOMIZER SENSORS AND IAQ DEVICES		
Single Dry Bulb Temperature Sensors ^g	X	X
Differential Dry Bulb Temperature Sensors ^g		X
Single Enthalpy Sensors ^g	X	X
Differential Enthalpy Sensors ^g		X
CO ₂ Sensor (wall, duct, or unit mounted) ^g	X	X
INDOOR FAN MOTOR		
Optional Indoor Fan Motors	X	
Fan Filter Status Switch	X	X
LOW AMBIENT CONTROLS		
Winter Start Kit ^h		X
Low Ambient Controller to 0°F (-18°C) ^{h,i}		X
POWER OPTIONS		
Convenience Outlet (powered)	X	
Convenience Outlet (unpowered)	X	
Convenience Outlet, 20 amp (unpowered)		X
Non-Fused Disconnect ^j	X	
HACR Breaker ^k	X	
High SCCR Protection ^l	X	
ROOF CURBS		
Roof Curb 14 in. (356 mm)		X
Roof Curb 24 in. (610 mm)		X

NOTE(S):

- For Size 12 units only.
- Cu/Cu coils are only available with louvered hail guards.
- Requires a field-supplied 24-v transformer for each application. See price pages for details.
- FDD (Fault Detection and Diagnostic) capability per California Title 24 section 120.2.
- Models with SystemVu controls comply with California Title 24 Fault Detection and Diagnostic (FDD).
- Included with economizer.
- Sensors used to optimize economizer performance.
- See application data for assistance.
- Size 09 models operate down to 0°F (-18°C) standard; Low Ambient control is not available.
- Non-fused disconnect switch cannot be used when unit FLA electrical rating exceeds:
 - Sizes 07-09: 80 amps, all voltages.
 - Size 12: 200 amps, 208/230V-3-60
 - Size 12: 100 amps, 460/575V-3-60
- HACR circuit breaker cannot be used on 50GEQ 07-12 sizes when unit MOCP rating exceeds:
 - 50GEQ 07-09:
 - 208/230/3/60 = 70 amps
 - 460/3/60 = 35 amps
 - 575/3/60 = 30 amps
 - 50GEQ 12:
 - 208/230/3/60 = 80 amps
 - 460/3/60 = 35 amps
 - 575/3/60 = 30 amps
 Carrier RTUBuilder automatically selects the amps limitations.
- High SCCR (Short Circuit Current Rating) is not available on the following: units with low ambient controls, powered convenience outlet, HACR breaker, phase loss monitor, non-fused disconnect, or 575-v. Not available on size 09 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 CO₂ 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 system to help equalize building pressures. 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 CO₂ sensor

The CO₂ sensor works with the economizer to intake only the correct amount of outside air for ventilation. As occupants fill your building, the CO₂ sensor detects their presence through increasing CO₂ levels and opens the economizer appropriately. When the occupants leave, the CO₂ 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.

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, as well as control power.

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.

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.

Cu/Cu (outdoor and indoor) 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

A durable epoxy-phenolic coating to provide protection in mildly corrosive coastal environments. The coating minimizes galvanic action between dissimilar metals. 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.

Condenser coil hail guard

These sleek, louvered panels protect the condenser coil from hail damage, foreign objects, and incidental contact.

Convenience outlet (powered or unpowered)

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 back lit 4-line text screen for superior visibility
- Quick operational condition LEDs for Run, Alert, and Fault
- Simple navigation with large keypad buttons for Navigation arrows, Test, Back, Enter, and Menu
- Capable of being controlled with a conventional thermostat, space sensor, or building 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®¹ 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

MERV-13 4 in. return air filters

This factory option upgrades the return air filters from standard unit filters to high efficiency 4 in. MERV-13 filters. 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.

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 compressors and all indoor and outdoor fan motors. (A standard unit comes with 5 kA rating.)

This option is not available on 575-v models or models with a factory-installed low ambient controls, powered convenience outlet, phase loss monitor, or non-fused disconnect. Not available on size 09 units due to control box constraints.

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 CO₂ sensor

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

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 are not included in kit.

MERV-8 and MERV-13 return air filters

These field-installed accessories provide a return air filter upgrade from standard unit filters to high efficiency 2 in. MERV-8 or 2 in. MERV-13 filters. Uses non-woven filter media with high strength, moisture-resistant frame. Filter media is securely fastened inside the filter frame on all 4 sides.

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 a 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 switch. Other low ambient precautions may still be prudent.

Low ambient controller

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 or 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.

NOTE: 0°F (–18°C) is standard on size 09 models.

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

This full perimeter roof curb with exhaust capability provides separate air streams.

Power exhaust

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

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

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 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

Carrier offers a full-line of field-installed accessory heaters. The heaters are very easy to use and install, and they are all pre-engineered and certified.

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

This accessory provides a pre-engineered and sized mounting bracket for applications requiring a unit-mounted fused and non-fused disconnect of greater than offered by the factory. This bracket assures that no damage will occur to coils when mounting with screws (size 12 only).

Supply duct cover

This accessory is required when field converting the factory standard vertical duct supply to horizontal duct supply configuration (size 12 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™ mobile application for commissioning, troubleshooting, and maintenance operations. The Wi-Fi stick is required to utilize the mobile application but is not needed to configure the controller should a user prefer to use the controller's onboard keypad.

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.

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

Options and Accessory Weights^a

OPTION / ACCESSORY NAME	50GEQ UNIT WEIGHT							
	07		08		09		12	
	lb	kg	lb	kg	lb	kg	lb	kg
Power Exhaust — Vertical	55	25	55	25	55	25	55	25
EconomizerONE and EconoMiSer® 2	75	34	75	34	75	34	75	34
Two-Position Damper	58	26	58	26	58	26	58	26
Manual Damper	18	8	18	8	18	8	18	8
Hail Guard (louvered)	17	8	17	8	17	8	17	8
Cu/Cu Condenser Coil	85	39	85	39	100	46	150	
Cu/Cu Evaporator Coil	50	23	100	46	100	46	150	68
Roof Curb (14 in. curb)	143	65	143	65	143	65	180	82
Roof Curb (24 in. curb)	245	112	245	112	245	112	255	116
CO ₂ Sensor	2	1	2	1	2	1	2	1
Optional Indoor Motor ^b	30	14	30	14	30	14	30	14
Low Ambient Controller	9	4	9	4	—	—	—	—
Winter Start Kit	5	2	5	2	5	2	5	2
Return Air Smoke Detector	7	3	7	3	7	3	7	3
Supply Air Smoke Detector	7	3	7	3	7	3	7	3
Fan Filter Switch	2	1	2	1	2	1	2	1
Non-Fused Disconnect	15	7	15	7	15	7	15	7
Powered Convenience Outlet ^c	36	16	36	16	36	16	36	16
Unpowered Convenience Outlet	4	2	4	2	4	2	4	2
Enthalpy Sensor	2	1	2	1	2	1	2	1
Differential Enthalpy Sensor	3	1	3	1	3	1	3	1

NOTE(S):

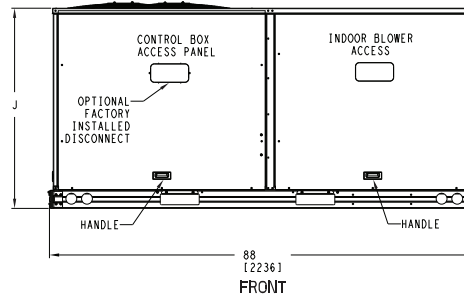
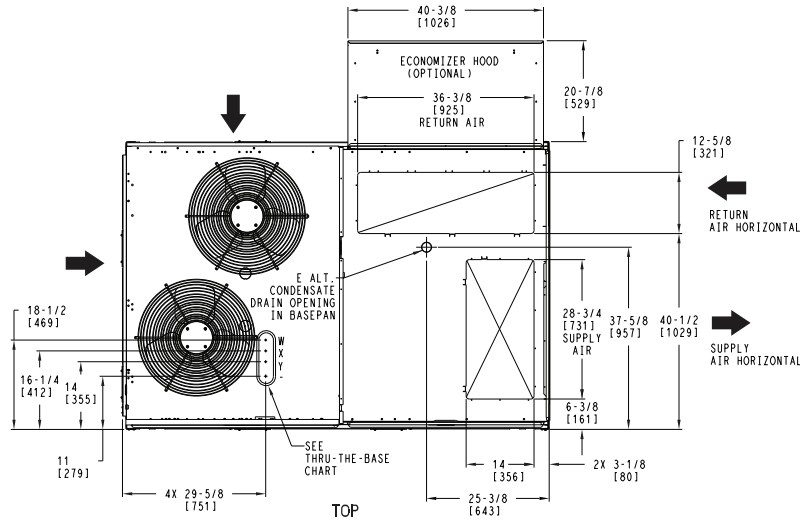
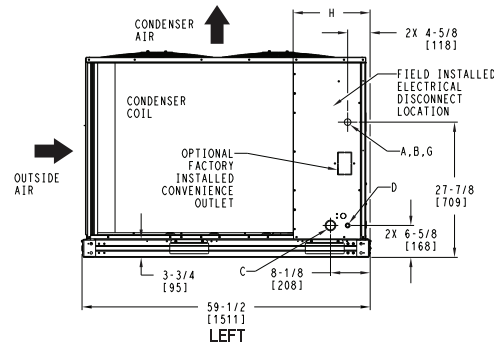
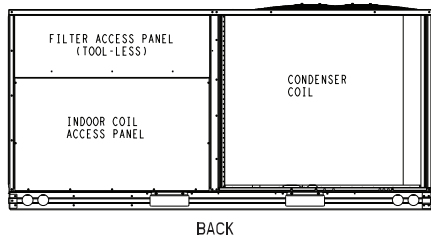
- Where multiple variations are available, the heaviest combination is listed.
- Add the optional indoor motor weight to the weight of the base unit.
- Weight includes convenience outlet and convenience outlet transformer.

50GEQ 07-08 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
50GEO-07	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]
50GEO-08	RTPF	49 3/8 [1253]	36 3/8 [925]	15 7/8 [403]

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



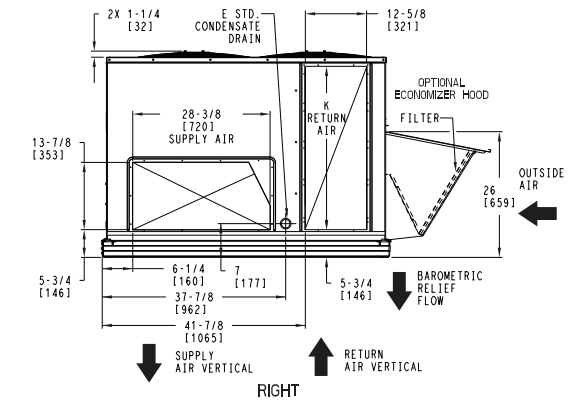
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CONNECTION SIZES	
A	1 3/8" [35] DIA. FIELD POWER SUPPLY HOLE
B	2 1/2" [64] DIA. POWER SUPPLY KNOCKOUT
C	1 3/4" [51] DIA. GAUGE ACCESS PLUG
D	7/8" [22] DIA. FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
G	2" [51] DIA. POWER SUPPLY KNOCK-OUT

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

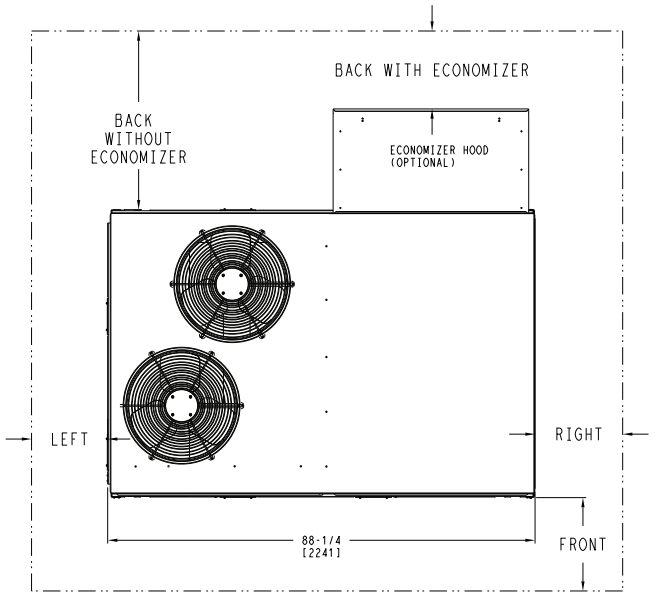
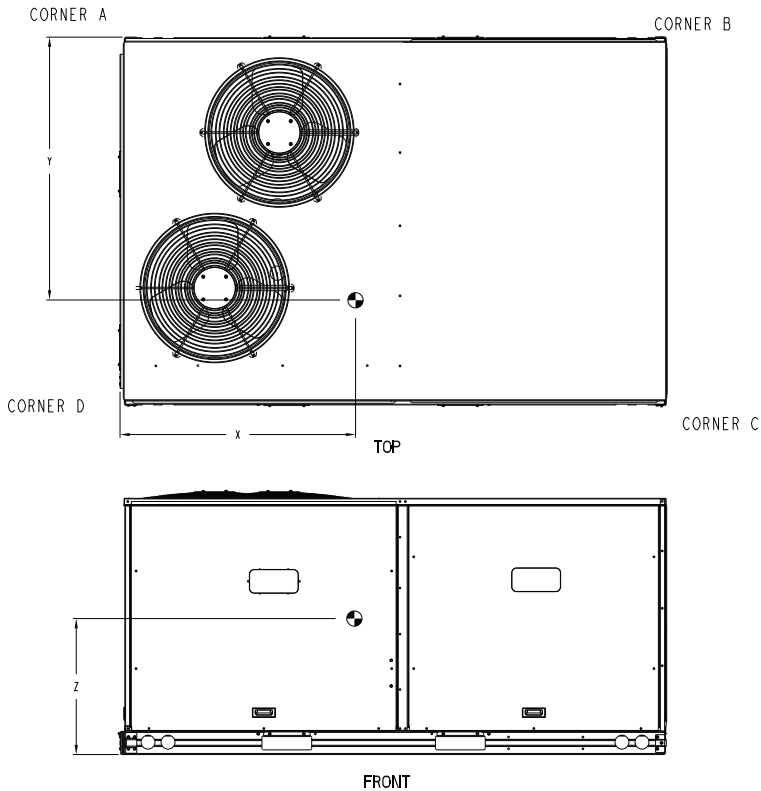


ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	50GEQ 07,08 SINGLE ZONE ELECTRICAL HEAT PUMP	48TM009917	REV
U.S. ECCN:NSR	1 OF 3	5/30/24	-			-

50GEQ 07-08 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
50GEQ-07	RTPF	805	365	163	74	209	95	243	110	190	86	38 5/8 [981]	32 [813]	19 1/8 [486]
50GEQ-08	RTPF	812	368	164	74	211	96	245	111	191	87	38 5/8 [981]	32 [813]	19 1/8 [486]

*** 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.

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

ITC CLASSIFICATION U.S. ECCN:NSR	SHEET 2 OF 3	DATE 5/30/24	SUPERCEDES -	50GEQ 07,08 SINGLE ZONE ELECTRICAL HEAT PUMP	48TM009917	REV -
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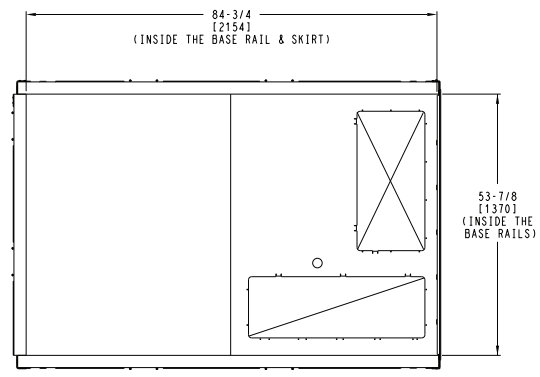
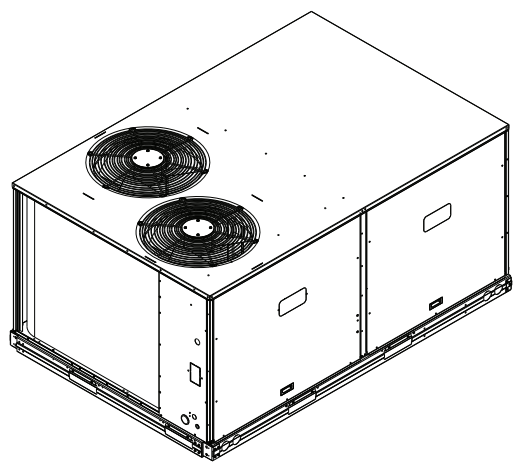


50GEQ 07-08 Base Unit Dimensions (cont)

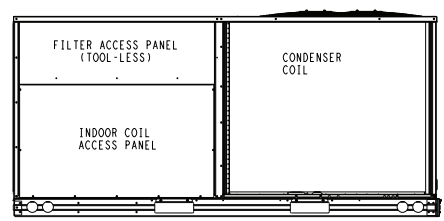
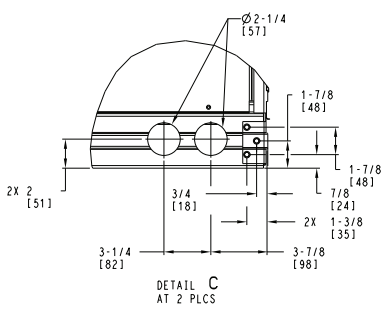
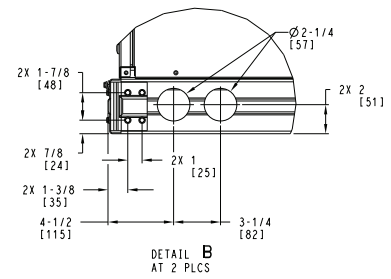


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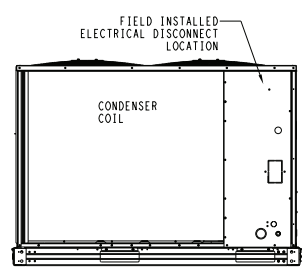
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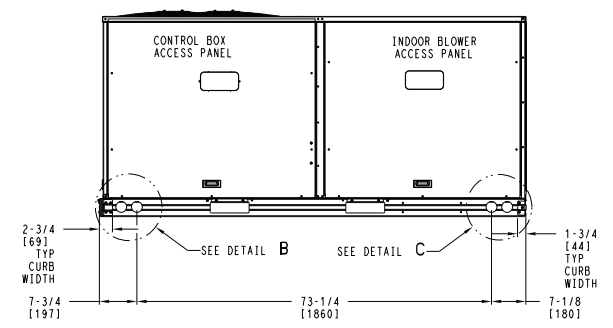
INSIDE BASERAIL DIMENSIONS
BOTTOM



BACK



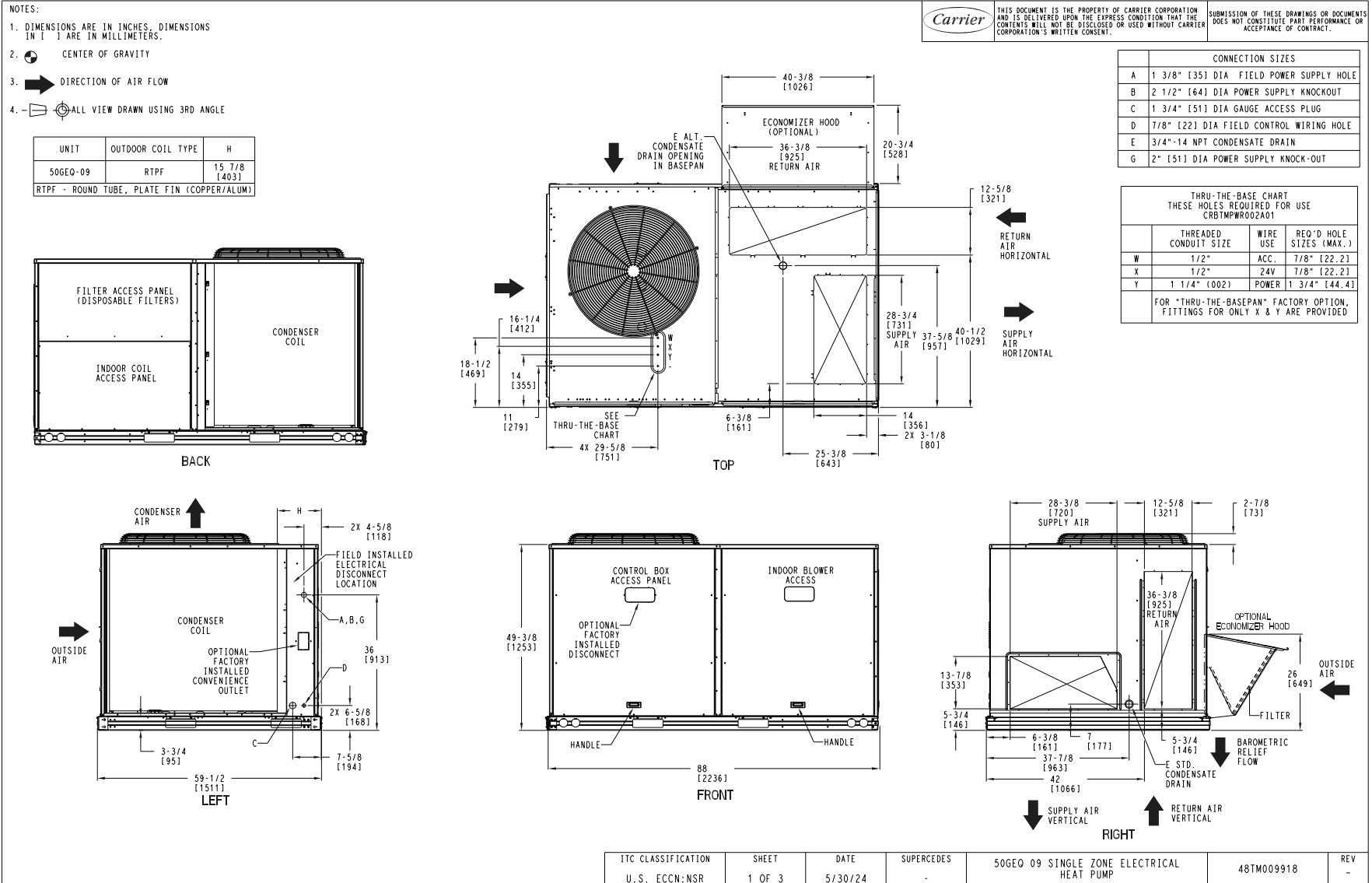
LEFT



FRONT

ITC CLASSIFICATION U.S. ECCN:NSR	SHEET 3 OF 3	DATE 5/30/24	SUPERCEDES -	50GEQ 07,08 SINGLE ZONE ELECTRICAL HEAT PUMP	48TM009917	REV -
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50GEQ 09 Base Unit Dimensions

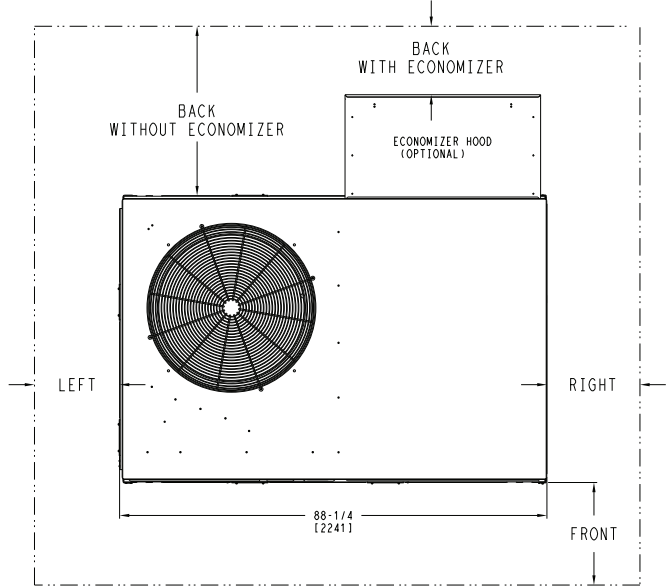
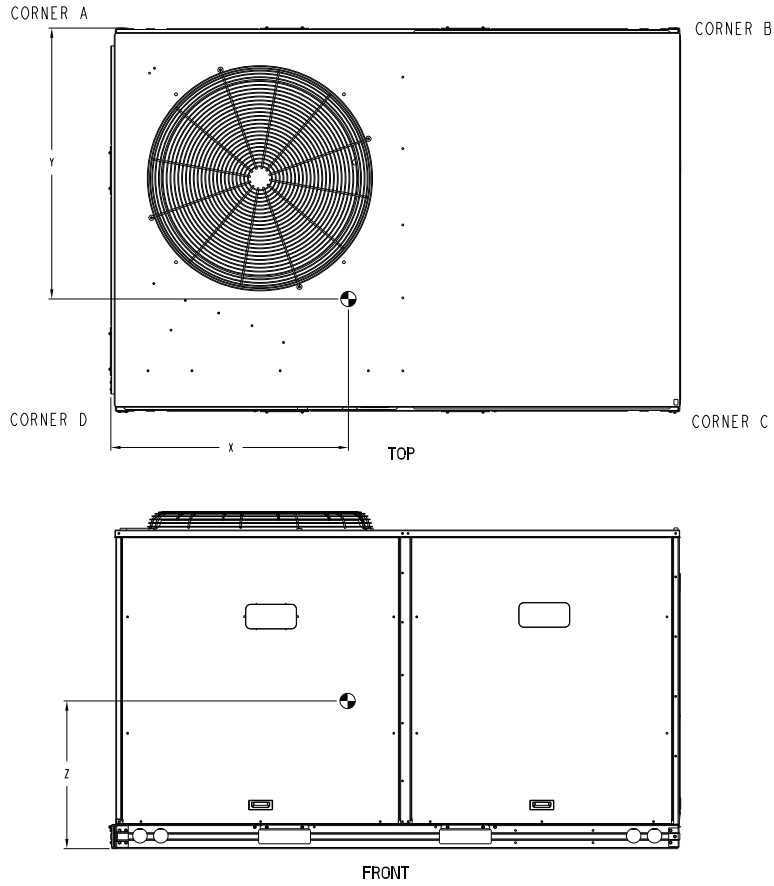




50GEQ 09 Base Unit Dimensions (cont)

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
50GEQ-09	RTPF	955	433	190	86	243	110	293	133	229	104	38 5/8 [981]	32 1/2 [826]	19 1/8 [486]
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.

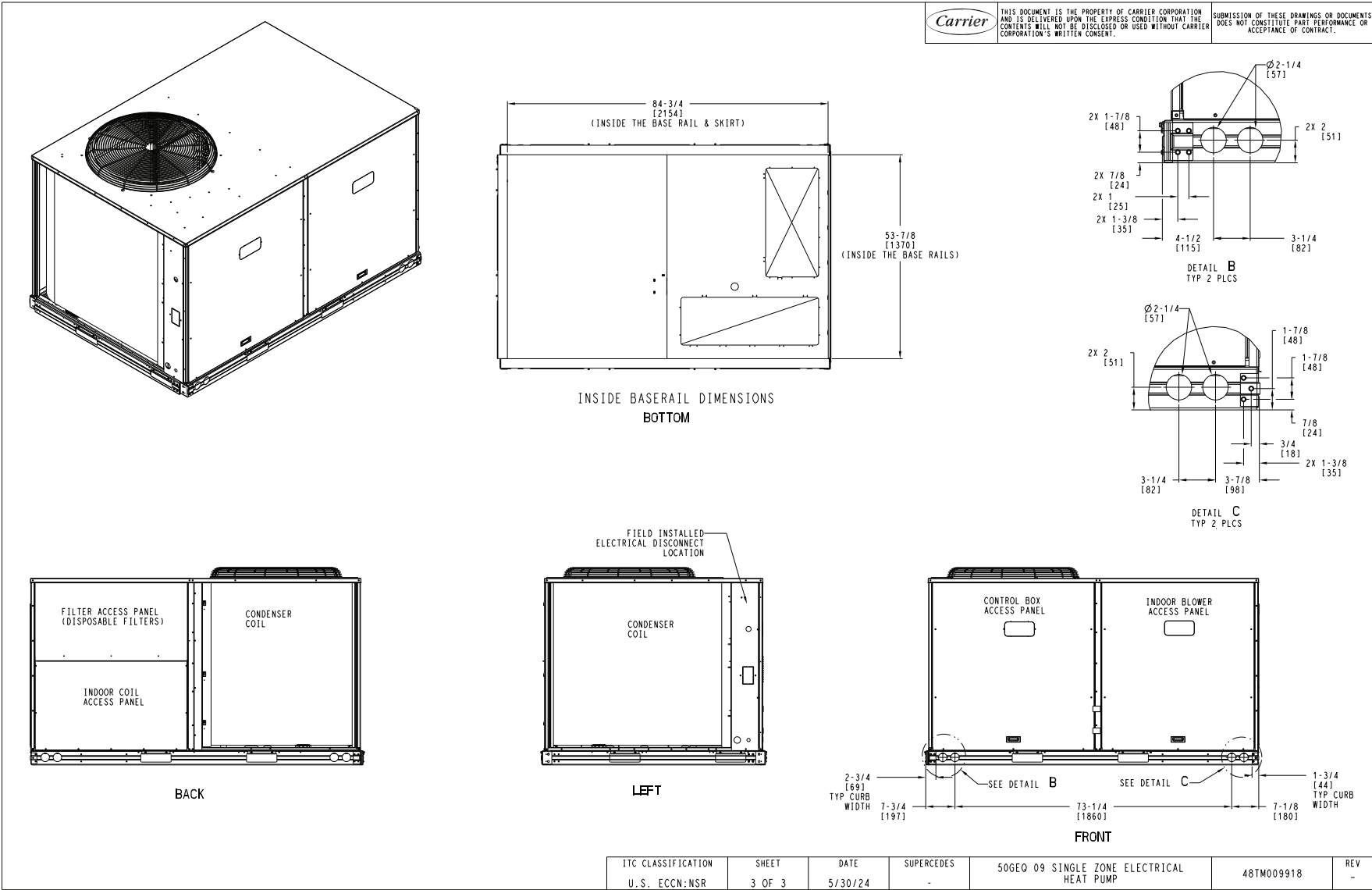


NOTE:
1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

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

ITC CLASSIFICATION U.S. ECCN:NSR	SHEET 2 OF 3	DATE 5/30/24	SUPERCEDES -	50GEQ 09 SINGLE ZONE ELECTRICAL HEAT PUMP	48TM009918	REV -
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50GEQ 09 Base Unit Dimensions (cont)



50GEQ 12 Base Unit Dimensions

NOTES:

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



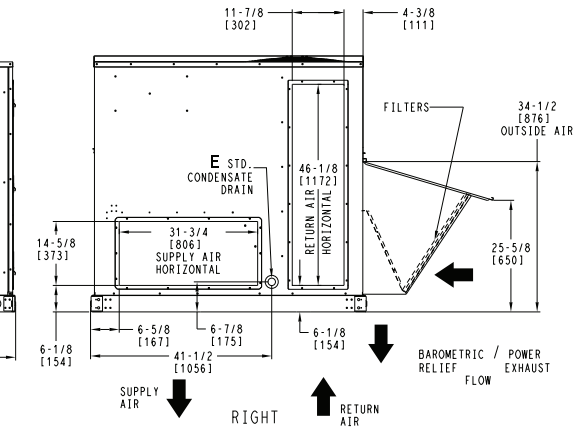
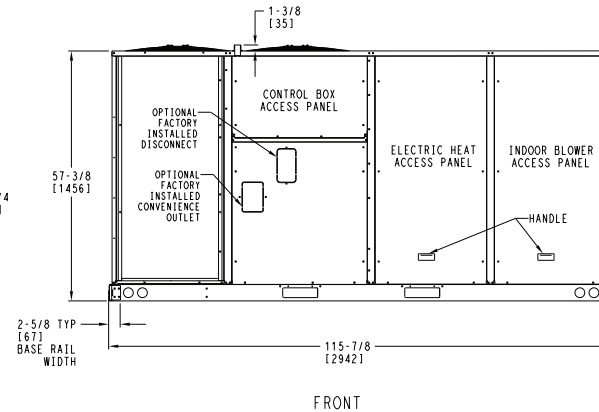
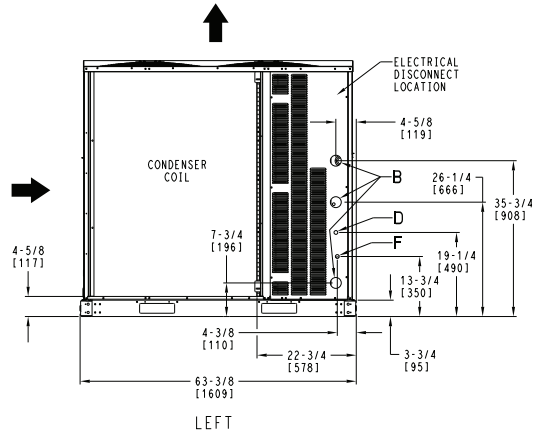
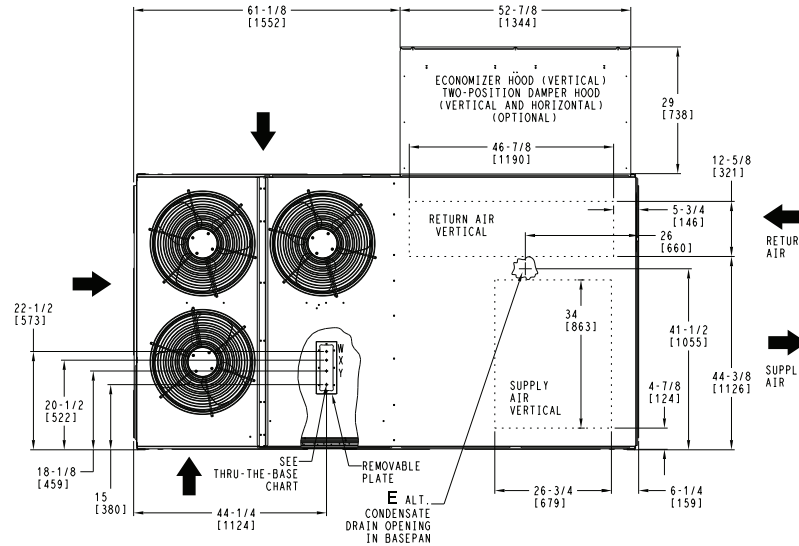
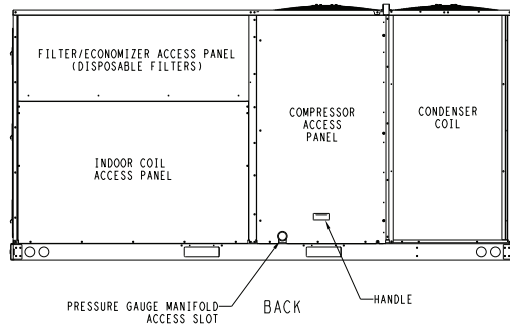
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CONNECTION SIZES			
B	2 1/2" [64]	DIA POWER SUPPLY HOLE	
D	7/8" [22]	DIA FIELD CONTROL WIRING HOLE	
E	3/4"-14 NPT	CONDENSATE DRAIN	
F	7/8" [22]	DIA FIELD CONVENIENCE OUTLET HOLE	

THRU-THE-BASE CHART THESE HOLES REQUIRED FOR USE CBBTAPW005A00, 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".



