



# 2016

PRODUCT CATALOG

FAN COILS / BLOWER COILS / AIR HANDLERS



[www.superiorrex.com](http://www.superiorrex.com)



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## new product offering

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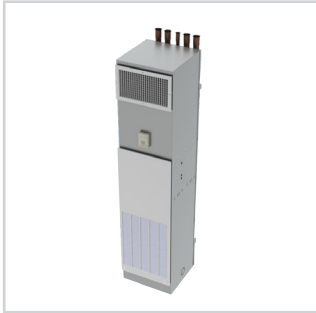
# New Fan Coil Products

new product offering

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PAGES: R10-R37

## vertical high rise series



RAVS

### STAND ALONE

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed ECM motor available for higher energy efficiencies



RAVM

### MASTER TWIN PACK

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed ECM motor available for higher energy efficiencies



RAVL

### SECONDARY TWIN PACK

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed ECM motor available for higher energy efficiencies



RARM

### MASTER SHIPPED SEPARATE

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed ECM motor available for higher energy efficiencies



RARS

### SECONDARY SHIPPED SEPARATE

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard



RAVE

### EXPOSED CABINET

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard



RARP Riser

### RISER

- » Type M or L copper with swaged connections
- » 3/4" to 3" diameters and 100" to 120" length available
- » 1/2" and 3/4" closed cell insulation
- » Type M copper condensate / Drain Riser

NEW PRODUCT OFFERING

PAGES: R38-R65

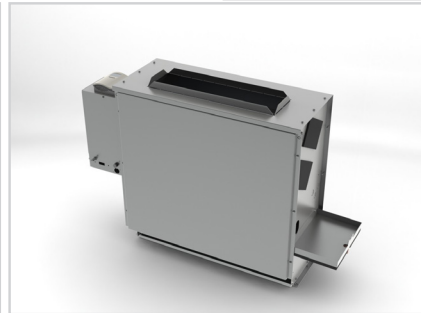
vertical basic series



**RBVS**

**SLANT TOP CABINET**

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000 (non-ducted equipment)
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed and Variable speed EC motor available for higher energy efficiencies



**RBVR**

**CONCEALED FLOOR MOUNT**

- » Performance AHRI Certified to Standard 440
- » High-efficiency motor, SCR, DWDI blowers and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Top discharge air flange and decorative wall recessing panels available



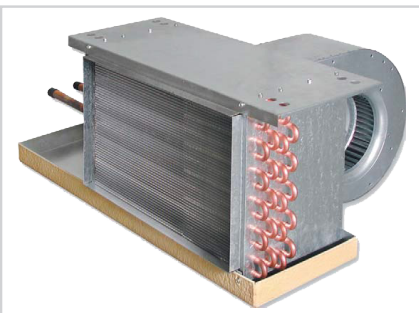
**RBVC**

**FLAT TOP CABINET**

- » High-efficiency 3 speed and Variable speed EC motor available for higher energy efficiencies
- » High-efficiency motor, SCR, DWDI blowers and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Flat stamped discharge top / grille, wall box and return air toe kick available as options

PAGES: R66-R93

horizontal high performance series



**RAHO**

**CONCEALED FREE RETURN**

- » Sound Performance tested as per AHRI Standard 350-2000 (non-ducted equipment)
- » High-efficiency 3 speed and Variable speed EC motor available for higher energy efficiencies
- » High-efficiency motor, SCR, DWDI blowers and Electric heat control available for quite operations



**RAHC**

**EXPOSED CABINET**

- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Access panels are available with quick turn fasteners
- » Return and Discharge available with double/single deflection grille or duct options
- » Anti-vibration mounts for field installation



**RAHR**

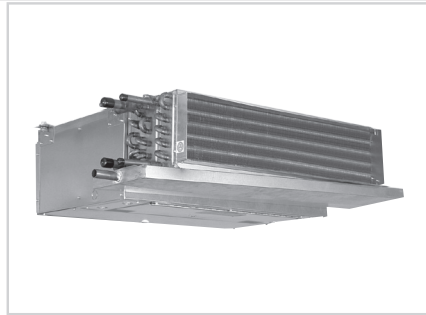
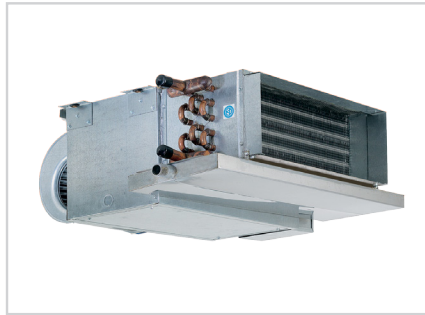
**PLENUM RETURN**

- » High-efficiency motor, Solid State Relays and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Mixing box with dampers with field reversible damper location
- » Field Reversible for either Bottom or Rear Return



PAGES: R94-R115

horizontal low profile series



RBHO

CONCEALED FREE RETURN

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000 (non-ducted equipment)
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency motor, Solid State Relays and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type

RBHC

EXPOSED CABINET

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000 (non-ducted equipment)
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed and Variable speed constant RPM EC motor available for higher energy efficiencies
- » High-efficiency motor, Solid State Relays and Electric heat control available for quite operations

RBHR

PLENUM RETURN

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000 (non-ducted equipment)
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed and Variable speed constant RPM EC motor available for higher energy efficiencies
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Field Reversible for either Bottom or Rear Return

Blower Coils

PAGES: R117-R152

horizontal / vertical belt drives



**SBH**

**HORIZONTAL BELT DRIVE**

- » Mixing boxes with standard low-leak dampers, high-efficiency filter sections for 2" prefilter and 4" final filter
- » Fiberglass-insulated cabinets, main incoming-power disconnect (non-fused), fusing (main), magnetic contractors, and fan control package with heater interlock contacts
- » Blow-through electric heat with single-point power connection
- » Meets all N.E.C. requirements and is cETL listed in compliance with UL/ANSI Std. 1995
- » Hot water, chilled water and direct expansion coils, steam, cold water/hot water changeover available for all models
- » 800 - 4000 CFM nominal airflows



**SSL**

**VERTICAL REDUCED FOOTPRINT, BOTTOM RETURN**

- » Low-leak dampers with 2" filters
- » Maximum flexibility for selection and installation where extreme space restrictions exist
- » Foil faced fiberglass-insulated cabinets, main incoming-power disconnect (non-fused), fusing (main), magnetic contractors, and fan control package with heater interlock contacts
- » Inherent flexibility of the fan and coil combination for sound-sensitive areas
- » 800 - 3000 CFM nominal airflows



**SBS**

**VERTICAL REDUCED FOOTPRINT, REAR RETURN**

- » Floor-mounted unit with external vibration isolation on a base rail
- » Maximum flexibility for selection and installation where extreme space restrictions exist
- » Foil faced fiberglass-insulated cabinets, main incoming-power disconnect (non-fused), fusing (main), magnetic contractors, and fan control package with heater interlock contacts
- » Hot water, chilled water, steam, and direct expansion coils; cold water/hot water changeover available for all models
- » 800 - 3000 CFM nominal airflows



**SBV**

**VERTICAL BELT DRIVE**

- » Mixing boxes with standard low-leak dampers, high-efficiency filter sections for 2" prefilter and 4" final filter
- » Fiberglass-insulated cabinets, main incoming-power disconnect (non-fused), fusing (main), magnetic contractors, and fan control package with heater interlock contacts
- » Blow-through electric heat with single-point power connection
- » Meets all N.E.C. requirements and is cETL listed in compliance with UL/ANSI Std. 1995
- » Hot water, chilled water and direct expansion coils, steam, cold water/hot water changeover available for all models
- » 800 - 4000 CFM nominal airflows



PAGES: R153-R175

modular air handler



SBM

### MODULAR AIR HANDLER

- » Modular construction allows footprint savings by stacking modules in two-high configuration
- » Single wall and double wall-galvanized construction equipped with removable access panels/hinged doors for improved accessibility and serviceability
- » Hot Water, Chilled Water, Steam, and Direct Expansion (DX) coils available
- » Blow-thru electric heat with single point power connection
- » Customized options including double-sloped IAQ galvanized drain pan, direct drive plenum fans, high-efficiency filters, double wall perforated lining, external face and bypass dampers, and inspection windows
- » 600 - 10,000 CFM nominal airflows

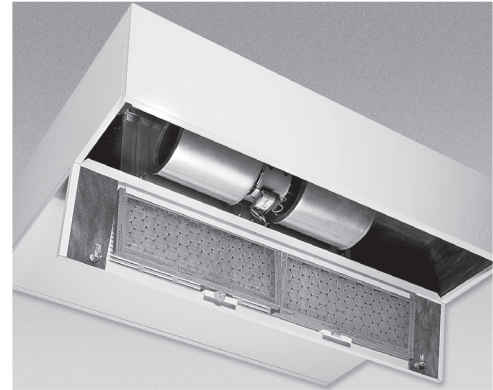


## Overview

When independent climate control of individual spaces is necessary Superior Rex Fan Coil units are often the ideal solution. With quiet operation and independent temperature control, Superior Rex Fan Coil products place individual comfort in the hands of the occupant.

For hotels, hi-rise condominiums, and multi-unit residences the Vertical High Rise Series minimizes first costs and simplifies installation. In applications when floor space is limited, the ceiling mounted Horizontal Low Profile and High Performance Series deliver the same high levels of personal comfort while allowing floor space to be maximized. Vertical Floor Mount models provide a flexible solution in many applications. The slim profile and low unit height are great for under-sill application and retrofits.

Every project is unique and tends to have at least a few specific needs outside of providing comfort to the space. Superior Rex Fan Coil units are available in a multitude of configurations with a wide variety of options and accessories to create a custom unit tailored to the needs of your project.





## RAV Series Design Features

new product offering

### HIGH PERFORMANCE

Superior Rex RAV Series Vertical High-Rise fan coil units are designed to maximize flexibility of selection and installation, and for ease of service.

The units are also designed to exceed the stringent quality standards of the institutional market, while remaining cost competitive in the commercial and residential segments of the market.

Superior Rex Vertical High-Rise fan coil units set the new standards for innovation, quality, flexibility, and competitive pricing.

### DESIGN FLEXIBILITY

The extensive variety of standard options available on RAV Series fan coils are where you find the versatility to fit any HVAC system designer's needs.

Options include: single wall stainless steel drain pans, foil faced or elastomeric closed cell foam insulation, double deflection aluminum discharge grilles, manual or motorized outside air dampers and electric heat with single point power connection and silent relays. All electric heat units are listed with ETL as an assembly and carry the cETL label.

All units comply with the latest edition of AHRI Standard 440 for testing and rating fan coil units, are certified, and display the AHRI symbol.

High efficiency motors, fan relays, disconnects and fusing mean easier coordination between mechanical and electrical trades.

Coil options allow for three or four row chilled water and one or two row hot water coils in the reheat position only. A total of five rows of coil are accommodated.

### CONVENIENT INSTALLATION

All RAV Series fan coil units are shipped completely assembled, reducing field installation time and labor. All units are thoroughly inspected and tested prior to shipment, eliminating potential problems at startup. Motor wiring is brought to a control compartment on the inside of the unit, reducing electrical hook-up time.

Factory furnished pressure tested valve packages assure proper fit, operation and performance.

Factory furnished pressure tested risers with swaged connections are available in a variety of materials, diameters and lengths.

RAV Series fan coil units have several standard features that provide for installation flexibility that are unmatched in the industry. Featuring internal stainless steel braided hoses that link the piping packages to the riser shut-off valves, the unique design of the RAV Series allows for easy field configuration of left hand, right hand, or back riser connections without the need for thermal cutting and joining of piping. Both the sides as well as the back panels are manufactured with riser slot knockouts. Supply air opening knockouts are included on all sides, and the top of the unit. If requested, the RAVS / RARM / RARS units ship from the factory with knock-outs removed for the selected arrangement of supply air and riser location.

Risers may ship in advance of the unit to facilitate installation and fire safing of floor penetrations in limited space. Delaying the delivery of units until walls are in place protects the fan coil units from construction debris during installation and pressure testing of the risers.

### OPTIMUM BUILDING PERFORMANCE

The RAV Series fan coil chassis is built from galvanized steel. This metal surpasses the ASTM 125 hour salt spray test for corrosion and rust. Decorator front panels, supply grilles, and exposed cabinet Model RAVE are powder coated galvanized 18 gauge steel. Standard insulation is ½ inch thick fiberglass, complying with UL 181 and NFPA 90A. Optional foil faced or elastomeric closed cell foam insulation may be specified.

All units, with or without electric heat, are cETL listed and labeled. All wiring is in compliance with NEC, assuring safety and quality for the owner.

RAV Series fan coil units have removable fans and coils. The entire coil assembly can be easily removed from the unit and replaced or serviced on a workbench, reducing equipment down time. Coils are accessible for cleaning and removable for service or replacement. Filters are easily replaceable when the decorator front panel is removed. As an option, the drain pan can be equipped for removal for cleaning or replacement without disturbing the coil assembly.

Twin Pack Master and Secondary Drone Models RAVM/RAVL ship complete with risers enclosed in a wall plenum with one layer of 5/8" gypsum for sound attenuation. As an option, Twin Pack Master and Secondary Drone Units may be ordered with two layers of 5/8" gypsum and fire blocking material. The Twin Pack Master and Secondary Drone fire rated unit has been tested and certified for 1 hour rating per UL 1479.

# RAV Series Construction Features

## MODELS - RAVS / RARM / RARS / RAVM / RAVL / RAVE

RAV Series fan coils have many standard and optional features which are unique to the industry

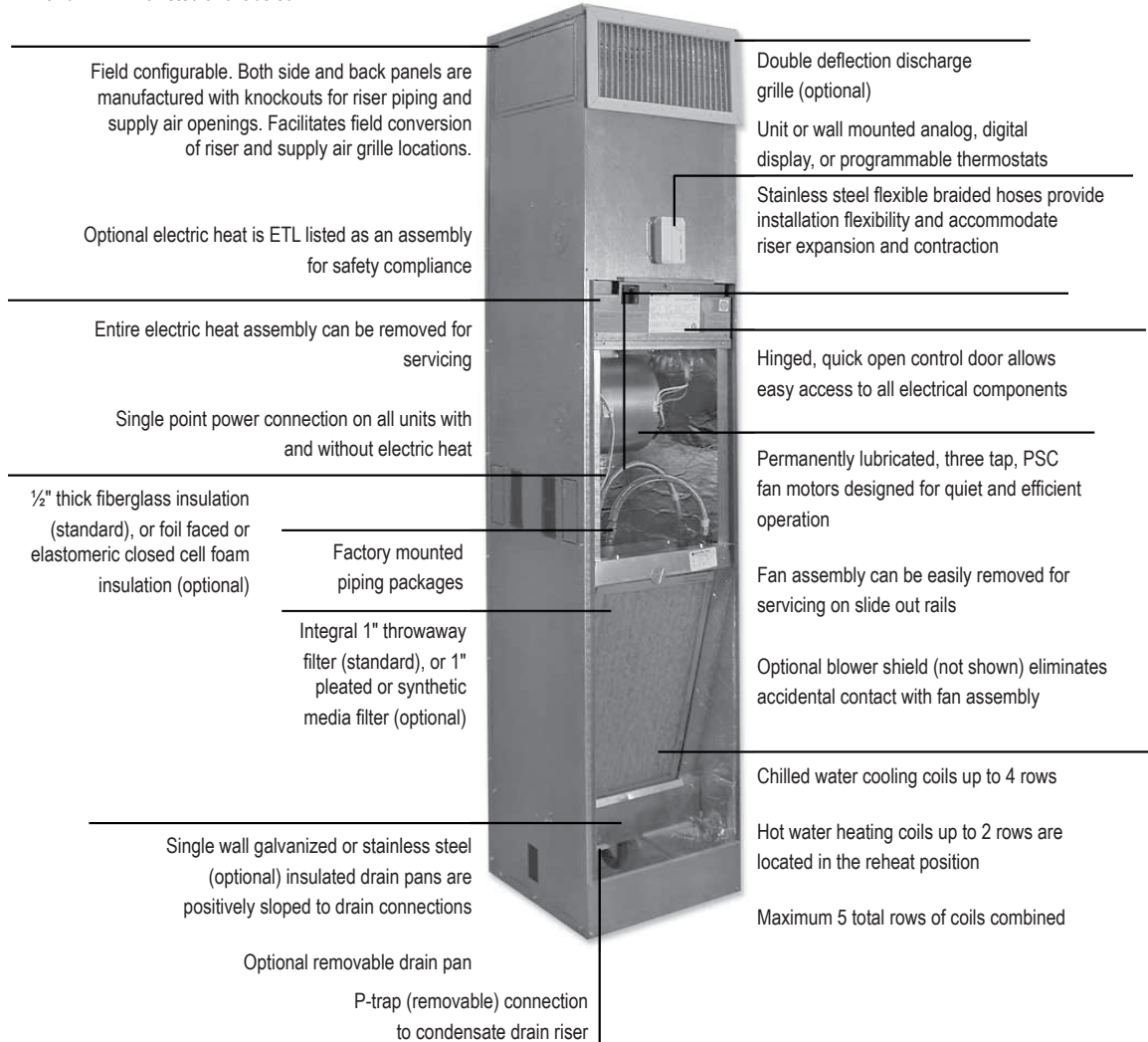
Factory mounted chilled and hot water and condensate insulated risers (not shown). Risers may also ship in advance of the unit.

Powder coated 18 gauge steel decorator front panel return grille (not shown)

Model RAVE exposed cabinet features durable, powder coat paint finish

Top discharge knockout permits ducted connection

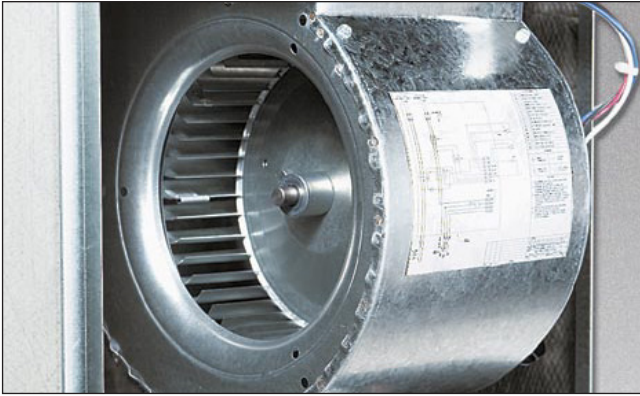
ETL and AHRI 440 listed and labeled



Twin Pack Master and Secondary Drone Models RAVM/RAVL ship complete with risers enclosed in a wall plenum with one layer of 5/8" gypsum for sound attenuation. As an option, Twin Pack Master and Secondary Drone units may be ordered with two layers of 5/8" gypsum and fire blocking material for a one hour fire rating per UL 1479.



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### FAN DECK

For ease of service, the fan/motor assembly is easily removed by unscrewing two locknuts located at the front of the assembly. Slide rails support the fan during removal and installation, and the electrical harness is equipped with a quick connect plug.



### DRAIN PAN

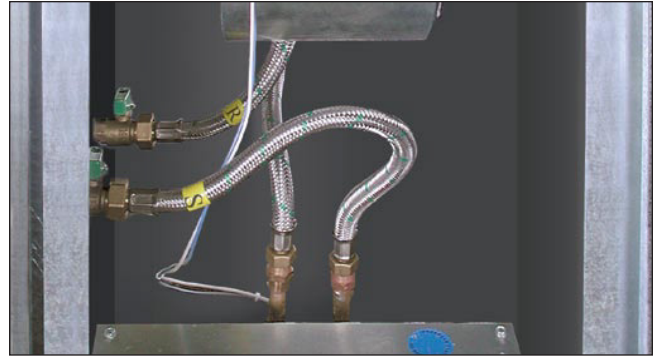
The sloped insulated drain pan is available in stainless steel construction. Standard drain pans are externally insulated, single wall galvanized steel. As an option, the RAV Series drain pan can be equipped for easy removal from the front of the unit for inspection and cleaning. For optimum moisture resistance and cleanability, the fan coil unit may be lined with foil faced fiberglass insulation (shown above) or elastomeric closed cell foam insulation.

### FILTERS

Filter options include 1" throwaway (standard), pleated MERV 8, or synthetic media. Filters are easily replaceable from the return air when the front panel is removed.

### POWDER COAT PAINTED SURFACE

Exposed cabinet Model RAVE, as well as the front return textured decorator panel, feature a powder coat finish that resists scuffing, scratching, fading, and fingerprints.



### COILS AND PIPING

All fan coils are available in 2 or 4 pipe configurations. The heating coil is standard in the reheat position. Access for cleaning on both the entering and leaving air sides is available. Coils are removable from the front of the unit for service.



### STAINLESS STEEL BRAIDED HOSES

Stainless steel braided hoses allow for flexibility and thermal expansion within the unit cabinet. The hose-to-coil and hose-to-riser connections are made via a threaded swivel adapter, simplifying coil removal.

### RISERS

Risers, coils and piping packages are pressure tested and ship installed on the unit as a complete package. Risers may also ship in advance of the unit. This option greatly simplifies installation, while keeping the units free of construction debris during pressure testing of the risers.

### CONTROL ENCLOSURE

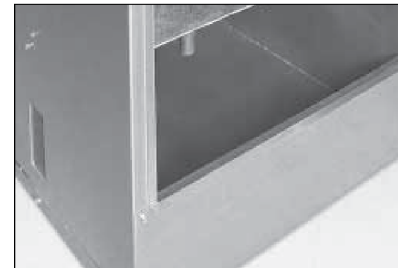
The spacious hinged electrical compartment houses all electric heat and control components. Terminal strips are furnished for simple power and control wiring connections.

RAV Series Construction Features (continued)

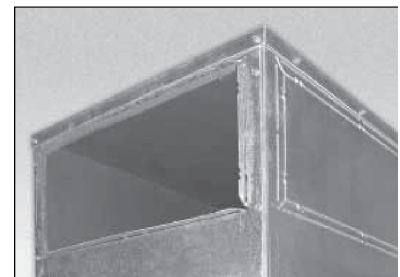
RAV Series fan coils feature several options to mitigate mold and mildew when applied in a properly designed and constructed building. For humid climates, Superior Rex offers innovations to ensure optimum humidity control at part load conditions.

- » Elastomeric closed cell foam insulation is a great alternative to fiberglass insulation in extremely humid climates, as well as educational and hi-rise residential facilities. The material's smooth and cleanable surface makes it naturally mold resistant, with no danger of fibrous material entering the airstream. Additional features include:
  - Easily cleaned surface resists dirt, moisture absorption, and microbial growth – even if torn or punctured
  - Higher temperature limit than polyethylene CCF, able to withstand service temperature spikes without permanent failure
  - More flexible than polyethylene CCF at 75°F, allowing expansion and contraction in hot and cold cycle applications
  - Compression resistance; retains its thermal insulating capacity
  - Outer moisture vapor barrier or liner not required
  - Ratings: NFPA 90A and 90B, ASTM E84, ASTM G-21 (fungi resistance), UL 181 (mold growth/humidity and air erosion)
- » Motorized coil bypass damper in conjunction with fan speed control increases dehumidification at part load and more closely matches cooling capacity to the room load during off peak operation
- » Innovative temperature and humidity controller improves part load relative humidity control.
- » Deep loading, synthetic media filtration protects both the coil and the coil bypass air from airborne contaminants. Filter frame and media are non organic, and will not support mold growth.
- » Ship In Advance Risers allow installation and pressure testing during building construction, prior to units arriving on job site
- » Stainless Steel Drain Pans and Coil Casings are available for use where added corrosion resistance or longevity are required
- » Coils and piping packages are removable in minutes through the standard front panel with only a screwdriver and pair of wrenches for periodic cleaning or service outside of the unit
- » IAQ drain pan is positively sloped to prevent standing water. An optional drain pan is removable for effective cleaning.

Refer to the Guide Specifications on the Superior Rex website for additional information on many of these features.



Positively sloped drain pan prevents standing water; lined with closed cell foam insulation for added moisture protection.



Supply air opening knockouts may be left in place during building construction to keep units dry and free from construction debris.



## Vertical High Rise Series

new product offering

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### RAVS

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed ECM motor available for higher energy efficiencies
- » High-efficiency motor, SCR, DWDI blowers and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Single or Double Supply outlets and sight and sound baffles available



RAVS

#### AVAILABLE MODEL:

RAVS

#### OVERVIEW

Factory assembled, vertical high-rise building RAVS fan coils are designed for free-blow or ducted, concealed installations, suitable for hotel, motel and apartment building applications.

#### OPTIONAL FEATURES INCLUDE:

##### Construction

- » Master/drone arrangements
- » Foil-faced fiberglass insulation
- » Elastomeric, closed-cell-foam insulation
- » 1" pleated filter (MERV 8)
- » Synthetic media
- » Manual or motorized outside-air damper
- » Blower shield

##### Decorator Front Panel

- » Recessing frame
- » Full-faced aluminum grille

##### Supply Air

- » Double deflection discharge grille(s)
- » Double outlets
- » Sight and sound baffles for double outlet units
- » Opposed blade damper

##### Coils

- » Automatic air vents
- » Stainless steel coil casings



See website for Specifications

##### Drain Pans

- » Stainless steel construction with external insulation
- » Removable for cleaning

##### Fan Assemblies

- » 208-230 & 277 volt, single-phase, three-tap PSC motors

##### Electrical

- » SCR fan speed controller
- » Fan relay packages
- » Silent, solid state fan relays
- » Toggle disconnect switch
- » Condensate overflow switch (drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches

##### Electric Heat

- » Manual-reset, secondary thermal limit
- » Silent relay / contactors
- » Door interlocking disconnect switches
- » Main fusing

RAVS



A Participating Corporation in the AHRI 440 Certification Program

**Piping Packages**

- » Factory assembled and installed
- » ½", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Stainless steel braided hoses (threaded swivel connections) for thermal expansion, including isolation ball valves with memory stop
- » Fixed and adjustable-flow control devices
- » P/T ports and Y-strainers
- » Modulating control valves
- » High-pressure, close-off actuators (50 PSIG max)

**Thermostats**

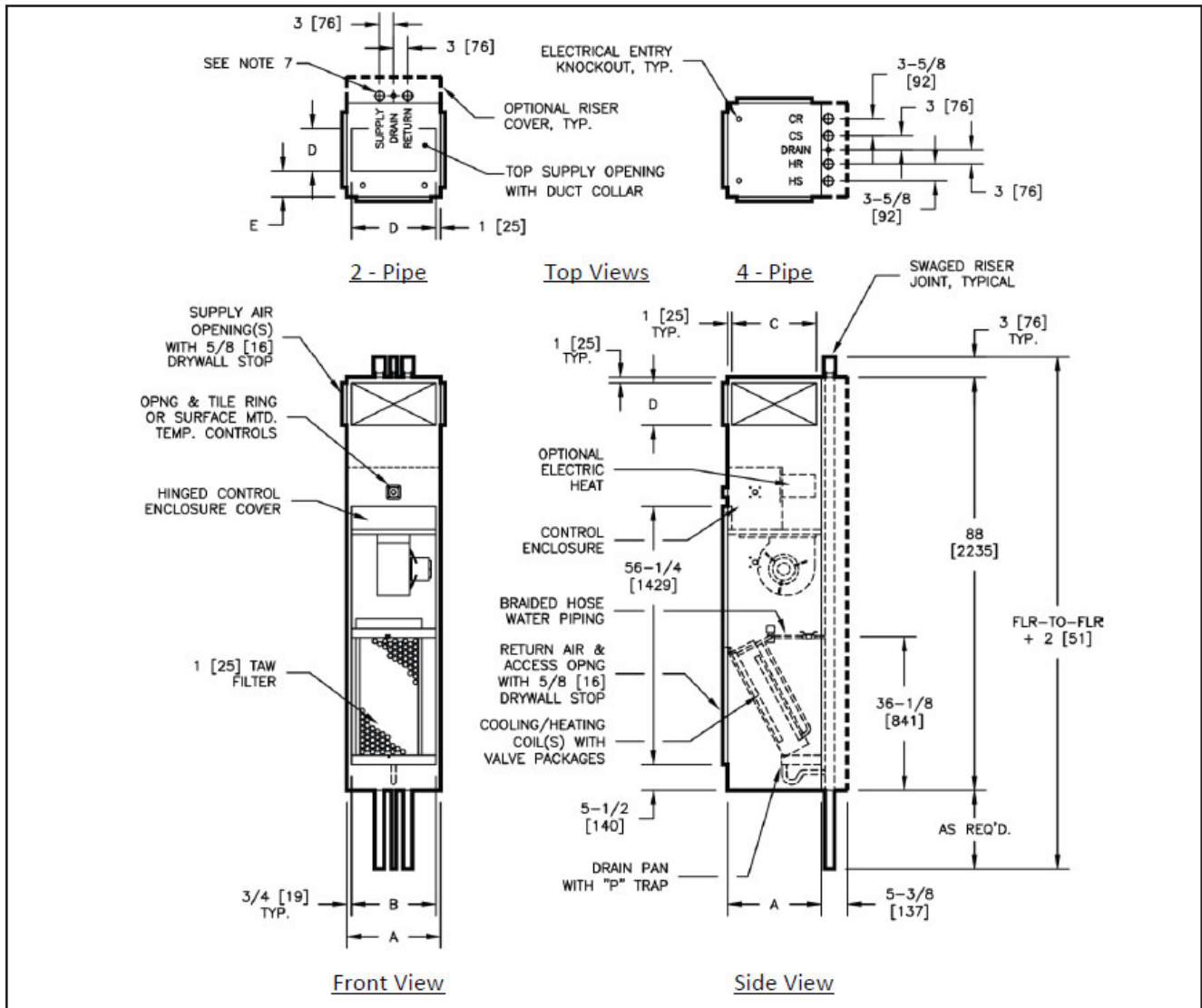
- » Analog, digital display, or programmable
- » Unit mounted and wall mounted
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover
- » Integral, three-speed, fan switches
- » ADA mounting location on front panel or unit sides

**Risers**

- » Type-M or Type-L copper with swaged connections
- » ¾" to 3" diameters
- » ½" and ¾" closed-cell insulation
- » Type-M copper condensate riser
- » Riser extensions
- » Riser cover
- » Ship in advance risers



RAVS CONCEALED UNIT



Dimensions					
Unit Size	A	B	Single/Double Supply		E
			C	D	
03 & 04	18 [457]	16 1/2 [419]	16 [406]	8 [203]	6 [152]
06 & 08	20 [508]	18 1/2 [470]	18 [457]	12 [305]	6 [152]
10 & 12	24 [610]	22 1/2 [572]	22 [559]	14 [356]	8 [203]

Notes:

1. All dimensions are inches [mm]. Metric values are soft conversion.
2. All dimensions are ± 1/4 [6mm]
3. Tile ring is installed on front of unit as shown, and may be moved to left or right side of unit in field
4. Wiring from electrical entry point to control enclosure is furnished and installed by other in field
5. Risers available from 3/4" [19mm] to 3" [76mm] diameter with 1/2" [13mm] thick insulation, and 3/4" [19mm] to 2 1/2" [64mm] diameter with 3/4" [19mm] thick insulation
6. Riser length is 120" [3048mm] max., 100" [2540mm] min.
7. Back riser location shown. See arrangement drawings for available unit configurations.
8. Factory mounted risers shown. Risers may also ship in advance of unit. See Ship In Advance Riser drawings for details.



## RAVM / RAVL

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed ECM motor available for higher energy efficiencies
- » High-efficiency motor, SCR, DWDI blowers and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Fire rated wall plenum and sight and sound baffles available as options



RAVM / RAVL

### AVAILABLE MODELS:

RAVM  
RAVL

### OVERVIEW

Factory assembled, vertical high-rise building RAVM master and RAVL secondary drone fan coils are designed for free-blow or ducted, concealed installations, suitable for hotel, motel and apartment building applications.

