Carrier

Turn to the experts

Product Data

WeatherExpert® Gas Heat/Electric Cooling Multizone VAV Packaged Rooftop Units

6 to 10 Nominal Tons

WeatherExpert™

Unit shown with economizer.

48LC*B Sizes 07-12
Single Packaged Multizone VAV Rooftop Units with Gas Heat/Electric Cooling

Features/Benefits

Carrier's Multizone-Variable Air Volume (MZ-VAV) Gas Heat/Electric Cooling WeatherExpert® 48LC*B 6 to 10 ton Package Rooftop models are designed to help provide low total cost of ownership by providing some of the highest cooling efficiencies in the industry, low installed costs, low maintenance costs, and high reliability.

These MZ-VAV models not only provide comfort control to multizone applications but also provide high IEERs (Integrated Energy Efficiency Ratios), which are a measurement of cooling part load performance, where actual buildings operate nearly all of the time. These high part load values are achieved by using Carrier's strategically designed compressor staging, indoor fan motor, and condenser fan motor speed control.

Ultra High Efficiency

With IEERs up to 20.8, these new WeatherExpert MZ-VAV models well exceed the latest efficiency standards for ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers) 90.1 and ENERGY STAR[1] and exceeds Consortium for Energy Efficiency (CEE) Tier 2 performance criteria. These models help to contribute LEED[2] credits and help qualify for rebates. The high IEER efficiencies are achieved by utilizing a proven staged compressor design on a single refrigerant circuit that provides 3 stages of cooling capacity control. The indoor fan motors are high efficiency belt drive and controlled by a VFD (Variable Frequency Drive) that adjusts speed based on the duct static pressure sensor to match the cooling capacity stages for optimum comfort and efficient control.

Gas heat is provided with efficiencies up to 82% and 2 stages of operation to better match building loads. Models also have multi-heat capacities for each size and use an induced draft combustion system.

Easy to Install

All WeatherExpert units have full perimeter base rails with built-in rigging capability and are fully factory tested, refrigerant charged, and assembled at the factory for easy installation. Units are easily field convertible to horizontal air flow, which makes it easy to adjust to unexpected jobsite complications. Many pre-engineered and tested factory options and field-installed accessories are also available.

Easy to Maintain

Easy access door handles by Carrier provide quick access to all normally serviced components. Our "no-strip" screw system has superior holding power and guides screws into position while preventing the screw from stripping the unit's metal. Units come with accessible 2 in. filter that have a dedicated access door for easy replacement. Optional hinged panels allow easy access with pull tabs and quarter turn latches. Units come with installed supply air temperature sensor, return air (RA) temperature sensor and duct static pressure sensor located in the control box for remote positioning in the field.

Reliable

Carrier conducts rigorous testing to ensure your unit will perform as designed. Extensive rain testing is conducted in specially designed test areas and under conditions that simulate actual jobsites. In addition, units are both shake-tested and driven around the country to make sure that not only the packaging but also the unit components within hold up.

Condensate pans are made of non-corrosive composite material, motors are permanently lubricated, and compressors use crankcase heaters, all to further strengthen the unit's reliability.

- Three-stage cooling capacity control with staged scroll compressors design. Each cooling stage differs in capacity output to better match typical building load profiles.
- Single refrigerant circuit design with precision-sized multi TXV (thermostatic expansion valve) refrigerant metering devices to provide optimum operation through the entire operating range.
- Single fully activated evaporator coil for full surface utilization, even at part load operation. This allows for better dehumidification than split face coils and helps eliminate the need for additional dehumidification packages.
- Integrated economizer in either low leak or ultra-low leak versions to properly help supplement compressor unloading in all operating conditions.
- Crankcase heater on each compressor designed to cycle off during the on cycle.
- IEER up to 20.8 and EERs (energy efficiency ratios) up to 13.5.
- High efficiency permanently lubricated belt driven evaporator-fan motor with VFD controller.

1. ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency.
2. LEED is a registered trademark of the U.S. Green Building Council.

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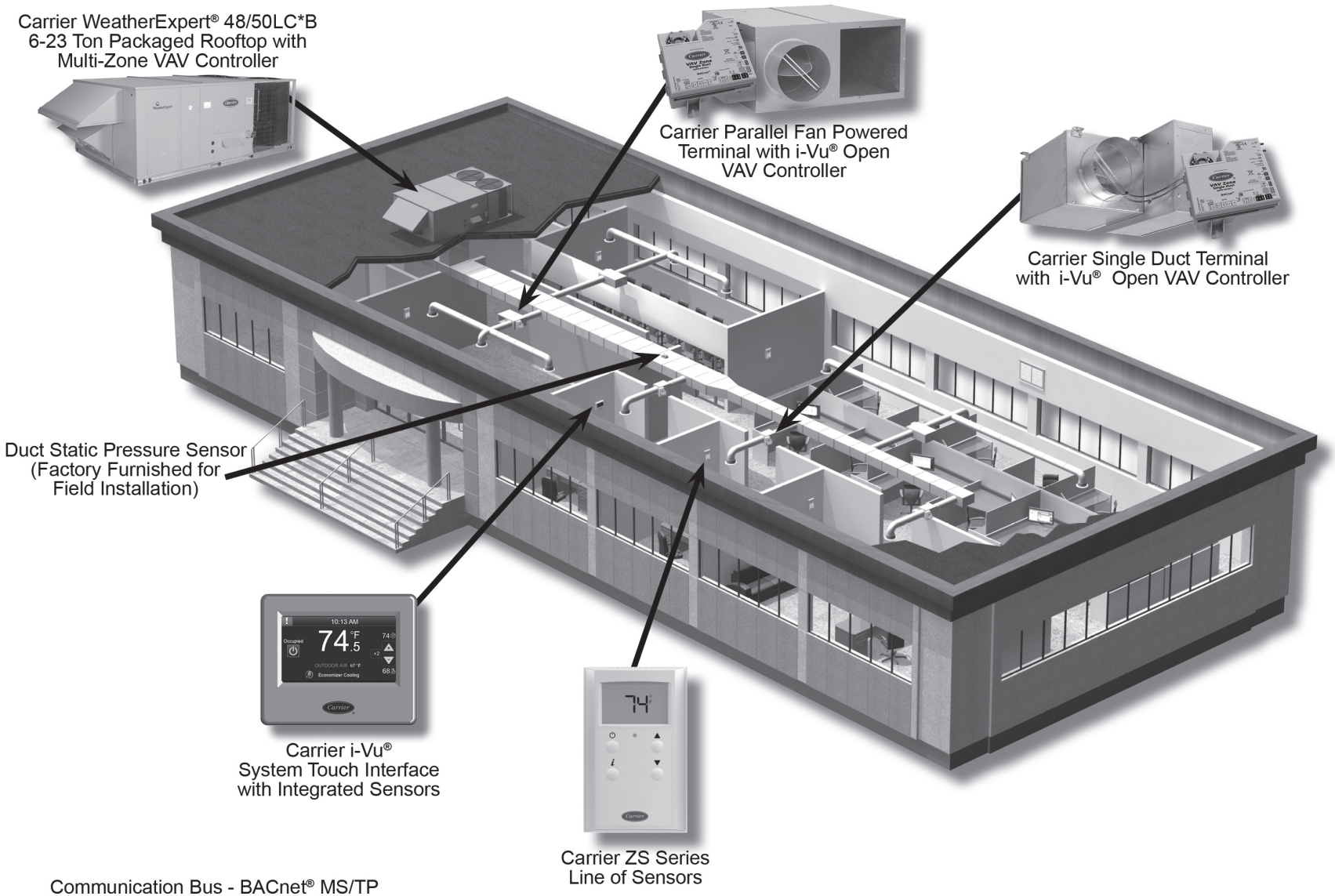
Features/Benefits (cont)

- VAV-RTU (rooftop unit) Open controller provides:
  - Integrated system control to required Carrier i-Vu® VAV zoning controls for single duct and fan terminals using BACnet[1] MS/TP protocol.
  - Unit control of all stages of cooling in order to maintain the desired supply air (SA) temperature setting.
  - Supply-air temperature control, including reset algorithm, will calculate a proportional reset value between occupied cooling setpoint and 1°F above the occupied heating setpoint. The amount of reset is user configurable.
  - Control for morning warm-up cycle the first time of transition from unoccupied to occupied periods.
  - Linkage from the rooftop to the VAV terminals in morning warm-up cycle to ensure sufficient airflow while in the heating mode.
  - Optional selected "occupied" heating, which will allow heating whenever required during the occupied period.
  - Configurable setpoint differential between heating and cooling to prevent the unit from prematurely entering the opposite mode.
  - The ability to utilize outdoor air to maintain the supply air setpoint by using the outdoor-air temperature or return-air temperature.
  - BACnet test points to activate specific test models that can be used to commission the rooftop and the system. Tests shall include fan test, heat test, cooling test, power exhaust test, and economizer test.
  - Linkage to required Carrier i-Vu® VAV zoning controls for single duct and fan terminals using BACnet MS/TP protocol.
  - Standalone BACnet MS/TP, or BAS (building automation system) network capabilities.
  - Two economizer minimum position settings to accommodate both minimum and maximum air flow settings.
  - Indoor fan motor modulation.
  - Field and factory wiring connections.
  - Outdoor fan motor staging.
  - Crankcase heater control.
- Sound levels as low as 83 dB.
- Non-corrosive composite condensate pan in accordance with ASHRAE 62 Standard, sloping design, side or bottom drain.
- Morning warm up or optional on-demand heating capabilities
- Multiple gas heat sizes with heating efficiencies up to 82%.
- Induced draft combustion design.
- Redundant gas valve with up to 2 stages of heating.
- Pre-painted exterior panels and primer-coated interior panels tested to 500 hours salt spray protection.
- Fully insulated with foil faced insulation throughout the entire air stream of the cabinet.
- Exclusive IGC (integrated gas controller) solid-state control for on-board diagnostics with LED (light-emitting diode) error code designation, burner control logic and energy saving indoor fan motor delay.
- High ambient cooling operation and ratings up to 125°F (52°C).
- Low ambient mechanical cooling operation down to 45°F (7°C). An economizer shall be the source of cooling in low ambient conditions. When the outside air temperature is below 45°F (7°C), to improve system reliability, reduce energy usage, and improve system efficiency, mechanical cooling shall not be utilized.
- Access panels with easy grip handles.
- Innovative, easy starting, no-strip screw feature on unit access panels.
- Two-inch disposable return air filters.
- Tool-less filter access door.
- Field convertible airflow capability on all models. On 07 size, switch panels within the units. On 08-12 sizes, a simple field-installed supply duct kit is required.
- Provisions for thru-the-bottom power entry capability as standard.
- Single point gas and electric connections.
- Full perimeter base rail with built-in rigging adapters and fork truck slots.
- 24-volt control circuit protected with resettable circuit breaker.
- Totally enclosed high efficiency ECM (electronically commutated motor) outdoor fan motor with permanently lubricated bearings.
- Low-pressure switch and high-pressure switch protection.
- Evaporator coil freeze protection.
- Solid-state electronic direct spark ignition system.
- Flame roll-out safety protector.
- High capacity liquid line filter drier.
- Standard Limited Parts Warranty: 10 year aluminized heat exchanger, 15 year stainless steel heat exchanger, 5 year compressor, 1 year parts.

1. BACnet is a trademark of ASHRAE.

TYPICAL VAV RTU-OPEN SYSTEM LAYOUT AND COMPONENTS



Model number nomenclature

MODEL NUMBER NOMENCLATURE

Position:	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
Example:	4	8	L	C	D	B	1	2	A	1	A	5	-	1	N	0	A	0

Unit Heat Type
48 = Gas Heat Packaged Rooftop

Model Series - WeatherExpert®
LC = Ultra High Efficiency

Heat Options
D = Low Gas Heat
E = Medium Gas Heat
F = High Gas Heat
S = Low Heat, Stainless Steel Exchanger
R = Medium Heat, Stainless Steel Exchanger
T = High Heat, Stainless Steel Exchanger

Refrigerant System
B = Three-Stage Cooling Capacity Control with Multizone VAV Operation

Cooling Tons
07 = 6 ton
08 = 7.5 ton
09 = 8.5 ton
12 = 10 ton

Sensor Options
A = None
B = RA Smoke Detector
C = SA Smoke Detector
D = RA + SA Smoke Detector
E = CO_2
F = RA Smoke Detector and CO_2
G = SA Smoke Detector and CO_2
H = RA + SA Smoke Detector and CO_2

Indoor Fan Options
1 = Standard Static Belt Drive with VFD controller
2 = Medium Static Belt Drive with VFD controller
3 = High Static Belt Drive with VFD controller
4 = Ultra High Static Belt Drive with VFD controller (08, 09 only)

Coil Options: Fin/Tube (Condenser — Evaporator — 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
E = Cu/Cu — Al/Cu
F = Cu/Cu — Cu/Cu
M = Al/Cu — Al/Cu — Louvered Hail Guard
N = Precoat Al/Cu — Al/Cu — Louvered Hail Guard
P = E-coat Al/Cu — Al/Cu — Louvered Hail Guard
Q = E-coat Al/Cu — E-coat Al/Cu — Louvered Hail Guard
R = Cu/Cu — Al/Cu — Louvered Hail Guard
S = Cu/Cu — Cu/Cu — Louvered Hail Guard

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

Design Revision
- = Factory Design Revision

Base Unit Controls
1 = VAV-RTU Open Controller (required on each model)

Intake / Exhaust Options (required on each unit)*
B = Low Leak Temperature Economizer with Barometric Relief
E = Low Leak Enthalpy Economizer with Barometric Relief
N = Ultra LOW LEAK Temperature Economizer with Barometric Relief
R = Ultra LOW LEAK Enthalpy Economizer with Barometric Relief

Service Options
0 = None
1 = Unpowered Convenience Outlet
2 = Powered Convenience Outlet
3 = Hinged Panels
4 = Hinged Panels and Unpowered Convenience Outlet
5 = Hinged Panels and Powered Convenience Outlet

Electrical Options
A = None
B = HACR Circuit Breaker
C = Non-Fused Disconnect
D = Thru-The-Base Connections
E = HACR Circuit Breaker and Thru-The Base Connections
F = Non-Fused Disconnect and Thru-The-Base Connections

Packaging
0 = Standard
1 = LTL

NOTE: Not all possible options can be displayed above. Refer to other support material or your local Carrier Expert.
* Vertical air flow economizer factory option, must be field installed for horizontal air flow models.

AHRI capacity ratings

AHRI COOLING RATING, 208V[a, b, c, d]

48LC*B	COOLING STAGES	HEATING OPTION	MOTOR OPTION	NOMINAL CAPACITY	NOMINAL COOLING CAPACITY	TOTAL POWER (kW)	EER	SEER/ IEER	RATED INDOOR AIRFLOW (CFM)
07	3	ALL	—	6.0	70.0	5.4	13.0	20.5	2,250
08	3	ALL	1	7.5	89.0	6.8	13.0	19.8	2,625
			2	7.5	89.0	7.0	12.8	19.4	2,625
			3	7.5	89.0	7.0	12.8	19.4	2,625
			4	7.5	89.0	7.0	12.8	19.3	2,625
09	3	ALL	—	8.5	101.0	7.7	13.5	20.8	2,970
12	3	ALL	—	10.0	116.0	8.9	13.0	20.6	3,500

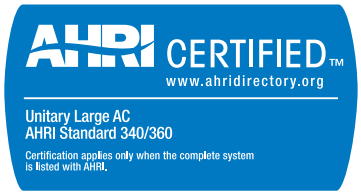
AHRI COOLING RATING, 230/460/575V[a, b, c, d]

48LC*B	COOLING STAGES	HEATING OPTION	MOTOR OPTION	NOMINAL CAPACITY	NOMINAL COOLING CAPACITY	TOTAL POWER (kW)	EER	SEER/ IEER	RATED INDOOR AIRFLOW (CFM)
07	3	ALL	—	6.0	70.0	5.4	13.0	20.3	2,250
08	3	ALL	1	7.5	89.0	6.8	13.0	19.4	2,625
			2	7.5	89.0	7.0	12.8	19.0	2,625
			3	7.5	89.0	7.0	12.8	19.0	2,625
			4	7.5	89.0	7.0	12.8	18.9	2,625
09	3	ALL	—	8.5	101.0	7.7	13.2	19.8	2,970
12	3	ALL	—	10.0	116.0	8.9	13.0	20.3	3,500

NOTE(S):
a. Rated in accordance with AHRI Standards 340/360.
b. Ratings 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.
c. All 48LC*B units comply with ASHRAE 90.1 Energy Star and CEE Energy Standard for minimum IEER and EER requirements.
d. 48LC*B units comply with US Energy Policy Act. To evaluate code compliance requirements, refer to state and local codes.

LEGEND

AHRI — Air Conditioning, Heating and Refrigeration Institute
ASHRAE — American Society of Heating, Refrigerating and Air Conditioning Engineers
EER — Energy Efficiency Ratio
IEER — Integrated Energy Efficiency Ratio
SEER — Seasonal Energy Efficiency Ratio



COOLING MINIMUM/MAXIMUM AIRFLOW RATINGS

48LC*B UNIT SIZE	COOLING STAGE	MAXIMUM CFM	MINIMUM CFM
07	Stage-3	3000	1200
	Stage-2	2000	650
	Stage-1	2000	650
08	Stage-3	3750	1500
	Stage-2	2500	750
	Stage-1	2500	750
09	Stage-3	4250	1700
	Stage-2	2800	850
	Stage-1	2800	850
12	Stage-3	5000	2000
	Stage-2	3000	1000
	Stage-1	2000	1000

AHRI capacity ratings (cont)

HEATING MINIMUM/MAXIMUM AIRFLOW RATINGS

48LC*B UNIT SIZE	HEAT SIZE	MINIMUM CFM	MAXIMUM CFM
07	LOW	1500	3000
	MED	1900	3000
	HIGH	2100	3000
08	LOW	1900	3750
	MED	2450	3750
	HIGH	3000	3750
09	LOW	2150	4250
	MED	2450	4250
	HIGH	3000	4250
12	LOW	2500	5000
	MED	3000	5000
	HIGH — Natural Gas	3590	5000
	HIGH — Liquid Propane	2910	5000

HEAT RATING — NATURAL GAS AND PROPANE[a, b]

48LC*B UNIT SIZE	GAS TYPE	GAS HEAT	AL/SS HEAT EXCHANGER		TEMP RISE (°F)	THERMAL EFFICIENCY (%)
			INPUT/OUTPUT STAGE 1 (mBH)	INPUT/OUTPUT STAGE 2 (MBG)		
07	Natural Gas	LOW	50/41	72/59	15-55	82
		MED	90/73	125/103	20-50	82
		HIGH	120/98	180/148	35-65	82
08	Natural Gas	LOW	120/96	150/120	15-60	80
		MED	144/118	180/146	20-55	81
		HIGH	192/156	240/195	25-60	81
09	Natural Gas	LOW	120/96	150/120	15-60	80
		MED	144/118	180/146	20-55	81
		HIGH	192/156	240/195	25-60	81
12	Natural Gas	LOW	144/118	180/146	20-55	81
		MED	192/156	240/195	25-60	81
		HIGH	252/202	315/252	20-65	80
	Propane[c]	HIGH	202/164	252/204	20-65	81

NOTE(S):
a. Heat ratings are for natural gas heat exchangers operated at or below 2000 ft (610 m). For information on propane or altitudes above 2000 ft (610 m), see the Application data section of this book. Accessory Propane/High Altitude kits are also available.
b. In the USA, the input rating for altitudes above 2000 ft (610 m) must be derated by 4% for each 1000 ft (305 m) above sea level. In Canada, the input rating must be derated by 10% for altitudes of 2000 ft (610 m) to 4500 ft (1372 m) above sea level.
c. Not required on unit rating plate.

SOUND PERFORMANCE[a, b, c]

48LC*B UNIT SIZE	COOLING STAGES	OUTDOOR SOUND (dB) AT 60 Hz								
		A-Weighted	63	125	250	500	1000	2000	4000	8000
07	3	82	88.6	85.0	81.6	79.5	77.4	74.1	71.0	66.3
08		83	89.3	86.0	82.9	80.7	78.5	73.6	69.6	64.5
09		83	89.3	86.0	82.9	80.7	78.5	73.6	69.6	64.5
12		83	89.3	86.0	82.9	80.7	78.5	73.6	69.6	64.5

NOTES:
a. Outdoor sound data is measure in accordance with AHRI Standard 270.
b. Measurements are expressed in terms of sound power. Do not compare these values to sound pressure values because sound pressure depends on specific environmental factors which normally do not match individual applications. Sound power values are independent of the environment and therefore more accurate.
c. A-weighted sound ratings filter out very high and very low frequencies, to better approximate the response of "average" human ear. A-weighted measurements for Carrier units are taken in accordance with AHRI.

LEGEND

dB — Decibel

Physical data

PHYSICAL DATA (COOLING) 6 TO 10 TONS

		48LC*B07	48LC*B08	48LC*B09	48LC*B12
REFRIGERATION SYSTEM					
No. Circuits/No. Comp./Type/Cooling Stages		1/2/Scroll/3	1/2/Scroll/3	1/2/Scroll/3	1/2/Scroll/3
RTPF Models R-410A Charge A/B (lb-oz)		15-8	22-5	25-11	24-15
Metering Device		TXV	TXV	TXV	TXV
High-Press. Trip/Reset (psig)		630/505	630/505	630/505	630/505
Low-Press. Trip/Reset (psig)		54/117	54/117	54/117	54/117
Loss of Charge Trip/Reset (psig)		—	—	—	—
EVAPORATOR COIL					
Material		Cu/Al	Cu/Al	Cu/Al	Cu/Al
Coil Type		5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF
Coil Length (in.)		40	52.5	52.5	52.5
Coil Height (in.)		40	48	48	48
Rows/FPI		4/15	4/15	4/15	4/15
Total Face Area (ft²)		11.1	17.5	17.5	17.5
Condensate Drain Conn. Size (in.)		3/4 in.	3/4 in.	3/4 in.	3/4 in.
EVAPORATOR FAN AND MOTOR					
Standard Static 3 Phase	Motor Qty./Drive Type	1/Belt	1/Belt	1/Belt	1/Belt
	Max bhp	1.7	1.7	1.7	2.4
	Rpm Range	421-631	375-563	375-563	421-631
	Motor Frame Size	56	56	56	56Z
	Fan Qty./Type	1/Centrifugal	1/Centrifugal	1/Centrifugal	1/Centrifugal
	Fan Diameter (in.)	15.5 x 15	18.5 x 18	18.5 x 18	18.5 X 18
Medium Static 3 Phase	Motor Qty./Drive Type	1/Belt	1/Belt	1/Belt	1/Belt
	Max bhp	1.7	2.4	2.4	3.7
	Rpm Range	605-908	547-757	547-757	631-841
	Motor Frame Size	56	56Z	56Z	56HZ
	Fan Qty./Type	1/Centrifugal	1/Centrifugal	1/Centrifugal	1/Centrifugal
	Fan Diameter (in.)	15.5 x 15	18.5 x 18	18.5 x 18	18.5 X 18
High Static 3 Phase	Motor Qty./Drive Type	1/Belt	1/Belt	1/Belt	1/Belt
	Max bhp	2.9	3.7	3.7	4.9
	Rpm Range	847-1150	710-879	710-879	832-1021
	Motor Frame Size	56	145TZ	145TZ	145TZ
	Fan Qty./Type	1/Centrifugal	1/Centrifugal	1/Centrifugal	1/Centrifugal
	Fan Diameter (in.)	15.5 x 15	18.5 x 18	18.5 x 18	18.5 x 18
Super Static 3 Phase	Motor Qty./Drive Type	—	1/Belt	1/Belt	—
	Max bhp (208/230/460/575v)	—	4.9	4.9	—
	Rpm Range	—	832-1021	832-1021	—
	Motor Frame Size	—	145TZ	145TZ	—
	Fan Qty./Type	—	1/Centrifugal	1/Centrifugal	—
	Fan Diameter (in.)	—	18.5 x 18	18.5 x 18	—
COND. COIL 1					
Material		Cu/Al	Cu/Al	Cu/Al	Cu/Al
Coil Type		5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF	5/16 in. RTPF
Coil Length (in.)		82	100	64	64
Coil Height (in.)		44	52	52	52
Rows/FPI		2/18	2/18	2/18	2/18
Total face area (ft²)		25.1	36.1	23.1	23.1
COND. COIL 2					
Material		—	—	Cu/Al	Cu/Al
Coil Type		—	—	5/16 in. RTPF	5/16 in. RTPF
Coil Length (in.)		—	—	64	64
Coil Height (in.)		—	—	52	52
Rows/FPI		—	—	2/18	2/18
Total face area (ft²)		—	—	23.1	23.1
COND. FAN/MOTOR					
Qty./Motor Drive Type		2/direct	3/direct	3/direct	3/direct
Motor HP/rpm		1/3/1000	1/3/1000	1/3/1000	1/3/1000
Fan Diameter (in.)		22	22	22	22
FILTERS					
RA Filter No./size (in.)		4/20 x 20 x 2	6/18 x 24 x 2	6/18 x 24 x 2	6/18 x 24 x 2
OA inlet screen No./size (in.)		V 2/24 x 27 x 1 H 1/30 x 39 x1	V 2/24 x 27 x 1 H 1/30 x 39 x1	V 2/24 x 27 x 1 H 1/30 x 39 x1	V 2/24 x 27 x 1 H 1/30 x 39 x1

Physical data (cont)

PHYSICAL DATA (HEATING) 6 TO 10 TONS

		48LC*B07	48LC*B08	48LC*B09	48LC*B12
GAS CONNECTION					
No. of Gas Valves		1	1	1	1
Natural Gas Supply Line Press. (in. wg)/(psig)		4-13/0.18-0.47	4-13/0.18-0.47	4-13/0.18-0.47	4-13/0.18-0.47
Propane Supply Line Press. (in. wg)/(psig)		11-13/0.40-0.47	11-13/0.40-0.47	11-13/0.40-0.47	11-13/0.40-0.47
HEAT ANTICIPATOR SETTING (AMPS)					
First Stage		0.14	0.14	0.14	0.14
Second Stage		0.14	0.14	0.14	0.14
NATURAL GAS HEAT					
LOW	No. of Stages/No. of Burners (total)	1 or 2/2	1 or 2/5	1 or 2/5	1 or 2/6
	Connection Size	1/2 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
	Rollout Switch Opens/Closes (°F)	195/115	225/175	225/175	225/175
	Temperature Rise Range (°F)	15-55	15-60	15-60	20-55
MED	No. of Stages/No. of Burners (total)	1 or 2/3	1 or 2/6	1 or 2/6	1 or 2/8
	Connection Size	1/2 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
	Rollout Switch Opens/Closes (°F)	195/115	225/175	225/175	225/175
	Temperature Rise Range (°F)	20-50	20-55	20-55	25-60
HIGH	No. of Stages/No. of Burners (total)	1 or 2/4	1 or 2/8	1 or 2/8	1 or 2/9
	Connection Size	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
	Rollout Switch Opens/Closes (°F)	195/115	225/175	225/175	225/175
	Temperature Rise Range (°F)	35-65	25-60	25-60	20-65
LIQUID PROPANE HEAT					
LOW	No. of Stages/No. of Burners (total)	1 or 2/2	1 or 2/5	1 or 2/5	1 or 2/6
	Connection Size	1/2 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
	Rollout Switch Opens/Closes (°F)	195/115	225/175	225/175	225/175
	Temperature Rise Range (°F)	15-55	15-60	15-60	20-55
MED	No. of Stages/No. of Burners (total)	1 or 2/3	1 or 2/6	1 or 2/6	1 or 2/8
	Connection Size	1/2 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
	Rollout Switch Opens/Closes (°F)	195/115	225/175	225/175	225/175
	Temperature Rise Range (°F)	20-50	20-55	20-55	25-60
HIGH	No. of Stages/No. of Burners (total)	1 or 2/4	1 or 2/8	1 or 2/8	1 or 2/9
	Connection Size	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT	3/4 in. NPT
	Rollout Switch Opens/Closes (°F)	195/115	225/175	225/175	225/175
	Temperature Rise Range (°F)	35-65	25-60	25-60	20-65

Physical data (cont)

FACTORY-INSTALLED OPTIONS AND FIELD-INSTALLED ACCESSORIES

CATEGORY	ITEM	FACTORY-INSTALLED OPTION	FIELD-INSTALLED ACCESSORY
Cabinet	Thru-the-base electrical or gas-line connections	X	X
	Hinged access panels	X	
Coil Options	Cu/Cu indoor and/or outdoor coils	X	
	Pre-coated outdoor coils	X	
	Premium, E-coated outdoor coils	X	
Condenser Protection	Condenser coil hail guard (louvered design)	X	X
Controls	VAV-RTU Open	Required	
	Smoke detector (supply and/or return air)	X	
	Time Guard II compressor delay control circuit		X
	Phase Monitor		X
	i-Vu® Equipment Touch; Carrier brand 4.3 in. color touch screen zone sensor and local user interface for a single Open (BACnet MS/TP) equipment controller. Includes built-in temperature and humidity sensor.		X
	i-Vu System Touch; Carrier brand 4.3 in. color touch screen user interface connects to a network of up to 60 Open (BACnet MS/TP) equipment controllers. Includes built-in temperature and humidity sensor.		X
Economizers and Outdoor-Air Dampers	EconoMi$er 2 for VAV-RTU Open controls, complies with FDD. (Low Leak and Ultra Low Leak air damper models)[a, b]	Required (Vertical Air Flow)	Required (Horizontal Air Flow)
	Barometric relief[c]	X	X
	Power exhaust (Propeller design)		X
Economizer Sensors and IAQ (Indoor Air Quality) Devices	Single dry bulb temperature sensors[d]	X	X
	Differential dry bulb temperature sensors[d]		X
	Single enthalpy sensors[d]	X	X
	Differential enthalpy sensors[d]		X
	Wall or duct mounted CO_2 sensor[d]		X
	Unit mounted CO_2 sensor[d]	X	
Zone Air Terminal Sensors	Full range of Carrier zone air terminal space sensors are available with capabilities of combining: space temperature, sensors with communication ports, sensors with CO_2 sensing, sensors with LCD (liquid crystal display), sensors with local override and indicating light.		X
VAV Zone Air Terminals	A full range of zone air terminals shall be a i-Vu VAV Zone Single Duct and Fan Terminal type for optimum integrated system solution. This includes: • 35E — Single Duct Air Terminals • 45J — Series Fan Powered Air Terminals • 45K — Quiet Series Fan Powered Air Terminals • 45M — Parallel Fan Powered Air Terminals • 45N — Quiet Parallel Fan Powered Air Terminals • 45Q — Low Profile Series Fan Powered Air Terminals • 45R — Low Profile Parallel Fan Powered Air Terminals • 35J — Single Duct Retrofit Air Terminals		X
Gas Heat	Propane conversion kit		X
	Stainless steel heat exchanger	X	
	High altitude conversion kit		X
	Flue shield (07 size)		X
	Flue discharge deflector		X
Indoor Motor and Drive	Multiple motor and drive packages	X	
Power Options	Convenience outlet (powered)	X	
	Convenience outlet (unpowered)	X	
	HACR (Heating, Air Conditioning, and Refrigeration) circuit breaker[e, f]	X	
	Non-fused disconnect[f]	X	
Roof Curbs	Roof curb 14 in. (356mm)		X
	Roof curb 24 in. (610mm)		X

NOTE(S):

a. FDD (Fault Detection and Diagnostic) capability per California Title 24 section 120.2.
b. Field-installed economizer required on horizontal air flow models.
c. Included with economizer.
d. Sensors used to optimize economizer performance.
e. On 575v applications, HACR breaker can only be used with Wye power distribution systems. Using on Delta power distribution systems is prohibited.
f. When selecting a factory installed HACR breaker or non-fused disconnect, note they are sized for the unit as ordered from the factory. The sizing of these do not accommodate any field items such as power exhaust devices etc.

Options and accessories

Factory-Installed Options

Economizer (Required on All Models)

Economizers save energy and money and improve comfort levels in the conditioned space. They bring in fresh, outside air for ventilation and provide cool outside air to cool your building. This also is the preferred method of low ambient cooling. When integrated with CO_2 sensors, economizers can provide even more savings by coupling the ventilation air to only the amount required based on space occupancy.

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

Economizers include gravity-controlled barometric relief that helps equalize building pressure and ambient air pressures. This can be a cost effective solution to prevent building pressurization. Economizers are available in ultra low leak and low leak versions.

Ultra Low Leak Economizer

This meets low leak requirements for ASHRAE 90.1 and CA Title 24 standards (4 cfm/ft at 1 in. wg outdoor air, 10 cfm/ft at 1 in. wg return air). This option allows 100% outdoor air supply from 0 to 100% modulating dampers and is standard with barometric relief. It can be paired with powered exhaust for additional building pressure relief.

Fault Detection and Diagnostics (FDD)

This offering meets the mandatory requirement of CA Title 24 of fully configurable diagnostics allowing fault history and reading fault codes at the unit. This option provides detection of the following faults: air temperature sensor failure/fault and notification of acceptable economizer mode. The FDD system shall be certified by the Energy Commission as meeting the requirements.

CO_2 Sensor

Improves productivity and saves money by working with the economizer to intake only the correct amount of outside air for ventilation. As occupants fill your building, the CO_2 sensor detects their presence through increasing CO_2 levels and opens the economizer appropriately.

When the occupants leave, the CO_2 levels decrease, and the sensor appropriately closes the economizer. This intelligent control of the ventilation air, called demand controlled ventilation (DCV), reduces the overall load on the rooftop, saving money.

Smoke Detectors

Trust the experts. 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.

Louvered Hail Guards

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. Provides a convenient, 15 amp, 115v GFCI (ground fault circuit interrupter) 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 115/120v power source.

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 of these does not accommodate field-installed items such as power exhaust devices, etc.

HACR Breaker

These manual reset devices provide overload and short circuit protection for the unit. They are factory wired and mounted with the unit's access cover to help provide environment protection.

When selecting a factory-installed HACR breaker, note that they are sized for the unit as ordered from the factory. The sizing of these does not accommodate any field-installed items such as power exhaust devices, etc.

On 575v applications, HACR breaker can only be used with Wye power distribution systems. Use on Delta power distribution systems is prohibited.

Alternate Motors and Drives

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 and pulleys (drives) are available, factory installed, to handle nearly any application.

Field-Installed Accessories

Power Exhaust

Superior internal building pressure control. This field-installed accessory may eliminate the need for costly external pressure control fans to coordinate with economizer position and supply fan system airflow.

Time Guard II Control Circuit

This device is used on constant volume units to prevent the compressor from short-cycling by providing a 5 minute delay (±2 minutes) before restarting a compressor after shutdown for any reason. Not required if built into building management system.

Hinged Access Panels

Allows access to the unit's major components with specifically designed hinged access panels. Panels are: filter, control box, fan motor, and compressor. Comes with quarter turn latches and lift tabs.

Propane Heating

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

High Altitude Heating

High altitudes have less oxygen, which means heat exchangers need less fuel. The new gas orifices in this field-installed kit make the necessary adjustment for high altitude applications. They restore the optimal fuel to air mixture and maintain healthy combustion at altitudes above 2000 ft (610 m). Kits may not be required in all areas.

Options and accessories (cont)

Flue Discharge Deflector

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

Optional Stainless Steel Heat Exchanger

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

Flue Discharge Heat Shield

The flue discharge heat shield keeps people from touching the rooftop unit's potentially hot flue discharge. This is especially useful for ground level applications, where untrained people could have access to the unit's exterior (07 size models only).

Thru-the-Base Connections

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

Zone Terminal Sensors

A full range of Carrier zone air terminal space sensors are available with capabilities combining:

- Space temperature sensing
- Sensors with communication ports
- Sensors with CO_2 sensing
- Sensors with LCD display
- Sensors with local override and indicating light
- Sensors with Humidity sensing

Plus compatibility with:

- i-Vu® Equipment Touch; Carrier brand 4.3 in. color touch screen zone sensor and local user interface for a single Open (BACnet MS/TP) equipment controller. Includes built-in temperature and humidity sensor.
- i-Vu System Touch; Carrier brand 4.3 in. color touch screen user interface connects to a network of up to 60 Open (BACnet MS/TP) equipment controllers. Includes built-in temperature and humidity sensor.

VAV Zone Air Terminals

A full range of zone air terminals shall be an i-Vu VAV Zone Single Duct and Fan Terminal type for optimum integrated system solution. This includes:

- 35E — Single Duct Air Terminals
- 45J — Series Fan Powered Air Terminals
- 45K — Quiet Series Fan Powered Air Terminals
- 45M — Parallel Fan Powered Air Terminals
- 45N — Quiet Parallel Fan Powered Air Terminals
- 45Q — Low Profile Series Fan Powered Air Terminals
- 45R — Low Profile Parallel Fan Powered Air Terminals
- 35J — Single Duct Retrofit Air Terminals

Options and accessories (cont)

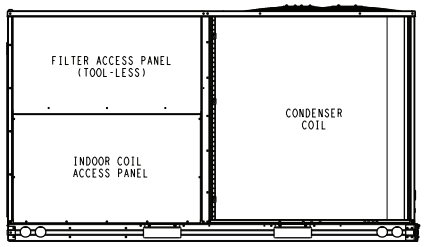
OPTIONS AND ACCESSORY WEIGHTS

OPTION/ACCESSORY	WEIGHTS IN LB			
	48LC*B07	48LC*B08	48LC*B09	48LC*B12
Medium Gas Heat	15	28	28	28
High Gas Heat	29	50	50	50
Medium Heat with Stainless Steel Exchanger	15	28	28	28
High Heat with Stainless Steel Exchanger	29	50	50	50
Return Smoke Detector	5	5	5	5
Supply Smoke Detector	5	5	5	5
RA and SA Smoke Detector	10	10	10	10
CO_2 Sensor	5	5	5	5
RA Smoke Detector and CO_2	10	10	10	10
SA Smoke Detector and CO_2	10	10	10	10
RA and SA Smoke Detector and CO_2	15	15	15	15
Medium Static Belt Drive	15	45	45	45
High Static Belt Drive	15	45	45	45
Cu/Cu Cond and Al/Cu Evap	23	25	25	25
Cu/Cu Cond and Cu/Cu Evap	49	47	47	47
Al/Cu Cond and Al/Cu Evap + Hail Guard	34	45	45	45
Precoat Al/Cu Cond and Al/Cu Evap + Hail Guard	34	45	45	45
Ecoat Al/Cu Cond and Al/Cu Evap + Hail Guard	34	45	45	45
Ecoat Al/Cu Cond and Ecoat Al/Cu Evap + Hail Guard	34	45	45	45
Cu/Cu Cond and Al/Cu Evap + Hail Guard	57	70	70	70
Cu/Cu Cond and Cu/Cu Evap + Hail Guard	83	92	92	92
Temp Ultra Low Leak Econo with Baro Relief	74	103	103	103
Enthalpy Ultra Low Leak Econo with Baro Relief	74	103	103	103
Unpowered Convenience Outlet	5	5	5	5
Powered Convenience Outlet	35	35	35	35
Hinged Panels	5	5	5	5
Hinged Panels with Unpowered Convenience Outlet	10	10	10	10
Hinged Panels with Powered Convenience Outlet	40	40	40	40
HACR Breaker	10	10	10	10
Non-Fused Disconnect	15	15	15	15
Thru-the-Base Connections	4	4	4	4
HACR Breaker with Thru-the-Base Connections	14	14	14	14
Non-Fused Disconnect and Thru-the-Base Connections	19	19	19	19

48LC*B07 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



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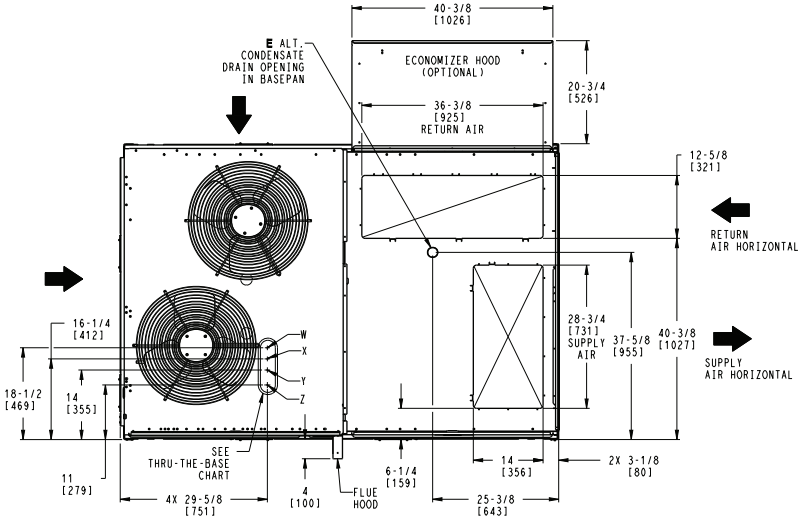


TOP

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

THRU-THE-BASE CHART (FIELD INST)

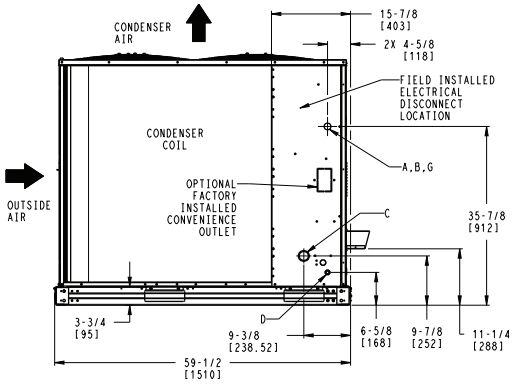
THESE HOLES REQUIRED FOR USE WITH ACCY KITS:
CRBTMPWR002A01: GAS THRU CURB
CRBTMPWR004A01: GAS THRU BASEPAN

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

THRU-THE-BASE CHART (FIOP)

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

**	FOR BELOW LISTED MODELS, A FIELD SUPPLIED 1/2" ADAPTER IS REQUIRED BETWEEN BASE PAN FITTING AND GAS VALVE: 48LC07



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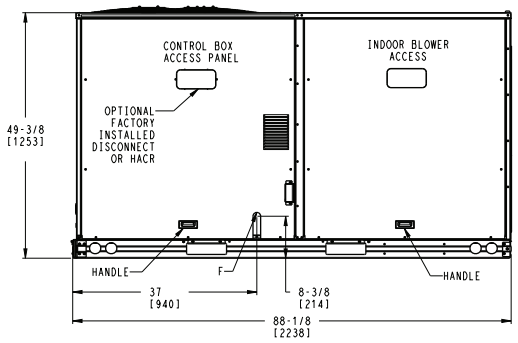

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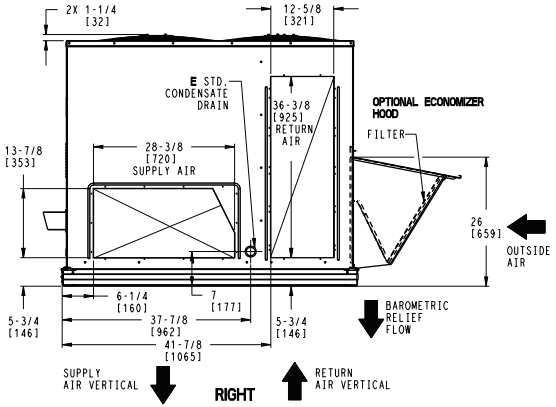


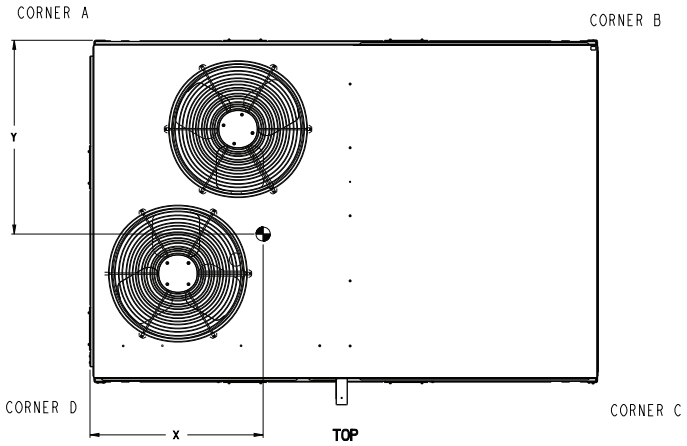
RIGHT

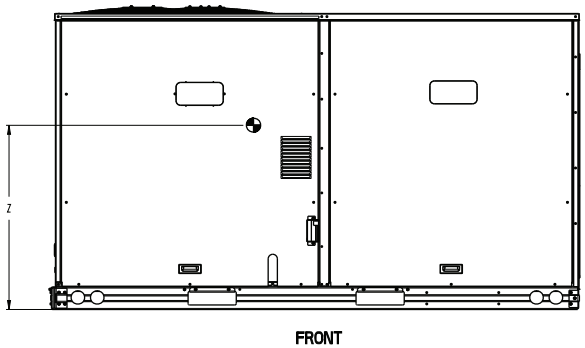
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN: NSR	1 OF 3	03/07/22	07/11/14	48LC 07 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48LC500391	C

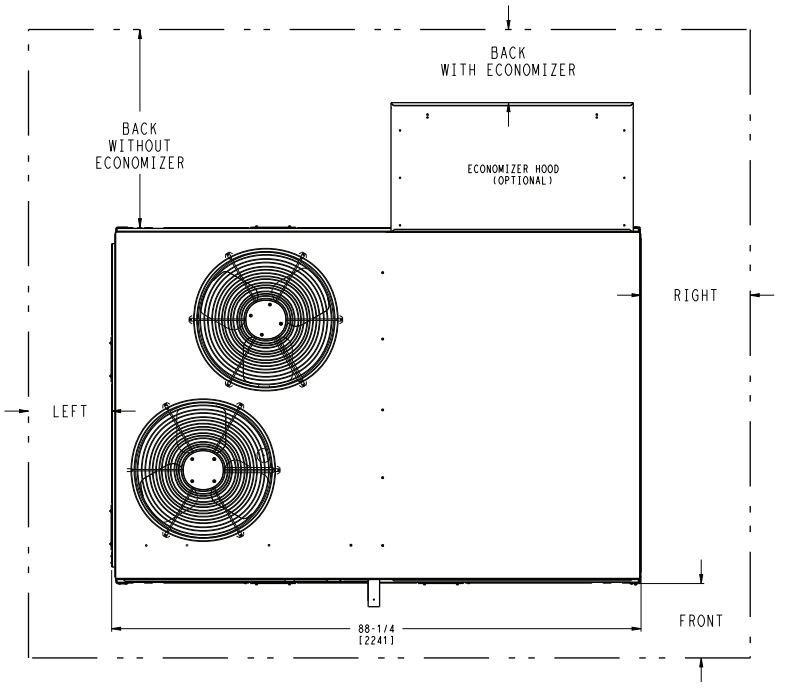
48LC*B07 UNIT DIMENSIONS (cont)

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
48LC 07	RTPF	1032	468	226	102	204	92	286	130	317	144	41 3/4 [1060]	24 3/4 [629]	20 3/4 [527]

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







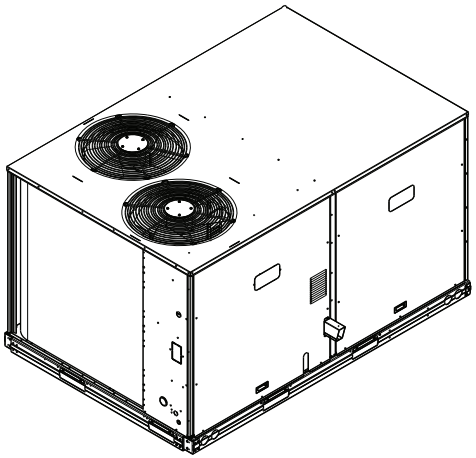
NOTE:

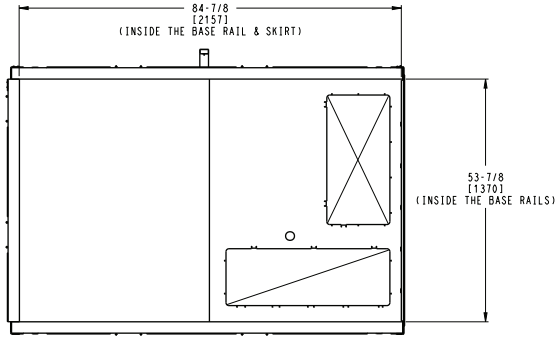
1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

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

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			
U.S. ECCN: NSR	2 OF 3	03/07/22	07/11/14	48LC 07 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48LC500391	REV C

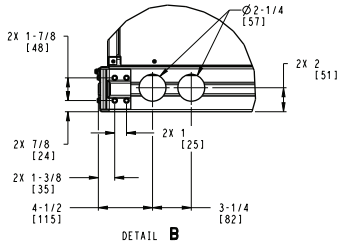
48LC*B07 UNIT DIMENSIONS (cont)



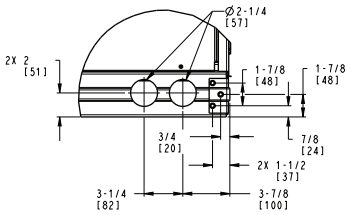


INSIDE BASERAIL DIMENSIONS

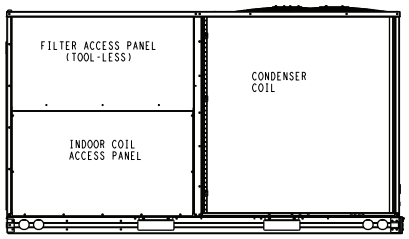
BOTTOM



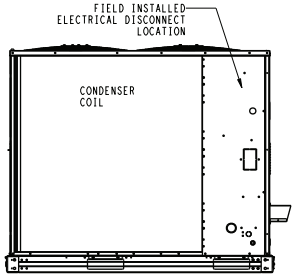
DETAIL **B**
AT 2 PLCS



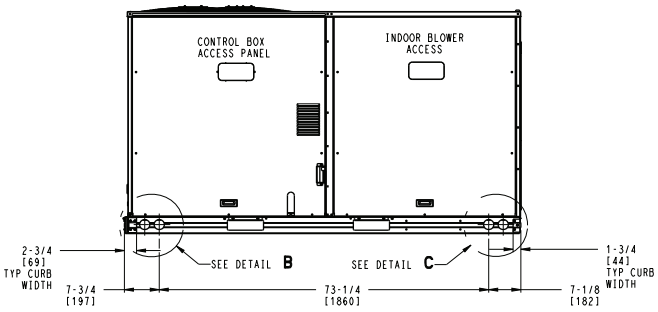
DETAIL **C**
AT 2 PLCS



BACK



LEFT



FRONT

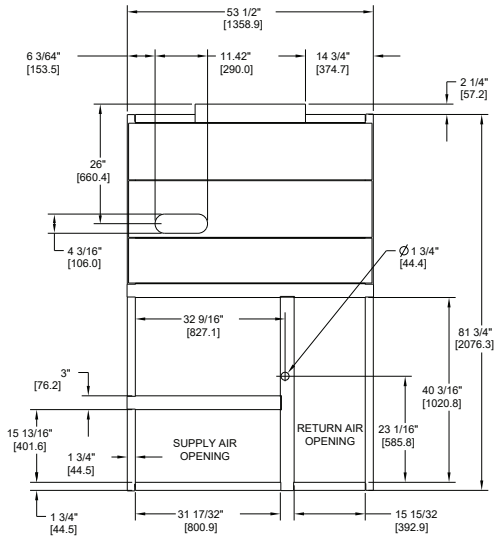
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			
U.S. ECCN: NSR	3 OF 3	03/07/22	07/11/14	48LC 07 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48LC500391	REV C

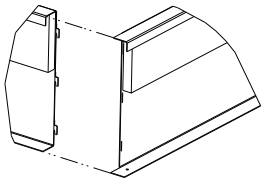
48LC*B07 ROOF CURB DETAILS

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

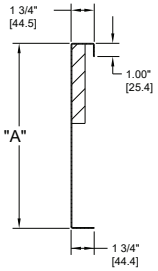
NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 25.4 [1"] THK. POLYURETHANE FOAM, 44.5 [1-3/4] # DENSITY.
3. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
4. ROOFCURB: 18 GAGE STEEL.
5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
6. SERVICE CLEARANCE 4 FEET ON EACH SIDE.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

