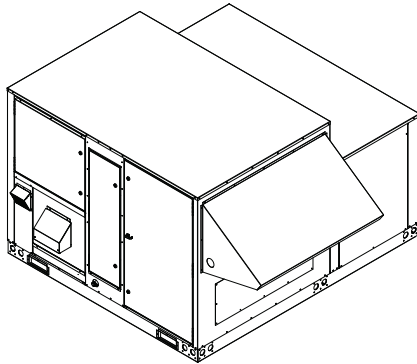




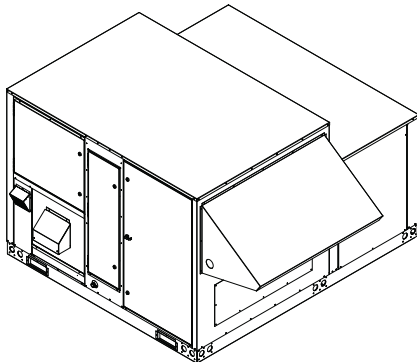
# Product Data

## 62RA,RB,RC,RD07-38 Dedicated Outdoor Air Unit Geothermal Water Source Heat Pump with Optional Energy Wheel

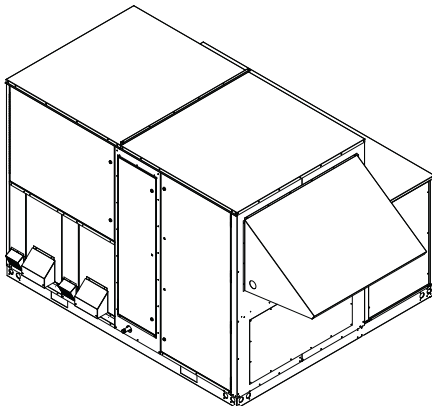
6 to 35 Nominal Tons



62R07-09



62R12-20



62R22-38

Carrier's 62R Series Geothermal dedicated outdoor air units offer:

- Capacities up to 35 nominal tons
- Vertical or horizontal configurations
- Puron® environmentally sound refrigerant (R-410A) as standard
- Double wall construction
- Optional AHRI (Air Conditioning, Heating, and Refrigeration Institute) listed energy recovery wheel
- Multiple auxiliary heating options (10:1 turndown gas heat and SCR electric heat)
- Multiple fan options
- Microprocessor control with accessory keypad and easy to view display
- Slide-out supply fan tray
- Remote communication capability
- Digital scroll compressor(s), standard
- 100% outdoor air

### Features/Benefits

**Carrier's 62R commercial packaged, dedicated, outdoor air water source heat pump unit offers efficiency, application flexibility, quality, reliability and easy maintenance.**

#### High efficiency

The Carrier dedicated outdoor air unit utilizes highly efficient digital scroll compressors that have been optimally designed for use with Puron refrigerant (R-410A). Operating efficiency of the unit may be increased by adding the optional energy recovery system.



# Features/Benefits (cont)



The energy recovery system uses an AHRI listed energy recovery wheel to transfer sensible and latent heat between the incoming air and the exhaust air, reducing energy consumption and improving indoor conditions.

## Flexibility to suit many applications

The Carrier 62R units are designed to meet customer's requirements for new construction, replacement opportunities, and special applications within boiler tower or geothermal applications. The customer can choose from vertical or horizontal supply configurations and over 10 supply fan motor horsepower ratings, with backward curved, forward curved, airfoil or backward inclined supply fans.

Supply fans may be provided with spring isolation and seismic restraints to address earthquake design requirements.

The optional modulating heating system controls 9 sizes of gas heat or a wide range electric heat options. Steam or hydronic heating coils are also available.

Also available are hot gas reheat, power exhaust, and 2 and 4-in. filters.

Roof curbs that follow the NRCA (National Roofing Contractors Association) guidelines are available for vertical applications in 14-in. and 24-in. heights and are installed and weather-proofed by the roofing contractor. Units with horizontal connections may be either curb or slab mounted.

All 62RA and RB units bring in 100% outdoor air through the outdoor air intake hood and do not have a return air connection. The 62RA units have a vertical supply duct opening in the bottom of the unit. The 62RB units have a horizontal supply duct opening in the side of the unit.

All 62RC and RD units bring in 100% outdoor air through the outdoor air intake hood. They may also be equipped with factory-installed power exhaust and/or an energy conservation wheel. The return air to these units is not re-circulated or mixed with the incoming outdoor air. The return air may be used to transfer energy to the incoming air via the energy conservation wheel and is then exhausted. The 62RC units have a vertical supply

and return duct opening in the bottom of the unit. The 62RD units have a horizontal supply duct opening in the side of the unit and a vertical return opening in the bottom of the unit.

## Durable construction

Cabinets are constructed of heavy gage galvanized steel with a pre-painted exterior finish to protect the cabinet and preserve the appearance through a long operating life.

The cabinet features a double wall design with a galvanized inner liner. The double wall design is insulated with closed-cell foam which adds rigidity to the structure and resists moisture intrusion.

## Quality and reliability

All units are run tested prior to leaving the factory to help ensure proper operation and enhance life expectancy of key components. Components undergo numerous checks and inspections throughout the manufacturing process to eliminate components that do not meet Carrier's high quality standards.

Reliable, digital scroll compressors, equipped with crankcase heaters, are mounted on rubber isolation mounts for smooth, quiet operation.

Mechanically and electrically independent dual refrigeration circuits (size 12 and larger) provide redundancy in the event that one circuit should require service. All refrigerant circuits utilize a thermostatic expansion valve (TXV) to ensure proper refrigerant metering throughout the unit's broad

operating envelope. The refrigeration circuits are protected by reversible heat pump filter driers specifically designed for Puron® refrigerant (R-410A).

Standard warranty coverage provides a one-year parts warranty, 5-year on the stainless steel gas heat exchanger.

## Easy to install, maintain and service

Maintaining and servicing a dedicated outdoor air unit is critical in maximizing the life expectancy and efficient operation of the unit. The Carrier unit has been designed for easy access with simple maintenance procedures.

Hinged access panels provide easy access to controls, fans, coils and filters. Slide-out supply fan system allows easy maintenance of belts, bearings, blower wheels and motors.

A dedicated vertical or horizontal design does not require conversion time during the unit installation. Through the curb power connection minimizes roof penetrations.

Power connections are in a protected area, away from harsh environmental conditions. All units feature heavy gage formed galvanized steel base rails with rigging openings to simplify handling and lifting at the job site.

## Indoor air quality

The Carrier dedicated outdoor air unit offers 2 and 4-in. filter tracks that accept a variety of filter types and filter MERV ratings.

The condensate drain pan is double sloped to eliminate standing water per ASHRAE (American Society of

# Table of contents

	Page
Features/Benefits . . . . .	1-3
Model Number Nomenclature . . . . .	4,5
Ratings and Capacities . . . . .	6,7
Physical Data . . . . .	8-12
Options and Accessories . . . . .	13
Base Unit Dimensions . . . . .	14-22
Accessory Dimensions . . . . .	23
Selection Procedure . . . . .	23
Performance Data . . . . .	24-59
Electrical Data . . . . .	60
Application Data . . . . .	61-63
Controls . . . . .	64-66
Typical Wiring Schematics . . . . .	67-83
Guide Specifications . . . . .	84-88

Heating, Refrigerating, and Air-Conditioning Engineers) Standard 62-1089R. The drain pan is fabricated of heavy gage stainless steel to resist corrosion and is insulated on the bottom with closed cell insulation.

The double wall design of the unit with galvanized interior liners allows easy cleaning of the interior surfaces.

### **Energy recovery**

The Carrier dedicated outdoor air unit may be optionally equipped with an energy recovery (enthalpy) wheel. The enthalpy wheel meets the requirements of AHRI standard 1060 and is certified by AHRI. This energy recovery wheel is sized to provide increased energy recovery and humidity control based on the application requirements. The energy wheel is mounted in a slide-out cassette for simplified maintenance.

### **Auxiliary heating systems**

Carrier dedicated outdoor air units may be equipped with a variety of supplemental heat system types: gas heat (natural gas or liquefied petroleum gas), electric, steam, or hot water. Precise leaving air temperature control is provided via staged or modulating heat control systems.

The gas heating systems are of the induced draft design that draws hot combustion gases through the heat exchanger at the ideal rate for maximum heat transfer. Induced-draft systems are an inherently safer design than forced draft, positive pressure designs.

Induced-draft designs operate the heat exchanger under negative pressure, helping to prevent leakage of flue gases into the supply airstream. The gas heat system utilizes a direct-spark ignition and is protected by numerous safety circuits.

### **Microprocessor control**

The microprocessor-based controller provides complete system control of unit operation. The controller monitors all system sensors and makes operating decisions based upon the user's configuration inputs.

Local access to the microprocessor control may be accomplished via the accessory BACview handheld keypad/display unit. The BACview handheld keypad/display features a numeric keypad, direction keys, four programmable function keys, and a backlit LCD (liquid crystal diode) display. The display is a large 4-line by 40-character display that is easy to

read, even in low light conditions. Access to the microprocessor may also be accomplished via a PC using Carrier virtual BACview software.

In addition, the microprocessor control has the following features:

- simple access to set points, time schedules, status values, and unit configuration parameters
- supports communications with BACnet\*, Modbus†, and optionally with LonWorks\*\* building automation protocols
- alarm conditions are indicated via an alarm LED and an audible signal on the BACview display
- alarm history is recorded and may be accessed via the BACview handheld keypad/display
- password protection
- compressor minimum off time (5 minutes) feature
- service test and a service diagnostic mode
- Built in energy management relay (EMR) functionality
- Standard voltage/phase monitor for unit protection

\* Sponsored by ASHRAE (American Society of Heating, Refrigerating, and Air-Conditioning Engineers).

† Registered trademark of Schneider Electric.

\*\* Registered trademark of Echelon Corporation.

# Model number nomenclature



62 RA F 0 34 - A C R 2 1 E C CA

62 – Dedicated Outdoor Air Unit  
Geothermal Water Source Heat Pump

**Configuration**

- RA – 100% OA Vertical Supply
- RB – 100% OA Horizontal Supply
- RC – 100% OA Vertical Supply / Vertical Return
- RD – 100% OA Horizontal Supply / Vertical Return

**Heat Options\***

- – None
- A – 75,000 Btuh  
Elect Heat
- B – 100,000 Btuh  
Elect Heat
- C – 150,000 Btuh  
Elect Heat
- D – 200,000 Btuh  
Elect Heat
- E – 250,000 Btuh  
Elect Heat
- F – 300,000 Btuh  
Elect Heat
- G – 400,000 Btuh  
Elect Heat
- H – 500,000 Btuh  
Elect Heat
- J – 600,000 Btuh  
Elect Heat
- W – Hot Water  
Heating Coil†
- Y – Steam  
Heating Coil†

**Energy Conservation Wheel (ECW) Options \*\***

- 0 – None
- A – ECW (36 in.)
- B – ECW (42 in.)
- C – ECW (48 in.)
- D – ECW (54 in.)
- E – ECW (36 in.) with Byp
- F – ECW (42 in.) with Byp
- G – ECW (48 in.) with Byp
- H – ECW (54 in.) with Byp
- J – ECW (36 in.) with VFD TD
- K – ECW (42 in.) with VFD TD
- L – ECW (48 in.) with VFD TD
- M – ECW (54 in.) with VFD TD
- N – ECW (36 in.) with Byp and VFD TD
- P – ECW (42 in.) with Byp and VFD TD
- Q – ECW (48 in.) with Byp and VFD TD
- R – ECW (54 in.) with Byp and VFD TD

**Unit Size – Nominal Tons**

- 07 – 6
- 08 – 7
- 09 – 8
- 12 – 10
- 14 – 12
- 15 – 14
- 16 – 15
- 20 – 18
- 22 – 19
- 24 – 20
- 30 – 27
- 34 – 30
- 38 – 35

**SEE NEXT PAGE  
FOR REMAINDER  
OF MODEL NUMBER  
NOMENCLATURE**

**Supply Fan Motor Options**

- A – 1/2 HP
- B – 3/4 HP
- C – 1 HP
- D – 1 1/2 HP
- E – 2 HP
- F – 3 HP
- G – 5 HP
- H – 7 1/2 HP
- J – 10 HP
- K – 15 HP
- L – 20 HP
- N – 1 HP with VFD
- P – 1 1/2 HP with VFD
- Q – 2 HP with VFD
- R – 3 HP with VFD
- S – 5 HP with VFD
- T – 7 1/2 HP with VFD
- V – 10 HP with VFD
- W – 15 HP with VFD
- X – 20 HP with VFD

**Control Option††**

- – None
- A – Filter Status Switch
- C – Firestat
- D – RA Smoke Detector
- G – Filter Status Switch and Firestat
- H – Filter Status Switch and RA Smoke Detector
- N – Firestat and RA Smoke Detector
- V – Filter Status Switch and Firestat and RA Smoke Detector

62 RA F 0 34 - A C R 2 1 E C CA

**SEE PREVIOUS PAGE  
FOR REMAINDER  
OF MODEL NUMBER  
NOMENCLATURE**

**Coil Options**

- C - Al/Cu Cond, Al/Cu 4-Row Evap, no HGRH
- K - Al/Cu Cond, Al/Cu 4-Row Evap, Modulating HGRH on Lead Circuit
- L - Al/Cu Cond, Al/Cu 4-Row Evap, Modulating HGRH on Both Circuits
- S - Al/Cu Cond, Al/Cu 6-Row Evap, no HGRH
- 1 - Al/Cu Cond, Al/Cu 6-Row, Modulating HGRH on Lead Circuit
- 2 - Al/Cu Cond, Al/Cu 6-Row, Modulating HGRH on Both Circuits
- 6 - Al/Cu Cond, Al/Cu 6-Row, Modulating HGRH on Lead Circuit, with Sub Cooling

**Voltage Options**

- Q - 208-3-60 with Digital Compressor
- R - 230-3-60 with Digital Compressor
- S - 460-3-60 with Digital Compressor
- V - 208-3-60 with Digital Compressor and LonWorks Comm
- W - 230-3-60 with Digital Compressor and LonWorks Comm
- X - 460-3-60 with Digital Compressor and LonWorks Comm

**Factory Installed Options**

Refer to price pages for available option codes

**Fan Size**

- A - Standard FC Supply Fan
- B - Standard BC Supply Fan
- C - Standard AF Supply Fan
- D - Oversize AF Supply Fan
- E - Standard BI Supply Fan
- F - Oversize BI Supply Fan
- G - Standard FC Supply Fan and Standard FC Exhaust Fan
- H - Standard FC Supply Fan and Oversize FC Exhaust Fan
- J - Standard FC Supply Fan and Standard BC Supply Fan
- K - Standard FC Supply Fan and Standard AF Exhaust Fan
- L - Standard BC Supply Fan and Standard FC Exhaust Fan
- M - Standard BC Supply Fan and Oversize FC Exhaust Fan
- N - Standard BC Supply Fan and Standard BC Exhaust Fan
- P - Standard BC Supply Fan and Standard AF Exhaust Fan
- Q - Standard AF Supply Fan and Standard FC Exhaust Fan
- R - Standard AF Supply Fan and Oversize FC Exhaust Fan

**Power Exhaust Fan Motor Options**

- - None
- A - 1/2 HP
- B - 3/4 HP
- C - 1 HP
- D - 1 1/2 HP
- E - 2 HP
- F - 3 HP
- G - 5 HP
- H - 7 1/2 HP
- J - 10 HP
- K - 15 HP
- L - 20 HP
- N - 1 HP with VFD
- P - 1 1/2 HP with VFD
- Q - 2 HP with VFD
- R - 3 HP with VFD
- S - 5 HP with VFD
- T - 7 1/2 HP with VFD
- V - 10 HP with VFD
- W - 15 HP with VFD
- X - 20 HP with VFD

**Packaging / Filter Options**

- 1 - Domestic / 2" MERV 8 Filter
- A - Domestic / 2" Metal Mesh Filter
- B - Domestic / 4" MERV 8 Filter
- C - Domestic / 4" MERV 11 Filter
- D - Domestic / 4" MERV 14 Filter
- E - Domestic / 2" MERV 8 Filter and 2" MERV 8 ECW Filter
- F - Domestic / 2" Metal Mesh Filter and 2" MERV 8 ECW Filter
- G - Domestic / 4" MERV 8 Filter and 2" MERV 8 ECW Filter
- H - Domestic / 4" MERV 11 Filter and 2" MERV 8 ECW Filter
- J - Domestic / 4" MERV 14 Filter and 2" MERV 8 ECW Filter

**Design Series**

- 3 - Revision E Controls

**LEGEND**

- |                               |                                       |
|-------------------------------|---------------------------------------|
| <b>AF</b> — Airfoil           | <b>FC</b> — Forward Curve             |
| <b>Al</b> — Aluminum          | <b>HGRH</b> — Hot Gas Reheat          |
| <b>BC</b> — Backward Curve    | <b>OA</b> — Outdoor Air               |
| <b>BI</b> — Backward Inclined | <b>RA</b> — Return Air                |
| <b>Byp</b> — Bypass           | <b>TD</b> — Temperature Defrost       |
| <b>Cu</b> — Copper            | <b>VFD</b> — Variable Frequency Drive |

\* Horizontal units with heat require a BI fan.

† Control valves must be field supplied.

\*\* Energy Conservation Wheel (ECW) options are not available on RA and RB models.

†† Firestat and smoke detector not available on 62RA and 62RB units.

# Ratings and capacities



## GAS HEAT CAPACITIES

UNIT SIZE 62R	INPUT (Btuh)	OUTPUT (Btuh)	NO. OF GAS HEAT SECTIONS	NO. OF STAGES	MODULATION RANGE (%)	MINIMUM ENTERING AIR TEMP (F)	MAXIMUM ENTERING AIR TEMP (F)	MINIMUM TEMP RISE (F)	MAXIMUM TEMP RISE (F)	MINIMUM LEAVING AIR TEMP (F)	MAXIMUM LEAVING AIR TEMP (F)
07-09	75,000	60,000	1	2	10-100	-20	75	25	90 for RA,RD 50 for RB,RC	50	165
	100,000	80,000	1	2	10-100						
	150,000	120,000	1	2	10-100						
	200,000	160,000	1	2	10-100						
12-20	150,000	120,000	1	2	10-100						
	200,000	160,000	1	2	10-100						
	250,000	200,000	1	2	10-100						
	300,000	240,000	1	2	10-100						
22-38	300,000	240,000	1	2	10-100						
	400,000	320,000	1	2	10-100						
	500,000	400,000	2	4	12.5-100						
	600,000	480,000	2	4	12.5-100						

## HYDRONIC HEATING COIL CAPACITIES

UNIT SIZE 62R	CFM	ENTERING AIR TEMP (F)	STEAM COIL			HOT WATER COIL					
			Steam Temp at 5 psig (F)	Total Btuh (1000)	Leaving Air Temp (F)	Entering Water Temp (F)	Entering Water Flow (gpm)	Total Btuh (1000)	Leaving Air Temp (F)	Leaving Water Temp (F)	Water Pressure Drop (ft wg)
07-09	1,300	70	180	87.7	132.2	180	10.9	106.2	145.3	160.5	1.1
	3,000	70	180	200.0	130.1	180	20.1	200.4	131.6	160.1	1.9
12-20	1,300	70	180	87.7	132.2	180	10.9	106.2	145.3	160.5	1.1
	3,900	70	180	255.0	130.3	180	26.2	260.6	131.6	160.1	2.1
	6,500	70	180	345.2	118.9	180	35.7	346.7	119.2	160.6	3.7
22-38	5,000	70	180	370.3	138.3	180	48.9	475.5	157.6	160.6	1.4
	8,000	70	180	493.9	126.9	180	68.0	662.0	146.3	160.5	2.7
	11,000	70	180	590.2	119.5	180	84.4	810.9	137.9	160.8	3.9

## STEAM HEATING COIL CAPACITIES

UNIT SIZE 62R	CFM		ENTERING AIR TEMPERATURE — EDB (F)						
			-20	-10	0	10	20	30	40
07-09	1,300	TC	155.1	148.9	142.6	136.3	130.0	123.8	117.5
		LDB	89.6	95.1	100.7	106.3	111.9	117.4	123.0
	2,100	TC	206.3	197.9	189.6	181.2	172.9	164.6	156.2
		LDB	70.2	76.5	82.9	89.3	95.6	102.0	108.3
	3,000	TC	250.5	240.4	230.2	220.1	210.0	199.9	189.7
		LDB	56.7	63.6	70.5	77.1	84.3	91.2	98.1
12-20	1,300	TC	155.1	148.9	142.6	136.3	130.0	123.8	117.5
		LDB	89.6	95.1	100.7	106.3	111.9	117.4	123.0
	3,900	TC	297.7	286.1	263.0	251.4	239.9	228.3	216.8
		LDB	40.1	47.4	61.9	69.2	76.5	83.8	91.0
	6,000	TC	349.8	335.7	321.5	307.4	293.3	279.1	265.0
		LDB	33.5	41.4	49.2	57.0	64.9	72.7	80.6
22-38	5,000	TC	441.2	423.4	405.5	387.7	369.9	352.0	334.2
		LDB	61.0	67.8	74.5	81.2	87.9	94.7	101.4
	8,000	TC	560.5	537.8	515.2	492.5	469.9	447.2	424.6
		LDB	44.3	51.7	59.1	66.5	73.9	81.3	88.7
	12,000	TC	674.7	647.4	620.1	592.9	565.6	538.3	511.1
		LDB	31.6	39.5	47.5	55.4	63.3	71.2	79.1

LEGEND

- EDB — Entering Air Temperature (F)
- LDB — Leaving Dry Bulb Temperature (F)
- TC — Total Capacity (1000 Btuh)

NOTE: 6500 cfm is 542 ft per minute velocity (face).

### ENERGY CONSERVATION WHEEL CAPACITIES

UNIT SIZE 62RC, RD	WHEEL DIAMETER (in.)	WHEEL THICKNESS (in.)	MAXIMUM AIRFLOW (cfm)	AIR PRESSURE DROP (in. wg)	HEATING			
					Return Air Temp (db/wb)(F)	Entering Outdoor Air Temp (F)	Leaving Air Temp (F)	Sensible Btuh
07-09	36	4	3000	1.37	70.0/58.0	0.0	42.5	144,892
12-20	36	4	2700	1.23	70.0/58.0	0.0	42.5	136,215
	48	4	4500	1.15	70.0/58.0	0.0	47.3	233,423
22-38	42	4	3600	1.20	70.0/58.0	0.0	43.1	183,432
	48	4	4500	1.15	70.0/58.0	0.0	47.3	233,423
	54	4	8000	1.15	70.0/58.0	0.0	48.4	368,300

**LEGEND**

db — Dry Bulb Temperature  
wb — Wet Bulb Temperature

### ELECTRIC HEAT CAPACITIES

UNIT SIZE 62R	ELECTRIC HEAT kW (240,480 / 208)	AMPS			MINIMUM ENTERING AIR TEMP (F)	MAXIMUM ENTERING AIR TEMP (F)	MINIMUM TEMP RISE (F)	MAXIMUM TEMP RISE (F)	MINIMUM LEAVING AIR TEMP (F)	MAXIMUM LEAVING AIR TEMP (F)
		240 v	480 v	208 v						
07-09	10.0 / 7.5	24.1	12.0	20.8	-20	75	N/A	76	N/A	151
	15.0 / 11.3	36.1	18.0	31.4						
	20.0 / 15.0	48.1	24.1	41.6						
	25.0 / 18.8	60.1	30.1	52.2						
	30.0 / 22.6	72.2	36.1	62.5						
	35.0 / 26.3	84.2	42.1	73.0						
	40.0 / 30.0	96.2	48.1	83.3						
12-20	10.0 / 7.5	24.1	12.0	20.8						
	15.0 / 11.3	36.1	18.0	31.4						
	20.0 / 15.0	48.1	24.1	41.6						
	25.0 / 18.8	60.1	30.1	52.2						
	30.0 / 22.6	72.2	36.1	62.5						
	35.0 / 26.3	84.2	42.1	73.0						
	40.0 / 30.0	96.2	48.1	83.3						
22-38	50.0 / 37.5	120.3	60.1	104.1						
	60.0 / 45.0	144.3	72.2	124.9						
	10.0 / 7.5	24.1	12.0	20.8						
	15.0 / 11.3	36.1	18.0	31.4						
	20.0 / 15.0	48.1	24.1	41.6						
	30.0 / 22.6	72.2	36.1	62.5						
	40.0 / 30.0	96.2	48.1	83.3						
22-38	50.0 / 37.5	120.3	60.1	104.1						
	60.0 / 45.0	144.3	72.2	124.9						

### AIRFLOW LIMITS

UNIT SIZE 62R	62RA, RB, RC, RD*		62RC, RD†	
	Min. CFM	Max. CFM	Min. CFM	Max. CFM
07	700	1,500	1,500	2,500
08	800	1,800	1,800	3,000
09	900	2,100	2,100	3,500
12	1,100	2,200	2,200	3,700
14	1,350	2,900	2,900	4,600
15	1,700	3,600	3,600	5,800
16	2,000	4,400	4,400	6,500
20	2,400	4,400	4,400	6,500
22	2,400	4,400	4,400	6,500
24	2,400	6,000	6,000	9,000
30	3,400	9,000	7,000	11,000
34	4,000	8,000	8,000	12,000
38	4,800	9,000	9,000	12,000

\* Units without ECW.

† 62RC and RD with ECW.

# Physical data — 62RA, RB units



UNIT 62RA, RB	07	08	09	12	14	15	16
<b>NOMINAL CAPACITY (TONS)</b>	6	7	8	10	12	14	15
<b>COMPRESSOR</b>	1 ... ZPD54   1 ... ZPD61   1 ... ZPD72   2 ... ZPD42   2 ... ZPD51   2 ... ZPD67   2 ... ZPD83						
Quantity/Unit ... Model	1 ... ZPD54   1 ... ZPD61   1 ... ZPD72   2 ... ZPD42   2 ... ZPD51   2 ... ZPD67   2 ... ZPD83						
Number of Refrigerant Circuits	1			2			
Oil	Pre-Charged			Pre-Charged			
<b>REFRIGERANT TYPE</b>	R-410A						
Operating Charge per circuit (lb-oz)	12-13	15-1	15-3	14-9	14-8	16-8	16-3
<b>HIGH-PRESSURE SWITCH (psig)</b>	640						
Cutout	640						
Reset (Manual)	595						
<b>EVAPORATOR COIL</b>	3/8						
Tube Size (in.)	6 ... 12			6 ... 12			
Rows ... Fins/in.	6.25			8.0			
Face Area (sq ft)	3.00	6.25		8.0		12.0	
<b>SUPPLY FAN</b>	N/A						
Backward Curved (mm)	180						
Forward Curved (in.)	12 x 9						
Airfoil (in.)	12 x 12						
Oversize Airfoil (in.)	N/A						
Backward Inclined (in.)	15						
Oversize Backward Inclined (in.)	18.5						
Nominal Cfm 100% OA	1000	1200	1400	1500	1900	2300	2800
Motor Hp Range	1/2 - 5		3/4 - 5		1 - 10		
<b>OPTIONAL HOT GAS REHEAT AND LIQUID SUBCOOLING COIL</b>	3/8						
Face Area (sq ft)	3	6.25		8		12	
Tube Size (in.)	3/8						
<b>LOW-PRESSURE SWITCH (psig)</b>	99						
Cutout	99						
Reset (Auto)	135						
<b>CONDENSATE DRAIN CONNECTION (NPT) (in.)</b>	1 1/4						
<b>OPTIONAL GAS HEAT FURNACE SECTION</b>	75, 100, 150, 200						
Gas Input Sizes (Btuh x 1000)	75, 100, 150, 200			150, 200, 250, 300			
Control Type	2						
Staged (no. of stages)	2						
Modulating (% range)	10 - 100						
Efficiency (Steady State) (%)	82						
Supply Line Pressure Range (in. wg)	5.0 min. - 13.0 max.						
Rollout Switch Cutout Temp (F)	350						
Gas Valve Quantity	1 Std - 2 with Modulating Option			1 Std - 2 with Modulating Option			
Manifold Pressure (in. wg)	3.5						
Natural Gas Std	3.5						
LP Gas Special Order	10.0						
<b>OPTIONAL ELECTRIC HEAT</b>	10, 15, 20, 25, 30, 35, 40						
Size Range (kW)	10, 15, 20, 25, 30, 35, 40			10, 15, 20, 25, 30, 35, 40, 50, 60			
Control Type	2						
Staged (no. of stages)	2						
SCR (% range)	0 - 100						
<b>OPTIONAL HOT WATER HEAT COIL</b>	24 x 38 in., 2 Row, 10 FPI, with 1/2-in. Tube Size						
<b>OPTIONAL STEAM HEAT COIL</b>	24 x 38 in., 1 Row, 8 FPI, with 5/8-in. Tube Size						
<b>OUTDOOR AIR FILTERS</b>	4 ... 20x24						
Quantity ... Size (in.)	4 ... 20x24			4 ... 20x24			
Standard 2 in. MERV 8	4 ... 20x24			4 ... 20x24			
Optional 2 in. Metal Mesh	4 ... 20x24			4 ... 20x24			
Optional 4 in.	4 ... 20x24			4 ... 20x24			
MERV 8	4 ... 20x24			4 ... 20x24			
MERV 11	4 ... 20x24			4 ... 20x24			
MERV 14	4 ... 20x24			4 ... 20x24			

## LEGEND

- FPI — Fins per Inch
- LP — Liquid Propane
- OA — Outdoor Air
- SCR — Silicon-Controlled Rectifier



UNIT 62RA,RB	20	22	24	30	34	38
<b>NOMINAL CAPACITY (TONS)</b>	18	19	20	27	30	35
<b>COMPRESSOR</b> Quantity/Unit ... Model Number of Refrigerant Circuits Oil	2 ... ZPD91	2 ... ZPD91	2 ... ZPD103	2 ... ZPD137	2 ... ZPD182	2 ... ZPDT21
<b>REFRIGERANT TYPE</b> Operating Charge per circuit (lb-oz)	17-1	25-1	25-5	25-10	26-4	32-1
<b>HIGH-PRESSURE SWITCH (psig)</b> Cutout Reset (Manual)				640 595		
<b>EVAPORATOR COIL</b> Tube Size (in.) Rows ... Fins/In. Face Area (sq ft)	12.0	15.3	6 ... 12 <sup>3</sup> / <sub>8</sub>		23.0	
<b>SUPPLY FAN</b> Backward Curved (mm) Forward Curved (in.) Airfoil (in.) Oversize Airfoil (in.) Backward Inclined (in.) Oversize Backward Inclined (in.) Nominal Cfm 100% OA Motor Hp Range	12 x 12 15 x 15 15 18.5 3100 1 1/2 - 10	2900 1 1/2 - 10	3600 1 1/2 - 15	N/A N/A 15 x 15 18 x 18 24.5 27 4600	5300	6200 2 - 20
<b>OPTIONAL HOT GAS REHEAT AND LIQUID SUBCOOLING COIL</b> Face Area (sq ft) Tube Size (in.)	12	15.3	<sup>3</sup> / <sub>8</sub>		23	
<b>LOW-PRESSURE SWITCH (psig)</b> Cutout Reset (Auto)				99 135		
<b>CONDENSATE DRAIN CONNECTION (NPT) (in.)</b>				1 1/4		
<b>OPTIONAL GAS HEAT FURNACE SECTION</b> Gas Input Sizes (Btuh x 1000) Control Type Staged (no. of stages) Modulating (% range) Efficiency (Steady State) (%) Supply Line Pressure Range (in.wg) Rollout Switch Cutout Temp (F) Gas Valve Quantity  Manifold Pressure (in. wg) Natural Gas Std LP Gas Special Order	150, 200, 250, 300  2 10 - 100 82 5.0 min. - 13.0 max. 350 1 Std - 2 with Modulating Option  3.5 10.0			300, 400, 500, 600  2 (Low Heat) / 4 (High Heat) 10 - 100 82 5.0 min. - 13.0 max. 350 1 Std - 2 with Modulating Option  3.5 10.0		
<b>OPTIONAL ELECTRIC HEAT</b> Size Range (kW)  Control Type Staged (no. of stages) SCR (% range)	10,15,20,25,30,35,40,50,60  2 0 - 100			10,15,20,30,40,50,60  2 0 - 100		
<b>OPTIONAL HOT WATER HEAT COIL</b>				45 x 38 in., 2 Row, 10 FPI, with <sup>5</sup> / <sub>8</sub> -in. Tube Size		
<b>OPTIONAL STEAM HEAT COIL</b>				45 x 38 in., 1 Row, 8 FPI, with <sup>5</sup> / <sub>8</sub> -in. Tube Size		
<b>OUTDOOR AIR FILTERS</b> Quantity ... Size (in.) Standard 2 in. MERV 8 Optional 2 in. Metal Mesh Optional 4 in. MERV 8 MERV 11 MERV 14	4 ... 20x24 4 ... 20x24 4 ... 20x24 4 ... 20x24 4 ... 20x24 4 ... 20x24			2 ... 20x24, 2 ... 24x24 2 ... 20x24, 2 ... 24x24 2 ... 20x24, 2 ... 24x24 2 ... 20x24, 2 ... 24x24 2 ... 20x24, 2 ... 24x24		

LEGEND

- FPI — Fins per Inch
- LP — Liquid Propane
- OA — Outdoor Air
- SCR — Silicon-Controlled Rectifier

# Physical data — 62RC,RD units



UNIT 62RC,RD WITH ECW	07	08	09	12	14	15	16	20
<b>NOMINAL CAPACITY (TONS)</b>	6	7	8	10	12	14	15	18
<b>COMPRESSOR</b> Quantity/Unit ... Model Number of Refrigerant Circuits Oil	1 ... ZPD54	1 ... ZPD61 1 Pre-Charged	1 ... ZPD72	2 ... ZPD42	2 ... ZPD51	2 ... ZPD67 2 Pre-Charged	2 ... ZPD83	2 ... ZPD91
<b>REFRIGERANT TYPE</b> Operating Charge per Circuit (lb-oz)	12-13	R-410A 15-1	15-3	14-9	14-8	R-410A 16-8	16-3	17-1
<b>HIGH-PRESSURE SWITCH (psig)</b> Cutout Reset (Manual)		640 595				640 595		
<b>EVAPORATOR COIL</b> Tube Size (in.) Rows ... Fins/in. Face Area (sq ft)	4.0	<sup>3</sup> / <sub>8</sub> 4 ... 12 7.5		<sup>3</sup> / <sub>8</sub> 4 ... 12 12.0		<sup>3</sup> / <sub>8</sub> 6 ... 12 12.0		
<b>SUPPLY FAN</b> Backward Curved (mm) Forward Curved (in.) Airfoil (in.) Oversize Airfoil (in.) Backward Inclined (in.) Oversize Backward Inclined (in.) Nominal Cfm 100% OA Motor Hp Range	1000	180 12 x 9 12 x 12 N/A 15 18.5 1200 1/2 - 5	1400	1500 <sup>3</sup> / <sub>4</sub> - 5	1900	N/A N/A 12 x 12 15 x 15 15 18.5 2300 1 - 10	2800	3100 1 1/2 - 10
<b>OPTIONAL HOT GAS REHEAT AND LIQUID SUBCOOLING COIL</b> Face Area (sq ft) Tube Size (in.)	4	7.5		<sup>3</sup> / <sub>8</sub>		12		
<b>LOW-PRESSURE SWITCH (psig)</b> Cutout Reset (Auto)				99 135				
<b>CONDENSATE DRAIN CONNECTION (NPT) (in.)</b>				1 1/4				
<b>OPTIONAL GAS HEAT FURNACE SECTION</b> Gas Input Sizes (Btuh x 1000) Control Type Staged (no. of stages) Modulating (% range) Efficiency (Steady State) (%) Supply Line Pressure Range (in. wg) Rollout Switch Cutout Temp (F) Gas Valve Quantity Manifold Pressure (in. wg) Natural Gas Std LP Gas Special Order		75, 100, 150, 200 2 10 - 100 82 5.0 min. - 13.0 max. 350 1 Std - 2 with Modulating Option 3.5 10.0				150, 200, 250, 300 2 10 - 100 82 5.0 min. - 13.0 max. 350 1 Std - 2 with Modulating Option 3.5 10.0		
<b>OPTIONAL ELECTRIC HEAT</b> Size Range (kW) Control Type Staged (no. of stages) SCR (% range)	10,15,20,25,30,35,40	2 0 - 100				10,15,20,25,30,35,40,50,60 2 0 - 100		
<b>OPTIONAL HOT WATER HEAT COIL</b>				24 x 38 in., 2 Row, 10 FPI, with 1/2-in. Tube Size				
<b>OPTIONAL STEAM HEAT COIL</b>				24 x 38 in., 1 Row, 8 FPI, with 5/8-in. Tube Size				
<b>OUTDOOR AIR FILTERS</b> Quantity ... Size (in.) Standard 2 in. MERV 8 Optional 2 in. Metal Mesh Optional 4 in. MERV 8 MERV 11 MERV 14		4 ... 20x24 4 ... 20x24 4 ... 20x24 4 ... 20x24 4 ... 20x24 4 ... 20x24				4 ... 20x24 4 ... 20x24 4 ... 20x24 4 ... 20x24		
<b>OPTIONAL ECW</b> Type Size (in.)		Molecular Sieve 36				Molecular Sieve 36 or 48		
<b>OPTIONAL ECW FILTERS</b> Quantity ... Size (in.) with 36 in. ECW with 42 in. ECW with 48 in. ECW with 54 in. ECW		2 ... 20x24, 2 ... 20x20 N/A N/A N/A				2 ... 20x24, 2 ... 20x20 N/A 4 ... 20x24, 2 ... 12x24 N/A		
<b>OPTIONAL EXHAUST FAN</b> Backward Curved (mm) Forward Curved (in.) Oversize Forward Curved (in.) Airfoil (in.) Oversize Air Foil (in.) Motor Hp Range		180 mm 9 x 7 12 x 9 12 x 12 N/A 1/2 - 5				180 mm N/A N/A 12 x 12 N/A 1/2 - 10		

## LEGEND

- ECW — Energy Conservation Wheel
- FPI — Fins per Inch
- LP — Liquefied Petroleum
- OA — Outdoor Air
- SCR — Silicon-Controlled Rectifier

UNIT 62RC,RD WITH ECW	22	24	30	34	38
<b>NOMINAL CAPACITY (TONS)</b>	19	20	27	30	35
<b>COMPRESSOR</b> Quantity/Unit ... Model Number of Refrigerant Circuits Oil	2 ... ZPD91	2 ... ZPD103	2 ... ZPD137 2 Pre-Charged	2 ... ZPD182	2 ... ZPDT21
<b>REFRIGERANT TYPE</b> Operating Charge per Circuit (lb-oz)	25-1	25-5	R-410A 25-10	26-4	32-1
<b>HIGH-PRESSURE SWITCH (psig)</b> Cutout Reset (Manual)			640 595		
<b>EVAPORATOR COIL</b> Tube Size (in.) Rows ... Fins/in. Face Area (sq ft)			$\frac{3}{8}$ 4 ... 12 23.0		
<b>SUPPLY FAN</b> Backward Curved (mm) Forward Curved (in.) Airfoil (in.) Oversize Airfoil (in.) Backward Inclined (in.) Oversize Backward Inclined (in.) Nominal Cfm 100% OA Motor Hp Range	2900 1 1/2 - 10	3600 1 1/2 - 15	N/A N/A 15 x 15 18 x 18 24.5 27 4600	5300 2 - 20	6200
<b>OPTIONAL HOT GAS REHEAT AND LIQUID SUBCOOLING COIL</b> Face Area (sq ft) Tube Size (in.)	12		$\frac{3}{8}$	23	
<b>LOW-PRESSURE SWITCH (psig)</b> Cutout Reset (Auto)			99 135		
<b>CONDENSATE DRAIN CONNECTION (NPT) (in.)</b>			1 1/4		
<b>OPTIONAL GAS HEAT FURNACE SECTION</b> Gas Input Sizes (MBtuh) Control Type Staged (no. of stages) Modulating (% range) Efficiency (Steady State) (%) Supply Line Pressure Range (in. wg) Rollout Switch Cutout Temp (F) Gas Valve Quantity Manifold Pressure (in. wg) Natural Gas Std LP Gas Special Order			300, 400, 500, 600 2 (300 and 400) / 4 (500 and 600) 10 - 100 82 5.0 min. - 13.0 max. 350 1 Std - 2 with Modulating Option 3.5 10.0		
<b>OPTIONAL ELECTRIC HEAT</b> Size Range (kW) Control Type Staged (no. of stages) SCR (% range)			10,15,20,30,40,50,60 2 0 - 100		
<b>OPTIONAL HOT WATER HEAT COIL</b>			45 x 38 in., 2 Row, 10 FPI, with $\frac{5}{8}$ -in. Tube Size		
<b>OPTIONAL STEAM HEAT COIL</b>			45 x 38 in., 1 Row, 8 FPI, with $\frac{5}{8}$ -in. Tube Size		
<b>OUTDOOR AIR FILTERS</b> Quantity ... Size (in.) Standard 2 in. MERV 8 Optional 2 in. Metal Mesh Optional 4 in. MERV 8 MERV 11 MERV 14			2 ... 20x24, 2 ... 24x24 2 ... 20x24, 2 ... 24x24 2 ... 20x24, 2 ... 24x24 2 ... 20x24, 2 ... 24x24 2 ... 20x24, 2 ... 24x24		
<b>OPTIONAL ECW</b> Type Size (in.)			Molecular Sieve 42, 48 or 54		
<b>OPTIONAL ECW FILTERS</b> Quantity ... Size (in.) with 36 in. ECW with 42 in. ECW with 48 in. ECW with 54 in. ECW			N/A 4 ... 20x24, 2 ... 12x24 6 ... 18x24 6 ... 18x24		
<b>OPTIONAL EXHAUST FAN</b> Backward Curved (mm) Forward Curved (in.) Oversize Forward Curved (in.) Airfoil (in.) Oversize Air Foil (in.) Motor Hp Range			180 N/A N/A 15 x 15 18 x 18 1/2 - 20		

**LEGEND**

- ECW** — Energy Conservation Wheel
- FPI** — Fins per Inch
- LP** — Liquefied Petroleum
- OA** — Outdoor Air
- SCR** — Silicon-Controlled Rectifier

# Physical data (cont)



## UNIT AND COMPONENT WEIGHTS (lb)

COMPONENT	62R UNIT SIZE												
	07	08	09	12	14	15	16	20	22	24	30	34	38
<b>Base Unit</b>	1650	1690	1710	1910	1960	2120	2060	2080	3375	3475	3575	3655	4075
<b>Hot Gas Reheat</b>	35	35	35	75	75	75	75	75	120	120	120	120	120
<b>Liquid Subcooling Coil</b>	25	25	25	55	55	55	55	55	100	100	100	100	100
<b>Gas Furnace (Btuh)</b>													
75,000	140	140	140	—	—	—	—	—	—	—	—	—	—
100,000	150	150	150	—	—	—	—	—	—	—	—	—	—
150,000	160	160	160	160	160	160	160	160	—	—	—	—	—
200,000	170	170	170	170	170	170	170	170	—	—	—	—	—
250,000	—	—	—	210	210	210	210	210	—	—	—	—	—
300,000	—	—	—	250	250	250	250	250	250	250	250	250	250
400,000	—	—	—	—	—	—	—	—	275	275	275	275	275
500,000	—	—	—	—	—	—	—	—	420	420	420	420	420
600,000	—	—	—	—	—	—	—	—	500	500	500	500	500
<b>Electric Heater</b>	75	75	75	75	75	75	75	75	100	100	100	100	100
<b>Steam Coil</b>	60	60	60	60	60	60	60	60	120	120	120	120	120
<b>Hot Water Coil</b>	75	75	75	75	75	75	75	75	150	150	150	150	150
<b>Wheel Bypass Dampers</b>	60	60	60	60	60	60	60	60	125	125	125	125	125
<b>Energy Conservation Wheel</b>	350	350	350	420	420	420	420	420	470	470	470	470	470
<b>Power Exhaust</b>	345	345	345	375	375	375	375	375	525	525	525	525	525
<b>Curb 14-in.</b>	275	275	275	275	275	275	275	275	305	305	305	305	305
<b>Curb 24-in.</b>	375	375	375	375	375	375	375	375	425	425	425	425	425

# Options and accessories



ITEM	OPTION*	ACCESSORY†
<b>Heat Options</b>		
Gas Heat	X	
Modulating Gas Heat (10:1 or 4:1 Turndown)	X	
Electric Heat	X	
SCR Controlled Electric Heat	X	
Hot Water Heating Coil	X	
Steam Heating Coil	X	
LP Kit		X
<b>Energy Conservation Wheel</b>		
Wheel with VFD Defrost Control	X	
Wheel with Bypass Dampers	X	
<b>Control Options</b>		
Filter Status Switch	X	
Return Air Smoke Detector	X	
Firestat	X	
Convenience Outlet	X	
Fused Disconnect Switch	X	
BACview Keypad/Display		X
LonWorks Communication	X	
<b>Coil Options</b>		
Hot Gas Reheat	X	
Liquid Subcooling Coil	X	
Corrosion Protection	X	
<b>Filter Options</b>		
2-in. MERV 8 Filters	X	X
4-in. MERV 8 Filters	X	X
4-in. MERV 11 Filters	X	X
4-in. MERV 14 Filters	X	
2-in. Metal Mesh Filters	X	
Fan Filter Switch	X	
<b>Supply Fan Options</b>		
Backward Curved Fan	X	
Forward Curved Fan	X	
Airfoil Fan	X	
Oversize Airfoil Fan	X	
Backward Inclined Fan	X	
Oversize Backward Inclined Fan	X	
VFD Control	X	
<b>Exhaust Fan Options</b>		
Backward Curved Fan	X	
Forward Curved Fan	X	
Oversized Forward Curved Fan	X	
Airfoil Fan	X	
Oversize Airfoil Fan	X	
VFD Control	X	
14-in. Factory-Assembled Roof Curb		X
24-in. Factory-Assembled Roof Curb		X
14-in. Field-Assembled Roof Curb		X
24-in. Field-Assembled Roof Curb		X
Spring Type Fan Isolation	X	

**LEGEND**

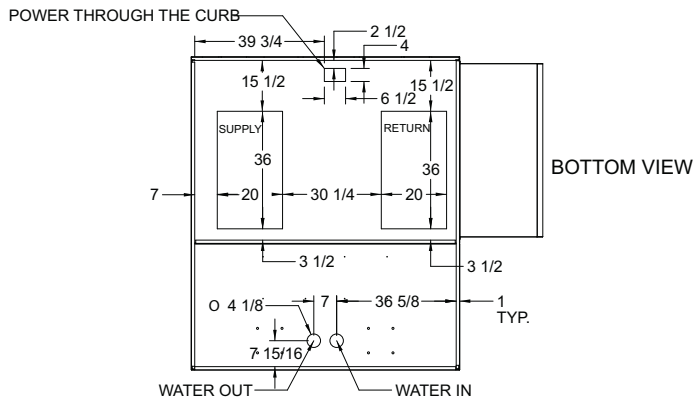
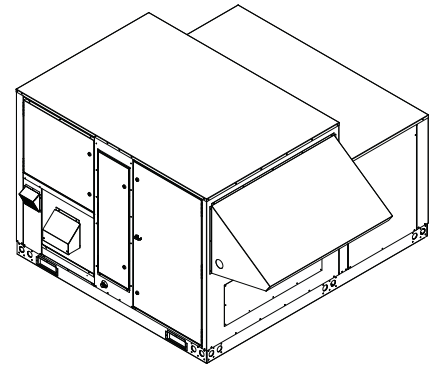
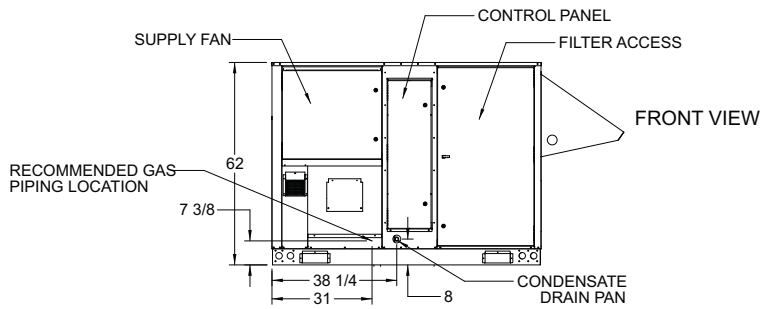
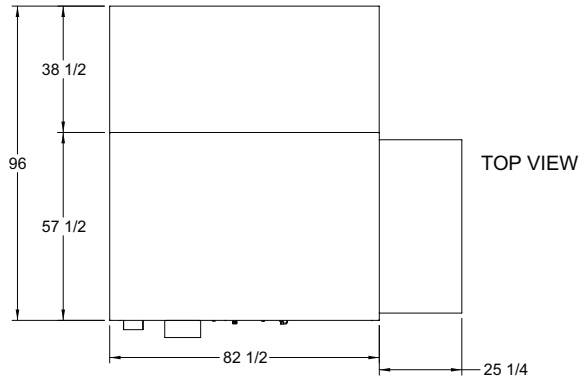
**SCR** — Silicon Controlled Rectifier  
**VFD** — Variable Frequency Drive

\*Factory installed.  
†Field installed.