### OPTIONAL FEATURES INCLUDE:

#### Construction

- » Master/drone arrangements
- » Foil-faced fiberglass insulation
- » Elastomeric, closed-cell-foam insulation
- » 1" pleated filter (MERV 8)
- » Synthetic media
- » Manual or motorized outside-air damper
- » Blower shield

#### Decorator Front Panel

- » Recessing frame
- » Full-faced aluminum grille

#### Supply Air

- » Double deflection discharge grille(s)
- » Double outlets
- » Sight and sound baffles for double outlet units
- » Opposed blade damper

#### Coils

- » Automatic air vents
- » Stainless steel coil casings



See website for Specifications

#### Drain Pans

- » Stainless steel construction with external insulation
- » Removable for cleaning

#### Fan Assemblies

- » 208-230 & 277 volt, single-phase, three-tap PSC motors

#### Electrical

- » SCR fan speed controller
- » Fan relay packages
- » Silent, solid state fan relays
- » Toggle disconnect switch
- » Condensate overflow switch (drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches

#### Electric Heat

- » Manual-reset, secondary thermal limit
- » Silent relay / contactors
- » Door interlocking disconnect switches
- » Main fusing



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### Piping Packages

- » Factory assembled and installed
- » ½", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Stainless steel braided hoses (threaded swivel connections) for thermal expansion, including isolation ball valves with memory stop
- » Fixed and adjustable-flow control devices
- » P/T ports and Y-strainers
- » Modulating control valves
- » High-pressure, close-off actuators (50 PSIG max)

### Thermostats

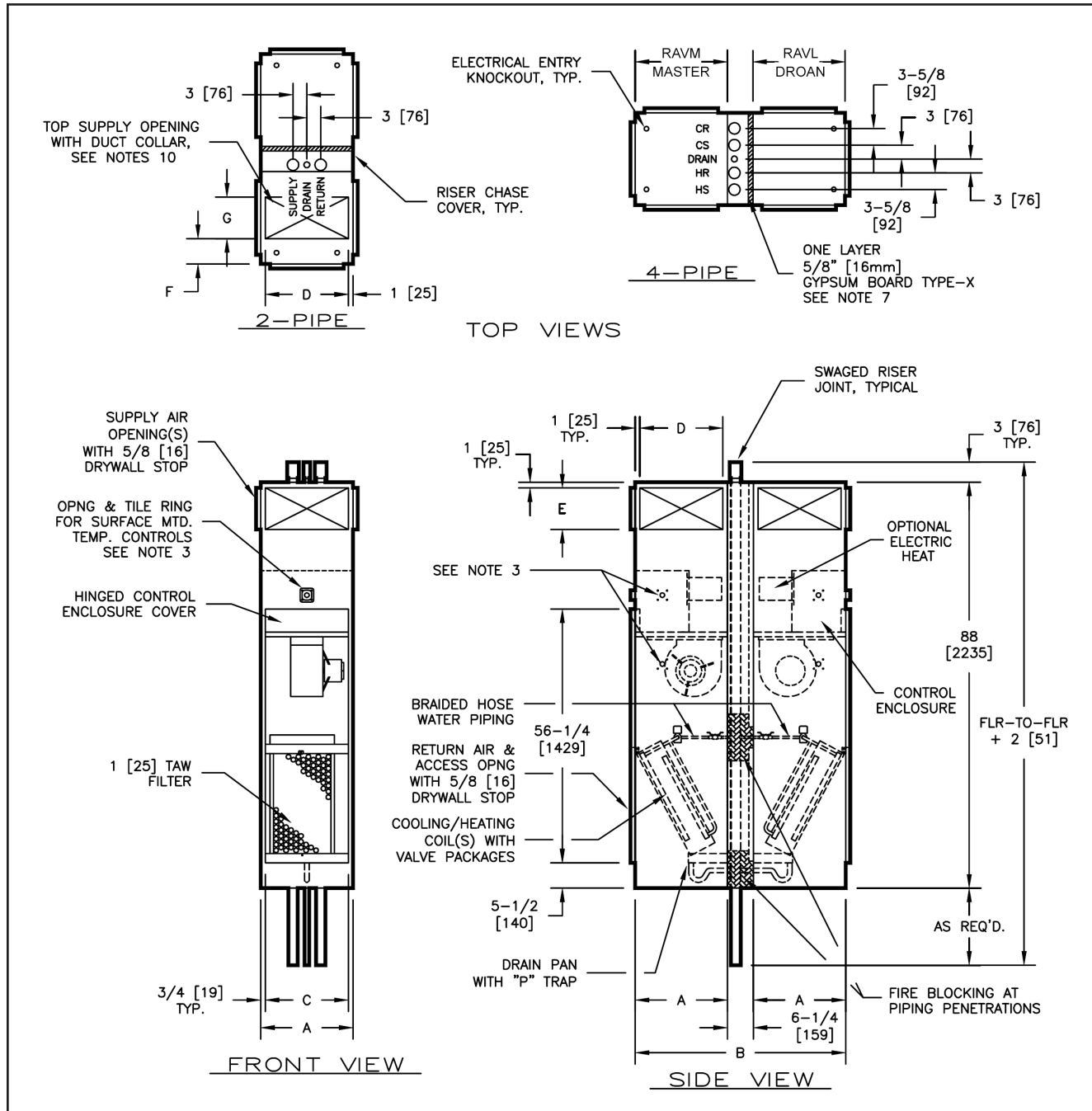
- » Analog, digital display, or programmable
- » Unit mounted and wall mounted
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover
- » Integral, three-speed, fan switches
- » ADA mounting location on front panel or unit sides

### Risers

- » Type-M or Type-L copper with swaged connections
- » ¾" to 3" diameters
- » ½" and ¾" closed-cell insulation
- » Type-M copper condensate riser
- » Riser extensions
- » Riser cover
- » Ship in advance risers

Dimensions

RAVM TWIN PACK MASTER & SECONDARY DRONE UNIT DIMENSIONS



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DIMENSIONS



RAVM TWIN PACK MASTER & SECONDARY DRONE UNIT DIMENSIONS

Dimensions						Supply Air		
						Single / Double	Top	
RAVM (Master)	RAVL (Drone)	A	B	C	D	E	F	G
03 or 04	03 or 04	18 [457]	42 ¼ [1073]	16 ½ [419]	16 [406]	8 [203]	6 [152]	8 [203]
03 or 04	06 or 08	20 [508]	46 ¼ [1175]	18 ½ [470]	18 [457]	12 [305]	6 [152]	12 [305]
03 or 04	10 or 12	24 [610]	54 ¼ [1378]	22 ½ [572]	22 [559]	14 [356]	8 [203]	14 [356]
06 or 08	03 or 04	20 [508]	46 ¼ [1175]	18 ½ [470]	18 [457]	12 [305]	6 [152]	12 [305]
06 or 08	06 or 08							
06 or 08	10 or 12	24 [610]	54 ¼ [1378]	22 ½ [572]	22 [559]	14 [356]	8 [203]	14 [356]
10 or 12	03 or 04	24 [610]	54 ¼ [1378]	22 ½ [572]	22 [559]	14 [356]	8 [203]	14 [356]
10 or 12	06 or 08							
10 or 12	10 or 12							

Notes:

1. All dimensions are inches [mm]. Metric values are soft conversion.
2. All dimensions are ± ¼ [6mm]
3. Thermostat mounting – Tile ring is installed on front of unit as shown and may be moved to left or right of unit as shown and may be moved to left or right side of unit in field
4. Wiring from electrical entry point to control enclosure is furnished and installed by others in field
5. Risers available from ¾" [19mm] to 2-½" (64mm) diameter with ½" [13mm] or ¾" [19mm] thick insulation
6. Riser length is 120" [2921mm] max, 100" [2540mm] min
7. NON-FIRE RATED unit shown with type-X gypsum board at back of drone unit. FIRE RATED units have type-X gypsum board at back of both drone and master units. FIRE RATED unit design has been tested in accordance with UL1479 - Fire Test Of Through Penetration Fire Stops, and is approved to bear the ETL listing mark for Through Penetration Fire Stop Assemblies.
8. For further fire rating information refer to the Installation Instructions
9. Refer to arrangement drawings for available Twin Pack Master and Secondary Drone unit configurations

Twin Pack Master and Secondary Drone Models RAVM/RAVL ship complete with risers enclosed in a wall plenum with one layer of 5/8" gypsum for sound attenuation. As an option, Twin Pack Master and Secondary Drone unit may be ordered with two layers of 5/8" gypsum and fire blocking material for a one hour fire rating per UL 1479.

## RARM

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed ECM motor available for higher energy efficiencies
- » High-efficiency motor, SCR, DWDI blowers and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Fire rated wall plenum and sight and sound baffles available as options



RARM

### AVAILABLE MODELS:

RARM

### OVERVIEW

Factory assembled, vertical high-rise building RARM master fan coils stand alone with riser water connections ready for a remote drone unit RARS. It is designed for free-blow or ducted, concealed installations, suitable for hotel, motel and apartment building applications.

### OPTIONAL FEATURES INCLUDE:

#### Construction

- » Master/drone arrangements
- » Foil-faced fiberglass insulation
- » Elastomeric, closed-cell-foam insulation
- » 1" pleated filter (MERV 8)
- » Synthetic media
- » Manual or motorized outside-air damper
- » Blower shield

#### Decorator Front Panel

- » Recessing frame
- » Full-faced aluminum grille

#### Supply Air

- » Double deflection discharge grille(s)
- » Double outlets
- » Sight and sound baffles for double outlet units
- » Opposed blade damper

#### Coils

- » Automatic air vents
- » Stainless steel coil casings



See website for Specifications

#### Drain Pans

- » Stainless steel construction with external insulation
- » Removable for cleaning

#### Fan Assemblies

- » 208-230 & 277 volt, single-phase, three-tap PSC motors

#### Electrical

- » SCR fan speed controller
- » Fan relay packages
- » Silent, solid state fan relays
- » Toggle disconnect switch
- » Condensate overflow switch (drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches

#### Electric Heat

- » Manual-reset, secondary thermal limit
- » Silent relay / contactors
- » Door interlocking disconnect switches
- » Main fusing



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### Piping Packages

- » Factory assembled and installed
- » ½", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Stainless steel braided hoses (threaded swivel connections) for thermal expansion, including isolation ball valves with memory stop
- » Fixed and adjustable-flow control devices
- » P/T ports and Y-strainers
- » Modulating control valves
- » High-pressure, close-off actuators (50 PSIG max)

### Thermostats

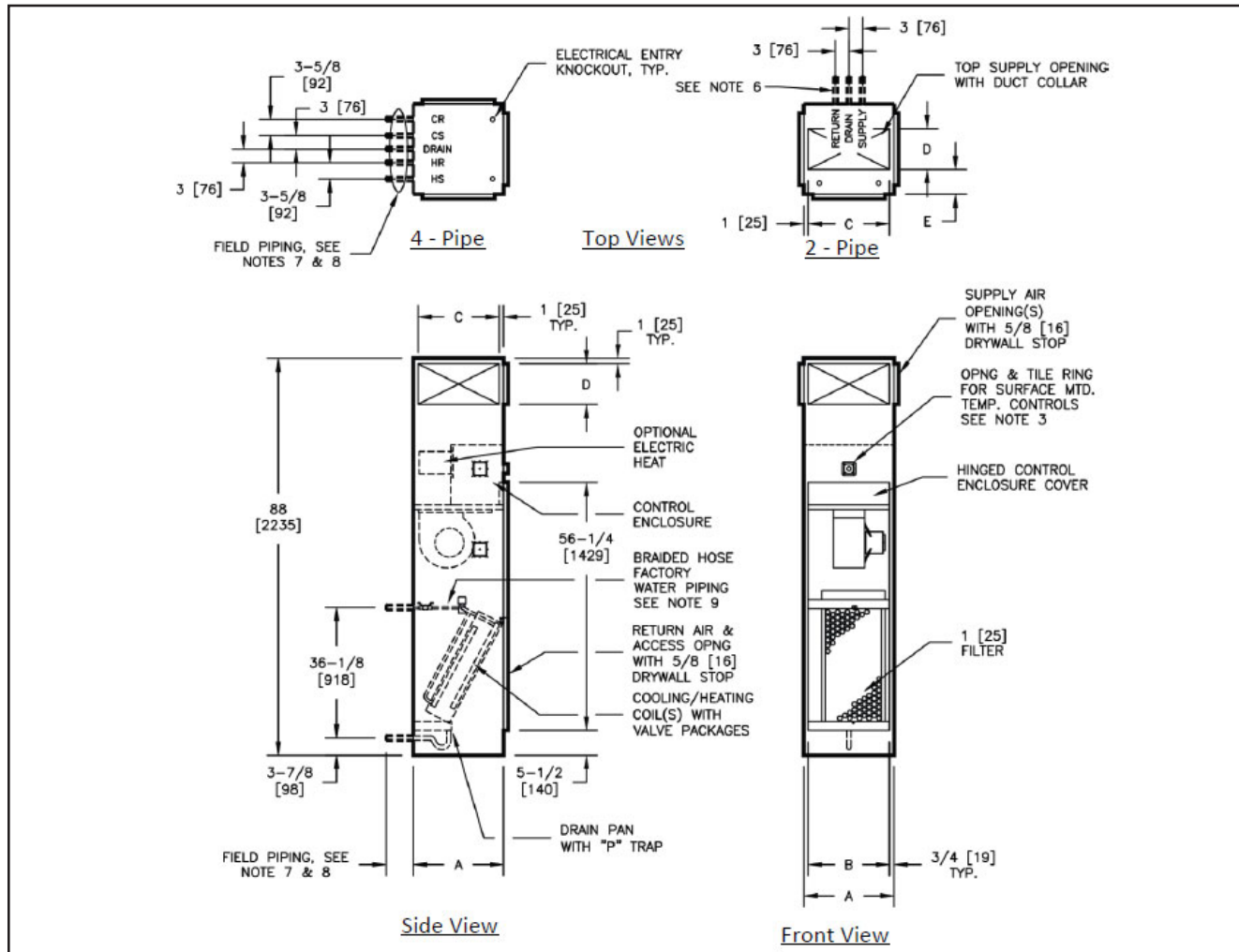
- » Analog, digital display, or programmable
- » Unit mounted and wall mounted
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover
- » Integral, three-speed, fan switches
- » ADA mounting location on front panel or unit sides

### Risers

- » Type-M or Type-L copper with swaged connections
- » ¾" to 3" diameters
- » ½" and ¾" closed-cell insulation
- » Type-M copper condensate riser
- » Riser extensions
- » Riser cover
- » Ship in advance risers

Dimensions

RARM MASTER SHIPPED SEPARATE UNIT DIMENSIONS



Unit Size	A	B	Single Supply		E
			C	D	
03 & 04	18 [457]	16 1/2 [419]	16 [406]	8 [203]	6 [152]
06 & 08	20 [508]	18 1/2 [470]	18 [457]	12 [305]	6 [152]
10 & 12	24 [610]	22 1/2 [572]	22 [559]	14 [356]	8 [203]

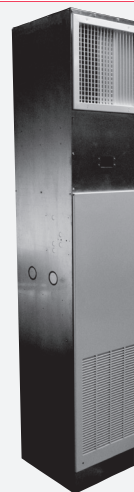
**Notes:**

1. All dimension are inches [mm]. Metric values are soft conversions. All dimensions are ±1/4 [6mm].
2. Tile ring is installed on front of unit as shown, and may be moved to left or right side of unit in field. The ring omitted on units with "ADA" control mounting location.
3. Wiring from electrical entry point to control enclosure is furnished and installed by others in field
4. All piping and insulation between master and drone units is furnished and installed in the field by others
5. Back riser location shown. See arrangement drawings for available unit configurations.
6. All coil and drain connections are "retracted" and braced internally for shipment
7. Coil connections are 5/8" [16mm] O.D. female sweat. Drain "P-trap" is designed to accept 7/8" [22mm] O.D copper tube
8. Drone units are furnished with factory installed shutoff valves and field connection tubes, unless master unit risers are shipped loose. Risers may be shipped separately.



## RARS

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed ECM motor available for higher energy efficiencies
- » High-efficiency motor, SCR, DWDI blowers and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Fire rated wall plenum and sight and sound baffles available as options



RARS

### AVAILABLE MODEL:

RARS

### OVERVIEW

Factory assembled, vertical high-rise building RARS drone fan coils stand alone with riser water connections ready for a remote master unit RARM. It is designed for free-blow or ducted, concealed installations, suitable for hotel, motel and apartment building applications.

### OPTIONAL FEATURES INCLUDE:

#### Construction

- » Master/drone arrangements
- » Foil-faced fiberglass insulation
- » Elastomeric, closed-cell-foam insulation
- » 1" pleated filter (MERV 8)
- » Synthetic media
- » Manual or motorized outside-air damper
- » Blower shield

#### Decorator Front Panel

- » Recessing frame
- » Full-faced aluminum grille

#### Supply Air

- » Double deflection discharge grille(s)
- » Double outlets
- » Sight and sound baffles for double outlet units
- » Opposed blade damper

#### Coils

- » Automatic air vents
- » Stainless steel coil casings



See website for Specifications

#### Drain Pans

- » Stainless steel construction with external insulation
- » Removable for cleaning

#### Fan Assemblies

- » 208-230 & 277 volt, single-phase, three-tap PSC motors

#### Electrical

- » SCR fan speed controller
- » Fan relay packages
- » Silent, solid state fan relays
- » Toggle disconnect switch
- » Condensate overflow switch (drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches

#### Electric Heat

- » Manual-reset, secondary thermal limit
- » Silent relay / contactors
- » Door interlocking disconnect switches
- » Main fusing





Vertical High Rise Series (continued)

**Piping Packages**

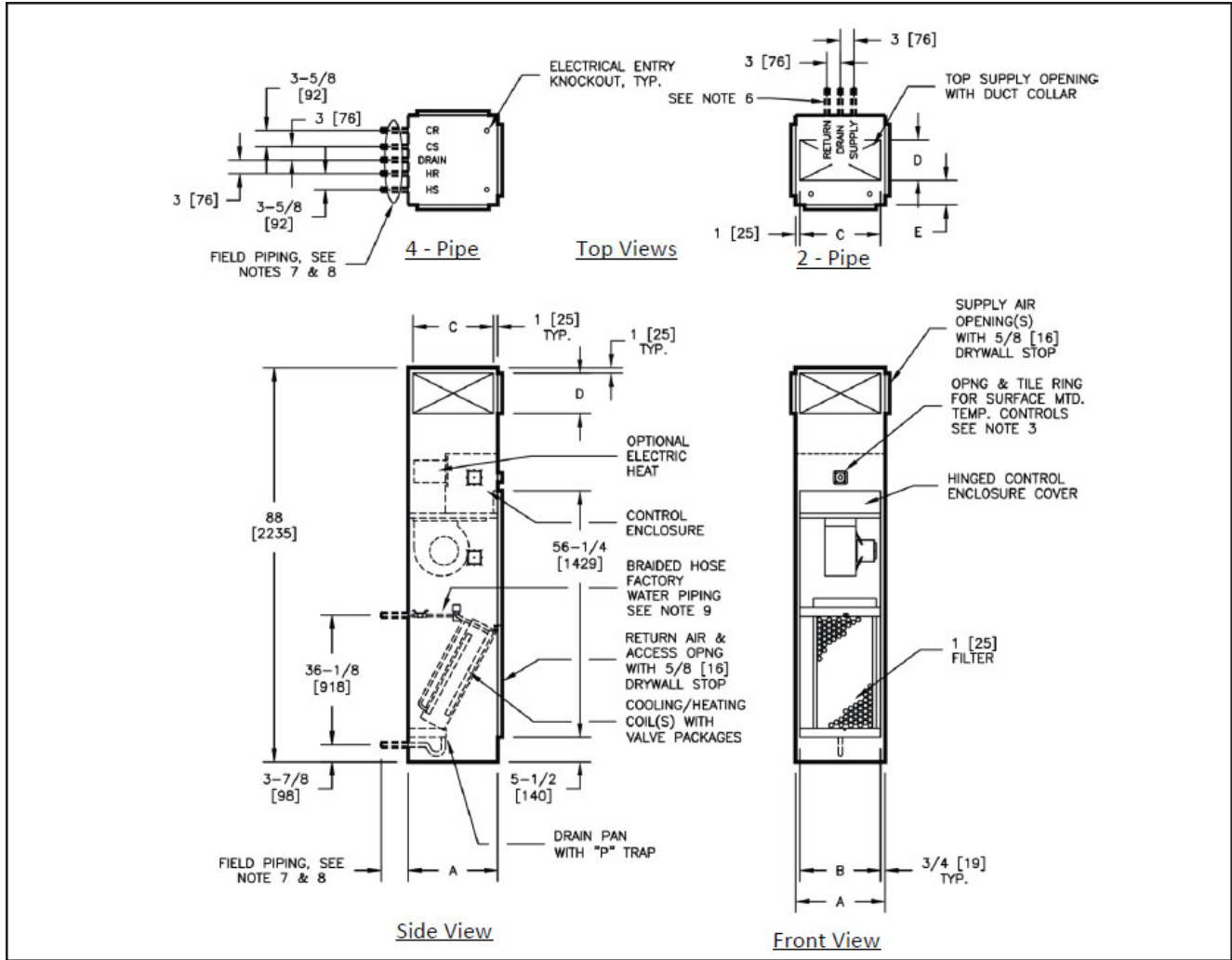
- » Factory assembled and installed
- » ½", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Stainless steel braided hoses (threaded swivel connections) for thermal expansion, including isolation ball valves with memory stop
- » Fixed and adjustable-flow control devices
- » P/T ports and Y-strainers
- » Modulating control valves
- » High-pressure, close-off actuators (50 PSIG max)

**Thermostats**

- » Analog, digital display, or programmable
- » Unit mounted and wall mounted
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover
- » Integral, three-speed, fan switches
- » ADA mounting location on front panel or unit sides



RARS SECONDARY DRONE CONCEALED UNIT



Unit Size	A	B	Single Supply		E
			C	D	
03 & 04	18 [457]	16 1/2 [419]	16 [406]	8 [203]	6 [152]
06 & 08	20 [508]	18 1/2 [470]	18 [457]	12 [305]	6 [152]
10 & 12	24 [610]	22 1/2 [572]	22 [559]	14 [356]	8 [203]

Notes:

1. All dimension are inches [mm]. Metric values are soft conversions.
2. All dimensions are  $\pm 1/4$  [6mm]
3. Tile ring is installed on front of unit as shown, and may be moved to left or right side of unit in field. The ring omitted on units with "ADA" control mounting location.
4. Wiring from electrical entry point to control enclosure is furnished and installed by others in field
5. All piping and insulation between master and drone units is furnished and installed in the field by others
6. All coil and drain connections are "retracted" and braced internally for shipment
7. Coil connections are 5/8" [16mm] O.D. female sweat. Drain "P-trap" is designed to accept 7/8" [22mm] O.D. copper tube
8. Drone units are furnished with factory installed shutoff valves and field connection tubes, unless master unit risers are shipped loose

## RAVE

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed ECM motor available for higher energy efficiencies
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Single or Double Supply outlets and sight and sound baffles available
- » Standard cabinet finish is British White (Optional Pearl White)



RAVE

### AVAILABLE MODEL:

RAVE

### OVERVIEW

Factory assembled, vertical high-rise building RAVE fan coils are designed for exposed floor standing applications such as public buildings, hotels, motels, apartments, hospitals and general commercial applications. RAVE cabinet is built with 18 gauge highly durable powder coated steel to provide high quality finish to any space.

### OPTIONAL FEATURES INCLUDE:

#### Construction

- » Master/drone arrangements
- » Foil-faced fiberglass insulation
- » Elastomeric, closed-cell-foam insulation
- » 1" pleated filter (MERV 8)
- » Synthetic media
- » Manual or motorized outside-air damper
- » Blower shield

#### Decorator Front Panel

- » Recessing frame
- » Full-faced aluminum grille

#### Supply Air

- » Double deflection discharge grille(s)
- » Double outlets
- » Sight and sound baffles for double outlet units
- » Opposed blade damper

#### Coils

- » Automatic air vents
- » Stainless steel coil casings



See website for Specifications

#### Drain Pans

- » Stainless steel construction with external insulation
- » Removable for cleaning

#### Fan Assemblies

- » 208-230 & 277 volt, single-phase, three-tap PSC motors

#### Electrical

- » SCR fan speed controller
- » Fan relay packages
- » Silent, solid state fan relays
- » Toggle disconnect switch
- » Condensate overflow switch (drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches

#### Electric Heat

- » Manual-reset, secondary thermal limit
- » Silent relay / contactors
- » Door interlocking disconnect switches
- » Main fusing



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### Piping Packages

- » Factory assembled and installed
- » ½", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Stainless steel braided hoses (threaded swivel connections) for thermal expansion, including isolation ball valves with memory stop
- » Fixed and adjustable-flow control devices
- » P/T ports and Y-strainers
- » Modulating control valves
- » High-pressure, close-off actuators (50 PSIG max)

### Thermostats

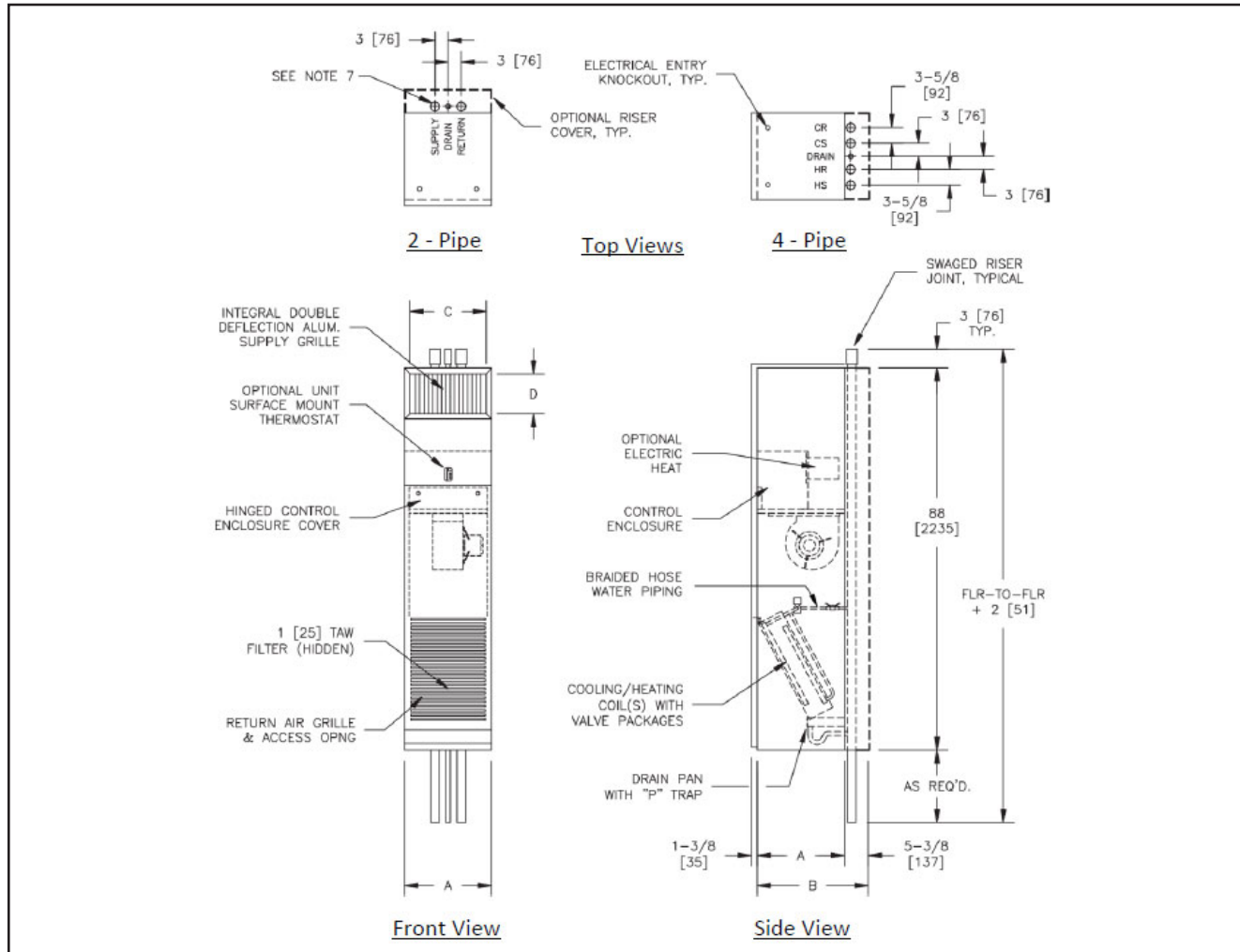
- » Analog, digital display, or programmable
- » Unit mounted and wall mounted
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover
- » Integral, three-speed, fan switches
- » ADA mounting location on front panel or unit sides

### Risers

- » Type-M or Type-L copper with swaged connections
- » ¾" to 3" diameters
- » ½" and ¾" closed-cell insulation
- » Type-M copper condensate riser
- » Riser extensions
- » Riser cover
- » Ship in advance risers

Dimensions

RAVE UNIT DIMENSIONS



Unit Size	A	B	C	D
03 & 04	18 [457]	16 1/2 [419]	16 [406]	8 [203]
06 & 08	20 [508]	18 1/2 [470]	18 [457]	12 [305]
10 & 12	24 [610]	22 1/2 [572]	22 [559]	14 [356]

**Notes:**

1. All dimensions are inches [mm]. Metric values are soft conversion.
2. All dimensions are  $\pm 1/4$  [6mm]
3. Thermostat is shipped loose and may be unit surface mounted or remote wall mounted.
4. Wiring from electrical entry point to control enclosure is furnished and installed by others in field
5. Risers available from 3/4" [19mm] to 3" [76mm] diameter with 1/2" [13mm] thick insulation, and 3/4" [19mm] to 2 1/2" [64mm] diameter with 3/4" [19mm] thick insulation
6. Riser length is 120" [3048mm] max., 100" [2540mm] min
7. All units are back riser, front single supply, Arrangement BF00 only
8. Factory mounted risers shown. Risers may also ship in advance of unit. See Ship In Advance Riser drawings for details.
9. Standard cabinet finish is British White
10. Floor and ceiling trim furnished and installed by others



## RARP Riser

- » Type M or L copper with swaged connections
- » ¾" to 3" diameters and 100" to 120" length available
- » ½" and ¾" closed cell insulation
- » Type M copper condensate/Drain Riser
- » Riser extensions, caps and covers available
- » Ship in advance risers



RARP RISER

### AVAILABLE MODEL:

RARP Riser



See website for Specifications

### OVERVIEW

Factory assembled or shipped loose risers are pressure tested before shipping. Ship loose riser offers flexibility in terms of installation and keeps the units away from the construction debris during riser testing and installation minimizing the damage.

### OPTIONAL FEATURES INCLUDE:

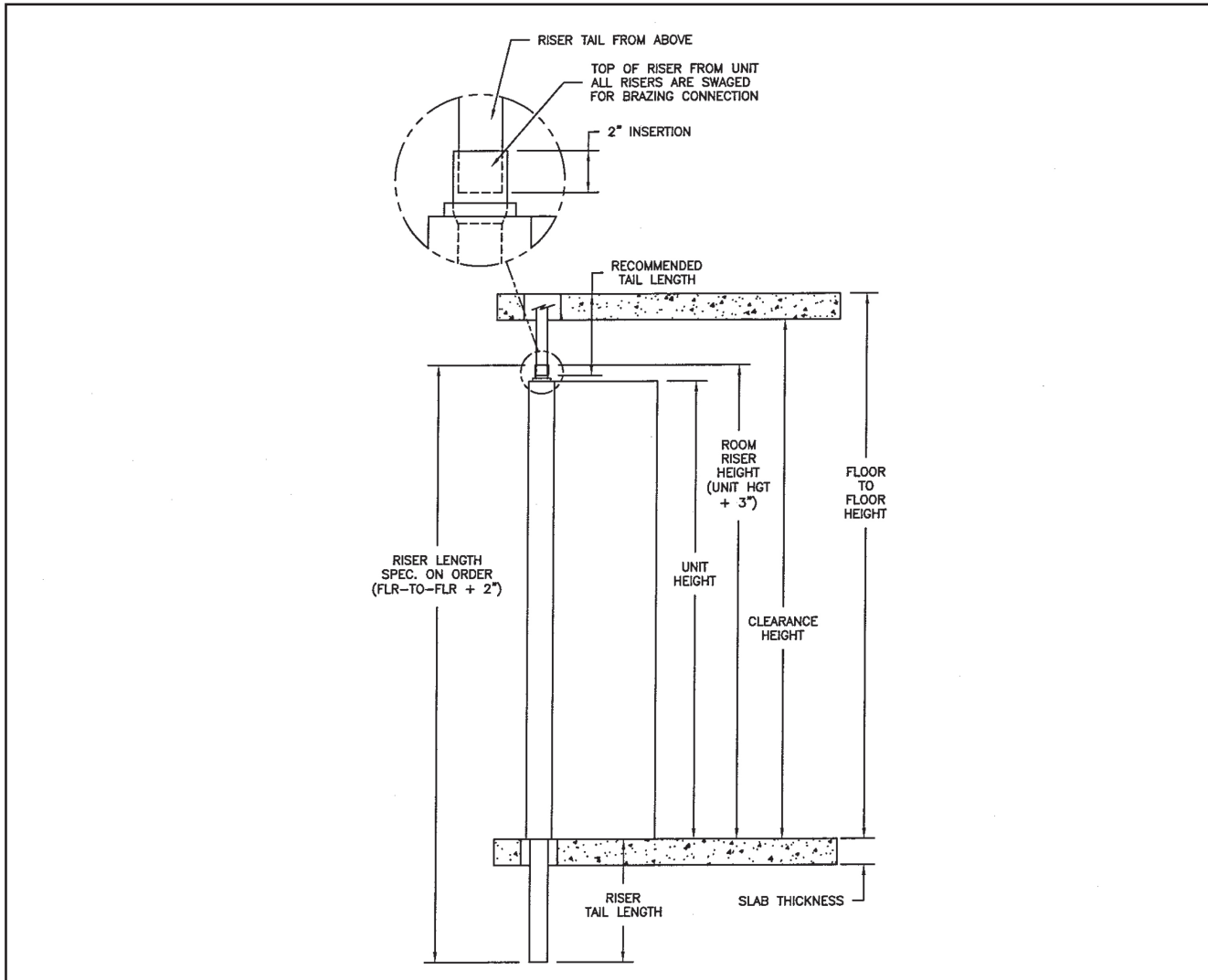
#### Risers

- » Type-M or Type-L copper with swaged connections
- » ¾" to 3" diameters
- » ½" and ¾" closed-cell insulation
- » Type-M copper condensate riser
- » Riser extensions
- » Riser cover
- » Ship in advance risers



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RARP RISER UNIT TERMINOLOGY



**Floor to Floor Height:**

Distance from the top of one slab to the top of the slab on the next floor.