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

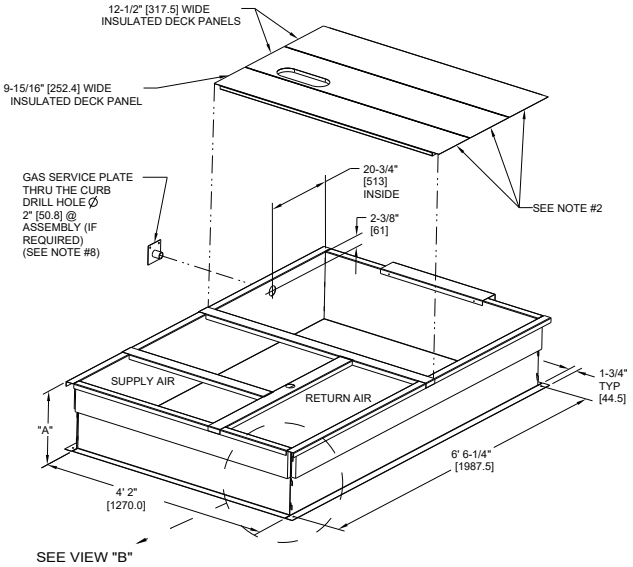




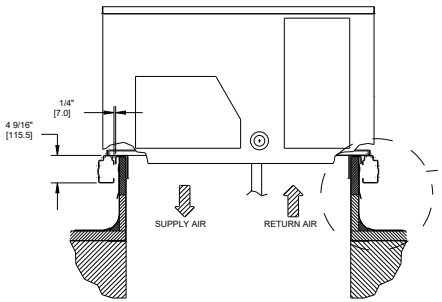
VIEW "B"
CORNER DETAIL

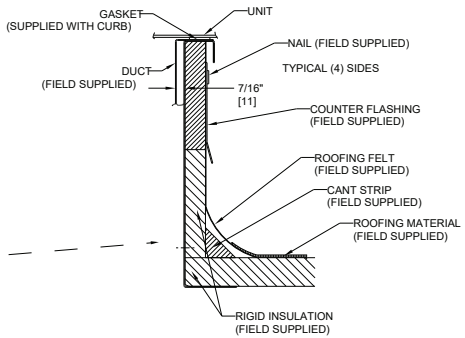


SECTION THRU SIDE



CERTIFIED DRAWING





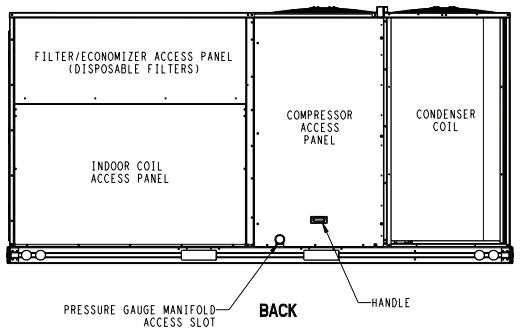
REV	REVISION RECORD	DATE	BY	CHK'D	APP'D	ECN NO.
C	6' 61/4" WAS 6' 7 1/6", 4'2' WAS 4' 2 13/16"; 18 GA WAS 16 GA.; 15 13/16" WAS 15 15/16"; NAIL FIELD SUPPLIED WAS WITH CURB	4/22/13	MMC	-	-	1067898

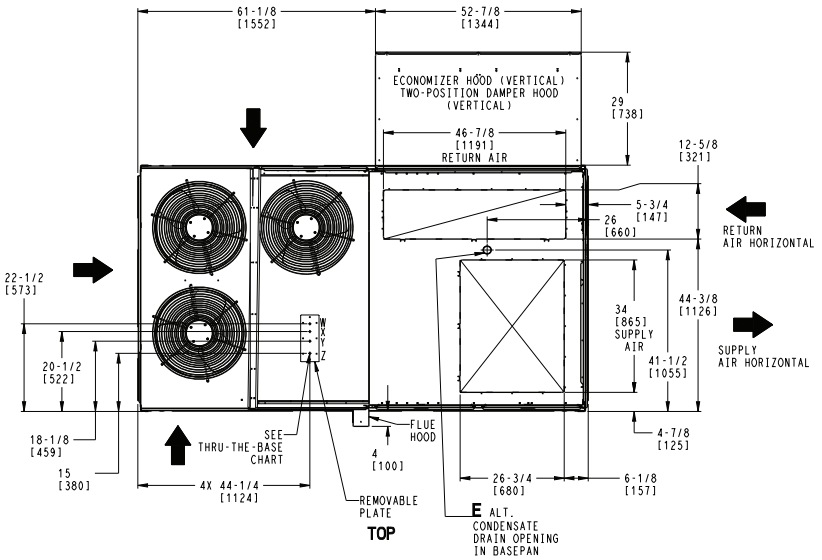
DRAWING RELEASE LEVEL:	PRODUCTION		
THIRD ANGLE PROJECTION	UNLESS OTHERWISE SPECIFIED DIMENSIONS ARE IN INCHES TOLERANCES ON: 1 DEC ± - 2 DEC ± - 3 DEC ± - ANG ± °	THIS DOCUMENT AND THE INFORMATION CONTAINED THEREIN IS PROPRIETARY TO CARRIER CORPORATION AND SHALL NOT BE USED OR DISCLOSED TO OTHERS, IN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

48LC*B08 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

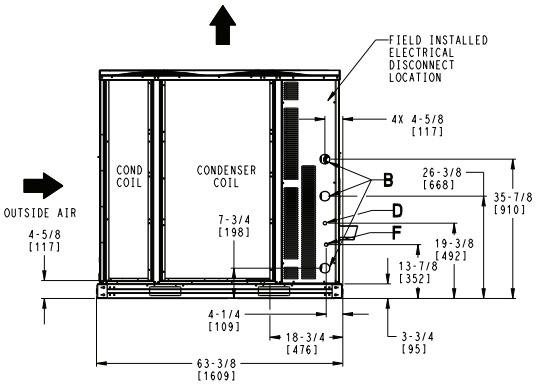


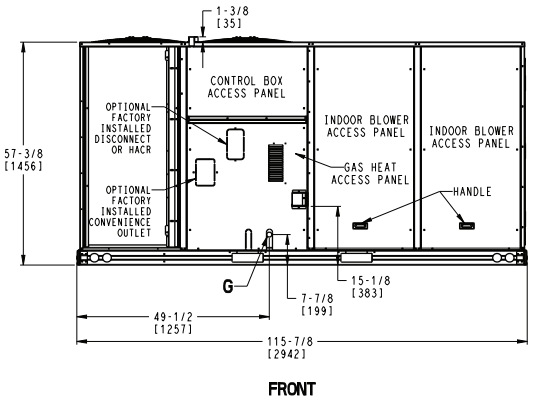


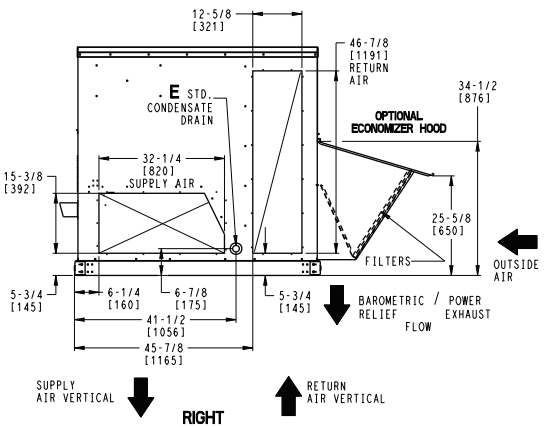
	CONNECTION SIZES
B	2 1/2" [64] DIA POWER SUPPLY HOLE
D	7/8" [22] DIA FIELD CONTROL WIRING HOLE
E	3/4"-14 NPT CONDENSATE DRAIN
F	7/8" [22] DIA FIELD CONVENIENCE OUTLET HOLE
G	3/4"-14 NPT GAS CONNECTION

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

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

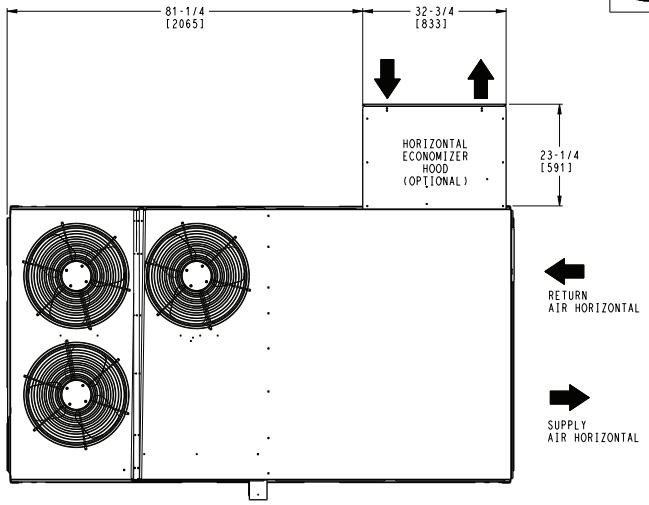




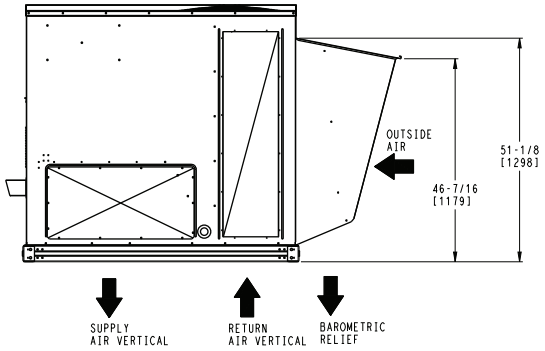


ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	1 OF 4	03/07/22	11/15/12	48LC 08 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48LC500408	A

48LC*B08 UNIT DIMENSIONS (cont)



TOP



RIGHT

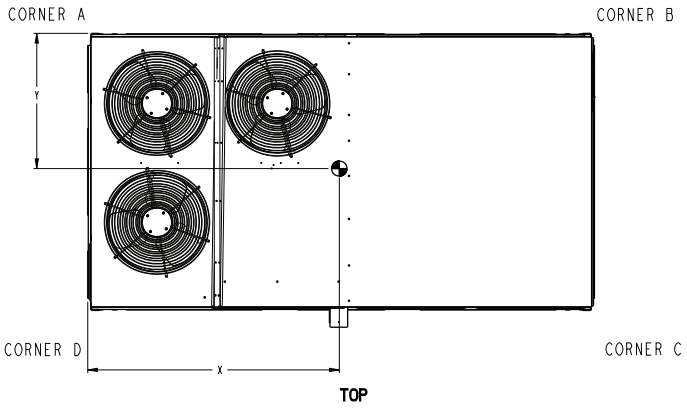
HORIZONTAL ECONOMIZER

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	2 OF 4	03/07/22	11/15/12	48LC 08 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48LC500408	A

48LC*B08 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
48LC 08	1606	728	426	193	415	188	377	171	387	176	57 [1448]	33 [838]	20 5/8 [525]

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



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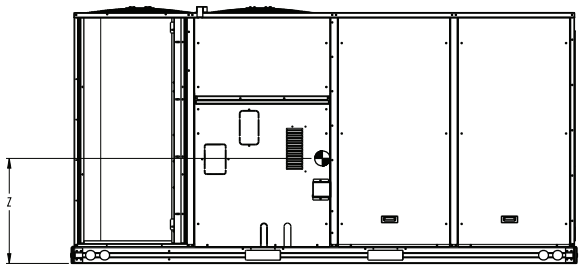
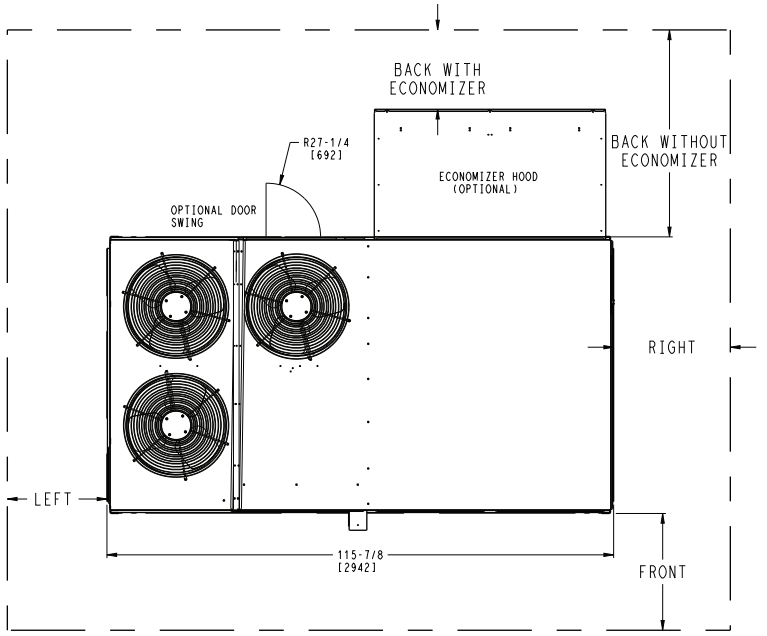


FRONT



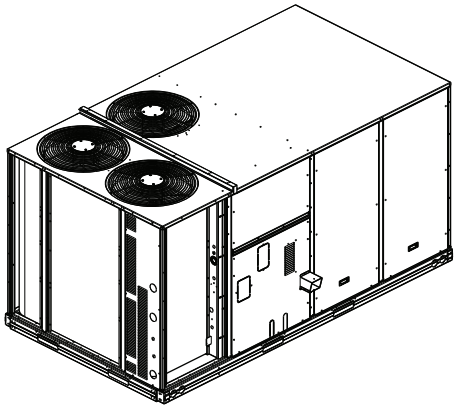
NOTE:

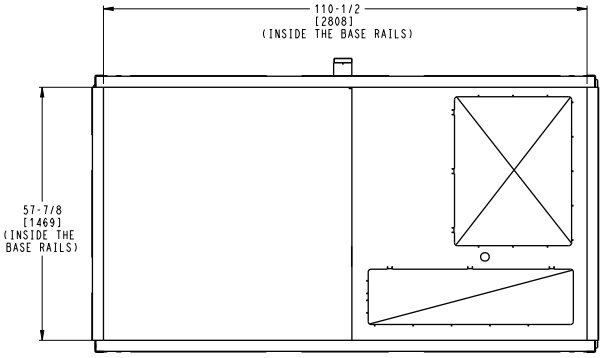
1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

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

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	3 OF 4	03/07/22	11/15/12	48LC 08 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48LC500408	A

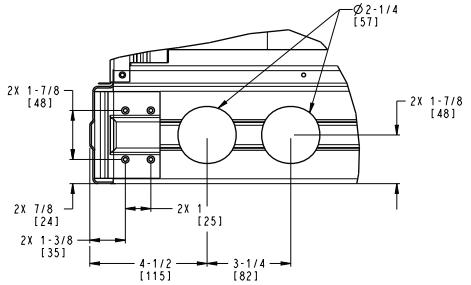
48LC*B08 UNIT DIMENSIONS (cont)



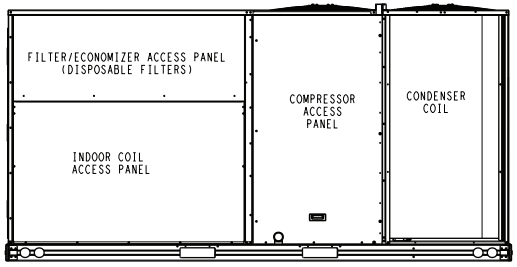


INSIDE BASERAIL DIMENSIONS

BOTTOM



DETAIL **A**
TYP 4 PLCS



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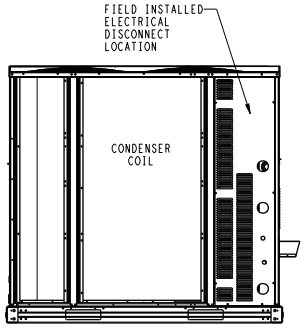

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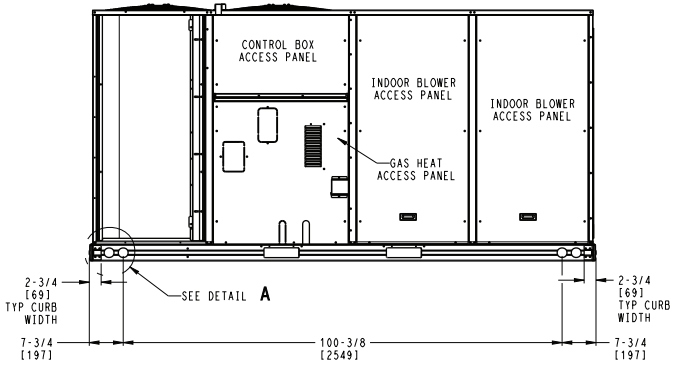


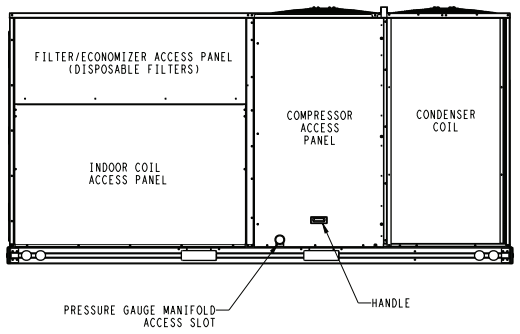
FRONT

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	4 OF 4	03/07/22	11/15/12	48LC 08 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48LC500408	A

48LC*B09-12 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



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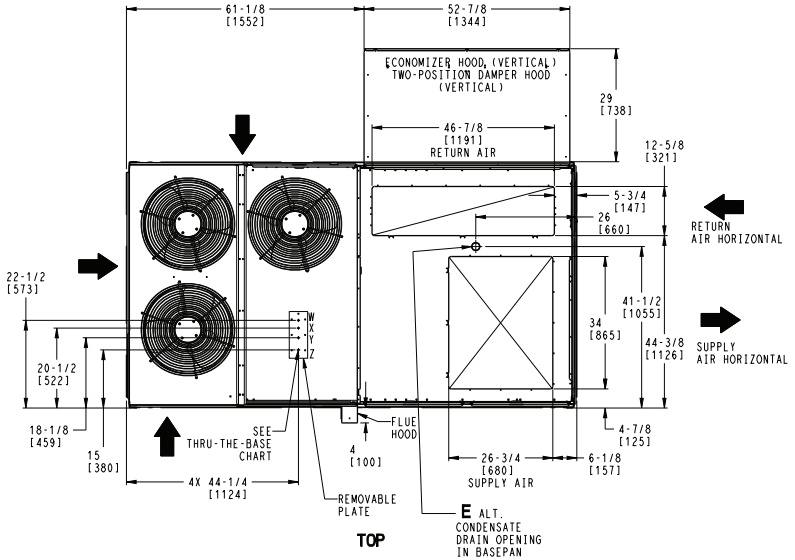

TOP

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

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

ACCESSORY NO.		THREADED CONDUIT SIZE	WIRE USE	REQ'D HOLE SIZES (MAX.)
005	W	1/2"	ACC.	7/8" [22.2]
	X	1/2"	24V	7/8" [22.2]
	Y	1 1/4"	POWER	1 1/2" [38.1]
	Z	3/4" PIPE	GAS	1 3/4" [44.5]
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	X	1/2"	24V	7/8" [22.2]
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	X	1/2"	24V	7/8" [22.2]
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	Z	3/4" PIPE	GAS	1 3/4" [44.5]
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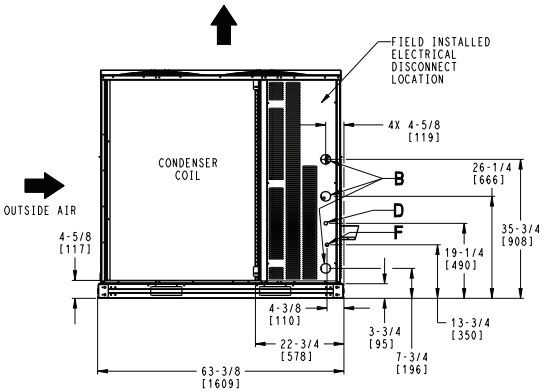
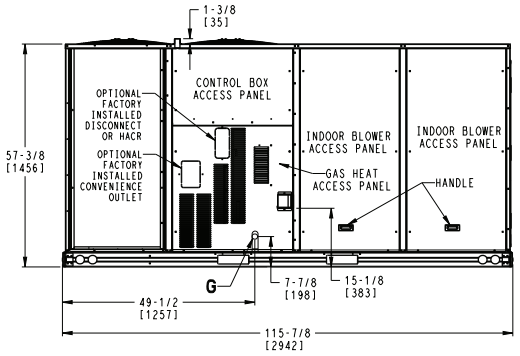
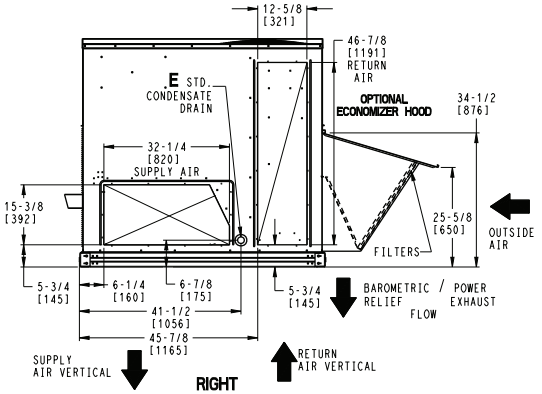


LEFT



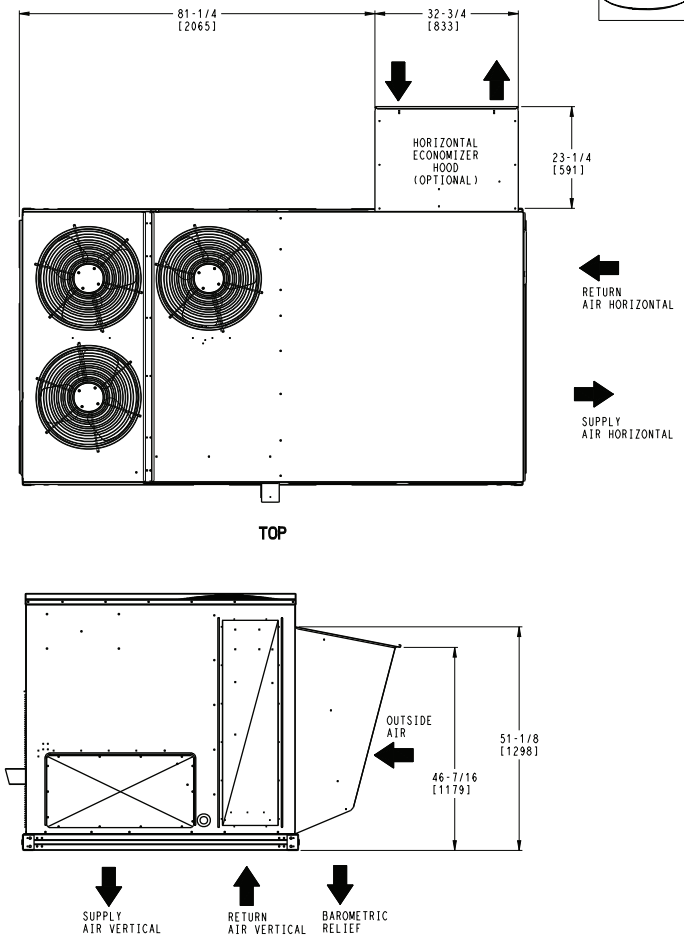
FRONT



RIGHT

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV.
U.S. ECCN:NSR	1 OF 4	03/07/22	05/08/13	48LC 09-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48LC500390	B

48LC*B09-12 UNIT DIMENSIONS (cont)



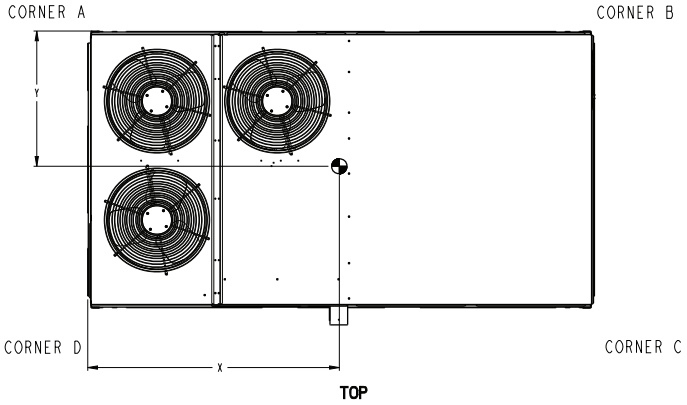
HORIZONTAL ECONOMIZER

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	2 OF 4	03/07/22	05/08/13	48LC 09-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48LC500390	B

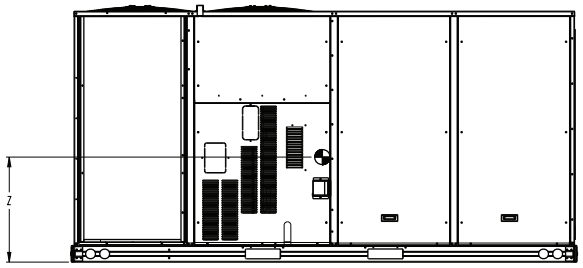
48LC*B09-12 UNIT DIMENSIONS (cont)

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
48LC 09	1606	728	406	184	410	186	397	180	393	178	58 [1473]	32 [812]	20 5/8 [524]
48LC 12	1606	728	406	184	410	186	397	180	393	178	58 [1473]	32 [812]	20 5/8 [524]

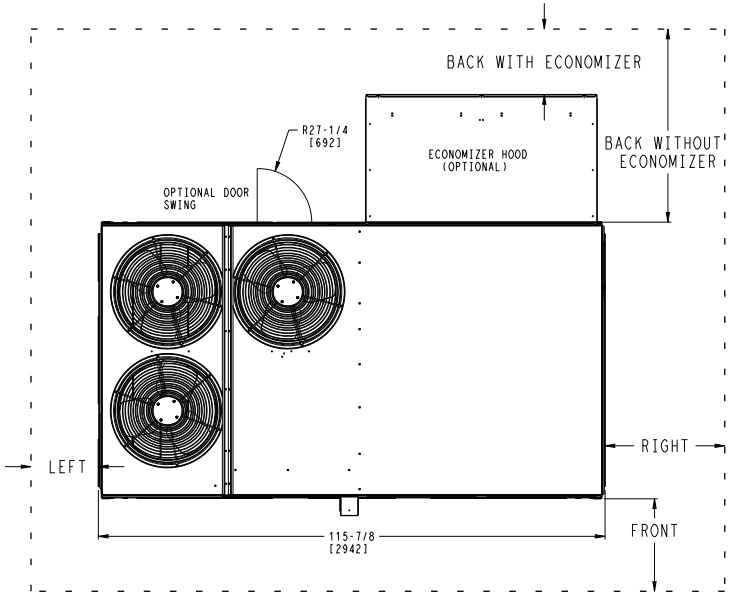
STANDARD UNIT WEIGHT IS WITH LOW GAS HEAT & WITHOUT PACKAGING.
FOR OPTIONS & ACCESSORIES, REFER TO THE PRODUCT DATA CATALOG.



TOP



FRONT



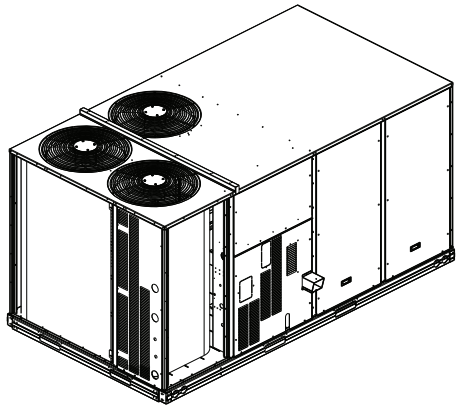
NOTE:

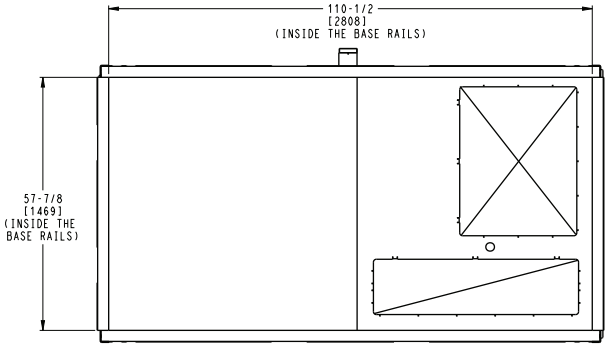
1. FOR ALL MINIMUM CLEARANCES LOCAL CODES OR JURISDICTIONS MAY PREVAIL.

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

ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	3 OF 4	03/07/22	05/08/13	48LC 09-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48LC500390	B

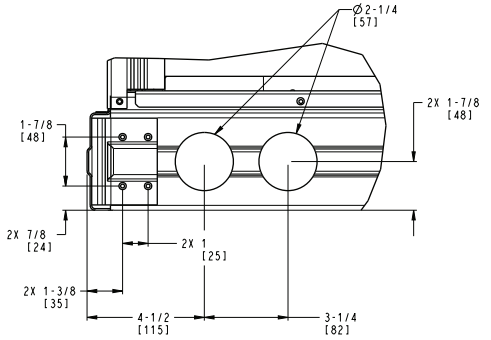
48LC*B09-12 UNIT DIMENSIONS (cont)



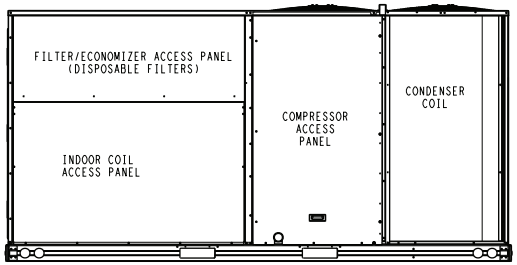


INSIDE BASERAIL DIMENSIONS

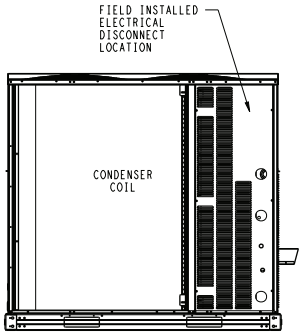
BOTTOM



DETAIL **A**
TYP 4 PLCS



BACK



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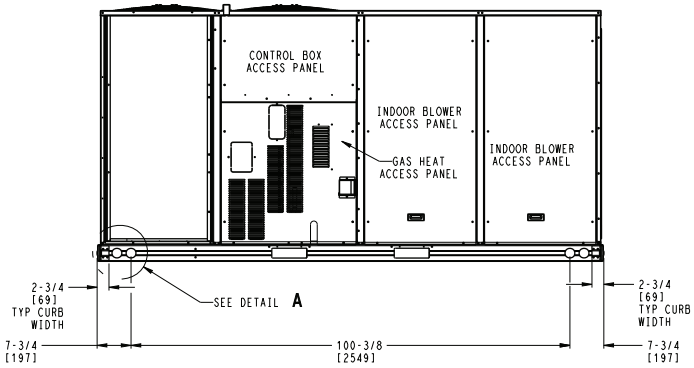


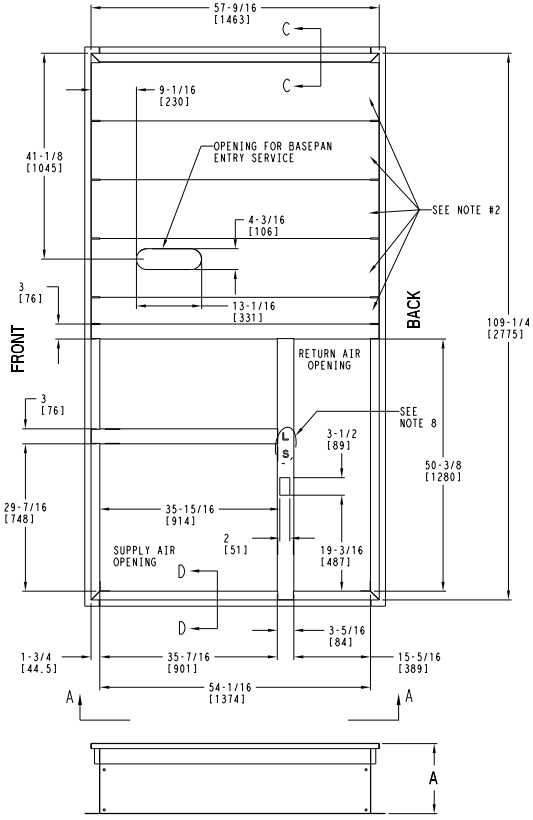
FRONT

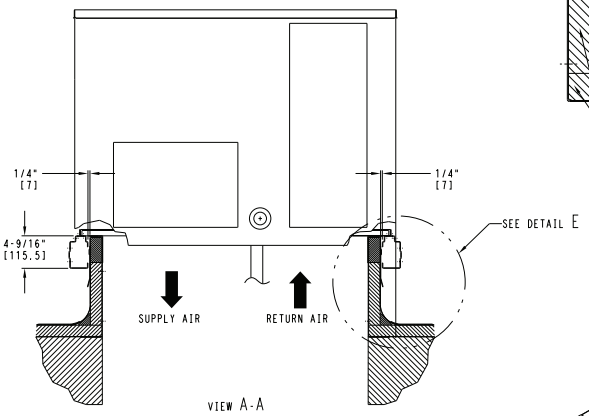
ITC CLASSIFICATION	SHEET	DATE	SUPERCEDES			REV
U.S. ECCN:NSR	4 OF 4	03/07/22	05/08/13	48LC 09-12 SINGLE ZONE ELECTRICAL COOLING WITH GAS HEAT	48LC500390	B

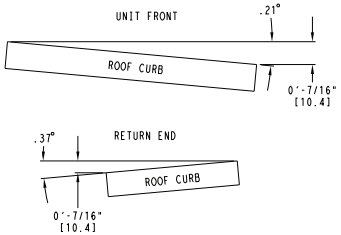
48LC*B08-12 ROOF CURB DETAILS

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

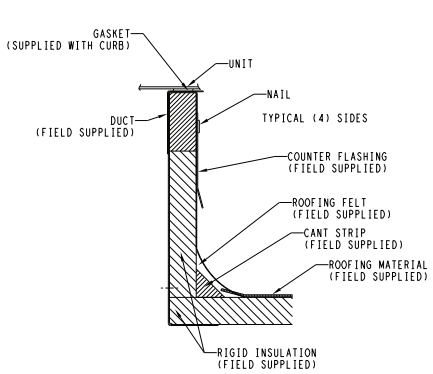
NOTES:
1. ROOFCURB ACCESSORY IS SHIPPED DISASSEMBLED.
2. INSULATED PANELS: 1/2" THK. NEOPRENE FOAM, 1.0# DENSITY.
3. DIMENSIONS IN [ ] ARE IN MILLIMETERS.
4. ROOFCURB SIDEWALLS: 16 GAGE STEEL.
5. ATTACH DUCTWORK TO CURB. (FLANGES OF DUCT REST ON CURB).
6. SERVICE CLEARANCE 4 FT ON EACH SIDE.
7. ➡ DIRECTION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



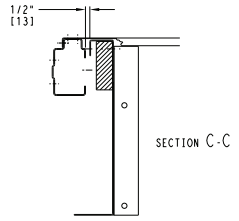


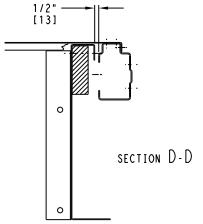


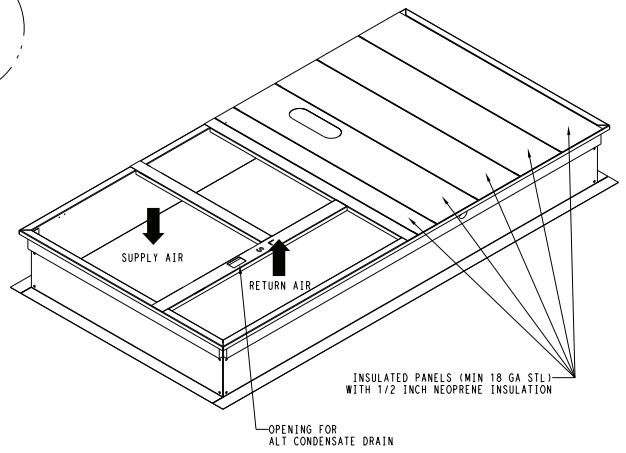
MAX CURB LEVELING TOLERANCES



DETAIL E







COOLING CAPACITIES — FIRST STAGE, PART LOAD (6 TONS)

48LC*B SIZE 07				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
650 cfm	EAT (wb)	58	TC	31.6	31.6	34.5	30.6	30.6	33.0	29.5	29.5	32.0	28.3	28.3	31.4	27.0	27.0	30.0	25.6	25.6	28.6	24.2	24.2	26.9
			SHC	27.7	31.1	34.5	26.5	29.7	33.0	25.6	28.9	32.0	25.1	28.3	31.4	23.9	27.0	30.0	22.7	25.6	28.6	21.4	24.2	26.9
		62	TC	33.2	33.2	33.2	31.9	31.9	31.9	30.6	30.6	30.6	29.3	29.3	29.3	27.8	27.8	28.6	26.1	26.1	27.7	24.5	24.5	26.7
			SHC	24.6	28.0	31.5	23.9	27.3	30.8	23.2	26.6	30.0	22.4	25.8	29.3	21.6	25.1	28.6	20.8	24.3	27.7	19.9	23.3	26.7
		67	TC	35.4	35.4	35.4	34.1	34.1	34.1	32.7	32.7	32.7	31.2	31.2	31.2	29.5	29.5	29.5	27.9	27.9	27.9	25.9	25.9	25.9
			SHC	20.5	23.9	27.4	19.8	23.2	26.7	19.1	22.5	26.0	18.3	21.8	25.3	17.6	21.1	24.5	16.8	20.2	23.7	15.9	19.3	22.8
		72	TC	38.0	38.0	38.0	36.6	36.6	36.6	35.1	35.1	35.1	33.4	33.4	33.4	31.7	31.7	31.7	29.8	29.8	29.8	27.8	27.8	27.8
			SHC	16.2	19.7	23.2	15.6	19.0	22.5	14.8	18.3	21.8	14.1	17.6	21.2	13.4	16.9	20.4	12.6	16.1	19.5	11.7	15.2	18.6
		76	TC	—	40.4	40.4	—	38.8	38.8	—	37.1	37.1	—	35.5	35.5	—	33.6	33.6	—	31.6	31.6	—	29.4	29.4
			SHC	—	16.3	19.7	—	15.6	19.1	—	14.9	18.4	—	14.2	17.6	—	13.5	17.0	—	12.7	16.1	—	11.8	15.2
850 cfm	EAT (wb)	58	TC	33.4	33.4	37.3	32.3	32.3	36.1	31.1	31.1	34.8	29.8	29.8	33.3	28.5	28.5	31.9	27.0	27.0	30.2	25.4	25.4	28.4
			SHC	29.5	33.4	37.3	28.6	32.3	36.1	27.5	31.1	34.8	26.3	29.8	33.3	25.2	28.5	31.9	23.8	27.0	30.2	22.3	25.4	28.4
		62	TC	34.3	34.3	35.7	33.1	33.1	35.0	31.7	31.7	34.3	30.2	30.2	33.4	28.7	28.7	32.6	27.2	27.2	30.1	25.4	25.4	29.4
			SHC	26.8	31.3	35.7	26.1	30.5	35.0	25.4	29.8	34.3	24.7	29.1	33.4	23.8	28.2	32.6	22.1	26.1	30.1	21.4	25.4	29.4
		67	TC	36.8	36.8	36.8	35.3	35.3	35.3	33.7	33.7	33.7	32.2	32.2	32.2	30.4	30.4	30.4	28.6	28.6	28.6	26.6	26.6	26.6
			SHC	21.7	26.2	30.7	21.1	25.5	30.0	20.4	24.9	29.3	19.6	24.1	28.6	18.8	23.3	27.8	18.0	22.5	27.0	17.2	21.6	26.0
		72	TC	39.5	39.5	39.5	37.9	37.9	37.9	36.3	36.3	36.3	34.5	34.5	34.5	32.7	32.7	32.7	30.7	30.7	30.7	28.6	28.6	28.6
			SHC	16.5	21.1	25.5	15.8	20.4	24.9	15.1	19.7	24.2	14.4	18.9	23.5	13.7	18.2	22.7	12.9	17.4	21.8	12.0	16.5	21.1
		76	TC	—	42.0	42.0	—	40.3	40.3	—	38.5	38.5	—	36.7	36.7	—	34.7	34.7	—	32.6	32.6	—	30.2	30.2
			SHC	—	16.8	21.4	—	16.1	20.7	—	15.4	20.0	—	14.7	19.3	—	13.9	18.5	—	13.2	17.7	—	12.4	16.9
1000 cfm	EAT (wb)	58	TC	34.8	34.8	39.0	35.2	35.2	39.2	35.5	35.5	39.4	35.7	35.7	39.4	35.8	35.8	39.4	35.8	35.8	39.2	35.6	35.6	38.8
			SHC	30.7	34.8	39.0	31.2	35.2	39.2	31.7	35.5	39.4	32.0	35.7	39.4	32.3	35.8	39.4	32.4	35.8	39.2	32.5	35.6	38.8
		62	TC	35.3	35.3	38.9	35.5	35.5	39.7	35.6	35.6	40.4	35.7	35.7	40.7	35.8	35.8	40.6	35.8	35.8	40.3	35.6	35.6	39.9
			SHC	28.7	33.7	38.9	29.4	34.6	39.7	30.2	35.3	40.4	30.8	35.7	40.7	31.1	35.8	40.6	31.3	35.8	40.3	31.4	35.6	39.9
		67	TC	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.6	37.5	37.5	37.5	37.2	37.2	37.2	37.0	37.0	37.3	36.4	36.4	38.0
			SHC	22.9	28.1	33.3	23.8	29.0	34.2	24.7	29.8	35.1	25.4	30.7	35.9	26.2	31.5	36.7	26.9	32.2	37.3	27.6	32.9	38.0
		72	TC	40.5	40.5	40.5	40.4	40.4	40.4	40.2	40.2	40.2	40.0	40.0	40.0	39.6	39.6	39.6	39.1	39.1	39.1	38.4	38.4	38.4
			SHC	17.0	22.2	27.5	17.8	23.1	28.4	18.7	24.0	29.3	19.5	24.8	30.0	20.4	25.6	30.9	21.1	26.3	31.6	21.8	27.0	32.3
		76	TC	—	43.0	43.0	—	42.8	42.8	—	42.5	42.5	—	42.1	42.1	—	41.6	41.6	—	41.0	41.0	—	40.2	40.2
			SHC	—	17.5	22.7	—	18.3	23.6	—	19.2	24.5	—	20.0	25.4	—	20.9	26.1	—	21.5	26.9	—	22.3	27.6
1200 cfm	EAT (wb)	58	TC	36.2	36.2	40.6	36.5	36.5	40.7	36.7	36.7	40.8	36.8	36.8	40.7	36.8	36.8	40.5	36.6	36.6	40.2	36.3	36.3	39.7
			SHC	31.8	36.2	40.6	32.3	36.5	40.7	32.6	36.7	40.8	32.9	36.8	40.7	33.1	36.8	40.5	33.1	36.6	40.2	33.0	36.3	39.7
		62	TC	36.2	36.2	42.0	36.5	36.5	42.1	36.7	36.7	42.1	36.8	36.8	42.0	36.8	36.8	41.7	36.7	36.7	41.3	36.3	36.3	40.8
			SHC	30.4	36.2	42.0	30.8	36.5	42.1	31.2	36.7	42.1	31.6	36.8	42.0	31.8	36.8	41.7	31.9	36.7	41.3	31.9	36.3	40.8
		67	TC	38.3	38.3	38.3	38.2	38.2	38.2	38.1	38.1	38.3	37.9	37.9	39.1	37.6	37.6	39.8	37.2	37.2	40.5	36.7	36.7	41.0
			SHC	24.2	30.4	36.7	25.1	31.3	37.4	25.9	32.1	38.3	26.7	32.9	39.1	27.5	33.6	39.8	28.2	34.3	40.5	28.8	34.9	41.0
		72	TC	41.2	41.2	41.2	41.0	41.0	41.0	40.8	40.8	40.8	40.5	40.5	40.5	40.0	40.0	40.0	39.4	39.4	39.4	38.6	38.6	38.6
			SHC	17.4	23.6	29.8	18.2	24.5	30.7	19.1	25.4	31.6	19.9	26.1	32.4	20.7	26.9	33.2	21.5	27.7	33.8	22.1	28.4	34.5
		76	TC	—	43.9	43.9	—	43.5	43.5	—	43.2	43.2	—	42.7	42.7	—	42.1	42.1	—	41.3	41.3	—	40.5	40.5
			SHC	—	18.0	24.3	—	18.9	25.2	—	19.8	26.0	—	20.6	26.9	—	21.4	27.7	—	22.1	28.4	—	22.8	29.1
1400 cfm	EAT (wb)	58	TC	37.3	37.3	41.9	37.5	37.5	41.9	37.6	37.6	41.8	37.6	37.6	41.7	37.5	37.5	41.4	37.2	37.2	41.0	36.9	36.9	40.4
			SHC	32.8	37.3	41.9	33.1	37.5	41.9	33.3	37.6	41.8	33.5	37.6	41.7	33.6	37.5	41.4	33.6	37.2	41.0	33.4	36.9	40.4
		62	TC	37.3	37.3	43.5	37.5	37.5	43.4	37.6	37.6	43.3	37.6	37.6	43.1	37.5	37.5	42.7	37.2	37.2	42.2	36.9	36.9	41.5
			SHC	31.2	37.3	43.5	31.6	37.5	43.4	32.0	37.6	43.3	32.2	37.6	43.1	32.4	37.5	42.7	32.4	37.2	42.2	32.3	36.9	41.5
		67	TC	38.8	38.8	39.8	38.7	38.7	40.6	38.5	38.5	41.3	38.3	38.3	42.1	37.9	37.9	42.7	37.5	37.5	43.2	37.0	37.0	43.5
			SHC	25.5	32.7	39.8	26.4	33.4	40.6	27.2	34.2	41.3	28.0	35.0	42.1	28.7	35.7	42.7	29.3	36.3	43.2	29.8	36.7	43.5
		72	TC	41.7	41.7	41.7	41.5	41.5	41.5	41.1	41.1	41.1	40.8	40.8	40.8	40.3	40.3	40.3	39.6	39.6	39.6	38.7	38.7	38.7
			SHC	17.7	25.0	32.2	18.6	25.8	33.0	19.5	26.6	33.8	20.3	27.5	34.6	21.1	28.2	35.4	21.8	29.0	36.1	22.5	29.6	36.8
		76	TC	—	44.5	44.5	—	44.1	44.1	—	43.6	43.6	—	43.1	43.1	—	42.4	42.4	—	41.6	41.6	—	40.7	40.7
			SHC	—	18.6	25.9	—	19.5	26.7	—	20.4	27.6	—	21.2	28.4	—	21.9	29.2	—	22.7	29.9	—	23.4	30.6
1600 cfm	EAT (wb)	58	TC	38.2	38.2	43.0	38.3	38.3	42.9	38.4	38.4	42.8	38.3	38.3	42.5	38.1	38.1	42.1	37.8	37.8	41.6	37.3	37.3	41.0
			SHC	33.5	38.2	43.0	33.8	38.3	42.9	34.0	38.4	42.8	34.1	38.3	42.5	34.1	38.1	42.1	34.0	37.8	41.6	33.8	37.3	41.0
		62	TC	38.3	38.3	44.6	38.4	38.4	44.5	38.4	38.4	44.3	38.3	38.3	44.0	38.1	38.1	43.5	37.8	37.8	42.9	37.3	37.3	42.1
			SHC	32.0	38.3	44.6	32.3	38.4	44.5	32.6	38.4	44.3	32.8	38.3	44.0	32.8	38.1	43.5	32.8	37.8	42.9	32.6	37.3	42.1
		67	TC	39.2	39.2	42.8	39.1	39.1	43.5	38.9	38.9	44.3	38.6	38.6	44.9	38.3	38.3	45.2	37.8	37.8	45.4	37.3	37.3	44.6
			SHC	26.8	34.8	42.8	27.6	35.6	43.5	28.4	36.3	44.3	29.2	37.0	44.9	29.7	37.5	45.2	30.2	37.8	45.4	30.2	37.3	44.6
		72	TC	42.1	42.1	42.1	41.8	41.8	41.8	41.4	41.4	41.4	41.0	41.0	41.0	40.5	40.5	40.5	39.7	39.7	39.7	38.8	38.8	38.9
			SHC	18.2	26.3	34.4	19.1	27.1	35.2	19.9	28.0	36.1	20.7	28.8	36.9	21.5	29.5	37.5	22.2	30.2	38.3	22.8	30.9	38.9
		76	TC	—	44.9	44.9	—	44.5	44.5	—	44.0	44.0	—	43.4	43.4	—	42.6	42.6	—	41.8	41.8	—	40.8	40.8
			SHC	—	19.3	27.4	—	20.2	28.3	—	21.0	29.2	—	21.8	29.9	—	22.6	30.7	—	23.3	31.4	—	24.0	32.1

Performance data (cont)

COOLING CAPACITIES — FIRST STAGE, PART LOAD (6 TONS) (cont)

48LC*B SIZE 07				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1800 cfm	EAT (wb)	58	TC	39.0	39.0	43.9	39.1	39.1	43.8	39.0	39.0	43.6	38.9	38.9	43.2	38.7	38.7	42.8	38.3	38.3	42.2	37.7	37.7	41.4
			SHC	34.2	39.0	43.9	34.4	39.1	43.8	34.5	39.0	43.6	34.6	38.9	43.2	34.6	38.7	42.8	34.4	38.3	42.2	34.1	37.7	41.4
		62	TC	39.1	39.1	45.5	39.1	39.1	45.3	39.1	39.1	45.0	38.9	38.9	44.8	38.7	38.7	44.2	38.3	38.3	43.5	37.8	37.8	42.7
			SHC	32.6	39.1	45.5	32.9	39.1	45.3	33.1	39.1	45.0	33.2	38.9	44.8	33.2	38.7	44.2	33.2	38.3	43.5	32.9	37.8	42.7
		67	TC	39.6	39.6	45.5	39.5	39.5	46.2	39.3	39.3	46.8	39.1	39.1	46.2	38.7	38.7	47.0	38.3	38.3	46.1	37.8	37.8	45.1
			SHC	28.0	36.8	45.5	28.8	37.5	46.2	29.4	38.1	46.8	29.7	38.0	46.2	30.5	38.7	47.0	30.5	38.3	46.1	30.5	37.8	45.1
		72	TC	42.4	42.4	42.4	42.1	42.1	42.1	41.7	41.7	41.7	41.1	41.1	41.1	40.6	40.6	40.6	39.9	39.9	40.5	38.9	38.9	41.0
			SHC	18.6	27.6	36.6	19.5	28.5	37.4	20.3	29.3	38.2	21.1	30.0	39.0	21.8	30.8	39.7	22.6	31.5	40.5	23.2	32.2	41.0
		76	TC	—	45.2	45.2	—	44.8	44.8	—	44.2	44.2	—	43.6	43.6	—	42.8	42.8	—	41.9	41.9	—	40.9	40.9
			SHC	—	19.9	29.0	—	20.8	29.7	—	21.6	30.6	—	22.4	31.4	—	23.2	32.2	—	23.9	32.9	—	24.6	33.5
2000 cfm	EAT (wb)	58	TC	39.7	39.7	44.7	39.7	39.7	44.6	39.6	39.6	44.3	39.4	39.4	43.9	39.1	39.1	43.4	38.7	38.7	42.7	38.1	38.1	41.8
			SHC	34.7	39.7	44.7	34.9	39.7	44.6	35.0	39.6	44.3	35.0	39.4	43.9	34.9	39.1	43.4	34.7	38.7	42.7	34.4	38.1	41.8
		62	TC	39.8	39.8	46.4	39.7	39.7	46.1	39.6	39.6	45.8	39.5	39.5	45.3	39.2	39.2	44.8	38.7	38.7	44.1	38.1	38.1	43.1
			SHC	33.1	39.8	46.4	33.3	39.7	46.1	33.4	39.6	45.8	33.5	39.5	45.3	33.5	39.2	44.8	33.4	38.7	44.1	33.2	38.1	43.1
		67	TC	40.0	40.0	48.1	39.9	39.9	48.5	39.7	39.7	48.8	39.5	39.5	48.4	39.2	39.2	47.6	38.7	38.7	46.7	38.1	38.1	45.6
			SHC	29.1	38.6	48.1	29.7	39.1	48.5	30.4	39.7	48.8	30.6	39.5	48.4	30.7	39.2	47.6	30.8	38.7	46.7	30.7	38.1	45.6
		72	TC	42.7	42.7	42.7	42.3	42.3	42.3	41.8	41.8	41.8	41.3	41.3	41.3	40.7	40.7	41.8	40.0	40.0	42.5	39.0	39.0	43.1
			SHC	19.1	28.9	38.7	19.9	29.7	39.5	20.8	30.5	40.4	21.5	31.3	41.0	22.2	32.1	41.8	23.0	32.8	42.5	23.6	33.3	43.1
		76	TC	—	45.4	45.4	—	44.9	44.9	—	44.5	44.5	—	43.8	43.8	—	43.0	43.0	—	42.0	42.0	—	41.0	41.0
			SHC	—	20.6	30.4	—	21.4	31.2	—	22.2	32.1	—	23.0	32.9	—	23.8	33.5	—	24.5	34.3	—	25.2	34.9

LEGEND

— — Do not operate
cfm — Cubic Feet per Minute (supply air)
EAT (db) — Entering Air Temperature (Dry Bulb)
EAT (wb) — Entering Air Temperature (Wet Bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

COOLING CAPACITIES — SECOND STAGE, PART LOAD (6 TONS)