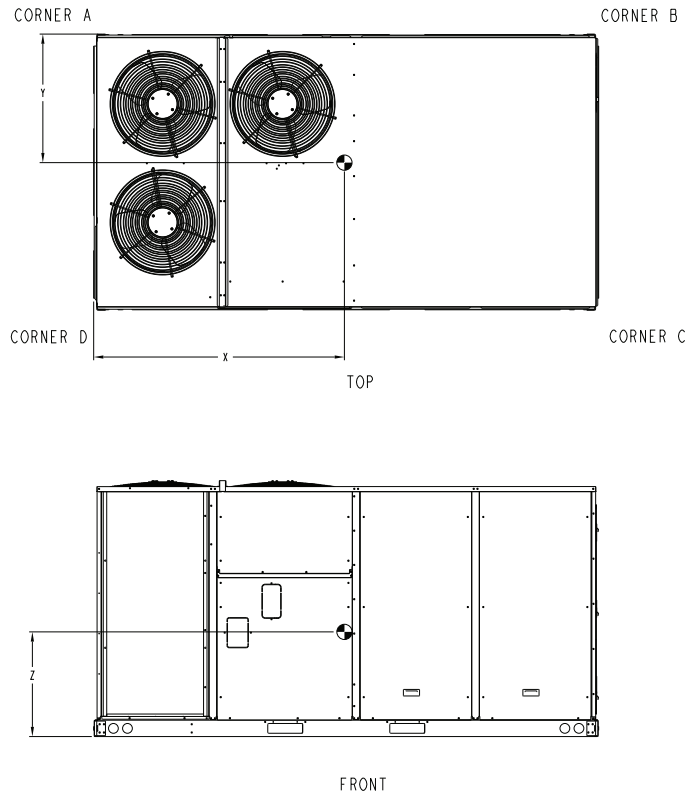
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES	50GEQ 12 SINGLE ZONE ELECTRICAL HEAT PUMP	48TM009923	REV
U.S. ECCN:NSR	1 OF 2	5/31/24	-			-



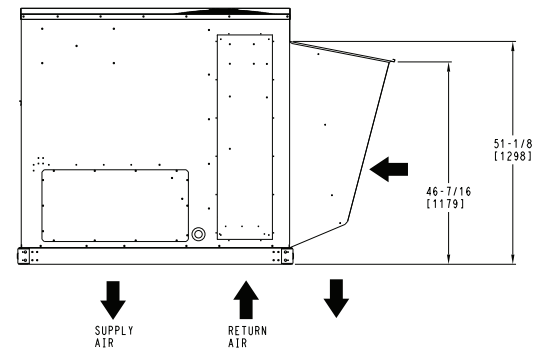
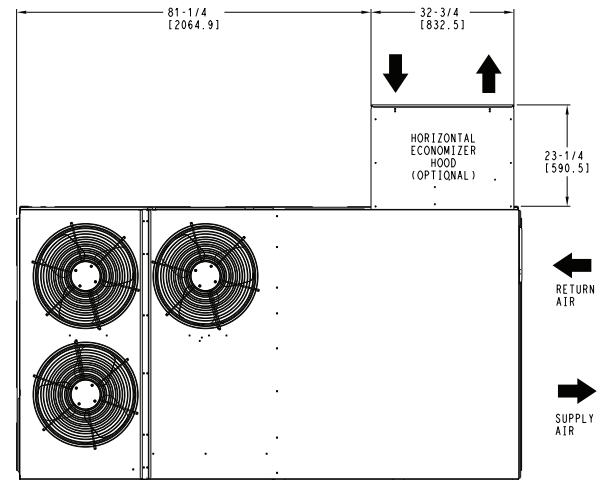
50GEQ 12 Base Unit Dimensions (cont)

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
50GEQ-12	1250	567	350	159	338	153	277	126	286	130	57 [1448]	28 1/2 [724]	24 [610]

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



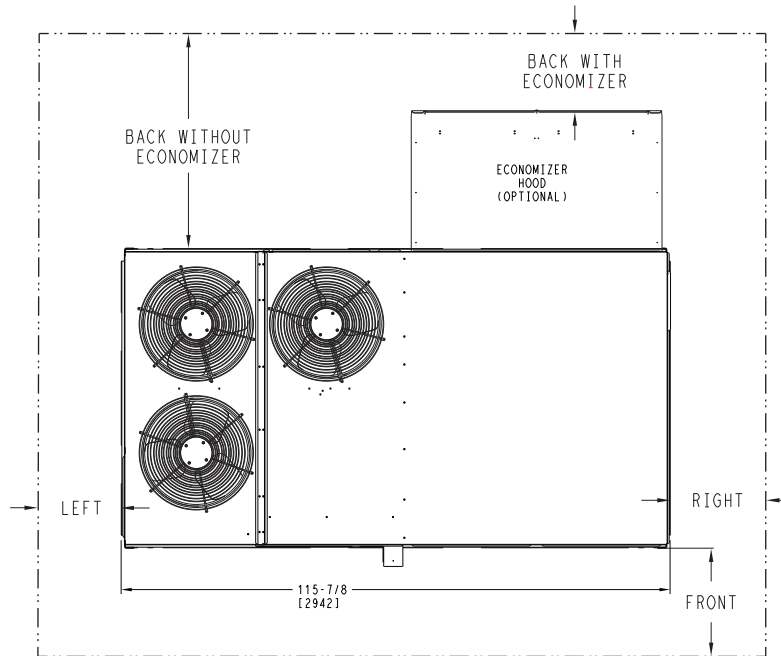
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HORIZONTAL ECONOMIZER

ITC CLASSIFICATION U.S. ECCN:NSR	SHEET 2 OF 2	DATE 5/31/24	SUPERCEDES -	50GEQ 12 SINGLE ZONE ELECTRICAL HEAT PUMP	48TM009923	REV -
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50GEQ 12 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 WITHOUT ECONOMIZER	48 in. (1219 mm)	42 in. (1067 mm)	18 in. (457 mm)
BACK WITH 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):

- For all minimum clearances local codes or jurisdictions may prevail.
- See page 14 for 50GEQ 07-08 clearances. See page 17 for 50GEQ 09 clearances.

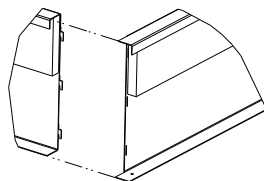
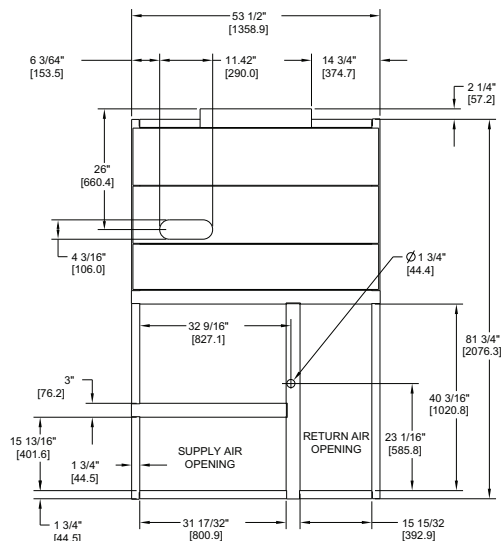
Roof Curb Dimensions — 50GEQ 07-09

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

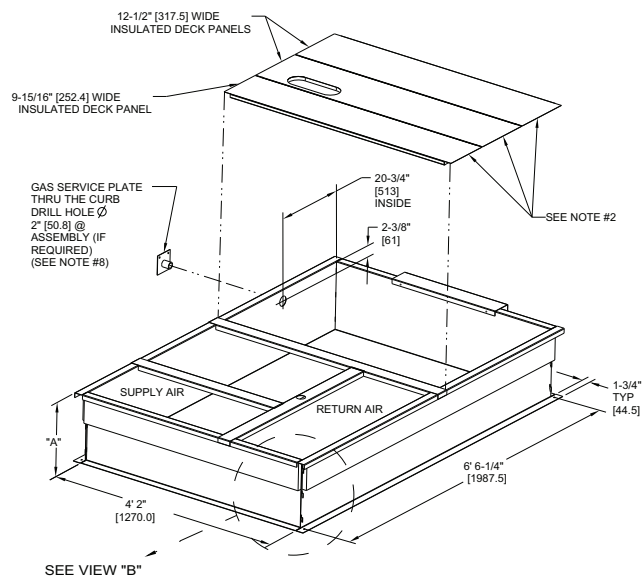
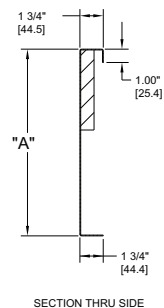
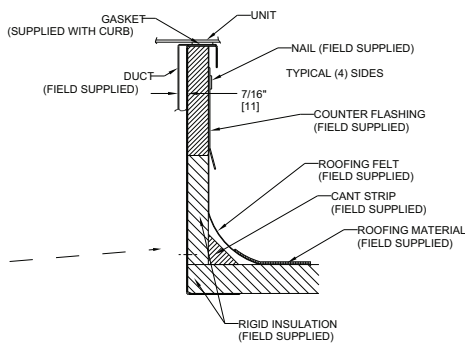
NOTES:

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



SEE VIEW "B"

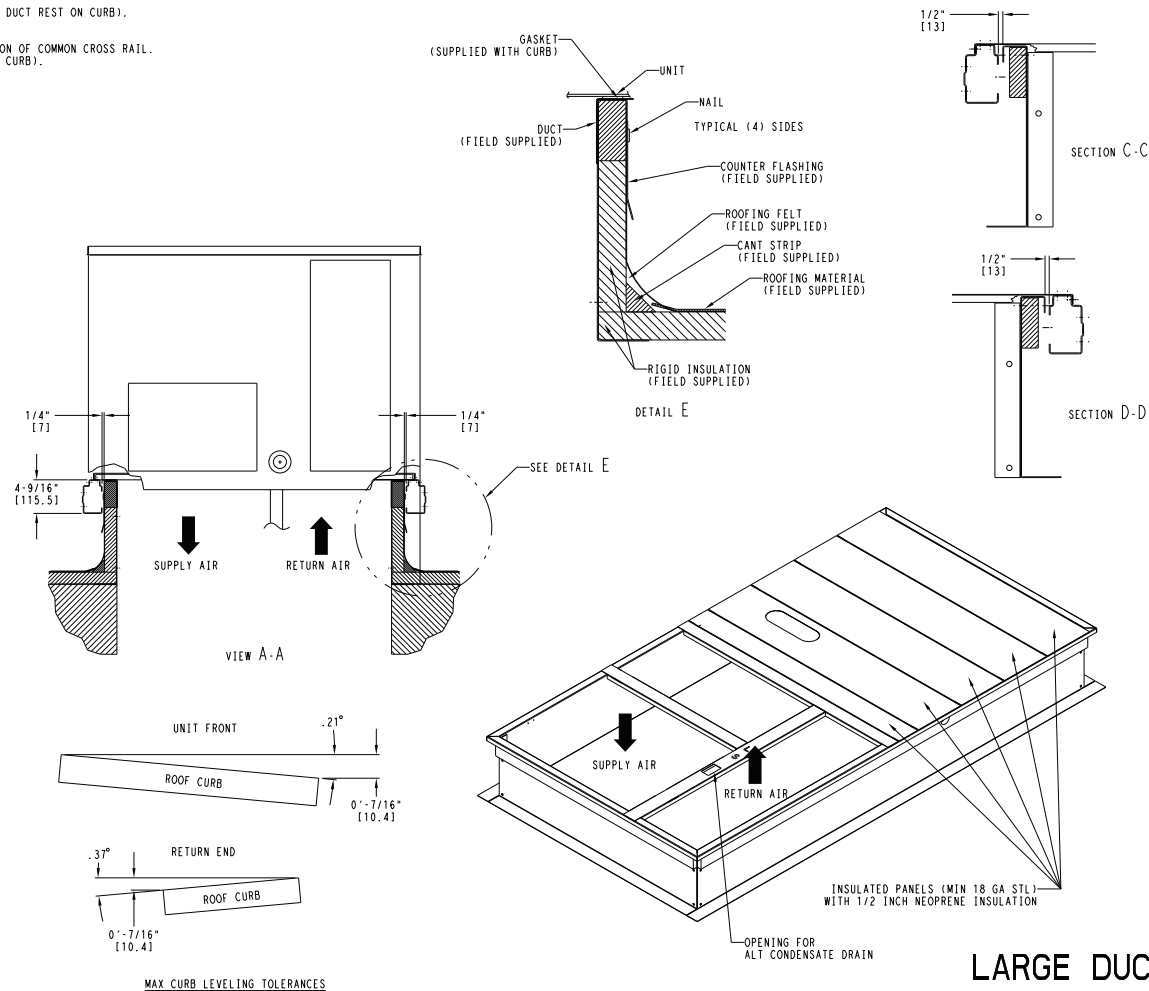
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TITLE	CURB ASY, ROOF
DRAWING NUMBER	50HJ405012
REV	C

Accessory dimensions (cont)

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).



50TM500780

REV
B

50GEQ*07 Two Stage Cooling Capacities

50GEQ*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	66.4	66.4	74.8	64.1	64.1	72.3	61.6	61.6	69.4	58.9	58.9	66.3	55.8	55.8	62.9
			SHC	58.0	66.4	74.8	56.0	64.1	72.3	53.8	61.6	69.4	51.4	58.9	66.3	48.7	55.8	62.9
		62	TC	69.5	69.5	71.5	66.6	66.6	70.1	63.4	63.4	68.5	59.9	59.9	66.8	56.2	56.2	64.7
			SHC	52.6	62.1	71.5	51.2	60.6	70.1	49.6	59.1	68.5	48.0	57.4	66.8	46.1	55.4	64.7
		67	TC	76.4	76.4	76.4	73.2	73.2	73.2	69.7	69.7	69.7	65.9	65.9	65.9	61.8	61.8	61.8
			SHC	43.2	52.8	62.3	41.9	51.4	60.9	40.4	49.9	59.4	38.8	48.3	57.8	37.1	46.6	56.1
		72	TC	83.9	83.9	83.9	80.4	80.4	80.4	76.6	76.6	76.6	72.6	72.6	72.6	68.2	68.2	68.2
			SHC	33.7	43.3	52.8	32.3	41.9	51.5	30.9	40.5	50.0	29.4	38.9	48.5	27.7	37.3	46.8
		76	TC	—	90.3	90.3	—	86.6	86.6	—	82.6	82.6	—	78.3	78.3	—	73.6	73.6
			SHC	—	35.5	45.2	—	34.2	44.1	—	32.8	42.6	—	31.3	41.0	—	29.6	39.4
2100 cfm	EA (wb)	58	TC	70.0	70.0	78.9	67.6	67.6	76.2	64.9	64.9	73.1	61.9	61.9	69.8	58.6	58.6	66.1
			SHC	61.1	70.0	78.9	59.0	67.6	76.2	56.6	64.9	73.1	54.0	61.9	69.8	51.2	58.6	66.1
		62	TC	71.7	71.7	78.4	68.7	68.7	76.9	65.4	65.4	75.0	62.0	62.0	72.5	58.7	58.7	68.7
			SHC	56.7	67.6	78.4	55.2	66.0	76.9	53.5	64.3	75.0	51.5	62.0	72.5	48.7	58.7	68.7
		67	TC	78.6	78.6	78.6	75.2	75.2	75.2	71.5	71.5	71.5	67.6	67.6	67.6	63.2	63.2	63.2
			SHC	45.9	56.9	67.9	44.5	55.5	66.5	43.0	54.0	65.0	41.4	52.4	63.4	39.7	50.7	61.6
		72	TC	86.2	86.2	86.2	82.6	82.6	82.6	78.6	78.6	78.6	74.3	74.3	74.3	69.7	69.7	69.7
			SHC	34.8	45.9	57.0	33.5	44.5	55.6	32.0	43.0	54.1	30.4	41.5	52.5	28.8	39.8	50.8
		76	TC	—	92.7	92.7	—	88.9	88.9	—	84.7	84.7	—	80.1	80.1	—	75.2	75.2
			SHC	—	36.9	48.3	—	35.6	46.9	—	34.2	45.4	—	32.6	43.8	—	30.9	42.1
2400 cfm	EA (wb)	58	TC	73.1	73.1	82.4	70.5	70.5	79.4	67.6	67.6	76.2	64.4	64.4	72.6	61.0	61.0	68.7
			SHC	63.8	73.1	82.4	61.5	70.5	79.4	59.0	67.6	76.2	56.2	64.4	72.6	53.2	61.0	68.7
		62	TC	73.6	73.6	84.6	71.3	71.3	79.4	67.6	67.6	79.1	64.5	64.5	75.4	61.0	61.0	71.4
			SHC	60.4	72.5	84.6	57.1	68.3	79.4	56.2	67.6	79.1	53.6	64.5	75.4	50.7	61.0	71.4
		67	TC	80.3	80.3	80.3	76.8	76.8	76.8	72.9	72.9	72.9	68.8	68.8	68.8	64.4	64.4	66.9
			SHC	48.5	60.9	73.4	47.0	59.5	71.9	45.5	58.0	70.4	43.9	56.3	68.7	42.1	54.5	66.9
		72	TC	88.0	88.0	88.0	84.2	84.2	84.2	80.1	80.1	80.1	75.7	75.7	75.7	70.9	70.9	70.9
			SHC	35.8	48.4	60.9	34.5	47.0	59.5	33.0	45.5	58.0	31.4	43.9	56.4	29.7	42.2	54.7
		76	TC	—	94.6	94.6	—	90.6	90.6	—	86.3	86.3	—	81.5	81.5	—	76.5	76.5
			SHC	—	38.2	51.0	—	36.9	49.6	—	35.4	48.1	—	33.8	46.5	—	32.2	44.8
2700 cfm	EA (wb)	58	TC	75.7	75.7	85.3	72.9	72.9	82.2	69.9	69.9	78.8	66.6	66.6	75.0	63.0	63.0	71.0
			SHC	66.1	75.7	85.3	63.7	72.9	82.2	61.0	69.9	78.8	58.1	66.6	75.0	55.0	63.0	71.0
		62	TC	76.8	76.8	84.2	73.0	73.0	85.3	70.0	70.0	81.8	66.6	66.6	77.9	63.0	63.0	73.7
			SHC	60.8	72.5	84.2	60.6	73.0	85.3	58.1	70.0	81.8	55.3	66.6	77.9	52.3	63.0	73.7
		67	TC	81.6	81.6	81.6	78.0	78.0	78.0	74.1	74.1	75.6	69.9	69.9	73.9	65.3	65.3	72.0
			SHC	50.9	64.8	78.7	49.5	63.4	77.2	47.9	61.8	75.6	46.3	60.1	73.9	44.5	58.2	72.0
		72	TC	89.4	89.4	89.4	85.5	85.5	85.5	81.2	81.2	81.2	76.7	76.7	76.7	71.8	71.8	71.8
			SHC	36.8	50.8	64.7	35.4	49.4	63.3	33.9	47.8	61.8	32.3	46.2	60.2	30.6	44.5	58.4
		76	TC	—	96.0	96.0	—	91.9	91.9	—	87.5	87.5	—	82.7	82.7	—	77.5	77.5
			SHC	—	39.4	53.6	—	38.0	52.2	—	36.6	50.7	—	35.0	49.0	—	33.3	47.3
3000 cfm	EA (wb)	58	TC	77.9	77.9	87.8	75.0	75.0	84.6	71.9	71.9	81.0	68.4	68.4	77.1	64.7	64.7	72.9
			SHC	68.0	77.9	87.8	65.5	75.0	84.6	62.7	71.9	81.0	59.7	68.4	77.1	56.4	64.7	72.9
		62	TC	78.0	78.0	91.2	75.1	75.1	87.8	71.9	71.9	84.1	68.5	68.5	80.1	64.7	64.7	75.7
			SHC	64.8	78.0	91.2	62.3	75.1	87.8	59.7	71.9	84.1	56.9	68.5	80.1	53.7	64.7	75.7
		67	TC	82.7	82.7	83.8	79.0	79.0	82.3	75.0	75.0	80.6	70.7	70.7	78.8	66.1	66.1	76.7
			SHC	53.2	68.5	83.8	51.8	67.0	82.3	50.2	65.4	80.6	48.5	63.6	78.8	46.6	61.7	76.7
		72	TC	90.5	90.5	90.5	86.6	86.6	86.6	82.1	82.1	82.1	77.6	77.6	77.6	72.6	72.6	72.6
			SHC	37.7	53.1	68.5	36.3	51.7	67.0	34.8	50.1	65.5	33.2	48.5	63.8	31.5	46.8	62.1
		76	TC	—	97.2	97.2	—	93.0	93.0	—	88.5	88.5	—	83.6	83.6	—	78.3	78.3
			SHC	—	40.5	56.1	—	39.1	54.7	—	37.7	53.1	—	36.1	51.5	—	34.4	49.7

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 7.

50GEQ*07 Single Stage Cooling Capacities

50GEQ*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
1080 cfm	EA (wb)	58	TC	39.7	39.7	44.7	38.3	38.3	43.2	36.9	36.9	41.6	35.3	35.3	39.7	33.5	33.5	37.7
			SHC	34.6	39.7	44.7	33.5	38.3	43.2	32.2	36.9	41.6	30.8	35.3	39.7	29.2	33.5	37.7
		62	TC	41.8	41.8	42.4	40.1	40.1	41.6	38.2	38.2	40.6	36.1	36.1	39.6	33.9	33.9	38.4
			SHC	31.3	36.8	42.4	30.5	36.0	41.6	29.6	35.1	40.6	28.6	34.1	39.6	27.5	33.0	38.4
		67	TC	46.0	46.0	46.0	44.2	44.2	44.2	42.1	42.1	42.1	39.9	39.9	39.9	37.4	37.4	37.4
			SHC	25.9	31.5	37.1	25.1	30.7	36.3	24.3	29.8	35.4	23.3	28.9	34.4	22.3	27.9	33.4
		72	TC	50.7	50.7	50.7	48.7	48.7	48.7	46.5	46.5	46.5	44.1	44.1	44.1	41.5	41.5	41.5
			SHC	20.4	26.0	31.6	19.6	25.2	30.8	18.8	24.4	30.0	17.9	23.5	29.1	16.9	22.5	28.1
		76	TC	—	54.7	54.7	—	52.5	52.5	—	50.2	50.2	—	47.7	47.7	—	44.9	44.9
			SHC	—	21.6	27.4	—	20.8	26.6	—	20.0	25.7	—	19.1	24.8	—	18.1	23.8
1260 cfm	EA (wb)	58	TC	41.9	41.9	47.2	40.4	40.4	45.6	38.9	38.9	43.8	37.1	37.1	41.8	35.2	35.2	39.7
			SHC	36.6	41.9	47.2	35.3	40.4	45.6	33.9	38.9	43.8	32.4	37.1	41.8	30.7	35.2	39.7
		62	TC	43.1	43.1	46.4	41.4	41.4	45.5	39.4	39.4	44.5	37.3	37.3	43.1	35.3	35.3	41.2
			SHC	33.7	40.0	46.4	32.8	39.2	45.5	31.9	38.2	44.5	30.7	36.9	43.1	29.3	35.2	41.2
		67	TC	47.4	47.4	47.4	45.5	45.5	45.5	43.3	43.3	43.3	41.0	41.0	41.0	38.4	38.4	38.4
			SHC	27.5	33.9	40.3	26.7	33.1	39.5	25.8	32.2	38.6	24.8	31.2	37.6	23.8	30.2	36.6
		72	TC	52.2	52.2	52.2	50.0	50.0	50.0	47.7	47.7	47.7	45.2	45.2	45.2	42.5	42.5	42.5
			SHC	21.1	27.6	34.0	20.3	26.8	33.2	19.4	25.9	32.3	18.5	25.0	31.4	17.5	24.0	30.4
		76	TC	—	56.2	56.2	—	54.0	54.0	—	51.5	51.5	—	48.9	48.9	—	46.0	46.0
			SHC	—	22.4	29.1	—	21.6	28.3	—	20.8	27.4	—	19.9	26.4	—	18.9	25.4
1440 cfm	EA (wb)	58	TC	43.7	43.7	49.3	42.2	42.2	47.6	40.5	40.5	45.7	38.7	38.7	43.6	36.7	36.7	41.3
			SHC	38.2	43.7	49.3	36.9	42.2	47.6	35.4	40.5	45.7	33.8	38.7	43.6	32.0	36.7	41.3
		62	TC	44.3	44.3	50.0	42.5	42.5	49.0	40.6	40.6	47.4	38.7	38.7	45.3	36.7	36.7	42.9
			SHC	35.9	42.9	50.0	34.9	41.9	49.0	33.7	40.5	47.4	32.2	38.7	45.3	30.5	36.7	42.9
		67	TC	48.5	48.5	48.5	46.5	46.5	46.5	44.2	44.2	44.2	41.8	41.8	41.8	39.1	39.1	39.7
			SHC	29.0	36.2	43.5	28.1	35.4	42.6	27.2	34.5	41.7	26.3	33.5	40.7	25.2	32.4	39.7
		72	TC	53.3	53.3	53.3	51.1	51.1	51.1	48.7	48.7	48.7	46.1	46.1	46.1	43.3	43.3	43.3
			SHC	21.7	29.0	36.3	20.9	28.2	35.5	20.1	27.3	34.6	19.1	26.4	33.6	18.1	25.4	32.6
		76	TC	—	57.4	57.4	—	55.1	55.1	—	52.5	52.5	—	49.8	49.8	—	46.8	46.8
			SHC	—	23.2	30.7	—	22.4	29.9	—	21.5	29.0	—	20.6	28.0	—	19.6	27.0
1620 cfm	EA (wb)	58	TC	45.3	45.3	51.1	43.7	43.7	49.3	42.0	42.0	47.3	40.0	40.0	45.1	37.9	37.9	42.7
			SHC	39.6	45.3	51.1	38.2	43.7	49.3	36.6	42.0	47.3	34.9	40.0	45.1	33.1	37.9	42.7
		62	TC	45.4	45.4	53.1	43.8	43.8	51.2	42.0	42.0	49.1	40.1	40.1	46.9	38.0	38.0	44.4
			SHC	37.7	45.4	53.1	36.3	43.8	51.2	34.9	42.0	49.1	33.3	40.1	46.9	31.5	38.0	44.4
		67	TC	49.4	49.4	49.4	47.3	47.3	47.3	44.9	44.9	44.9	42.4	42.4	43.7	39.7	39.7	42.6
			SHC	30.4	38.4	46.5	29.5	37.6	45.7	28.6	36.7	44.7	27.6	35.7	43.7	26.6	34.6	42.6
		72	TC	54.2	54.2	54.2	52.0	52.0	52.0	49.5	49.5	49.5	46.8	46.8	46.8	43.9	43.9	43.9
			SHC	22.3	30.4	38.5	21.5	29.6	37.7	20.6	28.7	36.8	19.7	27.7	35.8	18.6	26.7	34.8
		76	TC	—	58.4	58.4	—	56.0	56.0	—	53.4	53.4	—	50.5	50.5	—	47.5	47.5
			SHC	—	23.9	32.2	—	23.1	31.4	—	22.2	30.5	—	21.3	29.5	—	20.3	28.5
1800 cfm	EA (wb)	58	TC	46.7	46.7	52.6	45.0	45.0	50.7	43.2	43.2	48.7	41.2	41.2	46.4	39.0	39.0	43.9
			SHC	40.8	46.7	52.6	39.3	45.0	50.7	37.7	43.2	48.7	36.0	41.2	46.4	34.0	39.0	43.9
		62	TC	46.7	46.7	54.7	45.1	45.1	52.7	43.2	43.2	50.6	41.2	41.2	48.2	39.0	39.0	45.6
			SHC	38.8	46.7	54.7	37.4	45.1	52.7	35.9	43.2	50.6	34.2	41.2	48.2	32.4	39.0	45.6
		67	TC	50.1	50.1	50.1	47.9	47.9	48.6	45.5	45.5	47.6	43.0	43.0	46.5	40.2	40.2	45.3
			SHC	31.7	40.6	49.5	30.9	39.7	48.6	29.9	38.8	47.6	28.9	37.7	46.5	27.8	36.6	45.3
		72	TC	55.0	55.0	55.0	52.6	52.6	52.6	50.1	50.1	50.1	47.4	47.4	47.4	44.4	44.4	44.4
			SHC	22.9	31.8	40.7	22.0	30.9	39.8	21.2	30.0	38.9	20.2	29.1	37.9	19.2	28.0	36.9
		76	TC	—	59.2	59.2	—	56.7	56.7	—	54.0	54.0	—	51.1	51.1	—	48.0	48.0
			SHC	—	24.6	33.6	—	23.8	32.8	—	22.9	31.9	—	22.0	31.0	—	21.0	29.9

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 7.

50GEQ*08 Two Stage Cooling Capacities

50GEQ*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	87.4	87.4	100.0	84.4	84.4	96.5	81.0	81.0	92.7	77.3	77.3	88.4	73.3	73.3	83.8
			SHC	74.8	87.4	100.0	72.2	84.4	96.5	69.4	81.0	92.7	66.2	77.3	88.4	62.7	73.3	83.8
		62	TC	91.6	91.6	95.1	87.7	87.7	93.3	83.4	83.4	91.3	78.7	78.7	89.1	73.7	73.7	86.7
			SHC	67.3	81.2	95.1	65.4	79.4	93.3	63.4	77.4	91.3	61.3	75.2	89.1	59.0	72.8	86.7
		67	TC	100.5	100.5	100.5	96.2	96.2	96.2	91.6	91.6	91.6	86.5	86.5	86.5	81.0	81.0	81.0
			SHC	55.0	68.9	82.9	53.2	67.1	81.1	51.2	65.2	79.1	49.1	63.1	77.0	46.9	60.8	74.8
		72	TC	110.2	110.2	110.2	105.5	105.5	105.5	100.5	100.5	100.5	95.0	95.0	95.0	89.2	89.2	89.2
			SHC	42.4	56.5	70.5	40.6	54.7	68.7	38.7	52.8	66.8	36.7	50.7	64.7	34.5	48.5	62.6
		76	TC	—	118.5	118.5	—	113.6	113.6	—	108.2	108.2	—	102.3	102.3	—	96.2	96.2
			SHC	—	46.2	60.3	—	44.5	58.5	—	42.6	56.6	—	40.5	54.6	—	38.4	52.5
2650 cfm	EA (wb)	58	TC	92.8	92.8	106.1	89.4	89.4	102.3	85.8	85.8	98.1	81.7	81.7	93.5	77.4	77.4	88.5
			SHC	79.4	92.8	106.1	76.6	89.4	102.3	73.5	85.8	98.1	70.0	81.7	93.5	66.3	77.4	88.5
		62	TC	94.8	94.8	105.7	90.7	90.7	103.8	86.2	86.2	101.5	81.9	81.9	97.6	77.5	77.5	92.4
			SHC	73.1	89.4	105.7	71.2	87.5	103.8	69.1	85.3	101.5	66.1	81.9	97.6	62.6	77.5	92.4
		67	TC	103.6	103.6	103.6	99.1	99.1	99.1	94.2	94.2	94.2	88.8	88.8	88.8	83.1	83.1	83.1
			SHC	58.5	74.9	91.3	56.7	73.1	89.5	54.7	71.1	87.5	52.5	68.9	85.3	50.3	66.7	83.1
		72	TC	113.4	113.4	113.4	108.6	108.6	108.6	103.2	103.2	103.2	97.4	97.4	97.4	91.4	91.4	91.4
			SHC	43.7	60.2	76.7	41.9	58.4	74.8	39.9	56.4	72.9	37.8	54.3	70.8	35.6	52.1	68.6
		76	TC	—	121.9	121.9	—	116.7	116.7	—	111.0	111.0	—	104.9	104.9	—	—	—
			SHC	—	48.1	64.6	—	46.3	62.8	—	44.4	60.9	—	42.3	58.8	—	—	—
3000 cfm	EA (wb)	58	TC	96.7	96.7	110.6	93.2	93.2	106.6	89.2	89.2	102.1	85.0	85.0	97.2	80.4	80.4	92.0
			SHC	82.8	96.7	110.6	79.8	93.2	106.6	76.4	89.2	102.1	72.7	85.0	97.2	68.8	80.4	92.0
		62	TC	98.4	98.4	109.9	93.3	93.3	111.2	89.3	89.3	106.5	85.1	85.1	101.4	80.7	80.7	95.1
			SHC	75.9	92.9	109.9	75.3	93.3	111.2	72.2	89.3	106.5	68.7	85.1	101.4	64.7	79.9	95.1
		67	TC	105.8	105.8	105.8	101.0	101.0	101.0	95.9	95.9	95.9	90.4	90.4	92.5	84.5	84.5	90.2
			SHC	61.4	80.0	98.6	59.6	78.1	96.7	57.5	76.1	94.6	55.4	73.9	92.5	53.2	71.7	90.2
		72	TC	115.6	115.6	115.6	110.5	110.5	110.5	105.0	105.0	105.0	99.0	99.0	99.0	92.8	92.8	92.8
			SHC	44.6	63.3	82.0	42.8	61.4	80.1	40.8	59.4	78.1	38.7	57.3	75.9	36.5	55.1	73.7
		76	TC	—	124.1	124.1	—	118.7	118.7	—	112.9	112.9	—	106.5	106.5	—	—	—
			SHC	—	49.6	68.3	—	47.8	66.5	—	45.8	64.5	—	43.7	62.4	—	—	—
3400 cfm	EA (wb)	58	TC	100.4	100.4	114.9	96.7	96.7	110.6	92.6	92.6	105.9	88.1	88.1	100.7	83.2	83.2	95.2
			SHC	86.0	100.4	114.9	82.8	96.7	110.6	79.3	92.6	105.9	75.4	88.1	100.7	71.3	83.2	95.2
		62	TC	100.6	100.6	119.9	96.8	96.8	115.4	92.7	92.7	110.5	88.1	88.1	105.1	83.3	83.3	99.3
			SHC	81.3	100.6	119.9	78.2	96.8	115.4	74.9	92.7	110.5	71.2	88.1	105.1	67.3	83.3	99.3
		67	TC	107.6	107.6	107.6	102.7	102.7	104.7	97.5	97.5	102.6	91.8	91.8	100.4	85.8	85.8	98.1
			SHC	64.7	85.7	106.6	62.8	83.7	104.7	60.8	81.7	102.6	58.6	79.5	100.4	56.4	77.3	98.1
		72	TC	117.5	117.5	117.5	112.3	112.3	112.3	106.6	106.6	106.6	100.4	100.4	100.4	94.0	94.0	94.0
			SHC	45.5	66.6	87.7	43.7	64.8	85.8	41.7	62.8	83.8	39.6	60.6	81.7	37.4	58.4	79.5
		76	TC	—	126.1	126.1	—	120.6	120.6	—	114.5	114.5	—	108.0	108.0	—	—	—
			SHC	—	51.1	72.3	—	49.3	70.5	—	47.4	68.5	—	45.2	66.4	—	—	—
3750 cfm	EA (wb)	58	TC	103.3	103.3	118.1	99.4	99.4	113.7	95.1	95.1	108.8	90.4	90.4	103.4	85.4	85.4	97.7
			SHC	88.4	103.3	118.1	85.1	99.4	113.7	81.4	95.1	108.8	77.4	90.4	103.4	73.1	85.4	97.7
		62	TC	103.4	103.4	123.2	99.5	99.5	118.6	95.2	95.2	113.4	90.4	90.4	107.8	85.5	85.5	101.9
			SHC	83.5	103.4	123.2	80.4	99.5	118.6	76.9	95.2	113.4	73.1	90.4	107.8	69.0	85.4	101.9
		67	TC	109.0	109.0	113.6	103.9	103.9	111.6	98.6	98.6	109.5	92.8	92.8	107.3	86.8	86.8	104.9
			SHC	67.5	90.5	113.6	65.6	88.6	111.6	63.6	86.6	109.5	61.4	84.3	107.3	59.2	82.0	104.9
		72	TC	118.9	118.9	118.9	113.5	113.5	113.5	107.7	107.7	107.7	101.4	101.4	101.4	94.9	94.9	94.9
			SHC	46.2	69.4	92.6	44.4	67.6	90.8	42.4	65.6	88.8	40.3	63.5	86.6	38.1	61.3	84.4
		76	TC	—	127.5	127.5	—	121.8	121.8	—	115.7	115.7	—	109.0	109.0	—	—	—
			SHC	—	52.3	75.7	—	50.5	73.8	—	48.5	71.8	—	46.4	69.7	—	—	—

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 7.