**Clearance Height:**

Height available on one floor, floor to floor height less than slab thickness

**Room Riser Height:**

Distance from the floor to the top of the riser, all risers extend 3" beyond the top of the unit

**Unit Height:**

Distance from the floor to the top of the unit

**Riser Length:**

Overall length of the risers (specified on order), use the formula below to determine riser length. Risers are available in lengths from 91" to 120" in 1" increments.

**Slab Thickness:**

Thickness of floor, including any hanging obstructions, see contractors plans to determine thickness.

**Riser Tail Length:**

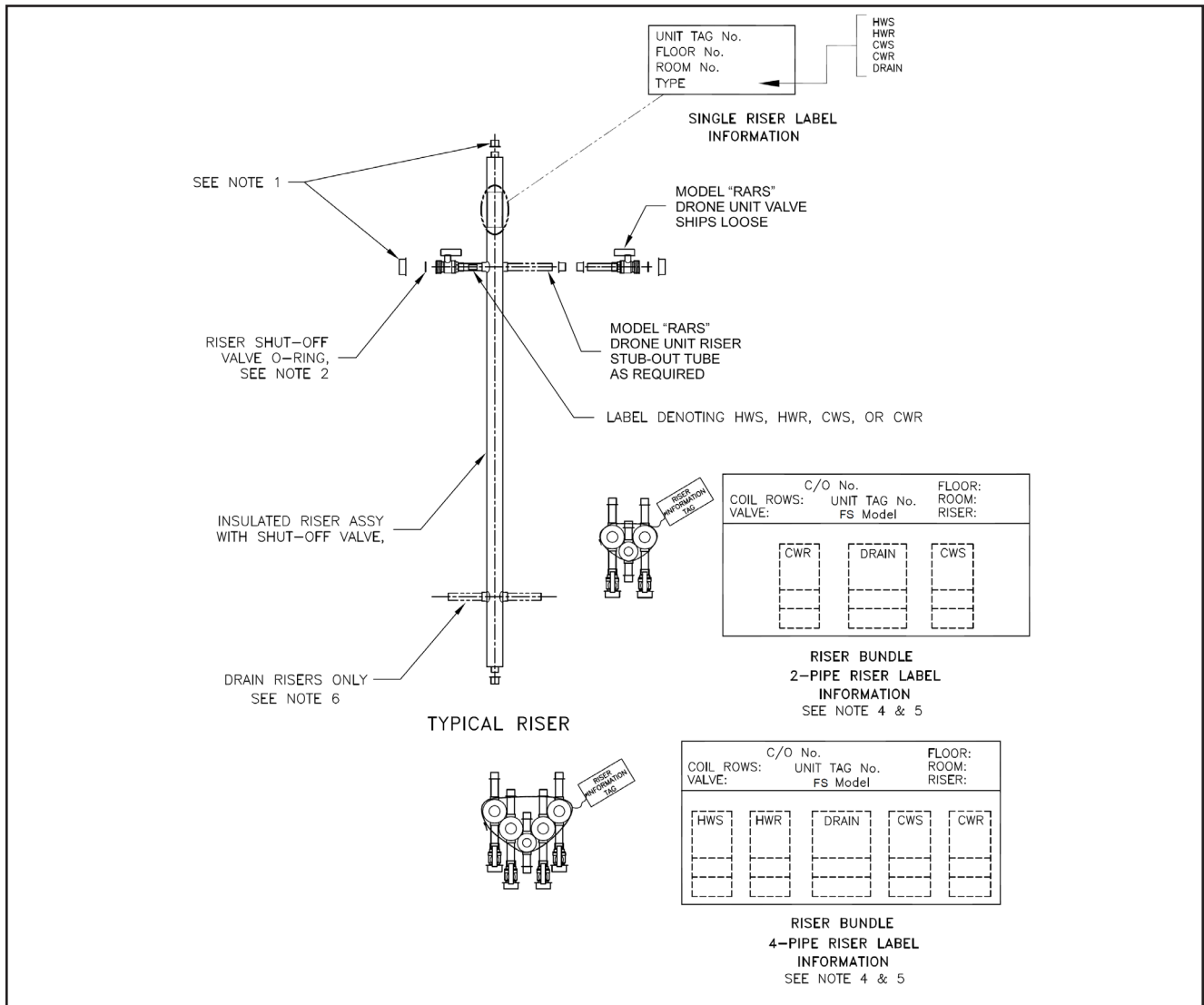
Distance that risers extend below unit

**Note:**

1. If recommended riser length exceeds 120", riser extensions will be required



RARP RISER UNIT DIMENSIONS



Notes:

1. All risers and valves are shipped with protective caps. These caps should remain in place until installation of the unit.
2. Each valve is supplied with an O-ring that is bagged and shipped loose for field installation by others
3. All risers are factory tested, and guaranteed to be leak free at the time of shipment
4. Riser information shown shall reflect matching unit identification labels
5. RARS, Secondary Units will mirror image orientation and will be labeled in units
6. Condensate P-Trap and hose clamps ships installed in unit for field connection to drain riser



Performance Data

## Coil, Physical Data: RAV Series

### COILS

Superior Rex offers hot water and chilled water coils for specific application with all RAV Series fan coil units. Strict onsite inspection

before, during, and after installation guarantees the highest quality and performance available.

#### Standard Features

- » Cooling - 3 or 4 row chilled water
- » Heating - 1 or 2 row hot water
- » 5 total rows of cooling and heating coils maximum
- » ½" O.D. seamless copper tubes
- » 0.016" tube wall thickness
- » High efficiency aluminum fin surface for optimizing heat transfer, pressure drop and carryover
- » Manual air vents

#### Optional Features

- » Automatic air vents
- » Stainless steel coil casings

Superior Rex offers RAMP, the industry's leading fan coil rating and selection program for complete unit, coil and sound selection.

### AIRFLOW CORRECTION

Airflow Correction Factors For Hot Water Coils						
Unit Size	1 Row HW Coil			2 Row HW Coil		
	High	Med.	Low	High	Med.	Low
03	0.927	0.961	0.950	0.859	.0924	0.903
04	0.988	0.939	0.946	0.976	0.882	0.895
06	0.965	0.953	0.927	0.931	0.908	0.859
08	0.973	0.966	0.977	0.947	0.933	0.955
10	0.981	0.975	0.997	0.962	0.951	0.994
12	0.966	0.968	0.947	0.933	0.937	0.897

#### Notes:

1. Use for addition of HW coils with CW coils on 4-pipe units only. Not for use on 2-pipe changeover systems
2. For 1 row HW coil, use with 3 row or 4 row CW coils
3. For 2 row HW coil, use with 3 row CW coils only

Example: RAV03 with 3 row cooling coil and no additional external static pressure, determine airflow with the addition of a 2 row HW coil.

Solution: From RAV03 fan curve, CFM is 350 at 0 ESP. Multiply CFM by correction factor for 2 row coil.  $350 \times .859 = 300$  CFM.

### ALTITUDE CORRECTION

Altitude Correction Factors								
Altitude (ft)	0	1000	2000	3000	4000	5000	6000	7000
Air Density (lb./ft. <sup>3</sup> )	0.075	0.0722	0.0697	0.0672	0.0648	0.0625	0.0601	0.0579
Total Capacity	1.000	0.988	0.986	0.983	0.981	0.979	0.977	0.975
Sensible Capacity	1.000	0.960	0.930	0.900	0.860	0.830	0.800	0.770
Static Pressure	1.000	0.960	0.930	0.900	0.860	0.830	0.800	0.770

**Note:** Capacity and static pressures will be affected for applications above sea level. To apply correction factors, multiply factor to desired coil capacity or fan curve data.

Example: RAV03 with 3 row coil, high speed fan operation at 3000 ft. above sea level and with 0.1 IN. W.C. ESP.

Solution: Using correction factors from Altitude Correction chart for 3000 ft. above sea level, data from AHRI Standard Ratings table and fan curves.

Total capacity = 12,500 BTUH (.983) = 12,288 BTUH  
 Sensible Capacity = 8,000 BTUH (.90) = 7,200 BTUH  
 SP = .1 (.90) = .09 IN. W.C.

### FACE AREA, FREE AREA AND FILTER SIZES

Unit Size	Coil Face Area	Filter Face Area	Nominal Filter Sizes
03	2.17 [.20]	2.29 [.21]	13 ¾ x 24 x 1 [349 x 610 x 25]
04	2.17 [.20]	2.29 [.21]	13 ¾ x 24 x 1 [349 x 610 x 25]
06	2.77 [.26]	2.90 [.27]	15 ¾ x 26 ½ x 1 [400 x 673 x 25]
08	2.77 [.26]	2.90 [.27]	15 ¾ x 26 ½ x 1 [400 x 673 x 25]
10	3.85 [.36]	3.98 [.37]	19 ¾ x 29 x 1 [502 x 737 x 25]
12	3.85 [.36]	3.98 [.37]	19 ¾ x 29 x 1 [502 x 737 x 25]



## Physical Data RAV Series

### AHRI STANDARD RATINGS

Model/Size	Coil		Airflow CFM (Dry Flow)	Cooling Capacity		Water		Power Input (Watts)
	Rows	FPI		QT (BTUH)	QS (BTUH)	Flow Rate (GPM)	WPD (ft-wg)	
RAV 03	3	14	346	12649	8920	2.5	6.36	66
RAV 04	3	14	441	15649	11060	3.1	8.48	118
RAV 06	3	14	608	23430	16069	4.6	15.93	142
RAV 08	3	14	799	26969	19200	5.4	10.13	247
RAV 10	3	14	1006	36419	25510	7.3	8.49	279
RAV 12	3	14	1238	42229	29959	8.4	9.63	474
RAV 03	4	14	337	15750	10470	3.1	11.31	66
RAV 04	4	14	426	19450	12989	3.9	13.86	118
RAV 06	4	14	587	27260	18129	5.4	13.86	142
RAV 08	4	14	779	33709	22799	6.7	17.96	247
RAV 10	4	14	989	42099	28780	8.4	7.1	279
RAV 12	4	14	1206	49159	33970	9.7	8.49	474

**Note:** Based on 80°F DB and 67°F WB EAT, 45°F EWT, 10°F temperature rise, high fan speed. Motor type is PSC and motor voltage is 115/1/60. Airflow under dry coil conditions. All models tested at 0.0" external static pressure.

### HEATING CAPACITY

Unit Type	Unit Size	Nom CFM	1 Row			2 Row		
			QS (MBH)	GPM	WPD	QS (MBH)	GPM	WPD
RAV / RAR	03	350	17.6	0.9	0.53	28.6	1.5	2.56
	04	466	17.9	0.9	0.26	35.4	1.8	3.79
	06	592	24.9	1.3	0.27	47.3	2.4	8.51
	08	846	29.8	1.5	0.33	59.8	3.1	12.96
	10	971	44.9	2.3	0.78	74.5	3.8	3.84
	12	1225	49.7	2.6	0.93	87.9	4.5	5.17

**Note:** Based on 70°F DB EAT, 180°F EWT, 40°F temperature drop, high fan speed

### RAV UNIT WEIGHT DATA

Component	Unit Size						
	03	04	06	08	10	12	
RAV Base Unit	218 [99]	218 [99]	235 [107]	235 [107]	277 [126]	277 [126]	
RAVM/RAVL Fire Rated Wall Plenum	130 [59]	130 [59]	145 [66]	145 [66]	160 [73]	160 [73]	
RAVM/RAVL Non Fire Rated Wall Plenum	78 [35]	78 [35]	87 [40]	87 [40]	96 [44]	96 [44]	
(4) 2" Risers & (1) 1" Riser (115" L & ¾" INS)	100 [45]	100 [45]	100 [45]	100 [45]	100 [45]	100 [45]	
Total Coil Rows	3 Row - Dry	20 [9]	20 [9]	24 [15]	24 [15]	34 [15]	34 [15]
	3 Row - Wet	26 [12]	26 [12]	31 [14]	31 [14]	44 [20]	44 [20]
	4 Row - Dry	25 [11]	25 [11]	30 [14]	30 [14]	42 [19]	42 [19]
	4 Row - Wet	32 [15]	32 [15]	39 [18]	39 [18]	55 [25]	55 [25]
	5 Row - Dry	30 [14]	30 [14]	35 [16]	35 [16]	50 [23]	50 [23]
	5 Row - Wet	38 [17]	38 [17]	46 [21]	46 [21]	66 [30]	66 [30]

**Note:** Unit weight data is in pounds [kilograms]

Performance Data

Electric Heat

Standard Features

- » ETL listed as an assembly for safety compliance
- » Single point power connection
- » Mounted in preheat position
- » Automatic reset primary and back-up secondary thermal limits
- » Internal wiring rated at 105°C
- » Integral electric heat assembly with removable element for easy service
- » Stainless steel terminals and hardware



Useful Formulas

$$kW^* = \frac{CFM \times \Delta T \times 1.085^{**}}{3413}$$

$$1\emptyset \text{ AMPs} = \frac{kW \times 1000}{\text{Volts}}$$

$$* 1kW = 3413 \text{ BTU/H}$$

\*\* Capacity at sea level

Altitude Considerations:

Reduce by 0.034 for each 1000 ft. of altitude above sea level.

Example: 5000 ft./1000 ft. = 5

$$5 \times 0.034 = 0.17$$

$$1.085 - 0.17 = 0.915$$

Optional Features

- » Silent solid state relays
- » Manual reset secondary thermal units
- » Door interlocking disconnect switch
- » Main fusing

Electrical Calculations Information

1. Contact your Superior Rex representative for more information on electrical calculations, including FLA, MCA and MOP
2. Non-Fused Door Interlock Disconnect Switch shall be sized according to MCA
3. Fused Door Interlock Disconnect Switch and Main Fusing shall be sized according to MOP

Notes:

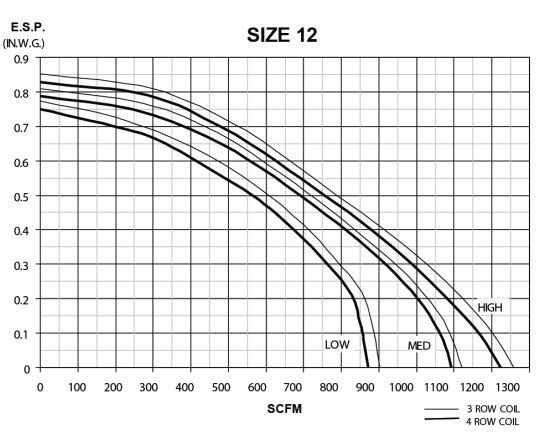
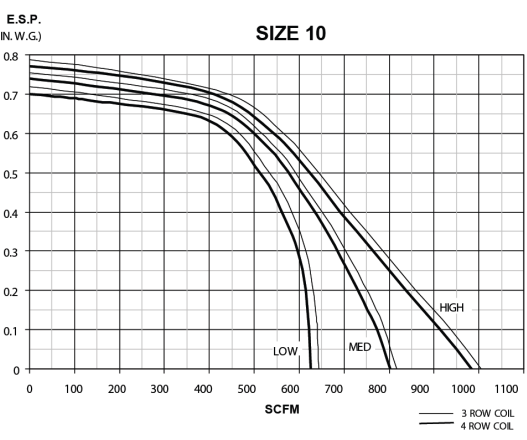
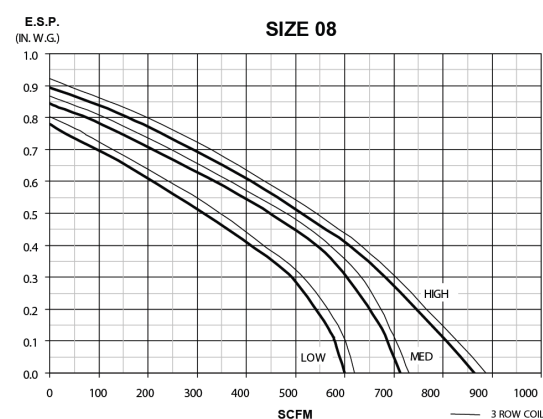
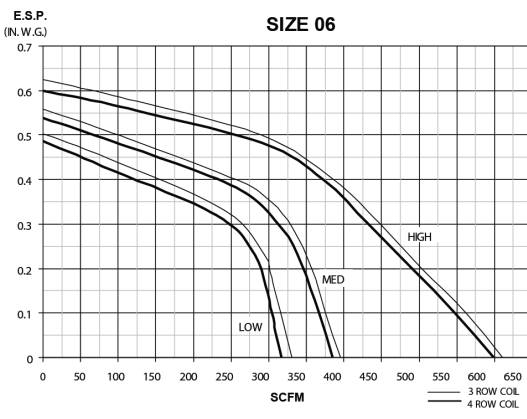
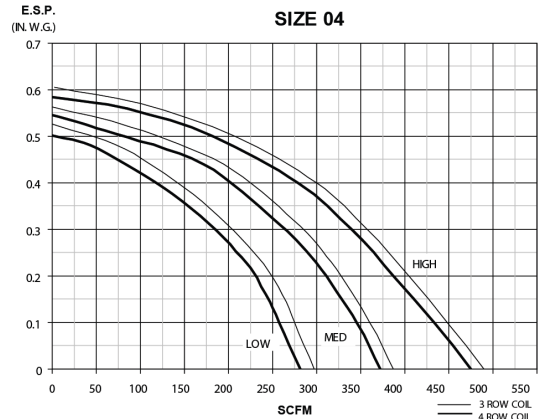
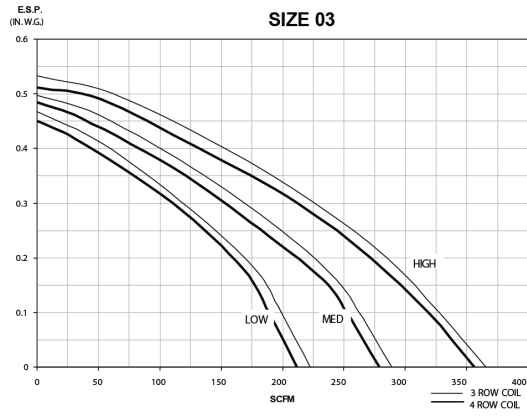
1. Shaded areas of the electric heat selection chart indicate kW and voltage options not available
2. Available voltages are single phase, 60 hertz
3. Size heater for Leaving Air Temperature (LAT) less than 104°F
4. Silent, solid state heater relay is available for heater currents less than 18 amps
5. Ask Superior Rex representative about continuously modulating electric heat using SSR and special control options

RAV ELECTRIC HEAT SELECTION CHART (AMPS)

Unit Size	MBH	3.4	6.8	10.2	13.7	17.1	20.5	23.9	27.3	30.7	34.1
	KW	1.0	2.0	3.0	4.0	5.0	6.0	7.0	8.0	9.0	10.0
	Volts	AMPS									
03	115	8.7	17.4	26.1							
	208	4.8	9.6	14.4							
	230	4.4	8.7	13.1							
	277	3.6	7.2	10.8							
04	115	8.7	17.4	26.1	34.8						
	208	4.8	9.6	14.4	19.2						
	230	4.4	8.7	13.1	17.4						
	277	3.6	7.2	10.8	14.4						
06	115	8.7	17.4	26.1	34.8						
	208	4.8	9.6	14.4	19.2	24.1					
	230	4.4	8.7	13.1	17.4	21.8					
	277	3.6	7.2	10.8	14.4	18.1					
08	115	8.7	17.4	26.1	34.8						
	208	4.8	9.6	14.4	19.2	24.1	28.9	33.7	38.5		
	230	4.4	8.7	13.1	17.4	21.8	26.1	30.5	34.8		
	277	3.6	7.2	10.8	14.4	18.1	21.7	25.3	28.9		
10	115	8.7	17.4	26.1	34.8						
	208	4.8	9.6	14.4	19.2	24.1	28.9	33.7	38.5	43.3	
	230	4.4	8.7	13.1	17.4	21.8	26.1	30.5	34.8	39.2	43.5
	277	3.6	7.2	10.8	14.4	18.1	21.7	25.3	28.9	32.5	36.1
12	115	8.7	17.4	26.1	34.8						
	208	4.8	9.6	14.4	19.2	24.1	28.9	33.7	38.5	43.3	
	230	4.4	8.7	13.1	17.4	21.8	26.1	30.5	34.8	39.2	43.5
	277	3.6	7.2	10.8	14.4	18.1	21.7	25.3	28.9	32.5	36.1



Fan Curves



Performance Data

Motor, Fan And Sound Data

MOTOR AND FAN DATA

Unit Size	Fan Speed	Motor H.P. (QTY)	115 Volts		208-230 Volts		277 Volts	
			AMPS	WATTS	AMPS	WATTS	AMPS	WATTS
03	High	1/35	0.6	66	0.3	74	0.3	70
	Medium	1/60	0.5	54	0.2	58	0.2	58
	Low	1/150	0.4	40	0.2	43	0.2	45
04	High	1/25	1.0	118	0.5	118	0.5	124
	Medium	1/50	0.7	76	0.4	91	0.3	93
	Low	1/100	0.5	52	0.3	67	0.3	68
06	High	1/15	1.3	132	0.6	129	0.5	126
	Medium	1/30	0.9	82	0.5	93	0.4	94
	Low	1/60	0.7	69	0.4	85	0.3	93
08	High	1/6	2.7	247	1.4	233	1.0	240
	Medium	1/8	2.4	245	0.9	202	0.9	217
	Low	1/10	2.2	205	0.6	177	0.8	214
10	High	1/5	2.7	279	1.2	310	1.0	290
	Medium	1/6	1.9	277	0.8	285	0.7	255
	Low	1/8	1.0	202	0.6	245	0.5	220
12	High	1/4	4.9	474	2.2	477	2.0	458
	Medium	1/5	4.3	420	1.5	420	1.4	418
	Low	1/6	3.7	325	1.1	325	1.0	332

Notes:

1. Motor electrical data is nameplated data. Actual data will vary with application.
2. 230 volt motor is nameplated for 208-230/1/60. Use 230 volt motor data for 208 volt applications.

RAV SOUND DATA

Unit Size	Fan Speed	Total Sound Power Level						
		Octave Band / Center Frequency (HZ)						
		2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
03	High	63	56	53	48	42	37	33
	Medium	59	52	49	43	36	32	27
	Low	51	45	41	34	25	22	21
04	High	65	58	54	49	46	42	36
	Medium	60	54	50	45	41	37	31
	Low	53	47	41	37	32	28	26
06	High	70	61	56	51	48	45	40
	Medium	63	54	52	45	41	41	36
	Low	58	51	47	42	34	28	25
08	High	71	63	61	59	54	52	47
	Medium	68	60	58	54	49	48	39
	Low	63	57	55	50	45	42	35
10	High	73	66	62	62	58	53	51
	Medium	71	63	59	55	50	47	45
	Low	64	59	57	53	48	44	41
12	High	74	70	69	65	61	61	53
	Medium	71	67	64	60	56	53	47
	Low	65	60	59	55	50	44	42

Sound data tested in accordance with AHRI 350-2000

2. Sound levels are expressed in decibels, dB Re: 1 x 10<sup>-12</sup> watts

3. Total sound power level data based on Model RAVS with fan CFM at corresponding motor tap with 115/1/60 volt motor, 4 row coil, 1" throwaway filter, double deflection discharge grille, 0.0" external static pressure and standard rated internal pressure losses



## RBV Series Design Features

new product offering

BUILT TOUGH, BUILT TO LAST™ | www.superiorrex.com

### HIGH PERFORMANCE

The Superior Rex vertical floor mounted fan coil units are designed to maximize flexibility of selection and installation.

The units are also designed to exceed the stringent quality standards of the institutional market, while remaining cost competitive in the light commercial segment of the market.

Superior Rex vertical fan coil units set the new standards for quality, flexibility, and competitive pricing.

### DESIGN FLEXIBILITY

The extensive variety of standard options available on vertical floor fan coil units are where you find the versatility to fit any HVAC system designer's needs. Models RBVC and RBVS allow for additional height and width dimensions to meet architectural demand.

Options include: single wall stainless steel drain pan; MERV 7, MERV 8 and MERV 14 filters; and electric heat with single point power connection. All electric heat units are listed with ETL as an assembly and carry the cETL label.

All units comply with the latest edition of AHRI Standard 440 for testing and rating fan coil units, are certified, and display the AHRI symbol.

High efficiency motors, fan relays, disconnects and fusing mean easier coordination between mechanical and electrical trades.

Coil options allow for three or four row chilled water or DX cooling coils, and one or two row hot water or steam heating coils.

Silent solid state relays are available for fan and electric heat control in sound sensitive environments.

### CONVENIENT INSTALLATION

All vertical floor fan coils are shipped completely assembled, reducing field installation time and labor. All units are thoroughly inspected and tested prior to shipment, eliminating potential problems at startup. Motor wiring is brought to a junction box on the inside of the unit end pocket, reducing electrical hook-up time.

Factory furnished valve packages assure proper fit, operation and performance.

For fast track jobs, the vertical floor fan coil is available on Quick Ship with 5, 10 or 15 day lead times.

### OPTIMUM BUILDING PERFORMANCE

Concealed vertical floor fan coil chassis are built from galvanized steel. This metal surpasses the ASTM 125 hour salt spray test for corrosion and rust. Exposed cabinet models are powder coated galvanized steel.

All units, with or without electric heat, are cETL listed and labeled. All wiring is in compliance with NEC, assuring safety and quality for the owner.

Floor mounted cabinet models feature finned tubular heating elements in the reheat position, protecting room occupants from electrical shock.

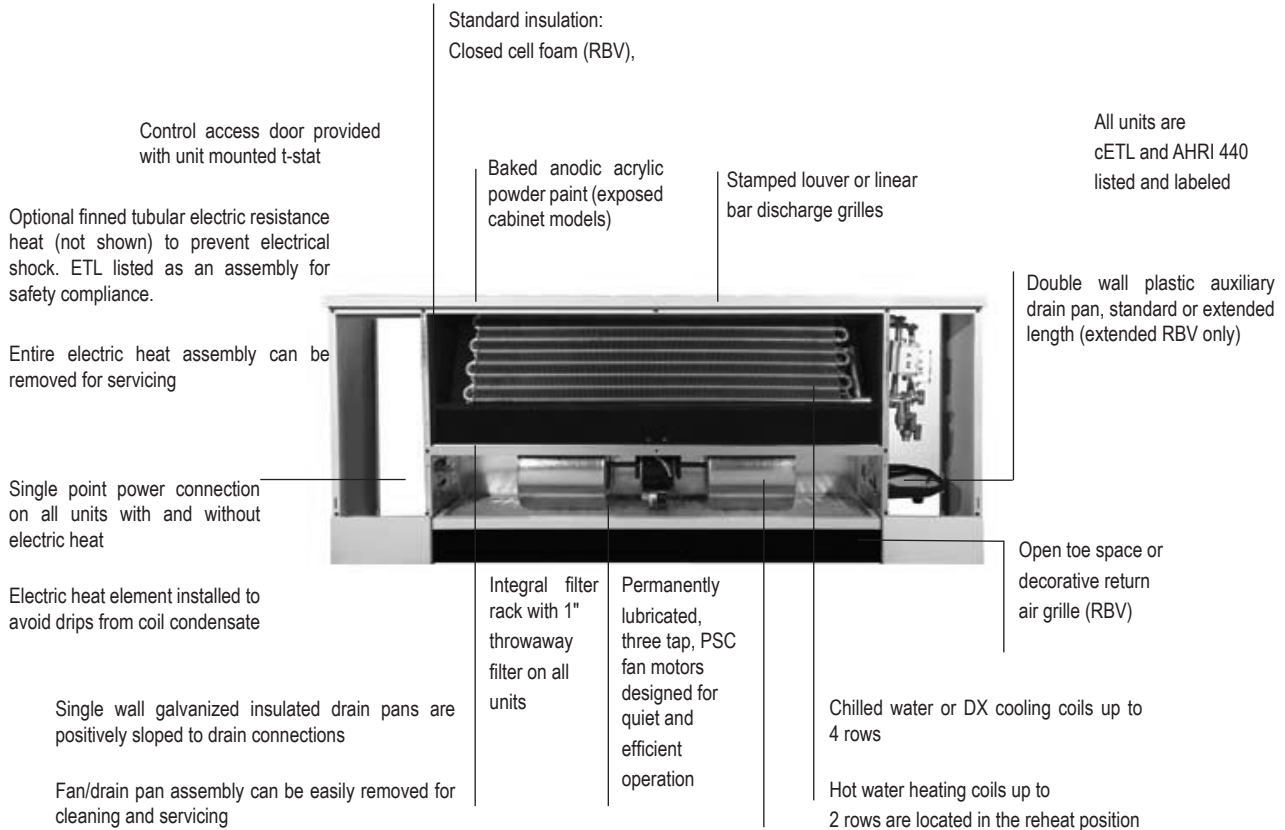
Vertical floor fan coil units have a removable fan/drain pan assembly. The entire fan assembly can be easily removed from the unit and serviced on a workbench.

Filters are easily replaceable from the return air toe space without the need for tools or removal of the front panel (RBV only).

## RBV Series Construction Features

### MODEL RBVC

(Photo as shown for RBVC). RBV Series fan coils have many standard and optional features which are unique to the industry.



### MODEL RBVS

Vertical Sloped Top



### MODEL RBVR

Vertical Concealed





### END POCKETS

The 7.5" end pockets allow for accessibility and service of optional factory piping packages and controls. End panels are removable to allow for even greater access.



### COILS

All fan coils are available in 2 or 4 pipe configurations. The heating coil is standard in the reheat position. Heating and cooling coils are available with the same or opposite end connections. Access for cleaning on the entering air side is available when the drain pan is removed. Coils are removable for service.



### FAN DECK

The fan/drain pan assembly is easily removable for service access to motors and blowers at, or away from, the unit.

### DRAIN PAN

The sloped insulated primary drain pan is available in stainless steel construction. Standard drain pan is externally insulated, single wall galvanized steel. The RBV Series fan/drain pan assembly is easily removable for cleaning.

### POWDER COAT PAINTED SURFACE

Exposed cabinet Models RBVC and RBVS, as well as supply and return air grilles and the RBVR wall recessing panel, feature a powder coat finish that resists scuffing, scratching, fading, and fingerprints.



### FILTER

The filter is easily replaceable through the return air toe space without requiring removal of the front panel.





### LID REMOVAL

Top panel is removable from fan coil without the need to disconnect piping or electrical wires.



### CONTROL ENCLOSURE

The RBV control enclosure provides adequate space for the unit controller and fan coil relay. The fan coil relay is designed to limit diagnostic problems, while allowing for multi-voltage fan power input. The board is designed for factory installed, color coded, plug and play connections designed to ensure accurate wiring.



### FAN DECK REMOVAL

RBV units allow for a single technician to service the fan/motor by keeping the fan deck to less than 44". Motors are supplied with quick connectors to allow electrical service without the need for tools.



### PIPING PACKAGES

Factory installed piping packages come equipped with components specific to the project. Actuators ship with color coded plug and play connections for quick, accurate installations. Opposite end coil connections are available.



## Vertical Basic Series

new product offering

### RBVS

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000 (non-ducted equipment)
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed and Variable speed ECM motor available for higher energy efficiencies
- » High-efficiency motor, SCR, DWDI blowers and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Angle stamped discharge top / grille, wall box and return air toe kick available as options
- » Removable end pockets for ease of installation



RBVS

#### AVAILABLE MODEL:

RBVS

#### OVERVIEW

Factory assembled, vertical blow-thru, slim and attractively styled RBVS Slope top fan coils are designed for exposed floor standing applications such as public buildings, hotels, schools, hospitals and general commercial applications.