48LC*B SIZE 07				AMBIENT TEMPERATURE (°F)																					
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
650 cfm	EAT (wb)	58	TC	35.9	35.9	35.9	34.8	34.8	34.9	33.5	33.5	34.1	32.2	32.2	33.3	30.7	30.7	32.6	29.2	29.2	31.7	27.4	27.4	30.6
			SHC	28.7	32.1	35.6	28.0	31.4	34.9	27.2	30.7	34.1	26.4	29.9	33.3	25.6	29.1	32.6	24.8	28.2	31.7	23.8	27.2	30.6
		62	TC	38.8	38.8	38.8	37.5	37.5	37.5	36.3	36.3	36.3	34.7	34.7	34.7	33.2	33.2	33.2	31.4	31.4	31.4	29.5	29.5	29.5
			SHC	26.1	29.5	33.1	25.4	28.9	32.4	24.7	28.2	31.6	23.9	27.4	30.8	23.0	26.5	30.0	22.1	25.6	29.2	21.3	24.7	28.2
		67	TC	42.7	42.7	42.7	41.4	41.4	41.4	39.9	39.9	39.9	38.3	38.3	38.3	36.5	36.5	36.5	34.6	34.6	34.6	32.6	32.6	32.6
			SHC	22.8	26.3	29.7	22.1	25.6	29.1	21.4	24.9	28.4	20.6	24.1	27.6	19.8	23.2	26.7	18.8	22.3	25.8	17.9	21.5	24.9
		72	TC	47.1	47.1	47.1	45.6	45.6	45.6	44.0	44.0	44.0	42.2	42.2	42.2	40.3	40.3	40.3	38.1	38.1	38.1	35.9	35.9	35.9
			SHC	19.4	22.9	26.4	18.7	22.2	25.7	17.9	21.5	25.0	17.2	20.7	24.2	16.4	19.8	23.3	15.5	18.9	22.4	14.5	18.0	21.5
		76	TC	—	50.8	50.8	—	49.2	49.2	—	47.5	47.5	—	45.5	45.5	—	43.4	43.4	—	41.1	41.1	—	38.7	38.7
			SHC	—	20.1	23.6	—	19.4	22.9	—	18.6	22.1	—	17.8	21.4	—	17.1	20.5	—	16.1	19.6	—	15.2	18.7
850 cfm	EAT (wb)	58	TC	39.1	39.1	41.8	37.8	37.8	41.0	36.4	36.4	40.2	35.3	35.3	38.2	33.4	33.4	37.6	31.9	31.9	36.0	30.3	30.3	34.1
			SHC	32.9	37.3	41.8	32.1	36.6	41.0	31.3	35.8	40.2	29.9	34.0	38.2	29.2	33.4	37.6	27.9	31.9	36.0	26.4	30.3	34.1
		62	TC	42.0	42.0	42.0	40.7	40.7	40.7	39.0	39.0	39.0	37.3	37.3	37.3	35.5	35.5	35.5	33.5	33.5	34.2	31.4	31.4	33.2
			SHC	29.4	33.9	38.5	28.8	33.2	37.7	28.0	32.5	37.0	27.1	31.6	36.1	26.1	30.7	35.2	25.3	29.7	34.2	24.2	28.7	33.2
		67	TC	46.2	46.2	46.2	44.7	44.7	44.7	42.9	42.9	42.9	41.0	41.0	41.0	39.0	39.0	39.0	36.8	36.8	36.8	34.4	34.4	34.4
			SHC	25.1	29.6	34.1	24.4	28.9	33.4	23.6	28.1	32.6	22.7	27.2	31.8	21.8	26.3	30.8	20.9	25.4	29.9	19.9	24.4	28.9
		72	TC	50.8	50.8	50.8	49.0	49.0	49.0	47.1	47.1	47.1	45.0	45.0	45.0	42.8	42.8	42.8	40.4	40.4	40.4	37.8	37.8	37.8
			SHC	20.6	25.2	29.7	19.9	24.4	29.0	19.1	23.6	28.2	18.2	22.8	27.3	17.4	21.8	26.4	16.4	21.0	25.4	15.4	19.9	24.5
		76	TC	—	54.7	54.7	—	52.7	52.7	—	50.7	50.7	—	48.5	48.5	—	46.0	46.0	—	43.5	43.5	—	40.8	40.8
			SHC	—	21.5	26.0	—	20.7	25.3	—	19.9	24.5	—	19.1	23.6	—	18.1	22.7	—	17.3	21.8	—	16.3	20.9
1000 cfm	EAT (wb)	58	TC	41.8	41.8	46.7	41.0	41.0	45.9	40.0	40.0	44.9	38.8	38.8	43.5	37.6	37.6	42.1	36.3	36.3	40.6	34.8	34.8	38.9
			SHC	36.5	41.6	46.7	35.9	41.0	45.9	35.1	40.0	44.9	34.1	38.8	43.5	33.2	37.6	42.1	32.0	36.3	40.6	30.7	34.8	38.9
		62	TC	44.5	44.5	44.5	43.3	43.3	43.3	41.9	41.9	42.0	40.4	40.4	41.4	38.8	38.8	40.9	37.1	37.1	40.2	35.2	35.2	39.3
			SHC	32.5	37.7	43.0	32.0	37.2	42.5	31.5	36.8	42.0	31.0	36.3	41.4	30.3	35.6	40.9	29.7	34.9	40.2	29.0	34.1	39.3
		67	TC	48.6	48.6	48.6	47.2	47.2	47.2	45.6	45.6	45.6	43.9	43.9	43.9	42.0	42.0	42.0	40.1	40.1	40.1	37.9	37.9	37.9
			SHC	27.1	32.4	37.6	26.7	32.0	37.2	26.2	31.5	36.8	25.6	30.9	36.2	25.1	30.3	35.6	24.4	29.7	35.0	23.7	29.0	34.2
		72	TC	52.9	52.9	52.9	51.4	51.4	51.4	49.7	49.7	49.7	47.8	47.8	47.8	45.7	45.7	45.7	43.6	43.6	43.6	41.2	41.2	41.2
			SHC	21.6	26.9	32.3	21.2	26.5	31.9	20.8	26.0	31.4	20.2	25.5	30.8	19.6	25.0	30.2	19.0	24.3	29.5	18.3	23.6	28.9
		76	TC	—	56.7	56.7	—	55.1	55.1	—	53.1	53.1	—	51.1	51.1	—	48.8	48.8	—	46.5	46.5	—	44.0	44.0
			SHC	—	22.4	27.8	—	22.0	27.4	—	21.5	26.9	—	21.1	26.4	—	20.5	25.8	—	19.9	25.3	—	19.2	24.6
1200 cfm	EAT (wb)	58	TC	44.5	44.5	50.0	43.5	43.5	48.8	42.3	42.3	47.6	41.0	41.0	46.1	39.7	39.7	44.5	38.1	38.1	42.7	36.6	36.6	40.9
			SHC	38.9	44.5	50.0	38.0	43.5	48.8	37.1	42.3	47.6	36.1	41.0	46.1	34.9	39.7	44.5	33.6	38.1	42.7	32.2	36.6	40.9
		62	TC	46.1	46.1	47.7	44.9	44.9	47.2	43.4	43.4	46.6	41.7	41.7	45.9	40.1	40.1	45.1	38.3	38.3	44.1	36.6	36.6	42.3
			SHC	35.2	41.4	47.7	34.7	41.0	47.2	34.2	40.4	46.6	33.5	39.8	45.9	32.9	39.0	45.1	32.1	38.1	44.1	30.8	36.6	42.3
		67	TC	50.1	50.1	50.1	48.7	48.7	48.7	47.0	47.0	47.0	45.1	45.1	45.1	43.2	43.2	43.2	41.0	41.0	41.0	38.8	38.8	38.8
			SHC	28.9	35.1	41.3	28.4	34.7	41.0	27.9	34.1	40.5	27.3	33.5	39.9	26.7	33.0	39.2	26.0	32.3	38.5	25.4	31.6	37.8
		72	TC	54.7	54.7	54.7	52.9	52.9	52.9	51.1	51.1	51.1	49.0	49.0	49.0	46.9	46.9	46.9	44.6	44.6	44.6	42.0	42.0	42.0
			SHC	22.3	28.7	34.9	21.9	28.2	34.5	21.4	27.7	34.0	20.9	27.1	33.4	20.3	26.5	32.9	19.6	25.8	32.2	18.9	25.2	31.4
		76	TC	—	58.5	58.5	—	56.6	56.6	—	54.6	54.6	—	52.5	52.5	—	50.0	50.0	—	47.5	47.5	—	44.8	44.8
			SHC	—	23.4	29.8	—	22.9	29.3	—	22.4	28.9	—	21.9	28.3	—	21.4	27.7	—	20.7	27.0	—	20.0	26.3
1400 cfm	EAT (wb)	58	TC	46.6	46.6	52.5	45.5	45.5	51.2	44.3	44.3	49.7	42.9	42.9	48.2	41.3	41.3	46.3	39.7	39.7	44.5	37.9	37.9	42.4
			SHC	40.8	46.6	52.5	39.9	45.5	51.2	38.8	44.3	49.7	37.6	42.9	48.2	36.4	41.3	46.3	34.9	39.7	44.5	33.3	37.9	42.4
		62	TC	47.5	47.5	52.0	46.1	46.1	51.4	44.6	44.6	50.7	43.0	43.0	49.7	41.4	41.4	48.1	39.7	39.7	46.1	37.9	37.9	43.9
			SHC	37.7	44.9	52.0	37.1	44.3	51.4	36.6	43.6	50.7	35.8	42.7	49.7	34.7	41.4	48.1	33.3	39.7	46.1	31.9	37.9	43.9
		67	TC	51.4	51.4	51.4	49.7	49.7	49.7	48.0	48.0	48.0	46.0	46.0	46.0	44.0	44.0	44.0	41.7	41.7	41.9	39.4	39.4	41.1
			SHC	30.4	37.6	44.9	29.9	37.2	44.5	29.4	36.7	43.9	28.9	36.1	43.3	28.3	35.4	42.6	27.5	34.7	41.9	26.8	33.9	41.1
		72	TC	55.9	55.9	55.9	54.1	54.1	54.1	52.2	52.2	52.2	50.0	50.0	50.0	47.7	47.7	47.7	45.2	45.2	45.2	42.7	42.7	42.7
			SHC	23.0	30.2	37.5	22.5	29.8	37.1	22.0	29.3	36.6	21.5	28.7	36.0	20.9	28.1	35.3	20.2	27.4	34.6	19.5	26.7	33.8
		76	TC	—	59.8	59.8	—	57.8	57.8	—	55.7	55.7	—	53.3	53.3	—	50.9	50.9	—	48.3	48.3	—	45.4	45.4
			SHC	—	24.2	31.6	—	23.8	31.1	—	23.2	30.6	—	22.7	30.0	—	22.0	29.3	—	21.5	28.7	—	20.7	28.0
1600 cfm	EAT (wb)	58	TC	48.4	48.4	54.5	47.2	47.2	53.1	45.8	45.8	51.6	44.4	44.4	49.8	42.7	42.7	47.9	41.0	41.0	45.8	39.0	39.0	43.7
			SHC	42.3	48.4	54.5	41.3	47.2	53.1	40.2	45.8	51.6	38.9	44.4	49.8	37.5	42.7	47.9	36.0	41.0	45.8	34.3	39.0	43.7
		62	TC	48.7	48.7	55.8	47.3	47.3	55.2	45.9	45.9	53.5	44.4	44.4	51.7	42.7	42.7	49.7	41.0	41.0	47.6	39.0	39.0	45.2
			SHC	40.0	47.9	55.8	39.4	47.3	55.2	38.3	45.9	53.5	37.1	44.4	51.7	35.8	42.7	49.7	34.4	41.0	47.6	32.9	39.0	45.2
		67	TC	52.3	52.3	52.3	50.6	50.6	50.6	48.8	48.8	48.8	46.7	46.7	46.7	44.7	44.7	45.9	42.3	42.3	45.1	40.0	40.0	44.2
			SHC	32.0	40.2	48.3	31.5	39.7	47.8	30.9	39.1	47.3	30.3	38.5	46.6	29.7	37.8	45.9	29.0	37.1	45.1	28.2	36.2	44.2
		72	TC	56.8	56.8	56.8	55.0	55.0	55.0	52.9	52.9	52.9	50.7	50.7	50.7	48.4	48.4	48.4	45.8	45.8	45.8	43.1	43.1	43.1
			SHC	23.6	31.8	40.0	23.1	31.3	39.5	22.6	30.8	38.9	22.0	30.1	38.3	21.4	29.5	37.6	20.8	28.9	37.0	20.0	28.1	36.2
		76	TC	—	60.7	60.7	—	58.7	58.7	—	56.5	56.5	—	54.0	54.0	—	51.5	51.5	—	48.8	48.8	—	45.8	45.8
			SHC	—	25.0	33.2	—	24.5	32.8	—	24.0	32.3	—	23.4	31.7	—	22.8	31.0	—	22.1	30.2	—	21.5	29.4

Performance data (cont)

COOLING CAPACITIES — SECOND STAGE, PART LOAD (6 TONS) (cont)

48LC*B SIZE 07				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1800 cfm	EAT (wb)	58	TC	49.9	49.9	56.3	48.7	48.7	54.7	47.2	47.2	53.0	45.6	45.6	51.2	43.9	43.9	49.2	41.9	41.9	47.0	39.9	39.9	44.7
			SHC	43.7	49.9	56.3	42.5	48.7	54.7	41.3	47.2	53.0	40.0	45.6	51.2	38.5	43.9	49.2	36.9	41.9	47.0	35.1	39.9	44.7
		62	TC	50.0	50.0	58.4	48.7	48.7	56.8	47.2	47.2	55.1	45.6	45.6	53.1	43.9	43.9	51.0	42.0	42.0	48.8	40.0	40.0	46.3
			SHC	41.5	50.0	58.4	40.6	48.7	56.8	39.4	47.2	55.1	38.1	45.6	53.1	36.8	43.9	51.0	35.2	42.0	48.8	33.5	40.0	46.3
		67	TC	52.9	52.9	52.9	51.3	51.3	51.3	49.3	49.3	50.4	47.3	47.3	49.7	45.1	45.1	49.0	42.8	42.8	48.2	40.5	40.5	47.1
			SHC	33.4	42.5	51.6	33.0	42.0	51.0	32.4	41.4	50.4	31.8	40.8	49.7	31.1	40.1	49.0	30.3	39.2	48.2	29.4	38.3	47.1
		72	TC	57.5	57.5	57.5	55.7	55.7	55.7	53.5	53.5	53.5	51.3	51.3	51.3	48.8	48.8	48.8	46.2	46.2	46.2	43.5	43.5	43.5
			SHC	24.1	33.2	42.3	23.7	32.8	41.8	23.1	32.2	41.2	22.5	31.6	40.7	21.9	30.9	40.0	21.3	30.2	39.2	20.5	29.4	38.4
		76	TC	—	61.4	61.4	—	59.4	59.4	—	57.0	57.0	—	54.6	54.6	—	52.0	52.0	—	49.1	49.1	—	46.2	46.2
			SHC	—	25.7	34.9	—	25.3	34.4	—	24.7	33.8	—	24.1	33.2	—	23.5	32.5	—	22.8	31.8	—	22.0	31.0
2000 cfm	EAT (wb)	58	TC	51.2	51.2	57.7	49.8	49.8	56.1	48.4	48.4	54.3	46.6	46.6	52.4	44.9	44.9	50.3	42.8	42.8	48.0	40.7	40.7	45.5
			SHC	44.8	51.2	57.7	43.6	49.8	56.1	42.3	48.4	54.3	40.9	46.6	52.4	39.3	44.9	50.3	37.6	42.8	48.0	35.8	40.7	45.5
		62	TC	51.3	51.3	59.9	49.9	49.9	58.2	48.4	48.4	56.4	46.7	46.7	54.4	44.9	44.9	52.2	42.9	42.9	49.8	40.8	40.8	47.2
			SHC	42.6	51.3	59.9	41.5	49.9	58.2	40.4	48.4	56.4	39.0	46.7	54.4	37.5	44.9	52.2	36.0	42.9	49.8	34.2	40.8	47.2
		67	TC	53.6	53.6	54.7	51.9	51.9	54.0	49.9	49.9	53.5	47.9	47.9	52.7	45.6	45.6	51.9	43.3	43.3	50.9	40.9	40.9	49.5
			SHC	34.8	44.8	54.7	34.3	44.2	54.0	33.7	43.6	53.5	33.1	42.9	52.7	32.4	42.1	51.9	31.6	41.2	50.9	30.6	40.1	49.5
		72	TC	58.1	58.1	58.1	56.2	56.2	56.2	54.0	54.0	54.0	51.7	51.7	51.7	49.1	49.1	49.1	46.5	46.5	46.5	43.7	43.7	43.7
			SHC	24.7	34.6	44.6	24.2	34.1	44.1	23.7	33.5	43.5	23.1	33.0	42.8	22.4	32.3	42.1	21.7	31.6	41.4	21.0	30.8	40.6
		76	TC	—	62.1	62.1	—	60.0	60.0	—	57.5	57.5	—	55.0	55.0	—	52.4	52.4	—	49.5	49.5	—	46.5	46.5
			SHC	—	26.4	36.4	—	25.9	35.9	—	25.4	35.3	—	24.8	34.7	—	24.2	34.0	—	23.4	33.2	—	22.7	32.4

LEGEND

— — Do not operate
cfm — Cubic Feet per Minute (supply air)
EAT (db) — Entering Air Temperature (Dry Bulb)
EAT (wb) — Entering Air Temperature (Wet Bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

COOLING CAPACITIES — THIRD STAGE, FULL LOAD (6 TONS)

48LC*B SIZE 07				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1200 cfm	EAT (wb)	58	TC	61.5	61.5	62.7	59.6	59.6	61.5	57.3	57.3	60.3	54.9	54.9	58.9	52.4	52.4	57.4	50.3	50.3	54.4	47.2	47.2	53.1
			SHC	50.0	56.4	62.7	48.8	55.2	61.5	47.6	53.9	60.3	46.2	52.6	58.9	44.9	51.1	57.4	42.6	48.6	54.4	41.1	47.2	53.1
		62	TC	66.2	66.2	66.2	64.1	64.1	64.1	61.6	61.6	61.6	59.0	59.0	59.0	56.2	56.2	56.2	53.1	53.1	53.1	49.9	49.9	49.9
			SHC	45.2	51.6	57.9	44.1	50.4	56.7	42.8	49.1	55.5	41.4	47.8	54.1	40.0	46.4	52.7	38.5	44.9	51.2	36.9	43.3	49.6
		67	TC	72.8	72.8	72.8	70.4	70.4	70.4	67.8	67.8	67.8	64.9	64.9	64.9	61.8	61.8	61.8	58.5	58.5	58.5	54.9	54.9	54.9
			SHC	39.1	45.4	51.9	37.9	44.3	50.7	36.7	43.0	49.4	35.3	41.6	48.1	33.8	40.3	46.6	32.4	38.7	45.1	30.7	37.1	43.5
		72	TC	80.0	80.0	80.0	77.3	77.3	77.3	74.5	74.5	74.5	71.3	71.3	71.3	68.0	68.0	68.0	64.3	64.3	64.3	60.4	60.4	60.4
			SHC	32.7	39.1	45.5	31.5	37.9	44.4	30.2	36.7	43.1	29.0	35.4	41.8	27.5	33.9	40.4	26.0	32.5	38.9	24.5	30.8	37.2
		76	TC	—	86.2	86.2	—	83.3	83.3	—	80.1	80.1	—	76.7	76.7	—	73.1	73.1	—	69.2	69.2	—	64.9	64.9
			SHC	—	33.8	40.3	—	32.7	39.1	—	31.4	37.8	—	30.1	36.6	—	28.7	35.1	—	27.2	33.6	—	25.6	32.1
1350 cfm	EAT (wb)	58	TC	63.9	63.9	67.4	61.7	61.7	66.1	59.4	59.4	64.7	57.9	57.9	61.4	55.1	55.1	59.6	52.0	52.0	58.5	49.3	49.3	55.6
			SHC	53.1	60.3	67.4	51.9	59.0	66.1	50.6	57.6	64.7	48.4	54.9	61.4	46.6	53.1	59.6	45.3	52.0	58.5	43.0	49.3	55.6
		62	TC	68.5	68.5	68.5	66.2	66.2	66.2	63.6	63.6	63.6	60.8	60.8	60.8	57.8	57.8	57.8	54.7	54.7	55.0	51.3	51.3	53.3
			SHC	47.7	54.8	61.9	46.4	53.5	60.7	45.1	52.3	59.4	43.8	50.9	58.0	42.3	49.4	56.6	40.8	47.9	55.0	39.1	46.2	53.3
		67	TC	75.2	75.2	75.2	72.6	72.6	72.6	69.8	69.8	69.8	66.8	66.8	66.8	63.5	63.5	63.5	60.0	60.0	60.0	56.2	56.2	56.2
			SHC	40.8	47.9	55.0	39.5	46.6	53.8	38.2	45.3	52.5	36.8	44.0	51.1	35.3	42.5	49.6	33.8	41.0	48.1	32.2	39.3	46.4
		72	TC	82.6	82.6	82.6	79.7	79.7	79.7	76.6	76.6	76.6	73.2	73.2	73.2	69.7	69.7	69.7	65.8	65.8	65.8	61.7	61.7	61.7
			SHC	33.5	40.8	48.0	32.3	39.6	46.8	31.0	38.2	45.4	29.6	36.9	44.1	28.2	35.4	42.6	26.7	33.8	41.0	25.1	32.3	39.4
		76	TC	—	88.8	88.8	—	85.7	85.7	—	82.4	82.4	—	78.8	78.8	—	74.9	74.9	—	70.8	70.8	—	66.3	66.3
			SHC	—	34.8	42.0	—	33.6	40.9	—	32.4	39.6	—	31.0	38.2	—	29.5	36.8	—	28.0	35.3	—	26.4	33.6
1500 cfm	EAT (wb)	58	TC	64.8	64.8	70.8	62.3	62.3	69.0	59.6	59.6	67.3	57.0	57.0	64.4	54.3	54.3	61.5	51.4	51.4	58.3	48.4	48.4	54.8
			SHC	55.1	62.9	70.8	53.5	61.2	69.0	51.8	59.6	67.3	49.5	57.0	64.4	47.2	54.3	61.5	44.6	51.4	58.3	41.8	48.4	54.8
		62	TC	69.5	69.5	69.5	66.7	66.7	66.7	63.7	63.7	63.7	60.5	60.5	60.5	57.0	57.0	58.1	53.4	53.4	56.2	49.6	49.6	54.1
			SHC	49.1	57.0	64.9	47.6	55.5	63.4	45.9	53.8	61.7	44.2	52.1	60.0	42.3	50.2	58.1	40.5	48.3	56.2	38.4	46.2	54.1
		67	TC	76.5	76.5	76.5	73.4	73.4	73.4	70.1	70.1	70.1	66.6	66.6	66.6	62.9	62.9	62.9	58.9	58.9	58.9	54.6	54.6	54.6
			SHC	41.6	49.5	57.4	40.1	48.0	55.9	38.4	46.3	54.2	36.7	44.6	52.5	34.8	42.7	50.6	33.0	40.9	48.8	30.9	38.8	46.7
		72	TC	84.0	84.0	84.0	80.7	80.7	80.7	77.1	77.1	77.1	73.3	73.3	73.3	69.3	69.3	69.3	64.9	64.9	64.9	60.4	60.4	60.4
			SHC	33.8	41.8	49.8	32.3	40.3	48.3	30.6	38.6	46.6	29.0	36.9	44.9	27.1	35.1	43.0	25.3	33.2	41.1	23.3	31.2	39.1
		76	TC	—	90.6	90.6	—	87.0	87.0	—	83.2	83.2	—	79.1	79.1	—	74.7	74.7	—	70.0	70.0	—	65.1	65.1
			SHC	—	35.4	43.5	—	33.8	41.9	—	32.3	40.3	—	30.5	38.6	—	28.8	36.8	—	26.9	34.9	—	25.0	33.0
1800 cfm	EAT (wb)	58	TC	68.9	68.9	77.8	66.5	66.5	75.1	63.9	63.9	72.2	61.1	61.1	69.1	58.1	58.1	65.8	55.0	55.0	62.2	51.6	51.6	58.4
			SHC	60.1	68.9	77.8	57.9	66.5	75.1	55.6	63.9	72.2	53.1	61.1	69.1	50.5	58.1	65.8	47.7	55.0	62.2	44.7	51.6	58.4
		62	TC	72.6	72.6	72.6	69.6	69.6	70.7	66.4	66.4	68.9	63.0	63.0	67.1	59.5	59.5	65.0	55.7	55.7	63.0	51.8	51.8	60.4
			SHC	53.6	63.0	72.3	52.0	61.3	70.7	50.2	59.6	68.9	48.5	57.7	67.1	46.5	55.8	65.0	44.5	53.7	63.0	42.2	51.3	60.4
		67	TC	79.7	79.7	79.7	76.3	76.3	76.3	72.8	72.8	72.8	69.0	69.0	69.0	65.0	65.0	65.0	60.7	60.7	60.7	56.4	56.4	56.4
			SHC	44.6	53.9	63.4	42.9	52.3	61.7	41.1	50.6	60.0	39.4	48.8	58.1	37.5	46.9	56.3	35.6	44.9	54.3	33.5	42.9	52.3
		72	TC	87.4	87.4	87.4	83.8	83.8	83.8	80.0	80.0	80.0	75.9	75.9	75.9	71.6	71.6	71.6	67.0	67.0	67.0	62.0	62.0	62.0
			SHC	35.2	44.8	54.2	33.6	43.1	52.6	31.9	41.3	50.8	30.1	39.6	49.0	28.3	37.7	47.1	26.4	35.8	45.1	24.4	33.7	43.1
		76	TC	—	93.9	93.9	—	90.0	90.0	—	85.9	85.9	—	81.5	81.5	—	76.9	76.9	—	72.0	72.0	—	66.8	66.8
			SHC	—	37.1	46.8	—	35.5	45.1	—	33.8	43.5	—	32.1	41.7	—	30.2	39.9	—	28.4	37.9	—	26.3	35.8
2100 cfm	EAT (wb)	58	TC	72.8	72.8	82.2	70.3	70.3	79.3	67.5	67.5	76.1	64.4	64.4	72.8	61.2	61.2	69.2	57.8	57.8	65.4	54.1	54.1	61.3
			SHC	63.6	72.8	82.2	61.2	70.3	79.3	58.7	67.5	76.1	56.1	64.4	72.8	53.2	61.2	69.2	50.2	57.8	65.4	46.9	54.1	61.3
		62	TC	75.1	75.1	79.3	72.0	72.0	77.5	68.6	68.6	75.7	65.1	65.1	73.6	61.5	61.5	71.3	57.9	57.9	68.1	54.2	54.2	63.8
			SHC	57.7	68.5	79.3	56.1	66.8	77.5	54.2	64.9	75.7	52.4	63.0	73.6	50.2	60.7	71.3	47.7	57.9	68.1	44.6	54.2	63.8
		67	TC	81.9	81.9	81.9	78.4	78.4	78.4	74.7	74.7	74.7	70.8	70.8	70.8	66.6	66.6	66.6	62.2	62.2	62.2	57.5	57.5	57.5
			SHC	47.2	58.0	68.8	45.5	56.4	67.2	43.8	54.6	65.4	41.9	52.7	63.6	40.0	50.8	61.6	38.0	48.8	59.6	36.0	46.7	57.4
		72	TC	89.7	89.7	89.7	85.9	85.9	85.9	81.9	81.9	81.9	77.6	77.6	77.6	73.1	73.1	73.1	68.3	68.3	68.3	63.3	63.3	63.3
			SHC	36.5	47.3	58.2	34.8	45.6	56.6	33.1	43.9	54.8	31.3	42.1	52.9	29.3	40.2	51.0	27.4	38.2	48.9	25.4	36.1	46.9
		76	TC	—	96.2	96.2	—	92.2	92.2	—	87.8	87.8	—	83.3	83.3	—	78.5	78.5	—	73.3	73.3	—	68.0	68.0
			SHC	—	38.6	49.8	—	37.0	48.1	—	35.2	46.3	—	33.4	44.5	—	31.6	42.5	—	29.5	40.5	—	27.5	38.4
2400 cfm	EAT (wb)	58	TC	76.1	76.1	85.9	73.3	73.3	82.8	70.4	70.4	79.5	67.2	67.2	75.9	63.8	63.8	72.1	60.2	60.2	68.1	56.3	56.3	63.7
			SHC	66.4	76.1	85.9	64.0	73.3	82.8	61.3	70.4	79.5	58.5	67.2	75.9	55.5	63.8	72.1	52.3	60.2	68.1	48.8	56.3	63.7
		62	TC	77.2	77.2	85.7	74.0	74.0	83.8	70.7	70.7	81.6	67.3	67.3	78.9	63.9	63.9	75.0	60.2	60.2	70.8	56.3	56.3	66.2
			SHC	61.5	73.6	85.7	59.8	71.8	83.8	57.8	69.7	81.6	55.6	67.3	78.9	52.7	63.9	75.0	49.6	60.2	70.8	46.3	56.3	66.2
		67	TC	83.7	83.7	83.7	80.0	80.0	80.0	76.2	76.2	76.2	72.2	72.2	72.2	67.9	67.9	67.9	63.4	63.4	64.5	58.6	58.6	62.3
			SHC	49.6	61.8	74.1	48.0	60.2	72.3	46.2	58.4	70.6	44.3	56.5	68.6	42.4	54.5	66.7	40.4	52.5	64.5	38.2	50.3	62.3
		72	TC	91.6	91.6	91.6	87.6	87.6	87.6	83.5	83.5	83.5	79.0	79.0	79.0	74.4	74.4	74.4	69.4	69.4	69.4	64.2	64.2	64.2
			SHC	37.5	49.7	62.0	35.8	48.1	60.4	34.0	46.3	58.5	32.3	44.5	56.6	30.3	42.5	54.6	28.4	40.5	52.6	26.3	38.3	50.4
		76	TC	—	98.1	98.1	—	93.9	93.9	—	89.4	89.4	—	84.6	84.6	—	79.7	79.7	—	74.4	74.4	—	68.8	68.8
			SHC	—	40.0	52.5	—	38.2	50.7	—	36.5	48.9	—	34.7	47.0	—	32.8	45.0	—	30.7	42.9	—	28.7	40.8

Performance data (cont)

COOLING CAPACITIES — THIRD STAGE, FULL LOAD (6 TONS) (cont)

48LC*B SIZE 07				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2700 cfm	EAT (wb)	58	TC	78.9	78.9	89.0	76.0	76.0	85.7	72.8	72.8	82.2	69.5	69.5	78.5	65.9	65.9	74.5	62.1	62.1	70.2	58.0	58.0	65.6
			SHC	68.8	78.9	89.0	66.2	76.0	85.7	63.5	72.8	82.2	60.5	69.5	78.5	57.3	65.9	74.5	53.9	62.1	70.2	50.3	58.0	65.6
		62	TC	79.2	79.2	91.4	76.1	76.1	89.0	72.9	72.9	85.4	69.5	69.5	81.6	65.9	65.9	77.4	62.1	62.1	73.0	58.0	58.0	68.3
			SHC	65.0	78.2	91.4	63.0	76.1	89.0	60.4	72.9	85.4	57.5	69.5	81.6	54.5	65.9	77.4	51.3	62.1	73.0	47.8	58.0	68.3
		67	TC	85.1	85.1	85.1	81.3	81.3	81.3	77.4	77.4	77.4	73.3	73.3	73.6	68.9	68.9	71.5	64.3	64.3	69.3	59.5	59.5	67.0
			SHC	52.0	65.5	79.2	50.3	63.9	77.4	48.5	62.0	75.6	46.6	60.1	73.6	44.6	58.0	71.5	42.5	56.0	69.3	40.4	53.6	67.0
		72	TC	92.9	92.9	92.9	88.9	88.9	88.9	84.6	84.6	84.6	80.0	80.0	80.0	75.3	75.3	75.3	70.3	70.3	70.3	64.9	64.9	64.9
			SHC	38.5	52.1	65.6	36.8	50.3	63.9	35.0	48.6	62.0	33.2	46.6	60.2	31.2	44.7	58.1	29.3	42.6	56.0	27.1	40.5	53.8
		76	TC	—	99.5	99.5	—	95.2	95.2	—	90.6	90.6	—	85.7	85.7	—	80.6	80.6	—	75.2	75.2	—	69.4	69.4
			SHC	—	41.1	55.0	—	39.5	53.1	—	37.6	51.3	—	35.8	49.4	—	33.8	47.4	—	31.8	45.2	—	29.6	42.9
3000 cfm	EAT (wb)	58	TC	81.2	81.2	91.6	78.2	78.2	88.1	74.9	74.9	84.5	71.4	71.4	80.6	67.7	67.7	76.4	63.7	63.7	72.1	59.4	59.4	67.3
			SHC	70.9	81.2	91.6	68.2	78.2	88.1	65.2	74.9	84.5	62.1	71.4	80.6	58.9	67.7	76.4	55.4	63.7	72.1	51.6	59.4	67.3
		62	TC	81.3	81.3	95.2	78.2	78.2	91.7	75.0	75.0	87.8	71.5	71.5	83.8	67.7	67.7	79.5	63.8	63.8	74.9	59.5	59.5	69.9
			SHC	67.5	81.3	95.2	64.8	78.2	91.7	62.1	75.0	87.8	59.1	71.5	83.8	56.0	67.7	79.5	52.6	63.8	74.9	49.0	59.5	69.9
		67	TC	86.3	86.3	86.3	82.5	82.5	82.5	78.5	78.5	80.2	74.2	74.2	78.3	69.8	69.8	76.1	65.1	65.1	73.8	60.3	60.3	71.3
			SHC	54.2	69.1	84.0	52.5	67.4	82.2	50.7	65.4	80.2	48.8	63.5	78.3	46.7	61.4	76.1	44.6	59.2	73.8	42.3	56.7	71.3
		72	TC	94.1	94.1	94.1	90.0	90.0	90.0	85.6	85.6	85.6	80.9	80.9	80.9	76.1	76.1	76.1	70.9	70.9	70.9	65.5	65.5	65.5
			SHC	39.4	54.2	69.1	37.7	52.6	67.4	35.9	50.7	65.4	34.0	48.8	63.5	32.1	46.8	61.4	30.0	44.7	59.3	27.9	42.5	57.0
		76	TC	—	100.6	100.6	—	96.2	96.2	—	91.5	91.5	—	86.6	86.6	—	81.3	81.3	—	75.9	75.9	—	70.0	70.0
			SHC	—	42.3	57.3	—	40.6	55.6	—	38.8	53.6	—	36.9	51.7	—	34.9	49.5	—	32.9	47.4	—	30.6	45.0

LEGEND

— — Do not operate
cfm — Cubic Feet per Minute (supply air)
EAT (db) — Entering Air Temperature (Dry Bulb)
EAT (wb) — Entering Air Temperature (Wet Bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

COOLING CAPACITIES — FIRST STAGE, PART LOAD (7.5 TONS)

48LC*B SIZE 08				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
750 cfm	EAT (wb)	58	TC	32.6	32.6	33.6	31.5	31.5	33.2	30.2	30.2	32.5	28.9	28.9	31.8	27.4	27.4	31.0	26.0	26.0	29.9	25.7	25.7	29.3
			SHC	25.6	29.6	33.6	25.1	29.1	33.2	24.5	28.5	32.5	23.8	27.8	31.8	23.1	27.1	31.0	22.1	26.0	29.9	22.2	25.7	29.3
		62	TC	36.3	36.3	36.3	35.0	35.0	35.0	33.7	33.7	33.7	32.2	32.2	32.2	30.6	30.6	30.6	28.9	28.9	28.9	27.0	27.0	27.2
			SHC	23.3	27.3	31.4	22.7	26.8	30.8	22.1	26.1	30.1	21.5	25.4	29.4	20.8	24.8	28.8	20.0	24.0	28.0	19.2	23.2	27.2
		67	TC	41.2	41.2	41.2	40.0	40.0	40.0	38.4	38.4	38.4	36.8	36.8	36.8	35.0	35.0	35.0	33.1	33.1	33.1	31.0	31.0	31.0
			SHC	20.4	24.4	28.4	19.8	23.8	27.8	19.1	23.1	27.2	18.4	22.4	26.4	17.7	21.7	25.7	17.0	21.0	25.0	16.1	20.2	24.2
		72	TC	46.7	46.7	46.7	45.2	45.2	45.2	43.6	43.6	43.6	41.7	41.7	41.7	39.8	39.8	39.8	37.6	37.6	37.6	35.3	35.3	35.3
			SHC	17.3	21.3	25.3	16.7	20.7	24.7	16.0	20.0	24.1	15.3	19.3	23.4	14.6	18.6	22.6	13.8	17.8	21.8	13.1	17.1	21.1
		76	TC	—	51.4	51.4	—	49.7	49.7	—	48.0	48.0	—	45.9	45.9	—	43.8	43.8	—	41.5	41.5	—	39.0	39.0
			SHC	—	18.7	22.7	—	18.1	22.1	—	17.5	21.5	—	16.8	20.9	—	16.1	20.1	—	15.3	19.3	—	14.5	18.5
1000 cfm	EAT (wb)	58	TC	37.1	37.1	41.0	35.6	35.6	40.8	34.5	34.5	39.4	33.2	33.2	38.0	32.0	32.0	36.5	30.5	30.5	34.8	29.0	29.0	33.1
			SHC	31.0	36.0	41.0	30.5	35.6	40.8	29.5	34.5	39.4	28.5	33.2	38.0	27.4	32.0	36.5	26.1	30.5	34.8	24.9	29.0	33.1
		62	TC	40.4	40.4	40.4	38.9	38.9	38.9	37.2	37.2	37.3	35.5	35.5	36.6	33.5	33.5	35.8	31.6	31.6	34.8	29.4	29.4	33.9
			SHC	28.1	33.4	38.7	27.4	32.8	38.1	26.7	32.0	37.3	25.9	31.2	36.6	25.1	30.4	35.8	24.3	29.5	34.8	23.3	28.6	33.9
		67	TC	45.6	45.6	45.6	44.0	44.0	44.0	42.1	42.1	42.1	40.2	40.2	40.2	38.1	38.1	38.1	35.9	35.9	35.9	33.4	33.4	33.4
			SHC	23.8	29.1	34.4	23.1	28.5	33.8	22.3	27.7	33.1	21.5	26.9	32.3	20.8	26.1	31.5	19.9	25.3	30.6	19.0	24.4	29.7
		72	TC	51.3	51.3	51.3	49.4	49.4	49.4	47.5	47.5	47.5	45.3	45.3	45.3	43.0	43.0	43.0	40.6	40.6	40.6	37.9	37.9	37.9
			SHC	19.3	24.7	30.0	18.6	24.0	29.3	17.9	23.3	28.7	17.2	22.5	27.9	16.4	21.7	27.1	15.5	20.9	26.2	14.6	20.0	25.4
		76	TC	—	56.1	56.1	—	54.1	54.1	—	52.0	52.0	—	49.6	49.6	—	47.2	47.2	—	44.6	44.6	—	41.6	41.6
			SHC	—	21.0	26.3	—	20.4	25.7	—	19.6	25.0	—	18.9	24.3	—	18.0	23.4	—	17.3	22.6	—	16.4	21.7
1250 cfm	EAT (wb)	58	TC	42.0	42.0	47.8	39.2	39.2	44.8	36.3	36.3	41.6	33.2	33.2	38.3	29.9	29.9	34.9	26.6	26.6	31.3	23.2	23.2	27.6
			SHC	36.4	42.0	47.8	33.6	39.2	44.8	30.9	36.3	41.6	28.0	33.2	38.3	25.1	29.9	34.9	21.9	26.6	31.3	18.8	23.2	27.6
		62	TC	44.1	44.1	46.5	40.8	40.8	44.1	37.3	37.3	41.6	33.8	33.8	39.1	30.1	30.1	36.4	26.7	26.7	33.0	23.3	23.3	29.2
			SHC	33.2	39.9	46.5	30.9	37.5	44.1	28.5	35.1	41.6	26.0	32.6	39.1	23.4	29.9	36.4	20.5	26.7	33.0	17.4	23.3	29.2
		67	TC	49.3	49.3	49.3	45.9	45.9	45.9	42.3	42.3	42.3	38.5	38.5	38.5	34.5	34.5	34.5	30.4	30.4	30.4	26.1	26.1	26.1
			SHC	27.6	34.3	41.0	25.3	32.0	38.6	22.9	29.5	36.2	20.4	27.1	33.7	17.9	24.6	31.2	15.3	21.9	28.6	12.8	19.4	26.0
		72	TC	55.1	55.1	55.1	51.5	51.5	51.5	47.7	47.7	47.7	43.7	43.7	43.7	39.5	39.5	39.5	35.2	35.2	35.2	30.6	30.6	30.6
			SHC	21.8	28.6	35.2	19.5	26.2	32.9	17.2	23.8	30.5	14.6	21.4	28.0	12.2	18.8	25.5	9.7	16.3	23.0	7.0	13.7	20.4
		76	TC	—	60.0	60.0	—	56.3	56.3	—	52.3	52.3	—	48.1	48.1	—	43.8	43.8	—	39.2	39.2	—	34.5	34.5
			SHC	—	23.8	30.5	—	21.5	28.2	—	19.1	25.8	—	16.7	23.4	—	14.1	20.9	—	11.6	18.3	—	9.1	15.8
1500 cfm	EAT (wb)	58	TC	45.5	45.5	51.6	42.5	42.5	48.4	39.3	39.3	45.0	36.1	36.1	41.5	32.7	32.7	37.8	29.2	29.2	34.0	25.4	25.4	30.0
			SHC	39.4	45.5	51.6	36.6	42.5	48.4	33.6	39.3	45.0	30.6	36.1	41.5	27.5	32.7	37.8	24.2	29.2	34.0	20.8	25.4	30.0
		62	TC	46.1	46.1	52.7	42.8	42.8	50.0	39.4	39.4	47.0	36.1	36.1	43.4	32.7	32.7	39.7	29.2	29.2	35.8	25.4	25.4	31.7
			SHC	37.1	44.9	52.7	34.5	42.3	50.0	31.8	39.4	47.0	28.9	36.1	43.4	25.7	32.7	39.7	22.6	29.2	35.8	19.3	25.4	31.7
		67	TC	51.3	51.3	51.3	47.7	47.7	47.7	43.9	43.9	43.9	39.9	39.9	39.9	35.8	35.8	36.1	31.5	31.5	33.3	27.1	27.1	30.7
			SHC	30.2	38.1	46.0	27.8	35.7	43.6	25.4	33.2	41.1	22.8	30.7	38.6	20.2	28.1	36.1	17.6	25.5	33.3	14.9	22.8	30.7
		72	TC	57.0	57.0	57.0	53.2	53.2	53.2	49.3	49.3	49.3	45.1	45.1	45.1	40.8	40.8	40.8	36.3	36.3	36.3	31.6	31.6	31.6
			SHC	23.1	31.1	39.0	20.8	28.7	36.7	18.3	26.2	34.2	15.8	23.8	31.7	13.3	21.2	29.2	10.6	18.6	26.5	8.0	16.0	23.9
		76	TC	—	61.9	61.9	—	58.1	58.1	—	53.9	53.9	—	49.6	49.6	—	45.0	45.0	—	40.4	40.4	—	35.5	35.5
			SHC	—	25.4	33.3	—	23.0	31.0	—	20.6	28.6	—	18.0	26.1	—	15.5	23.5	—	13.0	21.0	—	10.3	18.3
1750 cfm	EAT (wb)	58	TC	48.3	48.3	54.6	45.1	45.1	51.3	41.8	41.8	47.8	38.3	38.3	44.1	34.8	34.8	40.2	31.1	31.1	36.2	27.2	27.2	32.0
			SHC	41.9	48.3	54.6	39.0	45.1	51.3	35.9	41.8	47.8	32.7	38.3	44.1	29.3	34.8	40.2	25.9	31.1	36.2	22.3	27.2	32.0
		62	TC	48.4	48.4	56.8	45.1	45.1	53.4	41.8	41.8	49.8	38.4	38.4	46.0	34.8	34.8	42.0	31.1	31.1	37.9	27.2	27.2	33.6
			SHC	39.8	48.4	56.8	37.0	45.1	53.4	33.9	41.8	49.8	30.8	38.4	46.0	27.6	34.8	42.0	24.3	31.1	37.9	20.8	27.2	33.6
		67	TC	52.7	52.7	52.7	48.9	48.9	48.9	45.0	45.0	45.9	41.0	41.0	43.3	36.8	36.8	40.7	32.4	32.4	37.8	27.9	27.9	35.0
			SHC	32.6	41.7	50.9	30.1	39.3	48.4	27.6	36.8	45.9	25.1	34.1	43.3	22.4	31.5	40.7	19.7	28.8	37.8	17.0	26.0	35.0
		72	TC	58.4	58.4	58.4	54.6	54.6	54.6	50.5	50.5	50.5	46.1	46.1	46.1	41.7	41.7	41.7	37.1	37.1	37.1	32.3	32.3	32.3
			SHC	24.2	33.4	42.6	21.8	31.0	40.3	19.3	28.6	37.7	16.8	26.0	35.2	14.2	23.4	32.6	11.6	20.8	29.9	8.9	18.0	27.2
		76	TC	—	63.4	63.4	—	59.4	59.4	—	55.2	55.2	—	50.7	50.7	—	46.0	46.0	—	41.2	41.2	—	36.2	36.2
			SHC	—	26.7	36.0	—	24.3	33.6	—	21.8	31.1	—	19.3	28.6	—	16.8	25.9	—	14.1	23.3	—	11.4	20.7
2000 cfm	EAT (wb)	58	TC	50.5	50.5	57.1	47.3	47.3	53.6	43.9	43.9	50.0	40.3	40.3	46.1	36.5	36.5	42.1	32.7	32.7	37.9	28.6	28.6	33.5
			SHC	44.0	50.5	57.1	40.9	47.3	53.6	37.7	43.9	50.0	34.3	40.3	46.1	30.9	36.5	42.1	27.3	32.7	37.9	23.6	28.6	33.5
		62	TC	50.6	50.6	59.4	47.3	47.3	55.9	43.9	43.9	52.1	40.3	40.3	48.2	36.6	36.6	44.1	32.7	32.7	39.8	28.7	28.7	35.3
			SHC	41.7	50.6	59.4	38.8	47.3	55.9	35.7	43.9	52.1	32.5	40.3	48.2	29.1	36.6	44.1	25.6	32.7	39.8	22	28.7	35.3
		67	TC	53.6	53.6	55.5	49.9	49.9	52.9	45.9	45.9	50.3	41.8	41.8	47.7	37.5	37.5	44.9	33.2	33.2	41.9	28.8	28.8	38.3
			SHC	34.7	45.0	55.5	32.3	42.6	52.9	29.7	40.1	50.3	27.1	37.3	47.7	24.5	34.7	44.9	21.6	31.8	41.9	18.6	28.5	38.3
		72	TC	59.5	59.5	59.5	55.5	55.5	55.5	51.3	51.3	51.3	46.9	46.9	46.9	42.4	42.4	42.4	37.6	37.6	37.6	32.8	32.8	32.8
			SHC	25.3	35.6	46.0	22.8	33.2	43.7	20.3	30.7	41.1	17.7	28.1	38.5	15.1	25.4	35.9	12.4	22.8	33.2	9.8	20.1	30.5
		76	TC	—	64.4	64.4	—	60.5	60.5	—	56.1	56.1	—	51.5	51.5	—	46.7	46.7	—	41.8	41.8	—	36.8	36.8
			SHC	—	28.0	38.4	—	25.5	36.0	—	23.0	33.5	—	20.5	30.9	—	17.8	28.3	—	15.2	25.6	—	12.5	22.9

Performance data (cont)

COOLING CAPACITIES — FIRST STAGE, PART LOAD (7.5 TONS) (cont)

48LC*B SIZE 08				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2250 cfm	EAT (wb)	58	TC	52.5	52.5	59.3	49.0	49.0	55.7	45.5	45.5	51.9	41.8	41.8	47.9	37.9	37.9	43.7	33.9	33.9	39.4	29.7	29.7	34.9
			SHC	45.6	52.5	59.3	42.5	49.0	55.7	39.2	45.5	51.9	35.8	41.8	47.9	32.2	37.9	43.7	28.6	33.9	39.4	24.7	29.7	34.9
		62	TC	52.5	52.5	61.6	49.1	49.1	57.9	45.5	45.5	54.0	41.8	41.8	49.9	38.0	38.0	45.6	34.0	34.0	41.2	29.8	29.8	36.7
			SHC	43.4	52.5	61.6	40.4	49.1	57.9	37.1	45.5	54.0	33.7	41.8	49.9	30.3	38.0	45.6	26.7	34.0	41.2	23.0	29.8	36.7
		67	TC	54.5	54.5	59.8	50.7	50.7	57.2	46.7	46.7	54.6	42.6	42.6	51.7	38.3	38.3	48.7	34.1	34.1	44.6	29.8	29.8	40.1
			SHC	36.8	48.3	59.8	34.3	45.7	57.2	31.7	43.1	54.6	29.0	40.4	51.7	26.2	37.4	48.7	23.0	33.8	44.6	19.7	29.8	40.1
		72	TC	60.3	60.3	60.3	56.3	56.3	56.3	52.0	52.0	52.0	47.6	47.6	47.6	42.9	42.9	42.9	38.1	38.1	38.1	33.2	33.2	33.5
			SHC	26.1	37.7	49.3	23.7	35.3	46.9	21.2	32.8	44.4	18.5	30.1	41.7	15.9	27.5	39.1	13.3	24.8	36.4	10.5	22.0	33.5
		76	TC	—	65.3	65.3	—	61.2	61.2	—	56.7	56.7	—	52.2	52.2	—	47.3	47.3	—	42.3	42.3	—	37.1	37.1
			SHC	—	29.1	40.8	—	26.7	38.3	—	24.2	35.8	—	21.5	33.2	—	18.9	30.5	—	16.3	27.8	—	13.6	25.1
2500 cfm	EAT (wb)	58	TC	54.0	54.0	61.0	50.6	50.6	57.3	46.9	46.9	53.4	43.1	43.1	49.3	39.2	39.2	45.0	35.1	35.1	40.6	30.8	30.8	36.0
			SHC	47.1	54.0	61.0	43.9	50.6	57.3	40.5	46.9	53.4	37.0	43.1	49.3	33.2	39.2	45.0	29.5	35.1	40.6	25.5	30.8	36.0
		62	TC	54.1	54.1	63.4	50.6	50.6	59.7	47.0	47.0	55.7	43.2	43.2	51.4	39.2	39.2	47.1	35.1	35.1	42.5	30.8	30.8	37.7
			SHC	44.8	54.1	63.4	41.6	50.6	59.7	38.3	47.0	55.7	34.9	43.2	51.4	31.4	39.2	47.1	27.7	35.1	42.5	23.9	30.8	37.7
		67	TC	55.3	55.3	63.9	51.5	51.5	61.2	47.5	47.5	58.3	43.5	43.5	54.6	39.4	39.4	50.7	35.1	35.1	46.2	30.8	30.8	41.2
			SHC	38.7	51.3	63.9	36.2	48.7	61.2	33.5	45.9	58.3	30.5	42.5	54.6	27.4	39.0	50.7	24.1	35.1	46.2	20.5	30.8	41.2
		72	TC	60.8	60.8	60.8	56.8	56.8	56.8	52.6	52.6	52.6	48.0	48.0	48.0	43.3	43.3	43.3	38.5	38.5	39.4	33.4	33.4	36.6
			SHC	27.0	39.8	52.6	24.5	37.2	50.0	21.9	34.7	47.5	19.4	32.1	44.9	16.7	29.4	42.1	14.0	26.7	39.4	11.2	23.9	36.6
		76	TC	—	66.0	66.0	—	61.8	61.8	—	57.3	57.3	—	52.7	52.7	—	47.8	47.8	—	42.7	42.7	—	37.4	37.4
			SHC	—	30.2	43.0	—	27.8	40.6	—	25.2	38.0	—	22.6	35.4	—	19.9	32.7	—	17.3	29.9	—	14.4	27.1

LEGEND

— — Do not operate
cfm — Cubic Feet per Minute (supply air)
EAT (db) — Entering Air Temperature (Dry Bulb)
EAT (wb) — Entering Air Temperature (Wet Bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

COOLING CAPACITIES — SECOND STAGE, PART LOAD (7.5 TONS)

