

REZ[®]OR

PACKAGED HVAC EQUIPMENT CATALOG

COMMERCIAL/INDUSTRIAL HVAC

CAPACITIES

5 - 70 Tons Cooling

Dehumidification

1,000 - 13,000 CFM

100 - 1,600 MBH (Gas Heating)

8:1 or 16:1 Gas Heating Modulation

150-250 CFM/Ton

2 - 10 Tons Dedicated ReHeat

Visit www.RezSpec.com for more information.

Form C-MAPSIII (Version C)

BACKGROUND

Reznor was founded in 1888 to manufacture the “Reznor” reflector heater, which used a luminous flame gas burner developed by George Reznor. This technological breakthrough was an immediate success and hastened the expansion of gas heating in residential and commercial applications. Technological development and innovation have been the hallmark of Reznor products through the years. The development of the forced air gas unit heater, the modular Thermocore® heat exchanger, and the high-efficiency, V3® Series unit heaters have kept Reznor products at the forefront of technological advances in commercial and industrial gas heating. As a result of this pioneering role in the heating, makeup air, and ventilating equipment fields, the products offered today are the most advanced in engineering design to satisfy a wide variety of applications.

FACILITIES

Reznor® heaters were first manufactured and sold in Mercer, Pennsylvania (70 miles north of Pittsburgh) in 1888. Over the years, the company has grown and expanded. Today, with sales worldwide, Reznor products are being manufactured at facilities throughout North America and Europe.

PRODUCT SCOPE

Well-equipped engineering laboratories for both product development and testing can be found at many of the manufacturing sites. All domestic lab sites are agency approved.

Reznor products include a complete line of heating, makeup air and ventilating systems, using gas, oil, hot water/steam, or electric heat sources. Reznor heater catalogs are designed to aid the engineer, architect, or contractor in specifying the correct equipment for all standard and special applications. Complete data is presented on unit heaters, duct furnaces, infrared heaters, makeup air systems, pre-engineered custom-designed systems, and evaporative cooling modules. Consult your local Reznor Sales Representative for further assistance in specifying Reznor equipment for your specific application.

SERVICES

Product service requirements are handled through contractors and/or distributors, with backup from local representatives and factory-based service team. Replacement parts inventories for both warranty and non-warranty requirements are maintained at service centers throughout the country and at the manufacturing facilities.

For more information on Reznor HVAC equipment or to be directed to the Reznor Representative in your area call

1-800-695-1901

Or, check the web site at

www.RezSpec.com

REZNOR®

Thomas & Betts

REZNOR®

MAPS®
MAPS® dH™

MAPS® III MODULAR AIR PROCESSING SYSTEMS Models RCB, RDB, RDCB, RDDB, RECB, REDB

Models RDCB and RDDB include patented* Tcore²® gas combustion system



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* U.S. Patent No. 6,889,686

In keeping with our policy of continuous product improvement, we reserve the right to alter, at any time, the design, construction, dimensions, weights, etc. of the equipment information shown here.

Due to a large variety of possible product configurations, specifying a MAPS System is based on a building block approach. The first step in this process begins with model type and size (see following example). The unit is configured by adding available factory and field installed options.

Model Size Selection

Model RCB: 100% outside air packaged cooling only system

Model RDB: 100% outside air packaged cooling only with dehumidification reheat refrigerant system

Model RDCB: 100% outside air packaged cooling and gas heating system

Model RDDB: 100% outside air packaged cooling and gas heating with dehumidification reheat refrigerant system

Model RECB: 100% outside air packaged cooling and electric heating system

Model REDB: 100% outside air packaged cooling and electric heating with dehumidification reheat refrigeration system

OPTION CODES

Power

AK5 - 208/3 power

AK6 - 230/3 power

AK7 - 460/3 power

AK8 - 575/3 power

Heating Options (RDCB, RDDB)

AA1 - Natural Gas

AA2 - Propane (100 - 300 MBH units only)

AC2- 409 Stainless Steel Heat Exchanger

AC4 - 316 Stainless Steel Heat Exchanger

AG70 - 8:1 or 16:1 gas modulation control

BP1 - Standard Manifold

BP4 - High and Low Gas Pressure Switches

JH25 - 250 MBH Curb Mounted Gas Heat (B Cabinet only)

JH30 - 300 MBH Curb Mounted Gas Heat (C Cabinet only)

EG3 - 3 Stage Electric Heat Control (C Cabinet only)

Blower System Options

AL6 thru AL44 - Motor HP and Type

AM8 thru AM36 - Drive RPM option

AN2 - Motor Contactor

AN10 - Motor Starter

VFD1 - Factory Installed Variable Frequency Drive

VFD2 - Field Installed Variable Frequency Drive

VFC2 thru VFC9 - VFD control options

XB2 - Extra Set of Solid V-Belts

Cabinet Options

AQ1 - Vertical Discharge

AQ2 - Horizontal Discharge (D Cabinet only)

AYP2 - Panel section cover (D Cabinet only)

AZ11 - Condenser Guard

CJ3 - Roof Curb, 16" Height, Vertical Discharge (D Cabinet Size only)

CJ31 - Roof Curb, 14" Height, Vertical Discharge (A, B, & C Cabinet only)

CJ49 - Roof Curb, 36" Height, Horizontal Discharge (A, B, & C Cabinet only)

CJ50 - Roof Curb, 32" Height, Horizontal Discharge (A, B, & C Cabinet only)

Damper & Air Options

AR1, AR8 & AR25 Damper configurations

GF1 thru GF8 Damper control options

AS16 & AS19 - Outside Air hood

AW9 - 2" Permanent Filters

AW11 - 2" Disposable Pleated Filters, MERV 8

AW20 - 4" Permanent Filters

AW21 - 4" Disposable Pleated Filters, MERV 8

AW24 - 4" Disposable Pleated Filters, MERV 13

XF6 - Extra Set of 2" Disposable Pleated Filters

XF21 - Extra Set of 4" Disposable, Pleated Filters, MERV8

Control Options

D15 - Neutral Air Control

D16 - Space temperature Control

BD5 - Fire Stat

BE__ - Sensor Options

BG9 - Exhaust Fan Relay

BHB5 - Lon communication

BHB6 - Control Expansion Board

CL77 - Room Override Control

DT7 - Wall Humidity Sensor

RB3 - Remote Display module

SA1 - Photoelectric Smoke Detector

Miscellaneous Options

AUB4 thru AUB8 Coil Coating Options

AUC9 - Hot Gas Bypass on All Stages

AZ11 - Condenser Hail Guard

BC2 - Convenience Outlet (requires 110V supply)

PE1 thru PE3 - Power Exhaust (A, B or C Cabinet only)

XW1 - Additional 4 Year Compressor Warranty

XW2 - Optional Extended 4 Year Gas Heat Exchanger Warranty (Model RDCB, RDDB Only)

XW3 - Optional Extended 9 Year Gas Heat Exchanger Warranty (Model RDCB, RDDB Only)

XW4 - Optional Extended 4 Year Electric Heat Exchanger Warranty (Model RECB, REDB Only)

ER11 thru ER62 - Energy Recovery

BE6 - ERV Low Ambient Kit

BH6 - ERV Stop/Start/Jog

SMF1 thru SMF3 - Supply and Exhaust Fan RPM Kit

ERW2 - Pivoting Wheel

ERW1 - Stationary Wheel

BW4 - Differential Pressure Gauge

UNIT SELECTION (cont'd)

For exact specification, please use Reznor Toolbox Software or contact your Reznor Representative by calling 800-695-1901.

The table below shows cabinet size ranges for the MAPSIII line.

Units by Cabinet Sizes

Model, Capacity				Electric Heating (kW)													
				Single Phase Electric Heat				Single & Three Phase Electric Heat (kW)									
RECB	Tons	REDB	Tons	10s kW	15s kW	20s kW	24s kW	15 kW	20 kW	25 kW	30 kW	35 kW	39 kW	50 kW	60 kW	75 kW	88 kW
RECB-060	5	REDB-084	7	A	A	A	A	A	A	A	A	A	A	--	--	--	--
RECB-078	7	REDB-102	9	A	A	A	A	A	B	A	A	B	A	B	B	B	--
RECB-090	8	REDB-114	10	A	A	A	A	A	B	A	A	B	A	B	B	B	B
RECB-118	10	REDB-142	12	A	A	A	A	A	B	A	A	B	A	B	B	B	B
RECB-136	11	REDB-162	13	A	A	A	A	A	B	A	A	B	A	B	B	B	B
RECB-160	13	REDB-184	15	--	--	--	--	B	B	B	B	B	B	B	B	B	B
RECB-186	16	REDB-210	18	--	--	--	--	B	B	B	B	B	B	B	B	B	B
	16	REDB-222	19	--	--	--	--	B	B	B	B	B	B	B	B	B	B
RECB-200	17	REDB-224	19	--	--	--	--	B	B	B	B	B	B	B	B	B	B
	17	REDB-236	20	--	--	--	--	B	B	B	B	B	B	B	B	B	B
RECB-190	16	REDB-248	21	--	--	--	--	--	--	--	--	--	C	C	C	C	C
	16	REDB-262	22	--	--	--	--	--	--	--	--	--	C	C	C	C	C
RECB-216	18	REDB-272	23	--	--	--	--	--	--	--	--	--	C	C	C	C	C
	18	REDB-288	24	--	--	--	--	--	--	--	--	--	C	C	C	C	C
RECB-298	25	REDB-354	30	--	--	--	--	--	--	--	--	--	C	C	C	C	C
	25	REDB-370	31	--	--	--	--	--	--	--	--	--	C	C	C	C	C
RECB-410	34	REDB-468	39	--	--	--	--	--	--	--	--	--	C	C	C	C	C
	34	REDB-482	40	--	--	--	--	--	--	--	--	--	C	C	C	C	C

Model		No Heat	Model, Capacity				Gas Heat (MBH) ²														
RCB	RDB		RDCB	Tons	RDDB	Tons	100	150	200	250	300	400	500	600	700	800	1000	1200	1400	1400	1600
RCB-060	RDB-084	A	RDCB-060	5	RDDB-084	7	A	A	A	--	--	--	--	--	--	--	--	--	--	--	--
RCB-078	RDB-102	A	RDCB-078	7	RDDB-102	9	A	A	A	B	B	--	B ¹	--	--	--	--	--	--	--	--
RCB-090	RDB-114	A	RDCB-090	8	RDDB-114	10	A	A	A	B	B	--	B ¹	--	--	--	--	--	--	--	--
RCB-118	RDB-142	A	RDCB-118	10	RDDB-142	12	A	A	A	B	B	--	B ¹	--	--	--	--	--	--	--	--
RCB-136	RDB-162	A	RDCB-136	11	RDDB-162	13	--	--	--	B	B	--	B ¹	--	--	--	--	--	--	--	--
RCB-160	RDB-184	B	RDCB-160	13	RDDB-184	15	--	--	--	B	B	--	B ¹	--	--	--	--	--	--	--	--
RCB-186	RDB-210	B	RDCB-186	16	RDDB-210	18	--	--	--	B	B	--	B ¹	--	--	--	--	--	--	--	--
	RDB-222	B		16	RDDB-222	19	--	--	--	B	B	--	B ¹	--	--	--	--	--	--	--	--
RCB-200	RDB-224	B	RDCB-200	17	RDDB-224	19	--	--	--	B	B	--	B ¹	--	--	--	--	--	--	--	--
	RDB-236	B		17	RDDB-236	20	--	--	--	B	B	--	B ¹	--	--	--	--	--	--	--	--
RCB-190	RDB-248	C	RDCB-190	16	RDDB-248	21	--	--	--	--	C	C	C	C	C	C	C ¹	--	--	--	--
	RDB-262	C		16	RDDB-262	22	--	--	--	--	C	C	C	C	C	C	C ¹	--	--	--	--
RCB-216	RDB-272	C	RDCB-216	18	RDDB-272	23	--	--	--	--	C	C	C	C	C	C	C ¹	--	--	--	--
	RDB-288	C		18	RDDB-288	24	--	--	--	--	C	C	C	C	C	C	C ¹	--	--	--	--
RCB-298	RDB-354	C	RDCB-298	25	RDDB-354	30	--	--	--	--	C	C	C	C	C	C	C ¹	--	--	--	--
	RDB-370	C		25	RDDB-370	31	--	--	--	--	C	C	C	C	C	C	C ¹	--	--	--	--
RCB-410	RDB-468	C	RDCB-410	34	RDDB-468	39	--	--	--	--	C	C	C	C	C	C	C ¹	--	--	--	--
	RDB-482	C		34	RDDB-482	40	--	--	--	--	C	C	C	C	C	C	C ¹	--	--	--	--
RCB-360	RDB-418	D	RDCB-360	30	RDDB-418	35	--	--	--	--	--	--	D	D	D	D	D	D	D	D	D
	RDB-444	D		30	RDDB-444	37	--	--	--	--	--	--	D	D	D	D	D	D	D	D	D
	RDB-484	D		30	RDDB-484	40	--	--	--	--	--	--	D	D	D	D	D	D	D	D	D
RCB-480	RDB-538	D	RDCB-480	40	RDDB-538	45	--	--	--	--	--	--	D	D	D	D	D	D	D	D	D
	RDB-564	D		40	RDDB-564	47	--	--	--	--	--	--	D	D	D	D	D	D	D	D	D
	RDB-602	D		40	RDDB-602	50	--	--	--	--	--	--	D	D	D	D	D	D	D	D	D
RCB-600	RDB-658	D	RDCB-600	50	RDDB-658	55	--	--	--	--	--	--	D	D	D	D	D	D	D	D	D
	RDB-684	D		50	RDDB-684	57	--	--	--	--	--	--	D	D	D	D	D	D	D	D	D
	RDB-722	D		50	RDDB-722	60	--	--	--	--	--	--	D	D	D	D	D	D	D	D	D
RCB-720	RDB-804	D	RDCB-720	60	RDDB-804	67	--	--	--	--	--	--	D	D	D	D	D	D	D	D	D
	RDB-422	D		61	RDDB-422	68	--	--	--	--	--	--	D	D	D	D	D	D	D	D	D
	RDB-842	D		60	RDDB-842	70	--	--	--	--	--	--	D	D	D	D	D	D	D	D	D

¹ Unit must be selected with 250 MBH curb heat or 300 MBH curb heat to reach stated capacity

² Propane option only available for 100-300 MBH heat sizes

Statement of Unit Performance

Actual Unit airflow also limited by available sizes and unit total static pressure

Maximum and minimum cooling CFM is limited to 200 FPM and 500 FPM air velocities over the main evaporator coils. Maximum and minimum heat is limited to 100°F temperature rise (90° for electric Models RECB/REDB) and 45°F temperature rise (20°F for electric models).

Reznor provides unit performance values that represent the general performance of our typical unit at a given design condition. With all DX, gas and electric systems the values are to be construed as having an expected mechanical tolerance of 10-15% of stated values. Due to mechanical limitations of the equipment, unknown variables and uncontrollable environmental influences such as gas pressure, actual airflow, pressure differences, refrigerant charge, air delivery (duct & registers), coil factors and other unstated variable, the actual unit values will be different from the stated values. The control system seeks to stage or modulate the equipment to a steady state condition over an extended period of time within the tolerance of the mechanical equipment. The control system setpoints should not be construed as the tolerance or guaranteed performance of the mechanical system.

Model RCB COOLING MAKEUP AIR PACKAGED SYSTEMS

Description

The MAPS®III Series packaged rooftop units are designed to cool and heat high volumes of outside air year round for makeup air and ventilation applications. In addition, MAPSIII can provide significant capacities of space conditioning. Model RCB units are designed to provide an average cooling supply air temperature of 50° to 55°F in humid to temperate climates. All MAPSIII products feature the Reznor IQ digital controller to fully integrate all operation and external sensing into a stand-alone package or through native BacNet®, into a building management system.

Unit Features



Supply Fan

- 1,000 - 13,000 CFM
- Plenum or Forward Curve Blowers
- Belt Driven, Adjustable Sheave System
- Horizontal or Vertical Discharge
- Optional Unit or Field Mounted VFD
 - » Duct Static Pressure Control
 - » CO₂ Control
 - » Building Static Pressure Control
- Vibration Isolated Fan and Motor System
- Fan and Motor Lube Lines for Servicing
- Power Exhaust (A, B, & C Cabinet only)



MAPSIII D Cabinet

Mechanical Cooling

- R410A Refrigerant (Environmentally Friendly)
- High Outside Air Applications
- 3-8 Stages
- Scroll Compressor w/internal motor overload
- Compressor Anti-Cycle Programming
- Mechanical Gauge Connections

Construction

- Double Wall Construction Standard - R9 or higher value
- Hinged Access Doors with Handles
- Easy Access Compressor Section
- Unit or Field Mounted Disconnects
- 2" or 4" Permanent or Pleated Filters (MERV8 or MERV13 available)
- Optional Hail Guard
- Slide out and Sloped Stainless Steel Condensate Drain Pan
- 4 - 6 Point Base Lifting Connections
- Insulated, 16 Gauge, Downturn or Horizontal air Flow, Full Perimeter Curb
- G90 Galvanized Steel Substrate, 60 Gloss Finish
- Hold Door Open Service Hinges

Controls

- 208/3, 230/3, 460/3, 575/3
- Isolated High Voltage Compartment
- Controller Output LED Status
- Test Mode
- Field Selectable Unit Configuration and Unit Mounted Display
- Optional Local and Remote User Display
- Easy System Integration
 - » BacNet, Lon, N2 and Modbus.
- Optional Phase Loss, Smoke Detector, Filter Status
- Optional Weatherproof Convenience Power Outlet

Intake

- 100% Outside Air Option
- 100% Outside & Return Air Option
 - » Economizer control
 - » CO₂ Control
 - » Building Static Pressure Control
 - » Manual Positioning External 0-10V Signal
- Optional Outside Air Hood with Washable 1" Filter

Warranty

- Standard one (1) Year Parts Warranty
- Optional Five (5) Year Compressor Warranty



MAPSIII A, B & C
Cabinet Design

Technical Data

Model RCB	Cabinet Size	Cabinet A					Cabinet B		
	Model Size	060	078	090	118	136	160	186	200
Cooling Capacity	Nominal Tons	5	7	8	10	11	13	16	17
Blower system	Type	qty (1) 9 x 9 FC Blower					qty (2) 9 x 9 FC Blower		
	Maximum CFM	3750							
	Max Fan HP	5							
Cooling System	Compressor Type	High Efficiency Scroll							
	Refrigerant	R410a							
	Qty	2	2	2	2	2	3	3	3
	Nominal Sizes	3/2	4.5/2	4.5/3	7/3	7/4.5	7/4.5/2	4.75/6/4.75	4.75/6/6
	Stages	3	3	3	3	3	4	5	5
	Evaporator Row/FPI	3/15	3/15	3/15	4/15	4/15	4/15	6/15	6/15
	Crankcase Heater	yes	yes	yes	yes	yes	yes	yes	yes
Condenser Fans	Qty ¹	1	1	1	1	2	2	2	2
	Hp	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Filter Qty and Size (Factory-installed filters are optional)		MERV 8 qty (4) 2" x 20" x 20" (optional 4" MERV 13)					MERV 8 qty (4) 2" x 20" x 25" (optional 4" MERV 13)		
Power	Voltage/Phase/HZ	208/3, 240V/3, 460V/3, 575V/3; 60Hz all voltages							
Net Weight	lbs	775	904	915	916	1019	1280	1348	1416
	(kg)	(352)	(410)	(415)	(406)	(462)	(517)	(611)	(642)

Model RCB	Cabinet Size	Cabinet C				Cabinet D			
	Model Size	190	216	298	410	360	480	600	720
Cooling Capacity	Nominal Tons	16	18	25	34	30	40	50	60
Blower system	Type	qty (2) 12 x 9 FC Blower		qty (2) 12 x 12 FC Blower		qty (1) 27" Plenum			
	Maximum CFM	9,000				13,000	13,000	13,000	13,000
	Max Fan HP	10				20			
Cooling System	Compressor Type	High Efficiency Scroll							
	Refrigerant	R410a							
	Qty	2	3	3	3	3	3	4	4
	Nominal Sizes	4.5/11	6/12T	12/12T	11/11/11	5/10/15	10/15/15	10/10/15/15	15/15/15/15
	Stages	3	3	4	3	6	5	8	4
	Evaporator Row/FPI	4/13	4/13	5/13	6/13	4/15	4/15	4/15	4/15
	Crankcase Heater	yes	yes	yes	yes	yes	yes	yes	yes
Condenser Fans	Qty ¹	3	3	3	3	4	4	4	4
	Hp	1	1	1	1	1	1	1	1
Filter Qty and Size (Factory-installed filters are optional)		MERV 8 (6) 2" x 20" x 25" (4" optional MERV 13)					(8) 4" x 20" x 24" (4" optional MERV 13)		
Power	Voltage/Phase/HZ	208/3, 240V/3, 460V/3, 575V/3; 60Hz all voltages							
Net Weight	lbs	1891	1891	2276	2601	6100	6,296	6,436	6,458
	(kg)	(858)	(858)	(1032)	(1180)	(2767)	(2856)	(2919)	(2929)

¹ All A cabinets have 1 condenser fan; all B cabinet have 2 condenser fans; all C cabinets have 3 condenser fans; D cabinets have either 2 or 4 condenser fans.

Model RDB COOLING AND DEHUMIDIFYING MAKEUP AIR PACKAGED SYSTEMS

Description

The MAPS®III Series packaged rooftop units are designed to cool, dehumidify, and heat high volumes of outside air year round for makeup air and ventilation applications. In addition, MAPSIII can provide significant capacities of space conditioning. Model RDB units offer all these same features, but also include Reznor Re-Heat Pump™ dedicated reheat cycle. Re-heating of the air by this method saves over 4 to 5 times the energy used by electric heating elements. Additionally, the system is capable of maintaining reheat even when the demand for cooling and dehumidification is minimal. More importantly, this method of reheat complies with ASHRAE Standard 90.1. All MAPSIII products feature the Reznor IQ digital controller to fully integrate all operation and external sensing into a stand-alone package or through native BacNet, into a building management system.

Unit Features



Supply Fan

- 1,000 - 13,000 CFM
- Plenum or Forward Curve Blowers
- Belt Driven, Adjustable Sheave System
- Horizontal or Vertical Discharge
- Optional Unit or Field Mounted VFD
 - » Duct Static Pressure Control
 - » CO₂ Control
 - » Building Static Pressure Control
- Vibration Isolated Fan and Motor System
- Fan and Motor Lube Lines for Servicing
- Power Exhaust (A, B, & C Cabinet only)



MAPSIII D Cabinet

Mechanical Cooling

- R410A Refrigerant (Environmentally Friendly)
- High Outside Air Applications
- 3-8 Stages
- Scroll Compressor w/ internal motor overload
- Compressor Anti-Cycle Programming
- Mechanical Gauge Connection

Dedicated Reheat Pump

- Independent Reheat System
 - » Verifiable & Predictable Performance
 - » Low ambient operation (58°F)
 - » Lower energy cost
- Optional Modulating control for tighter performance
- R410A Refrigerant

Construction

- Double Wall Construction Standard - R9 or higher value
- Hinged Access Doors with Handles
- Easy Access Compressor Section
- Unit or Field Mounted Disconnects
- 2" or 4" Permanent or Pleated Filters (MERV8 or MERV13 available)
- Optional Hail Guard
- Slide Out and Sloped Stainless Steel Condensate Drain Pan
- 4 - 6 Point Base Lifting Connections
- Insulated, 16 Gauge, Downturn or Horizontal air Flow, Full Perimeter Curb
- G90 Galvanized Steel Substrate, 60 Gloss Finish
- Hold Door Open Service Hinges

Controls

- 208/3, 230/3, 460/3, 575/3
- Field Selectable Unit Configuration and Unit Mounted Display
- Optional Local and Remote User Display
- Easy System Integration
 - » BacNet, Lon, N2 and Modbus.
- Optional Phase Loss, Smoke Detector, Filter Status
- Isolated High voltage Compartment
- Controller Output LED Status
- Test Mode
- Optional Weatherproof Convenience Power Outlet



MAPSIII A, B & C
Cabinet Design

REZNOR®

Unit Features (cont'd)

Model RDB (cont'd)

Intake

- 100% Outside Air Option
- 100% Outside & Return Air Option
 - » Economizer control
 - » CO₂ Control
 - » Building Static Pressure Control
 - » Manual Positioning External 0-10V Signal
- Optional Outside Air Hood with Washable 1" Filter

Warranty

- Standard One (1) Year Part Warranty
- Optional Five (5) Year Compressor Warranty

Technical Data

Model RDB	Cabinet Size	Cabinet A					Cabinet B				
	Model Size	084	102	114	142	162	184	210	222	224	236
Cooling Capacity	Nominal Tons	7	9	10	12	13	15	18	19	19	20
Blower system	Type	qty (1) 9 x 9 FC Blower					qty (2) 9 x 9 FC Blower				
	Maximum CFM	3750									
	Max Fan HP	5									
Cooling System	Compressor Type	High Efficiency Scroll									
	Refrigerant	410A									
	Nominal Tons	5	7	8	10	11	13	16	16	17	17
	Qty	2	2	2	2	2	3	3	3		
	Compressor Sizes	3/2	4.5/2	4.5/3	7/3	7/4.5	7/4.5/2	4.75/6/4.75	4.75/6/4.75	4.75/6/6	4.75/6/6
	Stages	3	3	3	3	3	4	5	5	5	5
	Evaporator Row/ FPI	3/15	3/15	3/15	4/15	4/15	4/15	6/15	6/15	6/15	6/15
Reheat System	Nom. Heat Capacity (MBH)	24	24	24	24	24	24	24	36	24	36
	Nominal Tons	2	2	2	2	2	2	2	3	2	3
	Pre-cool Coil Row/ FPI	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/9
Condenser Fans	Qty	1	1	1	2	2	2	2	2	2	2
	Hp	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Filter Qty and Size (Factory-installed filters are optional)		MERV 8 qty (4) 2" x 20" x 25" (optional 4" MERV 13)					MERV 8 qty (4) 2" x 20" x 25" (optional 4" MERV 13)				
Power	Voltage	208/3, 240V/3, 460V/3, 575V/3; 60Hz all voltages									
Net Weight	lbs	982	982	993	972	1372	1372	1440	1440	1508	1508
	(kg)	(445)	(445)	(450)	(441)	(622)	(622)	(653)	(653)	(684)	(684)

Model RDB	Cabinet Size	Cabinet C							
	Model Size	248	262	272	288	354	370	468	482
Cooling Capacity	Nominal Tons	21	22	23	24	30	31	39	40
Blower system	Type	qty (2) 12 x 9 Forward Curve Blowers				qty (2) 12 x 12 Forward Curve Blowers			
	Maximum CFM	9,000							
	Max Fan HP	10							
Cooling System	Compressor Type	High Efficiency Scroll							
	Refrigerant	410A							
	Nominal Tons	16	16	18	18	25	25	34	34
	Qty	2	2	3	3	3	3	3	3
	Compressor Sizes	4.5/11	4.5/11	6/12T	6/12T	12/12T	12/12T	11/11/11	11/11/11
	Stages	3	3	3	3	4	4	3	3
	Evaporator Row/ FPI	4/13	4/13	4/13	4/13	5/13	5/13	6/13	6/13
Reheat System	Nom. Heat Capacity (MBH)	60	72	60	72	60	72	60	72
	Nominal Tons	5	6	5	6	5	6	5	6
	Pre-cool Coil Row/ FPI	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/9
Condenser Fans	Qty	3	3	3	3	3	3	3	3
	Hp	1	1	1	1	1	1	1	1
Filter Qty and Size (Factory-installed filters are optional)		(6) 2" 20 x 25 disposable or permanent filters (4" optional)							
Power	Voltage	208/3, 240V/3, 460V/3, 575V/3; 60Hz all voltages							
Net Weight	lbs	1968	1968	1968	1968	2353	2353	2677	2677
	(kg)	(893)	(893)	(893)	(893)	(1067)	(1067)	(1214)	(1214)

* All A cabinets have 1 condenser fan; all B cabinet have 2 condenser fans; all C cabinets have 3 condenser fans; D cabinets have either 2 or 4 condenser fans.

Technical Data (cont'd)

Model RDB	Cabinet Size	Cabinet D										
	Model Size	418	444	484	538	564	602	658	684	722	804	842
Cooling Capacity	Nominal Tons	35	37	40	45	47	50	55	57	60	67	70
Blower system	Type	qty (1) 27" Plenum Blower										
	Maximum CFM	13,000										
	Max Fan HP	20										
Cooling System	Compressor Type	High Efficiency Scroll										
	Refrigerant	410A										
	Nominal Tons	30	30	30	40	40	40	50	50	50	60	60
	Qty	3	3	3	3	3	3	4	4	4	4	4
	Compressor Sizes	5/10/15	5/10/15	5/10/15	10/15/15	10/15/15	10/15/15	10/10/15/15	10/10/15/15	10/10/15/15	15/15/15/15	15/15/15/15
	Stages	6	6	6	5	5	5	8	8	8	4	4
	Evaporator Row/FPI	4/15	4/15	4/15	4/15	4/15	4/15	4/15	4/15	4/15	4/15	4/15
Reheat System	Nom. Heat Capacity (MBH)	60	84	120	60	84	120	60	84	120	84	120
	Nominal Tons	5	7	10	5	7	10	5	7	10	7	10
	Pre-cool Coil Row/FPI	1/9	1/9	1/9	1/9	1/9	2/6			2/6		2/6
Condenser Fans	Qty	3	3	3	3	3	4	4	4	4	4	4
	Hp	1	1	1	1	1	1	1	1	1	1	1
Filter Qty and Size (Factory-installed filters are optional)		(8) 4" x 20" x 24" disposable or permanent filters										
Power	Voltage	208/3, 240V/3, 460V/3, 575V/3; 60 Hz all voltages										
Net Weight	lbs	6132	6132	6132	6382	6382	6,382	6,382	6,382	6,582	6,582	6,582
	(kg)	(2781)	(2781)	(2781)	(2895)	(2895)	(2895)	(2895)	(2895)	(2986)	(2986)	(2986)

* All A cabinets have 1 condenser fan; all B cabinet have 2 condenser fans; all C cabinets have 3 condenser fans; D cabinets have either 2 or 4 condenser fans.

Model RDCB HEATING AND COOLING MAKEUP AIR PACKAGED SYSTEMS

Description

The MAPS®III Series packaged rooftop units are designed to cool, dehumidify, and heat high volumes of outside air year round for makeup air and ventilation applications. In addition, MAPSIII can provide significant capacities of space conditioning. Model RDCB units are designed to provide an average cooling supply air temperature of 50° to 55°F in humid to temperate climates. All MAPSIII products feature the Reznor IQ digital controller to fully integrate all operation and external sensing into a stand-alone package or through native BacNet, into a building management system.

Unit Features



Supply Fan

- 1,000 - 13,000 CFM
- Plenum or Forward Curve Blowers
- Belt Driven, Adjustable Sheave System
- Horizontal or Vertical Discharge
- Optional Unit or Field Mounted VFD
 - » Duct Static Pressure Control
 - » CO₂ Control
 - » Building Static Pressure Control
- Vibration Isolated Fan and Motor System
- Fan and Motor Lube Lines for Servicing
- Power Exhaust (A, B, & C Cabinet only)



MAPSIII D Cabinet

Mechanical Cooling

- R410A Refrigerant (Environmentally Friendly)
- High Outside Air Applications
- 3-8 Stages
- Scroll Compressor w/ internal motor overload
- Compressor Anti-Cycle Programming
- Mechanical Gauge Port Connections

Construction

- Double Wall Construction Standard - R9 or higher value
- Hinged Access Doors with Handles
- Easy Access Compressor Section
- Unit or Field Mounted Disconnects
- 2" or 4" Permanent or Pleated Filters (MERV8 or MERV13 available)
- Optional Hail Guard
- Slide Out and Sloped Stainless Steel Condensate Drain Pan
- Local and Remote User Display
- 4 - 6 Point Base Lifting Connections
- Insulated, 16 Gauge, Downturn or Horizontal air Flow, Full Perimeter Curb
- G90 Galvanized Steel Substrate, 60 Gloss Finish
- Hold Door Open Service Hinges

Intake

- 100% Outside Air Option
- 100% Outside & Return Air Option
 - » Economizer control
 - » CO₂ Control
 - » Building Static Pressure Control
 - » Manual Positioning External 0-10V Signal
- Optional Outside Air Hood with Washable 1" Filter

Controls

- 208/3, 230/3, 460/3, 575/3
- Field Selectable Unit Configuration and Unit Mounted Display
- Optional Local and Remote User Display
- Easy System Integration
 - » BacNet, Lon, N2 and Modbus.
- Optional Phase Loss, Smoke Detector, Filter Status
- Isolated High Voltage Compartment
- Controller Output LED Status
- Test Mode
- Optional Weatherproof Convenience Power Outlet



MAPSIII A, B & C
Cabinet Design

Unit Features (cont'd)

Gas Heating

- A Minimum of 80% Gas Efficiency throughout Variable Speed Venter - Burner Modulation
- High Turn Down Ratio (Modulation)
 - » Up to 8:1 (12.5-100%) for 400-800 MBH
 - » Up to 16:1 (6.25-100%) for 1,000 – 1.6,000 MBH
- 409 Stainless Steel Heat Exchanger for 100°F Temperature Rise (Optional 316 Stainless Steel)
- Isolated Combustion Air Intake
- Built-in Failure Alarm Diagnostics
- Standard Gas Pressure Safeties
- Natural Gas or Propane ³

Warranty

- Standard One (1) Year Part Warranty
- Optional Five (5) Year Compressor Warranty
- Optional Five (5) or Ten (10) Year Heat Exchanger Warranty

Technical Data

Model RDCB	Cabinet Size		Cabinet A & B ^{2 3}								
	Model Size		060	078	090	118	136	160	186	200	
Cooling Capacity	Nominal Tons		5	7	8	10	11	13	16	17	
Heating System	Type		Natural Gas & Propane ³								
	Efficiency		80% Variable speed venter technology allowing >80% efficiency through out throttling range.								
	MBH Capacity (input)		100, 150, 200, 250, 300 MBH								
	Control		Modulating Up to 8:1 Burner Control								
Blower system	Type By Heat Size	100 MBH	qty (1) 9 x 7 FC Blower				-				
		150 MBH	qty (1) 9 x 9 FC Blower				-				
		200 MBH	qty (2) 9 x 7 FC Blower				-				
		250 MBH	-	qty (2) 9 x 9 FC Blower							
		300 MBH	-	qty (2) 9 x 9 FC Blower							
	Max CFM	100 MBH	1818				-				
		150 MBH	2727				-				
		200 MBH	3636				-				
		250 MBH	-	3750							
		300 MBH	-	3750							
	Max Fan HP		5								
Cooling System	Compressor Type		High Efficiency Scroll								
	Refrigerant		R410a								
	Qty		2	2	2	2	2	3	3	3	
	Nominal Sizes		3/2	4.5/2	4.5/3	7/3	7/4.5	7/4.5/2	4.75/6/4.75	4.75/6/6	
	Stages		3	3	3	3	3	4	5	5	
	Evaporator Row/FPI		3/15	3/15	3/15	4/15	4/15	4/15	6/15	6/15	
	Crankcase Heater		yes	yes	yes	yes	yes	yes	yes	yes	
Condenser Fans	Qty ¹		1	1	1	1	2	2	2	2	
	Hp		3/4	3/5	3/6	3/7	3/8	3/9	3/10	3/11	
Filter Qty and Size (Factory-installed filters are optional)			MERV 8 qty (4) 2" x 20" x 20" (optional 4" MERV 13)				MERV 8 qty (4) 2" x 20" x 25" (optional 4" MERV 13)				
Power	Voltage/Phase/Hz		208/3, 240V/3, 460V/3, 575V/3; 60Hz all voltages								
Net Weight	100 MBH	lbs	885	1014	1025	1004	1129	--			
		(kg)	(401)	(460)	(465)	(455)	(512)				
	150 MBH	lbs	1000	1129	1140	1119	1244	--			
		(kg)	(454)	(512)	(517)	(508)	(564)				
	200 MBH	lbs	1025	1154	1165	1144	1269	--			
		(kg)	(465)	(523)	(528)	(519)	(576)				
	250 MBH	lbs	--	1157	1168	1147	1272	1533	1601	1669	
		(kg)		(525)	(530)	(520)	(577)	(695)	(726)	(757)	
	300 MBH	lbs	--	1157	1168	1147	1272	1533	1601	1669	
		(kg)		(525)	(530)	(520)	(577)	(695)	(726)	(757)	

¹ All A cabinets have 1 condenser fan; all B cabinet have 2 condenser fans; all C cabinets have 3 condenser fans; D cabinets have either 2 or 4 condenser fans.

² Unit with heat sizes from 100-200MBH use "A" Cabinets, Units with heat size from 250-300 use B cabinets.

³ Propane only available for A & B cabinets sizes 100-300 MBH.

Technical Data (cont'd)

Model RDCB	Cabinet Size		Cabinet C				Cabinet D			
	Model Size		190	216	298	410	360	480	600	720
Cooling Capacity	Nominal Tons		16	18	25	34	30	40	50	60
Heating System	Type		Natural Gas							
	Efficiency		80% Variable speed venter technology allowing >80% efficiency throughout throttling range.							
	MBH Capacity (input)		400, 500, 600, 700				500, 600, 700, 800, 1000, 1200, 1400, 1600			
	Control		Modulating Up to 8:1 Burner Control (400 - 800 MBH), 16:1 (1,000 - 1,600 MBH)							
Blower system	Type	400 MBH	qty (2) 12 x 9 Forward Curve Blowers				qty (1) 27" Plenum			
		500 MBH	qty (2) 12 x 12 Forward Curve Blowers							
		600 MBH	qty (2) 12 x 12 Forward Curve Blowers							
		700 MBH	qty (3) 12 x 9 Forward Curve Blowers							
	Maximum CFM		7,500	9,000	9,000	9,000	13,000	13,000	13,000	13,000
	Max Fan HP		10	10	10	10	20	20	20	20
Cooling System	Compressor Type		High Efficiency Scroll							
	Refrigerant		R410a							
	Qty		2	3	3	3	3	3	4	4
	Nominal Sizes		4.5/11	6/12T	12/12T	11/11/11	5/10/15	10/15/15	10/10/15/15	15/15/15/15
	Stages		3	3	4	3	6	5	8	4
	Evaporator Row/FPI		4/13	4/13	5/13	6/13	4/15	4/15	4/15	4/15
Condenser Fans	Crankcase Heater		yes	yes	yes	yes	yes	yes	yes	yes
	Qty		3	3	3	3	4	4	4	4
	Hp		1	1	1	1	1	1	1	1
Filter Qty and Size (Factory-installed filters are optional)			MERV 8, (6) 2" 20 x 25 (optional 4" MERV 13)					MERV 8, (8) 4" x 20" x 24" (optional 4" MERV 13)		
Power	Voltage/Phase		208/3, 240V/3, 460V/3, 575V/3; 60 Hz for all voltages							
Net Weight	400 MBH	lbs	2190	2190	2575	2900	--			
		(kg)	(993)	(993)	(1168)	(1315)				
	500 MBH	lbs	2253	2253	2638	2963	6362	6,558	6,709	6,720
		(kg)	(1022)	(1022)	(1197)	(1344)	(2886)	(2975)	(3043)	(3048)
	600 MBH	lbs	2397	2397	2782	3107	6412	6,608	6,759	6,770
		(kg)	(1087)	(1087)	(1262)	(1409)	(2908)	(2997)	(3066)	(3071)
	700 MBH	lbs	2400	2400	2785	3110	6462	6,658	6,809	6,820
		(kg)	(1089)	(1089)	(1263)	(1411)	(2931)	(3020)	(3089)	(3094)
	800 MBH	lbs	--				6512	6,708	6,859	6,870
		(kg)					(2954)	(3043)	(3111)	(3116)
	1000 MBH	lbs	--				6630	6,826	6,977	6,988
		(kg)					(3007)	(3096)	(3165)	(3170)
	1200 MBH	lbs	--				6728	6924	7075	7086
		(kg)					(3052)	(3141)	(3209)	(3214)
	1400 MBH	lbs	--				6826	7022	7173	7184
		(kg)					(3096)	(3185)	(3254)	(3259)
	1600 MBH	lbs	--				6924	7120	7271	7282
		(kg)					(3141)	(3230)	(3298)	(3303)

¹ All A cabinets have 1 condenser fan; all B cabinet have 2 condenser fans; all C cabinets have 3 condenser fans; D cabinets have either 2 or 4 condenser fans.

² Unit with heat sizes from 100-200MBH use "A" Cabinets, Units with heat size from 250-300 use B cabinets.

³ Propane only available for A & B cabinets sizes 100-300 MBH.

Model RDDB

HEATING AND COOLING/DEHUMIDIFYING MAKEUP AIR PACKAGED SYSTEMS

Description

The MAPS®III Series packaged rooftop units are designed to cool, dehumidify, and heat high volumes of outside air year round for makeup air and ventilation applications. In addition, MAPSIII can provide significant capacities of space conditioning. Model RDDB units offer all these same features, but also include Reznor Re-Heat Pump™ dedicated reheat cycle. Re-heating of the air by this method saves over 4 to 5 times the energy used by electric heating elements. Additionally, the system is capable of maintaining reheat even when the demand for cooling and dehumidification is minimal. More importantly, this method of reheat complies with ASHRAE Standard 90.1. All MAPSIII products feature the Reznor IQ digital controller to fully integrate all operation and external sensing into a stand-alone package or through native BacNet, into a building management system.