# Base unit dimensions — 62RA, RB07-09



## STANDARD UNIT



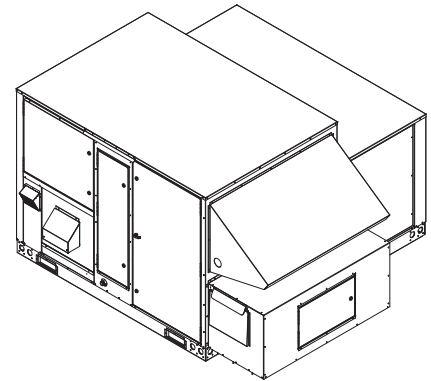
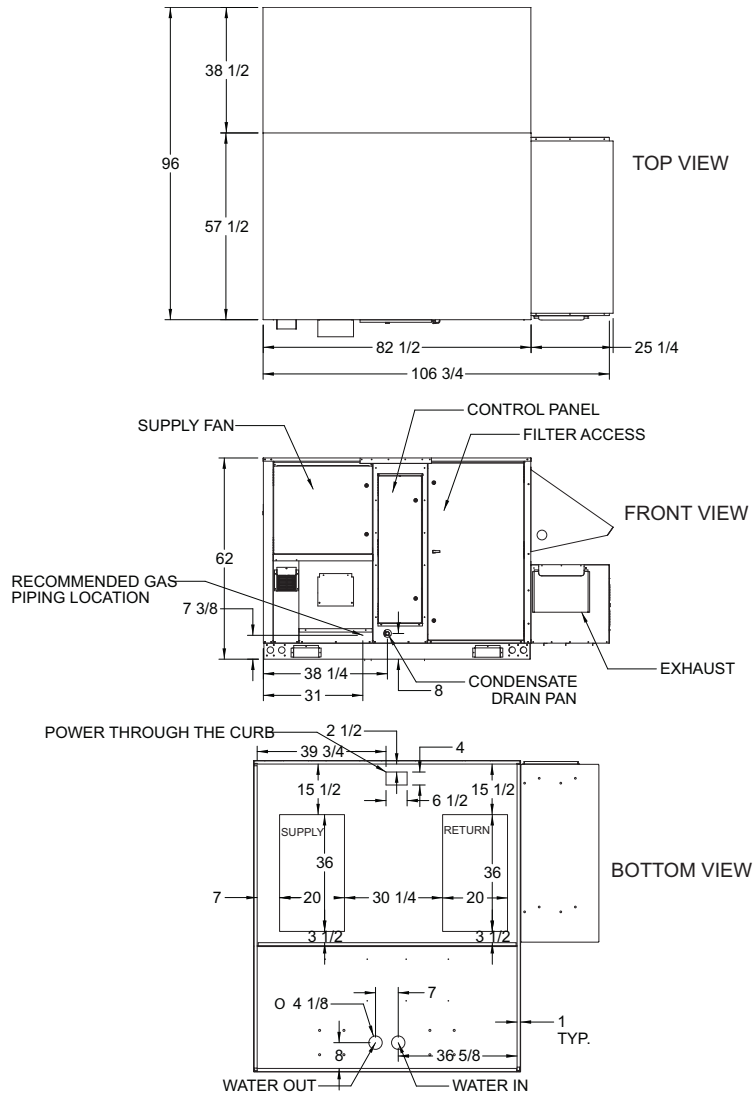
### NOTES:

1. Carrier recommends a minimum of 24 to 36-in. of service clearance on all sides of unit except for the control panel side, which should have at least 60-in. clearance. Top should be unobstructed.
2. Dimensions are in inches.

# Base unit dimensions — 62RC, RD07-09



## UNIT WITH OPTIONAL EXHAUST



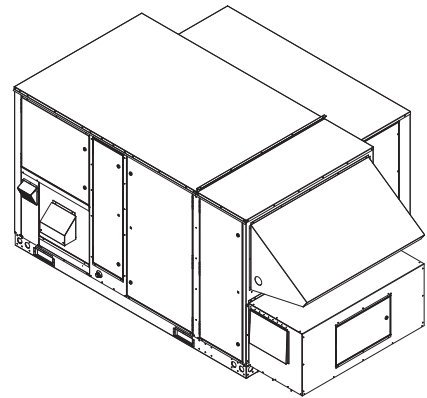
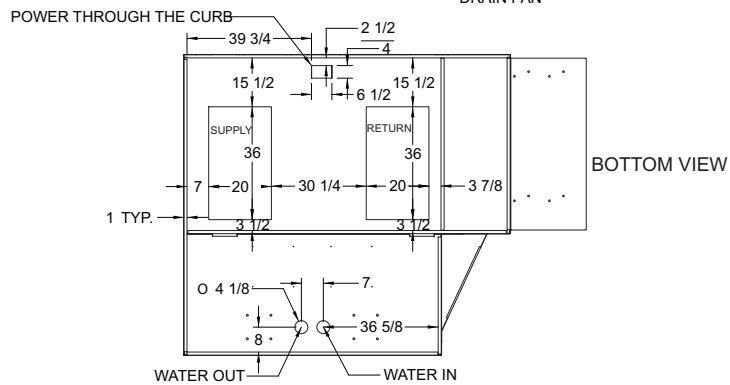
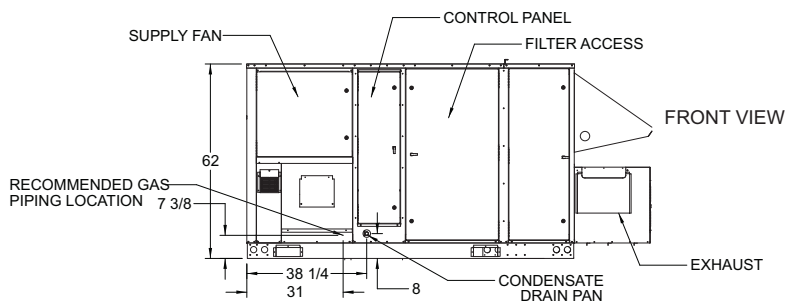
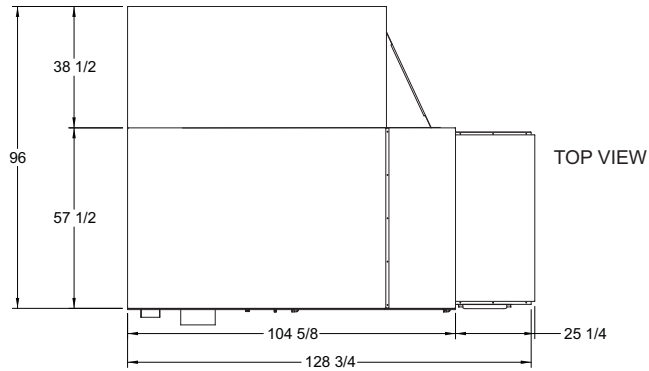
### NOTES:

- Carrier recommends a minimum of 24 to 36-in. of service clearance on all sides of unit except for the control panel side, which should have at least 60-in. clearance. Top should be unobstructed.
- Dimensions are in inches.

# Base unit dimensions — 62RC, RD07-09 (cont)



## UNIT WITH OPTIONAL ENERGY CONSERVATION WHEEL



**NOTES:**

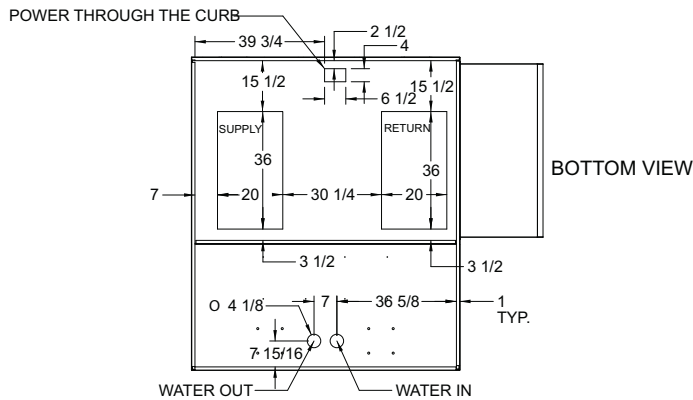
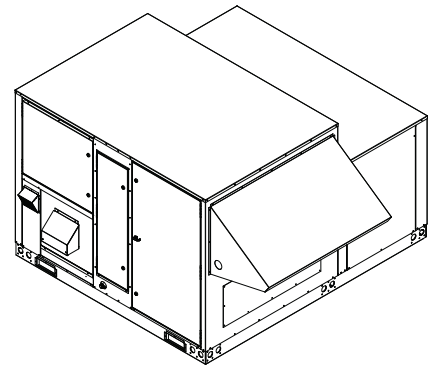
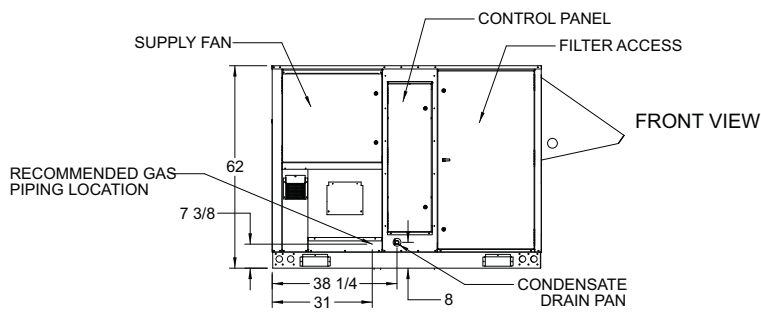
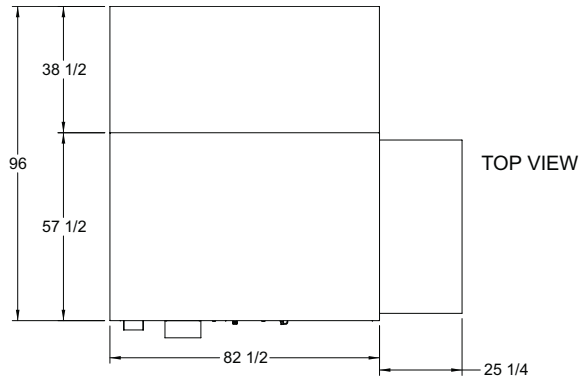
1. Carrier recommends a minimum of 24 to 36-in. of service clearance on all sides of unit except for the control panel side, which should have at least 60-in. clearance. Top should be unobstructed.
2. Dimensions are in inches.



# Base unit dimensions — 62RA, RB12-20



## STANDARD UNIT



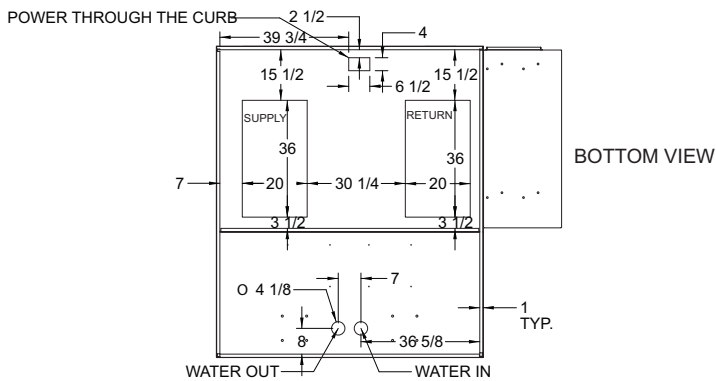
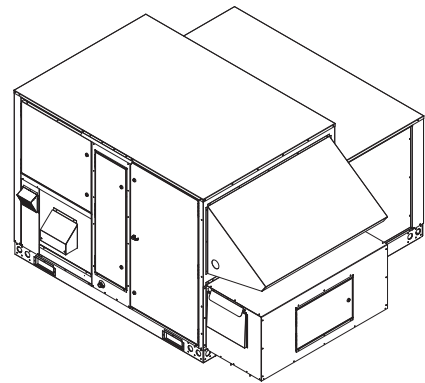
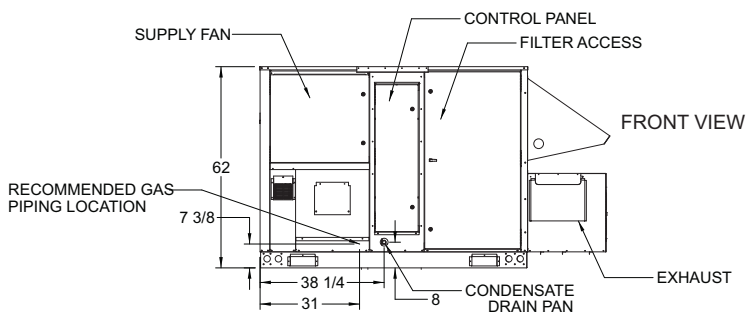
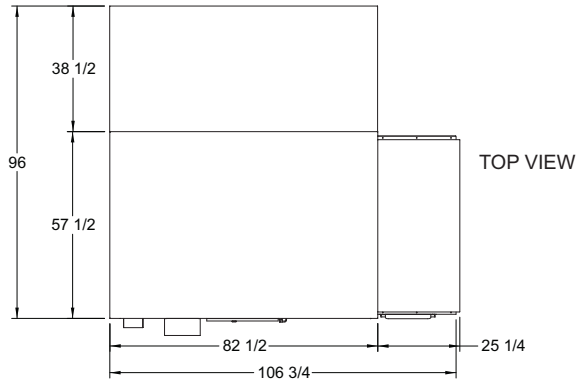
### NOTES:

- Carrier recommends a minimum of 24 to 36-in. of service clearance on all sides of unit except for the control panel side, which should have at least 60-in. clearance. Top should be unobstructed.
- Dimensions are in inches.

# Base unit dimensions — 62RC,RD12-20



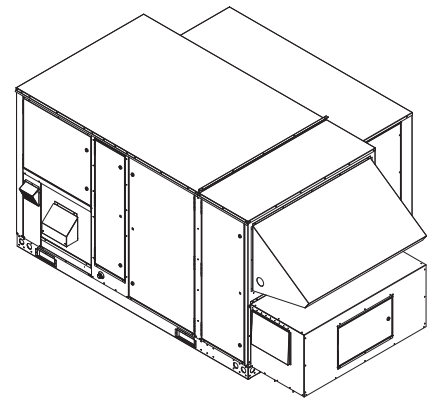
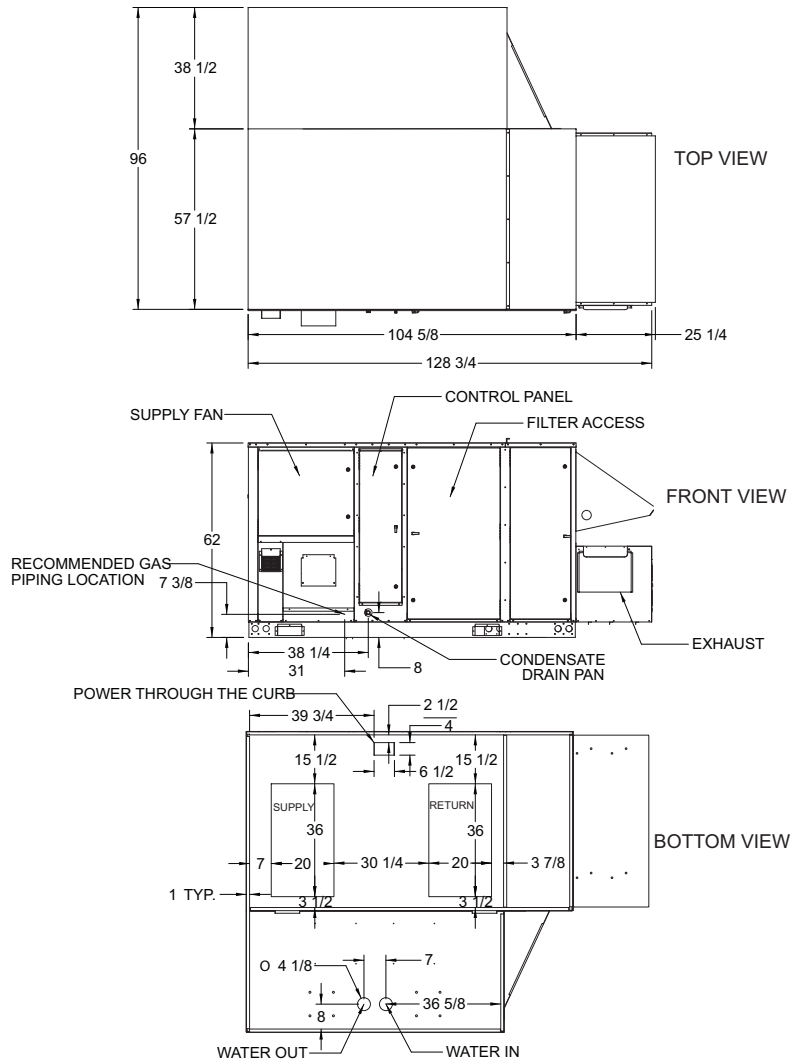
## UNIT WITH OPTIONAL EXHAUST



### NOTES:

1. Carrier recommends a minimum of 24 to 36-in. of service clearance on all sides of unit except for the control panel side, which should have at least 60-in. clearance. Top should be unobstructed.
2. Dimensions are in inches.

### UNIT WITH OPTIONAL ENERGY CONSERVATION WHEEL



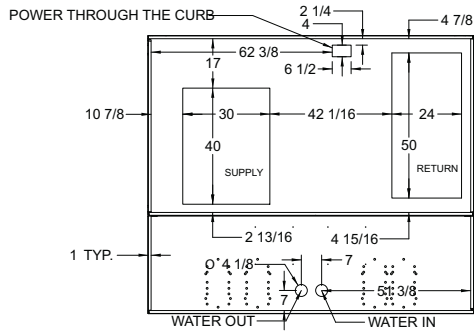
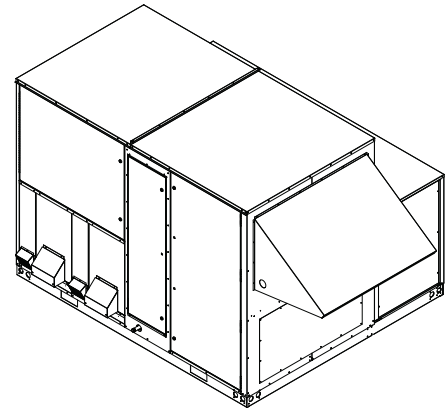
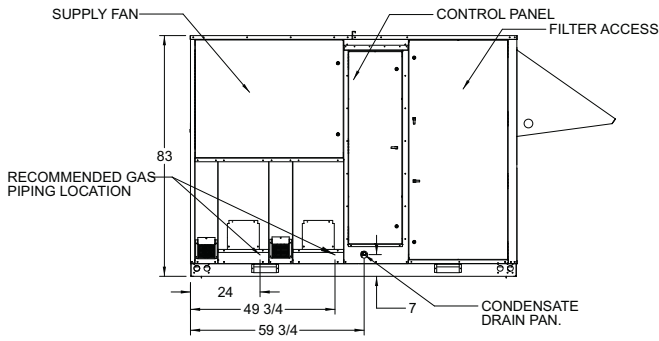
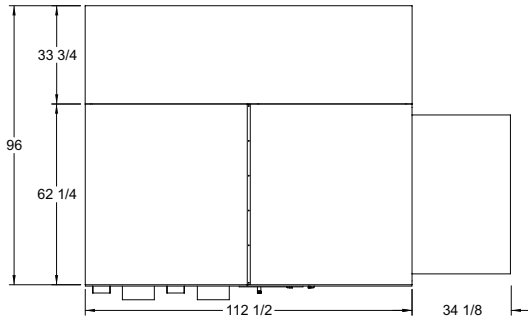
**NOTES:**

1. Carrier recommends a minimum of 24 to 36-in. of service clearance on all sides of unit except for the control panel side, which should have at least 60-in. clearance. Top should be unobstructed.
2. Dimensions are in inches.

# Base unit dimensions — 62RA, RB22-38



## STANDARD UNIT



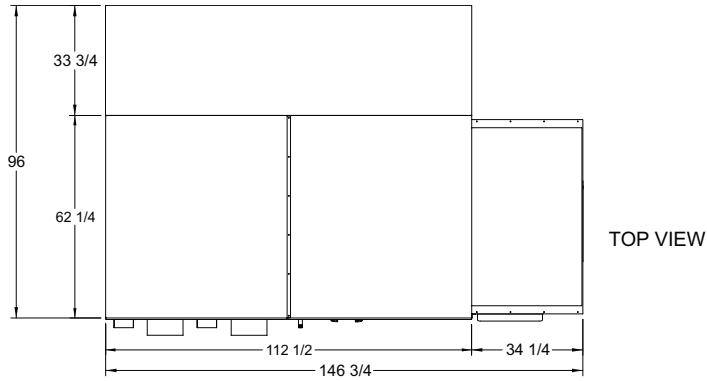
### NOTES:

- Carrier recommends a minimum of 24 to 36-in. of service clearance on all sides of unit except for the control panel side, which should have at least 60-in. clearance. Top should be unobstructed.
- Dimensions are in inches.

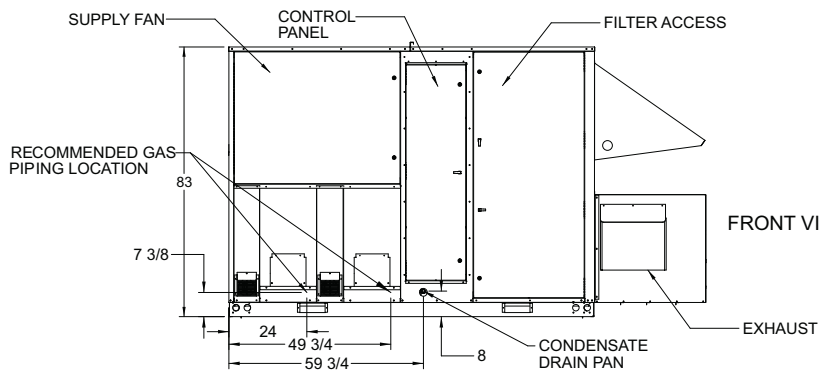
# Base unit dimensions — 62RC, RD22-38



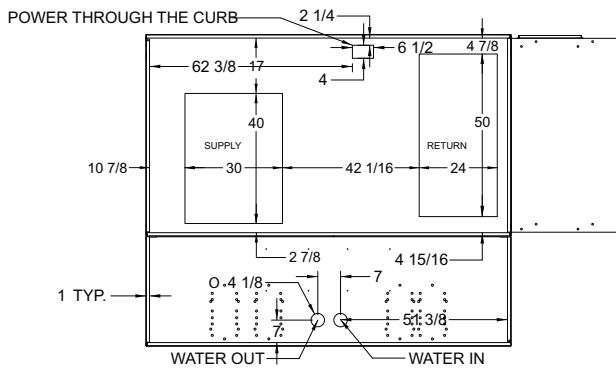
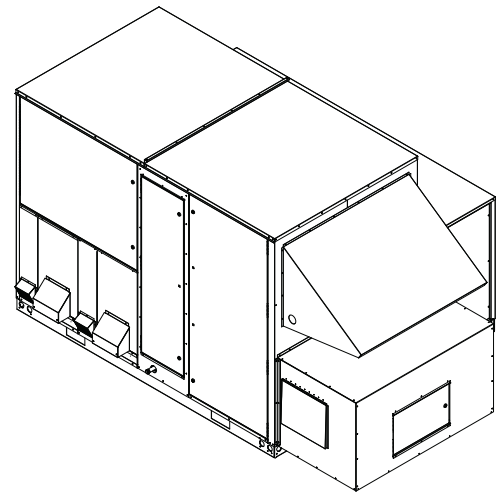
## UNIT WITH OPTIONAL EXHAUST



TOP VIEW



FRONT VIEW



BOTTOM VIEW

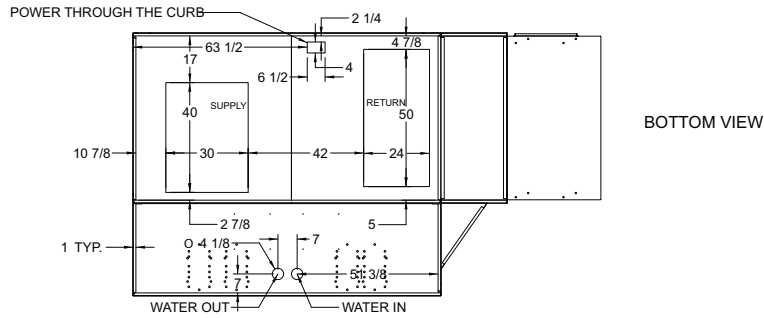
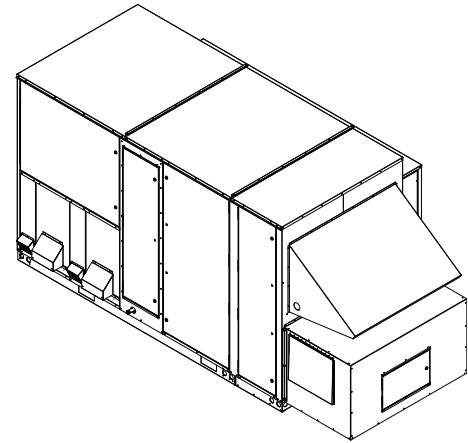
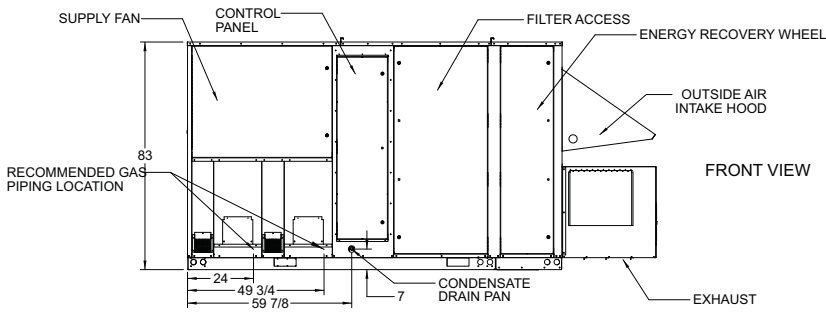
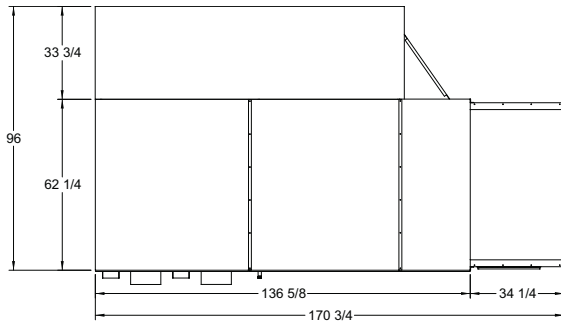
### NOTES:

1. Carrier recommends a minimum of 24 to 36-in. of service clearance on all sides of unit except for the control panel side, which should have at least 60-in. clearance. Top should be unobstructed.
2. Dimensions are in inches.

# Base unit dimensions — 62RC,RD22-38 (cont)



## UNIT WITH OPTIONAL ENERGY CONSERVATION WHEEL



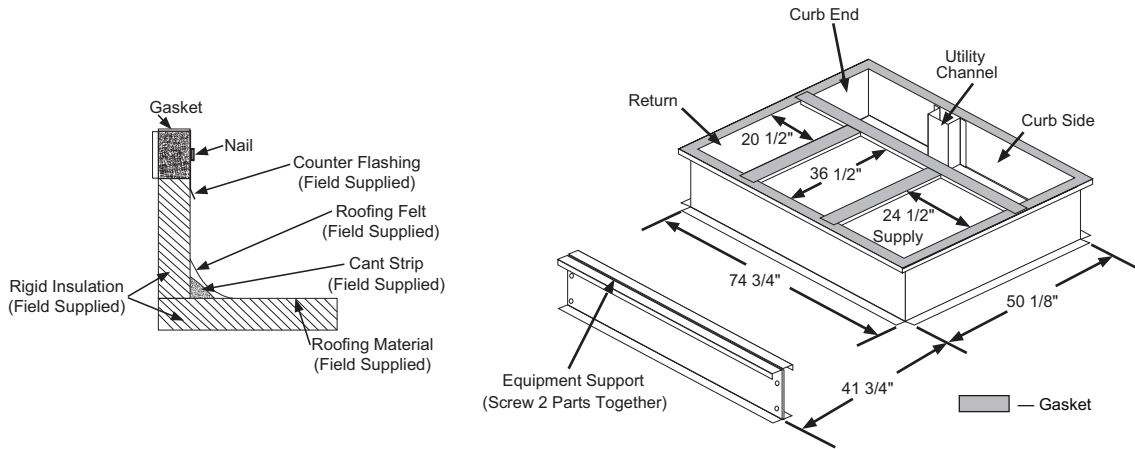
**NOTES:**

1. Carrier recommends a minimum of 24 to 36-in. of service clearance on all sides of unit except for the control panel side, which should have at least 60-in. clearance. Top should be unobstructed.
2. Dimensions are in inches.

# Accessory dimensions

## FIELD ASSEMBLED CURBS

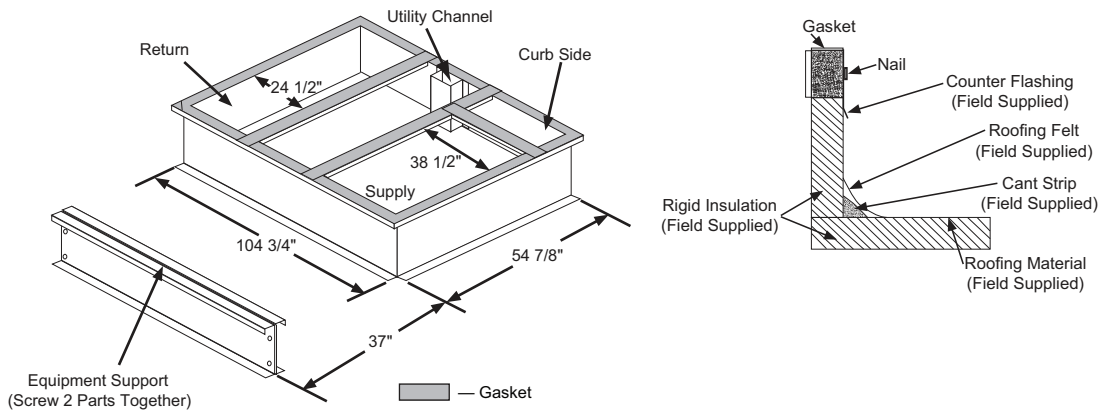
### 62RA, RB, RC, RD07-20



**NOTES:**

1. Dimensions are in inches.
2. Field-assembled curbs are shown. Factory-assembled curbs are also available.
3. Curbs are available in 14-in. and 24-in. heights.

### 62RA, RB, RC, RD22-38



**NOTES:**

1. Dimensions are in inches.
2. Field-assembled curbs are shown. Factory-assembled curbs are also available.
3. Curbs are available in 14-in. and 24-in. heights.

## Selection procedure

Refer to the Applied Rooftop Builder to select unit.

# Performance data



## COOLING CAPACITIES

62RA, RB, RC, RD07

Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		7 gpm				
700	TC	73,400	71,100	68,800	66,300	63,800
	SHC	43,700	42,600	41,500	40,400	39,300
	W	3,202	3,503	3,829	4,190	4,593
	THR	84,000	82,700	81,300	80,000	78,700
	LAT DB	45.8	47	48.2	49.4	50.7
	LAT WB	45.8	47	48.2	49.4	50.7
950	TC	81,900	79,100	76,300	73,400	70,400
	SHC	52,300	51,200	50,000	48,900	47,700
	W	3,263	3,552	3,870	4,226	4,625
	THR	92,700	90,900	89,000	87,200	85,500
	LAT DB	54	54.9	55.8	56.7	57.7
	LAT WB	54	54.8	55.7	56.6	57.5
1250	TC	86,100	83,100	80,000	76,800	73,500
	SHC	59,300	58,200	57,000	55,800	54,700
	W	3,290	3,573	3,887	4,240	4,637
	THR	97,000	94,900	92,700	90,700	88,700
	LAT DB	58.1	58.9	59.6	60.3	61
	LAT WB	58.1	58.9	59.6	60.3	61
1500	TC	89,300	86,200	82,900	79,500	76,000
	SHC	67,200	66,100	63,700	62,500	61,300
	W	3,310	3,590	3,901	4,251	4,647
	THR	100,300	98,000	95,700	93,400	91,200
	LAT DB	61.3	61.9	63.1	63.7	64.3
	LAT WB	61.3	61.9	62.5	63	63.6

62RA, RB, RC, RD08

Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		15 gpm				
800	TC	77,100	75,000	72,700	70,200	67,700
	SHC	45,500	44,500	43,400	42,200	41,000
	W	3,289	3,615	3,989	4,418	4,909
	THR	88,000	86,900	85,800	84,700	83,800
	LAT DB	44	45	46	47	49
	LAT WB	44	45	46	47	49
1150	TC	87,800	85,000	82,200	79,000	76,000
	SHC	54,800	53,600	52,400	51,200	49,900
	W	3,355	3,694	4,078	4,509	4,983
	THR	98,900	97,300	95,600	93,800	92,300
	LAT DB	52	53	54	55	56
	LAT WB	52	53	54	55	56
1450	TC	93,600	90,300	87,000	83,500	80,100
	SHC	62,000	60,900	59,600	58,300	57,100
	W	3,376	3,720	4,110	4,548	5,010
	THR	104,800	102,600	100,500	98,500	96,500
	LAT DB	56.5	57.1	57.9	58.7	59.5
	LAT WB	56.4	57.1	57.9	58.7	59.5
1800	TC	98,100	94,500	91,000	87,200	83,500
	SHC	70,100	69,100	67,800	66,500	65,200
	W	3,393	3,738	4,133	4,567	5,037
	THR	109,400	106,900	104,600	102,200	100,000
	LAT DB	59.9	60.4	61	61.7	62.4
	LAT WB	59.8	60.4	61	61.7	62.4



**COOLING CAPACITIES (cont)**

62RA,RB,RC,RD09						
Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		18 gpm				
900	TC	87,600	85,300	82,800	80,100	77,200
	SHC	51,600	50,400	49,200	47,900	46,600
	W	4,066	4,483	4,946	5,466	6,058
	THR	101,100	100,100	99,100	98,100	97,100
	LAT DB	43	45	46	47	48
	LAT WB	43	44	46	47	48
1300	TC	99,800	96,700	93,600	90,200	86,700
	SHC	62,200	60,900	59,500	58,100	56,700
	W	4,320	4,723	5,177	5,688	6,255
	THR	114,100	112,400	110,700	109,000	107,300
	LAT DB	52	53	54	55	56
	LAT WB	52	53	54	55	56
1600	TC	105,800	102,200	98,800	94,900	91,000
	SHC	69,400	68,200	66,700	65,200	63,900
	W	4,433	4,826	5,284	5,792	6,332
	THR	120,500	118,200	116,200	114,000	111,800
	LAT DB	55.9	56.6	57.4	58.3	59
	LAT WB	55.8	56.6	57.3	58.2	59
2100	TC	112,100	108,200	104,300	100,100	95,800
	SHC	81,000	79,800	78,400	77,000	75,500
	W	4,550	4,937	5,377	5,877	6,428
	THR	127,300	124,600	122,100	119,500	116,900
	LAT DB	60.2	60.7	61.3	62	62.6
	LAT WB	60.1	60.7	61.3	62	62.6

62RA,RB,RC,RD12						
Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		12 gpm				
1100	TC	108,000	105,000	101,600	98,200	94,600
	SHC	63,600	62,000	60,400	58,800	57,200
	W	4,640	5,156	5,716	6,342	7,012
	THR	123,400	122,000	120,400	118,800	117,400
	LAT DB	43	44	46	47	48
	LAT WB	43	44	46	47	48
1500	TC	121,000	117,000	112,800	108,800	104,400
	SHC	74,400	72,600	70,600	69,000	67,200
	W	4,872	5,392	5,958	6,548	7,214
	THR	137,000	134,800	132,400	130,200	128,000
	LAT DB	50	51	53	54	55
	LAT WB	50	51	53	54	55
1800	TC	127,800	123,200	118,600	113,800	109,200
	SHC	81,600	79,800	78,000	76,200	74,400
	W	4,980	5,494	6,056	6,652	7,312
	THR	144,200	141,400	138,400	135,600	133,000
	LAT DB	54.1	55	56	56.8	57.7
	LAT WB	54.1	55	55.9	56.8	57.7
2200	TC	134,000	129,000	124,000	118,800	113,600
	SHC	91,200	89,400	87,400	85,600	83,800
	W	5,080	5,590	6,150	6,756	7,414
	THR	150,800	147,400	144,200	141,000	137,800
	LAT DB	57.6	58.4	59.2	59.9	60.7
	LAT WB	57.6	58.4	59.2	59.9	60.7

LEGEND

- DB — Dry Bulb
- SHC — Sensible Heat Capacity (Btuh)
- TC — Total Capacity (Btuh) Gross
- THR — Heat Rejected (Btuh)
- W — Compressor Motor Power Input (W)
- WB — Wet Bulb

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. Cooling capacities are gross and do not include deduction for indoor fan motor heat.