48LC*B SIZE 08				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
750 cfm	EAT (wb)	58	TC	42.3	42.3	42.3	41.0	41.0	41.0	39.4	39.4	39.7	37.8	37.8	38.7	36.0	36.0	37.7	34.0	34.0	36.7	31.9	31.9	35.5
			SHC	33.3	37.3	41.3	32.6	36.6	40.6	31.7	35.7	39.7	30.7	34.7	38.7	29.7	33.7	37.7	28.7	32.7	36.7	27.5	31.5	35.5
		62	TC	45.9	45.9	45.9	44.5	44.5	44.5	42.8	42.8	42.8	41.0	41.0	41.0	39.1	39.1	39.1	37.1	37.1	37.1	34.7	34.7	34.7
			SHC	30.5	34.5	38.5	29.6	33.7	37.7	28.8	32.8	36.9	27.8	31.9	35.9	26.8	30.8	34.8	25.7	29.7	33.7	24.6	28.6	32.6
		67	TC	50.9	50.9	50.9	49.2	49.2	49.2	47.5	47.5	47.5	45.5	45.5	45.5	43.4	43.4	43.4	41.1	41.1	41.1	38.6	38.6	38.6
			SHC	26.8	30.8	34.9	26.0	30.0	34.0	25.1	29.2	33.2	24.1	28.2	32.2	23.1	27.1	31.1	22.0	26.0	30.0	20.9	24.9	28.9
		72	TC	56.5	56.5	56.5	54.6	54.6	54.6	52.7	52.7	52.7	50.5	50.5	50.5	48.2	48.2	48.2	45.6	45.6	45.6	42.9	42.9	42.9
			SHC	23.1	27.1	31.1	22.2	26.2	30.2	21.3	25.3	29.3	20.3	24.4	28.4	19.3	23.3	27.3	18.2	22.2	26.2	17.1	21.1	25.1
		76	TC	—	61.3	61.3	—	59.3	59.3	—	57.1	57.1	—	54.8	54.8	—	52.4	52.4	—	49.6	49.6	—	46.7	46.7
			SHC	—	24.0	28.0	—	23.1	27.1	—	22.1	26.2	—	21.2	25.3	—	20.2	24.2	—	19.1	23.1	—	17.9	21.9
1000 cfm	EAT (wb)	58	TC	46.9	46.9	49.8	45.2	45.2	48.8	43.4	43.4	47.9	42.1	42.1	45.5	39.8	39.8	44.9	37.9	37.9	42.9	36.0	36.0	40.6
			SHC	39.1	44.5	49.8	38.1	43.5	48.8	37.1	42.5	47.9	35.5	40.6	45.5	34.6	39.8	44.9	33.1	37.9	42.9	31.3	36.0	40.6
		62	TC	50.8	50.8	50.8	49.0	49.0	49.0	47.0	47.0	47.0	44.9	44.9	44.9	42.6	42.6	42.6	40.2	40.2	40.6	37.5	37.5	39.3
			SHC	35.2	40.5	45.8	34.2	39.6	44.9	33.2	38.6	44.0	32.2	37.5	42.9	31.0	36.4	41.7	29.8	35.2	40.6	28.6	33.9	39.3
		67	TC	56.3	56.3	56.3	54.2	54.2	54.2	52.1	52.1	52.1	49.7	49.7	49.7	47.2	47.2	47.2	44.6	44.6	44.6	41.6	41.6	41.6
			SHC	30.1	35.5	40.9	29.2	34.5	39.9	28.2	33.5	38.9	27.1	32.5	37.8	25.9	31.3	36.7	24.8	30.1	35.5	23.6	29	34.3
		72	TC	62.2	62.2	62.2	60.0	60.0	60.0	57.5	57.5	57.5	55.0	55.0	55.0	52.3	52.3	52.3	49.3	49.3	49.3	46.1	46.1	46.1
			SHC	25.0	30.3	35.7	24.0	29.3	34.7	22.9	28.3	33.6	21.9	27.3	32.7	20.8	26.1	31.5	19.6	25.0	30.3	18.3	23.7	29.1
		76	TC	—	67.4	67.4	—	64.9	64.9	—	62.3	62.3	—	59.6	59.6	—	56.6	56.6	—	53.4	53.4	—	50.0	50.0
			SHC	—	26.0	31.4	—	25.1	30.4	—	24.1	29.4	—	23.0	28.4	—	21.9	27.3	—	20.8	26.1	—	19.5	24.9
1250 cfm	EAT (wb)	58	TC	47.7	47.7	54.1	44.8	44.8	51.1	41.8	41.8	47.9	38.7	38.7	44.6	35.5	35.5	41.1	32.2	32.2	37.4	28.6	28.6	33.6
			SHC	41.1	47.7	54.1	38.5	44.8	51.1	35.7	41.8	47.9	32.9	38.7	44.6	29.9	35.5	41.1	26.8	32.2	37.4	23.6	28.6	33.6
		62	TC	51.9	51.9	51.9	48.4	48.4	48.4	44.8	44.8	45.5	41.0	41.0	43.0	37.1	37.1	40.5	33.1	33.1	37.8	28.9	28.9	35.1
			SHC	37.1	43.7	50.4	34.6	41.2	48.0	32.2	38.8	45.5	29.6	36.4	43.0	27.1	33.7	40.5	24.5	31.1	37.8	21.7	28.5	35.1
		67	TC	58.3	58.3	58.3	54.6	54.6	54.6	50.7	50.7	50.7	46.7	46.7	46.7	42.6	42.6	42.6	38.2	38.2	38.2	33.7	33.7	33.7
			SHC	31.4	38.1	44.8	29.0	35.7	42.4	26.5	33.2	39.9	24.0	30.7	37.4	21.5	28.2	34.8	18.8	25.5	32.3	16.2	22.8	29.5
		72	TC	65.2	65.2	65.2	61.3	61.3	61.3	57.2	57.2	57.2	52.9	52.9	52.9	48.6	48.6	48.6	44.0	44.0	44.0	39.1	39.1	39.1
			SHC	25.6	32.3	39.0	23.2	29.9	36.6	20.8	27.4	34.1	18.2	25.0	31.6	15.7	22.4	29.1	13.1	19.8	26.5	10.4	17.2	23.8
		76	TC	—	71.3	71.3	—	67.1	67.1	—	62.8	62.8	—	58.3	58.3	—	53.7	53.7	—	48.8	48.8	—	43.8	43.8
			SHC	—	27.6	34.3	—	25.2	31.9	—	22.7	29.4	—	20.2	26.9	—	17.6	24.4	—	15.1	21.8	—	12.5	19.1
1500 cfm	EAT (wb)	58	TC	52.1	52.1	59.0	48.9	48.9	55.8	45.7	45.7	52.3	42.4	42.4	48.7	39.0	39.0	44.9	35.3	35.3	41.0	31.5	31.5	37.0
			SHC	45.0	52.1	59.0	42.2	48.9	55.8	39.2	45.7	52.3	36.2	42.4	48.7	33.0	39.0	44.9	29.6	35.3	41.0	26.1	31.5	37.0
		62	TC	54.6	54.6	57.2	50.9	50.9	54.7	47.1	47.1	52.2	43.2	43.2	49.5	39.2	39.2	46.8	35.4	35.4	43.0	31.6	31.6	38.8
			SHC	41.1	49.2	57.2	38.7	46.7	54.7	36.2	44.2	52.2	33.6	41.5	49.5	30.9	38.8	46.8	27.8	35.4	43.0	24.4	31.6	38.8
		67	TC	61.1	61.1	61.1	57.1	57.1	57.1	53.1	53.1	53.1	48.8	48.8	48.8	44.5	44.5	44.5	40.0	40.0	40.0	35.2	35.2	35.2
			SHC	34.2	42.2	50.3	31.8	39.8	47.8	29.3	37.2	45.2	26.6	34.7	42.7	24.0	32.1	40.1	21.4	29.3	37.3	18.6	26.6	34.6
		72	TC	68.3	68.3	68.3	64.1	64.1	64.1	59.7	59.7	59.7	55.2	55.2	55.2	50.5	50.5	50.5	45.7	45.7	45.7	40.7	40.7	40.7
			SHC	27.1	35.2	43.2	24.7	32.7	40.8	22.1	30.1	38.2	19.5	27.6	35.6	17.0	25.0	33.1	14.2	22.3	30.3	11.6	19.6	27.7
		76	TC	—	74.3	74.3	—	69.9	69.9	—	65.3	65.3	—	60.6	60.6	—	55.8	55.8	—	50.7	50.7	—	45.3	45.3
			SHC	—	29.3	37.4	—	26.9	34.9	—	24.4	32.4	—	21.8	29.8	—	19.2	27.3	—	16.6	24.6	—	13.8	21.9
1750 cfm	EAT (wb)	58	TC	55.7	55.7	63.1	52.4	52.4	59.6	48.9	48.9	55.9	45.4	45.4	52.1	41.7	41.7	48.1	37.9	37.9	43.9	33.9	33.9	39.5
			SHC	48.3	55.7	63.1	45.2	52.4	59.6	42.1	48.9	55.9	38.8	45.4	52.1	35.5	41.7	48.1	32.0	37.9	43.9	28.3	33.9	39.5
		62	TC	56.7	56.7	63.7	52.9	52.9	61.0	49.1	49.1	58.2	45.5	45.5	54.3	41.8	41.8	50.2	38.0	38.0	46.0	33.9	33.9	41.5
			SHC	45.1	54.4	63.7	42.5	51.8	61.0	39.9	49.0	58.2	36.7	45.5	54.3	33.4	41.8	50.2	30.0	38.0	46.0	26.4	33.9	41.5
		67	TC	63.2	63.2	63.2	59.1	59.1	59.1	54.8	54.8	54.8	50.4	50.4	50.4	45.9	45.9	45.9	41.1	41.1	42.3	36.3	36.3	39.5
			SHC	36.9	46.2	55.5	34.3	43.7	52.9	31.7	41.0	50.4	29.1	38.4	47.8	26.4	35.8	45.0	23.7	33.1	42.3	20.9	30.2	39.5
		72	TC	70.4	70.4	70.4	66.0	66.0	66.0	61.5	61.5	61.5	56.8	56.8	56.8	52.0	52.0	52.0	47.0	47.0	47.0	41.7	41.7	41.7
			SHC	28.4	37.8	47.2	25.9	35.3	44.7	23.3	32.7	42.0	20.7	30.0	39.5	18.0	27.4	36.8	15.3	24.7	34.0	12.6	21.9	31.3
		76	TC	—	76.5	76.5	—	72.0	72.0	—	67.3	67.3	—	62.3	62.3	—	57.2	57.2	—	52.0	52.0	—	46.5	46.5
			SHC	—	30.9	40.3	—	28.4	37.8	—	25.8	35.2	—	23.2	32.7	—	20.6	29.9	—	17.9	27.3	—	15.1	24.6
2000 cfm	EAT (wb)	58	TC	58.7	58.7	66.4	55.3	55.3	62.7	51.7	51.7	58.9	48.0	48.0	54.8	44.1	44.1	50.6	40.1	40.1	46.3	35.9	35.9	41.7
			SHC	51.0	58.7	66.4	47.8	55.3	62.7	44.5	51.7	58.9	41.0	48.0	54.8	37.5	44.1	50.6	33.8	40.1	46.3	30.0	35.9	41.7
		62	TC	58.8	58.8	69.1	55.4	55.4	65.3	51.8	51.8	61.3	48.1	48.1	57.2	44.2	44.2	52.9	40.2	40.2	48.5	35.9	35.9	43.7
			SHC	48.5	58.8	69.1	45.4	55.4	65.3	42.2	51.8	61.3	38.8	48.1	57.2	35.4	44.2	52.9	31.8	40.2	48.5	28.1	35.9	43.7
		67	TC	64.7	64.7	64.7	60.5	60.5	60.5	56.2	56.2	56.2	51.6	51.6	52.7	47.0	47.0	49.9	42.1	42.1	47.1	37.1	37.1	44.2
			SHC	39.3	49.9	60.5	36.7	47.3	57.9	34.1	44.7	55.3	31.4	42.0	52.7	28.7	39.3	49.9	25.9	36.5	47.1	23.1	33.6	44.2
		72	TC	72.0	72.0	72.0	67.5	67.5	67.5	62.8	62.8	62.8	58.0	58.0	58.0	53.0	53.0	53.0	47.9	47.9	47.9	42.5	42.5	42.5
			SHC	29.5	40.3	50.9	27.0	37.6	48.4	24.4	35.1	45.7	21.7	32.4	43.1	19.0	29.7	40.4	16.3	27.0	37.6	13.5	24.2	34.8
		76	TC	—	78.2	78.2	—	73.5	73.5	—	68.6	68.6	—	63.6	63.6	—	58.4	58.4	—	52.9	52.9	—	47.3	47.3
			SHC	—	32.4	43.1	—	29.8	40.6	—	27.2	37.9	—	24.6	35.3	—	21.9	32.7	—	19.2	29.8	—	16.4	27.1

Performance data (cont)

COOLING CAPACITIES — SECOND STAGE, PART LOAD (7.5 TONS) (cont)

48LC*B SIZE 08				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2250 cfm	EAT (wb)	58	TC	61.3	61.3	69.3	57.7	57.7	65.4	53.9	53.9	61.3	50.1	50.1	57.1	46.0	46.0	52.8	41.8	41.8	48.3	37.4	37.4	43.5
			SHC	53.3	61.3	69.3	49.9	57.7	65.4	46.5	53.9	61.3	43.0	50.1	57.1	39.3	46.0	52.8	35.5	41.8	48.3	31.5	37.4	43.5
		62	TC	61.3	61.3	72.1	57.7	57.7	68.1	54.0	54.0	64.0	50.1	50.1	59.7	46.1	46.1	55.2	41.9	41.9	50.5	37.5	37.5	45.5
			SHC	50.7	61.3	72.1	47.5	57.7	68.1	44.1	54.0	64.0	40.7	50.1	59.7	37.1	46.1	55.2	33.3	41.9	50.5	29.4	37.5	45.5
		67	TC	66.0	66.0	66.0	61.6	61.6	62.8	57.2	57.2	60.1	52.6	52.6	57.3	47.9	47.9	54.6	43.0	43.0	51.7	37.9	37.9	48.6
			SHC	41.6	53.5	65.4	39.0	50.9	62.8	36.4	48.3	60.1	33.6	45.5	57.3	30.9	42.7	54.6	28.1	39.9	51.7	25.2	36.9	48.6
		72	TC	73.2	73.2	73.2	68.6	68.6	68.6	63.9	63.9	63.9	59.0	59.0	59.0	53.9	53.9	53.9	48.7	48.7	48.7	43.1	43.1	43.1
			SHC	30.6	42.6	54.5	28.0	40.0	52.0	25.4	37.3	49.3	22.7	34.6	46.6	20.0	31.9	43.9	17.3	29.2	41.0	14.4	26.3	38.2
		76	TC	—	79.6	79.6	—	74.8	74.8	—	69.7	69.7	—	64.5	64.5	—	59.2	59.2	—	53.7	53.7	—	48.0	48.0
			SHC	—	33.7	45.7	—	31.1	43.2	—	28.5	40.5	—	25.8	37.8	—	23.1	35.1	—	20.4	32.3	—	17.6	29.4
2500 cfm	EAT (wb)	58	TC	63.5	63.5	71.8	59.8	59.8	67.7	55.9	55.9	63.6	51.9	51.9	59.2	47.7	47.7	54.7	43.4	43.4	50.0	38.8	38.8	45.0
			SHC	55.3	63.5	71.8	51.8	59.8	67.7	48.3	55.9	63.6	44.6	51.9	59.2	40.8	47.7	54.7	36.9	43.4	50.0	32.7	38.8	45.0
		62	TC	63.6	63.6	74.6	59.9	59.9	70.5	56.0	56.0	66.2	52.0	52.0	61.7	47.8	47.8	57.0	43.5	43.5	52.3	38.9	38.9	47.2
			SHC	52.6	63.6	74.6	49.2	59.9	70.5	45.7	56.0	66.2	42.2	52.0	61.7	38.5	47.8	57.0	34.7	43.5	52.3	30.6	38.9	47.2
		67	TC	67.1	67.1	70.1	62.6	62.6	67.5	58.1	58.1	64.7	53.4	53.4	61.9	48.7	48.7	58.9	44.0	44.0	55.2	39.1	39.1	50.9
			SHC	43.8	56.9	70.1	41.1	54.3	67.5	38.5	51.6	64.7	35.8	48.8	61.9	33.0	45.9	58.9	29.8	42.5	55.2	26.4	38.7	50.9
		72	TC	74.2	74.2	74.2	69.5	69.5	69.5	64.7	64.7	64.7	59.7	59.7	59.7	54.5	54.5	54.5	49.1	49.1	49.1	43.6	43.6	43.6
			SHC	31.6	44.9	58.0	29.0	42.2	55.4	26.3	39.5	52.7	23.6	36.9	50.0	20.9	34.0	47.3	18.0	31.3	44.5	15.2	28.4	41.5
		76	TC	—	80.6	80.6	—	75.8	75.8	—	70.6	70.6	—	65.3	65.3	—	60.0	60.0	—	54.3	54.3	—	48.5	48.5
			SHC	—	34.9	48.3	—	32.4	45.6	—	29.6	42.9	—	27.0	40.3	—	24.2	37.4	—	21.5	34.6	—	18.6	31.8

LEGEND

— — Do not operate
cfm — Cubic Feet per Minute (supply air)
EAT (db) — Entering Air Temperature (Dry Bulb)
EAT (wb) — Entering Air Temperature (Wet Bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

COOLING CAPACITIES — THIRD STAGE, FULL LOAD (7.5 TONS)

48LC*B SIZE 08				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1500 cfm	EAT (wb)	58	TC	80.5	80.5	80.8	77.9	77.9	79.4	75.0	75.0	77.6	71.8	71.8	75.9	68.3	68.3	74.0	64.6	64.6	72.0	61.1	61.1	68.9
			SHC	64.8	72.8	80.8	63.3	71.3	79.4	61.6	69.6	77.6	59.8	67.9	75.9	57.9	65.9	74.0	55.9	64.0	72.0	53.4	61.1	68.9
		62	TC	87.2	87.2	87.2	84.2	84.2	84.2	81.0	81.0	81.0	77.6	77.6	77.6	73.9	73.9	73.9	69.9	69.9	69.9	65.6	65.6	65.6
			SHC	58.9	67.0	75.0	57.3	65.4	73.4	55.7	63.7	71.8	53.8	61.9	69.9	52.0	60.0	68.1	49.9	58.0	66.0	47.9	55.9	63.9
		67	TC	96.1	96.1	96.1	92.9	92.9	92.9	89.4	89.4	89.4	85.6	85.6	85.6	81.6	81.6	81.6	77.2	77.2	77.2	72.4	72.4	72.4
			SHC	51.4	59.4	67.5	49.8	57.8	65.9	48.1	56.2	64.2	46.2	54.3	62.3	44.4	52.4	60.5	42.3	50.4	58.4	40.2	48.3	56.3
		72	TC	106.1	106.1	106.1	102.5	102.5	102.5	98.7	98.7	98.7	94.5	94.5	94.5	90.0	90.0	90.0	85.2	85.2	85.2	80.0	80.0	80.0
			SHC	43.6	51.7	59.7	42.0	50.0	58.1	40.3	48.3	56.4	38.4	46.5	54.5	36.6	44.6	52.7	34.5	42.5	50.6	32.4	40.5	48.5
		76	TC	—	114.7	114.7	—	110.8	110.8	—	106.6	106.6	—	102.1	102.1	—	97.3	97.3	—	92.1	92.1	—	86.6	86.6
			SHC	—	45.2	53.2	—	43.6	51.7	—	41.8	49.9	—	40.1	48.1	—	38.1	46.2	—	36.2	44.2	—	34.0	42.1
1750 cfm	EAT (wb)	58	TC	84.0	84.0	87.5	81.1	81.1	85.8	78.0	78.0	84.0	74.6	74.6	82.2	72.1	72.1	78.0	67.9	67.9	76.4	64.4	64.4	72.6
			SHC	69.3	78.4	87.5	67.7	76.7	85.8	65.9	75.0	84.0	64.1	73.1	82.2	61.0	69.5	78.0	59.3	67.9	76.4	56.3	64.4	72.6
		62	TC	90.8	90.8	90.8	87.6	87.6	87.6	84.1	84.1	84.1	80.4	80.4	80.4	76.4	76.4	76.4	72.2	72.2	72.2	67.7	67.7	69.1
			SHC	62.5	71.6	80.7	60.8	70.0	79.1	59.1	68.2	77.3	57.2	66.3	75.4	55.3	64.4	73.4	53.1	62.3	71.4	51.0	60.1	69.1
		67	TC	100.0	100.0	100.0	96.5	96.5	96.5	92.7	92.7	92.7	88.7	88.7	88.7	84.3	84.3	84.3	79.7	79.7	79.7	74.7	74.7	74.7
			SHC	53.8	63.0	72.1	52.2	61.3	70.4	50.4	59.5	68.6	48.6	57.6	66.8	46.5	55.7	64.7	44.5	53.6	62.7	42.3	51.4	60.5
		72	TC	110.3	110.3	110.3	106.4	106.4	106.4	102.2	102.2	102.2	97.7	97.7	97.7	92.9	92.9	92.9	87.8	87.8	87.8	82.4	82.4	82.4
			SHC	44.9	54.1	63.2	43.3	52.4	61.5	41.4	50.6	59.7	39.6	48.8	57.8	37.6	46.7	55.9	35.6	44.7	53.8	33.3	42.5	51.6
		76	TC	—	119.0	119.0	—	114.9	114.9	—	110.4	110.4	—	105.5	105.5	—	100.3	100.3	—	94.8	94.8	—	88.9	88.9
			SHC	—	46.7	55.9	—	45.0	54.2	—	43.3	52.4	—	41.4	50.5	—	39.4	48.6	—	37.3	46.5	—	35.2	44.3
1900 cfm	EAT (wb)	58	TC	81.6	81.6	88.4	76.5	76.5	84.7	71.3	71.3	80.9	66.3	66.3	76.1	61.3	61.3	70.8	56.2	56.2	65.2	50.8	50.8	59.3
			SHC	68.2	78.3	88.4	64.4	74.6	84.7	60.7	70.8	80.9	56.5	66.3	76.1	52.0	61.3	70.8	47.2	56.2	65.2	42.2	50.8	59.3
		62	TC	89.2	89.2	89.2	83.9	83.9	83.9	78.3	78.3	78.3	72.4	72.4	72.4	66.3	66.3	66.4	59.9	59.9	62.3	53.2	53.2	58.2
			SHC	61.3	71.5	81.6	57.6	67.8	78.0	53.9	64.1	74.2	50.0	60.2	70.3	46.1	56.3	66.4	42.0	52.2	62.3	37.9	48.1	58.2
		67	TC	99.8	99.8	99.8	94.1	94.1	94.1	88.1	88.1	88.1	81.9	81.9	81.9	75.4	75.4	75.4	68.5	68.5	68.5	61.3	61.3	61.3
			SHC	52.7	62.9	73.0	48.9	59.2	69.3	45.2	55.4	65.5	41.3	51.5	61.7	37.3	47.6	57.7	33.3	43.5	53.7	29.3	39.4	49.5
		72	TC	111.3	111.3	111.3	105.2	105.2	105.2	98.9	98.9	98.9	92.2	92.2	92.2	85.2	85.2	85.2	77.9	77.9	77.9	70.3	70.3	70.3
			SHC	43.8	53.9	64.2	40.1	50.3	60.5	36.3	46.5	56.6	32.5	42.6	52.8	28.5	38.7	48.8	24.5	34.6	44.9	20.4	30.5	40.8
		76	TC	—	121.2	121.2	—	114.8	114.8	—	108.0	108.0	—	100.9	100.9	—	93.6	93.6	—	85.8	85.8	—	77.7	77.7
			SHC	—	46.7	56.8	—	43.0	53.1	—	39.2	49.3	—	35.3	45.5	—	31.4	41.5	—	27.4	37.5	—	23.2	33.4
2250 cfm	EAT (wb)	58	TC	87.0	87.0	98.7	82.4	82.4	93.7	77.4	77.4	88.3	72.3	72.3	82.9	67.0	67.0	77.1	61.4	61.4	71.0	55.6	55.6	64.6
			SHC	75.4	87.0	98.7	71.1	82.4	93.7	66.5	77.4	88.3	61.8	72.3	82.9	56.9	67.0	77.1	51.9	61.4	71.0	46.5	55.6	64.6
		62	TC	94.0	94.0	94.0	88.2	88.2	88.2	82.3	82.3	83.8	76.1	76.1	79.8	69.6	69.6	75.7	63.0	63.0	71.5	56.1	56.1	67.1
			SHC	67.5	79.5	91.5	63.7	75.7	87.7	59.8	71.8	83.8	55.8	67.8	79.8	51.7	63.7	75.7	47.6	59.5	71.5	43.2	55.2	67.1
		67	TC	104.7	104.7	104.7	98.7	98.7	98.7	92.3	92.3	92.3	85.7	85.7	85.7	78.8	78.8	78.8	71.5	71.5	71.5	64.0	64.0	64.0
			SHC	56.8	68.9	80.9	53.0	65.1	77.1	49.2	61.2	73.2	45.2	57.2	69.2	41.1	53.1	65.1	37.0	49.0	61.0	32.8	44.8	56.7
		72	TC	116.5	116.5	116.5	110.0	110.0	110.0	103.3	103.3	103.3	96.1	96.1	96.1	88.7	88.7	88.7	81.0	81.0	81.0	72.9	72.9	72.9
			SHC	46.1	58.1	70.2	42.3	54.3	66.4	38.4	50.5	62.5	34.4	46.5	58.6	30.4	42.4	54.5	26.2	38.3	50.4	22.0	34.0	46.1
		76	TC	—	126.6	126.6	—	119.6	119.6	—	112.4	112.4	—	104.9	104.9	—	97.1	97.1	—	89.0	89.0	—	80.4	80.4
			SHC	—	49.2	61.3	—	45.4	57.5	—	41.6	53.6	—	37.6	49.7	—	33.6	45.6	—	29.4	41.5	—	25.3	37.3
2650 cfm	EAT (wb)	58	TC	93.8	93.8	106.2	88.7	88.7	100.7	83.5	83.5	95.1	78.0	78.0	89.1	72.2	72.2	83.0	66.3	66.3	76.4	60.1	60.1	69.6
			SHC	81.3	93.8	106.2	76.7	88.7	100.7	71.9	83.5	95.1	66.9	78.0	89.1	61.6	72.2	83.0	56.2	66.3	76.4	50.5	60.1	69.6
		62	TC	98.2	98.2	102.0	92.1	92.1	98.1	85.9	85.9	94.1	79.5	79.5	89.9	72.8	72.8	85.6	66.4	66.4	80.0	60.2	60.2	72.9
			SHC	73.9	87.9	102.0	70.0	84.0	98.1	66.0	80.0	94.1	61.9	76.0	89.9	57.7	71.7	85.6	52.8	66.4	80.0	47.4	60.2	72.9
		67	TC	109.0	109.0	109.0	102.6	102.6	102.6	95.8	95.8	95.8	88.8	88.8	88.8	81.6	81.6	81.6	74.0	74.0	74.0	66.2	66.2	66.2
			SHC	61.2	75.4	89.4	57.3	71.5	85.5	53.3	67.5	81.6	49.2	63.4	77.5	45.1	59.2	73.3	40.9	55.0	69.0	36.6	50.6	64.6
		72	TC	120.9	120.9	120.9	114.0	114.0	114.0	106.9	106.9	106.9	99.4	99.4	99.4	91.7	91.7	91.7	83.6	83.6	83.6	75.1	75.1	75.1
			SHC	48.3	62.5	76.6	44.4	58.6	72.7	40.5	54.6	68.8	36.4	50.5	64.7	32.3	46.4	60.5	28.0	42.2	56.4	23.7	37.8	52.0
		76	TC	—	130.9	130.9	—	123.6	123.6	—	116.1	116.1	—	108.2	108.2	—	100.0	100.0	—	91.6	91.6	—	82.7	82.7
			SHC	—	51.9	66.1	—	48.0	62.2	—	44.1	58.2	—	40.0	54.2	—	35.9	50.1	—	31.7	45.9	—	27.4	41.6
3000 cfm	EAT (wb)	58	TC	98.7	98.7	111.7	93.4	93.4	106.0	87.9	87.9	100.0	82.1	82.1	93.8	76.1	76.1	87.3	69.8	69.8	80.3	63.3	63.3	73.2
			SHC	85.7	98.7	111.7	80.8	93.4	106.0	75.8	87.9	100.0	70.5	82.1	93.8	65.0	76.1	87.3	59.3	69.8	80.3	53.3	63.3	73.2
		62	TC	101.1	101.1	110.9	95.0	95.0	106.9	88.6	88.6	102.6	82.3	82.3	97.7	76.2	76.2	91.1	70.0	70.0	84.0	63.4	63.4	76.6
			SHC	79.3	95.1	110.9	75.3	91.1	106.9	71.2	86.9	102.6	66.7	82.2	97.7	61.4	76.2	91.1	55.9	70.0	84.0	50.1	63.4	76.6
		67	TC	111.7	111.7	111.7	105.1	105.1	105.1	98.2	98.2	98.2	91.0	91.0	91.0	83.5	83.5	83.5	75.8	75.8	75.9	67.7	67.7	71.4
			SHC	64.7	80.6	96.5	60.7	76.7	92.6	56.7	72.6	88.5	52.7	68.5	84.4	48.4	64.3	80.1	44.1	60.0	75.9	39.7	55.5	71.4
		72	TC	123.7	123.7	123.7	116.6	116.6	116.6	109.2	109.2	109.2	101.6	101.6	101.6	93.6	93.6	93.6	85.2	85.2	85.2	76.5	76.5	76.5
			SHC	50.0	66.0	82.0	46.0	62.0	78.0	42.0	58.0	74.0	37.9	53.9	69.8	33.7	49.6	65.6	29.4	45.3	61.3	25.1	41.0	56.9
		76	TC	—	133.8	133.8	—	126.4	126.4	—	118.5	118.5	—	110.4	110.4	—	102.0	102.0	—	93.2	93.2	—	84.0	84.0
			SHC	—	53.9	70.0	—	50.0	66.1	—	45.9	62.0	—	41.9	58.0	—	37.7	53.7	—	33.4	49.4	—	29.1	45.0

Performance data (cont)

COOLING CAPACITIES — THIRD STAGE, FULL LOAD (7.5 TONS) (cont)

48LC*B SIZE 08				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
3400 cfm	EAT (wb)	58	TC	103.5	103.5	117.1	98.0	98.0	111.1	92.2	92.2	104.8	86.2	86.2	98.2	79.9	79.9	91.4	73.3	73.3	84.1	66.4	66.4	76.6
			SHC	90.0	103.5	117.1	84.9	98.0	111.1	79.7	92.2	104.8	74.1	86.2	98.2	68.3	79.9	91.4	62.4	73.3	84.1	56.1	66.4	76.6
		62	TC	104.1	104.1	120.3	98.2	98.2	115.6	92.3	92.3	109.2	86.3	86.3	102.4	80.0	80.0	95.4	73.4	73.4	87.9	66.5	66.5	80.1
			SHC	84.9	102.7	120.3	80.7	98.2	115.6	75.6	92.3	109.2	70.2	86.3	102.4	64.5	80.0	95.4	58.8	73.4	87.9	52.7	66.5	80.1
		67	TC	114.3	114.3	114.3	107.4	107.4	107.4	100.3	100.3	100.3	92.9	92.9	92.9	85.2	85.2	87.8	77.3	77.3	83.4	69.1	69.1	78.7
			SHC	68.5	86.5	104.4	64.5	82.5	100.4	60.5	78.4	96.2	56.3	74.2	92.0	52.0	69.8	87.8	47.6	65.4	83.4	43.1	60.9	78.7
		72	TC	126.3	126.3	126.3	119.0	119.0	119.0	111.3	111.3	111.3	103.4	103.4	103.4	95.3	95.3	95.3	86.7	86.7	86.7	77.8	77.8	77.8
			SHC	51.7	69.7	87.8	47.8	65.7	83.8	43.7	61.6	79.7	39.5	57.5	75.5	35.3	53.2	71.2	30.9	48.8	66.8	26.5	44.5	62.3
		76	TC	—	136.4	136.4	—	128.7	128.7	—	120.6	120.6	—	112.3	112.3	—	103.6	103.6	—	94.7	94.7	—	85.2	85.2
			SHC	—	56.1	74.2	—	52.1	70.2	—	48.0	66.1	—	43.9	61.9	—	39.6	57.6	—	35.3	53.2	—	30.8	48.7
3750 cfm	EAT (wb)	58	TC	107.3	107.3	121.2	101.5	101.5	115.0	95.5	95.5	108.4	89.2	89.2	101.6	82.7	82.7	94.5	75.9	75.9	87.0	68.6	68.6	79.2
			SHC	93.3	107.3	121.2	87.9	101.5	115.0	82.5	95.5	108.4	76.7	89.2	101.6	70.8	82.7	94.5	64.6	75.9	87.0	58.1	68.6	79.2
		62	TC	107.3	107.3	126.1	101.6	101.6	119.5	95.6	95.6	112.9	89.3	89.3	105.9	82.8	82.8	98.6	76.0	76.0	90.9	68.7	68.7	82.9
			SHC	88.7	107.3	126.1	83.6	101.6	119.5	78.3	95.6	112.9	72.7	89.3	105.9	67.0	82.8	98.6	60.9	76.0	90.9	54.7	68.7	82.9
		67	TC	116.1	116.1	116.1	109.2	109.2	109.2	101.9	101.9	102.9	94.4	94.4	98.6	86.6	86.6	94.2	78.5	78.5	89.6	70.2	70.2	84.9
			SHC	71.7	91.4	111.1	67.7	87.4	107.0	63.5	83.2	102.9	59.3	78.9	98.6	55.0	74.6	94.2	50.5	70.1	89.6	46.0	65.4	84.9
		72	TC	128.1	128.1	128.1	120.6	120.6	120.6	112.8	112.8	112.8	104.8	104.8	104.8	96.4	96.4	96.4	87.8	87.8	87.8	78.7	78.7	78.7
			SHC	53.1	72.9	92.6	49.1	68.8	88.6	44.9	64.7	84.4	40.8	60.5	80.2	36.6	56.2	75.9	32.2	51.8	71.5	27.7	47.3	67.0
		76	TC	—	138.2	138.2	—	130.4	130.4	—	122.1	122.1	—	113.6	113.6	—	104.7	104.7	—	95.6	95.6	—	86.0	86.0
			SHC	—	57.8	77.7	—	53.7	73.6	—	49.6	69.4	—	45.4	65.2	—	41.1	60.8	—	36.8	56.4	—	32.2	51.6

LEGEND

— — Do not operate
cfm — Cubic Feet per Minute (supply air)
EAT (db) — Entering Air Temperature (Dry Bulb)
EAT (wb) — Entering Air Temperature (Wet Bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

COOLING CAPACITIES — FIRST STAGE, PART LOAD (8.5 TONS)

48LC*B SIZE 09				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
850 cfm	EAT (wb)	58	TC	38.9	38.9	42.0	37.6	37.6	41.2	36.2	36.2	40.5	34.8	34.8	39.2	33.4	33.4	37.6	32.0	32.0	36.0	30.3	30.3	34.2
			SHC	33.0	37.4	42.0	32.2	36.8	41.2	31.4	35.9	40.5	30.3	34.8	39.2	29.2	33.4	37.6	27.9	32.0	36.0	26.5	30.3	34.2
		62	TC	42.2	42.2	42.2	40.8	40.8	40.8	39.2	39.2	39.2	37.4	37.4	37.4	35.6	35.6	35.6	33.6	33.6	34.5	31.5	31.5	33.4
			SHC	29.5	34.1	38.7	28.9	33.4	37.9	28.1	32.7	37.1	27.2	31.8	36.4	26.3	30.9	35.4	25.4	29.9	34.5	24.4	29.0	33.4
		67	TC	46.7	46.7	46.7	45.0	45.0	45.0	43.4	43.4	43.4	41.5	41.5	41.5	39.5	39.5	39.5	37.2	37.2	37.2	34.9	34.9	34.9
			SHC	25.4	29.8	34.4	24.7	29.2	33.7	23.8	28.4	33.0	23.0	27.5	32.1	22.0	26.6	31.2	21.2	25.6	30.2	20.1	24.7	29.3
		72	TC	51.6	51.6	51.6	49.9	49.9	49.9	48.0	48.0	48.0	45.9	45.9	45.9	43.7	43.7	43.7	41.3	41.3	41.3	38.7	38.7	38.7
			SHC	21.0	25.4	30.0	20.2	24.8	29.3	19.4	24.0	28.6	18.6	23.1	27.7	17.6	22.2	26.8	16.8	21.3	25.8	15.7	20.3	24.9
		76	TC	—	55.8	55.8	—	54.0	54.0	—	52.0	52.0	—	49.7	49.7	—	47.3	47.3	—	44.8	44.8	—	42.0	42.0
			SHC	—	21.8	26.4	—	21.2	25.7	—	20.4	25.0	—	19.5	24.1	—	18.6	23.2	—	17.7	22.2	—	16.8	21.3
1100 cfm	EAT (wb)	58	TC	41.5	41.5	45.1	39.9	39.9	44.9	38.6	38.6	43.5	37.1	37.1	41.9	35.7	35.7	40.2	34.0	34.0	38.4	32.3	32.3	36.4
			SHC	35.3	40.3	45.1	34.8	39.9	44.9	33.7	38.6	43.5	32.5	37.1	41.9	31.1	35.7	40.2	29.7	34.0	38.4	28.2	32.3	36.4
		62	TC	44.1	44.1	44.1	42.5	42.5	42.5	40.9	40.9	41.1	39.0	39.0	40.3	37.0	37.0	39.3	34.9	34.9	38.3	32.7	32.7	37.2
			SHC	32.1	37.3	42.7	31.3	36.7	41.9	30.4	35.8	41.1	29.5	34.9	40.3	28.7	33.9	39.3	27.7	33.0	38.3	26.6	31.9	37.2
		67	TC	48.8	48.8	48.8	47.0	47.0	47.0	45.1	45.1	45.1	43.1	43.1	43.1	41.0	41.0	41.0	38.6	38.6	38.6	36.1	36.1	36.1
			SHC	27.0	32.4	37.6	26.2	31.6	37.0	25.4	30.7	36.1	24.5	29.8	35.2	23.6	29.0	34.3	22.6	28.0	33.2	21.5	26.9	32.3
		72	TC	53.7	53.7	53.7	51.9	51.9	51.9	49.8	49.8	49.8	47.6	47.6	47.6	45.2	45.2	45.2	42.7	42.7	42.7	40.0	40.0	40.0
			SHC	21.7	27.1	32.5	21.0	26.3	31.7	20.2	25.5	30.9	19.3	24.7	30.0	18.4	23.8	29.2	17.5	22.8	28.2	16.4	21.7	27.1
		76	TC	—	58.0	58.0	—	56.1	56.1	—	53.9	53.9	—	51.5	51.5	—	48.9	48.9	—	46.2	46.2	—	43.3	43.3
			SHC	—	22.8	28.2	—	22.1	27.5	—	21.3	26.6	—	20.4	25.7	—	19.5	24.9	—	18.5	23.9	—	17.6	22.9
1400 cfm	EAT (wb)	58	TC	46.2	46.2	52.2	44.6	44.6	50.3	42.7	42.7	48.3	40.8	40.8	46.1	38.7	38.7	43.8	36.5	36.5	41.3	34.1	34.1	38.7
			SHC	40.3	46.2	52.2	38.8	44.6	50.3	37.1	42.7	48.3	35.5	40.8	46.1	33.6	38.7	43.8	31.7	36.5	41.3	29.5	34.1	38.7
		62	TC	47.1	47.1	52.3	45.1	45.1	51.1	43.0	43.0	49.8	41.0	41.0	47.8	38.7	38.7	45.5	36.6	36.6	43.0	34.2	34.2	40.3
			SHC	37.5	44.9	52.3	36.5	43.8	51.1	35.2	42.5	49.8	33.6	40.7	47.8	32.0	38.7	45.5	30.0	36.6	43.0	28.1	34.2	40.3
		67	TC	51.9	51.9	51.9	49.7	49.7	49.7	47.3	47.3	47.3	44.8	44.8	44.8	42.0	42.0	42.0	39.1	39.1	39.4	36.1	36.1	38.0
			SHC	30.5	38.0	45.4	29.4	37.0	44.4	28.4	35.8	43.2	27.1	34.6	42.0	25.8	33.3	40.8	24.6	32.0	39.4	23.2	30.6	38.0
		72	TC	57.1	57.1	57.1	54.9	54.9	54.9	52.4	52.4	52.4	49.5	49.5	49.5	46.6	46.6	46.6	43.5	43.5	43.5	40.2	40.2	40.2
			SHC	23.3	30.8	38.3	22.3	29.7	37.2	21.2	28.7	36.2	20.0	27.5	34.9	18.7	26.2	33.7	17.5	25.0	32.4	16.2	23.6	31.1
		76	TC	—	61.6	61.6	—	59.3	59.3	—	56.6	56.6	—	53.6	53.6	—	50.5	50.5	—	47.2	47.2	—	43.8	43.8
			SHC	—	24.9	32.4	—	23.9	31.4	—	22.8	30.3	—	21.6	29.2	—	20.5	28.0	—	19.2	26.7	—	17.8	25.4
1700 cfm	EAT (wb)	58	TC	49.3	49.3	55.7	47.6	47.6	53.7	45.6	45.6	51.5	43.5	43.5	49.1	41.2	41.2	46.6	38.8	38.8	43.9	36.3	36.3	41.0
			SHC	43.1	49.3	55.7	41.4	47.6	53.7	39.7	45.6	51.5	37.8	43.5	49.1	35.8	41.2	46.6	33.6	38.8	43.9	31.4	36.3	41.0
		62	TC	49.4	49.4	57.9	47.7	47.7	55.8	45.6	45.6	53.5	43.5	43.5	51.1	41.2	41.2	48.5	38.8	38.8	45.7	36.3	36.3	42.7
			SHC	41.0	49.4	57.9	39.5	47.7	55.8	37.7	45.6	53.5	36.0	43.5	51.1	34.0	41.2	48.5	32.0	38.8	45.7	29.8	36.3	42.7
		67	TC	53.5	53.5	53.5	51.2	51.2	51.2	48.8	48.8	48.8	46.0	46.0	47.6	43.2	43.2	46.3	40.2	40.2	44.9	37.1	37.1	43.4
			SHC	33.2	42.1	51.1	32.1	41.0	50.0	31.0	39.9	48.8	29.7	38.6	47.6	28.5	37.3	46.3	27.1	36.0	44.9	25.7	34.5	43.4
		72	TC	58.8	58.8	58.8	56.5	56.5	56.5	53.7	53.7	53.7	50.8	50.8	50.8	47.8	47.8	47.8	44.5	44.5	44.5	41.0	41.0	41.0
			SHC	24.5	33.4	42.5	23.4	32.5	41.4	22.3	31.3	40.3	21.1	30.1	39.1	19.8	28.9	37.8	18.5	27.5	36.5	17.2	26.1	35.1
		76	TC	—	63.3	63.3	—	60.9	60.9	—	58.1	58.1	—	55.0	55.0	—	51.8	51.8	—	48.3	48.3	—	44.7	44.7
			SHC	—	26.3	35.5	—	25.4	34.4	—	24.3	33.3	—	23.1	32.2	—	21.8	30.9	—	20.6	29.5	—	19.2	28.3
2000 cfm	EAT (wb)	58	TC	51.9	51.9	58.5	49.9	49.9	56.4	47.9	47.9	54.0	45.5	45.5	51.5	43.2	43.2	48.8	40.6	40.6	45.9	37.8	37.8	42.9
			SHC	45.2	51.9	58.5	43.6	49.9	56.4	41.6	47.9	54.0	39.7	45.5	51.5	37.5	43.2	48.8	35.2	40.6	45.9	32.9	37.8	42.9
		62	TC	52.0	52.0	60.7	50.0	50.0	58.6	47.9	47.9	56.2	45.6	45.6	53.5	43.2	43.2	50.7	40.7	40.7	47.8	37.9	37.9	44.7
			SHC	43.1	52.0	60.7	41.4	50.0	58.6	39.7	47.9	56.2	37.7	45.6	53.5	35.7	43.2	50.7	33.4	40.7	47.8	31.2	37.9	44.7
		67	TC	54.6	54.6	56.6	52.4	52.4	55.4	49.7	49.7	54.2	47.0	47.0	52.8	44.1	44.1	51.5	41.0	41.0	49.9	38.0	38.0	47.9
			SHC	35.7	46.1	56.6	34.6	45.0	55.4	33.4	43.8	54.2	32.2	42.5	52.8	30.8	41.1	51.5	29.4	39.7	49.9	27.8	37.8	47.9
		72	TC	59.9	59.9	59.9	57.5	57.5	57.5	54.7	54.7	54.7	51.8	51.8	51.8	48.6	48.6	48.6	45.2	45.2	45.2	41.7	41.7	41.7
			SHC	25.4	36.0	46.5	24.5	34.9	45.4	23.3	33.8	44.3	22.1	32.6	43.1	20.9	31.3	41.7	19.5	29.9	40.5	18.1	28.6	39.1
		76	TC	—	64.5	64.5	—	62.0	62.0	—	59.1	59.1	—	56.0	56.0	—	52.6	52.6	—	49.0	49.0	—	45.3	45.3
			SHC	—	27.7	38.2	—	26.7	37.2	—	25.5	36.2	—	24.4	34.9	—	23.1	33.6	—	21.8	32.4	—	20.5	30.9
2250 cfm	EAT (wb)	58	TC	53.5	53.5	60.4	51.6	51.6	58.2	49.3	49.3	55.8	47.0	47.0	53.1	44.5	44.5	50.3	41.8	41.8	47.3	39.0	39.0	44.2
			SHC	46.7	53.5	60.4	44.9	51.6	58.2	43.0	49.3	55.8	41.0	47.0	53.1	38.7	44.5	50.3	36.3	41.8	47.3	33.8	39.0	44.2
		62	TC	53.6	53.6	62.7	51.7	51.7	60.5	49.4	49.4	57.9	47.1	47.1	55.2	44.6	44.6	52.3	41.8	41.8	49.1	39.0	39.0	45.9
			SHC	44.5	53.6	62.7	42.8	51.7	60.5	41.0	49.4	57.9	38.9	47.1	55.2	36.8	44.6	52.3	34.5	41.8	49.1	32.1	39.0	45.9
		67	TC	55.4	55.4	60.8	53.0	53.0	59.7	50.5	50.5	58.4	47.7	47.7	56.9	44.8	44.8	55.3	41.9	41.9	52.7	39.0	39.0	49.4
			SHC	37.6	49.2	60.8	36.6	48.1	59.7	35.3	46.9	58.4	34.0	45.4	56.9	32.6	43.9	55.3	30.8	41.8	52.7	28.7	39.0	49.4
		72	TC	60.6	60.6	60.6	58.2	58.2	58.2	55.4	55.4	55.4	52.3	52.3	52.3	49.0	49.0	49.0	45.6	45.6	45.6	42.1	42.1	42.2
			SHC	26.3	38.0	49.7	25.3	37.0	48.7	24.1	35.8	47.5	22.9	34.6	46.2	21.6	33.2	44.9	20.3	32.0	43.6	18.9	30.5	42.2
		76	TC	—	65.2	65.2	—	62.7	62.7	—	59.8	59.8	—	56.6	56.6	—	53.1	53.1	—	49.4	49.4	—	45.7	45.7
			SHC	—	28.8	40.6	—	27.8	39.5	—	26.6	38.4	—	25.4	37.1	—	24.2	35.9	—	22.8	34.5	—	21.5	33.2

Performance data (cont)

COOLING CAPACITIES — FIRST STAGE, PART LOAD (8.5 TONS) (cont)

48LC*B SIZE 09				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2550 cfm	EAT (wb)	58	TC	55.3	55.3	62.3	53.2	53.2	60.1	50.9	50.9	57.4	48.5	48.5	54.7	45.8	45.8	51.8	43.0	43.0	48.7	40.1	40.1	45.3
			SHC	48.3	55.3	62.3	46.4	53.2	60.1	44.4	50.9	57.4	42.2	48.5	54.7	39.9	45.8	51.8	37.3	43.0	48.7	34.7	40.1	45.3
		62	TC	55.3	55.3	64.7	53.2	53.2	62.3	51.0	51.0	59.7	48.5	48.5	56.8	45.8	45.8	53.8	43.0	43.0	50.6	40.1	40.1	47.2
			SHC	45.9	55.3	64.7	44.2	53.2	62.3	42.2	51.0	59.7	40.1	48.5	56.8	37.8	45.8	53.8	35.5	43.0	50.6	33.0	40.1	47.2
		67	TC	56.3	56.3	65.6	53.9	53.9	64.4	51.3	51.3	62.9	48.6	48.6	60.8	45.9	45.9	57.4	43.1	43.1	54.4	40.1	40.1	50.7
			SHC	39.9	52.7	65.6	38.7	51.6	64.4	37.4	50.1	62.9	35.9	48.4	60.8	33.8	45.6	57.4	31.8	43.1	54.4	29.5	40.1	50.7
		72	TC	61.2	61.2	61.2	58.8	58.8	58.8	55.9	55.9	55.9	52.8	52.8	52.8	49.5	49.5	49.5	46.0	46.0	47.3	42.4	42.4	45.8
			SHC	27.2	40.3	53.4	26.1	39.3	52.4	25.0	38.1	51.2	23.8	36.9	49.9	22.5	35.6	48.7	21.2	34.2	47.3	19.8	32.8	45.8
		76	TC	—	65.9	65.9	—	63.4	63.4	—	60.4	60.4	—	57.0	57.0	—	53.6	53.6	—	49.9	49.9	—	46.0	46.0
			SHC	—	29.9	43.1	—	29.0	42.1	—	27.8	41.0	—	26.6	39.7	—	25.4	38.4	—	24.0	37.1	—	22.6	35.7
2800 cfm	EAT (wb)	58	TC	56.5	56.5	63.7	54.4	54.4	61.3	52.0	52.0	58.7	49.4	49.4	55.9	46.7	46.7	52.8	43.9	43.9	49.6	40.9	40.9	46.2
			SHC	49.2	56.5	63.7	47.4	54.4	61.3	45.3	52.0	58.7	43.1	49.4	55.9	40.7	46.7	52.8	38.1	43.9	49.6	35.4	40.9	46.2
		62	TC	56.5	56.5	66.1	54.4	54.4	63.7	52.1	52.1	60.9	49.5	49.5	58.0	46.8	46.8	54.9	43.9	43.9	51.6	40.9	40.9	48.1
			SHC	46.9	56.5	66.1	45.1	54.4	63.7	43.1	52.1	60.9	41.0	49.5	58.0	38.6	46.8	54.9	36.2	43.9	51.6	33.6	40.9	48.1
		67	TC	56.8	56.8	69.2	54.8	54.8	66.6	52.2	52.2	65.1	49.6	49.6	61.9	46.8	46.8	59.0	44.0	44.0	55.5	40.9	40.9	51.7
			SHC	41.5	55.4	69.2	39.9	53.2	66.6	38.6	51.9	65.1	36.6	49.2	61.9	34.6	46.8	59.0	32.5	44.0	55.5	30.1	40.9	51.7
		72	TC	61.7	61.7	61.7	59.2	59.2	59.2	56.3	56.3	56.3	53.1	53.1	53.1	49.8	49.8	51.6	46.3	46.3	50.2	42.7	42.7	48.8
			SHC	27.9	42.2	56.5	26.9	41.1	55.4	25.7	40.0	54.2	24.5	38.7	52.9	23.2	37.4	51.6	21.8	36.1	50.2	20.5	34.6	48.8
		76	TC	—	66.4	66.4	—	63.8	63.8	—	60.7	60.7	—	57.4	57.4	—	53.9	53.9	—	50.2	50.2	—	46.3	46.3
			SHC	—	30.9	45.2	—	29.9	44.2	—	28.8	43.1	—	27.5	41.8	—	26.2	40.5	—	24.9	39.1	—	23.5	37.7

LEGEND

— — Do not operate
cfm — Cubic Feet per Minute (supply air)
EAT (db) — Entering Air Temperature (Dry Bulb)
EAT (wb) — Entering Air Temperature (Wet Bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

COOLING CAPACITIES — SECOND STAGE, PART LOAD (8.5 TONS)