Unit Features



Supply Fan

- 1,000 - 13,000 CFM
- Plenum or Forward Curve Blowers
- Belt Driven, Adjustable Sheave System
- Horizontal or Vertical Discharge
- Optional Unit or Field Mounted VFD
 - » Duct Static Pressure Control
 - » CO₂ Control
 - » Building Static Pressure Control
- Vibration Isolated Fan and Motor System
- Fan and Motor Lube Lines for Servicing
- Power Exhaust (A, B, & C Cabinet only)



MAPSIII D Cabinet

Mechanical Cooling

- R410A Refrigerant (Environmentally Friendly)
- High Outside Air Applications
- 3-8 Stages
- Mechanical Gauge Port Connections
- Scroll Compressor w/ internal motor overload
- Compressor Anti-Cycle Programming

Dedicated Reheat Pump

- Independent Reheat System
 - » Verifiable & Predictable Performance
 - » Low ambient operation (58°F)
 - » Lower energy cost
- Optional Modulating control for tighter performance
- R410A Refrigerant

Construction

- Double Wall Construction Standard - R9 or higher value
- Hinged Access Doors with Handles
- Easy Access Compressor Section
- Unit or Field Mounted Disconnects
- 2" or 4" Permanent or Pleated Filters (MERV8 or MERV13 available)
- Optional Hail Guard
- Slide Out and Sloped Stainless Steel Condensate Drain Pan
- Local and Remote User Display
- Insulated, 16 Gauge, Downturn or Horizontal air Flow, Full Perimeter Curb
- G90 Galvanized Steel Substrate, 60 Gloss Finish
- Hold Door Open Service Hinges

Gas Heating

- A Minimum of 80% Gas Efficiency throughout Burner Modulation
- High Turn Down Ratio (Modulation)
 - » Up to 8:1 (12.5-100%) for 400-800 MBH
 - » Up to 16:1 (6.25-100%) for 1,000 – 1.6,000 MBH
- Isolated Combustion Air Intake
- Stainless Steel Heat Exchanger for 100°F Temperature Rise
- Built-in Failure Alarm Diagnostics
- Standard Gas Pressure Safeties
- Natural Gas or Propane



MAPSIII A, B & C
Cabinet Design

Controls

- 208/3, 230/3, 460/3, 575/3
- Field Selectable Unit Configuration and Unit Mounted Display
- Optional Local and Remote User Display
- Easy System Integration
 - » BacNet, Lon, N2 and Modbus.
- Optional Phase Loss, Smoke Detector, Filter Status
- Isolated High Voltage Compartment
- Controller Output LED Status
- Test Mode
- Optional Weatherproof Convenience Power Outlet

Intake

- 100% Outside Air Option
- 100% Outside & Return Air Option
 - » Economizer Control
 - » CO₂ Control
 - » Building Static Pressure Control
 - » Manual Positioning External 0-10V Signal
- Optional Outside Air Hood with Washable 1" Filter

Warranty

- Standard One (1) Year Part Warranty
- Optional Five (5) Year Compressor Warranty
- Optional Five (5) or Ten (10) Year Heat Exchanger Warranty

Technical Data

Model RDDB	Cabinet Size		Cabinet A & B ^{2 3}									
	Model Size		084	102	114	142	162	184	210	222	224	236
Cooling Capacity	Nominal Tons		7	9	10	12	13	15	18	19	19	20
Heating System	Type		Natural Gas & Propane ³									
	Efficiency		80% Variable speed venter technology allowing >80% efficiency through out throttling range.									
	MBH Capacity (input)		100, 150, 200, 250, 300 MBH									
	Control		Modulating Up to 8:1 Burner Control									
Blower system	Type By Heat Size	100 MBH	qty (1) 9 x 7 FC Blower					--				
		150 MBH	qty (1) 9 x 9 FC Blower					--				
		200 MBH	qty (2) 9 x 7 FC Blower					--				
		250 MBH	--	qty (2) 9 x 9 FC Blower								
		300 MBH	--	qty (2) 9 x 9 FC Blower								
	Max CFM	100 MBH	1818					--				
		150 MBH	2727					--				
		200 MBH	3636					--				
		250 MBH	--	3750								
		300 MBH	--	3750								
	Max Fan HP		5									
Cooling System	Compressor Type		High Efficiency Scroll									
	Refrigerant		410A									
	Nominal Tons		5	7	8	10	11	13	16	16	17	17
	Qty		2	2	2	2	2	3	3	3		
	Compressor Sizes		3/2	4.5/2	4.5/3	7/3	7/4.5	7/4.5/2	4.75/6/4.75	4.75/6/4.75	4.75/6/6	4.75/6/6
	Stages		3	3	3	3	3	4	5	5	5	5
	Evaporator Row/FPI		3/15	3/15	3/15	4/15	4/15	4/15	6/15	6/15	6/15	6/15
Reheat System	Nom. Capacity (MBH)		24	24	24	24	24	24	24	36	24	36
	Nominal Tons		2	2	2	2	2	2	2	3	2	3
	Pre-cool Coil Row/FPI		1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/9
Condenser Fans	Qty		1	1	1	2	2	2	2	2	2	2
	Hp		3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Filter Qty and Size (Factory-installed filters are optional)			MERV 8 qty (4) 2" x 20" x 25" (optional 4" MERV 13)					MERV 8 qty (4) 2" x 20" x 25" (optional 4" MERV 13)				
Power	Voltage		208/3, 240V/3, 460V/3, 575V/3; 60Hz all voltages									
Net Weight	100 MBH	lbs	1092	1092	1103	1082	--					
		(kg)	(495)	(495)	(500)	(491)						
	150 MBH	lbs	1207	1207	1218	1197	1322	--				
		(kg)	(547)	(547)	(552)	(543)	(600)					
	200 MBH	lbs	1232	1232	1243	1222	1347	--				
		(kg)	(559)	(559)	(564)	(554)	(611)					
	250 MBH	lbs	-	1235	1246	1225	1350	1625	1693	1693	1761	1761
		(kg)	-	(560)	(565)	(556)	(612)	(737)	(768)	(768)	(799)	(799)
	300 MBH	lbs	-	1235	1246	1225	1350	1625	1693	1693	1761	1761
		(kg)	-	(560)	(565)	(556)	(612)	(737)	(768)	(768)	(799)	(799)

¹ All A cabinets have 1 condenser fan; all B cabinet have 2 condenser fans; all C cabinets have 3 condenser fans; D cabinets have either 2 or 4 condenser fans.

² Unit with heat sizes from 100-200MBH use "A" Cabinets, Units with heat size from 250-300 use B cabinets.

³ Propane only available for A & B cabinets sizes 100-300 MBH.

	Cabinet Size		Cabinet C							
Model RDDB	Model Size		248	262	272	288	354	370	468	482
Cooling Capacity	Nominal Tons		21	22	23	24	30	31	39	40
Heating System	Type		Natural Gas							
	Efficiency		80% Variable speed venter technology allowing >80% efficiency through out throttling range.							
	MBH Capacity (input)		400, 500, 600, 700							
	Control		Modulating Up to 8:1 Burner Control (400 - 800 MBH), 16:1 (1,000 - 1,600 MBH)							
Blower system	Type	400 MBH	qty (2) 12 x 9 Forward Curve Blowers							
		500 MBH	qty (2) 12 x 12 Forward Curve Blowers							
		600 MBH	qty (2) 12 x 12 Forward Curve Blowers							
		700 MBH	qty (3) 12 x 9 Forward Curve Blowers							
	Maximum CFM		7,500	9,000	9,000	9,000	9,000	9,000	9,000	9,000
	Fan HP @ Max CFM		10	10	10	10	10	10	10	10
	Type		qty (2) 12 x 9 Blowers				qty (2) 12 x 12 Blowers			
	Maximum CFM		9,000							
	Fan HP @ Max CFM		10							
Cooling System	Compressor Type		High Efficiency Scroll							
	Refrigerant		410A							
	Nominal Tons		16	16	18	18	25	25	34	34
	Qty		2	2	3	3	3	3	3	3
	Compressor Sizes		4.5/11	4.5/11	6/12T	6/12T	12/12T	12/12T	11/11/11	11/11/11
	Stages		3	3	3	3	4	4	3	3
	Evaporator Row/FPI		4/13	4/13	4/13	4/13	5/13	5/13	6/13	6/13
	Crankcase Heater		YES	YES	YES	YES	YES	YES	YES	YES
Reheat System	Nom. Heat Capacity (MBH)		60	72	60	72	60	72	60	72
	Nominal Tons		5	6	5	6	5	6	5	6
	Pre-cool Coil Row/FPI		1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/9
Condenser Fans	Qty		3	3	3	3	3	3	3	3
	Hp		1	1	1	1	1	1	1	1
Filter Qty and Size (Factory-installed filters are optional)			(6) 2" 20 x 25 disposable or permanent filters (4" optional)							
Power	Voltage		208/3, 240V/3, 460V/3, 575V/3							
	Phase		60							
Net Weight	400 MBH	lbs	2317	2317	2317	2317	2702	2702	3,026	3,055
		(kg)	(1051)	(1051)	(1051)	(1051)	(1226)	(1226)	(1373)	(1386)
	500 MBH	lbs	2380	2380	2380	2380	2765	2765	3089	3118
		(kg)	(1080)	(1080)	(1080)	(1080)	(1254)	(1254)	(1401)	(1414)
	600 MBH	lbs	2524	2524	2524	2524	2909	2909	3233	3233
		(kg)	(1145)	(1145)	(1145)	(1145)	(1320)	(1320)	(1466)	(1466)
	700 MBH	lbs	2527	2527	2527	2527	2912	2912	3236	3235
		(kg)	(1146)	(1146)	(1146)	(1146)	(1321)	(1321)	(1468)	(1467)

¹ All A cabinets have 1 condenser fan; all B cabinet have 2 condenser fans; all C cabinets have 3 condenser fans; D cabinets have either 2 or 4 condenser fans.

² Unit with heat sizes from 100-200MBH use "A" Cabinets, Units with heat size from 250-300 use B cabinets.

³ Propane only available for A & B cabinets sizes 100-300 MBH.

Technical Data (cont'd)

Model RDDB	Cabinet Size		Cabinet D											
	Model Size		418	444	484	538	564	602	658	684	722	804	842	
Cooling Capacity	Nominal Tons		35	37	40	45	47	50	55	57	60	67	70	
Heating System	Type		Natural Gas											
	Efficiency		80% Variable speed venter technology allowing >80% efficiency through out throttling range.											
	MBH Capacity (input)		500, 600, 700, 800, 1000, 1200, 1400, 1600											
	Control		Modulating Up to 8:1 Burner Control (400 - 800 MBH), 16:1 (1,000 - 1,600 MBH)											
Blower system	Type	400 MBH	qty (1) 27" Plenum (All Heat Sizes)											
		500 MBH												
		600 MBH												
		700 MBH												
	Maximum CFM		13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	13,000	
	Fan HP @ Max CFM		20	20	20	20	20	20	20	20	20	20	20	20
	Type		qty (1) 27" Plenum Blower											
	Maximum CFM		9,000					13,000						
Fan HP @ Max CFM		10					15							
Cooling System	Compressor Type		High Efficiency Scroll 410A											
	Refrigerant													
	Nominal Tons		30	30	30	40	40	40	50	50	50	60	60	
	Qty		3	3	3	3	3	3	4	4	4	4	4	
	Compressor Sizes		5/10/15	5/10/15	5/10/15	10/15/15	10/15/15	10/15/15	10/10/15/15	10/10/15/15	10/10/15/15	15/15/15/15	15/15/15/15	
	Stages		6	6	6	5	5	5	8	8	8	4	4	
	Evaporator Row/ FPI		4/15	4/15	4/15	4/15	4/15	4/15	4/15	4/15	4/15	4/15	4/15	
	Crankcase Heater		YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	YES	
Reheat System	Nom. Heat Capacity (MBH)		60	84	120	60	84	120	60	84	120	84	120	
	Nominal Tons		5	7	10	5	7	10	5	7	10	7	10	
	Pre-cool Coil Row/ FPI		1/9	1/9	1/9	1/9	1/9	2/6			2/6		2/6	
Condenser Fans	Qty		3	3	3	3	3	4	4	4	4	4	4	
	Hp		1	1	1	1	1	1	1	1	1	1	1	
Filter Qty and Size (Factory-installed filters are optional)			(8) 4" x 20" x 24" disposable or permanent filters											
Power	Voltage		208/3, 240V/3, 460V/3, 575V/3											
	Phase		60											
Net Weight	500 MBH	lbs	6497	6497	6497	6,693	6,693	6,693	6,844	6,844	6,844	6,855	6,855	
		(kg)	(2947)	(2947)	(2947)	(3036)	(3036)	(3036)	(3104)	(3104)	(3104)	(3109)	(3109)	
	600 MBH	lbs	6547	6547	6547	6,743	6,743	6,743	6,894	6,894	6,894	6,905	6,905	
		(kg)	(2970)	(2970)	(2970)	(3059)	(3059)	(3059)	(3127)	(3127)	(3127)	(3132)	(3132)	
	700 MBH	lbs	6597	6597	6597	6,793	6,793	6,793	6,894	6,894	6,894	6,955	6,955	
		(kg)	(2992)	(2992)	(2992)	(3081)	(3081)	(3081)	(3127)	(3127)	(3127)	(3155)	(3155)	
	800 MBH	lbs	6647	6647	6647	6,843	6,843	6,843	6,994	6,994	6,994	7,005	7,005	
		(kg)	(3015)	(3015)	(3015)	(3104)	(3104)	(3104)	(3172)	(3172)	(3172)	(3177)	(3177)	
	1000 MBH	lbs	6765	6765	6765	6961	6961	6961	7112	7112	7112	7123	7123	
		(kg)	(3069)	(3069)	(3069)	(3158)	(3158)	(3158)	(3226)	(3226)	(3226)	(3231)	(3231)	
	1200 MBH	lbs	6863	6863	6863	7059	7059	7059	7210	7210	7210	7221	7221	
		(kg)	(3113)	(3113)	(3113)	(3202)	(3202)	(3202)	(3270)	(3270)	(3270)	(3275)	(3275)	
	1400 MBH	lbs	6961	6961	6961	7157	7157	7157	7308	7308	7308	7319	7319	
		(kg)	(3158)	(3158)	(3158)	(3246)	(3246)	(3246)	(3315)	(3315)	(3315)	(3320)	(3320)	
	1600 MBH	lbs	7059	7059	7059	7,255	7,255	7,255	7406	7406	7406	7,417	7,417	
		(kg)	(3202)	(3202)	(3202)	(3291)	(3291)	(3291)	(3359)	(3359)	(3359)	(3364)	(3364)	

¹ All A cabinets have 1 condenser fan; all B cabinet have 2 condenser fans; all C cabinets have 3 condenser fans; D cabinets have either 2 or 4 condenser fans.

² Unit with heat sizes from 100-200MBH use "A" Cabinets, Units with heat size from 250-300 use B cabinets.

³ Propane only available for A & B cabinets sizes 100-300 MBH.

Model RECB COOLING MAKEUP AIR PACKAGED SYSTEMS WITH ELECTRIC HEAT

Description

Reznor® packaged cooling and cooling makeup air systems are available in the third generation of the Modular Air Processing System (MAPS®III).

MAPSIII packaged direct expansion rooftops are designed to cool and heat high outside air year round for makeup air and ventilation applications. These rooftop systems include the same approaches to outside air treatment found in field engineered or split systems. All MAPSIII products feature the Reznor IQ digital controller to fully integrate all operation and external sensing into a stand-alone package or through native BacNet, into a building management system.

Model RECB includes an electric heat section in single and three stage options for high modulation and temperature rise to 90°F.

Unit Features



Capacity Steps

- Standard 3-stage cooling and electric heating in 1/3 incremental steps to minimize temperature swing and improve operating reliability

Electric Heat Section

- 2 - 4 staged control
- Optional SCR control
- Temperature Rise 20°-90°F
- Sub-fused heating element sizes of 39 - 88 kW
- Automatic limit controls

Supply Fan

- 1,000 - 9,000 CFM
- Forward Curve Blowers
- Belt Driven, Adjustable Sheave System
- Vertical Discharge (Horizontal Curb Option)
- Optional Unit or Field Mounted VFD
 - » Duct Static Pressure Control
 - » CO₂ Control
 - » Building Static Pressure Control
- Vibration Isolated Fan and Motor System
- Fan and Motor Lube Lines for Servicing
- Power Exhaust

Mechanical Cooling

- R410A Refrigerant (Environmentally Friendly)
- High Outside Air Applications
- 3-5 Stages
- Scroll Compressor w/ internal motor overload
- Compressor Anti-Cycle Programming
- Mechanical Gauge Connections

Construction

- Double Wall Construction Standard - R9 or higher value
- Hinged Access Doors with Handles
- Easy Access Compressor Section
- Unit or Field Mounted Disconnects
- 2" or 4" Permanent or Pleated Filters (MERV8 or MERV13 available)
- Optional Hail Guard
- Slide out and Sloped Stainless Steel Condensate Drain Pan
- Insulated, 16 Gauge, Downturn or Horizontal air Flow, Full Perimeter Curb
- G90 Galvanized Steel Substrate, 60 Gloss Finish
- Hold Door Open Service Hinges

Intake

- 100% Outside Air Option
- 100% Outside & Return Air Option
 - » Economizer control
 - » CO₂ Control
 - » Building Static Pressure Control
 - » Manual Positioning External 0-10V Signal
- Optional Outside Air Hood with Washable 1" Filter



MAPSIII A, B & C
Cabinet Design



Model RECB (cont'd)

Unit Features (cont'd)

Controls

- 208/3, 230/3, 460/3, 575/3
- Isolated High Voltage Compartment
- Controller Output LED Status
- Test Mode
- Field Selectable Unit Configuration and Unit Mounted Display
- Optional Local and Remote User Display
- Easy System Integration
 - » BacNet, Lon, N2 and Modbus.
- Optional Phase Loss, Smoke Detector, Filter Status
- Optional Weatherproof Convenience Power Outlet

Warranty

- Standard one (1) Year Parts Warranty
- Optional Five (5) Year Compressor Warranty

Technical Data

Model RECB	Cabinet Size		Cabinet A	Cabinet A & B					Cabinet B			Cabinet C			
	Model Size		060	078	090	118	136	160	186	200	190	216	298	410	
Cooling Capacity	Nominal Tons		5	7	8	10	11	13	16	17	16	18	25	34	
Heating System	Type	Electric Resistive Element													
	Kilowatt Capacity	10S, 15S, 20S, 15, 25, 30, 35, 39, 50, 60, 75, 88 kW									39, 50, 60,75 & 88 kW				
	kW - Derate 208v	11.25, 18.75, 22.5, 26.25, 29.25, 37.5, 45.6, 66 kW									29.25, 37.5, 45, 57, 66 kW				
	Control	SCR or staged													
Blower system	Type	(Cabinet A) Unit qty (1) 9 x 9 FC Blower					(Cabinet B) qty (2) 9 x 9 FC Blower			qty (2) 12 x 9 FC Blower		qty (2) 12 x 12 FC Blower			
	Maximum CFM	3750									9,000				
	Max Fan HP	5									10				
Cooling System	Compressor Type	High Efficiency Scroll													
	Refrigerant	R410a													
	Qty	2	2	2	2	2	3	3	3	2	3	3	3		
	Nominal Sizes	3/2	4.5/2	4.5/3	7/3	7/4.5	7/4.5/2	4.75/6/4.75	4.75/6/6	4.5/11	6/12T	12/12T	11/11/11		
	Stages	3	3	3	3	3	4	5	5	3	3	4	3		
	Evaporator Row/FPI	3/15	3/15	3/15	4/15	4/15	4/15	6/15	6/15	4/13	4/13	5/13	6/13		
	Crankcase Heater	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes	yes		
Condenser Fans		Qty ¹	1	1	1	1	2	2	2	2	3	3	3	3	
		Hp	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	
Filter Qty and Size (Factory-installed filters are optional)			MERV 8 qty (4) 2" x 20" x 20" (optional 4" MERV 13)					MERV 8 qty (4) 2" x 20" x 25" (optional 4" MERV 13)			MERV 8 (6) 2" x 20" x 25" (4" optional MERV 13)				
Power	Voltage/Phase/HZ		208/3, 240V/3, 460V/3, 575V/3; 60Hz all voltages												
Net Weight	10S - 15S kW	lbs	795	924	935	936	1039	--							
		(kg)	(361)	(419)	(424)	(424)	(471)								
	20S - 24S 15 -39 kW	lbs	815	944	955	956	1059	1320	1388	1456	1931	1931	2316	2641	
		(kg)	(370)	(428)	(433)	(434)	(480)	(599)	(629)	(660)	(876)	(876)	(1051)	(1198)	
	50 - 88 kW	lbs	--	984	995	974	1099	1360	1428	1496	1971	1971	2356	2681	
		(kg)		(446)	(451)	(442)	(498)	(617)	(648)	(678)	(858)	(858)	(1032)	(1180)	

¹ All A cabinets have 1 condenser fan; all B cabinet have 2 condenser fans; all C cabinets have 3 condenser fans;.

Model REDB COOLING/DEHUMIDIFYING MAKEUP AIR SYSTEMS WITH ELECTRIC HEAT

Description

Reznor® packaged cooling and cooling/reheat pump™ makeup air systems are available in the third generation of the Modular Air Processing System (MAPS®III).

Model REDB packaged direct expansion rooftops are designed to cool, dehumidify, and heat high amounts of outside air year round for makeup air and ventilation applications. These rooftop systems include the same approaches to outside air treatment found in field engineered or split systems. All MAPSIII products feature the Reznor IQ digital controller to fully integrate all operation and external sensing into a stand-alone package or through native BacNet, into a building management system.

Model REDB also offers the additional feature of a dedicated Re-Heat Pump™ maintains dehumidification even when the demand for cooling is minimal. And, more importantly, it complies with ASHRAE Standard 90.1, Paragraph 3.3.

Unit Features



MAPSIII A, B & C
Cabinet Design

Electric Heat Section

- 2 - 4 staged control
- Optional SCR control
- Temperature Rise 20°-90°F
- Sub-fused heating element sizes of 39 - 88 kW
- Automatic limit controls

Supply Fan

- 1,000 - 9,000 CFM
- Forward Curve Blowers
- Belt Driven, Adjustable Sheave System
- Vertical Discharge (Horizontal Curb Option)
- Optional Unit or Field Mounted VFD
 - » Duct Static Pressure Control
 - » CO₂ Control
 - » Building Static Pressure Control
- Vibration Isolated Fan and Motor System
- Fan and Motor Lube Lines for Servicing
- Power Exhaust

Mechanical Cooling

- R410A Refrigerant (Environmentally Friendly)
- High Outside Air Applications
- 3-5 Stages
- Scroll Compressor w/ internal motor overload
- Compressor Anti-Cycle Programming
- Mechanical Gauge Connection

Dedicated Reheat Pump

- Independent Reheat System
 - » Verifiable & Predictable Performance
 - » Low ambient operation (58°F)
 - » Lower energy cost
- Optional Modulating control for tighter performance
- R410A Refrigerant

Intake

- 100% Outside Air Option
- 100% Outside & Return Air Option
 - » Economizer control
 - » CO₂ Control
 - » Building Static Pressure Control
 - » Manual Positioning External 0-10V Signal
- Optional Outside Air Hood with Washable 1" Filter

Controls

- 208/3, 230/3, 460/3, 575/3
- Field Selectable Unit Configuration and Unit Mounted Display
- Optional Local and Remote User Display
- Easy System Integration
 - » BacNet, Lon, N2 and Modbus.
- Optional Phase Loss, Smoke Detector, Filter Status
- Isolated High voltage Compartment
- Controller Output LED Status
- Test Mode
- Optional Weatherproof Convenience Power Outlet

Unit Features (cont'd)

Construction

- Double Wall Construction Standard - R9 or higher value
- Hinged Access Doors with Handles
- Easy Access Compressor Section
- Unit or Field Mounted Disconnects
- 2" or 4" Permanent or Pleated Filters (MERV8 or MERV13 available)
- Hail Guard
- Slide Out and Sloped Stainless Steel Condensate Drain Pan
- Insulated, 16 Gauge, Downturn or Horizontal air Flow, Full Perimeter Curb
- G90 Galvanized Steel Substrate, 60 Gloss Finish
- Hold Door Open Service Hinges

Warranty

- Standard One (1) Year Part Warranty
- Optional Five (5) Year Compressor Warranty

Technical Data

Model REDB	Cabinet Size		Cabinet A	Cabinet A & B				Cabinet B				
	Model Size		084	102	114	142	162	184	210	222	224	236
Cooling Capacity	Nominal Tons		7	9	10	12	13	15	18	19	19	20
Heating System	Type		Electric Resistive Element									
	Kilowatt Capacity		10S, 15S, 20S, 15, 25, 30, 35, 39								39, 50, 60,75 & 88 kW	
	kW - Derate 208v		11.25, 18.75, 22.5, 26.25, 29.25 kW								29.25, 37.5, 45, 57, 66 kW	
	Control		SCR or staged									
Blower system	Type		(Cabinet A) Unit qty (1) 9 x 9 FC Blower					(Cabinet B) qty (2) 9 x 9 FC Blower				
	Maximum CFM		3750									
	Max Fan HP		5									
Cooling System	Compressor Type		High Efficiency Scroll									
	Refrigerant		410A									
	Nominal Cooling Tons		5	7	8	10	11	13	16	16	17	17
	Qty		2	2	2	2	2	3	3	3		
	Compressor Sizes		3/2	4.5/2	4.5/3	7/3	7/4.5	7/4.5/2	4.75/6/4.75	4.75/6/4.75	4.75/6/6	4.75/6/6
	Stages		3	3	3	3	3	4	5	5	5	5
	Evaporator Row/FPI		3/15	3/15	3/15	4/15	4/15	4/15	6/15	6/15	6/15	6/15
Reheat System	Nom. Heat Capacity (MBH)		24	24	24	24	24	24	24	36	24	36
	Nominal Tons		2	2	2	2	2	2	2	3	2	3
	Pre-cool Coil Row/FPI		1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/9
Condenser Fans		Qty	1	1	1	2	2	2	2	2	2	2
		Hp	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4	3/4
Filter Qty and Size (Factory-installed filters are optional)			MERV 8 qty (4) 2" x 20" x 25" (optional 4" MERV 13)					MERV 8 qty (4) 2" x 20" x 25" (optional 4" MERV 13)				
Power	Voltage		208/3, 240V/3, 460V/3, 575V/3; 60Hz all voltages									
Net Weight	10S - 15S kW	lbs	1002	1002	1033	992	--					
		(kg)	(454)	(454)	(468)	(450)						
	20S - 24S kW	lbs	1022	1022	1033	1012	--					
		(kg)	(463)	(463)	(468)	(459)						
	15 kW	lbs	1022	1022	1033	1012	1137	1412	--			
		(kg)	(463)	(463)	(468)	(459)	(516)	(640)				
	20 -39 kW	lbs	--	1022	1033	1012	1137	1412	1480	1480	1548	1548
		(kg)		(463)	(468)	(459)	(516)	(640)	(671)	(671)	(702)	(702)
	50 - 75 kW	lbs	--	1062	1073	1052	1177	1452	1520	1520	1588	1588
		(kg)		(482)	(487)	(477)	(534)	(659)	(689)	(689)	(720)	(858)
	88 kW	lbs	--	1073	1052	1177	1452	1520	1520	1588	1588	
		(kg)		(487)	(477)	(534)	(659)	(689)	(689)	(720)	(858)	

* All A cabinets have 1 condenser fan; all B cabinet have 2 condenser fans; all C cabinets have 3 condenser fans;.

Technical Data (cont'd)

Model REDB	Cabinet Size		Cabinet C							
	Model Size		248	262	272	288	354	370	468	482
Cooling Capacity	Nominal Tons		21	22	23	24	30	31	39	40
Heating System	Type		Electric Resistive Element							
	Kilowatt Capacity		39, 50, 60,75 & 88 kW							
	kW - Derate 208v		29.25, 37.5, 45, 57, 66 kW							
	Control		SCR or staged							
Blower system	Type		qty (2) 12 x 9 FC Blower				qty (2) 12 x 12 FC Blower			
	Maximum CFM		9,000							
	Max Fan HP		10							
Cooling System	Compressor Type		High Efficiency Scroll							
	Refrigerant		410A							
	Nominal Cooling Tons		16	16	18	18	25	25	34	34
	Qty		2	2	3	3	3	3	3	3
	Compressor Sizes		4.5/11	4.5/11	6/12T	6/12T	12/12T	12/12T	11/11/11	11/11/11
	Stages		3	3	3	3	4	4	3	3
	Evaporator Row/FPI		4/13	4/13	4/13	4/13	5/13	5/13	6/13	6/13
Reheat System	Nom. Heat Capacity (MBH)		60	72	60	72	60	72	60	72
	Nominal Tons		5	6	5	6	5	6	5	6
	Pre-cool Coil Row/FPI		1/9	1/9	1/9	1/9	1/9	1/9	1/9	1/9
Condenser Fans		Qty	3	3	3	3	3	3	3	3
		Hp	1	1	1	1	1	1	1	1
Filter Qty and Size (Factory-installed filters are optional)			(6) 2" 20 x 25 disposable or permanent filters (4" optional)							
Power	Voltage		208/3, 240V/3, 460V/3, 575V/3; 60Hz all voltages							
Net Weight	39 kW	lbs	2058	2058	2058	2058	2443	2443	2767	2796
		(kg)	(934)	(934)	(934)	(934)	(1108)	(1108)	(1255)	(1268)
	50-88 kW	lbs	2098	2098	2098	2098	2483	2483	2807	2836
		(kg)	(858)	(1032)	(1180)	(1180)	(1180)	(1180)	(1180)	(1180)

* All A cabinets have 1 condenser fan; all B cabinet have 2 condenser fans; all C cabinets have 3 condenser fans;.

Statement of Unit Performance

Actual Unit airflow also limited by available sizes and unit total static pressure

Maximum and minimum cooling CFM is limited to 200 FPM and 500 FPM air velocities over the main evaporator coils. Maximum and minimum heat is limited to 100°F temperature rise (90° for electric Models RECB/REDB) and 45°F temperature rise (20°F for electric models).

Reznor provides unit performance values that represent the general performance of our typical unit at a given design condition. With all DX, gas and electric systems the values are to be construed as having an expected mechanical tolerance of 10-15% of stated values. Due to mechanical limitations of the equipment, unknown variables and uncontrollable environmental influences such as gas pressure, actual airflow, pressure differences, refrigerant charge, air delivery (duct & registers), coil factors and other unstated variable, the actual unit values will be different from the stated values. The control system seeks to stage or modulate the equipment to a steady state condition over an extended period of time within the tolerance of the mechanical equipment. The control system setpoints should not be construed as the tolerance or guaranteed performance of the mechanical system.

Model RCB / RDCB / RECB Capacities at 95°Fdb / 76°Fwb Entering Air, 95 °F Ambient

Model RCB / RDCB / RECB Capacities at 95°Fdb / 76°Fwb Entering Air, 95 °F Ambient									
SCFM	Cooling Size	CABINET A					CABINET B		
		60	78	90	118	136	160	186	200
1,000	Total Cooling MBH	73.1	85.3						
	Sensible Cooling MBH	42.7	47.9						
	Main Coil LAT dB/wB	54.5 / 54.2	49.6 / 49.4						
1,250	Total Cooling MBH	78.2	92.7	100.4	120.2				
	Sensible Cooling MBH	48.3	54.0	57.3	66.2				
	Main Coil LAT dB/wB	58.3 / 58.0	54.0 / 53.8	51.5 / 51.4	44.7 / 44.6				
1,500	Total Cooling MBH		98.2	106.9	130.0	141.6			
	Sensible Cooling MBH		59.7	63.2	72.9	78.3			
	Main Coil LAT dB/wB		57.2 / 57.0	55.0 / 54.9	48.9 / 48.8	45.5 / 45.4			
1,750	Total Cooling MBH		101.7	111.4	137.3	150.2			
	Sensible Cooling MBH		64.9	68.5	78.8	84.4			
	Main Coil LAT dB/wB		59.8 / 59.5	57.8 / 57.6	52.2 / 52.1	49.2 / 49.1			
2,000	Total Cooling MBH		104.3	114.8	142.8	157.4	180.4	187.6	
	Sensible Cooling MBH		69.9	73.7	84.4	90.3	100.5	103.4	
	Main Coil LAT dB/wB		61.8 / 61.5	60.0 / 59.8	54.9 / 54.8	52.1 / 52.0	47.3 / 47.3	45.9 / 45.7	
2,250	Total Cooling MBH			117.1	147.4	163.7	188.0	198.7	206.5
	Sensible Cooling MBH			78.6	89.8	96.4	106.4	110.7	114.4
	Main Coil LAT dB/wB			61.8 / 61.5	57.1 / 57.0	54.3 / 54.3	50.1 / 50.1	48.3 / 48.1	46.7 / 46.6
2,500	Total Cooling MBH				151.3	168.6	193.5	206.9	217.3
	Sensible Cooling MBH				95.2	102.0	111.8	116.9	121.7
	Main Coil LAT dB/wB				58.8 / 58.7	56.3 / 56.3	52.5 / 52.5	50.6 / 50.4	48.7 / 48.7
2,750	Total Cooling MBH				154.5	172.3	199.1	215.3	225.0
	Sensible Cooling MBH				100.6	107.2	117.5	123.4	127.8
	Main Coil LAT dB/wB				60.3 / 60.2	58.0 / 58.0	54.4 / 54.4	52.4 / 52.2	50.9 / 50.8
3,000	Total Cooling MBH					175.3	203.3	223.1	231.9
	Sensible Cooling MBH					112.4	122.8	130.3	133.8
	Main Coil LAT dB/wB					59.5 / 59.4	56.1 / 56.1	53.7 / 53.7	52.7 / 52.6
3,250	Total Cooling MBH					178.2	206.8	228.8	238.8
	Sensible Cooling MBH					117.3	128.0	136.4	140.2
	Main Coil LAT dB/wB					60.7 / 60.6	57.6 / 57.6	55.2 / 55.2	54.1 / 54.0
3,500	Total Cooling MBH					181.0	209.5	233.5	244.6
	Sensible Cooling MBH					122.4	133.0	141.7	146.0
	Main Coil LAT dB/wB					61.8 / 61.6	58.9 / 58.9	56.5 / 56.5	55.4 / 55.4
3,750	Total Cooling MBH							237.6	249.3
	Sensible Cooling MBH							147.3	151.6
	Main Coil LAT dB/wB							57.7 / 57.7	56.6 / 56.6
4,000	Total Cooling MBH							241.0	253.3
	Sensible Cooling MBH							152.6	157.0
	Main Coil LAT dB/wB							58.8 / 58.8	57.7 / 57.7

Conditions for shaded areas should be verified with your Reznor Representative and the Reznor Selection Software.

Software Selection

Verification of equipment performance should precede equipment selection. Use the Reznor MAPS Calculator Software Program to confirm performance for both heating and cooling modes.

Formula for Calculating the Outside Air Changeover Rate:

Outside air Changeovers per Hour (ACH) = [Outside Air Quantity (CFM) x 60] ÷ Zone Volume (cubic feet).

Model RCB / RDCB / RECB Capacities at 95°Fdb / 76°Fwb Entering Air, 95 °F Ambient									
SCFM	Cooling Size	CABINET C				CABINET D			
		190	216	298	410	360	480	600	720
3,500	Total Cooling MBH	241.5	260.3	316.9					
	Sensible Cooling MBH	144.4	151.8	176.2					
	Main Coil LAT dB/wB	55.8 / 55.7	53.8 / 53.7	47.2 / 47.1					
4,000	Total Cooling MBH	250.2	270.8	336.3	386.3				
	Sensible Cooling MBH	155.1	163.0	189.7	212.5				
	Main Coil LAT dB/wB	58.1 / 58.0	56.3 / 56.2	49.9 / 49.8	44.6 / 44.4				
4,500	Total Cooling MBH		279.1	353.6	405.7				
	Sensible Cooling MBH		173.6	203.3	225.2				
	Main Coil LAT dB/wB		58.4 / 58.2	52.1 / 52.1	47.5 / 47.3				
5,000	Total Cooling MBH		286.3	366.2	422.5	379.9			
	Sensible Cooling MBH		184.1	215.0	237.0	220.0			
	Main Coil LAT dB/wB		60.0 / 59.8	54.1 / 54.1	50.0 / 49.7	53.3 / 53.1			
5,500	Total Cooling MBH		291.9	376.1	436.9	391.3	455.0		
	Sensible Cooling MBH		194.4	226.0	248.6	230.9	257.5		
	Main Coil LAT dB/wB		61.4 / 61.2	56.0 / 55.9	52.1 / 51.7	55.1 / 54.9	50.6 / 50.4		
6,000	Total Cooling MBH			385.1	453.0	400.4	468.9		
	Sensible Cooling MBH			237.2	261.8	241.8	269.1		
	Main Coil LAT dB/wB			57.5 / 57.4	53.5 / 53.3	56.7 / 56.5	52.4 / 52.2		
6,500	Total Cooling MBH			392.6	467.6	407.8	481.3		
	Sensible Cooling MBH			247.7	275.4	252.0	280.6		
	Main Coil LAT dB/wB			58.8 / 58.7	54.7 / 54.6	58.2 / 57.9	54.0 / 53.8		
7,000	Total Cooling MBH			398.8	478.4	414.7	492.5	596.4	669.5
	Sensible Cooling MBH			258.0	287.5	262.1	292.1	336.4	369.6
	Main Coil LAT dB/wB			60.0 / 59.9	56.0 / 55.9	59.4 / 59.1	55.4 / 55.2	49.4 / 49.4	44.9 / 44.9
7,500	Total Cooling MBH			403.8	487.1	420.5	501.9	609.9	687.5
	Sensible Cooling MBH			268.1	298.1	272.5	302.6	347.6	382.3
	Main Coil LAT dB/wB			61.0 / 60.9	57.2 / 57.2	60.5 / 60.2	56.7 / 56.4	51.0 / 51.0	46.6 / 46.6
8,000	Total Cooling MBH				494.2		510.1	622.3	703.9
	Sensible Cooling MBH				308.9		313.2	359.1	394.2
	Main Coil LAT dB/wB				58.3 / 58.3		57.8 / 57.6	52.4 / 52.4	48.2 / 48.2
8,500	Total Cooling MBH				500.8		517.3	633.6	718.5
	Sensible Cooling MBH				319.0		323.3	370.7	406.0
	Main Coil LAT dB/wB				59.3 / 59.2		58.9 / 58.6	53.6 / 53.6	49.7 / 49.7
9,000	Total Cooling MBH				506.4		523.6	643.7	732.1
	Sensible Cooling MBH				329.7		333.5	381.1	417.3
	Main Coil LAT dB/wB				60.2 / 60.1		59.8 / 59.5	54.8 / 54.8	50.9 / 50.9
9,500	Total Cooling MBH				511.3		529.5	652.6	744.1
	Sensible Cooling MBH				339.5		343.6	392.2	428.6
	Main Coil LAT dB/wB				61.0 / 60.9		60.7 / 60.3	55.8 / 55.8	52.1 / 52.1
10,000	Total Cooling MBH						534.8	660.6	755.4
	Sensible Cooling MBH						353.5	403.0	439.6
	Main Coil LAT dB/wB						61.4 / 61.1	56.8 / 56.8	53.2 / 53.2
10,500	Total Cooling MBH						539.8	668.0	765.5
	Sensible Cooling MBH						363.3	413.5	450.9
	Main Coil LAT dB/wB						62.1 / 61.7	57.6 / 57.6	54.2 / 54.2
11,000	Total Cooling MBH						539.9	674.3	774.3
	Sensible Cooling MBH						371.5	423.5	460.7
	Main Coil LAT dB/wB						62.9 / 62.5	58.4 / 58.4	55.2 / 55.2
11,500	Total Cooling MBH						540.6	680.0	782.4
	Sensible Cooling MBH						380.6	433.8	471.0
	Main Coil LAT dB/wB						63.6 / 63.1	59.2 / 59.2	56.1 / 56.0
12,000	Total Cooling MBH						544.1	685.2	789.9
	Sensible Cooling MBH						390.1	443.3	481.0
	Main Coil LAT dB/wB						64.1 / 63.6	59.9 / 59.9	56.9 / 56.8
12,500	Total Cooling MBH						547.7	687.9	796.9
	Sensible Cooling MBH						399.8	452.0	490.9
	Main Coil LAT dB/wB						64.6 / 64.1	60.6 / 60.5	57.7 / 57.6

Conditions for shaded areas should be verified with your Reznor Representative and the Reznor Selection Software.