#### OPTIONAL FEATURES INCLUDE:

##### Construction

###### All Units

- » Manual and motorized outside air dampers
- » Spare 1" throwaway filters
- » 1" pleated filters (MERV 8)
- » Wall boxes
- » Leveling legs

###### Concealed Units

- » Wall recessing panels

###### Exposed Units

- » Linear bar discharge grille, powder coated
- » 16 gauge front panel
- » Return air louver grille
- » 2" - 8" falsebacks
- » Extended end pockets
- » Tamper proof fasteners

##### Coils

- » Automatic air vents
- » Stainless steel coil casings



See website for Specifications

#### Drain Pans

- » Stainless steel construction with external insulation
- » Double wall plastic auxiliary drain pan -- extended length
- » Stainless steel auxiliary drain pan -- extended length

#### Fan Assemblies

- » 208-230 & 277 volt, 60 Hz and 220 volt, 50 Hz motors

#### Electrical

- » SCR fan speed controller (High Speed Only)
- » Fan relay packages
- » Silent solid state fan relays
- » Toggle disconnect switch
- » Condensate overflow switch (auxiliary drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches

#### Electric Heat

- » Door interlocking disconnect switches
- » Main fusing
- » Silent relay / contactors



A Participating Corporation in the AHRI 440 Certification Program

**Piping Packages**

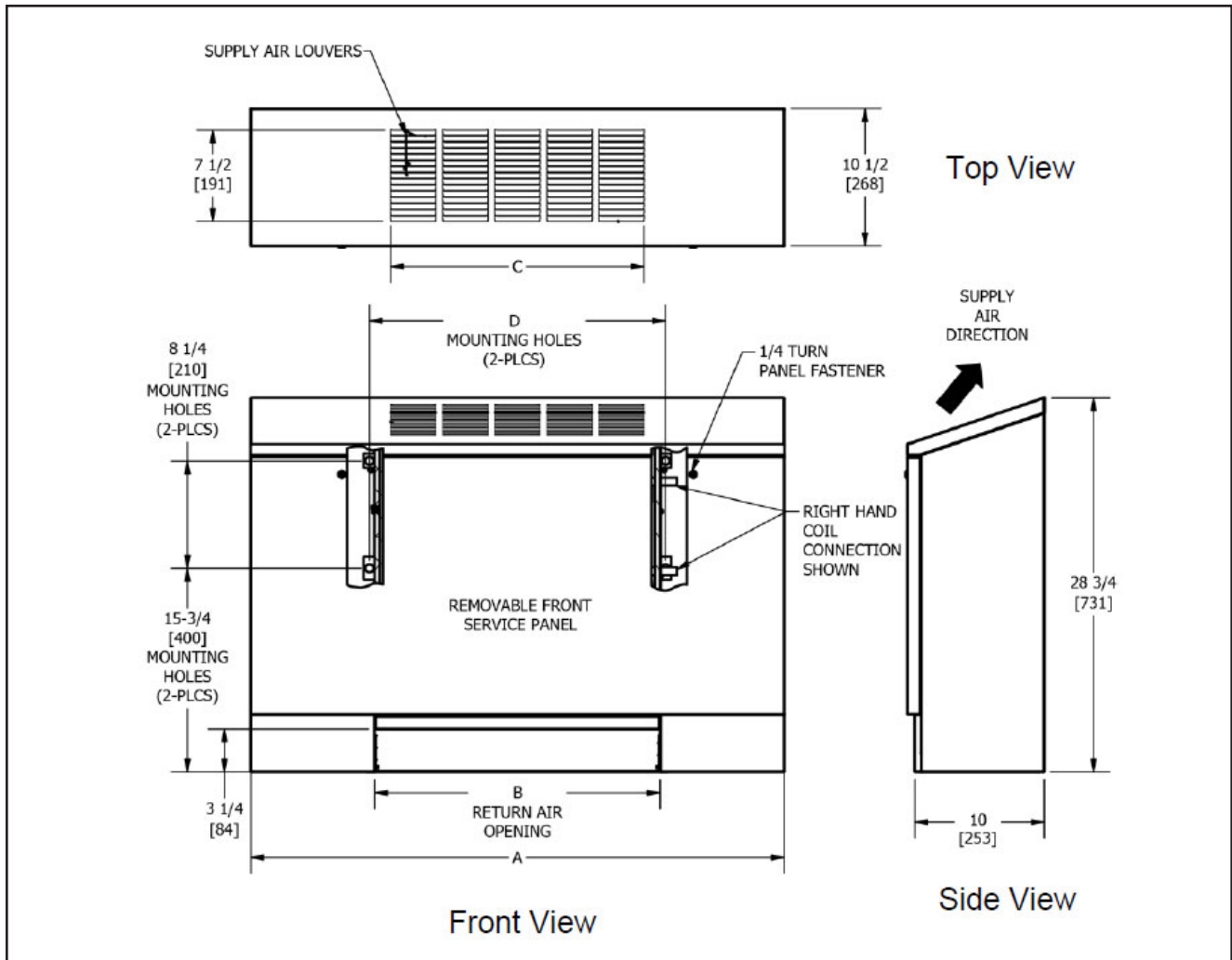
- » Factory-assembled - shipped loose for field installation
- » ½" and ¾", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Isolation ball valves with memory stop
- » 4-pipe with 3-way valve
- » Fixed and adjustable-flow control devices
- » Unions and P/T ports
- » Modulating control valves
- » High-pressure, close-off actuators (½" = 50 PSIG; ¾" = 25 PSIG)

**Thermostats**

- » Analog, digital display, or programmable
- » Unit and remote mounted, with integral three-speed, fan switch
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover



RBVS UNIT DIMENSIONS



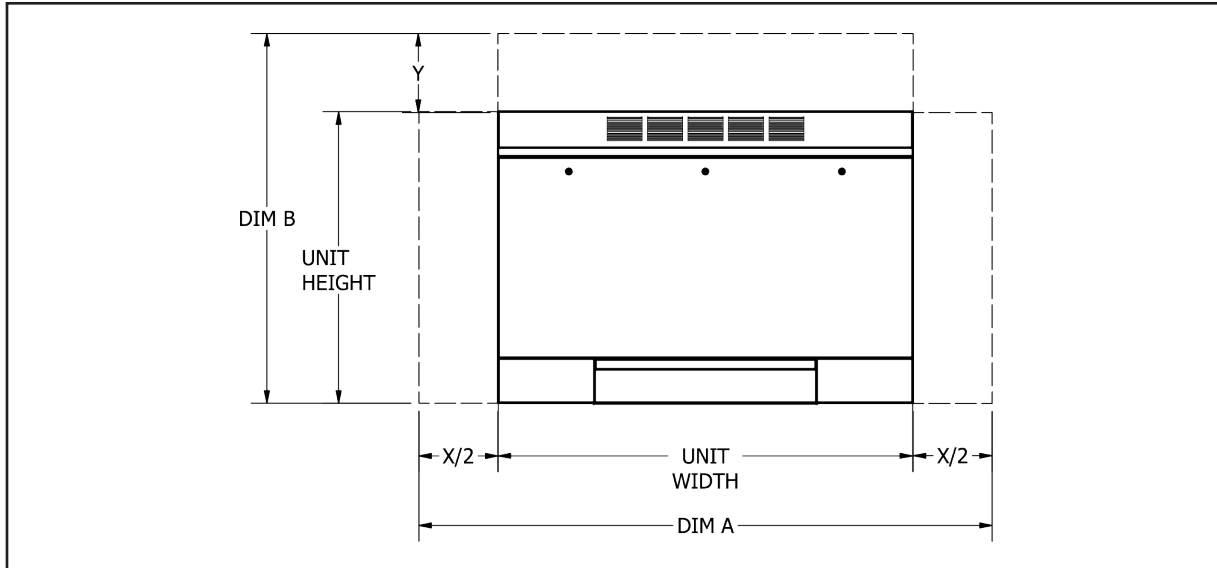
Unit Size	Dimensions			
	A	B	C	D
02	40 [1016]	22 [559]	19 ½ [495]	22 ¾ [578]
03	44 [1117]	26 [660]	23 ½ [597]	26 ¾ [679]
04	50 [1270]	32 [813]	27 ½ [699]	32 ¾ [832]
06	60 [1524]	42 [1067]	39 ½ [1003]	42 ¾ [1086]
08	62 [1574]	44 [1118]	39 ½ [1003]	44 ¾ [1137]
10	76 [1930]	58 [1473]	55 ½ [1410]	58 ¾ [1492]
12	84 [2133]	66 [1676]	63 ½ [1613]	66 ¾ [1695]

Notes:

1. All dimensions are Inches [millimeters]. All dimensions  $\pm\text{ }1/4$ "[6mm]. Metric values are soft conversion.
2. Junction box size and location varies with unit features. Control options may be limited. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.
3. Standard cabinet finish is "British White"
4. Right hand unit shown, left hand unit similar, but opposite
5. Parametric design available to increase Height or Width (See parametric offerings drawing)
6. Some control or piping package options may require extended pockets and/or extended drain pans. (See extended end pocket drawing).
7. False back extension available

Dimensions

RBVS UNIT DIMENSIONS - PARAMETRIC INCREMENTS



Dimension A (inches)													
Size	X=0	X=1	X=2	X=3	X=4	X=5	X=6	X=7	X=8	X=9	X=10	X=11	X=12
02	40	-	42	43	44	45	46	47	48	49	50	51	52
03	44	-	46	47	48	49	50	51	52	53	54	55	56
04	50	-	52	53	54	55	56	57	58	59	60	61	62
06	60	-	62	63	64	65	66	67	68	69	70	71	72
08	62	-	64	65	66	67	68	69	70	71	72	73	74
10	76	-	78	79	80	81	82	83	84	85	86	87	88
12	84	-	86	87	88	89	90	91	92	93	94	N/A	N/A
Dimension B (inches)													
All Sizes	Y=0	Y=1	Y=2	Y=3	Y=4	Y=5	Y=6	Y=7	Y=8	Y=9	Y=10	Y=11	Y=12
	25 ¼	26 ¼	27 ¼	28 ¼	29 ¼	30 ¼	31 ¼	32 ¼	33 ¼	34 ¼	35 ¼	36 ¼	37 ¼

Dimension A (millimeters)													
Size	X=0	X=25	X=51	X=76	X=102	X=127	X=152	X=178	X=203	X=229	X=254	X=279	X=305
02	1016	-	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028
03	1116	-	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130
04	1270	-	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282
06	1524	-	1526	1527	1528	1529	1530	1531	1532	1533	1534	1535	1536
08	1575	-	1577	1578	1579	1580	1581	1582	1583	1584	1585	1586	1587
10	1930	-	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
12	2134	-	2136	2137	2138	2139	2140	2141	2142	2143	2144	N/A	N/A
Dimension B (millimeters)													
All Sizes	Y=0	Y=20	Y=51	Y=76	Y=102	Y=127	Y=152	Y=178	Y=203	Y=229	Y=254	Y=279	Y=305
	641	667	692	718	743	768	794	819	845	870	895	921	946

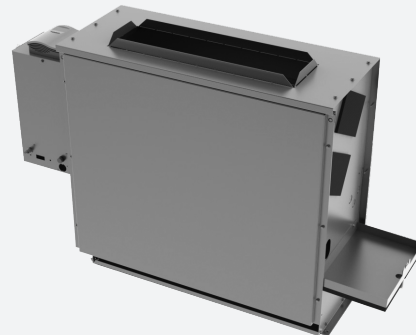
Note:

Internal chassis and air openings remain the same. External cabinet can increase in height and width in 1" (25.4mm) increments up to 12" (305mm).



## RBVR

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000 (non-ducted equipment)
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed and Variable speed ECM motor available for higher energy efficiencies
- » High-efficiency motor, SCR, DWDI blowers and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Top discharge air flange and decorative wall recessing panels available



RBVR

### AVAILABLE MODEL:

RBVR

### OVERVIEW

Factory assembled, vertical blow-thru, ducted RBVR fan coils are designed for concealed installations inside a closet or furred-in under a window and ducted, for projects such as public buildings, hotels, schools, hospitals and general commercial applications.

### OPTIONAL FEATURES INCLUDE:

#### Construction

##### All Units

- » Manual and motorized outside air dampers
- » Spare 1" throwaway filters
- » 1" pleated filters (MERV 8)
- » Wall boxes
- » Leveling legs

##### Concealed Units

- » Wall recessing panels

#### Coils

- » Automatic air vents
- » Stainless steel coil casings

#### Drain Pans

- » Stainless steel construction with external insulation
- » Double wall plastic auxiliary drain pan -- extended length
- » Stainless steel auxiliary drain pan -- extended length

#### Fan Assemblies

- » 208-230 & 277 volt, 60 Hz and 220 volt, 50 Hz motors

#### Electrical

- » SCR fan speed controller (High Speed Only)



See website for Specifications

- » Fan relay packages
- » Silent solid state fan relays
- » Toggle disconnect switch
- » Condensate overflow switch (auxiliary drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches

#### Electric Heat

- » Door interlocking disconnect switches
- » Main fusing
- » Silent relay / contactors

#### Piping Packages

- » Factory-assembled - shipped loose for field installation
- » 1/2" and 3/4", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Isolation ball valves with memory stop
- » 4-pipe with 3-way valve
- » Fixed and adjustable-flow control devices
- » Unions and P/T ports
- » Modulating control valves
- » High-pressure, close-off actuators (1/2" = 50 PSIG; 3/4" = 25 PSIG)



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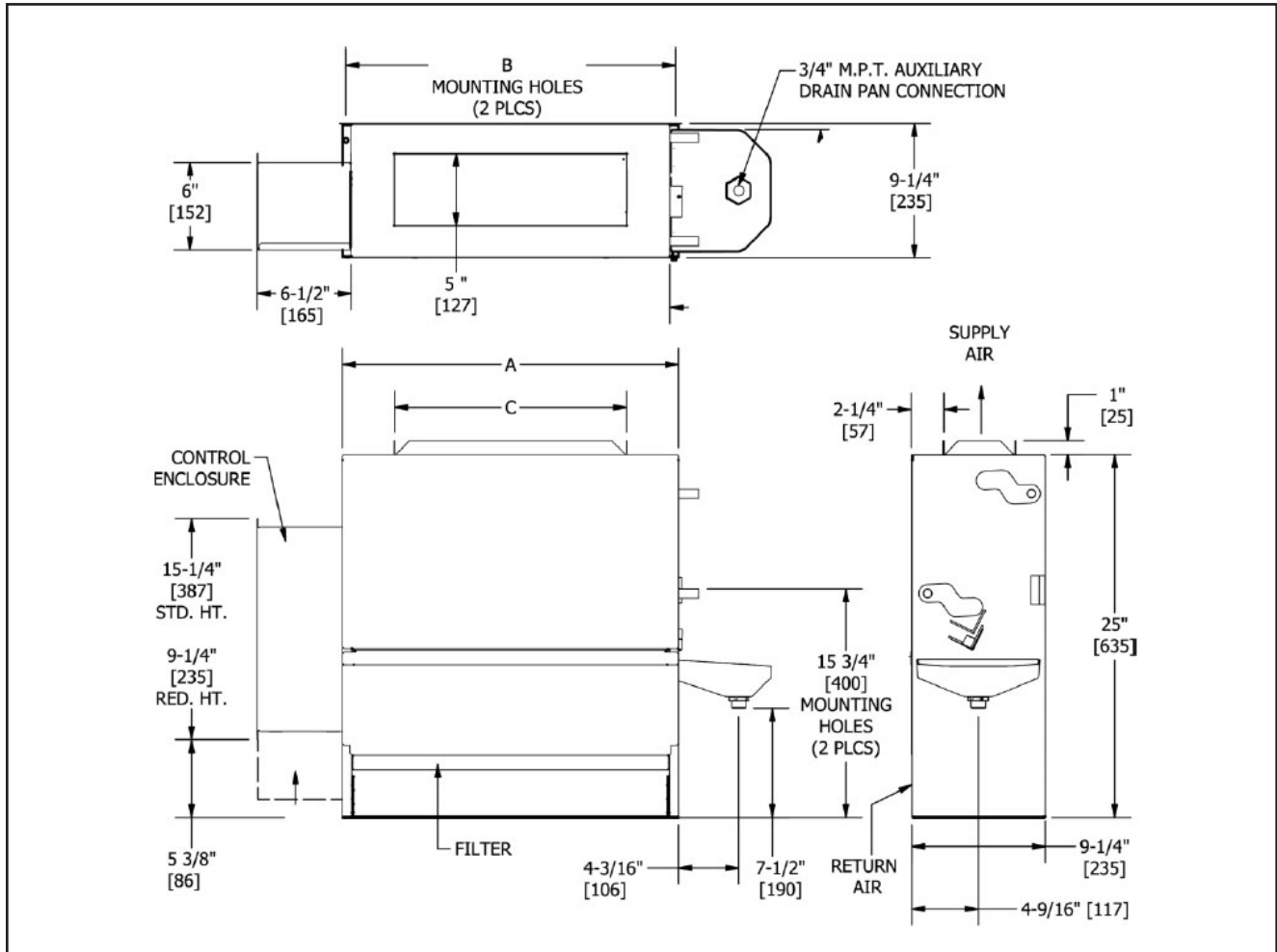
Vertical Basic Series (continued)

**Thermostats**

- » Analog, digital display, or programmable
- » Unit and remote mounted, with integral three-speed, fan switch
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover



RBVR UNIT DIMENSIONS



Dimensions			
Unit Size	A	B	C
02	23 3/16 [589]	23 3/4 [578]	16 [406]
03	27 3/16 [691]	26 3/4 [679]	20 [508]
04	33 3/16 [843]	32 3/4 [832]	26 [660]
06	43 3/16 [1097]	42 3/4 [1086]	36 [914]
08	45 3/16 [1148]	44 3/4 [1137]	38 [965]
10	59 3/16 [1503]	58 3/4 [1492]	52 [1320]
12	67 3/16 [1707]	66 3/4 [1695]	60 [1524]

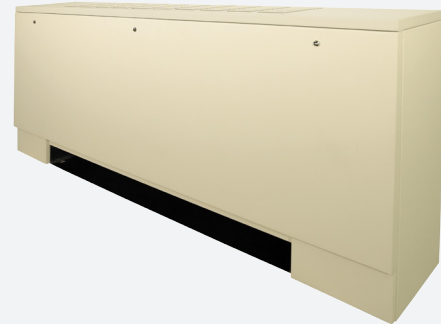
Notes:

1. All dimensions are in inches [millimeters]. All dimensions are  $\pm 1/4"$  [6mm]. Metric values are soft conversion.
2. Junction box size and location varies w/unit features. Control options may be limited. Provide sufficient clearance to access electrical controls and comply w/ applicable codes and ordinances, reduced height control enclosure is standard with opposite end coils.
3. Right hand coil connection shown. Left hand unit similar but opposite.
4. Some piping package options may require extended drain pans
5. Size 02 and 03 Models with 208/230vac or 277vac have 3 5/8" [92] extended controls enclosure



## RBVC

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000 (non-ducted equipment)
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard High-efficiency 3 speed and Variable speed ECM motor available for higher energy efficiencies
- » High-efficiency motor, SCR, DWDI blowers and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Flat stamped discharge top / grille, wall box and return air toe kick available as options
- » Removable end pockets for ease of installation



RBVC

### AVAILABLE MODEL:

RBVC

### OVERVIEW

Factory assembled, vertical blow-thru, slim and attractively styled RBVC flat top fan coils are designed for exposed floor standing applications such as public buildings, hotels, schools, hospitals and general commercial applications.

### OPTIONAL FEATURES INCLUDE:

#### Construction

##### All Units

- » Foil faced fiberglass insulation
- » Elastomeric closed cell foam insulation
- » Manual and motorized outside air dampers
- » Spare 1" throwaway filters
- » 1" pleated filters (MERV 8)
- » Wall boxes
- » Double deflection discharge grille, powder coated
- » Linear bar discharge grille, powder coated
- » 16 gauge front panel
- » Return air louver grille
- » 2" - 8" falsebacks
- » 2" - 6" subbases
- » Extended end pockets
- » Tamper proof fasteners
- » Leveling legs

#### Coils

- » Automatic air vents
- » Stainless steel coil casings



See website for Specifications

#### Drain Pans

- » Stainless steel construction with external insulation
- » Double wall plastic auxiliary drain pan -- extended length
- » Stainless steel auxiliary drain pan -- extended length

#### Fan Assemblies

- » 208-230 & 277 volt, 60 Hz and 220 volt, 50 Hz motors

#### Electrical

- » SCR fan speed controller (High Speed Only)
- » Fan relay packages
- » Silent solid state fan relays
- » Toggle disconnect switch
- » Condensate overflow switch (auxiliary drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches

#### Electric Heat

- » Door interlocking disconnect switches
- » Main fusing
- » Silent relay / contactors



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### Piping Packages

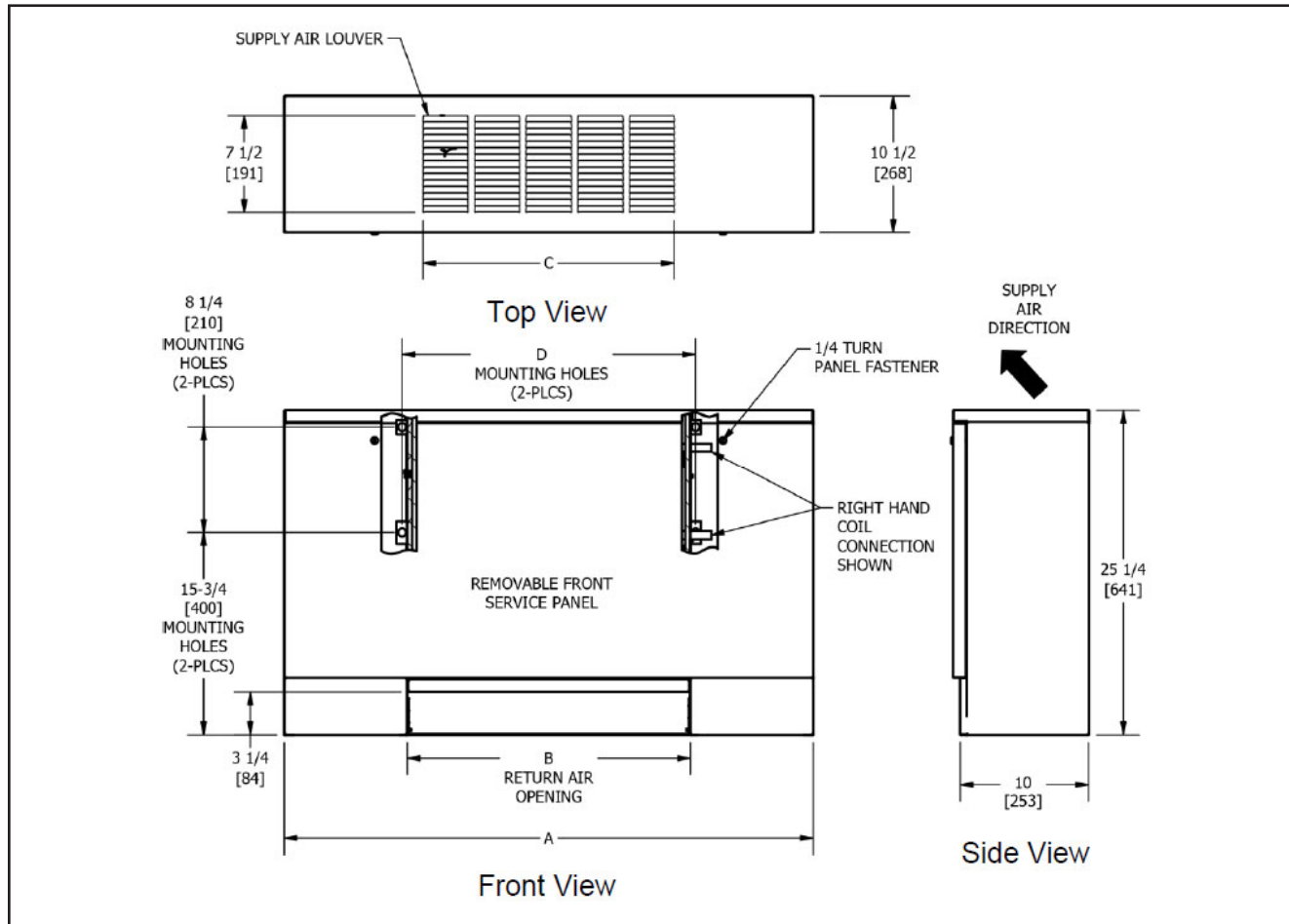
- » Factory-assembled - shipped loose for field installation
- » 1/2" and 3/4", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Isolation ball valves with memory stop
- » 4-pipe with 3-way valve
- » Fixed and adjustable-flow control devices
- » Unions and P/T ports
- » Modulating control valves
- » High-pressure, close-off actuators (1/2" = 50 PSIG; 3/4" = 25 PSIG)

### Thermostats

- » Analog, digital display, or programmable
- » Unit and remote mounted, with integral three-speed, fan switch
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover

Dimensions

RBVC UNIT DIMENSIONS



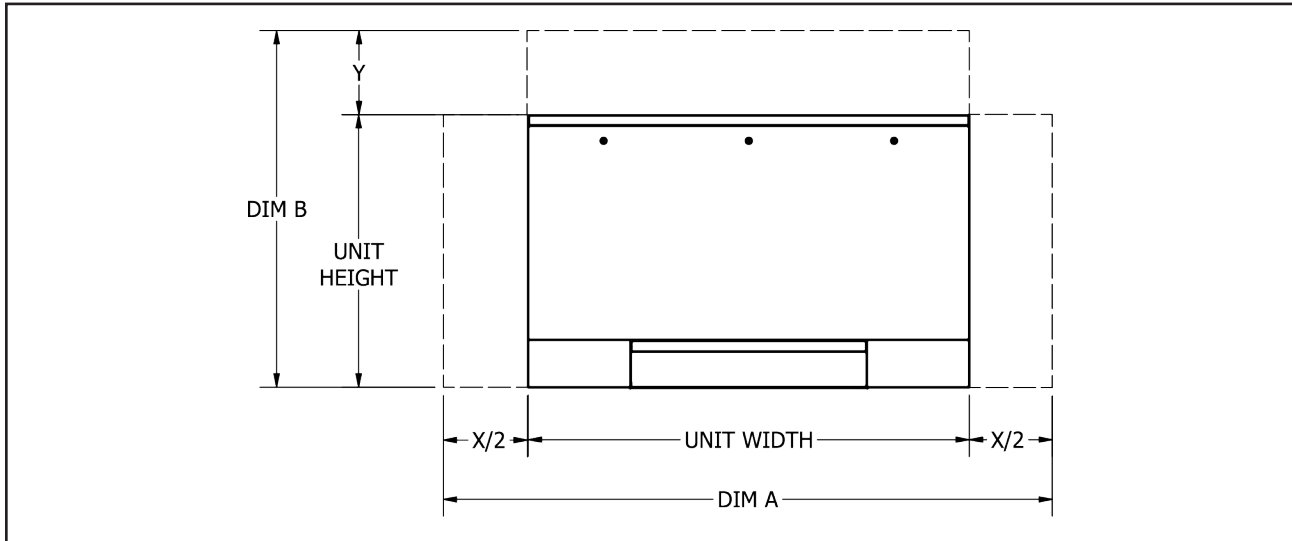
Dimensions				
Unit Size	A	B	C	D
02	40 [1016]	22 [559]	19 1/2 [495]	22 3/4 [578]
03	44 [1117]	26 [660]	23 1/2 [597]	26 3/4 [679]
04	50 [1270]	32 [813]	27 1/2 [699]	32 3/4 [832]
06	60 [1524]	42 [1067]	39 1/2 [1003]	42 3/4 [1086]
08	62 [1574]	44 [1118]	39 1/2 [1003]	44 3/4 [1137]
10	76 [1930]	58 [1473]	55 1/2 [1410]	58 3/4 [1492]
12	84 [2133]	66 [1676]	63 1/2 [1613]	66 3/4 [1695]

**Notes:**

1. All dimensions are Inches [millimeters]. All dimensions  $\pm 1/4"$  [6mm]. Metric values are soft conversion.
2. Junction box size and location varies with unit features. Control options may be limited. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.
3. Standard cabinet finish is "British White"
4. Parametric design available to increase Height or Width (See parametric offerings drawing).
5. Some control or piping package options may require extended end pockets and/or extended drain pans. (See extended end pocket drawing).
6. False backs ship loose for field installation



RBVC UNIT DIMENSIONS - PARAMETRIC INCREMENTS



Dimension A (inches)													
Size	X=0	X=1	X=2	X=3	X=4	X=5	X=6	X=7	X=8	X=9	X=10	X=11	X=12
02	40	-	42	43	44	45	46	47	48	49	50	51	52
03	44	-	46	47	48	49	50	51	52	53	54	55	56
04	50	-	52	53	54	55	56	57	58	59	60	61	62
06	60	-	62	63	64	65	66	67	68	69	70	71	72
08	62	-	64	65	66	67	68	69	70	71	72	73	74
10	76	-	78	79	80	81	82	83	84	85	86	87	88
12	84	-	86	87	88	89	90	91	92	93	94	N/A	N/A

Dimension B (inches)													
All Sizes	Y=0	Y=1	Y=2	Y=3	Y=4	Y=5	Y=6	Y=7	Y=8	Y=9	Y=10	Y=11	Y=12
		25 ¼	26 ¼	27 ¼	28 ¼	29 ¼	30 ¼	31 ¼	32 ¼	33 ¼	34 ¼	35 ¼	36 ¼

Dimension A (millimeters)													
Size	X=0	X=25	X=51	X=76	X=102	X=127	X=152	X=178	X=203	X=229	X=254	X=279	X=305
02	1016	-	1018	1019	1020	1021	1022	1023	1024	1025	1026	1027	1028
03	1116	-	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130
04	1270	-	1272	1273	1274	1275	1276	1277	1278	1279	1280	1281	1282
06	1524	-	1526	1527	1528	1529	1530	1531	1532	1533	1534	1535	1536
08	1575	-	1577	1578	1579	1580	1581	1582	1583	1584	1585	1586	1587
10	1930	-	1932	1933	1934	1935	1936	1937	1938	1939	1940	1941	1942
12	2134	-	2136	2137	2138	2139	2140	2141	2142	2143	2144	N/A	N/A

Dimension B (millimeters)													
All Sizes	Y=0	Y=20	Y=51	Y=76	Y=102	Y=127	Y=152	Y=178	Y=203	Y=229	Y=254	Y=279	Y=305
		641	667	692	718	743	768	794	819	845	870	895	921

Note:

Internal chassis and air openings remain the same. External cabinet can increase in height and width in 1" (25.4mm) increments up to 12" (305mm).

Performance Data

## Coil Data: RBV Series

### COILS

Superior Rex offers hot water, chilled water, direct expansion, and standard single tube steam coils for specific application with all Vertical

Floor fan coil units. Strict on-site inspection before, during, and after installation guarantees the highest quality and performance available.

#### Standard Features

- » Cooling - 3 or 4 row chilled water or DX
- » Heating - 1 or 2 row hot water
- » Total rows of cooling and heating coils: RBV: 4 maximum,
- » ½" O.D. seamless copper tubes
- » 0.016" tube wall thickness
- » High efficiency aluminum fin surface for optimizing heat transfer, pressure drop and carryover
- » Left or right hand, same or opposite side connections
- » Manual air vents

#### Optional Features

- » Automatic air vents
- » Stainless steel coil casings
- » DX coils are heat pump compatible

Superior Rex offers fan coil rating and selection program, RAMP for complete unit, coil and sound selection. See your representative for more information.