50GEQ*08 Single Stage Cooling Capacities

50GEQ*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
1350 cfm	EA (wb)	58	TC	54.3	54.3	60.9	52.3	52.3	58.7	50.2	50.2	56.3	47.8	47.8	53.7	45.2	45.2	50.8
			SHC	47.7	54.3	60.9	45.9	52.3	58.7	44.0	50.2	56.3	41.9	47.8	53.7	39.6	45.2	50.8
		62	TC	57.8	57.8	57.8	55.3	55.3	55.4	52.5	52.5	54.0	49.5	49.5	52.5	46.2	46.2	50.9
			SHC	42.8	49.8	56.7	41.4	48.4	55.4	40.0	47.0	54.0	38.5	45.5	52.5	36.9	43.9	50.9
		67	TC	63.8	63.8	63.8	61.1	61.1	61.1	58.1	58.1	58.1	54.9	54.9	54.9	51.3	51.3	51.3
			SHC	35.7	42.7	49.7	34.3	41.4	48.4	33.0	40.0	47.0	31.5	38.5	45.5	29.9	36.9	43.9
		72	TC	70.4	70.4	70.4	67.4	67.4	67.4	64.2	64.2	64.2	60.8	60.8	60.8	57.0	57.0	57.0
			SHC	28.4	35.4	42.4	27.1	34.1	41.1	25.7	32.7	39.7	24.3	31.3	38.3	22.7	29.7	36.7
		76	TC	—	76.1	76.1	—	72.8	72.8	—	69.5	69.5	—	65.8	65.8	—	61.8	61.8
			SHC	—	29.5	36.5	—	28.2	35.2	—	26.8	33.8	—	25.4	32.4	—	23.9	30.9
1590 cfm	EA (wb)	58	TC	58.0	58.0	65.0	55.8	55.8	62.7	53.5	53.5	60.1	51.0	51.0	57.2	48.1	48.1	54.1
			SHC	50.9	58.0	65.0	49.0	55.8	62.7	47.0	53.5	60.1	44.7	51.0	57.2	42.2	48.1	54.1
		62	TC	60.1	60.1	63.1	57.4	57.4	61.8	54.5	54.5	60.3	51.3	51.3	58.7	48.2	48.2	56.2
			SHC	46.7	54.9	63.1	45.3	53.5	61.8	43.9	52.1	60.3	42.3	50.5	58.7	40.2	48.2	56.2
		67	TC	66.2	66.2	66.2	63.3	63.3	63.3	60.1	60.1	60.1	56.7	56.7	56.7	53.0	53.0	53.0
			SHC	38.2	46.4	54.7	36.9	45.1	53.3	35.4	43.7	51.9	33.9	42.2	50.4	32.3	40.5	48.8
		72	TC	72.9	72.9	72.9	69.7	69.7	69.7	66.3	66.3	66.3	62.7	62.7	62.7	58.7	58.7	58.7
			SHC	29.6	37.8	46.1	28.2	36.5	44.7	26.8	35.1	43.3	25.4	33.6	41.9	23.8	32.0	40.3
		76	TC	—	78.7	78.7	—	75.3	75.3	—	71.7	71.7	—	67.8	67.8	—	63.6	63.6
			SHC	—	30.8	39.1	—	29.5	37.7	—	28.1	36.3	—	26.6	34.9	—	25.1	33.3
1800 cfm	EA (wb)	58	TC	60.7	60.7	68.1	58.5	58.5	65.6	56.0	56.0	62.8	53.3	53.3	59.8	50.3	50.3	56.5
			SHC	53.3	60.7	68.1	51.3	58.5	65.6	49.1	56.0	62.8	46.7	53.3	59.8	44.1	50.3	56.5
		62	TC	61.7	61.7	68.5	58.9	58.9	67.1	55.8	55.8	65.2	53.3	53.3	62.1	50.4	50.4	58.7
			SHC	50.0	59.2	68.5	48.6	57.9	67.1	46.5	55.8	65.2	44.6	53.3	62.1	42.0	50.4	58.7
		67	TC	67.8	67.8	67.8	64.7	64.7	64.7	61.5	61.5	61.5	57.9	57.9	57.9	54.1	54.1	54.1
			SHC	40.3	49.6	59.0	38.9	48.3	57.6	37.5	46.8	56.2	36.0	45.3	54.6	34.3	43.6	53.0
		72	TC	74.6	74.6	74.6	71.2	71.2	71.2	67.7	67.7	67.7	63.9	63.9	63.9	59.8	59.8	59.8
			SHC	30.5	39.9	49.2	29.1	38.5	47.8	27.7	37.1	46.4	26.2	35.6	44.9	24.6	34.0	43.3
		76	TC	—	80.4	80.4	—	76.8	76.8	—	73.1	73.1	—	69.1	69.1	—	64.8	64.8
			SHC	—	31.9	41.2	—	30.5	39.9	—	29.1	38.5	—	27.6	37.0	—	26.1	35.4
2040 cfm	EA (wb)	58	TC	63.4	63.4	71.1	61.1	61.1	68.5	58.4	58.4	65.5	55.5	55.5	62.3	52.4	52.4	58.8
			SHC	55.7	63.4	71.1	53.6	61.1	68.5	51.3	58.4	65.5	48.7	55.5	62.3	45.9	52.4	58.8
		62	TC	63.4	63.4	73.7	61.1	61.1	71.0	58.5	58.5	68.0	54.7	54.7	64.3	52.4	52.4	61.1
			SHC	53.0	63.4	73.7	51.2	61.1	71.0	48.9	58.5	68.0	45.1	54.7	64.3	43.8	52.4	61.1
		67	TC	69.2	69.2	69.2	66.1	66.1	66.1	62.7	62.7	62.7	59.0	59.0	59.3	55.0	55.0	57.7
			SHC	42.7	53.2	63.7	41.3	51.8	62.3	39.8	50.3	60.9	38.3	48.8	59.3	36.6	47.1	57.7
		72	TC	76.1	76.1	76.1	72.6	72.6	72.6	69.0	69.0	69.0	65.1	65.1	65.1	60.8	60.8	60.8
			SHC	31.5	42.1	52.7	30.1	40.7	51.3	28.7	39.3	49.9	27.2	37.7	48.3	25.6	36.2	46.8
		76	TC	—	81.9	81.9	—	78.2	78.2	—	74.4	74.4	—	70.3	70.3	—	65.8	65.8
			SHC	—	33.0	43.6	—	31.6	42.2	—	30.2	40.8	—	28.7	39.3	—	27.1	37.7
2250 cfm	EA (wb)	58	TC	65.5	65.5	73.5	63.0	63.0	70.7	60.2	60.2	67.5	57.2	57.2	64.2	53.9	53.9	60.6
			SHC	57.6	65.5	73.5	55.4	63.0	70.7	52.8	60.2	67.5	50.2	57.2	64.2	47.3	53.9	60.6
		62	TC	65.5	65.5	76.1	63.1	63.1	73.4	60.3	60.3	70.1	57.3	57.3	66.7	54.0	54.0	62.9
			SHC	54.9	65.5	76.1	52.9	63.1	73.4	50.4	60.3	70.1	47.9	57.3	66.7	45.1	54.0	62.9
		67	TC	70.3	70.3	70.3	67.0	67.0	67.0	63.5	63.5	65.0	59.7	59.7	63.4	55.8	55.8	61.7
			SHC	44.6	56.3	67.9	43.2	54.8	66.5	41.8	53.4	65.0	40.2	51.8	63.4	38.6	50.1	61.7
		72	TC	77.1	77.1	77.1	73.6	73.6	73.6	69.9	69.9	69.9	65.8	65.8	65.8	61.5	61.5	61.5
			SHC	32.3	43.9	55.6	30.9	42.6	54.3	29.4	41.1	52.8	27.9	39.6	51.3	26.3	38.0	49.6
		76	TC	—	83.0	83.0	—	79.2	79.2	—	75.3	75.3	—	71.1	71.1	—	66.5	66.5
			SHC	—	33.9	45.6	—	32.5	44.2	—	31.1	42.8	—	29.6	41.3	—	28.0	39.7

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 7.

50GEQ*09 Two Stage Cooling Capacities

50GEQ*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	90.7	90.7	103.3	86.2	86.2	98.4	81.4	81.4	93.1	76.3	76.3	87.5	70.8	70.8	81.4
			SHC	78.1	90.7	103.3	74.0	86.2	98.4	69.7	81.4	93.1	65.1	76.3	87.5	60.2	70.8	81.4
		62	TC	96.0	96.0	97.6	90.5	90.5	94.3	84.6	84.6	90.9	78.4	78.4	87.2	71.8	71.8	83.3
			SHC	70.1	83.8	97.6	66.8	80.6	94.3	63.3	77.1	90.9	59.8	73.5	87.2	56.0	69.6	83.3
		67	TC	106.5	106.5	106.5	100.6	100.6	100.6	94.4	94.4	94.4	87.6	87.6	87.6	80.4	80.4	80.4
			SHC	57.4	71.2	85.1	54.1	68.0	81.8	50.7	64.6	78.4	47.2	61.0	74.9	43.5	57.3	71.1
		72	TC	118.1	118.1	118.1	111.8	111.8	111.8	105.1	105.1	105.1	97.9	97.9	97.9	90.2	90.2	90.2
			SHC	44.5	58.4	72.4	41.3	55.2	69.1	37.9	51.8	65.7	34.3	48.3	62.2	30.7	44.6	58.5
		76	TC	—	128.1	128.1	—	121.5	121.5	—	114.3	114.3	—	106.7	106.7	—	98.5	98.5
			SHC	—	47.9	62.0	—	44.7	58.7	—	41.3	55.4	—	37.8	51.9	—	34.2	48.2
3000 cfm	EA (wb)	58	TC	96.9	96.9	110.3	92.1	92.1	105.0	87.0	87.0	99.4	81.5	81.5	93.3	75.6	75.6	86.8
			SHC	83.6	96.9	110.3	79.2	92.1	105.0	74.6	87.0	99.4	69.7	81.5	93.3	64.4	75.6	86.8
		62	TC	99.8	99.8	108.8	94.1	94.1	105.4	88.0	88.0	101.6	82.2	82.2	95.7	75.7	75.7	90.7
			SHC	76.7	92.8	108.8	73.3	89.4	105.4	69.7	85.7	101.6	65.1	80.4	95.7	60.8	75.7	90.7
		67	TC	110.3	110.3	110.3	104.1	104.1	104.1	97.5	97.5	97.5	90.4	90.4	90.4	82.9	82.9	82.9
			SHC	61.7	77.9	94.1	58.4	74.6	90.8	54.9	71.1	87.3	51.3	67.5	83.7	47.5	63.7	79.9
		72	TC	122.2	122.2	122.2	115.5	115.5	115.5	108.4	108.4	108.4	100.9	100.9	100.9	92.8	92.8	92.8
			SHC	46.4	62.7	79.0	43.1	59.4	75.7	39.6	55.9	72.2	36.0	52.3	68.6	32.3	48.6	64.8
		76	TC	—	132.3	132.3	—	125.2	125.2	—	117.7	117.7	—	109.7	109.7	—	101.2	101.2
			SHC	—	50.3	66.8	—	47.1	63.6	—	43.6	60.1	—	40.0	56.4	—	36.2	52.7
3400 cfm	EA (wb)	58	TC	101.5	101.5	115.4	96.5	96.5	109.9	91.1	91.1	104.0	85.4	85.4	97.6	79.2	79.2	90.8
			SHC	87.6	101.5	115.4	83.1	96.5	109.9	78.2	91.1	104.0	73.1	85.4	97.6	67.5	79.2	90.8
		62	TC	102.6	102.6	118.1	97.5	97.5	112.2	91.2	91.2	108.4	85.5	85.5	101.9	79.3	79.3	94.8
			SHC	82.2	100.1	118.1	77.7	94.9	112.2	74.0	91.2	108.4	69.1	85.5	101.9	63.7	79.3	94.8
		67	TC	112.9	112.9	112.9	106.5	106.5	106.5	99.7	99.7	99.7	92.4	92.4	92.4	84.6	84.6	87.4
			SHC	65.3	83.6	101.9	61.9	80.2	98.5	58.4	76.7	94.9	54.8	73.0	91.3	51.0	69.2	87.4
		72	TC	124.9	124.9	124.9	118.0	118.0	118.0	110.7	110.7	110.7	102.9	102.9	102.9	94.5	94.5	94.5
			SHC	47.9	66.2	84.6	44.5	62.9	81.3	41.0	59.4	77.7	37.4	55.7	74.1	33.6	51.9	70.2
		76	TC	—	135.0	135.0	—	127.8	127.8	—	120.0	120.0	—	111.8	111.8	—	103.0	103.0
			SHC	—	52.2	70.8	—	48.8	67.4	—	45.3	63.8	—	41.7	60.2	—	37.9	56.3
3850 cfm	EA (wb)	58	TC	106.0	106.0	120.4	100.7	100.7	114.6	95.1	95.1	108.4	89.0	89.0	101.7	82.5	82.5	94.5
			SHC	91.5	106.0	120.4	86.8	100.7	114.6	81.7	95.1	108.4	76.3	89.0	101.7	70.5	82.5	94.5
		62	TC	108.0	108.0	118.8	100.8	100.8	119.4	95.2	95.2	113.0	89.1	89.1	106.1	82.6	82.6	98.7
			SHC	83.8	101.3	118.8	82.2	100.8	119.4	77.3	95.2	113.0	72.1	89.1	106.1	66.5	82.6	98.7
		67	TC	115.2	115.2	115.2	108.6	108.6	108.6	101.6	101.6	103.3	94.2	94.2	99.6	86.2	86.2	95.6
			SHC	69.2	89.8	110.3	65.8	86.3	106.9	62.2	82.8	103.3	58.6	79.1	99.6	54.7	75.1	95.6
		72	TC	127.3	127.3	127.3	120.2	120.2	120.2	112.7	112.7	112.7	104.6	104.6	104.6	96.1	96.1	96.1
			SHC	49.3	70.0	90.7	45.9	66.6	87.3	42.4	63.1	83.8	38.8	59.4	80.0	34.9	55.6	76.2
		76	TC	—	137.5	137.5	—	130.0	130.0	—	122.0	122.0	—	113.5	113.5	—	104.6	104.6
			SHC	—	54.0	74.9	—	50.6	71.5	—	47.1	67.9	—	43.4	64.1	—	39.5	60.3
4250 cfm	EA (wb)	58	TC	109.4	109.4	124.3	103.9	103.9	118.2	98.1	98.1	111.8	91.8	91.8	104.9	85.1	85.1	97.4
			SHC	94.5	109.4	124.3	89.6	103.9	118.2	84.4	98.1	111.8	78.8	91.8	104.9	72.7	85.1	97.4
		62	TC	109.5	109.5	129.4	104.0	104.0	123.2	98.2	98.2	116.5	91.9	91.9	109.4	85.1	85.1	101.6
			SHC	89.7	109.5	129.4	84.9	104.0	123.2	79.9	98.2	116.5	74.5	91.9	109.4	68.7	85.1	101.6
		67	TC	116.9	116.9	117.6	110.2	110.2	114.2	103.0	103.0	110.5	95.5	95.5	106.6	87.4	87.4	102.5
			SHC	72.5	95.1	117.6	69.1	91.6	114.2	65.5	88.0	110.5	61.8	84.2	106.6	57.9	80.2	102.5
		72	TC	129.0	129.0	129.0	121.8	121.8	121.8	114.1	114.1	114.1	105.9	105.9	105.9	97.2	97.2	97.2
			SHC	50.5	73.3	96.0	47.1	69.8	92.5	43.6	66.3	88.9	39.9	62.6	85.2	36.1	58.7	81.3
		76	TC	—	139.3	139.3	—	131.6	131.6	—	123.5	123.5	—	114.8	114.8	—	105.7	105.7
			SHC	—	55.5	78.4	—	52.1	74.9	—	48.5	71.3	—	44.8	67.5	—	40.9	63.6

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 7.

50GEQ*09 Single Stage Cooling Capacities

50GEQ*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
1275 cfm	EA (wb)	58	TC	49.8	49.8	56.0	46.7	46.7	53.6	43.7	43.7	50.4	40.6	40.6	47.0	37.3	37.3	43.3
			SHC	42.0	49.0	56.0	39.7	46.7	53.6	37.1	43.7	50.4	34.3	40.6	47.0	31.2	37.3	43.3
		62	TC	54.5	54.5	54.5	51.0	51.0	51.0	47.4	47.4	47.4	43.5	43.5	44.4	39.3	39.3	41.8
			SHC	37.3	44.3	51.3	35.1	42.1	49.1	32.8	39.8	46.8	30.4	37.4	44.4	27.9	34.9	41.8
		67	TC	61.0	61.0	61.0	57.3	57.3	57.3	53.4	53.4	53.4	49.2	49.2	49.2	44.7	44.7	44.7
			SHC	31.3	38.3	45.3	29.1	36.1	43.1	26.8	33.8	40.8	24.4	31.4	38.4	21.9	28.9	35.8
		72	TC	68.0	68.0	68.0	64.1	64.1	64.1	59.9	59.9	59.9	55.4	55.4	55.4	50.7	50.7	50.7
			SHC	25.2	32.2	39.2	22.9	29.9	37.0	20.6	27.6	34.6	18.2	25.2	32.2	15.7	22.7	29.8
		76	TC	—	74.2	74.2	—	70.0	70.0	—	65.6	65.6	—	60.7	60.7	—	55.8	55.8
			SHC	—	27.2	34.2	—	24.9	31.9	—	22.6	29.6	—	20.2	27.2	—	17.7	24.7
1500 cfm	EA (wb)	58	TC	53.5	53.5	61.1	50.5	50.5	57.9	47.4	47.4	54.5	44.1	44.1	50.8	40.4	40.4	46.9
			SHC	45.9	53.5	61.1	43.2	50.5	57.9	40.3	47.4	54.5	37.3	44.1	50.8	34.0	40.4	46.9
		62	TC	57.2	57.2	57.5	53.5	53.5	55.2	49.7	49.7	52.8	45.6	45.6	50.3	41.2	41.2	47.7
			SHC	41.1	49.3	57.5	38.8	47.0	55.2	36.4	44.6	52.8	33.9	42.1	50.3	31.4	39.5	47.7
		67	TC	63.8	63.8	63.8	59.9	59.9	59.9	55.8	55.8	55.8	51.4	51.4	51.4	46.6	46.6	46.6
			SHC	33.8	42.0	50.3	31.5	39.8	48.0	29.2	37.4	45.6	26.7	34.9	43.2	24.1	32.3	40.6
		72	TC	71.1	71.1	71.1	66.9	66.9	66.9	62.4	62.4	62.4	57.6	57.6	57.6	52.6	52.6	52.6
			SHC	26.5	34.7	43.0	24.2	32.4	40.6	21.8	30.0	38.3	19.3	27.6	35.8	16.8	25.0	33.3
		76	TC	—	77.3	77.3	—	72.9	72.9	—	68.2	68.2	—	63.2	63.2	—	57.8	57.8
			SHC	—	28.7	36.9	—	26.4	34.7	—	24.0	32.3	—	21.6	29.9	—	19.0	27.3
1700 cfm	EA (wb)	58	TC	56.6	56.6	64.6	53.5	53.5	61.2	50.2	50.2	57.6	46.6	46.6	53.7	42.8	42.8	49.5
			SHC	48.6	56.6	64.6	45.8	53.5	61.2	42.8	50.2	57.6	39.6	46.6	53.7	36.1	42.8	49.5
		62	TC	59.0	59.0	62.8	55.3	55.3	60.4	51.3	51.3	58.0	47.1	47.1	55.4	42.9	42.9	51.9
			SHC	44.2	53.5	62.8	41.9	51.1	60.4	39.5	48.7	58.0	36.9	46.2	55.4	33.9	42.9	51.9
		67	TC	65.8	65.8	65.8	61.7	61.7	61.7	57.4	57.4	57.4	52.7	52.7	52.7	47.7	47.7	47.7
			SHC	35.9	45.2	54.5	33.6	42.9	52.2	31.2	40.5	49.8	28.6	37.9	47.2	26.0	35.3	44.6
		72	TC	73.1	73.1	73.1	68.8	68.8	68.8	64.2	64.2	64.2	59.1	59.1	59.1	53.9	53.9	53.9
			SHC	27.5	36.8	46.2	25.1	34.5	43.8	22.7	32.1	41.4	20.2	29.5	38.9	17.6	27.0	36.3
		76	TC	—	79.5	79.5	—	74.9	74.9	—	70.0	70.0	—	64.7	64.7	—	59.2	59.2
			SHC	—	29.9	39.3	—	27.6	37.0	—	25.2	34.6	—	22.7	32.0	—	20.1	29.5
1925 cfm	EA (wb)	58	TC	59.6	59.6	67.9	56.2	56.2	64.3	52.8	52.8	60.6	49.1	49.1	56.5	45.0	45.0	52.0
			SHC	51.2	59.6	67.9	48.2	56.2	64.3	45.1	52.8	60.6	41.8	49.1	56.5	38.0	45.0	52.0
		62	TC	60.8	60.8	68.5	56.9	56.9	66.1	52.9	52.9	63.3	49.0	49.0	59.0	44.3	44.3	54.2
			SHC	47.6	58.0	68.5	45.2	55.6	66.1	42.6	52.9	63.3	39.0	49.0	59.0	34.4	44.3	54.2
		67	TC	67.5	67.5	67.5	63.3	63.3	63.3	58.8	58.8	58.8	54.0	54.0	54.0	48.8	48.8	49.1
			SHC	38.1	48.6	59.2	35.7	46.3	56.8	33.3	43.8	54.3	30.7	41.2	51.7	28.0	38.6	49.1
		72	TC	75.0	75.0	75.0	70.4	70.4	70.4	65.7	65.7	65.7	60.5	60.5	60.5	55.1	55.1	55.1
			SHC	28.5	39.0	49.6	26.1	36.7	47.2	23.6	34.2	44.8	21.1	31.7	42.2	18.5	29.0	39.6
		76	TC	—	81.4	81.4	—	76.6	76.6	—	71.6	71.6	—	66.1	66.1	—	60.4	60.4
			SHC	—	31.2	41.8	—	28.8	39.4	—	26.4	37.0	—	23.8	34.4	—	21.2	31.8
2125 cfm	EA (wb)	58	TC	61.9	61.9	70.6	58.5	58.5	66.8	54.9	54.9	62.8	51.0	51.0	58.6	46.8	46.8	54.0
			SHC	53.3	61.9	70.6	50.2	58.5	66.8	46.9	54.9	62.8	43.4	51.0	58.6	39.6	46.8	54.0
		62	TC	62.2	62.2	73.3	58.6	58.6	69.7	55.0	55.0	65.6	51.1	51.1	61.2	46.9	46.9	56.5
			SHC	50.4	61.8	73.3	47.5	58.6	69.7	44.3	55.0	65.6	40.9	51.1	61.2	37.3	46.9	56.5
		67	TC	68.8	68.8	68.8	64.4	64.4	64.4	59.8	59.8	59.8	54.9	54.9	55.7	49.8	49.8	53.0
			SHC	40.0	51.6	63.2	37.6	49.2	60.8	35.1	46.7	58.3	32.5	44.1	55.7	29.9	41.5	53.0
		72	TC	76.3	76.3	76.3	71.7	71.7	71.7	66.7	66.7	66.7	61.4	61.4	61.4	55.9	55.9	55.9
			SHC	29.3	40.9	52.6	26.9	38.5	50.2	24.4	36.1	47.7	21.8	33.5	45.1	19.2	30.8	42.5
		76	TC	—	82.8	82.8	—	77.9	77.9	—	72.6	72.6	—	67.0	67.0	—	61.3	61.3
			SHC	—	32.2	43.9	—	29.8	41.5	—	27.4	39.0	—	24.8	36.5	—	22.2	33.9

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 7.

50GEQ*12 Two Stage Cooling Capacities

50GEQ*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	105.6	105.6	120.3	99.4	99.4	113.6	92.8	92.8	106.5	85.8	85.8	98.9	78.4	78.4	90.9
			SHC	90.9	105.6	120.3	85.1	99.4	113.6	79.1	92.8	106.5	72.8	85.8	98.9	66.0	78.4	90.9
		62	TC	112.2	112.2	113.5	104.7	104.7	108.6	96.8	96.8	103.6	88.5	88.5	98.3	79.7	79.7	92.8
			SHC	81.2	97.3	113.5	76.4	92.5	108.6	71.4	87.5	103.6	66.3	82.3	98.3	60.9	76.9	92.8
		67	TC	125.1	125.1	125.1	117.2	117.2	117.2	108.7	108.7	108.7	99.8	99.8	99.8	90.3	90.3	90.3
			SHC	66.1	82.3	98.5	61.3	77.5	93.6	56.3	72.5	88.6	51.2	67.3	83.5	45.9	62.0	78.2
		72	TC	139.2	139.2	139.2	130.6	130.6	130.6	121.6	121.6	121.6	112.1	112.1	112.1	102.1	102.1	102.1
			SHC	50.7	67.0	83.3	45.9	62.1	78.4	40.9	57.2	73.4	35.8	52.0	68.3	30.5	46.7	62.9
		76	TC	—	151.0	151.0	—	142.1	142.1	—	132.4	132.4	—	122.5	122.5	—	112.0	112.0
			SHC	—	54.5	71.0	—	49.7	66.2	—	44.7	61.2	—	39.6	56.1	—	34.3	50.8
3500 cfm	EA (wb)	58	TC	112.8	112.8	128.4	106.2	106.2	121.2	99.2	99.2	113.6	91.8	91.8	105.6	84.0	84.0	97.0
			SHC	97.3	112.8	128.4	91.2	106.2	121.2	84.8	99.2	113.6	78.1	91.8	105.6	70.9	84.0	97.0
		62	TC	116.6	116.6	126.2	108.8	108.8	121.1	100.7	100.7	115.8	92.3	92.3	109.8	84.1	84.1	101.5
			SHC	89.0	107.6	126.2	84.0	102.6	121.1	78.9	97.3	115.8	73.3	91.5	109.8	66.7	84.1	101.5
		67	TC	129.5	129.5	129.5	121.1	121.1	121.1	112.3	112.3	112.3	102.9	102.9	102.9	93.1	93.1	93.1
			SHC	71.3	90.1	108.8	66.4	85.2	103.9	61.3	80.1	98.8	56.1	74.9	93.6	50.7	69.4	88.2
		72	TC	143.6	143.6	143.6	134.7	134.7	134.7	125.2	125.2	125.2	115.4	115.4	115.4	104.9	104.9	104.9
			SHC	53.3	72.1	91.0	48.4	67.2	86.1	43.3	62.1	80.9	38.1	56.9	75.7	32.7	51.5	70.3
		76	TC	—	155.5	155.5	—	146.3	146.3	—	136.5	136.5	—	125.9	125.9	—	115.0	115.0
			SHC	—	57.6	76.8	—	52.7	71.9	—	47.6	66.7	—	42.3	61.4	—	37.0	56.0
4000 cfm	EA (wb)	58	TC	118.9	118.9	135.1	111.9	111.9	127.5	104.6	104.6	119.6	96.8	96.8	111.1	88.5	88.5	102.1
			SHC	102.6	118.9	135.1	96.3	111.9	127.5	89.5	104.6	119.6	82.5	96.8	111.1	75.0	88.5	102.1
		62	TC	120.3	120.3	137.9	113.7	113.7	128.3	104.7	104.7	124.8	96.9	96.9	116.1	88.6	88.6	106.8
			SHC	96.1	117.0	137.9	89.0	108.7	128.3	84.6	104.7	124.8	77.8	96.9	116.1	70.5	88.6	106.8
		67	TC	132.8	132.8	132.8	124.1	124.1	124.1	115.0	115.0	115.0	105.4	105.4	105.4	95.2	95.2	97.7
			SHC	76.2	97.5	118.8	71.2	92.5	113.8	66.1	87.3	108.6	60.8	82.0	103.3	55.3	76.5	97.7
		72	TC	147.0	147.0	147.0	137.8	137.8	137.8	128.0	128.0	128.0	117.8	117.8	117.8	107.1	107.1	107.1
			SHC	55.5	76.9	98.4	50.6	72.0	93.4	45.4	66.8	88.2	40.2	61.5	82.9	34.7	56.1	77.4
		76	TC	—	159.0	159.0	—	149.4	149.4	—	139.3	139.3	—	128.5	128.5	—	117.2	117.2
			SHC	—	60.3	82.0	—	55.3	77.0	—	50.2	71.9	—	44.9	66.4	—	39.5	61.0
4500 cfm	EA (wb)	58	TC	124.0	124.0	140.8	116.7	116.7	132.9	109.1	109.1	124.6	101.0	101.0	115.7	92.3	92.3	106.3
			SHC	107.2	124.0	140.8	100.5	116.7	132.9	93.5	109.1	124.6	86.2	101.0	115.7	78.4	92.3	106.3
		62	TC	126.7	126.7	136.8	116.9	116.9	138.5	109.2	109.2	129.9	101.1	101.1	120.8	92.5	92.5	111.2
			SHC	97.1	117.0	136.8	95.2	116.9	138.5	88.5	109.2	129.9	81.3	101.1	120.8	73.8	92.5	111.2
		67	TC	135.4	135.4	135.4	126.5	126.5	126.5	117.2	117.2	118.1	107.4	107.4	112.6	97.0	97.0	106.9
			SHC	80.9	104.7	128.5	75.8	99.6	123.4	70.6	94.4	118.1	65.3	88.9	112.6	59.7	83.3	106.9
		72	TC	149.7	149.7	149.7	140.3	140.3	140.3	130.1	130.1	130.1	119.8	119.8	119.8	108.8	108.8	108.8
			SHC	57.6	81.6	105.5	52.6	76.5	100.4	47.4	71.3	95.2	42.1	66.0	89.8	36.7	60.5	84.3
		76	TC	—	161.7	161.7	—	151.8	151.8	—	141.4	141.4	—	130.5	130.5	—	119.0	119.0
			SHC	—	62.8	87.0	—	57.8	81.9	—	52.6	76.7	—	47.3	71.3	—	41.8	65.7
5000 cfm	EA (wb)	58	TC	128.4	128.4	145.7	120.8	120.8	137.5	112.9	112.9	128.9	104.5	104.5	119.7	95.6	95.6	110.0
			SHC	111.1	128.4	145.7	104.2	120.8	137.5	97.0	112.9	128.9	89.3	104.5	119.7	81.3	95.6	110.0
		62	TC	128.5	128.5	151.6	121.0	121.0	143.2	113.0	113.0	134.3	104.6	104.6	124.9	95.7	95.7	114.9
			SHC	105.4	128.5	151.6	98.7	121.0	143.2	91.7	113.0	134.3	84.4	104.6	124.9	76.5	95.7	114.9
		67	TC	137.5	137.5	137.7	128.4	128.4	132.5	118.9	118.9	127.1	109.0	109.0	121.5	98.5	98.5	115.5
			SHC	85.3	111.5	137.7	80.1	106.3	132.5	74.9	101.0	127.1	69.5	95.5	121.5	63.8	89.7	115.5
		72	TC	151.8	151.8	151.8	142.2	142.2	142.2	131.8	131.8	131.8	121.3	121.3	121.3	110.1	110.1	110.1
			SHC	59.6	86.0	112.3	54.5	80.9	107.2	49.3	75.6	102.0	44.0	70.3	96.6	38.5	64.7	91.0
		76	TC	—	163.8	163.8	—	153.8	153.8	—	143.2	143.2	—	132.1	132.1	—	120.4	120.4
			SHC	—	65.2	91.8	—	60.1	86.7	—	54.9	81.4	—	49.5	75.9	—	44.0	70.3

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 7.