Model RDB / Rddb / REDB Capacities at 95°Fdb / 76°Fwb Entering Air, 95 °F Ambient						
SCFM	Cooling Size	CABINET A				
		84	102	114	142	162
	Reheat Pump Circuit	2 tons	2 tons	2 tons	2 tons	2 tons
1,000	Total Cooling MBH					
	Sensible Cooling MBH					
	Reheat MBH					
	Main Coil LAT dB/wB					
	Reheat Coil LAT dB/wB					
1,250	Total Cooling MBH	104.3	117.0			
	Sensible Cooling MBH	60.2	65.9			
	Reheat MBH	40.0	40.3			
	Main Coil LAT dB/wB	50.3 / 50.3	45.9 / 45.9			
	Reheat Coil LAT dB/wB	81.2 / 62.6	77.2 / 59.4			
1,500	Total Cooling MBH	110.4	124.9	132.8		
	Sensible Cooling MBH	65.8	71.7	75.3		
	Reheat MBH	40.8	41.1	41.3		
	Main Coil LAT dB/wB	54.1 / 54.1	50.4 / 50.3	48.1 / 48.1		
	Reheat Coil LAT dB/wB	80.5 / 64.0	77.1 / 61.1	75.1 / 59.4		
1,750	Total Cooling MBH	114.8	130.4	139.4	162.5	174.8
	Sensible Cooling MBH	71.1	77.1	80.9	91.0	96.8
	Reheat MBH	41.5	41.7	41.9	42.3	42.6
	Main Coil LAT dB/wB	57.1 / 57.1	53.8 / 53.7	51.8 / 51.8	46.3 / 46.3	43.3 / 43.3
	Reheat Coil LAT dB/wB	80.3 / 65.4	77.2 / 62.7	75.4 / 61.1	70.3 / 56.7	67.5 / 54.3
2,000	Total Cooling MBH	117.2	134.7	144.3	169.7	183.1
	Sensible Cooling MBH	75.9	82.3	86.3	96.7	102.7
	Reheat MBH	41.9	42.2	42.3	42.8	43.0
	Main Coil LAT dB/wB	59.5 / 59.4	56.5 / 56.4	54.6 / 54.6	49.7 / 49.7	46.8 / 46.8
	Reheat Coil LAT dB/wB	80.4 / 66.7	77.6 / 64.1	75.8 / 62.6	71.2 / 58.6	68.6 / 56.3
2,250	Total Cooling MBH		138.6	148.7	176.4	191.8
	Sensible Cooling MBH		87.3	91.3	102.3	108.9
	Reheat MBH		42.6	42.8	43.2	43.4
	Main Coil LAT dB/wB		58.6 / 58.5	57.0 / 56.9	52.4 / 52.3	49.5 / 49.5
	Reheat Coil LAT dB/wB		77.9 / 65.3	76.3 / 64.0	72.1 / 60.2	69.5 / 57.9
2,500	Total Cooling MBH		140.9	152.0	181.5	197.9
	Sensible Cooling MBH		92.3	96.4	107.8	114.6
	Reheat MBH		43.0	43.1	43.5	43.7
	Main Coil LAT dB/wB		60.3 / 60.2	58.8 / 58.7	54.5 / 54.5	51.9 / 51.9
	Reheat Coil LAT dB/wB		78.1 / 66.2	76.6 / 64.9	72.7 / 61.4	70.2 / 59.3
2,750	Total Cooling MBH			154.6	185.7	202.7
	Sensible Cooling MBH			101.9	113.6	120.2
	Reheat MBH			43.4	43.8	44.0
	Main Coil LAT dB/wB			60.2 / 60.1	56.2 / 56.2	53.8 / 53.8
	Reheat Coil LAT dB/wB			77.3 / 66.0	73.6 / 62.7	71.4 / 60.8
3,000	Total Cooling MBH			156.8	189.6	207.3
	Sensible Cooling MBH			106.8	118.9	125.6
	Reheat MBH			43.8	44.2	44.3
	Main Coil LAT dB/wB			61.6 / 61.4	57.9 / 57.9	55.6 / 55.6
	Reheat Coil LAT dB/wB			77.9 / 66.9	74.4 / 63.8	72.3 / 62.0
3,250	Total Cooling MBH			159.1	193.1	211.3
	Sensible Cooling MBH			111.2	123.8	130.6
	Reheat MBH			44.2	44.6	44.7
	Main Coil LAT dB/wB			62.9 / 62.6	59.2 / 59.2	57.2 / 57.2
	Reheat Coil LAT dB/wB			78.8 / 67.9	75.3 / 64.9	73.5 / 63.2
3,500	Total Cooling MBH				195.6	215.1
	Sensible Cooling MBH				128.7	135.9
	Reheat MBH				44.9	45.1
	Main Coil LAT dB/wB				60.4 / 60.4	58.7 / 58.7
	Reheat Coil LAT dB/wB				76.5 / 66.1	74.7 / 64.4
3,750	Total Cooling MBH					
	Sensible Cooling MBH					
	Reheat MBH					
	Main Coil LAT dB/wB					
	Reheat Coil LAT dB/wB					

Conditions for shaded areas should be verified with your Reznor Representative and the Reznor Selection Software.

Model RDB / Rddb / REDB Capacities at 95°Fdb / 76°Fwb Entering Air, 95 °F Ambient							
SCFM	Cooling Size	CABINET B					
		184	196	210	222	224	236
	Reheat Pump Circuit	2 tons	3 tons	2 tons	3 tons	2 tons	3 tons
1,500	Total Cooling MBH						
	Sensible Cooling MBH						
	Reheat MBH						
	Main Coil LAT dB/wB						
	Reheat Coil LAT dB/wB						
1,750	Total Cooling MBH						
	Sensible Cooling MBH						
	Reheat MBH						
	Main Coil LAT dB/wB						
	Reheat Coil LAT dB/wB						
2,000	Total Cooling MBH						
	Sensible Cooling MBH						
	Reheat MBH						
	Main Coil LAT dB/wB						
	Reheat Coil LAT dB/wB						
2,250	Total Cooling MBH			223.8			
	Sensible Cooling MBH			123.5			
	Reheat MBH			44.0			
	Main Coil LAT dB/wB			43.5 / 43.5			
	Reheat Coil LAT dB/wB			63.0 / 52.6			
2,500	Total Cooling MBH	221.9		232.7	242.9		
	Sensible Cooling MBH	124.7		129.8	135.1		
	Reheat MBH	44.1		44.2	62.3		
	Main Coil LAT dB/wB	48.1 / 48.1		46.1 / 46.1	44.4 / 44.4		
	Reheat Coil LAT dB/wB	65.6 / 55.6		63.9 / 54.0	69.2 / 55.5		
2,750	Total Cooling MBH	227.7	239.4	241.6	253.2	250.9	261.6
	Sensible Cooling MBH	130.5	135.5	136.7	142.0	141.0	146.0
	Reheat MBH	44.3	62.5	44.4	62.8	44.6	63.0
	Main Coil LAT dB/wB	50.3 / 50.3	48.9 / 48.9	48.1 / 48.1	46.6 / 46.6	46.7 / 46.7	45.3 / 45.3
	Reheat Coil LAT dB/wB	67.0 / 57.4	71.5 / 58.3	64.8 / 55.4	69.6 / 56.6	63.4 / 54.2	68.2 / 55.5
3,000	Total Cooling MBH	233.5	244.1	251.0	262.6	259.0	270.3
	Sensible Cooling MBH	136.1	140.4	143.6	148.4	147.1	151.9
	Reheat MBH	44.6	62.9	44.8	63.2	44.9	63.3
	Main Coil LAT dB/wB	52.3 / 52.3	51.2 / 51.2	50.0 / 50.0	48.6 / 48.6	48.8 / 48.8	47.4 / 47.4
	Reheat Coil LAT dB/wB	67.7 / 58.6	72.1 / 59.6	65.5 / 56.5	70.0 / 57.6	64.4 / 55.5	68.9 / 56.7
3,250	Total Cooling MBH	237.7	250.3	257.6	270.1	268.0	278.5
	Sensible Cooling MBH	141.0	145.9	149.2	154.2	153.3	157.9
	Reheat MBH	44.9	63.2	45.1	63.6	45.3	63.7
	Main Coil LAT dB/wB	54.1 / 54.1	53.0 / 53.0	51.7 / 51.7	50.5 / 50.5	50.6 / 50.6	49.4 / 49.4
	Reheat Coil LAT dB/wB	68.7 / 59.9	72.8 / 60.8	66.5 / 57.9	70.6 / 58.7	65.5 / 56.9	69.5 / 57.8
3,500	Total Cooling MBH	241.3	253.8	264.7	276.2	274.9	286.2
	Sensible Cooling MBH	145.7	150.8	155.1	159.9	159.2	164.0
	Reheat MBH	45.3	63.5	45.5	63.9	45.6	64.0
	Main Coil LAT dB/wB	55.8 / 55.8	54.6 / 54.6	53.4 / 53.4	52.2 / 52.2	52.3 / 52.3	51.1 / 51.1
	Reheat Coil LAT dB/wB	69.8 / 61.2	73.2 / 61.6	67.7 / 59.2	71.1 / 59.7	66.6 / 58.2	70.0 / 58.7
3,750	Total Cooling MBH	246.0	258.2	270.1	280.7	280.8	292.1
	Sensible Cooling MBH	151.5	157.0	160.7	165.6	164.8	170.3
	Reheat MBH	45.7	63.7	45.9	64.1	46.0	64.2
	Main Coil LAT dB/wB	57.0 / 57.0	55.7 / 55.7	54.8 / 54.8	53.5 / 53.5	53.8 / 53.8	52.3 / 52.3
	Reheat Coil LAT dB/wB	70.3 / 62.0	73.7 / 62.5	68.3 / 60.0	71.8 / 60.7	67.3 / 59.1	70.7 / 59.8
4,000	Total Cooling MBH	247.5	259.9	274.0	285.7	285.0	296.4
	Sensible Cooling MBH	156.4	161.4	165.8	171.1	170.1	175.5
	Reheat MBH	45.6	64.0	45.9	64.4	45.9	64.5
	Main Coil LAT dB/wB	58.3 / 58.3	57.0 / 57.0	56.1 / 56.1	54.8 / 54.8	55.0 / 55.0	53.8 / 53.8
	Reheat Coil LAT dB/wB	71.0 / 62.9	74.3 / 63.4	69.0 / 60.9	72.3 / 61.6	68.0 / 60.0	71.4 / 60.7

Conditions for shaded areas should be verified with your Reznor Representative and the Reznor Selection Software.

Model RDB / Rddb / REDB Capacities at 95°Fdb / 76°Fwb Entering Air, 95 °F Ambient									
SCFM	Cooling Size	CABINET C							
		248	262	272	288	354	370	468	482
	Reheat Pump Circuit	5 tons	6 tons	5 tons	6 tons	5 tons	6 tons	5 tons	6 tons
3,500	Total Cooling MBH	302.1	310.0	317.9	326.6				
	Sensible Cooling MBH	171.9	176.1	179.0	183.2				
	Reheat MBH	97.0	113.0	97.3	113.6				
	Main Coil LAT dB/wB	49.2 / 49.2	48.3 / 48.3	47.3 / 47.3	46.5 / 46.5				
	Reheat Coil LAT dB/wB	76.1 / 60.3	79.6 / 61.2	74.3 / 58.8	77.9 / 59.7				
4,000	Total Cooling MBH	314.8	323.1	333.4	342.3	391.8	400.6		
	Sensible Cooling MBH	182.9	187.1	190.7	195.1	217.4	221.9		
	Reheat MBH	98.3	114.8	98.7	115.4	99.8	116.9		
	Main Coil LAT dB/wB	52.3 / 52.3	51.5 / 51.5	50.5 / 50.4	49.7 / 49.7	44.1 / 44.1	43.4 / 43.4		
	Reheat Coil LAT dB/wB	76.2 / 61.7	79.3 / 62.3	74.6 / 60.2	77.7 / 61.0	68.6 / 55.2	71.7 / 56.1		
4,500	Total Cooling MBH	324.8	335.5	345.7	355.6	412.7	421.7		
	Sensible Cooling MBH	193.9	198.6	202.2	206.6	231.5	235.7		
	Reheat MBH	99.3	116.5	99.7	116.9	100.7	118.4		
	Main Coil LAT dB/wB	54.8 / 54.8	54.1 / 54.1	53.1 / 53.0	52.4 / 52.4	46.8 / 46.8	46.3 / 46.3		
	Reheat Coil LAT dB/wB	76.4 / 62.9	79.3 / 63.5	74.9 / 61.6	77.7 / 62.2	69.0 / 56.5	71.9 / 57.3		
5,000	Total Cooling MBH	334.4	344.8	355.0	365.9	429.1	436.8	484.8	492.9
	Sensible Cooling MBH	204.3	208.9	212.3	217.0	242.9	247.2	268.6	273.1
	Reheat MBH	100.3	117.6	100.6	118.1	101.9	119.4	102.8	120.6
	Main Coil LAT dB/wB	56.8 / 56.7	56.1 / 56.1	55.3 / 55.2	54.6 / 54.6	49.5 / 49.5	48.9 / 48.9	44.6 / 44.6	43.8 / 43.8
	Reheat Coil LAT dB/wB	76.7 / 64.0	79.5 / 64.6	75.3 / 62.7	78.0 / 63.4	69.6 / 57.9	72.4 / 58.7	65.1 / 53.9	67.9 / 54.8
5,500	Total Cooling MBH	341.0	351.2	363.5	373.0	441.9	452.3	503.0	512.9
	Sensible Cooling MBH	214.5	219.1	222.8	227.5	254.5	259.2	281.2	285.7
	Reheat MBH	101.3	118.5	101.6	118.9	102.5	120.5	103.6	121.7
	Main Coil LAT dB/wB	58.5 / 58.4	57.8 / 57.7	57.1 / 57.0	56.4 / 56.4	51.7 / 51.7	51.0 / 51.0	47.1 / 47.1	46.5 / 46.5
	Reheat Coil LAT dB/wB	77.0 / 65.0	79.5 / 65.6	75.7 / 63.7	78.2 / 64.4	70.3 / 59.1	72.9 / 59.9	66.0 / 55.3	68.7 / 56.2
6,000	Total Cooling MBH		358.4	371.7	380.6	453.5	463.0	521.9	529.8
	Sensible Cooling MBH		229.7	233.8	238.3	265.8	269.9	294.4	298.8
	Reheat MBH		119.8	102.5	119.9	103.4	121.4	104.5	122.4
	Main Coil LAT dB/wB		59.5 / 59.4	58.7 / 58.6	57.9 / 57.9	53.4 / 53.4	53.1 / 53.1	49.0 / 48.9	48.3 / 48.3
	Reheat Coil LAT dB/wB		79.6 / 66.3	76.2 / 64.8	78.2 / 65.1	71.0 / 60.4	73.2 / 60.9	67.1 / 56.8	69.1 / 57.2
6,500	Total Cooling MBH			375.9	388.9	462.3	474.7	535.3	546.2
	Sensible Cooling MBH			244.3	248.5	277.4	281.0	307.3	310.2
	Reheat MBH			103.0	120.7	104.1	122.1	105.0	123.3
	Main Coil LAT dB/wB			59.8 / 59.7	59.3 / 59.2	55.0 / 55.0	54.6 / 54.6	50.7 / 50.7	50.3 / 50.3
	Reheat Coil LAT dB/wB			76.5 / 65.6	78.6 / 65.9	71.6 / 61.4	73.7 / 61.9	67.6 / 57.8	69.8 / 58.3
7,000	Total Cooling MBH			382.2	393.7	470.7	483.3	548.8	558.1
	Sensible Cooling MBH			255.3	258.3	288.1	291.9	318.9	322.0
	Reheat MBH			103.7	121.5	104.7	122.7	105.8	123.8
	Main Coil LAT dB/wB			60.9 / 60.8	60.5 / 60.4	56.4 / 56.4	55.9 / 55.9	52.3 / 52.3	51.9 / 51.9
	Reheat Coil LAT dB/wB			76.8 / 66.3	78.7 / 66.6	72.2 / 62.3	74.1 / 62.7	68.5 / 58.9	70.3 / 59.3
7,500	Total Cooling MBH			384.2	398.1	479.2	489.8	557.2	570.3
	Sensible Cooling MBH			263.6	268.3	298.5	302.2	328.7	333.1
	Reheat MBH			104.2	123.2	105.3	124.4	106.2	124.4
	Main Coil LAT dB/wB			61.9 / 61.7	61.6 / 61.4	57.5 / 57.5	57.3 / 57.3	53.7 / 53.7	53.3 / 53.3
	Reheat Coil LAT dB/wB			77.3 / 66.9	79.2 / 67.3	72.7 / 63.1	74.7 / 63.6	69.1 / 59.8	71.0 / 60.2
8,000	Total Cooling MBH					486.7	497.4	567.5	579.7
	Sensible Cooling MBH					309.1	312.9	339.4	343.8
	Reheat MBH					106.1	125.1	106.8	126.3
	Main Coil LAT dB/wB					58.7 / 58.7	58.3 / 58.3	55.0 / 55.0	54.8 / 54.8
	Reheat Coil LAT dB/wB					73.1 / 63.9	75.0 / 64.3	69.7 / 60.7	71.6 / 61.1
8,500	Total Cooling MBH					502.2	517.4	586.0	
	Sensible Cooling MBH					323.9	350.5	355.1	
	Reheat MBH					125.6	107.6	126.7	
	Main Coil LAT dB/wB					59.3 / 59.2	56.2 / 56.2	55.8 / 55.7	
	Reheat Coil LAT dB/wB					75.4 / 64.9	70.5 / 61.6	72.1 / 61.9	
9,000	Total Cooling MBH					498.4	507.3	582.3	595.7
	Sensible Cooling MBH					329.4	333.8	359.9	366.4
	Reheat MBH					106.2	126.3	107.5	127.3
	Main Coil LAT dB/wB					60.6 / 60.6	60.2 / 60.1	57.4 / 57.4	56.8 / 56.7
	Reheat Coil LAT dB/wB					74.3 / 65.4	75.9 / 65.6	71.2 / 62.5	72.8 / 62.7
9,500	Total Cooling MBH					499.7	514.8	588.4	601.3
	Sensible Cooling MBH					338.8	344.9	370.1	376.4
	Reheat MBH					106.2	127.1	106.9	128.0
	Main Coil LAT dB/wB					61.5 / 61.4	61.0 / 60.9	58.3 / 58.3	57.8 / 57.8
	Reheat Coil LAT dB/wB					74.8 / 66.0	76.3 / 66.2	71.9 / 63.2	73.4 / 63.4

Conditions for shaded areas should be verified with your Reznor Representative and the Reznor Selection Software.

Model RDB / Rddb / REDB Capacities at 95°Fdb / 76°Fwb Entering Air, 95 °F Ambient												
SCFM	Cooling Size	CABINET D										
		418	444	484	538	564	602	658	684	722	804	842
	Reheat Pump Circuit	5 tons	7 tons	10 tons	5 tons	7 tons	10 tons	5 tons	7 tons	10 tons	7 tons	10 tons
5,000	Total Cooling MBH	443.4	455.7	485.9								
	Sensible Cooling MBH	250.1	257.0	271.6								
	Reheat MBH	100.2	127.3	181.1								
	Main Coil LAT dB/wB	48.3 / 48.3	47.2 / 47.2	44.6 / 44.6								
	Reheat Coil LAT dB/wB	67.7 / 56.6	71.7 / 57.7	79.5 / 59.6								
5,500	Total Cooling MBH	457.7	471.3	503.5								
	Sensible Cooling MBH	260.9	268.2	283.5								
	Reheat MBH	101.0	128.4	183.4								
	Main Coil LAT dB/wB	50.5 / 50.5	49.5 / 49.5	47.1 / 47.1								
	Reheat Coil LAT dB/wB	68.4 / 57.9	72.1 / 58.9	79.3 / 60.5								
6,000	Total Cooling MBH	468.7	484.5	516.3								
	Sensible Cooling MBH	271.8	279.6	294.8								
	Reheat MBH	101.9	129.8	185.2								
	Main Coil LAT dB/wB	52.5 / 52.5	51.7 / 51.7	49.3 / 49.3								
	Reheat Coil LAT dB/wB	69.1 / 59.2	72.5 / 60.0	79.2 / 61.4								
6,500	Total Cooling MBH		494.7	530.2	548.2	561.6						
	Sensible Cooling MBH		289.9	307.0	311.9	318.4						
	Reheat MBH		130.6	187.1	103.6	131.5						
	Main Coil LAT dB/wB		53.4 / 53.3	51.2 / 51.1	49.9 / 49.9	49.2 / 49.2						
	Reheat Coil LAT dB/wB		72.8 / 60.9	79.0 / 62.1	65.8 / 56.7	68.9 / 57.5						
7,000	Total Cooling MBH		503.9	541.6		573.0	608.8					
	Sensible Cooling MBH		299.8	316.8		328.9	345.8					
	Reheat MBH		131.7	188.7		132.3	189.9					
	Main Coil LAT dB/wB		55.1 / 55.1	52.8 / 52.8		51.0 / 51.0	48.9 / 48.9					
	Reheat Coil LAT dB/wB		73.3 / 61.9	79.0 / 62.8		69.5 / 58.6	75.4 / 59.8					
7,500	Total Cooling MBH		511.4	547.5		585.2	621.5					
	Sensible Cooling MBH		310.4	326.3		340.0	356.7					
	Reheat MBH		132.4	190.1		133.2	191.4					
	Main Coil LAT dB/wB		56.4 / 56.3	54.5 / 54.4		52.6 / 52.6	50.6 / 50.6					
	Reheat Coil LAT dB/wB		73.6 / 62.6	79.1 / 63.6		70.0 / 59.5	75.5 / 60.6					
8,000	Total Cooling MBH		519.4	556.3		596.5	633.9		704.7		783.0	
	Sensible Cooling MBH		321.0	336.6		351.3	368.3		397.5		433.0	
	Reheat MBH		133.4	191.4		134.1	192.6		135.3		136.5	
	Main Coil LAT dB/wB		57.7 / 57.6	55.8 / 55.7		54.0 / 53.9	52.1 / 52.1		48.6 / 48.6		44.3 / 44.3	
	Reheat Coil LAT dB/wB		74.0 / 63.4	79.1 / 64.2		70.6 / 60.4	75.7 / 61.3		65.5 / 55.8		61.4 / 52.2	
8,500	Total Cooling MBH		523.2	564.7		606.2	643.0		718.0		800.0	
	Sensible Cooling MBH		329.6	346.7		361.3	377.4		407.8		444.0	
	Reheat MBH		134.0	192.8		134.9	193.8		136.1		137.2	
	Main Coil LAT dB/wB		58.8 / 58.6	57.0 / 56.9		55.2 / 55.1	53.5 / 53.4		50.1 / 50.1		46.0 / 46.0	
	Reheat Coil LAT dB/wB		74.5 / 64.2	79.2 / 64.8		71.1 / 61.2	75.9 / 62.0		66.3 / 56.9		62.4 / 53.3	
9,000	Total Cooling MBH		528.6	571.1		613.7	653.3		732.4	768.8	815.8	849.5
	Sensible Cooling MBH		339.4	356.4		371.3	388.1		419.7	437.4	456.0	474.0
	Reheat MBH		134.9	193.8		135.7	195.0		136.8	196.5	137.9	197.7
	Main Coil LAT dB/wB		59.7 / 59.5	58.0 / 57.9		56.4 / 56.3	54.7 / 54.6		51.3 / 51.3	49.5 / 49.5	47.4 / 47.4	45.6 / 45.6
	Reheat Coil LAT dB/wB		74.7 / 64.8	79.2 / 65.3		71.5 / 61.9	76.1 / 62.6		66.9 / 57.7	71.6 / 58.7	63.1 / 54.3	67.8 / 55.4
9,500	Total Cooling MBH		533.9	576.2		621.1	662.7		740.2	780.4	828.1	864.2
	Sensible Cooling MBH		349.2	365.9		381.4	398.9		429.3	447.9	466.2	484.8
	Reheat MBH		135.8	194.8		136.5	196.0		137.6	197.5	138.5	198.6
	Main Coil LAT dB/wB		60.6 / 60.4	59.1 / 58.9		57.3 / 57.2	55.8 / 55.7		52.6 / 52.6	50.9 / 50.9	48.9 / 48.9	47.1 / 47.1
	Reheat Coil LAT dB/wB		75.1 / 65.4	79.5 / 66.0		72.1 / 62.7	76.4 / 63.3		67.7 / 58.7	72.1 / 59.5	64.2 / 55.4	68.6 / 56.4
10,000	Total Cooling MBH			581.5		628.3	670.9		752.4	791.0	839.4	876.7
	Sensible Cooling MBH			376.2		391.4	409.2		440.9	458.8	476.8	495.3
	Reheat MBH			195.8		137.5	196.9		138.4	198.4	139.2	199.4
	Main Coil LAT dB/wB			59.9 / 59.7		58.3 / 58.2	56.8 / 56.6		53.7 / 53.7	52.2 / 52.2	50.2 / 50.2	48.5 / 48.5
	Reheat Coil LAT dB/wB			79.6 / 66.4		72.5 / 63.3	76.7 / 63.9		68.3 / 59.5	72.5 / 60.3	64.9 / 56.4	69.0 / 57.2

Conditions for shaded areas should be verified with your Reznor Representative and the Reznor Selection Software.



CAPACITY TABLES (cont'd)

Cooling Capacities (cont'd)

Model RDB / RDDB / REDB Capacities at 95°Fdb / 76°Fwb Entering Air, 95 °F Ambient (cont'd)

Model RDB / RDDB / REDB Capacities at 95°Fdb / 76°Fwb Entering Air, 95 °F Ambient												
SCFM	Cooling Size Reheat Pump Circuit	CABINET D										
		418	444	484	538	564	602	658	684	722	804	842
		5 tons	7 tons	10 tons	5 tons	7 tons	10 tons	5 tons	7 tons	10 tons	7 tons	10 tons
10,500	Total Cooling MBH			588.9		635.0	677.9		759.5	800.9	852.0	889.0
	Sensible Cooling MBH			386.9		401.3	419.6		450.4	469.3	488.2	505.8
	Reheat MBH			196.7		137.4	197.8		139.1	199.2	140.0	200.3
	Main Coil LAT dB/wB			60.7 / 60.4		59.2 / 59.0	57.7 / 57.5		54.8 / 54.8	53.2 / 53.2	51.3 / 51.3	49.9 / 49.9
	Reheat Coil LAT dB/wB			79.5 / 66.8		72.7 / 63.7	76.7 / 64.3		68.8 / 60.2	72.8 / 60.9	65.4 / 57.2	69.5 / 58.0
	Reheat Coil LAT dB/wB											
11,000	Total Cooling MBH			592.5		641.7	684.1		767.1	809.8	862.5	900.8
	Sensible Cooling MBH			396.4		413.9	429.6		462.6	479.4	501.1	517.1
	Reheat MBH			197.5		137.0	198.5		138.1	200.0	139.4	201.1
	Main Coil LAT dB/wB			61.4 / 61.2		59.8 / 59.5	58.6 / 58.4		55.7 / 55.7	54.3 / 54.3	52.3 / 52.3	51.0 / 51.0
	Reheat Coil LAT dB/wB			79.7 / 67.3		73.0 / 64.3	77.0 / 64.9		69.2 / 60.8	73.2 / 61.5	66.1 / 57.9	70.0 / 58.7
	Reheat Coil LAT dB/wB											
11,500	Total Cooling MBH					646.3	691.9		774.8	817.0	870.0	913.4
	Sensible Cooling MBH					424.0	438.7		473.4	488.6	510.7	527.0
	Reheat MBH					137.4	199.3		138.4	200.7	139.3	201.7
	Main Coil LAT dB/wB					60.5 / 60.2	59.3 / 59.0		56.3 / 56.3	55.2 / 55.2	53.3 / 53.3	52.0 / 52.0
	Reheat Coil LAT dB/wB					73.3 / 64.7	77.2 / 65.3		69.5 / 61.3	73.5 / 62.1	66.5 / 58.5	70.5 / 59.4
	Reheat Coil LAT dB/wB											
12,000	Total Cooling MBH					649.9	695.4		780.3	826.4	879.1	922.2
	Sensible Cooling MBH					432.2	447.8		483.8	500.0	521.3	537.6
	Reheat MBH					138.1	199.9		138.9	201.3	139.6	202.3
	Main Coil LAT dB/wB					61.2 / 60.9	60.1 / 59.8		57.2 / 57.2	56.0 / 56.0	54.2 / 54.2	53.0 / 53.0
	Reheat Coil LAT dB/wB					73.7 / 65.2	77.5 / 65.8		70.1 / 61.9	74.0 / 62.7	67.1 / 59.2	71.0 / 60.1
	Reheat Coil LAT dB/wB											
12,500	Total Cooling MBH					653.8	701.6		786.8	831.3	891.3	933.3
	Sensible Cooling MBH					442.0	458.1		494.1	508.8	533.9	548.8
	Reheat MBH					138.8	200.6		139.6	202.0	140.2	203.0
	Main Coil LAT dB/wB					61.8 / 61.5	60.7 / 60.4		57.9 / 57.9	56.8 / 56.8	54.9 / 54.9	53.8 / 53.8
	Reheat Coil LAT dB/wB					74.1 / 65.7	77.7 / 66.2		70.6 / 62.5	74.3 / 63.2	67.7 / 59.9	71.4 / 60.7
	Reheat Coil LAT dB/wB											

Conditions for shaded areas should be verified with your Reznor Representative and the Reznor Selection Software.

NOTE: Capacity table limited by several variables such as saturated suction temperature, etc. for more performance data, please see the Reznor Product Selection Software from your Reznor Representative.

Statement of Unit Performance

Actual Unit airflow also limited by available sizes and unit total static pressure

Maximum and minimum cooling CFM is limited to 200 FPM and 500 FPM air velocities over the main evaporator coils. Maximum and minimum heat is limited to 100°F temperature rise (90° for electric Models RECB/REDB) and 45°F temperature rise (20°F for electric models).

Reznor provides unit performance values that represent the general performance of our typical unit at a given design condition. With all DX, gas and electric systems the values are to be construed as having an expected mechanical tolerance of 10-15% of stated values. Due to mechanical limitations of the equipment, unknown variables and uncontrollable environmental influences such as gas pressure, actual airflow, pressure differences, refrigerant charge, air delivery (duct & registers), coil factors and other unstated variable, the actual unit values will be different from the stated values. The control system seeks to stage or modulate the equipment to a steady state condition over an extended period of time within the tolerance of the mechanical equipment. The control system setpoints should not be construed as the tolerance or guaranteed performance of the mechanical system.



CAPACITY TABLES (cont'd)

Heating Capacities Table

SCFM	Temperature Rise °F @ SCFM conditions																					
	Nominal Furnace Size (kW Electric Heat)											Nominal Furnace Size (Gas MBH)										
	10	20	24	25	30	35	39	50	60	75	88	100	150	200	250	300	400	500	600	700	800	1000
1,000	27.3	54.6	65.6	68.3	82.0	95.6	106.5	■	■	■	■	74.1	111.1	■	■	■	■	■	■	■	■	■
1,200	22.8	45.5	54.6	56.9	68.3	79.7	88.8	113.8	■	■	■	61.7	92.6	■	■	■	■	■	■	■	■	■
1,400	19.5	39.0	46.8	48.8	58.5	68.3	76.1	97.6	117.1	■	■	52.9	79.4	105.8	■	■	■	■	■	■	■	■
1,600	17.1	34.2	41.0	42.7	51.2	59.8	66.6	85.4	102.5	■	■	46.3	69.4	92.6	115.7	■	■	■	■	■	■	■
1,800	■	30.4	36.4	37.9	45.5	53.1	59.2	75.9	91.1	113.8	■	41.2	61.7	82.3	102.9	■	■	■	■	■	■	■
2,000	■	27.3	32.8	34.2	41.0	47.8	53.3	68.3	82.0	102.5	■	37.0	55.6	74.1	92.6	111.1	■	■	■	■	■	■
2,200	■	24.8	29.8	31.0	37.3	43.5	48.4	62.1	74.5	93.1	109.3	■	50.5	67.3	84.2	101.0	■	■	■	■	■	■
2,400	■	22.8	27.3	28.5	34.2	39.8	44.4	56.9	68.3	85.4	100.2	■	46.3	61.7	77.2	92.6	■	■	■	■	■	■
2,600	■	21.0	25.2	26.3	31.5	36.8	41.0	52.5	63.0	78.8	92.5	■	42.7	57.0	71.2	85.5	114.0	■	■	■	■	■
2,800	■	19.5	23.4	24.4	29.3	34.2	38.1	48.8	58.5	73.2	85.9	■	39.7	52.9	66.1	79.4	105.8	■	■	■	■	■
3,000	■	■	21.9	22.8	27.3	31.9	35.5	45.5	54.6	68.3	80.1	■	■	49.4	61.7	74.1	98.8	■	■	■	■	■
3,200	■	■	20.5	21.3	25.6	29.9	33.3	42.7	51.2	64.0	75.1	■	■	46.3	57.9	69.4	92.6	115.7	■	■	■	■
3,400	■	■	19.3	20.1	24.1	28.1	31.3	40.2	48.2	60.3	70.7	■	■	43.6	54.5	65.4	87.1	108.9	■	■	■	■
3,600	■	■	■	19.0	22.8	26.6	29.6	37.9	45.5	56.9	66.8	■	■	41.2	51.4	61.7	82.3	102.9	■	■	■	■
3,800	■	■	■	■	21.6	25.2	28.0	35.9	43.1	53.9	63.3	■	■	39.0	48.7	58.5	78.0	97.5	117.0	■	■	■
4,000	■	■	■	■	20.5	23.9	26.6	34.2	41.0	51.2	60.1	■	■	■	46.3	55.6	74.1	92.6	111.1	■	■	■
4,200	■	■	■	■	19.5	22.8	25.4	32.5	39.0	48.8	57.2	■	■	■	44.1	52.9	70.5	88.2	105.8	■	■	■
4,400	■	■	■	■	■	21.7	24.2	31.0	37.3	46.6	54.6	■	■	■	42.1	50.5	67.3	84.2	101.0	117.8	■	■
4,600	■	■	■	■	■	20.8	23.2	29.7	35.6	44.5	52.3	■	■	■	40.3	48.3	64.4	80.5	96.6	112.7	■	■
4,800	■	■	■	■	■	19.9	22.2	28.5	34.2	42.7	50.1	■	■	■	38.6	46.3	61.7	77.2	92.6	108.0	123.5	■
5,000	■	■	■	■	■	■	21.3	27.3	32.8	41.0	48.1	■	■	■	■	44.4	59.3	74.1	88.9	103.7	118.5	■
5,200	■	■	■	■	■	■	20.5	26.3	31.5	39.4	46.2	■	■	■	■	42.7	57.0	71.2	85.5	99.7	114.0	■
5,400	■	■	■	■	■	■	19.7	25.3	30.4	37.9	44.5	■	■	■	■	41.2	54.9	68.6	82.3	96.0	109.7	■
5,600	■	■	■	■	■	■	■	24.4	29.3	36.6	42.9	■	■	■	■	39.7	52.9	66.1	79.4	92.6	105.8	■
5,800	■	■	■	■	■	■	■	23.6	28.3	35.3	41.5	■	■	■	■	■	51.1	63.9	76.6	89.4	102.2	127.7

SCFM	Temperature Rise °F @ SCFM conditions																			
	Nominal Furnace Size (kW Electric Heat)											Nominal Furnace Size (Gas MBH)								
	10	20	24	25	30	35	39	50	60	75	88	400	500	600	700	800	1000	1200	1400	1600
6,000	■	■	■	■	■	■	■	22.8	27.3	34.2	40.1	49.4	61.7	74.1	86.4	98.8	123.5	■	■	■
6,200	■	■	■	■	■	■	■	22.0	26.4	33.0	38.8	47.8	59.7	71.7	83.6	95.6	119.5	■	■	■
6,400	■	■	■	■	■	■	■	21.3	25.6	32.0	37.6	46.3	57.9	69.4	81.0	92.6	115.7	■	■	■
6,600	■	■	■	■	■	■	■	20.7	24.8	31.0	36.4	44.9	56.1	67.3	78.6	89.8	112.2	■	■	■
6,800	■	■	■	■	■	■	■	20.1	24.1	30.1	35.4	43.6	54.5	65.4	76.3	87.1	108.9	130.7	■	■
7,000	■	■	■	■	■	■	■	19.5	23.4	29.3	34.3	42.3	52.9	63.5	74.1	84.7	105.8	127.0	■	■
7,200	■	■	■	■	■	■	■	■	22.8	28.5	33.4	41.2	51.4	61.7	72.0	82.3	102.9	123.5	■	■
7,400	■	■	■	■	■	■	■	■	22.2	27.7	32.5	40.0	50.1	60.1	70.1	80.1	100.1	120.1	■	■
7,600	■	■	■	■	■	■	■	■	21.6	27.0	31.6	■	48.7	58.5	68.2	78.0	97.5	117.0	■	■
7,800	■	■	■	■	■	■	■	■	21.0	26.3	30.8	■	47.5	57.0	66.5	76.0	95.0	114.0	133.0	■
8,000	■	■	■	■	■	■	■	■	20.5	25.6	30.1	■	46.3	55.6	64.8	74.1	92.6	111.1	129.6	■
8,200	■	■	■	■	■	■	■	■	20.0	25.0	29.3	■	45.2	54.2	63.2	72.3	90.3	108.4	126.5	■
8,400	■	■	■	■	■	■	■	■	19.5	24.4	28.6	■	44.1	52.9	61.7	70.5	88.2	105.8	123.5	■
8,600	■	■	■	■	■	■	■	■	■	23.8	28.0	■	43.1	51.7	60.3	68.9	86.1	103.4	120.6	■
8,800	■	■	■	■	■	■	■	■	■	23.3	27.3	■	42.1	50.5	58.9	67.3	84.2	101.0	117.8	134.7
9,000	■	■	■	■	■	■	■	■	■	22.8	26.7	■	41.2	49.4	57.6	65.8	82.3	98.8	115.2	131.7
9,200	■	■	■	■	■	■	■	■	■	22.3	26.1	■	40.3	48.3	56.4	64.4	80.5	96.6	112.7	128.8
9,400	■	■	■	■	■	■	■	■	■	21.8	25.6	■	■	47.3	55.2	63.0	78.8	94.6	110.3	126.1
9,600	■	■	■	■	■	■	■	■	■	21.3	25.0	■	■	46.3	54.0	61.7	77.2	92.6	108.0	123.5
9,800	■	■	■	■	■	■	■	■	■	20.9	24.5	■	■	45.4	52.9	60.5	75.6	90.7	105.8	120.9
10,000	■	■	■	■	■	■	■	■	■	20.5	24.0	■	■	44.4	51.9	59.3	74.1	88.9	103.7	118.5
10,200	■	■	■	■	■	■	■	■	■	20.1	23.6	■	■	43.6	50.8	58.1	72.6	87.1	101.7	116.2
10,400	■	■	■	■	■	■	■	■	■	19.7	23.1	■	■	42.7	49.9	57.0	71.2	85.5	99.7	114.0
10,600	■	■	■	■	■	■	■	■	■	■	22.7	■	■	41.9	48.9	55.9	69.9	83.9	97.8	111.8
10,800	■	■	■	■	■	■	■	■	■	■	22.3	■	■	41.2	48.0	54.9	68.6	82.3	96.0	109.7
11,000	■	■	■	■	■	■	■	■	■	■	21.9	■	■	40.4	47.1	53.9	67.3	80.8	94.3	107.7
11,200	■	■	■	■	■	■	■	■	■	■	21.5	■	■	■	46.3	52.9	66.1	79.4	92.6	105.8
11,400	■	■	■	■	■	■	■	■	■	■	21.1	■	■	■	45.5	52.0	65.0	78.0	91.0	104.0
11,600	■	■	■	■	■	■	■	■	■	■	20.7	■	■	■	44.7	51.1	63.9	76.6	89.4	102.2
11,800	■	■	■	■	■	■	■	■	■	■	20.4	■	■	■	43.9	50.2	62.8	75.3	87.9	100.4
12,000	■	■	■	■	■	■	■	■	■	■	20.0	■	■	■	43.2	49.4	61.7	74.1	86.4	98.8

The above chart must be adjusted for actual entering air conditions.

Failure to correct for entering air conditions may cause the unit to be undersized by as much as 10%.

** Derate kW by 20% for 208V power units



Summer/Winter RPM Considerations

TEMPERATURE RISE

For a Heating/Cooling makeup air unit, if blower RPM is the same in winter as it is in summer, SCFM will usually be substantially higher in winter than in summer. The net result is more or less capacity at design condition.

Temperature rises shown in the blower tables assume a 70°F blower temperature at sea level (standard conditions). Brake HP is shown for standard conditions and will increase with lower blower temperatures and decrease at higher altitudes. For 100% makeup air applications using indirect fired gas furnaces and electric heat, in winter the blower temperature is essentially the same as the outdoor temperature (motor heat may add 1 to 4°F).

To calculate temperature rise, first calculate the net BTUH output at elevation (gas) or for voltage (electric). Then use the formula:

$$\text{Temp Rise} = \frac{\text{BTUH net output}}{1.08 \times \text{Blower ACFM}} \times \frac{(460^\circ\text{F} + \text{Blower Temp})}{530^\circ\text{R}} \times \frac{14.7 \text{ psi}}{\text{Air Pressure (elev.)}}$$

Example:

Consider a RDCB-216-400 heating/cooling 100% makeup air unit with cooling reheat. The blower is balanced for 3750 cfm in the summer with reheated air at 70°F. The goal is to maintain 70°F discharge year round. What is the temp rise in the winter with incoming air at -10°F?

It can be seen for 3750 cfm at "standard conditions", a RDCB-216-400 would have an 80 deg. temp. rise. "Standard conditions" is sea level with a 70°F blower temperature.

Without considering motor heat, the blower temp is -10°F incoming air, so

$$\text{Temp Rise} = \frac{324,000 \text{ BTUH}}{1.08 \times 3,750} \times \frac{(460 - 10)}{530} \times 1 = 68^\circ\text{F}$$

Note that the full fire unit discharge temperature is only 58°F when outside air temperature is -10°F.

The problem is not too little heat; it is too much RPM in the winter. To maintain a constant SCFM (air mass flow) regardless of blower temperature, a variable frequency drive or volume damper may be required.