### RBV NOMINAL COIL CONNECTION SIZES

Unit Size	Coil Type											
	Hot Water		Chilled Water		Steam		Refrigerant (DX)					
	1 Row	2 Row	3 Row	4 Row	1 Row	2 Row	2 Row		3 Row		4 Row	
							Liquid	Suction	Liquid	Suction	Liquid	Suction
02-12	5/8 [16]	5/8 [16]	5/8 [22]	5/8 [22]	5/8 [16]	5/8 [16]	3/8 [10]	5/8 [16]	3/8 [10]	5/8 [16]	3/8 [10]	5/8 [16]

#### Notes:

1. Connection sizes are for standard circuit coils. Consult factory for special applications.
2. See submittal drawings for connection locations
3. All dimensional data is outside diameter (O.D.), measured in inches [millimeters]

### RBV FACE AREA, FREE AREA AND FILTER SIZES

Unit Size	Coil Face Area	Discharge Grille Free Area	Filter Face Area	Nominal Filter Sizes
02	0.97 [.090]	0.47 [.044]	1.40 [.130]	9.25 X 21.75 X 1 [235 X 552 X 25.4]
03	1.25 [.116]	0.56 [.052]	1.65 [.154]	9.25 X 25.75 X 1 [235 X 654 X 25.4]
04	1.67 [.155]	0.66 [.061]	2.04 [.189]	9.25 X 31.75 X 1 [235 X 806 X 25.4]
06	2.36 [.219]	0.94 [.087]	2.68 [.249]	9.25 X 41.75 X 1 [235 X 1060 X 25.4]
08	2.50 [.023]	0.94 [.087]	2.79 [.260]	(2) 9.25 X 21.75 X 1 [235 X 552 X 25.4]
10	3.47 [.322]	1.31 [.122]	3.69 [.343]	(1) 9.25 X 25.75 X 1 [235 X 654 X 25.4] (1) 9.25 X 31.75 X 1 [235 X 806 X 25.4]
12	4.03 [.374]	1.50 [.139]	4.19 [.389]	(3) 9.25 X 21.75 X 1 [235 X 552 X 25.4]

#### Notes:

1. Face and free areas are in square feet [square meters]
2. Filter sizes are in inches [millimeters]



### Coil Data: RBV Series

#### RBV HEATING CAPACITY

Unit Type	Unit Size	Nom CFM	1 Row			2 Row		
			QS (MBH)	GPM	WPD	QS (MBH)	GPM	WPD
RBVR	02	239	7.8	0.4	0.45	13.2	0.7	0.39
	03	330	10.8	0.6	0.80	18.6	1.0	0.61
	04	503	13.2	0.7	0.24	26.9	1.4	1.39
	06	590	15.0	0.8	0.12	32.3	1.7	0.25
	08	693	9.0	0.5	0.01	38.1	2.0	0.34
	10	900	24.4	1.3	0.10	52.4	2.7	0.69
	12	954	31.6	1.6	0.18	52.3	2.7	0.14
RBVS	02	239	7.8	0.4	0.45	13.3	0.7	0.39
	03	345	11.1	0.6	0.84	19.0	1.0	0.64
	04	489	13.0	0.7	0.24	26.5	1.4	1.36
	06	599	19.1	1.0	0.93	32.6	1.7	0.71
	08	672	21.2	1.1	1.18	37.1	1.9	0.33
	10	967	25.5	1.3	0.11	54.4	2.8	0.74
	12	1031	33.0	1.7	0.2	55.1	2.8	0.16
RBVC	02	239	7.8	0.4	0.45	13.3	0.7	0.39
	03	345	11.1	0.6	0.84	19.0	1.0	0.64
	04	489	13.0	0.7	0.24	26.5	1.4	1.36
	06	599	19.1	1.0	0.93	32.6	1.7	0.71
	08	672	21.2	1.1	1.18	37.1	1.9	0.33
	10	967	25.5	1.3	0.11	54.4	2.8	0.74
	12	1031	33.0	1.7	0.2	55.1	2.8	0.16

Note: Based on 70°F DB EAT, 180°F EWT, 40°F temperature drop, high fan speed

Performance Data

Physical Data: RBV Series

RBV AHRI STANDARD RATINGS

Model/Size	Coil		Airflow CFM (Dry Flow)	Cooling Capacity		Water		Power Input (Watts)
	Rows	FPI		QT (BTUH)	QS (BTUH)	Flow Rate (GPM)	WPD (ft-wg)	
RBVR 02	3	10	231	7210	5199	1.4	14.13	45
RBVR 03	3	10	308	7940	6199	1.6	4.1	60
RBVR 04	3	10	442	12170	9159	2.4	8.2	70
RBVR 06	3	10	558	16479	12180	3.3	6.1	80
RBVR 08	3	10	650	19500	14270	3.9	8.52	114
RBVR 10	3	10	845	27000	19319	5.4	18.01	132
RBVR 12	3	10	893	28379	20500	5.6	5.99	142
RBVS 02	3	10	233	7309	5269	1.5	14.17	45
RBVS 03	3	10	318	8029	6320	1.6	4.09	60
RBVS 04	3	10	452	12270	9270	2.4	8.2	70
RBVS 06	3	10	566	16709	12340	3.3	6.29	80
RBVS 08	3	10	628	18950	13859	3.8	8.04	114
RBVS 10	3	10	830	26590	19010	5.3	17.25	132
RBVS 12	3	10	970	30250	21930	6.1	6.81	142
RBVC 02	3	10	233	7309	5269	1.5	14.17	45
RBVC 03	3	10	318	8029	6320	1.6	4.09	60
RBVC 04	3	10	452	12270	9270	2.4	8.2	70
RBVC 06	3	10	566	16709	12340	3.3	6.29	80
RBVC 08	3	10	628	18950	13859	3.8	8.04	114
RBVC 10	3	10	830	26590	19010	5.3	17.25	132
RBVC 12	3	10	970	30250	21930	6.1	6.81	142

**Note:** Based on 80°F DB and 67°F WB EAT, 45°F EWT, 10°F temperature rise, high fan speed. Motor type is PSC and motor voltage is 115/1/60. Airflow under dry coil conditions. Models RBVC and RBVS tested at 0.0" external static pressure. Model RBVR tested at 0.05" external static pressure.

RBV UNIT WEIGHT DATA

Component	Unit Size							
	02	03	04	06	08	10	12	
RBVR Base Unit	36 [16]	45 [20]	55 [25]	62 [28]	66 [30]	92 [42]	105 [48]	
RBVC Base Unit	66 [30]	74 [34]	87 [39]	96 [44]	102 [46]	131 [59]	149 [68]	
RBVS Base Unit	68 [31]	76 [34]	89 [40]	99 [45]	102 [46]	135 [61]	153 [69]	
Total Coil Rows	1 Row - Dry	11 [5]	12 [5]	14 [6]	18 [8]	19 [9]	23 [10]	26 [12]
	1 Row - Wet	14 [6]	15 [7]	20 [9]	24 [11]	25 [11]	32 [15]	37 [17]
	2 Row - Dry	14 [6]	15 [7]	19 [9]	22 [10]	24 [11]	30 [14]	33 [15]
	2 Row - Wet	19 [9]	20 [9]	25 [11]	31 [14]	32 [15]	41 [19]	47 [21]
	3 Row - Dry	18 [8]	20 [9]	23 [10]	29 [13]	30 [14]	37 [17]	43 [20]
	3 Row - Wet	23 [10]	25 [11]	32 [15]	39 [18]	41 [19]	52 [24]	61 [28]
	4 Row - Dry	22 [10]	25 [11]	30 [14]	36 [16]	39 [18]	47 [21]	54 [24]
	4 Row - Wet	30 [14]	32 [15]	41 [19]	50 [23]	52 [24]	65 [29]	77 [35]

**Note:** Unit weight data is in pounds [kilograms]



### Electric Heat

Superior Rex offers electric heating coils for specific application with all Vertical Floor Series Fan Coil units. This allows the flexibility to provide

an unrivaled amount of electric heat options in one complete package.

#### Standard Features

- » ETL listed as an assembly for safety compliance
- » Single point power connection
- » Mounted in reheat position
- » Automatic reset primary and back-up secondary thermal limits
- » Internal wiring rated at 105°C
- » Integral electric heat assembly with removable element for easy service
- » Stainless steel terminals and hardware
- » Finned tubular heater virtually eliminates the risk of shock from accidental contact



#### Useful Formulas

$$kW^* = \frac{CFM \times \Delta T \times 1.085^{**}}{3413}$$

$$1\emptyset \text{ AMPs} = \frac{kW \times 1000}{\text{Volts}}$$

\* 1kW = 3413 BTU/H

\*\* Capacity at sea level

Altitude Considerations:

Reduce by 0.034 for each 1000 ft. of altitude above sea level

Example: 5000 ft./1000 ft. = 5

$$5 \times 0.034 = 0.17$$

$$1.085 - 0.17 = 0.915$$

#### Optional Features

- » Silent solid state relays on heaters up to 18 amps
- » Door interlocking disconnect switch
- » Main fusing

#### Electrical Calculations Information

1. Contact your local Superior Rex sales office
2. Non-Fused Door Interlock Disconnect Switch shall be sized according to MCA
3. Fused Door Interlock Disconnect Switch and Main Fusing shall be sized according to MOP

### RBV ELECTRIC HEAT SELECTION CHART (AMPS)

Unit Size	MBH	3.4	5.1	6.8	10.2	13.7	17.1	20.5
	KW	1.0	1.5	2.0	3.0	4.0	5.0	6.0
	Volts	AMPS						
02	115	8.3						
	208	4.8						
	240	4.2						
	277	3.6						
03	115	8.3	12.5					
	208	4.8	7.2					
	240	4.2	6.3					
	277	3.6	5.4					
04	115	8.3	12.5	16.7				
	208	4.8	7.2	9.6				
	240	4.2	6.3	8.3				
	277	3.6	5.4	7.2				
06	115	8.3	12.5	16.7	25.0			
	208	4.8	7.2	9.6	14.4			
	240	4.2	6.3	8.3	12.5			
	277	3.6	5.4	7.2	10.8			
08	115	8.3	12.5	16.7	25.0			
	208	4.8	7.2	9.6	14.4	19.2		
	240	4.2	6.3	8.3	12.5	16.7		
	277	3.6	5.4	7.2	10.8	14.4		
10	115	8.3	12.5	16.7	25.0			
	208	4.8	7.2	9.6	14.4	19.2	24.0	
	240	4.2	6.3	8.3	12.5	16.7	20.8	
	277	3.6	5.4	7.2	10.8	14.4	18.1	
12	115	8.3	12.5	16.7	25.0			
	208	4.8	7.2	9.6	14.4	19.2	24.0	28.9
	240	4.2	6.3	8.3	12.5	16.7	20.8	25.0
	277	3.6	5.4	7.2	10.8	14.4	18.1	21.7

#### Notes:

1. Shaded areas of the electric heat selection chart indicate kW and voltage options not available
2. Available voltages are single phase, 60 hertz
3. Size heater for Leaving Air Temperature (LAT) less than 104°F
4. Silent, solid state heater relay is available for heater currents less than 18 amps
5. Ask your representative about continuously modulating electric heat using SSR and special control options



Performance Data

RBV SERIES PERFORMANCE DATA

Unit Data						3 Row Chilled Water Coil					
Unit Type	Unit Size	Air Flow (CFM)	Motor (HP)	Fan AMPS (FLA)	Fan Watts	LAT DB/WB (°F)	Total Capacity (MBH)	Sensible Capacity (MBH)	EWT/ LWT (°F)	Fluid Flow (GPM)	Fluid PD ( Ft.)
RBVR	02	231	(1) 1/50	0.40	45	58.3/55.6	5.1	4.2	45/55	1.0	10.5
	03	308	(1) 1/20	0.60	60	66.1/59.8	3.0	3.0	45/55	0.6	0.72
	04	442	(1) 1/20	0.75	70	59.9/56.8	8.2	7.3	45/55	1.6	4.66
	06	558	(1) 1/20	0.75	80	58.9/56.2	11.3	9.8	45/55	2.3	3.3
	08	650	(1) 1/10	1.10	114	58.9/56.1	13.3	11.4	45/55	2.6	4.53
	10	845	(2) 1/20	1.50	132	58.0/55.4	19.0	15.7	45/55	3.8	9.95
	12	893	(2) 1/20	1.50	142	58.1/55.7	19.4	16.5	45/55	3.9	3.00
RBVS	02	233	(1) 1/50	0.40	45	58.4/55.7	5.1	4.2	45/55	1.0	10.50
	03	318	(1) 1/20	0.60	60	66.3/59.9	3.0	3.0	45/55	0.6	0.74
	04	452	(1) 1/20	0.75	70	60.0/56.8	8.4	7.4	45/55	1.7	4.85
	06	566	(1) 1/20	0.75	80	59.0/56.3	11.3	9.9	45/55	2.3	3.30
	08	628	(1) 1/10	1.10	114	58.8/56.1	13.0	11.1	45/55	2.6	4.35
	10	830	(2) 1/20	1.50	132	57.9/55.3	19.0	15.5	45/55	3.8	9.95
	12	970	(2) 1/20	1.50	142	58.5/55.9	20.5	17.5	45/55	4.1	3.30
RBVC	02	233	(1) 1/50	0.40	45	58.4/55.7	5.1	4.2	45/55	1.0	10.50
	03	318	(1) 1/20	0.60	60	66.3/59.9	3.0	3.0	45/55	0.6	0.74
	04	452	(1) 1/20	0.75	70	60.0/56.8	8.4	7.4	45/55	1.7	4.85
	06	566	(1) 1/20	0.75	80	59.0/56.3	11.3	9.9	45/55	2.3	3.30
	08	628	(1) 1/10	1.10	114	58.8/56.1	13.0	11.1	45/55	2.6	4.35
	10	830	(2) 1/20	1.50	132	57.9/55.3	19.0	15.5	45/55	3.8	9.95
	12	970	(2) 1/20	1.50	142	58.5/55.9	20.5	17.5	45/55	4.1	3.30

**Note:** Based on 75°F DB EAT, 63°F WB, and 3 row cooling coil. All selections made at High speed, .05" ESP, 115 V motor, Concealed style of unit, Altitude of 0'. Fan watts shown at operating conditions. FLA based on motor nameplate.



RBV SERIES PERFORMANCE DATA

Unit Data						4 Row Chilled Water Coil					
Unit Type	Unit Size	Air Flow (CFM)	Motor (HP)	Fan AMPS (FLA)	Fan Watts	LAT DB/WB (°F)	Total Capacity (MBH)	Sensible Capacity (MBH)	EWT/LWT (°F)	Fluid Flow (GPM)	Fluid PD ( Ft.)
RBVR	02	227	(1) 1/50	0.40	45	62.9/58.7	3.0	3.0	45/55	0.6	0.91
	03	296	(1) 1/20	0.60	60	55.4/54.2	7.6	6.3	45/55	1.5	5.04
	04	421	(1) 1/20	0.75	70	55.0/53.7	11.4	9.2	45/55	2.3	9.99
	06	539	(1) 1/20	0.75	80	55.3/54.2	13.8	11.6	45/55	2.8	2.87
	08	614	(1) 1/10	1.10	114	55.2/54.0	16.1	13.2	45/55	3.2	3.83
	10	815	(2) 1/20	1.50	132	54.1/53.0	23.6	18.7	45/55	4.7	8.89
	12	842	(2) 1/20	1.50	142	52.7/51.8	26.9	20.5	45/55	5.4	13.28
RBVS/ RBVC	02	229	(1) 1/50	0.40	45	62.9/58.7	3.0	3.0	45/55	1.0	10.50
	03	312	(1) 1/20	0.60	60	55.5/54.3	7.9	6.6	45/55	0.6	0.74
	04	431	(1) 1/20	0.75	70	55.1/53.8	11.6	9.4	45/55	1.7	4.85
	06	549	(1) 1/20	0.75	80	55.5/54.3	13.9	11.7	45/55	2.3	3.30
	08	603	(1) 1/10	1.10	114	55.0/53.9	16.0	13.2	45/55	2.6	4.35
	10	805	(2) 1/20	1.50	132	54.0/52.9	23.4	18.5	45/55	3.8	9.95
	12	934	(2) 1/20	1.50	142	53.2/52.2	28.8	22.3	45/55	4.1	3.30

**Note:** Based on 75°F DB EAT, 63°F WB, and 4 row cooling coil. All selections made at High speed, .05" ESP, 115 V motor, Concealed style of unit, Altitude of 0'. Fan watts shown at operating conditions. FLA based on motor nameplate.

Unit Data						3 Row Chilled Water Coil					1 Row Hot Water Coil			
Unit Type	Unit Size	Air Flow (CFM)	Motor (HP)	Fan AMPS (FLA)	Fan Watts	LAT DB/ WB (°F)	Total Capacity (MBH)	Sensible Capacity (MBH)	Fluid Flow (GPM)	Fluid PD ( Ft.)	LAT DB/WB (°F)	Sensible Capacity (MBH)	Fluid Flow (GPM)	Fluid PD ( Ft.)
RBVR	02	227	(1) 1/50	0.40	45	58.2/55.6	5.0	4.2	1.0	10.50	100.7	7.5	0.4	0.44
	03	296	(1) 1/20	0.60	60	65.9/59.8	3.0	3.0	0.6	0.70	101.6	10.1	0.5	0.71
	04	421	(1) 1/20	0.75	70	59.7/56.7	8.0	7.0	1.6	4.48	95.6	11.8	0.6	0.21
	06	539	(1) 1/20	0.75	80	58.8/56.1	11.0	9.5	2.2	3.17	94	14.0	0.7	0.11
	08	614	(1) 1/10	1.10	114	58.8/56.0	12.7	11.0	2.5	4.17	83.1	8.7	0.4	0.01
	10	815	(2) 1/20	1.50	132	57.8/55.2	18.8	15.4	3.8	9.96	95.6	22.6	1.2	0.09
	12	842	(2) 1/20	1.50	142	58.0/55.6	18.5	15.7	3.7	2.70	101.8	29.0	1.5	0.16
RBVS/ RBVC	02	229	(1) 1/50	0.40	45	58.2/55.6	5.0	4.1	1.0	10.50	100.7	7.6	0.4	0.45
	03	312	(1) 1/20	0.60	60	66.2/59.9	3.0	3.0	0.6	0.72	100.7	10.4	0.5	0.75
	04	431	(1) 1/20	0.75	70	59.8/56.8	8.1	7.1	1.6	4.48	95.7	12.0	0.6	0.21
	06	549	(1) 1/20	0.75	80	59/56.2	11.1	9.6	2.2	3.17	93.9	14.2	0.7	0.11
	08	603	(1) 1/10	1.10	114	58.6/56.0	12.6	10.8	2.5	4.17	83.3	8.7	0.4	0.01
	10	805	(2) 1/20	1.50	132	57.8/55.2	18.4	15.1	3.6	9.41	95.7	22.4	1.2	0.08
	12	934	(2) 1/20	1.50	142	58.3/55.8	28.8	17.0	4.0	3.15	100.4	30.8	1.6	0.18

**Note:** Based on 70°F EAT, 180°F EWT, 40°F temperature drop. Cooling coil data based on 75°F DB EAT, 63°F WB, 45°F EWT, 55°F LWT. All selections made at High speed, .05" ESP, 115 V motor, Concealed style of unit, Altitude of 0'. Fan watts shown at operating conditions. FLA based on motor nameplate.

Performance Data

RBV SERIES PERFORMANCE DATA

Unit Data						3 Row Chilled Water Coil					
Unit Type	Unit Size	Air Flow (CFM)	Motor (HP)	Fan AMPS (FLA)	Fan Watts	LAT DB/WB (°F)	Total Capacity (MBH)	Sensible Capacity (MBH)	EWT/ LWT (°F)	Fluid Flow (GPM)	Fluid PD ( Ft.)
RBVR	02	231	(1) 1/50	0.40	45	59.0/56.3	6.1	4.8	45/55	1.2	12.92
	03	308	(1) 1/20	0.60	60	61.2/58.2	6.5	5.7	45/55	1.3	2.96
	04	442	(1) 1/20	0.75	70	60.7/57.6	10.1	8.4	45/55	2.0	6.37
	06	558	(1) 1/20	0.75	80	59.6/56.9	13.8	11.2	45/55	2.8	4.67
	08	650	(1) 1/10	1.10	114	59.6/56.8	16.3	13.1	45/55	3.3	6.44
	10	845	(2) 1/20	1.50	132	58.8/56.1	22.8	17.8	45/55	4.5	13.01
	12	893	(2) 1/20	1.50	142	58.8/56.3	23.7	18.8	45/55	4.7	4.30
RBVS	02	233	(1) 1/50	0.40	45	59.1/56.4	6.1	4.8	45/55	1.2	12.92
	03	318	(1) 1/20	0.60	60	61.3/58.2	6.7	5.8	45/55	1.3	3.12
	04	452	(1) 1/20	0.75	70	60.8/57.6	10.3	8.5	45/55	2.0	6.56
	06	566	(1) 1/20	0.75	80	59.7/57	13.9	11.3	45/55	2.8	4.67
	08	628	(1) 1/10	1.10	114	59.5/56.8	15.8	12.7	45/55	3.1	6.05
	10	830	(2) 1/20	1.50	132	58.6/56.0	22.7	17.6	45/55	4.5	13.01
	12	970	(2) 1/20	1.50	142	59.1/56.5	25.2	20.1	45/55	5.0	4.84
RBVC	02	233	(1) 1/50	0.40	45	59.1/56.4	6.1	4.8	45/55	1.2	12.92
	03	318	(1) 1/20	0.60	60	61.3/58.2	6.7	5.8	45/55	1.3	3.12
	04	452	(1) 1/20	0.75	70	60.8/57.6	10.3	8.5	45/55	2.0	6.56
	06	566	(1) 1/20	0.75	80	59.7/57	13.9	11.3	45/55	2.8	4.67
	08	628	(1) 1/10	1.10	114	59.5/56.8	15.8	12.7	45/55	3.1	6.05
	10	830	(2) 1/20	1.50	132	58.6/56.0	22.7	17.6	45/55	4.5	13.01
	12	970	(2) 1/20	1.50	142	59.1/56.5	25.2	20.1	45/55	5.0	4.84

**Note:** Based on 78°F DB EAT, 65°F WB, and 3 row cooling coil. All selections made at High speed, .05" ESP, 115 V motor, Concealed style of unit, Altitude of 0'. Fan watts shown at operating conditions. FLA based on motor nameplate.



RBV SERIES PERFORMANCE DATA

Unit Data						4 Row Chilled Water Coil					
Unit Type	Unit Size	Air Flow (CFM)	Motor (HP)	Fan AMPS (FLA)	Fan Watts	LAT DB/WB (°F)	Total Capacity (MBH)	Sensible Capacity (MBH)	EWT/LWT (°F)	Fluid Flow (GPM)	Fluid PD (Ft.)
RBVR	02	227	(1) 1/50	0.40	45	56.8/55.6	6.5	5.3	45/55	1.3	3.71
	03	296	(1) 1/20	0.60	60	55.7/54.6	9.3	7.2	45/55	1.8	6.80
	04	421	(1) 1/20	0.75	70	55.3/54.1	13.7	10.4	45/55	2.7	12.31
	06	539	(1) 1/20	0.75	80	55.6/54.5	16.9	13.2	45/55	3.3	3.99
	08	614	(1) 1/10	1.10	114	55.3/54.3	19.7	15.2	45/55	3.9	5.48
	10	815	(2) 1/20	1.50	132	54.3/53.3	28.3	21.2	45/55	5.7	11.89
	12	842	(2) 1/20	1.50	142	53.0/52.1	31.8	23.1	45/55	6.4	17.45
RBVS/ RBVC	02	229	(1) 1/50	0.40	45	56.8/55.6	6.5	5.3	45/55	1.3	3.70
	03	312	(1) 1/20	0.60	60	55.9/54.7	9.6	7.6	45/55	1.9	7.23
	04	431	(1) 1/20	0.75	70	55.5/54.2	13.9	10.6	45/55	2.8	12.44
	06	549	(1) 1/20	0.75	80	55.6/54.5	17.2	13.5	45/55	3.4	4.16
	08	603	(1) 1/10	1.10	114	55.3/54.2	19.4	15.0	45/55	3.8	5.29
	10	805	(2) 1/20	1.50	132	54.3/53.3	27.9	20.9	45/55	5.5	11.46
	12	934	(2) 1/20	1.50	142	53.5/52.5	34.3	25.1	45/55	6.9	20.05

**Note:** Based on 78°F DB EAT, 65°F WB, and 4 row cooling coil. All selections made at High speed, .05" ESP, 115 V motor, Concealed style of unit, Altitude of 0'. Fan watts shown at operating conditions. FLA based on motor nameplate.

Unit Data						3 Row Chilled Water Coil					1 Row Hot Water Coil			
Unit Type	Unit Size	Air Flow (CFM)	Motor (HP)	Fan AMPS (FLA)	Fan Watts	LAT DB/WB (°F)	Total Capacity (MBH)	Sensible Capacity (MBH)	Fluid Flow (GPM)	Fluid PD (Ft.)	LAT DB/WB (°F)	Sensible Capacity (MBH)	Fluid Flow (GPM)	Fluid PD (Ft.)
RBVR	02	227	(1) 1/50	0.40	45	58.9/56.2	6.1	4.8	1.2	12.9	100.7	7.5	0.4	0.44
	03	296	(1) 1/20	0.60	60	61.1/58.1	6.3	5.5	1.3	2.8	101.6	10.1	0.5	0.71
	04	421	(1) 1/20	0.75	70	60.5/57.5	9.7	8.1	1.9	6.0	95.6	11.8	0.6	0.21
	06	539	(1) 1/20	0.75	80	59.6/56.9	13.3	10.9	2.6	4.3	94.0	14.0	0.7	0.11
	08	614	(1) 1/10	1.10	114	59.4/56.7	15.7	12.5	3.1	6.1	83.1	8.7	0.4	0.01
	10	815	(2) 1/20	1.50	132	58.5/55.9	22.5	17.4	4.5	13.0	95.6	22.6	1.2	0.09
	12	842	(2) 1/20	1.50	142	58.6/56.2	22.6	17.9	4.5	4.0	101.8	29.0	1.5	0.16
RBVS/ RBVC	02	229	(1) 1/50	0.40	45	59/56.3	6.1	4.8	1.2	12.9	100.7	7.6	0.4	0.45
	03	312	(1) 1/20	0.60	60	61.3/58.2	6.5	5.7	1.3	3.0	100.7	10.4	0.5	0.75
	04	431	(1) 1/20	0.75	70	60.5/57.5	10.0	8.3	2.0	6.4	95.7	12.0	0.6	0.21
	06	549	(1) 1/20	0.75	80	59.6/56.9	13.6	11.1	2.7	4.5	93.9	14.2	0.7	0.11
	08	603	(1) 1/10	1.10	114	59.3/56.6	15.4	12.3	3.1	5.9	83.3	8.7	0.4	0.01
	10	805	(2) 1/20	1.50	132	58.5/55.9	22.2	17.2	4.4	12.3	95.7	22.4	1.2	0.08
	12	934	(2) 1/20	1.50	142	59/56.5	24.3	19.4	4.8	4.5	100.4	30.8	1.6	0.18

**Note:** Based on 70°F EAT, 180°F EWT, 40°F temperature drop. Cooling coil data based on 78°F DB EAT, 65°F WB, 45°F EWT, 55°F LWT. All selections made at High speed, .05" ESP, 115 V motor, Concealed style of unit, Altitude of 0'. Fan watts shown at operating conditions. FLA based on motor nameplate.

Performance Data

RBV SERIES PERFORMANCE DATA

Unit Data						3 Row Chilled Water Coil					
Unit Type	Unit Size	Air Flow (CFM)	Motor (HP)	Fan AMPS (FLA)	Fan Watts	LAT DB/WB (°F)	Total Capacity (MBH)	Sensible Capacity (MBH)	EWT/ LWT (°F)	Fluid Flow (GPM)	Fluid PD ( Ft.)
RBVR	02	231	(1) 1/50	0.40	45	57.7/55.5	4.4	3.6	45/55	0.9	8.83
	03	308	(1) 1/20	0.60	60	64.4/59.3	2.5	2.5	45/55	0.5	0.54
	04	442	(1) 1/20	0.75	70	59.2/56.6	7.1	6.2	45/55	1.4	3.74
	06	558	(1) 1/20	0.75	80	58.5/56.2	9.5	8.2	45/55	1.9	2.42
	08	650	(1) 1/10	1.10	114	58.4/56	11.4	9.7	45/55	2.3	3.48
	10	845	(2) 1/20	1.50	132	57.3/55.1	17.0	13.6	45/55	3.4	8.36
	12	893	(2) 1/20	1.50	142	57.7/55.6	16.7	14.0	45/55	3.3	2.28
RBVS	02	233	(1) 1/50	0.40	45	57.7/55.5	4.4	3.6	45/55	0.9	8.83
	03	318	(1) 1/20	0.60	60	64.6/59.3	2.6	2.6	45/55	0.5	0.56
	04	452	(1) 1/20	0.75	70	59.3/56.7	7.1	6.2	45/55	1.4	3.74
	06	566	(1) 1/20	0.75	80	58.6/56.3	9.5	8.2	45/55	1.9	2.42
	08	628	(1) 1/10	1.10	114	58.2/55.9	11.3	9.5	45/55	2.3	3.48
	10	830	(2) 1/20	1.50	132	57.3/55.1	16.7	13.4	45/55	3.3	8.10
	12	970	(2) 1/20	1.50	142	57.9/55.7	17.8	14.9	45/55	3.6	2.56
RBVC	02	233	(1) 1/50	0.40	45	57.7/55.5	4.4	3.6	45/55	0.9	8.83
	03	318	(1) 1/20	0.60	60	64.6/59.3	2.6	2.6	45/55	0.5	0.56
	04	452	(1) 1/20	0.75	70	59.3/56.7	7.1	6.2	45/55	1.4	3.74
	06	566	(1) 1/20	0.75	80	58.6/56.3	9.5	8.2	45/55	1.9	2.42
	08	628	(1) 1/10	1.10	114	58.2/55.9	11.3	9.5	45/55	2.3	3.48
	10	830	(2) 1/20	1.50	132	57.3/55.1	16.7	13.4	45/55	3.3	8.10
	12	970	(2) 1/20	1.50	142	57.9/55.7	17.8	14.9	45/55	3.6	2.56

**Note:** Based on 72°F DB EAT, 62°F WB, and 3 row cooling coil. All selections made at High speed, .05" ESP, 115 V motor, Concealed style of unit, Altitude of 0'. Fan watts shown at operating conditions. FLA based on motor nameplate.



RBV SERIES PERFORMANCE DATA

Unit Data						4 Row Chilled Water Coil					
Unit Type	Unit Size	Air Flow (CFM)	Motor (HP)	Fan AMPS (FLA)	Fan Watts	LAT DB/WB (°F)	Total Capacity (MBH)	Sensible Capacity (MBH)	EWT/LWT (°F)	Fluid Flow (GPM)	Fluid PD (Ft.)
RBVR	02	227	(1) 1/50	0.40	45	61.1/58.2	2.5	2.6	45/55	0.5	0.70
	03	296	(1) 1/20	0.60	60	55.4/54.2	6.5	5.4	45/55	1.3	3.96
	04	421	(1) 1/20	0.75	70	54.7/53.7	10.1	8.0	45/55	2.0	8.52
	06	539	(1) 1/20	0.75	80	55.4/54.5	11.8	9.8	45/55	2.3	2.14
	08	614	(1) 1/10	1.10	114	55.1/54.1	14.0	11.4	45/55	2.8	3.00
	10	815	(2) 1/20	1.50	132	53.9/53.0	21.0	16.2	45/55	4.2	7.35
	12	842	(2) 1/20	1.50	142	52.6/51.9	24.2	17.9	45/55	4.9	11.27
RBVS/ RBVC	02	229	(1) 1/50	0.40	45	61.7/58.3	2.6	2.5	45/55	0.5	0.70
	03	312	(1) 1/20	0.60	60	55.6/54.5	6.8	5.6	45/55	1.3	4.17
	04	431	(1) 1/20	0.75	70	54.9/53.8	10.2	8.1	45/55	2.0	8.52
	06	549	(1) 1/20	0.75	80	55.5/54.6	11.8	9.9	45/55	2.3	2.14
	08	603	(1) 1/10	1.10	114	55.0/54.1	13.8	11.2	45/55	2.8	3.00
	10	805	(2) 1/20	1.50	132	53.8/52.9	20.9	16.1	45/55	4.2	7.35
	12	934	(2) 1/20	1.50	142	53/52.2	26.1	19.5	45/55	5.2	12.72

**Note:** Based on 72°F DB EAT, 62°F WB, and 4 row cooling coil. All selections made at High speed, .05" ESP, 115 V motor, Concealed style of unit, Altitude of 0'. Fan watts shown at operating conditions. FLA based on motor nameplate.