50GEQ*12 Single Stage Cooling Capacities

50GEQ*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	60.5	60.5	69.4	55.9	55.9	64.5	51.1	51.1	59.4	46.1	46.1	54.1	40.9	40.9	48.5
			SHC	51.5	60.5	69.4	47.2	55.9	64.5	42.8	51.1	59.4	38.1	46.1	54.1	33.3	40.9	48.5
		62	TC	64.9	64.9	65.4	59.4	59.4	61.5	53.8	53.8	57.7	47.9	47.9	53.7	41.7	41.7	49.6
			SHC	45.8	55.6	65.4	42.0	51.8	61.5	38.1	47.9	57.7	34.2	43.9	53.7	30.2	39.9	49.6
		67	TC	73.6	73.6	73.6	67.9	67.9	67.9	61.9	61.9	61.9	55.6	55.6	55.6	49.0	49.0	49.0
			SHC	36.9	46.8	56.6	33.1	42.9	52.7	29.2	39.0	48.8	25.2	35.0	44.8	21.1	30.9	40.7
		72	TC	83.2	83.2	83.2	77.1	77.1	77.1	70.7	70.7	70.7	64.1	64.1	64.1	57.1	57.1	57.1
			SHC	28.0	37.9	47.8	24.2	34.0	43.9	20.2	30.1	40.0	16.2	26.0	35.9	12.0	21.9	31.7
		76	TC	—	91.4	91.4	—	85.0	85.0	—	78.3	78.3	—	71.3	71.3	—	64.0	64.0
			SHC	—	30.7	40.6	—	26.8	36.7	—	22.9	32.8	—	18.8	28.7	—	14.6	24.5
2100 cfm	EA (wb)	58	TC	65.3	65.3	74.8	60.4	60.4	69.6	55.4	55.4	64.2	50.1	50.1	58.5	44.6	44.6	52.6
			SHC	55.8	65.3	74.8	51.3	60.4	69.6	46.6	55.4	64.2	41.7	50.1	58.5	36.6	44.6	52.6
		62	TC	67.8	67.8	73.6	62.1	62.1	69.7	56.3	56.3	65.6	50.4	50.4	61.2	44.7	44.7	55.3
			SHC	50.9	62.2	73.6	47.0	58.3	69.7	43.0	54.3	65.6	38.8	50.0	61.2	34.0	44.7	55.3
		67	TC	76.6	76.6	76.6	70.5	70.5	70.5	64.3	64.3	64.3	57.7	57.7	57.7	50.9	50.9	50.9
			SHC	40.4	51.8	63.2	36.5	47.9	59.3	32.5	43.9	55.3	28.4	39.8	51.2	24.2	35.6	47.0
		72	TC	86.3	86.3	86.3	79.9	79.9	79.9	73.3	73.3	73.3	66.3	66.3	66.3	59.1	59.1	59.1
			SHC	29.8	41.3	52.8	25.9	37.4	48.9	21.9	33.3	44.8	17.7	29.2	40.7	13.5	25.0	36.4
		76	TC	—	94.6	94.6	—	87.9	87.9	—	81.0	81.0	—	73.7	73.7	—	66.0	66.0
			SHC	—	32.8	44.4	—	28.8	40.4	—	24.8	36.3	—	20.7	32.2	—	16.4	27.9
2400 cfm	EA (wb)	58	TC	69.4	69.4	79.3	64.3	64.3	73.9	59.0	59.0	68.2	53.5	53.5	62.2	47.6	47.6	56.0
			SHC	59.5	69.4	79.3	54.7	64.3	73.9	49.8	59.0	68.2	44.7	53.5	62.2	39.3	47.6	56.0
		62	TC	70.2	70.2	81.3	64.5	64.5	77.1	59.1	59.1	71.4	53.6	53.6	65.3	47.7	47.7	58.9
			SHC	55.6	68.5	81.3	51.6	64.3	77.1	46.8	59.1	71.4	41.8	53.6	65.3	36.6	47.7	58.9
		67	TC	78.9	78.9	78.9	72.6	72.6	72.6	66.1	66.1	66.1	59.4	59.4	59.4	52.3	52.3	53.2
			SHC	43.6	56.6	69.6	39.6	52.7	65.7	35.6	48.6	61.6	31.5	44.5	57.5	27.3	40.2	53.2
		72	TC	88.7	88.7	88.7	82.1	82.1	82.1	75.2	75.2	75.2	68.1	68.1	68.1	60.6	60.6	60.6
			SHC	31.4	44.5	57.6	27.4	40.5	53.5	23.3	36.4	49.4	19.2	32.2	45.3	14.9	27.9	41.0
		76	TC	—	97.1	97.1	—	90.2	90.2	—	83.0	83.0	—	75.5	75.5	—	67.6	67.6
			SHC	—	34.7	47.9	—	30.7	43.9	—	26.6	39.8	—	22.4	35.5	—	18.0	31.1
2700 cfm	EA (wb)	58	TC	72.9	72.9	83.2	67.6	67.6	77.5	62.1	62.1	71.6	56.3	56.3	65.4	50.3	50.3	58.9
			SHC	62.6	72.9	83.2	57.7	67.6	77.5	52.5	62.1	71.6	47.2	56.3	65.4	41.7	50.3	58.9
		62	TC	73.0	73.0	86.8	67.7	67.7	81.0	62.2	62.2	74.9	56.4	56.4	68.6	50.4	50.4	61.9
			SHC	59.3	73.0	86.8	54.4	67.7	81.0	49.4	62.2	74.9	44.3	56.4	68.6	38.9	50.4	61.9
		67	TC	80.7	80.7	80.7	74.3	74.3	74.3	67.6	67.6	67.7	60.7	60.7	63.5	53.5	53.5	59.2
			SHC	46.7	61.3	75.9	42.7	57.3	71.8	38.6	53.1	67.7	34.4	49.0	63.5	30.2	44.7	59.2
		72	TC	90.6	90.6	90.6	83.8	83.8	83.8	76.8	76.8	76.8	69.5	69.5	69.5	61.8	61.8	61.8
			SHC	32.9	47.5	62.2	28.9	43.5	58.1	24.7	39.3	53.9	20.5	35.1	49.7	16.2	30.7	45.3
		76	TC	—	99.1	99.1	—	91.9	91.9	—	84.5	84.5	—	76.8	76.8	—	68.8	68.8
			SHC	—	36.5	51.2	—	32.4	47.1	—	28.2	42.9	—	23.9	38.6	—	19.5	34.1
3000 cfm	EA (wb)	58	TC	76.0	76.0	86.6	70.4	70.4	80.7	64.7	64.7	74.6	58.8	58.8	68.1	52.5	52.5	61.4
			SHC	65.3	76.0	86.6	60.2	70.4	80.7	54.9	64.7	74.6	49.4	58.8	68.1	43.7	52.5	61.4
		62	TC	76.1	76.1	90.3	70.5	70.5	84.2	64.8	64.8	78.0	58.9	58.9	71.4	52.6	52.6	64.4
			SHC	61.8	76.1	90.3	56.8	70.5	84.2	51.7	64.8	78.0	46.4	58.9	71.4	40.8	52.6	64.4
		67	TC	82.2	82.2	82.2	75.6	75.6	77.8	68.9	68.9	73.6	61.8	61.8	69.3	54.5	54.5	64.9
			SHC	49.6	65.7	81.8	45.6	61.7	77.8	41.5	57.5	73.6	37.3	53.3	69.3	33.0	48.9	64.9
		72	TC	92.1	92.1	92.1	85.2	85.2	85.2	78.0	78.0	78.0	70.5	70.5	70.5	62.7	62.7	62.7
			SHC	34.3	50.4	66.6	30.2	46.3	62.5	26.0	42.1	58.3	21.7	37.9	54.0	17.4	33.6	49.7
		76	TC	—	100.6	100.6	—	93.3	93.3	—	85.8	85.8	—	77.9	77.9	—	69.7	69.7
			SHC	—	38.1	54.4	—	33.9	50.2	—	29.7	45.9	—	25.4	41.5	—	20.9	37.0

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 7.

50GEQ*07 Heating Capacities

RETURN AIR (°F db)	CFM (Standard Air)		TEMPERATURE AIR ENTERING OUTDOOR COIL (°F db at 70% rh)								
			−10.0	0.0	10.0	17.0	30.0	40.0	47.0	50.0	60.0
55	1800	Capacity	23.4	29.4	37.6	43.1	53.4	63.5	69.7	71.9	82.0
		Int. Cap.	21.6	27.1	34.5	39.3	46.8	63.5	69.7	71.9	82.0
	2400	Capacity	23.8	29.9	37.9	43.2	53.4	63.9	71.3	73.7	84.6
		Int. Cap.	22.0	27.5	34.8	39.4	46.8	63.9	71.3	73.7	84.6
	3000	Capacity	24.2	30.3	38.4	44.1	54.0	64.7	72.0	74.9	86.2
		Int. Cap.	22.4	27.9	35.2	40.2	47.3	64.7	72.0	74.9	86.2
70	1800	Capacity	21.4	27.3	35.2	40.5	50.9	60.9	66.6	69.7	78.5
		Int. Cap.	19.8	25.1	32.4	36.9	44.6	60.9	66.6	69.7	78.5
	2400	Capacity	21.9	27.9	35.9	41.3	52.0	62.2	68.4	71.8	81.0
		Int. Cap.	20.3	25.7	33.0	37.6	45.5	62.2	68.4	71.8	81.0
	3000	Capacity	22.4	28.4	36.5	41.6	54.2	62.8	69.5	73.5	82.6
		Int. Cap.	20.7	26.1	33.5	38.0	47.4	62.8	69.5	73.5	82.6
80	1800	Capacity	19.8	25.7	33.7	38.5	49.3	58.9	64.5	67.9	76.9
		Int. Cap.	18.3	23.6	30.9	35.1	43.2	58.9	64.5	67.9	76.9
	2400	Capacity	20.4	26.3	34.4	39.4	50.2	60.7	66.1	69.8	78.5
		Int. Cap.	18.9	24.2	31.6	35.9	44.0	60.7	66.1	69.8	78.5
	3000	Capacity	20.9	26.8	34.9	40.1	51.0	61.1	67.4	71.1	80.1
		Int. Cap.	19.4	24.7	32.0	36.5	44.7	61.1	67.4	71.1	80.1

LEGEND

Capacity	—	Instantaneous Capacity (1000 Btuh) — includes indoor fan motor heat at AHRI static conditions
db	—	Dry Bulb
Int. Cap.	—	Integrated Capacity = instantaneous capacity minus the effects of frost on the OD coil and the heat required to defrost it
rh	—	Relative Humidity
	—	Standard rating point

50GEQ*08 Heating Capacities

RETURN AIR (°F db)	CFM (Standard Air)		TEMPERATURE AIR ENTERING OUTDOOR COIL (°F db at 70% rh)								
			−10.0	0.0	10.0	17.0	30.0	40.0	47.0	50.0	60.0
55	2250	Capacity	33.6	39.9	49.6	55.6	68.0	81.4	89.6	92.5	105.1
		Int. Cap.	31.1	36.7	45.5	50.7	59.6	81.4	89.6	92.5	105.1
	3000	Capacity	30.2	40.7	50.5	56.6	69.4	82.9	91.6	94.7	107.9
		Int. Cap.	27.9	37.5	46.3	51.6	60.8	82.9	91.6	94.7	107.9
	3750	Capacity	35.6	41.9	51.6	57.7	70.7	84.4	93.3	96.4	110.1
		Int. Cap.	32.9	38.6	47.4	52.6	61.9	84.4	93.3	96.4	110.1
70	2250	Capacity	31.9	38.0	48.0	53.8	65.7	79.2	87.3	90.0	102.0
		Int. Cap.	29.5	35.0	44.0	49.0	57.6	79.2	87.3	90.0	102.0
	3000	Capacity	29.5	39.0	48.7	54.9	67.2	80.9	89.3	92.2	105.0
		Int. Cap.	27.3	35.9	44.7	50.0	58.9	80.9	89.3	92.2	105.0
	3750	Capacity	34.1	40.4	50.0	56.1	68.7	82.5	91.0	94.1	107.3
		Int. Cap.	31.5	37.1	45.9	51.2	60.2	82.5	91.0	94.1	107.3
80	2250	Capacity	30.6	36.7	46.7	52.3	64.2	77.9	85.7	88.3	99.9
		Int. Cap.	28.3	33.8	42.9	47.7	56.2	77.9	85.7	88.3	99.9
	3000	Capacity	28.8	37.8	47.7	53.5	65.7	79.5	87.6	90.5	102.8
		Int. Cap.	26.7	34.8	43.8	48.8	57.5	79.5	87.6	90.5	102.8
	3750	Capacity	32.9	39.0	49.1	54.9	67.2	81.1	89.4	92.4	105.2
		Int. Cap.	30.5	35.9	45.1	50.0	58.9	81.1	89.4	92.4	105.2

LEGEND

Capacity	—	Instantaneous Capacity (1000 Btuh) — includes indoor fan motor heat at AHRI static conditions
db	—	Dry Bulb
Int. Cap.	—	Integrated Capacity = instantaneous capacity minus the effects of frost on the OD coil and the heat required to defrost it
rh	—	Relative Humidity
	—	Standard rating point

50GEQ*09 Heating Capacities

RETURN AIR (°F db)	CFM (Standard Air)		TEMPERATURE AIR ENTERING OUTDOOR COIL (°F db at 70% rh)								
			−10.0	0.0	10.0	17.0	30.0	40.0	47.0	50.0	60.0
55	2550	Capacity	35.4	43.0	52.1	59.1	72.8	84.8	94.6	97.9	111.8
		Int. Cap.	32.7	39.6	47.9	53.9	63.8	84.8	94.6	97.9	111.8
	3400	Capacity	36.4	44.1	53.4	60.4	74.6	87.2	97.5	101.1	116.7
		Int. Cap.	33.7	40.6	49.0	55.0	65.4	87.2	97.5	101.1	116.7
	4250	Capacity	37.6	45.2	54.6	61.6	76.1	89.0	99.8	103.6	119.1
		Int. Cap.	34.8	41.6	50.1	56.2	66.7	89.0	99.8	103.6	119.1
70	2550	Capacity	32.9	40.4	49.5	56.0	69.3	81.0	90.5	93.6	106.9
		Int. Cap.	30.4	37.2	45.4	51.1	60.7	81.0	90.5	93.6	106.9
	3400	Capacity	34.0	41.7	50.8	58.0	71.1	83.4	93.5	96.5	110.9
		Int. Cap.	31.4	38.4	46.7	52.9	62.3	83.4	93.5	96.5	110.9
	4250	Capacity	35.3	43.0	52.0	59.0	72.7	85.2	95.7	99.1	114.0
		Int. Cap.	32.6	39.6	47.7	53.8	63.7	85.2	95.7	99.1	114.0
80	2550	Capacity	31.1	38.8	48.7	54.1	67.0	78.6	87.7	90.8	103.7
		Int. Cap.	28.7	35.7	44.7	49.3	58.7	78.6	87.7	90.8	103.7
	3400	Capacity	32.2	40.0	50.0	55.5	68.8	80.9	90.9	93.6	109.9
		Int. Cap.	29.8	36.8	45.9	50.6	60.2	80.9	90.9	93.6	109.9
	4250	Capacity	33.6	41.2	51.2	56.8	70.4	82.6	92.9	96.2	110.7
		Int. Cap.	31.1	37.9	47.0	51.8	61.7	82.6	92.9	96.2	110.7

LEGEND

Capacity	—	Instantaneous Capacity (1000 Btuh) — includes indoor fan motor heat at AHRI static conditions
db	—	Dry Bulb
Int. Cap.	—	Integrated Capacity = instantaneous capacity minus the effects of frost on the OD coil and the heat required to defrost it
rh	—	Relative Humidity
	—	Standard rating point

50GEQ*12 Heating Capacities

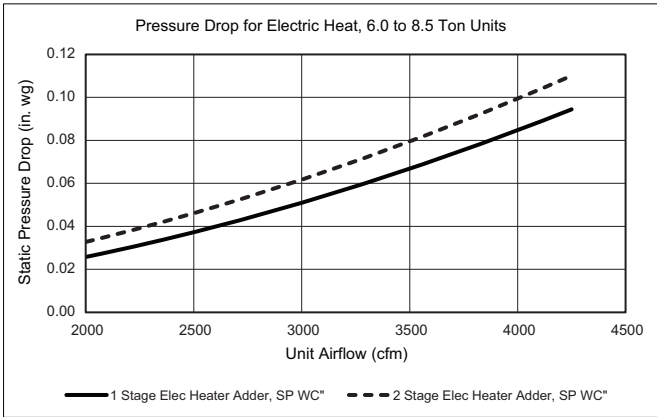
RETURN AIR (°F db)	CFM (Standard Air)		TEMPERATURE AIR ENTERING OUTDOOR COIL (°F db at 70% rh)								
			−10.0	0.0	10.0	17.0	30.0	40.0	47.0	50.0	60.0
55	3000	Capacity	30.1	41.0	55.4	64.6	83.4	100.5	111.7	115.9	132.9
		Int. Cap.	27.8	37.8	50.8	58.9	73.1	100.5	111.7	115.9	132.9
	4000	Capacity	31.2	42.5	57.1	66.7	86.7	103.9	116.2	120.6	139.1
		Int. Cap.	28.8	39.1	52.4	60.8	76.0	103.9	116.2	120.6	139.1
	5000	Capacity	32.2	43.7	59.5	68.1	88.9	106.2	119.2	123.7	143.2
		Int. Cap.	29.8	40.2	54.6	62.1	77.9	106.2	119.2	123.7	143.2
70	3000	Capacity	25.4	36.2	50.6	59.6	77.3	94.9	105.4	110.1	125.6
		Int. Cap.	23.5	33.3	46.5	54.4	67.8	94.9	105.4	110.1	125.6
	4000	Capacity	26.5	37.7	52.4	61.7	80.9	98.4	109.7	114.3	131.6
		Int. Cap.	24.5	34.7	48.1	56.2	70.9	98.4	109.7	114.3	131.6
	5000	Capacity	27.7	38.9	53.7	63.2	83.2	100.7	112.6	117.1	135.5
		Int. Cap.	25.6	35.8	49.3	57.6	72.9	100.7	112.6	117.1	135.5
80	3000	Capacity	22.1	32.8	47.5	56.3	73.6	91.5	101.2	106.0	121.1
		Int. Cap.	20.4	30.2	43.6	51.3	64.5	91.5	101.2	106.0	121.1
	4000	Capacity	23.4	34.3	49.2	58.3	76.5	94.7	105.5	110.3	126.6
		Int. Cap.	21.7	31.6	45.1	53.2	67.0	94.7	105.5	110.3	126.6
	5000	Capacity	24.7	35.6	50.5	59.8	79.3	96.9	108.3	113.3	130.4
		Int. Cap.	22.8	32.7	46.4	54.5	69.5	96.9	108.3	113.3	130.4

LEGEND

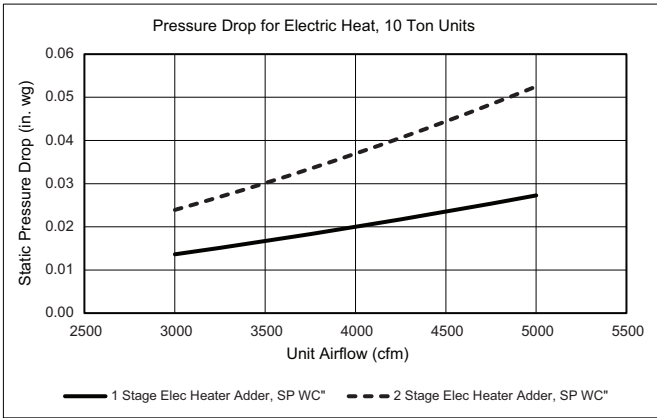
Capacity	—	Instantaneous Capacity (1000 Btuh) — includes indoor fan motor heat at AHRI static conditions
db	—	Dry Bulb
Int. Cap.	—	Integrated Capacity = instantaneous capacity minus the effects of frost on the OD coil and the heat required to defrost it
rh	—	Relative Humidity

Pressure Drop for Electric Heating Units

6.0 to 8.5 Ton Units

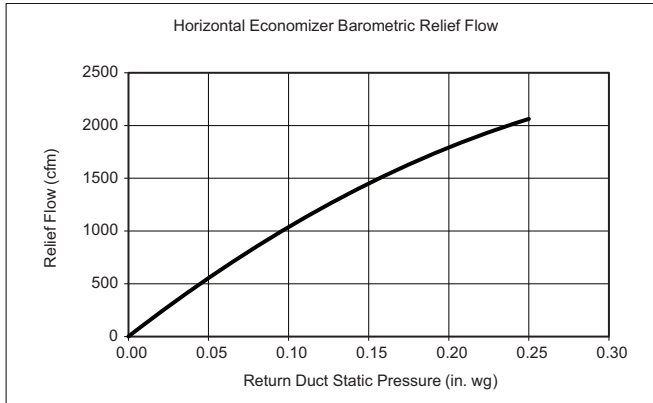


10.0 Ton Units

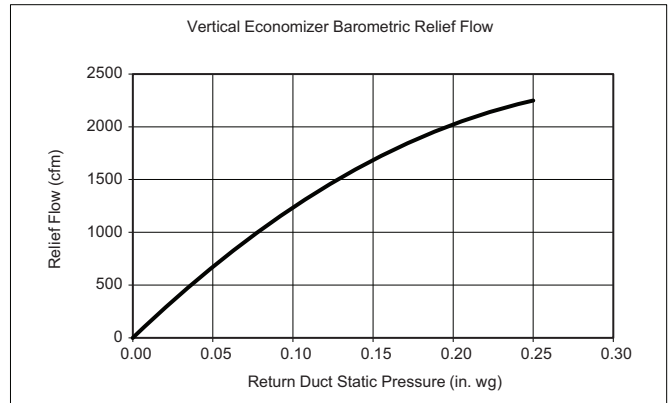


Economizer Barometric Relief and Damper Leakage — 6 to 8.5 Ton Units

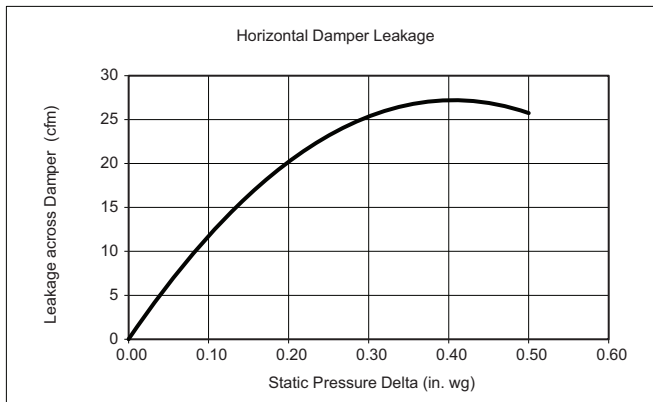
Horizontal Economizer Barometric Relief



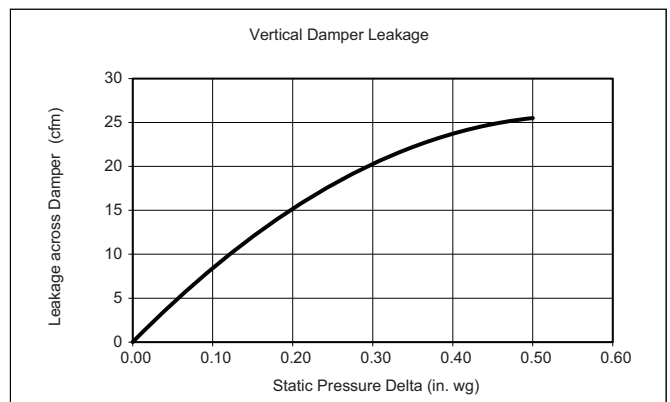
Vertical Economizer Barometric Relief



Horizontal Economizer Damper Leakage

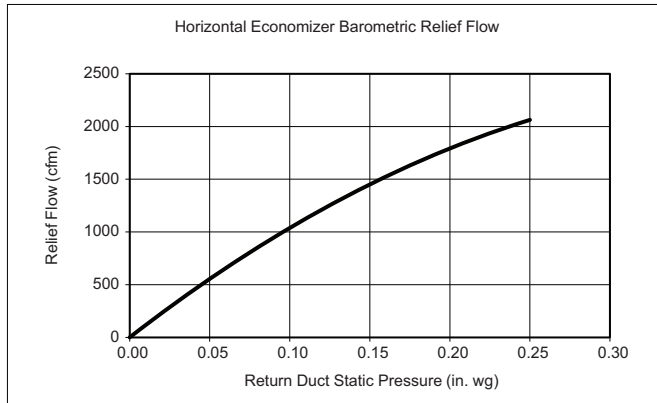


Vertical Economizer Damper Leakage

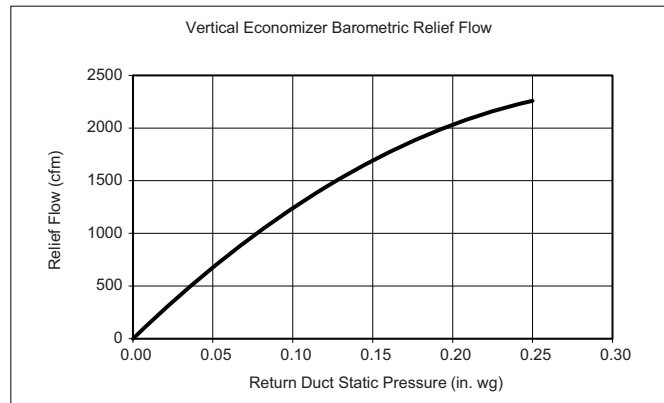


Economizer Barometric Relief and Damper Leakage — 10 Ton Units

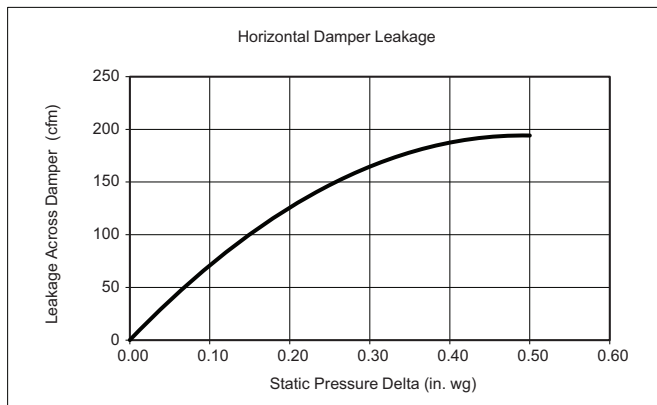
Horizontal Economizer Barometric Relief



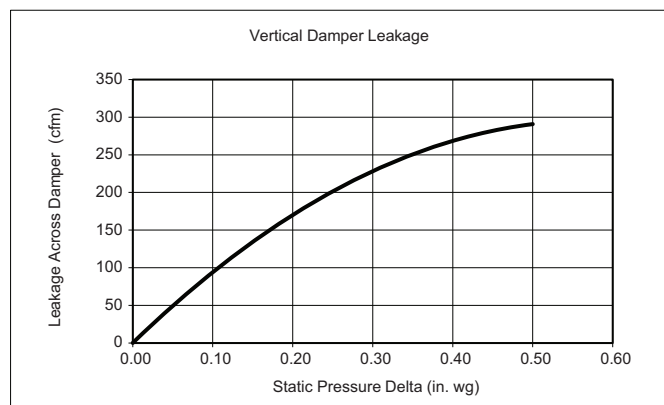
Vertical Economizer Barometric Relief



Horizontal Economizer Damper Leakage

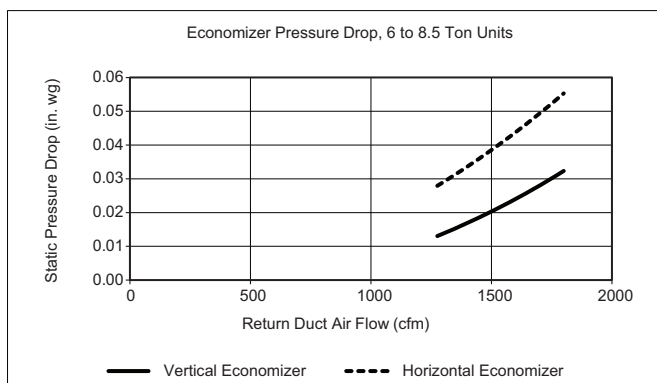


Vertical Economizer Damper Leakage

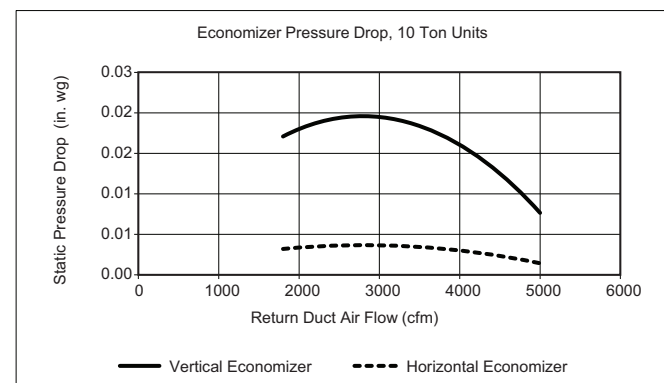


Economizer Pressure Drop

6 to 8.5 Ton Units



10 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, and wet coils.
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 two motors would work, the lower horsepower option is recommended.
6. For information on the electrical properties of the fan motors, please see the Electrical information section of this book.
7. For more information on the performance limits of the fan motors, see the application data section of this book.
8. 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 (three-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.