Looking at it another way, the amount of SCFM being moved in the winter is:

$$\begin{aligned} \text{SCFM} &= \frac{\text{Blower ACFM}}{1} \times \frac{530^\circ}{(460^\circ + \text{Blower Temp})} \times \frac{\text{Air Pressure (elev.)}}{14.7 \text{ psi}} \\ \text{SCFM} &= 3,750 \times \frac{530}{(460 - 10)} \times 1 = 4,417 \text{ SCFM}^* \end{aligned}$$

Using a familiar formula:

$$\text{BTUH net output} = 1.08 \times \text{SCFM} \times \text{Temp. Rise}$$

Calculate, as before,

$$\text{Temp Rise} = \frac{324,000 \text{ BTUH}}{1.08 \times 4,417} = 68^\circ\text{F}$$

Example 2: (PreevA)

Calculate the required size of Reznor Model RDH needed for a 65°F discharge temp if:

Elevation (ft.)	Air Pressure PSI	Air Density Multiplier	Gas Derate *	Gas Derate Multiplier
0	14.700	1.000	None	1.000
1000	14.175	0.965	None	1.000
2000	13.664	0.930	4.00%	0.960
3000	13.173	0.896	6.00%	0.940
4000	12.682	0.863	8.00%	0.920
5000	12.230	0.832	10.00%	0.900
6000	11.778	0.801	12.00%	0.880
7000	11.341	0.772	14.00%	0.860
8000	10.914	0.743	16.00%	0.840
9000	10.506	0.715	18.00%	0.820
10000	10.108	0.688	20.00%	0.800

* See "High Altitude Capacity Changes" in this Catalog.

PRESSURE DROP TABLE
(in. w.c.)

All Models RCB, RDB, RDCB, RDDB, RECB and REDB - Cabinet A

SCFM	2" Filters		4" Filters		Outside Air Hood with Prefilters	Inlet Dampers	Main Evaporator Coil (Cooling Size)						Reheat Pump Coils				
	Pleated Merv 8	Perm Alum	Pleated Merv 8	Pleated Merv 13			060 / 078		90		118 / 136		Wet	Dry			
							Wet	Dry	Wet	Dry	Wet	Dry					
															084 / 102	114	142 / 162
1,250	.01	.01	.01	.05	.01	-	.12	.09	.12	.09	.16	.09	.02	.02			
1,500	.02	.01	.02	.06	.01	.01	.17	.12	.17	.12	.22	.13	.03	.02			
1,750	.03	.02	.03	.08	.02	.01	.22	.14	.22	.14	.29	.18	.03	.03			
2,000	.04	.02	.04	.10	.02	.01	.27	.18	.27	.18	.36	.23	.04	.03			
2,250	.06	.02	.05	.11	.02	.01	.34	.21	.34	.21	.44	.28	.04	.03			
2,500	.07	.03	.06	.13	.03	.01	.40	.25	.40	.25	.53	.34	.05	.04			
2,750	.08	.04	.07	.15	.03	.02	.48	.30	.48	.30	.63	.40	.06	.04			
3,000	.10	.04	.08	.17	.04	.02	.56	.35	.56	.35	.73	.47	.06	.05			
3,250	.11	.05	.09	.20	.05	.02	.64	.41	.64	.41	.84	.54	.07	.05			
3,500	.13	.06	.10	.22	.05	.03	.73	.47	.73	.47	.96	.61	.07	.06			
3,750	.15	.06	.12	.24	.06	.03	.83	.53	.83	.53	1.08	.68	.08	.07			
						Heat Exchanger Pressure Drop (must be added to Electric Heat units)										Horiz Discharge Plenum (in Roof Curb)	
Gas Furnaces						CFM	10S	15S	20S	24S	15	20	25	30	35	39	
						1,250	.03	.03	.03	.03	.06	.06	.06	.06	.06	.06	.06
						1,500	.04	.04	.04	.04	.08	.08	.08	.08	.08	.08	.08
						1,750	.04	.04	.04	.04	.09	.09	.09	.09	.09	.09	.08
						2,000	.05	.05	.05	.05	.10	.10	.10	.10	.10	.10	.11
Included in Blower Curves						2,250	.06	.06	.06	.06	.11	.11	.11	.11	.11	.14	
						2,500	.06	.06	.06	.06	.13	.13	.13	.13	.13	.13	.17
						2,750	.07	.07	.07	.07	.14	.14	.14	.14	.14	.14	.20
						3,000	.08	.08	.08	.08	.15	.15	.15	.15	.15	.15	.24
						3,250	.08	.08	.08	.08	.17	.17	.17	.17	.17	.17	.28
						3,500	.09	.09	.09	.09	.18	.18	.18	.18	.18	.33	
						3,750	.10	.10	.10	.10	.19	.19	.19	.19	.19	.19	.38

All Models RCB, RDB, RDCB, RDDB, RECB and REDB - Cabinet B

SCFM	2" Filters		4" Filters		Outside Air Hood with Prefilters	Inlet Dampers	Main Evaporator Coil (Cooling Size)												Reheat Pump Coils																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
	Pleated Merv 8	Perm Alum	Pleated Merv 8	Pleated Merv 13			78				90				118 / 136				160				186				200																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
							102		114		142 / 162		184		210 / 222		224 / 236		222 / 236		102 / 114 / 142																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
1,500	.01	.01	.01	.05	.01	-	.17	.12	.17	.12	.22	.13	.28	.15	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33	.20	.33

CFM	Heat Exchanger Pressure Drop (must be added to Electric Heat units)											Horiz Discharge Plenum (in Roof Curb)
	Gas Furnaces	Electric Furnace Sizes										
		15	20	25	30	35	39	50	60	75	88	
1,500		.04	.04	.04	.04	.04	.04	.08	.08	.08	.04	
1,750		.04	.04	.04	.04	.04	.04	.09	.09	.09	.05	
2,000		.05	.05	.05	.05	.05	.10	.10	.10	.10	.07	
2,250	Included in Blower Curves	.06	.06	.06	.06	.06	.06	.11	.11	.11	.09	
2,500		.06	.06	.06	.06	.06	.13	.13	.13	.13	.11	
2,750		.07	.07	.07	.07	.07	.14	.14	.14	.14	.13	
3,000		.08	.08	.08	.08	.08	.15	.15	.15	.15	.16	
3,250		.08	.08	.08	.08	.08	.17	.17	.17	.17	.18	
3,500		.09	.09	.09	.09	.09	.18	.18	.18	.18	.21	
3,750		.10	.10	.10	.10	.10	.19	.19	.19	.19	.24	

*Light shaded regions are outside of operational range in heating mode. Values in darker shaded cells are outside the operational range in heating mode for 208v

PRESSURE DROP TABLE (cont'd)
(in. w.c.)

All Models RCB, RDB, RDCB, RDDB, RECB and REDB - Cabinet C

SCFM	2" Filters		4" Filters		Outside Air Hood with Prefilters	Inlet Dampers	Main Evaporator Coil (Cooling Size)												Reheat Pump Coils	CFM	Gas Furnaces	Heat Exchanger Pressure Drop (must be added to Electric Heat units)						Horiz Discharge Plenum (In Roof Curb)			
	Plated Merv 8	Perm Alum	Plated Merv 13	190				216				298				410						39 kW	50 kW	60 kW	75 kW	88 kW	CJ49	CJ50			
				Wet			Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet											Dry	Wet	Dry
3,500	.04	.02	.03	.07	.01	-	.17	.11	.17	.11	.21	.13	.26	.16	.07	.06	3,500	Included in Blower Curves	.09	.18	.18	.18	.18	.18	.18	.18	.04	.10			
3,750	.04	.02	.04	.08	.01	-	.19	.13	.19	.13	.24	.15	.29	.18	.08	.07	3,750		.10	.19	.19	.19	.19	.19	.19	.05	.12				
4,000	.05	.02	.04	.08	.02	.01	.22	.15	.22	.15	.27	.17	.32	.21	.09	.07	4,000		.10	.20	.20	.20	.20	.20	.20	.06	.14				
4,250	.06	.02	.05	.09	.02	.01	.24	.17	.24	.17	.30	.20	.36	.23	.10	.08	4,250		.11	.22	.22	.22	.22	.22	.22	.07	.15				
4,500	.06	.03	.05	.09	.02	.01	.26	.18	.26	.18	.33	.22	.40	.26	.10	.08	4,500		.11	.23	.23	.23	.23	.23	.23	.07	.17				
4,750	.07	.03	.06	.10	.02	.01	.29	.20	.29	.20	.36	.25	.43	.29	.11	.09	4,750		.12	.24	.24	.24	.24	.24	.24	.08	.19				
5,000	.08	.03	.06	.11	.02	.01	.32	.22	.32	.22	.40	.27	.48	.32	.12	.10	5,000		.13	.26	.26	.26	.26	.26	.26	.09	.21				
5,250	.08	.04	.07	.12	.02	.01	.35	.25	.35	.25	.43	.30	.52	.35	.13	.10	5,250		.13	.27	.27	.27	.27	.27	.27	.10	.24				
5,500	.09	.04	.08	.12	.02	.01	.38	.27	.38	.27	.47	.32	.56	.38	.14	.11	5,500		.14	.28	.28	.28	.28	.28	.28	.11	.26				
5,750	.10	.04	.08	.13	.03	.01	.41	.29	.41	.29	.50	.35	.60	.40	.15	.12	5,750		.15	.29	.29	.29	.29	.29	.29	.12	.28				
6,000	.11	.05	.09	.14	.03	.01	.44	.31	.44	.31	.54	.38	.65	.44	.16	.13	6,000		.15	.31	.31	.31	.31	.31	.31	.13	.31				
6,250	.12	.05	.10	.15	.03	.01	.47	.33	.47	.33	.58	.40	.70	.47	.17	.13	6,250		.16	.32	.32	.32	.32	.32	.32	.14	.33				
6,500	.13	.06	.10	.16	.03	.01	.50	.35	.50	.35	.62	.43	.75	.51	.18	.14	6,500		.17	.33	.33	.33	.33	.33	.33	.16	.36				
6,750	.14	.06	.11	.17	.04	.01	.54	.38	.54	.38	.67	.46	.80	.54	.19	.15	6,750		.17	.34	.34	.34	.34	.34	.34	.17	.39				
7,000	.14	.06	.12	.18	.04	.01	.57	.40	.57	.40	.71	.49	.85	.58	.20	.16	7,000		.18	.36	.36	.36	.36	.36	.36	.18	.42				
7,250	.15	.07	.12	.19	.04	.02	.61	.42	.61	.42	.75	.52	.90	.61	.21	.17	7,250		.18	.37	.37	.37	.37	.37	.37	.20	.45				
7,500	.16	.07	.13	.20	.04	.02	.65	.45	.65	.45	.80	.55	.96	.65	.22	.18	7,500	.19	.38	.38	.38	.38	.38	.38	.21	.48					
7,750	.17	.08	.14	.21	.05	.02	.69	.47	.69	.47	.85	.58	1.01	.69	.23	.19	7,750	.20	.40	.40	.40	.40	.40	.40	.22	.51					
8,000	.18	.08	.15	.22	.05	.02	.72	.49	.72	.49	.89	.61	1.07	.73	.25	.20	8,000	.20	.41	.41	.41	.41	.41	.41	.24	.55					
8,250	.19	.09	.16	.23	.05	.02	.77	.52	.77	.52	.94	.64	1.13	.77	.26	.21	8,250	.21	.42	.42	.42	.42	.42	.42	.25	.58					
8,500	.21	.09	.17	.24	.05	.02	.81	.54	.81	.54	.99	.68	1.19	.82	.27	.22	8,500	.22	.43	.43	.43	.43	.43	.43	.27	.62					
8,750	.22	.10	.18	.25	.06	.02	.85	.57	.85	.57	1.04	.71	1.25	.86	.28	.23	8,750	.22	.45	.45	.45	.45	.45	.45	.29	.66					
9,000	.23	.10	.18	.26	.06	.02	.89	.60	.89	.60	1.10	.74	1.31	.90	.30	.24	9,000	.23	.46	.46	.46	.46	.46	.46	.30	.69					
9,250	.24	.11	.19	.27	.06	.02	.94	.62	.94	.62	1.15	.78	1.37	.95	.31	.25	9,250	.24	.47	.47	.47	.47	.47	.47	.32	.72					
9,500	.25	.11	.20	.28	.07	.03	.98	.65	.98	.65	1.20	.81	1.44	1.00	.33	.26	9,500	.24	.48	.48	.48	.48	.48	.48	.34	.77					

*Light shaded regions are outside of operational range in heating mode. Values in dark shaded cells are outside the operational range in heating mode for 208v operation (in range for operation at 230/460/575v).

NOTE: JHUP-0300 add 0.3 - 0.4" of static pressure to the MAPSIII C Cabinet.

PRESSURE DROP TABLE (cont'd)
(in. w.c.)

All Models RCB, RDB, RDCB, and Rddb - Cabinet D

SCFM	4" Filters				Outside Air Hood with Prefilters	Inlet Dampers	Main Evaporator Coil (Cooling Size)												Reheat Pump Coils																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																		
	Pleated Merv 8	Pleated Merv 13	Perm Alum				360			480			600			720			Wet	Dry	Wet	Dry	Wet	Dry																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																													
							418 / 444 / 484		538 / 564 / 602		658 / 684 / 722		804 / 842																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																								
							Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry	Wet	Dry																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			
5,000	.05	.11	.05		.01		.15	.10	.15	.10	.23	.15	.23	.15	.23	.15	.08	.06																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																			

*Dark shaded regions are outside of operational range in heating mode for 208v operation (in range for operation at 230/460/575v).



Blower Charts (RPM/BHP Table)

Cabinet A

Models RCB, RDB, RECB and REDB Sizes as shown

Single 9x9 Blower

Applies to Models RCB/RECB Sizes 060, 078, 090, 118 and 136
and RDB/REDB Sizes 84, 102, 114, 142, and 162

SCFM	Total System Pressure Drop ("w.c.)													
	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00	3.25
750	--	650/0.07	859/0.13	--	--	--	--	--	--	--	--	--	--	--
1000	526/0.08	735/0.13	904/0.19	1064/0.26	1210/0.34	--	--	--	--	--	--	--	--	--
1250	658/0.16	830/0.22	982/0.29	1116/0.36	1242/0.45	1369/0.54	1488/0.64	--	--	--	--	--	--	--
1500	789/0.27	938/0.34	1071/0.42	1190/0.50	1301/0.60	1415/0.70	1520/0.80	1619/0.91	1718/1.03	1815/1.16	--	--	--	--
1750	921/0.44	1050/0.51	1167/0.61	1280/0.69	1382/0.79	1475/0.89	1572/1.00	1661/1.13	1762/1.25	1849/1.37	1930/1.53	2019/1.66	2100/1.81	2188/1.95
2000	1053/0.65	1167/0.74	1271/0.84	1370/0.94	1471/1.05	1554/1.17	1648/1.28	1724/1.40	1807/1.54	1887/1.67	1974/1.80	2055/1.95	2128/2.11	--
2250	1184/0.93	1283/1.02	1383/1.14	1474/1.25	1563/1.37	1646/1.49	1722/1.61	1805/1.74	1875/1.88	1951/2.01	2021/2.16	2096/2.30	2177/2.47	--
2500	1316/1.27	1404/1.38	1494/1.50	1582/1.62	1659/1.75	1744/1.88	1812/2.02	1884/2.16	1963/2.30	2027/2.44	2095/2.58	2168/2.73	--	--
2750	1447/1.69	1528/1.80	1611/1.94	1691/2.07	1763/2.22	1842/2.36	1910/2.51	1983/2.64	2042/2.78	2115/2.94	2171/3.10	--	--	--
3000	1579/2.19	1654/2.32	1731/2.45	1800/2.59	1875/2.75	1940/2.91	2009/3.06	2074/3.22	2143/3.39	--	--	--	--	--

Models RDCB and RDDB Sizes as shown

Single 9x7 Blower

Applies to Models RDCB Sizes 060, 078, 090, 118 and 136
and RDDB Sizes 84, 102, 114, 142, and 162 with 100 MBH Heat Section

SCFM	Total System Pressure Drop ("w.c.)														
	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60	2.80	3.00
740	734/0.10	871/0.13	998/0.17	1124/0.21	1251/0.26	1366/0.31	1456/0.36	1558/0.42	1644/0.47	1741/0.53	1812/0.60	1889/0.66	1930/0.72	2018/0.79	--
800	768/0.12	897/0.16	1021/0.19	1143/0.24	1263/0.28	1371/0.33	1477/0.40	1574/0.46	1655/0.51	1745/0.57	1811/0.62	1882/0.70	1959/0.76	2043/0.83	2087/0.87
900	837/0.16	947/0.20	1059/0.24	1174/0.29	1286/0.34	1385/0.39	1479/0.45	1588/0.51	1662/0.56	1742/0.63	1831/0.70	1895/0.75	2000/0.85	2038/0.92	2118/0.96
1000	909/0.21	1008/0.25	1111/0.30	1212/0.35	1304/0.40	1412/0.45	1500/0.51	1600/0.57	1690/0.63	1765/0.70	1846/0.77	1935/0.83	2000/0.92	2069/1.00	2143/1.07
1100	978/0.27	1073/0.31	1158/0.36	1257/0.42	1347/0.47	1435/0.54	1517/0.58	1610/0.66	1692/0.72	1784/0.79	1859/0.87	1941/0.93	2000/0.99	2095/1.06	2164/1.14
1200	1051/0.33	1134/0.39	1220/0.45	1297/0.49	1385/0.56	1469/0.62	1548/0.68	1636/0.74	1714/0.80	1800/0.88	1870/0.96	1946/1.02	2028/1.09	2087/1.17	2149/1.25
1300	1122/0.41	1200/0.47	1279/0.53	1357/0.60	1431/0.66	1515/0.71	1592/0.77	1660/0.84	1753/0.91	1814/0.99	1880/1.05	1950/1.15	2026/1.22	2108/1.30	2167/1.39
1400	1200/0.52	1273/0.58	1344/0.63	1412/0.69	1487/0.76	1556/0.82	1631/0.89	1697/0.96	1768/1.04	1846/1.10	1909/1.20	1976/1.27	2049/1.35	2127/1.44	2182/1.53
1500	1277/0.62	1343/0.68	1406/0.76	1475/0.81	1538/0.90	1607/0.96	1682/1.04	1748/1.10	1818/1.19	1875/1.25	1957/1.32	2022/1.40	2069/1.48	2143/1.57	2195/1.66
1600	1352/0.74	1412/0.81	1477/0.88	1536/0.94	1600/1.04	1670/1.09	1730/1.17	1794/1.26	1864/1.33	1920/1.40	1979/1.48	2043/1.56	2110/1.65	2157/1.74	--
1650	1385/0.81	1456/0.88	1511/0.94	1571/1.03	1636/1.11	1692/1.16	1752/1.25	1817/1.32	1886/1.42	1941/1.50	2000/1.58	2063/1.66	2129/1.76	2176/1.81	--

Models RDCB and RDDB Sizes as shown

Single 9x9 Blower

Applies to Models RDCB Sizes 060, 078, 090, 118 and 136
and RDDB Sizes 84, 102, 114, 142, and 162 with 150 MBH Heat Section

SCFM	Total System Pressure Drop ("w.c.)													
	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60	2.80
1100	876/0.20	1001/0.25	1118/0.32	1234/0.38	1341/0.46	1456/0.53	1559/0.61	1659/0.69	1734/0.76	1816/0.84	1883/0.93	1954/1.01	2032/1.10	--
1300	996/0.31	1104/0.37	1207/0.44	1302/0.51	1402/0.60	1494/0.67	1585/0.76	1673/0.85	1770/0.92	1861/1.01	1940/1.11	2004/1.20	2097/1.32	2146/1.39
1500	1112/0.45	1208/0.52	1298/0.59	1393/0.67	1481/0.76	1558/0.85	1643/0.93	1724/1.03	1798/1.14	1878/1.22	1966/1.33	2043/1.42	2126/1.55	2192/1.63
1700	1234/0.64	1324/0.71	1410/0.80	1489/0.88	1568/0.97	1644/1.06	1715/1.17	1792/1.26	1862/1.36	1938/1.47	2003/1.59	2073/1.70	2148/1.81	--
1900	1366/0.86	1439/0.96	1513/1.04	1595/1.13	1665/1.23	1730/1.34	1800/1.43	1863/1.54	1930/1.66	2003/1.76	2065/1.90	2131/2.01	--	--
2100	1494/1.15	1565/1.24	1635/1.34	1701/1.45	1763/1.55	1828/1.66	1899/1.74	1963/1.87	2016/1.97	2073/2.12	2134/2.24	2197/2.37	--	--
2300	1620/1.49	1688/1.60	1752/1.71	1811/1.82	1874/1.91	1930/2.03	1990/2.14	2054/2.25	2107/2.37	2164/2.50	--	--	--	--
2500	1752/1.88	1806/2.00	1874/2.12	1925/2.22	1980/2.37	2037/2.49	2098/2.61	2150/2.70	--	--	--	--	--	--

Models RDCB and RDDB Sizes as shown

Dual 9x7 Blowers

Applies to Models RDCB Sizes 060, 078, 090, 118 and 136
and RDDB Sizes 84, 102, 114, 142, and 162 with 200 MBH Heat Section

SCFM	Total System Pressure Drop ("w.c.)														
	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60	2.80	3.00
1480	734/0.20	871/0.27	1003/0.35	1131/0.43	1260/0.53	1366/0.63	1468/0.73	1572/0.84	1660/0.96	1741/1.09	1812/1.21	1889/1.32	--	--	--
1700	806/0.28	923/0.36	1041/0.44	1159/0.53	1275/0.62	1378/0.73	1478/0.84	1581/0.97	1672/1.07	1759/1.20	1838/1.35	1907/1.46	1981/1.61	2040/1.75	2103/1.87
1900	874/0.36	979/0.45	1086/0.54	1194/0.64	1295/0.74	1399/0.84	1490/0.97	1594/1.08	1676/1.22	1767/1.35	1854/1.47	1932/1.61	2000/1.77	2073/1.91	2131/2.03
2100	944/0.48	1041/0.57	1135/0.66	1235/0.77	1326/0.87	1424/0.99	1518/1.11	1605/1.23	1691/1.35	1775/1.49	1853/1.64	1938/1.79	2016/1.92	2083/2.10	2154/2.22
2300	1015/0.60	1104/0.71	1190/0.81	1278/0.91	1366/1.03	1453/1.14	1542/1.28	1624/1.39	1704/1.54	1792/1.67	1865/1.83	1944/1.95	2015/2.12	2091/2.27	2156/2.43
2500	1091/0.75	1172/0.87	1250/0.98	1333/1.09	1415/1.22	1493/1.34	1579/1.47	1657/1.59	1734/1.74	1807/1.87	1887/2.01	1961/2.17	2027/2.35	2098/2.51	2174/2.68
2700	1161/0.93	1241/1.05	1312/1.17	1391/1.29	1466/1.42	1536/1.56	1612/1.68	1688/1.82	1761/1.95	1841/2.10	1906/2.25	1976/2.42	2051/2.57	2118/2.74	2189/2.92
2900	1238/1.14	1308/1.25	1381/1.39	1450/1.52	1520/1.66	1589/1.79	1657/1.93	1731/2.08	1794/2.23	1871/2.39	1933/2.52	2000/2.67	2071/2.87	2135/3.00	--
3100	1314/1.36	1383/1.50	1447/1.64	1512/1.78	1576/1.93	1639/2.05	1706/2.21	1771/2.36	1842/2.51	1908/2.69	1968/2.84	2033/3.00	2102/3.17	2163/3.31	--
3300	1389/1.62	1456/1.77	1517/1.91	1578/2.07	1636/2.22	1700/2.36	1760/2.50	1825/2.67	1886/2.84	1941/2.99	2010/3.15	2063/3.33	2129/3.52	2188/3.67	--

Cabinet B
**Models RCB, RDB, RECB and REDB Sizes as shown
Dual 9x9 Blowers**

Applies to Models RCB/RECB Sizes 160, 186, and 200
and RDB/REDB Sizes 184, 210, 222, 224, and 236

SCFM	Total System Pressure Drop ("w.c.)												
	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
2000	N/A	727/0.25	923/0.38	1096/0.53	1257/0.70	1404/0.88	1548/1.06	1667/1.26	1778/1.46	1890/1.68	--	--	--
2250	550/0.19	767/0.33	951/0.46	1111/0.61	1262/0.79	1406/0.98	1543/1.18	1667/1.39	1788/1.61	1888/1.82	1985/2.05	2077/2.29	--
2500	611/0.27	811/0.41	980/0.55	1136/0.72	1277/0.89	1408/1.09	1538/1.31	1667/1.52	1786/1.76	1887/2.00	2000/2.23	2098/2.47	2174/2.74
2750	672/0.35	855/0.52	1019/0.67	1162/0.83	1299/1.02	1422/1.22	1542/1.45	1658/1.67	1774/1.92	1886/2.16	1988/2.42	2089/2.66	2185/2.93
3000	733/0.46	900/0.64	1056/0.81	1192/0.98	1324/1.17	1446/1.37	1558/1.60	1667/1.85	1773/2.08	1885/2.36	1989/2.62	2093/2.90	2182/3.18
3250	794/0.58	949/0.78	1099/0.96	1226/1.14	1349/1.33	1466/1.55	1579/1.78	1681/2.04	1789/2.28	1884/2.54	1980/2.84	2086/3.13	2179/3.41
3500	855/0.73	998/0.94	1141/1.14	1265/1.33	1382/1.54	1495/1.75	1603/1.98	1700/2.24	1803/2.50	1900/2.77	1991/3.05	2079/3.34	2176/3.67
3750	916/0.90	1049/1.13	1184/1.35	1304/1.55	1420/1.75	1525/1.98	1625/2.22	1724/2.48	1822/2.76	1915/3.02	2000/3.31	2093/3.61	2174/3.95
4000	978/1.09	1101/1.33	1231/1.57	1348/1.79	1455/2.01	1558/2.24	1655/2.49	1752/2.74	1846/3.01	1935/3.29	2017/3.59	2105/3.91	2192/4.21
4250	1039/1.30	1156/1.57	1275/1.81	1390/2.06	1496/2.29	1594/2.53	1689/2.78	1783/3.03	1868/3.32	1954/3.61	2040/3.91	2125/4.23	--
4500	1100/1.55	1211/1.82	1324/2.10	1436/2.36	1534/2.61	1631/2.85	1725/3.10	1812/3.37	1901/3.66	1985/3.94	2061/4.25	2143/4.56	--
4750	1161/1.82	1267/2.10	1370/2.40	1481/2.68	1579/2.93	1672/3.20	1759/3.45	1845/3.73	1926/4.03	2007/4.30	2088/4.63	2167/4.96	--
5000	1222/2.12	1322/2.42	1422/2.73	1523/3.02	1622/3.30	1714/3.57	1796/3.85	1881/4.12	1961/4.41	2041/4.74	--	--	--

**Models RDCB and RDDB Sizes as shown
Dual 9x9 Blowers**

Applies to Models RDCB Sizes 078, 090, 118, 136, 160, 186, and 200
and RDDB Sizes 102, 114, 142, 184, 210, 222, 224, and 236 with 250 or 300 MBH Heat Section

SCFM	Total System Pressure Drop ("w.c.)												
	0.20	0.40	0.60	0.80	1.00	1.20	1.40	1.60	1.80	2.00	2.20	2.40	2.60
2220	869/0.38	1020/0.51	1159/0.64	1288/0.79	1415/0.94	1527/1.10	1640/1.26	1749/1.42	1838/1.63	1937/1.82	2018/2.08	2091/2.32	2170/2.59
2400	915/0.46	1058/0.59	1191/0.73	1311/0.89	1431/1.05	1545/1.22	1651/1.39	1753/1.56	1857/1.75	1950/1.95	2026/2.15	2108/2.41	2197/2.67
2600	966/0.57	1101/0.70	1225/0.85	1341/1.02	1457/1.19	1565/1.37	1665/1.54	1770/1.73	1867/1.91	1954/2.11	2048/2.31	2126/2.51	--
2800	1020/0.69	1148/0.83	1268/0.99	1379/1.15	1486/1.34	1590/1.52	1685/1.71	1784/1.90	1876/2.11	1968/2.29	2056/2.50	2141/2.71	--
3000	1071/0.83	1193/0.98	1309/1.14	1418/1.31	1518/1.50	1618/1.70	1711/1.88	1806/2.10	1893/2.30	1980/2.53	2074/2.72	2155/2.93	--
3200	1127/0.98	1242/1.14	1351/1.31	1455/1.49	1552/1.67	1651/1.88	1741/2.08	1833/2.29	1917/2.52	2000/2.73	2090/2.96	2167/3.18	--
3400	1185/1.15	1292/1.32	1399/1.49	1498/1.67	1590/1.87	1681/2.08	1768/2.30	1857/2.52	1939/2.74	2028/3.00	2105/3.20	2188/3.47	--
3600	1241/1.35	1345/1.53	1444/1.70	1539/1.90	1631/2.10	1721/2.30	1807/2.54	1887/2.75	1966/2.99	2044/3.26	2127/3.48	--	--
3800	1297/1.57	1399/1.75	1492/1.94	1583/2.13	1675/2.33	1758/2.56	1843/2.79	1922/3.02	2000/3.27	2076/3.52	2148/3.79	--	--
4000	1354/1.81	1453/2.01	1543/2.20	1630/2.40	1716/2.62	1799/2.85	1877/3.07	1955/3.32	2031/3.56	2105/3.82	2176/4.10	--	--
4200	1411/2.07	1504/2.27	1592/2.48	1680/2.68	1761/2.90	1845/3.15	1916/3.39	1993/3.62	2068/3.88	2141/4.16	--	--	--
4400	1470/2.37	1559/2.56	1644/2.78	1728/3.01	1810/3.22	1888/3.46	1959/3.72	2036/3.97	2103/4.25	2175/4.50	--	--	--
4600	1529/2.68	1616/2.91	1699/3.13	1774/3.35	1857/3.59	1929/3.81	2000/4.06	2076/4.33	2143/4.58	--	--	--	--
4800	1588/3.02	1673/3.25	1753/3.50	1830/3.71	1902/3.97	1975/4.22	2046/4.45	2115/4.74	--	--	--	--	--
4940	1630/3.30	1713/3.51	1789/3.75	1861/4.01	1934/4.25	2007/4.48	2078/4.77	--	--	--	--	--	--



Blower Charts (cont'd)

Cabinet C

Models RCB, RDB, RECB and REDB Sizes as shown Dual 12x9 Blowers

Applies to Models RCB/RECB Sizes 190 and 216
and RDB/REDB Sizes 248, 262, 272, and 288

SCFM	Total System Pressure Drop ("w.c.)												
	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
3500	--	629/0.63	752/0.83	854/1.03	944/1.23	1032/1.44	1119/1.66	1203/1.89	1283/2.14	1360/2.38	1431/2.64	1504/2.91	1565/3.18
4000	543/0.66	679/0.88	799/1.10	896/1.32	982/1.55	1060/1.78	1140/2.02	1215/2.27	1290/2.53	1362/2.79	1438/3.07	1507/3.33	1571/3.63
4500	610/0.94	731/1.19	846/1.44	941/1.68	1025/1.93	1100/2.18	1170/2.45	1241/2.72	1310/2.99	1379/3.28	1443/3.56	1509/3.84	1576/4.16
5000	678/1.30	787/1.57	894/1.84	987/2.11	1068/2.39	1141/2.66	1211/2.94	1276/3.23	1338/3.54	1399/3.84	1463/4.15	1524/4.44	1585/4.79
5500	746/1.72	844/2.03	944/2.33	1034/2.62	1114/2.92	1186/3.22	1253/3.54	1315/3.85	1375/4.16	1434/4.47	1490/4.82	1547/5.14	1605/5.49
6000	814/2.24	903/2.56	995/2.89	1082/3.22	1162/3.54	1231/3.86	1297/4.21	1358/4.54	1416/4.87	1473/5.22	1524/5.55	1579/5.90	1630/6.29
6500	882/2.85	964/3.20	1048/3.56	1133/3.91	1210/4.27	1279/4.61	1344/4.96	1405/5.32	1459/5.69	1515/6.06	1565/6.43	1618/6.79	1667/7.17
7000	949/3.56	1025/3.93	1105/4.31	1183/4.69	1258/5.07	1325/5.46	1390/5.84	1450/6.23	1504/6.61	1559/7.00	1608/7.37	1659/7.77	1707/8.20
7500	1017/4.37	1088/4.78	1162/5.18	1235/5.59	1307/6.01	1375/6.41	1437/6.81	1495/7.22	1551/7.66	1602/8.05	1653/8.47	1701/8.88	1748/9.31
8000	1085/5.31	1152/5.72	1219/6.18	1288/6.60	1358/7.06	1424/7.49	1484/7.92	1541/8.35	1597/8.80	1648/9.25	1699/9.67	--	--
8500	1153/6.37	1216/6.81	1279/7.29	1343/7.74	1410/8.20	1472/8.66	1533/9.15	1590/9.59	--	--	--	--	--
9000	1221/7.56	1281/8.04	1340/8.54	1400/9.03	1462/9.52	--	--	--	--	--	--	--	--

NOTE: Blower curves include gas furnace and cabinet system losses. Add component pressure drops and external static to determine BHP and RPM.

Models RCB, RDB, RECB and REDB Sizes as shown Dual 12x12 Blowers

Applies to Models RCB/RECB Sizes 298 and 410
and RDB/REDB Sizes 354, 370, 468, and 482

SCFM	Total System Pressure Drop ("w.c.)												
	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
3500	--	542/0.47	668/0.65	781/0.87	886/1.10	980/1.34	1070/1.61	1151/1.89	1228/2.19	1296/2.23	1346/2.23	1346/2.23	1346/2.23
4000	--	581/0.63	698/0.84	802/1.07	901/1.31	993/1.57	1078/1.85	1159/2.15	1235/2.45	1307/2.77	1375/3.11	1434/3.33	1498/3.33
4500	503/0.59	624/0.83	733/1.07	830/1.32	920/1.57	1007/1.85	1090/2.13	1169/2.45	1243/2.76	1316/3.10	1380/3.44	1447/3.82	1505/4.19
5000	559/0.81	669/1.08	770/1.35	862/1.61	947/1.89	1029/2.18	1106/2.48	1182/2.80	1253/3.14	1323/3.48	1389/3.84	1453/4.22	1515/4.61
5500	615/1.08	717/1.38	810/1.67	896/1.96	977/2.25	1054/2.56	1127/2.88	1198/3.21	1267/3.56	1335/3.91	1399/4.30	1463/4.68	1524/5.08
6000	670/1.41	765/1.73	851/2.05	933/2.36	1010/2.68	1083/3.01	1152/3.34	1220/3.70	1285/4.04	1351/4.43	1412/4.82	1474/5.19	1531/5.61
6500	726/1.79	815/2.14	895/2.48	973/2.82	1045/3.16	1115/3.51	1182/3.87	1245/4.23	1308/4.61	1371/4.99	1429/5.40	1487/5.81	1544/6.22
7000	782/2.23	865/2.61	941/2.98	1013/3.34	1084/3.72	1149/4.09	1213/4.46	1275/4.86	1336/5.23	1394/5.65	1449/6.04	1505/6.48	1563/6.92
7500	838/2.75	916/3.14	987/3.54	1056/3.95	1123/4.34	1187/4.73	1248/5.14	1307/5.54	1364/5.95	1420/6.38	1476/6.81	1527/7.22	1582/7.70
8000	894/3.33	967/3.76	1035/4.19	1100/4.61	1163/5.03	1225/5.46	1284/5.87	1340/6.32	1396/6.75	1449/7.19	1501/7.63	1553/8.07	1603/8.55
8500	950/4.00	1019/4.46	1084/4.91	1146/5.36	1206/5.80	1265/6.26	1322/6.69	1375/7.16	1429/7.61	1481/8.06	1532/8.54	1583/9.03	1631/9.50
9000	1006/4.75	1071/5.23	1134/5.72	1192/6.19	1248/6.67	1304/7.14	1360/7.62	1413/8.08	1466/8.57	1515/9.03	1565/9.52	--	--

NOTE: Blower curves include gas furnace and cabinet system losses. Add component pressure drops and external static to determine BHP and RPM.

Models RDCB and RDDB Sizes as shown Dual 12x9 Blowers

Applies to Models RDCB Sizes 190, 216, 298 and 410
and RDDB Sizes 248, 262, 272, 288, 354, 370, 468, and 482 with 400 MBH Heat Section

SCFM	Total System Pressure Drop ("w.c.)												
	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
3000	--	624/0.49	731/0.65	827/0.81	920/0.99	1010/1.18	1096/1.36	1177/1.57	1250/1.78	1323/2.01	1392/2.24	1455/2.47	1510/2.72
3500	570/0.54	690/0.71	790/0.89	877/1.08	960/1.27	1037/1.48	1115/1.69	1193/1.91	1266/2.14	1339/2.37	1404/2.61	1470/2.87	1531/3.11
4000	652/0.81	758/1.00	850/1.20	932/1.42	1009/1.63	1081/1.84	1150/2.07	1219/2.31	1286/2.55	1351/2.81	1418/3.08	1482/3.33	1541/3.61
4500	733/1.15	829/1.37	915/1.60	992/1.83	1062/2.06	1130/2.29	1194/2.55	1257/2.81	1319/3.07	1380/3.33	1438/3.61	1500/3.89	1559/4.17
5000	815/1.58	903/1.82	983/2.07	1054/2.32	1123/2.58	1186/2.84	1246/3.11	1304/3.37	1361/3.67	1415/3.95	1470/4.23	1524/4.54	1578/4.85
5500	896/2.11	976/2.37	1052/2.64	1120/2.91	1183/3.20	1243/3.48	1301/3.76	1355/4.07	1411/4.36	1463/4.65	1513/4.97	1565/5.29	1612/5.60
6000	977/2.74	1051/3.02	1121/3.31	1186/3.61	1248/3.92	1304/4.22	1359/4.52	1413/4.86	1462/5.17	1513/5.50	1561/5.83	1609/6.15	1654/6.50
6500	1059/3.48	1128/3.78	1194/4.10	1254/4.41	1314/4.74	1368/5.06	1421/5.42	1469/5.75	1518/6.07	1566/6.42	1613/6.80	1659/7.12	1704/7.50
7000	1140/4.35	1205/4.68	1266/5.00	1324/5.35	1381/5.71	1434/6.07	1482/6.42	1531/6.77	1579/7.14	1624/7.50	1667/7.89	1713/8.25	--
7400	1205/5.13	1267/5.48	1325/5.82	1380/6.20	1433/6.58	1484/6.95	1533/7.32	1582/7.67	1628/8.08	1669/8.44	1713/8.81	--	--
7500	1222/5.34	1282/5.70	1340/6.06	1394/6.43	1447/6.78	1499/7.17	1548/7.54	1594/7.94	1640/8.33	1685/8.69	1725/9.08	--	--
8000	1303/6.49	1359/6.86	1413/7.25	1467/7.65	1516/8.03	1566/8.44	1614/8.83	1657/9.25	1700/9.64	--	--	--	--
8500	1385/7.78	1437/8.15	1489/8.58	1540/9.00	1588/9.40	1634/9.82	--	--	--	--	--	--	--
9000	1466/9.24	1517/9.63	--	--	--	--	--	--	--	--	--	--	--

NOTE: Blower curves include gas furnace and cabinet system losses. Add component pressure drops and external static to determine BHP and RPM.



Blower Charts (cont'd)

Cabinet C

Models RDCB and RDDB Sizes as shown Dual 12x12 Blowers

Applies to Models RDCB Sizes 190, 216, 298 and 410
and RDDB Sizes 248, 262, 272, 288, 354, 370, 468, and 482 with 500 MBH Heat Section

SCFM	Total System Pressure Drop ("w.c.)												
	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
3500	--	655/0.62	771/0.82	876/1.04	974/1.28	1063/1.54	1142/1.80	1217/2.08	1288/2.36	1355/2.41	1420/2.41	1482/2.41	1544/2.41
3700	--	679/0.71	790/0.91	892/1.14	986/1.40	1074/1.66	1157/1.94	1229/2.22	1301/2.51	1366/2.81	1428/2.85	1492/2.85	1551/2.85
4000	603/0.65	716/0.86	821/1.08	917/1.32	1009/1.58	1094/1.86	1175/2.15	1247/2.45	1319/2.76	1384/3.06	1447/3.38	1507/3.59	1563/3.59
4500	678/0.93	779/1.16	875/1.40	964/1.66	1049/1.93	1130/2.23	1207/2.54	1280/2.86	1347/3.19	1414/3.52	1476/3.88	1536/4.21	1591/4.58
5000	754/1.27	845/1.53	932/1.79	1016/2.07	1095/2.36	1170/2.67	1244/3.00	1313/3.33	1379/3.68	1445/4.04	1504/4.43	1563/4.81	1619/5.17
5500	829/1.69	913/1.97	993/2.26	1070/2.55	1143/2.87	1215/3.19	1285/3.53	1349/3.89	1415/4.26	1478/4.64	1537/5.03	1593/5.44	1650/5.83
6000	904/2.19	981/2.50	1055/2.82	1127/3.13	1196/3.47	1264/3.81	1328/4.15	1391/4.54	1452/4.91	1513/5.33	1569/5.73	1627/6.14	1681/6.60
6500	980/2.79	1051/3.12	1120/3.46	1187/3.81	1253/4.16	1317/4.52	1376/4.88	1436/5.28	1496/5.67	1553/6.10	1607/6.52	1662/6.97	1714/7.39
7000	1055/3.48	1122/3.84	1186/4.20	1248/4.58	1311/4.95	1370/5.33	1429/5.72	1484/6.12	1541/6.54	1597/6.96	1650/7.42	1701/7.88	--
7500	1130/4.28	1193/4.66	1253/5.05	1311/5.46	1370/5.85	1428/6.24	1481/6.66	1536/7.10	1590/7.50	1643/7.97	1693/8.41	1742/8.87	--
8000	1206/5.20	1264/5.61	1322/6.02	1376/6.45	1433/6.86	1485/7.28	1539/7.73	1590/8.16	1641/8.61	1691/9.06	1740/9.55	--	--
8300	1251/5.81	1309/6.22	1363/6.65	1416/7.09	1470/7.54	1521/7.97	1573/8.43	1624/8.88	1673/9.34	1720/9.78	--	--	--
8500	1281/6.24	1337/6.66	1390/7.11	1442/7.56	1495/8.00	1546/8.46	1597/8.91	1645/9.35	1695/9.82	--	--	--	--
9000	1356/7.40	1408/7.84	1461/8.32	1509/8.80	1559/9.25	1607/9.73	--	--	--	--	--	--	--

NOTE: Blower curves include gas furnace and cabinet system losses. Add component pressure drops and external static to determine BHP and RPM.