Unit Data						3 Row Chilled Water Coil					1 Row Hot Water Coil			
Unit Type	Unit Size	Air Flow (CFM)	Motor (HP)	Fan AMPS (FLA)	Fan Watts	LAT DB/WB (°F)	Total Capacity (MBH)	Sensible Capacity (MBH)	Fluid Flow (GPM)	Fluid PD (Ft.)	LAT DB/WB (°F)	Sensible Capacity (MBH)	Fluid Flow (GPM)	Fluid PD (Ft.)
RBVR	02	227	(1) 1/50	0.40	45	57.6/55.4	4.4	3.6	0.9	8.84	100.7	7.5	0.4	0.44
	03	296	(1) 1/20	0.60	60	64.2/59.2	2.5	2.5	0.5	0.54	101.6	10.1	0.5	0.71
	04	421	(1) 1/20	0.75	70	59.1/56.6	6.8	5.9	1.3	3.38	95.6	11.8	0.6	0.21
	06	539	(1) 1/20	0.75	80	58.3/56.1	9.4	8	1.9	2.42	94.0	14.0	0.7	0.11
	08	614	(1) 1/10	1.10	114	58.1/55.9	11	9.3	2.2	3.31	83.1	8.7	0.4	0.01
	10	815	(2) 1/20	1.50	132	57.2/55.1	16.4	13.2	3.3	7.84	95.6	22.6	1.2	0.09
	12	842	(2) 1/20	1.50	142	57.6/55.6	15.8	13.3	3.1	2.02	101.8	29.0	1.5	0.16
RBVS/ RBVC	02	229	(1) 1/50	0.40	45	57.6/55.5	4.3	3.6	0.9	10.5	100.7	7.6	0.4	0.45
	03	312	(1) 1/20	0.60	60	64.5/59.3	2.5	2.5	0.5	0.54	100.7	10.4	0.5	0.75
	04	431	(1) 1/20	0.75	70	59.1/56.6	6.9	6.1	1.4	3.56	95.7	12.0	0.6	0.21
	06	549	(1) 1/20	0.75	80	58.4/56.2	9.4	8.1	1.9	2.42	93.9	14.2	0.7	0.11
	08	603	(1) 1/10	1.10	114	58.2/55.9	10.8	9.1	2.1	3.15	83.3	8.7	0.4	0.01
	10	805	(2) 1/20	1.50	132	57.1/55.0	16.4	13.1	3.3	7.84	95.7	22.4	1.2	0.08
	12	934	(2) 1/20	1.50	142	57.8/55.7	17.3	14.5	3.5	2.42	100.4	30.8	1.6	0.18

**Note:** Based on 70°F EAT, 180°F EWT, 40°F temperature drop. Cooling coil data based on 72°F DB EAT, 62°F WB, 45°F EWT, 55°F LWT. All selections made at High speed, .05" ESP, 115 V motor, Concealed style of unit, Altitude of 0'. Fan watts shown at operating conditions. FLA based on motor nameplate.

Performance Data

RBV Series Motor and Fan Data

RBV PSC MOTOR AND FAN DATA

Unit Size	Fan Speed	Motor H.P. (QTY)	# Of Fan	115 Volts		208-230 Volts		277 Volts	
				FLA	WATTS	FLA	WATTS	FLA	WATTS
02	High	(1) 1/50	1	0.40	45	0.27	53	0.21	57
	Medium				35		41		44
	Low				28		36		40
03	High	(1) 1/20	1	0.60	60	0.40	67	0.31	73
	Medium				48		54		60
	Low				43		49		54
04	High	(1) 1/20	2	0.75	70	0.39	71	0.35	76
	Medium				61		60		65
	Low				58		52		58
06	High	(1) 1/20	2	0.75	80	0.39	81	0.35	87
	Medium				74		71		77
	Low				61		59		64
08	High	(1) 1/10	2	1.10	114	0.51	109	0.46	114
	Medium				81		77		80
	Low				71		66		70
10	High	(2) 1/20	4	1.50	132	0.78	140	0.70	144
	Medium				114		116		120
	Low				107		101		106
12	High	(2) 1/20	4	1.50	142	0.78	147	0.70	154
	Medium				126		125		131
	Low				114		107		114

Notes:

1. RBVC 3-row coil, no EH, no toe kick, standard throw away panel filter. Fan watts shown at operating conditions
2. Data was taken without ductwork
3. Unit size 04, 06, 08, 10 and 12 data generated at 115v, 230v and 277v
4. Unit size 02 & 03 data generated with 115v, 240v to 120v transformer (230v line voltage) and 277v to 120v transformer (277v line voltage)
5. FLA based on motor nameplate



## RBV SERIES ECM MOTOR AND FAN DATA

## VERTICAL CONCEALED (RBVR)

Unit Size	Fan Speed	Motor H.P. (QTY)	# Of Fan	WATTS	115 Volts		208-230 Volts		277 Volts	
					FLA	3-Phase Neutral	FLA	3-Phase Neutral	FLA	3-Phase Neutral
02	High	(1) 1/25	1	34	0.7	1.0	0.5	0.8	0.5	0.8
03	High	(1) 1/25	1	48	1.0	1.5	0.8	1.2	0.7	1.0
04	High	(1) 1/25	2	55	1.2	1.7	0.9	1.3	0.9	1.3
06	High	(1) 1/25	2	63	1.4	2.0	1.1	1.6	1.1	1.6
08	High	(1) 1/25	2	83	1.7	2.5	1.3	1.9	1.2	1.7
10	High	(2) 1/25	4	106	2.2	3.2	1.6	2.4	1.6	2.4
12	High	(2) 1/25	4	120	3.0	4.4	2.4	3.4	2.2	3.2

## VERTICAL EXPOSED (RBVC) / SLOPED TOP (RBVS)

Unit Size	Fan Speed	Motor H.P. (QTY)	# Of Fan	WATTS	115 Volts		208-230 Volts		277 Volts	
					FLA	3-Phase Neutral	FLA	3-Phase Neutral	FLA	3-Phase Neutral
02	High	(1) 1/25	1	38	0.7	1.0	0.5	0.8	0.5	0.8
03	High	(1) 1/25	1	48	1.0	1.5	0.7	1.0	0.7	1.0
04	High	(1) 1/25	2	53	1.1	1.6	0.9	1.3	0.9	1.3
06	High	(1) 1/25	2	66	1.4	2.0	1.1	1.6	1.0	1.5
08	High	(1) 1/25	2	93	1.8	2.6	1.3	1.9	1.3	1.9
10	High	(2) 1/25	4	115	2.8	4.0	2.2	3.2	2.2	3.2
12	High	(2) 1/25	4	120	3.0	4.4	2.2	3.2	2.2	3.2

## Notes:

1. Exposed, 3-row coil, no EH, no toe kick, standard throw away panel filter
2. Watts as shown are for .05" ESP, 3 row coil, 115/1/60, 12 FPI, and throwaway filters
3. Motor HP as noted is a nominal rating
4. Data as supplied is for reference only. For project specific operational points see selection tool report out.



### RBV Series Sound Data

Unit Size	Fan Speed	SCFM	Total Sound Power Level						
			Octave Band / Center Frequency (HZ)						
			2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
02	High	233	60	65	60	55	50	47	39
	Medium	190	51	54	47	44	37	27	30
	Low	149	44	46	32	29	22	26	28
03	High	321	60	62	56	54	50	45	38
	Medium	280	57	57	52	49	45	38	32
	Low	246	51	53	47	44	38	29	30
04	High	454	61	64	63	57	50	48	40
	Medium	420	59	60	60	52	47	40	34
	Low	334	51	56	49	42	34	28	30
06	High	570	62	64	68	57	48	45	38
	Medium	492	58	60	65	52	44	39	32
	Low	362	51	54	49	40	32	27	30
08	High	633	68	68	65	61	55	51	45
	Medium	549	63	62	63	56	51	44	38
	Low	436	59	57	56	48	40	33	31
10	High	836	65	66	70	60	53	51	40
	Medium	792	61	63	68	59	52	45	38
	Low	697	58	59	65	53	45	41	33
12	High	978	65	66	66	59	52	47	39
	Medium	888	64	65	66	57	51	45	37
	Low	697	57	57	61	49	41	34	31

**Notes:**

1. Sound data tested in accordance with AHRI-350-2008
2. Sound levels expressed in decibels, dB RE: 1 x 10<sup>-12</sup> watts
3. Total sound power level data based on exposed cabinet model with fan CFM at corresponding motor tap with 115/1/60 volt motor, 3 row coil, 1" throwaway filter, 0.0" external static pressure and standard rated internal pressure losses



## RAH Series Design Features

## new product offering

### HIGH PERFORMANCE

The Superior Rex RAH Series horizontal high performance fan coil units are designed to maximize flexibility of selection and installation.

The units are also designed to exceed the stringent quality standards of the institutional market, while remaining cost competitive in the light commercial segment of the market.

Superior Rex horizontal fan coil units set the new standards for quality, flexibility, and competitive pricing.

### DESIGN FLEXIBILITY

The extensive variety of standard options available on the RAH Series units are where you find the versatility to fit any HVAC system designer's needs.

Options include: mixing box with linkage, rear or bottom ducted return, foil faced or elastomeric closed cell foam insulation, solid or telescoping bottom panels for unit recessing, single wall stainless steel drain pans, and electric heat with single power connection. All electric heat units are listed with ETL as an assembly and carry the cETL label.

All units comply with the latest edition of AHRI Standard 440 for testing and rating fan coil units, are certified, and display the AHRI symbol. Sizes 14 through 20 exceed the maximum airflow rate in AHRI 440 and are therefore not certified.

High efficiency motors, fan relays, disconnects and fusing mean easier coordination between mechanical and electrical trades.

Coil options allow for three, four or six row chilled water or DX coils. One to four row hot water or one and two row standard steam coils may be placed in the preheat or reheat position.

### CONVENIENT INSTALLATION

All RAH Series fan coil units are shipped completely assembled, reducing field installation time and labor. All units are thoroughly inspected and tested prior to shipment, eliminating potential problems at startup. Motor wiring is brought to a junction box on the outside of the unit casing, reducing electrical hook-up time.

Plenum units are field reversible for either rear or bottom return without the need for special adapters and tools.

All coils and drain pans are field reversible for right or left side connections.

All RAH Series fan coil units have a side access electrical enclosure, allowing easy access to all electrical components, terminal blocks and wiring.

Available factory installed control packages can greatly reduce field labor and setup time. Consisting of control transformer and all needed relays, these packages integrate seamlessly with either factory provided thermostats or field installed thermostats and controllers.

Factory furnished valve packages assure proper fit, operation and performance. Valve packages are completely assembled and shipped loose with the units.

### OPTIMUM BUILDING PERFORMANCE

RAH Series fan coil units are built from galvanized steel. This metal surpasses the ASTM 125 hour salt spray test for corrosion and rust. Exposed Model RAHC cabinetry is powder coated galvanized steel.

Standard insulation is ½ inch thick fiberglass, complying with UL 181 and NFPA 90A. Optional foil faced or elastomeric closed cell foam insulation may be specified.

All units, with or without electric heat, are cETL listed and labeled. All wiring is in compliance with NEC, assuring safety and quality for the owner.

RAH Series fan coil units have a removable fan assembly. The entire fan assembly can be removed from the unit and serviced easily on a workbench.

RAH Series Construction Features

**MODEL RAHR**

HORIZONTAL PLENUM RETURN

(Photo as shown for RAHR). RAH Series fan coils have many standard and optional features which are unique to the industry.

1/2" thick fiberglass insulation (standard) or foil faced or elastomeric closed cell foam insulation (optional)

Galvanized steel casing withstanding 125 hour salt spray test per ASTM B-117

1" minimum duct collar allows quick field connection of duct work

Integral filter rack with 1" filter and integral rear ducted (shown) or bottom return on all plenum units. Optional 2" filter available.

ETL and AHRI 440 listed and labeled

Chilled water or DX cooling coils up to 6 rows

Hot water heating coils up to 4 rows, or steam coils up to 2 rows can be mounted in the preheat or reheat position. Maximum of 8 rows total.

Permanently lubricated, three tap, PSC fan motors designed for quiet and efficient operation

Single point power connection on all units with electric heat

Optional electric resistance heat is ETL listed as an assembly for safety compliance

Single wall galvanized or stainless steel (optional) drain pans are positively sloped to drain connections

Removable fan assembly for bottom or rear access and servicing

Enclosure allows easy side access to all electrical components

Drain pans can be easily removed for cleaning, and reversed for opposite side drain connections

Optional auxiliary drain connection for added security (not shown)

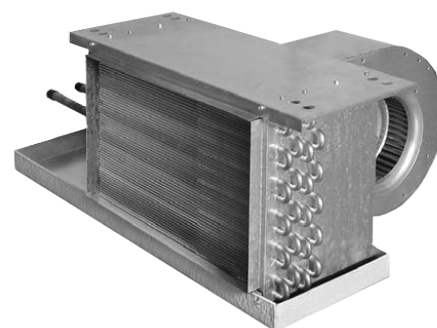
**MODEL RAHC**

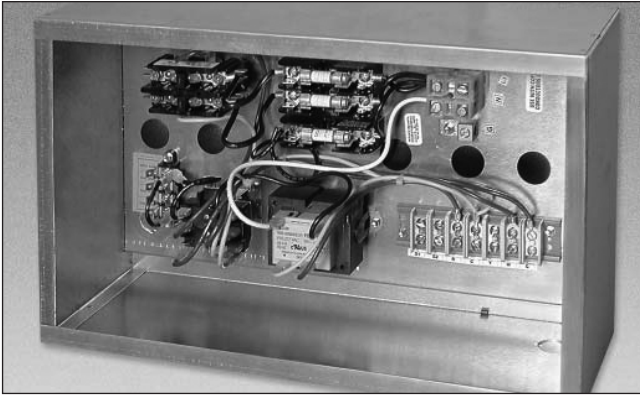
Horizontal Exposed Cabinet



**MODEL RAHO**

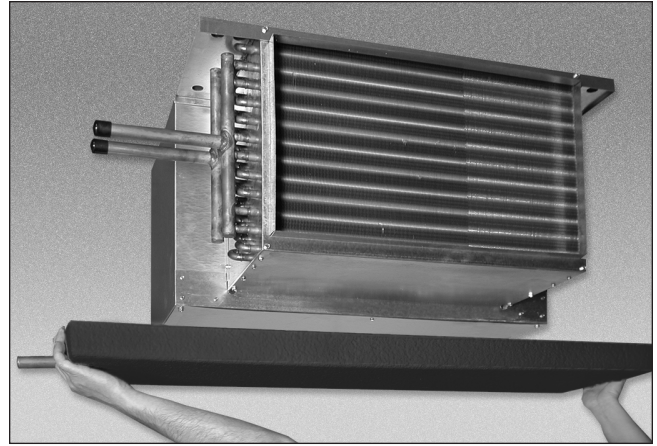
Horizontal Free Return





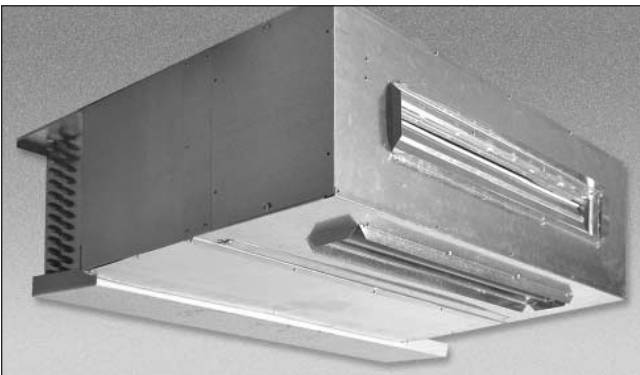
### ELECTRICAL ENCLOSURE

The side access electrical enclosure provides access to all electric heat and control components. Terminal strips are furnished for simple power and control wiring connections. Multiple knockouts allow wiring entries from either side of the compartment.



### DRAIN PAN

Standard drain pans are externally insulated, single wall galvanized steel with an option for stainless steel. Drain pans are available with secondary drain connection. On concealed models, the RAH Series drain pan is easily removable for cleaning or reversing connections.



### MIXING BOX

The optional fully insulated mixing box section comes completely assembled to the RAHR unit, featuring low leakage, heavy gauge steel dampers with integral linkage. Damper positioning is field configurable and bottom filter access is standard. A factory provided and installed damper actuator is also available.

### COILS

All fan coils are available in 2 or 4 pipe configurations. The heating coil may be placed in the reheat or preheat position. Heating and cooling coils are field reversible for right or left side connections.



### FILTERS

One inch throwaway filters are tight fitting to prevent air bypass. Filters are easily removable from the bottom without the need for tools. The filter rack is convertible from rear to bottom return without the need for additional parts. Optional 1" and 2" pleated filters are available for use with the RAHR unit.

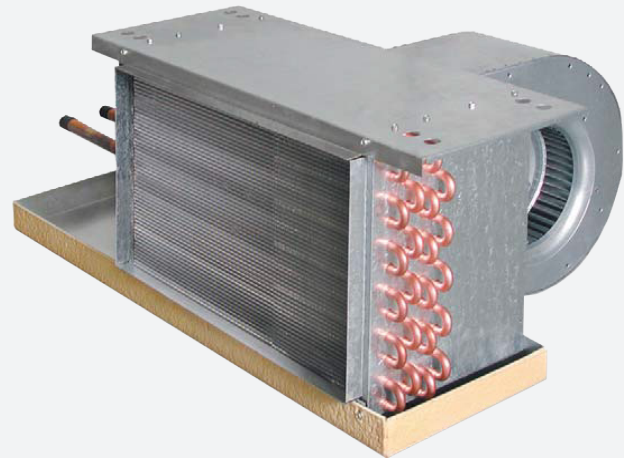
### POWDER COAT PAINTED SURFACE

Exposed cabinet Model RAHC features powder coat finish that resists scuffing, scratching, fading, and fingerprints.

## Horizontal High Performance Series

### RAHO

- » Performance AHRI Certified to Standard 440
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3-row coil suitable for a 2-pipe system
- » High-efficiency motor, Solid State Relays and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type



RAHO

#### AVAILABLE MODEL:

RAHO

#### OVERVIEW

Factory assembled, horizontal blow-thru, high-output RAHO ducted fan coils are designed for concealed installations above ceilings with ducted air discharge and suitable for projects such as hotels, motels, condominiums and general commercial applications.

#### OPTIONAL FEATURES INCLUDE:

##### Construction

###### All Units

- » Foil faced fiberglass insulation
- » Elastomeric closed cell foam insulation

###### Plenum Units

- » Bottom return
- » Mixing box with top/rear or rear/bottom dampers - field reversible
- » Damper actuator
- » Spare 1" throwaway filters
- » 1" and 2" pleated filters

###### Exposed Units

- » Single deflection bottom return grille
- » Ducted supply
- » Ducted rear return

##### Coils

- » Automatic air vents
- » Stainless steel coil casings



See website for Specifications

#### Drain Pans

- » Stainless steel with external insulation
- » 5/8" O.D. secondary drain connection
- » Auxiliary drain pan

#### Fan Assemblies

- » 208-230 & 277 volt, single phase, three tap PSC motors
- » ECM™ motors

#### Electrical

- » Side access electrical enclosure
- » Silent solid state fan relays
- » SCR fan speed controller
- » Toggle disconnect switch
- » Condensate overflow switch (auxiliary drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches
- » Fan relay packages
- » Control power transformers

#### Electric Heat

- » Door interlocking disconnect switches
- » Main fusing
- » Silent relay / contactors



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### Piping Packages

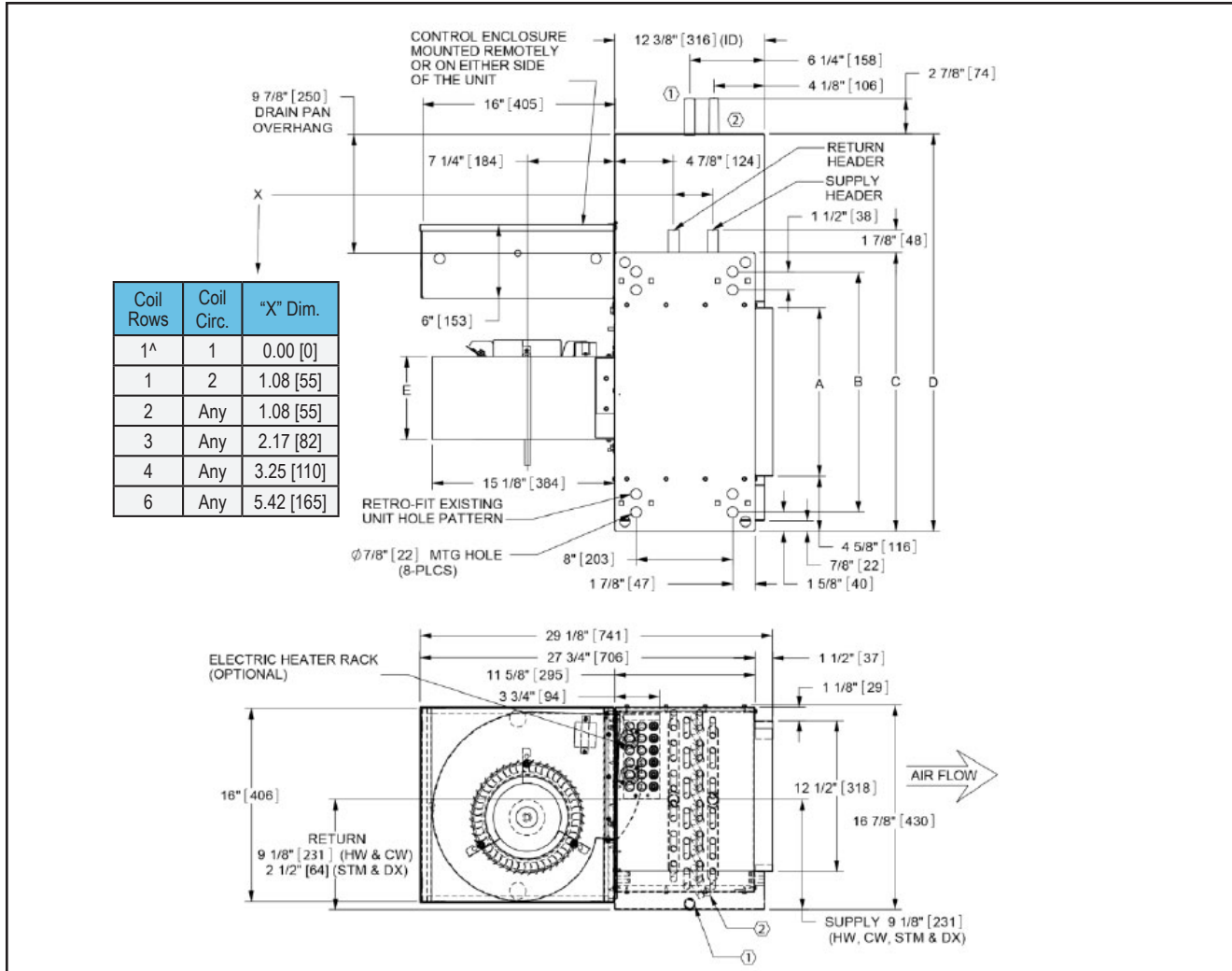
- » Factory-assembled - shipped loose for field installation
- » ½" and ¾", and 1", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Isolation ball valves with memory stop
- » Fixed and adjustable-flow control devices
- » Unions and P/T ports
- » Modulating control valves
- » High-pressure, close-off actuators (½" = 50 PSIG; ¾" = 25 PSIG; 1" = 20PSIG)
- » 4-strainers

### Thermostats

- » Remote mounted analog, digital display, or programmable
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover
- » Integral three speed, fan switches

Dimensions

RAHO FREE RETURN UNIT DIMENSIONS



Drain Pan Material	Single Connection (STD)	Secondary Connection (OPT)
Galvanized (STD)	7/8" OD Copper	5/8" OD Copper
Stainless (OPT)	3/4" MPT Galv.	1/2" MPT Galv.

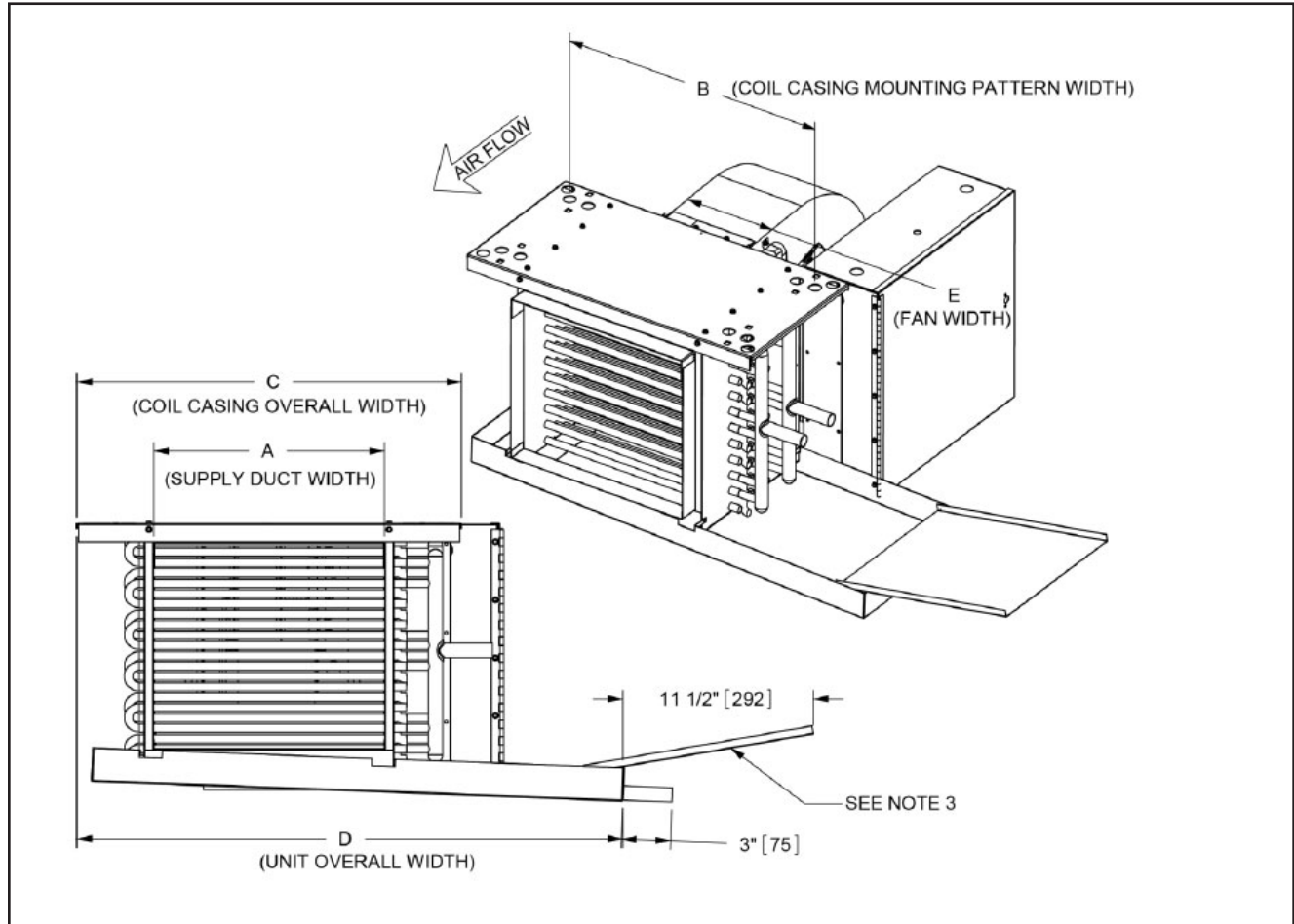
Control Enclosure Sizes	
10 x 16 x 6	[250 x 406 x 152]
16 x 16 x 6	[406 x 406 x 152]

Notes:

- Standard control enclosure is mounted on unit side opposite cooling coil connections. Unit casing includes (2) knockouts on each side. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.
- Optional bottom control enclosure with hinged cover replaces standard side mounted enclosure and includes (2) additional knockouts on bottom of unit on left side
- Standard externally foam coated galvanized steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanized steel outlet.
- Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel respectively



RAHO FREE RETURN UNIT DIMENSIONS



Unit Size	Fan Qty	A	B	C	D	E
06	1	14 [356]	20 [508]	23 1/8 [587]	34 [864]	6 7/8 [175]
08	1	19 [483]	25 [635]	28 1/8 [714]	39 [991]	8 1/4 [210]
10	1	23 [584]	29 [737]	32 1/8 [816]	43 [1092]	8 1/4 [210]
12	2	28 [711]	34 [864]	37 1/8 [943]	48 [1219]	6 7/8 [175]
14	2	33 [838]	39 [991]	42 1/8 [1070]	53 [1346]	8 1/4 [210]
16	2	38 [965]	44 [1118]	47 1/8 [1197]	58 [1473]	8 1/4 [210]
18	2	43 [1092]	49 [1245]	52 1/8 [1324]	63 [1600]	8 1/4 [210]
20	2	47 [1194]	53 [1346]	56 1/8 [1426]	67 [1702]	8 1/4 [210]

Notes:

1. All dimensions are inches [millimeters]. All dimensions  $\pm 1/8"$  [6mm].
2. Drain pan is field reversible 180 and externally insulated
3. Optional auxiliary drip pan available for piping package condensate
4. Coil hand is field reversible (Left hand unit shown)



## RAHC

- » Performance AHRI Certified to Standard 440
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed and BLDC ECM motor available for higher energy efficiencies
- » High-efficiency motor, Solid State Relays and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Access panels are available with quick turn fasteners
- » Return and Discharge available with double/single deflection grille or duct options
- » Anti-vibration mounts for field installation
- » Standard cabinet finish is British White



RAHC

### AVAILABLE MODEL:

RAHC

### OVERVIEW

Factory assembled, horizontal blow-thru, high-output RAHC fan coils are designed for concealed or exposed ceiling installations free blowing into the space and are available with DWDI whisper quite blowers. Suitable for industrial and commercial applications.

### OPTIONAL FEATURES INCLUDE:

#### Construction

##### All Units

- » Foil faced fiberglass insulation
- » Elastomeric closed cell foam insulation

##### Plenum Units

- » Bottom return
- » Mixing box with top/rear or rear/bottom dampers - field reversible
- » Damper actuator
- » Spare 1" throwaway filters
- » 1" and 2" pleated filters

##### Exposed Units

- » Single deflection bottom return grille
- » Ducted supply
- » Ducted rear return
- » Pearl white cabinet finish

#### Coils

- » Automatic air vents
- » Stainless steel coil casings



See website for Specifications

#### Drain Pans

- » Stainless steel with external insulation
- » 5/8" O.D. secondary drain connection
- » Auxiliary drain pan

#### Fan Assemblies

- » 208-230 & 277 volt, single phase, three tap PSC motors
- » ECM™ motors

#### Electrical

- » Side access electrical enclosure
- » Silent solid state fan relays
- » SCR fan speed controller
- » Toggle disconnect switch
- » Condensate overflow switch (auxiliary drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches
- » Fan relay packages
- » Control power transformers

#### Electric Heat

- » Door interlocking disconnect switches



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- » Main fusing
- » Silent relay / contactors

### Piping Packages

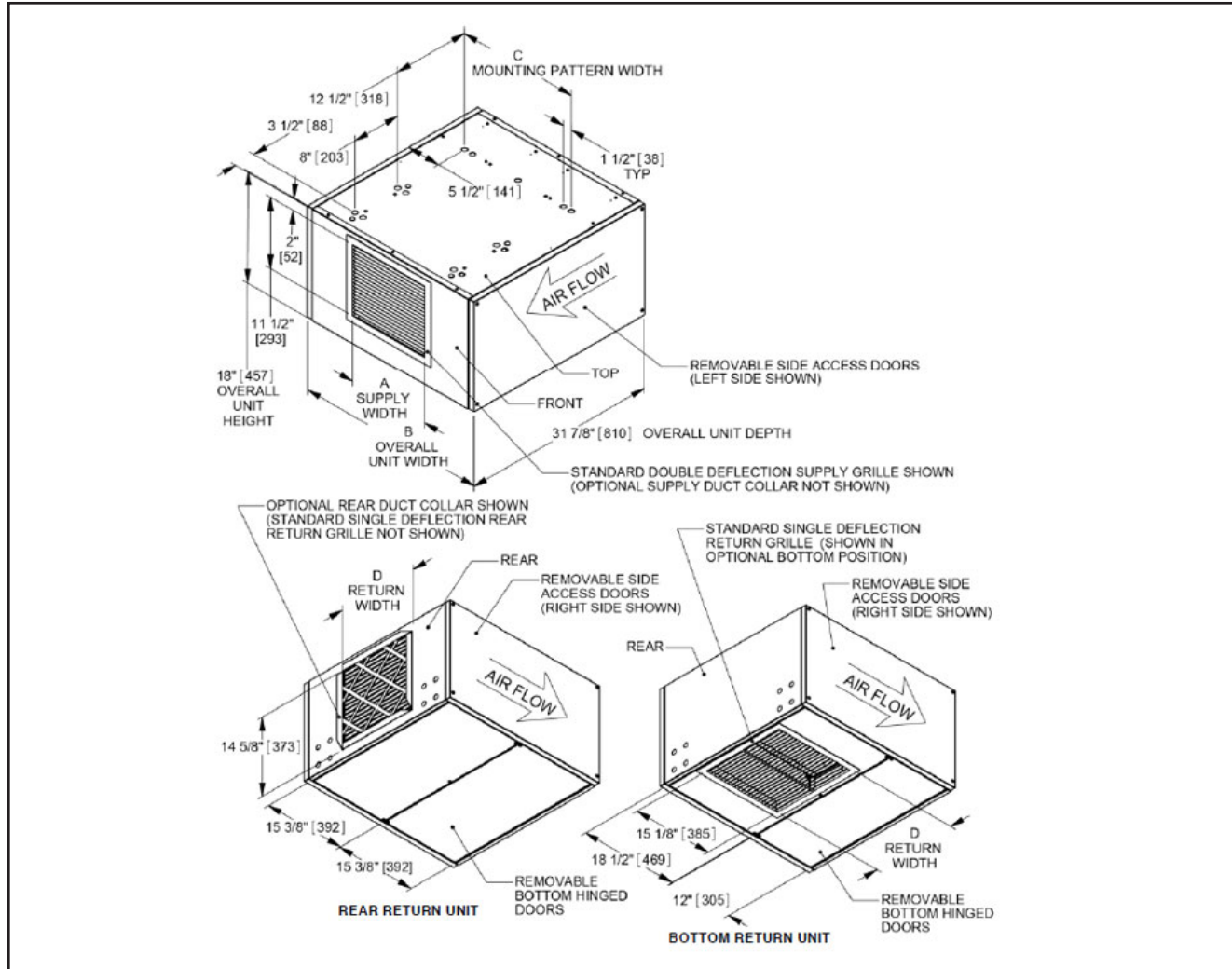
- » Factory-assembled - shipped loose for field installation
- » ½" and ¾", and 1", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Isolation ball valves with memory stop
- » Fixed and adjustable flow control devices
- » Unions and P/T ports
- » Modulating control valves
- » High-pressure, close-off actuators (½" = 50 PSIG; ¾" = 25 PSIG; 1" = 20PSIG)
- » 4-strainers

### Thermostats

- » Remote mounted analog, digital display, or programmable
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover
- » Integral three speed, fan switches

Dimensions

RAHC UNIT DIMENSIONS



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Unit Size	A	B	C	D
06	13 1/2 [343]	31 1/4 [794]	20 [508]	15 1/2 [394]
08	18 1/2 [470]	36 3/4 [921]	25 [635]	19 1/2 [495]
10	22 1/2 [572]	40 1/4 [1022]	29 [737]	24 1/2 [622]
12	27 1/2 [699]	45 1/4 [1149]	34 [864]	31 1/2 [800]
14	32 1/2 [826]	50 1/4 [1276]	39 [991]	35 1/2 [902]
16	37 1/2 [953]	55 1/4 [1403]	44 [1118]	39 1/2 [1003]
18	42 1/2 [1080]	60 1/4 [1530]	49 [1245]	44 1/2 [1130]
20	46 1/2 [1181]	64 1/4 [1632]	53 [1346]	49 1/2 [1257]

Notes:

1. All dimensions are in inches [mm] and are ± 1/8"
2. See RAHO submittal for additional RAH Series product dimensions not shown
3. Internal hinged electrical enclosure not shown
4. Optional 1" or 2" pleated filters available (shown) standard 1" throwaway filter not shown
5. 1 1/4" duct collar standard on all ducted units

Control Enclosure Sizes	
10 x 16 x 6	[250 x 406 x 152]
10 x 20 x 6	[250 x 500 x 152]



## RAHR

- » Performance AHRI Certified to Standard 440
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed and BLDC ECM motor available for higher energy efficiencies
- » High-efficiency motor, Solid State Relays and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Mixing box with dampers with field reversible damper location
- » Field Reversible for either Bottom or Rear Return



RAHR

### AVAILABLE MODEL:

RAHR

### OVERVIEW

Factory assembled, horizontal blow-thru, ducted high-output RAHR fan coils are designed for concealed installations above ceilings with ducted return and discharge air. RAHR are available with DWDI whisper quite blowers and are suitable for projects such as hotels, motels, condominiums and general commercial applications.