# Performance data (cont)



## COOLING CAPACITIES (cont)

62RA,RB,RC,RD14

Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		15.5 gpm				
1350	TC	138,600	134,600	130,400	126,000	121,400
	SHC	81,200	79,000	77,000	74,800	72,600
	W	6,234	6,848	7,506	8,228	9,034
	THR	159,200	157,200	155,000	152,800	150,800
	LAT DB	41	42	44	45	47
	LAT WB	41	42	44	45	47
1900	TC	157,600	152,600	147,400	142,000	136,400
	SHC	96,200	93,800	91,600	89,200	86,800
	W	6,360	6,948	7,586	8,294	9,088
	THR	178,800	175,600	172,400	169,200	166,000
	LAT DB	49	51	52	53	54
	LAT WB	49	51	52	53	54
2400	TC	168,800	163,000	157,200	150,800	144,400
	SHC	108,200	105,800	103,400	101,400	98,800
	W	6,432	7,002	7,628	8,324	9,112
	THR	190,200	186,200	182,200	178,000	174,200
	LAT DB	54.4	55.2	56.1	57	57.9
	LAT WB	54.3	55.1	56	57	57.9
2900	TC	176,000	169,800	163,400	156,800	150,000
	SHC	120,000	117,600	115,400	112,800	110,400
	W	6,472	7,030	7,650	8,346	9,130
	THR	197,600	193,200	188,600	184,200	180,000
	LAT DB	57.7	58.4	59.2	59.9	60.7
	LAT WB	57.7	58.4	59.2	59.9	60.7

62RA,RB,RC,RD15

Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		18 gpm				
1700	TC	167,400	162,600	157,400	152,000	146,400
	SHC	98,600	96,000	93,600	91,000	88,400
	W	6,822	7,540	8,352	9,264	10,286
	THR	190,200	187,600	185,000	182,600	180,200
	LAT DB	43	44	45	47	48
	LAT WB	43	44	45	47	48
2300	TC	186,400	180,200	174,000	167,600	161,000
	SHC	114,400	111,600	109,000	106,200	103,400
	W	6,974	7,718	8,550	9,472	10,456
	THR	209,600	205,800	202,400	198,800	195,400
	LAT DB	50	51	52	53	55
	LAT WB	50	51	52	53	54
3000	TC	200,200	193,200	186,000	178,600	171,200
	SHC	131,000	128,200	125,400	122,800	120,000
	W	7,100	7,860	8,698	9,600	10,556
	THR	223,800	219,400	214,800	210,200	206,000
	LAT DB	55.6	56.5	57.3	58.1	58.9
	LAT WB	55.6	56.4	57.2	58.1	58.9
3600	TC	208,000	200,600	192,600	185,000	177,400
	SHC	145,000	142,200	139,400	136,600	133,400
	W	7,148	7,926	8,778	9,664	10,624
	THR	232,000	226,800	221,800	216,800	212,400
	LAT DB	58.7	59.4	60.1	60.8	61.6
	LAT WB	58.7	59.4	60.1	60.8	61.5

### COOLING CAPACITIES (cont)

62RA,RB,RC,RD16						
Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		<b>21 gpm</b>				
2000	TC	201,200	195,600	189,400	183,200	176,800
	SHC	118,000	115,200	112,200	109,200	106,200
	W	8,538	9,430	10,414	11,510	12,710
	THR	229,800	227,000	224,000	221,400	218,800
	LAT DB	42	43	44	46	47
	LAT WB	42	43	44	46	47
2800	TC	226,400	219,200	211,800	204,200	196,800
	SHC	139,000	135,800	132,600	129,200	126,000
	W	9,064	9,942	10,914	11,962	13,110
	THR	256,800	252,400	248,000	244,000	240,000
	LAT DB	50	51	52	53	54
	LAT WB	50	51	52	53	54
3600	TC	242,200	233,800	225,400	216,800	208,400
	SHC	158,000	154,600	151,200	148,400	145,200
	W	9,382	10,256	11,212	12,212	13,348
	THR	273,600	268,000	262,600	257,400	252,600
	LAT DB	55.5	56.3	57.1	57.9	58.7
	LAT WB	55.4	56.2	57	57.9	58.7
4400	TC	252,400	243,400	234,200	225,200	216,200
	SHC	176,600	173,200	169,800	166,800	163,600
	W	9,568	10,428	11,384	12,388	13,514
	THR	284,600	278,200	272,000	266,400	260,800
	LAT DB	58.8	59.5	60.2	60.8	61.5
	LAT WB	58.8	59.5	60.2	60.8	61.5

62RA,RB,RC,RD20						
Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		<b>21 gpm</b>				
2400	TC	224,800	218,200	211,400	204,600	197,400
	SHC	133,400	130,200	127,000	123,800	120,600
	W	9,722	10,744	11,846	13,006	14,262
	THR	257,200	253,800	250,400	247,200	244,200
	LAT DB	45	46	47	49	50
	LAT WB	45	46	47	49	50
2900	TC	246,000	238,000	229,800	221,600	213,000
	SHC	151,600	148,200	144,600	141,200	138,000
	W	10,046	11,064	12,162	13,292	14,538
	THR	279,400	274,600	269,800	265,400	260,800
	LAT DB	51	52	53	54	55
	LAT WB	51	52	53	54	55
3600	TC	258,800	250,000	240,600	231,400	222,200
	SHC	166,200	162,600	159,400	155,800	152,200
	W	10,212	11,222	12,304	13,444	14,690
	THR	292,800	287,200	281,200	275,600	270,400
	LAT DB	54.5	55.4	56.2	57.1	57.9
	LAT WB	54.4	55.3	56.2	57.1	57.9
4400	TC	269,400	259,800	249,800	239,800	229,800
	SHC	183,000	179,400	175,600	172,000	168,400
	W	10,342	11,340	12,428	13,576	14,816
	THR	304,000	297,400	290,800	284,400	278,400
	LAT DB	57.5	58.3	59	59.8	60.5
	LAT WB	57.5	58.3	59	59.8	60.5

LEGEND

- DB** — Dry Bulb
- SHC** — Sensible Heat Capacity (Btuh)
- TC** — Total Capacity (Btuh) Gross
- THR** — Heat Rejected (Btuh)
- W** — Compressor Motor Power Input (W)
- WB** — Wet Bulb

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. Cooling capacities are gross and do not include deduction for indoor fan motor heat.

# Performance data (cont)



## COOLING CAPACITIES (cont)

62RA, RB, RC, RD22

Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		29 gpm				
2100	TC	215,600	210,000	204,000	197,600	191,400
	SHC	126,200	123,200	120,200	117,000	114,000
	W	8,886	9,890	10,958	12,096	13,310
	THR	245,400	242,800	240,000	237,400	235,000
	LAT DB	41	42	43	45	46
	LAT WB	41	42	43	45	46
2900	TC	246,200	238,800	231,200	223,000	214,600
	SHC	149,200	145,800	142,200	138,600	135,000
	W	9,224	10,208	11,258	12,404	13,632
	THR	277,000	272,800	268,400	263,800	259,400
	LAT DB	49	50	51	52	53
	LAT WB	49	50	51	52	53
3600	TC	264,200	255,800	246,400	237,000	227,400
	SHC	166,800	163,200	160,000	156,200	152,400
	W	9,428	10,396	11,424	12,558	13,796
	THR	295,800	290,400	284,400	278,400	272,600
	LAT DB	53.2	54.2	55	55.9	56.8
	LAT WB	53.2	54	55	55.9	56.8
4400	TC	278,200	268,600	258,600	248,200	237,400
	SHC	186,400	182,800	179,000	175,000	171,000
	W	9,572	10,528	11,554	12,678	13,922
	THR	310,200	303,600	296,800	290,000	283,200
	LAT DB	56.8	57.6	58.3	59.1	60
	LAT WB	56.8	57.6	58.3	59.1	60

62RA, RB, RC, RD24

Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		29 gpm				
2400	TC	244,600	238,000	231,200	223,800	216,200
	SHC	143,200	139,800	136,200	132,600	129,000
	W	9,974	11,134	12,400	13,800	15,326
	THR	277,800	275,000	272,000	269,000	266,400
	LAT DB	41	43	44	45	47
	LAT WB	41	42	44	45	47
3600	TC	285,000	276,200	267,000	257,200	247,000
	SHC	175,800	172,000	168,000	164,200	160,000
	W	10,660	11,784	13,014	14,368	15,890
	THR	320,600	315,400	310,000	304,400	299,200
	LAT DB	51	52	53	54	55
	LAT WB	51	52	53	54	55
4800	TC	307,800	297,400	286,800	275,600	264,000
	SHC	205,000	201,000	197,000	192,800	188,400
	W	11,098	12,192	13,392	14,726	16,222
	THR	344,800	338,000	331,000	324,000	317,200
	LAT DB	56.5	57.3	58	58.8	59.6
	LAT WB	56.5	57.3	58	58.8	59.6
6000	TC	321,800	310,800	299,200	287,400	275,000
	SHC	232,600	228,600	224,600	220,200	215,400
	W	11,390	12,466	13,652	14,980	16,462
	THR	360,000	352,200	344,400	336,800	329,200
	LAT DB	60.1	60.7	61.3	61.9	62.7
	LAT WB	60.1	60.7	61.3	61.9	62.5



**COOLING CAPACITIES (cont)**

62RA,RB,RC,RD30						
Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		34 gpm				
3400	TC	334,800	325,000	314,600	304,000	293,400
	SHC	197,000	192,000	187,000	181,800	177,000
	W	14,078	15,488	17,094	18,870	20,798
	THR	382,000	376,600	371,400	366,600	362,200
	LAT DB	43	44	45	47	48
	LAT WB	43	44	45	47	48
4600	TC	373,600	361,200	348,400	335,400	322,200
	SHC	228,800	223,200	217,600	212,600	207,200
	W	14,764	16,178	17,784	19,486	21,396
	THR	423,200	415,200	407,600	400,000	393,200
	LAT DB	50	51	52	53	54
	LAT WB	50	51	52	53	54
5800	TC	398,600	384,400	369,800	355,000	340,200
	SHC	258,200	252,600	246,800	241,200	235,600
	W	15,170	16,564	18,148	19,878	21,774
	THR	449,600	439,800	430,200	421,000	412,400
	LAT DB	54.9	55.7	56.6	57.5	58.4
	LAT WB	54.9	55.7	56.6	57.5	58.4
7000	TC	415,800	400,400	384,400	368,400	353,200
	SHC	286,200	280,400	274,600	268,800	262,600
	W	15,458	16,844	18,418	20,162	22,074
	THR	467,600	456,600	445,800	435,400	426,600
	LAT DB	58.1	58.9	59.6	60.4	61.2
	LAT WB	58.1	58.9	59.6	60.4	61.1

62RA,RB,RC,RD34						
Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		46.5 gpm				
4000	TC	410,200	399,600	388,200	376,200	363,400
	SHC	240,000	234,400	228,600	222,600	216,400
	W	19,078	20,380	22,068	24,154	26,642
	THR	474,000	467,400	461,400	456,200	451,400
	LAT DB	41	42	44	45	46
	LAT WB	41	42	43	45	46
5300	TC	458,800	445,600	431,600	416,800	401,200
	SHC	276,600	270,400	264,000	257,400	250,600
	W	20,330	21,498	23,070	25,056	27,464
	THR	527,000	517,400	508,400	499,800	492,200
	LAT DB	48	49	50	51	52
	LAT WB	48	49	50	51	52
6700	TC	493,600	478,200	462,000	445,000	427,200
	SHC	311,800	305,400	298,800	292,200	285,200
	W	21,316	22,378	23,850	25,750	28,078
	THR	565,000	553,000	541,400	530,400	520,200
	LAT DB	53.1	53.9	54.8	55.7	56.6
	LAT WB	53.1	53.9	54.8	55.7	56.6
8000	TC	516,400	499,800	482,200	463,200	444,000
	SHC	342,600	336,000	329,000	322,600	315,600
	W	22,008	23,004	24,418	26,234	28,514
	THR	590,200	576,600	563,600	550,200	538,400
	LAT DB	56.4	57.2	57.9	58.7	59.5
	LAT WB	56.4	57.1	57.8	58.7	59.5

LEGEND

- DB — Dry Bulb
- SHC — Sensible Heat Capacity (Btuh)
- TC — Total Capacity (Btuh) Gross
- THR — Heat Rejected (Btuh)
- W — Compressor Motor Power Input (W)
- WB — Wet Bulb

NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. Cooling capacities are gross and do not include deduction for indoor fan motor heat.

# Performance data (cont)



## COOLING CAPACITIES (cont)

62RA,RB,RC,RD38

Entering Air Quantity (Cfm)		Entering Air Temperature 95 F (DB) 75 F (WB)				
		Entering Water Temperature (F)				
		45	55	65	75	85
		53 gpm				
4800	TC	477,000	463,400	449,200	435,200	420,600
	SHC	280,000	273,200	266,000	259,200	252,200
	W	20,822	23,218	25,842	28,590	31,630
	THR	546,000	540,000	534,000	528,600	523,600
	LAT DB	42	44	45	46	48
	LAT WB	42	44	45	46	48
6200	TC	525,800	509,600	492,600	474,600	457,200
	SHC	318,400	311,000	303,200	296,200	288,800
	W	21,600	23,958	26,540	29,334	32,334
	THR	597,600	588,800	579,800	570,800	562,800
	LAT DB	49	50	51	52	53
	LAT WB	49	50	51	52	53
7600	TC	559,400	540,800	521,600	502,200	482,600
	SHC	353,400	345,800	338,200	329,800	322,000
	W	22,186	24,502	27,040	29,890	32,876
	THR	633,200	621,800	610,600	600,200	590,200
	LAT DB	53.1	54	54.9	55.9	56.8
	LAT WB	53.1	54	54.9	55.8	56.7
9000	TC	584,200	564,200	542,800	521,000	499,400
	SHC	386,400	378,400	371,200	363,000	355,000
	W	22,670	24,962	27,448	30,236	33,218
	THR	659,600	646,800	633,200	620,200	608,200
	LAT DB	56.3	57.1	57.8	58.7	59.4
	LAT WB	56.2	57	57.8	58.7	59.4

### LEGEND

**DB** — Dry Bulb  
**SHC** — Sensible Heat Capacity (Btuh)  
**TC** — Total Capacity (Btuh) Gross  
**THR** — Heat Rejected (Btuh)  
**W** — Compressor Motor Power Input (W)  
**WB** — Wet Bulb

### NOTES:

1. Direct interpolation is permissible. Do not extrapolate.
2. Cooling capacities are gross and do not include deduction for indoor fan motor heat.

## HEATING CAPACITIES

62RA, RB, RC, RD07								
Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
		7 gpm						
700	TC	60,167	66,467	41,235	47,220	53,535	58,780	64,952
	HA	46,407	51,380	30,571	35,728	39,593	45,342	49,766
	W	3,832	4,198	3,285	3,566	3,862	4,200	4,570
950	TC	61,864	68,575	42,466	48,686	54,506	60,136	66,583
	HA	50,305	56,141	31,657	37,125	42,229	48,349	53,935
	W	3,198	3,442	2,973	3,173	3,379	3,621	3,899
1250	TC	63,171	70,237	43,149	49,596	55,113	61,570	68,478
	HA	52,924	59,341	33,236	39,189	45,123	51,367	57,655
	W	2,817	2,995	2,703	2,832	2,966	3,126	3,311
1500	TC	63,871	71,133	42,712	49,363	55,398	62,201	69,273
	HA	54,238	60,993	34,435	40,498	46,422	52,614	59,184
	W	2,633	2,775	2,598	2,701	2,808	2,938	3,092

### 62RA, RB, RC, RD07 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		7 gpm									
700	TC	40,738	47,453	53,112	58,392	64,479	41,208	47,183	51,981	57,955	65,092
	HA	29,069	33,235	37,724	42,766	47,751	26,837	31,526	36,658	40,916	45,034
	W	3,613	3,925	4,243	4,595	4,971	3,982	4,314	4,644	5,007	5,341
950	TC	41,934	48,102	54,725	59,343	65,670	41,512	47,643	53,388	58,645	64,845
	HA	30,019	35,323	39,763	46,346	51,750	28,369	33,527	38,355	44,351	49,642
	W	3,276	3,497	3,730	3,985	4,281	3,619	3,856	4,104	4,383	4,691
1250	TC	42,507	48,860	55,816	60,575	67,341	41,957	48,554	54,120	59,688	66,302
	HA	31,526	37,316	42,283	49,259	55,337	29,814	35,428	40,736	47,112	53,302
	W	2,991	3,136	3,282	3,461	3,660	3,312	3,473	3,637	3,831	4,045
1500	TC	41,966	49,234	54,620	61,174	68,099	42,193	48,554	54,503	60,218	66,996
	HA	32,721	38,156	44,378	50,479	56,843	30,438	36,249	41,754	48,305	54,476
	W	2,881	2,995	3,117	3,261	3,427	3,189	3,320	3,454	3,615	3,795

### 62RA, RB, RC, RD07 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
		15.5 gpm						
700	TC	64,605	71,409	44,110	50,947	57,202	62,878	70,493
	HA	49,610	54,845	32,657	37,264	42,240	48,321	52,459
	W	4,083	4,507	3,410	3,723	4,064	4,450	4,885
950	TC	67,031	74,394	45,492	52,070	58,585	65,505	71,851
	HA	54,500	60,850	34,137	39,846	45,469	51,326	58,235
	W	3,382	3,678	3,067	3,288	3,534	3,821	4,146
1250	TC	68,929	76,815	46,412	53,316	60,197	67,617	75,288
	HA	57,861	65,016	36,065	42,378	48,686	55,375	62,284
	W	2,959	3,180	2,766	2,911	3,072	3,266	3,500
1500	TC	69,964	78,252	46,213	53,200	60,908	68,532	76,496
	HA	59,612	67,250	37,425	44,082	50,017	57,051	64,416
	W	2,750	2,928	2,649	2,766	2,896	3,057	3,249

#### LEGEND

**HA** — Heat Absorption  
**TC** — Total Capacity (Btuh) Gross  
**W** — Compressor Motor Power Input (W)

# Performance data (cont)



## HEATING CAPACITIES (cont)

### 62RA,RB,RC,RD07 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		15.5 gpm									
700	TC	44,118	50,380	56,594	62,123	69,233	43,755	49,981	56,178	61,570	71,614
	HA	30,386	35,335	40,162	46,126	51,213	28,670	33,464	38,210	44,081	46,027
	W	3,750	4,085	4,447	4,848	5,216	4,119	4,476	4,843	5,201	5,535
950	TC	44,808	51,282	57,723	64,526	70,622	43,360	50,647	57,015	63,708	69,742
	HA	32,316	37,834	43,269	48,922	55,696	31,054	35,831	41,091	46,564	52,214
	W	3,376	3,618	3,883	4,188	4,527	3,721	3,983	4,266	4,584	4,912
1250	TC	45,598	51,614	59,113	66,359	73,961	44,873	51,507	58,136	65,219	72,614
	HA	34,157	40,975	46,365	52,829	59,531	32,246	38,145	44,033	50,257	56,705
	W	3,060	3,222	3,397	3,604	3,842	3,385	3,561	3,755	3,977	4,228
1500	TC	45,971	52,144	59,765	67,211	75,051	45,200	51,960	58,704	65,974	73,605
	HA	34,946	41,965	47,667	54,461	61,564	33,007	39,147	45,300	51,847	58,679
	W	2,933	3,067	3,210	3,384	3,585	3,249	3,393	3,555	3,741	3,955

### 62RA,RB,RC,RD08

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)							
		30				40			
		Entering Water Temperature (F)							
		60	70	30	40	50	60	70	
		15 gpm							
800	TC	71,723	78,599	49,528	56,579	63,421	70,566	77,774	
	HA	55,449	62,665	35,050	41,089	46,810	53,148	58,741	
	W	5,013	5,357	4,429	4,731	5,036	5,376	5,710	
1150	TC	74,882	83,500	50,919	58,255	65,635	73,720	81,940	
	HA	61,229	68,965	38,272	44,828	51,513	58,714	66,194	
	W	4,207	4,426	3,920	4,125	4,327	4,542	4,761	
1450	TC	76,501	85,601	51,773	59,267	66,830	75,082	83,966	
	HA	64,002	72,311	39,589	46,881	53,777	61,431	69,580	
	W	3,853	4,035	3,667	3,841	4,005	4,177	4,351	
1800	TC	77,744	87,054	52,134	59,995	67,755	76,308	85,554	
	HA	66,087	74,821	41,033	48,265	55,486	63,512	72,094	
	W	3,591	3,749	3,479	3,625	3,765	3,911	4,057	

### 62RA,RB,RC,RD08 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		15 gpm									
800	TC	48,685	55,646	62,500	69,636	76,955	48,704	54,793	63,670	68,727	75,783
	HA	32,987	38,784	44,470	50,515	56,676	30,452	36,607	40,890	48,269	55,001
	W	4,781	5,085	5,405	5,750	6,104	5,153	5,466	5,803	6,133	6,462
1150	TC	49,935	57,430	64,640	72,213	80,253	49,063	56,260	63,400	71,095	78,833
	HA	35,938	42,578	49,004	56,081	63,369	33,752	40,184	46,646	53,366	60,550
	W	4,274	4,479	4,681	4,896	5,120	4,641	4,846	5,055	5,279	5,510
1450	TC	50,652	58,102	65,660	73,925	82,391	49,659	57,273	64,441	72,330	80,591
	HA	37,571	44,359	51,316	58,603	66,477	35,163	42,078	48,828	56,138	63,813
	W	4,031	4,191	4,350	4,518	4,689	4,398	4,558	4,714	4,883	5,056
1800	TC	51,347	58,778	66,563	75,087	83,897	50,184	57,900	65,307	73,454	82,278
	HA	38,468	45,752	53,013	60,713	69,061	36,266	43,276	50,484	58,173	66,086
	W	3,844	3,977	4,108	4,245	4,382	4,218	4,342	4,467	4,599	4,733



### HEATING CAPACITIES (cont)

**62RA,RB,RC,RD08 (cont)**

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
26 gpm								
800	TC	73,390	81,062	50,940	58,116	65,226	71,998	79,506
	HA	58,007	64,628	36,607	42,378	48,445	55,656	62,154
	W	5,111	5,471	4,493	4,799	5,120	5,470	5,844
1150	TC	77,572	86,585	52,570	60,119	67,783	76,243	84,815
	HA	63,805	71,836	39,805	46,722	53,583	61,061	68,958
	W	4,278	4,504	3,966	4,178	4,387	4,611	4,837
1450	TC	79,463	89,052	53,525	61,215	69,166	78,082	87,185
	HA	66,880	75,576	41,176	48,700	56,068	64,073	72,652
	W	3,916	4,101	3,707	3,884	4,055	4,235	4,414
1800	TC	80,942	90,964	53,966	62,052	70,360	79,292	89,055
	HA	69,206	78,423	42,794	50,205	58,052	66,453	75,055
	W	3,647	3,810	3,514	3,662	3,811	3,961	4,111

**62RA,RB,RC,RD08 (cont)**

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
26 gpm											
800	TC	50,026	57,118	64,264	71,180	79,137	49,205	56,154	63,176	70,574	78,099
	HA	34,163	40,081	45,763	51,724	58,718	32,008	37,807	43,763	50,000	57,175
	W	4,840	5,152	5,488	5,827	6,202	5,207	5,532	5,873	6,217	6,452
1150	TC	51,505	59,102	66,703	74,752	83,102	50,621	57,811	65,465	73,359	81,531
	HA	37,592	44,107	51,030	58,397	66,074	35,214	41,687	48,188	55,272	62,619
	W	4,319	4,526	4,740	4,966	5,199	4,684	4,893	5,112	5,345	5,587
1450	TC	52,299	59,979	67,805	76,495	85,349	49,659	58,951	66,689	74,947	83,391
	HA	39,136	46,311	53,467	61,335	69,688	35,163	43,658	50,599	58,265	67,127
	W	4,066	4,232	4,397	4,573	4,751	4,398	4,594	4,759	4,935	5,118
1800	TC	52,915	60,787	68,834	77,876	87,142	51,782	59,444	67,453	76,046	85,072
	HA	40,310	47,779	55,324	63,591	72,471	37,986	45,106	52,652	61,249	69,832
	W	3,876	4,012	4,147	4,291	4,433	4,245	4,372	4,502	4,643	4,782

**62RA,RB,RC,RD09**

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
18 gpm								
900	TC	81,227	91,598	53,012	61,080	69,075	77,653	86,430
	HA	67,463	76,019	38,313	44,929	51,778	57,964	64,784
	W	4,428	4,783	4,554	4,973	5,429	5,940	6,518
1300	TC	81,227	91,598	53,576	62,164	70,647	79,805	89,465
	HA	67,463	76,019	40,942	48,321	56,076	64,173	72,673
	W	4,428	4,783	4,004	4,299	4,611	4,962	5,351
1600	TC	81,227	91,598	53,947	62,554	71,415	80,905	90,999
	HA	67,463	76,019	41,932	49,876	57,799	66,398	75,509
	W	4,428	4,783	3,776	4,027	4,290	4,587	4,917
2100	TC	81,227	91,598	54,331	63,161	72,206	82,052	92,621
	HA	67,463	76,019	42,945	51,234	59,566	68,687	78,436
	W	4,428	4,783	3,545	3,754	3,973	4,222	4,500

**LEGEND**

- HA — Heat Absorption
- TC — Total Capacity (Btuh) Gross
- W — Compressor Motor Power Input (W)

# Performance data (cont)



## HEATING CAPACITIES (cont)

62RA,RB,RC,RD09 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
<b>18 gpm</b>											
900	TC	52,618	60,605	68,413	76,892	85,158	52,282	60,191	67,746	75,153	82,434
	HA	36,796	42,796	49,617	55,444	62,739	34,769	40,747	47,437	54,666	62,373
	W	4,971	5,409	5,885	6,413	7,001	5,407	5,876	6,378	6,923	7,435
1300	TC	53,251	61,516	69,811	78,746	88,401	52,941	60,931	69,259	78,009	87,221
	HA	39,136	46,458	53,894	61,738	69,075	36,989	44,432	50,877	58,349	66,098
	W	4,400	4,707	5,030	5,394	5,790	4,816	5,142	5,475	5,855	6,273
1600	TC	53,551	61,997	70,538	79,783	89,597	53,079	61,359	69,889	78,719	88,529
	HA	40,134	47,803	55,610	63,950	72,785	38,462	45,763	52,713	61,444	69,107
	W	4,167	4,423	4,691	4,995	5,332	4,580	4,845	5,120	5,439	5,780
2100	TC	53,870	62,521	71,305	80,896	91,167	53,376	61,836	70,417	79,764	89,740
	HA	41,157	49,184	57,377	66,238	75,708	39,446	47,132	55,161	63,716	72,903
	W	3,934	4,141	4,359	4,608	4,885	4,341	4,552	4,774	5,027	5,308

62RA,RB,RC,RD09 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
<b>24 gpm</b>								
900	TC	52,618	60,605	68,413	76,892	85,158	52,282	60,191
	HA	36,796	42,796	49,617	55,444	62,739	34,769	40,747
	W	4,971	5,409	5,885	6,413	7,001	5,407	5,876
1300	TC	53,251	61,516	69,811	78,746	88,401	52,941	60,931
	HA	39,136	46,458	53,894	61,738	69,075	36,989	44,432
	W	4,400	4,707	5,030	5,394	5,790	4,816	5,142
1600	TC	53,551	61,997	70,538	79,783	89,597	53,079	61,359
	HA	40,134	47,803	55,610	63,950	72,785	38,462	45,763
	W	4,167	4,423	4,691	4,995	5,332	4,580	4,845
2100	TC	53,870	62,521	71,305	80,896	91,167	53,376	61,836
	HA	41,157	49,184	57,377	66,238	75,708	39,446	47,132
	W	3,934	4,141	4,359	4,608	4,885	4,341	4,552

62RA,RB,RC,RD09 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
<b>24 gpm</b>											
900	TC	53,446	61,445	69,471	77,902	85,912	53,046	61,023	68,775	76,216	84,054
	HA	37,491	43,609	50,459	56,728	64,863	35,392	41,354	47,804	55,608	63,325
	W	5,017	5,462	5,950	6,493	7,101	5,452	5,927	6,436	6,997	7,505
1300	TC	54,168	62,519	71,084	80,249	89,812	53,804	61,880	70,395	79,184	88,752
	HA	39,941	47,172	54,758	62,739	71,370	37,678	45,243	51,805	60,096	67,369
	W	4,433	4,743	5,076	5,452	5,870	4,849	5,180	5,523	5,920	6,345
1600	TC	54,330	63,063	71,870	81,355	91,432	53,984	62,359	70,943	80,189	89,970
	HA	41,069	48,608	56,616	65,323	74,371	39,281	46,639	54,477	62,713	71,456
	W	4,195	4,454	4,732	5,047	5,395	4,609	4,877	5,166	5,490	5,849
2100	TC	54,750	63,653	72,730	82,595	93,181	54,324	62,893	71,735	81,356	91,626
	HA	42,122	50,076	58,527	67,761	77,500	40,315	48,079	56,333	65,130	74,556
	W	3,957	4,167	4,393	4,652	4,940	4,364	4,578	4,809	5,070	5,361

### HEATING CAPACITIES (cont)

**62RA,RB,RC,RD12**

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
12 gpm								
1100	TC	102,010	112,718	66,488	76,048	85,152	94,782	104,214
	HA	80,356	89,338	48,220	59,900	64,094	72,170	80,924
	W	6,836	7,494	5,630	6,076	6,542	7,088	7,706
1500	TC	106,224	118,136	68,212	78,068	87,390	97,674	108,344
	HA	88,082	98,776	51,548	60,660	69,210	78,420	88,040
	W	5,638	6,038	5,048	5,324	5,604	5,932	6,312
1800	TC	108,300	120,768	68,752	78,864	88,600	99,124	110,188
	HA	91,698	103,248	53,100	62,616	71,558	81,308	91,560
	W	5,128	5,422	4,814	5,012	5,214	5,456	5,736
2200	TC	110,086	123,216	69,654	79,702	90,492	101,220	112,624
	HA	95,034	107,392	54,196	64,328	73,488	83,718	94,590
	W	4,678	4,874	4,610	4,754	4,892	5,058	5,248

**62RA,RB,RC,RD12 (cont)**

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
12 gpm											
1100	TC	65,584	75,132	85,010	94,742	104,658	65,406	75,140	84,500	94,612	103,476
	HA	45,678	53,738	60,490	68,330	76,024	42,650	50,666	57,684	65,378	74,212
	W	6,128	6,626	7,140	7,726	8,372	6,692	7,246	7,782	8,368	9,004
1500	TC	66,930	76,868	86,774	96,884	107,496	66,238	76,560	85,712	95,726	106,214
	HA	48,888	57,816	65,542	74,528	83,792	45,744	54,030	62,518	71,282	80,288
	W	5,490	5,804	6,124	6,492	6,910	5,996	6,344	6,702	7,108	7,556
1800	TC	67,626	78,590	87,644	98,152	109,084	66,606	76,376	86,174	96,524	107,494
	HA	50,030	59,402	67,918	77,446	87,376	47,154	56,762	64,794	74,106	83,768
	W	5,236	5,478	5,710	5,982	6,298	5,720	5,998	6,262	6,570	6,912
2200	TC	68,410	78,298	88,304	98,900	110,150	67,116	77,054	86,990	97,464	108,504
	HA	51,324	61,316	70,014	80,050	90,620	48,452	58,354	66,802	76,598	86,864
	W	5,020	5,200	5,370	2,784	5,794	5,484	5,696	5,896	6,126	6,386

**62RA,RB,RC,RD12 (cont)**

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
20 gpm								
1100	TC	104,668	115,484	69,456	79,342	89,110	99,262	110,424
	HA	82,626	91,866	50,770	59,250	67,406	75,954	83,938
	W	6,992	7,682	5,764	6,240	6,758	7,364	8,052
1500	TC	109,446	121,770	71,396	81,742	91,950	102,950	114,418
	HA	91,026	102,066	54,518	64,028	73,336	83,196	93,432
	W	5,742	6,170	5,136	5,430	5,746	6,116	6,542
1800	TC	111,812	124,788	72,116	82,834	93,372	104,798	116,772
	HA	94,986	106,980	56,268	66,246	75,976	86,584	97,608
	W	5,208	5,524	4,880	5,092	5,322	5,596	5,914
2200	TC	113,970	127,606	72,972	83,758	94,492	107,276	119,744
	HA	98,666	111,568	57,504	68,206	78,422	89,410	101,224
	W	4,730	4,946	4,658	4,810	4,968	5,156	5,374

**LEGEND**

- HA** — Heat Absorption
- TC** — Total Capacity (Btuh) Gross
- W** — Compressor Motor Power Input (W)

# Performance data (cont)



## HEATING CAPACITIES (cont)

### 62RA, RB, RC, RD12 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		20 gpm									
1100	TC	68,432	78,272	88,766	99,344	108,514	68,468	77,978	88,214	97,148	109,560
	HA	48,064	56,356	63,454	71,328	81,654	44,988	52,762	60,368	70,036	77,052
	W	6,272	6,800	7,362	7,996	8,636	6,854	7,412	8,002	8,626	9,324
1500	TC	70,090	80,354	90,994	102,012	113,748	69,112	79,536	89,754	100,740	112,670
	HA	51,692	60,990	69,266	78,638	87,968	48,364	57,246	65,920	74,884	83,642
	W	5,586	5,922	6,274	6,686	7,146	6,098	6,468	6,860	7,306	7,784
1800	TC	70,870	82,280	92,198	103,622	115,754	69,618	80,046	90,460	101,940	114,242
	HA	52,954	62,732	72,022	82,084	92,306	49,946	59,332	68,572	78,232	87,886
	W	5,312	5,566	5,826	6,134	6,488	5,804	6,090	6,388	6,726	7,104
2200	TC	71,500	83,248	93,038	104,662	117,328	70,236	80,870	91,474	102,940	114,504
	HA	54,468	64,674	74,472	85,216	96,284	51,392	61,196	70,914	81,240	93,186
	W	5,078	5,268	5,458	5,680	5,932	5,550	5,768	5,994	6,250	6,542

### 62RA, RB, RC, RD14

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)							
		30				40			
		Entering Water Temperature (F)							
		60	70	30	40	50	60	70	
		15.5 gpm							
1350	TC	128,730	142,272	82,802	96,162	106,080	117,850	132,238	
	HA	98,744	109,106	6,570	7,156	7,750	8,452	9,256	
	W	8,184	9,046	61,608	7,032	81,234	91,110	98,806	
1900	TC	133,460	149,368	85,904	98,542	110,464	122,088	136,724	
	HA	111,336	123,078	5,720	6,080	6,450	6,888	7,392	
	W	6,566	7,130	64,958	76,278	86,938	99,956	109,902	
2400	TC	136,880	152,796	86,930	99,934	112,252	125,560	139,600	
	HA	117,266	131,780	5,334	5,590	5,854	6,174	6,552	
	W	5,822	6,248	67,282	79,338	90,746	102,970	115,722	
2900	TC	139,134	155,782	87,658	99,594	113,416	127,016	141,538	
	HA	121,104	136,648	5,094	5,298	5,500	5,752	6,050	
	W	5,360	5,700	68,780	82,564	93,122	105,934	119,430	

### 62RA, RB, RC, RD14 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		15.5 gpm									
1350	TC	81,800	95,320	108,114	117,410	131,276	82,810	94,796	106,222	116,720	129,218
	HA	7,212	7,856	8,524	9,240	10,014	7,940	8,622	9,306	10,000	10,700
	W	58,470	66,792	74,546	86,030	94,854	54,010	63,378	72,226	82,432	93,002
1900	TC	84,742	97,256	110,636	120,364	133,452	83,786	96,182	109,526	118,816	131,630
	HA	6,302	6,698	7,114	7,576	8,114	6,960	7,382	7,834	8,332	8,898
	W	61,646	72,638	81,850	95,638	107,068	58,294	68,998	77,972	91,572	102,728
2400	TC	84,340	97,044	110,562	122,344	136,122	84,492	97,130	109,098	120,480	133,930
	HA	5,904	6,190	6,478	6,828	7,224	6,524	6,842	7,166	7,548	7,972
	W	64,688	76,632	86,710	99,998	112,480	60,430	71,802	82,632	95,712	107,836
2900	TC	85,048	97,958	111,664	123,734	137,872	85,028	97,860	110,006	121,744	135,568
	HA	5,652	5,878	6,104	6,388	6,708	6,254	6,506	6,764	7,074	7,420
	W	66,106	78,462	89,052	102,778	115,912	61,840	73,656	84,934	98,418	111,174



## HEATING CAPACITIES (cont)

### 62RA,RB,RC,RD14 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
		21 gpm						
1350	TC	130,778	144,516	86,668	99,066	109,458	123,686	135,192
	HA	100,090	110,532	6,696	7,302	7,946	8,710	9,540
	W	8,308	9,194	62,328	72,456	84,264	91,970	103,332
1900	TC	135,964	152,362	88,792	101,834	113,498	127,994	142,112
	HA	113,516	125,250	5,800	6,178	6,576	7,058	7,608
	W	6,654	7,236	67,404	79,018	91,140	102,082	114,234
2400	TC	139,680	155,998	89,980	102,538	116,560	130,706	145,578
	HA	119,806	134,666	5,392	5,666	5,592	6,306	6,722
	W	5,892	6,340	69,962	83,204	94,518	107,404	120,818
2900	TC	142,154	159,294	89,706	103,652	117,970	132,478	147,976
	HA	123,904	139,886	5,144	5,354	5,580	5,860	60,190
	W	5,418	5,776	72,540	85,322	97,180	110,780	125,080

### 62RA,RB,RC,RD14 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		21 gpm									
1350	TC	84,250	98,090	110,038	122,594	134,090	85,398	97,448	109,376	120,400	136,548
	HA	7,340	8,010	8,708	9,484	10,270	8,072	8,778	9,494	10,218	10,882
	W	60,688	68,806	78,154	87,828	97,916	55,750	65,242	74,430	84,108	92,586
1900	TC	87,500	100,370	112,844	126,148	138,578	86,398	99,130	111,482	126,558	136,486
	HA	6,386	6,800	7,240	7,752	8,314	7,046	7,490	7,966	8,514	9,090
	W	63,924	75,178	86,076	97,526	110,338	60,416	71,346	81,914	90,828	105,442
2400	TC	87,210	101,756	114,648	128,536	143,116	87,230	100,264	112,938	128,754	143,132
	HA	5,966	6,262	6,582	6,956	7,394	6,590	6,922	7,274	7,670	8,132
	W	67,342	78,424	90,194	102,726	115,722	62,752	74,430	85,840	96,048	108,518
2900	TC	88,010	101,404	115,902	130,162	143,386	87,856	101,110	114,030	127,990	145,050
	HA	5,702	5,940	6,190	6,494	6,846	6,308	6,572	6,854	7,184	7,554
	W	68,896	81,652	92,814	105,990	120,880	64,298	76,470	88,400	101,148	112,654

### 62RA,RB,RC,RD15

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
		18 gpm						
1700	TC	171,746	189,240	107,544	122,392	137,290	152,536	166,944
	HA	139,584	157,130	75,864	88,624	99,950	112,224	125,238
	W	9,182	9,736	9,536	10,208	10,918	11,744	12,648
2300	TC	171,746	189,240	110,022	125,562	140,638	156,592	173,266
	HA	139,584	157,130	81,336	95,304	108,060	122,042	136,644
	W	9,182	9,736	8,640	9,030	9,458	9,974	10,562
3000	TC	171,746	189,240	111,996	127,536	142,656	159,030	177,384
	HA	139,584	157,130	84,972	99,736	113,486	128,676	144,840
	W	9,182	9,736	8,152	8,390	8,648	8,970	9,356
3600	TC	171,746	189,240	113,296	128,996	144,202	160,856	179,734
	HA	139,584	157,130	87,008	102,168	116,394	132,170	149,210
	W	9,182	9,736	7,908	8,072	8,254	8,486	8,770

#### LEGEND

- HA — Heat Absorption
- TC — Total Capacity (Btuh) Gross
- W — Compressor Motor Power Input (W)

# Performance data (cont)



## HEATING CAPACITIES (cont)

62RA,RB,RC,RD15 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
18 gpm											
1700	TC	106,564	121,576	136,014	151,706	165,482	105,618	120,542	135,236	149,806	166,654
	HA	71,604	83,974	95,512	107,430	120,814	67,602	79,846	91,252	103,640	117,520
	W	10,310	11,056	11,824	12,670	13,566	11,170	11,972	12,768	13,590	14,076
2300	TC	108,258	123,806	138,756	154,758	171,154	106,706	122,054	136,724	152,896	169,216
	HA	76,814	90,508	103,368	116,954	131,240	72,440	85,992	98,708	112,000	125,988
	W	9,318	9,778	10,256	10,824	11,462	10,108	10,630	11,156	11,752	12,406
3000	TC	109,864	125,520	140,448	156,778	173,836	107,996	123,618	138,504	154,672	171,432
	HA	80,302	94,822	108,584	123,400	139,118	75,756	90,110	103,676	118,142	133,480
	W	8,758	9,058	9,374	9,750	10,184	9,480	9,836	10,200	10,622	11,094
3600	TC	110,864	126,698	141,800	158,424	175,888	108,784	124,596	139,662	156,130	173,280
	HA	82,258	97,222	111,436	126,866	143,302	77,634	92,424	106,456	121,534	137,592
	W	8,474	8,696	8,930	9,214	9,550	9,158	9,432	9,712	10,040	10,416

62RA,RB,RC,RD15 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)							
		30				40			
		Entering Water Temperature (F)							
		60	70	30	40	50	60	70	
25 gpm									
1700	TC	175,356	193,314	110,702	125,908	142,382	156,464	172,656	
	HA	142,742	160,790	78,596	91,636	103,090	116,674	129,634	
	W	9,286	9,866	9,672	10,378	11,166	12,026	12,996	
2300	TC	175,356	193,314	113,434	129,472	146,126	162,776	178,502	
	HA	142,742	160,790	84,474	98,862	112,148	126,910	142,954	
	W	9,286	9,866	8,722	9,140	9,616	10,180	10,810	
3000	TC	175,356	193,314	115,564	131,724	147,672	164,962	184,826	
	HA	142,742	160,790	88,370	103,680	118,542	134,728	151,348	
	W	9,286	9,866	8,204	8,460	8,748	9,106	9,530	
3600	TC	175,356	193,314	116,946	133,330	149,538	167,204	186,078	
	HA	142,742	160,790	90,544	106,326	121,714	138,592	156,504	
	W	9,286	9,866	7,946	8,122	8,328	8,588	8,908	

62RA,RB,RC,RD15 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
25											
1700	TC	109,618	125,000	139,874	155,538	170,800	108,548	123,952	138,766	153,470	163,654
	HA	74,158	86,872	98,960	111,606	125,290	70,008	82,520	94,502	107,716	123,348
	W	10,456	11,240	12,058	12,956	13,832	11,324	12,162	13,000	13,826	14,530
2300	TC	112,844	128,748	143,226	160,212	177,088	109,972	127,176	142,538	157,652	174,906
	HA	79,516	93,562	107,446	121,550	136,632	75,312	88,754	102,092	116,572	130,976
	W	9,416	9,900	10,416	11,028	11,708	10,214	10,764	11,328	11,956	12,646
3000	TC	113,172	130,880	145,328	162,692	180,600	112,694	128,892	143,124	160,020	177,820
	HA	83,662	98,270	113,192	128,768	145,452	78,622	93,314	107,992	123,342	139,350
	W	8,822	9,142	9,486	9,896	10,368	9,556	9,930	10,320	10,776	11,282
3600	TC	114,388	130,724	146,900	164,654	183,074	111,984	128,274	144,494	161,768	180,074
	HA	85,740	101,312	116,340	132,644	150,162	80,992	96,322	111,060	127,108	143,968
	W	8,524	8,760	9,018	9,330	9,698	9,218	9,504	9,808	10,166	10,572

### HEATING CAPACITIES (cont)

62RA, RB, RC, RD16								
Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
21 gpm								
2000	TC	196,986	216,378	131,866	151,006	169,202	187,080	205,636
	HA	143,240	156,600	11,068	12,156	13,220	14,426	15,772
	W	15,862	17,738	94,070	109,524	122,534	136,916	151,434
2800	TC	202,768	224,754	134,596	153,182	173,032	192,230	212,366
	HA	160,634	177,652	9,664	10,408	11,116	11,932	12,848
	W	12,916	14,186	100,312	118,458	133,616	150,404	167,678
3600	TC	211,384	232,640	135,646	156,814	174,756	194,780	215,958
	HA	172,122	192,522	8,958	9,556	10,112	10,750	11,456
	W	11,210	12,136	103,742	122,858	139,670	157,890	176,852
4400	TC	215,058	239,232	136,372	158,042	176,408	197,014	218,876
	HA	178,840	200,336	8,526	9,038	9,510	10,056	10,660
	W	10,356	11,154	105,896	125,858	143,426	162,506	182,466

62RA, RB, RC, RD16 (cont)											
Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
21 gpm											
2000	TC	131,590	149,996	167,878	185,818	204,222	130,906	149,412	164,106	183,138	203,448
	HA	12,082	13,224	14,338	15,572	16,788	13,172	14,358	15,486	16,690	17,692
	W	89,536	104,422	117,440	131,500	147,218	85,414	99,610	113,810	127,432	142,828
2800	TC	132,452	152,060	170,414	189,558	209,668	131,474	150,736	168,566	187,122	206,846
	HA	10,600	11,384	12,134	12,982	13,934	11,628	12,454	13,248	14,142	15,122
	W	95,812	112,958	128,164	144,518	161,294	91,398	107,740	122,544	138,520	154,944
3600	TC	133,392	153,686	172,420	192,052	212,842	132,232	152,134	170,378	189,630	210,020
	HA	9,858	10,478	11,066	11,734	12,472	10,836	11,484	12,110	12,812	13,586
	W	99,206	117,600	134,020	151,734	170,142	94,724	112,304	128,276	145,474	163,360
4400	TC	134,016	154,798	173,968	194,118	215,530	132,770	153,104	171,744	191,468	212,432
	HA	9,408	9,934	10,430	10,994	11,620	10,360	10,906	11,428	12,020	12,672
	W	101,346	120,550	137,736	156,302	175,698	96,828	115,214	131,928	149,968	168,824

62RA, RB, RC, RD16 (cont)								
Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
35 gpm								
2000	TC	202,080	218,072	138,354	156,598	176,370	194,964	216,132
	HA	144,898	156,942	11,428	12,558	13,748	15,088	16,480
	W	16,430	17,828	99,364	115,454	129,530	144,688	160,180
2800	TC	209,286	226,898	141,924	162,956	182,768	203,756	223,292
	HA	165,280	179,312	9,928	10,712	11,514	12,430	13,438
	W	13,262	14,320	106,640	124,940	142,008	159,846	178,908
3600	TC	218,310	235,570	143,462	165,380	186,004	208,080	231,090
	HA	177,970	195,038	9,176	9,806	10,436	11,150	11,950
	W	11,486	12,256	110,746	130,516	149,110	168,782	189,272
4400	TC	222,620	243,008	144,508	167,038	186,694	209,382	233,294
	HA	185,448	203,236	8,716	9,256	9,794	10,408	11,090
	W	10,596	11,268	113,344	134,070	153,778	174,538	196,302