Models RDCB and RDDB Sizes as shown Dual 12x12 Blowers

Applies to Models RDCB Sizes 190, 216, 298 and 410
and RDDB Sizes 248, 262, 272, 288, 354, 370, 468, and 482 with 600 MBH Heat Section

SCFM	Total System Pressure Drop ("w.c.)												
	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
3500	--	642/0.60	759/0.79	865/1.01	960/1.25	1052/1.51	1136/1.79	1211/2.09	1283/2.40	1283/2.44	1283/2.44	1283/2.44	1283/2.44
4000	--	701/0.82	806/1.04	905/1.28	995/1.53	1078/1.80	1161/2.09	1236/2.40	1310/2.73	1375/3.07	1438/3.42	1467/3.64	1467/3.64
4500	660/0.89	762/1.11	858/1.35	948/1.61	1036/1.88	1115/2.16	1190/2.46	1263/2.77	1334/3.12	1398/3.46	1464/3.82	1523/4.21	1581/4.61
5000	733/1.22	826/1.46	914/1.73	998/2.00	1078/2.29	1153/2.59	1225/2.91	1294/3.25	1361/3.59	1425/3.95	1491/4.31	1549/4.72	1608/5.10
5500	807/1.62	891/1.89	971/2.17	1049/2.47	1125/2.78	1196/3.10	1266/3.43	1333/3.78	1394/4.14	1458/4.51	1516/4.90	1576/5.30	1631/5.70
6000	880/2.11	958/2.39	1033/2.71	1104/3.02	1174/3.36	1243/3.69	1310/4.05	1372/4.40	1435/4.77	1493/5.15	1549/5.58	1606/5.97	1658/6.40
6500	953/2.68	1026/2.99	1095/3.31	1163/3.65	1229/4.01	1293/4.38	1354/4.74	1416/5.12	1474/5.53	1531/5.93	1585/6.32	1640/6.75	1690/7.18
7000	1027/3.35	1094/3.68	1158/4.02	1222/4.38	1283/4.76	1344/5.14	1403/5.53	1461/5.95	1519/6.36	1571/6.76	1628/7.19	1678/7.62	1730/8.09
7500	1100/4.12	1164/4.46	1224/4.83	1283/5.23	1341/5.63	1398/6.01	1455/6.45	1511/6.87	1563/7.28	1618/7.73	1667/8.17	1719/8.65	1767/9.11
8000	1173/4.99	1232/5.37	1290/5.75	1346/6.17	1401/6.57	1455/7.01	1507/7.44	1560/7.87	1612/8.34	1664/8.79	1712/9.28	1760/9.75	--
8500	1247/5.99	1302/6.38	1357/6.80	1410/7.23	1461/7.66	1513/8.12	1564/8.57	1612/9.02	1664/9.49	--	--	--	--
9000	1320/7.11	1373/7.50	1424/7.96	1475/8.42	1523/8.87	1571/9.36	1620/9.83	--	--	--	--	--	--

NOTE: Blower curves include gas furnace and cabinet system losses. Add component pressure drops and external static to determine BHP and RPM.

Models RDCB and RDDB Sizes as shown Three 12x9 Blowers

Applies to Models RDCB Sizes 190, 216, 298 and 410
and RDDB Sizes 248, 262, 272, 288, 354, 370, 468, and 482 with 700 MBH Heat Section

SCFM	Total System Pressure Drop ("w.c.)												
	0.00	0.25	0.50	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
3500	--	--	707/0.68	821/0.89	923/1.13	1017/1.39	1103/1.65	1183/1.95	1206/2.23	1206/2.54	1206/2.68	1206/2.68	1206/2.68
4000	--	633/0.65	744/0.87	848/1.11	944/1.35	1037/1.63	1121/1.91	1199/2.22	1273/2.53	1343/2.85	1379/3.20	1379/3.53	1379/3.88
4500	--	686/0.86	786/1.10	881/1.36	971/1.63	1058/1.92	1140/2.21	1218/2.52	1289/2.85	1361/3.20	1423/3.56	1487/3.92	1546/4.28
5000	633/0.88	740/1.13	831/1.39	918/1.66	1004/1.95	1084/2.26	1162/2.56	1237/2.89	1309/3.23	1375/3.60	1440/3.95	1503/4.33	1562/4.72
5185	656/0.98	760/1.24	850/1.51	934/1.79	1015/2.09	1094/2.40	1171/2.71	1244/3.04	1317/3.39	1382/3.75	1449/4.13	1510/4.51	1568/4.92
5500	696/1.17	795/1.44	880/1.72	961/2.03	1040/2.34	1115/2.65	1187/2.99	1261/3.32	1329/3.69	1397/4.04	1458/4.42	1521/4.82	1580/5.23
6000	759/1.52	852/1.81	932/2.11	1007/2.43	1079/2.77	1151/3.12	1219/3.46	1287/3.83	1352/4.19	1416/4.57	1481/4.97	1539/5.37	1599/5.80
6500	823/1.93	908/2.25	984/2.57	1055/2.92	1122/3.27	1190/3.64	1256/4.00	1318/4.39	1380/4.77	1442/5.16	1504/5.57	1559/5.99	1620/6.43
7000	886/2.41	966/2.74	1038/3.10	1105/3.47	1169/3.83	1231/4.23	1293/4.62	1355/5.02	1414/5.44	1471/5.84	1527/6.29	1584/6.71	1641/7.14
7500	949/2.96	1024/3.32	1094/3.70	1157/4.08	1217/4.48	1278/4.90	1335/5.30	1392/5.74	1450/6.17	1506/6.59	1560/7.05	1612/7.51	1664/7.97
8000	1012/3.59	1084/3.97	1149/4.38	1211/4.78	1267/5.20	1324/5.63	1379/6.07	1434/6.51	1488/6.96	1540/7.42	1594/7.89	1645/8.35	1695/8.85
8500	1076/4.31	1143/4.71	1206/5.14	1265/5.57	1320/6.01	1373/6.47	1424/6.92	1477/7.38	1529/7.85	1578/8.35	1628/8.82	1677/9.33	1727/9.82
9000	1139/5.12	1202/5.55	1263/5.98	1320/6.44	1373/6.91	1423/7.37	1472/7.88	1523/8.36	1572/8.84	1618/9.36	1668/9.87	--	--

NOTE: Blower curves include gas furnace and cabinet system losses. Add component pressure drops and external static to determine BHP and RPM.

**Models RCB, RDB, RDCB and RDDB All Sizes
Single 27" Plenum**

Applies to Models RDCB Sizes 360, 480, 600, and 700

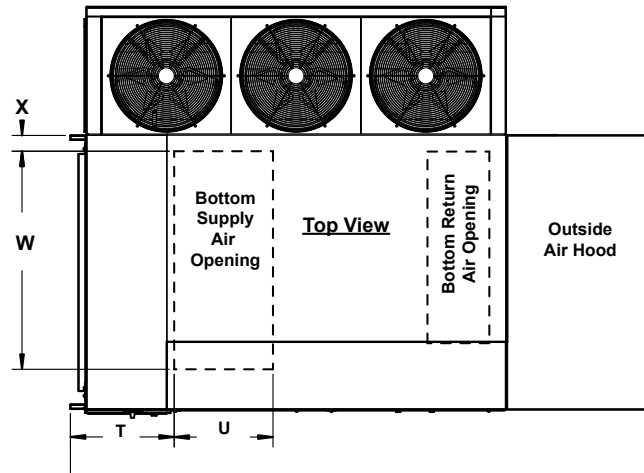
and RDDB Sizes 418, 444, 484, 538, 564, 602, 658, 684, 722, 804, and 822 with or without gas heat section

Supply Fan RPM/BHP (Total Static Pressure given in inches of water column)										
SCFM	0.75	1.00	1.25	1.50	1.75	2.00	2.25	2.50	2.75	3.00
6,000	868/1.67	927/2.14	983/2.64	1038/3.14	1091/3.66	1143/4.20	1191/4.74	1239/5.31	1283/5.87	1328/6.45
6,250	888/1.77	947/2.25	1001/2.76	1054/3.28	1106/3.81	1157/4.38	1205/4.93	1252/5.50	1297/6.09	1339/6.70
6,500	909/1.87	967/2.36	1021/2.88	1071/3.43	1122/3.98	1171/4.55	1219/5.12	1265/5.71	1310/6.30	1352/6.91
6,750	929/1.98	987/2.49	1039/3.02	1090/3.56	1138/4.14	1187/4.71	1234/5.30	1280/5.91	1324/6.53	1365/7.14
7,000	950/2.09	1008/2.61	1060/3.16	1109/3.72	1156/4.29	1203/4.89	1249/5.51	1295/6.12	1338/6.75	1379/7.37
7,250	971/2.21	1028/2.74	1080/3.29	1127/3.87	1174/4.46	1220/5.07	1265/5.69	1309/6.33	1352/6.97	1394/7.63
7,500	992/2.35	1049/2.88	1100/3.45	1147/4.04	1193/4.64	1237/5.26	1281/5.91	1325/6.54	1367/7.21	1408/7.87
7,750	1012/2.48	1070/3.02	1120/3.60	1168/4.20	1212/4.82	1255/5.45	1297/6.11	1339/6.77	1381/7.44	1422/8.11
8,000	1033/2.62	1090/3.17	1141/3.76	1187/4.37	1231/5.01	1274/5.65	1316/6.32	1356/6.99	1397/7.67	1437/8.38
8,250	1054/2.77	1111/3.33	1162/3.93	1208/4.56	1251/5.20	1293/5.85	1333/6.53	1374/7.23	1413/7.92	1452/8.64
8,500	1075/2.93	1131/3.50	1183/4.11	1229/4.73	1271/5.39	1313/6.07	1352/6.76	1391/7.47	1430/8.17	1469/8.90
8,750	1096/3.10	1152/3.67	1203/4.29	1249/4.94	1292/5.61	1332/6.29	1371/6.98	1410/7.71	1448/8.45	1485/9.18
9,000	1118/3.27	1174/3.85	1223/4.48	1270/5.14	1311/5.81	1352/6.52	1390/7.23	1429/7.97	1465/8.72	1502/9.46
9,250	1139/3.45	1195/4.04	1244/4.67	1290/5.34	1332/6.03	1372/6.75	1411/7.48	1447/8.22	1483/8.98	1520/9.73
9,500	1161/3.65	1215/4.24	1265/4.88	1310/5.55	1352/6.26	1392/6.98	1430/7.72	1467/8.48	1502/9.25	1537/10.04
9,750	1183/3.85	1236/4.45	1286/5.10	1331/5.79	1373/6.49	1413/7.23	1450/7.98	1487/8.75	1522/9.54	1557/10.34
10,000	1205/4.06	1257/4.67	1306/5.32	1352/6.02	1394/6.75	1434/7.48	1471/8.24	1507/9.03	1541/9.82	1575/10.64
10,250	1227/4.28	1278/4.90	1327/5.57	1372/6.25	1415/7.00	1454/7.75	1491/8.53	1527/9.33	1560/10.14	1595/10.97
10,500	1249/4.51	1300/5.14	1348/5.81	1393/6.52	1436/7.25	1475/8.02	1512/8.81	1547/9.60	1580/10.45	1614/11.26
10,750	1271/4.76	1322/5.39	1369/6.06	1414/6.78	1456/7.52	1496/8.31	1532/9.10	1568/9.93	1601/10.76	1633/11.58
11,000	1294/5.01	1344/5.65	1390/6.33	1434/7.05	1477/7.82	1516/8.60	1553/9.41	1588/10.23	1622/11.07	1654/11.94
11,250	1317/5.28	1365/5.91	1412/6.60	1456/7.34	1498/8.11	1537/8.89	1573/9.72	1609/10.55	1642/11.42	1674/12.30
11,500	1339/5.54	1387/6.19	1433/6.89	1477/7.64	1518/8.41	1557/9.21	1594/10.02	1628/10.88	1662/11.76	1694/12.65
11,750	1362/5.83	1409/6.49	1454/7.18	1498/7.94	1538/8.71	1579/9.53	1615/10.36	1649/11.23	1683/12.09	1715/13.01
12,000	1385/6.14	1431/6.80	1476/7.50	1519/8.26	1560/9.05	1599/9.87	1635/10.70	1670/11.59	1704/12.47	1736/13.36
12,250	1408/6.44	1453/7.11	1497/7.82	1540/8.59	1581/9.38	1620/10.22	1655/11.07	1691/11.94	1724/12.84	1756/13.75
12,500	1431/6.76	1476/7.43	1520/8.17	1561/8.92	1601/9.73	1641/10.57	1676/11.44	1711/12.30	1745/13.21	1776/14.13
12,750	1454/7.09	1498/7.77	1541/8.50	1583/9.27	1623/10.09	1661/10.92	1697/11.81	1732/12.69	1765/13.62	1797/14.56
13,000	1477/7.43	1520/8.14	1563/8.88	1604/9.66	1644/10.45	1681/11.30	1718/12.18	1752/13.08	1785/14.03	1818/14.99

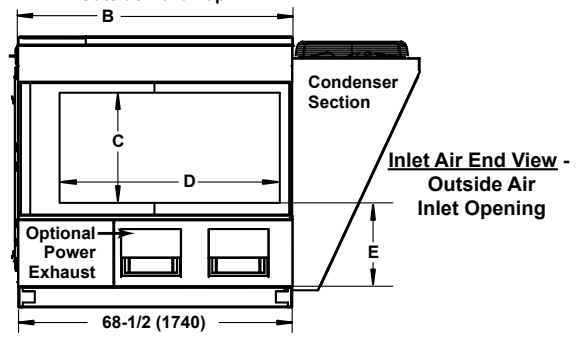
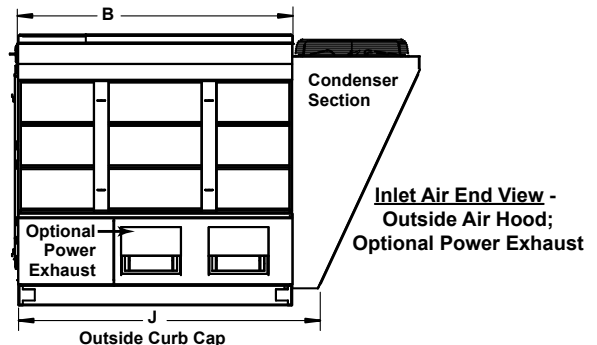
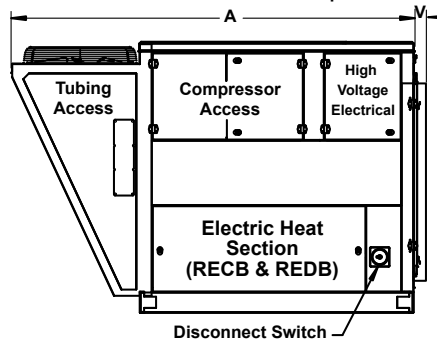
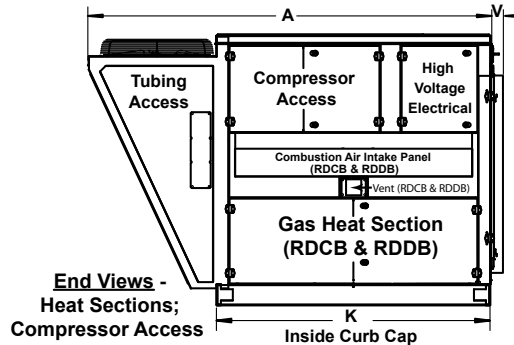
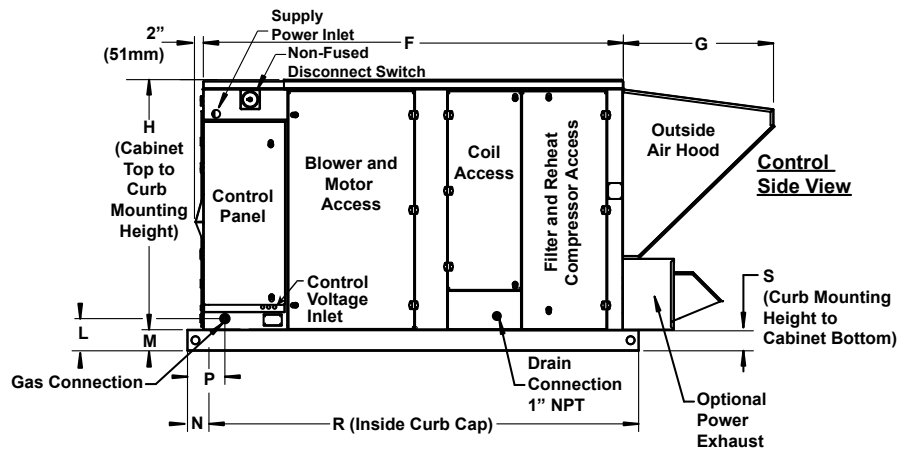
Supply Fan RPM/BHP (Total Static Pressure given in inches of water column)										
SCFM	3.25	3.50	3.75	4.00	4.25	4.50	4.75	5.00	5.25	5.50
6,000	1369/7.03	1412/7.65	1450/8.26	1491/8.89	1529/9.48	1566/10.12	1603/10.76	1641/11.39	1675/12.07	1711/12.73
6,250	1381/7.29	1422/7.91	1462/8.52	1502/9.15	1538/9.78	1577/10.43	1613/11.07	1650/11.76	1684/12.44	1718/13.10
6,500	1394/7.53	1434/8.16	1473/8.81	1512/9.44	1550/10.08	1585/10.78	1622/11.42	1659/12.11	1694/12.79	1728/13.45
6,750	1406/7.77	1448/8.44	1486/9.05	1523/9.73	1561/10.42	1598/11.06	1634/11.76	1669/12.46	1703/13.13	1736/13.86
7,000	1420/8.04	1460/8.67	1497/9.37	1536/10.05	1573/10.69	1609/11.39	1645/12.09	1679/12.78	1713/13.53	1747/14.26
7,250	1434/8.30	1472/8.97	1510/9.63	1549/10.31	1585/11.01	1620/11.71	1655/12.47	1691/13.17	1724/13.92	1758/14.65
7,500	1448/8.55	1487/9.22	1525/9.93	1560/10.61	1598/11.36	1633/12.07	1667/12.78	1702/13.54	1734/14.29	1767/15.02
7,750	1462/8.83	1501/9.51	1538/10.22	1576/10.96	1610/11.66	1645/12.42	1680/13.13	1713/13.90	1746/14.65	1779/15.46
8,000	1476/9.10	1515/9.79	1552/10.55	1588/11.24	1624/12.00	1658/12.77	1693/13.54	1725/14.24	1758/15.07	1790/15.80
8,250	1492/9.37	1530/10.10	1566/10.83	1602/11.57	1638/12.33	1671/13.10	1705/13.88	1739/14.65	1772/15.48	1803/16.22
8,500	1506/9.63	1544/10.37	1581/11.14	1617/11.89	1650/12.65	1685/13.49	1719/14.27	1753/15.04	1785/15.88	1816/16.62
8,750	1522/9.92	1559/10.71	1595/11.45	1632/12.25	1665/13.02	1699/13.80	1733/14.65	1765/15.43	1797/16.26	1828/17.09
9,000	1538/10.21	1574/11.01	1611/11.79	1646/12.55	1680/13.38	1714/14.17	1748/15.02	1778/15.80	1811/16.64	1841/17.47
9,250	1555/10.53	1590/11.29	1626/12.13	1661/12.90	1695/13.74	1729/14.53	1760/15.38	1792/16.24	1825/17.09	1855/17.91
9,500	1572/10.81	1607/11.62	1641/12.47	1676/13.24	1710/14.09	1743/14.94	1776/15.80	1807/16.67	1838/17.52	1870/18.35
9,750	1590/11.12	1623/11.94	1658/12.79	1692/13.63	1724/14.48	1757/15.35	1789/16.15	1822/17.02	1853/17.94	1884/18.78
10,000	1608/11.47	1641/12.30	1675/13.12	1708/14.01	1741/14.87	1772/15.68	1804/16.56	1837/17.50	1867/18.36	1898/19.28
10,250	1627/11.77	1660/12.61	1692/13.48	1725/14.33	1756/15.20	1788/16.14	1820/17.02	1851/17.90	1881/18.77	1911/19.69
10,500	1647/12.11	1678/12.96	1711/13.84	1741/14.70	1772/15.63	1805/16.52	1836/17.41	1867/18.30	1896/19.24	--
10,750	1667/12.45	1698/13.35	1729/14.20	1759/15.12	1790/16.00	1820/16.90	1851/17.86	1882/18.75	1911/19.71	--
11,000	1686/12.82	1717/13.69	1748/14.60	1778/15.48	1807/16.43	1837/17.33	1868/18.31	1897/19.21	--	--
11,250	1706/13.15	1736/14.08	1766/15.00	1796/15.89	1826/16.85	1856/17.76	1885/18.74	1913/19.65	--	--
11,500	1726/13.52	1756/14.46	1786/15.39	1815/16.29	1844/17.26	1874/18.19	1903/19.18	--	--	--
11,750	1746/13.93	1775/14.84	1806/15.78	1834/16.69	1863/17.67	1891/18.67	1920/19.60	--	--	--
12,000	1766/14.29	1796/15.21	1825/16.16	1853/17.14	1882/18.14	1910/19.08	--	--	--	--
12,250	1787/14.69	1816/15.63	1846/16.60	1874/17.59	1901/18.54	1929/19.56	--	--	--	--
12,500	1807/15.10	1837/16.05	1866/17.03	1894/18.04	1921/19.00	--	--	--	--	--
12,750	1828/15.50	1856/16.47	1885/17.46	1914/18.48	1941/19.45	--	--	--	--	--
13,000	1849/15.95	1877/16.93	1907/17.94	1933/18.92	1960/19.97	--	--	--	--	--

**Dimensions for A, B, and C Cabinet Sizes,
Models RCB, RDB, RDCB, RDDB, RECB & REDB**

(NOTE: References to gas heat section apply only to Models RDCB and RDDB.)



IMPORTANT NOTE: C Cabinet units **MUST** be shipped by flatbed. Unit **MUST** be loaded/unloaded by the lifting lugs **ONLY**. **DO NOT TRY TO FORK THIS UNIT FROM THE BOTTOM.**



^a Models RDCB, RDDB, RECB and REDB only.

^b Models RECB, REDB only.

^c Models RDCB, RDDB only.

^d Reheat compressor in Model RDB, RDDB and REDB only.

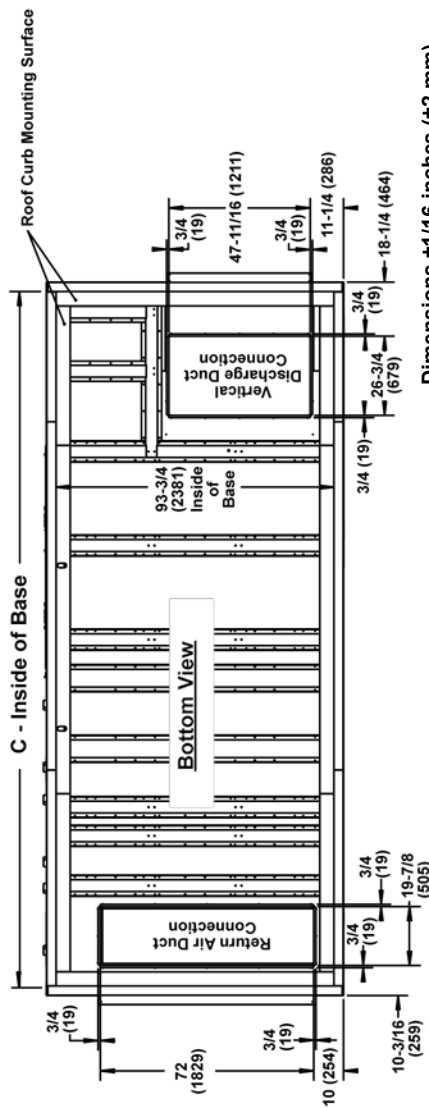
**Dimensions for A, B, and C Cabinet Sizes,
Models RCB, RDB, RDCB, RDDB, RECB & REDB**

Cabinet Size and Unit Size		A	B	C	D	E	F	G	H	J	K	L	M	
A	RCB, RDB, RDCB, RDDB, RECB, or REDB	in.	72 3/8	42 3/8	20 1/4	24 1/4	17 1/4	76 1/4	26 3/8	43 7/8	46 1/2	39 3/8	8	5 1/8
		(mm)	(1,838)	(1,076)	(514)	(616)	(438)	(1,937)	(670)	(1,114)	(1,181)	(1,000)	(203)	(130)
B		in.	87 3/8	57 3/8	20 1/4	36 1/4	17 3/8	76 1/4	26 3/8	43 7/8	61 1/2	54 3/8	8	5 1/8
		(mm)	(2,219)	(1,457)	(514)	(921)	(441)	(1,937)	(670)	(1,114)	(1,562)	(1,381)	(203)	(130)
C		in.	100 5/8	68 3/4	25 7/8	49 7/8	22 3/8	105 1/4	38	62	74 7/8	66	8	5
		(mm)	(2,556)	(1,746)	(657)	(1,267)	(568)	(2,673)	(965)	(1,575)	(1,902)	(1,676)	(203)	(127)

Cabinet Size and Unit Size			Heating Size		P	R	S	T	U	V	W	X
A	RCB 60, 78, 90, 118 or RDB 84, 102, 114, 142	-	in.	N/A	73 7/8	5 1/8	14 7/8	17 1/2	3 1/8	26 1/2	7 3/4	
		(mm)	(1,876)		(130)	(378)	(445)	(79)	(673)	(197)		
	RCB 136 or RDB 162	-	in.	N/A	73 7/8	5 1/8	14 7/8	17 1/2	3 1/8	34	4	
		(mm)	(1,876)		(130)	(378)	(445)	(79)	(864)	(102)		
	RECB 60, 78, 90, 118, 136 or REDB 84, 102, 114, 142, 162	-10S, -15S, -20S, -24S, -15, -20, -25, -30, -35, -39	in.	N/A	73 7/8	5 1/8	14 7/8	17 1/2	3 1/8	26 1/2	7 3/4	
		(mm)	(1,876)		(130)	(378)	(445)	(79)	(673)	(197)		
	RDCB 60, 78, 90, 118, 136 or RDDB 84, 102, 114, 142, 162	100 MBH	in.	3 5/37	73 7/8	5 1/8	14 7/8	17 1/2	3 1/8	19	11 1/2	
			(mm)	(80)	(1,876)	(130)	(378)	(445)	(79)	(483)	(292)	
		150 MBH	in.	3 1/8	73 7/8	5 1/8	14 7/8	17 1/2	3 1/8	26 1/2	7 3/4	
			(mm)	(79)	(1,876)	(130)	(378)	(445)	(79)	(673)	(197)	
		200 MBH	in.	3 1/8	73 7/8	5 1/8	14 7/8	17 1/2	3 1/8	34	4	
			(mm)	(79)	(1,876)	(130)	(378)	(445)	(79)	(864)	(102)	
B	RCB 160, 186, 200 or RDB 184, 210, 222, 224, 236	-	in.	N/A	73 7/8	5 1/8	14 7/8	17 1/2	3 1/8	49	4	
		(mm)	(1,876)		(130)	(378)	(445)	(79)	(1245)	(102)		
	RECB 78, 90, 118, 136, 160, 186, 200 or REDB 102, 114, 142, 162, 184, 210, 222, 224, 236	15, -20, -25, -30, -35, -39, -50, -60, -75, -88	in.	N/A	73 7/8	5 1/8	14 7/8	17 1/2	3 1/8	49	4	
		(mm)	(1,876)		(130)	(378)	(445)	(79)	(1245)	(102)		
	RDCB 78, 90, 118, 136, 160, 186, 200 or RDDB 102, 114, 142, 162, 184, 210, 222, 224, 236	250 MBH	in.	3 1/8	73 7/8	5 1/8	14 7/8	17 1/2	3 1/8	41 1/2	7 3/4	
			(mm)	(79)	(1,876)	(130)	(378)	(445)	(79)	(1054)	(197)	
		300 MBH	in.	3 1/8	73 7/8	5 1/8	14 7/8	17 1/2	3 1/8	49	4	
			(mm)	(79)	(1,876)	(130)	(378)	(445)	(79)	(1245)	(102)	
C	RCB 190, 216 or RDB 248, 262, 272, 288	-	in.	N/A	102 1/2	5	22	24 3/4	N/A	32 5/8	15 1/2	
			(mm)		(2,604)	(127)	(559)	(629)		(829)	(394)	
	RCB 298, 410 or RDB 354, 370, 468, 482		in.	N/A	102 1/2	5	22	24 3/4	N/A	49 5/8	6 1/2	
			(mm)		(2,604)	(127)	(559)	(629)		(1260)	(165)	
	RECB 190, 216, 298, 410 or REDB 248, 262, 272, 288, 354, 370, 468, 482		-39, -50, -60 -75, -88	in.	N/A	102 1/2	5	22	24 3/4	N/A	49 5/8	6 1/2
			(mm)	(2,604)		(127)	(559)	(629)	(1260)		(165)	
	RDCB 190, 216, 298, 410 or RDDB 248, 262, 272, 288, 354, 370, 468, 482	-400	in.	4 1/4	102 1/2	5	22	24 3/4	N/A	32 5/8	15 1/2	
			(mm)	(108)	(2,604)	(127)	(559)	(629)		(829)	(394)	
		-500	in.	4 1/4	102 1/2	5	22	24 3/4	N/A	44 5/8	9	
			(mm)	(108)	(2,604)	(127)	(559)	(629)		(1133)	(229)	
		-600	in.	4 1/4	102 1/2	5	22	24 3/4	N/A	49 5/8	6 1/2	
			(mm)	(108)	(2,604)	(127)	(559)	(629)		(1260)	(165)	
		-700	in.	4 1/4	102 1/2	5	22	24 3/4	N/A	54 5/8	4	
			(mm)	(108)	(2,604)	(127)	(559)	(629)		(1387)	(102)	

Dimensions for D Cabinet Sizes, All Models

NOTE:



NOTE: Illustration is of a RDCB/RDDB with a 1600 MBH heating section. Dimension "A" references a MBH gap between the Fan/Motor Cabinet and the Condenser Fan Cabinet. An optional cover is available (Option AYP2).

Dimensions $\pm 1/16$ inches (± 2 mm)

Dimensions 17/10 inches (42 mm)		with Heat Section		A		B		C	
Model and Cooling Size									
RDCB 360, 480, 600, 720	None			208 3/8	(5,293)	80 3/16	(2,037)	201 15/16	(5,129)
	500, 600, 700, 800			208 3/8	(5,293)	80 3/16	(2,037)	201 15/16	(5,129)
	1000, 1200, 1400, 1600			240 3/4	(6,115)	80 3/16	(2,037)	234 5/16	(5,952)
RDB 482, 602, 722, 842	None			208 3/8	(5,293)	80 3/16	(2,037)	201 15/16	(5,129)
	500, 600, 700, 800			208 3/8	(5,293)	80 3/16	(2,037)	201 15/16	(5,129)
	1000, 1200, 1400, 1600			240 3/4	(6,115)	80 3/16	(2,037)	234 5/16	(5,952)

REZNOR®

ROOF CURBS

A, B and C Cabinet Sizes

Downflow Roof Curb (Option CJ31) - All C Cabinet Sizes

NOTE: Manufacturer designed roof curb (either Downflow Option CJ31 or Horizontal Option CJ49 or CJ50) is required.

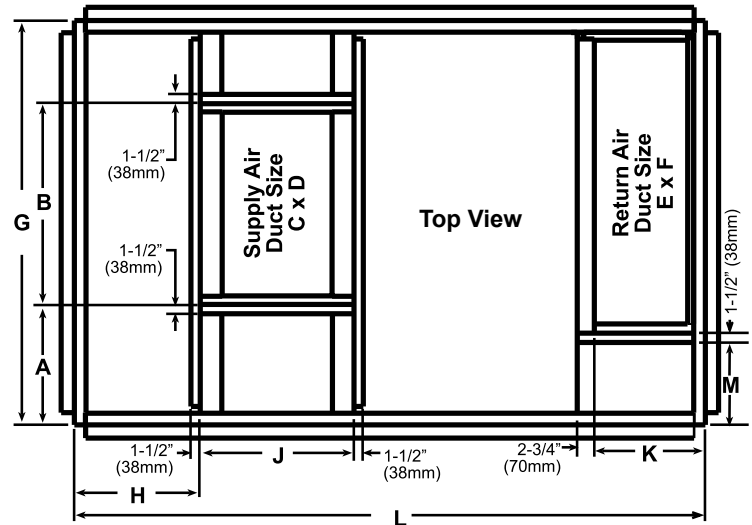
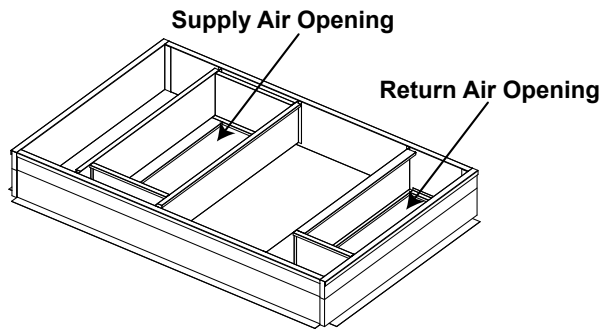
The downflow roof curb designed for this system is a 14" high insulated curb. The curb includes integral duct connections for supply air and optional return air as illustrated.

Downflow (Option CJ31) Roof Curb Weight

Cabinet A - 93 lbs.
Cabinet B - 105 lbs.
Cabinet C - 235 lbs.

Field Assembly of Downflow Roof Curb

Downflow roof curb height is 14" (356mm).



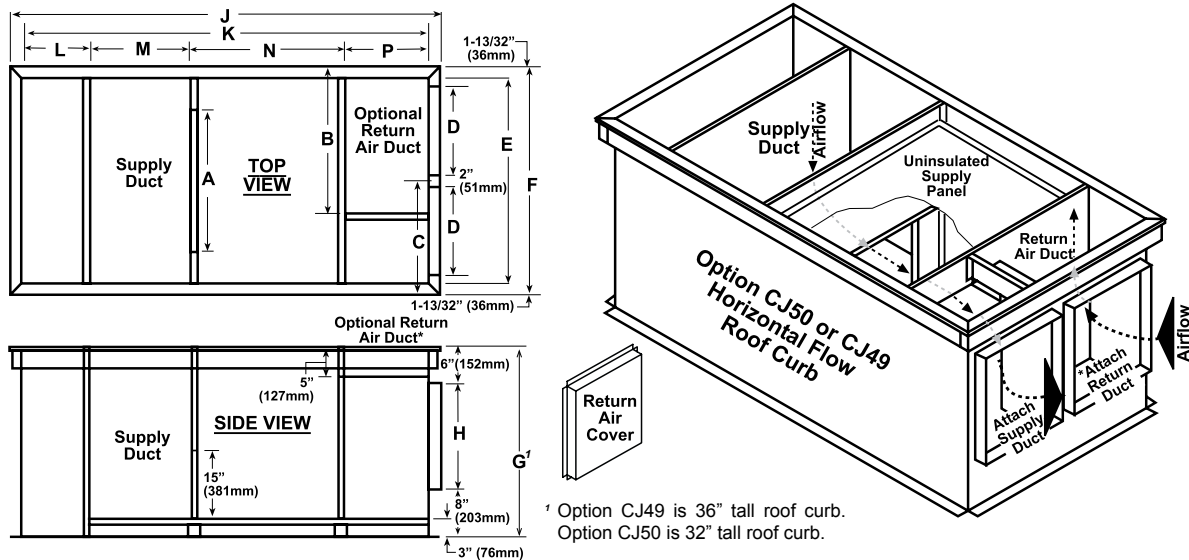
Cabinet Size	RCB Model Size	RDB Model Size		A	B	C	D	E	F	G	H	J	K	L	M
A	060, 078, 090, 118 136	084, 102, 114, 142	in. (mm)	6 1/8 (156)	26 1/2 (673)	24 (610)	12 (305)	24 (610)	12 (305)	38 5/8 (981)	13 1/4 (337)	17 1/2 (445)	12 7/8 (327)	72 3/4 (1848)	12 1/4 (311)
B	160, 186, 200	184, 210, 222, 224, 236	in. (mm)	--	--	36 (914)	12 (305)	36 (914)	12 (305)	53 5/8 (1362)	13 1/4 (337)	17 1/2 (445)	12 7/8 (327)	72 3/4 (1848)	12 1/4 (311)
C	190, 216	248, 262, 272, 288	in. (mm)	19 3/8 (492)	32 3/8 (822)	30 (762)	18 (457)	45 (1143)	15 (381)	65 1/8 (1654)	20 1/4 (514)	24 3/4 (629)	17 7/8 (454)	101 5/8 (2581)	13 1/4 (337)
			in. (mm)	10 3/4 (273)	49 1/2 (1257)	47 (1194)	18 (457)	45 (1143)	15 (381)	65 1/8 (1654)	20 1/4 (514)	24 3/4 (629)	17 7/8 (454)	101 5/8 (2581)	13 1/4 (337)
	298, 410	354, 370, 468, 482	in. (mm)	10 3/4 (273)	49 1/2 (1257)	47 (1194)	18 (457)	45 (1143)	15 (381)	65 1/8 (1654)	20 1/4 (514)	24 3/4 (629)	17 7/8 (454)	101 5/8 (2581)	13 1/4 (337)

Cabinet Size	RDCB Model Size	RDCB Model Size	Gas Heat Size		A	B	C	D	E	F	G	H	J	K	L	M
A	060, 078, 090, 118 136	084, 102, 114, 142, 162	100	in.	9 7/8	19	18	12	24	12	38 5/8	13 1/4	17 1/2	12 7/8	72 3/4	12 1/4
				(mm)	(251)	(483)	(457)	(305)	(610)	(305)	(981)	(337)	(445)	(327)	(1848)	(311)
			150	in.	6 1/8	26 1/2	24	12	24	12	38 5/8	13 1/4	17 1/2	12 7/8	72 3/4	12 1/4
				(mm)	(156)	(673)	(610)	(305)	(610)	(305)	(981)	(337)	(445)	(327)	(1848)	(311)
			200	in.	--	--	24	12	24	12	38 5/8	13 1/4	17 1/2	12 7/8	72 3/4	12 1/4
				(mm)	--	--	(610)	(305)	(610)	(305)	(981)	(337)	(445)	(327)	(1848)	(311)
B	078, 090, 118, 136, 160, 186, 200	102, 114, 142, 162, 184, 210, 222, 224, 236	250	in.	6 1/8	41 1/2	36	12	36	12	53 5/8	13 1/4	17 1/2	12 7/8	72 3/4	12 1/4
				(mm)	(156)	(1054)	(914)	(305)	(914)	(305)	(1362)	(337)	(445)	(327)	(1848)	(311)
			300	in.	--	--	36	12	36	12	53 5/8	13 1/4	17 1/2	12 7/8	72 3/4	12 1/4
				(mm)	--	--	(914)	(305)	(914)	(305)	(1362)	(337)	(445)	(327)	(1848)	(311)
C	190, 216, 298, 410	248, 262, 272, 288, 354, 370, 468, 482	400	in.	19 3/8	32 3/8	30	18	45	15	65 1/8	20 1/4	24 3/4	17 7/8	101 5/8	13 1/4
				(mm)	(492)	(822)	(762)	(457)	(1143)	(381)	(1654)	(514)	(629)	(454)	(2581)	(337)
			500	in.	13 1/4	44 1/2	42	18	45	15	65 1/8	20 1/4	24 3/4	17 7/8	101 5/8	13 1/4
				(mm)	(337)	(1130)	(1067)	(457)	(1143)	(381)	(1654)	(514)	(629)	(454)	(2581)	(337)
			600	in.	10 3/4	49 1/2	47	18	45	15	65 1/8	20 1/4	24 3/4	17 7/8	101 5/8	13 1/4
				(mm)	(273)	(1257)	(1194)	(457)	(1143)	(381)	(1654)	(514)	(629)	(454)	(2581)	(337)
			700	in.	8 1/4	55	52	18	45	15	65 1/8	20 1/4	24 3/4	17 7/8	101 5/8	13 1/4
				(mm)	(210)	(1397)	(1321)	(457)	(1143)	(381)	(1654)	(514)	(629)	(454)	(2581)	(337)

Cabinet Size	RECB Model Size	RECB Model Size	Electric Heat Size		A	B	C	D	E	F	G	H	J	K	L	M	
A	060, 078, 090, 118, 136	084, 102, 114, 142	All	in.	--	--	24	12	24	12	38 5/8	13 1/4	17 1/2	12 7/8	72 3/4	12 1/4	
				(mm)	--	--	(610)	(305)	(610)	(305)	(981)	(337)	(445)	(327)	(1848)	(311)	
B	078, 090, 118, 136, 160, 186, 200	102, 114, 142, 162, 184, 210, 222, 224, 236		in.	--	--	36	12	36	12	53 5/8	13 1/4	17 1/2	12 7/8	72 3/4	12 1/4	
				(mm)	--	--	(914)	(305)	(914)	(305)	(1362)	(337)	(445)	(327)	(1848)	(311)	
C	190, 216, 298, 410	248, 262, 272, 288, 354, 370, 468, 482		in.	10 3/4	49 1/2	47	18	45	15	65 1/8	20 1/4	24 3/4	17 7/8	101 5/8	13 1/4	
				(mm)	(273)	(1257)	(1194)	(457)	(1143)	(381)	(1654)	(514)	(629)	(454)	(2581)	(337)	

Horizontal Airflow Curb (Option CJ49 & CJ50)

A full perimeter curb with integral horizontal supply air and optional return air ductwork and duct connections is also available. The horizontal airflow curb is designed for either roof or slab installation.