### OPTIONAL FEATURES INCLUDE:

#### Construction

##### All Units

- » Foil faced fiberglass insulation
- » Elastomeric closed cell foam insulation

##### Plenum Units

- » Bottom return
- » Mixing box with top/rear or rear/bottom dampers - field reversible
- » Damper actuator
- » Spare 1" throwaway filters
- » 1" and 2" pleated filters

##### Exposed Units

- » Single deflection bottom return grille
- » Ducted supply
- » Ducted rear return

#### Coils

- » Automatic air vents
- » Stainless steel coil casings

#### Drain Pans

- » Stainless steel with external insulation
- » 5/8" O.D. secondary drain connection
- » Auxiliary drain pan



See website for Specifications

#### Fan Assemblies

- » 208-230 & 277 volt, single phase, three tap PSC motors
- » ECM™ motors

#### Electrical

- » Side access electrical enclosure
- » Silent solid state fan relays
- » SCR fan speed controller
- » Toggle disconnect switch
- » Condensate overflow switch (auxiliary drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches
- » Fan relay packages
- » Control power transformers

#### Electric Heat

- » Door interlocking disconnect switches
- » Main fusing
- » Silent relay / contactors



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**Piping Packages**

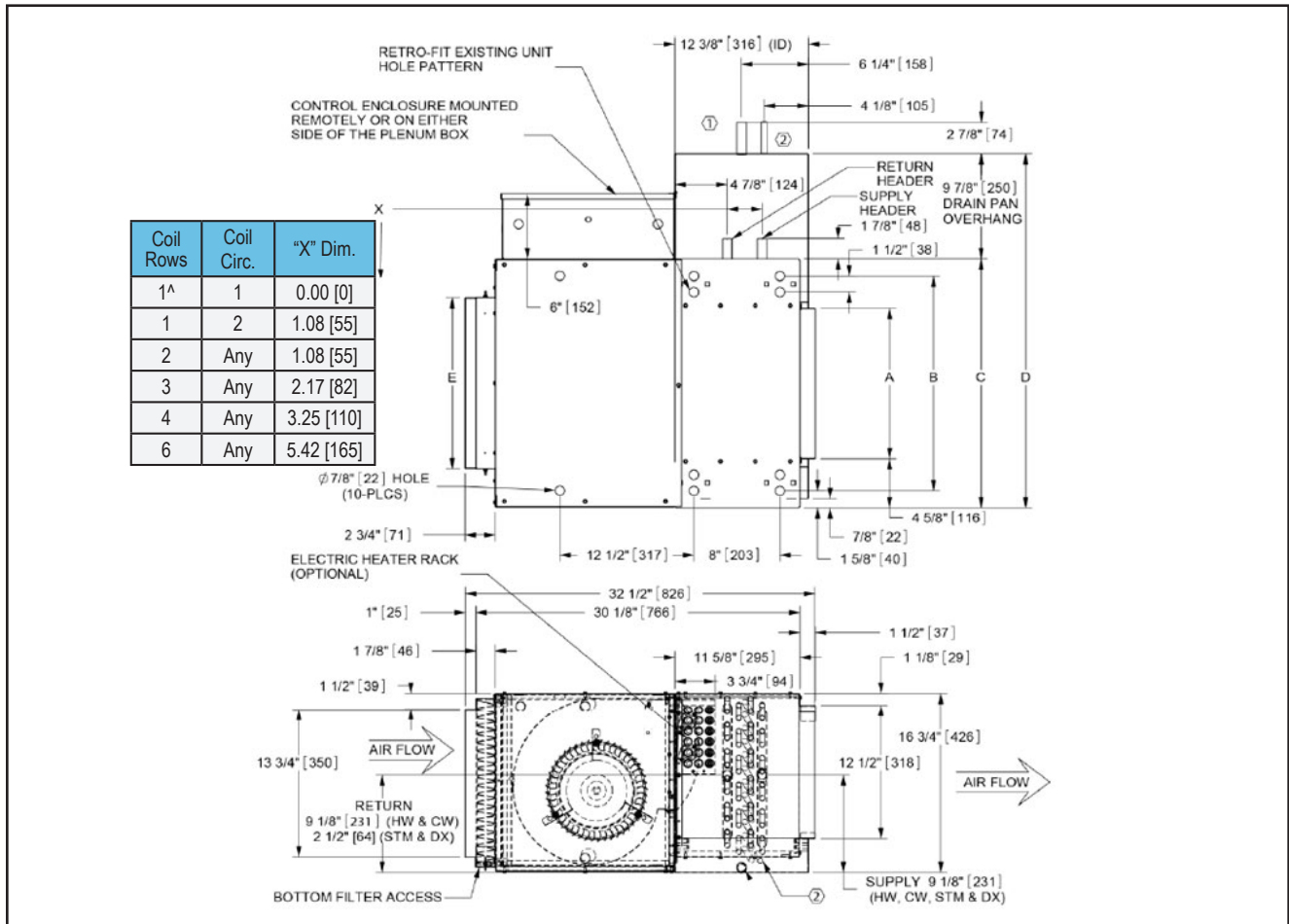
- » Factory-assembled - shipped loose for field installation
- » ½" and ¾", and 1", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Isolation ball valves with memory stop
- » Fixed and adjustable flow control devices
- » Unions and P/T ports
- » Modulating control valves
- » High-pressure, close-off actuators (½" = 50 PSIG; ¾" = 25 PSIG; 1" = 20PSIG)
- » 4-strainers

**Thermostats**

- » Remote mounted analog, digital display, or programmable
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover
- » Integral three speed, fan switches



RAHR PLENUM UNIT DIMENSIONS



Drain Pan Material	Single Connection (STD)	Secondary Connection (OPT)
Galvanized (STD)	7/8" OD Copper	5/8" OD Copper
Stainless (OPT)	3/4" MPT Galv.	1/2" MPT Galv.

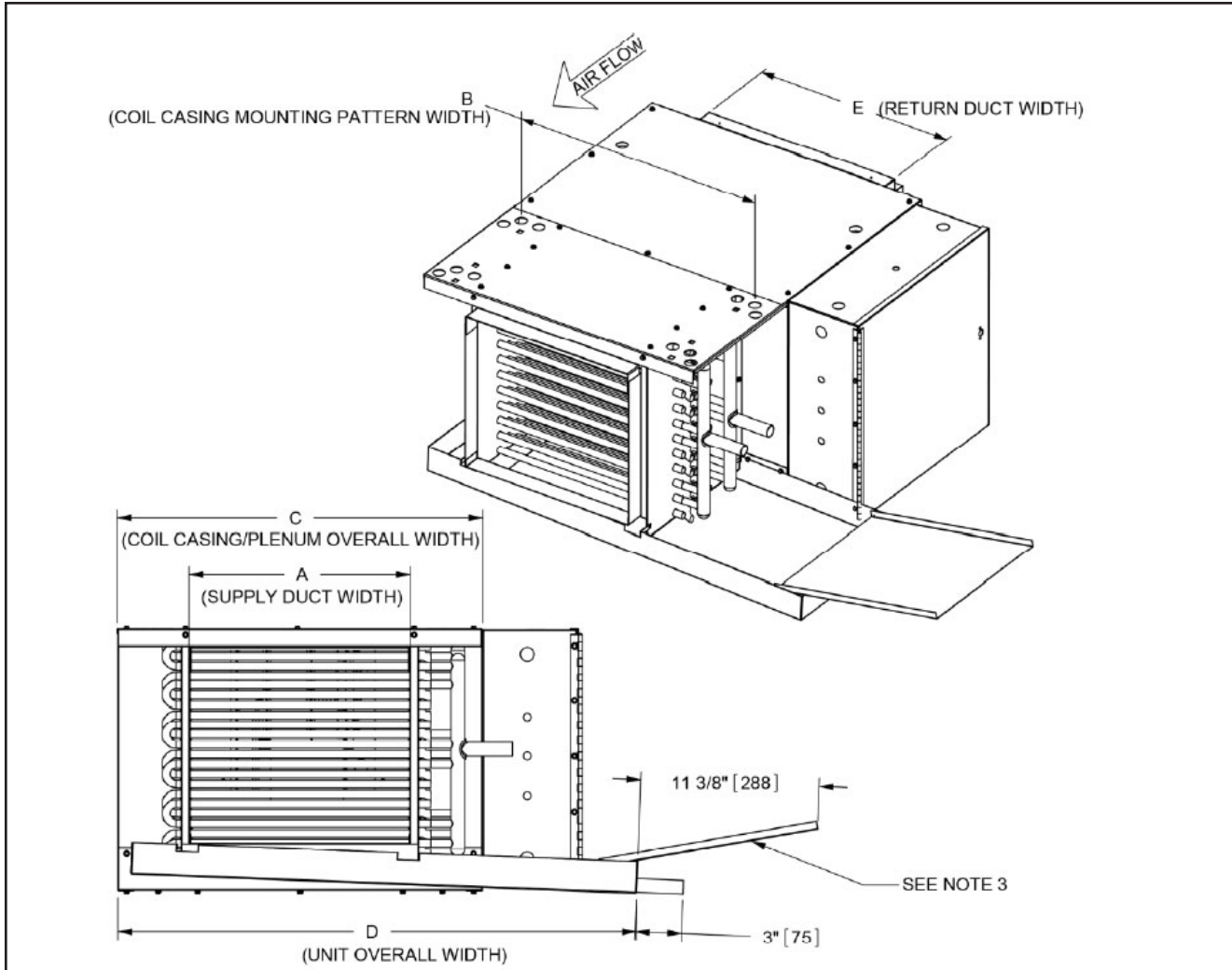
Control Enclosure Sizes	
10 x 16 x 6	[250 x 406 x 152]
16 x 16 x 6	[250 x 500 x 152]

Notes:

- Standard control enclosure is mounted on unit side opposite cooling coil connections. Unit casing includes (2) knockouts on each side. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.
- Optional bottom control enclosure with hinged cover replaces standard side mounted enclosure and includes (2) additional knockouts on bottom of unit on left side
- Standard externally foam coated galvanized steel drain pan has 7/8" ODM copper outlet. Stainless steel drain pan has 3/4" MPT galvanized steel outlet.
- Auxiliary drain outlet is 5/8" ODM copper or 3/8" MPT galvanized steel respectively

Dimensions

RAHR PLENUM UNIT DIMENSIONS



Unit Size	Fan Qty	A	B	C	D	E
06	1	14 [356]	20 [508]	23 <sup>1</sup> / <sub>8</sub> [587]	34 [864]	16 [406]
08	1	19 [483]	25 [635]	28 <sup>1</sup> / <sub>8</sub> [714]	39 [991]	19 <sup>7</sup> / <sub>8</sub> [505]
10	1	23 [584]	29 [737]	32 <sup>1</sup> / <sub>8</sub> [816]	43 [1092]	25 <sup>7</sup> / <sub>8</sub> [657]
12	2	28 [711]	34 [864]	37 <sup>1</sup> / <sub>8</sub> [943]	48 [1219]	32 [813]
14	2	33 [838]	39 [991]	42 <sup>1</sup> / <sub>8</sub> [1070]	53 [1346]	35 <sup>7</sup> / <sub>8</sub> [911]
16	2	38 [965]	44 [1118]	47 <sup>1</sup> / <sub>8</sub> [1197]	58 [1473]	39 <sup>7</sup> / <sub>8</sub> [1013]
18	2	43 [1092]	49 [1245]	52 <sup>1</sup> / <sub>8</sub> [1324]	63 [1600]	44 <sup>7</sup> / <sub>8</sub> [1140]
20	2	47 [1194]	53 [1346]	56 <sup>1</sup> / <sub>8</sub> [1426]	67 [1702]	49 <sup>7</sup> / <sub>8</sub> [1267]

**Notes:**

1. All dimensions are in inches [mm] and are  $\pm 1/8$ "
2. Drain pan is field reversible 180° and externally insulated
3. Optional auxiliary drip pan available for piping package condensate
4. Coil hand is field reversible (left hand unit shown)
5. Plenum box is field reversible for rear or bottom return air
6. Filter rack can accommodate standard 1" tau and 1" & 2" pleated filters



## Coil Data: RAH Series

## COILS

Superior Rex offers hot water, chilled water, direct expansion (DX) coils for specific application with all RAH Series Fan Coil Units. Strict on-site

inspection before, during, and after installation guarantees the highest quality and performance available.

## Standard Features

- » Cooling - 3, 4 or 6 row chilled water or DX
- » Heating - 1, 2, 3 or 4 row hot water
- » 8 total rows of cooling and heating coils maximum
- » ½" O.D. seamless copper tubes
- » 0.016" tube wall thickness
- » High efficiency aluminum fin surface for optimizing heat transfer, pressure drop and carryover
- » Left or right hand connections
- » Manual air vents

## Optional Features

- » Automatic air vents
- » Stainless steel coil casings
- » DX coils are heat pump compatible

Superior Rex offers fan coil rating and selection program, RAMP for complete unit, coil and sound selection. See your representative for more information.

## NOMINAL COIL CONNECTION SIZES

Unit Size	Coil Type						
	Water					Steam	
	1 Row	2 Row	3 Row	4 Row	6 Row	1 Row	2 Row
06	5/8 [16]	5/8 [16]	7/8 [22]	7/8 [22]	7/8 [22]	5/8 [16]	7/8 [22]
08	5/8 [16]	5/8 [16]	7/8 [22]	7/8 [22]	7/8 [22]	5/8 [16]	7/8 [22]
10	5/8 [16]	5/8 [16]	7/8 [22]	7/8 [22]	7/8 [22]	5/8 [16]	7/8 [22]
12	5/8 [16]	7/8 [22]	7/8 [22]	7/8 [22]	1 1/8 [29]	7/8 [22]	7/8 [22]
14	5/8 [16]	7/8 [22]	7/8 [22]	1 1/8 [29]	1 1/8 [29]	7/8 [22]	1 1/8 [29]
16	5/8 [16]	7/8 [22]	7/8 [22]	1 1/8 [29]	1 1/8 [29]	7/8 [22]	1 1/8 [29]
18	5/8 [16]	7/8 [22]	1 1/8 [29]	1 1/8 [29]	1 1/8 [29]	7/8 [22]	1 1/8 [29]
20	5/8 [16]	7/8 [22]	1 1/8 [29]	1 1/8 [29]	1 1/8 [29]	7/8 [22]	1 1/8 [29]

## Notes:

1. All dimensional data is outside diameter (O.D.), measured in inches [millimeters]
2. See submittal drawings for connection locations
3. Connection sizes are for standard circuit coils. Consult factory for special applications.
4. Direct Expansion (DX) suction header connection sizes are either 5/8" [16mm] or 7/8" [22mm]. Refer to coil selection
5. DX coils include a fixed orifice distributor for multi-circuited coils. A DX coil with a single circuit requires no distributor. Thermal expansion valves (TXV's) are field supplied by others.

## RAH FACE AREA, FREE AREA AND FILTER SIZES

Unit Size	Coil Face Area	Nominal Filter Sizes	1" Throwaway Face Area	1" Pleated Gross Media Area	2" Pleated Gross Media Area
06	1.56 [0.15]	(1) 16 x 16 [406 x 406]	1.62 [0.15]	4.0 [0.37]	5.4 [0.50]
08	2.08 [0.19]	(1) 16 x 20 [406 x 508]	2.04 [0.19]	4.8 [0.45]	6.8 [0.63]
10	2.50 [0.23]	(1) 16 x 25 [406 x 635]	2.57 [0.24]	6.0 [0.56]	8.5 [0.79]
12	3.02 [0.28]	(2) 16 x 16 [406 x 406]	3.23 [0.30]	8.0 [0.74]	10.4 [0.97]
14	3.54 [0.33]	(1) 16 x 16 & 16 x 20 (1) [406 x 406] & (1) [406 x 508]	3.65 [0.34]	8.0 [0.74]	12.2 [1.13]
16	4.06 [0.38]	(2) 16 x 20 [406 x 508]	4.08 [0.38]	9.6 [0.89]	13.4 [1.24]
18	4.58 [0.43]	(1) 16 x 20 & 16 x 25 (1) [406 x 508] & (1) [406 x 635]	4.61 [0.43]	10.8 [1.00]	14.3 [1.33]
20	5.00 [0.46]	(2) 16 x 25 [406 x 635]	5.14 [0.48]	12.0 [1.11]	17.0 [1.58]

## Notes:

1. Face and free areas are in square feet [square meters]
2. Filter sizes are in inches [millimeters]



Performance Data

PHYSICAL DATA

AHRI STANDARD RATINGS

Model/Size	AHRI 440 Certified	Coil		Airflow CFM (Dry Flow)	Cooling Capacity		Water		Power Input (Watts)
		Rows	FPI		QT (BTUH)	QS (BTUH)	Flow Rate (GPM)	WPD (ft-wg)	
RAHO 06	*	4	10	674	20549	15710	4.1	5.81	247
RAHO 08	*	4	10	872	24299	18090	4.9	7.29	375
RAHO 10	*	4	10	1036	30600	22899	6.1	6.86	457
RAHO 12	*	4	10	1361	42650	32159	8.5	6.34	494
RAHO 14		4	10	1856	51080	40340	10.2	4.86	750
RAHO 16		4	10	2053	60689	46490	12	7.15	914
RAHO 18		4	10	2159	67819	50770	13.6	9.38	914
RAHO 20		4	10	2292	73930	54779	14.7	11.65	914
RAHR 06	*	4	10	669	20299	15560	4	5.64	247
RAHR 08	*	4	10	950	25889	19389	5.2	8.03	375
RAHR 10	*	4	10	1001	30180	22420	6.1	6.87	457
RAHR 12	*	4	10	1437	44169	33509	8.8	6.68	494
RAHR 14		4	10	1825	50779	39939	10.2	4.86	750
RAHR 16		4	10	1852	56810	43029	11.3	6.4	914
RAHR 18		4	10	1915	62750	46369	12.4	8.18	914
RAHR 20		4	10	1999	68059	49580	13.6	10.06	914
RAHC 06	*	4	10	594	18639	14149	3.7	4.98	247
RAHC 08	*	4	10	740	21719	15909	4.4	6.27	375
RAHC 10	*	4	10	845	26469	19479	5.2	5.49	457
RAHC 12	*	4	10	1193	38970	29020	7.8	5.5	494
RAHC 14		4	10	1491	43880	33979	8.7	3.69	750
RAHC 16		4	10	1665	52950	39669	10.5	5.69	914
RAHC 18		4	10	1762	60000	43779	12	7.84	914
RAHC 20		4	10	1855	64690	46790	12.8	9.13	914

Notes:

1. Based on 80°F DB and 67°F WB EAT, 45°F EWT, 10°F temperature rise, high fan speed. Motor type is PSC and motor voltage is 115/1/60. Airflow under dry coil conditions. All models tested at 0.05" external static pressure.
2. Airflow rate CFM on sizes 14 through 20 exceed maximum ratings in AHRI 440 and are therefore not certified



PHYSICAL DATA

HEATING CAPACITY

Unit Type	Unit Size	Nom CFM	1 Row			2 Row			3 Row			4 Row		
			QS (MBH)	GPM	WPD	QS (MBH)	GPM	WPD	QS (MBH)	GPM	WPD	QS (MBH)	GPM	WPD
RAHO	06	767	16.4	0.8	0.35	27.3	1.4	1.33	41.1	2.1	0.79	57.7	3.0	14.49
	08	994	22.8	1.2	0.72	43.3	2.2	1.46	54.0	2.8	0.86	73.9	3.8	8.54
	10	1145	27.4	1.4	1.15	53.4	2.7	0.32	65.8	3.4	1.42	88.7	4.5	13.73
	12	1508	35.3	3.0	14.49	70.7	3.5	0.51	85.1	4.2	1.02	115.2	5.7	11.06
	14	2038	42.4	2.2	1.09	91.4	4.7	0.98	101.1	5.2	0.65	127.1	6.5	14.01
	16	2256	48.9	2.5	1.57	104.8	5.4	1.40	116.9	6.0	0.93	163.8	8.4	6.09
	18	2371	54.4	2.8	2.11	101.1	5.2	0.28	128.3	6.6	1.21	177.4	9.1	7.79
	20	2516	62.0	3.2	0.34	125.6	6.4	2.30	146.3	7.5	10.87	190.9	9.8	9.61
RAHR	06	733	15.8	0.8	0.33	25.9	1.3	1.20	41.4	2.1	0.81	57.4	2.9	14.30
	08	995	22.0	1.1	0.67	41.0	2.1	1.31	58.0	3.0	0.98	77.5	4.0	9.35
	10	1093	26.8	1.4	1.10	51.2	2.6	0.30	65.0	3.3	1.39	86.1	4.4	13.02
	12	1525	34.8	1.8	2.05	69.7	3.6	0.53	88.5	4.5	1.18	118.1	6.1	12.48
	14	1972	41.5	2.1	1.05	88.3	4.5	0.92	102.6	5.3	0.67	125.1	6.4	13.67
	16	2076	47.5	2.4	1.50	101.3	5.2	1.31	111.4	5.7	0.85	152.3	7.8	5.31
	18	2174	52.8	2.7	2.00	97.5	5.0	0.27	121.3	6.2	1.09	163.8	8.4	6.70
	20	2280	60.0	3.1	0.32	121.1	6.2	2.15	136.4	7.0	9.49	173.8	8.9	8.05
RAHC	06	681	15.5	0.8	0.33	25.3	1.3	1.16	38.8	2.0	0.72	53.7	2.8	12.63
	08	861	21.2	1.1	0.62	39.4	2.0	1.22	50.8	2.6	0.77	68.1	3.5	7.32
	10	989	25.8	1.3	1.03	48.8	2.5	0.27	60.0	3.1	1.19	79.4	4.1	11.17
	12	1353	33.8	1.7	1.94	67.0	3.4	0.49	79.6	4.1	0.97	106.8	5.5	10.31
	14	1628	38.5	2.0	0.91	81.1	4.2	0.79	89.7	4.6	0.52	109.9	5.6	10.66
	16	1863	45.1	2.3	1.36	94.9	4.9	1.16	104.6	5.4	0.76	144.6	7.4	4.81
	18	1986	50.3	2.6	1.83	91.1	4.7	0.23	115.8	6.0	1.00	157.8	8.1	6.27
	20	2086	57.0	2.9	0.30	113.9	5.9	1.92	130.4	6.7	8.70	168.3	8.6	7.56

Notes:

1. Based on 70°F DB EAT, 180°F EWT, 40°F temperature drop, high fan speed
2. RAHR performance data varies from RAHO and RAHR units

Performance Data

PHYSICAL DATA

RAH UNIT WEIGHT DATA

Component		Unit Size							
		06	08	10	12	14	16	18	20
RAHO Base Unit		68 [31]	73 [33]	77 [35]	114 [52]	119 [54]	124 [56]	128 [58]	132 [60]
RAHR Base Unit		87 [40]	95 [43]	101 [46]	141 [64]	150 [68]	157 [71]	164 [75]	170 [77]
RAHR With Mixing Box		119 [54]	132 [60]	144 [65]	189 [86]	204 [93]	217 [99]	229 [104]	246 [112]
RAHC Base Unit		137 [62]	146 [66]	158 [72]	202 [92]	219 [99]	228 [103]	240 [109]	250 [113]
Coil Rows	1 Row - Dry	5 [2]	6 [3]	7 [3]	8 [4]	10 [5]	10 [5]	11 [5]	12 [5]
	1 Row - Wet	7 [3]	9 [4]	10 [5]	11 [5]	14 [6]	14 [6]	16 [7]	17 [8]
	2 Row - Dry	11 [5]	13 [6]	14 [6]	16 [7]	20 [9]	20 [9]	22 [10]	24 [11]
	2 Row - Wet	14 [6]	18 [8]	20 [9]	23 [10]	27 [12]	28 [13]	32 [15]	35 [16]
	3 Row - Dry	16 [7]	19 [9]	21 [10]	24 [11]	30 [13]	30 [13]	33 [15]	36 [16]
	3 Row - Wet	21 [10]	27 [12]	30 [13]	34 [15]	41 [19]	42 [19]	48 [22]	52 [24]
	4 Row - Dry	21 [10]	25 [12]	29 [13]	33 [15]	40 [18]	40 [18]	44 [20]	48 [22]
	4 Row - Wet	27 [12]	35 [16]	41 [19]	46 [21]	54 [25]	56 [26]	64 [29]	69 [31]
	5 Row - Dry	26 [12]	30 [13]	34 [15]	38 [17]	42 [19]	46 [21]	50 [23]	54 [25]
	5 Row - Wet	33 [15]	39 [18]	45 [21]	51 [23]	57 [26]	63 [29]	70 [32]	77 [35]
	6 Row - Dry	32 [15]	38 [17]	43 [20]	49 [23]	59 [27]	61 [28]	67 [30]	71 [32]
	6 Row - Wet	42 [19]	53 [24]	61 [28]	69 [31]	80 [36]	85 [39]	97 [44]	103 [47]
	7 Row - Dry	38 [17]	42 [19]	48 [22]	54 [25]	60 [28]	66 [30]	72 [33]	78 [35]
	7 Row - Wet	49 [23]	56 [26]	63 [29]	70 [32]	77 [35]	84 [38]	91 [42]	98 [45]
	8 Row - Dry	43 [20]	49 [23]	55 [26]	61 [28]	67 [30]	73 [33]	79 [36]	85 [39]
	8 Row - Wet	55 [26]	63 [29]	71 [32]	79 [36]	87 [40]	95 [43]	103 [47]	111 [50]

Note: Unit weight data is in pounds [kilograms]



## Electric Heat

Superior Rex offers electric heating coils for specific application with all Horizontal High Performance Fan Coil units. This allows the flexibility

to provide an unrivaled amount of electric heat options in one complete package.