50GEQM07 — 6.5 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
1800	796	0.19	940	0.32	1064	0.46	1174	0.61	1274	0.79
1950	840	0.22	977	0.35	1097	0.50	1205	0.66	1303	0.84
2100	886	0.26	1016	0.39	1132	0.54	1237	0.71	1334	0.89
2250	932	0.30	1056	0.44	1168	0.59	1271	0.77	1365	0.95
2400	980	0.35	1098	0.49	1206	0.65	1306	0.83	1398	1.01
2550	1029	0.40	1141	0.55	1245	0.71	1342	0.89	1432	1.08
2700	1078	0.46	1185	0.61	1285	0.78	1379	0.96	1467	1.16
2850	1128	0.52	1230	0.68	1327	0.85	1418	1.04	1504	1.24
3000	1178	0.59	1276	0.75	1369	0.93	1458	1.12	1541	1.32

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
1800	1365	0.97	1451	1.16	1530	1.36	1606	1.57	1678	1.80
1950	1393	1.02	1478	1.22	1557	1.43	1631	1.64	1702	1.86
2100	1423	1.08	1506	1.28	1584	1.49	1658	1.71	1728	1.94
2250	1453	1.15	1535	1.35	1612	1.56	1685	1.79	1755	2.02
2400	1484	1.21	1565	1.42	1641	1.64	1714	1.87	1783	2.10
2550	1517	1.29	1596	1.50	1671	1.72	1743	1.95	1811	2.19
2700	1550	1.36	1628	1.58	1703	1.81	1773	2.04	1841	2.29
2850	1585	1.45	1661	1.67	1735	1.90	1804	2.14	1871	2.38
3000	1620	1.53	1696	1.76	1768	1.99	1836	2.23	1902	2.48

Std/Med Static 796-2000 rpm, 2.4 Max bhp

High Static 796-2200 rpm, 3.0 Max bhp

50GEQM07 — Standard/Medium Static — 6.5 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
1800	796	3.8	940	4.5	1064	5.2	1174	5.8	1274	6.3
1950	840	4.0	977	4.7	1097	5.4	1205	5.9	1303	6.4
2100	886	4.3	1016	4.9	1132	5.5	1237	6.1	1334	6.6
2250	932	4.5	1056	5.1	1168	5.7	1271	6.3	1365	6.7
2400	980	4.8	1098	5.4	1206	5.9	1306	6.4	1398	6.9
2550	1029	5.0	1141	5.6	1245	6.1	1342	6.6	1432	7.1
2700	1078	5.3	1185	5.8	1285	6.3	1379	6.8	1467	7.3
2850	1128	5.5	1230	6.0	1327	6.5	1418	7.0	1504	7.4
3000	1178	5.8	1276	6.3	1369	6.8	1458	7.2	1541	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	1365	6.7	1451	7.2	1530	7.6	1606	8.0	1678	8.3
1950	1393	6.9	1478	7.3	1557	7.7	1631	8.1	1702	8.5
2100	1423	7.0	1506	7.5	1584	7.9	1658	8.2	1728	8.6
2250	1453	7.2	1535	7.6	1612	8.0	1685	8.4	1755	8.7
2400	1484	7.3	1565	7.8	1641	8.2	1714	8.5	1783	8.9
2550	1517	7.5	1596	7.9	1671	8.3	1743	8.7	1811	9.0
2700	1550	7.7	1628	8.1	1703	8.5	1773	8.8	1841	9.2
2850	1585	7.9	1661	8.3	1735	8.6	1804	9.0	1871	9.3
3000	1620	8.0	1696	8.4	1768	8.8	1836	9.2	1902	9.5

Std/Med Static 796-2000 rpm, 2.4 Max bhp

50GEQM07 — High Static — 6.5 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
1800	796	3.5	940	4.2	1064	4.8	1174	5.3	1274	5.7
1950	840	3.7	977	4.4	1097	4.9	1205	5.4	1303	5.9
2100	886	3.9	1016	4.5	1132	5.1	1237	5.6	1334	6.0
2250	932	4.1	1056	4.7	1168	5.2	1271	5.7	1365	6.1
2400	980	4.4	1098	4.9	1206	5.4	1306	5.9	1398	6.3
2550	1029	4.6	1141	5.1	1245	5.6	1342	6.0	1432	6.5
2700	1078	4.8	1185	5.3	1285	5.8	1379	6.2	1467	6.6
2850	1128	5.1	1230	5.5	1327	6.0	1418	6.4	1504	6.8
3000	1178	5.3	1276	5.7	1369	6.2	1458	6.6	1541	7.0

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	1365	6.1	1451	6.5	1530	6.9	1606	7.3	1678	7.6
1950	1393	6.3	1478	6.7	1557	7.0	1631	7.4	1702	7.7
2100	1423	6.4	1506	6.8	1584	7.2	1658	7.5	1728	7.8
2250	1453	6.6	1535	6.9	1612	7.3	1685	7.6	1755	7.9
2400	1484	6.7	1565	7.1	1641	7.4	1714	7.8	1783	8.1
2550	1517	6.8	1596	7.2	1671	7.6	1743	7.9	1811	8.2
2700	1550	7.0	1628	7.4	1703	7.7	1773	8.0	1841	8.3
2850	1585	7.2	1661	7.5	1735	7.9	1804	8.2	1871	8.5
3000	1620	7.3	1696	7.7	1768	8.0	1836	8.3	1902	8.6

High Static 796-2200 rpm, 3.0 Max bhp

50GEQM08 — 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	941	0.31	1064	0.45	1176	0.61	1279	0.79	1373	0.98
2440	1000	0.37	1116	0.52	1223	0.69	1322	0.87	1414	1.06
2625	1059	0.44	1169	0.59	1271	0.76	1366	0.95	1456	1.15
2815	1120	0.52	1224	0.68	1322	0.85	1413	1.04	1500	1.25
3000	1181	0.60	1279	0.77	1372	0.95	1461	1.14	1544	1.35
3190	1244	0.70	1337	0.87	1426	1.06	1511	1.26	1592	1.47
3375	1306	0.80	1395	0.98	1480	1.17	1561	1.37	1640	1.59
3565	1370	0.92	1455	1.10	1536	1.29	1614	1.50	1690	1.72
3750	1433	1.04	1514	1.23	1592	1.43	1667	1.64	1740	1.86

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	1460	1.17	1542	1.38	1619	1.60	1692	1.83	1761	2.06
2440	1499	1.26	1580	1.48	1655	1.70	1727	1.93	1796	2.17
2625	1539	1.36	1618	1.58	1692	1.80	1763	2.04	1831	2.28
2815	1581	1.46	1658	1.68	1732	1.92	1802	2.16	1869	2.41
3000	1624	1.57	1699	1.80	1771	2.04	1840	2.29	1906	2.54
3190	1669	1.69	1743	1.93	1813	2.17	1881	2.42	1946	2.68
3375	1714	1.82	1787	2.06	1856	2.31	1922	2.56	1986	2.83
3565	1763	1.96	1833	2.20	1900	2.45	1965	2.71	2028	2.98
3750	1811	2.10	1879	2.34	1945	2.60	2008	2.86	2070	3.13

Std/Med Static 941-2000 rpm, 2.4 Max bhp

High Static 941-2200 rpm, 3.0 Max bhp

50GEQM08 — 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	941	4.6	1064	5.2	1176	5.8	1279	6.3	1373	6.8
2440	1000	4.9	1116	5.5	1223	6.0	1322	6.5	1414	7.0
2625	1059	5.2	1169	5.7	1271	6.3	1366	6.7	1456	7.2
2815	1120	5.5	1224	6.0	1322	6.5	1413	7.0	1500	7.4
3000	1181	5.8	1279	6.3	1372	6.8	1461	7.2	1544	7.7
3190	1244	6.1	1337	6.6	1426	7.0	1511	7.5	1592	7.9
3375	1306	6.4	1395	6.9	1480	7.3	1561	7.7	1640	8.1
3565	1370	6.8	1455	7.2	1536	7.6	1614	8.0	1690	8.4
3750	1433	7.1	1514	7.5	1592	7.9	1667	8.3	1740	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	1460	7.2	1542	7.6	1619	8.0	1692	8.4	1761	8.8
2440	1499	7.4	1580	7.8	1655	8.2	1727	8.6	1796	9.0
2625	1539	7.6	1618	8.0	1692	8.4	1763	8.8	1831	9.1
2815	1581	7.8	1658	8.2	1732	8.6	1802	9.0	1869	9.3
3000	1624	8.1	1699	8.5	1771	8.8	1840	9.2	1906	9.5
3190	1669	8.3	1743	8.7	1813	9.0	1881	9.4	—	—
3375	1714	8.5	1787	8.9	1856	9.3	—	—	—	—
3565	1763	8.8	1833	9.1	1900	9.5	—	—	—	—
3750	1811	9.0	1879	9.4	—	—	—	—	—	—

Std/Med Static 941-2000 rpm

50GEQM08 — 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	941	4.2	1064	4.8	1176	5.3	1279	5.7	1373	6.2
2440	1000	4.5	1116	5.0	1223	5.5	1322	5.9	1414	6.4
2625	1059	4.7	1169	5.2	1271	5.7	1366	6.2	1456	6.6
2815	1120	5.0	1224	5.5	1322	5.9	1413	6.4	1500	6.8
3000	1181	5.3	1279	5.7	1372	6.2	1461	6.6	1544	7.0
3190	1244	5.6	1337	6.0	1426	6.4	1511	6.8	1592	7.2
3375	1306	5.9	1395	6.3	1480	6.7	1561	7.1	1640	7.4
3565	1370	6.2	1455	6.6	1536	6.9	1614	7.3	1690	7.6
3750	1433	6.5	1514	6.8	1592	7.2	1667	7.5	1740	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	1460	6.6	1542	7.0	1619	7.3	1692	7.7	1761	8.0
2440	1499	6.8	1580	7.1	1655	7.5	1727	7.8	1796	8.1
2625	1539	6.9	1618	7.3	1692	7.7	1763	8.0	1831	8.3
2815	1581	7.1	1658	7.5	1732	7.8	1802	8.2	1869	8.5
3000	1624	7.3	1699	7.7	1771	8.0	1840	8.3	1906	8.6
3190	1669	7.5	1743	7.9	1813	8.2	1881	8.5	1946	8.8
3375	1714	7.8	1787	8.1	1856	8.4	1922	8.7	1986	9.0
3565	1763	8.0	1833	8.3	1900	8.6	1965	8.9	2028	9.2
3750	1811	8.2	1879	8.5	1945	8.8	2008	9.1	2070	9.4

High Static 941-2200 rpm

50GEQM09 — 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	1035	0.41	1147	0.56	1251	0.73	1348	0.91	1438	1.11
2765	1104	0.50	1209	0.65	1308	0.83	1401	1.02	1488	1.22
2975	1173	0.59	1272	0.76	1365	0.93	1454	1.13	1538	1.34
3190	1244	0.70	1337	0.87	1426	1.06	1511	1.26	1592	1.47
3400	1314	0.82	1402	0.99	1487	1.19	1568	1.39	1646	1.61
3615	1387	0.95	1470	1.13	1551	1.33	1629	1.54	1703	1.76
3825	1458	1.09	1538	1.28	1615	1.48	1689	1.69	1761	1.92
4040	1532	1.24	1608	1.44	1681	1.64	1752	1.86	1822	2.09
4250	1605	1.41	1677	1.60	1747	1.81	1815	2.03	1882	2.27

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	1522	1.32	1602	1.53	1677	1.76	1749	2.00	1817	2.24
2765	1570	1.43	1647	1.65	1721	1.89	1792	2.13	1859	2.38
2975	1618	1.56	1693	1.78	1766	2.02	1835	2.27	1901	2.52
3190	1669	1.69	1743	1.93	1813	2.17	1881	2.42	1946	2.68
3400	1721	1.84	1792	2.07	1861	2.32	1927	2.58	1991	2.84
3615	1776	2.00	1845	2.24	1912	2.49	1976	2.75	2039	3.02
3825	1831	2.16	1898	2.40	1963	2.66	2026	2.92	2087	3.20
4040	1889	2.33	1954	2.58	2017	2.84	2078	3.11	—	—
4250	1947	2.51	2010	2.76	2071	3.02	—	—	—	—

Std/Med Static 1035-2000 rpm, 2.4 Max bhp

High Static 1035-2200 rpm, 3.0 Max bhp

50GEQM09 — 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	1035	5.0	1147	5.6	1251	6.1	1348	6.6	1438	7.1
2765	1104	5.4	1209	5.9	1308	6.4	1401	6.9	1488	7.4
2975	1173	5.7	1272	6.3	1365	6.7	1454	7.2	1538	7.6
3190	1244	6.1	1337	6.6	1426	7.0	1511	7.5	1592	7.9
3400	1314	6.5	1402	6.9	1487	7.4	1568	7.8	1646	8.2
3615	1387	6.8	1470	7.3	1551	7.7	1629	8.1	1703	8.5
3825	1458	7.2	1538	7.6	1615	8.0	1689	8.4	1761	8.8
4040	1532	7.6	1608	8.0	1681	8.4	1752	8.7	1822	9.1
4250	1605	8.0	1677	8.3	1747	8.7	1815	9.0	1882	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	1522	7.5	1602	8.0	1677	8.3	1749	8.7	1817	9.1
2765	1570	7.8	1647	8.2	1721	8.6	1792	8.9	1859	9.3
2975	1618	8.0	1693	8.4	1766	8.8	1835	9.2	1901	9.5
3190	1669	8.3	1743	8.7	1813	9.0	1881	9.4	—	—
3400	1721	8.6	1792	8.9	1861	9.3	—	—	—	—
3615	1776	8.8	1845	9.2	1912	9.5	—	—	—	—
3825	1831	9.1	1898	9.5	—	—	—	—	—	—
4040	1889	9.4	—	—	—	—	—	—	—	—
4250	1947	9.7	—	—	—	—	—	—	—	—

Std/Med Static 1035-2000 rpm

50GEQM09 — 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	1035	4.6	1147	5.1	1251	5.6	1348	6.1	1438	6.5
2765	1104	4.9	1209	5.4	1308	5.9	1401	6.3	1488	6.7
2975	1173	5.3	1272	5.7	1365	6.1	1454	6.6	1538	6.9
3190	1244	5.6	1337	6.0	1426	6.4	1511	6.8	1592	7.2
3400	1314	5.9	1402	6.3	1487	6.7	1568	7.1	1646	7.4
3615	1387	6.2	1470	6.6	1551	7.0	1629	7.4	1703	7.7
3825	1458	6.6	1538	6.9	1615	7.3	1689	7.6	1761	8.0
4040	1532	6.9	1608	7.3	1681	7.6	1752	7.9	1822	8.3
4250	1605	7.3	1677	7.6	1747	7.9	1815	8.2	1882	8.5

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	1522	6.9	1602	7.2	1677	7.6	1749	7.9	1817	8.2
2765	1570	7.1	1647	7.4	1721	7.8	1792	8.1	1859	8.4
2975	1618	7.3	1693	7.7	1766	8.0	1835	8.3	1901	8.6
3190	1669	7.5	1743	7.9	1813	8.2	1881	8.5	1946	8.8
3400	1721	7.8	1792	8.1	1861	8.4	1927	8.7	1991	9.0
3615	1776	8.0	1845	8.4	1912	8.7	1976	9.0	2039	9.3
3825	1831	8.3	1898	8.6	1963	8.9	2026	9.2	2087	9.5
4040	1889	8.6	1954	8.9	2017	9.2	2078	9.4	—	—
4250	1947	8.8	2010	9.1	2071	9.4	—	—	—	—

High Static 1035-2200 rpm

50GEQM12 — 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	1099	0.55	1202	0.72	1302	0.91	1397	1.13	1486	1.36
3250	1173	0.66	1270	0.84	1363	1.04	1453	1.26	1539	1.49
3500	1249	0.79	1339	0.97	1427	1.17	1512	1.40	1594	1.64
3750	1325	0.93	1410	1.11	1493	1.32	1573	1.55	1652	1.79
4000	1403	1.08	1482	1.27	1560	1.48	1637	1.71	1711	1.96
4250	1480	1.24	1556	1.44	1630	1.65	1702	1.88	1773	2.13
4500	1559	1.41	1630	1.61	1700	1.83	1769	2.06	1837	2.30
4750	1638	1.58	1705	1.79	1772	2.01	1838	2.24	1903	2.48
5000	1717	1.76	1781	1.97	1845	2.19	1908	2.42	1970	2.66

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	1570	1.60	1649	1.86	1723	2.12	1794	2.39	1860	2.67
3250	1620	1.74	1698	2.00	1771	2.27	1841	2.55	1907	2.84
3500	1673	1.89	1748	2.16	1820	2.44	1889	2.72	1954	3.01
3750	1727	2.05	1800	2.32	1871	2.61	1938	2.90	2003	3.20
4000	1784	2.22	1855	2.49	1923	2.78	1989	3.07	2052	3.37
4250	1843	2.39	1911	2.66	1977	2.95	2041	3.24	2103	3.55
4500	1904	2.56	1969	2.84	2033	3.12	2095	3.42	2156	3.72
4750	1966	2.74	2029	3.01	2091	3.29	2151	3.59	—	—
5000	2031	2.92	2091	3.19	2150	3.46	—	—	—	—

Std/Med Static 1100-2000 rpm, 2.4 Max bhp

High Static 1100-2200 rpm, 5.0 Max bhp

50GEQM12 — 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	1099	5.4	1202	5.9	1302	6.4	1397	6.9	1486	7.4
3250	1173	5.7	1270	6.2	1363	6.7	1453	7.2	1539	7.6
3500	1249	6.1	1339	6.6	1427	7.1	1512	7.5	1594	7.9
3750	1325	6.5	1410	7.0	1493	7.4	1573	7.8	1652	8.2
4000	1403	6.9	1482	7.3	1560	7.7	1637	8.1	1711	8.5
4250	1480	7.3	1556	7.7	1630	8.1	1702	8.5	1773	8.8
4500	1559	7.7	1630	8.1	1700	8.5	1769	8.8	1837	9.2
4750	1638	8.1	1705	8.5	1772	8.8	1838	9.2	1903	9.5
5000	1717	8.5	1781	8.9	1845	9.2	1908	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
3000	1570	7.8	1649	8.2	1723	8.6	1794	8.9	—	—
3250	1620	8.0	1698	8.4	1771	8.8	—	—	—	—
3500	1673	8.3	1748	8.7	1820	9.1	—	—	—	—
3750	1727	8.6	1800	9.0	—	—	—	—	—	—
4000	1784	8.9	1855	9.3	—	—	—	—	—	—
4250	1843	9.2	—	—	—	—	—	—	—	—
4500	—	—	—	—	—	—	—	—	—	—
4750	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1100-2000 rpm

50GEQM12 — 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	1099	4.9	1202	5.4	1302	5.9	1397	6.3	1486	6.7
3250	1173	5.3	1270	5.7	1363	6.1	1453	6.6	1539	6.9
3500	1249	5.6	1339	6.0	1427	6.4	1512	6.8	1594	7.2
3750	1325	6.0	1410	6.4	1493	6.7	1573	7.1	1652	7.5
4000	1403	6.3	1482	6.7	1560	7.0	1637	7.4	1711	7.7
4250	1480	6.7	1556	7.0	1630	7.4	1702	7.7	1773	8.0
4500	1559	7.0	1630	7.4	1700	7.7	1769	8.0	1837	8.3
4750	1638	7.4	1705	7.7	1772	8.0	1838	8.3	1903	8.6
5000	1717	7.8	1781	8.1	1845	8.4	1908	8.7	1970	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
3000	1570	7.1	1649	7.5	1723	7.8	1794	8.1	1860	8.4
3250	1620	7.3	1698	7.7	1771	8.0	1841	8.3	1907	8.6
3500	1673	7.6	1748	7.9	1820	8.2	1889	8.6	1954	8.9
3750	1727	7.8	1800	8.2	1871	8.5	1938	8.8	2003	9.1
4000	1784	8.1	1855	8.4	1923	8.7	1989	9.0	2052	9.3
4250	1843	8.4	1911	8.7	1977	9.0	2041	9.3	2103	9.6
4500	1904	8.6	1969	8.9	2033	9.2	2095	9.5	2156	9.8
4750	1966	8.9	2029	9.2	2091	9.5	2151	9.8	—	—
5000	2031	9.2	2091	9.5	2150	9.8	—	—	—	—

High Static 1100-2200 rpm

50GEQM07 — 6.5 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
1800	742	0.16	897	0.27	1033	0.42	1150	0.58	1255	0.75
1950	780	0.18	927	0.30	1059	0.45	1175	0.61	1279	0.79
2100	820	0.21	959	0.33	1086	0.48	1200	0.65	1303	0.83
2250	861	0.24	993	0.37	1115	0.52	1227	0.69	1329	0.88
2400	904	0.27	1028	0.40	1146	0.56	1255	0.73	1355	0.92
2550	947	0.31	1065	0.45	1178	0.60	1284	0.78	1382	0.97
2700	991	0.36	1103	0.49	1212	0.65	1314	0.83	1410	1.03
2850	1036	0.40	1143	0.54	1246	0.70	1345	0.88	1439	1.08
3000	1082	0.46	1183	0.60	1282	0.76	1378	0.94	1469	1.14

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	1349	0.93	1436	1.13	1518	1.33	1594	1.54	1666	1.76
1950	1373	0.98	1460	1.18	1541	1.38	1617	1.60	1689	1.82
2100	1397	1.02	1484	1.23	1565	1.44	1641	1.66	1712	1.89
2250	1422	1.07	1508	1.28	1589	1.50	1664	1.72	1736	1.95
2400	1447	1.12	1533	1.34	1613	1.56	1689	1.79	1760	2.02
2550	1473	1.18	1558	1.39	1638	1.62	1713	1.85	1784	2.09
2700	1499	1.23	1583	1.45	1663	1.68	1738	1.92	1809	2.17
2850	1527	1.29	1610	1.52	1688	1.75	1763	1.99	1834	2.24
3000	1555	1.36	1637	1.58	1715	1.82	1789	2.07	1859	2.32

Std/Med Static 742-2000 rpm, 2.4 Max bhp

High Static 742-2200 rpm, 3.0 Max bhp

50GEQM07 — Standard/Medium Static — 6.5 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
1800	742	3.5	897	4.3	1033	5.0	1150	5.6	1255	6.2
1950	780	3.7	927	4.5	1059	5.2	1175	5.8	1279	6.3
2100	820	3.9	959	4.6	1086	5.3	1200	5.9	1303	6.4
2250	861	4.1	993	4.8	1115	5.4	1227	6.0	1329	6.5
2400	904	4.4	1028	5.0	1146	5.6	1255	6.2	1355	6.7
2550	947	4.6	1065	5.2	1178	5.8	1284	6.3	1382	6.8
2700	991	4.8	1103	5.4	1212	5.9	1314	6.5	1410	7.0
2850	1036	5.0	1143	5.6	1246	6.1	1345	6.6	1439	7.1
3000	1082	5.3	1183	5.8	1282	6.3	1378	6.8	1469	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	1349	6.7	1436	7.1	1518	7.5	1594	7.9	1666	8.3
1950	1373	6.8	1460	7.2	1541	7.6	1617	8.0	1689	8.4
2100	1397	6.9	1484	7.3	1565	7.8	1641	8.2	1712	8.5
2250	1422	7.0	1508	7.5	1589	7.9	1664	8.3	1736	8.6
2400	1447	7.2	1533	7.6	1613	8.0	1689	8.4	1760	8.8
2550	1473	7.3	1558	7.7	1638	8.1	1713	8.5	1784	8.9
2700	1499	7.4	1583	7.9	1663	8.3	1738	8.7	1809	9.0
2850	1527	7.6	1610	8.0	1688	8.4	1763	8.8	1834	9.1
3000	1555	7.7	1637	8.1	1715	8.5	1789	8.9	1859	9.3

Std/Med Static 742-2000 rpm

50GEQM07 — High Static — 6.5 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
1800	742	3.3	897	4.0	1033	4.6	1150	5.2	1255	5.6
1950	780	3.4	927	4.1	1059	4.7	1175	5.3	1279	5.7
2100	820	3.6	959	4.3	1086	4.9	1200	5.4	1303	5.9
2250	861	3.8	993	4.4	1115	5.0	1227	5.5	1329	6.0
2400	904	4.0	1028	4.6	1146	5.1	1255	5.6	1355	6.1
2550	947	4.2	1065	4.8	1178	5.3	1284	5.8	1382	6.2
2700	991	4.4	1103	4.9	1212	5.4	1314	5.9	1410	6.4
2850	1036	4.6	1143	5.1	1246	5.6	1345	6.1	1439	6.5
3000	1082	4.8	1183	5.3	1282	5.8	1378	6.2	1469	6.6

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	1349	6.1	1436	6.5	1518	6.9	1594	7.2	1666	7.5
1950	1373	6.2	1460	6.6	1541	7.0	1617	7.3	1689	7.6
2100	1397	6.3	1484	6.7	1565	7.1	1641	7.4	1712	7.7
2250	1422	6.4	1508	6.8	1589	7.2	1664	7.5	1736	7.9
2400	1447	6.5	1533	6.9	1613	7.3	1689	7.6	1760	8.0
2550	1473	6.6	1558	7.0	1638	7.4	1713	7.8	1784	8.1
2700	1499	6.8	1583	7.2	1663	7.5	1738	7.9	1809	8.2
2850	1527	6.9	1610	7.3	1688	7.6	1763	8.0	1834	8.3
3000	1555	7.0	1637	7.4	1715	7.8	1789	8.1	1859	8.4

High Static 742-2200 rpm

50GEQM08 — 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	882	0.26	1014	0.39	1135	0.55	1246	0.73	1346	0.92
2440	935	0.31	1058	0.44	1174	0.61	1281	0.79	1380	0.98
2625	988	0.36	1104	0.50	1214	0.67	1318	0.85	1414	1.05
2815	1044	0.42	1153	0.57	1257	0.73	1357	0.92	1450	1.13
3000	1100	0.49	1202	0.64	1301	0.81	1397	1.00	1487	1.21
3190	1157	0.56	1254	0.72	1348	0.89	1439	1.08	1527	1.30
3375	1214	0.65	1305	0.80	1395	0.98	1483	1.18	1567	1.39
3565	1273	0.74	1359	0.90	1445	1.08	1529	1.28	1610	1.49
3750	1330	0.83	1413	1.00	1495	1.18	1575	1.38	1653	1.60

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	1439	1.12	1524	1.34	1604	1.56	1679	1.79	1750	2.02
2440	1471	1.19	1556	1.41	1635	1.64	1710	1.87	1782	2.12
2625	1504	1.27	1588	1.49	1667	1.72	1741	1.96	1812	2.21
2815	1538	1.34	1621	1.57	1699	1.81	1773	2.06	1844	2.32
3000	1573	1.43	1655	1.66	1732	1.91	1805	2.16	1875	2.42
3190	1611	1.52	1690	1.76	1766	2.00	1839	2.26	1908	2.53
3375	1648	1.62	1726	1.86	1801	2.11	1872	2.37	1941	2.64
3565	1689	1.72	1764	1.96	1837	2.21	1908	2.48	1975	2.75
3750	1729	1.83	1803	2.07	1874	2.33	1943	2.59	2010	2.87

Std/Med Static 882-2000 rpm, 2.4 Max bhp

High Static 882-2200 rpm, 3.0 Max bhp

50GEQM08 — 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	882	4.3	1014	4.9	1135	5.6	1246	6.1	1346	6.6
2440	935	4.5	1058	5.2	1174	5.8	1281	6.3	1380	6.8
2625	988	4.8	1104	5.4	1214	6.0	1318	6.5	1414	7.0
2815	1044	5.1	1153	5.6	1257	6.2	1357	6.7	1450	7.2
3000	1100	5.4	1202	5.9	1301	6.4	1397	6.9	1487	7.4
3190	1157	5.7	1254	6.2	1348	6.6	1439	7.1	1527	7.6
3375	1214	6.0	1305	6.4	1395	6.9	1483	7.3	1567	7.8
3565	1273	6.3	1359	6.7	1445	7.1	1529	7.6	1610	8.0
3750	1330	6.6	1413	7.0	1495	7.4	1575	7.8	1653	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	1439	7.1	1524	7.6	1604	8.0	1679	8.3	1750	8.7
2440	1471	7.3	1556	7.7	1635	8.1	1710	8.5	1782	8.9
2625	1504	7.4	1588	7.9	1667	8.3	1741	8.7	1812	9.0
2815	1538	7.6	1621	8.1	1699	8.5	1773	8.8	1844	9.2
3000	1573	7.8	1655	8.2	1732	8.6	1805	9.0	1875	9.4
3190	1611	8.0	1690	8.4	1766	8.8	1839	9.2	1908	9.5
3375	1648	8.2	1726	8.6	1801	9.0	1872	9.3	—	—
3565	1689	8.4	1764	8.8	1837	9.2	1908	9.5	—	—
3750	1729	8.6	1803	9.0	1874	9.4	—	—	—	—

Std/Med Static 882-2000 rpm

50GEQM08 — 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	882	3.9	1014	4.5	1135	5.1	1246	5.6	1346	6.1
2440	935	4.2	1058	4.7	1174	5.3	1281	5.8	1380	6.2
2625	988	4.4	1104	4.9	1214	5.4	1318	5.9	1414	6.4
2815	1044	4.7	1153	5.2	1257	5.6	1357	6.1	1450	6.5
3000	1100	4.9	1202	5.4	1301	5.9	1397	6.3	1487	6.7
3190	1157	5.2	1254	5.6	1348	6.1	1439	6.5	1527	6.9
3375	1214	5.4	1305	5.9	1395	6.3	1483	6.7	1567	7.1
3565	1273	5.7	1359	6.1	1445	6.5	1529	6.9	1610	7.3
3750	1330	6.0	1413	6.4	1495	6.7	1575	7.1	1653	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	1439	6.5	1524	6.9	1604	7.2	1679	7.6	1750	7.9
2440	1471	6.6	1556	7.0	1635	7.4	1710	7.7	1782	8.1
2625	1504	6.8	1588	7.2	1667	7.5	1741	7.9	1812	8.2
2815	1538	6.9	1621	7.3	1699	7.7	1773	8.0	1844	8.4
3000	1573	7.1	1655	7.5	1732	7.8	1805	8.2	1875	8.5
3190	1611	7.3	1690	7.6	1766	8.0	1839	8.3	1908	8.7
3375	1648	7.5	1726	7.8	1801	8.2	1872	8.5	1941	8.8
3565	1689	7.6	1764	8.0	1837	8.3	1908	8.7	1975	9.0
3750	1729	7.8	1803	8.2	1874	8.5	1943	8.8	2010	9.1

High Static 882-2200 rpm

50GEQM09 — 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	967	0.34	1085	0.48	1198	0.64	1303	0.83	1400	1.02
2765	1030	0.40	1140	0.55	1246	0.72	1346	0.90	1441	1.11
2975	1092	0.48	1195	0.63	1295	0.80	1391	0.99	1482	1.20
3190	1157	0.56	1254	0.72	1348	0.89	1439	1.08	1527	1.30
3400	1222	0.66	1312	0.81	1402	0.99	1489	1.19	1573	1.40
3615	1288	0.76	1374	0.92	1458	1.10	1541	1.30	1621	1.52
3825	1354	0.87	1435	1.04	1515	1.22	1594	1.42	1671	1.64
4040	1422	1.00	1498	1.16	1575	1.35	1650	1.55	1724	1.77
4250	1488	1.12	1561	1.29	1634	1.48	1706	1.69	1776	1.90

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	1490	1.23	1575	1.46	1654	1.69	1729	1.93	1800	2.18
2765	1529	1.32	1612	1.55	1691	1.79	1765	2.04	1835	2.29
2975	1568	1.42	1650	1.65	1727	1.89	1801	2.15	1871	2.41
3190	1611	1.52	1690	1.76	1766	2.00	1839	2.26	1908	2.53
3400	1654	1.63	1731	1.87	1806	2.12	1877	2.38	1945	2.65
3615	1699	1.75	1775	1.99	1847	2.24	1917	2.51	1985	2.79
3825	1746	1.87	1819	2.12	1890	2.37	1958	2.64	2024	2.92
4040	1796	2.00	1866	2.25	1935	2.51	2001	2.77	2066	3.05
4250	1846	2.14	1914	2.38	1980	2.64	2045	2.91	2108	3.18

Std/Med Static 967-2000 rpm, 2.4 Max bhp

High Static 967-2200 rpm, 3.0 Max bhp

50GEQM09 — 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	967	4.7	1085	5.3	1198	5.9	1303	6.4	1400	6.9
2765	1030	5.0	1140	5.6	1246	6.1	1346	6.6	1441	7.1
2975	1092	5.3	1195	5.9	1295	6.4	1391	6.9	1482	7.3
3190	1157	5.7	1254	6.2	1348	6.6	1439	7.1	1527	7.6
3400	1222	6.0	1312	6.5	1402	6.9	1489	7.4	1573	7.8
3615	1288	6.3	1374	6.8	1458	7.2	1541	7.6	1621	8.1
3825	1354	6.7	1435	7.1	1515	7.5	1594	7.9	1671	8.3
4040	1422	7.0	1498	7.4	1575	7.8	1650	8.2	1724	8.6
4250	1488	7.4	1561	7.7	1634	8.1	1706	8.5	1776	8.8

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	1490	7.4	1575	7.8	1654	8.2	1729	8.6	1800	9.0
2765	1529	7.6	1612	8.0	1691	8.4	1765	8.8	1835	9.2
2975	1568	7.8	1650	8.2	1727	8.6	1801	9.0	1871	9.3
3190	1611	8.0	1690	8.4	1766	8.8	1839	9.2	1908	9.5
3400	1654	8.2	1731	8.6	1806	9.0	1877	9.4	—	—
3615	1699	8.5	1775	8.8	1847	9.2	1917	9.6	—	—
3825	1746	8.7	1819	9.1	1890	9.4	—	—	—	—
4040	1796	9.0	1866	9.3	1935	9.7	—	—	—	—
4250	1846	9.2	1914	9.6	—	—	—	—	—	—

Std/Med Static 967-2000 rpm

50GEQM09 — 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	967	4.3	1085	4.9	1198	5.4	1303	5.9	1400	6.3
2765	1030	4.6	1140	5.1	1246	5.6	1346	6.1	1441	6.5
2975	1092	4.9	1195	5.4	1295	5.8	1391	6.3	1482	6.7
3190	1157	5.2	1254	5.6	1348	6.1	1439	6.5	1527	6.9
3400	1222	5.5	1312	5.9	1402	6.3	1489	6.7	1573	7.1
3615	1288	5.8	1374	6.2	1458	6.6	1541	7.0	1621	7.3
3825	1354	6.1	1435	6.5	1515	6.8	1594	7.2	1671	7.6
4040	1422	6.4	1498	6.8	1575	7.1	1650	7.5	1724	7.8
4250	1488	6.7	1561	7.1	1634	7.4	1706	7.7	1776	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
2550	1490	6.7	1575	7.1	1654	7.5	1729	7.8	1800	8.2
2765	1529	6.9	1612	7.3	1691	7.7	1765	8.0	1835	8.3
2975	1568	7.1	1650	7.5	1727	7.8	1801	8.2	1871	8.5
3190	1611	7.3	1690	7.6	1766	8.0	1839	8.3	1908	8.7
3400	1654	7.5	1731	7.8	1806	8.2	1877	8.5	1945	8.8
3615	1699	7.7	1775	8.0	1847	8.4	1917	8.7	1985	9.0
3825	1746	7.9	1819	8.2	1890	8.6	1958	8.9	2024	9.2
4040	1796	8.1	1866	8.5	1935	8.8	2001	9.1	2066	9.4
4250	1846	8.4	1914	8.7	1980	9.0	2045	9.3	2108	9.6

High Static 967-2200 rpm

50GEQM12 — 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	1098	0.55	1200	0.72	1299	0.91	1394	1.12	1485	1.36
3250	1173	0.66	1268	0.83	1360	1.03	1450	1.25	1536	1.48
3500	1248	0.79	1337	0.97	1424	1.17	1509	1.39	1591	1.63
3750	1325	0.93	1409	1.11	1490	1.32	1571	1.54	1648	1.78
4000	1402	1.08	1481	1.27	1558	1.48	1634	1.70	1708	1.94
4250	1480	1.24	1555	1.43	1628	1.65	1699	1.87	1770	2.12
4500	1558	1.41	1629	1.61	1699	1.82	1767	2.05	1834	2.29
4750	1637	1.58	1705	1.79	1771	2.00	1836	2.23	1900	2.47
5000	1716	1.76	1781	1.97	1844	2.19	1906	2.41	1967	2.65

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	1570	1.60	1651	1.86	1728	2.14	1800	2.42	1869	2.70
3250	1619	1.74	1698	2.00	1773	2.28	1844	2.57	1913	2.87
3500	1670	1.88	1747	2.15	1820	2.44	1890	2.73	1958	3.03
3750	1724	2.04	1798	2.31	1869	2.60	1937	2.89	2004	3.20
4000	1780	2.20	1851	2.48	1920	2.76	1987	3.06	2051	3.37
4250	1839	2.37	1907	2.65	1973	2.93	2038	3.23	2101	3.54
4500	1900	2.55	1965	2.82	2029	3.10	2092	3.40	2153	3.71
4750	1963	2.73	2025	2.99	2087	3.28	2147	3.57	—	—
5000	2028	2.91	2087	3.17	2146	3.44	—	—	—	—

Std/Med Static 1100-2000 rpm, 2.4 Max bhp

High Static 1100-2200 rpm, 5.0 Max bhp

50GEQM12 — 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	1098	5.4	1200	5.9	1299	6.4	1394	6.9	1485	7.4
3250	1173	5.7	1268	6.2	1360	6.7	1450	7.2	1536	7.6
3500	1248	6.1	1337	6.6	1424	7.0	1509	7.5	1591	7.9
3750	1325	6.5	1409	7.0	1490	7.4	1571	7.8	1648	8.2
4000	1402	6.9	1481	7.3	1558	7.7	1634	8.1	1708	8.5
4250	1480	7.3	1555	7.7	1628	8.1	1699	8.5	1770	8.8
4500	1558	7.7	1629	8.1	1699	8.5	1767	8.8	1834	9.1
4750	1637	8.1	1705	8.5	1771	8.8	1836	9.2	1900	9.5
5000	1716	8.5	1781	8.9	1844	9.2	1906	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
3000	1570	7.8	1651	8.2	1728	8.6	1800	9.0	—	—
3250	1619	8.0	1698	8.4	1773	8.8	—	—	—	—
3500	1670	8.3	1747	8.7	1820	9.1	—	—	—	—
3750	1724	8.6	1798	9.0	—	—	—	—	—	—
4000	1780	8.9	1851	9.2	—	—	—	—	—	—
4250	1839	9.2	—	—	—	—	—	—	—	—
4500	1900	9.5	—	—	—	—	—	—	—	—
4750	—	—	—	—	—	—	—	—	—	—
5000	—	—	—	—	—	—	—	—	—	—

Std/Med Static 1100-2000 rpm

50GEQM12 — 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	1098	4.9	1200	5.4	1299	5.8	1394	6.3	1485	6.7
3250	1173	5.3	1268	5.7	1360	6.1	1450	6.5	1536	6.9
3500	1248	5.6	1337	6.0	1424	6.4	1509	6.8	1591	7.2
3750	1325	6.0	1409	6.3	1490	6.7	1571	7.1	1648	7.5
4000	1402	6.3	1481	6.7	1558	7.0	1634	7.4	1708	7.7
4250	1480	6.7	1555	7.0	1628	7.4	1699	7.7	1770	8.0
4500	1558	7.0	1629	7.4	1699	7.7	1767	8.0	1834	8.3
4750	1637	7.4	1705	7.7	1771	8.0	1836	8.3	1900	8.6
5000	1716	7.8	1781	8.1	1844	8.4	1906	8.6	1967	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
3000	1570	7.1	1651	7.5	1728	7.8	1800	8.2	1869	8.5
3250	1619	7.3	1698	7.7	1773	8.0	1844	8.4	1913	8.7
3500	1670	7.6	1747	7.9	1820	8.2	1890	8.6	1958	8.9
3750	1724	7.8	1798	8.1	1869	8.5	1937	8.8	2004	9.1
4000	1780	8.1	1851	8.4	1920	8.7	1987	9.0	2051	9.3
4250	1839	8.3	1907	8.6	1973	9.0	2038	9.3	2101	9.5
4500	1900	8.6	1965	8.9	2029	9.2	2092	9.5	2153	9.8
4750	1963	8.9	2025	9.2	2087	9.5	2147	9.8	—	—
5000	2028	9.2	2087	9.5	2146	9.8	—	—	—	—

High Static 1100-2200 rpm

Legend and Notes

Applicable for Electrical Data Tables on pages 55-71

LEGEND

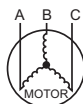
BRKR	—	Circuit Breaker
C.O.	—	Convenience Outlet
FLA	—	Full Load Amps
IFM	—	Indoor Fan Motor
LRA	—	Locked Rotor Amps
MCA	—	Minimum Circuit Amps
P.E.	—	Power Exhaust
PWRD C.O.	—	Powered Convenience Outlet
RLA	—	Rated Load Amps
SCCR	—	Short Circuit Current Rating
UNPWR C.O.	—	Unpowered Convenience Outlet

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.