LEGEND

- HA — Heat Absorption
- TC — Total Capacity (Btuh) Gross
- W — Compressor Motor Power Input (W)

# Performance data (cont)



## HEATING CAPACITIES (cont)

### 62RA, RB, RC, RD16 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		35 gpm									
2000	TC	137,352	156,492	174,758	193,312	213,234	136,676	155,466	173,482	193,708	212,688
	HA	12,448	13,652	14,870	16,216	17,454	13,548	14,788	15,968	17,110	17,896
	W	94,678	109,742	123,882	138,296	155,460	90,066	104,646	118,824	134,200	154,140
2800	TC	139,068	160,956	180,440	199,588	221,048	137,834	157,628	176,590	196,832	219,302
	HA	10,870	11,698	12,532	13,464	14,534	11,902	12,770	13,640	14,618	15,676
	W	101,946	119,232	135,786	153,512	171,370	97,000	113,888	129,702	146,526	163,350
3600	TC	141,884	163,144	183,298	204,896	227,596	140,504	161,078	179,168	200,230	222,678
	HA	10,080	10,732	11,392	12,136	12,964	11,062	11,746	12,432	13,208	14,066
	W	105,732	124,732	142,710	161,754	181,608	100,688	118,890	136,320	154,684	173,530
4400	TC	142,820	164,662	185,328	207,592	231,070	141,326	162,434	181,026	202,726	225,894
	HA	9,600	10,154	10,712	11,344	12,052	10,552	11,128	11,708	12,366	13,096
	W	108,304	128,244	147,156	167,288	188,390	103,200	122,344	140,614	160,020	180,094

### 62RA, RB, RC, RD20

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)							
		30				40			
		Entering Water Temperature (F)							
		60	70	30	40	50	60	70	
		21 gpm							
2500	TC	215,982	239,910	141,014	160,918	180,982	200,238	221,296	
	HA	171,222	190,172	10,978	11,898	12,846	13,938	15,156	
	W	13,634	14,950	104,236	119,648	134,290	151,692	169,004	
2900	TC	219,998	244,012	142,996	162,224	182,930	202,410	224,214	
	HA	178,334	199,358	10,434	11,198	11,976	12,886	13,902	
	W	12,540	13,614	107,958	123,894	139,240	157,394	175,932	
3600	TC	226,588	250,774	145,798	164,534	184,148	204,482	227,084	
	HA	186,468	210,194	9,780	10,398	11,018	11,734	12,522	
	W	11,322	12,164	112,776	129,024	145,406	164,294	184,372	
4400	TC	228,408	257,224	148,166	166,490	185,974	206,782	229,978	
	HA	193,400	217,588	9,298	9,820	10,336	10,936	11,588	
	W	10,488	11,202	116,634	133,022	150,026	169,350	190,424	

### 62RA, RB, RC, RD20 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		21 gpm									
2500	TC	138,828	158,864	178,134	198,336	219,182	136,606	156,766	176,836	197,270	219,056
	HA	11,944	12,940	13,962	15,128	16,398	12,990	14,078	15,158	16,362	17,602
	W	97,750	113,870	129,124	145,758	162,568	91,920	108,258	123,488	139,946	156,308
2900	TC	140,292	159,848	179,118	199,884	221,710	137,844	157,914	177,256	197,620	219,048
	HA	11,374	12,214	13,060	14,028	15,094	12,398	13,322	14,240	15,276	16,380
	W	101,228	117,820	133,746	151,294	169,324	95,072	111,880	127,812	145,144	162,766
3600	TC	142,436	161,880	181,026	201,904	224,206	139,582	157,822	178,954	199,664	221,616
	HA	10,696	11,372	12,046	12,814	13,654	11,690	12,432	13,166	13,996	14,890
	W	105,918	122,694	139,308	157,904	177,478	99,148	116,482	133,114	151,474	170,512
4400	TC	144,218	163,568	182,796	203,976	226,844	141,036	161,074	180,444	201,466	223,974
	HA	10,198	10,764	11,324	11,962	12,656	11,174	11,790	12,400	13,084	13,824
	W	109,306	126,490	143,564	162,868	183,482	102,388	120,074	137,214	156,330	176,438



### HEATING CAPACITIES (cont)

**62RA, RB, RC, RD20 (cont)**

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
		<b>35 gpm</b>						
2500	TC	223,414	247,498	149,466	169,938	190,582	210,042	233,108
	HA	176,750	196,274	11,304	12,312	13,384	14,584	15,940
	W	14,022	15,386	108,984	125,980	142,824	161,872	179,798
2900	TC	227,580	252,364	151,442	171,972	192,872	215,622	236,544
	HA	184,708	206,444	10,706	11,544	12,434	13,464	14,574
	W	12,874	13,994	113,006	130,714	148,462	167,580	188,414
3600	TC	235,028	260,384	152,516	172,928	193,952	219,328	245,148
	HA	193,740	218,736	10,010	10,686	11,394	12,018	13,058
	W	11,594	12,478	118,734	136,982	155,728	175,872	197,702
4400	TC	239,176	267,612	154,870	175,288	196,574	220,464	246,164
	HA	201,042	226,948	9,496	10,068	10,662	11,332	12,060
	W	10,724	11,486	122,684	141,290	160,682	182,452	205,812

**62RA, RB, RC, RD20 (cont)**

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		<b>35 gpm</b>									
2500	TC	145,326	166,340	186,942	209,002	231,780	143,152	164,232	187,258	206,902	227,354
	HA	12,278	13,354	14,500	15,782	17,140	13,344	14,512	15,666	17,012	18,316
	W	103,428	120,536	137,252	154,558	171,836	97,426	114,572	130,144	148,534	166,742
2900	TC	148,582	169,510	190,508	213,144	234,904	144,466	167,476	187,376	208,860	233,896
	HA	11,668	12,580	13,530	14,614	15,774	12,706	13,706	14,704	15,840	16,978
	W	106,594	124,334	141,922	160,610	180,002	100,874	118,034	135,236	154,180	171,988
3600	TC	148,974	171,818	190,882	214,382	238,722	145,844	169,350	189,434	211,608	235,806
	HA	10,938	11,674	12,434	13,286	14,214	11,946	12,748	13,558	14,474	15,444
	W	112,004	129,822	149,082	168,992	190,050	105,466	123,298	141,452	161,698	181,660
4400	TC	151,014	171,916	195,256	217,202	242,564	147,576	168,836	171,394	214,108	239,120
	HA	10,408	11,022	11,656	12,364	13,118	11,392	12,058	12,734	13,496	14,306
	W	115,678	136,604	153,360	174,918	197,526	108,882	127,974	146,252	167,498	188,930

**62RA, RB, RC, RD22**

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
		<b>21 gpm</b>			<b>29 gpm</b>			
2100	TC	223,558	249,272	148,382	171,492	191,876	213,288	236,724
	HA	170,048	183,946	12,234	13,530	14,862	16,336	17,730
	W	16,068	17,632	108,092	122,188	137,694	153,678	168,046
2900	TC	235,006	262,518	155,432	176,700	195,504	217,922	241,014
	HA	190,744	209,254	10,690	11,560	12,442	13,450	14,544
	W	13,124	14,314	116,018	134,200	154,038	173,332	193,086
3600	TC	241,764	268,962	158,384	179,954	199,432	222,812	247,484
	HA	201,896	226,024	9,938	10,630	11,334	12,128	12,974
	W	11,782	12,716	121,484	140,628	161,406	182,316	204,320
4400	TC	247,162	276,018	158,954	182,480	202,412	226,574	252,352
	HA	210,438	236,720	9,416	9,990	10,576	11,220	11,916
	W	10,838	11,612	127,394	145,370	166,858	189,048	212,608

**LEGEND**

- HA — Heat Absorption
- TC — Total Capacity (Btuh) Gross
- W — Compressor Motor Power Input (W)

# Performance data (cont)



## HEATING CAPACITIES (cont)

62RA, RB, RC, RD22 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		29 gpm									
2100	TC	145,886	169,744	190,276	209,186	224,436	146,850	165,430	191,942	193,304	230,170
	HA	13,230	14,626	16,012	17,518	18,748	14,324	15,754	17,012	18,574	18,952
	W	102,344	116,236	131,584	149,274	173,460	94,550	112,460	124,328	148,976	166,186
2900	TC	150,514	171,674	195,112	214,508	236,754	150,118	171,852	192,900	215,096	234,388
	HA	11,622	12,552	13,518	14,572	15,722	12,640	13,648	14,666	15,784	16,932
	W	111,696	129,714	145,318	166,450	185,432	103,500	121,402	138,660	156,698	177,224
3600	TC	152,858	174,630	195,922	219,028	242,984	149,720	174,082	195,560	218,564	238,988
	HA	10,868	11,602	12,340	13,174	14,074	11,862	12,650	13,444	14,318	15,262
	W	116,636	135,602	154,700	175,226	196,556	109,776	127,184	145,724	165,490	188,466
4400	TC	155,018	177,026	198,672	222,458	247,644	151,628	173,588	195,252	218,656	243,064
	HA	10,318	10,934	11,548	12,230	12,944	11,290	11,950	12,608	13,332	14,100
	W	120,444	140,046	159,934	181,668	204,750	113,378	133,300	152,856	174,050	196,256

62RA, RB, RC, RD22 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)							
		30				40			
		Entering Water Temperature (F)							
		60	70	30	40	50	60	70	
		35 gpm				45 gpm			
2100	TC	230,788	256,020	153,438	177,240	198,676	220,898	243,570	
	HA	169,530	183,848	12,528	13,894	15,320	16,856	18,530	
	W	16,374	17,854	111,582	126,136	142,246	158,744	171,558	
2900	TC	240,286	265,664	159,220	181,264	203,382	227,044	250,944	
	HA	195,152	216,672	10,906	11,820	12,786	13,872	15,028	
	W	13,364	14,574	122,254	141,204	160,620	180,806	201,172	
3600	TC	247,768	275,652	164,172	185,092	208,016	232,918	259,132	
	HA	207,124	231,876	10,122	10,852	11,620	12,484	13,378	
	W	11,984	12,952	126,268	148,164	168,908	192,194	214,330	
4400	TC	253,776	283,562	164,744	189,680	211,568	237,408	265,310	
	HA	216,396	243,536	9,574	10,180	10,816	11,516	12,250	
	W	11,014	11,818	132,508	151,520	175,098	199,904	224,146	

62RA, RB, RC, RD22 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		45 gpm									
2100	TC	153,434	175,280	193,924	217,002	237,400	151,700	170,620	193,054	214,936	235,460
	HA	13,566	14,992	16,466	17,844	18,994	14,640	16,122	17,454	18,030	19,430
	W	103,620	119,934	138,488	155,766	175,518	97,860	116,430	133,208	155,592	173,762
2900	TC	157,958	177,822	202,624	226,168	247,148	155,332	177,772	200,014	223,206	243,554
	HA	11,856	12,826	13,868	15,010	16,212	12,878	13,926	15,016	16,200	17,432
	W	113,894	134,788	151,014	170,322	192,754	107,504	125,816	143,918	162,650	184,316
3600	TC	160,686	183,450	206,542	231,210	257,178	157,592	180,392	203,288	227,598	252,686
	HA	11,048	11,820	12,628	13,534	14,486	12,050	12,878	13,732	14,670	15,670
	W	119,378	139,248	159,314	180,662	202,648	112,590	132,180	151,846	172,576	193,620
4400	TC	161,006	183,938	207,282	235,280	262,724	157,216	182,606	206,004	231,126	258,040
	HA	10,480	11,126	11,792	12,520	13,270	118,402	120,142	12,850	13,624	14,422
	W	125,330	152,196	167,702	188,448	212,696	11,456	136,998	157,748	179,988	203,094

### HEATING CAPACITIES (cont)

62RA, RB, RC, RD24								
Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
29 gpm								
2400	TC	252,194	278,494	165,054	189,552	208,720	232,964	257,598
	HA	185,612	204,708	116,054	140,800	155,474	173,124	191,012
	W	17,936	19,840	13,598	15,082	16,544	18,242	20,064
3600	TC	262,470	291,620	167,040	192,708	216,286	241,778	268,430
	HA	217,422	242,278	129,608	152,150	173,024	195,336	218,536
	W	13,828	15,140	11,378	12,268	13,158	14,176	15,302
4800	TC	270,604	302,470	169,830	195,898	220,452	247,180	275,546
	HA	230,448	258,884	135,158	159,118	181,760	206,132	231,802
	W	12,030	13,064	10,402	11,056	11,708	12,464	13,320
6000	TC	275,382	308,954	171,564	198,070	223,126	250,590	279,860
	HA	238,554	269,174	138,574	163,430	186,960	212,492	239,538
	W	11,050	11,928	9,832	10,358	10,892	11,520	12,246

62RA, RB, RC, RD24 (cont)											
Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
29 gpm											
2400	TC	163,816	185,198	211,180	230,850	264,250	163,118	187,696	210,584	240,196	256,014
	HA	110,092	130,986	145,384	166,380	177,878	104,266	122,186	139,292	152,624	184,518
	W	14,892	16,456	18,044	19,706	21,250	16,290	17,956	19,462	20,932	21,646
3600	TC	164,588	189,732	213,354	238,422	264,496	162,408	190,522	210,692	235,440	260,826
	HA	123,230	145,258	165,786	187,452	210,020	116,860	135,860	158,430	179,610	201,472
	W	12,550	13,502	14,440	15,524	16,692	13,830	14,854	15,862	16,976	18,190
4800	TC	166,972	192,758	217,082	243,408	271,174	164,438	189,942	214,000	239,768	266,954
	HA	128,638	152,152	174,206	197,940	223,100	122,046	145,034	166,616	189,720	214,182
	W	11,526	12,234	12,930	13,726	14,582	12,744	13,512	14,254	15,092	15,972
6000	TC	168,544	194,762	219,564	246,534	275,256	165,800	191,720	216,228	242,658	270,854
	HA	131,928	156,340	179,310	204,246	230,604	125,206	149,106	171,600	195,838	221,732
	W	10,938	11,512	12,078	12,732	13,472	12,126	12,748	13,352	14,046	14,768

62RA, RB, RC, RD24 (cont)								
Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
60 gpm								
2400	TC	259,946	287,808	174,872	200,056	224,686	250,346	272,888
	HA	189,806	207,644	122,802	141,746	160,030	178,736	203,092
	W	18,490	20,356	14,172	15,746	17,410	19,218	21,066
3600	TC	272,408	302,740	178,266	204,766	231,058	259,102	287,682
	HA	226,222	251,736	139,414	163,028	185,510	209,786	234,158
	W	14,258	15,670	11,754	12,716	13,740	14,886	16,222
4800	TC	282,278	315,800	181,534	209,212	236,822	266,714	298,228
	HA	240,448	270,128	145,760	170,966	196,380	223,320	251,454
	W	12,394	13,524	10,690	11,400	12,162	13,050	14,066
6000	TC	288,126	323,774	183,692	212,038	240,480	271,488	304,306
	HA	249,808	282,196	149,824	176,172	202,846	231,442	261,342
	W	11,370	12,342	10,068	10,648	11,280	12,028	12,928

LEGEND

- HA — Heat Absorption
- TC — Total Capacity (Btuh) Gross
- W — Compressor Motor Power Input (W)

# Performance data (cont)



## HEATING CAPACITIES (cont)

### 62RA, RB, RC, RD24 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
<b>60 gpm</b>											
2400	TC	173,238	194,684	222,896	242,284	282,078	172,146	197,242	217,418	248,860	270,198
	HA	116,336	138,684	152,678	178,876	193,332	110,054	128,092	151,670	169,770	196,450
	W	15,484	17,130	18,840	20,534	21,012	16,890	18,594	20,132	20,866	22,602
3600	TC	175,080	201,370	227,560	258,446	282,162	172,682	198,186	224,134	254,642	278,432
	HA	132,164	154,870	177,874	196,530	224,648	125,450	147,332	169,740	187,462	214,744
	W	12,940	13,948	15,028	16,238	17,598	14,236	15,316	16,434	17,692	19,094
4800	TC	178,112	205,328	232,176	261,296	291,888	175,006	201,734	228,276	256,770	286,450
	HA	138,600	163,162	188,340	214,746	242,006	131,640	155,328	179,716	205,256	231,814
	W	11,826	12,586	13,384	14,276	15,316	13,058	13,870	14,710	15,636	16,686
6000	TC	180,100	207,940	235,820	266,040	298,044	176,578	204,090	231,430	260,598	292,092
	HA	142,528	168,220	194,258	222,038	251,182	135,426	160,232	185,488	212,966	240,706
	W	11,186	11,806	12,466	13,234	14,128	12,384	13,048	13,742	14,504	15,414

### 62RA, RB, RC, RD30

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
<b>34 gpm</b>								
3400	TC	328,782	365,140	218,654	248,810	280,536	310,840	338,010
	HA	249,442	272,004	155,466	180,834	201,818	225,262	250,968
	W	23,718	26,132	18,500	20,166	21,866	23,776	25,872
4600	TC	341,066	376,298	222,774	254,568	283,792	315,362	348,222
	HA	273,446	304,532	166,346	194,300	219,794	247,130	275,324
	W	20,056	21,734	16,534	17,696	18,818	20,102	21,578
5800	TC	348,980	387,270	225,880	258,438	288,318	320,892	355,406
	HA	287,202	321,014	172,844	202,240	229,226	258,520	289,334
	W	18,262	19,616	15,486	16,420	17,308	18,320	19,448
7000	TC	354,448	394,018	228,156	261,222	291,590	324,900	360,366
	HA	296,250	331,958	177,196	207,542	235,496	266,076	298,506
	W	17,192	18,378	14,832	15,634	16,386	17,238	18,188

### 62RA, RB, RC, RD30 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
<b>34 gpm</b>											
3400	TC	216,020	250,086	274,374	305,858	336,494	214,932	243,904	274,256	301,542	333,300
	HA	147,542	170,664	194,558	217,330	241,132	139,440	164,090	185,518	208,692	233,152
	W	20,108	21,942	23,656	25,656	27,736	21,888	23,748	25,606	27,598	29,408
4600	TC	219,370	250,984	280,006	314,704	347,536	216,560	247,832	280,604	307,330	343,980
	HA	157,848	185,284	210,338	235,646	262,906	149,418	176,332	199,442	226,792	251,762
	W	18,024	19,268	20,472	21,844	23,390	19,676	21,008	22,308	23,750	25,354
5800	TC	222,038	254,356	283,984	319,164	353,242	218,762	250,706	280,200	311,844	348,876
	HA	164,084	193,048	219,628	247,162	277,054	155,390	183,864	209,886	237,812	265,560
	W	16,890	17,878	18,828	19,904	21,104	18,458	19,508	20,524	21,668	22,940
7000	TC	223,988	256,824	286,902	319,842	354,700	220,378	252,804	282,738	315,094	352,636
	HA	168,270	198,228	225,818	255,672	287,214	159,400	188,916	215,956	245,192	274,772
	W	16,182	17,020	17,818	18,724	19,736	17,694	18,576	19,426	20,386	21,450

### HEATING CAPACITIES (cont)

**62RA,RB,RC,RD30 (cont)**

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
		62 gpm						
3400	TC	338,512	375,778	229,970	264,848	295,624	327,946	358,170
	HA	257,032	279,390	165,248	189,072	213,118	237,750	265,076
	W	24,366	26,884	19,116	20,932	22,796	24,916	27,190
4600	TC	356,266	389,410	235,614	268,740	300,950	335,198	374,676
	HA	281,232	315,464	177,612	206,686	234,650	264,120	292,340
	W	20,576	22,350	16,998	18,234	19,504	20,974	22,650
5800	TC	362,138	405,796	239,460	273,594	306,860	342,750	380,692
	HA	298,840	332,076	185,032	215,928	245,886	278,052	311,862
	W	18,694	20,140	15,874	16,866	17,878	19,026	20,292
7000	TC	368,438	410,172	242,232	277,082	311,128	348,142	387,060
	HA	308,922	346,332	190,016	222,128	253,416	287,308	323,048
	W	17,584	18,854	15,174	16,022	16,882	17,854	18,952

**62RA,RB,RC,RD30 (cont)**

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		62 gpm									
3400	TC	230,420	262,234	292,850	321,840	355,304	224,308	257,514	287,594	319,774	350,308
	HA	154,972	179,732	203,160	229,804	255,462	148,326	172,592	196,054	221,502	252,240
	W	20,784	22,680	24,636	26,750	28,842	22,516	24,510	26,488	28,366	29,596
4600	TC	231,602	264,398	296,226	333,658	368,990	228,176	264,304	291,874	329,420	364,000
	HA	168,536	196,856	224,110	250,950	279,864	159,444	185,410	213,702	239,348	267,514
	W	18,496	19,818	21,172	22,714	24,456	20,160	21,574	23,006	24,622	26,384
5800	TC	234,930	268,700	301,550	336,748	373,764	231,014	267,514	296,612	334,818	371,314
	HA	175,714	205,870	235,134	266,370	299,070	166,332	194,372	224,420	252,960	284,164
	W	17,282	18,332	19,406	20,624	21,954	18,852	19,970	21,110	22,394	25,290
7000	TC	237,344	271,826	301,550	341,700	380,206	233,072	267,056	300,054	335,694	377,486
	HA	180,540	211,926	235,134	275,474	310,296	170,970	201,658	231,648	263,524	295,472
	W	16,522	17,414	19,406	19,350	20,472	18,034	18,976	19,934	21,018	22,202

**62RA,RB,RC,RD34**

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
		46.5						
4000	TC	365,140	423,200	274,218	314,274	351,496	397,722	434,176
	HA	272,004	298,024	192,798	225,306	254,192	277,154	311,362
	W	26,132	32,014	24,288	26,678	29,098	31,890	34,964
5300	TC	376,298	430,350	277,268	320,038	359,102	400,624	446,402
	HA	304,532	339,372	204,124	241,086	274,508	309,778	342,786
	W	21,734	27,140	21,670	23,346	25,002	26,872	29,130
6700	TC	387,270	441,180	279,724	324,152	364,700	408,246	453,774
	HA	321,014	357,576	211,352	251,116	287,224	325,590	365,290
	W	19,616	24,622	20,164	21,502	22,816	24,324	26,070
8000	TC	394,018	461,332	281,450	327,018	368,658	413,428	460,642
	HA	331,958	390,922	215,752	257,278	295,026	335,314	377,166
	W	18,378	21,670	19,314	20,480	21,630	22,970	24,532

**LEGEND**

**HA** — Heat Absorption  
**TC** — Total Capacity (Btuh) Gross  
**W** — Compressor Motor Power Input (W)

# Performance data (cont)



## HEATING CAPACITIES (cont)

62RA,RB,RC,RD34 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
46.5 gpm											
4000	TC	272,734	315,822	352,708	395,312	395,312	272,900	314,840	355,088	389,148	428,188
	HA	184,224	213,078	240,764	265,844	265,844	175,838	203,262	227,188	263,070	296,790
	W	26,422	29,010	31,552	34,270	34,270	28,752	31,412	33,874	36,348	38,520
5300	TC	275,144	316,838	355,192	396,364	396,364	274,404	314,228	352,494	391,534	433,922
	HA	195,230	230,710	262,954	297,212	297,212	186,522	220,242	251,734	283,900	317,330
	W	23,662	25,452	27,222	29,222	29,222	25,854	27,774	29,676	31,812	34,220
6700	TC	277,144	320,302	359,542	401,908	401,908	275,742	317,124	356,384	397,458	440,760
	HA	202,394	240,646	276,756	314,308	314,308	193,552	230,004	264,068	299,616	336,726
	W	22,010	23,410	24,792	26,328	26,328	24,082	25,570	27,038	28,672	30,558
8000	TC	278,588	322,732	362,716	406,102	406,102	276,722	319,128	359,122	401,580	446,458
	HA	206,774	246,748	284,484	323,840	323,840	197,872	236,028	271,718	309,432	348,828
	W	21,062	22,254	23,434	24,784	24,784	23,050	24,298	25,532	26,888	28,508

62RA,RB,RC,RD34 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
70 gpm								
4000	TC	375,778	426,964	284,696	326,650	364,998	408,924	448,776
	HA	279,390	309,272	201,070	234,320	264,418	291,214	325,994
	W	26,884	32,606	24,882	27,400	30,008	32,966	36,208
5300	TC	389,410	439,864	289,274	332,904	374,196	417,974	463,710
	HA	315,464	347,544	214,446	252,282	287,052	324,052	361,934
	W	22,350	27,624	22,118	23,868	25,660	27,724	30,224
6700	TC	405,796	452,148	292,392	337,944	381,262	427,420	476,296
	HA	332,076	366,682	222,732	263,650	301,692	342,212	384,702
	W	20,140	25,036	20,530	21,936	23,382	25,080	26,966
8000	TC	410,172	474,592	294,584	341,492	386,252	433,996	485,010
	HA	346,332	403,294	227,820	270,684	310,798	353,608	398,818
	W	18,854	22,056	19,636	20,870	22,144	23,666	25,350

62RA,RB,RC,RD34 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
70 gpm											
4000	TC	282,528	326,242	364,946	401,988	401,988	282,060	324,648	359,238	410,262	451,908
	HA	191,872	220,364	249,116	282,150	282,150	183,452	209,954	241,294	268,270	297,052
	W	27,030	29,704	32,420	35,368	35,368	29,372	32,092	34,790	36,348	39,564
5300	TC	286,054	328,534	369,172	412,022	412,022	284,504	325,098	365,304	407,384	453,800
	HA	204,406	240,330	274,400	310,052	310,052	195,404	229,024	262,996	296,850	328,448
	W	24,116	25,976	27,902	30,046	30,046	26,328	28,310	30,366	32,634	35,152
6700	TC	288,790	333,024	375,470	420,812	420,812	286,524	328,944	370,582	414,384	460,222
	HA	212,620	251,654	288,914	328,548	328,548	203,362	240,094	276,906	314,062	353,100
	W	22,378	23,838	25,344	27,020	27,020	24,462	26,004	27,608	29,350	31,420
8000	TC	290,692	336,264	379,726	426,250	426,250	287,954	331,582	374,252	419,800	467,568
	HA	217,676	259,182	297,860	339,244	339,244	208,282	246,966	285,630	325,454	367,190
	W	21,380	22,636	23,932	25,466	25,466	23,376	24,674	26,030	27,484	29,288

## HEATING CAPACITIES (cont)

62RA, RB, RC, RD38								
Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)						
		30			40			
		Entering Water Temperature (F)						
		60	70	30	40	50	60	70
53 gpm								
4800	TC	473,558	531,048	308,420	354,038	403,262	448,112	497,176
	HA	360,428	392,550	220,020	256,632	286,770	321,680	356,498
	W	34,802	38,662	27,112	29,908	32,752	35,946	39,432
6200	TC	486,656	540,558	312,694	359,390	403,156	450,186	505,476
	HA	390,002	435,692	232,744	272,718	309,946	349,540	387,570
	W	29,480	32,224	24,382	26,374	28,306	30,590	33,146
7600	TC	495,972	553,604	315,908	363,100	411,866	455,848	507,346
	HA	408,560	458,978	240,782	282,656	319,606	364,182	409,346
	W	26,546	28,740	22,800	24,400	25,950	27,764	29,686
9000	TC	502,284	562,194	321,836	365,950	410,846	459,956	517,922
	HA	421,044	474,598	244,482	289,554	330,084	374,084	418,968
	W	24,698	26,586	21,738	23,098	24,408	25,976	27,634

62RA, RB, RC, RD38 (cont)											
Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
53 gpm											
4800	TC	311,032	357,870	401,520	446,416	500,046	310,388	357,576	401,326	448,206	487,690
	HA	206,480	241,714	274,108	308,206	341,486	195,610	230,058	262,074	296,032	340,034
	W	29,750	32,802	35,802	39,114	42,006	32,570	35,846	38,938	41,764	44,206
6200	TC	313,668	355,662	399,344	452,708	501,958	311,650	358,924	403,040	442,290	489,830
	HA	219,002	260,422	297,072	332,526	372,236	207,444	245,434	280,808	321,680	361,128
	W	26,806	28,974	31,032	33,472	36,104	29,478	31,852	34,130	36,618	39,246
7600	TC	315,916	358,866	403,218	451,004	501,518	313,174	360,744	406,134	446,752	496,296
	HA	226,884	270,088	308,678	350,188	394,054	215,046	255,118	292,648	336,024	378,554
	W	25,118	26,868	28,520	30,416	32,444	27,666	29,578	31,366	33,330	35,468
9000	TC	317,700	365,768	406,050	454,746	506,540	314,498	357,408	402,098	450,020	500,846
	HA	232,370	274,656	316,690	359,814	406,036	220,338	264,072	303,796	345,620	390,510
	W	24,006	25,488	26,902	28,540	30,238	26,478	28,096	29,582	31,296	33,082

62RA, RB, RC, RD38 (cont)											
Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		30					40				
		Entering Water Temperature (F)									
		60	70	30	40	50	60	70			
80 gpm											
4800	TC	483,744	542,312	320,172	366,730	418,742	467,138	516,798			
	HA	368,210	399,806	229,448	266,754	297,906	333,562	370,194			
	W	35,540	39,520	27,816	30,722	33,768	37,226	40,836			
6200	TC	498,604	553,372	325,188	373,386	420,138	469,946	528,154			
	HA	399,982	446,662	243,468	284,612	324,358	366,098	405,122			
	W	30,058	32,938	24,912	26,984	29,080	31,566	34,356			
7600	TC	509,228	568,706	328,870	377,804	425,614	477,344	532,196			
	HA	420,136	471,974	252,288	295,650	337,730	383,076	430,884			
	W	27,030	29,354	23,238	24,906	26,606	28,548	30,678			
9000	TC	516,360	578,658	331,628	381,192	429,742	482,614	539,206			
	HA	433,574	489,176	258,466	303,320	347,092	394,198	444,920			
	W	25,148	27,120	22,124	23,536	24,978	26,704	28,504			

LEGEND

- HA — Heat Absorption
- TC — Total Capacity (Btuh) Gross
- W — Compressor Motor Power Input (W)

# Performance data (cont)



## HEATING CAPACITIES (cont)

62RA,RB,RC,RD38 (cont)

Entering Air Quantity (Cfm)		Entering Air Temperature, Dry Bulb (F)									
		50					60				
		Entering Water Temperature (F)									
		30	40	50	60	70	30	40	50	60	70
		80 gpm									
4800	TC	317,048	370,364	416,878	465,056	516,680	321,590	369,570	415,478	457,872	505,382
	HA	218,004	250,480	284,268	319,472	359,166	203,418	238,206	271,874	317,250	353,666
	W	30,410	33,642	36,824	40,280	42,676	33,332	36,688	39,880	41,988	45,544
6200	TC	321,098	368,948	415,522	464,696	523,196	323,394	371,768	419,474	468,876	519,522
	HA	231,296	271,558	310,640	351,304	388,450	216,492	255,206	292,462	331,512	371,982
	W	27,356	29,608	31,794	34,394	37,306	30,060	32,506	34,904	37,598	40,428
7600	TC	328,564	372,862	425,842	471,266	524,846	325,354	374,212	423,082	473,346	525,340
	HA	237,336	282,288	320,676	367,792	414,112	224,870	265,944	305,970	348,558	393,144
	W	25,580	27,394	29,150	31,212	33,432	28,152	30,120	31,992	34,136	36,446
9000	TC	330,664	375,866	429,336	481,798	537,354	326,980	376,302	425,180	476,430	530,754
	HA	243,374	289,784	329,800	375,836	424,820	230,710	273,406	315,384	360,088	407,416
	W	24,408	25,944	27,466	29,216	31,090	26,900	28,568	30,132	31,982	33,934

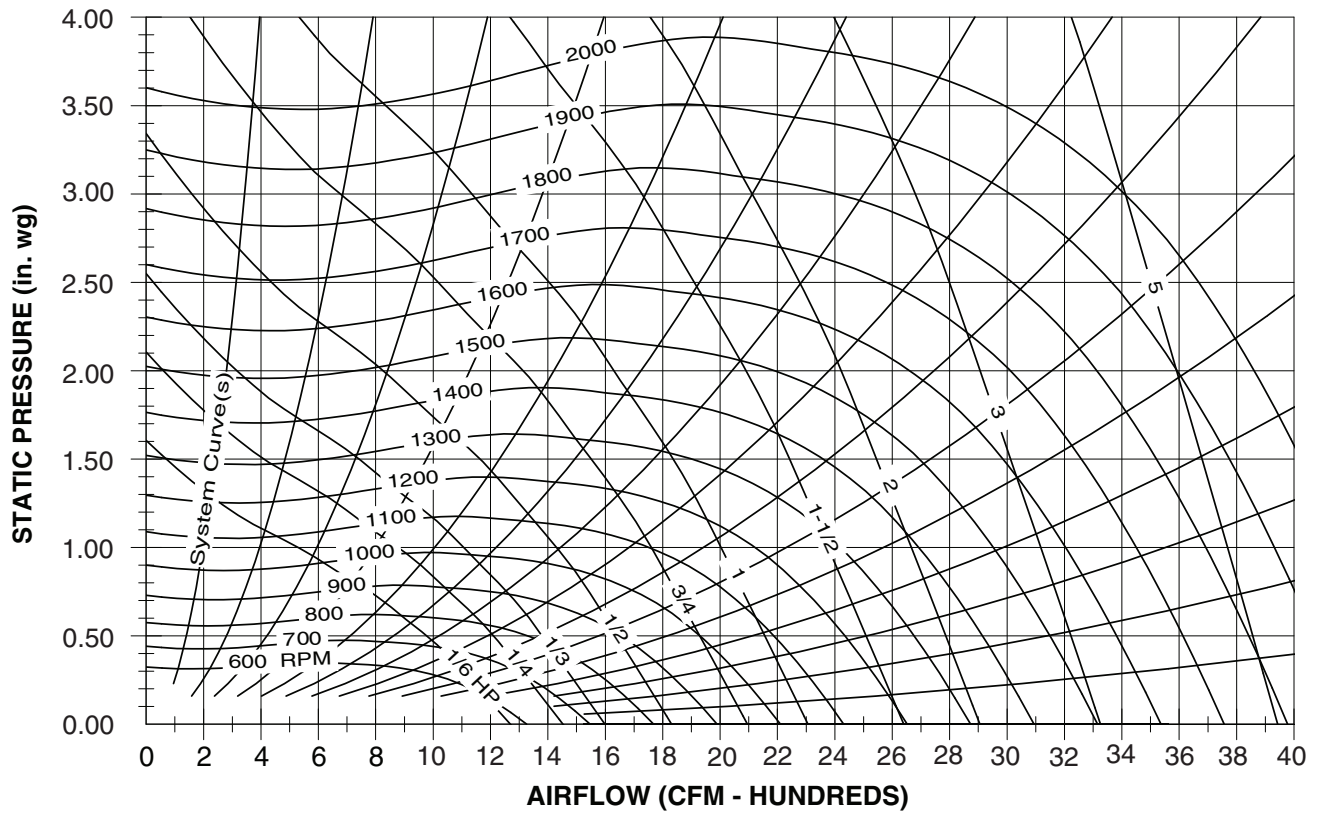
### LEGEND

- HA — Heat Absorption
- TC — Total Capacity (Btuh) Gross
- W — Compressor Motor Power Input (W)