48LC*B SIZE 09				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
850 cfm	EAT (wb)	58	TC	50.1	50.1	50.1	48.7	48.7	48.7	47.1	47.1	47.1	45.3	45.3	45.6	43.4	43.4	44.6	41.2	41.2	43.3	38.9	38.9	42.0
			SHC	39.3	43.9	48.4	38.5	43.0	47.6	37.5	42.1	46.6	36.5	41.0	45.6	35.4	40.0	44.6	34.2	38.8	43.3	33.0	37.4	42.0
		62	TC	54.2	54.2	54.2	52.7	52.7	52.7	50.9	50.9	50.9	49.0	49.0	49.0	47.0	47.0	47.0	44.8	44.8	44.8	42.2	42.2	42.2
			SHC	36.1	40.7	45.2	35.2	39.8	44.3	34.2	38.8	43.3	33.2	37.7	42.3	32.1	36.7	41.2	30.9	35.5	40.0	29.6	34.2	38.7
		67	TC	59.9	59.9	59.9	58.1	58.1	58.1	56.2	56.2	56.2	54.1	54.1	54.1	52.0	52.0	52.0	49.5	49.5	49.5	46.8	46.8	46.8
			SHC	31.9	36.5	41.0	30.9	35.5	40.1	29.9	34.5	39.1	29.0	33.5	38.0	27.9	32.4	37.0	26.7	31.2	35.8	25.4	29.9	34.5
		72	TC	66.1	66.1	66.1	64.2	64.2	64.2	62.1	62.1	62.1	59.9	59.9	59.9	57.4	57.4	57.4	54.8	54.8	54.8	51.9	51.9	51.9
			SHC	27.5	32.1	36.7	26.6	31.1	35.7	25.6	30.1	34.7	24.6	29.2	33.7	23.5	28.1	32.6	22.3	26.9	31.5	21.1	25.6	30.1
		76	TC	—	71.6	71.6	—	69.4	69.4	—	67.2	67.2	—	64.8	64.8	—	62.2	62.2	—	59.4	59.4	—	56.3	56.3
			SHC	—	28.5	33.1	—	27.6	32.1	—	26.6	31.1	—	25.5	30.1	—	24.5	29.1	—	23.3	27.9	—	22.0	26.6
1100 cfm	EAT (wb)	58	TC	53.2	53.2	53.5	51.5	51.5	52.6	49.7	49.7	51.6	47.8	47.8	50.5	45.7	45.7	49.3	43.4	43.4	48.1	41.0	41.0	46.3
			SHC	42.9	48.3	53.5	41.9	47.3	52.6	40.9	46.2	51.6	39.8	45.1	50.5	38.6	44.0	49.3	37.4	42.7	48.1	35.9	41.0	46.3
		62	TC	57.4	57.4	57.4	55.7	55.7	55.7	53.7	53.7	53.7	51.7	51.7	51.7	49.4	49.4	49.4	46.9	46.9	46.9	44.3	44.3	44.3
			SHC	38.9	44.3	49.6	37.9	43.3	48.7	37.0	42.3	47.7	35.9	41.2	46.5	34.7	40.1	45.4	33.4	38.8	44.2	32.1	37.4	42.8
		67	TC	63.4	63.4	63.4	61.4	61.4	61.4	59.3	59.3	59.3	57.0	57.0	57.0	54.6	54.6	54.6	51.9	51.9	51.9	48.9	48.9	48.9
			SHC	33.9	39.3	44.6	33.0	38.2	43.6	31.9	37.2	42.6	30.8	36.2	41.5	29.6	35.0	40.4	28.4	33.7	39.1	27.1	32.5	37.8
		72	TC	69.9	69.9	69.9	67.7	67.7	67.7	65.4	65.4	65.4	63.0	63.0	63.0	60.3	60.3	60.3	57.4	57.4	57.4	54.2	54.2	54.2
			SHC	28.7	34.0	39.4	27.7	33.1	38.4	26.7	32.1	37.4	25.6	31.0	36.4	24.5	29.8	35.2	23.2	28.6	33.9	21.9	27.3	32.7
		76	TC	—	75.5	75.5	—	73.2	73.2	—	70.7	70.7	—	68.1	68.1	—	65.2	65.2	—	62.1	62.1	—	58.7	58.7
			SHC	—	29.7	35.1	—	28.8	34.1	—	27.8	33.2	—	26.7	32.1	—	25.5	30.9	—	24.4	29.7	—	23.1	28.5
1400 cfm	EAT (wb)	58	TC	57.9	57.9	64.7	55.6	55.6	62.8	53.4	53.4	60.5	51.2	51.2	58.0	48.8	48.8	55.3	46.1	46.1	52.5	43.3	43.3	49.2
			SHC	50.0	57.4	64.7	48.4	55.6	62.8	46.4	53.4	60.5	44.4	51.2	58.0	42.2	48.8	55.3	39.9	46.1	52.5	37.3	43.3	49.2
		62	TC	62.4	62.4	62.4	59.8	59.8	59.8	57.0	57.0	57.0	54.1	54.1	54.9	51.1	51.1	53.1	47.8	47.8	51.4	44.4	44.4	49.4
			SHC	44.7	52.1	59.6	43.2	50.6	58.0	41.6	49.0	56.5	40.0	47.4	54.9	38.3	45.7	53.1	36.6	44.0	51.4	34.6	42.0	49.4
		67	TC	68.9	68.9	68.9	66.1	66.1	66.1	63.2	63.2	63.2	60.1	60.1	60.1	56.7	56.7	56.7	53.2	53.2	53.2	49.4	49.4	49.4
			SHC	37.6	45.1	52.7	36.2	43.7	51.1	34.6	42.1	49.5	33.1	40.5	48.0	31.4	38.8	46.3	29.6	37.1	44.6	27.8	35.2	42.7
		72	TC	76.1	76.1	76.1	73.0	73.0	73.0	69.9	69.9	69.9	66.6	66.6	66.6	63.0	63.0	63.0	59.2	59.2	59.2	55.1	55.1	55.1
			SHC	30.5	38.0	45.5	29.1	36.6	44.1	27.5	35.0	42.5	25.9	33.4	41.0	24.3	31.8	39.3	22.5	30.0	37.5	20.8	28.3	35.7
		76	TC	—	82.2	82.2	—	79.1	79.1	—	75.8	75.8	—	72.2	72.2	—	68.3	68.3	—	64.4	64.4	—	60.0	60.0
			SHC	—	32.2	39.7	—	30.7	38.2	—	29.2	36.7	—	27.6	35.1	—	26.0	33.5	—	24.3	31.8	—	22.5	30.0
1700 cfm	EAT (wb)	58	TC	62.4	62.4	70.4	60.2	60.2	68.0	57.8	57.8	65.3	55.3	55.3	62.6	52.7	52.7	59.7	49.8	49.8	56.5	46.7	46.7	53.0
			SHC	54.3	62.4	70.4	52.4	60.2	68.0	50.2	57.8	65.3	48.0	55.3	62.6	45.6	52.7	59.7	43.1	49.8	56.5	40.4	46.7	53.0
		62	TC	65.3	65.3	67.2	62.6	62.6	65.6	59.7	59.7	64.0	56.6	56.6	62.2	53.4	53.4	60.5	50.0	50.0	58.4	46.8	46.8	55.3
			SHC	49.2	58.2	67.2	47.7	56.6	65.6	46.0	55.0	64.0	44.4	53.3	62.2	42.6	51.5	60.5	40.8	49.5	58.4	38.2	46.8	55.3
		67	TC	72.0	72.0	72.0	68.9	68.9	68.9	65.8	65.8	65.8	62.5	62.5	62.5	59.0	59.0	59.0	55.2	55.2	55.2	51.2	51.2	51.2
			SHC	40.8	49.7	58.7	39.2	48.2	57.2	37.5	46.6	55.6	36.0	44.9	53.9	34.2	43.2	52.3	32.5	41.4	50.4	30.5	39.5	48.6
		72	TC	79.3	79.3	79.3	76.1	76.1	76.1	72.6	72.6	72.6	69.1	69.1	69.1	65.3	65.3	65.3	61.3	61.3	61.3	56.9	56.9	56.9
			SHC	32.0	41.0	50.1	30.5	39.5	48.6	29.0	37.9	47.0	27.3	36.4	45.4	25.6	34.6	43.7	23.9	32.9	41.9	21.9	31.0	40.1
		76	TC	—	85.5	85.5	—	82.2	82.2	—	78.6	78.6	—	74.9	74.9	—	70.8	70.8	—	66.5	66.5	—	61.9	61.9
			SHC	—	33.9	43.0	—	32.5	41.5	—	30.9	40.0	—	29.3	38.4	—	27.6	36.8	—	25.8	35.0	—	24.1	33.2
2000 cfm	EAT (wb)	58	TC	66.2	66.2	74.8	63.8	63.8	72.1	61.2	61.2	69.2	58.6	58.6	66.3	55.8	55.8	63.1	52.7	52.7	59.8	49.3	49.3	56.1
			SHC	57.7	66.2	74.8	55.6	63.8	72.1	53.3	61.2	69.2	50.9	58.6	66.3	48.4	55.8	63.1	45.6	52.7	59.8	42.7	49.3	56.1
		62	TC	67.7	67.7	74.3	64.7	64.7	72.6	61.8	61.8	70.8	58.8	58.8	68.7	55.8	55.8	65.7	52.7	52.7	62.2	49.4	49.4	58.3
			SHC	53.5	63.9	74.3	51.9	62.3	72.6	50.1	60.5	70.8	48.3	58.5	68.7	45.9	55.8	65.7	43.3	52.7	62.2	40.5	49.4	58.3
		67	TC	74.1	74.1	74.1	71.0	71.0	71.0	67.7	67.7	67.7	64.3	64.3	64.3	60.5	60.5	60.5	56.6	56.6	56.6	52.5	52.5	54.0
			SHC	43.5	54.0	64.5	41.9	52.5	63.0	40.3	50.8	61.3	38.6	49.1	59.7	36.9	47.4	57.9	35.1	45.5	56.1	33.2	43.6	54.0
		72	TC	81.5	81.5	81.5	78.2	78.2	78.2	74.7	74.7	74.7	71.0	71.0	71.0	67.0	67.0	67.0	62.8	62.8	62.8	58.2	58.2	58.2
			SHC	33.2	43.8	54.4	31.7	42.3	52.8	30.1	40.7	51.3	28.5	39.0	49.6	26.7	37.3	47.9	25.0	35.5	46.0	23.1	33.6	44.2
		76	TC	—	87.9	87.9	—	84.4	84.4	—	80.6	80.6	—	76.7	76.7	—	72.5	72.5	—	68.1	68.1	—	63.2	63.2
			SHC	—	35.5	46.2	—	34.0	44.8	—	32.5	43.1	—	30.8	41.4	—	29.1	39.8	—	27.3	37.9	—	25.4	36.1
2250 cfm	EAT (wb)	58	TC	68.9	68.9	77.7	66.4	66.4	75.0	63.7	63.7	72.0	60.8	60.8	68.8	57.9	57.9	65.5	54.7	54.7	62.0	51.2	51.2	58.1
			SHC	60.1	68.9	77.7	57.8	66.4	75.0	55.5	63.7	72.0	52.9	60.8	68.8	50.2	57.9	65.5	47.4	54.7	62.0	44.3	51.2	58.1
		62	TC	69.3	69.3	79.8	66.5	66.5	77.8	63.8	63.8	74.9	60.9	60.9	71.6	58.0	58.0	68.2	54.8	54.8	64.4	51.3	51.3	60.5
			SHC	56.7	68.3	79.8	55.0	66.4	77.8	52.7	63.8	74.9	50.3	60.9	71.6	47.8	58.0	68.2	45.0	54.8	64.4	42.0	51.3	60.5
		67	TC	75.6	75.6	75.6	72.3	72.3	72.3	68.9	68.9	68.9	65.3	65.3	65.3	61.6	61.6	62.4	57.6	57.6	60.5	53.3	53.3	58.5
			SHC	45.6	57.4	69.1	44.1	55.9	67.6	42.4	54.2	65.9	40.8	52.5	64.3	39.0	50.7	62.4	37.1	48.8	60.5	35.2	46.8	58.5
		72	TC	83.0	83.0	83.0	79.6	79.6	79.6	76.0	76.0	76.0	72.1	72.1	72.1	68.1	68.1	68.1	63.7	63.7	63.7	59.1	59.1	59.1
			SHC	34.2	46.0	57.8	32.7	44.5	56.3	31.0	42.8	54.7	29.3	41.1	52.9	27.7	39.4	51.2	25.8	37.6	49.3	23.9	35.7	47.4
		76	TC	—	89.4	89.4	—	85.8	85.8	—	82.0	82.0	—	77.9	77.9	—	73.6	73.6	—	69.0	69.0	—	64.1	64.1
			SHC	—	36.8	48.7	—	35.2	47.1	—	33.6	45.5	—	32.0	43.9	—	30.2	42.1	—	28.4	40.3	—	26.5	38.3

Performance data (cont)

COOLING CAPACITIES — SECOND STAGE, PART LOAD (8.5 TONS) (cont)

48LC*B SIZE 09				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2550 cfm	EAT (wb)	58	TC	71.7	71.7	80.8	69.0	69.0	77.9	66.2	66.2	74.8	63.2	63.2	71.5	60.1	60.1	68.0	56.7	56.7	64.3	53.0	53.0	60.2
			SHC	62.5	71.7	80.8	60.1	69.0	77.9	57.6	66.2	74.8	55.0	63.2	71.5	52.2	60.1	68.0	49.1	56.7	64.3	45.9	53.0	60.2
		62	TC	71.8	71.8	83.9	69.0	69.0	80.9	66.3	66.3	77.7	63.3	63.3	74.3	60.2	60.2	70.7	56.7	56.7	66.9	53.1	53.1	62.7
			SHC	59.5	71.8	83.9	57.2	69.0	80.9	54.8	66.3	77.7	52.3	63.3	74.3	49.6	60.2	70.7	46.7	56.7	66.9	43.6	53.1	62.7
		67	TC	76.8	76.8	76.8	73.6	73.6	73.6	70.1	70.1	71.2	66.5	66.5	69.5	62.6	62.6	67.7	58.6	58.6	65.6	54.2	54.2	63.5
			SHC	48.2	61.3	74.5	46.5	59.8	72.9	44.9	58.0	71.2	43.2	56.4	69.5	41.3	54.5	67.7	39.5	52.6	65.6	37.4	50.5	63.5
		72	TC	84.3	84.3	84.3	80.8	80.8	80.8	77.1	77.1	77.1	73.1	73.1	73.1	69.0	69.0	69.0	64.5	64.5	64.5	59.9	59.9	59.9
			SHC	35.2	48.5	61.7	33.6	46.9	60.2	32.1	45.3	58.5	30.4	43.6	56.8	28.7	41.8	55.1	26.8	40.0	53.2	24.9	38.0	51.3
		76	TC	—	90.9	90.9	—	87.2	87.2	—	83.3	83.3	—	79.1	79.1	—	74.6	74.6	—	69.9	69.9	—	64.8	64.8
			SHC	—	38.0	51.4	—	36.6	49.9	—	34.9	48.3	—	33.2	46.5	—	31.5	44.8	—	29.6	42.9	—	27.8	41.0
2800 cfm	EAT (wb)	58	TC	73.6	73.6	83.0	70.9	70.9	80.0	68.0	68.0	76.7	64.9	64.9	73.3	61.6	61.6	69.7	58.2	58.2	65.9	54.4	54.4	61.7
			SHC	64.3	73.6	83.0	61.7	70.9	80.0	59.2	68.0	76.7	56.5	64.9	73.3	53.5	61.6	69.7	50.5	58.2	65.9	47.1	54.4	61.7
		62	TC	73.7	73.7	86.3	71.0	71.0	83.1	68.1	68.1	79.8	64.9	64.9	76.2	61.7	61.7	72.5	58.2	58.2	68.5	54.4	54.4	64.2
			SHC	61.1	73.7	86.3	58.8	71.0	83.1	56.3	68.1	79.8	53.6	64.9	76.2	50.9	61.7	72.5	48.0	58.2	68.5	44.8	54.4	64.2
		67	TC	77.8	77.8	78.9	74.5	74.5	77.2	71.0	71.0	75.5	67.3	67.3	73.7	63.4	63.4	71.8	59.3	59.3	69.7	54.9	54.9	67.3
			SHC	50.1	64.5	78.9	48.6	62.9	77.2	46.9	61.1	75.5	45.1	59.4	73.7	43.3	57.5	71.8	41.3	55.5	69.7	39.2	53.2	67.3
		72	TC	85.3	85.3	85.3	81.7	81.7	81.7	77.9	77.9	77.9	73.9	73.9	73.9	69.7	69.7	69.7	65.1	65.1	65.1	60.4	60.4	60.4
			SHC	36.1	50.5	64.9	34.5	48.9	63.4	32.9	47.3	61.7	31.2	45.5	60.0	29.4	43.8	58.2	27.6	41.9	56.3	25.6	40.0	54.3
		76	TC	—	91.8	91.8	—	88.1	88.1	—	84.0	84.0	—	79.8	79.8	—	75.3	75.3	—	70.5	70.5	—	65.3	65.3
			SHC	—	39.1	53.6	—	37.6	52.1	—	36.0	50.4	—	34.2	48.8	—	32.5	46.9	—	30.6	45.0	—	28.7	43.0

LEGEND

— — Do not operate
cfm — Cubic Feet per Minute (supply air)
EAT (db) — Entering Air Temperature (Dry Bulb)
EAT (wb) — Entering Air Temperature (Wet Bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

COOLING CAPACITIES — THIRD STAGE, FULL LOAD (8.5 TONS)

48LC*B SIZE 09				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1700 cfm	EAT (wb)	58	TC	89.2	89.2	90.4	86.4	86.4	88.7	83.4	83.4	87.0	80.0	80.0	85.1	76.5	76.5	83.2	72.6	72.6	81.0	69.0	69.0	77.7
			SHC	72.2	81.2	90.4	70.6	79.7	88.7	68.8	77.9	87.0	67.0	76.1	85.1	65.1	74.1	83.2	62.9	72.0	81.0	60.3	69.0	77.7
		62	TC	96.1	96.1	96.1	93.1	93.1	93.1	89.8	89.8	89.8	86.3	86.3	86.3	82.4	82.4	82.4	78.2	78.2	78.2	73.7	73.7	73.7
			SHC	65.3	74.4	83.5	63.7	72.8	81.9	62.0	71.1	80.1	60.2	69.2	78.3	58.2	67.3	76.3	56.1	65.1	74.3	53.9	63.0	72.1
		67	TC	105.6	105.6	105.6	102.3	102.3	102.3	98.7	98.7	98.7	94.9	94.9	94.9	90.7	90.7	90.7	86.2	86.2	86.2	81.2	81.2	81.2
			SHC	56.6	65.6	74.8	54.9	64.1	73.1	53.2	62.3	71.4	51.4	60.5	69.6	49.4	58.5	67.7	47.4	56.5	65.5	45.1	54.2	63.4
		72	TC	115.9	115.9	115.9	112.3	112.3	112.3	108.5	108.5	108.5	104.3	104.3	104.3	99.7	99.7	99.7	94.8	94.8	94.8	89.4	89.4	89.4
			SHC	47.5	56.6	65.7	45.8	55.0	64.1	44.2	53.3	62.4	42.3	51.5	60.5	40.5	49.5	58.7	38.4	47.5	56.6	36.2	45.3	54.4
		76	TC	—	124.9	124.9	—	121.1	121.1	—	116.9	116.9	—	112.4	112.4	—	107.4	107.4	—	102.2	102.2	—	96.4	96.4
			SHC	—	49.1	58.2	—	47.6	56.6	—	45.8	55.0	—	44.1	53.2	—	42.1	51.3	—	40.2	49.2	—	37.9	47.1
1900 cfm	EAT (wb)	58	TC	92.4	92.4	96.7	89.4	89.4	95.1	86.2	86.2	93.2	83.9	83.9	89.8	80.0	80.0	87.1	75.8	75.8	85.4	72.2	72.2	81.3
			SHC	76.4	86.6	96.7	74.8	84.9	95.1	73.0	83.2	93.2	70.5	80.1	89.8	68.2	77.6	87.1	66.1	75.8	85.4	63.0	72.2	81.3
		62	TC	99.4	99.4	99.4	96.1	96.1	96.1	92.6	92.6	92.6	88.9	88.9	88.9	84.8	84.8	84.8	80.4	80.4	80.4	75.7	75.7	77.2
			SHC	68.7	78.9	89.0	67.1	77.2	87.4	65.3	75.4	85.5	63.4	73.5	83.7	61.3	71.5	81.6	59.2	69.3	79.5	56.9	67.1	77.2
		67	TC	109.0	109.0	109.0	105.5	105.5	105.5	101.7	101.7	101.7	97.6	97.6	97.6	93.2	93.2	93.2	88.4	88.4	88.4	83.3	83.3	83.3
			SHC	58.8	69.0	79.2	57.1	67.4	77.5	55.4	65.5	75.8	53.5	63.7	73.8	51.6	61.7	71.9	49.4	59.6	69.7	47.2	57.3	67.5
		72	TC	119.5	119.5	119.5	115.7	115.7	115.7	111.6	111.6	111.6	107.3	107.3	107.3	102.4	102.4	102.4	97.2	97.2	97.2	91.6	91.6	91.6
			SHC	48.7	58.8	69.0	47.0	57.2	67.4	45.2	55.5	65.6	43.4	53.6	63.8	41.4	51.6	61.8	39.3	49.5	59.7	37.1	47.3	57.5
		76	TC	—	128.6	128.6	—	124.6	124.6	—	120.1	120.1	—	115.3	115.3	—	110.2	110.2	—	104.6	104.6	—	98.6	98.6
			SHC	—	50.5	60.6	—	48.8	59.1	—	47.1	57.3	—	45.3	55.5	—	43.3	53.5	—	41.2	51.5	—	39.1	49.2
2150 cfm	EAT (wb)	58	TC	91.9	91.9	100.5	87.5	87.5	97.3	82.8	82.8	93.8	78.3	78.3	89.2	73.7	73.7	84.2	68.8	68.8	78.9	63.7	63.7	73.2
			SHC	77.8	89.1	100.5	74.6	86.0	97.3	71.3	82.6	93.8	67.4	78.3	89.2	63.2	73.7	84.2	58.7	68.8	78.9	54.0	63.7	73.2
		62	TC	99.5	99.5	99.5	94.7	94.7	94.7	89.5	89.5	89.5	84.1	84.1	84.1	78.5	78.5	79.2	72.4	72.4	75.6	66.1	66.1	71.8
			SHC	69.5	81.0	92.4	66.4	77.8	89.3	63.2	74.6	86.0	59.8	71.3	82.7	56.4	67.8	79.2	52.7	64.2	75.6	48.9	60.4	71.8
		67	TC	110.1	110.1	110.1	105.0	105.0	105.0	99.5	99.5	99.5	93.8	93.8	93.8	87.7	87.7	87.7	81.3	81.3	81.3	74.4	74.4	74.4
			SHC	59.1	70.6	82.0	56.0	67.5	78.9	52.7	64.3	75.7	49.4	60.8	72.3	45.9	57.4	68.8	42.4	53.8	65.3	38.6	50.1	61.5
		72	TC	121.7	121.7	121.7	116.2	116.2	116.2	110.4	110.4	110.4	104.2	104.2	104.2	97.8	97.8	97.8	90.9	90.9	90.9	83.6	83.6	83.6
			SHC	48.4	59.9	71.5	45.2	56.8	68.3	42.0	53.6	65.1	38.7	50.3	61.8	35.3	46.8	58.3	31.8	43.3	54.8	28.1	39.6	51.1
		76	TC	—	131.6	131.6	—	125.8	125.8	—	119.7	119.7	—	113.2	113.2	—	106.4	106.4	—	99.1	99.1	—	91.4	91.4
			SHC	—	51.1	62.6	—	48.0	59.6	—	44.9	56.4	—	41.5	53.0	—	38.1	49.6	—	34.6	46.1	—	31.0	42.5
2550 cfm	EAT (wb)	58	TC	97.9	97.9	110.7	93.6	93.6	106.1	89.1	89.1	101.2	84.4	84.4	96.1	79.5	79.5	90.7	74.2	74.2	84.9	68.6	68.6	78.9
			SHC	85.0	97.9	110.7	81.1	93.6	106.1	77.0	89.1	101.2	72.8	84.4	96.1	68.3	79.5	90.7	63.6	74.2	84.9	58.5	68.6	78.9
		62	TC	104.1	104.1	104.1	99.0	99.0	99.7	93.6	93.6	96.3	87.9	87.9	92.9	81.9	81.9	89.3	75.7	75.7	85.5	69.1	69.1	81.4
			SHC	76.0	89.5	103.0	72.7	86.3	99.7	69.4	82.9	96.3	66.0	79.5	92.9	62.4	75.9	89.3	58.7	72.1	85.5	54.8	68.1	81.4
		67	TC	114.8	114.8	114.8	109.3	109.3	109.3	103.5	103.5	103.5	97.5	97.5	97.5	91.1	91.1	91.1	84.3	84.3	84.3	77.1	77.1	77.1
			SHC	63.4	76.9	90.5	60.2	73.7	87.3	56.8	70.4	83.9	53.4	67.0	80.5	49.9	63.5	76.9	46.3	59.8	73.3	42.5	56.0	69.5
		72	TC	126.5	126.5	126.5	120.7	120.7	120.7	114.6	114.6	114.6	108.1	108.1	108.1	101.2	101.2	101.2	94.0	94.0	94.0	86.3	86.3	86.3
			SHC	50.5	64.2	77.8	47.4	61.0	74.6	44.1	57.7	71.3	40.8	54.3	67.9	37.2	50.8	64.4	33.6	47.2	60.7	29.8	43.4	56.9
		76	TC	—	136.6	136.6	—	130.5	130.5	—	124.0	124.0	—	117.2	117.2	—	110.0	110.0	—	102.3	102.3	—	94.1	94.1
			SHC	—	53.6	67.4	—	50.5	64.2	—	47.3	60.9	—	43.9	57.6	—	40.5	54.1	—	36.9	50.5	—	33.2	46.8
3000 cfm	EAT (wb)	58	TC	104.4	104.4	118.0	99.8	99.8	113.1	95.2	95.2	107.9	90.1	90.1	102.4	84.8	84.8	96.6	79.2	79.2	90.5	73.2	73.2	83.9
			SHC	90.8	104.4	118.0	86.7	99.8	113.1	82.4	95.2	107.9	77.8	90.1	102.4	72.9	84.8	96.6	67.9	79.2	90.5	62.5	73.2	83.9
		62	TC	108.0	108.0	114.2	102.8	102.8	110.9	97.1	97.1	107.3	91.3	91.3	103.7	85.2	85.2	99.7	79.4	79.4	94.4	73.3	73.3	87.6
			SHC	82.7	98.5	114.2	79.4	95.2	110.9	76.0	91.7	107.3	72.4	88.0	103.7	68.6	84.1	99.7	64.3	79.3	94.4	59.0	73.3	87.6
		67	TC	118.7	118.7	118.7	112.9	112.9	112.9	106.9	106.9	106.9	100.5	100.5	100.5	93.8	93.8	93.8	86.8	86.8	86.8	79.4	79.4	79.4
			SHC	67.8	83.7	99.5	64.5	80.3	96.1	61.1	76.9	92.7	57.7	73.5	89.3	54.1	69.8	85.6	50.3	66.1	81.9	46.5	62.2	78.0
		72	TC	130.5	130.5	130.5	124.4	124.4	124.4	118.0	118.0	118.0	111.2	111.2	111.2	104.0	104.0	104.0	96.5	96.5	96.5	88.5	88.5	88.5
			SHC	52.7	68.5	84.4	49.4	65.3	81.2	46.1	61.9	77.8	42.6	58.5	74.4	39.1	54.9	70.8	35.4	51.2	67.1	31.6	47.4	63.2
		76	TC	—	140.7	140.7	—	134.4	134.4	—	127.5	127.5	—	120.3	120.3	—	112.8	112.8	—	104.7	104.7	—	96.2	96.2
			SHC	—	56.3	72.3	—	53.0	69.1	—	49.7	65.8	—	46.3	62.4	—	42.8	58.8	—	39.1	55.0	—	35.2	51.1
3400 cfm	EAT (wb)	58	TC	109.3	109.3	123.4	104.5	104.5	118.3	99.5	99.5	112.8	94.3	94.3	107.1	88.7	88.7	100.9	82.8	82.8	94.5	76.5	76.5	87.7
			SHC	95.1	109.3	123.4	90.8	104.5	118.3	86.2	99.5	112.8	81.4	94.3	107.1	76.4	88.7	100.9	71.1	82.8	94.5	65.4	76.5	87.7
		62	TC	111.0	111.0	123.6	105.6	105.6	120.1	99.9	99.9	116.3	94.4	94.4	111.5	88.8	88.8	105.2	82.9	82.9	98.6	76.6	76.6	91.5
			SHC	88.3	106.0	123.6	84.9	102.5	120.1	81.3	98.9	116.3	77.3	94.4	111.5	72.4	88.8	105.2	67.3	82.9	98.6	61.8	76.6	91.5
		67	TC	121.2	121.2	121.2	115.3	115.3	115.3	109.1	109.1	109.1	102.6	102.6	102.6	95.7	95.7	95.7	88.4	88.4	89.2	80.8	80.8	85.2
			SHC	71.5	89.2	107.1	68.2	85.9	103.7	64.7	82.5	100.3	61.2	79.0	96.7	57.5	75.3	93.0	53.8	71.5	89.2	49.9	67.6	85.2
		72	TC	133.2	133.2	133.2	126.9	126.9	126.9	120.3	120.3	120.3	113.3	113.3	113.3	106.0	106.0	106.0	98.2	98.2	98.2	90.0	90.0	90.0
			SHC	54.3	72.2	90.0	51.0	68.9	86.8	47.7	65.5	83.4	44.2	62.0	79.8	40.6	58.4	76.1	36.9	54.6	72.3	33.1	50.7	68.4
		76	TC	—	143.4	143.4	—	136.9	136.9	—	129.9	129.9	—	122.5	122.5	—	114.7	114.7	—	106.4	106.4	—	97.6	97.6
			SHC	—	58.3	76.5	—	55.1	73.1	—	51.7	69.7	—	48.3	66.2	—	44.6	62.5	—	40.9	58.6	—	37.0	54.6

Performance data (cont)

COOLING CAPACITIES — THIRD STAGE, FULL LOAD (8.5 TONS) (cont)

48LC*B SIZE 09				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
3850 cfm	EAT (wb)	58	TC	113.9	113.9	128.6	108.9	108.9	123.1	103.7	103.7	117.5	98.2	98.2	111.4	92.3	92.3	105.1	86.2	86.2	98.3	79.7	79.7	91.1
			SHC	99.2	113.9	128.6	94.7	108.9	123.1	89.9	103.7	117.5	84.9	98.2	111.4	79.7	92.3	105.1	74.1	86.2	98.3	68.3	79.7	91.1
		62	TC	114.2	114.2	133.1	109.1	109.1	128.1	103.8	103.8	122.3	98.3	98.3	116.0	92.4	92.4	109.4	86.3	86.3	102.4	79.8	79.8	95.0
			SHC	94.1	113.6	133.1	90.0	109.1	128.1	85.4	103.8	122.3	80.5	98.3	116.0	75.5	92.4	109.4	70.1	86.3	102.4	64.4	79.8	95.0
		67	TC	123.5	123.5	123.5	117.5	117.5	117.5	111.2	111.2	111.2	104.5	104.5	104.8	97.4	97.4	101.0	90.1	90.1	97.1	82.3	82.3	93.0
			SHC	75.4	95.4	115.3	72.0	91.9	111.9	68.5	88.5	108.4	65.0	84.9	104.8	61.2	81.1	101.0	57.4	77.3	97.1	53.5	73.2	93.0
		72	TC	135.5	135.5	135.5	129.1	129.1	129.1	122.3	122.3	122.3	115.1	115.1	115.1	107.6	107.6	107.6	99.6	99.6	99.6	91.4	91.4	91.4
			SHC	56.0	76.1	96.0	52.7	72.7	92.7	49.3	69.2	89.2	45.8	65.7	85.7	42.1	62.1	82.0	38.4	58.2	78.1	34.5	54.3	74.1
		76	TC	—	146.0	146.0	—	139.1	139.1	—	131.9	131.9	—	124.3	124.3	—	116.2	116.2	—	107.7	107.7	—	98.7	98.7
			SHC	—	60.5	80.7	—	57.1	77.3	—	53.7	73.8	—	50.2	70.2	—	46.5	66.4	—	42.6	62.4	—	38.6	58.2
4250 cfm	EAT (wb)	58	TC	117.4	117.4	132.5	112.3	112.3	126.9	106.9	106.9	121.0	101.1	101.1	114.8	95.1	95.1	108.1	88.7	88.7	101.1	82.0	82.0	93.7
			SHC	102.3	117.4	132.5	97.6	112.3	126.9	92.7	106.9	121.0	87.6	101.1	114.8	82.1	95.1	108.1	76.3	88.7	101.1	70.3	82.0	93.7
		62	TC	117.6	117.6	137.8	112.4	112.4	132.0	107.0	107.0	125.9	101.2	101.2	119.4	95.2	95.2	112.6	88.8	88.8	105.4	82.1	82.1	97.7
			SHC	97.3	117.6	137.8	92.8	112.4	132.0	88.1	107.0	125.9	83.1	101.2	119.4	77.8	95.2	112.6	72.2	88.8	105.4	66.4	82.1	97.7
		67	TC	125.2	125.2	125.2	119.0	119.0	119.0	112.6	112.6	115.4	105.9	105.9	111.7	98.7	98.7	107.8	91.3	91.3	103.8	83.5	83.5	99.5
			SHC	78.7	100.5	122.4	75.3	97.1	119.0	71.8	93.6	115.4	68.2	90.0	111.7	64.4	86.1	107.8	60.5	82.2	103.8	56.6	78.0	99.5
		72	TC	137.2	137.2	137.2	130.7	130.7	130.7	123.7	123.7	123.7	116.5	116.5	116.5	108.8	108.8	108.8	100.7	100.7	100.7	92.2	92.2	92.2
			SHC	57.4	79.3	101.2	54.1	76.0	97.8	50.7	72.4	94.3	47.1	68.9	90.7	43.5	65.2	87.0	39.7	61.3	83.0	35.7	57.3	79.0
		76	TC	—	147.7	147.7	—	140.8	140.8	—	133.4	133.4	—	125.6	125.6	—	117.3	117.3	—	108.6	108.6	—	99.5	99.5
			SHC	—	62.2	84.2	—	58.9	80.8	—	55.4	77.3	—	51.8	73.5	—	48.1	69.6	—	44.1	65.5	—	40.0	61.1

LEGEND

— — Do not operate
cfm — Cubic Feet per Minute (supply air)
EAT (db) — Entering Air Temperature (Dry Bulb)
EAT (wb) — Entering Air Temperature (Wet Bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

COOLING CAPACITIES — FIRST STAGE, PART LOAD (10 TONS)

48LC*B SIZE 12				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1000 cfm	EAT (wb)	58	TC	44.3	44.3	48.7	42.8	42.8	47.9	41.3	41.3	46.6	39.9	39.9	44.9	38.3	38.3	43.2	36.6	36.6	41.2	34.7	34.7	39.1
			SHC	37.9	43.3	48.7	37.1	42.5	47.9	36.1	41.3	46.6	34.9	39.9	44.9	33.4	38.3	43.2	32.0	36.6	41.2	30.3	34.7	39.1
		62	TC	48.1	48.1	48.1	46.5	46.5	46.5	44.7	44.7	44.7	42.7	42.7	42.7	40.6	40.6	41.1	38.2	38.2	40.0	35.7	35.7	38.8
			SHC	34.1	39.4	44.8	33.2	38.6	44.0	32.4	37.7	43.1	31.4	36.8	42.1	30.4	35.8	41.1	29.3	34.6	40.0	28.2	33.4	38.8
		67	TC	53.3	53.3	53.3	51.6	51.6	51.6	49.6	49.6	49.6	47.4	47.4	47.4	45.0	45.0	45.0	42.5	42.5	42.5	39.8	39.8	39.8
			SHC	29.2	34.5	39.9	28.3	33.6	39.0	27.4	32.8	38.1	26.4	31.8	37.1	25.4	30.8	36.2	24.4	29.7	35.1	23.2	28.6	33.9
		72	TC	59.1	59.1	59.1	57.1	57.1	57.1	55.0	55.0	55.0	52.7	52.7	52.7	50.0	50.0	50.0	47.3	47.3	47.3	44.3	44.3	44.3
			SHC	24.0	29.3	34.7	23.2	28.6	33.9	22.3	27.7	33.1	21.4	26.7	32.1	20.4	25.7	31.1	19.3	24.7	30.0	18.1	23.5	28.9
		76	TC	—	64.1	64.1	—	62.0	62.0	—	59.7	59.7	—	57.1	57.1	—	54.4	54.4	—	51.4	51.4	—	48.3	48.3
			SHC	—	25.2	30.5	—	24.4	29.7	—	23.5	28.9	—	22.6	28.0	—	21.5	26.9	—	20.5	25.8	—	19.3	24.7
1500 cfm	EAT (wb)	58	TC	49.8	49.8	56.2	48.5	48.5	54.6	46.8	46.8	52.7	45.0	45.0	50.8	43.2	43.2	48.7	41.1	41.1	46.3	38.9	38.9	43.8
			SHC	43.6	49.8	56.2	42.3	48.5	54.6	41.0	46.8	52.7	39.4	45.0	50.8	37.7	43.2	48.7	35.9	41.1	46.3	33.9	38.9	43.8
		62	TC	52.1	52.1	54.1	50.2	50.2	53.2	48.1	48.1	52.3	45.8	45.8	51.3	43.5	43.5	50.1	41.1	41.1	48.2	38.9	38.9	45.5
			SHC	39.8	47.0	54.1	38.9	46.1	53.2	37.9	45.1	52.3	36.9	44.1	51.3	35.8	42.9	50.1	34.2	41.1	48.2	32.4	38.9	45.5
		67	TC	57.5	57.5	57.5	55.5	55.5	55.5	53.1	53.1	53.1	50.7	50.7	50.7	48.0	48.0	48.0	45.1	45.1	45.1	42.1	42.1	42.1
			SHC	33.0	40.2	47.4	32.1	39.3	46.5	31.1	38.3	45.5	30.0	37.2	44.5	29	36.2	43.4	27.8	35.0	42.2	26.6	33.8	41.0
		72	TC	63.5	63.5	63.5	61.3	61.3	61.3	58.8	58.8	58.8	56.2	56.2	56.2	53.2	53.2	53.2	50.1	50.1	50.1	46.8	46.8	46.8
			SHC	25.8	33.2	40.4	25.1	32.3	39.5	24.1	31.3	38.5	23.1	30.3	37.5	22.0	29.3	36.5	20.9	28.1	35.4	19.7	26.9	34.1
		76	TC	—	68.4	68.4	—	66.3	66.3	—	63.7	63.7	—	60.8	60.8	—	57.7	57.7	—	54.4	54.4	—	50.9	50.9
			SHC	—	27.3	34.6	—	26.5	33.8	—	25.6	32.9	—	24.7	31.9	—	23.6	30.8	—	22.4	29.7	—	21.3	28.6
1800 cfm	EAT (wb)	58	TC	53.8	53.8	60.6	52.2	52.2	58.7	50.2	50.2	56.6	48.2	48.2	54.3	46.0	46.0	51.9	43.6	43.6	49.1	41.0	41.0	46.3
			SHC	47.0	53.8	60.6	45.5	52.2	58.7	43.9	50.2	56.6	42.0	48.2	54.3	40.1	46.0	51.9	38.0	43.6	49.1	35.8	41.0	46.3
		62	TC	54.4	54.4	61.7	52.4	52.4	60.5	50.3	50.3	58.8	48.3	48.3	56.5	46.0	46.0	53.8	43.7	43.7	51.1	41.0	41.0	48.1
			SHC	44.3	52.9	61.7	43.2	51.9	60.5	41.8	50.3	58.8	40.1	48.3	56.5	38.2	46.0	53.8	36.2	43.7	51.1	34.0	41.0	48.1
		67	TC	59.8	59.8	59.8	57.5	57.5	57.5	55.0	55.0	55.0	52.3	52.3	52.3	49.3	49.3	49.3	46.2	46.2	47.7	42.9	42.9	46.3
			SHC	35.8	44.7	53.4	34.8	43.7	52.5	33.7	42.6	51.4	32.7	41.4	50.2	31.4	40.2	48.9	30.1	38.9	47.7	28.8	37.5	46.3
		72	TC	65.8	65.8	65.8	63.4	63.4	63.4	60.7	60.7	60.7	57.7	57.7	57.7	54.6	54.6	54.6	51.2	51.2	51.2	47.6	47.6	47.6
			SHC	27.2	36.1	44.9	26.2	35.1	44.0	25.3	34.0	42.9	24.1	33.0	41.8	22.9	31.8	40.6	21.6	30.5	39.3	20.3	29.2	38.0
		76	TC	—	70.8	70.8	—	68.4	68.4	—	65.6	65.6	—	62.5	62.5	—	59.2	59.2	—	55.6	55.6	—	51.7	51.7
			SHC	—	29.0	37.8	—	28.1	37.0	—	27.1	35.9	—	25.9	34.8	—	24.8	33.6	—	23.6	32.5	—	22.2	31.1
2000 cfm	EAT (wb)	58	TC	57.4	57.4	64.6	55.6	55.6	62.6	53.4	53.4	60.3	51.2	51.2	57.7	48.8	48.8	55.0	46.2	46.2	52.1	43.4	43.4	48.9
			SHC	50.1	57.4	64.6	48.6	55.6	62.6	46.7	53.4	60.3	44.8	51.2	57.7	42.6	48.8	55.0	40.3	46.2	52.1	37.8	43.4	48.9
		62	TC	57.4	57.4	67.2	55.6	55.6	65.0	53.5	53.5	62.6	51.3	51.3	60.0	48.8	48.8	57.1	46.2	46.2	54.1	43.5	43.5	50.8
			SHC	47.8	57.4	67.2	46.2	55.6	65.0	44.5	53.5	62.6	42.6	51.3	60.0	40.6	48.8	57.1	38.4	46.2	54.1	36.1	43.5	50.8
		67	TC	61.5	61.5	61.5	59.2	59.2	59.2	56.6	56.6	58.1	53.6	53.6	56.9	50.6	50.6	55.6	47.4	47.4	54.2	44.0	44.0	52.7
			SHC	39.0	49.6	60.3	38.0	48.6	59.2	36.9	47.5	58.1	35.7	46.3	56.9	34.5	45.0	55.6	33.2	43.7	54.2	31.8	42.2	52.7
		72	TC	67.6	67.6	67.6	65.1	65.1	65.1	62.3	62.3	62.3	59.2	59.2	59.2	55.9	55.9	55.9	52.4	52.4	52.4	48.6	48.6	48.6
			SHC	28.6	39.2	49.9	27.6	38.2	48.9	26.5	37.2	47.9	25.4	36.1	46.7	24.2	34.8	45.5	22.9	33.5	44.3	21.5	32.3	42.9
		76	TC	—	72.6	72.6	—	70.2	70.2	—	67.3	67.3	—	64.1	64.1	—	60.5	60.5	—	56.7	56.7	—	52.7	52.7
			SHC	—	30.6	41.3	—	29.7	40.5	—	28.8	39.5	—	27.7	38.4	—	26.5	37.2	—	25.3	36.0	—	24.0	34.7
2300 cfm	EAT (wb)	58	TC	59.9	59.9	67.4	57.9	57.9	65.2	55.7	55.7	62.8	53.3	53.3	60.1	50.7	50.7	57.1	48.0	48.0	54.1	45.0	45.0	50.7
			SHC	52.3	59.9	67.4	50.6	57.9	65.2	48.7	55.7	62.8	46.5	53.3	60.1	44.3	50.7	57.1	41.8	48.0	54.1	39.3	45.0	50.7
		62	TC	60.0	60.0	70.0	57.9	57.9	67.8	55.8	55.8	65.1	53.3	53.3	62.4	50.8	50.8	59.4	48.1	48.1	56.2	45.0	45.0	52.7
			SHC	49.8	60.0	70.0	48.2	57.9	67.8	46.3	55.8	65.1	44.4	53.3	62.4	42.2	50.8	59.4	39.9	48.1	56.2	37.3	45.0	52.7
		67	TC	62.7	62.7	65.8	60.3	60.3	64.7	57.5	57.5	63.7	54.6	54.6	62.4	51.5	51.5	60.9	48.3	48.3	59.4	45.1	45.1	56.6
			SHC	41.5	53.7	65.8	40.6	52.7	64.7	39.5	51.6	63.7	38.2	50.3	62.4	37.0	48.9	60.9	35.6	47.5	59.4	33.6	45.0	56.6
		72	TC	68.6	68.6	68.6	66.1	66.1	66.1	63.3	63.3	63.3	60.1	60.1	60.1	56.6	56.6	56.6	53.0	53.0	53.0	49.1	49.1	49.1
			SHC	29.5	41.8	54.0	28.7	40.9	53.0	27.6	39.8	52.0	26.4	38.6	50.8	25.3	37.4	49.6	23.9	36.1	48.3	22.6	34.8	46.9
		76	TC	—	73.8	73.8	—	71.3	71.3	—	68.3	68.3	—	64.9	64.9	—	61.3	61.3	—	57.5	57.5	—	53.4	53.4
			SHC	—	32.1	44.4	—	31.2	43.5	—	30.1	42.5	—	29.1	41.3	—	27.9	40.2	—	26.6	38.9	—	25.3	37.5
2650 cfm	EAT (wb)	58	TC	62.2	62.2	70.0	60.2	60.2	67.8	57.8	57.8	65.1	55.3	55.3	62.3	52.6	52.6	59.3	49.6	49.6	56.0	46.5	46.5	52.5
			SHC	54.3	62.2	70.0	52.6	60.2	67.8	50.5	57.8	65.1	48.3	55.3	62.3	45.9	52.6	59.3	43.3	49.6	56.0	40.6	46.5	52.5
		62	TC	62.3	62.3	72.7	60.2	60.2	70.3	57.9	57.9	67.7	55.4	55.4	64.7	52.7	52.7	61.5	49.7	49.7	58.1	46.6	46.6	54.5
			SHC	51.8	62.3	72.7	50.0	60.2	70.3	48.1	57.9	67.7	46.0	55.4	64.7	43.7	52.7	61.5	41.2	49.7	58.1	38.6	46.6	54.5
		67	TC	63.8	63.8	72.1	61.3	61.3	71.0	58.6	58.6	69.7	55.7	55.7	68.3	52.8	52.8	65.5	49.7	49.7	62.4	46.6	46.6	58.5
			SHC	44.5	58.2	72.1	43.4	57.1	71.0	42.2	56.0	69.7	41.0	54.6	68.3	39.2	52.4	65.5	37.1	49.7	62.4	34.8	46.6	58.5
		72	TC	69.5	69.5	69.5	67.0	67.0	67.0	64.1	64.1	64.1	60.8	60.8	60.8	57.3	57.3	57.3	53.6	53.6	53.6	49.7	49.7	51.6
			SHC	30.7	44.8	58.7	29.8	43.8	57.7	28.8	42.7	56.6	27.6	41.5	55.5	26.3	40.3	54.3	25.1	39.0	52.9	23.7	37.6	51.6
		76	TC	—	74.8	74.8	—	72.2	72.2	—	69.1	69.1	—	65.7	65.7	—	62.1	62.1	—	58.2	58.2	—	54.0	54.0
			SHC	—	33.6	47.7	—	32.8	46.8	—	31.7	45.7	—	30.6	44.7	—	29.3	43.5	—	28.1	42.1	—	26.8	40.9

Performance data (cont)

COOLING CAPACITIES — FIRST STAGE, PART LOAD (10 TONS) (cont)

48LC*B SIZE 12				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2950 cfm	EAT (wb)	58	TC	63.9	63.9	72.0	61.7	61.7	69.5	59.4	59.4	66.9	56.7	56.7	63.9	53.9	53.9	60.7	50.9	50.9	57.3	47.7	47.7	53.7
			SHC	55.8	63.9	72.0	53.9	61.7	69.5	51.8	59.4	66.9	49.5	56.7	63.9	47.0	53.9	60.7	44.4	50.9	57.3	41.5	47.7	53.7
		62	TC	63.9	63.9	74.7	61.8	61.8	72.2	59.4	59.4	69.4	56.7	56.7	66.3	53.9	53.9	63.1	50.9	50.9	59.6	47.7	47.7	55.8
			SHC	53.1	63.9	74.7	51.4	61.8	72.2	49.3	59.4	69.4	47.2	56.7	66.3	44.8	53.9	63.1	42.2	50.9	59.6	39.6	47.7	55.8
		67	TC	64.5	64.5	77.0	62.2	62.2	75.8	59.6	59.6	73.7	56.9	56.9	70.6	54.0	54.0	67.7	51.0	51.0	63.9	47.7	47.7	59.9
			SHC	46.7	61.9	77.0	45.6	60.7	75.8	44.2	59.0	73.7	42.2	56.5	70.6	40.4	54.0	67.7	38.0	51.0	63.9	35.6	47.7	59.9
		72	TC	70.2	70.2	70.2	67.6	67.6	67.6	64.6	64.6	64.6	61.3	61.3	61.3	57.8	57.8	58.1	54.0	54.0	56.8	50.1	50.1	55.4
			SHC	31.7	47.2	62.6	30.8	46.2	61.6	29.7	45.1	60.5	28.6	44.0	59.4	27.3	42.7	58.1	26.0	41.4	56.8	24.7	40.0	55.4
		76	TC	—	75.4	75.4	—	72.7	72.7	—	69.7	69.7	—	66.3	66.3	—	62.6	62.6	—	58.6	58.6	—	54.3	54.3
			SHC	—	34.9	50.4	—	34.0	49.5	—	33.0	48.6	—	31.9	47.4	—	30.6	46.2	—	29.3	44.9	—	28.1	43.5
3300 cfm	EAT (wb)	58	TC	65.5	65.5	73.7	63.3	63.3	71.3	60.8	60.8	68.5	58.1	58.1	65.4	55.2	55.2	62.2	52.1	52.1	58.7	48.7	48.7	54.9
			SHC	57.2	65.5	73.7	55.3	63.3	71.3	53.1	60.8	68.5	50.7	58.1	65.4	48.2	55.2	62.2	45.4	52.1	58.7	42.5	48.7	54.9
		62	TC	65.5	65.5	76.5	63.4	63.4	74.0	60.8	60.8	71.2	58.1	58.1	68.0	55.2	55.2	64.5	52.1	52.1	60.9	48.8	48.8	57.0
			SHC	54.5	65.5	76.5	52.7	63.4	74.0	50.6	60.8	71.2	48.4	58.1	68.0	45.8	55.2	64.5	43.3	52.1	60.9	40.5	48.8	57.0
		67	TC	65.6	65.6	81.9	63.5	63.5	79.4	60.9	60.9	76.2	58.2	58.2	72.9	55.3	55.3	69.2	52.2	52.2	65.3	48.8	48.8	61.1
			SHC	49.0	65.4	81.9	47.5	63.5	79.4	45.5	60.9	76.2	43.5	58.2	72.9	41.2	55.3	69.2	38.9	52.2	65.3	36.4	48.8	61.1
		72	TC	70.7	70.7	70.7	68.2	68.2	68.2	65.1	65.1	65.1	61.8	61.8	63.9	58.2	58.2	62.6	54.4	54.4	61.1	50.4	50.4	59.7
			SHC	32.8	49.9	67.1	31.9	48.9	66.1	30.8	47.9	65.0	29.6	46.7	63.9	28.4	45.4	62.6	27.1	44.2	61.1	25.7	42.7	59.7
		76	TC	—	76.0	76.0	—	73.3	73.3	—	70.2	70.2	—	66.8	66.8	—	63.0	63.0	—	59.0	59.0	—	54.7	54.7
			SHC	—	36.3	53.5	—	35.4	52.7	—	34.4	51.7	—	33.3	50.5	—	32.1	49.3	—	30.8	48.0	—	29.4	46.6

LEGEND

— — Do not operate
cfm — Cubic Feet per Minute (supply air)
EAT (db) — Entering Air Temperature (Dry Bulb)
EAT (wb) — Entering Air Temperature (Wet Bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

COOLING CAPACITIES — SECOND STAGE, PART LOAD (10 TONS)