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

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.

50GEQM07-12 Cooling Electrical Data

50GEQ UNIT SIZE	V-Ph-Hz	UNIT VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		STD SCCR kA	HIGH SCCR kA	IFM			POWER EXHAUST	
		MIN	MAX	RLA	LRA	RLA	LRA	Watts	FLA			Type	EFF at Full Load	FLA	Kit Qty	FLA (ea kit)
M07	208-3-60	187	253	12.8	103	8.3	68	325	1.5	5	10	MED	90%	6.4	1	3.8
												HIGH	90%	7.5	1	3.8
	230-3-60	187	253	12.8	103	8.3	68	325	1.5	5	10	MED	90%	6.4	1	3.8
												HIGH	90%	7.5	1	3.8
	460-3-60	414	506	5.8	50	5.1	38	325	0.8	5	10	MED	90%	3.0	1	3.8
												HIGH	90%	3.5	1	3.8
	575-3-60	518	633	5.1	41	3.5	24	325	0.6	5	—	MED	90%	2.5	1	3.8
												HIGH	90%	3.0	1	3.8
M08	208-3-60	187	253	16.0	156	12.8	38	325	1.5	5	10	MED	90%	6.4	1	3.8
												HIGH	90%	7.5	1	3.8
	230-3-60	187	253	16.0	156	12.8	38	325	1.5	5	10	MED	90%	6.4	1	3.8
												HIGH	90%	7.5	1	3.8
	460-3-60	414	506	7.7	69	5.1	44	325	0.8	5	10	MED	90%	3.0	1	3.8
												HIGH	90%	3.5	1	3.8
	575-3-60	518	633	6.4	48	4.5	27	325	0.6	5	—	MED	90%	2.5	1	3.8
												HIGH	90%	3.0	1	3.8
M09	208-3-60	187	253	18.6	155	12.8	103	1070	7.4	5	10	MED	90%	6.4	1	3.8
												HIGH	90%	7.5	1	3.8
	230-3-60	187	253	18.6	155	12.8	103	1070	7.4	5	10	MED	90%	6.4	1	3.8
												HIGH	90%	7.5	1	3.8
	460-3-60	414	506	8.3	58	5.8	50	1070	7.4	5	10	MED	90%	3.0	1	3.8
												HIGH	90%	3.5	1	3.8
	575-3-60	518	633	7.7	48	5.1	41	1070	7.4	5	—	MED	90%	2.5	1	3.8
												HIGH	90%	3.0	1	3.8
M12	208-3-60	187	253	21.1	157	13.4	120	280	1.5	5	10	MED	90%	6.4	1	3.8
												HIGH	90%	12.6	1	3.8
	230-3-60	187	253	21.1	157	13.4	120	280	1.5	5	10	MED	90%	6.4	1	3.8
												HIGH	90%	12.6	1	3.8
	460-3-60	414	506	9.1	75	6.4	50	280	0.8	5	10	MED	90%	3.0	1	3.8
												HIGH	90%	5.6	1	3.8
	575-3-60	518	633	7.7	48	5.1	41	280	0.6	5	—	MED	90%	2.5	1	3.8
												HIGH	90%	4.6	1	3.8

50GEQM07 Unit Wire/Fuse Sizing Electrical Data

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	HIGH SCCR kA ^a	ELECTRIC HEATER			NO C.O. OR UNPWR C.O.							
					CRHEATER ****00	NOM. (kW)	FLA	NO P.E.				WITH P.E. (pwrd fr/unit)			
								MCA	FUSE or HACR BRKR	DISCONNECT SIZE		MCA	FUSE or HACR BRKR	DISCONNECT SIZE	
										FLA	LRA			FLA	LRA
M07	208/ 230-3-60	MED	5	10	—	—	—	34	45	35	184	38	50	39	188
			5	10	410A	4.9/6.5	13.6/15.6	51/54	60/60	51/53	198/200	55/57	60/60	55/57	202/204
			5	10	411A	7.8/10.4	21.7/25.0	61/65	70/70	60/64	206/209	65/69	70/70	64/68	210/213
			5	10	412A	12.0/16.0	33.4/38.5	76/82	80/90	73/79	217/223	80/86	80/90	78/84	221/227
			5	10	413A	15.8/21.0	43.8/50.5	89/97	90/100	85/93	228/235	93/101	100/110	90/98	232/239
			5	10	414A	18.8/25.0	52.1/60.1	99/109	100/110	95/104	236/244	103/113	110/125	99/109	240/248
		HIGH	5	10	—	—	—	35	45	36	186	39	50	41	190
			5	10	410A	4.9/6.5	13.6/15.6	52/55	60/60	52/54	200/202	56/59	60/60	56/59	204/206
			5	10	411A	7.8/10.4	21.7/25.0	62/67	70/70	61/65	208/211	66/70	70/70	66/69	212/215
			5	10	412A	12.0/16.0	33.4/38.5	77/83	80/90	75/81	219/225	81/87	90/90	79/85	223/229
			5	10	413A	15.8/21.0	43.8/50.5	90/98	90/100	87/94	230/237	94/102	100/110	91/99	234/241
			5	10	414A	18.8/25.0	52.1/60.1	100/110	100/110	96/105	238/246	104/114	110/125	101/110	242/250
	460-3-60	MED	5	10	—	—	—	17	20	18	94	19	25	20	96
			5	10	418A	6.0	7.2	26	30	26	101	28	30	28	103
			5	10	419A	11.5	13.8	35	35	34	108	36	40	36	110
			5	10	420A	15.0	18.0	40	40	39	112	42	45	41	114
			5	10	421A	25.0	30.1	55	60	52	124	57	60	55	126
			5	10	—	—	—	18	20	18	97	20	25	20	99
		HIGH	5	10	418A	6.0	7.2	27	30	27	104	29	30	29	106
			5	10	419A	11.5	13.8	35	35	34	111	37	40	36	113
			5	10	420A	15.0	18.0	40	40	39	115	42	45	41	117
			5	10	421A	25.0	30.1	56	60	53	127	57	60	55	129
		MED	5	—	—	—	—	14	15	14	71	18	20	19	75
			5	—	425A	18.0	17.3	36	40	34	88	39	40	38	92
			5	—	426A	24.8	23.9	44	45	42	95	48	50	46	99
	575-3-60	HIGH	5	—	—	—	—	15	20	15	72	18	20	19	76
			5	—	425A	18.0	17.3	36	40	35	89	40	40	39	93
			5	—	426A	24.8	23.9	44	45	42	96	48	50	47	100
			5	—	—	—	—	—	—	—	—	—	—	—	—

NOTE(S):

- a. High SCCR (Short Circuit Current Rating) is not available on 575-v units, or units with factory-installed powered convenience outlet or non-fused disconnect.

50GEQM07 Unit Wire/Fuse Sizing Electrical Data (cont)

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	ELECTRIC HEATER			WITH PWRD C.O.							
				CRHEATER ****00	Nom. (kW)	FLA	NO P.E.				WITH P.E. (pwrd fr/unit)			
							MCA	FUSE or HACR BRKR	DISCONNECT SIZE		MCA	FUSE or HACR BRKR	DISCONNECT SIZE	
									FLA	LRA			FLA	LRA
M07	208/ 230-3-60	MED	5	—	—	—	39	50	41	189	43	50	45	193
			5	410A	4.9/6.5	13.6/15.6	56/58	60/60	56/59	203/205	60/62	60/70	61/63	207/209
			5	411A	7.8/10.4	21.7/25.0	66/70	70/70	66/69	211/214	70/74	70/80	70/74	215/218
			5	412A	12.0/16.0	33.4/38.5	81/87	90/90	79/85	222/228	85/91	90/100	83/89	226/232
			5	413A	15.8/21.0	43.8/50.5	94/102	100/110	91/99	233/240	98/106	100/110	95/103	237/244
			5	414A	18.8/25.0	52.1/60.1	104/114	110/125	101/110	241/249	108/118	110/125	105/114	245/253
		HIGH	5	—	—	—	40	50	42	191	44	50	46	195
			5	410A	4.9/6.5	13.6/15.6	57/60	60/60	58/60	205/207	61/63	70/70	62/64	209/211
			5	411A	7.8/10.4	21.7/25.0	67/71	70/80	67/71	213/216	71/75	80/80	71/75	217/220
			5	412A	12.0/16.0	33.4/38.5	82/88	90/90	80/86	224/230	86/92	90/100	85/91	228/234
			5	413A	15.8/21.0	43.8/50.5	95/103	100/110	92/100	235/242	99/107	100/110	97/104	239/246
			5	414A	18.8/25.0	52.1/60.1	105/115	110/125	102/111	243/251	109/119	110/125	106/115	247/255
	460-3-60	MED	5	—	—	—	20	25	20	96	21	25	22	98
			5	418A	6.0	7.2	29	30	29	103	30	30	31	105
			5	419A	11.5	13.8	37	40	36	110	39	40	38	112
			5	420A	15.0	18.0	42	45	41	114	44	45	43	116
			5	421A	25.0	30.1	57	60	55	126	59	60	57	128
		HIGH	5	—	—	—	20	25	21	99	22	25	23	101
			5	418A	6.0	7.2	29	30	29	106	31	35	31	108
			5	419A	11.5	13.8	37	40	37	113	39	40	39	115
			5	420A	15.0	18.0	43	45	42	117	44	45	44	119
			5	421A	25.0	30.1	58	60	56	129	60	60	58	131
	575-3-60	MED	5	—	—	—	16	20	16	73	20	25	20	77
			5	425A	18.0	17.3	37	40	36	90	41	45	40	94
			5	426A	24.8	23.9	46	50	44	97	49	50	48	101
		HIGH	5	—	—	—	16	20	17	74	20	25	21	78
			5	425A	18.0	17.3	38	40	37	91	42	45	41	95
			5	426A	24.8	23.9	46	50	44	98	50	50	49	102

50GEQM08 Unit Wire/Fuse Sizing Electrical Data

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	HIGH SCCR kA ^a	ELECTRIC HEATER			NO C.O. OR UNPWR C.O.							
					CRHEATER ****00	NOM. (kW)	FLA	NO P.E.				WITH P.E. (pwrdr fr/unit)			
								MCA	FUSE or HACR BRKR	DISCONNECT SIZE		MCA	FUSE or HACR BRKR	DISCONNECT SIZE	
										FLA	LRA			FLA	LRA
M08	208/ 230-3-60	MED	5	10	—	—	—	43	50	44	267	46	60	48	271
			5	10	411A	7.8/10.4	21.7/25.0	70/74	70/80	69/73	289/292	74/78	80/80	73/77	293/296
			5	10	412A	12.0/16.0	33.4/38.5	84/91	90/100	82/88	300/306	88/95	90/100	87/93	304/310
			5	10	414A	18.8/25.0	52.1/60.1	108/118	110/125	104/113	319/327	112/122	125/125	108/117	323/331
			5	10	415A	24.0/32.0	66.7/77.0	126/139	150/150	121/132	334/344	130/143	150/150	125/137	338/348
			5	10	416A	31.8/42.4	88.4/102.0	153/170	175/175	146/161	355/369	157/174	175/175	150/166	359/373
		HIGH	5	10	—	—	—	44	50	45	269	48	60	50	273
			5	10	411A	7.8/10.4	21.7/25.0	71/75	80/80	70/74	291/294	75/79	80/80	75/78	295/298
			5	10	412A	12.0/16.0	33.4/38.5	86/92	90/100	84/89	302/308	89/96	90/100	88/94	306/312
			5	10	414A	18.8/25.0	52.1/60.1	109/119	110/125	105/114	321/329	113/123	125/125	109/119	325/333
			5	10	415A	24.0/32.0	66.7/77.0	127/140	150/150	122/134	336/346	131/144	150/150	126/138	340/350
			5	10	416A	31.8/42.4	88.4/102.0	154/171	175/175	147/162	357/371	158/175	175/175	151/167	361/375
	460-3-60	MED	5	10	—	—	—	20	25	20	119	22	25	22	121
			5	10	419A	11.5	13.8	37	40	36	133	39	40	38	135
			5	10	420A	15.0	18.0	42	45	41	137	44	45	43	139
			5	10	421A	25.0	30.1	57	60	55	149	59	60	57	151
			5	10	422A	33.0	39.7	69	70	66	159	71	80	68	161
		HIGH	5	10	—	—	—	20	25	21	122	22	25	23	124
			5	10	419A	11.5	13.8	38	40	36	136	39	40	39	138
			5	10	420A	15.0	18.0	43	45	41	140	45	45	43	142
			5	10	421A	25.0	30.1	58	60	55	152	60	60	57	154
			5	10	422A	33.0	39.7	70	70	66	162	72	80	68	164
	575-3-60	MED	5	—	—	—	—	17	20	17	81	20	25	21	85
			5	—	425A	18.0	17.3	38	40	37	98	42	45	41	102
			5	—	427A	36.0	34.6	60	60	57	116	64	70	61	120
		HIGH	5	—	—	—	—	17	20	17	82	21	25	22	86
			5	—	425A	18.0	17.3	39	40	37	99	43	45	42	103
			5	—	427A	36.0	34.6	60	60	57	117	64	70	62	121

NOTE(S):

- a. High SCCR (Short Circuit Current Rating) is not available on 575-v units, or units with factory-installed powered convenience outlet or non-fused disconnect.

50GEQM08 Unit Wire/Fuse Sizing Electrical Data (cont)

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	ELECTRIC HEATER			WITH PWRD C.O.							
				CRHEATER ****00	Nom. (kW)	FLA	NO P.E.				WITH P.E. (pwrd fr/unit)			
							MCA	FUSE or HACR BRKR	DISCONNECT SIZE		MCA	FUSE or HACR BRKR	DISCONNECT SIZE	
									FLA	LRA			FLA	LRA
M08	208/ 230-3-60	MED	5	—	—	—	47	60	49	272	51	60	54	276
			5	411A	7.8/10.4	21.7/25.0	75/79	80/80	74/78	294/297	78/83	80/90	79/83	298/301
			5	412A	12.0/16.0	33.4/38.5	89/96	90/100	88/94	305/311	93/99	100/100	92/98	309/315
			5	414A	18.8/25.0	52.1/60.1	113/123	125/125	109/119	324/332	116/126	125/150	114/123	328/336
			5	415A	24.0/32.0	66.7/77.0	131/144	150/150	126/138	339/349	135/148	150/150	131/142	343/353
			5	416A	31.8/42.4	88.4/102.0	158/175	175/175	151/167	360/374	162/179	175/200	155/171	364/378
		HIGH	5	—	—	—	49	60	51	274	52	60	55	278
			5	411A	7.8/10.4	21.7/25.0	76/80	80/80	76/79	296/299	79/84	80/90	80/84	300/303
			5	412A	12.0/16.0	33.4/38.5	90/97	90/100	89/95	307/313	94/100	100/110	93/99	311/317
			5	414A	18.8/25.0	52.1/60.1	114/124	125/125	111/120	326/334	117/127	125/150	115/124	330/338
			5	415A	24.0/32.0	66.7/77.0	132/145	150/150	127/139	341/351	136/149	150/150	132/144	345/355
			5	416A	31.8/42.4	88.4/102.0	159/176	175/200	152/168	362/376	163/180	175/200	157/172	366/380
	460-3-60	MED	5	—	—	—	22	25	23	121	24	30	25	123
			5	419A	11.5	13.8	39	40	38	135	41	45	40	137
			5	420A	15.0	18.0	44	45	43	139	46	50	45	141
			5	421A	25.0	30.1	60	60	57	151	61	70	59	153
			5	422A	33.0	39.7	72	80	68	161	73	80	70	163
		HIGH	5	—	—	—	22	25	23	124	24	30	25	126
			5	419A	11.5	13.8	40	40	39	138	42	45	41	140
			5	420A	15.0	18.0	45	45	44	142	47	50	46	144
			5	421A	25.0	30.1	60	60	58	154	62	70	60	156
			5	422A	33.0	39.7	72	80	69	164	74	80	71	166
	575-3-60	MED	5	—	—	—	18	20	19	83	22	25	23	87
			5	425A	18.0	17.3	40	40	39	100	44	45	43	104
			5	427A	36.0	34.6	62	70	59	118	65	70	63	122
		HIGH	5	—	—	—	19	25	19	84	23	25	24	88
			5	425A	18.0	17.3	40	45	39	101	44	45	44	105
			5	427A	36.0	34.6	62	70	59	119	66	70	63	123

50GEQM09 Unit Wire/Fuse Sizing Electrical Data^a

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	ELECTRIC HEATER			NO C.O. OR UNPWR C.O.							
				CRHEATER ****00	Nom. (kW)	FLA	NO P.E.				WITH P.E. (pwrdr fr/unit)			
							MCA	FUSE or HACR BRKR	DISCONNECT SIZE		MCA	FUSE or HACR BRKR	DISCONNECT SIZE	
									FLA	LRA			FLA	LRA
M09	208/ 230-3-60	MED	5	—	—	—	50	60	52	274	54	60	56	278
			5	411A	7.8/10.4	21.7/25.0	77/82	80/90	77/81	296/299	81/85	90/90	81/85	300/303
			5	412A	12.0/16.0	33.4/38.5	92/98	100/100	90/96	307/313	96/102	100/110	95/101	311/317
			5	414A	18.8/25.0	52.1/60.1	115/125	125/125	112/121	326/334	119/129	125/150	116/125	330/338
			5	415A	24.0/32.0	66.7/77.0	134/147	150/150	129/141	341/351	137/150	150/150	133/145	345/355
			5	416A	31.8/42.4	88.4/102.0	161/178	175/200	154/169	362/376	165/182	175/200	158/174	366/380
		HIGH	5	—	—	—	51	60	53	276	55	60	58	280
			5	411A	7.8/10.4	21.7/25.0	79/83	80/90	78/82	298/301	82/86	90/90	83/86	302/305
			5	412A	12.0/16.0	33.4/38.5	93/100	100/100	92/98	309/315	97/103	100/110	96/102	313/319
			5	414A	18.8/25.0	52.1/60.1	117/127	125/150	113/122	328/336	120/130	125/150	118/127	332/340
			5	415A	24.0/32.0	66.7/77.0	135/148	150/150	130/142	343/353	139/151	150/175	134/146	347/357
			5	416A	31.8/42.4	88.4/102.0	162/179	175/200	155/171	364/378	166/183	175/200	159/175	368/382
	460-3-60	MED	5	—	—	—	27	30	28	119	29	35	30	121
			5	419A	11.5	13.8	44	45	44	133	46	50	46	135
			5	420A	15.0	18.0	50	50	49	137	51	60	51	139
			5	421A	25.0	30.1	65	70	63	149	66	70	65	151
			5	422A	33.0	39.7	77	80	74	159	78	80	76	161
		HIGH	5	—	—	—	28	30	29	122	29	35	31	124
			5	419A	11.5	13.8	45	45	45	136	47	50	47	138
			5	420A	15.0	18.0	50	50	49	140	52	60	52	142
			5	421A	25.0	30.1	65	70	63	152	67	70	65	154
			5	422A	33.0	39.7	77	80	74	162	79	80	76	164
	575-3-60	MED	5	—	—	—	25	30	26	100	29	35	30	104
			5	425A	18.0	17.3	47	50	46	117	51	60	50	121
			5	427A	36.0	34.6	68	70	66	135	72	80	70	139
		HIGH	5	—	—	—	26	30	27	101	29	35	31	105
			5	425A	18.0	17.3	47	50	47	118	51	60	51	122
			5	427A	36.0	34.6	69	70	66	136	73	80	71	140

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on 50GEQM09 units due to control box constraints.

50GEQM09 Unit Wire/Fuse Sizing Electrical Data^a (cont)

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	ELECTRIC HEATER			WITH PWRD C.O.							
				CRHEATER ****00	Nom. (kW)	FLA	NO P.E.				WITH P.E. (pwrdr fr/unit)			
							MCA	FUSE or HACR BRKR	DISCONNECT SIZE		MCA	FUSE or HACR BRKR	DISCONNECT SIZE	
									FLA	LRA			FLA	LRA
M09	208/ 230-3-60	MED	5	—	—	—	55	60	58	279	59	70	62	283
			5	411A	7.8/10.4	21.7/25.0	82/86	90/90	82/86	301/304	86/90	90/100	87/91	305/308
			5	412A	12.0/16.0	33.4/38.5	97/103	100/110	96/102	312/318	101/107	110/110	100/106	316/322
			5	414A	18.8/25.0	52.1/60.1	120/130	125/150	117/127	331/339	124/134	125/150	122/131	335/343
			5	415A	24.0/32.0	66.7/77.0	138/151	150/175	134/146	346/356	142/155	150/175	139/150	350/360
			5	416A	31.8/42.4	88.4/102.0	166/183	175/200	159/175	367/381	169/186	175/200	164/179	371/385
		HIGH	5	—	—	—	—	56	70	59	281	60	70	63
			5	411A	411A	7.8/10.4	21.7/25.0	83/87	90/90	84/88	303/306	87/91	90/100	88/92
			5	412A	412A	12.0/16.0	33.4/38.5	98/104	100/110	97/103	314/320	102/108	110/110	102/107
			5	414A	414A	18.8/25.0	52.1/60.1	121/131	125/150	119/128	333/341	125/135	125/150	123/132
			5	415A	415A	24.0/32.0	66.7/77.0	140/152	150/175	135/147	348/358	143/156	150/175	140/152
			5	416A	416A	31.8/42.4	88.4/102.0	167/184	175/200	160/176	369/383	171/188	175/200	165/180
	460-3-60	MED	5	—	—	—	29	35	31	121	31	35	33	123
			5	419A	11.5	13.8	46	50	47	135	48	50	49	137
			5	420A	15.0	18.0	52	60	51	139	54	60	53	141
			5	421A	25.0	30.1	67	70	65	151	69	70	67	153
			5	422A	33.0	39.7	79	80	76	161	81	90	78	163
		HIGH	5	—	—	—	30	35	31	124	32	35	33	126
			5	419A	11.5	13.8	47	50	47	138	49	50	49	140
			5	420A	15.0	18.0	52	60	52	142	54	60	54	144
			5	421A	25.0	30.1	67	70	66	154	69	70	68	156
			5	422A	33.0	39.7	79	80	77	164	81	90	79	166
	575-3-60	MED	5	—	—	—	27	30	28	102	31	35	32	106
			5	425A	18.0	17.3	48	50	48	119	52	60	52	123
			5	427A	36.0	34.6	70	70	68	137	74	80	72	141
		HIGH	5	—	—	—	27	30	29	103	31	35	33	107
			5	425A	18.0	17.3	49	50	49	120	53	60	53	124
			5	427A	36.0	34.6	71	80	68	138	74	80	73	142

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on 50GEQM09 units due to control box constraints.

50GEQM12 Unit Wire/Fuse Sizing Electrical Data

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	HIGH SCCR kA ^a	ELECTRIC HEATER			NO C.O. OR UNPWR C.O.							
					CRHEATER ****00	Nom. (kW)	FLA	NO P.E.				WITH P.E. (pwr fr/unit)			
								MCA	FUSE or HACR BRKR	DISCONNECT SIZE		MCA	FUSE or HACR BRKR	DISCONNECT SIZE	
										FLA	LRA			FLA	LRA
M12	208/ 230-3-60	MED	5	10	—	—	—	51	60	52	292	55	60	57	296
			5	10	411A	7.8/10.4	21.7/25.0	78/82	80/90	77/81	314/317	82/86	90/100	82/85	318/321
			5	10	412A	12.0/16.0	33.4/38.5	93/99	100/100	91/96	325/331	97/103	100/110	95/101	329/335
			5	10	415A	24.0/32.0	66.7/77.0	135/147	150/150	129/141	359/369	138/151	150/175	133/145	363/373
			5	10	416A	31.8/42.4	88.4/102.0	162/179	175/200	154/170	380/394	165/182	175/200	158/174	384/398
			5	10	417A	37.6/50.0	104.2/120.3	181/171	200/200	172/191	396/412	185/175	200/200	176/195	400/416
		HIGH	5	10	—	—	—	57	70	59	301	61	80	64	305
			5	10	411A	7.8/10.4	21.7/25.0	84/89	90/100	84/88	323/326	88/92	100/100	89/92	327/330
			5	10	412A	12.0/16.0	33.4/38.5	99/105	100/110	98/104	334/340	103/109	110/110	102/108	338/344
			5	10	415A	24.0/32.0	66.7/77.0	141/154	150/175	136/148	368/378	145/157	150/175	140/152	372/382
			5	10	416A	31.8/42.4	88.4/102.0	168/185	175/200	161/177	389/403	172/189	175/200	165/181	393/407
			5	10	417A	37.6/50.0	104.2/120.3	188/178	200/200	179/198	405/421	191/181	200/200	184/202	409/425
	460-3-60	MED	5	10	—	—	—	24	30	24	132	25	30	26	134
			5	10	420A	15.0	18.0	46	50	45	150	48	50	47	152
			5	10	422A	33.0	39.7	73	80	70	172	75	80	72	174
			5	10	423A	41.7	50.2	86	90	82	182	88	90	84	184
			5	10	424A	50.0	60.1	84	90	93	192	86	90	95	194
		HIGH	5	10	—	—	—	26	30	27	136	28	30	29	138
			5	10	420A	15.0	18.0	49	50	48	154	51	60	50	156
			5	10	422A	33.0	39.7	76	80	73	176	78	80	75	178
			5	10	423A	41.7	50.2	89	90	85	186	91	100	87	188
			5	10	424A	50.0	60.1	86	90	96	196	88	90	98	198
	575-3-60	MED	5	—	—	—	—	19	25	20	96	23	30	24	100
			5	—	425A	18.0	17.3	41	45	40	113	45	45	44	117
			5	—	427A	36.0	34.6	63	70	59	131	67	70	64	135
			5	—	428A	50.0	48.1	68	70	75	144	71	80	79	148
		HIGH	5	—	—	—	—	22	25	22	98	25	30	26	102
			5	—	425A	18.0	17.3	43	45	42	115	47	50	46	119
			5	—	427A	36.0	34.6	65	70	62	133	69	70	66	137
			5	—	428A	50.0	48.1	70	80	77	146	73	80	82	150

NOTE(S):

- a. High SCCR (Short Circuit Current Rating) is not available on 575-v units, or units with factory-installed powered convenience outlet or non-fused disconnect.

50GEQM12 Unit Wire/Fuse Sizing Electrical Data (cont)

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	STD SCCR kA	ELECTRIC HEATER			WITH PWRD C.O.							
				CRHEATER ****00	Nom. (kW)	FLA	NO P.E.				WITH P.E. (pwr fr/unit)			
							MCA	FUSE or HACR BRKR	DISCONNECT SIZE		MCA	FUSE or HACR BRKR	DISCONNECT SIZE	
									FLA	LRA			FLA	LRA
M12	208/ 230-3-60	MED	5	—	—	—	56	70	58	297	60	80	62	301
			5	411A	7.8/10.4	21.7/25.0	83/87	90/100	83/86	319/322	87/91	100/100	87/91	323/326
			5	412A	12.0/16.0	33.4/38.5	98/104	100/110	96/102	330/336	101/108	110/110	101/106	334/340
			5	415A	24.0/32.0	66.7/77.0	139/152	150/175	134/146	364/374	143/156	150/175	139/151	368/378
			5	416A	31.8/42.4	88.4/102.0	166/183	175/200	159/175	385/399	170/187	175/200	164/179	389/403
			5	417A	37.6/50.0	104.2/120.3	186/176	200/200	178/196	401/417	190/180	200/200	182/200	405/421
		HIGH	5	—	—	—	62	80	65	306	66	80	69	310
			5	411A	7.8/10.4	21.7/25.0	89/93	100/100	90/94	328/331	93/97	100/100	94/98	332/335
			5	412A	12.0/16.0	33.4/38.5	104/110	110/110	103/109	339/345	108/114	110/125	108/114	343/349
			5	415A	24.0/32.0	66.7/77.0	146/158	150/175	142/153	373/383	149/162	150/175	146/158	377/387
			5	416A	31.8/42.4	88.4/102.0	173/190	175/200	167/182	394/408	176/193	200/200	171/187	398/412
			5	417A	37.6/50.0	104.2/120.3	192/182	200/200	185/203	410/426	196/186	200/200	189/208	414/430
	460-3-60	MED	5	—	—	—	26	30	27	134	28	30	29	136
			5	420A	15.0	18.0	48	50	47	152	50	50	49	154
			5	422A	33.0	39.7	75	80	72	174	77	80	74	176
			5	423A	41.7	50.2	89	90	84	184	90	90	86	186
			5	424A	50.0	60.1	86	90	96	194	88	90	98	196
		HIGH	5	—	—	—	28	35	30	138	30	35	32	140
			5	420A	15.0	18.0	51	60	50	156	53	60	52	158
			5	422A	33.0	39.7	78	80	75	178	80	80	77	180
			5	423A	41.7	50.2	91	100	87	188	93	100	89	190
			5	424A	50.0	60.1	89	100	99	198	90	100	101	200
	575-3-60	MED	5	—	—	—	21	25	22	98	25	30	26	102
			5	425A	18.0	17.3	43	45	42	115	47	50	46	119
			5	427A	36.0	34.6	64	70	61	133	68	70	66	137
			5	428A	50.0	48.1	69	80	77	146	73	80	81	150
		HIGH	5	—	—	—	23	30	24	100	27	30	28	104
			5	425A	18.0	17.3	45	45	44	117	49	50	48	121
			5	427A	36.0	34.6	67	70	64	135	70	70	68	139
			5	428A	50.0	48.1	71	80	79	148	75	80	84	152

50GEQM07 Electric Heat Data — Without Non-Fused Disconnect

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER P/N	NOM. (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT P/N			
								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)
M07	208/ 230-3-60	MED	CRHEATER410A00	6.5	5	4.9/6.0	16.7/20.4	047	047	047	049
			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
			CRHEATER413A00	21.0	5	15.8/19.3	53.8/65.8	051	051	051	051
			CRHEATER414A00	25.0	5	18.8/23.0	64.1/78.3	051	051	051	051
		HIGH	CRHEATER410A00	6.5	5	4.9/6.0	16.7/20.4	047	047	047	049
			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
			CRHEATER413A00	21.0	5	15.8/19.3	53.8/65.8	051	051	051	051
			CRHEATER414A00	25.0	5	18.8/23.0	64.1/78.3	051	051	051	051
	460-3-60	MED	CRHEATER418A00	6.0	5	5.5	18.8	047	047	047	047
			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
		HIGH	CRHEATER418A00	6.0	5	5.5	18.8	047	047	047	047
			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
	575-3-60	MED	CRHEATER425A00	18.0	5	16.5	56.4	047	047	047	047
			CRHEATER426A00	24.8	5	22.8	77.7	047	047	047	047
		HIGH	CRHEATER425A00	18.0	5	16.5	56.4	047	047	047	047
			CRHEATER426A00	24.8	5	22.8	77.7	047	047	047	047

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER P/N	NOM. (kW)	HIGH SCCR kA ^a	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	HSCCR SINGLE POINT OR JUNCTION KIT P/N	
								No C.O. or Unpowered C.O.	
								No P.E.	With P.E. (pwrd fr/unit)
M07	208/ 230-3-60	MED	CRHEATER410A00	6.5	10	4.9/6.0	16.7/20.4	067	067
			CRHEATER411A00	10.4	10	7.8/9.6	26.7/32.6	067	067
			CRHEATER412A00	16.0	10	12.0/14.7	41.0/50.1	067	067
			CRHEATER413A00	21.0	10	15.8/19.3	53.8/65.8	068	068
			CRHEATER414A00	25.0	10	18.8/23.0	64.1/78.3	068	068
		HIGH	CRHEATER410A00	6.5	10	4.9/6.0	16.7/20.4	067	067
			CRHEATER411A00	10.4	10	7.8/9.6	26.7/32.6	067	067
			CRHEATER412A00	16.0	10	12.0/14.7	41.0/50.1	067	067
			CRHEATER413A00	21.0	10	15.8/19.3	53.8/65.8	068	068
			CRHEATER414A00	25.0	10	18.8/23.0	64.1/78.3	068	068
	460-3-60	MED	CRHEATER418A00	6.0	10	5.5	18.8	067	067
			CRHEATER419A00	11.5	10	10.6	36.0	067	067
			CRHEATER420A00	15.0	10	13.8	47.0	067	067
			CRHEATER421A00	25.0	10	23.0	78.3	068	068
		HIGH	CRHEATER418A00	6.0	10	5.5	18.8	067	067
			CRHEATER419A00	11.5	10	10.6	36.0	067	067
			CRHEATER420A00	15.0	10	13.8	47.0	067	067
			CRHEATER421A00	25.0	10	23.0	78.3	068	068
	575-3-60	MED	CRHEATER425A00	18.0	—	16.5	56.4	067	067
			CRHEATER426A00	24.8	—	22.8	77.7	068	068
		HIGH	CRHEATER425A00	18.0	—	16.5	56.4	067	067
			CRHEATER426A00	24.8	—	22.8	77.7	068	068

NOTE(S):

- a. High SCCR (Short Circuit Current Rating) is not available on 575-v units, or units with factory-installed powered convenience outlet or non-fused disconnect.