NOTE: Insulation is included on all internal sheet metal partitions. If specifications require no insulation in the air stream, please contact your Reznor Representative.

Return air is optional. Curb includes a cover for the return air duct inlet opening.

If optional return air is being used, do not install the cover (or remove if already installed).

If return air is not being used, install the return air cover (or do not remove if already installed).

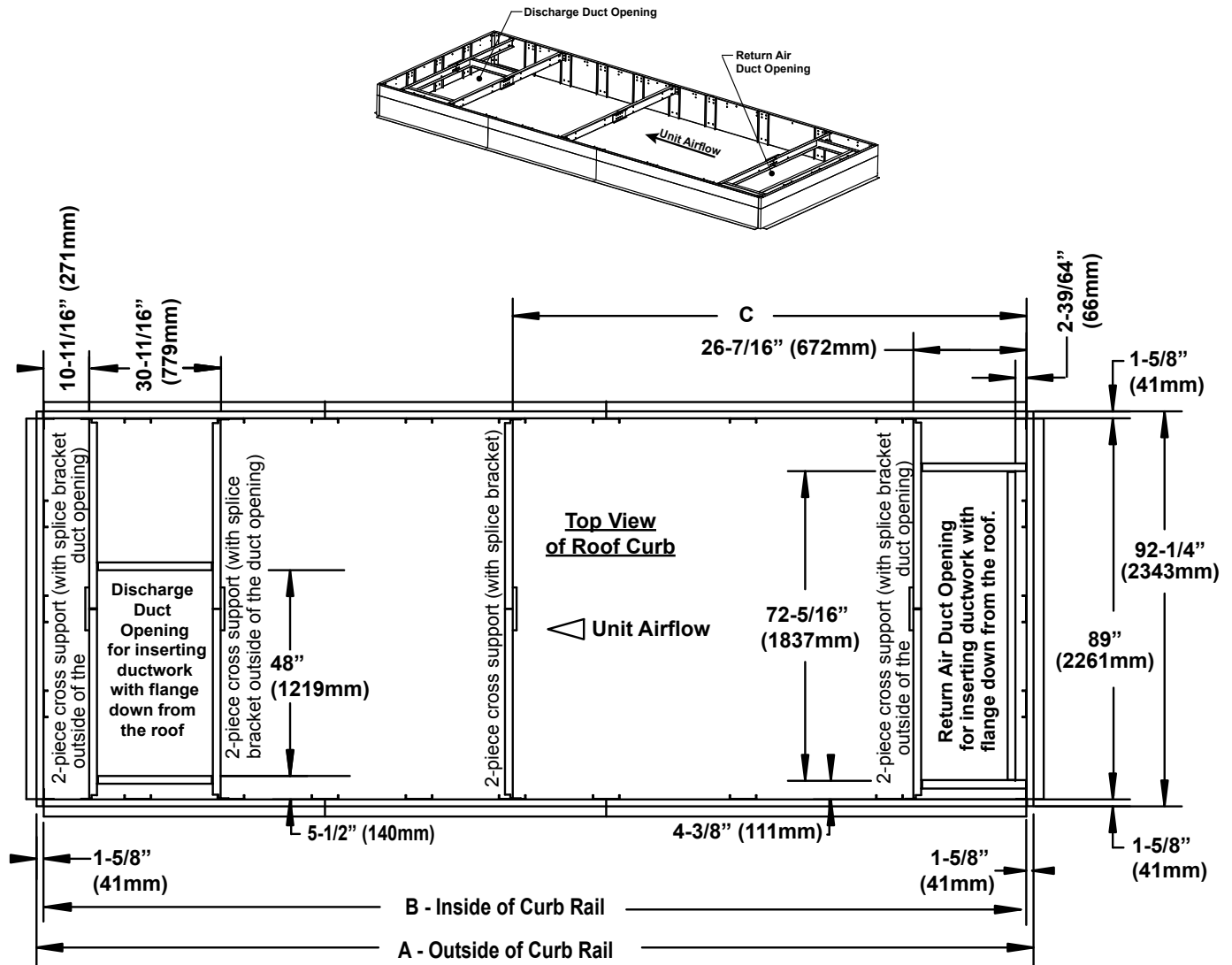
Horizontal Curb Dimensions -
inches (mm)

Cabinet Size	Model RCB, RDCB, RECB	Model RDB, RDDB, REDB									G	
				A	B	C	D	E	F		(CJ49)	(CJ50)
A	060, 078, 090, 136	084, 102, 114, 142, 162	in.	24	22 15/16	17 13/32	15	34 13/16	38 9/16		--	32
			(mm)	(610)	(583)	(442)	(381)	(884)	(979)			(813)
B	078, 090, 118, 136, 160, 186, 200	102, 114, 142, 162, 184, 210, 222, 224, 236	in.	36	37 15/16	24 29/32	22 1/2	49 13/16	53 9/16		--	32
			(mm)	(914)	(964)	(633)	(572)	(1,265)	(1,360)			(813)
C	190, 216, 298, 410	248, 262, 272, 288, 354, 370, 468, 482	in.	52	50 3/8	32 1/2	28 1/4	61 3/8	65 1/8	36		32
			(mm)	(1,321)	(1,280)	(826)	(718)	(1,559)	(1,654)	(914)		(813)

Cabinet Size	Model RCB, RDCB, RECB	Model RDB, RDDB, REDB		H		J	K	L	M	N	P
				CJ49	(CJ50)						
A	060, 078, 090, 136	084, 102, 114, 142, 162	in.	--	18	72 3/4	69	11 3/8	17 1/2	29 1/8	11 1/8
			(mm)		(457)	(1,848)	(1,753)	(289)	(445)	(740)	(283)
B	078, 090, 118, 136, 160, 186, 200	102, 114, 142, 162, 184, 210, 222, 224, 236	in.	--	18	72 3/4	69	11 3/8	17 1/2	29 1/8	11 1/8
			(mm)		(457)	(1,848)	(1,753)	(289)	(445)	(740)	(283)
C	190, 216, 298, 410	248, 262, 272, 288, 354, 370, 468, 482	in.		22	101 9/16	97 7/8	18 7/16	24 3/4	38 5/8	16
			(mm)		(559)	(2,580)	(2,486)	(468)	(629)	(981)	(406)

Dimensions

Option CJ3 Roof Curb Dimensions (Curb height is 16" (406mm).)



Top width of mounting rails is 1-5/8" (41mm). Always apply caulking to all mounting surfaces (curb rails and duct flanges) before placing unit.

Model	with Heat Section		A	B	C
RCB	None	in.	200 7/16	197 3/16	133 5/16
		(mm)	(5,091)	(5,009)	(3,386)
RDCB	500, 600, 700, 800	in.	200 7/16	197 3/16	133 5/16
		(mm)	(5,091)	(5,009)	(3,386)
	1000, 1200, 1400, 1600	in.	232 7/8	229 5/8	165 3/4
		(mm)	(5,915)	(5,832)	(4,210)
RDB	None	in.	200 7/16	197 3/16	133 5/16
		(mm)	(5,091)	(5,009)	(3,386)
RDDB	500, 600, 700, 800	in.	200 7/16	197 3/16	133 5/16
		(mm)	(5,091)	(5,009)	(3,386)
	1000, 1200, 1400, 1600	in.	232 7/8	229 5/8	165 3/4
		(mm)	(5,915)	(5,832)	(4,210)

IMPORTANT NOTES: Area enclosed by roof curb must comply with clearance to combustible materials. If the roof is constructed of combustible materials, area within the roof curb must be ventilated, left open, or covered with non-combustible material which has an "R" value of at least 5. If area within curb is left open, higher radiated sound levels may result.

When cutting only duct openings, cut opening 1" (25mm) larger than duct size to allow clearance of installation.

ROOF CURBS (cont'd)

Optional Gas-Fired Duct Furnace in Curb Section Model JHUP (B and C Cabinet Sizes Only) Option JH

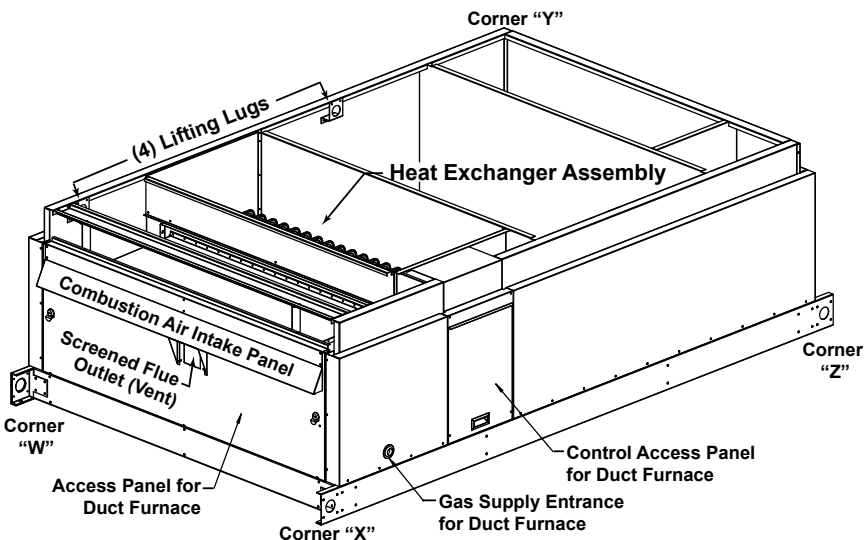
Model JHUP (option JH) duct furnace curb section provides the MAPS unit with additional heat for cold weather climates without the need for a larger cabinet size. This additional capacity allows the MAPS unit in many cases to reach a 100°F temperature rise. The unit is a single stage, ON/OFF control, supplemental heater which raises the baseline heating output. The MAPS unit continues to modulate or stage its main burners to maintain the required discharge air temperature per the MAPS unit's control system.

Model JHUP-250 (Option JH25) can be added to an RDCB or RDDB Cabinet B unit with a 250 MBH heating section for a total of 500 MBH input. Model JHUP-300 (Option JH30) can be added to an RDCB or RDDB Cabinet C unit with a 700 MBH heating section for a total of 1,000 MBH input.

Set a Model JHUP Duct Furnace Curb Section directly on the Roof Curb

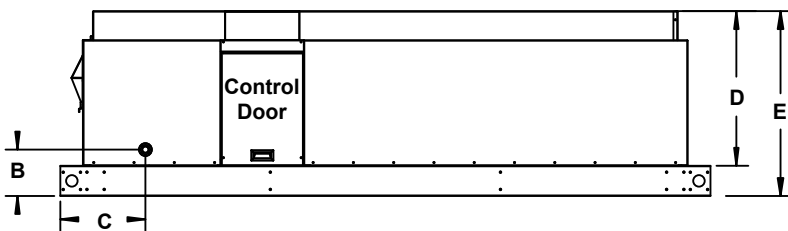
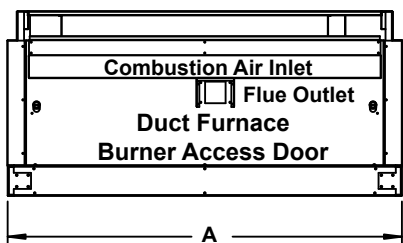
NOTE: Venter motor power 208/230 provided from MAPS unit. See wiring diagram for details

*Static pressure 0.3" w.c. requires separate gas connection.



Dimensions of a Model JHUP Duct Furnace Curb Section

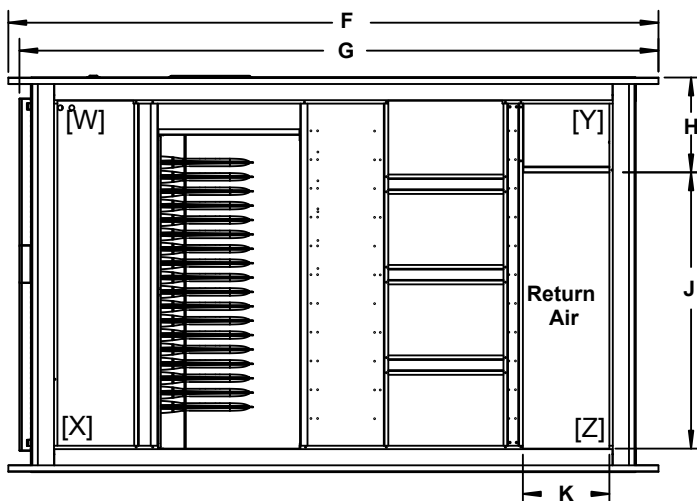
Duct Furnace Dimensions		A	B	C	D	E	F	G	H	J	K
JHUP-250	in.	57 1/16	3 27/32	4 1/4	23 1/8	24 3/32	78 3/16	76 1/4	15 1/2	37 1/2	11 4/13
Opt. JH25	(mm)	(1,449)	(98)	(108)	(587)	(612)	(1,986)	(1,937)	(394)	(953)	(287)
JHUP-300	in.	68 17/32	8 1/16	14 25/32	26 7/8	32 1/8	113	111 1/16	16 1/2	48	15 1/32
Opt. JH30	(mm)	(1,741)	(205)	(375)	(683)	(816)	(2,870)	(2,821)	(419)	(1,219)	(382)



Unit Weight and Corner Weights

JHUP-250 (Option JH25)	lbs.	(kg)
Total Weight	530	(240)
Corner W	158	(72)
Corner X	158	(72)
Corner Y	107	(49)
Corner Z	107	(49)

JHUP-300 (Option JH30)	lbs.	(kg)
Total Weight	830	(376)
Corner W	228	(103)
Corner X	231	(105)
Corner Y	186	(84)
Corner Z	185	(84)



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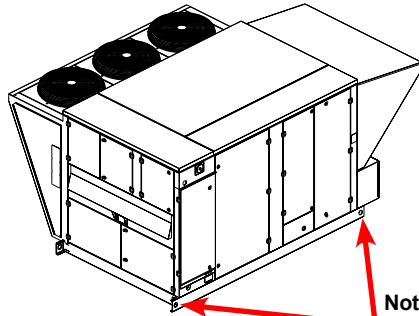
CLEARANCE DIMENSIONS inches (mm)

Additional Heat Section Clearance Information

If installing a Model RDCB or RDDB, the 40" (1,016mm) service clearance provides for clearance to combustibles and required space for combustion air inlet and venting.

Vent terminal must be 4 feet (1.22M) from gas and electric meters, regulators and relief equipment.

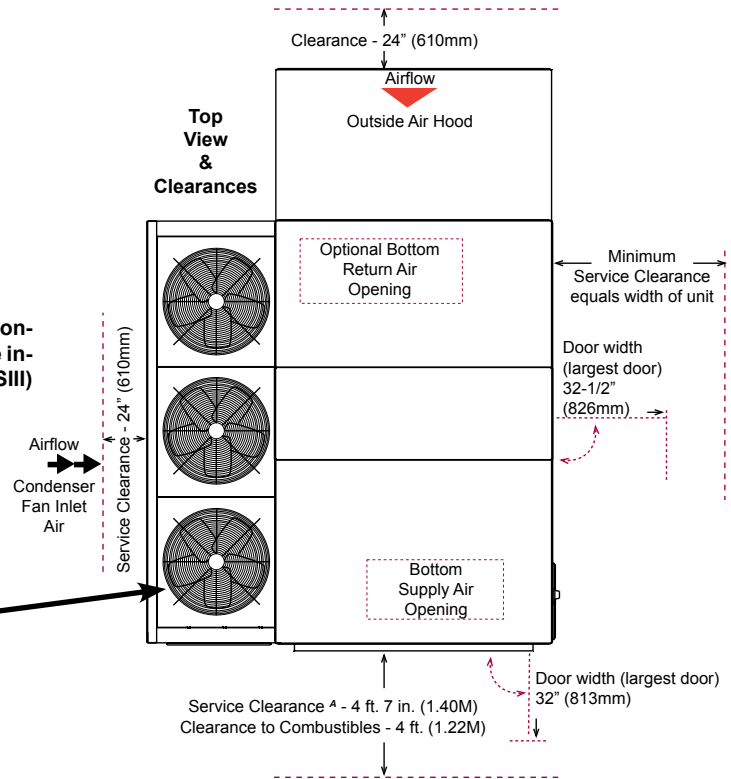
Clearances for A, B and C Cabinet Sizes



Note: Four point bottom lifting connection (two on each side). See installation manual (Form I-MAPSIII) for proper lifting instructions.

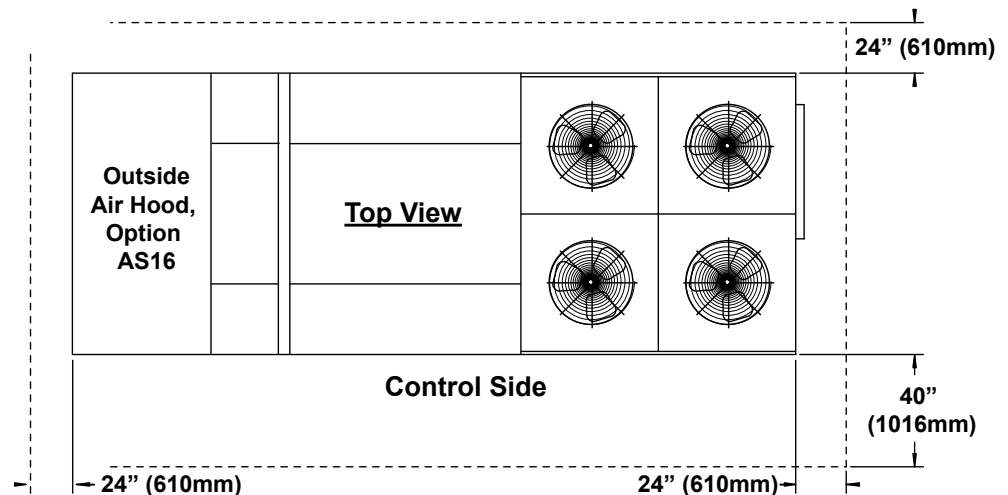
Minimum clearances are required to ensure proper operation and access for service. If a heat section is included, clearances to combustibles are required. Clearance to combustibles is defined as the minimum distance from the heater to a surface temperature of 90°F above the surrounding ambient temperature is not exceeded.

IMPORTANT: The area above the condenser fans must always be totally open space, at least 10 feet of clearance. Condenser must have proper air flow for removal of heat or nuisance high head pressure alarms will occur causing unit to shut down the cooling.

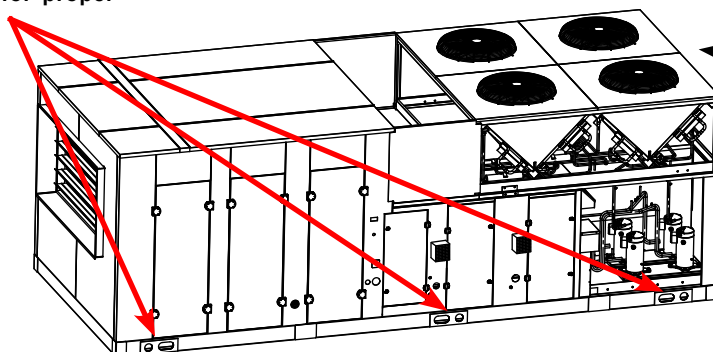


* Models RDCB and RDDB clearance required to remove gas heat section.

Clearances for D Cabinet Sizes



Note: Six point bottom lifting connection (three on each side). See installation manual (Form I-MAPSIII) for proper lifting instructions.



IMPORTANT: The area above the condenser fans must always be totally open space, at least 10 feet of clearance. Condenser must have proper air flow for removal of heat or nuisance high head pressure alarms will occur causing unit to shut down the cooling.

Performance

Replacement air rooftops are designed for up to 100% outside air. Unlike traditional return air systems, entering cooling coil temperatures vary widely, resulting in a different equipment design approach. This includes cooling coil circuiting design, capacity staging, component selection and control sequences to optimize performance under both design and part load conditions. Because of the specialty nature of replacement air systems, there are no benchmark performance standards for minimum equipment energy efficiency ratings (EER). Due to the nature of outside air system with many known and unknown system influences, all unit performance data has an accuracy of $\pm 10\%$.

However, other standards or test procedures may be referenced to ensure an optimum approach to equipment design. Examples include the latest ASHRAE 90.1, ASHRAE 62.1, ANSI Z83.8, AIA-15733, and ARI 410/540 standards.

OPTION CODES

Power

AK5 - 208/3 power
AK6 - 230/3 power
AK7 - 460/3 power
AK8 - 575/3 power

Heating Options (RDCB, RDDB)

AA1 - Natural Gas
AA2 - Propane (100 - 300 MBH units only)
AC2 - 409 Stainless Steel Heat Exchanger
AC4 - 316 Stainless Steel Heat Exchanger
AG70 - 8:1 or 16:1 gas modulation control
BP1 - Standard Manifold
BP4 - High and Low Gas Pressure Switches
JH25 - 250 MBH Curb Mounted Gas Heat (B Cabinet only)
JH30 - 300 MBH Curb Mounted Gas Heat (C Cabinet only)
EG3 - 3 Stage Electric Heat Control (C Cabinet only)

Blower System Options

AL6 thru AL44 - Motor HP and Type
AM8 thru AM36 - Drive RPM option
AN2 - Motor Contactor
AN10 - Motor Starter
VFD1 - Factory Installed Variable Frequency Drive
VFD2 - Field Installed Variable Frequency Drive
VFC2 thru VFC9 - VFD control options
XB2 - Extra Set of Solid V-Belts

Cabinet Options

AQ1 - Vertical Discharge
AQ2 - Horizontal Discharge (D Cabinet only)
AYP2 - Panel section cover (D Cabinet only)
AZ11 - Condenser Guard
CJ3 - Roof Curb, 16" Height, Vertical Discharge (D Cabinet Size only)
CJ31 - Roof Curb, 14" Height, Vertical Discharge (A, B, & C Cabinet only)
CJ49 - Roof Curb, 36" Height, Horizontal Discharge (A, B, & C Cabinet only)
CJ50 - Roof Curb, 32" Height, Horizontal Discharge (A, B, & C Cabinet only)

Damper & Air Options

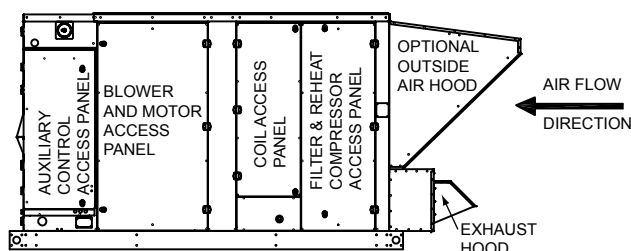
AR1, AR8 & AR25 Damper configurations
GF1 thru GF8 Damper control options
AS16 & AS19 - Outside Air hood
AW9 - 2" Permanent Filters
AW11 - 2" Disposable Pleated Filters, MERV 8
AW20 - 4" Permanent Filters
AW21 - 4" Disposable Pleated Filters, MERV 8
AW24 - 4" Disposable Pleated Filters, MERV 13
XF6 - Extra Set of 2" Disposable Pleated Filters
XF21 - Extra Set of 4" Disposable, Pleated Filters, MERV8

Control Options

D15 - Neutral Air Control
D16 - Space temperature Control
BD5 - Fire Stat
BE__ - Sensor Options
BG9 - Exhaust Fan Relay
BHB5 - Lon communication
BHB6 - Control Expansion Board
CL77 - Room Override Control
DT7 - Wall Humidity Sensor
RB3 - Remote Display module
SA1 - Photoelectric Smoke Detector

Miscellaneous Options

AUB4 thru AUB8 Coil Coating Options
AUC9 - Hot Gas Bypass on All Stages
AZ11 - Condenser Hail Guard
BC2 - Convenience Outlet (requires 110V supply)
PE1 thru PE3 - Power Exhaust (A, B or C Cabinet only)
XW1 - Additional 4 Year Compressor Warranty
XW2 - Optional Extended 4 Year Gas Heat Exchanger Warranty (Model RDCB, RDDB Only)
XW3 - Optional Extended 9 Year Gas Heat Exchanger Warranty (Model RDCB, RDDB Only)
XW4 - Optional Extended 4 Year Electric Heat Exchanger Warranty (Model RECB, REDB Only)
ER11 thru ER62 - Energy Recovery
BE6 - ERV Low Ambient Kit
BH6 - ERV Stop/Start/Jog
SMF1 thru SMF3 - Supply and Exhaust Fan RPM Kit
ERW2 - Pivoting Wheel
ERW1 - Stationary Wheel
BW4 - Differential Pressure Gauge



POWER SYSTEM OPTIONS

The MAPSIII selection software calculates the unit's required HP, RPM and Drive Options required to meet the requested scfm at the given external static pressure along with all of the options that affect the unit's internal static pressure. The Blower and Pressure Drop Tables can be used to estimate required drives/brake horse power and RPM. The following options are available.

Item	Option Codes	Description
Blower Motor Open, Dripproof	AL6 thru AL16	Standard efficiency motors from 1 to 20 HP rating with drip proof casing and open ventilation.
Blower Motor	AL23 thru AL35	Standard efficiency motors from 1 to 20 HP rating with total enclosed motor casing with fan cooling.
Blower Motor Premium Efficiency	AL36 thru AL44	High efficiency motors from 1 to 20 HP rating with total enclosed motor casing
Motor Contactor	AN2	Factory installed option includes an IEC type contactor connect to a DDC controlled pilot relay.
Motor Drives	AM1 thru AM36	Unit installed with pulleys and belts to produce requested RPM from 350 - 2200.
Motor Starter	AN10	Factory installed option includes an IEC type motor starter and auxiliary contacts. DDC controlled pilot relay provides start/stop functionality. Motor starter required for all motors sizes great than 7.5hp.
Variable Frequency Drive	VFD1*	The factory installed ABB variable frequency drive is NEMA 1; has swing choke and sensorless vector control. The drive is factory set-up for the selected control VFC option. The drive must be selected with premium efficiency motors.
	VFD2	The field installed ABB variable frequency drive is NEMA 1; has swing choke and sensorless vector control. The drive is factory set-up for the selected control VFC option. The drive must be selected with premium efficiency motors
VFD Control Options	VFC2	<u>DDC System Control External 0-10V Input = 0-100% VFD Speed Signal</u> Sensor/Signal: User supplied 0-5V, 2 wire signal Sequence: The IQ system accepts a 0-5V signal that will position the VFD speed from 0-100% between the user set maximum and minimum settings. The minimum and maximum settings can be adjusted between 25-100% actual fan speed.
	VFC3	<u>Duct Static Pressure Control</u> Sensors/Signal: Unit mounted pressure sensor; sensing range 0 -2.5" w.c.; 24Vac, 0-10V signal; ± 1% FS accuracy; 1/4" barb connections. Requires field installed 1/4" pneumatic tubing to the ductwork located 2/3 down the duct. Sequence: Whenever the supply fan is running in any mode, the fan speed varies to maintain the user selected duct static pressure setpoint. (Default 1", adj range 0-2.5") When the supply fan is OFF, the VFD supply fan signal will be 0%. The IQ limits the actual VFD range between a user adjusted minimum and maximum output setting with default values of 25% and 100% output.
	VFC4	<u>Building Static Pressure Control</u> Sensors/Signal: Unit mounted pressure sensor; sensing range -0.5 thru 0.5" w.c.; 24Vac, 0-10V signal; ± 1% FS accuracy; 1/4" barb connection. Requires field installed 1/4" pneumatic tubing to the ductwork located 2/3 down the duct. Sequence: Whenever the supply fan is running in any mode, the fan speed varies to maintain the user selected building static pressure setpoint. (Default 0.1", adj range -0.5" thru 0.5") When the supply fan is OFF, the VFD supply fan signal will be 0%. The IQ limits the actual VFD range between a user adjusted minimum and maximum output setting with default values of 25% and 100% output.
	VFC5	<u>Space CO₂ Control (range 0-2000 ppm)</u> Sensors/Signal: Reznor supplied, field installed, wall mount CO ₂ sensor. Infrared beam technology, 24Vac, 0-10V output signal, 4 wires, ± 50 ppm accuracy. Sequence: Whenever the supply fan is ON in the occupied mode, the fan speed modulates to maintain the user selected building CO ₂ setpoint. (800 ppm default). The IQ limits the actual VFD range between a user adjusted minimum and maximum output settings with default values of 25% and 100% output.
	VFC7	<u>Wall Stat Three Speed Fan Control</u> Sensor/Signal: Wall Mounted space temperature sensor with display and 3 speed fan control option CL77 must be selected . Sequence: When the supply fan is called to run, the supply fan will drive to the user selected speed based upon the wall mounted selection and the IQ setpoint. Low Speed, the VFD speed is set to 30% default. (adjustable 25-100%) Medium Speed, the VFD speed is set to 60% default. (adjustable 25-100%) High speed, the VFD speed is set to 100% default. (adjustable 25-100%)
	VFC8	<u>Four Speeds fan control based upon 2 digital input</u> Sensors/Signal: Qty 2, user supplied, dry contact closures. (4 wires) Sequence: Whenever the supply fan is ON, the VFD will ramp to a user defined % speed based upon 2 dry contact closure inputs. Position 1: switch #1 OFF and switch #2 OFF, VFD speed 50%. (adj range 25-100%) Position 2: switch #1 ON and switch #2 OFF, VFD speed 60%. (adj range 25-100%) Position 3: switch #1 OFF and switch #2 ON, VFD speed 75%. (adj range 25-100%) Position 4: switch #1 ON and switch #2 ON, VFD speed 100%. (adj range 25-100%)
	VFC9	<u>Adjustable Constant Volume Control</u> Sensors/Signal: none Sequence: Whenever the supply fan is ON, the VFD will drive to the user defined % based upon the unit display or Network provided value. The IQ System controller limits the adjustable drive speed between a minimum of 25% and a maximum of 100%.

* Note: Not available in all climates.

GAS HEATING OPTIONS

Applies to Models RDCB & RDDB Only

The Reznor T_{CORE}²® gas control is optimized for 100% or high outside air applications. The single an dual stainless steel heat exchanger options, control and safeties allow 100°F temperature rise or 8:1 (16:1) part load performance for the most demanding of applications.

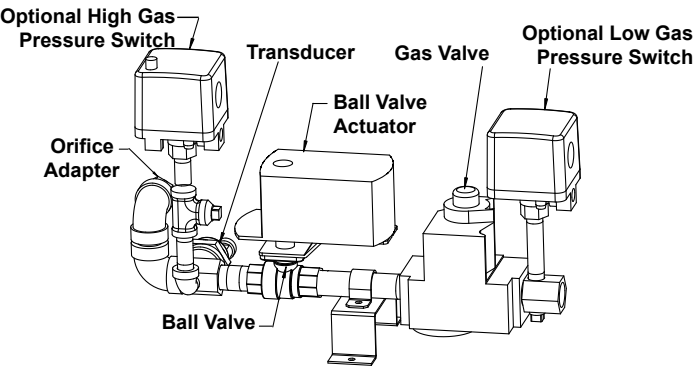
Item	Option Code	Description
GAS CONTROL SYSTEM	AG70	Electronic modulating gas valve (8:1 or 16:1) The burner capacity is controlled by the control system to maintain the active discharge air heating setpoint. The control value modulates from 12.5% - 100% capacity to maintain the setpoint. Gas systems larger than 800MBH, have two heating banks. One bank modulates while the second bank is a fixed capacity, thus providing 16:1 modulation.
MANIFOLD SELECTION	BP1	Standard Manifold
	BP4	Manifold with High and Low Gas Pressure Switches
HEAT EXCHANGER	AC2	409 Stainless Steel Heat exchanger
	AC4	316 Stainless Steel Heat exchanger

Heat Section Supply Gas Pressures

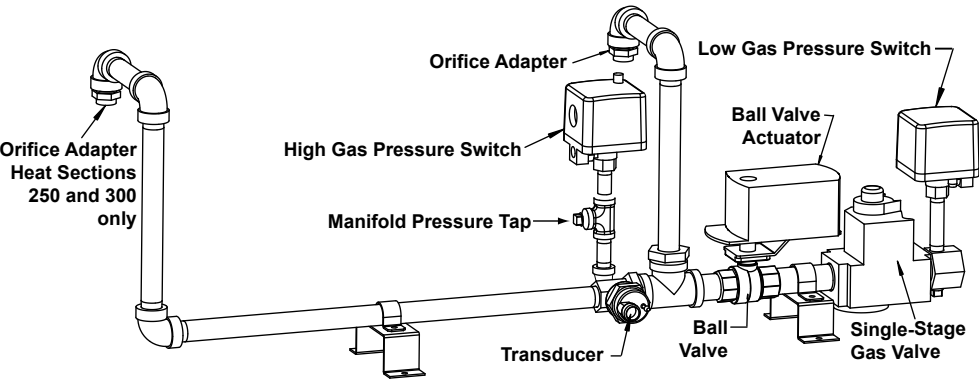
- All gas options require a minimum of 6.0" w.c. natural gas

Deep Modulation

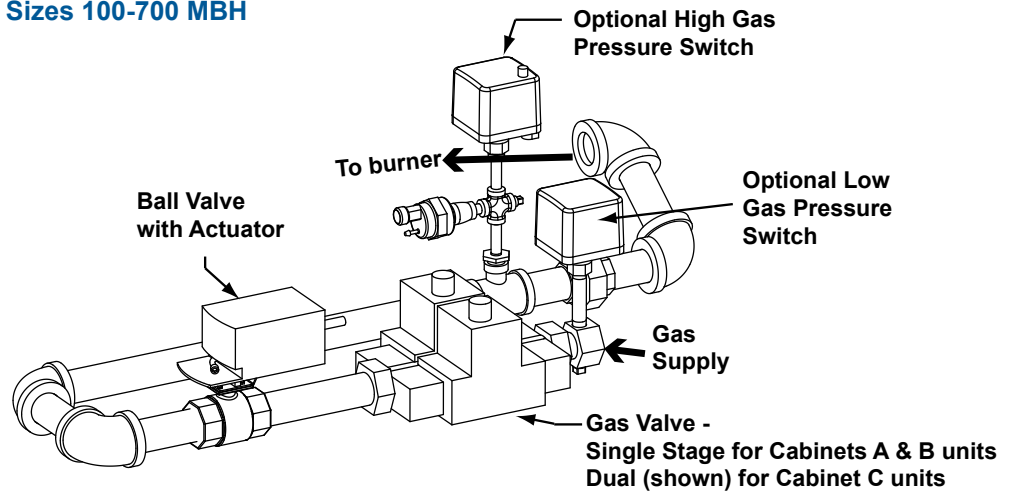
Manifold for MAPSIII A Cabinet, Sizes 100-200 MBH



Manifold for MAPSIII B Cabinet, Sizes 250-300 MBH

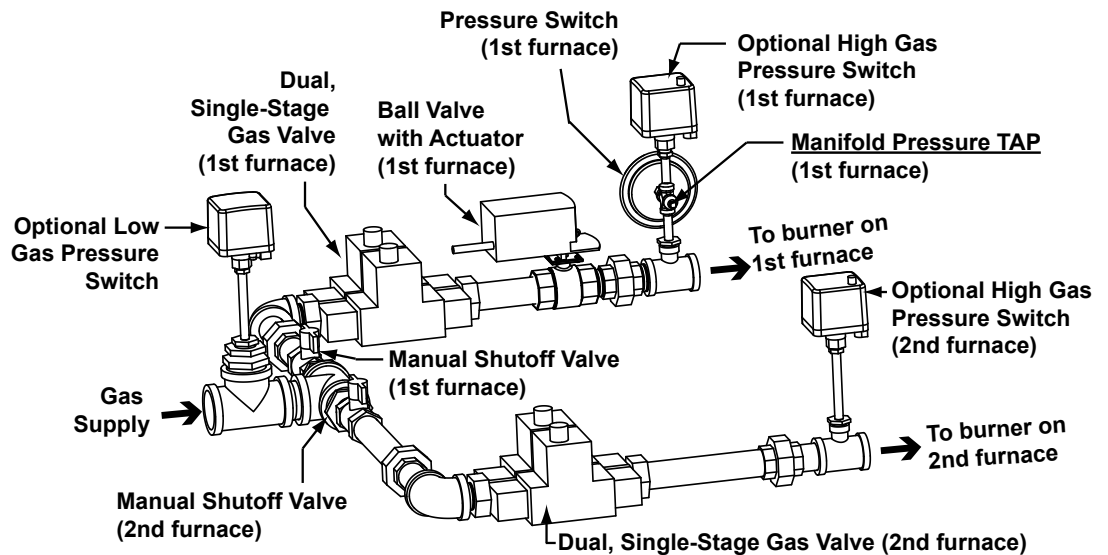


Manifold for MAPSIII C Cabinet, Sizes 100-700 MBH



Manifold of Modulating Gas Control Option AG70 showing Two Furnaces for MAPSIII D Cabinet, (Sizes 1000, 1200, 1400, 1600)

NOTE: Heat section Sizes 500, 600, 700 and 800 with one furnace have manifold for "1st furnace" only.



Filters

100% outside air systems typically require more frequent inspection than return air systems. Pleated filters are preferred only if existing makeup air installations have shown no evidence of filter degradation due to heavy moisture loading. Permanent filters may be preferred in ASHRAE defined humid climates or areas with heavy rainfall. Pleated filters are recommended for any environments with a history of particulate loading and coil cleaning.

Filters	AW9	2" Permanent Filters 2" Aluminum media are installed - MERV8. Filters are washable. Filters meet UL class 2 requirements.
	AW11	2" Pleated Filters V Configuration filters are installed in a slide out rack before the DX cooling coils. Average arrestance is 93%; MERV Rating 8 per ASHRAE 52.2-99. The filters are manufactured from recycled synthetic material with moisture & microbial growth resistant properties. Less than 0.36" w.c. pressure drop at 500 fpm air velocity.
	AW21	4" Pleated Filters V Configuration filters are installed in a slide out rack before the DX cooling coils. Average arrestance is 93%; MERV Rating 13 per ASHRAE 52.2-99. The filters are manufactured from recycled synthetic material with moisture & microbial growth resistant properties. Less than 0.36" w.c. pressure drop at 500 fpm air velocity.
	AW20	4" Permanent Filters (2) 2" Aluminum media are installed. Filters are washable. Filters meet UL class 2 requirements.
	AW24	4" MERV 13 Filters V Configuration filters are installed in a slide out rack before the DX cooling coils. Average arrestance is 95%; MERV Rating 13 per ASHRAE 52.2-99. The filters are manufactured from recycled synthetic material with moisture & microbial growth resistant properties. Less than 0.36" w.c. pressure drop at 500 fpm air velocity.
	XF6	Extra set of 2" Pleated filters shipped with unit.
	XF21	Extra set of 4" Pleated filters shipped with unit - MERV8.
	XF24	Extra set of 4" Pleated filters shipped with unit - MERV13 (shipped with unit).

Outside Air Intake

Option AS16 and AS19

Replacement air systems should typically be specified with a motorized outside damper and interlocking safety to ensure the damper is opened prior to enabling the supply fan (when no return air path is connected). Building codes and national standards may require a motorized damper for specific airflow ranges. The location of the outside air intake should comply with the requirements of ASHRAE 62.1999. A transition is required between the primary filters and outside air inlet to provide uniform velocities across filters and cooling coils. The transition section should be designed to manage any moisture carryover by allowing condensate to drain outside the roof curb perimeter.

Dimensions

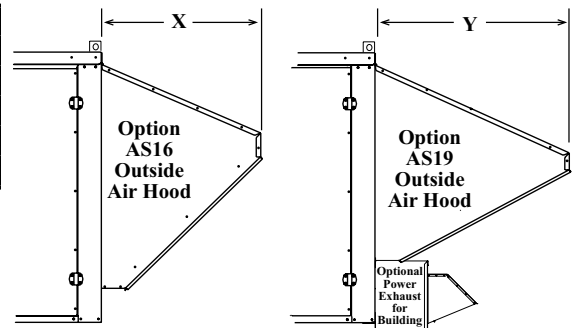
(inches/mm) for Outside Air Hoods

The outside air inlet hood is designed to be field assembled and installed around the horizontal inlet air opening of the cabinet. It is a weatherized hood with permanent aluminum filters.

Caution: It is recommended that the inlet to the outside air hood NOT be facing the prevailing wind.