48LC*B SIZE 12				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
1000 cfm	EAT (wb)	58	TC	59.4	59.4	59.4	57.9	57.9	57.9	56.0	56.0	56.0	53.8	53.8	54.1	51.3	51.3	52.7	48.5	48.5	51.1	45.3	45.3	49.3
			SHC	46.6	52.0	57.3	45.8	51.2	56.6	44.7	50.0	55.4	43.4	48.8	54.1	41.9	47.3	52.7	40.4	45.7	51.1	38.6	44.0	49.3
		62	TC	64.4	64.4	64.4	62.7	62.7	62.7	60.6	60.6	60.6	58.4	58.4	58.4	55.8	55.8	55.8	52.8	52.8	52.8	49.5	49.5	49.5
			SHC	42.9	48.3	53.6	41.9	47.3	52.7	40.9	46.2	51.6	39.6	44.9	50.3	38.1	43.5	48.8	36.6	41.9	47.3	34.9	40.3	45.6
		67	TC	71.2	71.2	71.2	69.3	69.3	69.3	67.2	67.2	67.2	64.7	64.7	64.7	61.9	61.9	61.9	58.8	58.8	58.8	55.3	55.3	55.3
			SHC	38.0	43.4	48.8	37.1	42.4	47.8	36.0	41.3	46.7	34.7	40.1	45.4	33.2	38.6	44.0	31.8	37.1	42.5	30.1	35.5	40.9
		72	TC	78.7	78.7	78.7	76.7	76.7	76.7	74.4	74.4	74.4	71.8	71.8	71.8	68.8	68.8	68.8	65.4	65.4	65.4	61.6	61.6	61.6
			SHC	33.0	38.3	43.7	32.0	37.3	42.7	30.9	36.3	41.6	29.6	35.0	40.4	28.3	33.6	39.0	26.8	32.2	37.5	25.2	30.5	35.9
		76	TC	—	85.2	85.2	—	83.2	83.2	—	80.7	80.7	—	77.9	77.9	—	74.8	74.8	—	71.2	71.2	—	67.2	67.2
			SHC	—	34.1	39.5	—	33.2	38.5	—	32.1	37.4	—	30.9	36.3	—	29.5	34.9	—	28.1	33.4	—	26.4	31.8
1500 cfm	EAT (wb)	58	TC	66.3	66.3	69.3	64.4	64.4	68.3	62.1	62.1	67.0	59.5	59.5	65.6	56.9	56.9	63.4	54.1	54.1	61.0	51.3	51.3	57.8
			SHC	54.9	62.1	69.3	53.8	61.0	68.3	52.6	59.8	67.0	51.2	58.4	65.6	49.3	56.4	63.4	47.3	54.1	61.0	44.9	51.3	57.8
		62	TC	71.6	71.6	71.6	69.5	69.5	69.5	67.2	67.2	67.2	64.4	64.4	64.4	61.3	61.3	61.3	57.9	57.9	57.9	54.1	54.1	55.3
			SHC	49.5	56.7	64.0	48.5	55.7	62.9	47.3	54.5	61.7	45.8	53.0	60.4	44.4	51.6	58.8	42.6	49.9	57.1	40.9	48.1	55.3
		67	TC	79.0	79.0	79.0	76.7	76.7	76.7	74.2	74.2	74.2	71.3	71.3	71.3	68.0	68.0	68.0	64.4	64.4	64.4	60.3	60.3	60.3
			SHC	42.7	49.9	57.1	41.6	48.9	56.2	40.5	47.7	54.9	39.1	46.3	53.5	37.5	44.9	52.1	36.0	43.2	50.4	34.1	41.3	48.7
		72	TC	87.0	87.0	87.0	84.7	84.7	84.7	82.0	82.0	82.0	78.9	78.9	78.9	75.4	75.4	75.4	71.4	71.4	71.4	67.0	67.0	67.0
			SHC	35.6	42.8	50.1	34.6	41.8	49.0	33.4	40.7	47.9	32.1	39.4	46.6	30.6	37.9	45.1	29.1	36.3	43.5	27.3	34.5	41.7
		76	TC	—	94.0	94.0	—	91.6	91.6	—	88.7	88.7	—	85.4	85.4	—	81.7	81.7	—	77.5	77.5	—	72.8	72.8
			SHC	—	37.1	44.3	—	36.1	43.3	—	34.9	42.1	—	33.6	40.9	—	32.2	39.5	—	30.6	37.8	—	28.9	36.2
1800 cfm	EAT (wb)	58	TC	65.9	65.9	74.2	62.7	62.7	71.4	59.4	59.4	67.9	55.9	55.9	64.0	52.1	52.1	59.9	48.1	48.1	55.5	43.7	43.7	50.7
			SHC	56.6	65.4	74.2	54.0	62.7	71.4	51.0	59.4	67.9	47.8	55.9	64.0	44.3	52.1	59.9	40.6	48.1	55.5	36.7	43.7	50.7
		62	TC	71.9	71.9	71.9	68.3	68.3	68.3	64.3	64.3	64.3	60.0	60.0	60.4	55.3	55.3	57.4	50.2	50.2	54.4	44.9	44.9	51.2
			SHC	50.6	59.5	68.3	48.2	56.9	65.8	45.5	54.3	63.2	42.7	51.6	60.4	39.8	48.7	57.4	36.8	45.6	54.4	33.5	42.4	51.2
		67	TC	80.2	80.2	80.2	76.4	76.4	76.4	72.2	72.2	72.2	67.8	67.8	67.8	62.9	62.9	62.9	57.5	57.5	57.5	51.8	51.8	51.8
			SHC	42.8	51.7	60.5	40.4	49.2	58.1	37.8	46.6	55.5	35.1	43.9	52.7	32.2	41.0	49.8	29.2	38.0	46.8	26.0	34.8	43.7
		72	TC	89.3	89.3	89.3	85.4	85.4	85.4	81.1	81.1	81.1	76.3	76.3	76.3	71.2	71.2	71.2	65.5	65.5	65.5	59.5	59.5	59.5
			SHC	34.9	43.7	52.6	32.5	41.3	50.2	29.9	38.8	47.6	27.2	36.1	44.9	24.4	33.2	42.1	21.5	30.2	39.1	18.3	27.1	36.0
		76	TC	—	97.0	97.0	—	93.1	93.1	—	88.6	88.6	—	83.7	83.7	—	78.3	78.3	—	72.4	72.4	—	66.1	66.1
			SHC	—	37.2	46.0	—	34.8	43.7	—	32.4	41.1	—	29.6	38.5	—	26.8	35.7	—	23.9	32.8	—	20.9	29.6
2000 cfm	EAT (wb)	58	TC	72.0	72.0	81.5	68.7	68.7	78.0	65.2	65.2	74.2	61.4	61.4	70.1	57.3	57.3	65.7	52.9	52.9	60.9	48.2	48.2	55.8
			SHC	62.3	72.0	81.5	59.4	68.7	78.0	56.2	65.2	74.2	52.7	61.4	70.1	48.9	57.3	65.7	44.9	52.9	60.9	40.7	48.2	55.8
		62	TC	75.8	75.8	77.7	72.0	72.0	75.2	67.8	67.8	72.4	63.3	63.3	69.6	58.4	58.4	66.6	53.2	53.2	63.3	48.3	48.3	58.4
			SHC	56.5	67.1	77.7	53.9	64.5	75.2	51.2	61.8	72.4	48.4	59.0	69.6	45.3	56.0	66.6	42.1	52.7	63.3	38.2	48.3	58.4
		67	TC	84.2	84.2	84.2	80.2	80.2	80.2	75.9	75.9	75.9	71.1	71.1	71.1	65.9	65.9	65.9	60.3	60.3	60.3	54.2	54.2	54.2
			SHC	46.8	57.4	68.2	44.3	55.0	65.6	41.6	52.4	63.0	38.8	49.5	60.2	35.9	46.6	57.2	32.8	43.5	54.1	29.5	40.2	50.9
		72	TC	93.5	93.5	93.5	89.4	89.4	89.4	84.8	84.8	84.8	79.9	79.9	79.9	74.4	74.4	74.4	68.4	68.4	68.4	62.0	62.0	62.0
			SHC	37.0	47.7	58.4	34.5	45.2	56.0	31.9	42.6	53.3	29.2	39.9	50.6	26.2	37.0	47.7	23.2	33.9	44.7	20.0	30.7	41.4
		76	TC	—	101.4	101.4	—	97.2	97.2	—	92.5	92.5	—	87.4	87.4	—	81.7	81.7	—	75.5	75.5	—	68.7	68.7
			SHC	—	39.6	50.3	—	37.1	47.9	—	34.6	45.3	—	31.9	42.6	—	29.1	39.8	—	26.0	36.8	—	22.9	33.6
2300 cfm	EAT (wb)	58	TC	76.3	76.3	86.4	72.9	72.9	82.8	69.2	69.2	78.8	65.2	65.2	74.5	60.9	60.9	69.8	56.4	56.4	64.7	51.4	51.4	59.3
			SHC	66.2	76.3	86.4	63.1	72.9	82.8	59.8	69.2	78.8	56.1	65.2	74.5	52.2	60.9	69.8	48.0	56.4	64.7	43.5	51.4	59.3
		62	TC	78.4	78.4	85.4	74.5	74.5	82.9	70.2	70.2	80.0	65.6	65.6	77.0	61.1	61.1	72.8	56.5	56.5	67.7	51.5	51.5	62.0
			SHC	61.0	73.2	85.4	58.5	70.7	82.9	55.8	68.0	80.0	52.8	64.9	77.0	49.3	61.1	72.8	45.2	56.5	67.7	40.9	51.5	62.0
		67	TC	86.8	86.8	86.8	82.7	82.7	82.7	78.2	78.2	78.2	73.2	73.2	73.2	67.9	67.9	67.9	62.0	62.0	62.0	55.8	55.8	56.8
			SHC	49.8	62.1	74.4	47.4	59.6	71.9	44.7	56.9	69.1	41.8	54.0	66.3	38.8	51.1	63.3	35.7	47.9	60.2	32.4	44.7	56.8
		72	TC	96.1	96.1	96.1	91.9	91.9	91.9	87.3	87.3	87.3	82.1	82.1	82.1	76.4	76.4	76.4	70.3	70.3	70.3	63.7	63.7	63.7
			SHC	38.4	50.7	63.1	36.0	48.3	60.5	33.3	45.6	57.9	30.5	42.9	55.2	27.6	39.9	52.2	24.5	36.9	49.1	21.3	33.5	45.8
		76	TC	—	104.1	104.1	—	99.8	99.8	—	95.0	95.0	—	89.6	89.6	—	83.8	83.8	—	77.4	77.4	—	70.4	70.4
			SHC	—	41.4	53.7	—	39.0	51.3	—	36.4	48.8	—	33.6	46.0	—	30.8	43.1	—	27.7	40.1	—	24.5	36.9
2650 cfm	EAT (wb)	58	TC	80.6	80.6	91.2	77.1	77.1	87.4	73.2	73.2	83.3	69.0	69.0	78.7	64.5	64.5	73.8	59.7	59.7	68.4	54.5	54.5	62.7
			SHC	70.0	80.6	91.2	66.8	77.1	87.4	63.3	73.2	83.3	59.5	69.0	78.7	55.4	64.5	73.8	50.9	59.7	68.4	46.2	54.5	62.7
		62	TC	81.0	81.0	93.9	77.2	77.2	91.0	73.3	73.3	86.7	69.2	69.2	82.0	64.6	64.6	77.0	59.8	59.8	71.5	54.5	54.5	65.6
			SHC	66.2	80.0	93.9	63.5	77.2	91.0	60.1	73.3	86.7	56.4	69.2	82.0	52.4	64.6	77.0	48.1	59.8	71.5	43.5	54.5	65.6
		67	TC	89.0	89.0	89.0	84.9	84.9	84.9	80.2	80.2	80.2	75.2	75.2	75.2	69.6	69.6	70.1	63.7	63.7	66.9	57.2	57.2	63.6
			SHC	53.2	67.3	81.3	50.7	64.7	78.8	48.0	62.0	76.1	45.1	59.2	73.2	42.1	56.2	70.1	38.9	52.9	66.9	35.6	49.5	63.6
		72	TC	98.5	98.5	98.5	94.2	94.2	94.2	89.3	89.3	89.3	84.0	84.0	84.0	78.2	78.2	78.2	71.9	71.9	71.9	65.0	65.0	65.0
			SHC	40.0	54.1	68.3	37.5	51.7	65.8	34.9	48.9	63.1	32.1	46.1	60.3	29.1	43.2	57.3	25.9	40.1	54.1	22.6	36.8	50.9
		76	TC	—	106.6	106.6	—	102.2	102.2	—	97.2	97.2	—	91.7	91.7	—	85.6	85.6	—	79.0	79.0	—	71.9	71.9
			SHC	—	43.4	57.5	—	41.0	55.2	—	38.3	52.6	—	35.6	49.7	—	32.7	46.8	—	29.5	43.8	—	26.3	40.5

Performance data (cont)

COOLING CAPACITIES — SECOND STAGE, PART LOAD (10 TONS) (cont)

48LC*B SIZE 12				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2950 cfm	EAT (wb)	58	TC	83.8	83.8	94.7	80.1	80.1	90.8	76.1	76.1	86.5	71.9	71.9	81.8	67.2	67.2	76.7	62.1	62.1	71.2	56.6	56.6	65.2
			SHC	72.8	83.8	94.7	69.5	80.1	90.8	65.8	76.1	86.5	61.9	71.9	81.8	57.6	67.2	76.7	53.0	62.1	71.2	48.2	56.6	65.2
		62	TC	83.9	83.9	98.5	80.2	80.2	94.5	76.2	76.2	90.1	72.0	72.0	85.2	67.3	67.3	80.0	62.2	62.2	74.3	56.7	56.7	68.2
			SHC	69.2	83.9	98.5	66.0	80.2	94.5	62.5	76.2	90.1	58.7	72.0	85.2	54.6	67.3	80.0	50.1	62.2	74.3	45.4	56.7	68.2
		67	TC	90.6	90.6	90.6	86.4	86.4	86.4	81.6	81.6	81.8	76.4	76.4	78.9	70.9	70.9	75.9	64.7	64.7	72.5	58.3	58.3	69.0
			SHC	56.0	71.6	87.2	53.4	69.0	84.6	50.7	66.3	81.8	47.9	63.4	78.9	44.8	60.3	75.9	41.5	57.0	72.5	38.1	53.6	69.0
		72	TC	100.0	100.0	100.0	95.6	95.6	95.6	90.8	90.8	90.8	85.3	85.3	85.3	79.4	79.4	79.4	72.9	72.9	72.9	65.9	65.9	65.9
			SHC	41.2	56.8	72.5	38.7	54.4	70.0	36.1	51.7	67.4	33.2	48.8	64.5	30.2	45.9	61.5	27.1	42.7	58.3	23.8	39.4	55.0
		76	TC	—	108.2	108.2	—	103.6	103.6	—	98.6	98.6	—	93.0	93.0	—	86.8	86.8	—	80.1	80.1	—	72.8	72.8
			SHC	—	44.9	60.7	—	42.5	58.3	—	39.9	55.7	—	37.1	52.8	—	34.1	49.8	—	31.0	46.8	—	27.7	43.5
3300 cfm	EAT (wb)	58	TC	86.9	86.9	98.2	83.2	83.2	94.2	79.1	79.1	89.7	74.6	74.6	84.8	69.8	69.8	79.6	64.5	64.5	73.9	58.9	58.9	67.7
			SHC	75.6	86.9	98.2	72.2	83.2	94.2	68.4	79.1	89.7	64.4	74.6	84.8	60.0	69.8	79.6	55.2	64.5	73.9	50.1	58.9	67.7
		62	TC	87.0	87.0	102.1	83.3	83.3	98.0	79.2	79.2	93.4	74.7	74.7	88.4	69.9	69.9	83.0	64.6	64.6	77.1	59.0	59.0	70.7
			SHC	72.0	87.0	102.1	68.6	83.3	98.0	64.9	79.2	93.4	61.0	74.7	88.4	56.7	69.9	83.0	52.2	64.6	77.1	47.3	59.0	70.7
		67	TC	92.1	92.1	93.7	87.8	87.8	91.2	83.0	83.0	88.3	77.8	77.8	85.4	72.1	72.1	82.2	65.9	65.9	78.8	59.5	59.5	75.1
			SHC	59.1	76.4	93.7	56.6	73.8	91.2	53.8	71.1	88.3	50.9	68.2	85.4	47.8	65.0	82.2	44.5	61.6	78.8	41.0	58.0	75.1
		72	TC	101.5	101.5	101.5	97.0	97.0	97.0	92.0	92.0	92.0	86.5	86.5	86.5	80.4	80.4	80.4	73.9	73.9	73.9	66.8	66.8	66.8
			SHC	42.6	60.0	77.4	40.1	57.5	74.9	37.4	54.8	72.2	34.5	52.0	69.3	31.5	48.9	66.3	28.4	45.7	63.1	25.1	42.4	59.8
		76	TC	—	109.7	109.7	—	105.1	105.1	—	99.9	99.9	—	94.2	94.2	—	87.9	87.9	—	81.1	81.1	—	73.7	73.7
			SHC	—	46.6	64.2	—	44.2	61.7	—	41.5	59.1	—	38.7	56.3	—	35.8	53.2	—	32.7	50.1	—	29.3	46.8

LEGEND

— — Do not operate
cfm — Cubic Feet per Minute (supply air)
EAT (db) — Entering Air Temperature (Dry Bulb)
EAT (wb) — Entering Air Temperature (Wet Bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

COOLING CAPACITIES — THIRD STAGE, FULL LOAD (10 TONS)

48LC*B SIZE 12				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
2000 cfm	EAT (wb)	58	TC	89.2	89.2	91.2	86.2	86.2	89.5	82.8	82.8	87.7	78.9	78.9	85.5	74.7	74.7	83.3	71.6	71.6	78.6	66.2	66.2	76.2
			SHC	69.8	80.4	91.2	68.2	78.8	89.5	66.3	76.9	87.7	64.3	74.9	85.5	62.0	72.6	83.3	58.7	68.6	78.6	56.2	66.2	76.2
		62	TC	98.2	98.2	98.2	95.0	95.0	95.0	91.3	91.3	91.3	87.2	87.2	87.2	82.6	82.6	82.6	77.5	77.5	77.5	72.0	72.0	72.0
			SHC	62.6	73.3	83.9	60.9	71.7	82.3	59.1	69.8	80.4	57.1	67.8	78.5	54.9	65.5	76.2	52.5	63.2	73.8	49.9	60.6	71.3
		67	TC	110.5	110.5	110.5	107.0	107	107.0	103.0	103.0	103.0	98.5	98.5	98.5	93.5	93.5	93.5	88.0	88.0	88.0	82.1	82.1	82.1
			SHC	53.4	64.2	74.8	51.8	62.5	73.2	50.0	60.6	71.4	48.0	58.7	69.3	45.8	56.5	67.2	43.5	54.1	64.8	41.0	51.6	62.3
		72	TC	123.7	123.7	123.7	119.9	119.9	119.9	115.6	115.6	115.6	110.8	110.8	110.8	105.4	105.4	105.4	99.5	99.5	99.5	93.0	93.0	93.0
			SHC	43.9	54.6	65.3	42.3	53.0	63.8	40.6	51.3	62.0	38.5	49.2	60.0	36.4	47.1	57.8	34.1	44.9	55.6	31.6	42.3	53.0
		76	TC	—	135.0	135.0	—	131.0	131.0	—	126.5	126.5	—	121.3	121.3	—	115.5	115.5	—	109.3	109.3	—	102.4	102.4
			SHC	—	46.8	57.5	—	45.2	56.0	—	43.5	54.2	—	41.5	52.3	—	39.4	50.1	—	37.1	47.9	—	34.7	45.4
2250 cfm	EAT (wb)	58	TC	93.5	93.5	99.5	90.3	90.3	97.7	86.7	86.7	95.7	82.7	82.7	93.5	78.7	78.7	90.3	74.8	74.8	85.9	70.6	70.6	81.1
			SHC	75.5	87.5	99.5	73.8	85.7	97.7	71.9	83.8	95.7	69.7	81.6	93.5	67.0	78.7	90.3	63.7	74.8	85.9	60.1	70.6	81.1
		62	TC	102.6	102.6	102.6	99.1	99.1	99.1	95.2	95.2	95.2	90.8	90.8	90.8	85.9	85.9	85.9	80.5	80.5	80.7	74.7	74.7	78.0
			SHC	67.2	79.2	91.2	65.5	77.5	89.5	63.6	75.6	87.6	61.5	73.5	85.5	59.2	71.2	83.2	56.7	68.7	80.7	54.1	66.0	78.0
		67	TC	115.1	115.1	115.1	111.3	111.3	111.3	107.0	107.0	107.0	102.2	102.2	102.2	97.0	97.0	97.0	91.2	91.2	91.2	84.8	84.8	84.8
			SHC	56.6	68.6	80.7	55.0	67.0	79.0	53.0	65.1	77.1	51.0	63.0	75.0	48.8	60.7	72.7	46.3	58.3	70.3	43.7	55.7	67.8
		72	TC	128.5	128.5	128.5	124.4	124.4	124.4	119.8	119.8	119.8	114.8	114.8	114.8	109.0	109.0	109.0	102.8	102.8	102.8	95.9	95.9	95.9
			SHC	45.7	57.8	69.8	44.1	56.2	68.3	42.2	54.3	66.4	40.2	52.3	64.4	38.0	50.1	62.1	35.7	47.7	59.8	33.1	45.1	57.2
		76	TC	—	140.0	140.0	—	135.7	135.7	—	130.8	130.8	—	125.4	125.4	—	119.3	119.3	—	112.7	112.7	—	105.4	105.4
			SHC	—	48.8	60.8	—	47.2	59.3	—	45.4	57.4	—	43.4	55.5	—	41.2	53.3	—	38.9	51.0	—	36.5	48.5
2500 cfm	EAT (wb)	58	TC	106.1	106.1	116.2	100.6	100.6	112.2	94.9	94.9	108.0	89.4	89.4	102.1	83.7	83.7	95.7	77.4	77.4	89.0	70.9	70.9	81.8
			SHC	89.7	103.0	116.2	85.9	99.1	112.2	81.7	94.9	108.0	76.7	89.4	102.1	71.5	83.7	95.7	65.8	77.4	89.0	59.9	70.9	81.8
		62	TC	115.0	115.0	115.0	109.3	109.3	109.3	103.1	103.1	103.1	96.3	96.3	96.3	89.2	89.2	90.4	81.5	81.5	85.7	73.4	73.4	80.9
			SHC	80.3	93.6	107.0	76.5	89.8	103.2	72.4	85.8	99.1	68.3	81.5	94.8	63.8	77.1	90.4	59.2	72.4	85.7	54.4	67.7	80.9
		67	TC	127.6	127.6	127.6	121.6	121.6	121.6	115.0	115.0	115.0	107.9	107.9	107.9	100.3	100.3	100.3	92.1	92.1	92.1	83.5	83.5	83.5
			SHC	68.4	81.7	95.1	64.6	77.9	91.3	60.5	73.9	87.3	56.4	69.7	83.1	52.0	65.3	78.7	47.5	60.7	74.1	42.7	56.0	69.3
		72	TC	141.2	141.2	141.2	134.8	134.8	134.8	127.9	127.9	127.9	120.5	120.5	120.5	112.5	112.5	112.5	103.8	103.8	103.8	94.7	94.7	94.7
			SHC	56.1	69.5	82.9	52.4	65.7	79.2	48.4	61.8	75.2	44.3	57.6	71.1	40.0	53.3	66.7	35.4	48.8	62.2	30.7	44.2	57.5
		76	TC	—	152.9	152.9	—	146.3	146.3	—	139.1	139.1	—	131.3	131.3	—	122.9	122.9	—	113.9	113.9	—	104.2	104.2
			SHC	—	59.4	72.8	—	55.7	69.1	—	51.8	65.2	—	47.7	61.1	—	43.5	56.8	—	39.0	52.4	—	34.3	47.8
3000 cfm	EAT (wb)	58	TC	113.8	113.8	128.7	108.7	108.7	123.2	103.3	103.3	117.3	97.4	97.4	111.0	91.1	91.1	104.1	84.4	84.4	96.8	77.2	77.2	89.0
			SHC	98.8	113.8	128.7	94.1	108.7	123.2	89.1	103.3	117.3	83.8	97.4	111.0	78.1	91.1	104.1	72.0	84.4	96.8	65.5	77.2	89.0
		62	TC	120.8	120.8	120.8	114.9	114.9	116.3	108.2	108.2	112.1	101.2	101.2	107.7	93.6	93.6	103.1	85.7	85.7	98.3	77.5	77.5	92.8
			SHC	88.5	104.3	120.2	84.5	100.4	116.3	80.4	96.2	112.1	76.1	91.8	107.7	71.5	87.3	103.1	66.8	82.5	98.3	61.6	77.2	92.8
		67	TC	133.5	133.5	133.5	127.0	127.0	127.0	120.1	120.1	120.1	112.6	112.6	112.6	104.6	104.6	104.6	96.0	96.0	96.0	86.9	86.9	86.9
			SHC	73.9	89.8	105.7	70.0	85.9	101.8	65.9	81.8	97.7	61.5	77.5	93.4	57.0	72.9	88.8	52.5	68.3	84.2	47.6	63.5	79.4
		72	TC	147.2	147.2	147.2	140.6	140.6	140.6	133.3	133.3	133.3	125.5	125.5	125.5	116.9	116.9	116.9	107.8	107.8	107.8	98.2	98.2	98.2
			SHC	58.9	74.9	90.9	55.1	71.1	87.1	51.1	67.1	83.1	46.8	62.8	78.8	42.4	58.4	74.4	37.8	53.7	69.7	33.1	48.9	64.9
		76	TC	—	159.1	159.1	—	152.2	152.2	—	144.6	144.6	—	136.4	136.4	—	127.6	127.6	—	118.0	118.0	—	107.8	107.8
			SHC	—	62.7	78.8	—	58.9	75.0	—	55	71.1	—	50.8	66.9	—	46.5	62.6	—	41.9	58.0	—	37.1	53.2
3500 cfm	EAT (wb)	58	TC	121.2	121.2	137.0	115.8	115.8	131.2	110.0	110.0	124.9	103.7	103.7	118.1	97.1	97.1	110.9	90.0	90.0	103.1	82.5	82.5	94.8
			SHC	105.4	121.2	137.0	100.4	115.8	131.2	95.2	110.0	124.9	89.4	103.7	118.1	83.4	97.1	110.9	77.0	90.0	103.1	70.1	82.5	94.8
		62	TC	125.3	125.3	132.7	119.0	119.0	128.7	112.2	112.2	124.4	105.1	105.1	119.7	97.5	97.5	114.8	90.2	90.2	107.5	82.6	82.6	99.0
			SHC	96.0	114.4	132.7	92.0	110.4	128.7	87.8	106.1	124.4	83.4	101.6	119.7	78.6	96.6	114.8	72.7	90.2	107.5	66.1	82.6	99.0
		67	TC	137.8	137.8	137.8	131.0	131.0	131.0	123.8	123.8	123.8	116.1	116.1	116.1	107.7	107.7	107.7	98.9	98.9	98.9	89.4	89.4	89.4
			SHC	78.8	97.2	115.6	74.9	93.3	111.7	70.7	89.1	107.5	66.3	84.7	103.2	61.8	80.2	98.7	57.0	75.5	93.9	52.1	70.5	88.9
		72	TC	151.6	151.6	151.6	144.7	144.7	144.7	137.2	137.2	137.2	129.0	129.0	129.0	120.1	120.1	120.1	110.8	110.8	110.8	100.7	100.7	100.7
			SHC	61.2	79.9	98.4	57.4	76.0	94.5	53.3	71.9	90.4	49.0	67.6	86.1	44.6	63.1	81.5	39.9	58.4	76.9	35.0	53.5	72.1
		76	TC	—	163.6	163.6	—	156.5	156.5	—	148.6	148.6	—	140.0	140.0	—	130.8	130.8	—	121.0	121.0	—	110.5	110.5
			SHC	—	65.6	84.3	—	61.8	80.5	—	57.8	76.5	—	53.5	72.2	—	49.1	67.9	—	44.6	63.2	—	39.7	58.4
4000 cfm	EAT (wb)	58	TC	127.3	127.3	143.8	121.7	121.7	137.8	115.6	115.6	131.1	109.1	109.1	124.0	102.1	102.1	116.4	94.7	94.7	108.2	86.7	86.7	99.5
			SHC	110.8	127.3	143.8	105.7	121.7	137.8	100.1	115.6	131.1	94.2	109.1	124.0	87.8	102.1	116.4	81.1	94.7	108.2	73.9	86.7	99.5
		62	TC	129.1	129.1	144.5	122.8	122.8	140.3	116.0	116.0	135.5	109.3	109.3	129.2	102.3	102.3	121.3	94.8	94.8	112.9	86.8	86.8	103.9
			SHC	103.2	123.8	144.5	99.1	119.6	140.3	94.6	115.1	135.5	89.3	109.3	129.2	83.2	102.3	121.3	76.6	94.8	112.9	69.7	86.8	103.9
		67	TC	141.0	141.0	141.0	134.2	134.2	134.2	126.8	126.8	126.8	118.8	118.8	118.8	110.3	110.3	110.3	101.1	101.1	103.2	91.5	91.5	98.1
			SHC	83.4	104.3	125.3	79.5	100.3	121.3	75.3	96.1	117.1	70.9	91.7	112.6	66.2	87.2	108.0	61.4	82.3	103.2	56.5	77.2	98.1
		72	TC	155.0	155.0	155.0	147.9	147.9	147.9	140.1	140.1	140.1	131.7	131.7	131.7	122.8	122.8	122.8	112.9	112.9	112.9	102.6	102.6	102.6
			SHC	63.4	84.4	105.5	59.5	80.5	101.5	55.4	76.3	97.4	51.1	72.1	93.0	46.6	67.6	88.5	41.8	62.8	83.8	36.9	57.8	78.8
		76	TC	—	167.0	167.0	—	159.6	159.6	—	151.5	151.5	—	142.7	142.7	—	133.4	133.4	—	123.3	123.3	—	112.5	112.5
			SHC	—	68.3	89.5	—	64.4	85.6	—	60.4	81.5	—	56.1	77.2	—	51.6	72.7	—	46.9	68.1	—	42.1	63.2

Performance data (cont)

COOLING CAPACITIES — THIRD STAGE, FULL LOAD (10 TONS) (cont)

48LC*B SIZE 12				AMBIENT TEMPERATURE (°F)																				
				65			75			85			95			105			115			125		
				EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)			EAT (db)		
				75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85	75	80	85
4500 cfm	EAT (wb)	58	TC	132.5	132.5	149.6	126.7	126.7	143.2	120.3	120.3	136.4	113.6	113.6	129.0	106.3	106.3	121.1	98.6	98.6	112.5	90.3	90.3	103.4
			SHC	115.3	132.5	149.6	110.0	126.7	143.2	104.3	120.3	136.4	98.1	113.6	129.0	91.6	106.3	121.1	84.5	98.6	112.5	77.0	90.3	103.4
		62	TC	132.7	132.7	154.9	126.8	126.8	149.1	120.5	120.5	142.0	113.7	113.7	134.4	106.5	106.5	126.2	98.7	98.7	117.4	90.4	90.4	108.0
			SHC	109.5	132.2	154.9	104.6	126.8	149.1	99.1	120.5	142.0	93.0	113.7	134.4	86.7	106.5	126.2	80.0	98.7	117.4	72.7	90.4	108.0
		67	TC	143.6	143.6	143.6	136.6	136.6	136.6	129.1	129.1	129.1	120.9	120.9	121.8	112.2	112.2	117.0	103.0	103.0	112.0	93.1	93.1	106.9
			SHC	87.8	111.2	134.6	83.9	107.2	130.5	79.6	102.9	126.3	75.1	98.5	121.8	70.5	93.8	117.0	65.6	88.8	112.0	60.5	83.7	106.9
		72	TC	157.6	157.6	157.6	150.3	150.3	150.3	142.4	142.4	142.4	133.9	133.9	133.9	124.6	124.6	124.6	114.6	114.6	114.6	104.0	104.0	104.0
			SHC	65.3	88.8	112.2	61.4	84.8	108.3	57.2	80.7	104.1	52.9	76.3	99.7	48.4	71.8	95.2	43.6	67.0	90.4	38.6	62.0	85.4
		76	TC	—	169.7	169.7	—	162.1	162.1	—	154.0	154.0	—	145.0	145.0	—	135.4	135.4	—	125.1	125.1	—	114.0	114.0
			SHC	—	70.7	94.4	—	66.8	90.5	—	62.7	86.3	—	58.4	82.0	—	53.9	77.5	—	49.2	72.7	—	44.4	67.9
5000 cfm	EAT (wb)	58	TC	136.9	136.9	154.4	130.8	130.8	147.9	124.3	124.3	140.9	117.3	117.3	133.2	109.8	109.8	125.0	101.8	101.8	116.2	93.2	93.2	106.8
			SHC	119.2	136.9	154.4	113.8	130.8	147.9	107.8	124.3	140.9	101.5	117.3	133.2	94.7	109.8	125.0	87.5	101.8	116.2	79.8	93.2	106.8
		62	TC	137.0	137.0	160.5	130.9	130.9	153.9	124.5	124.5	146.5	117.5	117.5	138.6	110.0	110.0	130.2	101.9	101.9	121.1	93.3	93.3	111.4
			SHC	113.5	137.0	160.5	108.1	130.9	153.9	102.4	124.5	146.5	96.2	117.5	138.6	89.7	110.0	130.2	82.7	101.9	121.1	75.3	93.3	111.4
		67	TC	145.8	145.8	145.8	138.6	138.6	139.4	131.0	131.0	135.1	122.8	122.8	130.6	113.9	113.9	125.7	104.5	104.5	120.6	94.7	94.7	115.0
			SHC	92.0	117.8	143.5	88.0	113.7	139.4	83.8	109.4	135.1	79.3	104.9	130.6	74.5	100.1	125.7	69.6	95.1	120.6	64.4	89.7	115.0
		72	TC	159.7	159.7	159.7	152.3	152.3	152.3	144.2	144.2	144.2	135.5	135.5	135.5	126.2	126.2	126.2	115.9	115.9	115.9	105.3	105.3	105.3
			SHC	67.2	93.0	118.9	63.2	89.1	115.0	59.1	84.9	110.8	54.7	80.5	106.3	50.1	75.9	101.7	45.2	71.1	96.8	40.3	66.0	91.8
		76	TC	—	172.0	172.0	—	164.3	164.3	—	155.9	155.9	—	146.8	146.8	—	137.0	137.0	—	126.6	126.6	—	115.3	115.3
			SHC	—	73.0	99.1	—	69.1	95.2	—	64.9	91.0	—	60.6	86.7	—	56.2	82.1	—	51.4	77.3	—	46.5	72.3

LEGEND

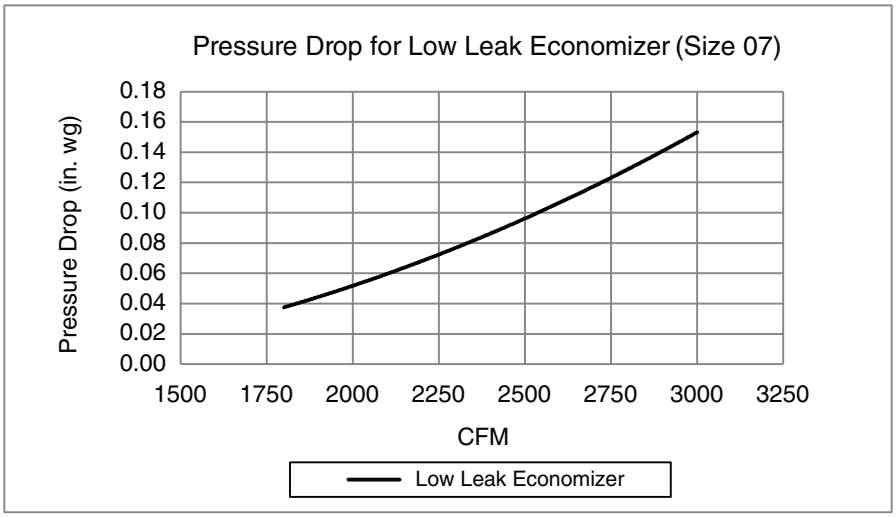
— — Do not operate
cfm — Cubic Feet per Minute (supply air)
EAT (db) — Entering Air Temperature (Dry Bulb)
EAT (wb) — Entering Air Temperature (Wet Bulb)
SHC — Sensible Heat Capacity (1000 Btuh) Gross
TC — Total Capacity (1000 Btuh) Gross

Performance data (cont)

STATIC PRESSURE ADDERS

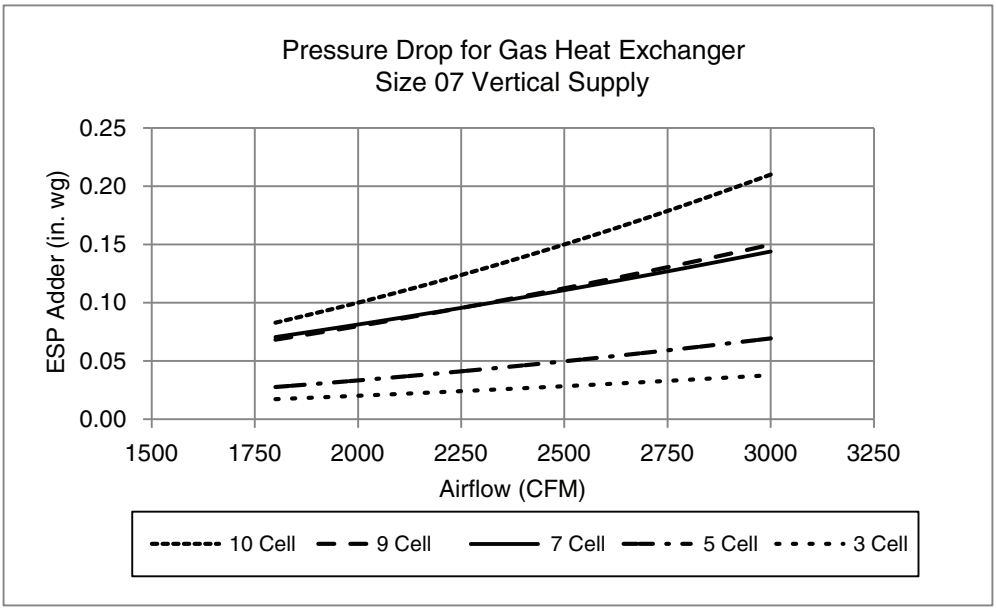
48LC*B07 PRESSURE DROP — LOW LEAK ECONOMIZER

AIRFLOW (cfm)	1800	1950	2100	2250	2400	2550	2700	2850	3000
Low Leak Economizer	0.04	0.05	0.06	0.07	0.09	0.10	0.12	0.13	0.15



PRESSURE DROP ACROSS GAS HEAT EXCHANGER (SIZE 07, VERTICAL SUPPLY)

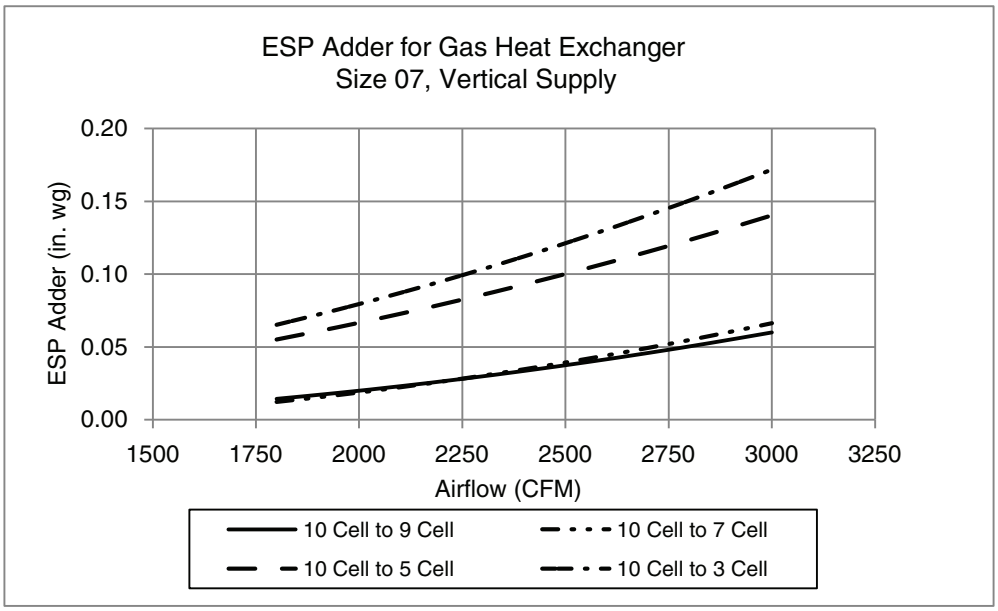
CFM	1800	1950	2100	2250	2400	2550	2700	2850	3000
3 Cell	0.02	0.02	0.02	0.02	0.03	0.03	0.03	0.03	0.04
5 Cell	0.03	0.03	0.04	0.04	0.05	0.05	0.06	0.06	0.07
7 Cell	0.07	0.08	0.09	0.10	0.10	0.11	0.12	0.13	0.14
9 Cell	0.07	0.08	0.09	0.10	0.11	0.12	0.13	0.14	0.15
10 Cell	0.08	0.10	0.11	0.12	0.14	0.16	0.17	0.19	0.21



Performance data (cont)

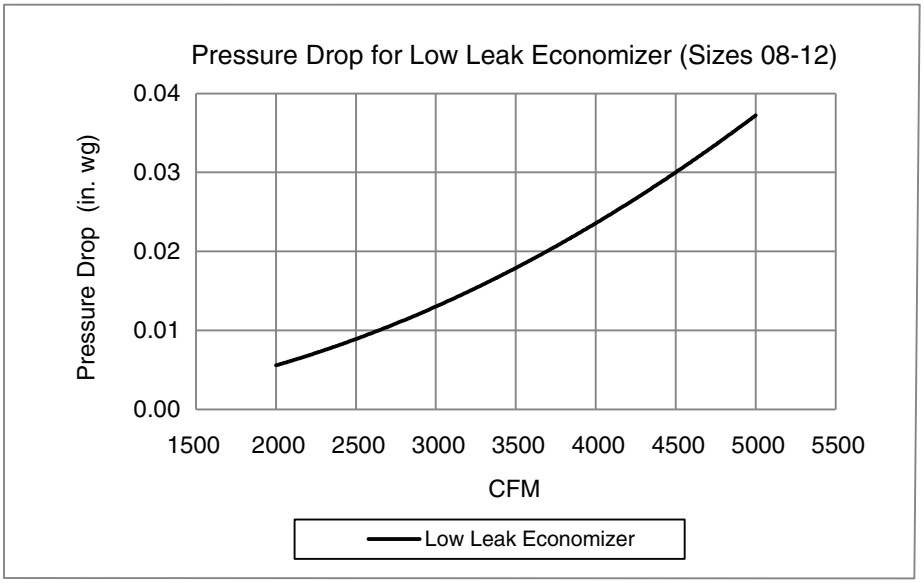
ESP ADDER FOR GAS HEAT EXCHANGER (SIZE 07, VERTICAL SUPPLY)

CFM	1800	1950	2100	2250	2400	2550	2700	2850	3000
10 Cell to 9 Cell	0.01	0.02	0.02	0.03	0.03	0.04	0.05	0.05	0.06
10 Cell to 7 Cell	0.01	0.02	0.02	0.03	0.03	0.04	0.05	0.06	0.07
10 Cell to 5 Cell	0.06	0.06	0.07	0.08	0.09	0.10	0.12	0.13	0.14
10 Cell to 3 Cell	0.07	0.08	0.09	0.10	0.11	0.13	0.14	0.16	0.17



48LC*B08-12 LOW LEAK ECONOMIZER PRESSURE DROP

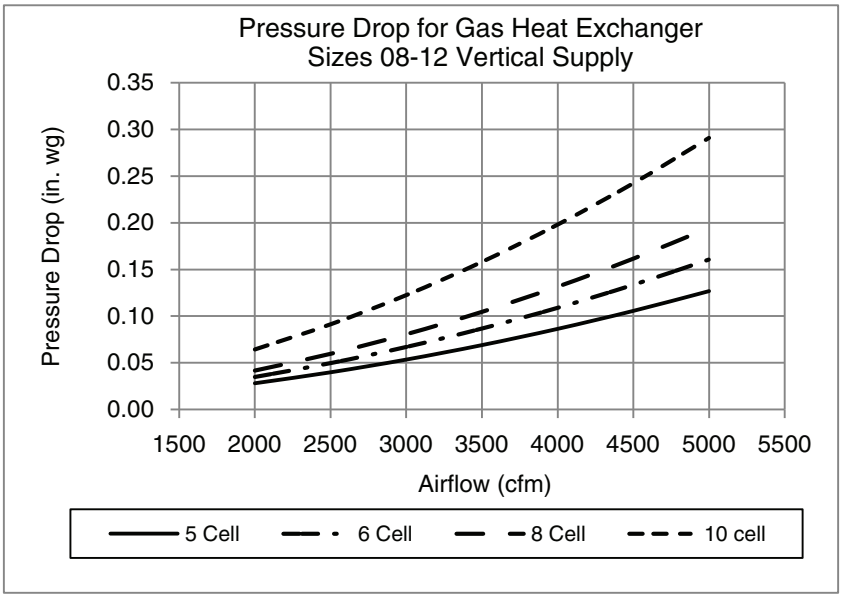
AIRFLOW (CFM)	2000	2500	3000	3500	4000	4500	5000
LOW LEAK ECONOMIZER	0.01	0.01	0.01	0.02	0.02	0.03	0.04



Performance data (cont)

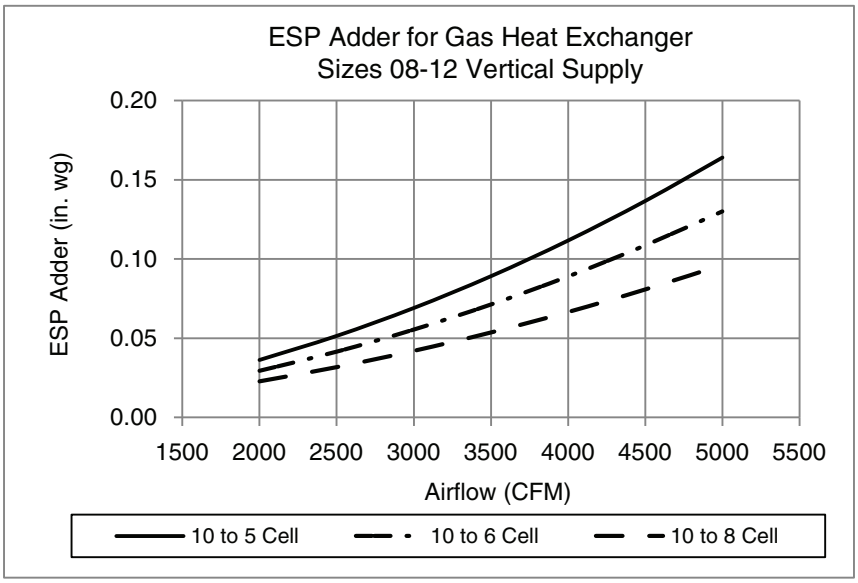
PRESSURE DROP FOR GAS HEAT EXCHANGER (SIZES 08-12 VERTICAL SUPPLY)

CFM	2000	2500	3000	3500	4000	4500	5000
5 Cell	0.03	0.04	0.05	0.07	0.09	0.11	0.13
6 Cell	0.03	0.05	0.07	0.09	0.11	0.13	0.16
8 Cell	0.04	0.06	0.08	0.10	0.13	0.16	0.19
10 cell	0.06	0.09	0.12	0.16	0.20	0.24	0.29



ESP ADDER FOR GAS HEAT EXCHANGER (SIZES 08-12, VERTICAL SUPPLY)

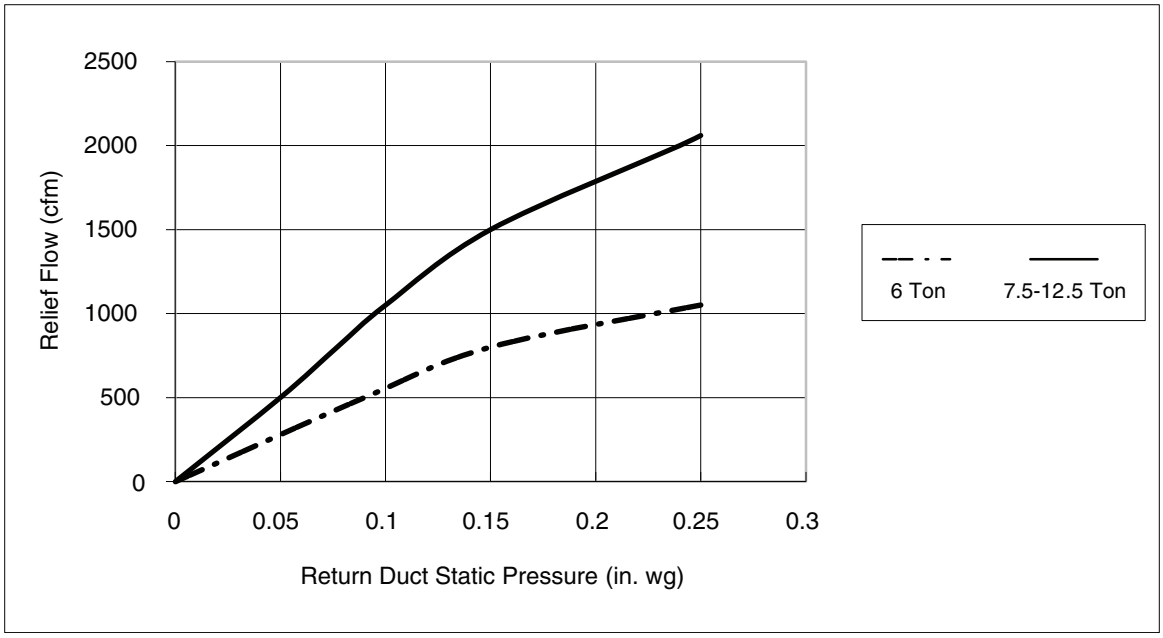
CFM	2000	2500	3000	3500	4000	4500	5000
10 to 5 Cell	0.04	0.05	0.07	0.09	0.11	0.14	0.16
10 to 6 Cell	0.03	0.04	0.06	0.07	0.09	0.11	0.13
10 to 8 Cell	0.02	0.03	0.04	0.05	0.07	0.08	0.10

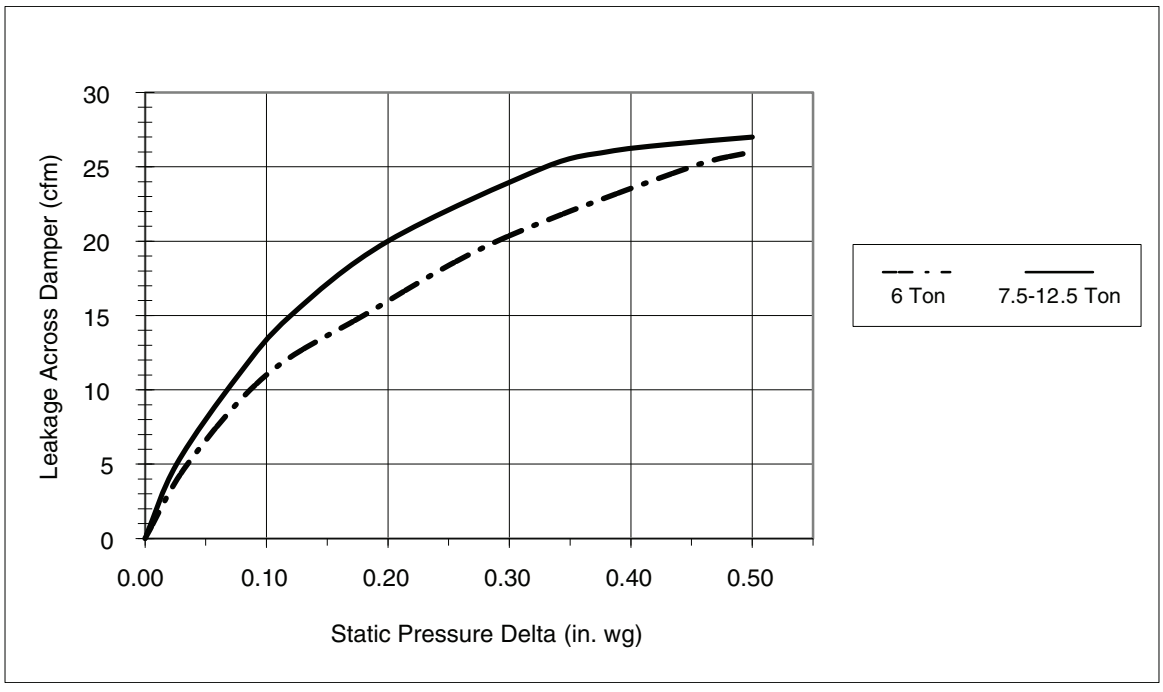


Performance data (cont)

ECONOMIZER, BAROMETRIC, AND POWER EXHAUST PERFORMANCE

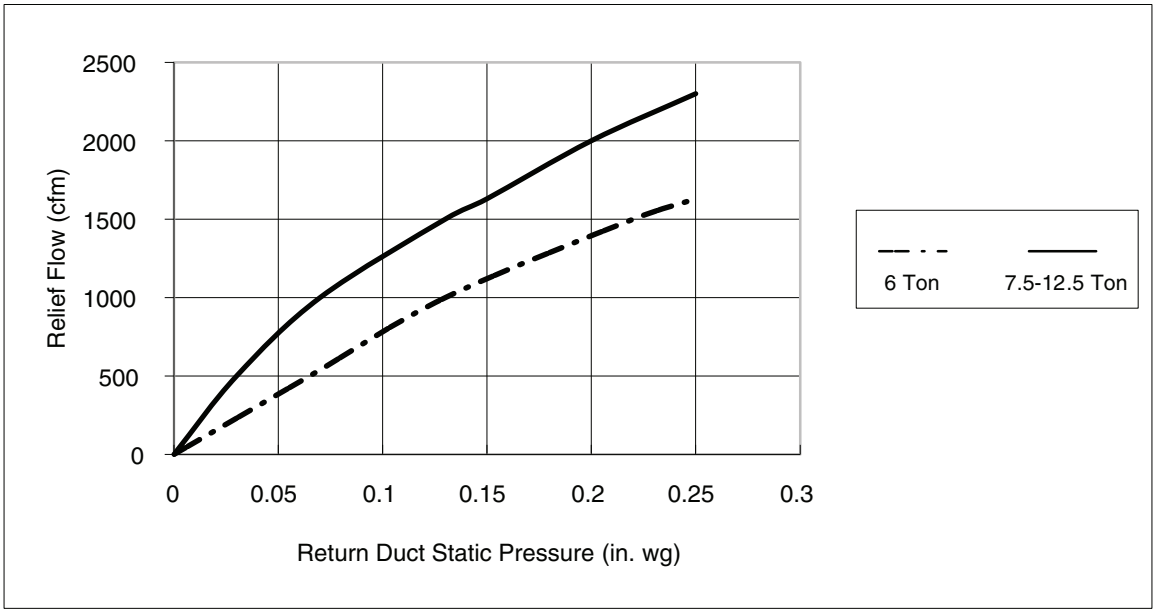
HORIZONTAL ECONOMIZERS

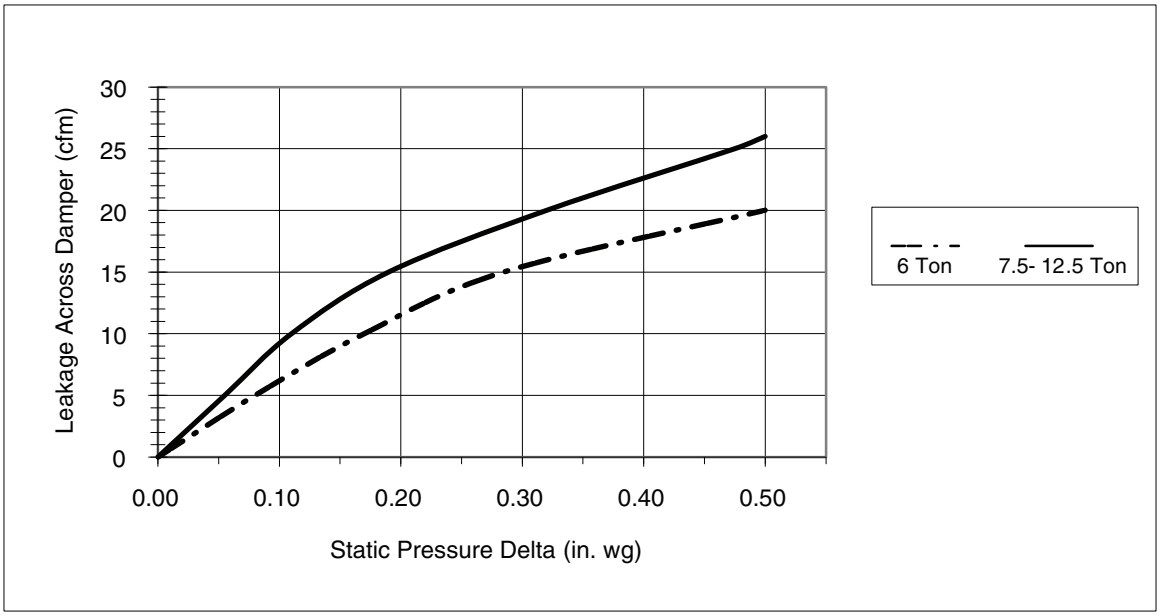




Performance data (cont)

VERTICAL ECONOMIZERS

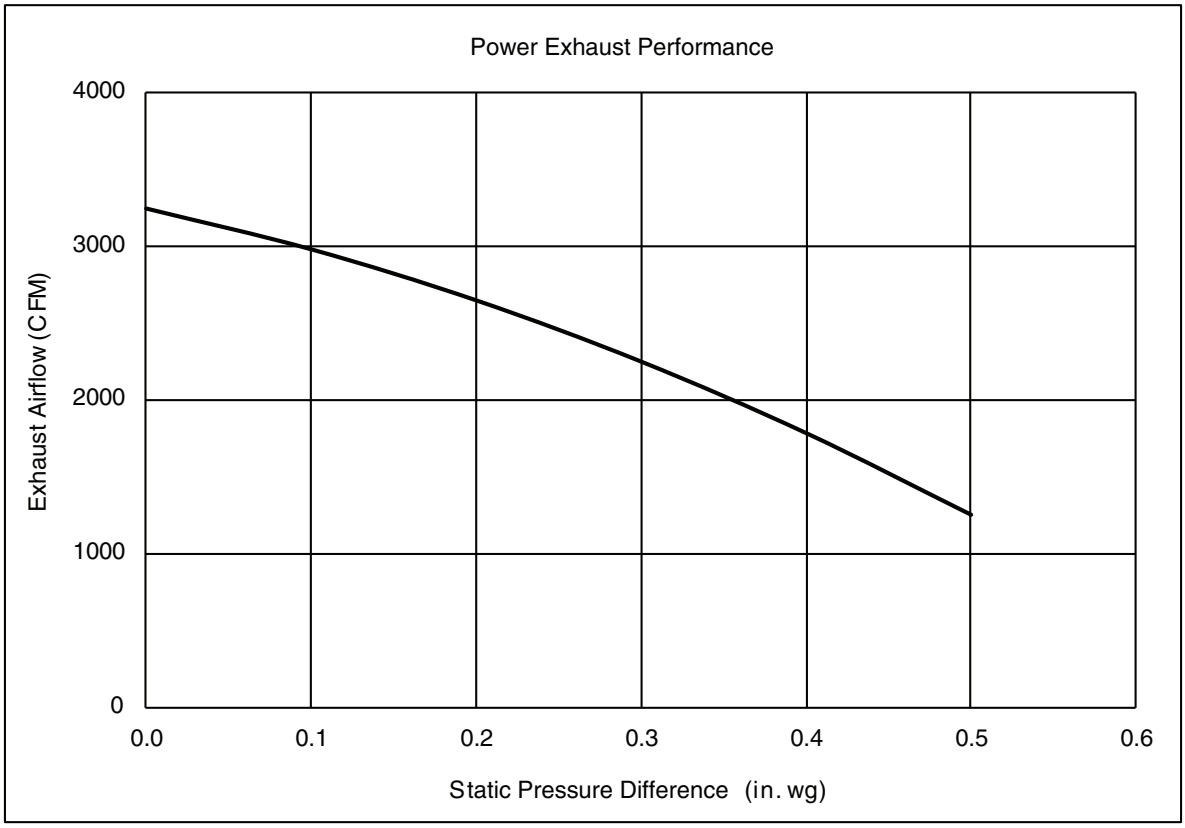




Performance data (cont)

VERTICAL POWER EXHAUST PERFORMANCE

RETURN DUCT STATIC PRESSURE (in. wg)	0.0	0.1	0.2	0.3	0.4	0.5
Vertical Power Exhaust (cfm)	3239	2974	2642	2244	1780	1249



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. Factory options and accessories may add static pressure losses. Selection software is available, through your salesperson, to help you select the best motor/drive combination for your application.
4. The fan performance tables offer motor/drive recommendations. In cases when 2 motor/drive combinations would work, Carrier recommends the lower horsepower option.
5. For information on the electrical properties of Carrier motors, please see the electrical information section of this book.
6. For more information on the performance limits of Carrier motors, see the application data section of this book.
7. The EPACT (Energy Policy Act) regulates energy requirements for specific types of indoor fan motors. Motors regulated by EPACT include any general purpose, T-frame (3-digit, 143 and larger), single-speed, foot mounted, polyphase, squirrel cage induction motors of NEMA (National Electrical Manufacturers Association) design A and B, manufactured for use in the United States. Ranging from 1 to 200 Hp, these continuous-duty motors operate on 230 and 460 volt, 60 Hz power. If a motor does not fit into these specifications, the motor does not have to be replaced by an EPACT compliant energy-efficient motor. Variable-speed motors are exempt from EPACT compliance requirements.