50GEQM07 Electric Heat Data — With Non-Fused Disconnect

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER P/N	NOM. (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT P/N			
								No C.O. or Unpowered C.O.		With PWRD C.O.	
								No P.E.	With P.E. (pwrdr fr/unit)	No P.E.	With P.E. (pwrdr fr/unit)
M07	208/ 230-3-60	MED	CRHEATER410A00	6.5	5.0	4.9/6.0	16.7/20.4	047	047	047	049
			CRHEATER411A00	10.4	5.0	7.8/9.6	26.7/32.6	049	049	049	049
			CRHEATER412A00	16.0	5.0	12.0/14.7	41.0/50.1	049	049	049	049
			CRHEATER413A00	21.0	5.0	15.8/19.3	53.8/65.8	051	051	051	051
			CRHEATER414A00	25.0	5.0	18.8/23.0	64.1/78.3	051	051	051	051
		HIGH	CRHEATER410A00	6.5	5.0	4.9/6.0	16.7/20.4	047	047	047	049
			CRHEATER411A00	10.4	5.0	7.8/9.6	26.7/32.6	049	049	049	049
			CRHEATER412A00	16.0	5.0	12.0/14.7	41.0/50.1	049	049	049	049
			CRHEATER413A00	21.0	5.0	15.8/19.3	53.8/65.8	051	051	051	051
			CRHEATER414A00	25.0	5.0	18.8/23.0	64.1/78.3	051	051	051	051
	460-3-60	MED	CRHEATER418A00	6.0	5.0	5.5	18.8	047	047	047	047
			CRHEATER419A00	11.5	5.0	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5.0	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5.0	23.0	78.3	047	047	047	047
		HIGH	CRHEATER418A00	6.0	5.0	5.5	18.8	047	047	047	047
			CRHEATER419A00	11.5	5.0	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5.0	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5.0	23.0	78.3	047	047	047	047
	575-3-60	MED	CRHEATER425A00	18.0	5.0	16.5	56.4	047	047	047	047
			CRHEATER426A00	24.8	5.0	22.8	77.7	047	047	047	047
		HIGH	CRHEATER425A00	18.0	5.0	16.5	56.4	047	047	047	047
			CRHEATER426A00	24.8	5.0	22.8	77.7	047	047	047	047

50GEQM08 Electric Heat Data — Without Non-Fused Disconnect

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER P/N	NOM. (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT P/N			
								No C.O. or Unpowered C.O.		With PWRD C.O.	
								No P.E.	With P.E. (pwr fr/unit)	No P.E.	With P.E. (pwr fr/unit)
M08	208/ 230-3-60	MED	CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	049	049	049	049
			CRHEATER412A00	16	5	12.0/14.7	41.0/50.1	049	049	049	049
			CRHEATER414A00	25	5	18.8/23.0	64.1/78.3	051	051	051	051
			CRHEATER415A00	32	5	24.0/29.4	82.0/100.3	051	051	051	051
			CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	053	053	053	053
		HIGH	CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	049	049	049	049
			CRHEATER412A00	16	5	12.0/14.7	41.0/50.1	049	049	049	049
			CRHEATER414A00	25	5	18.8/23.0	64.1/78.3	051	051	051	051
			CRHEATER415A00	32	5	24.0/29.4	82.0/100.3	051	051	051	051
	460-3-60	MED	CRHEATER419A00	11.5	5	10.6	36.0	047	047	047	047
			CRHEATER420A00	15	5	13.8	47.0	047	047	047	047
			CRHEATER421A00	25	5	23.0	78.3	047	047	047	052
			CRHEATER422A00	33	5	30.3	103.4	052	052	052	052
			CRHEATER423A00	41.7	5	38.3	130.7	052	052	052	052
		HIGH	CRHEATER419A00	11.5	5	10.6	36.0	047	047	047	047
			CRHEATER420A00	15	5	13.8	47.0	047	047	047	047
			CRHEATER421A00	25	5	23.0	78.3	047	047	047	052
			CRHEATER422A00	33	5	30.3	103.4	052	052	052	052
	575-3-60	MED	CRHEATER423A00	41.7	5	38.3	130.7	052	052	052	052
			CRHEATER425A00	18	5	16.5	56.4	047	047	047	047
		HIGH	CRHEATER427A00	36	5	33.1	112.8	047	052	052	052
			CRHEATER425A00	18	5	16.5	56.4	047	047	047	047
			CRHEATER427A00	36	5	33.1	112.8	047	052	052	052

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER P/N	NOM. (kW)	HIGH SCCR kA ^a	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	HSCCR SINGLE POINT OR JUNCTION KIT P/N	
								No C.O. or Unpowered C.O.	
								No P.E.	With P.E. (pwr fr/unit)
M08	208/ 230-3-60	MED	CRHEATER411A00	10.4	10	7.8/9.6	26.7/32.6	067	067
			CRHEATER412A00	16	10	12.0/14.7	41.0/50.1	067	067
			CRHEATER414A00	25	10	18.8/23.0	64.1/78.3	068	068
			CRHEATER415A00	32	10	24.0/29.4	82.0/100.3	068	068
			CRHEATER416A00	42.4	10	31.8/38.9	108.7/132.9	069	069
		HIGH	CRHEATER411A00	10.4	10	7.8/9.6	26.7/32.6	067	067
			CRHEATER412A00	16	10	12.0/14.7	41.0/50.1	067	067
			CRHEATER414A00	25	10	18.8/23.0	64.1/78.3	068	068
			CRHEATER415A00	32	10	24.0/29.4	82.0/100.3	068	068
	460-3-60	MED	CRHEATER416A00	42.4	10	31.8/38.9	108.7/132.9	069	069
			CRHEATER419A00	11.5	10	10.6	36.0	067	067
			CRHEATER420A00	15	10	13.8	47.0	067	067
			CRHEATER421A00	25	10	23.0	78.3	068	068
			CRHEATER422A00	33	10	30.3	103.4	068	068
			CRHEATER423A00	41.7	10	38.3	130.7	068	068
		HIGH	CRHEATER419A00	11.5	10	10.6	36.0	067	067
			CRHEATER420A00	15	10	13.8	47.0	067	067
			CRHEATER421A00	25	10	23.0	78.3	068	068
			CRHEATER422A00	33	10	30.3	103.4	068	068
	575-3-60	MED	CRHEATER423A00	41.7	10	38.3	130.7	068	068
			CRHEATER425A00	18	—	16.5	56.4	067	067
		HIGH	CRHEATER427A00	36	—	33.1	112.8	068	068
			CRHEATER425A00	18	—	16.5	56.4	067	067
			CRHEATER427A00	36	—	33.1	112.8	068	068

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on 575-v units, or units with factory-installed powered convenience outlet or non-fused disconnect.

50GEQM08 Electric Heat Data — With Non-Fused Disconnect

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER P/N	NOM. (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT P/N			
								No C.O. or Unpowered C.O.		With PWRD C.O.	
								No P.E.	With P.E. (pwr fr/unit)	No P.E.	With P.E. (pwr fr/unit)
M08	208/ 230-3-60	MED	CRHEATER411A00	10.4	5.0	7.8/9.6	26.7/32.6	049	049	049	049
			CRHEATER412A00	16.0	5.0	12.0/14.7	41.0/50.1	049	049	049	049
			CRHEATER414A00	25.0	5.0	18.8/23.0	64.1/78.3	051	051	051	051
			CRHEATER415A00	32.0	5.0	24.0/29.4	82.0/100.3	051	051	051	051
			CRHEATER416A00	42.4	5.0	31.8/38.9	108.7/132.9	053	053	053	053
		HIGH	CRHEATER411A00	10.4	5.0	7.8/9.6	26.7/32.6	049	049	049	049
			CRHEATER412A00	16.0	5.0	12.0/14.7	41.0/50.1	049	049	049	049
			CRHEATER414A00	25.0	5.0	18.8/23.0	64.1/78.3	051	051	051	051
			CRHEATER415A00	32.0	5.0	24.0/29.4	82.0/100.3	051	051	051	051
			CRHEATER416A00	42.4	5.0	31.8/38.9	108.7/132.9	053	053	053	053
	460-3-60	MED	CRHEATER419A00	11.5	5.0	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5.0	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5.0	23.0	78.3	047	047	047	052
			CRHEATER422A00	33.0	5.0	30.3	103.4	052	052	052	052
			CRHEATER423A00	41.7	5.0	38.3	130.7	052	052	052	052
		HIGH	CRHEATER419A00	11.5	5.0	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5.0	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5.0	23.0	78.3	047	047	047	052
			CRHEATER422A00	33.0	5.0	30.3	103.4	052	052	052	052
			CRHEATER423A00	41.7	5.0	38.3	130.7	052	052	052	052
	575-3-60	MED	CRHEATER425A00	18.0	5.0	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5.0	33.1	112.8	047	052	052	052
		HIGH	CRHEATER425A00	18.0	5.0	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5.0	33.1	112.8	047	052	052	052

50GEQM09 Electric Heat Data — Without Non-Fused Disconnect

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER P/N	NOM. (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT P/N			
								No C.O. or Unpowered C.O.		With PWRD C.O.	
								No P.E.	With P.E. (pwr fr/unit)	No P.E.	With P.E. (pwr fr/unit)
M09	208/ 230-3-60	MED	CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	049	049	049	051
			CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	049	049	049	051
			CRHEATER414A00	25.0	5	18.8/23.0	64.1/78.3	051	051	051	053
			CRHEATER415A00	32.0	5	24.0/29.4	82.0/100.3	051	051	051	053
			CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	053	053	053	054
		HIGH	CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	049	049	051	051
			CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	049	049	051	051
			CRHEATER414A00	25.0	5	18.8/23.0	64.1/78.3	051	051	053	053
			CRHEATER415A00	32.0	5	24.0/29.4	82.0/100.3	051	051	053	053
	460-3-60	MED	CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	053	053	054	054
			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	052	052	052	052
			CRHEATER422A00	33.0	5	30.3	103.4	052	052	052	052
			CRHEATER423A00	41.7	5	38.3	130.7	052	052	052	052
		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	052	052	052	052
			CRHEATER422A00	33.0	5	30.3	103.4	052	052	052	052
	575-3-60	MED	CRHEATER423A00	41.7	5	38.3	130.7	052	052	052	052
			CRHEATER425A00	18.0	5	16.5	56.4	047	047	047	047
		HIGH	CRHEATER427A00	36.0	5	33.1	112.8	052	052	052	052
			CRHEATER425A00	18.0	5	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5	33.1	112.8	052	052	052	052

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

NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on 50GEQM09 units due to control box constraints.

50GEQM09 Electric Heat Data — With Non-Fused Disconnect

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER P/N	NOM. (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT P/N			
								No C.O. or Unpowered C.O.		With PWRD C.O.	
								No P.E.	With P.E. (pwr fr/unit)	No P.E.	With P.E. (pwr fr/unit)
M09	208/ 230-3-60	MED	CRHEATER411A00	10.4	5.0	7.8/9.6	26.7/32.6	049	049	049	051
			CRHEATER412A00	16.0	5.0	12.0/14.7	41.0/50.1	049	049	049	051
			CRHEATER414A00	25.0	5.0	18.8/23.0	64.1/78.3	051	051	051	053
			CRHEATER415A00	32.0	5.0	24.0/29.4	82.0/100.3	051	051	051	053
			CRHEATER416A00	42.4	5.0	31.8/38.9	108.7/132.9	053	053	053	054
		HIGH	CRHEATER411A00	10.4	5.0	7.8/9.6	26.7/32.6	049	049	051	051
			CRHEATER412A00	16.0	5.0	12.0/14.7	41.0/50.1	049	049	051	051
			CRHEATER414A00	25.0	5.0	18.8/23.0	64.1/78.3	051	051	053	053
			CRHEATER415A00	32.0	5.0	24.0/29.4	82.0/100.3	051	051	053	053
			CRHEATER416A00	42.4	5.0	31.8/38.9	108.7/132.9	053	053	054	054
	460-3-60	MED	CRHEATER419A00	11.5	5.0	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5.0	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5.0	23.0	78.3	052	052	052	052
			CRHEATER422A00	33.0	5.0	30.3	103.4	052	052	052	052
			CRHEATER423A00	41.7	5.0	38.3	130.7	052	052	052	052
		HIGH	CRHEATER419A00	11.5	5.0	10.6	36.0	047	047	047	047
			CRHEATER420A00	15.0	5.0	13.8	47.0	047	047	047	047
			CRHEATER421A00	25.0	5.0	23.0	78.3	052	052	052	052
			CRHEATER422A00	33.0	5.0	30.3	103.4	052	052	052	052
			CRHEATER423A00	41.7	5.0	38.3	130.7	052	052	052	052
	575-3-60	MED	CRHEATER425A00	18.0	5.0	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5.0	33.1	112.8	052	052	052	052
		HIGH	CRHEATER425A00	18.0	5.0	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5.0	33.1	112.8	052	052	052	052

50GEQM12 Electric Heat Data — Without Non-Fused Disconnect

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER P/N	NOM. (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT P/N					
								No C.O. or Unpowered C.O.		With PWRD C.O.			
								No P.E.	With P.E. (pwr fr/unit)	No P.E.	With P.E. (pwr fr/unit)		
M12	208/ 230-3-60	MED	CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	049	049	051	051		
			CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	049	049	051	051		
			CRHEATER415A00	32.0	5	24.0/29.4	82.0/100.3	051	051	053	053		
			CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	053	053	054	054		
			CRHEATER417A00	50.0	5	37.6/45.9	128.1/156.7	053	053	054	054		
		HIGH	CRHEATER411A00	10.4	5	7.8/9.6	26.7/32.6	051	051	051	051		
			CRHEATER412A00	16.0	5	12.0/14.7	41.0/50.1	051	051	051	051		
			CRHEATER415A00	32.0	5	24.0/29.4	82.0/100.3	053	053	053	053		
	460-3-60	MED	CRHEATER416A00	42.4	5	31.8/38.9	108.7/132.9	054	054	054	054		
			CRHEATER417A00	50.0	5	37.6/45.9	128.1/156.7	054	054	054	054		
			CRHEATER420A00	15.0	5	13.8	47.0	047	047	047	047		
			CRHEATER422A00	33.0	5	30.3	103.4	052	052	052	052		
		HIGH	CRHEATER423A00	41.7	5	38.3	130.7	052	052	052	052		
			CRHEATER424A00	50.0	5	45.9	156.7	052	052	052	052		
			CRHEATER420A00	15.0	5	13.8	47.0	047	047	047	047		
			CRHEATER422A00	33.0	5	30.3	103.4	052	052	052	052		
			CRHEATER423A00	41.7	5	38.3	130.7	052	052	052	052		
			CRHEATER424A00	50.0	5	45.9	156.7	052	052	052	052		
			575-3-60	MED	CRHEATER425A00	18.0	5	16.5	56.4	047	047	047	047
					CRHEATER427A00	36.0	5	33.1	112.8	052	052	052	052
		CRHEATER428A00			50.0	5	45.9	156.7	052	052	052	052	
		HIGH		CRHEATER425A00	18.0	5	16.5	56.4	047	047	047	047	
			CRHEATER427A00	36.0	5	33.1	112.8	052	052	052	052		
			CRHEATER428A00	50.0	5	45.9	156.7	052	052	052	052		

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER P/N	NOM. (kW)	HIGH SCCR kA ^a	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	HSCCR SINGLE POINT OR JUNCTION KIT P/N	
								No C.O. or Unpowered C.O.	
								No P.E.	With P.E. (pwrd fr/unit)
M12	208/ 230-3-60	MED	CRHEATER411A00	10.4	10	7.8/9.6	26.7/32.6	067	067
			CRHEATER412A00	16.0	10	12.0/14.7	41.0/50.1	067	067
			CRHEATER415A00	32.0	10	24.0/29.4	82.0/100.3	068	068
			CRHEATER416A00	42.4	10	31.8/38.9	108.7/132.9	069	069
		CRHEATER417A00	50.0	10	37.6/45.9	128.1/156.7	069	069	
		HIGH	CRHEATER411A00	10.4	10	7.8/9.6	26.7/32.6	067	067
			CRHEATER412A00	16.0	10	12.0/14.7	41.0/50.1	067	067
			CRHEATER415A00	32.0	10	24.0/29.4	82.0/100.3	068	068
	CRHEATER416A00		42.4	10	31.8/38.9	108.7/132.9	069	069	
	CRHEATER417A00	50.0	10	37.6/45.9	128.1/156.7	069	069		
	460-3-60	MED	CRHEATER420A00	15.0	10	13.8	47.0	067	067
			CRHEATER422A00	33.0	10	30.3	103.4	068	068
			CRHEATER423A00	41.7	10	38.3	130.7	068	068
			CRHEATER424A00	50.0	10	45.9	156.7	068	068
		HIGH	CRHEATER420A00	15.0	10	13.8	47.0	067	067
			CRHEATER422A00	33.0	10	30.3	103.4	068	068
			CRHEATER423A00	41.7	10	38.3	130.7	068	068
			CRHEATER424A00	50.0	10	45.9	156.7	068	068
	575-3-60	MED	CRHEATER425A00	18.0	—	16.5	56.4	067	067
			CRHEATER427A00	36.0	—	33.1	112.8	068	068
			CRHEATER428A00	50.0	—	45.9	156.7	068	068
		HIGH	CRHEATER425A00	18.0	—	16.5	56.4	067	067
			CRHEATER427A00	36.0	—	33.1	112.8	068	068
			CRHEATER428A00	50.0	—	45.9	156.7	068	068

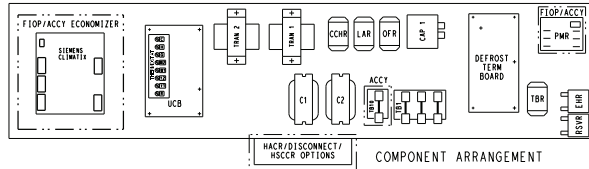
NOTE(S):

a. High SCCR (Short Circuit Current Rating) is not available on 575-v units, or units with factory-installed powered convenience outlet or non-fused disconnect.

50GEQM12 Electric Heat Data — With Non-Fused Disconnect

50GEQ UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	ELECTRIC HEATER P/N	NOM. (kW)	STD SCCR kA	APPLICATION (kW)	APPLICATION OUTPUT (MBH)	SINGLE POINT OR JUNCTION KIT P/N			
								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)
M12	208/ 230-3-60	MED	CRHEATER411A00	10.4	5.0	7.8/9.6	26.7/32.6	049	049	051	051
			CRHEATER412A00	16.0	5.0	12.0/14.7	41.0/50.1	049	049	051	051
			CRHEATER415A00	32.0	5.0	24.0/29.4	82.0/100.3	051	051	053	053
			CRHEATER416A00	42.4	5.0	31.8/38.9	108.7/132.9	053	053	054	054
			CRHEATER417A00	50.0	5.0	37.6/45.9	128.1/156.7	053	053	054	054
		HIGH	CRHEATER411A00	10.4	5.0	7.8/9.6	26.7/32.6	051	051	051	051
			CRHEATER412A00	16.0	5.0	12.0/14.7	41.0/50.1	051	051	051	051
			CRHEATER415A00	32.0	5.0	24.0/29.4	82.0/100.3	053	053	053	053
			CRHEATER416A00	42.4	5.0	31.8/38.9	108.7/132.9	054	054	054	054
			CRHEATER417A00	50.0	5.0	37.6/45.9	128.1/156.7	054	054	054	054
	460-3-60	MED	CRHEATER420A00	15.0	5.0	13.8	47.0	047	047	047	047
			CRHEATER422A00	33.0	5.0	30.3	103.4	052	052	052	052
			CRHEATER423A00	41.7	5.0	38.3	130.7	052	052	052	052
			CRHEATER424A00	50.0	5.0	45.9	156.7	052	052	052	052
		HIGH	CRHEATER420A00	15.0	5.0	13.8	47.0	047	047	047	047
			CRHEATER422A00	33.0	5.0	30.3	103.4	052	052	052	052
			CRHEATER423A00	41.7	5.0	38.3	130.7	052	052	052	052
			CRHEATER424A00	50.0	5.0	45.9	156.7	052	052	052	052
		MED	CRHEATER425A00	18.0	5.0	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5.0	33.1	112.8	052	052	052	052
			CRHEATER428A00	50.0	5.0	45.9	156.7	052	052	052	052
		HIGH	CRHEATER425A00	18.0	5.0	16.5	56.4	047	047	047	047
			CRHEATER427A00	36.0	5.0	33.1	112.8	052	052	052	052
			CRHEATER428A00	50.0	5.0	45.9	156.7	052	052	052	052

50GEQ*07-08 Control Wiring Diagram, Electromechanical with POL224 Controller



- NOTES:
1. UCB LAYOUT DOES NOT MATCH ACTUAL TERMINAL BOARD LAYOUT.
 2. TERMINAL BOARD JUMPER 1, 2 AND 3 ARE CUT FROM THE FACTORY.
 3. REMOVE DESIGNATED JUMPER 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. EXCEPTION ON 8 TON 12 UNITS THE SETTING IS "ON-OFF".
 6. HARDCUT AND CUTOFF SET TO "MIN". JUMPER PIN ON TOP 2-PINS AS SHOWN.
 7. THE * WIRE COLOR IS FOR DIFFERENTIATION WITHIN THIS SCHEMATIC.
 8. TRANSFORMER IS INDICATED BASED ON UNIT VOLTAGE. TAPS ONLY SHOWN TO SIMPLIFY SCHEMATIC. 208/230V UNIT TRANS 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.
 9. T84 LOCATED IN HEAT SECTION.
 10. TO CONVERT TO A SINGLE STAGE HEATER MOVE VIOLET WIRE AT T84 TO CONNECT WITH WHITE WIRE.
 11. CONTROL BOARDS SHOWN HERE ARE IN THE UNPOWERED STATE.

HP DIP SWITCH SETTINGS

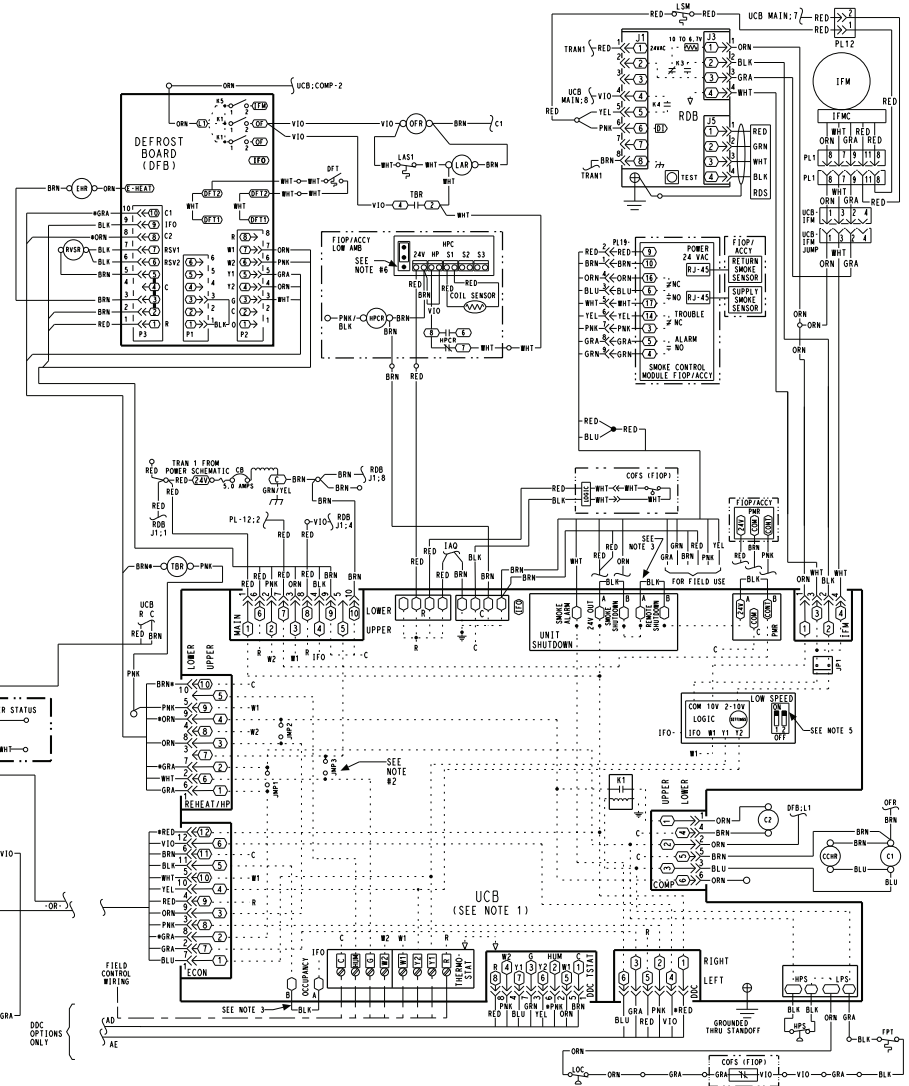
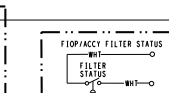
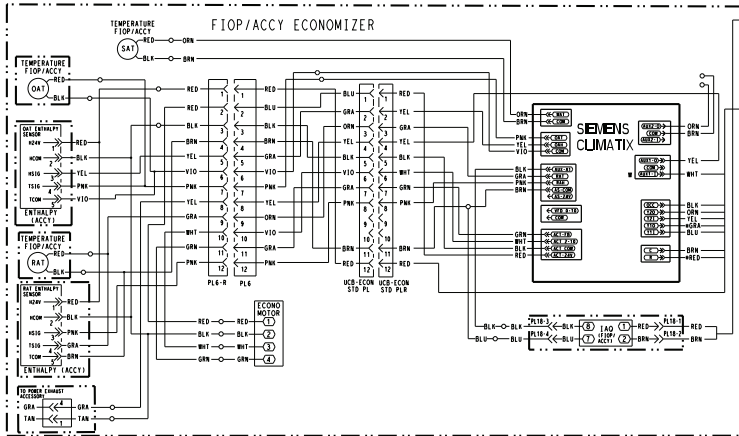
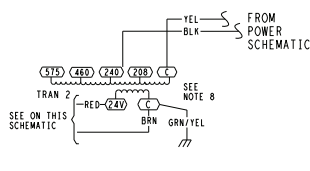
(DEFAULT)

30 MINUTES 60 MINUTES 90 MINUTES 120 MINUTES

FIELD SELECTABLE OPTIONS FOR TIME PERIOD BETWEEN DEFROST CYCLES (MINUTES).

SPEED UP METAL OBJECT FIELD USE

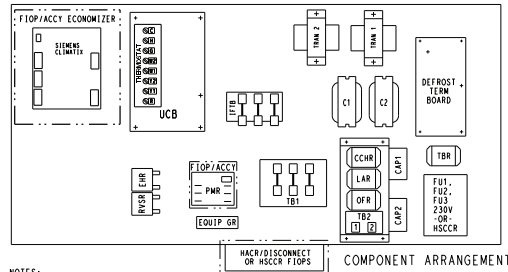
1. MOMENTARILY SHORT PINS AND RELEASE TO BYPASS COMPRESSOR OFF DELAY.
2. SHORT FOR 1-10 SEC. AND RELEASE FOR FORCED DEFROST.
3. PERMANENT SHORT WILL BE IGNORED. DEFROST WILL TERMINATE IN 30 SEC. IF DFT IS OPEN. DEFROST WILL TERMINATE NORMALLY IF DFT IS CLOSED.



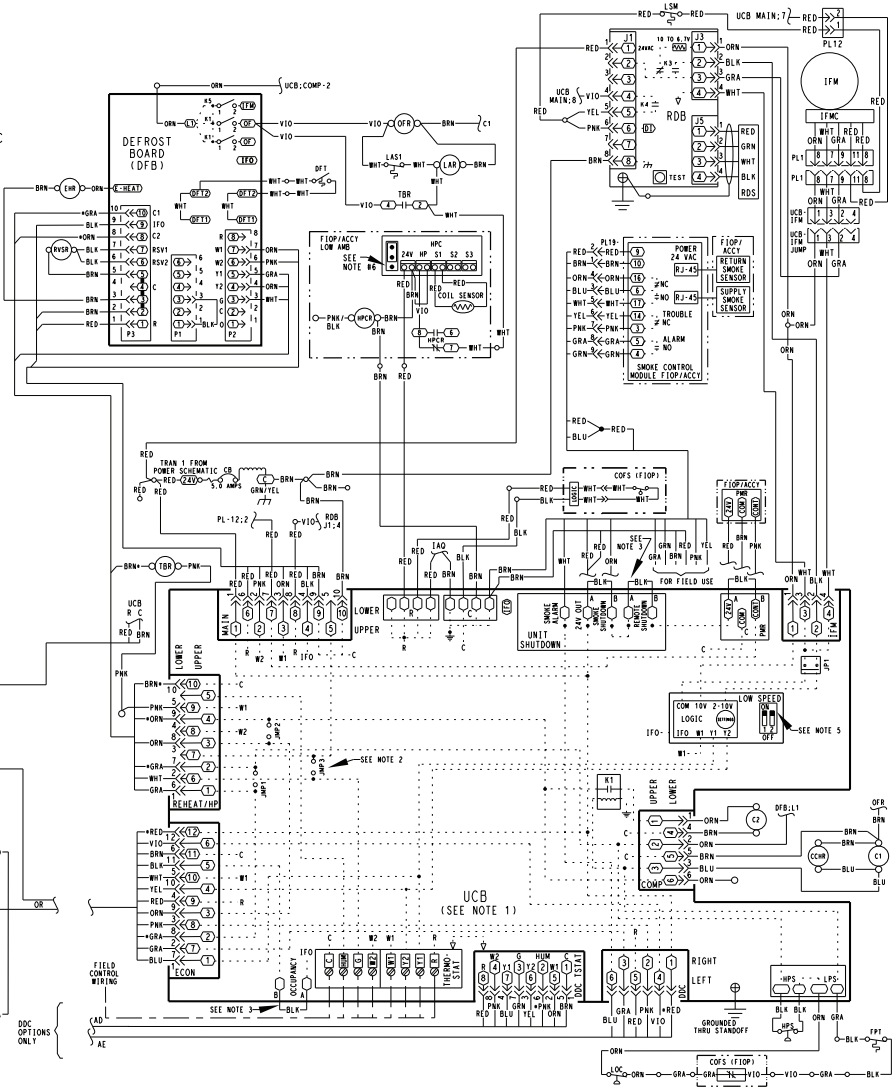
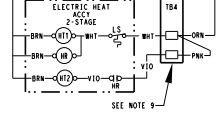
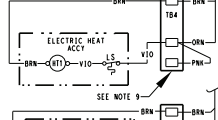
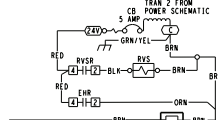
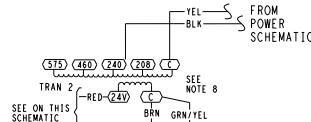
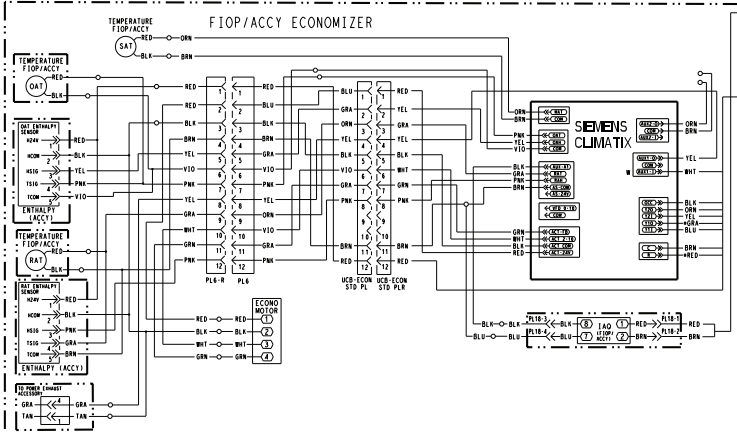
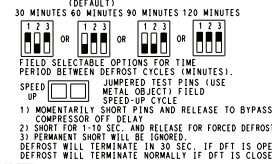
Typical wiring diagrams (cont)



50GEQ*12 Control Wiring Diagram, Electromechanical with POL224 Controller

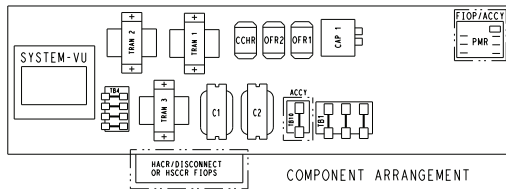


- NOTES:
1. UCB LAYOUT DOES NOT MATCH ACTUAL TERMINAL BOARD LAYOUT.
 2. TERMINAL BOARD JUMPERS 1, 2 AND 3 ARE CUT FROM THE FACTORY.
 3. REMOVE DESIGNATED JUMPERS ON TERMINAL BOARD WHEN ADDING SMOKE DETECTORS, OCCUPANCY AND REMOTE SHUTDOWN.
 4. USE ABC AS COARSE AND POT AS FINE ADJUSTMENTS FOR SETTING 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 CUTOFF SET TO "MIN". JUMPER PIN ON TOP 2-PINS AS SHOWN.
 7. THE 4 WIRE COLOR IS FOR DIFFERENTIATION WITHIN THIS SCHEMATIC.
 8. 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.
 9. T84 LOCATED IN HEAT SECTION.
 10. CONTROL BOARDS SHOWN HERE ARE IN THE UNPOWERED STATE.