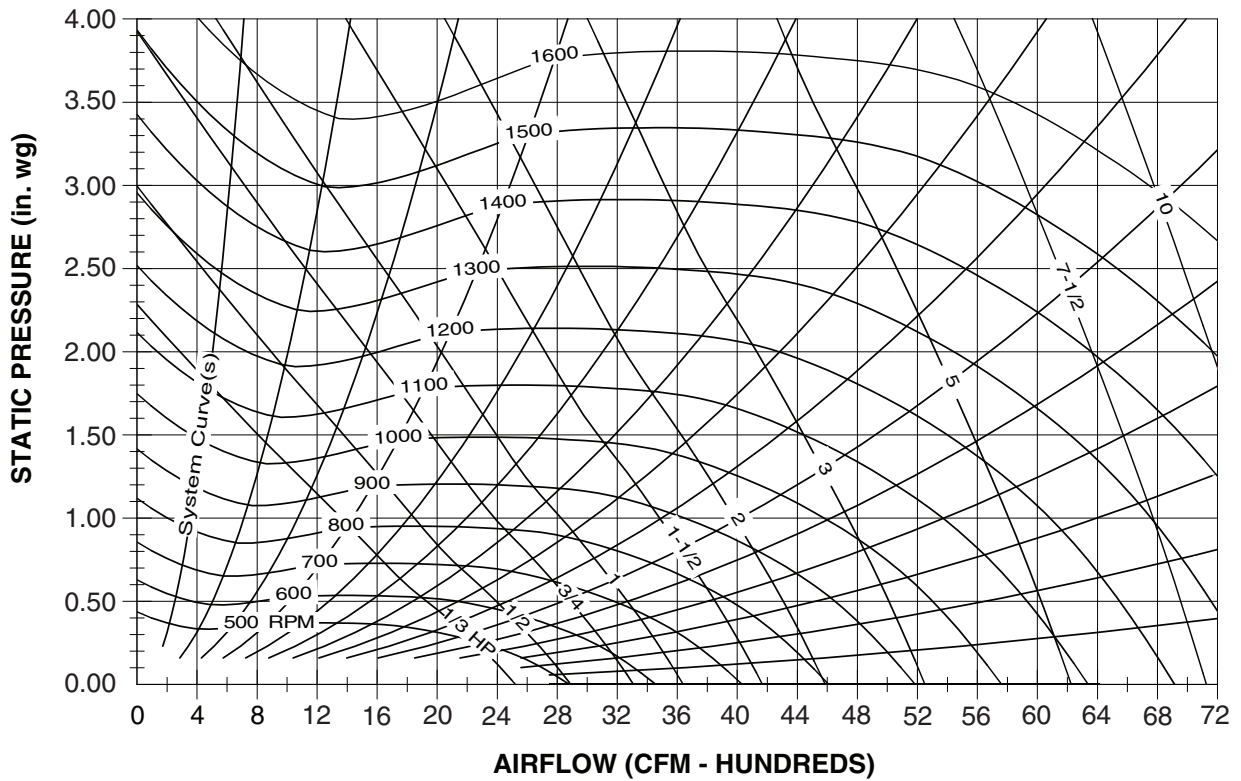


**FAN PERFORMANCE**

**FORWARD CURVED FAN (9 x 7 in.)**



**FORWARD CURVED FAN (12 x 9 in.)**

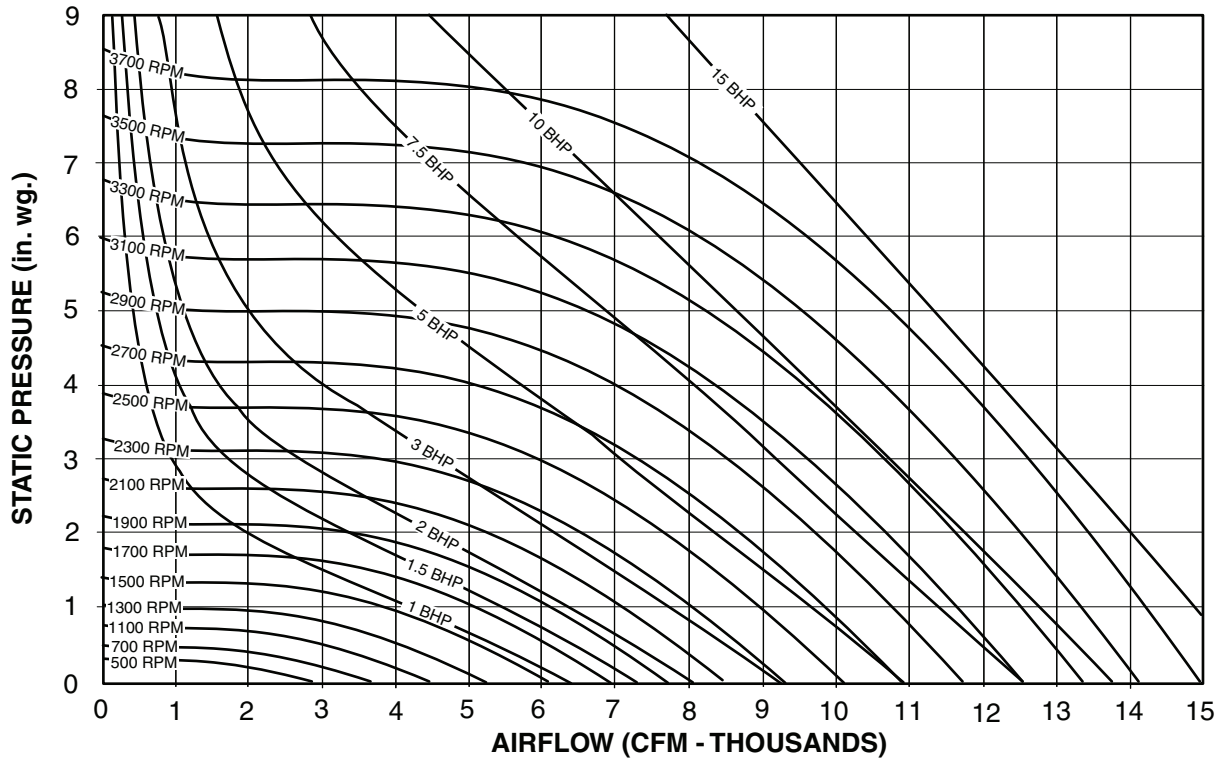


# Performance data (cont)

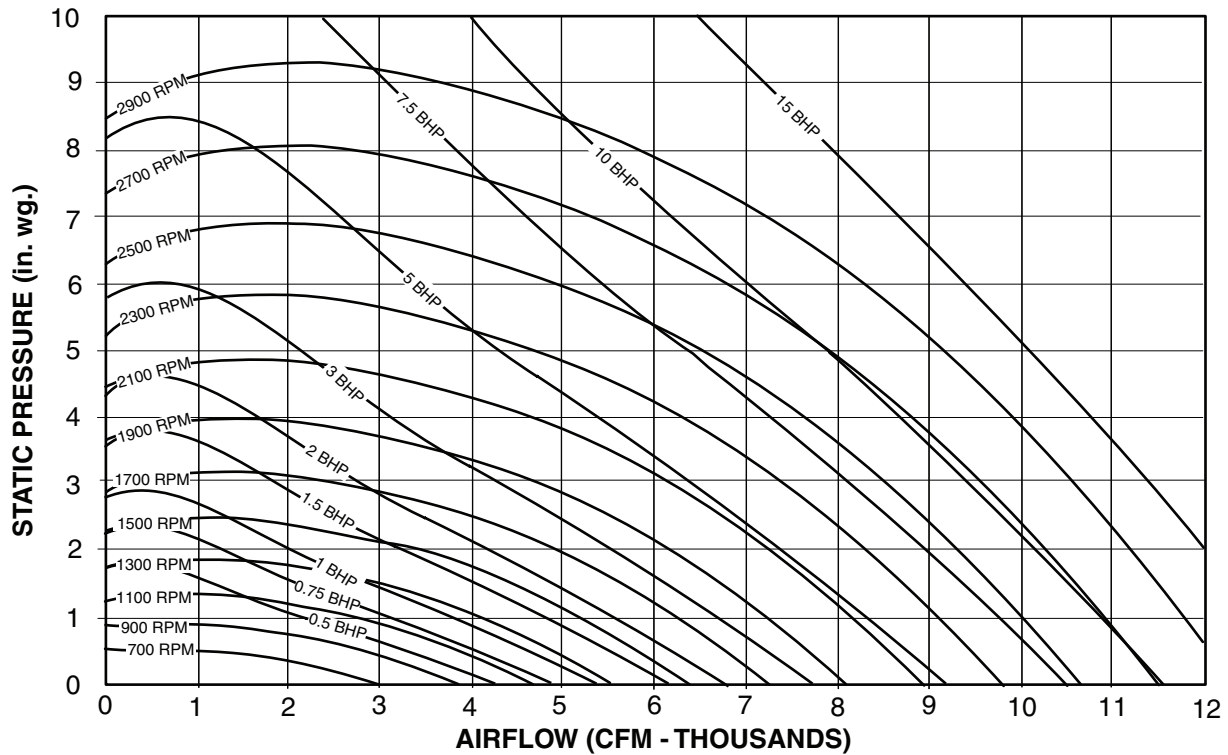


## FAN PERFORMANCE (cont)

### AIRFOIL FAN (12 in.)

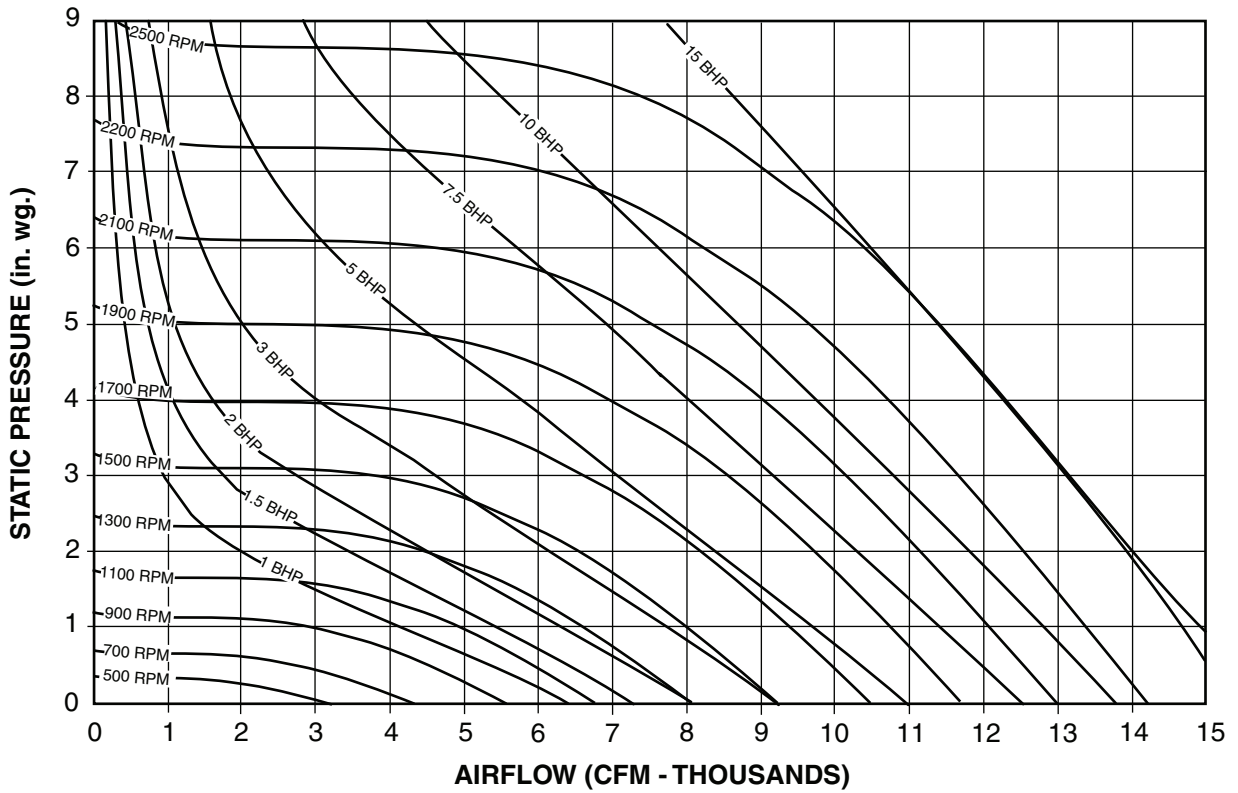


### AIRFOIL FAN (15 in.)

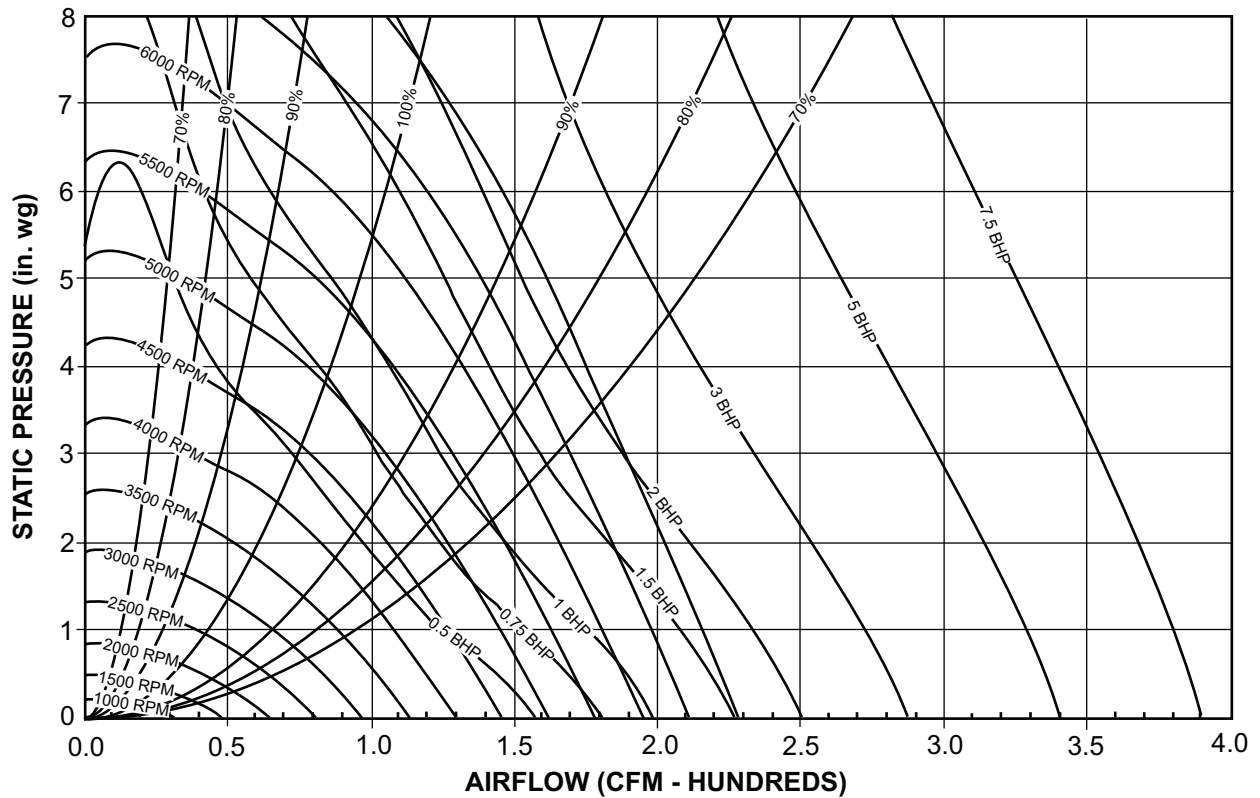


**FAN PERFORMANCE (cont)**

**AIRFOIL FAN (18 in.)**



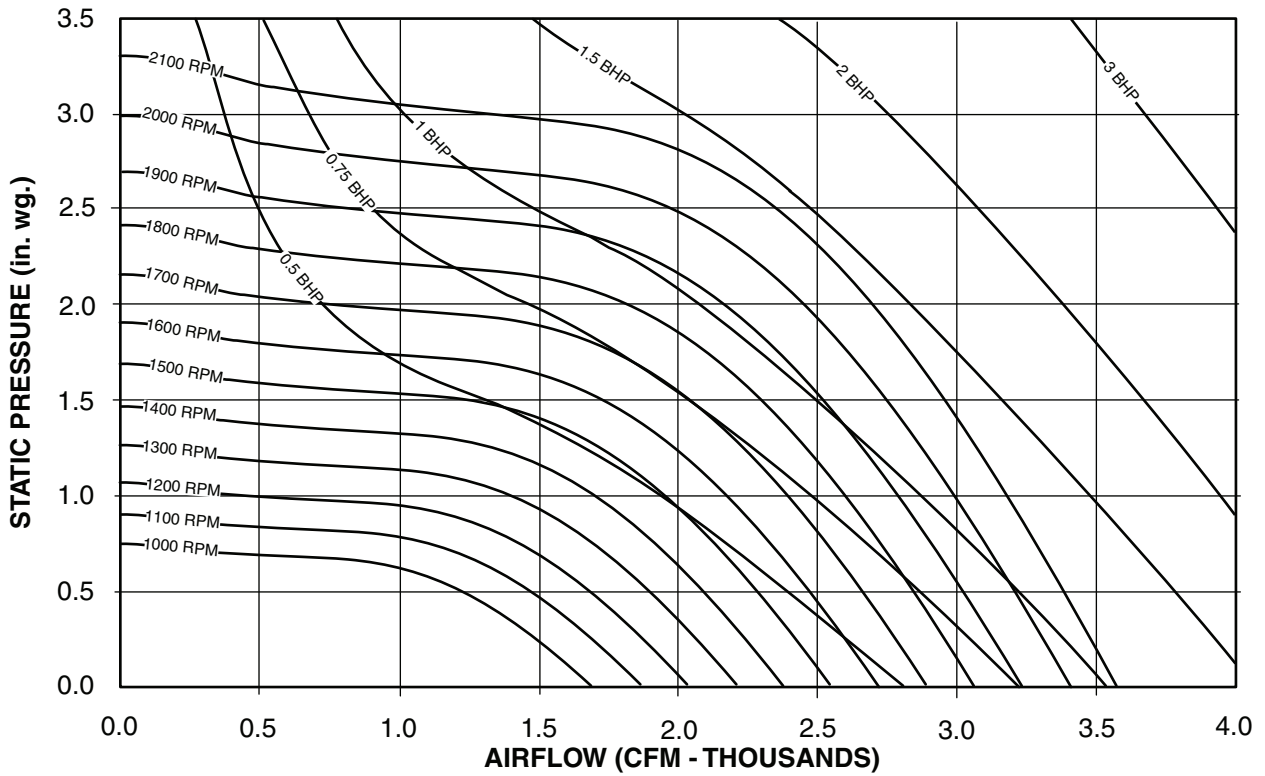
**BACKWARD CURVED FAN (180 mm)**



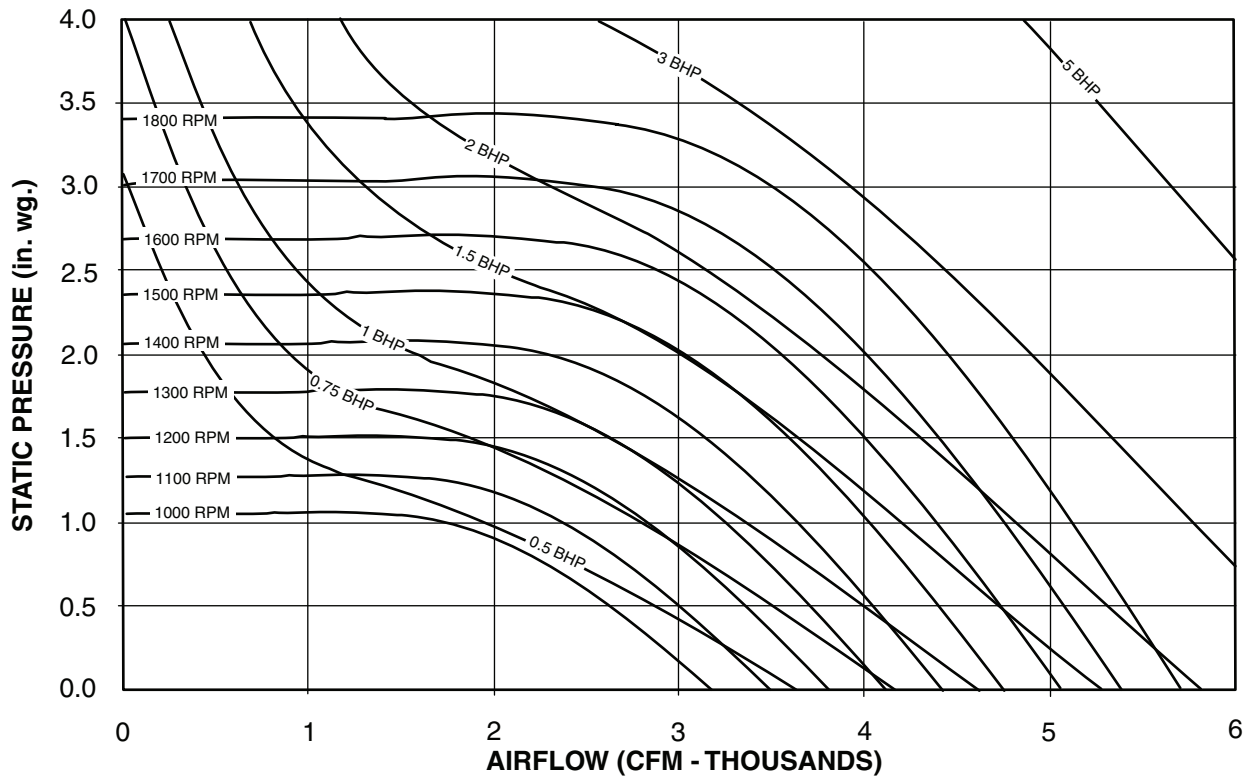
# Performance data (cont)



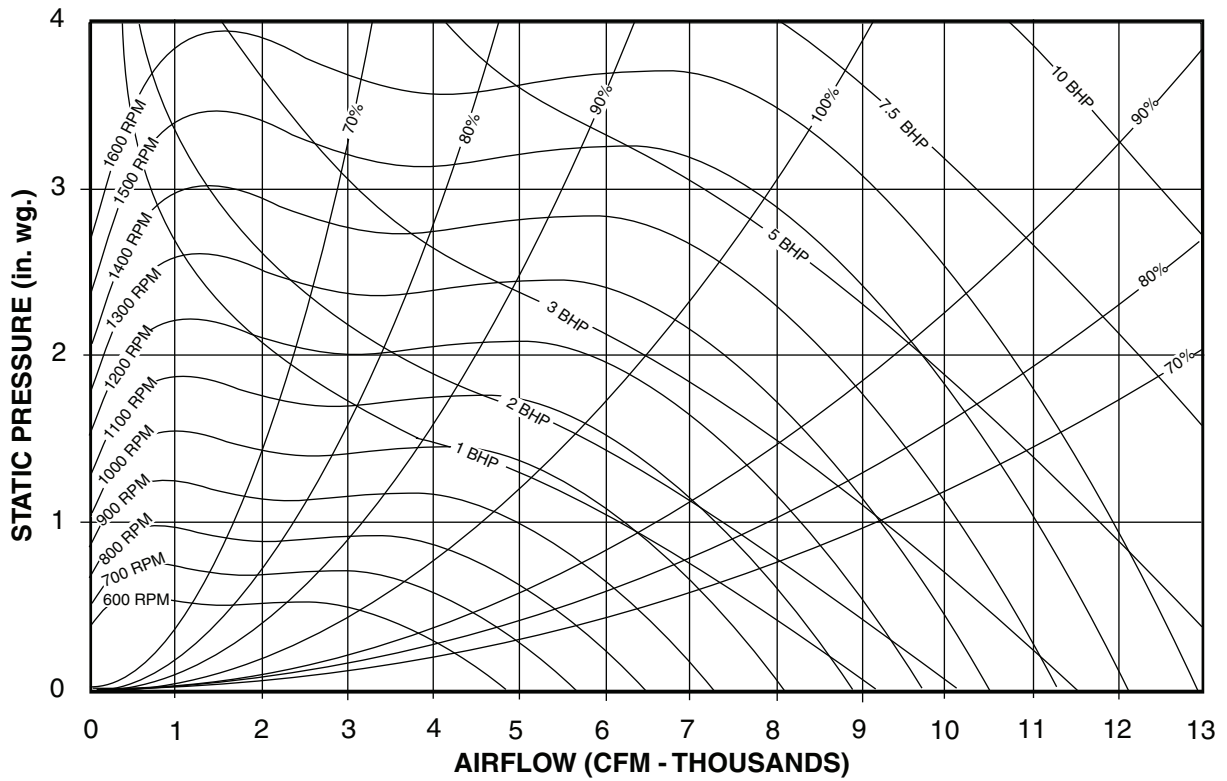
**FAN PERFORMANCE (cont)**  
**BACKWARD INCLINED FAN (15-in.)**



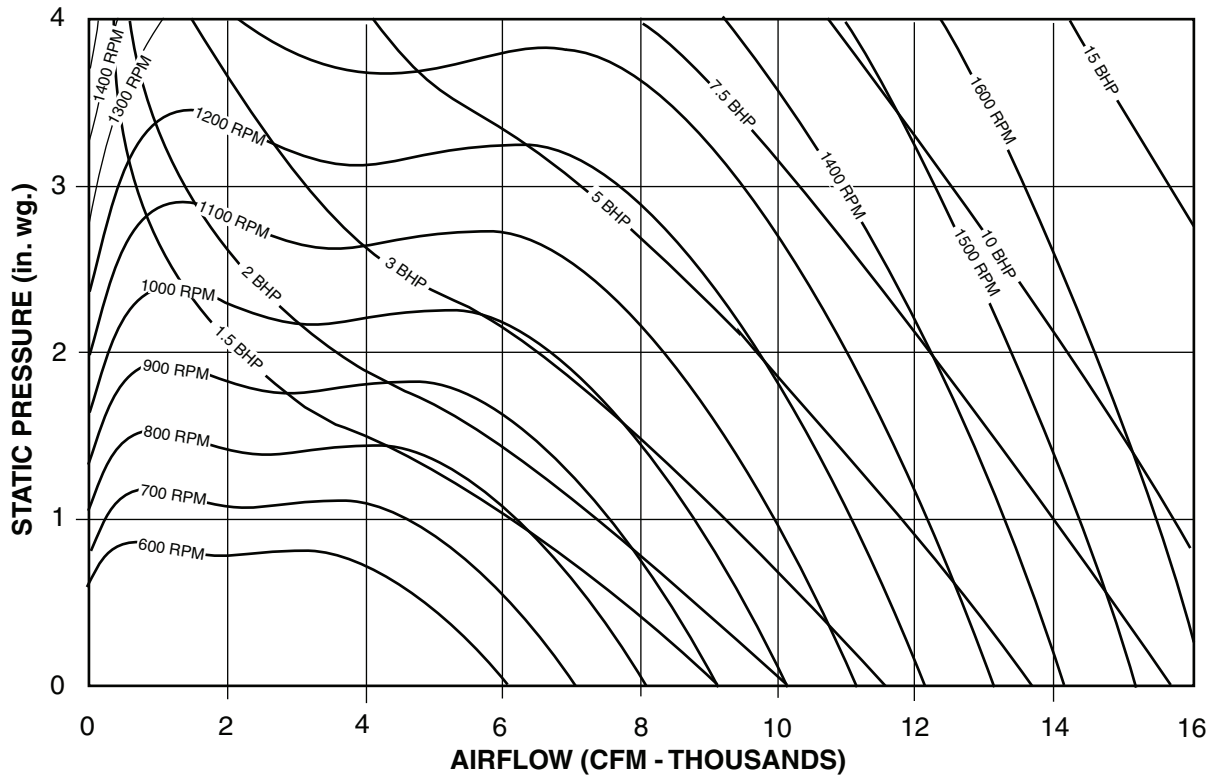
**BACKWARD INCLINED FAN (18.5-in.)**



**FAN PERFORMANCE (cont)**  
**BACKWARD INCLINED FAN (24.5-in.)**



**BACKWARD INCLINED FAN (27-in.)**



# Performance data (cont)



## COMPONENT PRESSURE DROPS (in. wg) UNITS 62RA, RB, RC, RD07-09

COMPONENT	SUPPLY AIR CFM								
	500	900	1300	1700	2100	2500	2900	3300	3500
Cabinet Loss	0.02	0.03	0.05	0.07	0.09	0.12	0.15	0.18	0.20
2-in. Cleanable Filters	0.01	0.01	0.01	0.02	0.03	0.03	0.04	0.05	0.05
2-in. Pleated MERV 8 Filters	0.03	0.04	0.05	0.08	0.10	0.11	0.11	0.12	0.13
4-in. Pleated MERV 8 Filters	0.03	0.04	0.05	0.06	0.08	0.08	0.09	0.09	0.10
4-in. Pleated MERV 11 Filters	0.04	0.06	0.07	0.10	0.12	0.11	0.14	0.15	0.16
4-in. Pleated MERV 14 Filters	0.07	0.10	0.15	0.18	0.22	0.23	0.24	0.26	0.27
Evaporator Coil (with ECW)	—	0.18	0.22	0.25	0.30	0.32	0.36	0.40	0.42
Evaporator Coil (without ECW)	0.16	0.20	0.24	0.28	0.32	0.36	0.40	0.45	—
Hot Gas Reheat Coil	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.07
Liquid Subcooling Coil	0.01	0.01	0.02	0.02	0.03	0.04	0.05	0.06	0.07
Electric Heat 10-27 kW	0.01	0.01	0.01	0.01	0.02	0.03	0.04	0.05	0.07
Electric Heat 30-60 kW	0.31	0.31	0.31	0.31	0.32	0.33	0.34	0.35	0.37
100% Outdoor Air Damper	0.01	0.01	0.01	0.02	0.03	0.04	0.05	0.07	0.07
Gas Heat 75,000 Btuh Input	0.01	0.02	0.03	0.05	0.06	0.07	0.09	0.10	0.12
Gas Heat 100,000 Btuh Input	0.01	0.02	0.04	0.05	0.07	0.08	0.10	0.12	0.13
Gas Heat 150,000 Btuh Input	0.01	0.03	0.05	0.06	0.08	0.09	0.11	0.13	0.15
Gas Heat 200,000 Btuh Input	0.01	0.03	0.06	0.07	0.09	0.10	0.12	0.14	0.16
Hot Water Coil	0.01	0.01	0.01	0.02	0.02	0.03	0.05	0.06	0.06
Steam Coil	0.01	0.01	0.01	0.01	0.01	0.02	0.02	0.03	0.03
Optional Energy Wheel	0.26	0.47	0.66	0.88	1.09	1.29	1.50	1.70	—

## COMPONENT PRESSURE DROPS (in. wg) UNITS 62RA, RB, RC, RD12-20

COMPONENT	SUPPLY AIR CFM								
	1300	1950	2600	3250	3900	4550	5200	5850	6500
Cabinet Loss	0.05	0.09	0.12	0.19	0.24	0.37	0.50	0.63	0.77
2-in. Cleanable Filters	0.01	0.02	0.03	0.05	0.06	0.07	0.08	0.09	0.10
2-in. Pleated MERV 8 Filters	0.05	0.07	0.10	0.12	0.15	0.18	0.22	0.26	0.30
4-in. Pleated MERV 8 Filters	0.05	0.06	0.08	0.09	0.11	0.14	0.17	0.20	0.24
4-in. Pleated MERV 11 Filters	0.07	0.10	0.12	0.15	0.17	0.21	0.26	0.30	0.35
4-in. Pleated MERV 14 Filters	0.15	0.18	0.22	0.26	0.30	0.37	0.45	0.53	0.60
Evaporator Coil (with ECW)	—	0.20	0.23	0.25	0.35	0.39	0.40	0.44	0.55
Evaporator Coil (without ECW)	0.20	0.26	0.28	0.37	0.42	0.46	—	—	—
Hot Gas Reheat Coil	0.04	0.05	0.06	0.07	0.08	0.10	0.11	0.13	0.15
Liquid Subcooling Coil	0.04	0.05	0.06	0.07	0.08	0.10	0.11	0.13	0.15
Electric Heat 10-27 kW	0.01	0.02	0.04	0.06	0.08	0.12	0.15	0.19	0.24
Electric Heat 30-60 kW	0.31	0.32	0.34	0.36	0.38	0.42	0.45	0.49	0.54
100% Outdoor Air Damper	0.01	0.02	0.04	0.07	0.10	0.13	0.17	0.22	0.27
Gas Heat 150,000 Btuh Input	0.01	0.03	0.04	0.07	0.11	0.15	0.20	0.25	0.31
Gas Heat 200,000 Btuh Input	0.01	0.03	0.05	0.08	0.12	0.17	0.22	0.27	0.34
Gas Heat 250,000 Btuh Input	0.01	0.03	0.06	0.09	0.13	0.18	0.24	0.30	0.37
Gas Heat 300,000 Btuh Input	0.02	0.04	0.07	0.10	0.15	0.20	0.26	0.33	0.40
Hot Water Coil	0.01	0.02	0.03	0.05	0.07	0.10	0.13	0.16	0.20
Steam Coil	0.01	0.01	0.02	0.03	0.04	0.05	0.06	0.08	0.10
Standard Energy Wheel	0.66	0.99	1.33	1.61	—	—	—	—	—
Optional Energy Wheel	0.37	0.56	0.74	0.93	1.11	1.30	1.48	—	—

**COMPONENT PRESSURE DROPS (in. wg)  
UNITS 62RA, RB, RC, RD22-38**

COMPONENT	SUPPLY AIR CFM								
	2800	3400	4000	4400	5000	7000	8500	10000	12000
Cabinet Loss	0.06	0.14	0.22	0.30	0.38	0.42	0.50	0.61	0.72
2-in. Cleanable Filters	0.01	0.01	0.02	0.02	0.04	0.06	0.08	0.10	0.12
2-in. Pleated MERV 8 Filters	0.04	0.05	0.07	0.09	0.10	0.17	0.25	0.32	0.38
4-in. Pleated MERV 8 Filters	0.02	0.03	0.05	0.06	0.08	0.15	0.21	0.27	0.32
4-in. Pleated MERV 11 Filters	0.05	0.06	0.08	0.10	0.12	0.20	0.29	0.36	0.44
4-in. Pleated MERV 14 Filters	0.08	0.10	0.12	0.14	0.18	0.30	0.40	0.50	0.60
Evaporator Coil (with ECW)	—	—	—	0.30	0.32	0.33	0.39	0.45	0.98
Evaporator Coil (without ECW)	0.28	0.30	0.32	0.34	0.38	0.44	0.50	0.65	—
Hot Gas Reheat Coil	0.04	0.04	0.05	0.06	0.07	0.08	0.10	0.13	0.25
Liquid Subcooling Coil	0.04	0.04	0.05	0.06	0.07	0.08	0.10	0.13	0.25
Electric Heat 10-27 kW	0.10	0.11	0.12	0.13	0.14	0.16	0.18	0.20	0.22
Electric Heat 30-60 kW	0.40	0.41	0.42	0.43	0.44	0.46	0.48	0.50	0.52
100% Outdoor Air Damper	0.01	0.02	0.03	0.04	0.05	0.06	0.08	0.10	0.12
Gas Heat 300,000 Btuh input	0.07	0.10	0.13	0.17	0.23	0.40	0.52	—	—
Gas Heat 400,000 Btuh input	—	0.15	0.21	0.28	0.36	0.48	0.57	0.68	—
Gas Heat 500,000 Btuh input	—	—	0.19	0.25	0.32	0.40	0.48	0.54	0.71
Gas Heat 600,000 Btuh input	—	—	—	—	0.30	0.38	0.45	0.52	0.67
Hot Water Coil	0.06	0.08	0.10	0.12	0.14	0.16	0.20	0.26	0.50
Steam Coil	0.04	0.04	0.05	0.06	0.07	0.08	0.10	0.13	0.25
Standard Energy Wheel	1.04	1.27	1.49	1.64	—	—	—	—	—
Optional Energy Wheel	0.80	0.97	1.14	1.25	1.42	1.99	—	—	—

# Performance data (cont)



## ENERGY CONSERVATION WHEEL PERFORMANCE

### 36-in. WHEEL

COOLING MODE													HEATING MODE				
Return Air = 75 db / 63 wb													Return Air = 70 db / 58 wb				
db	95						90						-10	0	10	20	30
wb	63	67	71	75	78	80	63	67	71	75	78	80	-11	-1	9	19	29
<b>900 CFM</b>																	
Total MBH	-0.1	10.3	21.9	34.5	44.9	52.2	-0.1	10.4	21.9	34.6	45.0	52.3	95.3	85.6	75.3	63.9	50.8
Sens. MBH	16.9	16.9	16.9	16.9	16.9	16.9	12.7	12.7	12.7	12.7	12.7	12.7	67.8	59.3	50.8	42.4	33.9
Lvg. DB	77.6	77.6	77.6	77.6	77.6	77.6	76.9	76.9	76.9	76.9	76.9	76.9	59.8	61.0	62.3	63.6	64.9
Lvg. WB	63.0	63.6	64.2	64.9	65.5	65.9	63.0	63.6	64.3	65.0	65.5	65.9	52.1	52.7	53.4	54.1	55.0
<b>1200 CFM</b>																	
Total MBH	0.0	13.2	27.8	43.9	57.0	66.2	0.0	13.3	27.9	43.9	57.0	66.3	121.1	108.9	95.8	81.3	64.6
Sens. MBH	21.6	21.6	21.6	21.6	21.6	21.6	16.2	16.2	16.2	16.2	16.2	16.2	86.4	75.6	64.8	54.0	43.2
Lvg. DB	78.3	78.3	78.3	78.3	78.3	78.3	77.5	77.5	77.5	77.5	77.5	77.5	56.7	58.4	60.0	61.7	63.3
Lvg. WB	63.0	63.7	64.6	65.6	66.2	66.7	63.0	63.8	64.6	65.5	66.2	66.8	50.1	51.0	51.9	52.9	54.0
<b>1500 CFM</b>																	
Total MBH	0.2	16.9	35.2	55.3	67.8	83.4	0.1	16.9	35.2	55.3	67.8	83.5	144.4	129.8	114.2	96.9	77.1
Sens. MBH	27.3	27.3	27.3	27.3	27.3	27.3	20.5	20.5	20.5	20.5	20.5	20.5	103.3	90.3	77.4	64.5	51.6
Lvg. DB	78.1	78.1	78.1	78.1	78.1	78.1	77.3	77.3	77.3	77.3	77.3	77.3	53.8	55.8	57.8	59.9	61.9
Lvg. WB	62.9	63.7	64.5	65.4	66.0	66.6	63.0	63.7	64.5	65.4	66.0	66.6	48.2	49.3	50.4	51.6	53.0
<b>1800 CFM</b>																	
Total MBH	0.4	18.3	38.1	59.8	77.5	89.9	0.3	18.3	38.0	59.7	77.4	89.9	165.3	148.6	130.7	110.9	88.2
Sens. MBH	29.6	29.6	29.6	29.6	29.6	29.6	22.2	22.2	22.2	22.2	22.2	22.2	118.5	103.7	88.9	74.0	59.2
Lvg. DB	79.8	79.8	79.8	79.8	79.8	79.8	78.6	78.6	78.6	78.6	78.6	78.6	51.0	53.3	55.7	58.1	60.5
Lvg. WB	62.9	64.0	65.2	66.5	67.5	68.2	63.0	64.1	65.3	66.5	67.5	68.2	46.3	47.6	49.0	50.4	52.1
<b>2100 CFM</b>																	
Total MBH	0.6	20.6	42.4	66.5	86.0	99.9	0.5	20.4	42.3	66.3	85.9	99.8	184.0	165.4	145.4	124.4	98.2
Sens. MBH	33.0	33.0	33.0	33.0	33.0	33.0	24.5	24.5	24.5	24.5	24.5	24.5	132.2	115.7	99.2	82.6	66.1
Lvg. DB	80.4	80.4	80.4	80.4	80.4	80.4	79.1	79.1	79.1	79.1	79.1	79.1	48.3	51.0	53.7	56.4	59.2
Lvg. WB	62.9	64.2	65.5	66.9	68.0	68.8	63.0	64.2	65.5	67.0	68.1	68.9	44.5	46.0	47.6	49.3	51.2
<b>2400 CFM</b>																	
Total MBH	0.9	22.6	46.3	72.4	93.7	108.7	0.7	22.4	46.1	72.2	93.5	108.6	200.7	180.4	158.6	134.6	107.1
Sens. MBH	36.1	36.1	36.1	36.1	36.1	36.1	27.1	27.1	27.1	27.1	27.1	27.1	144.6	126.5	108.5	90.3	72.3
Lvg. DB	81.1	81.1	81.1	81.1	81.1	81.1	79.5	79.5	79.5	79.5	79.5	79.5	45.8	48.8	51.8	54.9	57.9
Lvg. WB	62.8	64.3	65.8	67.3	68.6	69.4	62.9	64.3	65.8	67.4	68.6	69.5	42.6	44.4	46.2	48.2	50.4
<b>2700 CFM</b>																	
Total MBH	1.3	24.4	49.8	77.7	100.4	117	1.0	24.1	49.5	77.4	100.2	116.3	215.6	193.7	170.3	144.5	115.0
Sens. MBH	38.9	38.9	38.9	38.9	38.9	38.9	29.2	29.2	29.2	29.2	29.2	29.2	155.6	136.2	116.7	97.3	77.8
Lvg. DB	81.7	81.7	81.7	81.7	81.7	81.7	80.0	80.0	80.0	80.0	80.0	80.0	43.4	46.7	50.0	53.4	56.7
Lvg. WB	62.8	64.4	66.0	67.7	69.1	70.0	62.9	64.5	66.1	67.8	69.1	70.1	40.9	42.8	44.9	47.1	49.6
<b>3000 CFM</b>																	
Total MBH	1.6	26.1	52.9	82.4	106.4	123.4	1.2	25.7	52.6	82.0	106.0	123.1	228.8	205.6	180.7	153.4	122.0
Sens. MBH	41.4	41.4	41.4	41.4	41.4	41.4	31.0	31.0	31.0	31.0	31.0	31.0	165.6	144.9	124.2	103.5	82.8
Lvg. DB	82.2	82.2	82.2	82.2	82.2	82.2	80.4	80.4	80.4	80.4	80.4	80.4	41.1	44.7	48.3	51.9	55.6
Lvg. WB	62.8	64.5	66.3	68.1	69.5	70.5	62.9	64.6	66.3	68.2	69.6	70.6	39.1	41.3	43.6	46.1	48.8

#### LEGEND

- DB — Dry Bulb Temperature (F)
- Lvg. — Leaving
- MBH — Btuh x 1000
- Sens. — Sensible
- WB — Wet Bulb Temperature (F)





**ENERGY CONSERVATION WHEEL PERFORMANCE (cont)**

**42-in. WHEEL**

COOLING MODE												HEATING MODE					
Return Air = 75 db / 63 wb												Return Air = 70 db / 58 wb					
db	95						90					-10	0	10	20	30	
wb	63	67	71	75	78	80	63	67	71	75	78	80	-11	-1	9	19	29
<b>1200 CFM</b>																	
<b>Total MBH</b>	-0.2	13.9	29.3	46.2	60.1	69.9	-0.1	13.9	29.4	46.3	60.2	70.0	127.5	114.7	100.9	85.6	52.8
<b>Sens. MBH</b>	22.7	22.7	22.7	22.7	22.7	22.7	17.0	17.0	17.0	17.0	17.0	17.0	90.7	79.4	68.0	56.7	35.1
<b>Lvg. DB</b>	77.5	77.5	77.5	77.5	77.5	77.5	76.9	76.9	76.9	76.9	76.9	76.9	60.0	61.3	62.5	63.8	66.2
<b>Lvg. WB</b>	63.0	63.6	64.2	64.9	65.5	65.8	63.0	63.6	64.2	64.9	65.5	65.9	52.2	52.8	53.5	54.2	55.8
<b>1600 CFM</b>																	
<b>Total MBH</b>	-0.1	17.7	37.3	58.8	76.4	88.8	0.0	17.8	37.4	58.9	76.5	88.9	162.3	145.9	128.4	108.9	86.6
<b>Sens. MBH</b>	28.9	28.9	28.9	28.9	28.9	28.9	21.7	21.7	21.7	21.7	21.7	21.7	114.9	101.3	86.8	72.3	57.9
<b>Lvg. DB</b>	78.2	78.2	78.2	78.2	78.2	78.2	77.4	77.4	77.4	77.4	77.4	77.4	57.0	58.6	60.3	61.9	63.5
<b>Lvg. WB</b>	63.0	63.7	64.5	65.4	66.1	66.6	63.0	63.8	64.6	65.6	66.2	66.7	50.3	51.1	52.0	53.0	54.1
<b>2000 CFM</b>																	
<b>Total MBH</b>	0.1	21.3	44.6	70.1	91.0	105.7	0.1	21.3	44.6	70.1	91.0	105.8	193.7	174.2	153.2	130.0	103.4
<b>Sens. MBH</b>	34.6	34.6	34.6	34.6	34.6	34.6	25.9	25.9	25.9	25.9	25.9	25.9	138.5	121.2	103.9	86.5	69.3
<b>Lvg. DB</b>	79.0	79.0	79.0	79.0	79.0	79.0	78.0	78.0	78.0	78.0	78.0	78.0	54.1	56.1	58.1	60.1	62.1
<b>Lvg. WB</b>	62.9	63.9	64.9	65.9	66.8	67.4	63.0	63.9	64.9	66.0	66.8	67.4	48.4	49.5	50.6	51.8	53.2
<b>2400 CFM</b>																	
<b>Total MBH</b>	0.5	24.6	51.1	80.3	104.0	120.9	0.3	24.5	51.1	80.2	104.0	120.9	222.0	199.6	175.5	148.9	118.5
<b>Sens. MBH</b>	39.8	39.8	39.8	39.8	39.8	39.8	29.8	29.8	29.8	29.8	29.8	29.8	159.1	139.2	119.4	96.4	79.5
<b>Lvg. DB</b>	79.7	79.7	79.7	79.7	79.7	79.7	78.5	78.5	78.5	78.5	78.5	78.5	51.4	53.7	56.0	58.4	60.7
<b>Lvg. WB</b>	62.9	64.0	65.2	66.4	67.4	68.1	63.0	64.0	65.2	66.4	67.4	68.1	46.6	47.8	49.2	50.6	52.3
<b>2800 CFM</b>																	
<b>Total MBH</b>	0.8	27.6	57.0	89.3	115.7	134.4	0.6	27.5	56.9	89.2	115.6	134.3	274.4	222.4	195.5	165.9	132.0
<b>Sens. MBH</b>	44.4	44.4	44.4	44.4	44.4	44.4	33.3	33.3	33.3	33.3	33.3	33.3	177.7	155.5	133.3	111.1	88.9
<b>Lvg. DB</b>	80.3	80.3	80.3	80.3	80.3	80.3	79.0	79.0	79.0	79.0	79.0	79.0	48.8	51.4	54.1	56.7	59.4
<b>Lvg. WB</b>	62.9	64.1	65.4	66.8	67.9	68.7	63.0	64.2	65.5	66.9	68.0	68.8	44.8	46.3	47.8	49.5	51.4
<b>3200 CFM</b>																	
<b>Total MBH</b>	2.2	30.3	61.2	95.2	126.1	142.5	1.2	32.5	66.7	104.4	125.6	156.8	270.1	242.8	213.5	181.1	144.1
<b>Sens. MBH</b>	47.9	47.9	47.9	47.9	47.9	47.9	39.3	39.3	39.3	39.3	39.3	39.3	194.5	170.2	145.9	121.6	97.2
<b>Lvg. DB</b>	81.1	81.1	81.1	81.1	81.1	81.1	79.9	79.9	79.9	79.9	79.9	79.9	46.3	49.3	50.4	55.2	58.1
<b>Lvg. WB</b>	62.8	64.3	65.8	67.5	68.5	69.6	62.9	64.4	66.0	67.7	68.5	69.7	43.0	44.7	45.2	48.4	50.6
<b>3600 CFM</b>																	
<b>Total MBH</b>	2.8	32.8	65.8	101.9	135.4	152.3	2.1	32.2	65.1	101.3	135.1	156.8	290.5	261.0	229.5	194.7	154.9
<b>Sens. MBH</b>	51.6	51.6	51.6	51.6	51.6	51.6	38.7	38.7	38.7	38.7	38.7	38.7	209.6	183.4	157.2	131.0	104.8
<b>Lvg. DB</b>	81.7	81.7	81.7	81.7	81.7	81.7	80.0	80.0	80.0	80.0	80.0	80.0	43.9	47.2	50.4	53.7	57.0
<b>Lvg. WB</b>	62.7	64.3	66.1	67.9	69.0	70.2	62.8	64.5	66.1	67.9	69.0	69.9	43.0	43.2	45.2	47.3	49.7
<b>4000 CFM</b>																	
<b>Total MBH</b>	2.1	35.1	71.3	111.1	143.6	166.5	1.6	34.7	70.9	110.7	143.2	166.1	308.6	277.3	243.8	206.8	164.6
<b>Sens. MBH</b>	55.8	55.8	55.8	55.8	55.8	55.8	41.8	41.8	41.8	41.8	41.8	41.8	223.2	195.3	167.4	139.5	111.6
<b>Lvg. DB</b>	82.1	82.1	82.1	82.1	82.1	82.1	80.3	80.3	80.3	80.3	80.3	80.3	41.7	45.2	48.8	52.3	55.8
<b>Lvg. WB</b>	62.8	64.4	66.2	68.0	69.4	70.4	62.9	64.5	66.3	68.1	69.5	70.5	39.6	41.7	43.9	46.3	49.0

**LEGEND**

- DB** — Dry Bulb Temperature (F)
- Lvg.** — Leaving
- MBH** — Btuh x 1000
- Sens.** — Sensible
- WB** — Wet Bulb Temperature (F)