48LC*B07 — 6 TON HORIZONTAL SUPPLY

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	**399**	**0.22**	502	0.34	592	0.48	671	0.62	743	0.77
1950	**414**	**0.26**	512	0.39	599	0.53	677	0.68	748	0.84
2100	431	0.31	524	0.44	608	0.58	684	0.74	754	0.91
2250	448	0.36	536	0.50	617	0.65	692	0.81	760	0.98
2400	467	0.42	550	0.56	628	0.72	700	0.89	767	1.07
2550	486	0.48	564	0.63	639	0.79	710	0.97	775	1.15
2700	505	0.56	580	0.71	652	0.88	720	1.06	784	1.25
2850	525	0.64	596	0.80	665	0.97	731	1.16	793	1.35
3000	545	0.73	613	0.89	679	1.07	743	1.26	803	1.47

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	808	0.93	868	1.10	925	1.27	978	1.44	1028	1.63
1950	813	1.00	873	1.18	929	1.35	982	1.54	1032	1.73
2100	818	1.08	878	1.26	934	1.45	986	1.64	1037	1.83
2250	824	1.16	883	1.35	938	1.54	991	1.74	1041	1.94
2400	830	1.25	888	1.45	943	1.65	996	1.85	1045	2.06
2550	837	1.35	894	1.55	949	1.75	1001	1.97	1050	2.19
2700	844	1.45	901	1.66	955	1.87	1006	2.09	1055	2.31
2850	852	1.56	908	1.77	962	1.99	1012	2.22	1061	2.45
3000	861	1.68	916	1.90	969	2.13	1019	2.36	1067	2.60

STD Static (421-631 rpm) 1.7 Max bhp
MID Static (605-908 rpm) 1.7 Max bhp
HIGH Static (847-1150 rpm) 2.9 Max bhp

Boldface Indicates field-supplied drive is required (Standard motor, motor pulley P/N VP34 5/8, blower pulley P/N AK109 X 1, belt P/N KR29AF046) for the 322-484 rpm range.

Fan data (cont)

48LC*B07 — 6 TON VERTICAL SUPPLY

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	427	0.25	528	0.38	617	0.52	695	0.67	765	0.82
1950	445	0.30	542	0.43	627	0.58	704	0.73	773	0.90
2100	464	0.35	556	0.49	639	0.65	713	0.81	782	0.98
2250	484	0.41	571	0.56	651	0.72	724	0.89	791	1.07
2400	504	0.48	587	0.63	664	0.80	735	0.98	801	1.16
2550	526	0.56	604	0.71	679	0.89	748	1.07	812	1.27
2700	547	0.64	622	0.81	694	0.99	761	1.18	823	1.38
2850	569	0.73	641	0.91	710	1.09	774	1.29	836	1.50
3000	592	0.84	660	1.02	726	1.21	789	1.42	849	1.63

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	829	0.99	889	1.16	945	1.33	998	1.51	1048	1.70
1950	837	1.07	896	1.25	952	1.43	1004	1.62	1054	1.81
2100	845	1.16	904	1.34	959	1.53	1011	1.73	1060	1.93
2250	853	1.25	911	1.45	966	1.65	1018	1.85	1067	2.06
2400	862	1.36	920	1.56	974	1.76	1025	1.98	1074	2.19
2550	872	1.47	929	1.68	982	1.89	1033	2.11	1082	2.33
2700	883	1.59	938	1.80	991	2.02	1042	2.25	1090	2.48
2850	894	1.72	949	1.94	1001	2.17	1051	2.40	1098	2.64
3000	905	1.85	959	2.08	1011	2.32	1060	2.56	—	—

STD Static (421-631 rpm) 1.7 Max bhp
MID Static (605-908 rpm) 1.7 Max bhp
HIGH Static (847-1150 rpm) 2.9 Max bhp

Fan data (cont)

48LC*B08 — 7.5 TON HORIZONTAL SUPPLY

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	**347**	**0.26**	457	0.49	546	0.76	621	1.07	686	1.40
2438	**356**	**0.29**	463	0.53	551	0.81	626	1.13	692	1.47
2625	**366**	**0.33**	469	0.57	556	0.86	631	1.19	697	1.54
2813	377	0.37	476	0.62	562	0.92	636	1.25	702	1.61
3000	388	0.42	483	0.67	567	0.98	641	1.32	707	1.69
3188	401	0.47	491	0.73	573	1.04	647	1.39	713	1.76
3375	414	0.54	500	0.79	580	1.11	652	1.46	718	1.85
3563	427	0.60	509	0.87	587	1.18	658	1.55	723	1.94
3750	441	0.68	519	0.94	595	1.27	664	1.63	729	2.03

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	744	1.75	798	2.11	847	2.49	893	2.89	936	3.31
2438	750	1.82	804	2.20	854	2.60	900	3.01	944	3.43
2625	756	1.91	810	2.30	860	2.70	907	3.12	951	3.56
2813	762	1.99	816	2.39	866	2.81	913	3.24	958	3.69
3000	767	2.08	822	2.49	872	2.92	919	3.36	964	3.82
3188	772	2.17	827	2.59	878	3.03	925	3.48	970	3.95
3375	777	2.26	832	2.69	883	3.14	931	3.61	976	4.09
3563	782	2.36	837	2.80	888	3.26	936	3.74	981	4.23
3750	788	2.46	842	2.91	894	3.38	941	3.87	987	4.37

STD Static (375-563 rpm) 1.7 Max bhp

MID Static (547-757 rpm) 2.4 Max bhp

HIGH Static (710-879 rpm) 3.7 Max bhp

ULTRA HIGH Static (832-1021 rpm) 4.9 Max bhp
*at 575v, Max bhp is 4.7

Boldface Indicates field-supplied drive is required (Standard motor, motor pulley P/N KR11HY151, blower pulley P/N AK114 1 3/16, belt P/N A47) for the 308-462 rpm range.

Fan data (cont)

48LC*B08 — 7.5 TON VERTICAL SUPPLY

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	**360**	**0.28**	470	0.52	555	0.80	625	1.09	686	1.40
2438	**370**	**0.32**	478	0.57	563	0.86	633	1.16	695	1.48
2625	380	0.35	485	0.62	570	0.92	642	1.24	704	1.57
2813	390	0.40	493	0.67	578	0.98	649	1.32	712	1.67
3000	402	0.45	501	0.73	586	1.05	657	1.40	720	1.76
3188	414	0.51	510	0.79	593	1.13	665	1.49	728	1.86
3375	427	0.57	519	0.86	601	1.21	673	1.58	736	1.97
3563	440	0.64	529	0.94	609	1.29	680	1.67	743	2.07
3750	454	0.72	539	1.02	618	1.38	688	1.77	751	2.19

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	740	1.72	789	2.05	835	2.40	878	2.76	918	3.13
2438	750	1.82	800	2.17	846	2.53	889	2.90	929	3.29
2625	759	1.92	809	2.29	856	2.66	899	3.05	940	3.45
2813	768	2.03	819	2.41	866	2.80	909	3.20	950	3.61
3000	776	2.14	828	2.54	875	2.94	919	3.36	960	3.78
3188	785	2.26	836	2.66	884	3.08	928	3.51	970	3.95
3375	793	2.37	845	2.80	892	3.23	937	3.67	979	4.13
3563	800	2.50	853	2.93	901	3.38	946	3.84	988	4.31
3750	808	2.62	861	3.07	909	3.53	954	4.01	997	4.49

STD Static (375-563 rpm) 1.7 Max bhp

MID Static (547-757 rpm) 2.4 Max bhp

HIGH Static (710-879 rpm) 3.7 Max bhp

ULTRA HIGH Static (832-1021 rpm) 4.9 Max bhp
*at 575v, Max bhp is 4.7

Boldface Indicates field-supplied drive is required (Standard motor, motor pulley P/N KR11HY151, blower pulley P/N AK114 1 3/16, belt P/N A47) for the 308-462 rpm range.

Fan data (cont)

48LC*B09 — 8.5 TON HORIZONTAL SUPPLY

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	**362**	**0.31**	466	0.55	554	0.84	629	1.16	695	1.51
2763	**374**	**0.36**	474	0.61	560	0.90	635	1.23	701	1.59
2975	387	0.41	482	0.66	567	0.97	641	1.31	707	1.67
3188	401	0.47	491	0.73	573	1.04	647	1.39	713	1.76
3400	415	0.54	501	0.80	581	1.12	653	1.47	718	1.86
3613	431	0.62	512	0.89	589	1.21	660	1.57	725	1.96
3825	447	0.71	524	0.98	598	1.30	667	1.67	731	2.07
4038	463	0.81	536	1.08	607	1.41	675	1.78	738	2.19
4250	480	0.91	549	1.19	618	1.52	683	1.90	745	2.32

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	754	1.87	808	2.26	858	2.66	904	3.08	948	3.51
2763	760	1.97	815	2.36	865	2.78	912	3.21	956	3.66
2975	766	2.06	821	2.47	871	2.90	919	3.34	963	3.80
3188	772	2.17	827	2.59	878	3.03	925	3.48	970	3.95
3400	778	2.27	833	2.70	884	3.16	932	3.62	977	4.11
3613	784	2.38	839	2.83	890	3.29	938	3.77	983	4.27
3825	790	2.50	845	2.96	896	3.43	944	3.92	989	4.43
4038	796	2.63	850	3.09	901	3.58	949	4.08	995	4.60
4250	802	2.76	857	3.24	907	3.73	955	4.24	1001	4.77

STD Static (375-563 rpm) 1.7 Max bhp

MID Static (547-757 rpm) 2.4 Max bhp

HIGH Static (710-879 rpm) 3.7 Max bhp

ULTRA HIGH Static (832-1021 rpm) 4.9 Max bhp
*at 575v, Max bhp is 4.7

Boldface Indicates field-supplied drive is required (Standard motor, motor pulley P/N KR11HY151, blower pulley P/N AK114 1 3/16, belt P/N A47) for the 308-462 rpm range.

Fan data (cont)

48LC*B09 — 8.5 TON VERTICAL SUPPLY

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	376	0.34	482	0.60	567	0.89	638	1.21	700	1.54
2763	387	0.39	491	0.66	576	0.97	647	1.30	710	1.64
2975	400	0.44	500	0.72	585	1.04	656	1.39	719	1.75
3188	414	0.51	510	0.79	593	1.13	665	1.49	728	1.86
3400	428	0.58	520	0.87	602	1.22	674	1.59	737	1.98
3613	444	0.66	531	0.96	611	1.31	682	1.70	745	2.11
3825	459	0.75	543	1.06	621	1.42	691	1.81	754	2.23
4038	476	0.85	556	1.16	631	1.53	700	1.94	763	2.37
4250	493	0.96	569	1.28	642	1.65	709	2.07	771	2.52

CFM	AVAILABLE EXTERNAL STATIC PRESSURE (in. wg)									
	1.2		1.4		1.6		1.8		2.0	
	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp	rpm	bhp
2550	755	1.88	806	2.24	852	2.61	895	2.99	936	3.38
2763	765	2.00	816	2.38	863	2.76	907	3.16	948	3.57
2975	775	2.13	826	2.52	874	2.92	918	3.34	959	3.76
3188	785	2.26	836	2.66	884	3.08	928	3.51	970	3.95
3400	794	2.39	846	2.81	894	3.25	938	3.70	980	4.15
3613	803	2.53	855	2.97	903	3.42	948	3.88	990	4.36
3825	811	2.67	864	3.13	912	3.59	958	4.07	1000	4.56
4038	820	2.82	872	3.29	921	3.78	967	4.27	1010	4.78
4250	828	2.98	881	3.47	930	3.96	976	4.47	**1019**	**5.00**

STD Static (375-563 rpm) 1.7 Max bhp

MID Static (547-757 rpm) 2.4 Max bhp

HIGH Static (710-879 rpm) 3.7 Max bhp

ULTRA HIGH Static (832-1021 rpm) 4.9 Max bhp
*at 575v, Max bhp is 4.7

Boldface Indicates field-supplied drive is required (Standard motor, motor pulley P/N KR11HY213, blower pulley P/N KR51BH615, belt P/N KR29BF047) for the 880-1080 rpm range.

Fan data (cont)

48LC*B12 — 10 TON HORIZONTAL SUPPLY

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	**388**	**0.42**	483	0.67	567	0.98	641	1.32	707	1.69
3250	**405**	**0.49**	494	0.75	576	1.06	649	1.41	714	1.79
3500	423	0.58	506	0.84	585	1.16	656	1.52	721	1.91
3750	441	0.68	519	0.94	595	1.27	664	1.63	729	2.03
4000	460	0.79	534	1.06	606	1.39	673	1.76	736	2.17
4250	480	0.91	549	1.19	618	1.52	683	1.90	745	2.32
4500	501	1.05	566	1.34	631	1.67	694	2.06	754	2.48
4750	522	1.21	583	1.50	645	1.84	706	2.23	764	2.66
5000	543	1.38	601	1.68	660	2.02	718	2.42	775	2.85

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	767	2.08	822	2.49	872	2.92	919	3.36	964	3.82
3250	774	2.20	829	2.62	880	3.06	927	3.52	972	4.00
3500	781	2.32	836	2.76	887	3.22	934	3.69	979	4.18
3750	788	2.46	842	2.91	894	3.38	941	3.87	987	4.37
4000	795	2.61	849	3.07	900	3.55	948	4.05	994	4.57
4250	802	2.76	857	3.24	907	3.73	955	4.24	1001	4.77
4500	811	2.93	864	3.41	914	3.92	962	4.44	*1007*	*4.98*
4750	819	3.12	872	3.61	922	4.12	969	4.65	*1014*	*5.21*
5000	829	3.32	880	3.81	930	4.34	977	4.88	*1021*	*5.45*

STD Static (421-631 rpm) 2.4 Max bhp

MID Static (631-841 rpm) 3.7 Max bhp

HIGH Static (832-1021 rpm) 4.9 Max bhp
*At 575v, HP is 4.7

Boldface Indicates field-supplied drive is required (Standard motor, motor pulley P/N KR11HY151, blower pulley P/N AK114 1 3/16, belt P/N A47) for the 308-462 rpm range.

Italics Indicate field-supplied motor and drive is required (motor P/N HD60FK657, motor pulley P/N KR11HY229, blower pulley P/N KR51BH615, belt P/N BX41) in the 890-1092 rpm range.

Fan data (cont)

48LC*B12 — 10 TON VERTICAL SUPPLY

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	**402**	**0.45**	501	0.73	586	1.05	657	1.40	720	1.76
3250	**418**	**0.53**	513	0.82	596	1.15	667	1.51	731	1.90
3500	435	0.62	525	0.91	606	1.26	678	1.64	741	2.04
3750	454	0.72	539	1.02	618	1.38	688	1.77	751	2.19
4000	473	0.83	553	1.14	629	1.51	698	1.92	761	2.35
4250	493	0.96	569	1.28	642	1.65	709	2.07	771	2.52
4500	513	1.10	585	1.43	655	1.81	721	2.24	782	2.70
4750	534	1.26	602	1.60	669	1.99	733	2.42	793	2.89
5000	555	1.44	619	1.78	684	2.18	746	2.62	805	3.10

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	776	2.14	828	2.54	875	2.94	919	3.36	960	3.78
3250	787	2.30	839	2.71	887	3.13	931	3.57	973	4.01
3500	798	2.45	850	2.89	898	3.33	943	3.78	985	4.25
3750	808	2.62	861	3.07	909	3.53	954	4.01	997	4.49
4000	818	2.80	871	3.26	920	3.74	965	4.23	1008	4.74
4250	828	2.98	881	3.47	930	3.96	976	4.47	*1019*	*5.00*
4500	839	3.18	891	3.68	940	4.19	986	4.72	*1029*	*5.26*
4750	849	3.39	901	3.90	950	4.43	*996*	*4.98*	*1040*	*5.54*
5000	860	3.61	912	4.14	960	4.69	*1006*	*5.25*	*1050*	*5.82*

STD Static (421-631 rpm) 2.4 Max bhp

MID Static (631-841 rpm) 3.7 Max bhp

HIGH Static (832-1021 rpm) 4.9 Max bhp
*At 575v, HP is 4.7

Boldface Indicates field-supplied drive is required (Standard motor, motor pulley P/N KR11HY151, blower pulley P/N AK114 1 3/16, belt P/N A47) for the 308-462 rpm range.

Italics Indicate field-supplied motor and drive is required (motor P/N HD60FK657, motor pulley P/N KR11HY229, blower pulley P/N KR51BH615, belt P/N BX41) in the 890-1092 rpm range.

Fan data (cont)

PULLEY ADJUSTMENT — FAN RPM AT MOTOR PULLEY SETTINGS

48LC*B UNIT		MOTOR/DRIVE COMBO	MOTOR PULLEY TURNS OPEN (RPM)												
			0.0	0.5	1.0	1.5	2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
07	3 Phase	Standard Static	631	610	589	568	547	526	505	484	463	442	421	—	—
		Medium Static	908	878	847	817	787	757	726	696	666	635	605	—	—
		High Static	—	—	1150	1120	1089	1059	1029	999	968	938	908	877	847
08	3 Phase	Standard Static	563	544	525	507	488	469	450	431	413	394	375	—	—
		Medium Static	757	736	715	694	673	652	631	610	589	568	547	—	—
		High Static	879	862	845	828	811	795	778	761	744	727	710	—	—
		Super Static	1021	1002	983	964	945	927	908	889	870	851	832	—	—
09	3 Phase	Standard Static	563	544	525	507	488	469	450	431	413	394	375	—	—
		Medium Static	757	736	715	694	673	652	631	610	589	568	547	—	—
		High Static	879	862	845	828	811	795	778	761	744	727	710	—	—
		Super Static	1021	1002	983	964	945	927	908	889	870	851	832	—	—
12	3 Phase	Standard Static	631	610	589	568	547	526	505	484	463	442	421	—	—
		Medium Static	841	820	799	778	757	736	715	694	673	652	631	—	—
		High Static	1021	1002	983	964	945	927	908	889	870	851	832	—	—

Factory setting

Electrical data

ELECTRICAL INFORMATION

48LC*B UNIT	V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		IFM		
		MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA	TYPE	EFF AT FULL LOAD	FLA
07	208-3-60	187	253	8.3	58	13.2	88	195	1.8	STD	81.5%	5.8
								195	1.8	MED	81.5%	5.8
								195	1.8	HIGH	84.5%	8.6
	230-3-60	187	253	8.3	58	13.2	88	195	1.8	STD	81.5%	5.6
								195	1.8	MED	81.5%	5.6
								195	1.8	HIGH	84.5%	7.8
	460-3-60	414	506	5.1	28	6.0	44	195	1.8	STD	81.5%	2.9
								195	1.8	MED	81.5%	2.9
								195	1.8	HIGH	84.5%	3.8
	575-3-60	518	633	3.3	24	4.2	30	195	1.8	STD	81.5%	2.8
								195	1.8	MED	81.5%	2.8
								195	1.8	HIGH	84.5%	4.5
08	208-3-60	187	253	13.2	88	13.7	83	195	1.8	STD	81.5%	5.8
								195	1.8	MED	80.0%	7.1
								195	1.8	HIGH	84.5%	10.8
								195	1.8	SUPER	82.0%	13.6
	230-3-60	187	253	13.2	88	13.7	83	195	1.8	STD	81.5%	5.6
								195	1.8	MED	80.0%	6.8
								195	1.8	HIGH	84.5%	9.8
								195	1.8	SUPER	82.0%	12.7
	460-3-60	414	506	6.0	44	6.2	41	195	1.8	STD	81.5%	2.9
								195	1.8	MED	80.0%	3.4
								195	1.8	HIGH	84.5%	4.9
								195	1.8	SUPER	82.0%	6.4
	575-3-60	518	633	4.2	30	4.8	33	195	1.8	STD	81.5%	2.8
								195	1.8	MED	80.0%	3.5
								195	1.8	HIGH	84.5%	4.5
								195	1.8	SUPER	82.0%	6.2
09	208-3-60	187	253	13.2	88	15.9	110	195	1.8	STD	81.5%	5.8
								195	1.8	MED	80.0%	7.1
								195	1.8	HIGH	84.5%	10.8
								195	1.8	SUPER	82.0%	13.6
	230-3-60	187	253	13.2	88	15.9	110	195	1.8	STD	81.5%	5.6
								195	1.8	MED	80.0%	6.8
								195	1.8	HIGH	84.5%	9.8
								195	1.8	SUPER	82.0%	12.7
	460-3-60	414	506	6.0	44	7.7	52	195	1.8	STD	81.5%	2.9
								195	1.8	MED	80.0%	3.4
								195	1.8	HIGH	84.5%	4.9
								195	1.8	SUPER	82.0%	6.4
	575-3-60	518	633	4.2	30	5.7	39	195	1.8	STD	81.5%	2.8
								195	1.8	MED	80.0%	3.5
								195	1.8	HIGH	84.5%	4.5
								195	1.8	SUPER	82.0%	6.2
12	208-3-60	187	253	13.1	83	19.6	136	195	1.8	STD	80.0%	7.1
								195	1.8	MED	84.5%	10.8
								195	1.8	HIGH	82.0%	13.6
	230-3-60	187	253	13.1	83	19.6	136	195	1.8	STD	80.0%	6.8
								195	1.8	MED	84.5%	9.8
								195	1.8	HIGH	82.0%	12.7
	460-3-60	414	506	6.1	41	8.2	66	195	1.8	STD	80.0%	3.4
								195	1.8	MED	84.5%	4.9
								195	1.8	HIGH	82.0%	6.4
	575-3-60	518	633	4.4	33	6.6	55	195	1.8	STD	80.0%	3.5
								195	1.8	MED	84.5%	4.5
								195	1.8	HIGH	82.0%	6.2

See Legend and Notes on page 73.

Electrical data (cont)

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA (6 TO 10 TONS, NO CO)

UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	NO CO OR UNPWRD CO							
			NO PE				WITH PE (PWRD FR/UNIT)			
			MCA	FUSE OR HACR BRKR	DISC. SIZE		MCA	FUSE OR HACR BRKR	DISC. SIZE	
					FLA	LRA			FLA	LRA
48LC*B07	208/230-3-60	STD	35/34	45/45	36/35	173	38/38	50/50	40/40	177
		MED	35/34	45/45	36/35	173	38/38	50/50	40/40	177
		HIGH	37/37	50/45	39/38	203	41/40	50/50	43/42	207
	460-3-60	STD	20	25	20	87	21	25	22	89
		MED	20	25	20	87	21	25	22	89
		HIGH	20	25	21	103	22	25	23	105
	575-3-60	STD	15	20	16	67	19	20	20	71
		MED	15	20	16	67	19	20	20	71
		HIGH	17	20	18	80	21	25	22	84
48LC*B08	208/230-3-60	STD	42/42	50/50	44/44	200	46/46	50/50	48/48	204
		MED	43/43	50/50	45/45	204	47/47	60/60	50/49	208
		HIGH	47/46	60/50	50/48	254	51/50	60/60	54/53	258
		SUPER	50/49	60/60	53/52	265	54/53	60/60	57/56	269
	460-3-60	STD	23	25	24	102	24	30	26	104
		MED	23	25	24	104	25	30	26	106
		HIGH	25	30	26	130	26	30	28	132
		SUPER	26	30	28	135	28	30	30	137
	575-3-60	STD	19	20	20	78	23	25	24	82
		MED	20	25	21	82	23	25	25	86
		HIGH	21	25	22	91	24	30	26	95
		SUPER	23	25	24	105	26	30	28	109
48LC*B09	208/230-3-60	STD	45/45	60/50	46/46	227	49/48	60/60	51/50	231
		MED	46/46	60/60	48/47	231	50/50	60/60	52/52	235
		HIGH	50/49	60/60	52/51	281	54/53	60/60	56/55	285
		SUPER	53/52	60/60	55/54	292	56/55	60/60	60/59	296
	460-3-60	STD	24	30	25	113	26	30	27	115
		MED	25	30	26	115	27	30	28	117
		HIGH	26	30	28	141	28	30	30	143
		SUPER	28	30	29	146	30	35	31	148
	575-3-60	STD	20	25	21	84	24	25	25	88
		MED	21	25	22	88	24	30	26	92
		HIGH	22	25	23	97	25	30	27	101
		SUPER	24	25	25	111	27	30	29	115
48LC*B12	208/230-3-60	STD	51/50	60/60	52/52	252	54/54	60/60	56/56	256
		MED	54/53	60/60	56/55	302	58/57	70/70	61/59	306
		HIGH	57/56	70/70	59/58	313	61/60	80/70	64/63	317
	460-3-60	STD	26	30	27	126	27	30	29	128
		MED	27	30	28	152	29	35	30	154
		HIGH	29	35	30	157	30	35	32	159
	575-3-60	STD	22	25	23	107	26	30	27	111
		MED	23	25	24	116	27	30	28	120
		HIGH	25	30	26	130	29	30	30	134

See Legend and Notes on page 73.

Electrical data (cont)

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA (6 TO 10 TONS, WITH POWERED CO)

UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	WITH PWRD CO							
			NO PE				WITH PE (PWRD FR/UNIT)			
			MCA	FUSE OR HACR BRKR	DISC. SIZE		MCA	FUSE OR HACR BRKR	DISC. SIZE	
					FLA	LRA			FLA	LRA
48LC*B07	208/230-3-60	STD	39/39	50/50	41/41	178	43/43	50/50	45/45	182
		MED	39/39	50/50	41/41	178	43/43	50/50	45/45	182
		HIGH	42/41	50/50	44/43	208	46/45	50/50	49/48	212
	460-3-60	STD	22	25	23	89	24	25	25	91
		MED	22	25	23	89	24	25	25	91
		HIGH	23	25	24	105	24	30	26	107
	575-3-60	STD	17	20	18	69	21	25	22	73
		MED	17	20	18	69	21	25	22	73
		HIGH	19	20	20	82	23	25	24	86
48LC*B08	208/230-3-60	STD	47/47	60/50	49/49	205	51/50	60/60	54/53	209
		MED	48/48	60/60	51/50	209	52/52	60/60	55/55	213
		HIGH	52/51	60/60	55/54	259	56/55	60/60	59/58	263
		SUPER	55/54	60/60	58/57	270	58/57	70/70	63/62	274
	460-3-60	STD	25	30	26	104	27	30	28	106
		MED	25	30	27	106	27	30	29	108
		HIGH	27	30	28	132	29	30	30	134
		SUPER	28	30	30	137	30	35	32	139
	575-3-60	STD	21	25	22	80	24	30	26	84
		MED	21	25	23	84	25	30	27	88
		HIGH	22	25	24	93	26	30	28	97
		SUPER	24	30	26	107	28	30	30	111
48LC*B09	208/230-3-60	STD	50/49	60/60	52/52	232	53/53	60/60	56/56	236
		MED	51/51	60/60	53/53	236	55/54	60/60	58/57	240
		HIGH	55/54	60/60	58/56	286	58/57	70/70	62/61	290
		SUPER	57/56	70/60	61/60	297	61/60	70/70	65/64	301
	460-3-60	STD	27	30	28	115	28	30	30	117
		MED	27	30	28	117	29	35	30	119
		HIGH	29	35	30	143	30	35	32	145
		SUPER	30	35	32	148	32	35	34	150
	575-3-60	STD	22	25	23	86	25	30	27	90
		MED	22	25	24	90	26	30	28	94
		HIGH	23	25	25	99	27	30	29	103
		SUPER	25	30	27	113	29	35	31	117
48LC*B12	208/230-3-60	STD	55/55	60/60	58/57	257	59/59	70/70	62/62	261
		MED	59/58	70/70	62/61	307	63/62	80/80	66/65	311
		HIGH	62/61	80/80	65/64	318	66/65	80/80	69/68	322
	460-3-60	STD	28	30	29	128	30	35	31	130
		MED	29	35	31	154	31	35	33	156
		HIGH	31	35	33	159	33	40	35	161
	575-3-60	STD	24	25	25	109	28	30	29	113
		MED	25	30	26	118	29	30	30	122
		HIGH	26	30	28	132	30	35	32	136

See Legend and Notes on page 73.

Electrical data (cont)

UNIT WIRE SIZING DATA WITH FACTORY-INSTALLED HACR BREAKER (6 TO 10 TONS, NO CO)

UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	NO CO OR UNPWRD CO							
			NO PE				WITH PE (PWRD FR/UNIT)			
			MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
					FLA	LRA			FLA	LRA
48LC*B07	208/230-3-60	STD	35/35	45/45	36/35	173	38/38	50/50	40/40	177
		MED	35/35	45/45	36/35	173	38/38	50/50	40/40	177
		HIGH	37/37	50/50	39/38	203	41/41	50/50	43/42	207
	460-3-60	STD	20	25	20	87	21	25	22	89
		MED	20	25	20	87	21	25	22	89
		HIGH	20	25	21	103	22	25	23	105
	575-3-60	STD	15	20	16	67	19	20	20	71
		MED	15	20	16	67	19	20	20	71
		HIGH	17	20	18	80	21	25	22	84
48LC*B08	208/230-3-60	STD	42/42	50/50	44/44	200	46/46	50/50	48/48	204
		MED	43/43	50/50	45/45	204	47/47	60/60	50/49	208
		HIGH	47/47	60/60	50/48	254	51/51	60/60	54/53	258
		SUPER	50/50	60/60	53/52	265	54/54	60/60	57/56	269
	460-3-60	STD	23	25	24	102	24	30	26	104
		MED	23	25	24	104	25	30	26	106
		HIGH	25	30	26	130	26	30	28	132
		SUPER	26	30	28	135	28	30	30	137
	575-3-60	STD	19	20	20	78	23	25	24	82
		MED	20	25	21	82	23	25	25	86
		HIGH	21	25	22	91	24	30	26	95
		SUPER	23	25	24	105	26	30	28	109
48LC*B09	208/230-3-60	STD	45/45	60/60	46/46	227	49/49	60/60	51/50	231
		MED	46/46	60/60	48/47	231	50/50	60/60	52/52	235
		HIGH	50/50	60/60	52/51	281	54/54	60/60	56/55	285
		SUPER	53/53	60/60	55/54	292	56/56	60/60	60/59	296
	460-3-60	STD	24	30	25	113	26	30	27	115
		MED	25	30	26	115	27	30	28	117
		HIGH	26	30	28	141	28	30	30	143
		SUPER	28	30	29	146	30	35	31	148
	575-3-60	STD	20	25	21	84	24	25	25	88
		MED	21	25	22	88	24	30	26	92
		HIGH	22	25	23	97	25	30	27	101
		SUPER	24	25	25	111	27	30	29	115
48LC*B12	208/230-3-60	STD	51/51	60/60	52/52	252	54/54	60/60	56/56	256
		MED	54/54	60/60	56/55	302	58/58	70/70	61/59	306
		HIGH	57/57	70/70	59/58	313	61/61	80/80	64/63	317
	460-3-60	STD	26	30	27	126	27	30	29	128
		MED	27	30	28	152	29	35	30	154
		HIGH	29	35	30	157	30	35	32	159
	575-3-60	STD	22	25	23	107	26	30	27	111
		MED	23	25	24	116	27	30	28	120
		HIGH	25	30	26	130	29	30	30	134

See Legend and Notes on page 73.

Electrical data (cont)

UNIT WIRE SIZING DATA WITH FACTORY-INSTALLED HACR BREAKER (6 TO 10 TONS, NO CO)

UNIT SIZE	NOM. V-Ph-Hz	IFM TYPE	WITH PWRD CO							
			NO PE				WITH PE (PWRD FR/UNIT)			
			MCA	HACR BRKR	DISC. SIZE		MCA	HACR BRKR	DISC. SIZE	
					FLA	LRA			FLA	LRA
48LC*B07	208/230-3-60	STD	39/39	50/50	41/41	178	43/43	50/50	45/45	182
		MED	39/39	50/50	41/41	178	43/43	50/50	45/45	182
		HIGH	42/42	50/50	44/43	208	46/46	50/50	49/48	212
	460-3-60	STD	22	25	23	89	24	25	25	91
		MED	22	25	23	89	24	25	25	91
		HIGH	23	25	24	105	24	30	26	107
	575-3-60	STD	17	20	18	69	21	25	22	73
		MED	17	20	18	69	21	25	22	73
		HIGH	19	20	20	82	23	25	24	86
48LC*B08	208/230-3-60	STD	47/47	60/60	49/49	205	51/51	60/60	54/53	209
		MED	48/48	60/60	51/50	209	52/52	60/60	55/55	213
		HIGH	52/52	60/60	55/54	259	56/56	60/60	59/58	263
		SUPER	55/55	60/60	58/57	270	58/58	70/70	63/62	274
	460-3-60	STD	25	30	26	104	27	30	28	106
		MED	25	30	27	106	27	30	29	108
		HIGH	27	30	28	132	29	30	30	134
		SUPER	28	30	30	137	30	35	32	139
	575-3-60	STD	21	25	22	80	24	30	26	84
		MED	21	25	23	84	25	30	27	88
		HIGH	22	25	24	93	26	30	28	97
		SUPER	24	30	26	107	28	30	30	111
48LC*B09	208/230-3-60	STD	50/50	60/60	52/52	232	53/53	60/60	56/56	236
		MED	51/51	60/60	53/53	236	55/55	60/60	58/57	240
		HIGH	55/55	60/60	58/56	286	58/58	70/70	62/61	290
		SUPER	57/57	70/70	61/60	297	61/61	70/70	65/64	301
	460-3-60	STD	27	30	28	115	28	30	30	117
		MED	27	30	28	117	29	35	30	119
		HIGH	29	35	30	143	30	35	32	145
		SUPER	30	35	32	148	32	35	34	150
	575-3-60	STD	22	25	23	86	25	30	27	90
		MED	22	25	24	90	26	30	28	94
		HIGH	23	25	25	99	27	30	29	103
		SUPER	25	30	27	113	29	35	31	117
48LC*B12	208/230-3-60	STD	55/55	60/60	58/57	257	59/59	70/70	62/62	261
		MED	59/59	70/70	62/61	307	63/63	80/80	66/65	311
		HIGH	62/62	80/80	65/64	318	66/66	80/80	69/68	322
	460-3-60	STD	28	30	29	128	30	35	31	130
		MED	29	35	31	154	31	35	33	156
		HIGH	31	35	33	159	33	40	35	161
	575-3-60	STD	24	25	25	109	28	30	29	113
		MED	25	30	26	118	29	30	30	122
		HIGH	26	30	28	132	30	35	32	136

See Legend and Notes on page 73.

Electrical data (cont)

3-STAGE COOLING W/3-SPEED INDOOR FAN MOTOR, SIZES 07-12 (6-10 TONS) — HIGH SCCR

MODEL	V-Ph-Hz	VOLTAGE RANGE		COMP 1		COMP 2		OFM (ea)		HIGH SCCR kA	IFM		
		MIN	MAX	RLA	LRA	RLA	LRA	WATTS	FLA		TYPE	EFF at Full Load	FLA
48LCB*07	208-3-60	187	253	8.3	58	13.2	88	195	1.8	10	STD	81.5%	5.8
								195	1.8	10	MED	81.5%	5.8
								195	1.8	10	HIGH	84.5%	8.6
	230-3-60							195	1.8	10	STD	81.5%	5.6
								195	1.8	10	MED	81.5%	5.6
								195	1.8	10	HIGH	84.5%	7.8
	460-3-60	414	506	5.1	28	6.0	44	195	1.8	10	STD	81.5%	2.9
								195	1.8	10	MED	81.5%	2.9
								195	1.8	10	HIGH	84.5%	3.8
48LCB*08	208-3-60	187	253	13.2	88	13.7	83	195	1.8	10	STD	81.5%	5.8
								195	1.8	10	MED	80.0%	7.1
								195	1.8	10	HIGH	84.5%	10.8
								195	1.8	10	SUPER	82.0%	13.6
	230-3-60							195	1.8	10	STD	81.5%	5.6
								195	1.8	10	MED	80.0%	6.8
								195	1.8	10	HIGH	84.5%	9.8
								195	1.8	10	SUPER	82.0%	12.7
	460-3-60	414	506	6.0	44	6.2	41	195	1.8	10	STD	81.5%	2.9
								195	1.8	10	MED	80.0%	3.4
								195	1.8	10	HIGH	84.5%	4.9
								195	1.8	10	SUPER	82.0%	6.4
48LCB*09	208-3-60	187	253	13.2	88	15.9	110	195	1.8	10	STD	81.5%	5.8
								195	1.8	10	MED	80.0%	7.1
								195	1.8	10	HIGH	84.5%	10.8
								195	1.8	10	SUPER	82.0%	13.6
	230-3-60							195	1.8	10	STD	81.5%	5.6
								195	1.8	10	MED	80.0%	6.8
								195	1.8	10	HIGH	84.5%	9.8
								195	1.8	10	SUPER	82.0%	12.7
	460-3-60	414	506	6.0	44	7.7	52	195	1.8	10	STD	81.5%	2.9
								195	1.8	10	MED	80.0%	3.4
								195	1.8	10	HIGH	84.5%	4.9
								195	1.8	10	SUPER	82.0%	6.4
48LCB*12	208-3-60	187	253	13.1	83	19.6	136	195	1.8	10	STD	80.0%	7.1
								195	1.8	10	MED	84.5%	10.8
								195	1.8	10	HIGH	82.0%	13.6
	230-3-60							195	1.8	10	STD	80.0%	6.8
								195	1.8	10	MED	84.5%	9.8
								195	1.8	10	HIGH	82.0%	12.7
	460-3-60	414	506	6.1	41	8.2	66	195	1.8	10	STD	80.0%	3.4
								195	1.8	10	MED	84.5%	4.9
								195	1.8	10	HIGH	82.0%	6.4

See Legend and Notes on page 73.

Electrical data (cont)

UNIT WIRE/FUSE OR HACR BREAKER SIZING DATA, 3-SPEED INDOOR FAN MOTOR, SIZES 07-12 (6 TO 10 TONS) — HIGH SCCR

MODEL	NOM. V-Ph-Hz	IFM	HIGH SCCR kA	NO CO OR UNPWR CO							
				NO PE				WITH PE (PWRD FR/UNIT			
		TYPE		MCA	FUSE or HACR BRKR	DISC. SIZE		MCA	FUSE or HACR BRKR	DISC. SIZE	
						FLA	LRA			FLA	LRA
48LCB*07	208/230-3-60	STD	10	35/34	45/45	36/35	173	38/38	50/50	40/40	177
		MED	10	35/34	45/45	36/35	173	38/38	50/50	40/40	177
		HIGH	10	37/37	50/45	39/38	203	41/40	50/50	43/42	207
	460-3-60	STD	10	20	25	20	87	21	25	22	89
		MED	10	20	25	20	87	21	25	22	89
		HIGH	10	20	25	21	103	22	25	23	105
48LCB*08	208/230-3-60	STD	10	42/42	50/50	44/44	200	46/46	50/50	48/48	204
		MED	10	43/43	50/50	45/45	204	47/47	60/60	50/49	208
		HIGH	10	47/46	60/50	50/48	254	51/50	60/60	54/53	258
		SUPER	10	50/49	60/60	53/52	265	54/53	60/60	57/56	269
	460-3-60	STD	10	23	25	24	102	24	30	26	104
		MED	10	23	25	24	104	25	30	26	106
		HIGH	10	25	30	26	130	26	30	28	132
		SUPER	10	26	30	28	135	28	30	30	137
48LCB*09	208/230-3-60	STD	10	45/45	60/50	46/46	227	49/48	60/60	51/50	231
		MED	10	46/46	60/60	48/47	231	50/50	60/60	52/52	235
		HIGH	10	50/49	60/60	52/51	281	54/53	60/60	56/55	285
		SUPER	10	53/52	60/60	55/54	292	56/55	60/60	60/59	296
	460-3-60	STD	10	24	30	25	113	26	30	27	115
		MED	10	25	30	26	115	27	30	28	117
		HIGH	10	26	30	28	141	28	30	30	143
		SUPER	10	28	30	29	146	30	35	31	148
48LCB*12	208/230-3-60	STD	10	51/50	60/60	52/52	252	54/54	60/60	56/56	256
		MED	10	54/53	60/60	56/55	302	58/57	70/70	61/59	306
		HIGH	10	57/56	70/70	59/58	313	61/60	80/70	64/63	317
	460-3-60	STD	10	26	30	27	126	27	30	29	128
		MED	10	27	30	28	152	29	35	30	154
		HIGH	10	29	35	30	157	30	35	32	159

See Legend and Notes on page 73.

Electrical data (cont)

Legend and Notes for Electrical Data Tables, pages 66-72.

LEGEND

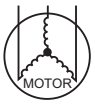
BRKR	—	Circuit Breaker
CO	—	Convenience Outlet
DISC	—	Disconnect
FLA	—	Full Load Amps
HACR	—	Heating, Air-Conditioning, and Refrigeration
IFM	—	Indoor Fan Motor
LRA	—	Locked Rotor Amps
MCA	—	Minimum Circuit Amps
PE	—	Power Exhaust
PWRD CO	—	Powered Convenience Outlet
PWRD FR/UNIT	—	Powered from Unit
SCCR	—	Short Circuit Current Rating
UNPWR CO	—	Unpowered Convenience Outlet

NOTES:

1. In compliance with NEC requirements for multimotor 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. Unbalanced 3-Phase Supply Voltage
   Never operate a motor where a phase imbalance in supply voltage is greater than 2%. Use the following formula to determine the percentage of voltage imbalance.

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

Example: Supply voltage is 230-3-60



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

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

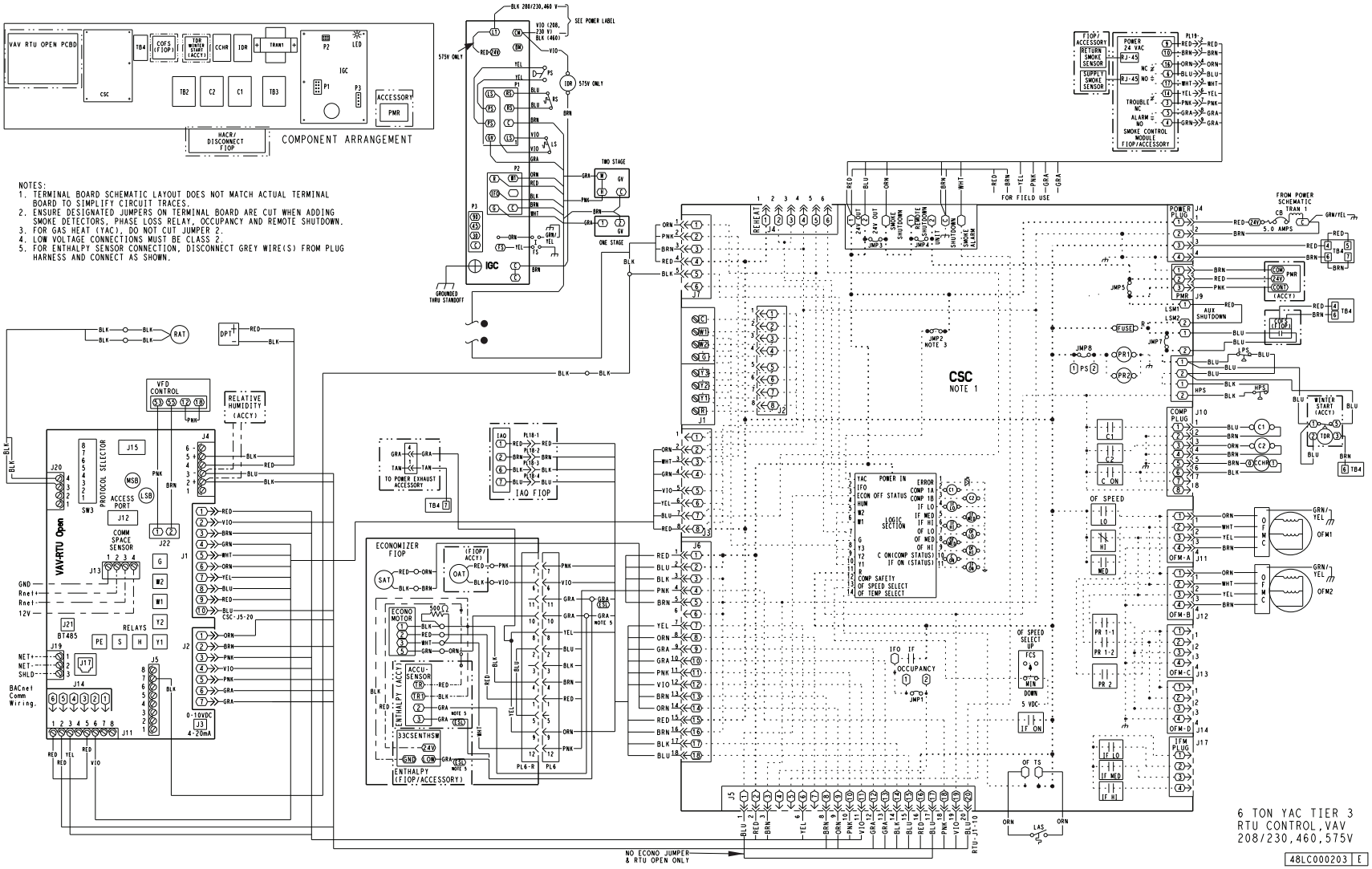
Determine maximum deviation from average voltage.
(AB) 227-224 = 3 v
(BC) 231-227 = 4 v
(AC) 227-226 = 1 v
Maximum deviation is 4 v.
Determine percent of voltage imbalance.

$$\text{\% Voltage Imbalance} = 100x \frac{4}{227} = 1.78\%$$

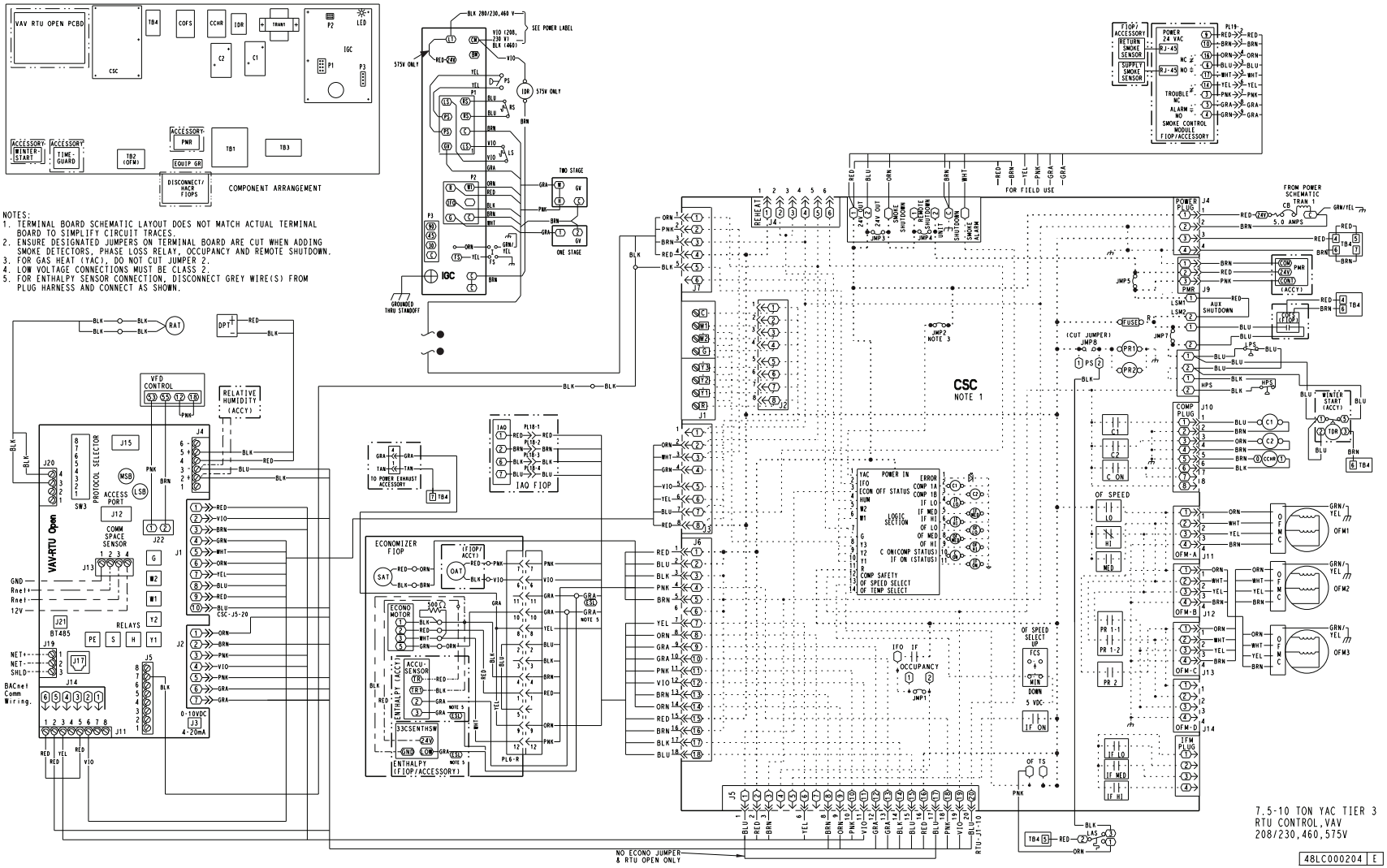
This amount of phase imbalance is satisfactory as it is below the maximum allowable 2%.