Outside Air Hood Filter Sizes

Cabinet Size	X		Y	
	inches	mm	inches	mm
A	26 3/4	(679)	44	(1,118)
B	26 3/4	(679)	44	(1,118)
C	38	(965)	38	(965)
D	48 11/32	(1,228)		■

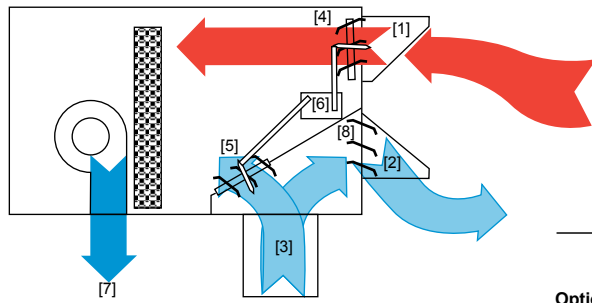


Cabinet Size	Hood Option AS16 Units w/o Power Exhaust		Hood Option AS19 Units with Power Exhaust	
	Qty	Size	Qty	Size
A	4	16 x 20	4	18 x 20
B	4	16 x 25	4	20 x 25
C	3	16 x 25	3	16 x 25
	6	16 x 20	6	16 x 20
D	6	16 x 16		■
	3	16 x 25		

Outside Air Hood (Option AS16 or AS19)

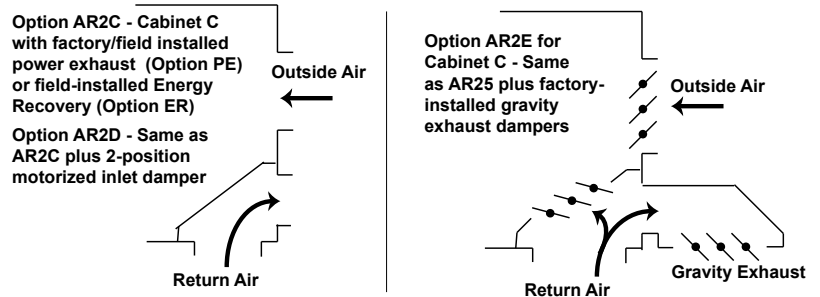
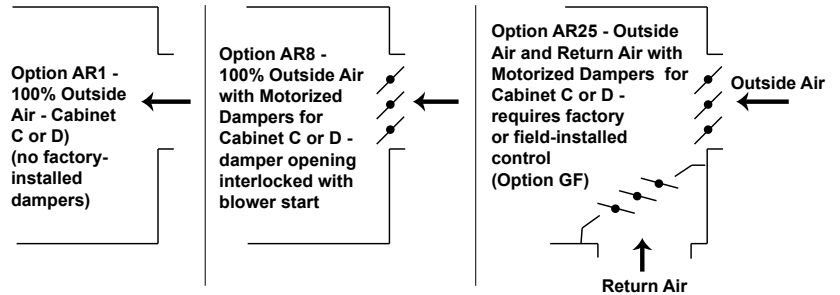
Cabinet A - 35 lbs
 Cabinet B - 45 lbs
 Cabinet C - 80 lbs. (36 kg)
 Cabinet D - 147 lbs. - (67 kg)

DAMPER & AIR OPTIONS (cont'd)



- [1] Outside Air Hood
- [2] Exhaust Hood
- [3] Return Air Duct
- [4] Outside Air Damper
- [5] Return Air Damper

- [6] Damper Actuator
- [7] Optional Horizontal or Vertical (Down) Supply Air Discharge
- [8] Power Exhaust Damper and Fan



Damper Options

Damper Type	Option Code	Description
INLET AIR CONFIGURATIONS	AR1	100% Outside Air (No Dampers)
	AR8	Horizontal 100% Outside Air inlet dampers with 2-position actuator. Damper constructed with 16 gauge steel, blade seals and joint, conceal linkage, low leak performance. Damper spring return actuator interlocked with fan starter to allow fan operation when the damper is 80% open.
	AR2C	Unit supplied with horizontal 100% outside air intake; 100% exhaust air configuration for field installed Energy Recovery unit or power exhaust
	AR2D	Unit supplied with horizontal 100% outside air intake with 2-Position damper spring return damper; 100% exhaust air configuration for Energy Recovery unit or power exhaust.
	AR2E	DDC Modulating Outside & Return Air Dampers, 0 to 10v, Spring Return. Gravity backdraft damper and exhaust hood for relief. Damper constructed with 16 gauge steel, conceal linkage, low leak performance. (MUST select GF control options)
	AR25	DDC Modulating Outside & Return Air Dampers, 0 to 10v, Spring Return. Damper constructed with 16 gauge steel, conceal linkage, low leak performance. (MUST select GF control options)

DAMPER CONTROLS FOR AR2E & AR25 DAMPERS	AR2E AR25	GF1	<u>DDC Positioned by Remote Manual Potentiometer (0-5V Input)</u> Sensors/Signal: User supplied 0-5V , 2 wire signal. Sequence: The IQ system accepts a 0-5volt signal that will position the damper from 0-100% open between the user set maximum and minimum settings.
		GF2	<u>DDC 2 Position Dampers</u> Sensors/Signal: none Sequence: Whenever the unit supply fan is ON in the occupied mode, the dampers will be open to outside air. If the supply fan is ON in the unoccupied mode, the dampers will be closed to outside air. When the supply fan is OFF, the dampers will be closed to the outside air.
		GF4	<u>DDC 4 Position Control based upon 4 input switches</u> Sensors/Signal: Qty 2, user supplied, dry contact closures. (4 wires) Sequence: Whenever the supply fan is ON in the occupied mode, the dampers will open to a user defined % of outside air based upon 2 dry contact closure inputs. When the supply fan is OFF, the dampers will be closed to outside air. Position 1: switch #1 OFF and switch #2 OFF, Damper position 0% to outside air. Position 2: switch #1 ON and switch #2 OFF, Damper position 40% to outside air. Position 3: switch #1 OFF and switch #2 ON, Damper position 60% to outside air. Position 4: switch #1 ON and switch #2 ON, Damper position 100% to outside air.
		GF5	<u>DDC Building Pressure Control</u> Sensors/Signal: Unit mounted pressure sensor; sensing range -0.5" w.c. thru 0.5" w.c.; 24Vac, 0-10V signal; ± 1% FS accuracy; 1/4" barb connections. Requires field installed 1/4" pneumatic tubing to the sensing zone. Sequence: Whenever the supply fan is called to run in the occupied mode, the dampers modulate to maintain the user selected building static pressure setpoint. The dampers are limited to 25%-100% open position. When the supply fan is OFF or in the unoccupied mode, the dampers are closed to the outside air.
		GF6	<u>DDC Mixed CO₂ Control (range 0-2000 ppm)</u> Sensors/Signal: Reznor supplied, field installed, wall mount CO ₂ sensor. Infrared beam technology , 24Vac, 0-10V output signal, 4 wires, ± 50 ppm accuracy. Sequence: Whenever the supply fan is ON in the occupied mode, the dampers modulate to maintain the user selected building CO ₂ setpoint (800 ppm default) The system limits the damper position from 25-100% open to outside air. Whenever the supply fan is in the unoccupied mode, the dampers will be closed to the outside air.
		GF7	<u>DDC 2 Position Enthalpy Control</u> Sensors/Signal: Unit mounted outside air temperature and humidity sensor. Sequence: Whenever the supply fan is ON, The dampers will open to 1 of 2 positions based upon the user selected enthalpy setpoint. (default 28, range 15 to 40 btu/lb of dry air). Whenever the outside air enthalpy is lower than the setpoint, the outside air dampers will open to a user selected maximum outside air position. (Default 100%). Whenever the outside air is above the setpoint, the outside air dampers will open to a user selected minimum outside air position. (Default 50%). Whenever the fan is not in the occupied mode the dampers will be 100% closed to the outside air position.
		GF8	<u>DDC Dual Reference Enthalpy Control</u> Sensors/Signal: Reznor supplied, field installed, qty 1 return air temperature, type II 10K thermistor, 2 wire, duct mounted sensor. Qty 1, Return duct mounted 24Vac, 0-10V, 4 wire, humidity sensor. 2% FS accuracy. Sequence: Whenever the supply fan is ON in the occupied mode, the mixed air dampers will modulate to maintain the mixed air temperature setpoint, as long as the outside air enthalpy is lower than the return air enthalpy. If the outside air enthalpy is greater than the return air enthalpy, the outside air dampers will adjust to a user selected minimum outside air position. Whenever the supply fan is OFF or in the unoccupied mode, the dampers will be closed to outside air. Option D15 Sequence: The mixed air temperature (MAT) setpoint is the discharge air temperature setpoint (default: NA SP = 70°F) minus the Mixed Air Temperature Offset (MAT Offset = 1). Mixed air setpoint of 69°F. Option D16 Sequence: The mixed air temperature setpoint is 55°F (user adj. range 15-90°F) whenever the unit is in the occupied mode.
		GF9	<u>DDC Drybulb Economizer Control</u> Sensors/Signal: Reznor supplied, field installed, qty 1 return air temperature, type II 10K thermistor, 2 wire, duct mounted sensor. Sequence: Whenever the supply fan is ON or in the occupied mode, the mixed air dampers will modulated to maintain the mixed air temperature setpoint, so long as the outside air temperature is 2°F lower than the return air temperature. If the outside air temperature is greater than the return air temperature, the dampers will open to a user selected minimum outside air position. Whenever the supply fan is OFF or in the unoccupied mode, the dampers will be closed to outside air. Option D15 Sequence: The mixed air temperature (MAT) setpoint is the discharge air temperature setpoint (default: NA SP = 70°F) minus the Mixed Air Temperature Offset (MAT Offset = 1). This equates to a default mixed air setpoint is 69°F. Option D16 Sequence: The mixed air temperature setpoint is 55°F (user adj. range 15-90°F) whenever the unit is in the occupied mode.

Applications

Energy recovery systems recover exhaust air energy and reintroduce it into the conditioned space. The energy recovery wheel provides sensible and latent energy exchange between the entering and exhaust air streams of a building. This allows a substantial amount of the energy, which is normally lost in the exhaust air stream to be returned into the entering air. Ideal applications are areas that have cold or hot temperatures with high occupancy loads or high ventilation requirements. Energy recovery units also reduce the design loads for the mechanical cooling equipment, which can mean downsizing the air conditioning equipment. Application software is available to calculate the load reductions and provide the energy and dollar savings for all areas of the United States and Canada.

Principle of Operation

The energy recovery enthalpy wheel contains parallel layers of a polymeric material that are impregnated with silica gel (desiccant). The wheel is located in the entering (intake) air and exhaust air streams of the ventilation equipment. As the wheel rotates through each air stream, the wheel surface captures sensible and latent energy. In the heating mode, the wheel rotates to provide a constant transfer of heat from the exhaust air stream to the colder intake air stream. During the cooling season, the process is reversed. During periods when the outside air is mild and energy recovery is not desired, the Stop-Start-Jog option is utilized to stop the wheel from turning, thereby providing cool outside air into the space.

Cross Leakage

In space conditioning applications, where the ventilation is operating to maintain acceptable indoor air quality, there are no contaminants in concentrations of concern. Cross leakage in the energy recovery system results in a small amount of the exhaust air, typically less than 5% in balanced airflow, returning to the space. This is not contaminated air, as some would suggest. It is however air that effectively never left the space. The operation cost of moving this air is far less than that required for a purge sector. Do not use these units in applications that have concentrations of contaminants.

- Reduces cooling & heating loads at design temperatures.
- ARI rated internal enthalpy wheel is provided.
- Superior Sensible and Latent Performance
- Pivoting Wheel design allowing economizer mode when optimal.
- Five year limited warranty.
- Integral design for the MAPS with ERV fused power supply sourced from the MAPS unit.
- Filters and mist eliminators on the entering outside air intake.
- Centrifugal blowers (both intake and exhaust) for high static capability and low sound levels.
- Heavy gauge galvanized steel cabinets.
- Fully insulated cabinet.
- Segmented and removable wheel section for easy cleaning.
- Continuous operation down to 10°F (-12°C) without defrost at indoor relative humidity up to 40%.
- Optional Low Ambient Control Kit is required for temperature below 10°F.
- Motorized Intake Air Damper.

Enthalpy Wheel Model Size				ER11			ER20			ER28			ER36			ER46			ER62			
Power¹				230V	460V	575V	230V	460V	575V	230V	460V	575V	230V	460V	575V	230V	460V	575V	230V	460V	575V	
Supply Fan System	Blower Size/Type			Forward Curve 9 x 4			Forward Curve 9 x 9			Forward Curve 10 x 10			Forward Curve 12 x 9			Forward Curve 12 x 12			Forward Curve 15 x 15			
	Air Flow Range (CFM)			300-1100			1200-2000			1200-2800			2000-3600			3400-4600			4600-6200			
	Motor Size²			1.5 hp			2 hp			3 hp			3 hp			5 hp			5 hp			
	Full Load Amps			5.6	2.8	2	6	2.6	2.4	9.4	4.3	3.2	9.4	4.3	3.2	14	7	5.1	14	7	5.1	
Exhaust Fan System	Blower Size/Type			Forward Curve 9 x 4			Forward Curve 9 x 9			Forward Curve 10 x 10			Forward Curve 12 x 9			Forward Curve 12 x 12			Forward Curve 15 x 15			
	Air Flow Range			300-1100			1200-2000			1200-2800			2000-3600			3400-4600 CFM			4600-6200 CFM			
	Motor Size			1.5 hp			2 hp			3 hp			3 hp			5 hp			5 hp			
	Full Load Amps			5.6	2.8	2	6	2.6	2.4	9.4	4.3	3.2	9.4	4.3	3.2	14	7	5.1	14	7	5.1	
Enthalpy Wheel Data	Depth x Diameter			3 x 25.3			3 x 30.35			3 x 37.76			3 x 41.83			3 x 46.78			3 x 52.03			
	Construction Media			One Piece			One Piece			Segmented Pies/ Polymeric			Segmented Pies/ Polymeric			Segmented Pies/ Polymeric			Segmented Pies/ Polymeric			
	Total & Net Effectness	Sensible		76-81%			68-72%			68-74%			68-74%			68-73%			68-73%			
		Latent		68-73%			61-67%			60-67%			60-67%			60-67%			60-67%			
	Heating Mode		Total		72-78%			64-71%			63-71%			63-71%			65-71%			65-71%		
	Motor Speed (RPM)			1050			1050			825			1075			1075			1075			
Full Load Amps			0.3			0.3			0.6			1.2			1.2			1.2				
Shipping Weight				318			425			470			571			920			1250			
Net Weight				245			345			395			475			805			1075			

¹ All units are 3 phase, 60 hz. 208& 230 Volt option have the same specification

² All motors have adjustable sheaves, 1.15 Service factors.

Sequence of Operation

The unit contains an Energy Recovery Ventilator (ERV) that is a rotary air-to-air heat exchanger. The ERV is designed for the MAPS unit for ease of installation and maintenance, with electrical power sourced from the MAPS Unit. The concept consists of a unique rotary energy recovery wheel that rotates in and out of fresh air streams within a heavy duty, permanently installed blower cabinet that provides ready access to all internal components. When slowly rotating through counter flowing exhaust and fresh air streams the ERV adsorbs sensible heat and latent heat from the warmer air stream and transfers this total energy to the cooler air stream during the second half of its rotating cycle. Rotating at 50-60 revolutions per minute, the wheel provides constant flow of energy from warmer to cooler air stream. The large energy transfer surface and laminar flow through the wheel causes this constant flow of recovered energy to represent up to 85% of the difference in total energy contained within the two air streams. During both the summer and winter, the ERV transfers moisture entirely in the vapor phase. This eliminates wet surfaces that retain dust and promote fungal growth as well as the need for a condensate pan and drain to carry water. Because it is constantly rotating when in the air stream, the ERV is always being cleaned by air, first in one direction then the other. Because it is always dry, dust or other particles impinging on the surface during one half cycle, are readily removed during the next half cycle..



MAPSIII with ERV Module

Outdoor Air Temperature Frost Threshold Temperature		
Indoor Relative Humidity	70°F Indoor Temperature	80°F Indoor Temperature
20%	-14 °F	-8 °F
30%	-3 °F	3 °F
40%	5 °F	11 °F
50%	12 °F	18 °F

The chart illustrates when frost may occur based on ambient indoor and outdoor conditions, i.e. frost occurs at -14°F outdoor air temperature with the space temperature of 70°F and 20% RH.

Option BE6 - Low Ambient Kit

Frost build-up and unit deteriorating performance can occur when the units experience very cold entering air conditions while also transferring large amounts of humidity from the exhaust air to the outside air intake stream. The low ambient kit turns off the ERV supply blower when supply air temperature falls below 35°F (Field Adjustable). The exhaust blower and wheel remain operational. The warm exhaust air removes the frost from the entire wheel within a few minutes. When the supply air temperature rises 6°F above setpoint, the supply blower will re-engage.

Option BH6 - Stop/Start/Jog (For ERW1 only)

When the ERV is in economizer mode, the wheel and supply fan are turn off. In order to prevent excessive contamination of a single section of the wheel, the unit will reposition the wheel on a preset time until the economizer mode is deactivated.

Option SMF1 thru 3 and SMP1 thru 3 - Supply and Exhaust fan RPM Kits

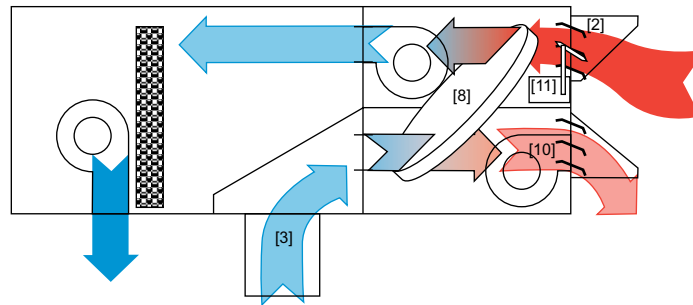
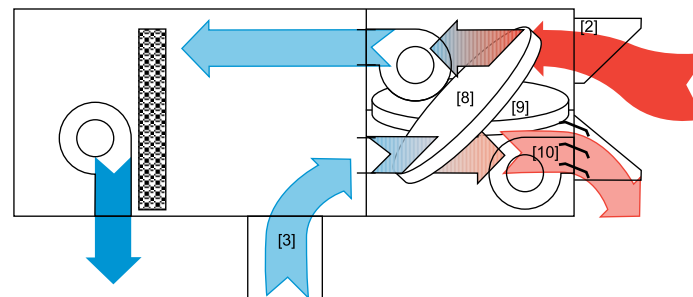
The ERV can be selected with low, medium or high RPM kits which allows the unit to be field adjusted to the proper CFM for the application.

Option ERW2 - Pivoting Wheel/Economizer

On the activation of the economizer mode [closure of internal switch of logic module], the ERV unit will shut-down for approximately 60 seconds to allow the ERV media to pivot out of the air stream. This allows ideal lower enthalpy outside air to be used instead of the higher enthalpy ERV conditioned air. After the delay timer has been satisfied, the exhaust air blower will operate. The ERV unit will act as a power exhaust unit. This mode will continue until internal switch has been deactivated. The exhaust air blower will shut down and the delay timer will be activated. During this time period the ERV media will pivot back into the air stream. When timing is complete the unit will operate in the Energy Recovery Wheel Mode.

Option ERW1 - Stationary wheel with economizer control

Same as the ERW1 without the pivoting wheel control.

MAPSIII Option AR2C & ERW1 - Stationary Wheel

MAPSIII Option AR2C & WRW2 - Pivoting Wheel


Options ER11, ER20, ER28, ER36, ER46, ER62

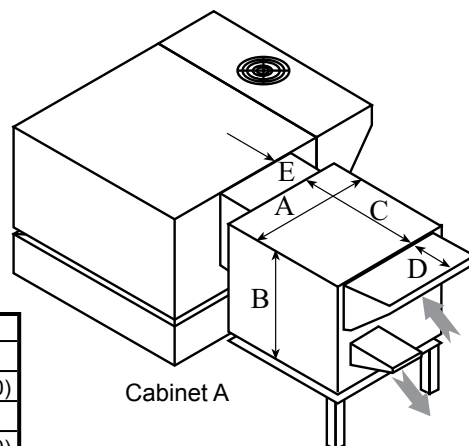
Typical arrangement for 600 - 1,000 CFM Unit

Option ERW1 - Stationary enthalpy wheel

Option ERW2 - Pivoting enthalpy wheel

Note: ERW shown on side of unit.

Size	CFM		A	B	C	D	E	Curb Height
ER11	600 - 1000	in	32 1/8	33 1/2	44 3/4	11	N/A	14 or 24
		mm	(816)	(851)	(1137)	(279)		(356) or (610)
ER20	1100-1700	in	37 1/4	38 1/8	54 3/8	20 5/16	N/A	14 or 24
		mm	(946)	(968)	(1381)	(516)		(356) or (610)
ER28	1500-2800	in	42 5/8	43 9/16	52 1/4	18 5/16	12	14 or 24
		mm	(1083)	(1106)	(1327)	(465)		(356) or (610)



Cabinet A

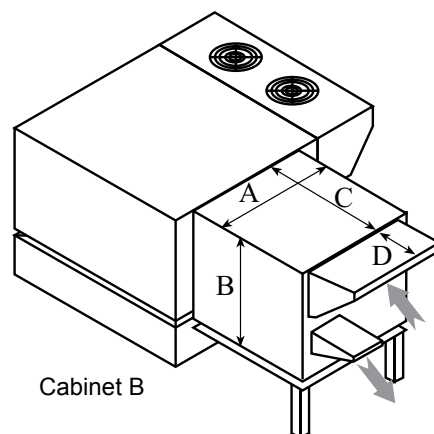
Typical arrangement for 2,800 - 4,600 CFM Unit

Option ERW1 - Stationary enthalpy wheel

Option ERW2 - Pivoting enthalpy wheel

Note: ERW shown on side of unit.

Size	CFM		A	B	C	D	Curb Height
ER36	2800-3600	in	46 43/64	54 3/8	60	18 5/16	14 or 24
		mm	(1185)	(1381)	(1524)	(465)	(356) or (610)
ER46	3400-4600	in	52 43/64	54 3/8	60	18 21/64	14 or 24
		mm	(1338)	(1381)	(1524)	(466)	(356) or (610)



Cabinet B

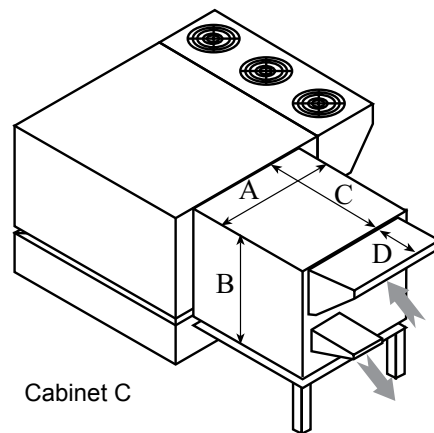
Typical arrangement for 3,400 - 6,200 CFM

Option ERW1 - Stationary enthalpy wheel

Option ERW2 - Pivoting enthalpy wheel

Note: ERW shown on side of unit.

Size	CFM		A	B	C	D	Curb Height
ER46	3400-4600	in	52 43/64	54 3/8	60	18 21/64	14 or 24
		mm	(1338)	(1381)	(1524)	(466)	(356) or (610)
ER62	4600-6200	in	58 7/8	57 3/8	60	18 21/64	14 or 24
		mm	(1495)	(1457)	(1524)	(466)	(356) or (610)



Cabinet C

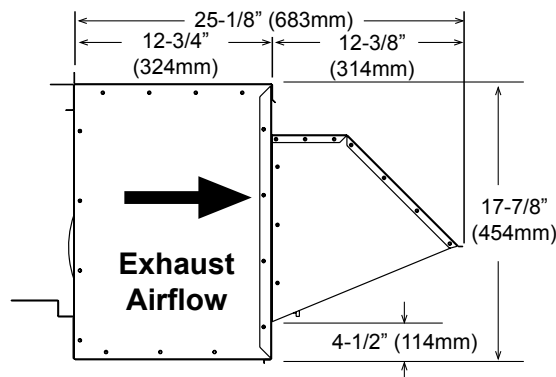
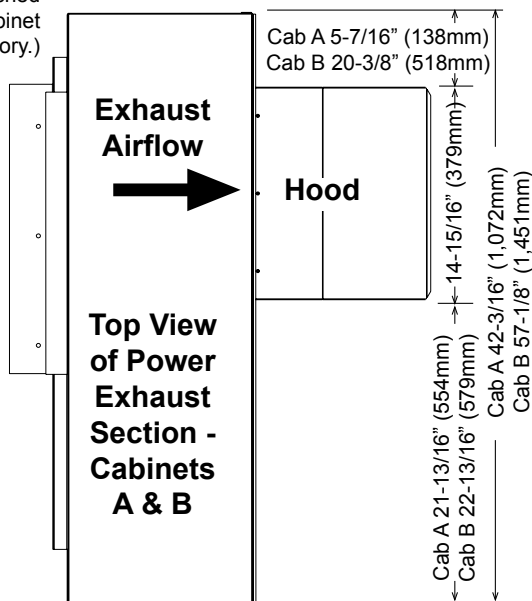
Power Exhaust Dimension (A, B, & C Cabinet only)

If ordered with Option PE, the system is factory equipped with a power exhaust for building air. The power exhaust option is attached to the cabinet below the outside air hood or inlet duct. (See below.)

Cabinet A, B sizes have single 9x10 blower while Cabinet C sizes have dual 9x10 blowers. All have hoods and gravity dampers. Check the rating plate for motor size (1/2 - 5 HP).

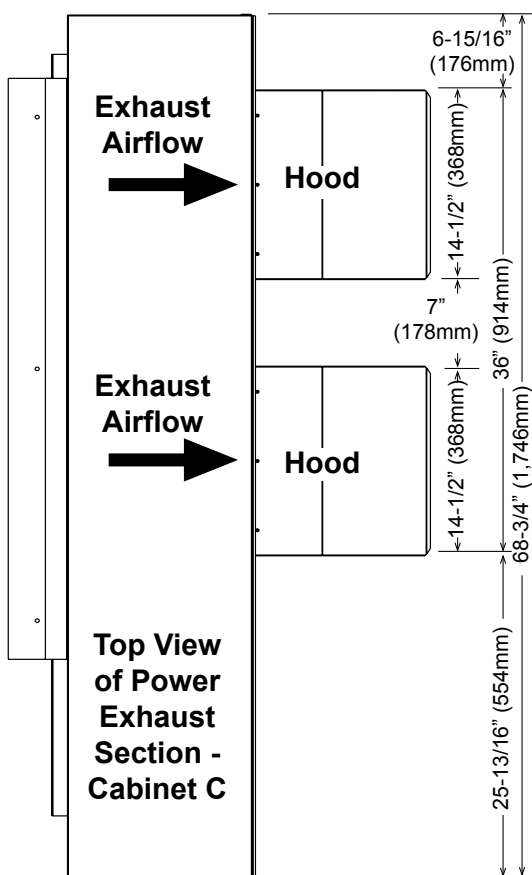
Standard control would turn the exhaust blower on when the unit blower runs. If optional return air dampers are ordered, the power exhaust is wired to coordinate with the appropriate damper position.

(This end is attached to the MAPS cabinet at the factory.)



**Side View of Option PE
Power Exhaust Section and Hood
- Cabinets A, B, & C**

NOTE: On Cabinets A & B the power exhaust section extends 1-3/4" (44mm) below the MAPSIII cabinet.



RPM/HP Table for Power Exhaust Option PE1 on Cabinet A and Option PE2 on Cabinet B					
CFM	External Static Pressure (ESP)				
	0.25	0.50	0.75	1.00	1.50
500	650/.50	--	--	--	--
1000	870/.50	1040/.50	1200/.50	1325/.50	1500/.75
1500	940/.50	1100/.50	1240/.75	1370/.75	1600/1.00
2000	1050/.75	1190/1.00	1310/1.00	1430/1.50	1640/1.50
2500	1190/1.50	1300/1.50	1410/1.50	1510/2.00	1710/2.00
3000	1350/2.00	1440/2.00	1535/3.00	1625/3.00	1800/3.00
3500	1520/3.00	1600/3.00	1680/5.00	1760/5.00	--
4000	1700/5.00	1760/5.00	1800/5.00	--	--

RPM/HP Table for Power Exhaust Option PE3 on Cabinet C					
CFM	External Static Pressure (ESP)				
	0.25	0.50	0.75	1.00	1.50
1000	680/.50	--	--	--	--
1500	845/.50	1025/.50	1140/.50	--	--
2000	870/.50	1040/.75	1200/.75	1325/1.00	--
2500	900/.75	1070/.75	1220/1.00	1345/1.50	1575/1.50
3000	940/.75	1100/4.00	1240/1.50	1370/1.50	1600/2.00
3500	1000/1.00	1140/1.50	1275/1.50	1400/2.00	1620/3.00
4000	1050/1.50	1190/2.00	1310/2.00	1430/3.00	1640/3.00
4500	1120/2.00	1240/2.00	1360/3.00	1470/3.00	1675/5.00
5000	1190/3.00	1300/3.00	1410/3.00	1510/5.00	1710/5.00
5500	1270/3.00	1370/5.00	1470/5.00	1570/5.00	1750/5.00
6000	1350/5.00	1440/5.00	1535/5.00	1625/5.00	--
6500	1435/5.00	1520/5.00	--	--	--

REZNOR®

MISCELLANEOUS OPTIONS

Condenser Hail Guard - AZ11

Modulating Reheat - AUR1

Coil Corrosion Protections - AUB6, AUB7, AUB8

The unit has an optional hail guard (AZ11) providing protection from large debris and hail that can cause significant damage to the condenser coils.

The AUR1 option modulates the reheat to maintain the active reheat cooling setpoint. The option adjusts the cooling and reheating capacity to match leaving air temperature requirement while the main evaporator leaving air temperature remains constant for continuous dehumidification.

Option AUB6, AUB7 & AUB8 Electrofin® coating protects the coils from higher than normal corrosive air environments, such as sea salt. The factory installed coating can be applied to the main evaporator coil, condenser coil or both.

Hot Gas Bypass - All Stages (Option AUC9)

The addition of hot gas bypass capacity modulation should be evaluated for most high outside air applications. The wide variation of outside air conditions can result in a low cooling demand relative to the available equipment capacity. Hot gas bypass reduces excess evaporator capacity and extends compressor operation as opposed to cycling (ON/OFF) excess capacity.

If closer control of discharge air temperature is desired, each MAPS system can be specified with hot gas bypass on all steps. The MAPS Software Calculator can confirm low load operation and the necessity for hot gas bypass modulation.

EXTENDED WARRANTY	XW2	The heat exchanger carries a parts only warranty for a total of 4 years in addition to the 1 years standard warranty. See warranty section for details
	XW3	The heat exchanger carries a parts only warranty for a total of 9 years in addition to the 1 years standard warranty. See warranty section for details

Options CL77:



The 4 wire space mounted sensor with display provides the IQ system and the user with the following items:

- Space temperature value ($\pm 0.36^{\circ}\text{F}$ accuracy) (Degree C or F selectable)
- Space or neutral air temperature setpoint buttons
- Occupied/unoccupied mode button
- Fan speed control (VFC7 option Required)
- Information button displaying
 - Outside air temperature
 - Minutes left in unoccupied mode override
 - Active heating setpoint
 - Active cooling setpoint
 - Alarm code
 - Additional 4 ON/OFF commands and 3 Analog Command Data values - field selectable

The CL77 can provide 7 additional Values	
ON/OFF Command (4 points)	Analog Data (3 points)
Filter Status	Discharge Air temperature
Heat Command	Carbon Dioxide Level
Compressor A Command	Pressure (Duct or Bldg)
Compressor B Command	Modulating Heat Output
Compressor C Command	Space Humidity
Compressor D Command	Cooling Coil Discharge Air Temp.
Reheat Pump Command	Outside Air Damper Command
Expansion Board Input #1 status	Supply Fan VFD command
Expansion Board Input #2 status	Outside Air Humidity

NOTE: Shaded areas indicate default settings.

Options RB3 RB4:



RB4
Handheld
Display

All MAPSIII units are equipped with a Local Control Display (LCD) mounted inside the control panel. The display is 2 line by 16 characters with seven push buttons and an alarm LED. The LCD provides full access to the unit. A modular terminal with four screw terminals is used for communicating to the IQ System Controller and also provides power to the LCD. The LCD is used to monitor status, adjust setpoints, override points, and edit time schedules. It also makes it possible to list the alarms without communicating with a central system. The RB4 is a hand held plug-in version of the unit mounted display. The display can be connected to the IQ unit by plugging into the bottom of the CL77 wall sensor.

The RB3 option is an additional remote mounted display. It can be wall mounted (wired up to 500 ft. away). Requires separate field supplied 12V DC at 250ma power supply. The RB3 display can also be connected to the IQ unit by plugging into the bottom of the CL77 wall sensor (requires field supplied 12V DC power supply).



Wall Mounted RB3 attaches
to back plate

D15 & D16 CONTROL OPTIONS & SEQUENCE

D15 Control Sequence

The IQ D15 SYSTEM operates in two modes: Occupied & Unoccupied. The supply fan starts/stops automatically through a local time of day schedule or remote contact closure commanding the system to occupied mode. If a building automation system is connected to the unit through various communication protocols, external controllers can control the unit's mode.

Upon a command for occupied mode, the outside air damper opens. The damper is electrically interlocked with the supply fan, such that when the damper reaches 80% open the supply fan is allowed to run. When the fan is called to be OFF, the damper closes. The supply fan runs continuously in the occupied mode. There is a differential pressure switch that indicates proof of fan operation. The supply fan is subject to all safety devices, i.e. duct high limit switches, fire alarm relays, smoke detectors, low temperature limits, fan status and others devices which can turn the supply fan OFF. The unit has an optional, optimum start sequence, which allows the supply fan to operate and bring the space temperature to its setpoint value just before the unit is scheduled to be in occupied mode.

When the IQ System commands the unit to the unoccupied mode, the supply fan is turned OFF and will only run intermittently to maintain night setback/setup space conditions if a space sensor is installed. During the unoccupied mode, if the override push button on the user wall interface is pressed, the unit switches back to occupied mode for 60 - 180 minutes (Push Button Override Timer).

Optional Supply Fan Variable Frequency Drive control (See VFD and VFC Options).

Optional Damper Control: (See AR and GF options)

When the unit is in the occupied mode, the unit will run in either heating or cooling mode. Heating/cooling mode at start-up is determined by the outside air temperature (OAT). If the outside air temperature is below 68°F, the system starts in the heating mode, and if it is above 68°F, the system starts in the cooling mode. The unit operates to maintain the user selected discharge air temperature setpoint for both heating and cooling modes. Upon proof of fan status, mechanical heating and cooling systems operate to maintain the setpoint if the ambient conditions permit the function. There is a 120 second delay (Mode Changeover Timer) between a change of heating and cooling mode.

In the heating mode the unit modulates the burner, electric heat SCR or electric heat stages to maintain a user adjustable neutral air setpoint of 70°F.

In the cooling mode the unit will stage the compressor(s) to maintain the user adjustable neutral air setpoint of 70°F.

If the outdoor air dewpoint is above the user adjustable 60°F, the reheat pump system will be ON.

In the Unoccupied Mode, the unit is off. The unit will run intermittently to maintain night setback space temperature if a space temperature sensor is installed.

D16 Control Sequence

The IQ D16 SYSTEM operates in two modes: Occupied & Unoccupied. The supply fan starts/stops automatically through a local time of day schedule or remote contact closure commanding the system to occupied mode. If a building automation system is connected to the unit through various communication protocols, external controllers can control the unit's mode.

Upon a command for occupied mode, the outside air damper opens. The damper is electrically interlocked with the supply fan, such that when the damper reaches 80% open the supply fan is allowed to run. When the fan is called to be OFF, the damper closes. The supply fan runs continuously in the occupied mode. There is a differential pressure switch that indicates proof of fan operation. The supply fan is subject to all safety devices, i.e. duct high limit switches, fire alarm relays, smoke detectors, low temperature limits, fan status and others devices which can turn the supply fan OFF. The unit has an optional, optimum start sequence, which allows the supply fan to operate and bring the space temperature to its setpoint value just before the unit is scheduled to be in occupied mode.

When the IQ System commands the unit to the unoccupied mode, the supply fan is turned OFF and will only run intermittently to maintain night setback/setup space conditions if a space sensor is installed. During the unoccupied mode, if the override push button on the user wall interface is pressed, the unit switches back to occupied mode for 60 - 180 minutes (Push Button Override Timer).

Optional Supply Fan Variable Frequency Drive control (See VFD and VFC Options).

Optional Damper Control: (See AR and GF options)

When the unit is in the occupied mode, the unit will run in either heating or cooling mode. Heating/cooling mode at start-up is determined by the outside air temperature (OAT). If the outside air temperature is below 68°F, the system starts in the heating mode, and if it is above 68°F, the system starts in the cooling mode. The heating/cooling mode is then set by the controlling temperature requirements. The unit operates to maintain the user selected discharge air temperature setpoint for both heating and cooling modes. Upon proof of fan status, mechanical heating and cooling systems operate to maintain the setpoint if the ambient conditions permit the function. There is a 120 second delay (Mode Changeover Timer) between a change of heating and cooling equipment and mode.

In the heating mode the unit modulates the burner, electric heat SCR or electric heat stages to maintain a discharge air temperature setpoint based upon a space temperature reset schedule. The unit seeks to find a discharge air temperature between 65°F and 90°F that will keep the space temperature within $\pm 1^\circ\text{F}$ of the space temperature setpoint.

Space Reset Schedule	
Error	Discharge Air Setpoint
-1.00°F	90°F
-0.50°F	80°F
0.00°F	70°F
0.50°F	67.5°F
1.00°F	65°F

In the cooling mode the unit will stage the compressor(s) to maintain the user adjustable neutral air setpoint of 70°F. If the outdoor air dewpoint is above the user adjustable 60F, the reheat pump system will be ON and the unit will stage the compressors to maintain 70°F discharge air temperature. If the space temperature rises more than 2°F above the space temperature setpoint, the unit will turn off the reheat pump and stage the compressors to maintain a 55°F discharge air temperature until the space is 2°F below the space temperature setpoint.

AUR1 Option: If the outdoor air dewpoint is above the user adjustable 60F, the reheat pump system will be ON and the unit will stage the compressors to maintain 55°F discharge air temperature from the main evaporator coil. The unit will then modulate the reheat to maintain the space temperature setpoint. .

In the Unoccupied Mode, the unit is off. The unit will run intermittently to maintain night setback space temperature setpoint.

Smoke Detector (Options SA1 & BD5)

If, at any time after a start command, an alarm is received from the smoke detector, the IQ System shuts down the unit. The unit will remain off until the alarm is cleared from the smoke detector, and the unit is manually reset.

Supply Air Fan (Critical Alarm)

If, at any time after one minute (Fan Failure Timer) from a start command, fan operation does not prove via air flow switch, the IQ System shuts down the system and starts the auto restart cycle.

Low Limit (Critical Alarm)

If the Discharge air temperature (DAT) falls below 45°F (Low Limit Alarm Setpoint) for more than 5 minutes, the IQ System shuts down the system, closes the OA damper and starts the auto restart cycle.

Filter Status (Option BW5D)

A specific alarm shall be initiated when the filter static pressure rises above the filter static pressure high limit alarm setpoint.

Sensor Failure

A specific alarm shall be initiated when any of the sensors indicate failure. If the sensor is used for control, the IQ System shuts down the system.

Heating

If the outside air temperature (OAT) is above the Heating Mode Lockout Setpoint, the IQ System system locks out the heating.

Optional Compressor Failure Alarm

If, at any time after one minute (Failure Timer) from a start command, compressor operation does not prove via a current transducer, the IQ System shuts down the associate compressor and starts the auto restart cycle.

Phase Loss (Option PL4)

If, at any time after one minute (Failure Timer) from a start command, an alarm is received from the phase loss monitor, the IQ System shall shut down the unit. The unit will remain off until the alarm is cleared from the phase loss monitoring device. The unit shall then restart based on the occupancy. If the system shuts down three continuous times the unit will remain off until reset at the local display or through the BAS.

Option Code	Description
BE9	Evaporator Coil Temperature Factory installed coil averaging sensor for monitoring & control of discharge temperature from main evaporator coil.
BE10	Mixed Air Temperature Sensor Factory installed single point sensor used for <u>monitoring only</u> of mixed air temperature.
BE11	Duct Static Pressure Sensor Sensors/Signal: Unit mounted pressure sensor; sensing range 0 -2.5" w.c.; 24Vac, 0-10V signal; ± 1% FS accuracy; 1/4" barb. Requires field installed 1/4" pneumatic tubing to the ductwork located 2/3 down the duct. Sequence: Monitoring Only
BE12	Building Static Pressure Control Sensors/Signal: Unit mounted pressure sensor; sensing range -0.5 thru 0.5" w.c.; 24Vac, 0-10V signal; ± 1% FS accuracy; 1/4" barb. Requires field installed 1/4" pneumatic tubing to the ductwork located 2/3 down the duct. Sequence: Monitoring Only
BE13	Return Air Temperature Sensors/Signal: Reznor supplied, field installed, qty 1 return air temperature, type II 10K thermistor, 2 wire, duct mounted sensor. Sequence: Monitoring Only
BE14	Return Air Humidity Sensors/Signal: Reznor supplied, field installed, Qty 1, duct mounted 24Vac, 0-10V, 4 wire, humidity sensor. 2% FS accuracy Sequence: Monitoring Only
BE15	Space CO₂ Control (range 0-2000 ppm) Sensors/Signal: Reznor supplied, field installed, wall mount CO2 sensor. Infrared beam technology , 24Vac, 0-10V output signal, 4 wires, ± 50 ppm accuracy. Sequence: Monitoring Only
BE16	Dirty Filter Switch: Factory Installed Dwyer Photohelic switch. (pressure gages displays current value) Sequence: Monitoring only.
BE17	Photoelectric Smoke Detector Sensors/Signal: Factory Supplied, field installed 24V ac/dc with 2 auxiliary contacts for control. Sequence: If the smoke detector trip signaling a smoke, a hardwire interlock between the supply and the smoke detector will cause the supply fan to shut down. A second contact closure will send an alarm value to the IQ system. The IQ system will shut the unit down and will not restart it until the smoke alarm has been cleared.
BE18	Dirty Filter Switch: Factory installed differential pressure switch. No pressure indication provided Sequence: Monitoring only.
BE19	Outside Air/Return Air Override Mode Sensor/Signal: 2 wire dry contact closure input to the IQ system Sequence: Whenever the contact closure is closed, the IQ system forces the mixed air damper to 100% open to outside air or 100% closed to outside air as set by the user. When the contact closure is open, the unit resumes its normal control functionality.
BE20	Manual Schedule Override Sensor/Signal: 2 wire dry contact closure input to the IQ system Sequence: Whenever the contact closure is made, the ignores all time schedule and will follow the override schedule set by this input switch. When the contact closure is open, the unit resume its normal control functionality.
BE21	Contacts for Occupied/Unoccupied Switch Sensor/Signal: 2 wire dry contact closure input to the IQ system Sequence: Whenever the contact closure is closed, the unit will be in occupied mode. When the contact closure is open the unit will be in the unoccupied mode.
BE22	Contacts for Unit Start/Stop Switch. Sensor/Signal: 2 wire dry contact closure input to the IQ system Sequence: Whenever the contact closure is closed, the unit will run and follow its normal control functionality. When the contact closure is open the unit will be OFF and will not following any control sequences.
PL4	Phase Loss Sensor/Signal: Factory installed 24VAC powered, phase loss, reversal, imbalance monitor. Sequence: Whenever the phase loss monitor signals a bad power condition, the IQ system will shut down the unit. The unit will automatically restart when the power condition returns to normal.