# Performance data (cont)



## ENERGY CONSERVATION WHEEL PERFORMANCE (cont)

### 48-in. WHEEL

COOLING MODE												HEATING MODE					
Return Air = 75 db / 63 wb												Return Air = 70 db / 58 wb					
db	95						90						-10	0	10	20	30
wb	63	67	71	75	78	80	63	67	71	75	78	80	-11	-1	9	19	29
<b>1500 CFM</b>																	
<b>Total MBH</b>	0.1	17.4	36.8	58.2	75.6	87.9	0.2	17.5	36.9	58.3	75.8	88.1	159.1	144.3	126.9	107.7	85.6
<b>Sens. MBH</b>	28.5	28.5	28.5	28.5	28.5	28.5	21.4	21.4	21.4	21.4	21.4	21.4	114.1	99.8	85.6	71.3	57.0
<b>Lvg. DB</b>	77.4	77.4	77.4	77.4	77.4	77.4	76.8	76.8	76.8	76.8	76.8	76.8	60.5	61.6	62.8	64.0	65.2
<b>Lvg. WB</b>	63.0	63.6	64.2	64.8	65.4	65.7	63.0	63.6	64.2	64.9	65.4	65.8	52.6	53.1	53.7	54.4	55.2
<b>2000 CFM</b>																	
<b>Total MBH</b>	0.1	22.3	47.0	74.2	96.3	112.0	0.1	22.4	47.1	74.3	96.4	112.1	204.6	184.0	161.9	137.4	109.2
<b>Sens. MBH</b>	36.5	36.5	36.5	36.5	36.5	36.5	27.4	27.4	27.4	27.4	27.4	27.4	145.9	127.6	109.4	91.2	72.9
<b>Lvg. DB</b>	78.1	78.1	78.1	78.1	78.1	78.1	77.3	77.3	77.3	77.3	77.3	77.3	57.6	59.1	60.7	62.2	63.8
<b>Lvg. WB</b>	63.0	63.7	64.5	65.3	66.0	66.5	63.0	63.7	64.5	65.4	66.1	66.5	50.7	51.5	52.3	53.2	54.3
<b>2500 CFM</b>																	
<b>Total MBH</b>	0.1	26.9	56.3	88.6	115.0	133.6	0.1	26.9	56.3	88.7	115.0	133.7	244.8	220.1	193.6	164.2	130.6
<b>Sens. MBH</b>	43.7	43.7	43.7	43.7	43.7	43.7	31.8	32.8	32.8	32.8	32.8	32.8	174.9	153.0	131.2	109.3	87.4
<b>Lvg. DB</b>	78.8	78.8	78.8	78.7	78.7	78.8	77.9	77.9	77.9	77.9	77.9	77.8	54.8	56.7	58.6	60.5	62.4
<b>Lvg. WB</b>	63.0	63.8	64.8	65.8	66.6	67.2	63.0	63.9	64.8	65.9	66.7	67.3	48.9	49.9	50.9	52.1	53.4
<b>3000 CFM</b>																	
<b>Total MBH</b>	0.5	31.1	64.7	101.7	131.8	153.1	0.4	31.0	64.7	101.7	131.8	153.1	281.1	252.7	222.2	188.6	150.0
<b>Sens. MBH</b>	50.3	50.3	50.3	50.3	50.3	50.3	37.7	37.7	37.7	37.7	37.7	37.7	201.3	176.1	151.0	125.8	100.6
<b>Lvg. DB</b>	79.5	79.5	79.5	79.5	79.5	79.5	78.3	78.3	78.3	78.3	78.3	78.3	52.1	54.4	56.6	58.8	61.1
<b>Lvg. WB</b>	62.9	64.0	65.1	66.3	67.2	67.9	63.0	64.0	65.1	66.3	67.3	67.9	47.1	48.3	49.6	50.9	52.5
<b>3500 CFM</b>																	
<b>Total MBH</b>	0.9	35.0	72.3	113.4	146.9	170.6	0.7	34.8	72.2	113.3	146.8	170.6	313.9	282.1	248.1	210.5	167.5
<b>Sens. MBH</b>	56.3	56.3	56.3	56.3	56.3	56.3	42.2	42.2	42.2	42.2	42.2	42.2	225.3	197.1	168.9	140.8	112.6
<b>Lvg. DB</b>	80.1	80.1	80.1	80.1	80.1	80.1	78.8	78.8	78.8	78.8	78.8	78.8	49.6	52.2	54.7	57.3	59.8
<b>Lvg. WB</b>	62.9	64.1	65.3	66.7	67.8	68.5	63.0	64.1	65.4	66.7	67.8	68.6	45.4	46.8	48.3	49.9	51.7
<b>4000 CFM</b>																	
<b>Total MBH</b>	1.4	38.5	79.2	123.9	160.4	186.3	1.1	38.2	78.9	123.7	160.2	186.1	343.4	308.7	271.4	230.3	183.2
<b>Sens. MBH</b>	61.7	61.7	61.7	61.7	61.7	61.7	46.3	46.3	46.3	46.3	46.3	46.3	247.0	216.1	185.3	154.4	123.5
<b>Lvg. DB</b>	80.7	80.7	80.7	80.7	80.7	80.7	79.3	79.3	79.3	79.3	79.3	79.3	47.2	50.0	52.9	55.7	58.6
<b>Lvg. WB</b>	62.8	64.2	65.6	67.1	68.3	69.1	62.9	64.3	65.7	67.2	68.3	69.2	43.7	45.3	47.0	48.8	50.9
<b>4500 CFM</b>																	
<b>Total MBH</b>	1.9	41.7	85.4	133.4	166.0	200.3	1.5	41.3	85.0	133.0	165.7	199.9	370.0	332.5	292.3	248.0	197.3
<b>Sens. MBH</b>	66.6	66.6	66.6	66.6	66.6	66.6	50.0	50.0	50.0	50.0	50.0	50.0	266.7	233.4	200.0	166.7	133.3
<b>Lvg. DB</b>	81.3	81.3	81.3	81.3	81.3	81.3	79.7	79.7	79.7	79.7	79.7	79.7	44.9	48.0	51.2	54.3	57.4
<b>Lvg. WB</b>	62.8	64.3	65.9	67.5	69.2	69.6	62.9	64.4	65.9	67.5	69.2	69.7	42.0	43.8	45.7	47.8	50.1
<b>5000 CFM</b>																	
<b>Total MBH</b>	2.5	44.7	91.0	144.9	183.3	212.7	1.9	44.1	90.5	141.4	182.8	212.2	393.8	353.9	311.1	263.9	210.0
<b>Sens. MBH</b>	71.1	71.1	71.1	71.1	71.1	71.1	50.0	50.0	50.0	50.0	50.0	50.0	284.5	248.9	213.4	177.8	142.3
<b>Lvg. DB</b>	81.8	81.8	81.8	81.8	81.8	81.8	79.7	79.7	79.7	79.7	79.7	80.1	42.7	46.1	49.5	52.9	56.3
<b>Lvg. WB</b>	62.8	64.4	66.1	67.8	69.2	70.2	62.9	64.5	66.1	67.9	69.3	70.2	40.3	42.4	44.5	46.8	49.3

**LEGEND**

- DB** — Dry Bulb Temperature (F)
- Lvg.** — Leaving
- MBH** — Btuh x 1000
- Sens.** — Sensible
- WB** — Wet Bulb Temperature (F)



**ENERGY CONSERVATION WHEEL PERFORMANCE (cont)**

**54-in. WHEEL**

COOLING MODE												HEATING MODE					
Return Air = 75 db / 63 wb												Return Air = 70 db / 58 wb					
db	95						90						-10	0	10	20	30
wb	63	67	71	75	78	80	63	67	71	75	78	80	-11	-1	9	19	29
<b>5500 CFM</b>																	
Total MBH	2.1	50.6	103.8	162.2	209.7	243.4	1.6	50.2	103.5	178.2	209.5	243.2	582.1	416.5	365.1	308.9	245.1
Sens. MBH	81.1	81.1	80.9	80.9	80.8	80.8	60.8	60.8	60.7	67.3	60.7	60.6	423.1	292.2	249.7	207.5	165.5
Lvg. DB	80.9	80.9	80.9	80.9	80.9	80.9	79.5	79.5	79.4	80.1	79.4	79.4	36.0	47.3	50.7	54.1	57.4
Lvg. WB	62.8	64.3	65.7	67.2	68.4	69.3	62.9	64.3	65.8	67.9	68.5	69.4	35.1	43.3	45.5	47.6	50.0
<b>6000 CFM</b>																	
Total MBH	2.6	53.7	109.5	170.8	220.7	256.1	2.1	53.1	109.1	185.3	220.4	255.8	492.1	440.7	386.1	326.5	258.9
Sens. MBH	85.6	85.6	85.5	85.4	85.4	85.3	64.3	64.2	64.2	70.2	64.1	64.1	355.3	309.8	264.6	219.8	175.2
Lvg. DB	81.4	81.4	81.4	81.3	81.3	81.3	79.8	79.8	79.8	80.4	79.8	79.8	42.2	45.8	49.4	53.0	56.5
Lvg. WB	62.8	64.3	65.9	67.5	68.8	69.7	62.9	64.4	66.1	68.1	68.9	69.8	40.0	42.2	44.5	46.9	49.4
<b>6500 CFM</b>																	
Total MBH	3.2	56.4	114.7	178.7	230.6	367.6	2.5	55.8	114.2	178.2	230.3	267.2	517.3	463.1	405.6	342.8	271.7
Sens. MBH	89.8	89.7	89.6	89.6	89.5	89.5	67.4	67.4	67.3	67.3	67.2	67.1	374.2	326.2	278.4	231.2	184.2
Lvg. DB	81.8	81.8	81.8	81.8	81.8	81.7	80.1	80.1	80.1	80.1	80.1	80.1	40.5	44.4	48.2	52	55.7
Lvg. WB	62.8	64.4	66.1	67.8	69.2	70.1	62.9	64.5	66.1	67.9	69.2	70.2	38.7	41.1	43.5	46.1	48.9
<b>7000 CFM</b>																	
Total MBH	3.8	59.1	119.5	185.9	239.9	278.1	2.9	58.3	118.8	185.3	239.4	277.6	540.6	483.7	423.5	357.7	283.5
Sens. MBH	93.7	93.6	93.5	93.4	93.3	93.3	70.4	70.3	70.2	70.1	70.1	70.1	391.7	341.3	291.3	241.7	192.5
Lvg. DB	82.2	82.2	82.2	82.2	82.2	82.2	80.4	80.4	80.4	80.4	80.4	80.4	39.0	43.0	47.1	51.0	54.9
Lvg. WB	62.8	64.5	66.2	68.1	69.5	70.5	62.9	64.6	66.3	68.1	69.6	70.6	37.5	40.0	42.6	45.4	48.3
<b>7500 CFM</b>																	
Total MBH	4.4	61.5	123.9	192.4	248.2	287.6	3.4	60.5	123.2	191.7	247.6	287.1	562.2	502.8	439.9	371.5	294.3
Sens. MBH	97.3	97.2	97.1	96.9	96.8	96.7	73.1	72.9	72.8	72.7	72.7	72.7	407.9	355.3	303.1	251.4	200.2
Lvg. DB	82.6	82.6	82.6	82.6	82.6	82.5	80.7	80.7	80.7	80.7	80.7	80.7	37.4	41.7	45.9	50.0	54.1
Lvg. WB	62.8	64.5	66.4	68.3	69.8	70.8	62.9	64.6	66.5	68.4	69.9	70.9	36.3	39.2	41.7	44.6	47.8
<b>8000 CFM</b>																	
Total MBH	4.9	63.7	127.9	198.4	255.7	296.3	3.8	62.6	127.1	197.6	255.1	295.6	582.1	520.3	455.1	384.2	304.2
Sens. MBH	100.5	100.4	100.3	100.1	100.1	99.9	75.5	75.4	75.3	75.2	75.1	75.1	423.1	368.3	314.1	260.4	207.3
Lvg. DB	83.0	83.1	83.1	82.9	82.9	82.9	81.1	81.1	81.0	81.1	81.1	81.1	36.0	40.4	44.8	49.1	53.4
Lvg. WB	62.8	64.6	66.6	68.6	70.1	71.2	62.9	64.7	66.6	68.6	70.2	71.3	35.1	38.0	40.9	43.9	47.2

**LEGEND**

- DB** — Dry Bulb Temperature (F)
- Lvg.** — Leaving
- MBH** — Btuh x 1000
- Sens.** — Sensible
- WB** — Wet Bulb Temperature (F)

**ANTIFREEZE AND WATER PRESSURE DROP (WPD) ADDER FOR OPTIONS CORRECTION TABLE**

ANTIFREEZE TYPE	ANTIFREEZE %	COOLING			HEATING		WPD CORRECTION FACTOR EWT 30 F
		EWT 90 F			EWT 30 F		
		Total Capacity	Sensible Capacity	Power	Heating Capacity	Power	
WATER	0	1.000	1.000	1.000	1.000	1.000	1.000
	5	0.995	0.995	1.003	0.989	0.997	1.070
	15	0.986	0.986	1.009	0.986	0.990	1.210
PROPYLENE GLYCOL	25	0.978	0.978	1.014	0.947	0.983	1.360
	5	0.997	0.997	1.002	0.989	0.997	1.070
	15	0.990	0.990	1.007	0.968	0.990	1.160
METHANOL	25	0.982	0.982	1.012	0.949	0.984	1.220
	5	0.998	0.998	1.002	0.981	0.994	1.140
	15	0.994	0.994	1.005	0.944	0.983	1.300
ETHANOL	25	0.986	0.986	1.009	0.917	0.974	1.360
	5	0.998	0.998	1.002	0.993	0.998	1.040
	15	0.994	0.994	1.004	0.980	0.994	1.120
ETHYLENE GLYCOL	25	0.988	0.988	1.008	0.966	0.990	1.200

## COMPRESSOR ELECTRICAL DATA

VOLTAGE		UNIT SIZE 62R												
		07	08	09	12	14	15	16	20	22	24	30	34	38
Number of Compressors		1	1	1	2	2	2	2	2	2	2	2	2	4
208-230/3/60	RLA (each)	16.0	19.0	23.2	13.7	16.0	22.4	25.0	29.5	29.5	30.1	48.1	55.8	29.5
	LRA	110.0	123.0	164.0	83.1	110.0	149.0	164.0	195.0	195.0	225.0	245.0	340.0	195.0
460/3/60	RLA (each)	7.8	9.7	11.2	6.2	7.8	10.6	12.2	14.8	14.8	16.7	18.6	26.9	14.8
	LRA	52.0	62.0	75.0	41.0	52.0	75.0	100.0	95.0	95.0	114.0	125.0	173.0	95.0

## SUPPLY AND EXHAUST FAN MOTOR ELECTRICAL DATA

VOLTAGE		MOTOR HP									
		3/4	1	1 1/2	2	3	5	7 1/2	10	15	20
208/230-3-60	FLA	3.4	3.2	4.8	6.3	9.8	15.7	22.3	29.0	43.4	57.0
460-3-60	FLA	1.7	1.5	2.0	2.9	4.1	6.8	10.0	12.9	18.9	24.5

## ENERGY CONSERVATION WHEEL ELECTRICAL DATA

VOLTAGE		WHEEL SIZE (in.)			
		36	42	48	54
208/230-3-60	FLA	2.5	2.5	2.5	2.5
460-3-60	FLA	1.3	1.3	1.3	1.3

### LEGEND

- FLA — Full Load Amps
- LRA — Locked Rotor Amps
- RLA — Rated Load Amps

# Application data



Carrier's water source heat pump products are available in a flexible, efficient array of models, which can be used in all types of water loop, ground water, and ground loop type systems. Utilize Carrier products to provide optimal energy efficient solutions and adapt to the most challenging design requirements.

## Water loop system

Water loop (or boiler/tower) system applications typically include a number of units plumbed to a common piping system. For optimal performance, this system should be designed between 2.25 and 3 gpm per ton of cooling capacity. The system is comprised of highly efficient packaged reverse cycle heat pump units interconnected by a water loop. The water circuit serves as both a sink and source for heat absorption and rejection and is designed for entering water temperatures between 60 F and 90 F. Within this temperature range units can heat or cool as required from the same water source. Transferring heat from warm to cold spaces in the building, whenever they coexist, conserves energy rather than creating new heat.

Refer to the **Carrier Water Source Heat Pump System Design Guide** for assistance with the design of water loop systems. The guide includes a practical approach for the latest and most current design recommendations including:

- product application, including horizontal, vertical, console, rooftop and water-to-water applications
- ventilation methods and system design, including energy recovery
- addressing indoor air quality (IAQ) issues such as condensate removal and humidity control
- air distribution design including diffuser selection/layout and ductwork design
- hydronic system design including pipe sizing/layout and boiler/tower sizing
- control configurations such as standalone, DDC (Direct Digital Controls), DCV (Demand Controlled Ventilation), and VVT® (Variable Volume and Temperature) controls
- Water Source Heat Pump Efficiency/Operational Cost Comparison chart
- system variations such as a system without a boiler, variable pumping, and variable air volume (VAV) for interior use

## Ground water systems

To utilize Carrier's WSHP units in ground water applications, extended range should be specified. This will provide factory-installed insulation on the coaxial coil to prevent condensate from dripping when entering water temperatures are below 60 F. In addition, the copper coaxial coil installed on the units may not be suitable for all water conditions. Refer to the Water Conditioning section for proper coaxial coil material selection.

**Surface water system** — This system is typically located near a lake or pond. In this application, the loop can be submerged in a series of coils beneath the water surface. The number of coils required depends on system load and design. This application requires minimum piping and excavation.

**Open loop system** — This system is used where ground water is plentiful. In this application, ground water is pumped through supply piping from the well to the building. The water is then pumped back into the ground through a discharge well as it leaves the building. An additional heat exchanger is usually installed between the building water piping system and the ground water piping system. This design limits the amount of piping and excavation required.

Units are provided with a standard TXV and are rated to extremely low temperatures to self-adjust the refrigeration circuit, therefore water regulating valves are not required on open loop systems. To conserve water on this type of system, a slow opening/closing solenoid valve is recommended.

## Ground loop systems

There are many commonly specified designs for ground loop applications. Typical designs include vertical loops and horizontal loops. In some applications, water is piped from the ground or lake directly to the water source heat pump. Piping is limited to the amount of pipe required to get the water from the source to the unit.

NOTE: When utilizing water source heat pumps in ground loop systems, refer to design considerations in the ground water system section.

**Horizontal ground loop** — This system is used when adequate space is available and trenching can be easily accomplished. A series of parallel pipes are laid out in trenches 3 to 6 ft below the ground surface, and then back-filled. Often, multiple pipes are used to maximize the heat transfer capability of each trench. The amount of pipe and the size of the ground loop field are based on ground conditions, heating, and cooling requirements of the application and system design.

**Vertical ground loop** — This system is used in vertical borehole applications. This design is well suited for retrofit applications when space is limited or where landscaping is already complete and minimum disruption of the site is desired. The vertical ground loop system contains a single loop of pipe inserted into a hole. The hole is back-filled and grouted after the pipe is inserted. The completed loop is concealed below ground. The number of loops required depends on ground conditions, heating and cooling requirements, and the depth of each hole.

**Hybrid systems** — In some applications, it may be beneficial to incorporate a cooling tower into the ground loop system to reduce the overall cost. A hybrid system discards excess heat into the air and increases the cooling performance of the ground loop.

## Condensate drainage

**Venting** — Condensate lines should be properly vented to prevent fan pressure from causing water to hang up in the piping. Condensate lines should be pitched to assure full drainage of condensate under all load conditions. Chemical treatment should be provided to remove algae in the condensate pans and drains in geographical areas that are conducive to algae growth.

**Trapping** — Condensate trapping is an essential necessity on every water source heat pump unit. A trap is provided

# Application data (cont)



to prevent the backflow of moisture from the condensate pan and into the fan intake or downstream into the mechanical system. The water seal or the length of the trap depends on the positive or negative pressure on the drain pan. As a rule of thumb, the water seal should be sized for 1 in. for every 1 in. of negative pressure on the unit. The water seal is the distance from the bottom of the unit condensate piping connection to the bottom of the condensate drain line run-out piping. Therefore, the trap size should be double the water seal dimension.

## Water conditioning

In some applications, maintaining proper water quality may require the use of higher corrosion protection for the water-to-refrigerant heat exchanger. Water quality varies from location to location and is unique for each job. Water characteristics such as pH value, alkalinity, hardness, and specific conductance are of importance when considering any WSHP application. Water typically includes impurities and hardness that must be removed. The required treatment will depend on the water quality as

well as type of system. Water problems fall into three main categories:

1. Scale formation caused by hard water reduces the heat transfer rate and increases the water pressure drop through the heat exchanger. As water is heated, minerals and salts are precipitated from a solution and deposited on the inside surface of the pipe or tube.
2. Corrosion is caused by absorption of gases from the air coupled with water on exposed metal. Corrosion is also common in salt-water areas.
3. Organic growths such as algae can reduce the heat transfer rate by forming an insulating coating on the inside tube surface. Algae can also promote corrosion by pitting.

NOTE: In most commercial water loop applications, Aquazone WSHP units use copper water-to-refrigerant heat exchanger. Units can also be equipped with a cupronickel heat exchanger for applications where water is outside the standard contaminant limits for a copper heat exchanger.

## WATER QUALITY GUIDELINES

CONDITION	HX MATERIAL*	CLOSED RECIRCULATING†	OPEN LOOP AND RECIRCULATING WELL**		
<b>Scaling Potential — Primary Measurement</b>					
Above the given limits, scaling is likely to occur. Scaling indexes should be calculated using the limits below.					
pH/Calcium Hardness Method	All	N/A	pH < 7.5 and Ca Hardness, <100 ppm		
<b>Index Limits for Probable Scaling Situations (Operation outside these limits is not recommended.)</b>					
Scaling indexes should be calculated at 150 F for direct use and HWG applications, and at 90 F for indirect HX use. A monitoring plan should be implemented.					
Ryznar Stability Index	All	N/A	<b>6.0 - 7.5</b> If >7.5 minimize steel pipe use.		
Langelier Saturation Index	All	N/A	<b>-0.5 to +0.5</b> If <-0.5 minimize steel pipe use. Based upon 150 F HWG and direct well, 85 F indirect well HX.		
<b>Iron Fouling</b>					
Iron Fe <sup>2+</sup> (Ferrous) (Bacterial Iron Potential)	All	N/A	<b>&lt;0.2 ppm (Ferrous)</b> If Fe <sup>2+</sup> (ferrous) >0.2 ppm with pH 6 - 8, O <sub>2</sub> <5 ppm check for iron bacteria.		
Iron Fouling	All	N/A	<b>&lt;0.5 ppm of Oxygen</b> Above this level deposition will occur.		
<b>Corrosion Prevention††</b>					
pH	All	6 - 8.5 Monitor/treat as needed.	<b>6 - 8.5</b> Minimize steel pipe below 7 and no open tanks with pH <8.		
Hydrogen Sulfide (H <sub>2</sub> S)	All	N/A	<b>&lt;0.5 ppm</b> At H <sub>2</sub> S>0.2 ppm, avoid use of copper and cupronickel piping or HXs. Rotten egg smell appears at 0.5 ppm level. Copper alloy (bronze or brass) cast components are okay to <0.5 ppm.		
Ammonia Ion as Hydroxide, Chloride, Nitrate and Sulfate Compounds	All	N/A	<b>&lt;0.5 ppm</b>		
Maximum Chloride Levels	Copper Cupronickel 304 SS 316 SS Titanium	N/A N/A N/A N/A N/A	Maximum allowable at maximum water temperature.		
			50 F (10 C)	75 F (24 C)	100 F (38 C)
			<20 ppm	NR	NR
			<150 ppm	NR	NR
<400 ppm	<250 ppm	<150 ppm			
<1000 ppm	<550 ppm	<375 ppm			
>1000 ppm	>550 ppm	>375 ppm			
<b>Erosion and Clogging</b>					
Particulate Size and Erosion	All	<10 ppm of particles and a maximum velocity of 6 fps. Filtered for maximum 800 micron size.	<10 ppm (<1 ppm "sandfree" for reinjection) of particles and a maximum velocity of 6 fps. Filtered for maximum 800 micron size. Any particulate that is not removed can potentially clog components.		
Brackish	All	N/A	Use cupronickel heat exchanger when concentrations of calcium or sodium chloride are greater than 125 ppm are present. (Seawater is approximately 25,000 ppm.)		

### LEGEND

- HWG** — Hot Water Generator  
**HX** — Heat Exchanger  
**N/A** — Design Limits Not Applicable Considering Recirculating Potable Water  
**NR** — Application Not Recommended  
**SS** — Stainless Steel

\*Heat exchanger materials considered are copper, cupronickel, 304 SS (stainless steel), 316 SS, titanium.

†Closed recirculating system is identified by a closed pressurized piping system.

\*\*Recirculating open wells should observe the open recirculating design considerations.

††If the concentration of these corrosives exceeds the maximum allowable level, then the potential for serious corrosion problems exists.

Sulfides in the water quickly oxidize when exposed to air, requiring that no agitation occur as the sample is taken. Unless tested immediately at the site, the sample will require stabilization with a few drops of one Molar zinc acetate solution, allowing accurate sulfide determination up to 24 hours after sampling. A low pH and high alkalinity cause system problems, even when both values are within ranges shown. The term pH refers to the acidity, basicity, or neutrality of the water supply. Below 7.0, the water is considered to be acidic. Above 7.0, water is considered to be basic. Neutral water contains a pH of 7.0.

To convert ppm to grains per gallon, divide by 17. Hardness in mg/l is equivalent to ppm.

## Control components

The 62R Series of dedicated outdoor air units use a micro-processor controller that has been specifically designed for Carrier commercial equipment. The controller monitors the operating conditions in the outdoor air unit and controls the compressors, fans, heating systems, and optional devices. The controller has the capability of communicating with all major building automation protocols including BACnet, Modbus, and LonWorks (option) protocols.

NOTE: The temperatures listed below are default values and may be adjusted to meet the needs of the application.

## Sequence of operation — 100% outdoor air units — 62RA,DB,RC,RD

The ALC controller is turned on by a switch located on its front upper left corner. Several options exist for starting the unit, such as the Resident Program Scheduler or the Building Automation System. These control source options can be selected from the BACview display pad on the Configuration Set-Up screen (requires Admin password). The Resident Program has an adjustable scheduler that uses the internal timeclock to allow for separate sequences for Occupied and Unoccupied periods. This can be accessed from the BACview display pad on the Schedules screen (requires user password).

NOTE: All temperature-related events have an additional “delay on make” to allow temperatures to settle.

**Occupied mode** — When the program control source (scheduler, BAS) calls for the start of the Occupied mode, the ALC controller will verify that no fault or shutdown conditions exist, and a 60-second time delay begins, after which the unit goes into Occupied mode.

**Outdoor air damper (OD)** — Approximately 5 seconds (fixed) after the unit goes into Occupied mode the outdoor air (OA) damper will open. The OA damper will remain open while the unit is in Occupied mode.

**Supply fan (SF)** — Approximately 2 minutes (fixed) after the start of the Occupied mode, the supply fan (SF) will turn on. If the SF is equipped with the optional SF VFD, the VFD will modulate fan speed to maintain duct static pressure. The SF will operate continuously during Occupied mode.

**Optional exhaust fan (EF)** — Approximately 2 minutes (fixed) after the start of the Occupied mode, the exhaust fan (EF) will turn on. If the EF is equipped with the optional EF VFD, the VFD will modulate fan speed to maintain duct static pressure. The EF will operate continuously during Occupied Mode.

**Optional energy conservation wheel (ECW)** — Approximately 2 minutes after the start of Occupied mode, the ECW is enabled. The ECW will operate as stand alone, based on the ECW controller. The ECW operation is enabled continuously during Occupied mode.

**ECW operation** — If the outdoor-air temperature (OAT) is more than 3 F (adjustable) above or below the return-air temperature (RAT), the ECW will operate. If the OAT is less than 3 F above or below the RAT, the wheel will not operate. If the OAT drops below 15 F, the ECW will turn

off, to prevent frosting. When the OAT rises above 15 F, the wheel will operate normally.

**Optional VFD defrost** — When the OAT drops below 15 F, the VFD signal will begin to decrease, slowing the ECW rotation. When the OAT drops to 0° F, the VFD signal will stop the wheel. When the OAT rises above 0° F, the wheel speed will increase until an OAT of 15 F is reached.

**Optional ECW bypass** — When the ECW is off, the ECW bypass damper is open. When the ECW is operating, the ECW bypass damper is closed.

**Cooling mode** — When the OAT is 1° F (adjustable) or more above the cooling leaving air temperature (C-LAT) set point (70 F, adjustable) Cooling mode is enabled. Reversing valve 1 (RV1) is energized and the water regulating valve (WRV1) and digital compressor no. 1 (DC1) are enabled.

**WRV1 operation** — Water regulating valve (WRV1) will operate as stand alone, based on the WRV controller. The WRV controller will modulate WRV1 to maintain head pressure.

**DC1 operation** — Compressor no. 1 is modulated by the ALC controller to maintain a suction line temperature (SLT) set point (if HGRH exists) or the C-LAT (if no HGRH exists).

After a 10-second time delay, RV2 (if equipped) is energized, WRV2 (if equipped) and DCW (if equipped) are enabled.

**WRV2 operation** — The WRV2 will operate as stand alone, based on the WRV controller. The WRV controller will modulate WRV2 to maintain head pressure.

**DC2 operation** — Compressor no. 2 is modulated by the ALC controller to maintain a suction line temperature (SLT) set point (if HGRH exists) or the C-LAT (if no HGRH exists).

If the LAT is 1° F below the C-LAT set point, hot gas reheat (HGRH, if equipped) and liquid line subcooling reheat (LSRH, if equipped) are enabled.

**HGRH operation** — The HGRH valve is modulated by the ALC controller to maintain the C-LAT set point. When the LAT is 2 F above the C-LAT set point, HGRH (if equipped) is disabled.

**LSRH operation** — The LSRH coil is cycled by the ALC controller to maintain the C-LAT set point. When the LAT is 2 F above the C-LAT set point, LSRH (if equipped) is disabled.

When the OAT is 1° F below the C-LAT set point, DC1, WRV1, DC2 (if equipped), WRV2 (if equipped), HGRH (if equipped), and LSRH (if equipped) are disabled. Reversing valves RV1 and RV2 are de-energized. Cooling mode is disabled.

**Room temperature reheat override (RTRHO)** — This override is available only if the unit is equipped with HGRH or HGRH/LSRH and RTRHO mode is enabled in the control menu.

When the unit is in Cooling mode or Dehumidification mode, RTRHO is enabled in the control menu, and the cooling zone air temperature (C-ZAT) 1° F (adjustable) or



more above or below the C-ZAT set point (72 F, adjustable), RTRHO Mode is enabled.

For every 1° F (adjustable) the ZAT is above the C-ZAT set point, the C-LAT set point is decreased by 3 F (adjustable), up to a maximum of 15 F (adjustable).

For every 1° F (adjustable) the ZAT is below the C-ZAT set point, the C-LAT set point is increased by 3 F (adjustable), up to a maximum of 15 F (adjustable).

The unit HGRH or LSRH will operate to maintain the new C-LAT set point.

When the ZAT equals the C-ZAT set point, RTRHO mode is disabled and Cooling or Dehumidification mode is enabled.

**Dehumidification mode** — Dehumidification is available only if the unit is equipped with HGRH or HRGH/LSRH and Dehumidification mode is enabled in the controls menu.

When OAT is above 60 F (adjustable), and the zone relative humidity (Z-RH) is 1% (adjustable) or more above the Z-RH set point (55% RH, adjustable), and there is no call for heating, Dehumidification mode is enabled. Reversing valve 1 (RV1) is energized and the water regulating valve (WRV1) and digital compressor no. 1 (DC1), and HGRH and LSRH are all enabled.

**WRV1 operation** — Valve WRV1 will operate as stand alone, based on the WRV controller. The WRV controller will modulate WRV1 to maintain head pressure.

**DC1 operation** — Compressor no. 1 is modulated by the ALC controller to 100% operation.

**HGRH operation** — HGRH will modulate to maintain the LAT set point.

**LSRH operation** — LSRH will cycle to maintain the LAT set point.

When the Z-RH is 2% below the Z-RH set point, RV2 (if equipped) is energized, WRV2 (if equipped) and DCW (if equipped) are enabled.

**WRV2 operation** — Valve WRV2 will operate as stand alone, based on the WRV controller. The WRV controller will modulate WRV2 to maintain head pressure.

**DC2 operation** — Compressor no. 2 is modulated by the ALC controller to 100% operation.

When Z-RH is 2% below the Z-RH set point, Dehumidification mode is disabled and Cooling, RTRHO or Fan mode is enabled.

**Heating mode** — When the OAT is 1° F (adjustable) or more above the heat pump OAT (HP-OAT) enable set point, Heating mode is enabled. Reversing valve 1 (RV1) is de-energized and the water regulating valve (WRV1) is forced fully open. Compressor DC1 is enabled.

**DC1 operation** — Compressor no. 1 is modulated by the ALC controller to maintain the heating leaving air temperature set point (H-LAT).

After a 10-second time delay, WRV2 (if equipped) is forced open and DC2 (if equipped) is enabled.

**DC2 operation** — Compressor no. 2 is modulated by the ALC controller to maintain H-LAT set point.

If the LAT is 5 F (adjustable) below the H-LAT set point, auxiliary heating (if equipped) is enabled.

**Staged heat (gas, electric)** — The heat source is staged by the ALC controller based on the difference between the LAT and LAT set point.

**Modulating heat (gas, electric, steam, hot water)** — The heat source is modulated by the ALC controller to maintain the LAT set point.

When the LAT is 1° F above the H-LAT set point, auxiliary heating is disabled.

When the OAT is above the HP-OAT enable set point, Heating mode is disabled.

**Room temperature reheat override (RTRHO)** — When the unit is in Heating mode, RTHO is enabled in the control menu, and the heating zone air temperature (H-ZAT) is 1° F (adjustable) or more above or below the H-ZAT set point (72 F, adjustable) RTHO mode is enabled.

For every 1° F (adjustable) the ZAT is above the H-ZAT set point, the H-LAT set point is decreased by 3 F (adjustable), up to a maximum of 15 F (adjustable).

For every 1° F (adjustable) the ZAT is below the H-ZAT set point, the H-LAT set point is increased by 3 F (adjustable), up to a maximum of 15 F (adjustable).

The unit heat pump or auxiliary heat source will operate to maintain the new H-LAT set point.

When the ZAT equals the H-ZAT set point, RTHO mode is disabled and Heating mode is enabled.

**Emergency heating mode (if equipped with auxiliary heat source)** — When the OAT is 1° F (adjustable) or more above the heat pump OAT (HP-OAT) enable set point, and heat pump operation is disabled (fault or below HP-OAT lockout) Emergency Heating mode is enabled.

**Staged heat (gas, electric)** — The heat source is staged by the ALC controller based on the difference between the LAT and LAT set point.

**Modulating heat (gas, electric, steam, hot water)** — The heat source is modulated by the ALC controller to maintain the LAT set point.

When the OAT is 1° F above the HP-OAT enable set point, auxiliary heating is disabled.

**Fan Only mode** — When the OAT is below the C-LAT set point, but above the HP-OAT set point and Dehumidification mode is not enabled, Fan Only mode is enabled.

No cooling or heat source is energized. Only the SF, EF (if equipped) and ECW (if equipped) will operate.

**Unoccupied mode** — When the program control source (Scheduler, BAS) or energy management relay (EMR) calls for the end of Occupied mode, the unit will enter Unoccupied mode.

The DC1, WRV1, RV1, DC2 (if equipped), RV2 (if equipped), and auxiliary heat sources will be disabled.

The SF and EF will continue to operate for 2 minutes, and then shut off.

After the SF and EF shut off, the ECW will shut off.

The OA damper will close.

## TYPICAL CONTROLLER INPUTS

NUMBER	NAME	TYPE	SENSOR TYPE
UI-01	Outside Air Temperature	Analog	Type II Thermistor 10kΩ at 77 F
UI-02	Outside Air Humidity	Analog	0-10 vdc
UI-03	Leaving Air Temperature	Analog	Type II Thermistor 10kΩ at 77 F
UI-04	Zone Relative Humidity	Analog	0-10 vdc
UI-05	Supply Fan Static Pressure Transmitter	Analog	0-10 vdc
UI-06	Exhaust Fan Static Pressure Transmitter	Analog	0-10 vdc
UI-07	—	—	—
UI-08	Compressor 2 Suction Line Temperature	Binary	Type II Thermistor 10kΩ at 77 F
UI-09	Compressor 1 Suction Line Temperature	Analog	Type II Thermistor 10kΩ at 77 F
UI-10	Smoke Detector (NC), EMR (NC), LP1 (NO), LP2 (NO)	Analog	LP1-5kΩ, LP2-10kΩ, SD-20kΩ, EMR-40kΩ
UI-11	Clogged Filter Indicator (NO), C1 Current Sensor (NO), C2 Current Sensor (NO)	Analog	C1CS-5kΩ, C2CS-10kΩ, CFD-20kΩ
UI-12	ECW Wheel Motion Sensor (NO), SF Air Proving Switch (NO), EF Air Proving Switch (NO)	Analog	ECWCS-5kΩ, SFAPS-10kΩ, EFAPS-20kΩ

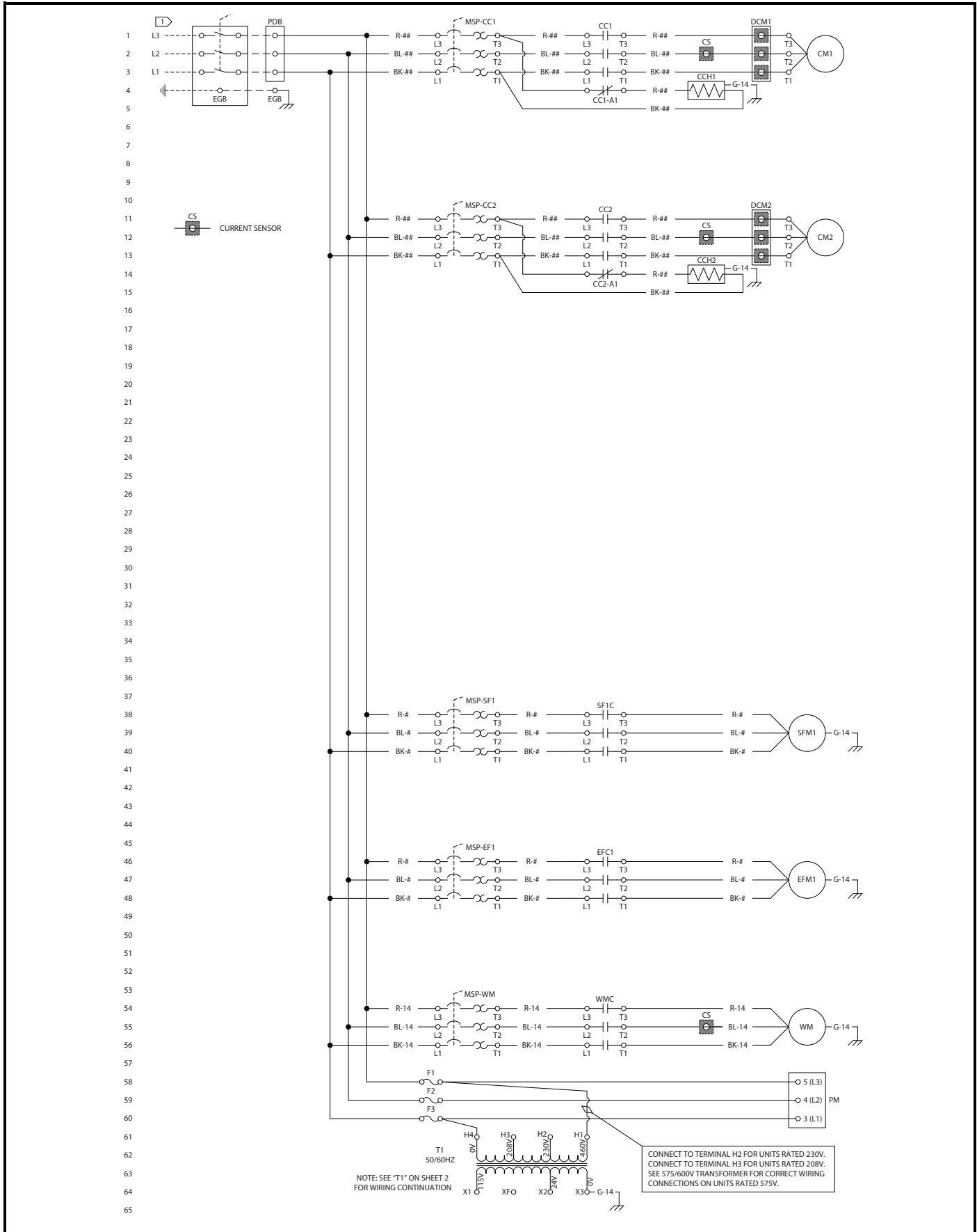
## TYPICAL CONTROLLER OUTPUTS

NUMBER	NAME	OUTPUT TYPE
AO-01	Supply Fan VFD Modulation	0-10 vdc
AO-02	Exhaust Fan VFD Modulation	0-10 vdc
AO-03	Digital Compressor 2 Modulation	0-10 vdc
AO-04	Hot Gas Reheat (HGRH)/Discharge Valve Modulation	0-10 vdc
AO-05	Digital Compressor 1 Modulation	0-10 vdc
AO-06	SCR Heat or Modulating Gas Heat	0-10 vdc
BO-01	Supply Fan, Exhaust Fan	Relay / Triac Output
BO-02	Compressor (Y1)	Relay / Triac Output
BO-03	Compressor (Y2)	Relay / Triac Output
BO-04	Hot Gas Reheat Valve (HGRH)	Relay / Triac Output
BO-05	Stage 1 Heat (W1) or Heat Pump Heat	Relay / Triac Output
BO-06	OA Damper, ECW Motor, ECW Damper, Exhaust Fan	Relay / Triac Output

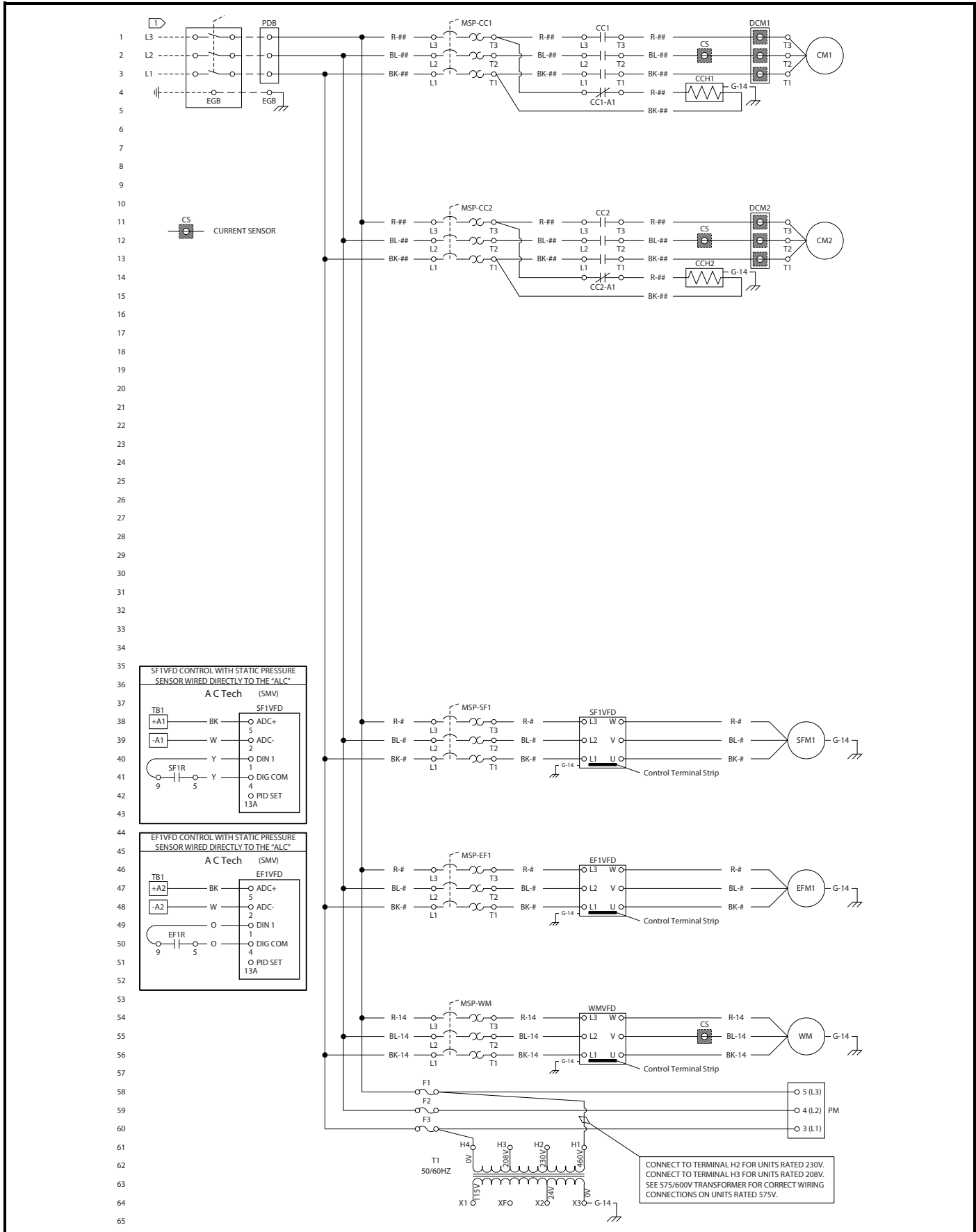
### LEGEND

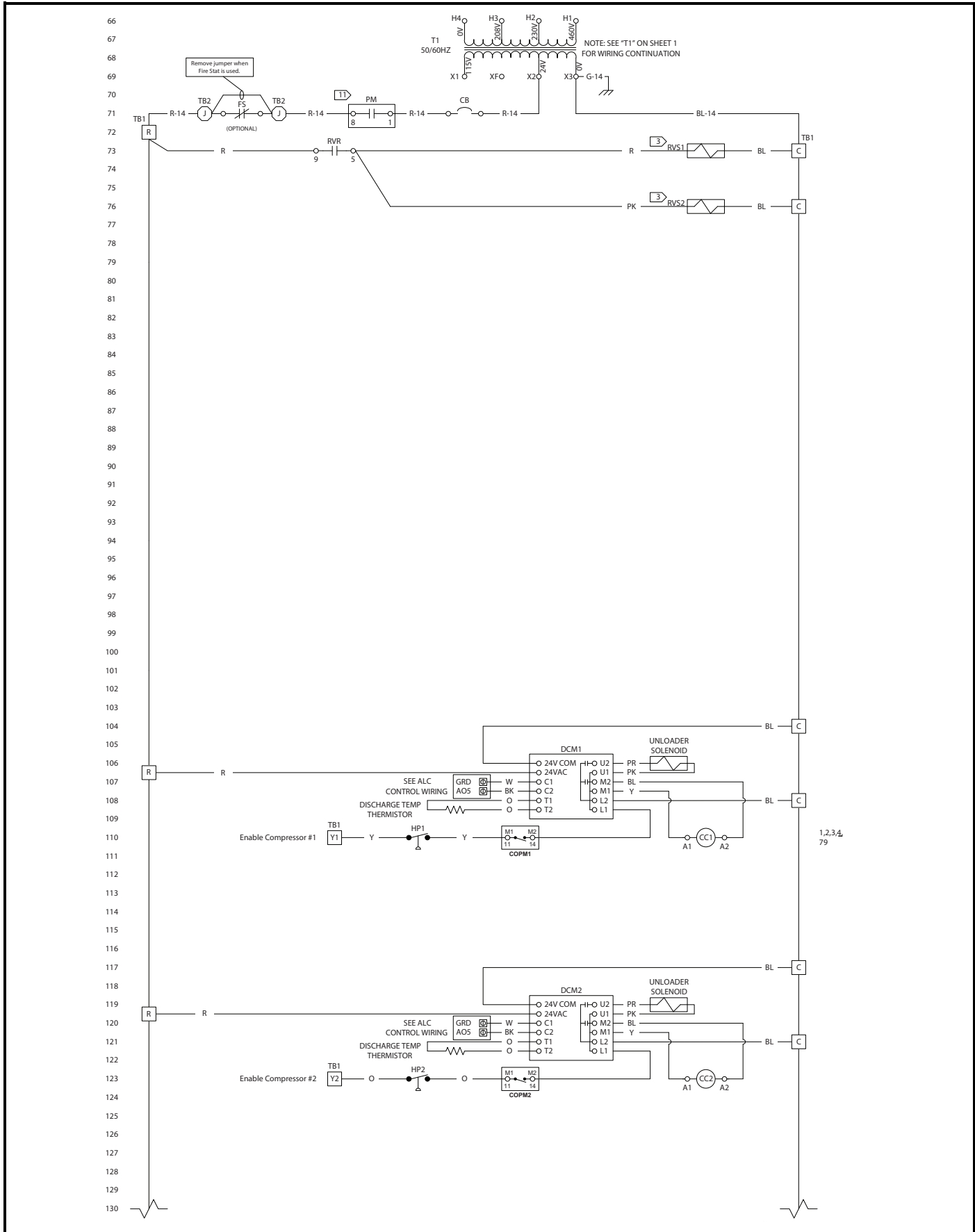
AO	— Analog Output
BO	— Binary Output
ECW	— Energy Conservation Wheel
EF	— Exhaust Fan
EMR	— Energy Management Relay
HGRH	— Hot Gas Reheat
LP	— Low Pressure Switch
NC	— Normally Closed (contact)
NO	— Normally Open (contact)
OA	— Outdoor Air
SCR	— Silicon Controlled Rectifier
SF	— Supply Fan
UI	— Universal Input
VFD	— Variable Frequency Drive