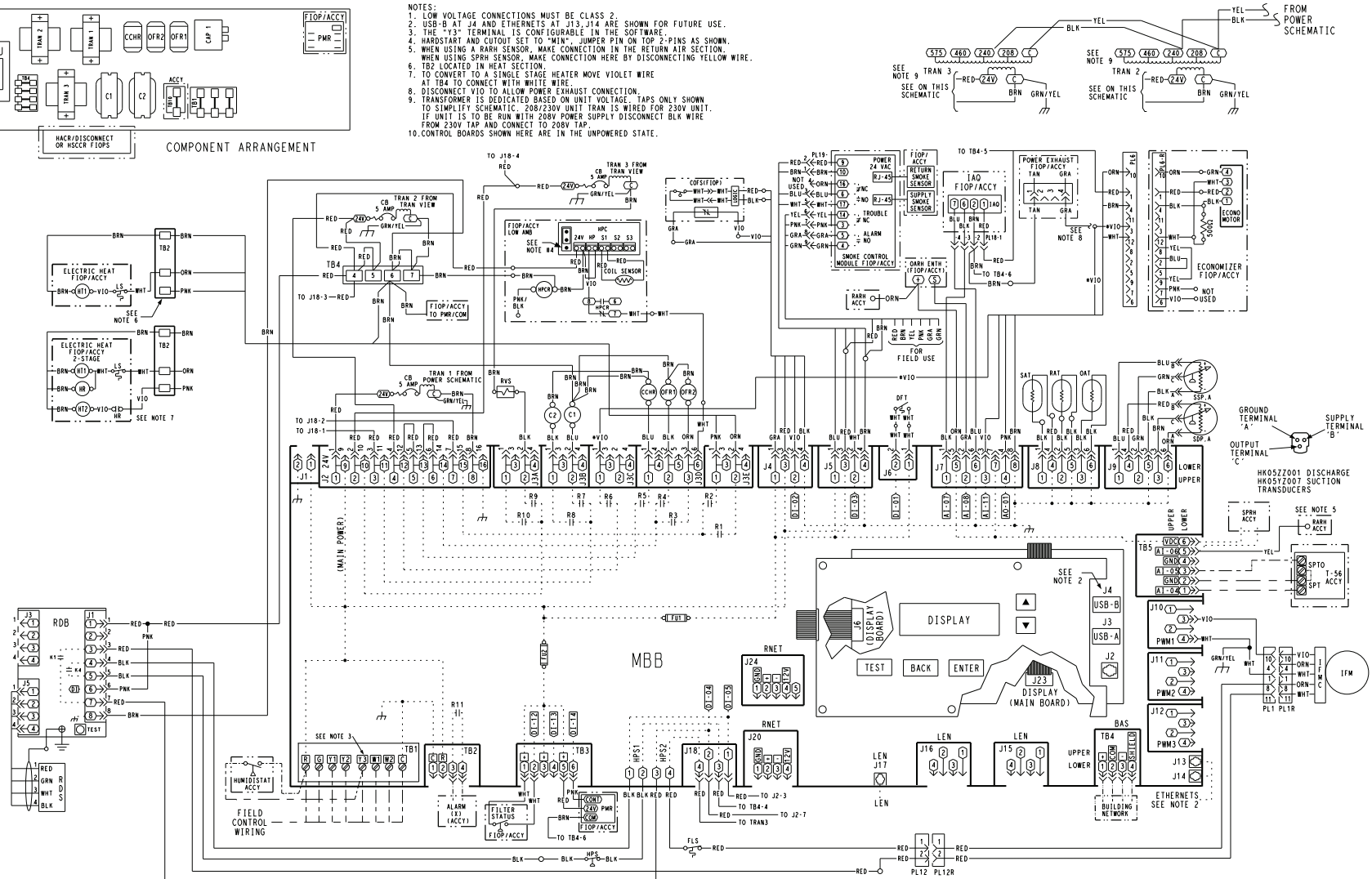


50TM0034731A

50GEQ*07-08 Control Wiring Diagram, SystemVu™ Controller

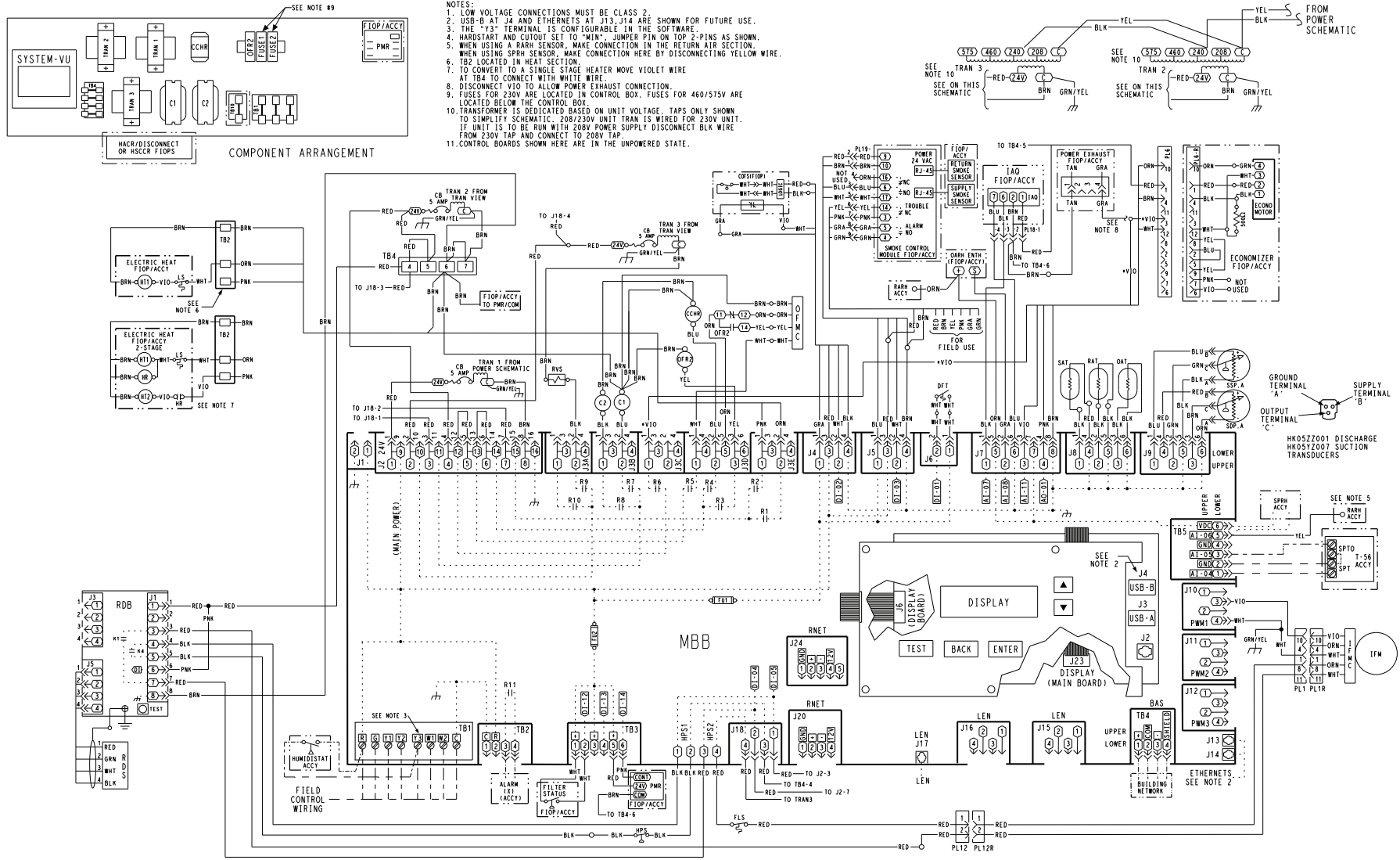


- NOTES:
1. LOW VOLTAGE CONNECTIONS MUST BE CLASS 2.
 2. USB-B AT J4 AND ETHERNETS AT J13, J14 ARE SHOWN FOR FUTURE USE.
 3. THE "Y3" TERMINAL IS CONFIGURABLE IN THE SOFTWARE.
 4. HARDSTART AND CUTOUT SET TO "MIN". JUMPER PIN ON TOP 2-PINS AS SHOWN.
 5. WHEN USING A RARH SENSOR, MAKE CONNECTION IN THE RETURN AIR SECTION.
 6. WHEN USING SPRH SENSOR, MAKE CONNECTION HERE BY DISCONNECTING YELLOW WIRE.
 7. T2 LOCATED IN HEAT SECTION.
 8. TO CONVERT TO A SINGLE STAGE HEATER MOVE VIOLET WIRE AT T84 TO CONNECT WITH WHITE WIRE.
 9. DISCONNECT VIO TO ALLOW POWER EXHAUST CONNECTION.
 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.



HP CONTROL 230/460/575V SVU T1 7.5-8.5 TON, T2 6-7.5 TON 48TW008817 | A

50GEQ*09 Control Wiring Diagram, SystemVu™ Controller



HP CONTROL 230/460/575V SVU T1 10 TON, T2 8.5 TON

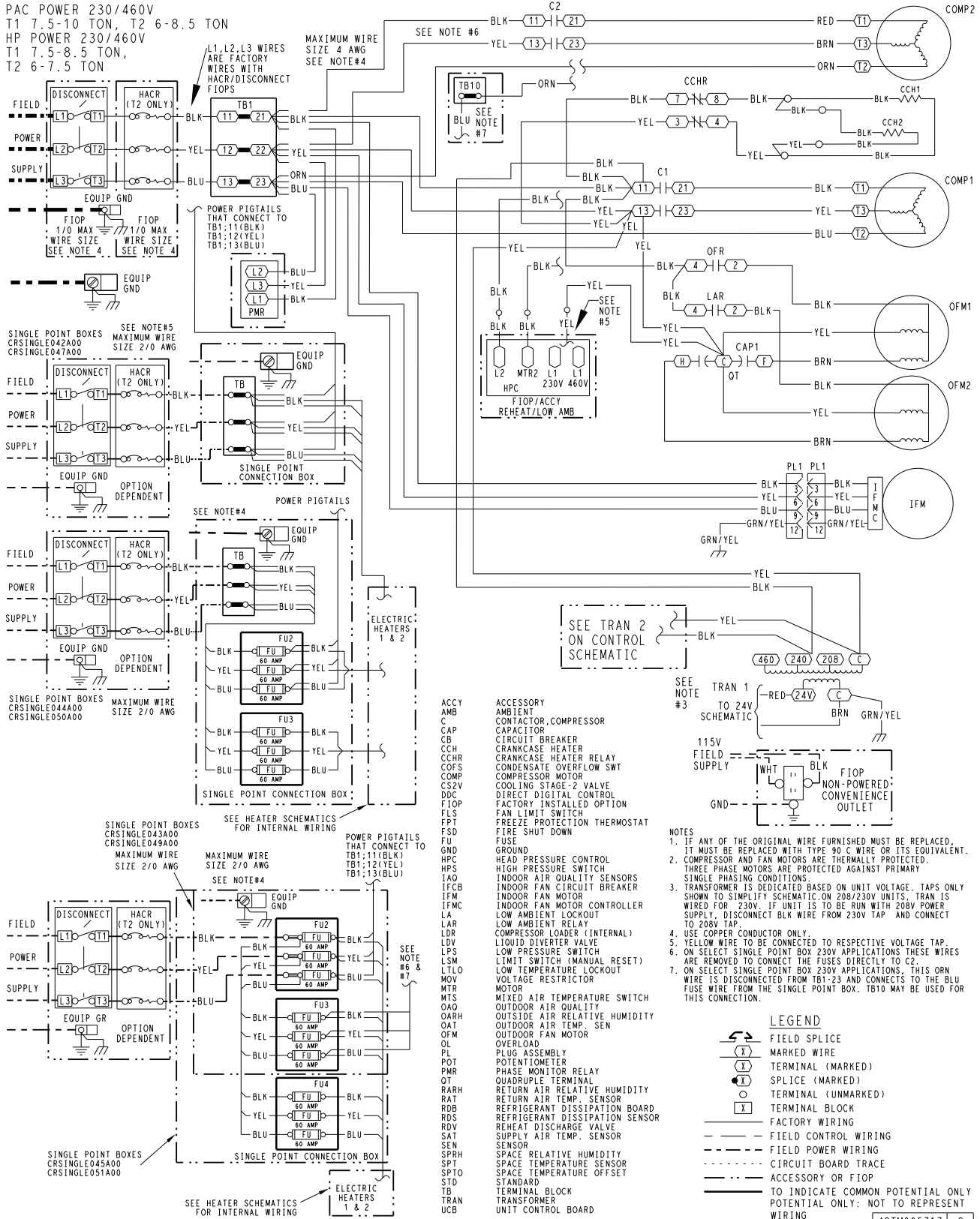
48TMO08B10 A

Typical wiring diagrams (cont)



50GEQ*07-08 Power Wiring Diagram, Electromechanical Controller, 230/460-3-60 Shown

PAC POWER 230/460V
T1 7.5-10 TON, T2 6-8.5 TON
HP POWER 230/460V
T1 7.5-8.5 TON,
T2 6-7.5 TON



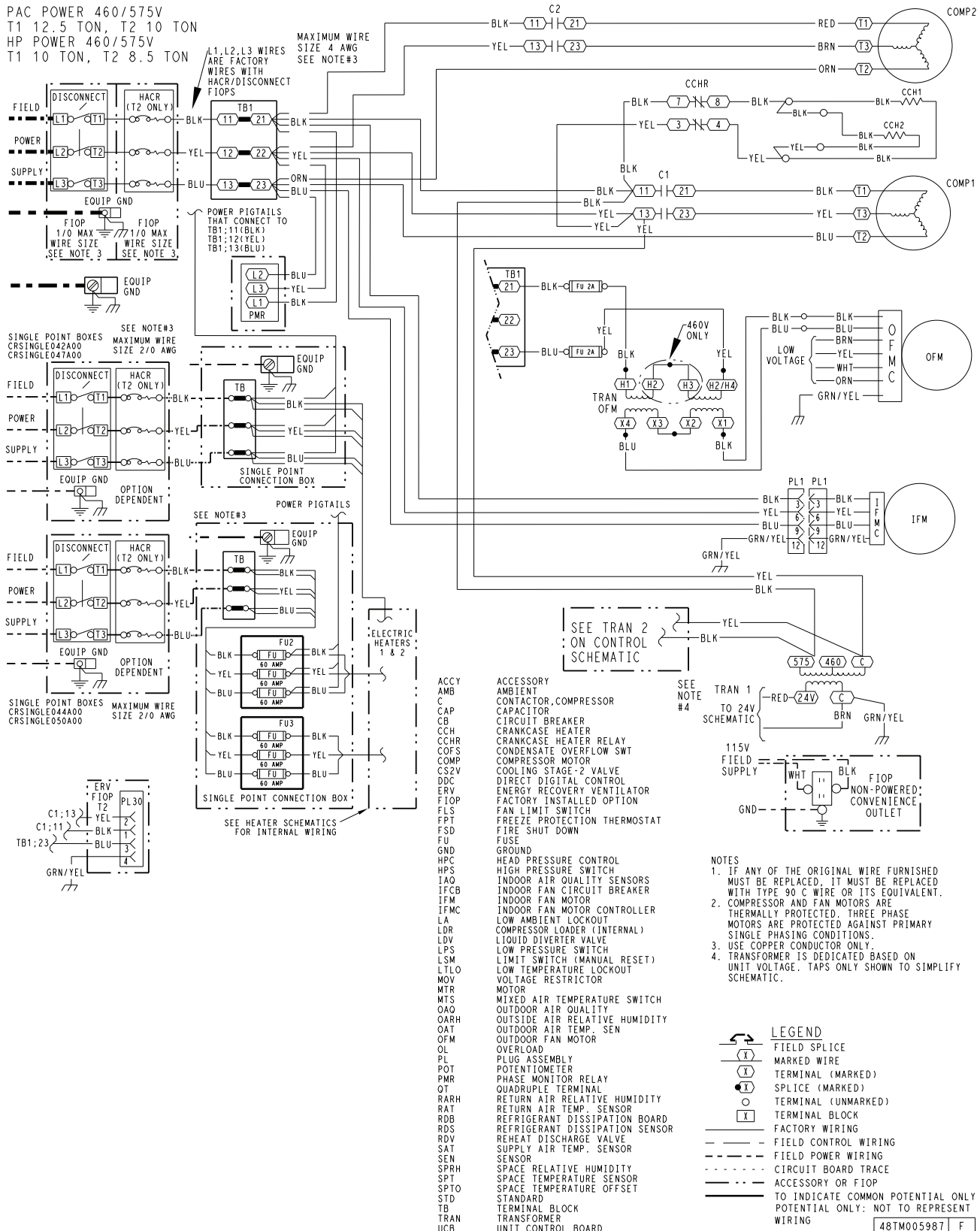
48TM005717 G

LEGEND

	FIELD SPLICE
	MARKED WIRE
	TERMINAL (MARKED)
	SPLICE (MARKED)
	TERMINAL (UNMARKED)
	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

50GEQ*09 Power Wiring Diagram, Electromechanical and SystemVu™ Controllers, 230/460-3-60 Unit Shown

PAC POWER 460/575V
T1 12.5 TON, T2 10 TON
HP POWER 460/575V
T1 10 TON, T2 8.5 TON



**PAC POWER 208/230, 460V T1 15 TON, T2 12.5 TON
HP POWER 208/230, 460V T1 12.5 TON, T2 10 TON**

LEGEND

- () FIELD SPICE
- (*) 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:

- IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED, IT MUST BE REPLACED WITH TYPE 90 C WHICH IS EQUIVALENT.
- COMPRESSOR AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
- USE COPPER, COPPER CLAD ALUMINUM OR ALUMINUM CONDUCTORS.
- USE FUSERS ONLY.
- FU1, FU2, AND FU3, REPLACE WITH 250V 60A BUSSMAN FPNR 60.
- TRANSFORMER IS DEDICATED BASED ON UNIT VOLTAGE. TAPS ONLY SHOWN TO SIMPLIFY SCHEMATIC. 208/230V UNIT TRANS IS WIRED FOR 230V UNIT. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY DISCONNECT SWAP WIRE FROM 230V TAP AND CONNECT TO 208V TAP.
- CRSINGLE047A00 IS ONLY A TERMINAL BLOCK TBI AND ELECTRIC HEATERS.

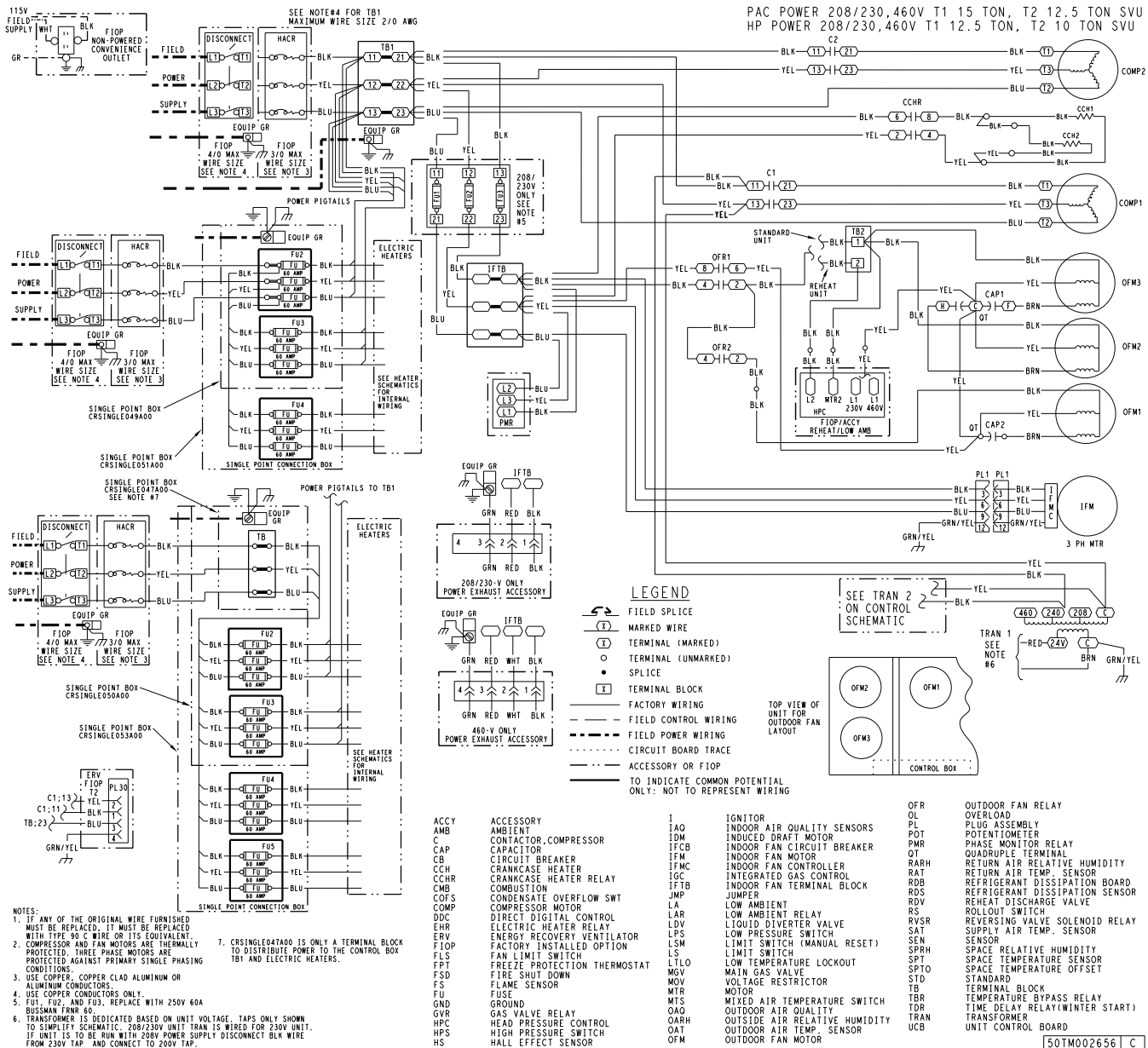
ACCY ACCESSORY
AMB AMBIENT
C CONTACTOR, COMPRESSOR
CAP CAPACITOR
CB CIRCUIT BREAKER
CH CRANKCASE HEATER
CCHR CRANKCASE HEATER RELAY
CMB COMBUSTION
COFS CONDENSATE OVERFLOW SWT
COMP COMPRESSOR MOTOR
DDC DIRECT DIGITAL CONTROL
EHR ELECTRIC HEATER RELAY
ERV ENERGY RECOVERY VENTILATOR
FIOP FACTORY INSTALLED OPTION
FCH FAN LIMIT SWITCH
FPT FREEZE PROTECTION THERMOSTAT
FSD FIRE SHUT DOWN
FUSE FLAME SENSOR
FS FLAME SENSE
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
IFCM INDOOR FAN CONTROLLER
IGC INTEGRATED GAS CONTROL
IFTB INDOOR FAN TERMINAL BLOCK
JMP JUMPER
LA LOW AMBIENT
LAR LOW AMBIENT RELAY
LAV LIQUID DIVERTER VALVE
LDP LOW PRESSURE SWITCH
LSM LIMIT SWITCH (MANUAL RESET)
LS LIMIT SWITCH
LTO LOW TEMPERATURE LOCKOUT
MGV MAIN GAS VALVE
MOT MOTOR
MTR MIXED AIR TEMPERATURE SWITCH
OAO OUTDOOR AIR QUALITY
OARH OUTDOOR AIR RELATIVE HUMIDITY
OFM 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
ROB REFRIGERANT DISSIPATION BOARD
RDS REFRIGERANT DISSIPATION SENSOR
RVS REHEAT DISCHARGE VALVE
ROLS ROLLUP SWITCH
RS REVERSING VALVE SOLENOID RELAY
SAT SUPPLY AIR TEMP. SENSOR
SEN SENSOR
SPRH SPACE RELATIVE HUMIDITY
STD SPACE TEMPERATURE SENSOR
SPTIO SPACE TEMPERATURE OFFSET STANDARD
TB TERMINAL BLOCK
TBR TEMPERATURE BYPASS RELAY
TDR TIME DELAY RELAY(WINTER START)
TRAN TRANSFORMER
UCB UNIT CONTROL BOARD

50TM001913J EN

50GEQ*12 Power Wiring Diagram, SystemVu™ Controller, 230/460-3-60 Unit Shown



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

When the thermostat calls for cooling, terminals G and Y1 are energized. The indoor fan will run at the low fan speed, and the compressor contactor (CC) is energized, causing the compressor and outdoor fan to run. The low indoor fan speed is 66% of the user-set fan speed, and the compressor will run at partial capacity.

If additional cooling is needed, the thermostat will add the call for Y2. This will increase the indoor fan speed to the user-set fan speed and energize the compressor loader 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 reduce speed to 66% of the user-set fan speed, the compressor loader 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 of cooling operation, the Unit Control Board (UCB) will adjust the fan motor speed to provide 66% of the total cfm established for the unit.

Defrost

When the temperature of the outdoor coil drops below 28°F (-2°C), as sensed by the defrost thermostat (DFT2), and the defrost timer is at the end of a timed period (adjustable to 30, 60, 90 or 120 minutes), the reversing valve solenoids (RVS1 and RVS2) are energized and the OFC is de-energized. This switches the position of the reversing valves and shuts off the outdoor fan. The electric heaters (if installed) will be energized.

Heating, unit with economizer

When the room temperature calls for heat through terminal W1, the indoor (evaporator) fan contactor (IFC) and heater contactor no. 1 (HC1) are energized and the reversing valve(s) de-energize and switch position. On units equipped for 2 stages of heat, when additional heat is needed, heater contactor no. 2 is energized through W2. The economizer damper moves to the minimum position. When the thermostat is satisfied, the damper moves to the fully closed position.

Heating, unit without economizer

Upon a request for heating from the space thermostat, terminal W1 will be energized with 24-v. The IFC, outdoor fan contactor (OFC), C1, and C2 will be energized. The indoor fan, outdoor fans, compressor no. 1, and compressor no. 2 are energized, and reversing valves are de-energized and switch position.

If the space temperature continues to fall while W1 is energized, then W2 will be energized with 24-v and the heater contactor(s) (HC) will be energized, which will energize the electric heater(s).

When the space thermostat is satisfied, W2 will be de-energized first, and the electric heater(s) will be de-energized. Upon a further rise in space temperature, W1 will be de-energized.

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, 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 CO₂ sensors are connected to the EconomizerONE control, a demand controlled ventilation strategy will begin to operate. As the CO₂ level in the zone increases above the CO₂ set-point (on the EconomizerONE controller), the minimum position of the damper will be increased proportionally until the Maximum Ventilation setting is reached. As the CO₂ 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, 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 full closed to full 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 set-point 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 set-point. The EconomizerONE damper will be open at maximum position.

Two-Speed Note: 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.

SystemVu™ controller (factory option)

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

Minimum operating ambient temperature (cooling)

In mechanical cooling mode, your Carrier rooftop unit can safely operate down to an outdoor ambient temperature of 35°F (1.6°C) (or 0°F [-18°C] for size 09 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.

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 7, and the maximum value is the LOWER of the cooling and heating maximum values published on page 7.

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.

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, an 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.

NOTE: 0°F (-18°C) is standard on size 09 models.

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.



Rooftop Packaged Heat Pump

HVAC Guide Specifications

Size Range: **6 to 10 Nominal Tons**

Carrier Model Number: **50GEQ*07-12**

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:
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 13.13) Sensors and Transmitters:

- A. (23 09 13.13.A.) Thermostats:
 1. Thermostat must:
 - a. energize both “W” and “G” when calling for heat.
 - b. have capability to energize 1 or 2 different stages of cooling, and 2 different stages of heating.
 - c. be heat pump design and 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 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 three 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 35°F (1.6°C).
12. Controller shall have easy access connections around the controller perimeter area and consist of Mate-N-Lok^{®1}, 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 set points to meet the latest ASHRAE 90.1 Energy Standard.
16. Contain 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. Supply Air Tempering control operates the 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.
19. Demand limiting in SystemVu is achieved through set point expansion. The systems heating and cooling set points are expanded in steps or levels. The degree to which the set points may be expanded is defined by the 6 demand level offsets and the 2 commanded demand limit levels.
20. 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 75 VA 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.
5. Shall include integrated defrost system to prevent excessive frost accumulation during heating duty, and shall be controlled as follows:
 - a. Defrost shall be initiated on the basis of time and coil temperature.
 - b. A 30, 60, 90, 120 minute timer shall activate the defrost cycle only if the coil temperature is low enough to indicate a heavy frost condition.
 - c. Defrost cycle shall terminate when defrost thermostat is satisfied and shall have a positive termination time of 10 minutes.
6. Defrost system shall also include:
 - a. Defrost Cycle Indicator LED.
 - b. DIP switch selectable defrost time between 30, 60, 90, and 120 minutes. Factory set at 30 minutes.
 - c. Molded plug connection to ensure proper connection.

B. (23 09 33.13.B.) Safeties:

1. Compressor Over-Temperature, Overcurrent. 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.

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4. Heating section shall be provided with the following minimum protections:
High temperature limit switches.
5. 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.
6. 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 compressor(s) for cooling duty and heat pump 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 Standards 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 125°F (52°C) ambient outdoor temperature meeting maximum load criteria of AHRI Standard 340/360 at $\pm 10\%$ voltage.
 2. Compressor with standard controls shall be capable of operation down to 35°F (1.6°C) (0°F [-18°C] for size 09 models), ambient outdoor temperatures in cooling mode.
3. Compressor with standard controls shall be capable of operation down to -10°F (-23°C) ambient outdoor temperatures or lower in heat pump heating mode.
 4. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
 5. Unit shall be factory configured for vertical - supply and return configurations.
 6. Unit shall be field convertible from vertical to horizontal airflow on all models. No special kit required except on 12 size models that require a Supply Duct Kit field installed for horizontal air flow.
 7. 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 four 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 07-09 models and 2 piece on size 12 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 plug shall be easy to remove and replace.
 - b. When the plug is removed, the gauge access port shall enable maintenance personnel to route their pressure gauge lines.
 - c. 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 setup.
 - 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 a cast aluminum stator and high impact composite material on 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, 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.
- 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 the 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 indication 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 4-20 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 air-flow into the building during occupied period

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- 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 CO₂ 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 indication for free cooling, sensor, and damper operation.
- 2. Integrated EconomizerONE and EconoMi\$er 2 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 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. 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 4-20 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 CO₂ 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 indication 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. 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.
- 7. Condenser Coil Hail Guard Assembly (factory or field installed):
 - a. Shall protect against damage from hail.
 - b. Shall be louvered type.
- 8. Unit-Mounted, Non-Fused Disconnect Switch:
 - a. Available on 6 to 8.5 ton units with FLA of 80 amps or less, or 10 ton units with FLA of 100 amps or less (460/575V) or 200 amps or less (208/230V).
 - 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.
- 9. HACR Breaker:
 - a. These manual reset devices provide overload and short circuit protection for the unit. Factory wired and mounted with the units, with access cover to help provide environmental protection. On 575V applications, HACR breaker can only be used with WYE power distribution systems. Use on Delta power distribution systems is prohibited.
 - b. 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 115/120-v 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. Shall provide connectors to permit gas and electrical connections to be brought to the unit through the unit basepan.
 - b. Minimum of four connection locations per unit.
12. Supply Duct Cover (size 12 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 (CO₂) 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 environmental 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 two individual detector modules.
 - 5) Can be wired to up to 14 other duct smoke detectors for multiple fan shut-down 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 Control Circuit:
- a. Shall prevent compressor short-cycling by providing a 5-minute delay (±2 minutes) before restarting a compressor after shut-down for any reason.
 - b. One device shall be required per compressor.

Guide specifications (cont)

21. Hinged Access Panels:
- Shall provide easy access through integrated quarter turn latches.
 - Shall be on major panels of: filter, control box, fan motor, and compressor.
22. 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:
- Indicator light — solid red (more than 10 seconds on water contact — compressors disabled), blinking red (sensor disconnected).
 - 10 second delay to break — eliminates nuisance trips from splashing or waves in pan (sensor needs 10 seconds of constant water contact before tripping).
 - Disables the compressors operation when condensate plug is detected, but still allows fans to run for economizer.
23. Foil Faced Insulation:
- Throughout unit cabinet air stream, non-fibrous and cleanable foil faced insulation is used.
24. 4 in. MERV-13 Return Air Filters (factory-installed only):
- Factory option to upgrade standard unit filters to 4 in. MERV-13 filters.
 - Upgraded option shall include factory-installed 4 in. filter rack.
 - Shall not be compatible with horizontal units with field-installed economizers.
25. 4 in. Return Air Rack (field-installed only):
- Accessory kit is designed to hold 4 in. MERV-8 or MERV-13 filters. Filters not included in kit.
 - Shall not be compatible with horizontal units with field installed economizers.
26. 2 in. MERV-13 Return Air Filters:
- Accessory kit to field upgrade standard unit filters to 2 in. MERV-13 filters.
 - Correct size and quantity of filters shall ship in a single box
27. 2 in. MERV-8 Return Air Filters:
- Accessory kit to field upgrade standard unit filters to 2 in. MERV-8 filters.
 - Correct size and quantity of filters shall ship in a single box.
28. Phase Monitor Control:
- Shall monitor the sequence of 3-phase electrical system to provide a phase reversal protection.
 - Shall monitor the 3-phase voltage inputs to provide a phase loss protection for the three phase device.
 - Will work on either a Delta or Wye power connection.
29. Horn/Strobe Annunciator:
- Provides an audible/visual signaling device for use with factory-installed option or field installed accessory smoke detectors.
 - Requires installation of a field-supplied 24-v transformer suitable for 4.2 VA (AC) or 3.0 VA (DC) per horn/strobe accessory.
 - Requires field-supplied electrical box, North American 1-gang box, 2 in. x 4 in. (51 mm x 102 mm).
 - Shall have a clear colored lens.
30. Electric Heat:
- Heating Section:
 - 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.
 - 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:
- Factory-installed option provides 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.)
 - This option is not available on 50GEQM09 units, 575-v units, or units with factory-installed powered convenience outlet, low ambient controls, phase loss monitor/protection, HACR breaker, or non-fused disconnect.