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

48LC*B07 VAV-RTU OPEN CONTROL WIRING DIAGRAM

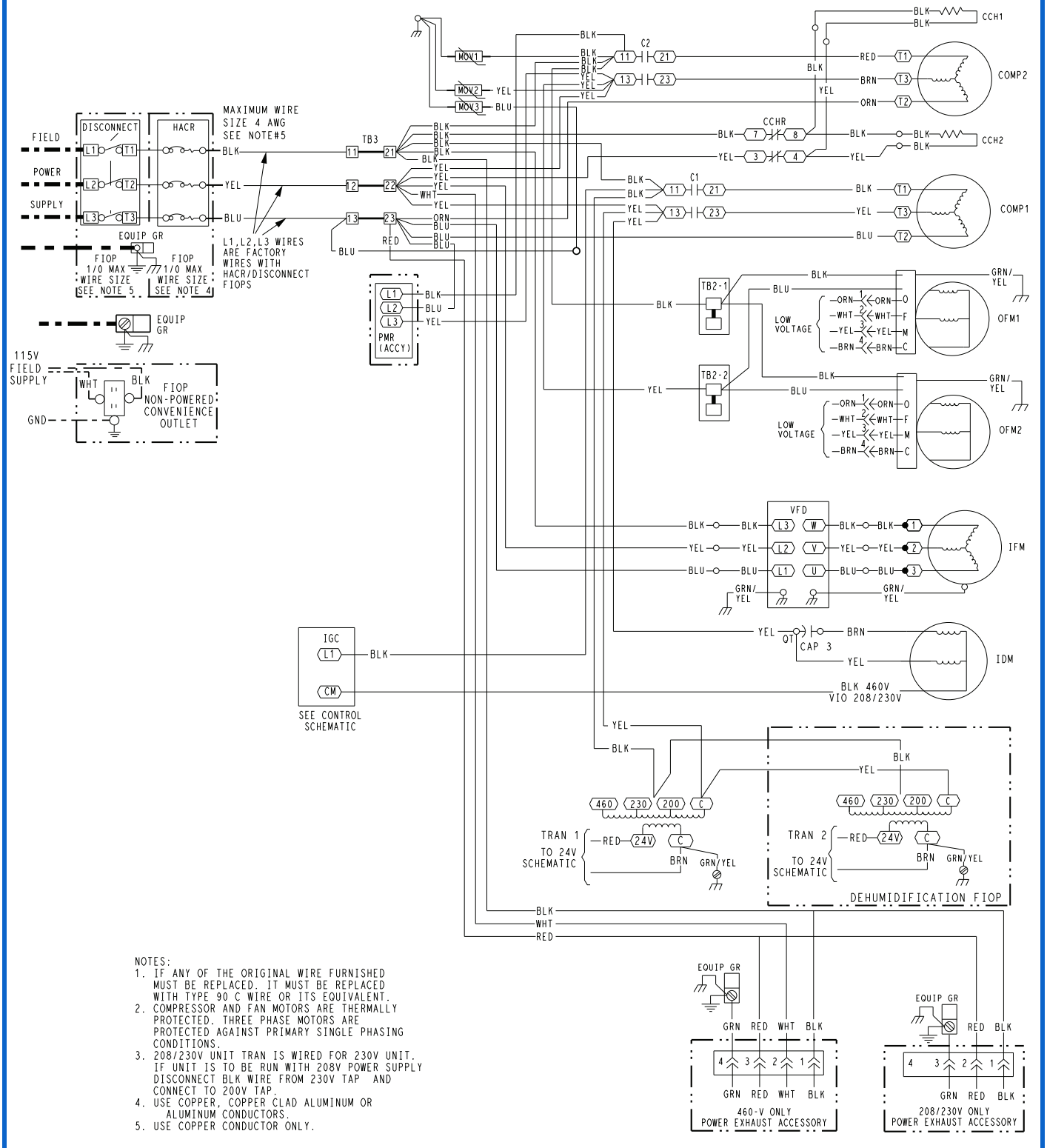


48LC*B08-12 VAV-RTU OPEN CONTROL WIRING DIAGRAM



Typical wiring diagram (cont)

48LC*B07 TYPICAL POWER WIRING DIAGRAM



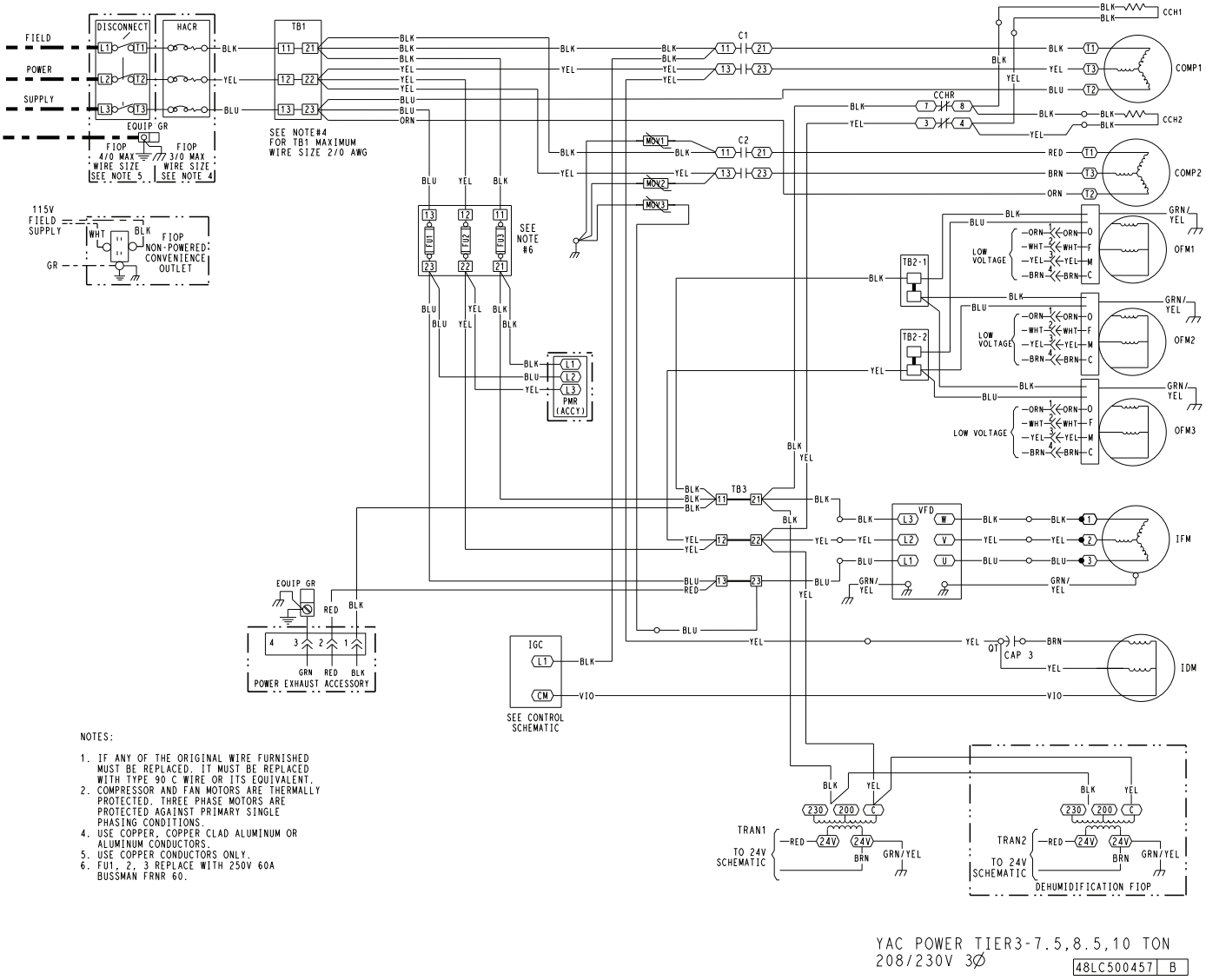
NOTES:
1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED. IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. COMPRESSOR AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
3. 208/230V UNIT TRAN IS WIRED FOR 230V UNIT. IF UNIT IS TO BE RUN WITH 208V POWER SUPPLY DISCONNECT BLK WIRE FROM 230V TAP AND CONNECT TO 200V TAP.
4. USE COPPER, COPPER CLAD ALUMINUM OR ALUMINUM CONDUCTORS.
5. USE COPPER CONDUCTOR ONLY.

YAC POWER TIER3 - 6 TON 208/230, 460V 3Ø

48LC500463 | E

Typical wiring diagram (cont)

48LC*B08-12 TYPICAL POWER WIRING DIAGRAM



NOTES:

1. IF ANY OF THE ORIGINAL WIRE FURNISHED MUST BE REPLACED. IT MUST BE REPLACED WITH TYPE 90 C WIRE OR ITS EQUIVALENT.
2. COMPRESSOR AND FAN MOTORS ARE THERMALLY PROTECTED. THREE PHASE MOTORS ARE PROTECTED AGAINST PRIMARY SINGLE PHASING CONDITIONS.
4. USE COPPER, COPPER CLAD ALUMINUM OR ALUMINUM CONDUCTORS.
5. USE COPPER CONDUCTORS ONLY.
6. FU1, 2, 3 REPLACE WITH 250V 60A BUSSMAN FRNR 60.

YAC POWER TIER3-7.5,8.5,10 TON
208/230V 3Ø

48LC500457 | B

Sequence of operation

VAV-RTU Open

The VAV-RTU Open control is designed to provide VAV system operation when using a 48LCB chassis small packaged rooftop and Carrier i-Vu® Open VAV terminal controls. Functionality includes:

- Duct Static Pressure Control (with optional reset function)
- Supply Air Temperature Control (with optional reset function)
- Morning Warm-up Cycle
- Occupied Heating (available)
- Heating and Cooling Setpoint Separation
- Economizer Cooling Cycle
- Mechanical Cooling Cycle
- Integrated Cooling Cycle
- Minimum Ventilation
- Unoccupied Free Cooling
- Demand Controlled Ventilation (DCV)
- Supply Air Tempering (Low and Medium Gas Heat Only)
- Open Airside Linkage
- Field Test/Commissioning

Duct Static Pressure Control (With Optional Reset Function)

The supply fan/motor VFD is controlled by a VFD using a PID (proportional integral derivative loop) and an analog input from a duct static pressure transducer. The supply fan will modulate its speed to maintain the desired duct static pressure setpoint.

Supply Air Temperature Control (With Optional Reset Function)

The control will maintain the desired supply air temperature setpoint whenever cooling is required. A user-configurable setpoint will be provided (default 53°F). The control will use the appropriate method (economizer cooling, mechanical cooling, or a combination of both) to achieve this setpoint whenever the zone temperature is greater than the current cooling setpoint (occupied or unoccupied). If Supply Air Reset is enabled, the reset algorithm will calculate a proportional reset value between the Occupied Cooling setpoint and 1°F above the Occupied Heating setpoint. The amount of reset (reset ratio and maximum reset limit value) is user configurable.

Morning Warm-Up

The control will provide a morning warm-up cycle the first time if transitioning from unoccupied to occupied and if heating is required and the unit goes into heating immediately. Whenever the unit enters the heating mode, before any heat stage is enabled, the control will provide a linkage mode to the system that will cause the terminals to maintain sufficient airflow. The linkage mode of Warm-Up (2) will be sent to the terminal system to ensure sufficient airflow while in the heating mode but also provide a controlled warm-up cycle to prevent overheating of some zones. As a safety measure, should the heating cycle continue and the SAT (saturated air temperature) approach the "Maximum Heating SAT" limit, the linkage mode sent will change to Pressurization (6) to ensure all terminals open to their maximum airflow. The linkage mode will remain in Pressurization until that heating cycle ends. Once the heating demand is met and the heat cycle is completed, or if cooling is required, heating will be locked out until the beginning of the next occupied period.

Occupied Heating

Optionally, the user may enable occupied heating, which will allow heating whenever it is needed during the occupied period. The cycle will operate exactly the same as Morning Warm-Up above, except it will not be limited by the transition into an occupied period.

Heating and Cooling Setpoint Separation

By default, the control will maintain a 5°F (configurable) separation between the heating and cooling setpoints. This will prevent the unit from prematurely entering the opposite mode.

Economizer Cooling Cycle

The VAV-RTU Open provides variable supply airflow to the VAV system and maintains constant minimum ventilation. As the supply airflow changes, the economizer minimum position is adjusted to provide a constant amount of outdoor air. The control will provide the ability to utilize outdoor air for maintaining the supply air setpoint should the outdoor air be suitable. The economizer control will utilize an OAT (outdoor air temperature) check, a RAT (return air temperature) check (if RAT is available) or an SPT (space temperature) check comparison, and, optionally, an OA enthalpy check to determine if OA conditions are suitable for economizing. Economizer operation, if available, will begin whenever cooling is required. The economizer will modulate the position of the OA damper to maintain the desired calculated economizer setpoint. The economizer will be controlled to meet CEC (California Energy Comission) Title 24 requirements so that it will remain open 100% during integrated cooling and only partially close if required. The VAV-RTU Open also provides FDD (Fault Detection and Diagnostics) for economizer operation. The FDD logic will detect an economizer that fails to close, fails to open, is stuck fully open, or fails to fully open. Each condition will cause an Economizer Operation alarm to occur and the specific fault condition will be displayed.

Mechanical Cooling Cycle

The control will operate 3 stages of mechanical cooling in order to maintain the desired supply air temperature whenever economizer cooling operation is unavailable but cooling is required. This condition will be determined if the OA has high enthalpy or is at a temperature above the Economizer Lockout temperature. The 2 compressors will be staged in a binary fashion so that 3 stages of cooling are provided. Mechanical cooling stages will be added as required to meet the desired SA setpoint. The number of stages will depend on the return air conditions and the system load (airflow through the coil). Stages will be added or dropped as required to maintain the setpoint while also maintaining the minimum on time and minimum off time for compressor operation. Anytime the SA falls below the desired SA setpoint, stages will be dropped until only stage 1 is operating. At that point, should the SA fall below 45°F (7°C), the economizer will modulate to increase the amount of outdoor air in order to maintain this minimum SA temperature. Should the economizer reach the maximum OA position and the SA remain below the minimum SA temperature, the first cooling stage will be disabled and the economizer will return to the minimum position.

Sequence of operation (cont)

Integrated Cooling Cycle

If economizer cooling operation is insufficient to maintain the desired SA setpoint, then mechanical cooling will be activated to supplement the free economizer cooling. This condition will be determined if the OA has low enthalpy but is at a temperature at least 5°F above the desired SA setpoint and below the Economizer Lockout temperature. Mechanical cooling stages will be added as required to meet the desired SA setpoint. The number of stages will depend on the return air conditions and the system load (airflow through the coil). Stages will be added or dropped as required to maintain the setpoint while also maintaining the minimum on time and minimum off time for compressor operation. Anytime the SA falls below the desired SA setpoint, stages will be dropped until only stage 1 is operating. At that point, should the SA fall below the minimum SA temperature, the economizer will modulate to increase the amount of return air in order to maintain this minimum SA temperature. Should the economizer reach the minimum OA position and the SA remain below the minimum SA temperature, the first cooling stage will be disabled.

Minimum Ventilation

The economizer minimum position will be adjusted as required based on the supply fan speed. Two user-configurable minimum economizer positions will be provided. The economizer will be positioned at the "Low Fan Econ Min Pos" when the fan is operating at its slowest speed. When the fan is operating at its maximum speed, the economizer will be positioned at the "Vent Dmpr Pos/DCV Min Pos." For any supply fan speed between these 2 points, the economizer minimum position will be calculated proportionally.

Unoccupied Free Cooling

Unoccupied Free Cooling allows the rooftop with the economizer damper to use outdoor air for free cooling during unoccupied periods.

When the VAV-RTU Open is unoccupied and the space temperature rises at least 2°F above the occupied cooling setpoint, the supply fan starts. The economizer damper opens as necessary to maintain the supply air setpoint and cool the space. The VAV-RTU Open continues to operate in this mode until the space temperature drops to 1°F below the Occupied Cooling Setpoint or the outside air conditions are no longer suitable for free cooling.

Demand Controlled Ventilation (DCV)

Whenever the unit is in an occupied mode and "DCV Control" is set to enable, a unique economizer minimum position will be calculated based on the output of the DCV algorithm. The algorithm monitors the CO_2 sensor value and compares that value to the user-defined setpoint. A control algorithm calculates the required minimum economizer position required to satisfy the ventilation requirements of the space. A user-adjustable DCV Max Vent Damper Position is provided to limit the maximum amount of outdoor air that can be brought into the unit due to the DCV algorithm. Demand Controlled Ventilation can be used in either a differential mode, where both the indoor air and outdoor air CO_2 levels are provided to the control, or it may be used in a single indoor air mode, with only the indoor air CO_2 level. In the latter case, the outdoor air CO_2 level is assumed at 400 ppm.

Supply Air Tempering (Low and Medium Gas Heat Only)

The VAV-RTU Open provides the capability to operate the 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 (SA) 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.

Heat operation is subject to anti-recycle timers to protect the equipment from short-cycling. There are fixed application specific minimum on and off times for each heating output (120 seconds on and 60 seconds off). The minimum on time required may adversely affect supply air temperatures with High Gas Heat option in some applications.

Open Airside Linkage

The control will support Airside Linkage to accommodate system operation using Carrier VAV terminal controls. The VAV-RTU Open will receive zone information (occupancy status, occupied and unoccupied zone temperatures, occupied and unoccupied heating and cooling setpoints, zone CO_2 level for DCV, and zone RH [relative humidity] level). The VAV-RTU Open will operate in the mode required to satisfy the zones. Airside Linkage will provide operating mode information to the zones so that the system operation is fully coordinated between the rooftop and the terminal zones. The VAV air terminals offer a minimum airflow setting in AHU heating mode. This shall be configured to maintain the required airflow (cfm) whenever the VAV RTU is in a heating mode per the unit's specification. The VAV terminals will recognize the heating or warm-up modes as a heat mode and utilize the higher airflow minimum setpoint as configured. For heating cycles, initially utilize the Linkage Morning Warm-Up mode to open dampers on all zones below the midpoint of the occupied heating and cooling setpoints. This provides a controlled heat cycle and prevents the overheating of random zones where heating may not be required. Any zone below this middle setpoint will have its airflow at the maximum value. Further monitor the SAT of the VAV RTU to determine if the SAT is approaching the configured maximum limit. As the limit is approached, the linkage mode is changed to Linkage Pressurization to ensure all terminals open to their maximum airflow.

Field Test/Commissioning

The control will provide BACnet test points to activate specific test modes that can be used to commission the rooftop and the system. Test modes will be available in the Service Test screen on the Property pages and shall also be available on the local equipment touch device for standalone commissioning. Tests include: a fan test, low heat test, high heat test, cooling test, power exhaust test, and economizer test. When any test is active, the appropriate linkage mode will be sent to the system's terminals. This will ensure appropriate system operation and airflow during any test mode.

Application data

Minimum Operating Ambient Temperature (Cooling)

In mechanical cooling mode, your Carrier rooftop unit can safely operate down to an outdoor ambient temperature of 45°F (7°C).

An economizer shall be the source of cooling in low ambient conditions. When the outside air temperature is below 45°F (7°C), to improve system reliability, reduce energy usage, and improve system efficiency, mechanical cooling shall not be utilized. Therefore, an economizer shall be used in these conditions to provide efficient low ambient cooling. Using an economizer for low ambient cooling merely requires fan energy to satisfy space requirements. The compressors shall not be required to run, which will provide exceptional energy savings due to less power draw, improved system reliability due to fewer compressor run hours, improved reliability through fewer starts/stops, and lower life cycle costs due to reduced compressor maintenance.

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 a reduction in performance or reliability or a protective action by the unit's internal safety devices.

Minimum Mixed Air Temperature (Heating)

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

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

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

Minimum and Maximum Airflow (Heating and Cooling)

To maintain safe and reliable operation of your rooftop, operate within the heating airflow limits during heating mode and cooling airflow limits during cooling mode. Operating above the maximum may cause blow-off, undesired airflow noise, or airflow-related problems with the rooftop unit. Operating below the minimum may cause problems with coil freeze-up and unsafe heating operation. For proper minimum and maximum cfm values, see the tables on page 6.

Heating-to-Cooling Changeover

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

Airflow

All units are draw-thru in cooling mode and blow-thru 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 an application's changing needs. 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, Break 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 physical data tables on pages 8-9, can be used with the utmost confidence. There is no need for extra safety factors, as Carrier motors are designed and rigorously tested to use the entire listed bhp range without either nuisance tripping or premature motor failure.

Propane Heating

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

High Altitude Heating

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

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

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

NOTE: For installations in Canada, the input rating should be derated by 10% for altitudes from 2000 ft (610 m) to 4500 ft (1372 m) above sea level.

Application data (cont)

Sizing a Rooftop

Bigger isn't necessarily better. While an air conditioner needs to have enough capacity to meet the design loads, it doesn't 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 signs of oversizing air conditioners. Oversizing the 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 undersize 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.

SYSTEM OVERVIEW

	STANDALONE NO BAS	CARRIER i-Vu® BAS	THIRD PARTY BAS
VAV-RTU Open Controller Accessible Points	X	X	Limited, see Controls, Start-up, Operation and Troubleshooting manual
Average Space Temperature	X	X	X
Supply Air Temperature	X	X	X
Return Air Temperature	Monitor Only	Monitor Only	Monitor Only
Duct Static Pressure	X	X	X
Zone Setpoints	X	X	—
i-Vu VAV Zone Space/CO_2/RH	X	X	—
System Touch	X	X	—
Equipment Touch	X	X	—

LEGEND

BAS — Building Automation System
RH — Relative Humidity
RTU — Rooftop Unit
VAV — Variable Air Volume

Guide specifications

Note about this specification:

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

WeatherExpert® Ultra High Efficiency Gas Heat/Electric Cooling Packaged Variable Air Volume (VAV) Rooftop

HVAC Guide Specifications:

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

Carrier Model Number: **48LC*B07-12**

Part 1 — 23 06 80 Schedules for Packaged VAV HVAC Equipment

1.01 23 06 80.13 Unitary Packaged VAV HVAC Equipment Schedule

A. 23 06 80.13.A. Rooftop unit schedule

1. Schedule is per the project specification requirements.

Part 2 — 23 07 16 HVAC Equipment Insulation

2.01 23 07 16.13 Packaged VAV, 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 aluminum foil-faced insulation on the air side.
2. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

B. 23 07 16.13.B. Gas heat compartment:

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

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

3.01 23 09 13.23 Sensors and Zone Air Terminals

A. 23 09 13.23.A. Space terminal sensors

1. Carrier zone air terminal space sensors shall be available with capabilities of combining:
   a. Space temperature sensing
   b. Sensors with communication port
   c. Sensors with CO_2 sensing
   d. Sensors with LCD display
   e. Sensors with RH sensing
   f. Sensors with local override and indicating light
2. i-Vu Equipment Touch; Carrier brand 4.3 in. color touch screen zone sensor and local user interface for a single Open (BACnet[1] MS/TP) equipment controller. Includes built-in temperature sensor.
3. i-Vu System Touch; Carrier brand 4.3 in. color touch screen user interface connects to a network of up to 60 Open (BACnet MS/TP) equipment controllers. Includes built-in temperature sensor.

B. 23 09 13.23.B. Zone terminals

1. Zone air terminals shall be a i-Vu VAV Zone Single Duct and Fan Terminal type for optimum integrated system solution. This includes:
   a. 35E — Single Duct Air Terminals
   b. 45J — Series Fan Powered Air Terminals
   c. 45K — Quiet Series Fan Powered Air Terminals
   d. 45M — Parallel Fan Powered Air Terminals
   e. 45N — Quiet Parallel Fan Powered Air Terminals
   f. 45Q — Low Profile Series Fan Powered Air Terminals
   g. 45R — Low Profile Parallel Fan Powered Air Terminals
   h. 35J — Single Duct Retrofit Air Terminals

Part 4 — 23 09 23 Integrated Staging Control (ISC) Board System for HVAC

4.01 23 09 23.13 Packaged VAV, Rooftop Units:

A. 23 09 23.13.A. General:

1. Shall be complete with self-contained low-voltage control circuit protected by a resettable circuit breaker on the 24-v transformer side. Transformer shall have 75VA capability.
2. Shall utilize color-coded wiring.
3. Shall include an electro-mechanical control board, to conveniently and safely provide connection points for vital control functions such as: smoke detectors, phase monitor, gas controller, economizer, thermostat, and safety switches. Shall control all 3 stages of compressor logic, fully variable indoor fan motor logic as well as staging of the outdoor fan motor. Shall also have a green LED indicator to indicate GO operation as well as a fault LED indicator for thermostat mis-wiring, no fan operation and safety switches.
4. The heat exchanger shall be controlled by an integrated gas controller (IGC) microprocessor. See heat exchanger section of this specification.

B. 23 09 23.13.B. Safeties:

1. Compressor over-temperature, over-current. High internal pressure differential.
2. Low-pressure protection switch.
   a. 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 protection switch.
   a. High pressure switch shall use different color wire than the low pressure switch. The purpose is to assist the installer and service

1. BACnet is a trademark of ASHRAE.

technician to correctly wire and or troubleshoot the rooftop unit.

4. Automatic reset, motor thermal overload protector.
5. Heating section shall be provided with the following minimum protections:
   a. High-temperature limit switches.
   b. Induced draft motor speed sensor.
   c. Flame rollout switch.
   d. Flame proving controls.

Part 5 — 23 09 93 Sequence of Operations for HVAC Controls

5.01 23 09 93.13 Packaged VAV, Rooftop Units:

A. 23 09 93.13 A. Duct Static Pressure Control (with optional Reset function) — The supply fan/motor VFD is controlled by a VFD using a PID and an analog input from a duct static pressure transducer. The supply fan will modulate its speed to maintain the desired duct static pressure setpoint.

B. 23 09 93.13 B. Supply Air Temperature Control (with optional Reset function) — The control will maintain the desired supply air temperature setpoint whenever cooling is required. A user configurable setpoint will be provided (default 53°F). The control will use the appropriate method (economizer cooling, mechanical cooling, or a combination of both) to achieve this setpoint whenever the zone temperature is greater than the current cooling setpoint (occupied or unoccupied). If Supply Air Reset is enabled, the reset algorithm will calculate a proportional reset value between the Occupied Cooling setpoint and 1°F above the Occupied Heating setpoint. The amount of reset (reset ratio and maximum reset limit value) is user configurable.

C. 23 09 93.13 C. Morning Warm-up — The control will provide a Morning Warm-up cycle the first time if transition from unoccupied to occupied and if the heating is required and the unit goes into heating immediately. Whenever the unit enters the heating mode, before any heat stage is enabled, the control will provide a Linkage mode to the system that will cause the terminals to maintain sufficient airflow. The Linkage mode of Warm-up (2) will be sent to the terminal system to ensure sufficient airflow while in the heating mode but also providing a controlled warm-up cycle to prevent overheating of some zones. As a safety measure, should the heating cycle continue and the SAT approach the "Maximum Heating SAT" limit, the Linkage mode sent will change to Pressurization (6) to ensure all terminals open to their maximum airflow. The Linkage mode will remain Pressurization until that heating cycle ends. Once the heating demand is met and the heat cycle is completed or if cooling is required, heating will be locked out until the beginning of the next occupied period.

D. 23 09 93.13 D. Occupied Heating — Optionally, the user may enable occupied heating which will allow heating whenever heating is needed during the occupied period. The cycle will operate exactly the same as Morning Warm-up above, except it will not be limited by the transition into an occupied period.

E. 23 09 93.13 E. Heating and Cooling Setpoint Separation — By default, the control will maintain a 5°F (configurable) separation between the heating and cooling setpoints. This will prevent the unit from prematurely entering the opposite mode.

F. 23 09 93.13 F. Economizer Cooling Cycle — The VAV-RTU Open provides variable supply airflow to the VAV system and maintain constant minimum ventilation. As the supply airflow changes, the economizer minimum position is adjusted to provide a constant amount of outdoor air. The control will provide the ability to utilize outdoor air for maintaining the supply air setpoint should the outdoor air be suitable. The economizer control will utilize an OAT temperature check, a RAT temperature check if RAT is available or a SPT temperature check comparison and optionally, an OA enthalpy check to determine if OA conditions are suitable for economizing. Economizer operation, if available, will begin whenever cooling is required. The economizer will modulate the position of the OA damper to maintain the desired calculated economizer setpoint. The economizer will be controlled to meet CEC Title 24 requirements so that it will remain open 100% during integrated cooling and only partially close if required. The VAV-RTU Open also provides FDD (Fault Detection and Diagnostics) for economizer operation. The FDD logic will detect an economizer that fails to close, fails to open, is stuck fully open, and fails to fully open. Each condition will cause an Economizer Operation alarm to occur and the specific fault condition will be displayed.

G. 23 09 93.13 G. Mechanical Cooling Cycle — The control will operate 3 stages of mechanical cooling in order to maintain the desired supply air temperature whenever economizer cooling operation is unavailable but cooling is required. This condition will be determined if the OA has high enthalpy or at a temperature above the Economizer Lockout temperature. The 2 compressors will be staged in a binary fashion so that 3 stages of cooling are provided. Mechanical cooling stages will be added as required to meet the desired SA setpoint. The number of stages will depend on the return air conditions and the system load (airflow through the coil). Stages will be added or dropped as required to maintain the setpoint while also maintaining the minimum on time and minimum off time for compressor operation. Anytime the SA falls below the desired SA setpoint, stages will be dropped until only stage 1 is operating. At that point, should the SA fall below 45°F (7°C), the economizer will modulate to increase the amount of outdoor air in order to maintain this minimum SA temperature. Should the economizer reach the maximum OA position and if the SA is still below the minimum SA temperature, the first cooling stage will be disabled and the economizer will return to the minimum position.

H. 23 09 93.13 H. Integrated Cooling Cycle — If economizer cooling operation is insufficient to maintain the

desired SA setpoint, mechanical cooling will be activated to supplement the free economizer cooling. This condition will be determined if the OA has low enthalpy but is at a temperature at least 5°F above the desired SA setpoint and below the Economizer Lockout temperature. Mechanical cooling stages will be added as required to meet the desired SA setpoint. The number of stages will depend on the return air conditions and the system load (airflow through the coil). Stages will be added or dropped as required to maintain the setpoint while also maintaining the minimum on time and minimum off time for compressor operation. Anytime the SA falls below the desired SA setpoint, stages will be dropped until only stage 1 is operating. At that point, should the SA fall below the minimum SA temperature, the economizer will modulate to increase the amount of return air in order to maintain this minimum SA temperature. Should the economizer reach the minimum OA position and if the SA is still below the minimum SA temperature, the first cooling stage will be disabled.

I. 23 09 93.13 I. Minimum Ventilation — The economizer minimum position will be adjusted as required based on the supply fan speed. Two user configurable minimum economizer positions will be provided. The economizer will be positioned at the "Low Fan Econ Min Pos" when the fan is operating at its slowest speed. When the fan is operating at its maximum speed, the economizer will be positioned at the "Vent Dmpr Pos/DCV Min Pos". For any supply fan speed between these 2 points, the economizer minimum position will be calculated proportionally.

J. 23 09 93.13 J. Unoccupied Free Cooling — Unoccupied Free Cooling allows the rooftop with the economizer damper to use outdoor air for free cooling during unoccupied periods. When the VAV-RTU Open is unoccupied and the space temperature rises at least 2°F above the Occupied Cooling Setpoint, the supply fan starts. The economizer damper opens as necessary to maintain the Supply Air Setpoint and cool the space. The VAV-RTU Open continues to operate in this mode until the space temperature drops to 1°F below the Occupied Cooling Setpoint or the outside air conditions are no longer suitable for free cooling.

K. 23 09 93.13 K. Demand Controlled Ventilation (DCV) — Whenever the unit is in an occupied mode and "DCV Control" is set to enable, a unique economizer minimum position will be calculated based on the output of the DCV algorithm. The algorithm monitors the CO_2 sensor value and compares that value to the user defined setpoint. A control algorithm calculates the required minimum economizer position required to satisfy the ventilation requirements of the space. A user-adjustable DCV Max Vent Damper Position is provided to limit the maximum amount of outdoor air that can be brought into the unit due to the DCV algorithm. Demand Controlled Ventilation can be used in either a differential mode where both the indoor air and outdoor air CO_2 levels are provided to the control or it may be used in a single indoor air mode with only the indoor air CO_2 level. In the latter case, the outdoor air CO_2 level is assumed at 400 ppm.

L. 23 09 93.13 L. Supply Air Tempering (Low and Medium Gas Heat only) — The VAV-RTU Open provides the capability to operate the 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 (SA) 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. Heat operation is subject to anti-recycle timers to protect the equipment from short-cycling. There are fixed application specific minimum on and off times for each heating output (120 seconds on and 60 seconds off). The minimum on time required may adversely affect supply air temperatures with High Gas Heat option in some applications.

M. 23 09 93.13 M. Open Airside Linkage — The control will support Airside Linkage to accommodate system operation using Carrier VAV terminal controls. The VAV-RTU Open will receive zone information (occupancy status, occupied and unoccupied zone temperatures, occupied and unoccupied heating and cooling setpoints, zone CO_2 level for DCV, and zone RH level). The VAV-RTU Open will operate in the mode required to satisfy the zones. Airside Linkage will provide operating mode information to the zones so that the system operation is fully coordinated between the rooftop and the terminal zones. The VAV air terminals offer a minimum airflow setting in AHU heating mode. This shall be configured to maintain the required airflow (cfm) whenever the VAV RTU is in a heating mode per the unit's specification. The VAV terminals will recognize the Heating or Warm-up modes as a heat mode and utilize the higher airflow minimum setpoint as configured. For heating cycles, initially utilize the Linkage Morning Warm-Up mode to open dampers on all zones below the midpoint of the occupied heating and cooling setpoints. This provides a controlled heat cycle and prevents the overheating of random zones where heating may not be required. Any zone below this middle setpoint will have its airflow at the maximum value. Further monitor the SAT of the VAV RTU to determine if the SAT is approaching the configured maximum limit. As the limit is approached, the Linkage mode is changed to Linkage Pressurization to ensure all terminals open to their maximum airflow.

N. 23 09 93.13 N. Field Test/Commissioning — The control will provide BACnet test points to activate specific test modes that can be used to commission the rooftop and the system. Test modes will be available in the Service Test screen on the Property pages and shall also be available on the local Equipment Touch device for standalone commissioning. Tests include: fan test, low heat test, high heat test, cooling test, power exhaust test, and an economizer test. When any test is active, the appropriate

Linkage mode will be sent to the system's terminals. This will ensure appropriate system operation and airflow during any test mode.

Part 6 — 23 40 13 Panel Air Filters

6.01 23 40 13.13 Packaged VAV, 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 7 — 23 81 19 Self-Contained Air Conditioners

7.01 23 81 19.13 Small-Capacity Self-Contained Air Conditioners (48LC*B07-12)

A. 23 81 19.13.A. General

1. Outdoor, rooftop mounted, DDC electrically controlled, heating and cooling VAV unit utilizing fully hermetic scroll compressors for cooling duty and gas combustion for heating duty.
2. VAV-RTU Open — BACnet direct digital controller:
   a. Shall be ASHRAE 62-2001 compliant.
   b. Shall accept 18-30VAC, 50-60Hz, and consumer 15VA or less power.
   c. Shall have an operating temperature range from –40°F (–40°C) to 130°F (54°C), 10% to 90% RH (non-condensing).
   d. Shall include built-in protocol for BACnet MS/TP.
   e. Shall allow access of up to 62 network variables (SNVT). Shall be compatible with all open controllers.
   f. Baud rate controller shall be selectable using a dipswitch.
   g. Shall have an LED display independently showing the status of serial communication, running, errors, power, all digital outputs, and all analog inputs.
   h. Shall accept the following inputs: space temperature, setpoint adjustment, outdoor air temperature, indoor air quality, outdoor air quality, compressor lock-out, fire shutdown, enthalpy switch, and fan status/filter status/humidity/remote occupancy.
   i. Shall provide the following outputs: Economizer, Fan Speed, Fan Start/Stop, Cooling Stage 1, Cooling Stage 2, Cooling Stage 3, Heating Stage 1, Heating Stage 2, Power Exhaust, Heat Interlock.
   j. Shall have built-in surge protection circuitry through solid state polyswitches. Polyswitches shall be used on incoming power and network connections. Polyswitches will return to normal when the "trip" condition clears.
   k. Shall have a battery back-up capable of a minimum of 10,000 hours of data and time clock retention during power outages.
   l. Shall have built-in support for Carrier technician tool.
   m. Shall include an EIA-485 protocol communication port (BACnet MS/TP only), an access port for connection of either a computer or a Carrier technician tool, an EIA-485 port for network communication to intelligent space sensors and displays.
   n. Software upgrades will be accomplished by either local or remote download. No software upgrades through chip replacements are allowed.
3. Factory assembled, single-piece heating and VAV cooling rooftop unit. Contained within the unit enclosure shall be all factory wiring, piping, controls, and special features required prior to field start-up.
   a. Return air temperature sensor to control multi stage of cooling capacity
   b. Supply air temperature sensor to control multi stage of cooling capacity
   c. Duct static pressure transducer located in control box for remote field mounting
   d. Evaporator coil freeze protection
4. Unit shall use Puron® (R-401A) refrigerant.
5. Unit shall be installed in accordance with the manufacturer's instructions.
6. Unit must be selected and installed in compliance with local, state, and federal codes.
7. To properly control to the desired supply air temperature comfort setting, an integrated EconoMi$er2 is provided standard. Two versions shall be available: low leak and ultra-low leak versions. For horizontal air flow applications, economizer must be field installed.
   a. Integrated Low Leak:
      1) Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
      2) Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory installed option. Field installed for horizontal air flow models.
      3) Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
      4) Shall include all hardware and controls to provide free cooling with outdoor air

when temperature and/or humidity are below setpoints.

5) Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
6) Low leak rate models shall be equipped with leakage dampers, not to exceed 2% leakage at 1 in. wg pressure differential.
7) Economizer controller shall be a 4 to 20 mA design controlled directly by the VAV-RTU Open controller. VAV-RTU Open meets California Title 24 Fault Detection and Diagnostic (FDD) requirements.
8) Shall be capable of introducing up to 100% outdoor air.
9) 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.
10) Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
11) 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.
12) VAV-RTU Open controller shall also provide control of an accessory power exhaust unit function.
13) The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation rate for full occupancy.
14) Dampers shall be completely closed when the unit is in the unoccupied mode.
15) Economizer controller shall accept a 2 to 10 vdc CO_2 sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.
16) Compressor lockout temperature is adjustable from 45°F to 80°F (7°C to 27°C), set at a factory default of 45°F (7°C).
17) Actuator shall be direct coupled to economizer gear. No linkage arms or control rods shall be acceptable.
18) Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.

b. Integrated Ultra Low Leak Models:
   1) Integrated, gear driven opposing modulating blade design type capable of simultaneous economizer and compressor operation.
   2) Independent modules for vertical or horizontal return configuration shall be available. Vertical return modules shall be available as a factory installed option. Field installed for horizontal air flow models.
   3) Damper blades shall be galvanized steel with composite gears. Plastic or composite blades on intake or return shall not be acceptable.
   4) Shall include all hardware and controls to provide free cooling with outdoor air when temperature and/or humidity are below setpoints.
   5) Shall be equipped with gear driven dampers for both the outdoor ventilation air and the return air for positive air stream control.
   6) Ultra Low Leak design meets California Title 24 section 140.4 and ASHRAE 90.1 requirements of 4 cfm per sq ft on the outside dampers and 10 cfm per sq ft on the return dampers.
   7) Economizer controller shall be a 4 to 20 mA design controlled directly by the VAV-RTU Open controller. VAV-RTU Open meets California Title 24 Fault Detection and Diagnostic (FDD) requirements.
   8) Shall be capable of introducing up to 100% outdoor air.
   9) 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.
   10) Shall be designed to close damper(s) during loss-of-power situations with spring return built into motor.
   11) Dry bulb outdoor air temperature 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.
   12) 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%.
   13) The economizer shall maintain minimum airflow into the building during occupied period and provide design ventilation over the entire system airflow range.
   14) Dampers shall be completely closed when the unit is in the unoccupied mode.

15) Economizer controller shall accept a 2 to 10 vdc CO_2 sensor input for IAQ/DCV control. In this mode, dampers shall modulate the outdoor air damper to provide ventilation based on the sensor input.

16) Compressor lockout temperature is adjustable from 45°F to 80°F (7°C to 27°C), set at a factory default of 45°F (7°C).

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

18) Economizer controller shall provide indications when in free cooling mode, in the DCV mode, or the exhaust fan contact is closed.

B. 23 81 19.13.B. Quality Assurance

1. Unit meets and exceeds ASHRAE 90.1 minimum efficiency requirements.
2. Unit meets and exceeds ENERGY STAR[1] and Consortium for Energy Efficiency (CEE) performance criteria.
3. Unit shall be rated in accordance with AHRI Standards 340/360.
4. Unit shall be designed to conform to ASHRAE 15.
5. Unit shall be ETL/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.
6. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.
7. Unit casing shall be capable of withstanding 500 hour salt spray exposure per ASTM B117 (scribed specimen).
8. Unit shall be designed in accordance with ISO 9001, and shall be manufactured in a facility registered by ISO 9001.
9. Roof curb shall be designed to conform to NRCA Standards.
10. 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.
11. Unit shall be designed in accordance with UL Standard 1995, including testing to withstand rain.
12. Unit shall be constructed to prevent intrusion of snow and tested to prevent snow intrusion into the control box up to 40 mph.
13. Unit shake tested to assurance level 1, ASTM D4169 to ensure shipping reliability.
14. High efficiency motors listed shall meet section 313 of the Energy Independence and Security Act of 2007 (EISA 2007).

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 ± 10% voltage.
2. Compressor with standard controls shall be capable of operation down to 45°F (7°C) ambient outdoor temperatures. For lower operation an integrated economizer shall be utilized to allow lower temperatures and accommodate indoor air quality initiatives.
3. Unit shall discharge supply air vertically or horizontally as shown on contract drawings.
4. Unit shall be factory configured for vertical supply and return configurations.
5. Unit shall be field convertible from vertical to horizontal airflow on all models. No special kit required on 07 models. Field installed supply duct kit required for 08-12 size model only.
6. Unit shall be capable of mixed operation: vertical supply with horizontal return or horizontal supply with vertical return.

F. 23 81 19.13.F. Electrical Requirements

1. Main power supply voltage, phase, and frequency must match those required by the manufacturer.

G. 23 81 19.13.G. Unit Cabinet

1. Unit cabinet shall be constructed of galvanized steel, and shall be bonderized and coated with a pre-painted baked enamel finish on all externally exposed surfaces.
2. Unit cabinet exterior paint shall be: film thickness, (dry) 0.003 inches minimum, gloss (per ASTM D523, 60°F/16°C): 60, Hardness: H-2H Pencil hardness.
3. Evaporator fan compartment interior cabinet insulation shall conform to AHRI Standards 340/360 minimum exterior sweat criteria. Interior surfaces shall be insulated with a minimum 1/2 in. thick, 1 lb density, aluminum foil faced fiberglass insulation. Aluminum foil-faced fiberglass insulation shall also be used in the gas heat compartment.

1. ENERGY STAR is a registered trademark of the U.S. Environmental Protection Agency.

4. Base of unit shall have a minimum of 4 locations for thru-the-base gas and electrical connections (factory installed or field installed), standard.
5. Base Rail:
   a. Unit shall have base rails on a minimum of 4 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 an internally sloped condensate drain pan made of a non-corrosive 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 sizes, 2 piece top on 08-12 sizes.
8. Gas Connections:
   a. All gas piping connecting to unit gas valve shall enter the unit cabinet at a single location on side of unit (horizontal plane).
   b. Thru-the-Base Capability:
      1) Standard unit shall have a thru-the-base gas-line location using a raised, embossed portion of the unit basepan.
      2) Optional, factory-approved, water-tight connection method must be used for thru-the-base gas connections.
      3) No basepan penetration, other than those authorized by the manufacturer, is permitted.
9. Electrical Connections:
   a. All unit power wiring shall enter unit cabinet at a single, factory-prepared, knockout location.
   b. Thru-the-base capability:
      1) Standard unit shall have a thru-the-base electrical location (s) using a raised, embossed portion of the unit basepan.
      2) Optional, factory-approved, water-tight connection method must be used for thru-the-base electrical connections.
      3) No basepan penetration, other than those authorized by the manufacturer, is permitted.
10. Component Access Panels (Standard):
    a. Cabinet panels shall be easily removable for servicing.
    b. Unit shall have one factory installed, toolless, removable, filter access panel.
    c. Panels covering control box, indoor fan, indoor fan motor, gas components (where applicable), and compressors shall have a molded composite handles.
    d. Handles shall be UV modified, composite. They shall be permanently attached, and recessed into the panel.
    e. Screws on the vertical portion of all removable access panel shall engage into heat resistant, molded composite collars.
    f. Collars shall be removable and easily replaceable using manufacturer recommended parts.

H. 23 81 19.13.H. Gas Heat
1. General:
   a. Heat exchanger shall be an induced draft design. Positive pressure heat exchanger designs shall not be allowed.
   b. Shall incorporate a direct-spark ignition system and redundant main gas valve.
   c. Gas supply pressure at the inlet to the rooftop unit gas valve must match that required by the manufacturer.
2. The heat exchanger shall be controlled by an integrated gas controller (IGC) microprocessor.
   a. IGC board shall notify users of fault using an LED (light-emitting diode).
   b. The LED shall be visible without removing the control box access panel.
   c. IGC board shall contain algorithms that modify evaporator-fan operation to prevent future cycling on high temperature limit switch.
   d. Unit shall be equipped with anti-cycle protection with one short cycle on unit flame rollout switch or 4 continuous short cycles on the high temperature limit switch. Fault indication shall be made using an LED.
3. Standard Heat Exchanger Construction:
   a. Heat exchanger shall be of the tubular-section type constructed of a minimum of 20 gauge steel coated with a nominal 1.2 mil aluminum-silicone alloy for corrosion resistance.
   b. Burners shall be of the in-shot type constructed of aluminum-coated steel.
   c. Burners shall incorporate orifices for rated heat output up to 2000 ft (610 m) elevation. Additional accessory kits may be required for applications above 2000 ft (610 m) elevation, depending on local gas supply conditions.
   d. Each heat exchanger tube shall contain multiple dimples for increased heating effectiveness.

4. Optional Stainless Steel Heat Exchanger construction.
   a. Use energy saving, direct-spark ignition system.
   b. Use a redundant main gas valve.
   c. Burners shall be of the in-shot type constructed of aluminum-coated steel.
   d. All gas piping shall enter the unit cabinet at a single location on side of unit (horizontal plane).
   e. The optional stainless steel heat exchanger shall be of the tubular-section type, constructed of a minimum of 20 gauge type 409 stainless steel.
   f. Type 409 stainless steel shall be used in heat exchanger tubes and vestibule plate.
   g. Complete stainless steel heat exchanger allows for greater application flexibility.
5. Induced draft combustion motor and blower:
   a. Shall be a direct-drive, single inlet, forward-curved centrifugal type.
   b. Shall be made from steel with a corrosion-resistant finish.
   c. Shall have permanently lubricated sealed bearings.
   d. Shall have inherent thermal overload protection.
   e. Shall have an automatic reset feature.

I. 23 81 19.13.I. Coils
1. Standard Aluminum Fin/Copper Tube Coils:
   a. Standard evaporator and condenser coils shall have aluminum lanced plate fins mechanically bonded to seamless internally grooved 5/16 in. diameter 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 1995 burst test at 1775 psig.
   c. Condenser coils shall be leak tested to 150 psig, pressure tested to 650 psig, and qualified to UL 1995 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 B117-90.
   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 in a QUV. 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).
   g. Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90.
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 D523-89.
   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 D3363-92A and cross-hatch adhesion of 4B-5B per ASTM D3359-93.
   f. Impact resistance shall be up to 160 in.-lb (ASTM D2794-93).
   g. Humidity and water immersion resistance shall be up to minimum 1000 and 250 hours respectively (ASTM D2247-92 and ASTM D870-92).
   h. Corrosion durability shall be confirmed through testing to be no less than 1000 hours salt spray per ASTM B117-90.

J. 23 81 19.13.J. Refrigerant Components
1. Refrigerant circuit shall include the following control, safety, and maintenance features:
   a. Multi Thermostatic Expansion Valve (TXV) system 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.

c. Service gauge connections on suction and discharge lines.

d. Single circuit design with tandem compressor and fully activated evaporator coil.

e. Shall be capable of providing cooling capacity turndown to 25% of rated full capacity without the need of hot gas by-pass devices.

2. Compressors:

a. Models shall use fully hermetic tandem scroll compressors optimized for comfort staging and IEER energy savings.

b. Models shall be available with a single refrigerant circuit and 3 stages cooling operation on all models.

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 heater shall be standard on each compressor and deactivated whenever the compressor is in operation.

K. 23 81 19.13.K. Filter Section

1. Filters access is specified in the unit cabinet section of this specification.

2. Filters shall be held in place by a pivoting filter tray, facilitating easy removal and installation.

3. Shall consist of factory-installed, low velocity, throw-away 2 in. thick fiberglass filters.

4. Filters shall be standard, commercially available sizes.

5. Only one size filter per unit is allowed.

L. 23 81 19.13.L. Evaporator Fan and Motor

1. Evaporator Fan Motor:

a. Shall have permanently lubricated bearings.

b. Shall have inherent automatic-reset thermal overload protection or circuit breaker.

c. Shall have a maximum continuous bhp rating for continuous duty operation; no safety factors above that rating shall be required.

d. Shall be Variable Frequency duty to match the 3-stage compression logic.

e. Shall contain motor shaft grounding ring to prevent electrical bearing fluting damage by safely diverting harmful shaft voltages and bearing currents to ground.

2. Variable Frequency Drive (VFD). For indoor fan motor controlled by duct static pressure transducer:

a. Shall be installed inside the unit cabinet, mounted, wired and tested.

b. Shall contain Electromagnetic Interference (EMI) frequency protection.

c. Insulated Gate Bi-Polar Transistors (IGBT) used to produce the output pulse width modulated (PWM) waveform, allowing for quiet motor operation.

d. Self diagnostics with fault and power code LED indicator. Field accessory Display Kit available for further diagnostics and special setup applications.

e. RS485 capability standard.

f. Electronic thermal overload protection.

g. 5% swinging chokes for harmonic reduction and improved power factor.

h. All printed circuit boards shall be conformal coated.

i. Shall not contain visual display to adjust internal setting. Only available as field installed kit.

3. Belt-driven Evaporator Fan:

a. Belt drive shall include an adjustable-pitch motor pulley.

b. Shall use sealed, permanently lubricated ball-bearing type.

c. Blower fan shall be double-inlet type with forward-curved blades.

d. Shall be constructed from steel with a corrosion resistant finish and dynamically balanced.

M. 23 81 19.13.M. Condenser Fans and Motors

1. Condenser fan motors:

a. Shall be a totally enclosed, multi speed ECM 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 07 models and shaft-up on 08-12 models with rain shield.

2. Condenser Fans:

a. Shall be a direct-driven propeller type fan.

b. Shall have galvanized aluminum (galvalum) blades riveted to corrosion-resistant steel spiders and shall be dynamically balanced.

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

1. Propane Conversion Kit:

a. Package shall contain all the necessary hardware and instructions to convert a standard

natural gas unit for use with liquefied propane, up to 2000 ft (610 m) elevation.

b. Additional accessory kits may be required for applications above 2000 ft (610 m) elevation.

2. Flue Shield (07 model only):
   a. Flue shield shall provide protection from the hot sides of the gas flue hood.
3. Condenser Coil Hail Guard Assembly (Factory or field installed):
   a. Shall protect against damage from hail.
   b. Shall be of louvered style.
4. Unit-Mounted, Non-Fused Disconnect Switch:
   a. Switch shall be factory-installed, internally mounted.
   b. National Electric Code (NEC) and ETL/UL approved non-fused switch shall provide unit power shutoff.
   c. Shall be accessible from outside the unit.
   d. Shall provide local shutdown and lockout capability.
5. HACR Breaker:
   a. These manual reset devices provide overload and short circuit protection for the unit. They are 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.
6. Convenience Outlet:
   a. 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 ETL/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. Non-powered convenience outlet:
      1) Outlet shall be powered from a separate 115/120v power source.
      2) A transformer shall not be included.
      3) Outlet shall be factory-installed and internally mounted with easily accessible 115-v female receptacle.
      4) Outlet shall include 15 amp GFI (ground fault interrupter) 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.
7. Flue Discharge Deflector (07-12 models only):
   a. Flue discharge deflector shall direct unit exhaust vertically instead of horizontally.
   b. Deflector shall be defined as a “natural draft” device by the National Fuel and Gas (NFG) code.
8. Thru-the-Base Connectors:
   a. Kits shall provide connectors to permit gas and electrical connections to be brought to the unit through the unit basepan.
   b. Minimum of 4 connection locations per unit.
9. 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.
10. 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.
11. High-Static Indoor Fan Motor(s) and Drive(s):
    a. High-static motor(s) and drive(s) shall be factory-installed to provide additional performance range.
12. High Altitude Gas Conversion Kit:
    a. Package shall contain all the necessary hardware and instructions to convert a standard natural gas unit to operate from 2000 to 7000 ft (610 to 2134 m) elevation with natural gas or from 0 to 7000 ft (90 to 2134 m) elevation with liquefied propane.

Guide specifications (cont)

13. Outdoor Air Enthalpy Sensor:
    a. 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.
14. Return Air Enthalpy Sensor:
    a. The return air enthalpy sensor shall be used in conjunction with an outdoor air enthalpy sensor to provide differential enthalpy control.
15. Indoor Air Quality (CO_2) Sensor:
    a. Shall be able to provide demand ventilation indoor air quality (IAQ) control.
    b. The IAQ sensor shall be available in duct mount, wall mount, or wall mount with LED display. The setpoint shall have adjustment capability.
16. Smoke Detectors (factory-installed only):
    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 2 individual detector modules.
        5) Can be wired to up to 14 other duct smoke detectors for multiple fan shutdown applications.
17. Time Guard:
    a. Shall prevent compressor short cycling by providing a 5 minute delay (± 2 minutes) before restarting a compressor after shutdown for any reason.
    b. One device shall be required per compressor.
18. Hinged Access Panels:
    a. Shall provide easy access through integrated quarter turn latches.
    b. Shall be on major panels of filter, control box, fan motor and compressor.
19. Display Kit for Variable Frequency Drive:
    a. Kit allows the ability to access the VFD controller programs to provide special setup capabilities and diagnostics.
    b. Kit contains display module, mounting bracket and communication cable.
    c. Display Kit can be permanently installed in the unit or used on any VFD controller as needed.
20. Supply Duct Kit:
    a. On 08-12 models a supply air duct cover kit is required when field converting the factory standard vertical duct supply to horizontal duct supply configuration. One required per unit.
21. High Short Circuit Current Rating (SCCR):
    a. An optional SCCR of 10 ka shall be provided for 208/230-v and 460-v units.

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Replaces: 48LCB-7-12-01PD