# Typical wiring schematics

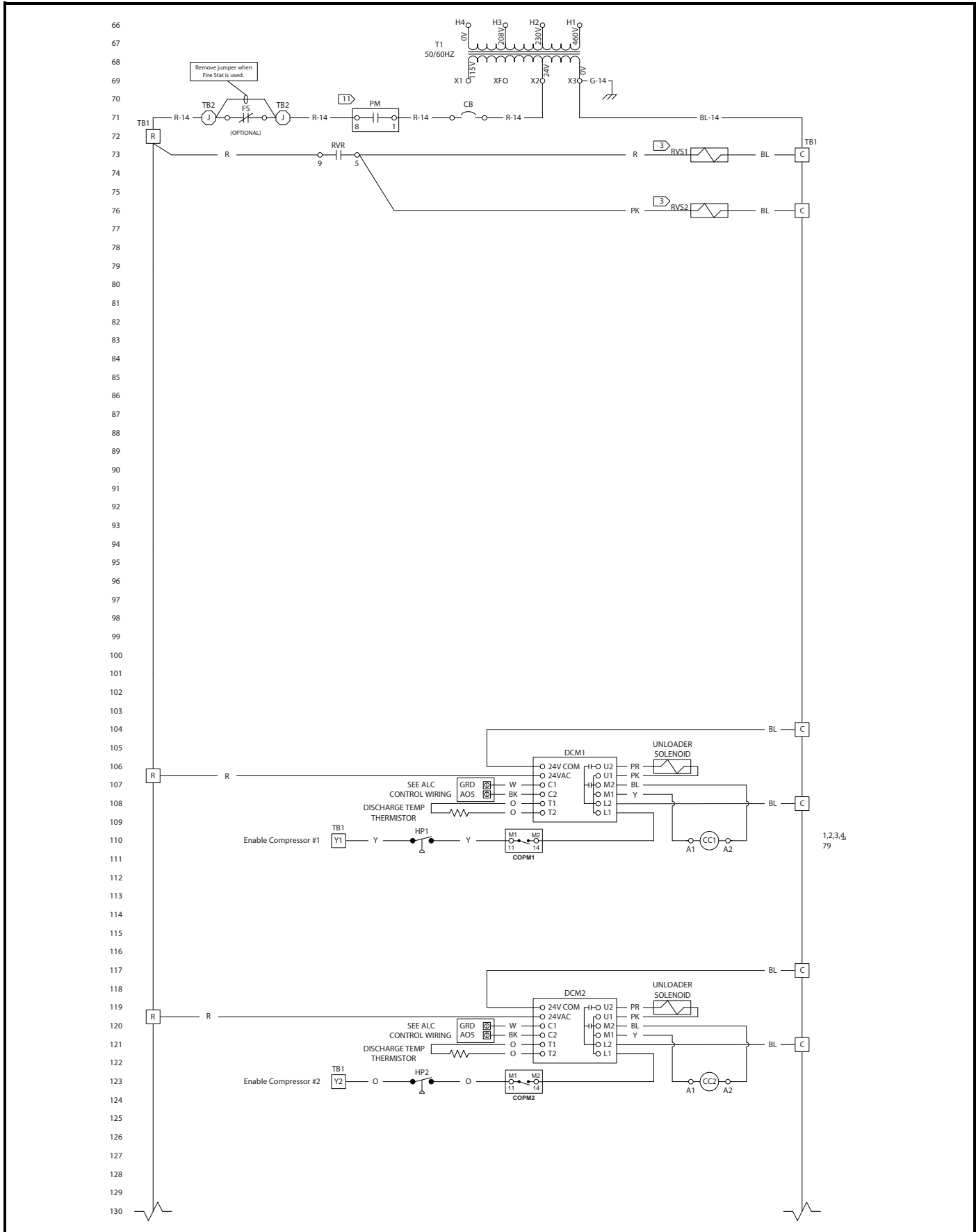


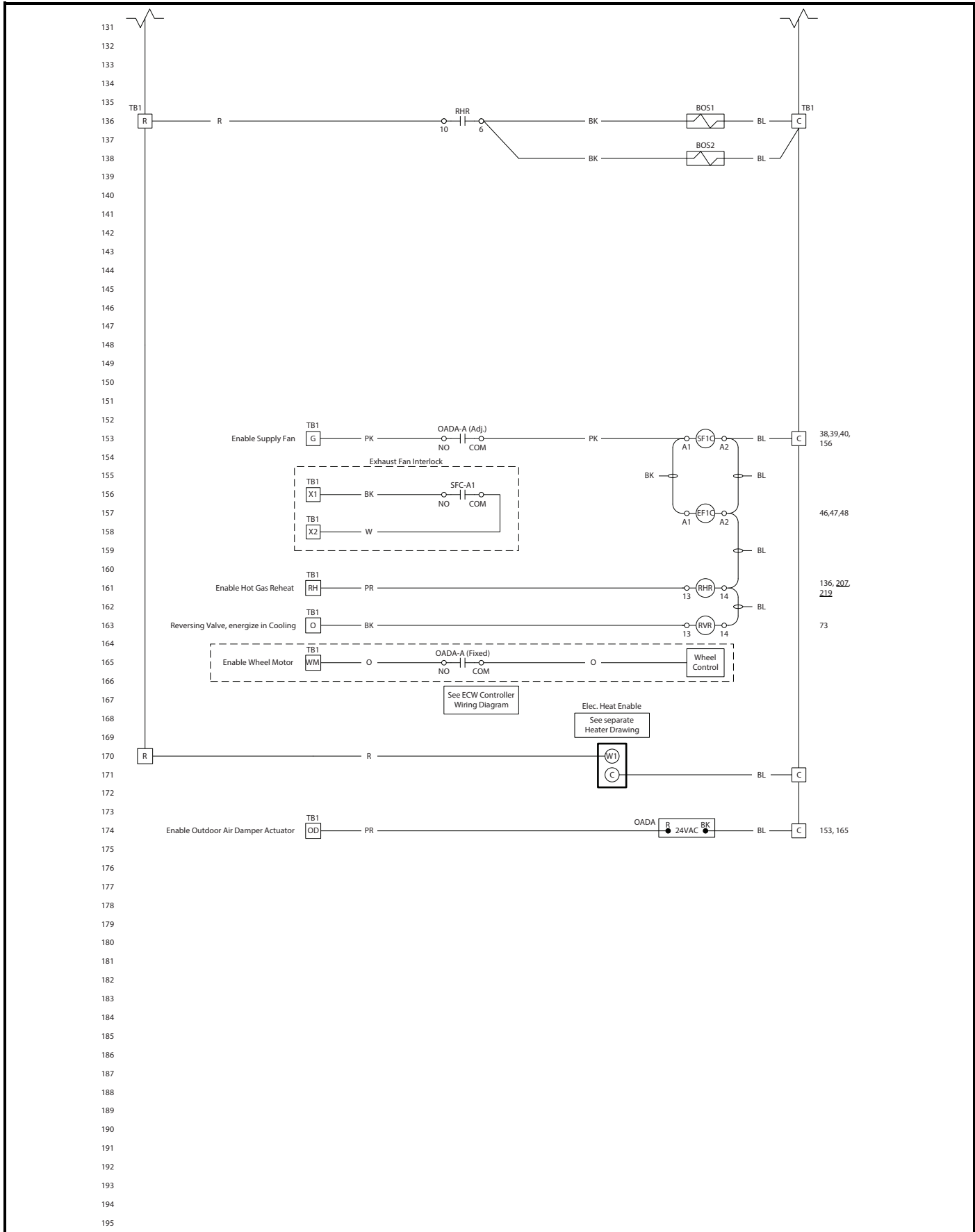
# Typical wiring schematics (cont)



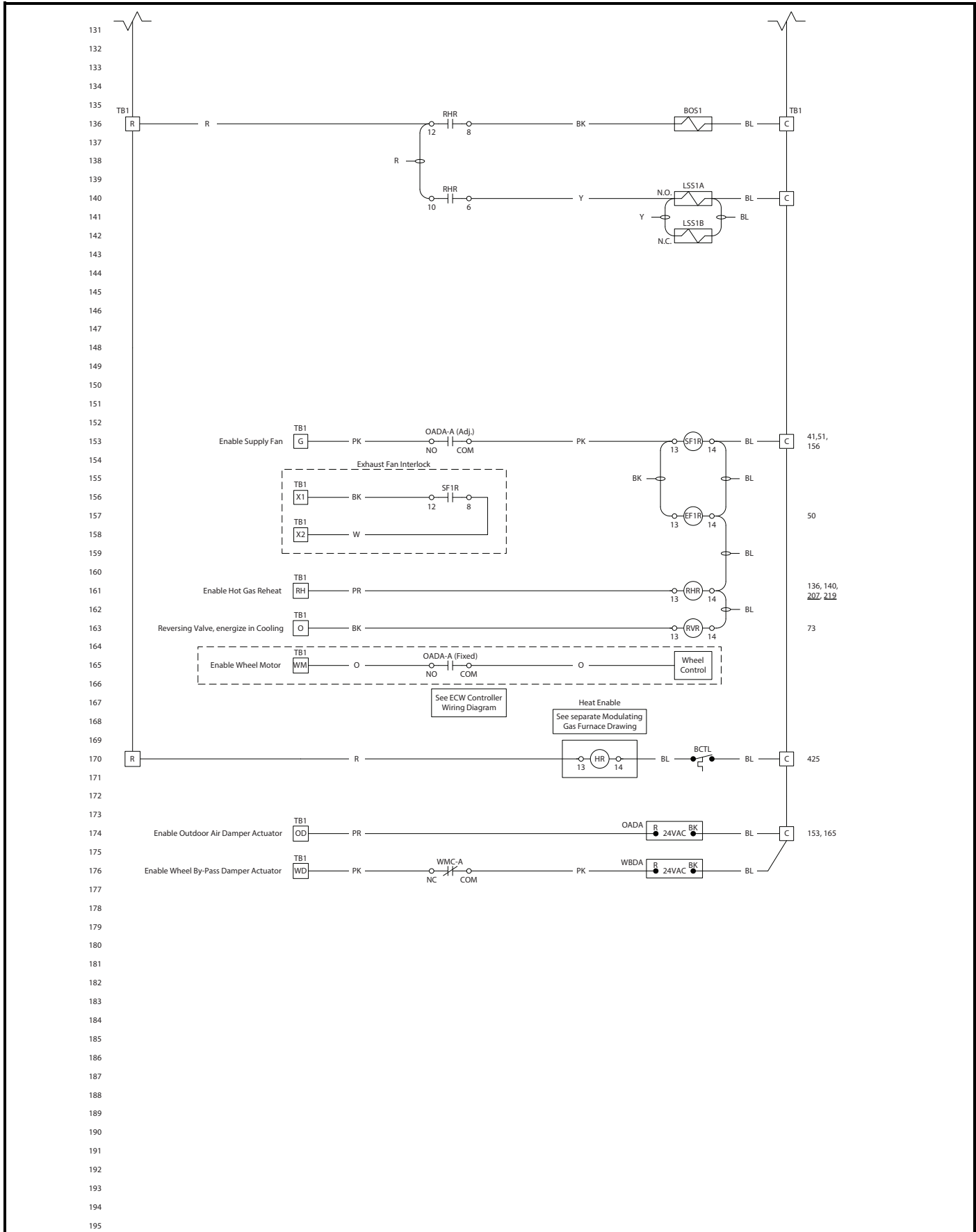


# Typical wiring schematics (cont)





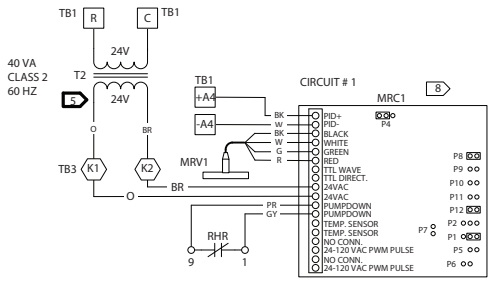
# Typical wiring schematics (cont)



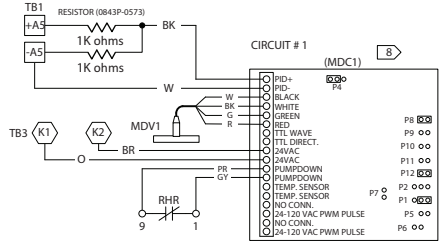


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WIRING DIAGRAM FOR MODULATING REHEAT, 0-10VDC



MODULATING DISCHARGE VALVE CONTROL BOARD

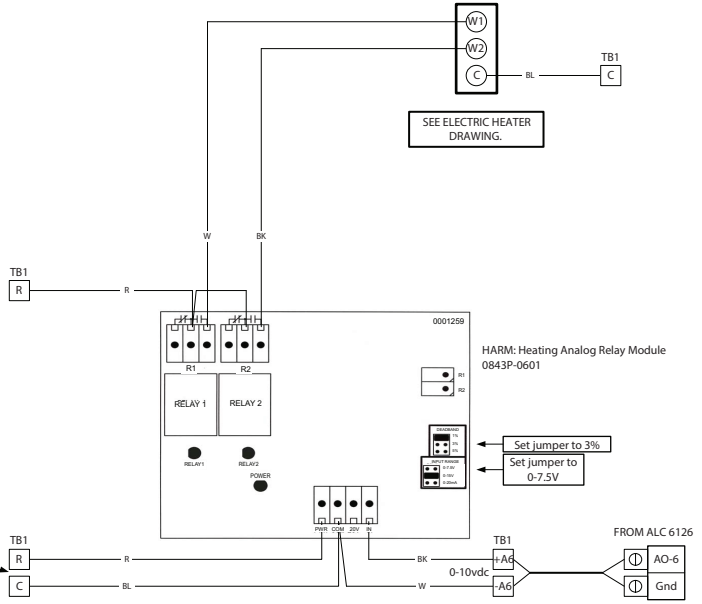


NOTE: BE SURE TO WIRE THE MODULATING DISCHARGE VALVE (MDV) CORRECTLY PER WIRING DIAGRAM. SEE COLOR CODING, THE WHITE WIRE IS CONNECTED TO BLACK AND THE BLACK WIRE IS CONNECTED TO WHITE.

WIRING DIAGRAM FOR 2-STAGE ELECTRIC HEAT (HEAT PUMP)

**Calibration and Setup**

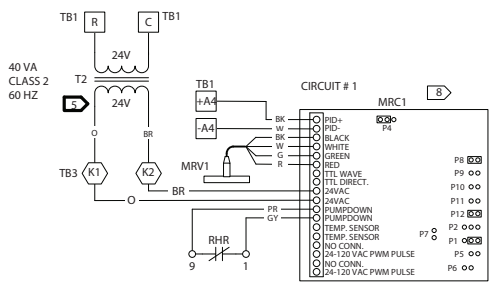
- Set the INPUT RANGE jumper to the correct position for the signal to be used (0-7.5 V).
- Set the deadband jumper to the desired value (3%). This can be changed at any time with the power on.
- Connect the power supply and the input signal to the correct terminals.
- Turn on the power and the POWER LED will light.
- Apply an input signal equal to the R1 setpoint (3V).
- Adjust the R1 pot clockwise until the RELAY1 LED goes out, then slowly adjust the R1 pot counterclockwise until the LED just lights.
- Apply an input signal equal to the R2 setpoint (6V) and adjust the R2 pot the same as for R1, watching the RELAY2 LED.
- Test the operation by increasing the input signal and watch as R1 to R2 turn on at the selected setpoints. Then decrease the signal and watch as the relays turn off at the selected setpoints minus the deadband.



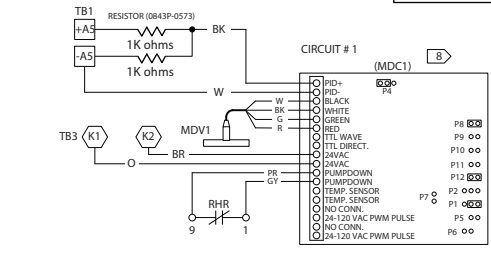
# Typical wiring schematics (cont)

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WIRING DIAGRAM FOR MODULATING REHEAT, 0-10VDC



MODULATING DISCHARGE VALVE CONTROL BOARD

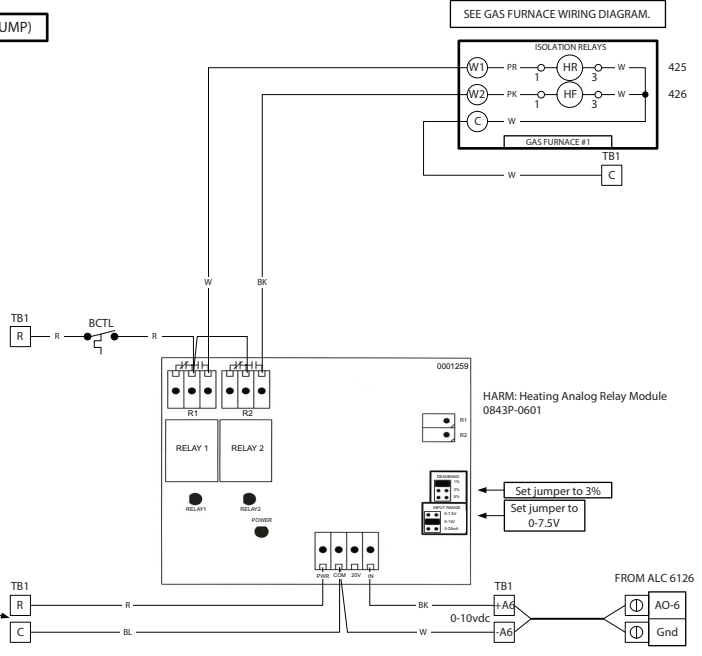


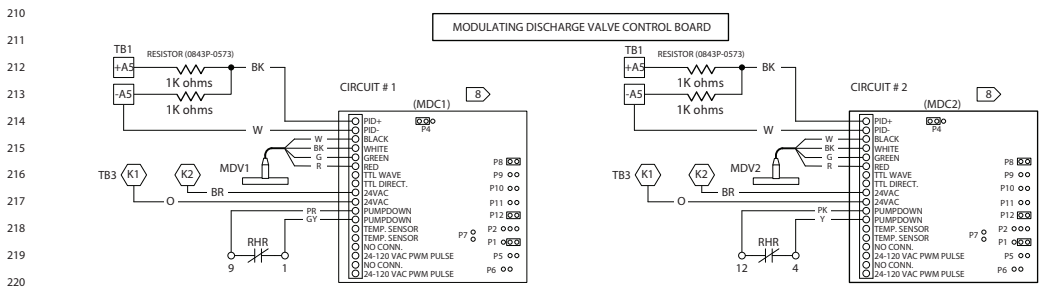
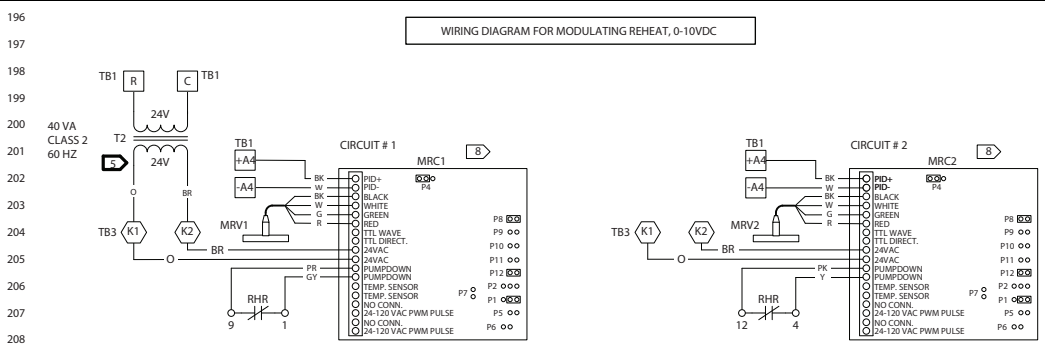
NOTE: BE SURE TO WIRE THE MODULATING DISCHARGE VALVE (MDV) CORRECTLY PER WIRING DIAGRAM. SEE COLOR CODING, THE WHITE WIRE IS CONNECTED TO BLACK AND THE BLACK WIRE IS CONNECTED TO WHITE.

WIRING DIAGRAM FOR 2-STAGE GAS FURNACE (HEAT PUMP)

**Calibration and Setup**

- Set the INPUT RANGE jumper to the correct position for the signal to be used (0-7.5 V).
- Set the deadband jumper to the desired value (3%). This can be changed at any time with the power on.
- Connect the power supply and the input signal to the correct terminals.
- Turn on the power and the POWER LED will light.
- Apply an input signal equal to the R1 setpoint (3V).
- Adjust the R1 pot clockwise until the RELAY1 LED goes out, then slowly adjust the R1 pot counterclockwise until the LED just lights.
- Apply an input signal equal to the R2 setpoint (6V) and adjust the R2 pot the same as for R1, watching the RELAY2 LED.
- Test the operation by increasing the input signal and watch as R1 to R2 turn on at the selected setpoints. Then decrease the signal and watch as the relays turn off at the selected setpoints minus the deadband.



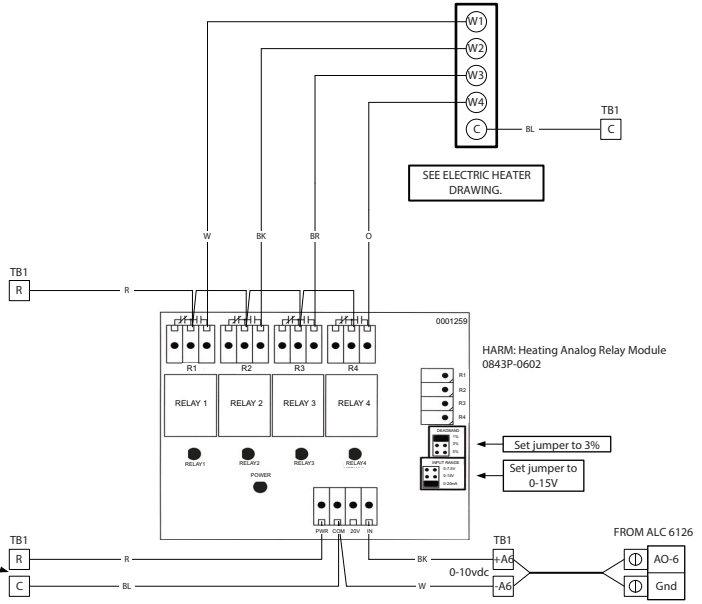


NOTE: BE SURE TO WIRE THE MODULATING DISCHARGE VALVE (MDV) CORRECTLY PER WIRING DIAGRAM. SEE COLOR CODING, THE WHITE WIRE IS CONNECTED TO BLACK AND THE BLACK WIRE IS CONNECTED TO WHITE.

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**WIRING DIAGRAM FOR 4-STAGE ELECTRIC HEAT (HEAT PUMP)**

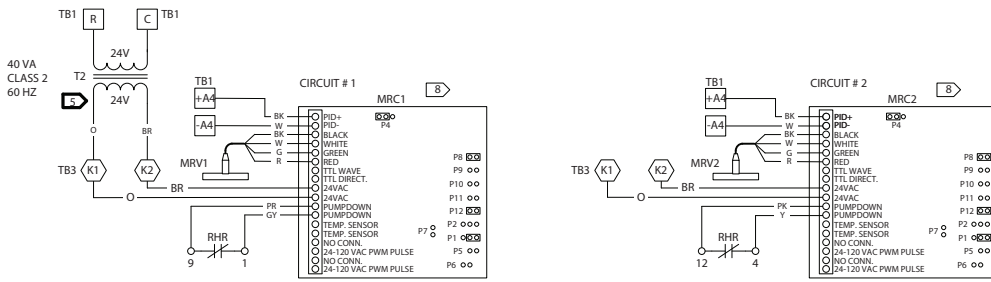
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- Calibration and Setup**
- Set the INPUT RANGE jumper to the correct position for the signal to be used (0-15 V).
  - Set the deadband jumper to the desired value (3%). This can be changed at any time with the power on.
  - Connect the power supply and the input signal to the correct terminals.
  - Turn on the power and the POWER LED will light.
  - Apply an input signal equal to the R1 setpoint (2.5V).
  - Adjust the R1 pot clockwise until the RELAY1 LED goes out, then slowly adjust the R1 pot counterclockwise until the LED just lights.
  - Apply an input signal equal to the R2 setpoint (5V) and adjust the R2 pot the same as for R1, watching the RELAY2 LED.
  - Adjust R3 (7.5V) and R4 (9.5V) using the same method.
  - Test the operation by increasing the input signal and watch as R1 to R4 turn on at the selected setpoints. Then decrease the signal and watch as the relays turn off at the selected setpoints minus the deadband.



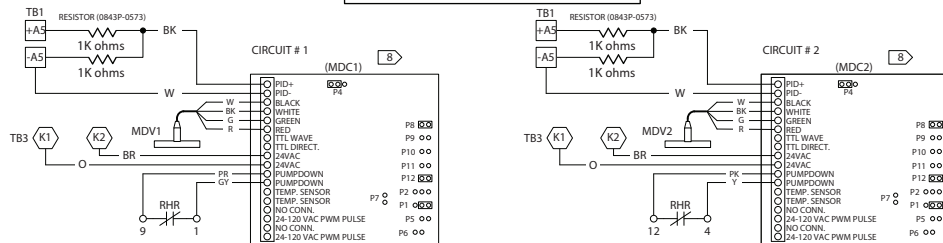
# Typical wiring schematics (cont)

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WIRING DIAGRAM FOR MODULATING REHEAT, 0-10VDC



MODULATING DISCHARGE VALVE CONTROL BOARD

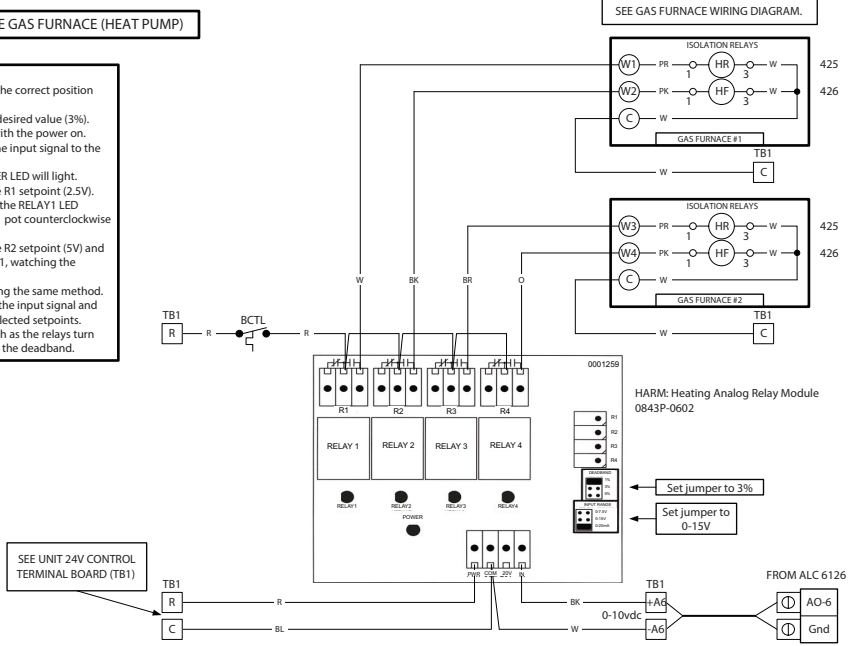


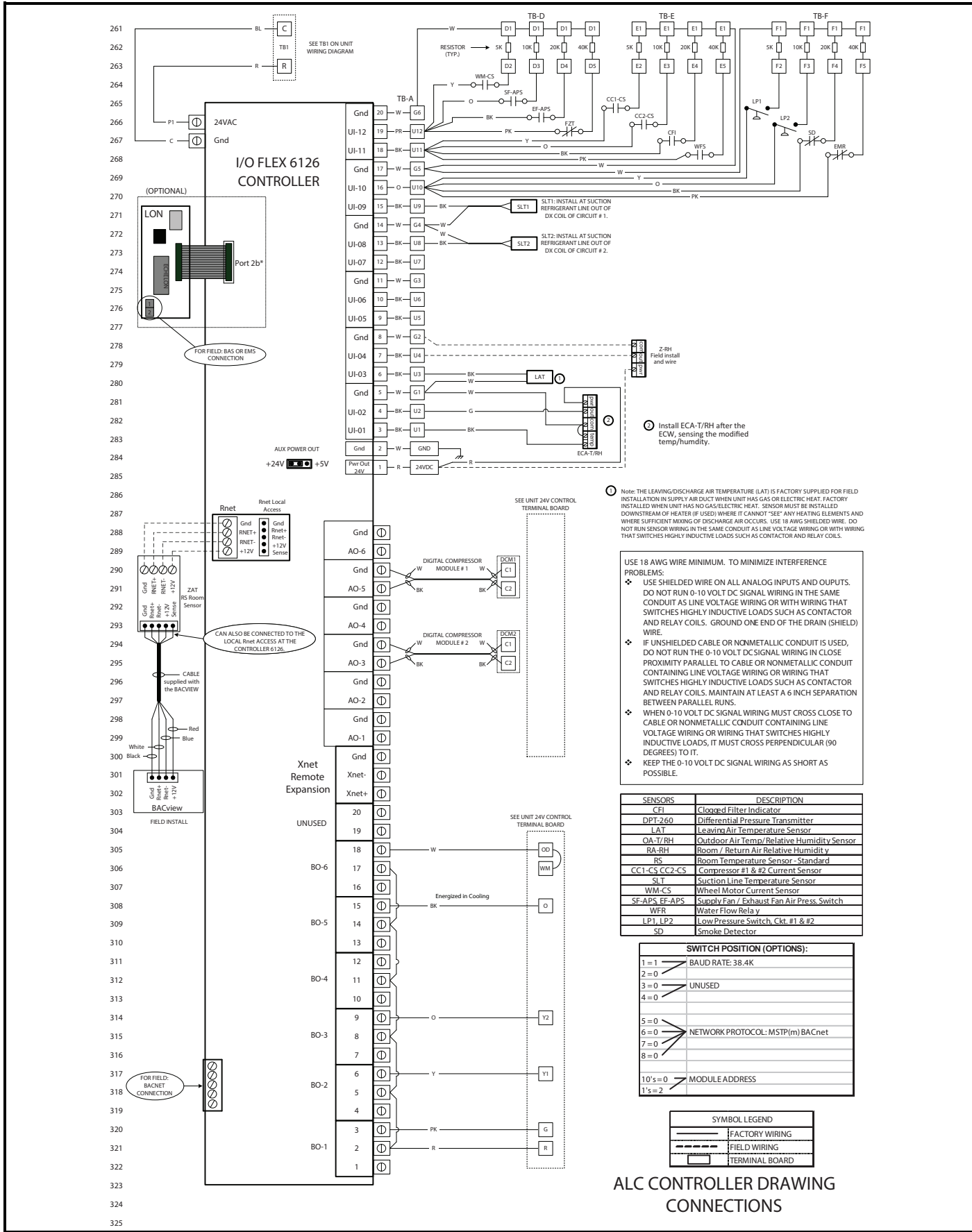
NOTE: BE SURE TO WIRE THE MODULATING DISCHARGE VALVE (MDV) CORRECTLY PER WIRING DIAGRAM. SEE COLOR CODING, THE WHITE WIRE IS CONNECTED TO BLACK AND THE BLACK WIRE IS CONNECTED TO WHITE.

WIRING DIAGRAM FOR 4-STAGE GAS FURNACE (HEAT PUMP)

**Calibration and Setup**

- Set the INPUT RANGE jumper to the correct position for the signal to be used (0-15 V).
- Set the deadband jumper to the desired value (3%). This can be changed at any time with the power on.
- Connect the power supply and the input signal to the correct terminals.
- Turn on the power and the POWER LED will light.
- Apply an input signal equal to the R1 setpoint (2.5V).
- Adjust the R1 pot clockwise until the RELAY 1 LED goes out, then slowly adjust the R1 pot counterclockwise until the LED just lights.
- Apply an input signal equal to the R2 setpoint (5V) and adjust the R2 pot the same as for R1, watching the RELAY 2 LED.
- Adjust R3 (7.5V) and R4 (9.5V) using the same method.
- Test the operation by increasing the input signal and watch as R1 to R4 turn on at the selected setpoints. Then decrease the signal and watch as the relays turn off at the selected setpoints minus the deadband.





Note: THE LEAVING/DISCHARGE AIR TEMPERATURE (LAT) IS FACTORY SUPPLIED FOR FIELD INSTALLATION IN SUPPLY AIR DUCT WHEN UNIT HAS GAS OR ELECTRIC HEAT. FACTORY INSTALLED WHEN UNIT HAS NO GAS/ELECTRIC HEAT. SENSOR MUST BE INSTALLED DOWNSTREAM OF HEATER (IF USED) WHERE IT CANNOT "SEE" ANY HEATING ELEMENTS AND WHERE SUFFICIENT MIXING OF DISCHARGE AIR OCCURS. USE 18 AWG SHIELDED WIRE. DO NOT RUN SENSOR WIRING IN THE SAME CONDUIT AS LINE VOLTAGE WIRING OR WITH WIRING THAT SWITCHES HIGHLY INDUCTIVE LOADS SUCH AS CONTACTOR AND RELAY COILS.

- USE 18 AWG WIRE MINIMUM. TO MINIMIZE INTERFERENCE PROBLEMS:
- ❖ USE SHIELDED WIRE ON ALL ANALOG INPUTS AND OUTPUTS. DO NOT RUN 0-10 VOLT DC SIGNAL WIRING IN THE SAME CONDUIT AS LINE VOLTAGE WIRING OR WITH WIRING THAT SWITCHES HIGHLY INDUCTIVE LOADS SUCH AS CONTACTOR AND RELAY COILS. GROUND ONE END OF THE DRAIN (SHIELD) WIRE.
  - ❖ IF UNSHIELDED CABLE OR NONMETALLIC CONDUIT IS USED, DO NOT RUN THE 0-10 VOLT DC SIGNAL WIRING IN CLOSE PROXIMITY PARALLEL TO CABLE OR NONMETALLIC CONDUIT CONTAINING LINE VOLTAGE WIRING OR WIRING THAT SWITCHES HIGHLY INDUCTIVE LOADS SUCH AS CONTACTOR AND RELAY COILS. MAINTAIN AT LEAST A 6 INCH SEPARATION BETWEEN PARALLEL RUNS.
  - ❖ WHEN 0-10 VOLT DC SIGNAL WIRING MUST CROSS CLOSE TO CABLE OR NONMETALLIC CONDUIT CONTAINING LINE VOLTAGE WIRING OR WIRING THAT SWITCHES HIGHLY INDUCTIVE LOADS, IT MUST CROSS PERPENDICULAR (90 DEGREES) TO IT.
  - ❖ KEEP THE 0-10 VOLT DC SIGNAL WIRING AS SHORT AS POSSIBLE.

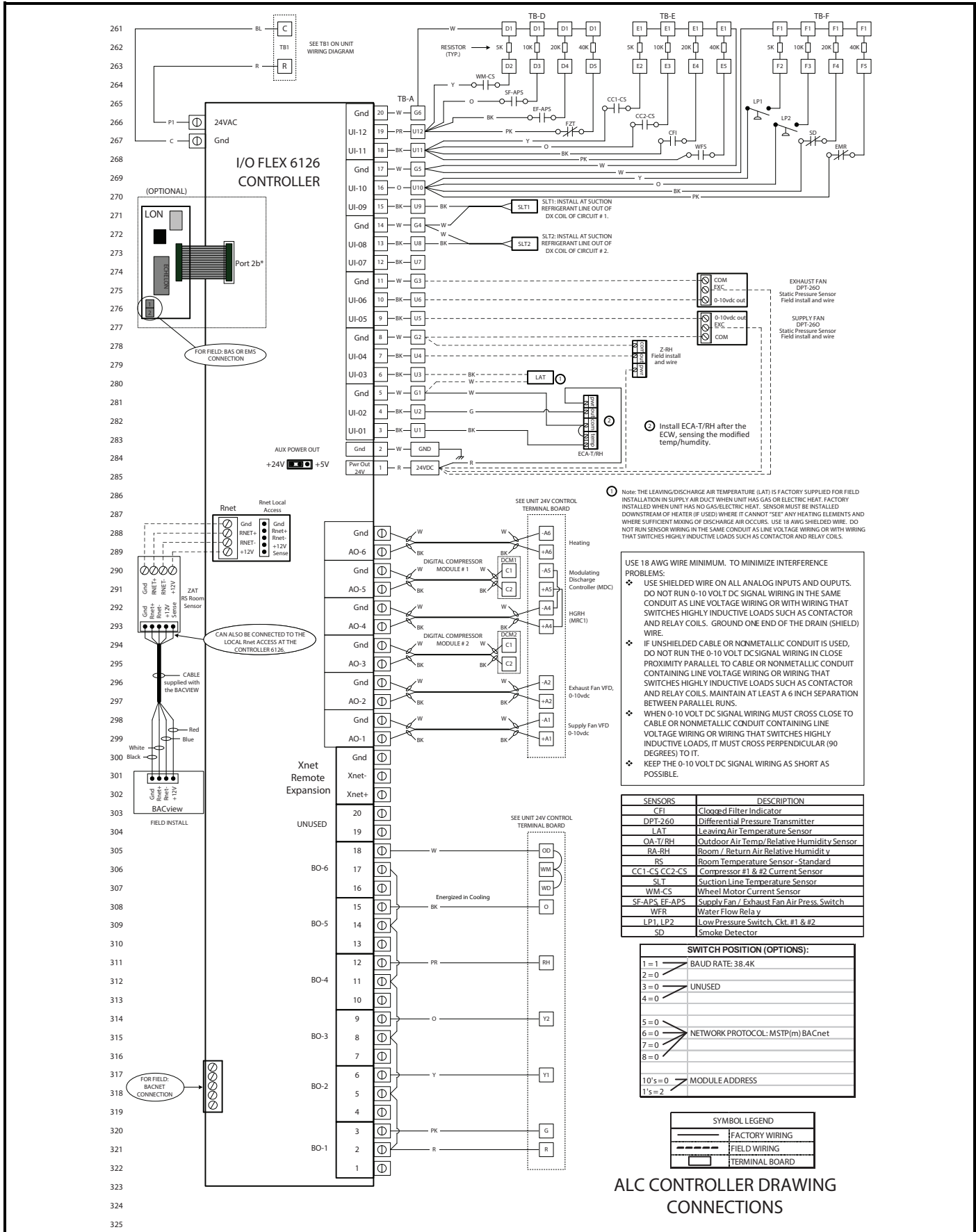
SENSORS	DESCRIPTION
CFI	Clog/d Filter Indicator
DPT-260	Differential Pressure Transmitter
LAT	Leaving Air Temperature Sensor
OA-T/RH	Outdoor Air Temp/Relative Humidity Sensor
RA-RH	Room / Return Air Relative Humidity
RS	Room Temperature Sensor - Standard
CC1-CS CC2-CS	Compressor #1 & #2 Current Sensor
SLT	Suction Line Temperature Sensor
WM-CS	Wheel Motor Current Sensor
SF-APS EF-APS	Supply Fan / Exhaust Fan Air Press. Switch
WFR	Water Flow Relay
LP1, LP2	Low Pressure Switch, Ckt. #1 & #2
SD	Smoke Detector

SWITCH POSITION (OPTIONS):	
1=1	BAUD RATE: 38.4K
2=0	
3=0	UNUSED
4=0	
5=0	NETWORK PROTOCOL: MSTP(m) BACnet
6=0	
7=0	
8=0	
10's=0	MODULE ADDRESS
1's=2	

SYMBOL LEGEND	
	FACTORY WIRING
	FIELD WIRING
	TERMINAL BOARD

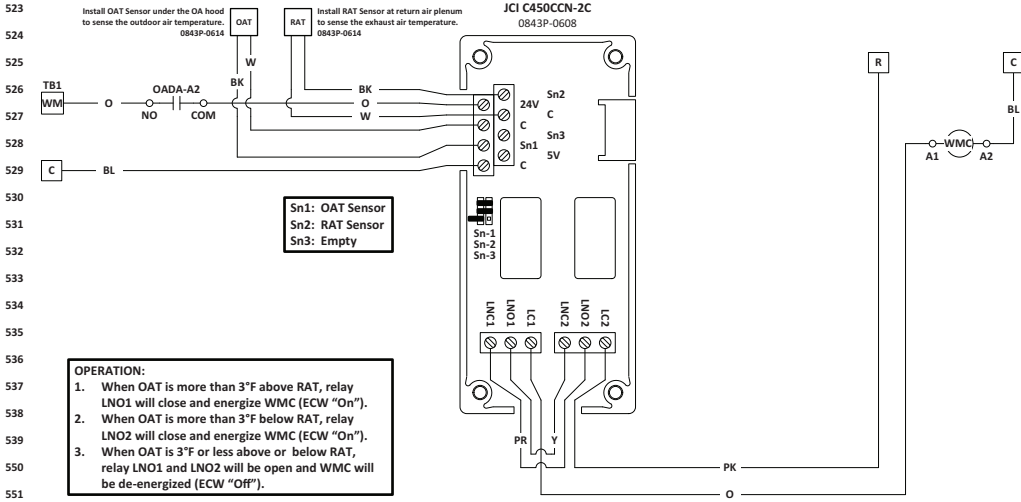
ALC CONTROLLER DRAWING CONNECTIONS

# Typical wiring schematics (cont)



ALC CONTROLLER DRAWING CONNECTIONS

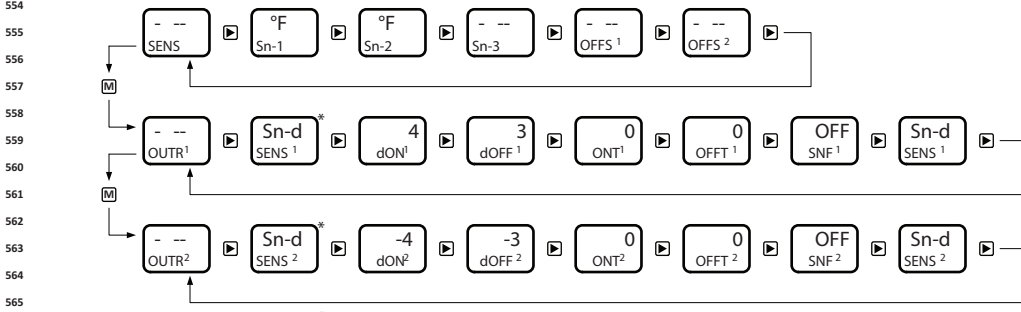
521 **Wiring Diagram for ECW with Standard Control**



**OPERATION:**

1. When OAT is more than 3°F above RAT, relay LNO1 will close and energize WMC (ECW "On").
2. When OAT is more than 3°F below RAT, relay LNO2 will close and energize WMC (ECW "On").
3. When OAT is 3°F or less above or below RAT, relay LNO1 and LNO2 will be open and WMC will be de-energized (ECW "Off").