CONTROL OPTIONS (cont'd)
TYPICAL BACnet® COMMUNICATION POINTS

Name	Direction	Type	Object ID	Object Name	Notes	Limits	Default Setpoints
Occupancy Control							
BAS Occ./Unocc. Control	Input	BBV	BV:50	bas_occ_unocc_cmd_1	Binary value to control occupied and unoccupied mode. Used only when selected in schedule configuration		
Occupancy Status	Output	BBV	BV:54	occ_status_1	Current occupancy status. On = Occupied.		
Wall Stat							
Setpoint Adjust Range	Input	BAV	AV:200	sp_adjust_range_1	Used to limit adjustable range of wall stat	0 to 10°F	2
Space Temperature	Output	BAV	AV:201	sp_sens_1	Space Temperature	-	-
Wall Stat Setpoint Adjustment	Output	BAV	AV:202	spt_adj_1	Wall Stat adjustment range	(-) 10 to (+) 10	-
Space Occupancy Override Time Remaining	Output	BAV	AV:203	ovrd_out_1	Time remaining for Occupancy override from Wall Stat	-	-
Wall Stat Mode Request	Output	BMSV	MSV:204	ws_mode_1	Requested mode from wall stat: Auto, Heat, Cool, Off	-	-
Wall Stat Mode Request as AO	Output	BAV	AV:205	ws_mode_ao_1	Requested mode from wall stat: 0 = Auto, 1 = Heat, 2 = Cool, 3 = Off	-	-
Wall Stat Fan Speed Request	Output	BMSV	MSV:206	fan_rlv_out_msv_1	Requested Fan Speed from wall stat: Auto, Low, Medium, High	-	-
Wall Stat Fan Speed Request as AO	Output	BAV	AV:207	fan_rlv_out_1	Requested Fan Speed from wall stat: 0 = Auto, 1 = Low, 2 = Medium, 3 = High	-	-
Temp Control							
Active Cool Setpoint	Output	BAV	AV:230	effective_cool_sp_1	Active Space/Discharge Air Cooling Setpoint	-	-
Active Heat Setpoint	Output	BAV	AV:231	effective_heat_sp_1	Active Space/Discharge Air Heating Setpoint	-	-
Setpoints & Readings							
Neutral Air Setpoint	Input	BAV	AV:150	na_spt_1	The Neutral Air / Discharge Air Setpoint.	52 to 120°F	70
Occupied Space Cool Setpoint	Input	BAV	AV:100	occ_cool_sp_1	Occupied Space Cooling Setpoint	55 to 100°F	72
Occupied Space Heat Setpoint	Input	BAV	AV:101	occ_heat_sp_1	Occupied Space Heating Setpoint	55 to 100°F	68
Unoccupied Space Cool Setpoint	Input	BAV	AV:102	unocc_cool_sp_1	Unoccupied Space Cooling Setpoint	65 to 90°F	85
Unoccupied Space Heat Setpoint	Input	BAV	AV:103	unocc_heat_sp_1	Unoccupied Space Heating Setpoint	50 to 70°F	60
Morning Cool-Down Space Temp Setpoint	Input	BAV	AV:108	mcd_temp_spt_1	Used when system is set to NA Control, a wall stat is installed, and Morning Cool-down is enabled	60 to 80°F	72
Morning Warm-Up Space Temp Setpoint	Input	BAV	AV:109	mwu_temp_spt_1	Used when system is set to NA Control, a wall stat is installed, and Morning Warm-up is enabled	60 to 80°F	68
Unit Mode	Output	BAV	AV:175	unit_mode_1	Current Unit Mode 1 = Test Mode, 2 = Unoccupied, 4 = Bad Sensor, 5 = Sys. Restart, 6 = Sys. Shutdown, 7 = Phase Loss, 8 = Smoke Alarm, 9 = No Flow, 10 = Vent Mode, 11 = Cooling, 12 = Heating, 13 = Free Cooling, 14 = Morning Cool Down, 15 = Morning Warm Up, 16 = Dehumid.+Htg, 17 = Dehumid.+Htg, 18 = Dehumid.+Vent, 19 = Night Setback / Ctg, 20 = Night Setback / Htg, 21 = Night Setback / Dehumid.	-	-
Supply Fan Failure	Output	BALM	BV:176	sf_fail_1		Normal/Alarm	-
Manual Mode Off Condition	Output	BAV	AV:177	man_off_mode_1			
BAS Reset System Shutdown	Input	BBV	BV:178	bas_reset_sys_shdw_1			
Minimum VFD Speed	Input	BAV	AV:179	vfd_minspd_param_1	Only available when VFD installed.	25% - 100%	25%
System Shutdown Mode	Output	BALM	BV:191	shutdown_fail_1	Active when unit is shutdown due to alarm. Manual Reset required.	Normal/Alarm	-
Static Pressure Setpoint	Input	BAV	AV:180	stp_spt_param_1		0 to 3	1
Building Pressure Setpoint	Input	BAV	AV:181	bpress_spt_param_1		(-) 1 to +1	0.1
CO2 Setpoint	Input	BAV	AV:182	co2_spt_1		200 - 2000 PPM	800
Low SF VFD Speed	Input	BAV	AV:183	ws3spd_low_sfvd_1		25 - 100 %	30
Medium SF VFD Speed	Input	BAV	AV:184	ws3spd_med_sfvd_1		25 - 100 %	60
High SF VFD Speed	Input	BAV	AV:185	ws3spd_high_sfvd_1		25 - 100 %	100
Open SF VFD Speed	Input	BAV	AV:186	four_spd_opn_sfvdmin_1		25 - 100 %	50
VFD Constant Volume Speed	Input	BAV	AV:190	vfd_speed_setpt_1		25 to 100%	100
Damper 2 pos Cmd	Input	BAV	AV:192	dmp_2pos_cmd_1		25 to 100%	100
Building Pressure Setpoint	Input	BAV	AV:181	bpress_spt_param_1		(-) 1 to +1	0.1 in
Mode Changeover Timer	Input	BAV	AV:241	mode_xover_1	Minimum time between heating and cooling mode.	120 to 300 sec.	120
Allow Night Setback	Input	BBV	BV:242	allow_night_setbk_1	Allow the system to stage cooling at night to maintain a minimum space temperature. Must have wall stat installed.	Yes/No	No
Allow Optimal Start	Input	BBV	BV:243	allow_optimal_start_1	Allow the system to start fan based on an optimum start sequence. Used only in space control applications.	Yes/No	No
Cooling Mode Lockout Temp	Input	BAV	AV:240	cool_mode_lockout_setpt_1	When OAT is above this value cooling mode is enabled.	50 to 80°F	68°F
Active Ctg. Stages	Output	BAV	AV:244	active_ctg_sigs_1	Current number of cooling stages being requested.	-	-
Number of stages Available	Output	BAV	AV:245	num_ctg_sigs_1	Number of available cooling stages.	-	-
Active Ctg. Control Temp	Output	BAV	AV:246	ctg_ctrl_temp_1	Active temperature being used as controlling point for cooling (Space, DAT, or Cooling Coil DAT)	-	-
Active Ctg. Controlling Setpoint	Output	BAV	AV:247	ctg_ctrlng_sp_1	Active cooling control setpoint (Space Ctg. Setpoint, DA cooling Setpoint, or Cooling Coil DA Setpoint)	-	-
Neutral Air Cooling Temp Deadband	Input	BAV	AV:248	na_ctg_dband_1	Dead band (+/- Setpoint) around the Neutral Air Cooling Setpoint used to stage up and down the cooling when system is in a Neu/Dis configuration.	4 to 10°F	5°F
Space Control Cooling Temp Deadband	Input	BAV	AV:249	sc_ctg_dband_1	Dead band (+/- Setpoint) around the Space Cooling Setpoint used to stage up and down the cooling when system is in a Space Cooling configuration.	2 to 10°F	2°F
Heating Mode Lockout Temp	Input	BAV	AV:275	heat_mode_lockout_setpt_1	When OAT is below this value heating mode is enabled.	50 to 75°F	62

CONTROL OPTIONS (cont'd) TYPICAL BACnet® COMMUNICATION POINTS

Name	Direction	Type	Object ID	Object Name	Notes	Limits	Default Setpoints
Active Heating Stg Req	Output	BAV	AV/276	active_htg_stgs_1	Current number of heating stages being requested.	-	-
Available Heating Stages	Output	BAV	AV/277	available_htg_stgs_1	Number of available heating stages.	-	-
Active heating DAT control Setpoint	Output	BAV	AV/278	active_htg_ctr_sp_1	Active Heating DAT setpoint	-	-
Reheat Lockout Setpoint	Input	BAV	AV/500	na_rhlock_spt_1	When the OA dewpoint is below this setpoint the Reheat circuit is disabled.	45 to 80°F	58°F
Space Humidity Setpoint	Input	BAV	AV/501	spc_hum_spt_1	When the space humidity is below this setpoint the Reheat circuit is disabled.	50 to 100%	60%
Unoccupied Humidity Setpoint	Input	BAV	AV/502	sc_unocchum_spt_1	If space humidity is above this setpoint during unoccupied conditions system enabled fan and go to humidity control. (All lockouts are still enabled)	60 to 99%	65%
Unocc. Humidity Deadband	Input	BAV	AV/503	sc_unocchum_dbnd_1	The system will remain in Unoccupied dehumidification mode until the space humidity is below the Unoccupied Humidity setpoint by a difference of this setpoint.	0 to 5%	3%
Cooling Coil DA Temp Setpoint	Input	BAV	AV/504	cc_dat_spt_1	When the system is in Dehumidification mode the cooling uses this setpoint to stage the compressors.	52 to 75°F	55°F
Cooling Coil DA Temp Deadband	Input	BAV	AV/505	cc_dat_db_1	Deadband that is used to stage compressor up and down when Cooling Coil DA Temp Setpoint is being utilized.	4 to 10°F	5°F
DAT Setpoint for Fast Cool	Input	BAV	AV/506	dat_sp_4fc_1	System maintains this setpoint for DAT when in morning cooldown, night setup control, and space cooling override control.	52 to 70°F	55°F
DAT Setpoint for Fast Heat	Input	BAV	AV/507	dat_sp_4fh_1	System maintains this setpoint for DAT when in morning warm up, night setback control, and space Heating override control.	70 to 120°F	90°F
Reset All Runtimes	Input	BBV	BV/400	reset_all_runtms_1	Reset all runtimes	Yes/No	-
Smoke Alarm	Output	BALM	BV/411	smoke_detect_alm_1		Normal/Alarm	-
Phase Loss Alarm	Output	BALM	BV/412	phase_loss_alarm_1		Normal/Alarm	-
SAF Runtime Alarm	Output	BALM	BV/426	saf_runtime_alm_1		Normal/Alarm	-
Heating General Failure Alarm	Output	BALM	BV/428	ht_failure_1		Normal/Alarm	-
High DAT SP Limit Alarm	Output	BALM	BV/429	hi_datsp_alarm_1		Normal/Alarm	-
Filter Alarm	Output	BALM	BV/430	flt_fail_1		Normal/Dirty	-
Freeze Stat Alarm	Output	BALM	BV/431	ll_fail_1		Normal/Alarm	-
Space Temp Bad Sensor	Output	BALM	BV/432	space_bad_1		Normal/Alarm	-
Outside Air Temp-Sensor Bad	Output	BALM	BV/433	oat_bad_1		Normal/Alarm	-
Cooling Coil Discharge Air Temp-Sensor Bad	Output	BALM	BV/434	cc_dat_bad_1		Normal/Alarm	-
Discharge Air Temp-Bad Sensor	Output	BALM	BV/435	dat_bad_1		Normal/Alarm	-
Outdoor Relative Humidity-Sensor Bad	Output	BALM	BV/436	oarh_bad_1		Normal/Alarm	-
Mixed Air Temp-Sensor Bad	Output	BALM	BV/437	mat_bad_1		Normal/Alarm	-
Supply Fan Command	Output	BBV	BV/306	sa_fan_cmd_1		-	-
DI Start/Stop Command Manual Input	Output	BBV	BV/342	start_stop_cmd_1		-	-
DI Occupancy Command Manual Input	Output	BBV	BV/343	occ_cmd_manual_1		-	-
ERV Command	Output	BAV	AV/344	erv_1		-	-
Exhaust Fan Command	Output	BBV	BV/345	exh_fan_1		-	-

A complete listing of all BacNet and Lon Points are shown in the IQ Controls Manual.

NOTE: Thomas & Betts makes no claim on connectivity between this product and other systems. The installing contractor(s) are responsible for supplying all necessary hardware, software and network diagnostics to complete the required connectivity.

Reheat Options:

Models RCB and RDCB systems are specifically designed for conditioning 100% outside or mixed air (outside and return air).

Reznor offers **two reheat options**.

Models RDB and RDDB systems use a dedicated refrigerant system that precools the incoming air under the lowest dehumidification or cooling demand, while providing continuous reheat. Because the refrigerant system was optimized for reheating versus cooling, the reheat system is rated in the heating mode similar to a conventional heat pump.

Reheat Application Overview:

In conventional systems, dehumidification occurs by chilling the air below a desired dewpoint. This typically means a 55°F dry bulb leaving coil temperature (50% Rh at 75°F).

100% outside air dehumidification will require reheat when the 55°F supply air temperature causes over-cooling of the space and increased space relative humidity.

Specifying the quality (reheat availability under all load conditions), control of reheat (staged or modulating) and selection of the appropriate reheat system requires a working knowledge of the refrigeration cycle and HVAC system design. Considerations for the reheat system typically fall into three application types:

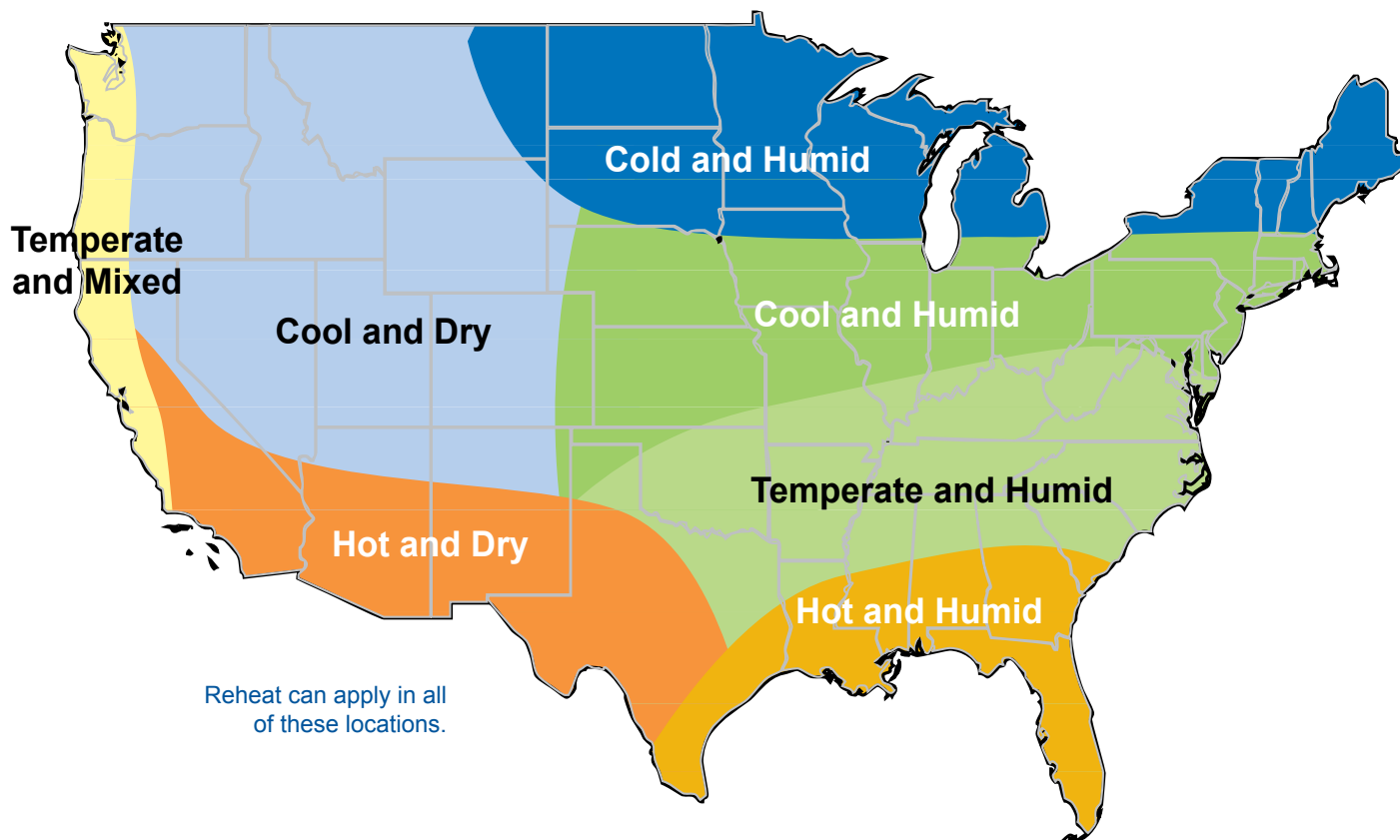
Constant Reheat - Applied where the space sensible and latent loads are small in comparison to the outside air load. When the outside air load dominates the space load, a neutral air (continuous dehumidified air delivered between 70° and 75°F) approach may be preferred. Typical applications include corridors and locker rooms.

Variable Reheat - Applied where the space sensible or latent loads vary in comparison to the outside air loads. Variable sensible heat gains (solar, electric loads, occupancy etc.) affect the amount of reheat required to maintain space temperature and relative humidity. If the equipment treats both outside air and maintains space temperature (a sole source unit), a variable reheat system will be required. Typical examples include surgical rooms and "clean" rooms.

No Reheat - Applied where the space sensible load is constant and much greater than the outside air load. Typical examples include motor and telecommunications centers.

Dehumidification Model Description:

The **Models RDB and RDDB** are only applicable in climates where dehumidification is required. Typically, this represents geographical areas that see a 60°F dewpoint frequency greater than 400 hours per year. To illustrate the performance, compare the performance of a cooling-only Model RCB to the cooling/dehumidifying Model RDB at 95°/78°F dry bulb/wet bulb (See illustrations on next page).



DEHUMIDIFICATION (cont'd)

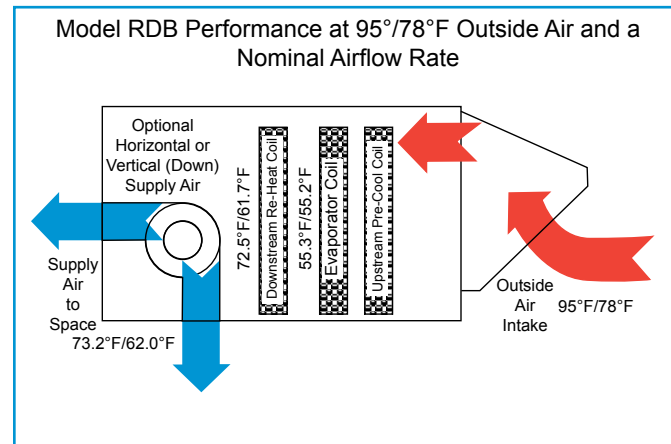
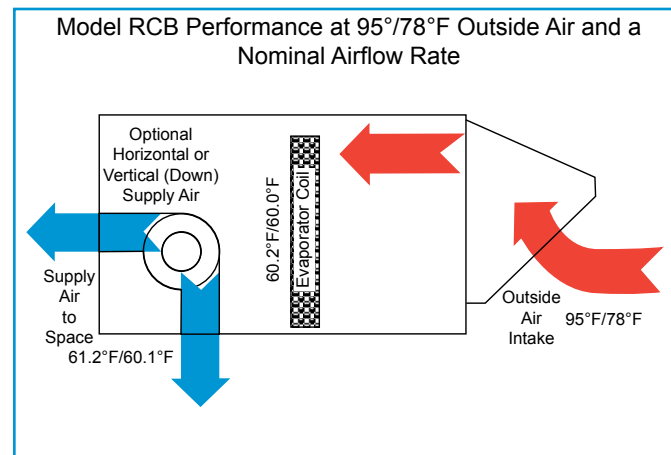
The dehumidification unit Re-Heat Pump™ system uses a basic heat pump refrigeration circuit for dehumidification and reheat. Evaporator capacity is a small part (approximately 15-20%) of the total design capacity, allowing continuous operation at low loads (between 55 and 60°F ambient dewpoint). The reheat pump™ system precooling evaporator coil is installed upstream of the main evaporator coil, and the reheat pump™ condenser coil is in the downstream position. The upstream precool coil tempers outside air and lowers wet bulb depression of the air entering the main evaporator coil (86.4/75.3). Heat removed from the precool coil is rejected to the downstream reheat coil (71.2/61.5 including compressor and fan heat of compression). In this mode of operation the system is configured as a stand-alone neutral air unit which conditions only the outside air to the building. If the main evaporator coil were removed, the refrigeration system would resemble a standard residential dehumidifier.

Since the dehumidification unit refrigeration circuit is independent of the main evaporative cooling coil, performance is relatively constant. **This translates into ease of commissioning and verification of the Re-Heat Pump™ system performance under mild or extreme conditions.** Other package systems that use hot gas reheat must maintain higher than needed condenser head pressures for reliable operation and adequate reheat. Under low load conditions, poor performance of hot gas reheat and subcooling reheat systems can be caused by compressor unloading. Service, diagnosis, and performance of hot gas reheat systems can be difficult to verify at conditions other than design.

The Model RDB Re-Heat Pump™ downstream reheat (condenser) coil provides a nominal 10 to 17 degrees of “reheat” to the supply airstream. This temperature rise is accomplished with high compressor COP's and low air pressure drop coils. **For equivalent reheat performance, other technologies, such as heat pipes or flat plate heat exchangers may have greater than ten times the air pressure drop of the Re-Heat Pump™ coils.**

Additionally, performance of the heat pump is independent of the main cooling coil, while wrap around heat pipes or flat plate heat exchangers require an active cooling coil for energy transfer. At part load, the reheat pump can operate in a stand alone mode to provide both dehumidification and reheat.

While the dehumidification unit compressor consumes additional energy during dehumidification modes, the year round benefit of reduced fan energy will result in lower annual energy costs.



DETERMINING SPACE RE HEATING REQUIREMENTS:

The amount of reheat depends on the temperature leaving the cooling coil and the minimum available space heating gain at part load conditions. A simple approximation is shown below:

APPLICATION NOTES:

MAPS Systems are replacement air systems which treat up to 100% outside air. Models RCB, RECB and RDCB can be applied in a variety of geographical locations and conditions.

Models RDB, REDB and RDDB include a specialty reheat system and are targeted for temperate and humid climates. These units are typically applied as a neutral air system that provides dehumidified replacement air between 70° and 75°F.

The following topics summarize typical equipment considerations found in specifying replacement air systems:

Zone Outside Air Changeover Rates

When evaluating the suitability of staged capacity control, the outside air changeover rate to the zone should be calculated. Use the formula listed below.

High air changeover rates may require special control sequences, air distribution design, and cooling-heating modulation controls versus step control. As a guideline, modulation should be evaluated when the changeover rate exceeds 8 ACH (1 outside air change for every 7.5 minutes). Since heating design temperature difference is typically greater than cooling, modulation of the heating system may be more critical.

Design Temperature Difference

As design extremes increase, staging or modulation of equipment capacity becomes increasingly important. Examining the lowest stage or step of equipment capacity relative to the lowest load condition can indicate if capacity modulation is required.

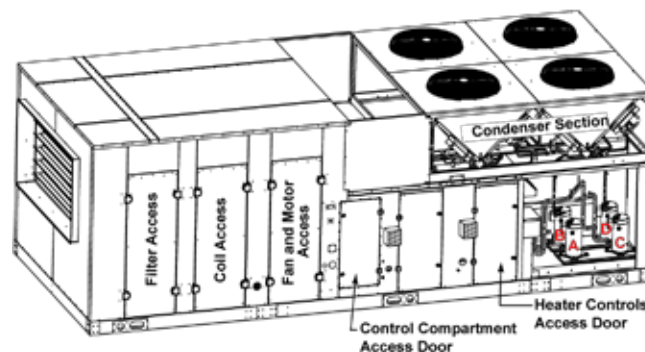
System Type

Generally products that deliver 100% outside air quantities fall into one of three basic system types. They include:

- **Neutral Air** - Outside air is cooled, dehumidified, and heated to room conditions (70 to 75°F).
- **Tempering Air** - Outside air is cooled and mixed with conditioned return air.
- **Sole Source** - Conditions both outside air and the internal building loads - not recommended tight or critical space control applications.

Identifying the system type can aid the designer in evaluating the appropriate equipment for each application. A more detailed discussion can be found in Application Bulletin RZ-T-PC.

The mechanical cooling system uses 3-4 unevenly sized direct expansion compressors and coils to optimize the number of cooling stages. In addition, the use of interlaced and split coils provide excellent part load performance.



Models RCB/RDB/RDCB/RDDDB/RECB/REDB
General Specification

Furnish and install Model RCB/RDB/RDCB/RDDDB/RECB/REDB _____ Modular Air Processing System for treatment of up to 100% constant outside air per plans and specifications. Unit(s) shall be completely factory-assembled, tested, internally wired, fully charged with Refrigerant R410A, and shipped in one piece. Unit(s) shall consist of insulated weather-tight casing with optional field installed outdoor intake hood, compressors, air-cooled condenser coils, condenser fans, evaporator coils, supply fan, motors and drives, and unit controls. Packaged Cooling and Heating Units shall carry an ETL listing. Manufacturer must have at least 20 years experience in manufacturing makeup air equipment.

Refrigerant System

Compressor systems shall be designed to provide 3 - 8-stage capacity increment for treatment of up to 100% outside air with up to 80 degree dewpoint entering the unit. Hermetic compressors shall include a scroll design with internal pressure relief and motor temperature winding protection. Units shall be equipped with reversal rotation protection. Refrigeration protection shall include low and high pressure switches, refrigerant circuit frost protection, liquid line filters/dryers and service gage ports. Refrigeration control shall include thermal expansion valves, external equalizers and distributors for each compressor. Hot gas bypass options shall be available on all refrigerant stages in addition to multiple steps of capacity modulation to supplement discharge air control. The refrigerant system shall have an adjustable 5 minute minimum ON and minimum OFF timer circuit protection. The refrigerant circuit shall have an anti-cycle time in addition to the minimum ON/OFF timer that prevents the compressors from cycle on the minimum timer circuit.

Reheat Systems

Models RDB/RDDDB/REDB shall include a dedicated compressor and refrigeration circuit using full condenser reheat or total heat of rejection in the supply airstream. The circuit shall be capable of delivering a nominal 13°F - 17°F temperature rise from the main evaporator temperature without the need for modulating the capacity for all entering outside air conditions. All methods of reheat shall comply with ASHRAE 90.1 requirements. Dual compressor systems shall be designed to provide 4-8 stage capacity increment using integrated DDC control. The refrigerant circuits shall include thermal expansion valves with external equalizers. Service gage ports and refrigerant line filter dryers are factory installed as standard. Precooling coils shall be two row depth with 6 fin per inch to minimize air pressure drop. The reheat coil position shall include a minimum separation of 4" from the cooling coil to eliminate re-evaporation of cooling coil condensate.

Evaporator and Condenser Coils

The refrigerant system shall include a horizontal discharge air cooled condenser. The copper tube-aluminum plate fin evaporator coil to be 4 rows with 15 fins per inch to meet SHR values of 0.60. All multi-circuit evaporator coils are of the interlaced and split face configuration to reduce the risk of coil freezing at part load. All evaporator coils shall be protected from frosting by a low temperature cutout. All Coils shall be leak tested at the factory to ensure pressure integrity. [Coils shall have ElectroFin™ coating for protection from corrosion]. The condenser coils shall be aluminum micro-channel type condensing coil [A coil guard will be included for protecting the condensing section.] Units will ship completely charged for immediate operation upon installation and check-out of the unit.

Condensate Drain Pan

The condensate drain pan shall be fabricated from stainless steel. The drain outlet shall be attached to a sloped drain pan with a minimum 1/8" per foot slope. The sloped drain pan shall be of a removable design. The drain pan shall collect potential condensate from all evaporator/condenser coils and distributor area in the air stream to prevent blow-off condensate reaching unprotected bottom unit surfaces.

Heating System

MODELS RDCB/RDDDB ONLY. Heating shall be provided by a gas-fired heating section designed to provide a [8:1 or 16:1 power vented modulation] with a minimum 80% thermal efficiency throughout the modulated range. The system shall modulate the gas and combustion air to maintain temperature setpoint and thermal efficiency. The heat exchanger shall be capable of 100 degree temperature rise for 100% outside air treatment. The heating system shall be factory installed and design certified to ANSI Standard Z83.8/CSA 2.6. The heat exchanger shall be 4 pass serpentine, non welded, constructed of [409][316] stainless steel. The gas burner shall be direct spark, multi-try, with a flame sensing circuit monitored by an electronic flame supervision system with 100% lockout via an integrated circuit board that incorporates LED diagnostics. Diagnostic codes shall include [failed ignition] [primary limit failure] [value failure] [air sensor] [gas sensor] [flame sensor].

MODELS RECB/REDB ONLY. Manufacturer to provide factory installed electric resistance heat for unit. Unit shall include field-replaceable heat sections. All heat sections are to be sub-fused. Heat sections shall feature [Single, Three] Stage capacity.

Certifications: The gas heat sections shall be and approved to ANSI Z83.8/CSA 2.6. **The packaged unit shall be certified to** UL-1995 – UL Standards for Safety Heating & Cooling Equipment Second Edition: CAN/CSA C22.2 NO. 236-95. **Safety Features:** All heat sections for said unit shall feature factory installed:

- Automatic discharge air limit Control
- Air proving pressure switch
- Color coded wiring and matching terminal blocks
- Circuit breaker protected transformers

Cabinet

Outer casing is fabricated from G90 galvanized steel substrate with 60 gloss painted finish coat. Structural members shall be 18 gauge with double-wall access doors. Roof panels shall be 20 gauge with double-wall 2" insulation liner. The cabinet design shall prevent condensation forming on the outside of the unit casing in operation **via a dedicated thermal break**. Fully-gasketed, hinged doors of double-wall construction shall provide access to filters, dampers, evaporator coils section, supply fan section. Provide hinged single wall construction doors for the heater section and control section. On hinged doors frequently used for service (i.e. filter and coil access) lift and turn style door handles that do not require the use of a tool to gain access will be used. The unit control panel section shall be laid out to provide separation of high and low voltage components per UL standards. The control panels shall be hinged for easy access to the unit controls. For ease of service, all electrical components will be clearly identified with 1/2" diameter self adhesive labels to match the unit specific

Air Side

wiring diagram. The low voltage and unit controller access electrical panel shall be physically isolated from the high voltage section. The open door to the control section will reveal the wiring diagrams, DDC programming instructions and all manuals and literature protected and permanently attached to the cover. All control transformers will incorporate integral, resettable circuit breaker protection. An optional weatherproof convenience outlet will be accessible from the outside of the unit without the removal of any doors or access panels.

The outdoor condenser fan shall be direct drive, statically and dynamically balanced, draw through in the vertical position. The condenser fan motor(s) shall be permanently lubricated and have built-in thermal overload protection.

CABINET A, B, & C UNITS. [The centrifugal supply fan(s) shall be double-width, double-inlet fan with forward-curved blades mounted with adjustable pitch sheave drive assembly. Complete fan assemblies shall be statically and dynamically balanced in accordance with the latest ARI guideline and ANSI 2.19. Ball Bearings with a minimum L10 life of 100,000 hours shall be available from the manufacturer. The centrifugal supply fan(s) shall be available with bearings, drive, and motor combinations for high static applications. All fan motors shall be thermally protected.]

CABINET D UNITS ONLY. [The supply fan(s) shall be backward inclined suitable for AMCA Class I operation. Wheels shall be SWSI and constructed of welded steel with airfoil blades, and dynamically balanced in 2 planes. Bearings shall be self-aligning, pillow block, ball bearing with provision for re-lubrication via extended lube lines and rated for a minimum L₅₀ (average) life of 175,000 hours. Frame and bearing support shall be constructed of heavy gauge welded angle iron.]

Motor shall be continuous duty, thermally protected, permanently lubricated, ball bearing with a 1.15 service factor. Electrical characteristics and enclosure per schedule. Drives are to be selected for 125% of driven horsepower. Blower pulleys shall be cast iron, variable speed. The fan system shall be fully vibration isolated using springs and flexible connectors. The fan system shall be statically and dynamically balanced in accordance with the latest ARI guideline and ANSI 2.19.

The unit shall provide [horizontal] [vertical] discharge per the selection.

Optional VFD : The Variable frequency drive shall be unit or field installed and electrically matched to the supply motor characteristics. The unit shall have a swing choke to reduce harmonics. The VFD shall have IP21 enclosure rating. The VFD shall control the supply air [to maintain CO₂ setpoint], [to maintain building static pressure setpoint] [to maintain the duct static pressure setpoint] [by a manual High/Low wall selector]

Controls

The unit control panel section shall be laid out to provide separation of high and low voltage components per UL Standards. The primary control panel shall be hinged for easy access. Controls shall be factory configured for the design application with both the required hardware, operating parameters, and typical default control setpoints. The controller is factory mounted on the unit and is pre-wired to the unit controls. The controller shall have visual (LED) status of power, running, and errors. LED indicators for transmit/receive for networks and for each of the 12 outputs. The unit shall have battery backup to maintain control program and data for a minimum of 10,000 hours during power outages. The controller shall have unit mounted display with two line 40 alpha/numeric character per line display providing full access to all commission variables, setpoints, alarms and diagnostic functions. The controller shall have BACnet (ARC156, MS/TP, and PTP), Modbus (RTU & ASCII), and JCI N2, network communication available without the need for further programming or external devices. The control system shall have the capability to communicate using LonWorks protocol. [Customer wall-mounted controls shall be available for providing [remote temperature adjustment] [on/off -auto control] [damper adjustment].

Each unit shall be equipped with an air-proving switch to ensure proper blower operation prior to enabling cooling and heating functions. Cooling controls shall include minimum "on/off" compressor time delays and anti-cycling program to prevent unnecessary wear of compressor. Commissioning control variables shall include outdoor setpoints for heating and cooling sequencing based on outdoor [drybulb] [dewpoint], discharge or space temperature setpoints and low limit discharge air settings for freeze protection. The alarm functionality shall include low temperature, compressor failure, sensor failure, smoke alarm, power failure, heating failure and supply fan failure. The failures shall protect the unit and displays a code at the unit's display and the optional wall mounted display. The unit will have test and diagnostics routines for services and start-up.

The control system shall be able to provide neutral air and space temperature control per the sequence of operation shown.

Outdoor Air Section

Units shall be available with fully integrated factory installed [100% motorized outdoor air damper] [100% motorized outdoor damper and return damper]. The motorized damper shall be spring return for closure during unit shutdown or power interruption. The outdoor air dampers shall be controlled [to maintain CO₂ setpoint], [to maintain building static pressure setpoint] [by a manual High/Low wall selector], [to maintain economizer settings] [occupied and unoccupied positions]. Outdoor air inlet hood shall include 1" permanent filters. Units designed for 100% outside air intake only shall include an integrated transition section (without return air opening) designed specifically for 100% outside air introduction to allow uniform coil velocity and filter loading.

Filters

Filters shall mount integral within unit casing and be accessible through hinged access panel. Filters shall be [2" permanent aluminum - MERV8 rating] [2" disposable pleated - MERV8 rating] [4" permanent aluminum] [4" disposable pleated - MERV8] [4" disposable pleated MERV13].

Full Perimeter Curbs

The curbs available from the manufacturer shall be designed to meet the National Roofing Contractors Association August 1985 guidelines for roof mounted installations. The roof curbs shall be 12 gauge zinc coated steel with a 2" x 6" nailer. Factory curb shall be required for systems requiring vertical discharge or return air connection. The curb is to be shipped knocked down with assembly instructions.

REZNOR PRODUCT LIMITED WARRANTY

Thomas & Betts Corporation warrants to the original owner-user that this Reznor product will be free from defects in material or workmanship. This warranty is limited to twelve (12) months from the date of original installation, whether or not actual use begins on that date, or eighteen (18) months from date of shipment by Thomas & Betts Corporation, whichever occurs first.

Optional Extended Warranty

Extended warranties on components of Models RCB/RDB/RDCB/RDDB/RECB/REDB may be **purchased**. Warranties include:

- **Compressors** - Extended four (4) year non-prorated warranty available on compressors.
- **Heat Exchanger** - Extended four (4) or nine (9) year non-prorated warranties available on gas heat exchanger(s) (Models RDCB/RDDB only).

LIMITATIONS AND EXCLUSIONS

Thomas & Betts Corporation's obligations under this warranty and the sole remedy for its breach are limited to repair, at its manufacturing facility, of any part or parts of its Reznor products which prove to be defective; or, in its sole discretion, replacement of such products. All returns of defective parts or products must include the product model number and serial number, and must be made through an authorized Reznor distributor or arranged through Reznor Customer Service. Authorized returns must be shipped prepaid. Repaired or replacement parts will be shipped by Thomas & Betts F.O.B. shipping point.

1. The warranty provided herein does not cover charges for labor or other costs incurred in the troubleshooting, repair, removal, installation, service or handling of parts or complete products.
2. All claims under the warranty provided herein must be made within ninety (90) days from the date of discovery of the defect. Failure to notify Thomas & Betts of a warranted defect within ninety (90) days of its discovery voids Thomas & Betts's obligations hereunder.
3. The warranty provided herein shall be void and of no effect in the event that (a) the product has been operated outside its designed output capacity (heating, cooling, airflow); (b) the product has been subjected to misuse, neglect, accident, improper or inadequate maintenance, corrosive environments, environments containing airborne contaminants (silicone, aluminum oxide, etc.), or excessive thermal shock; (c) unauthorized modifications are made to the product; (d) the product is not installed or operated in compliance with the manufacturer's printed instructions; (e) the product is not installed and operated in compliance with applicable building, mechanical, plumbing and electrical codes; or (f) the serial number of the product has been altered, defaced or removed.
4. The warranty provided herein is for repair or replacement only. Thomas & Betts Corporation shall not be liable for any loss, cost, damage, or expense of any kind arising out of a breach of the warranty. Further, Thomas & Betts Corporation shall not be liable for any incidental, consequential, exemplary, special, or punitive damages, nor for any loss of revenue, profit or use, arising out of a breach of this warranty or in connection with the sale, maintenance, use, operation or repair of any Reznor product. In no event will Thomas & Betts be liable for any amount greater than the purchase price of a defective product. The disclaimers of liability included in this paragraph 4 shall remain in effect and shall continue to be enforceable in the event that any remedy herein shall fail of its essential purpose.
5. THIS WARRANTY IS THE SOLE AND EXCLUSIVE WARRANTY FOR REZNOR PRODUCTS, AND IS IN LIEU OF ALL OTHER EXPRESS AND IMPLIED WARRANTIES. THOMAS & BETTS CORPORATION SPECIFICALLY DISCLAIMS ALL OTHER EXPRESS AND IMPLIED WARRANTIES, INCLUDING, BUT NOT LIMITED TO, ALL IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. No person or entity is authorized to bind Thomas & Betts Corporation to any other warranty, obligation or liability for any Reznor product. Installation, operation or use of the Reznor product for which this warranty is issued shall constitute acceptance of the terms hereof.

Statement of Unit Performance

Actual Unit airflow also limited by available sizes and unit total static pressure

Maximum and minimum cooling CFM is limited to 200 FPM and 500 FPM air velocities over the main evaporator coils. Maximum and minimum heat is limited to 100°F temperature rise (90° for electric Models RECB/REDB) and 45°F temperature rise (20°F for electric models).

Reznor provides unit performance values that represent the general performance of our typical unit at a given design condition. With all DX, gas and electric systems the values are to be construed as having an expected mechanical tolerance of 10-15% of stated values. Due to mechanical limitations of the equipment, unknown variables and uncontrollable environmental influences such as gas pressure, actual airflow, pressure differences, refrigerant charge, air delivery (duct & registers), coil factors and other unstated variable, the actual unit values will be different from the stated values. The control system seeks to stage or modulate the equipment to a steady state condition over an extended period of time within the tolerance of the mechanical equipment. The control system setpoints should not be construed as the tolerance or guaranteed performance of the mechanical system.

**Reznor® is your global source for heating,
ventilating and air conditioning equipment.**



★ Company Plant, Warehouse or Office
• Representative Sales Office

**For more information on Reznor HVAC Equipment,
contact your local Reznor Representative by calling
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