542 **System 450 Set-Up for ECW with Standard Control**

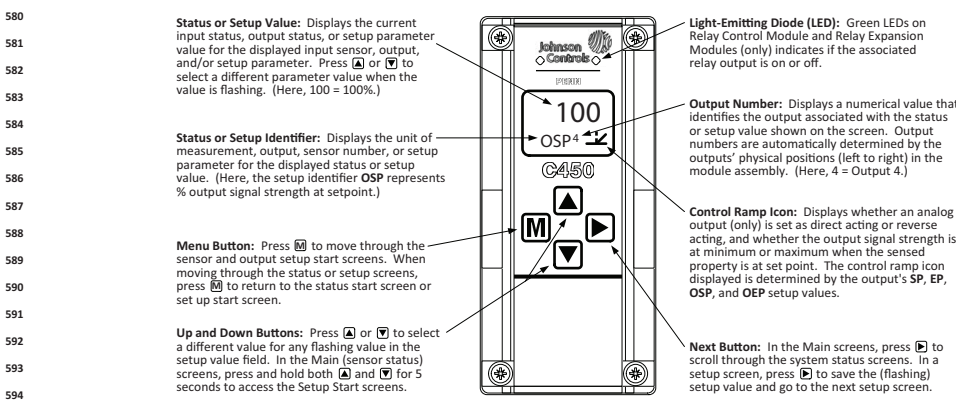


**System 450 Controller Programming Instructions:**

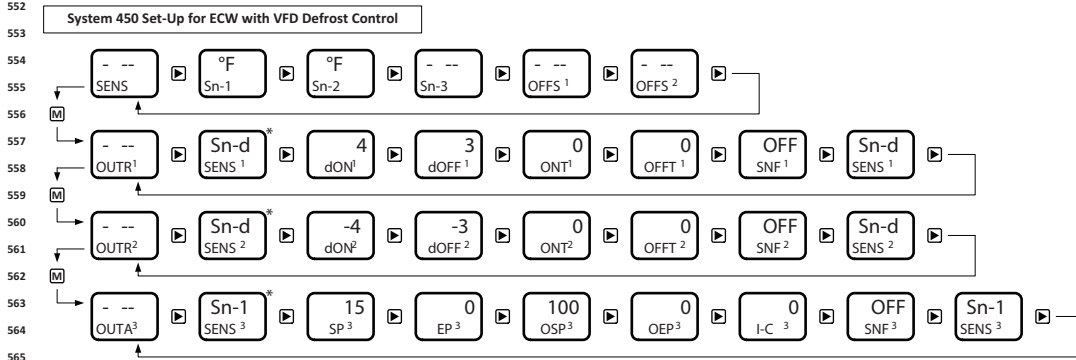
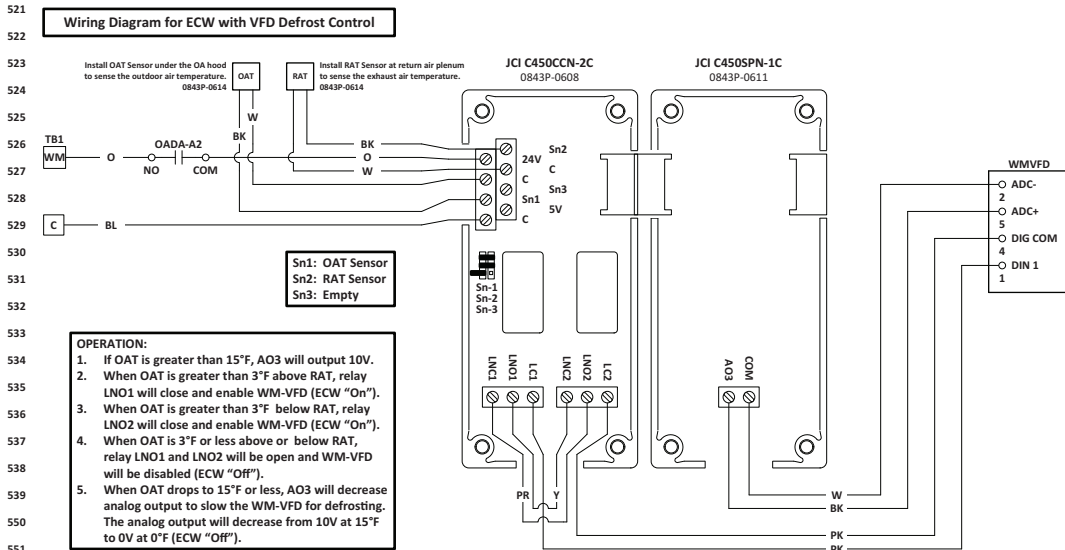
1. Jumper on both pins for Sn-1 and Sn-2. Apply 24VAC power.
2. Press and hold **▲** and **▼** simultaneously for 5 seconds to access "SENS" set-up screens.
3. Press **▶** for "Sn-1". Use **▲** or **▼** to select "°F" sensor. Press **▶** for "Sn-2". Use **▲** or **▼** to select "°F" sensor. Press **▶** then press **■**.
4. Press **■** to access "OUTR<sup>1</sup>" set-up.
5. Press **▶** for "SENS<sup>1</sup>". Press **▲** or **▼** to set value to "Sn-d".\*
6. Press **▶** for "dON<sup>1</sup>". Press **▲** or **▼** to set value to "4".
7. Press **▶** for "dOFF<sup>1</sup>". Press **▲** or **▼** to set value to "3".
8. Press **▶** for "ONT<sup>1</sup>". Press **▲** or **▼** to set value to "0".
9. Press **▶** for "OFFT<sup>1</sup>". Press **▲** or **▼** to set value to "0".
10. Press **▶** for "SNF<sup>1</sup>". Press **▲** or **▼** to set value to "OFF".
11. Press **▶** for "SENS<sup>2</sup>". Press **▲** or **▼** to set value to "Sn-d".
12. Press **■** to return to "OUTR<sup>2</sup>" screen.
13. Press **■** to access "OUTR<sup>2</sup>" set-up.
14. Repeat steps 5 thru 11 for "OUTR<sup>2</sup>" settings except use "-4" for "dON<sup>2</sup>" and "-3" for "dOFF<sup>2</sup>".
15. Press **■** to return to "OUTA" screen.
16. Press **▲** and **▼** simultaneously to return to the main screen.

The controller is now programmed and ready to use.

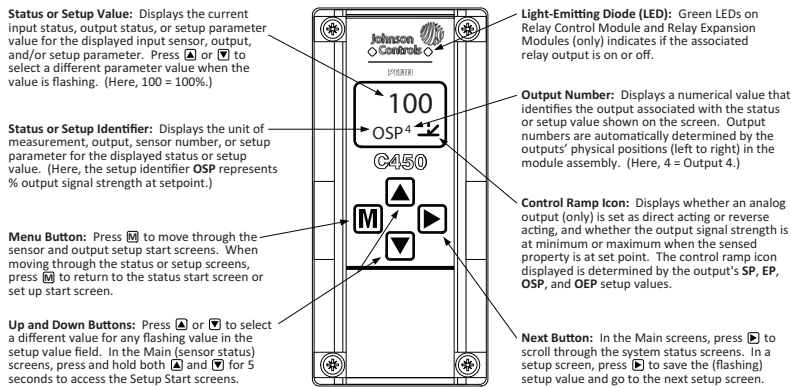
\* - This screen will not show if sensor is already selected.



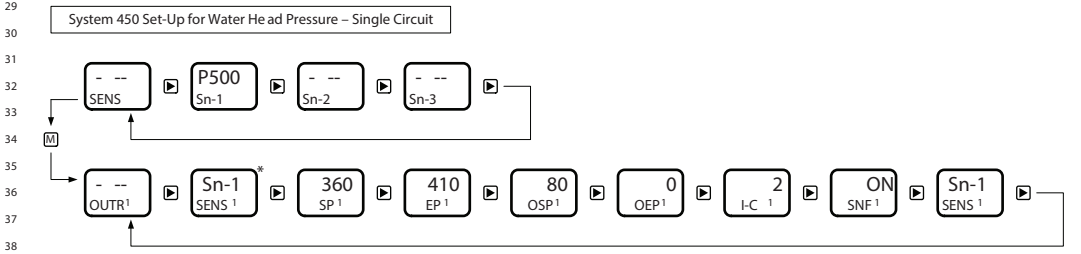
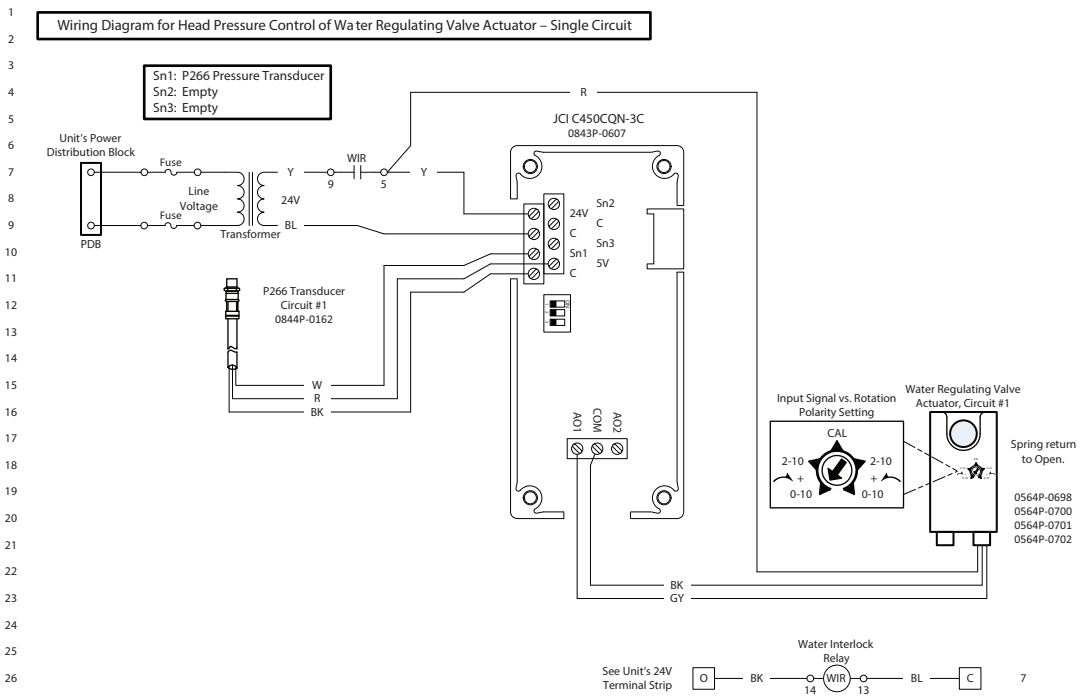
# Typical wiring schematics (cont)



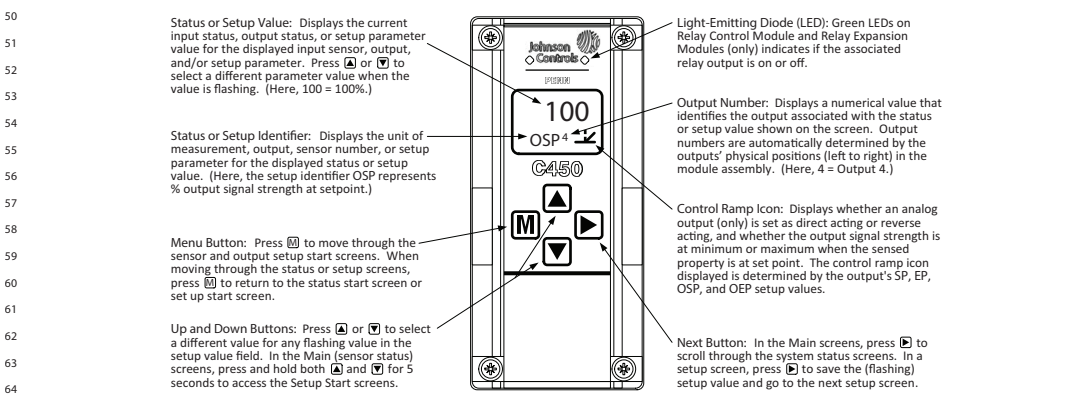
- System 450 Controller Programming Instructions:**
1. Jumper on both pins for Sn-1 and Sn-2. Apply 24VAC power.
  2. Press and hold [▲] and [▼] simultaneously for 5 seconds to access "SENS" set-up screens.
  3. Press [▶] for "Sn-1". Use [▲] or [▼] to select "F" sensor. Press [▶] for "Sn-2". Use [▲] or [▼] to select "F" sensor. Press [▶] then press [M]. Press [M] to access "OUTR<sup>1</sup>" set-up.
  4. Press [▶] for "SENS<sup>1</sup>". Press [▲] or [▼] to set value to "Sn-d".\*
  5. Press [▶] for "dON<sup>1</sup>". Press [▲] or [▼] to set value to "4".
  6. Press [▶] for "dOFF<sup>1</sup>". Press [▲] or [▼] to set value to "3".
  7. Press [▶] for "ONT<sup>1</sup>". Press [▲] or [▼] to set value to "0".
  8. Press [▶] for "OFFT<sup>1</sup>". Press [▲] or [▼] to set value to "0".
  9. Press [▶] for "SNF<sup>1</sup>". Press [▲] or [▼] to set value to "OFF".
  10. Press [▶] for "SENS<sup>2</sup>". Press [▲] or [▼] to set value to "Sn-d".
  11. Press [M] to return to "OUTR<sup>2</sup>" screen.
  12. Press [M] to access "OUTR<sup>2</sup>" set-up.
  13. Repeat steps 5 thru 11 for "OUTR<sup>2</sup>" settings except use "-4" for "dON<sup>2</sup>" and "-3" for "dOFF<sup>2</sup>".
  14. Press [M] to return to "OUTR<sup>2</sup>" screen.
  15. Press [M] to access "OUTA<sup>3</sup>" set-up.
  16. Press [▶] for "SENS<sup>3</sup>". Press [▲] or [▼] to set value to "Sn-1".\*
  17. Press [▶] for "SP<sup>3</sup>". Press [▲] or [▼] to set value to "15".
  18. Press [▶] for "EP<sup>3</sup>". Press [▲] or [▼] to set value to "0".
  19. Press [▶] for "OSP<sup>3</sup>". Press [▲] or [▼] to set value to "100".
  20. Press [▶] for "OEP<sup>3</sup>". Press [▲] or [▼] to set value to "0".
  21. Press [▶] for "I-C<sup>3</sup>". Press [▲] or [▼] to set value to "0".
  22. Press [▶] for "SNF<sup>3</sup>". Press [▲] or [▼] to set value to "OFF".
  23. Press [▶] for "SENS<sup>3</sup>". Press [▲] or [▼] to set value to "Sn-1".
  24. Press [M] to return to "OUTA<sup>3</sup>" screen.
  25. Press [▲] and [▼] simultaneously to return to the main screen. The controller is now programmed and ready to use.
- \* - This screen will not show if sensor is already selected.



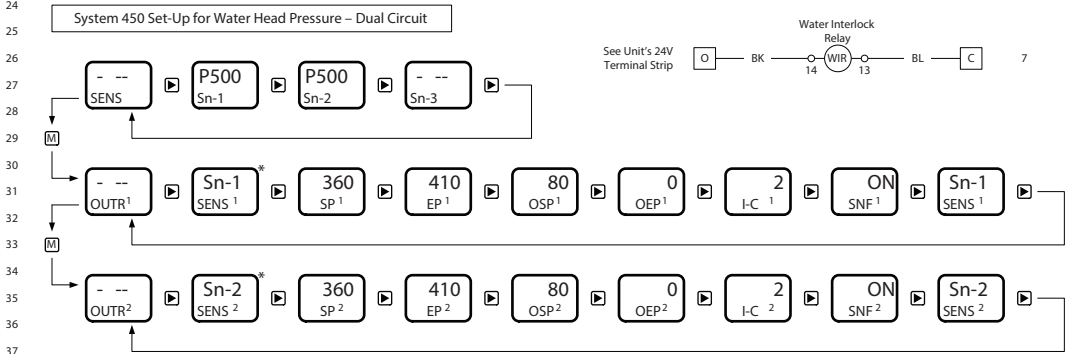
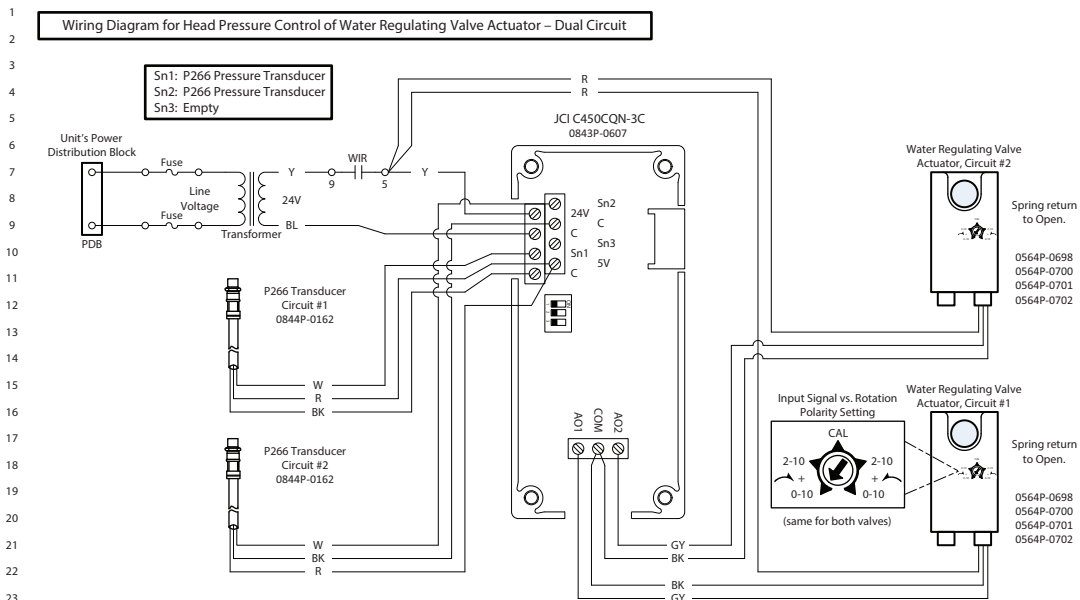




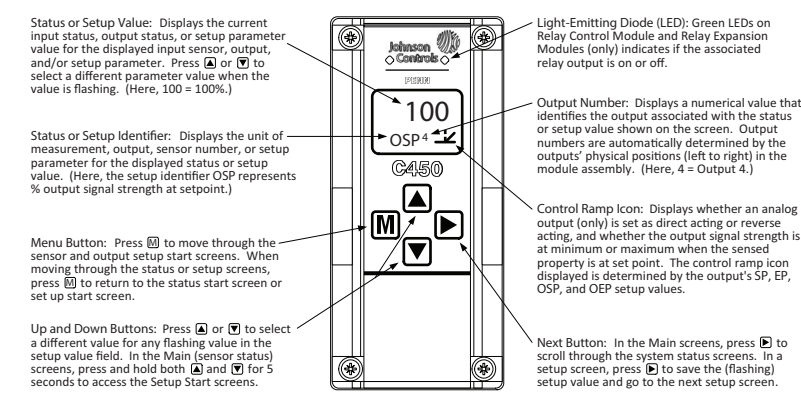
- \* - This screen will not show if sensor is already selected.
- System 450 Controller Programming Instructions:**
- Set all dip switches to "OFF" position. Apply 24VAC power.
  - Press and hold **[▲]** and **[▼]** simultaneously for 5 seconds to access "SENS" set-up screens.
  - Press **[▶]** for "Sn-1". Use **[▲]** or **[▼]** to select "P500" sensor. Press **[▶]** then press **[M]**.
  - Press **[▶]** to access "OUTA" set-up.
  - Press **[▶]** for "SENS<sup>1</sup>". Press **[▲]** or **[▼]** to set value to "Sn-1".\*
  - Press **[▶]** for "SP<sup>1</sup>". Press **[▲]** or **[▼]** to set value to "360".
  - Press **[▶]** for "EP<sup>1</sup>". Press **[▲]** or **[▼]** to set value to "410".
  - Press **[▶]** for "OSP<sup>1</sup>". Press **[▲]** or **[▼]** to set value to "80".
  - Press **[▶]** for "OEP<sup>1</sup>". Press **[▲]** or **[▼]** to set value to "0".
  - Press **[▶]** for "I-C<sup>1</sup>". Press **[▲]** or **[▼]** to set value to "2".
  - Press **[▶]** for "SNF<sup>1</sup>". Press **[▲]** or **[▼]** to set value to "ON".
  - Press **[▶]** for "SENS<sup>1</sup>". Press **[▲]** or **[▼]** to set value to "Sn-1".
  - Press **[▶]** to return to "OUTA" screen.
  - Press **[▲]** and **[▼]** simultaneously to return to the main screen.
- The controller is now programmed and ready to use.
- \* - This screen will not show if sensor is already selected.



# Typical wiring schematics (cont)



- System 450 Controller Programming Instructions:**
- Set all dip switches to "OFF" position. Apply 24VAC power.
  - Press and hold [▲] and [▼] simultaneously for 5 seconds to access "SENS" set-up screens.
  - Press [M] for "Sn-1". Use [▲] or [▼] to select "P500" sensor. Press [M] for "Sn-2". Use [▲] or [▼] to select "P500" sensor.
  - Press [M] to access "OUTA" set-up.
  - Press [M] for "SENS<sup>1</sup>". Press [▲] or [▼] to set value to "Sn-1".
  - Press [M] for "SP<sup>1</sup>". Press [▲] or [▼] to set value to "360".
  - Press [M] for "EP<sup>1</sup>". Press [▲] or [▼] to set value to "410".
  - Press [M] for "OSP<sup>1</sup>". Press [▲] or [▼] to set value to "80".
  - Press [M] for "OEP<sup>1</sup>". Press [▲] or [▼] to set value to "0".
  - Press [M] for "I-C<sup>1</sup>". Press [▲] or [▼] to set value to "2".
  - Press [M] for "SNF<sup>1</sup>". Press [▲] or [▼] to set value to "ON".
  - Press [M] for "SENS<sup>1</sup>". Press [▲] or [▼] to set value to "Sn-1".
  - Press [M] to return to "OUTA" set-up.
  - Press [M] to access "OUTA<sup>2</sup>" set-up.
  - Press [M] for "SENS<sup>2</sup>". Press [▲] or [▼] to set value to "Sn-2".
  - Press [M] for "SP<sup>2</sup>". Press [▲] or [▼] to set value to "360".
  - Press [M] for "EP<sup>2</sup>". Press [▲] or [▼] to set value to "410".
  - Press [M] for "OSP<sup>2</sup>". Press [▲] or [▼] to set value to "80".
  - Press [M] for "OEP<sup>2</sup>". Press [▲] or [▼] to set value to "0".
  - Press [M] for "I-C<sup>2</sup>". Press [▲] or [▼] to set value to "2".
  - Press [M] for "SNF<sup>2</sup>". Press [▲] or [▼] to set value to "ON".
  - Press [M] for "SENS<sup>2</sup>". Press [▲] or [▼] to set value to "Sn-2".
  - Press [M] to return to "OUTA" screen.
  - Press [▲] and [▼] simultaneously to return to the main screen.
- The controller is now programmed and ready to use.
- \* - This screen will not show if sensor is already selected.



## LEGEND FOR TYPICAL WIRING SCHEMATICS

### LEGEND

<b>APS</b>	— Air Pressure Switch
<b>BCTL</b>	— Blower Compartment High Temperature Limit
<b>BOS</b>	— Bleed-Off Solenoid
<b>CB</b>	— Circuit Breaker
<b>CC</b>	— Compressor Contactor
<b>CCH</b>	— Compressor Crankcase Heater
<b>CM</b>	— Compressor Motor
<b>COPM</b>	— Compressor Overcurrent Protection Module
<b>CS</b>	— Compressor Current Sensor Board
<b>DCM</b>	— Digital Compressor Control Module
<b>DX</b>	— Direct Expansion
<b>EFM</b>	— Exhaust Fan Motor
<b>EFR</b>	— Exhaust Fan Relay
<b>EFVFD</b>	— Exhaust Fan-Variable Frequency Drive
<b>EGB</b>	— Equipment Grounding Bar
<b>EMR</b>	— Emergency Management Relay
<b>F</b>	— Fusing
<b>FS</b>	— Firestat
<b>FZT</b>	— Freezestat
<b>HF</b>	— High Fire
<b>HP</b>	— High Pressure Cutout
<b>HR</b>	— Heat Relay
<b>LSS</b>	— Liquid Sub-Cooling Solenoid
<b>MDC</b>	— Modulating Discharge-Line Controller
<b>MDV</b>	— Modulating Discharge Valve
<b>MRC</b>	— Modulating Reheat Controller
<b>MSP-CC</b>	— Motor Starter Protection - Compressor Contactor
<b>MSP-EF</b>	— Motor Starter Protection - Exhaust Fan
<b>MSP-SF</b>	— Motor Starter Protection - Supply Fan
<b>MSP-WM</b>	— Motor Starter Protection - Wheel Motor
<b>OADA</b>	— Two Position Outdoor Air Damper Actuator
<b>PDB</b>	— Power Distribution Block
<b>PM</b>	— Power/Phase Monitor
<b>RHR</b>	— Reheat Relay
<b>RVR</b>	— Reversing Valve Relay
<b>RVS</b>	— Reversing Valve
<b>SF-VFD</b>	— Supply Fan - Variable Frequency Drive
<b>SFC</b>	— Supply Fan Motor Contactor
<b>SFM</b>	— Supply Fan Motor
<b>SFR</b>	— Supply Fan Motor Relay
<b>SLT</b>	— Suction Line Temperature
<b>TB</b>	— Terminal Board
<b>WBDA</b>	— Wheel Bypass Damper Actuator
<b>WFS</b>	— Water Flow Switch
<b>WM</b>	— EX Wheel Motor
<b>WM-CS</b>	— Wheel Motor Current Sensor
<b>WMC</b>	— Wheel Motor Contactor
<b>WMVFD</b>	— Wheel Motor Variable Frequency Drive

# Guide specifications



## Packaged Dedicated Outdoor Air Water Source Heat Pump

### HVAC Guide Specifications — Dedicated Outdoor Air Water Source Heat Pump

Carrier Model Number: **62RA, RB, RC, RD**

Size Range: **6 to 35 Tons Nominal (Cooling)**

#### Part 1 — General

##### 1.01 SYSTEM DESCRIPTION:

A roof curb or slab mounted, packaged 100% outdoor air water source/geothermal heat pump, utilizing digital scroll compressors for cooling and primary heating duty to maintain a leaving air temperature set point. Unit shall have dedicated vertically or horizontal supply air opening, as shown on drawings.

##### 1.02 QUALITY ASSURANCE

- A. Unit shall be designed to conform to ANSI/ASHRAE 15 (latest edition), ASHRAE 62, and UL Standard 1995.
- B. Unit shall be listed by ETL and ETL, Canada as a total package.
- C. Gas heat equipped units shall be designed to conform with ANSI Standard Z21.47 (U.S.A.) / CSA Standard 2.3 (Canada), Gas-Fired Central Furnaces.
- D. Roof curb shall be designed to NRCA criteria per Bulletin B-1986.
- E. Insulation and adhesive shall meet NFPA 90A requirements for flame spread and smoke generation.

##### 1.03 DELIVERY, STORAGE AND HANDLING

Unit shall be stored and handled per manufacturer's recommendations.

#### Part 2 — Products

##### 2.01 EQUIPMENT

###### A. General:

A factory-assembled, single-piece packaged heating and cooling unit. Contained within the unit enclosure shall be all factory wiring, piping, refrigerant charge (R-410A), operating oil charge, single refrigerant circuit (sizes 07-09) or dual refrigerant circuits (sizes 12-38), microprocessor based control system and associated hardware.

###### B. Unit Cabinet:

1. Double wall design, constructed of G-90 galvanized steel, finished with a polyurethane primer and a polyester top coating. Unit casing shall be capable of withstanding 500-hour salt spray exposure per ASTM B117 (scribed specimen).
2. Exterior panels shall be a minimum 20 gage sheet metal with 1.0 in. thick, 4.0 lb density closed cell insulation and a 24 gage sheet metal interior liner. Roof sections shall be sloped for proper drainage.
3. Unit shall have insulated hinged access doors for easy access to the control box and other areas requiring servicing. Access doors shall be

a minimum 20 gage sheet metal with 1.0 in. thick, 4.0 lb. density closed cell insulation and a 24 gage sheet metal interior liner. Access doors shall be equipped with stainless steel hinges and quarter turn, cam operated latches. Each door shall seal against a rubber gasket to help prevent air and water leakage and be equipped to permit ease and safety during servicing.

4. Interior cabinet surfaces shall be lined with 24 gage galvanized steel.
5. Corner and center posts shall be 16 gage galvanized steel.
6. Base pan shall be 16 gage galvanized steel with 0.375 in. closed cell foam insulation. All openings through the base pan shall have upturned flanges at least 0.5 inch in height.
7. Compressor rail shall be 12 gage galvanized steel.
8. Base rail shall be 14 gage galvanized steel, equipped with rigging openings in frame rails to facilitate overhead or fork truck rigging.
9. Fan deck (indoor and outdoor section) shall be 16 gage galvanized steel.
10. Unit shall have a factory-installed, double sloped condensate pan, fabricated of 16 gage stainless steel, insulated with closed cell neoprene insulation. The weight of the coil and other components shall not compress the insulation. The condensate pan shall comply with ASHRAE Standard 62-1089R. The drain shall have an MPT drain fitting, positioned on the exterior of the cabinet.

###### C. Supply Fans:

1. Fans shall be belt driven with single outlet discharge.
2. Fan shaft bearings shall be pillow block type with positive locking collar and are permanently lubricated.
3. Fans shall be statically and dynamically balanced.
4. Supply fan shaft bearings shall have a minimum L10 life of 30,000 hours.
5. The fan assembly shall be mounted on rubber vibration isolators.
6. Fan assembly shall be on a slide-out deck that is removable for maintenance and service.

###### D. Compressor(s):

1. Unit shall have one (size 07-09) or two (size 12-38) digital scroll type compressors with overload and short cycle protection.
2. Unit shall have digital scroll control module to provide compressor protection and modulate the compressor in an unlimited number of steps between 10% and 100% of rated capacity.
3. Compressor shall be rubber-in-shear mounted for vibration isolation.

4. Crankcase heaters shall be activated during compressor off mode.
5. The compressors shall be mounted in an enclosed cabinet.

E. Evaporator Coil:

1. Standard evaporator coil shall have enhanced surface aluminum plate fins mechanically bonded to six rows of seamless internally grooved copper tubes with all joints brazed.
2. Evaporator coil shall have minimum 3/8-in. tube with minimum 12 fins per inch.
3. Coils shall be pressure tested at 650 psig prior to unit assembly; then leak tested at 150 psig and undergo final testing at 475 psig.

F. Refrigeration System Components:

1. Unit shall be equipped with single refrigerant circuit (sizes 07-09) or dual refrigerant circuits (sizes 12-38).
2. Unit shall have a factory-installed, reversible heat pump filter drier on each circuit.
3. Unit shall have an adjustable thermostatic expansion valve.
4. Unit shall have a factory-installed reversing valve, which is energized during cooling mode, and de-energized during heating mode. The reversing valve shall be controlled by the main unit controller.
5. Units shall have a coaxial refrigerant-to-water heat exchanger with enhanced copper coaxial tubes with an outer steel tube shell. Heat exchanger shell shall be encased in polyurethane foam.
6. Condenser water lines shall be insulated.
7. Unit shall be equipped with water regulating valves for low ambient head pressure control to allow operation at low ambient conditions.

G. Filter Section:

1. Unit shall have both a 2-in. and 4-in. track filter rack assembly.
2. Filter rack shall be located upstream of all unit coils.
3. Filter rack shall be accessible via hinged access door.

H. Controls:

1. Unit shall have a factory-installed and programmed microprocessor controller, meeting the following criteria:
  - a. The controller shall operate the unit components according to the sequence of operations, based on unit operating mode and user adjustable set points.
  - b. The controller shall operate based on "Occupied" or "Unoccupied" mode, determined by an external building automation system (BAS) or built in scheduling function, including daily and holiday schedules.

- c. The controller shall communicate with external BAS systems via BACnet, Modbus, or N2 communication protocols.
- d. The controller shall allow user adjustable set points and set point deadbands, within a factory restricted set point range. A 5° F differential between cooling and heating set points shall be maintained by the controller, in accordance with ASHRAE 90.1.
- e. The controller shall operate the unit to maintain a user adjustable leaving air temperature set point. The controller shall have built in space temperature override functionality (adjust LAT based on SAT conditions).
- f. The controller shall have built in energy management relay functionality to act as an occupancy switch or emergency shutdown contact.
- g. The controller shall have factory and field initialized control program archives.
- h. The controller shall have built in test mode, capable of performing a full unit test or testing of individual components.
- i. Controller set points and settings shall be password protected, to prevent unauthorized access.
- j. Interface to the controller shall be accomplished using an accessory interface device via a local access port, remote access port on the space temperature sensor, or via BAS.
- k. The controller shall have a built in alarming function with alarm history. A visual and audible alarm signal is to be displayed via the accessory device.

2. The unit shall include the following sensors:

- a. Outdoor air temperature
- b. Outdoor air relative humidity
- c. Space temperature sensor
- d. Space relative humidity sensor
- e. Leaving air temperature sensor

I. Safeties:

1. Unit shall have a factory-installed power monitor to prevent unit damage due to the following conditions:
  - a. Improper phasing
  - b. Line imbalance
  - c. Over voltage
  - d. Under voltage
  - e. Loss of power
2. Unit shall have digital compressor control module, capable of detecting and preventing compressor damage due to the following faults:
  - a. High discharge temperature
  - b. Power protection

# Guide specifications (cont)



- c. Thermal overload
  - d. Locked rotor detection
  - e. Demand signal lost
  - f. Discharge thermistor fault
  - g. Welded contactor
  - h. Low voltage
3. Unit shall be equipped with the necessary sensors and control logic to prevent unit damage due to the following issues:
- a. Heat source failure
  - b. High heat limit
  - c. Low suction line temperature
  - d. Low refrigerant pressure
  - e. High refrigerant pressure
  - f. Outdoor-air damper not open
  - g. Insufficient condenser water flow
  - h. Supply fan failure
  - i. Low condenser temperature
  - j. Leaving air temperature sensor failure

## J. Operating Characteristics:

- 1. Unit shall be capable of starting and operating at 115 F ambient outdoor temperatures as per maximum load criteria of AHRI Standard 340/360.
- 2. Unit with standard controls will operate cooling or heat pump heating down to an outdoor ambient temperature of 32 F.
- 3. Unit shall be equipped with a motorized two-position outdoor air (OA) damper for 100% OA operation. The damper shall be 100% open when the unit is in occupied mode.
- 4. Unit shall operate to maintain a user adjustable leaving air temperature set point.
- 5. Unit shall have the following operating modes:
  - a. Occupied:
    - 1) Fan Only
    - 2) Cooling
    - 3) Heating
  - b. Unoccupied
  - c. Test Mode

## K. Electrical Requirements:

All unit power wiring shall enter unit cabinet at a single location.

## L. Motors:

- 1. Compressor motors shall be cooled by refrigerant gas passing through motor windings and shall have either internal line break thermal and current overload protection or external current overload modules with compressor temperature sensors.
- 2. All indoor-fan motors 1 hp and larger shall meet the minimum efficiency requirements as established by the Energy Independence and

Security Act of 2007 (EISA), effective December 20, 2010.

- 3. All indoor-fan motors shall be open drip proof design.

## M. Special Features:

Not all feature combinations are available. Contact your local Carrier Sales Office.

### 1. Hot Gas Reheat:

- a. A factory-installed hot gas reheat (HGRH) coil shall be available. The HGRH coil shall be connected to the lead or both refrigerant circuits (size 12-38 only) and shall modulate to maintain leaving-air temperature.
- b. The HGRH coil face area shall be equal to the evaporator face area (full faced coil).

### 2. Liquid Subcooling:

- a. A factory-installed liquid subcooling reheat (LSRH) coil shall be available. The LSRH coil shall be connected to all available circuits and shall cycle to maintain leaving-air temperature.
- b. The LSRH coil shall only be used in conjunction with a modulating HGRH coil.
- c. The LSRH coil face area shall be equal to the evaporator face area (full faced coil).

### 3. Energy Recovery:

- a. The factory-installed enthalpy wheel shall be certified to meet the requirements of AHRI Standard 1060 and shall be AHRI listed.
- b. The enthalpy wheel shall be constructed of corrugated synthetic fibrous media with a desiccant intimately bound and uniformly and permanently dispersed throughout the matrix structure of the media.
- c. The desiccant material shall be molecular sieve, 4 angstrom or smaller.
- d. The rotor shall be constructed of alternating layers of flat and corrugated media. Wheel construction shall be fluted or formed honeycomb geometry so as to eliminate internal wheel bypass. The wheel frames shall be evenly spaced steel spokes with a galvanized steel outer band and rigid center hub.
- e. The wheel seals shall be full contact nylon brush type.
- f. The wheel shall slide out of the cabinet side for service.
- g. Wheel cassettes shall be constructed of galvanized steel. Cassettes shall have integral purge section.
- h. The wheel bearings shall be inboard mounted permanently sealed roller bearings or externally flanged bearings.
- i. The wheel shall be driven by a fractional horsepower AC motor via multilink drive belts.

- j. Frost prevention shall be accomplished by cycling the wheel (on/off) based on ambient conditions.
  - k. Available wheel frost prevention shall be accomplished by varying wheel speed based on ambient temperature (VFD defrost)
  - l. A wheel bypass damper shall be available for both the supply and return airstreams.
4. Gas Heating:
- a. Gas heat shall be induced-draft combustion type with energy saving direct spark ignition systems and redundant main gas valves.
  - b. The heat exchanger shall be of the tubular section type constructed of a minimum of 20-gage stainless steel.
  - 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.
  - e. Induced-draft fans shall be direct-driven, single inlet, forward-curved centrifugal type and shall be statically and dynamically balanced. Fans shall be made from steel with a corrosion-resistant finish.
  - f. High-corrosion areas such as flue gas collection and exhaust areas shall be lined with corrosion resistant material.
  - g. The unit shall have factory-installed gas heat with 2-stage or 4-stage heat control or modulating control providing 25% to 100% burner modulation.
5. Electric Heat:
- a. Electric resistance heaters shall be factory-installed nichrome element type, open wire coils with 0.375 inch inside diameter, insulated with ceramic bushings, and include operating and safety controls.
  - b. Coil ends shall be staked and welded to terminal screw slots.
  - c. Factory-installed electric heat shall have staged heat control (1, 2, 3, or 4 stages) or SCR (silicon controlled rectifier) control providing infinite capacity adjustment.
6. Hot Water Heat:
- a. Unit shall be available with a 2-row hot water coil, of copper tube with aluminum fin construction, installed downstream of the evaporator.
  - b. Coil connection stubs will be located inside the unit cabinet.
  - c. Control valves shall be field furnished and powered. Control signal shall be provided by main unit controller.
7. Steam Heat:
- a. Unit shall be available with a 1-row, steam distributing type coil, of copper tube with aluminum fin construction, installed downstream of the evaporator coil.
- b. Coil connection stubs will be located inside the unit cabinet.
  - c. Control valves shall be field furnished and powered. Control signal shall be provided by main unit controller.
  - d. Condensate trap shall be field provided.
8. Supply Fan:
- a. Supply fan of the backward curve, forward curve, airfoil, or backward inclined type shall be factory-installed, mounted on rubber or spring isolation, and installed on a slide-out deck that is removable for maintenance and service.
  - b. Supply fan shall have optional VFD for fan modulation. Modulation signal shall come from main unit controller based on duct or space pressure input.
9. Exhaust Fan:
- a. Exhaust fan of the backward curve, forward curve, or airfoil type shall be factory-installed, mounted on rubber or spring isolation, and installed on a slide-out deck that is removable for maintenance and service.
  - b. Exhaust fan shall have optional VFD for fan modulation.
10. Liquefied Propane Conversion Kit:
- Kit shall contain all the necessary hardware and instructions to convert a standard natural gas unit for use with liquefied propane gas.
11. Convenience Outlet:
- a. Shall be factory-installed and internally mounted with an externally accessible 115-v, 15 amp GFI receptacle with hinged cover.
  - b. The outlet shall require field-supplied 115-v power supply wiring.
12. Fused Disconnect Switch:
- a. Shall be factory-installed, internally mounted, and UL approved.
  - b. Switch shall provide unit power shutoff. Shall be accessible from outside the unit and shall provide power off lockout capability.
13. Firestat:
- A factory-installed, manual-reset firestat shall be mounted in the return air opening of the unit. The firestat shall disrupt unit operation if the return-air temperature exceeds the firestat set point.
14. Dirty Filter Status Switch:
- A manual reset filter status switch shall be factory installed. The switch shall trigger an alarm on the microprocessor controller if the filter pressure drop exceeds the switch set point.

# Guide specifications (cont)



15. Fan Status Switch:  
The unit shall be equipped with a field-adjustable differential air pressure switch installed across the filters or supply fan to provide proof of airflow.
16. Spring Fan Isolation:  
Supply fan and power exhaust fan (if equipped) shall be mounted in spring type isolation with seismic restraints.
17. Filter Kits:  
Accessory filter kits shall be available with MERV-8, 11, or 14 type filters.
18. Control User Interface:
  - a. An accessory user control interface device shall be available. The device shall interface with the unit controls via local access port on the unit controller or local access port on the space temperature sensor.
  - b. The user interface shall contain directional and numeric keys for user input.
  - c. The user interface shall have a backlit display capable of displaying a minimum of 4 lines of text.
  - d. The user interface shall feature a visual and audible alarm indicator function.
19. LonWorks Communication:  
LonWorks communication shall be available factory installed.
20. Harsh Environment Coating:
  - a. Unit shall be equipped with a factory applied "Harsh Environment Protection" designed to combat the corrosive effects of industrial and commercial atmospheric conditions including: salt air, salt water, acid rain, chlorine and chlorides, hydrochloric, nitric, hydrofluoric, sulfuric and uric acid fumes, hydrogen sulfide gas, lye, sulfur dioxide, methane gas, hydrocarbons, chlorinated solvents and aromatic solvents.
  - b. Evaporator shall be coated with corrosion-resistant coating composed of aluminum-impregnated polyurethane, rated for 10,000 hr salt spray.
- c. All interior cabinet panels shall be coated with corrosion-resistant coating composed of aluminum-impregnated polyurethane, rated for 10,000 hr salt spray.
- d. All exterior surfaces of the cabinet shall be coated with corrosion-resistant cabinet coating composed of polyurethane, rated for 10,000 hr salt spray.
- e. All compressors, accumulators, factory-installed receivers, control device covers and refrigerant piping shall be coated with corrosion-resistant coating composed of aluminum-impregnated polyurethane, rated for 10,000 hr salt spray.
- f. The Harsh Environment Protection shall include the following features, where applicable, to provide extra protection against corrosive atmospheric conditions:
  - 1) HGRH coil shall be coated with corrosion-resistant coating composed of aluminum-impregnated polyurethane, rated for 10,000 hr salt spray.
  - 2) LSRH coil shall be coated with corrosion-resistant coating composed of aluminum-impregnated polyurethane, rated for 10,000 hr salt spray.
  - 3) Hot water coil shall be coated with corrosion-resistant coating composed of aluminum-impregnated polyurethane, rated for 10,000 hr salt spray.
  - 4) Steam coil shall be coated with corrosion-resistant coating composed of aluminum-impregnated polyurethane, rated for 10,000 hr salt spray.
  - 5) Gas furnace heat exchanger shall be coated with corrosion-resistant coating composed of aluminum-impregnated polyurethane, rated for 10,000 hr salt spray.

## 21. Roof Curb:

Curb shall be formed of 14-gage galvanized steel with wood nailer strip and shall be capable of supporting entire unit weight.