### Standard Features

- » ETL-Listed as an assembly for safety compliance
- » Single point power connection
- » Mounted in preheat position
- » Automatic reset primary and backup secondary thermal limits
- » Internal wiring rated at 105°C
- » Integral electric heat assembly with removable element for easy service



### Useful Formulas

$$kW^* = \frac{CFM \times \Delta T \times 1.085^{**}}{3413}$$

$$1\emptyset \text{ AMPs} = \frac{kW \times 1000}{\text{Volts}}$$

$$* 1kW = 3413 \text{ BTU/H}$$

\*\* Capacity at sea level

Altitude Considerations:

Reduce by 0.034 for each 1000 ft. of altitude above sea level

$$\text{Example: } 5000 \text{ ft./}1000 \text{ ft.} = 5$$

$$5 \times 0.034 = 0.17$$

$$1.085 - 0.17 = 0.915$$

### Optional Features

- » Silent solid state relays on heaters up to 18 amps
- » Door interlocking disconnect switch
- » Main fusing

### Electrical Calculations Information

1. Contact your local Superior Rex sales office
2. Non-Fused Door Interlock Disconnect Switch shall be sized according to MCA
3. Fused Door Interlock Disconnect Switch and Main Fusing shall be sized according to MOP

## RAH ELECTRIC HEAT SELECTION CHART (AMPS)

Unit Size	MBH	6.8	8.5	10.2	11.9	13.7	17.1	20.5	23.9	27.3	30.7	34.1	41.0	47.8	
	KW	2.0	2.5	3.0	3.5	4.0	5.0	6.0	7.0	8.0	9.0	10.0	12.0	14.0	
	Volts	AMPS													
06	115	17.4	21.7	26.1	30.4	34.8									
	208	9.6	12.0	14.4	16.8	19.2									
	230	8.7	10.9	13.0	15.2	17.4									
	277	7.2	9.0	10.8	12.6	14.4									
08	115	17.4	21.7	26.1	30.4	34.8	43.5								
	208	9.6	12.0	14.4	16.8	19.2	24.0	28.8							
	230	8.7	10.9	13.0	15.2	17.4	21.7	26.1							
	277	7.2	9.0	10.8	12.6	14.4	18.1	21.7							
10	115	17.4	21.7	26.1	30.4	34.8	43.5								
	208	9.6	12.0	14.4	16.8	19.2	24.0	28.8	33.7						
	230	8.7	10.9	13.0	15.2	17.4	21.7	26.1	30.4						
	277	7.2	9.0	10.8	12.6	14.4	18.1	21.7	25.3						
12	115					34.8	43.5								
	208					19.2	24.0	28.8	33.7	38.5	43.3				
	230					17.4	21.7	26.1	30.4	34.8	39.1				
	277					14.4	18.1	21.7	25.3	28.9	32.5				
14	115					34.8	43.5								
	208					19.2	24.0	28.8	33.7	38.5	43.3	48.1			
	230					17.4	21.7	26.1	30.4	34.8	39.1	43.5			
	277					14.4	18.1	21.7	25.3	28.9	32.5	36.1			
16	115					34.8	43.5								
	208					19.2	24.0	28.8	33.7	38.5	43.3	48.1	57.7		
	230					17.4	21.7	26.1	30.4	34.8	39.1	43.5	52.2		
	277					14.4	18.1	21.7	25.3	28.9	32.5	36.1	43.3		
18	115					34.8	43.5								
	208					19.2	24.0	28.8	33.7	38.5	43.3	48.1	57.7		
	230					17.4	21.7	26.1	30.4	34.8	39.1	43.5	52.2		
	277					14.4	18.1	21.7	25.3	28.9	32.5	36.1	43.3		
20	115					34.8	43.5								
	208					19.2	24.0	28.8	33.7	38.5	43.3	48.1	57.7	67.3	
	230					17.4	21.7	26.1	30.4	34.8	39.1	43.5	52.2	60.9	
	277					14.4	18.1	21.7	25.3	28.9	32.5	36.1	43.3	50.5	

### Notes:

1. Shaded areas indicate kW and voltage options not available
2. Available voltages are single phase, 60 hertz
3. Heaters over 48 AMPs are subdivided and fused per NEC

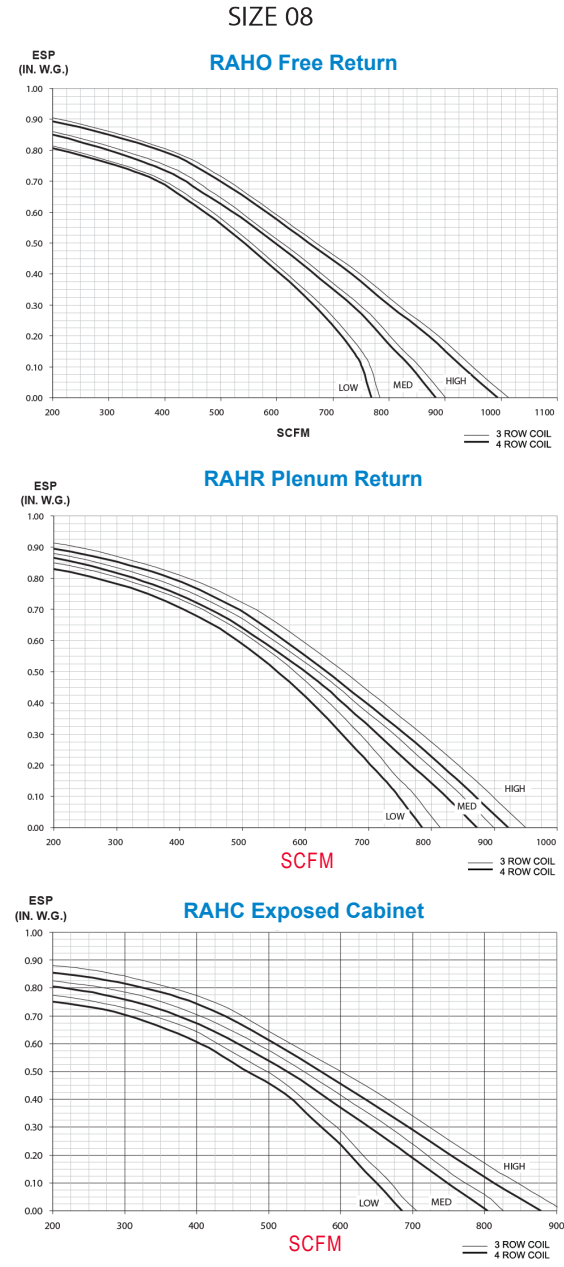
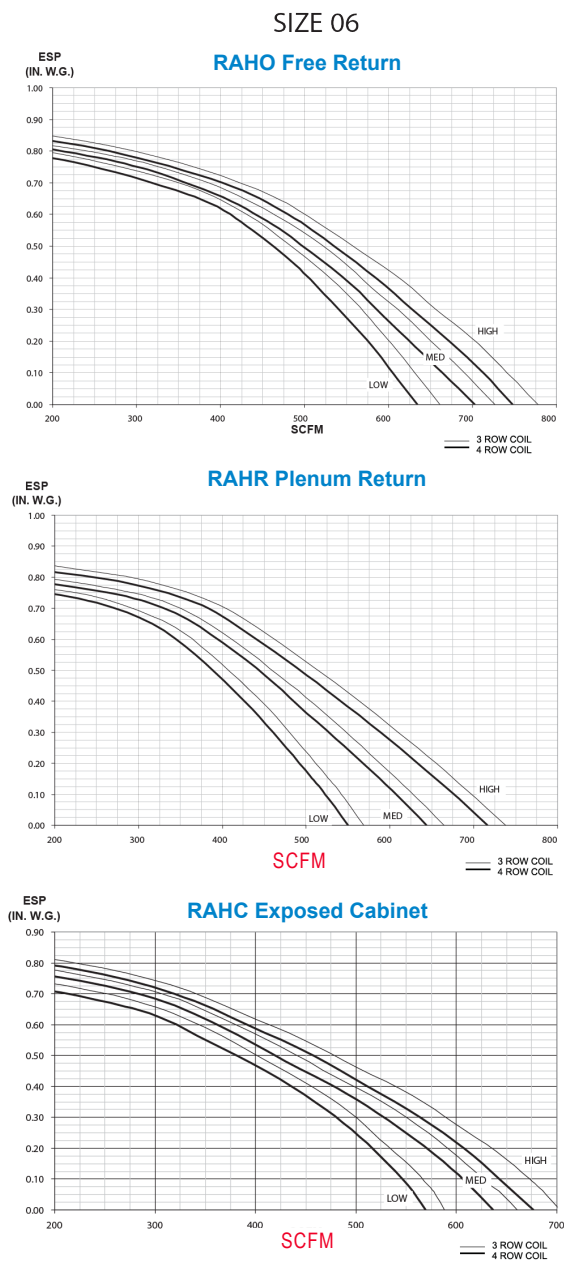
Performance Data

Fan Curves / PSC Motor

GENERAL FAN NOTES, PSC MOTORS

1. Fan curves depict actual performance of each motor tap without any additional fan balance adjustment. Actual capacities which fall below each curve can be obtained by adding an adjustment device. Units should not be run prior to installation of downstream ductwork; otherwise, damage to the motor may result.
2. Superior Rex Fan Coil Units are equipped with permanent split-capacitor (PSC) motors with three separate taps (High, Medium and Low) which provide variable horsepower outputs. Most often, size selections are conservative and actual CFM requirements and/or external static pressure requirements are lower than those specified. In this case, the unit fan motor can be run at low or medium tap, substantially reducing the operating cost of the unit.
3. All fan curves are for 115/1/60 motors and include pressure losses for cabinet, electric heater, and 3 or 4 row coil. Plenum units include a clean 1" throwaway filter. For other coil configurations, adjust performance curves based on pressure losses for the coils as selected with the Superior Rex RAMP Coil Selection Program.
4. See page 92 for fan motor electrical data
5. For additional high static pressure applications and rating points, contact Superior Rex

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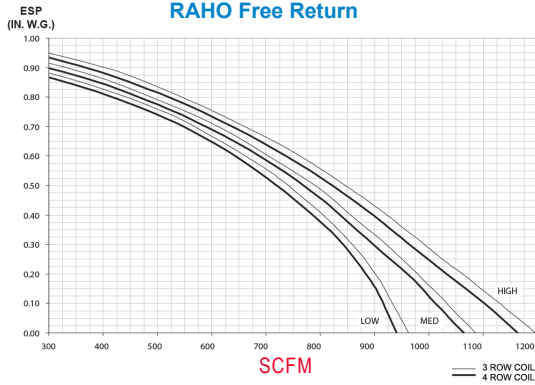




FAN CURVES / PSC MOTOR

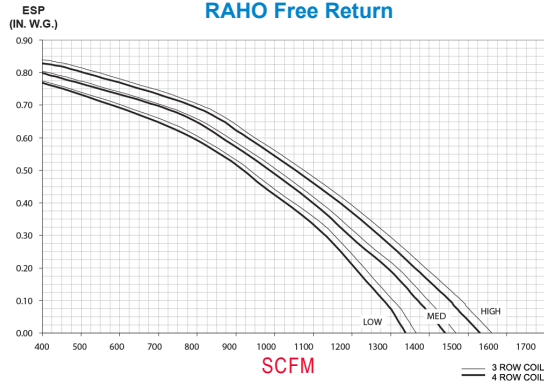
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RAHO Free Return

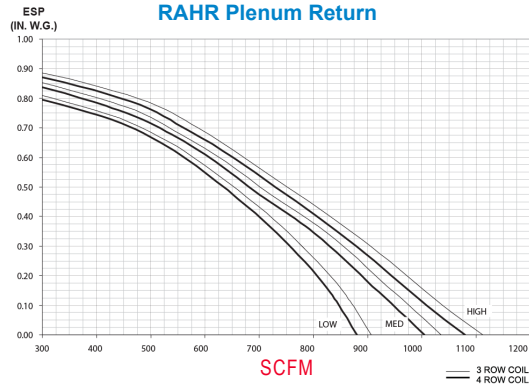


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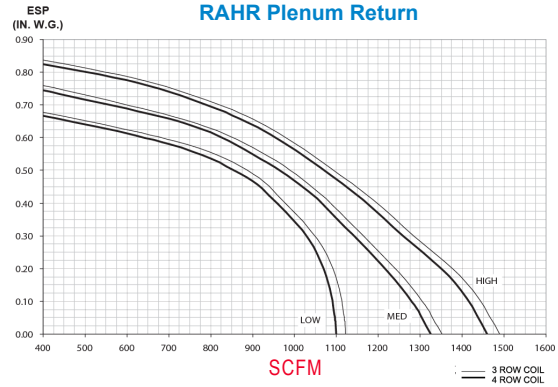
RAHO Free Return



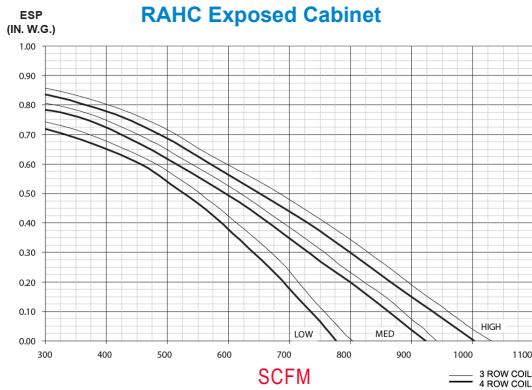
RAHR Plenum Return



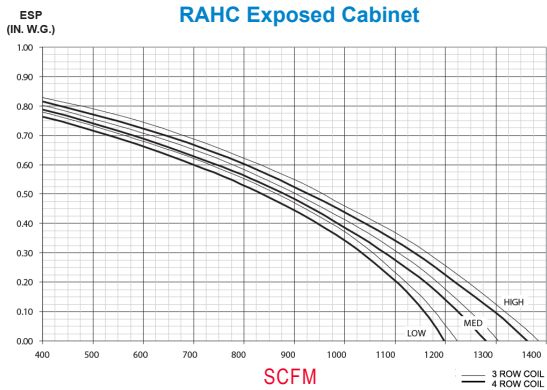
RAHR Plenum Return



RAHC Exposed Cabinet



RAHC Exposed Cabinet

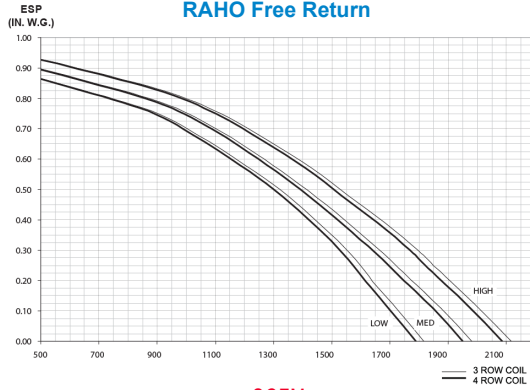


Performance Data

FAN CURVES / PSC MOTOR

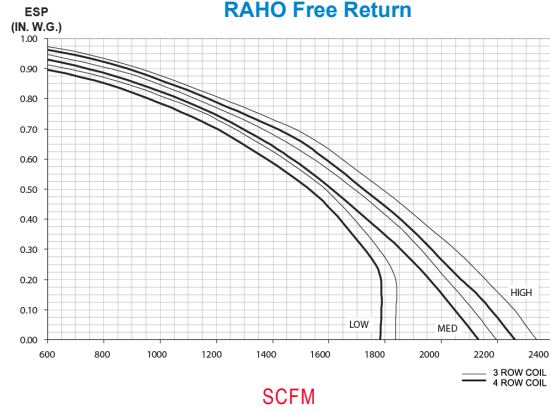
**SIZE 14**

**RAHO Free Return**

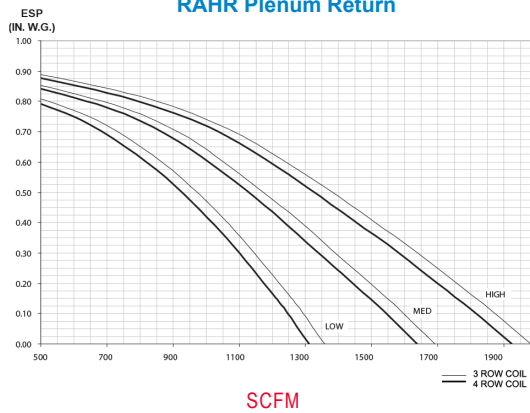


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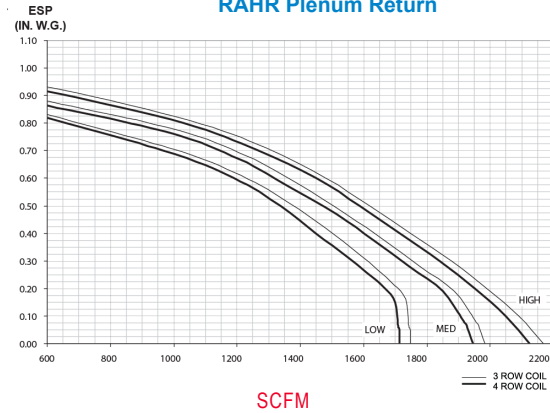
**RAHO Free Return**



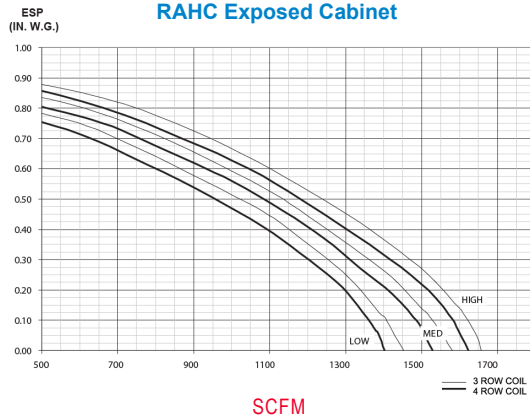
**RAHR Plenum Return**



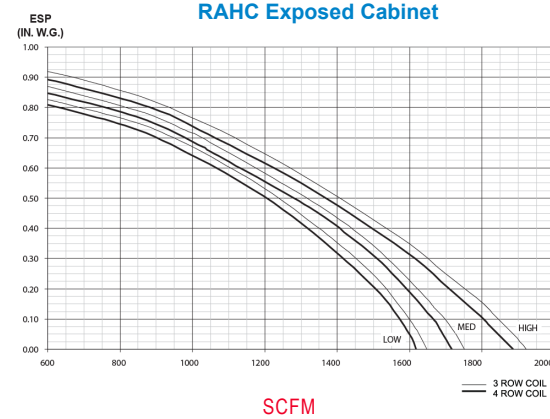
**RAHR Plenum Return**



**RAHC Exposed Cabinet**



**RAHC Exposed Cabinet**

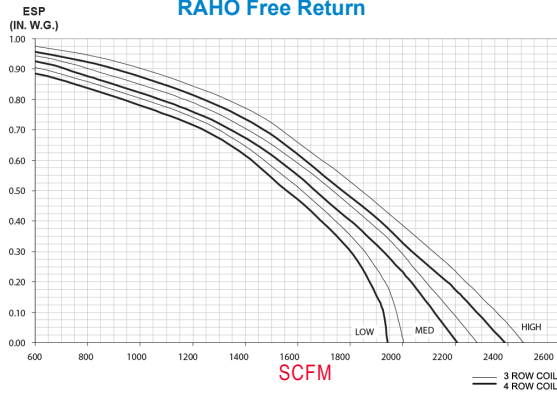




FAN CURVES / PSC MOTOR

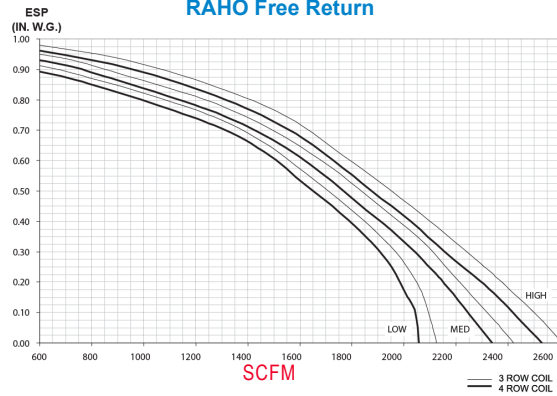
SIZE 18

RAHO Free Return

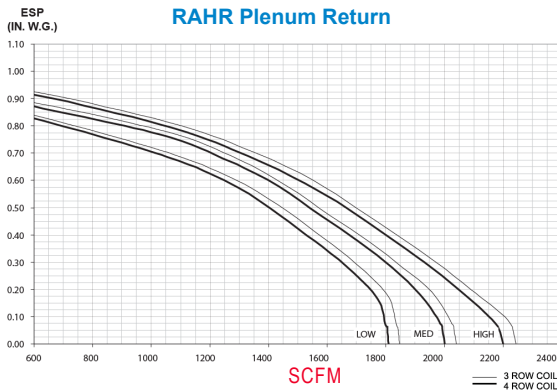


SIZE 20

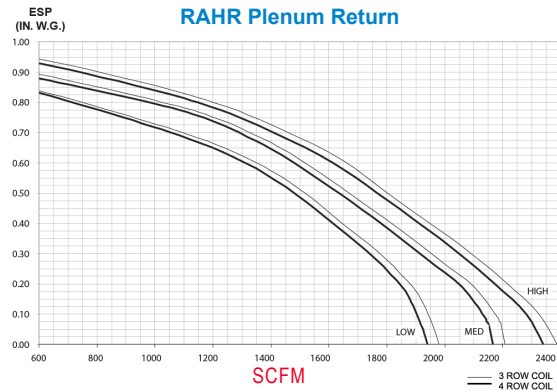
RAHO Free Return



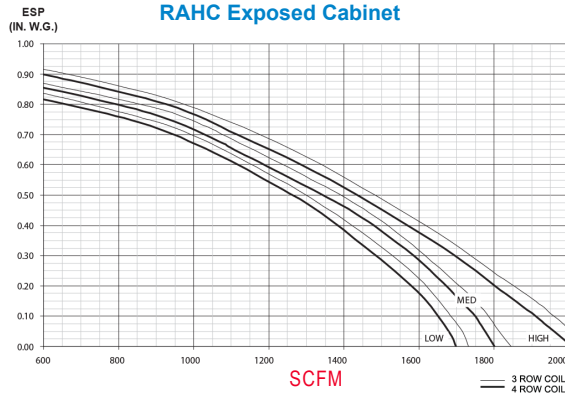
RAHR Plenum Return



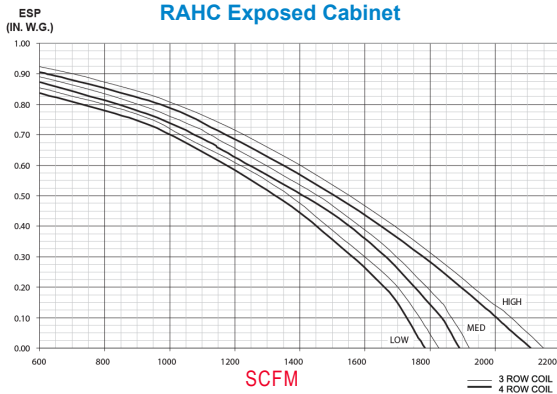
RAHR Plenum Return



RAHC Exposed Cabinet



RAHC Exposed Cabinet





## ECM™ Fan Motor Option

### THE ENERGY EFFICIENT SOLUTION

Superior Rex offers an alternative to the PSC motor that significantly increases the operating efficiency of fan coil units. This motor is frequently referred to as an ECM (electronically commutated motor). It is a brushless DC (BLDC) motor utilizing a permanent magnet rotor. The motor has been in production for years and is commonly used in residential HVAC units. Fan speed control is accomplished through a microprocessor based variable speed controller (inverter) integral to the motor. The motor provides peak efficiency ratings between 70 & 80% for most applications.

### ECM FEATURES AND BENEFITS

Ultra-High Motor & Controller Energy Efficiency DC motors are significantly more efficient than AC motors. Due to the permanent magnet, DC design, the ECM maintains approximately 75% efficiency at all speeds.

#### Pressure Independent Fan Volume

The integral microprocessor based controller includes a feature that provides sensorless (no external feedback) constant airflow operation by automatically adjusting the speed and torque in response to system pressure changes. This breakthrough will no doubt have far reaching benefits and endless applications. For starters, the fan volume supplied to the space will not significantly change as a filter becomes loaded. The air balance process will become simpler and more accurate since the fan volume will not need to be re-adjusted after the diffuser balance is accomplished.

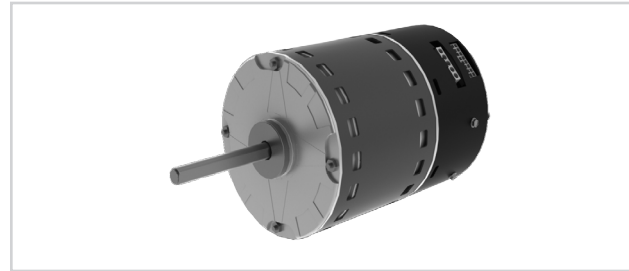
#### Factory Calibrated Fan Volume

Due to the pressure independent feature, the fan capacity is calibrated at the factory at the nominal airflow rate. Within the published flow rate and external pressure limits, the fan motor will automatically adjust to account for the varying static pressure requirements associated with different unit configurations and downstream duct configurations. This feature should not preclude the final field air balance verification process during the commissioning stage of a project. An electronic (PWM) speed control device is provided to allow field changes of the fan capacity as the need arises. Fan volume can be field calibrated in two fashions. First, a potentiometer is provided allowing manual adjustment using an instrument type screwdriver. In addition, the fan volume can be calibrated through the BMS using an analog output (2 to 10VDC typical) to the speed controller. A fan volume versus DC volts calibration chart is provided.

#### Designer / Owner Flexibility

The ECM incorporates ball bearings in lieu of sleeve bearings typically utilized with an induction motor. Unlike a sleeve bearing motor, the ECM does not have a minimum RPM requirement for bearing lubrication.

This allows it to operate over a much wider speed range. A reduced spare parts inventory is another plus.



#### Custom Applications — Programmable Fan Operation

Boundless control opportunities arise due to the controllability of a DC motor combined with an integral microprocessor. Various input signals can direct the motor to behave in an applicationspecific mode. For instance, multiple discrete fan capacities can be achieved. In addition, the fan speed can be varied in response to the space temperature load. The fan is also programmed for a soft start. The motor starts at a low speed and slowly ramps up to the required speed.

#### Extended Motor Life

The high motor efficiency provides a significantly reduced operating temperature compared to an induction motor. The lower temperature increases the longevity of all electrical components and therefore the life of the motor. The ball bearings do not require lubrication and do not adversely impact the motor life. Most fan coil applications will provide a PSC motor life between 60,000 and 100,000 hours. Expected ECM motor life will be considerably longer than a PSC motor, due to the reduced operating temperature and ball bearing components.

#### Application

Most variable speed electronic devices, including the ECM operate with a rectified and filtered AC power. As a result of the power conditioning, the input current draw is not sinusoidal; rather, the current is drawn in pulses at the peaks of the AC voltage. This pulsating current includes high frequency components called harmonics. Harmonic currents circulate on the delta side of a Delta-Wye distribution transformer. On the Wye side of the transformer, these harmonic currents are additive on the neutral conductor. A transformer used in this type of application must be sized to carry the output KVA that will include the KVA due to circulating currents.

Careful design must be provided when connecting single-phase products to three-phase systems to avoid potential problems such as overheating of neutral wiring conductors, connectors, and transformers. In addition, design consideration must be provided to address the degradation of power quality by the creation of wave shape distortion. In summary, proper consideration must be given to the power distribution transformer selection and ground neutral conductor design to accommodate the 3-phase neutral AMPs shown in the adjacent table. Specific guidelines are available from the factory.

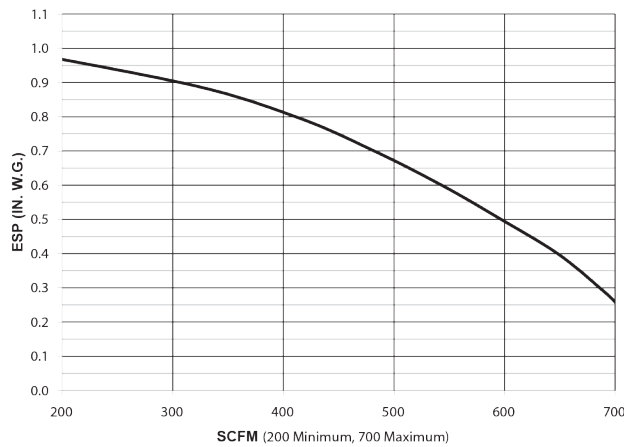


## Fan Curves / ECM™ Motor

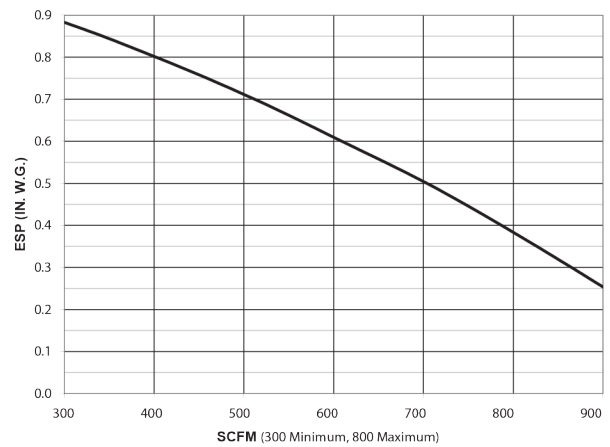
### GENERAL FAN NOTES, ECM MOTORS

1. Fan curves depict actual performance at the maximum speed of the ECM motor. Depending upon external static pressure, flow rates are achievable anywhere within the curve boundary by adjusting the motor speed through the electronic interface control board.
2. Airflow rates will be constant for varying degrees of external static pressure caused by filter loading or other duct system variables once the electronic interface control board is set to desired flow rate
3. Fan curves compensate for the pressure losses of the unit cabinet, coil rows, and a loaded throwaway filter. For job specific fan curves please run the Superior Rex RAMP Coil Selection Program.
4. ECM motors operate using a rectified AC power source that is converted to a non-sinusoidal DC power wave form. Harmonic distortion may occur and circulate on the power distribution system. Circulating harmonic currents are potentially additive on the neutral conductors of 3-phase, 4-wire Wye distribution systems. Neutral conductors must be engineered to account for the additional current (amperes) encountered.
5. See page 92 for ECM motor electrical data

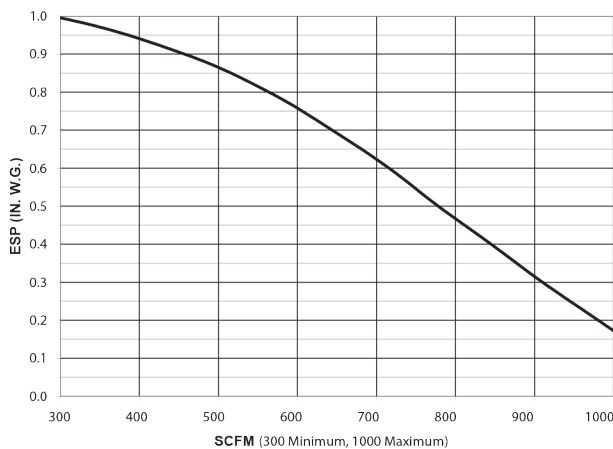
RAHR Size 06 with 1/3 HP ECM Motor



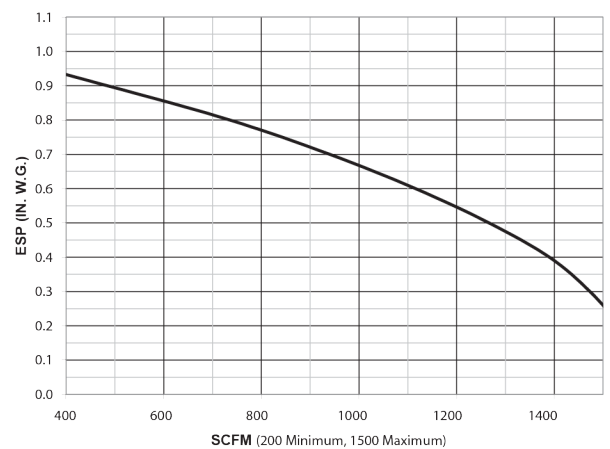
RAHR Size 08 with 1/3 HP ECM Motor



RAHR Size 10 with 1/3 HP ECM Motor



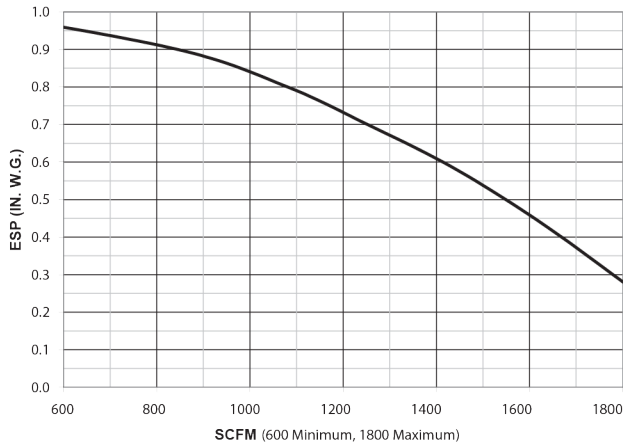
RAHR Size 12 with 1/3 HP ECM Motor



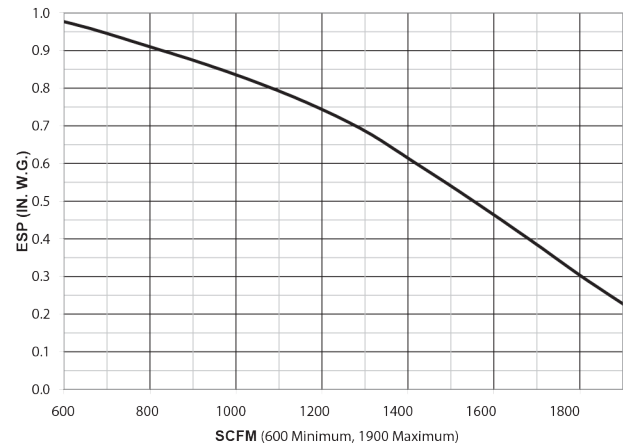
Performance Data

FAN CURVES / ECM MOTOR

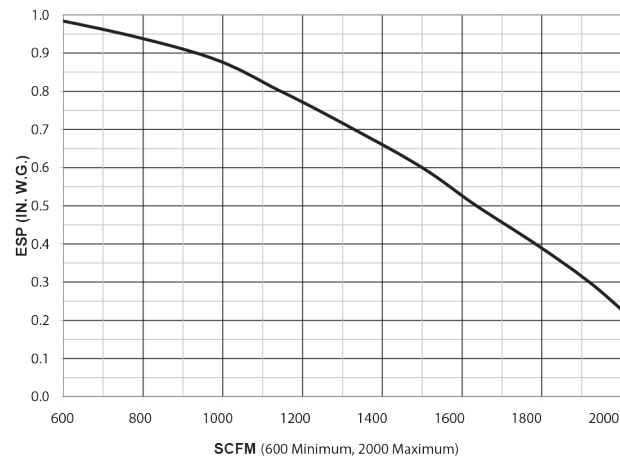
**RAHR Size 14 with 1/3 HP ECM Motor**



**RAHR Size 16 with 1/3 HP ECM Motor**



**RAHR Size 18 with 1/3 HP ECM Motor**



**ECM™ AIRFLOW**

Unit Size	Factory Set CFM	CFM Range	
		Min.	Max.
06	600	200	700
08	800	300	900
10	1000	300	1000
12	1200	400	1500
14	1400	600	1800
16	1600	600	1900
18	1800	600	2000
20	2000	600	2000



Motor and Fan Data

MOTOR AND FAN DATA

Unit Size	Fan Speed	Motor HP (Quality)		# Of Fan	AMPs @120/1/60			AMPs @208-230/1/60			AMPs @277/1/60		
		PSC	ECM		PSC	ECM		PSC	ECM		PSC	ECM	
						FLA	3-Phase Neutral Current		FLA	3-Phase Neutral Current		FLA	3-Phase Neutral Current
06	High	(1) 1/6	(1) 1/3	1	2.6	5.0	8.7	1.1	2.8	4.8	0.9	2.6	4.5
	Medium	(1) 1/8			2.1			0.9			0.8		
	Low	(1) 1/10			1.8			0.6			0.7		
08	High	(1) 1/4	(1) 1/3	1	3.8	5.0	8.7	1.6	2.8	4.8	1.3	2.6	4.5
	Medium	(1) 1/6			3.3			1.0			0.8		
	Low	(1) 1/8			2.6			0.8			0.7		
10	High	(1) 1/4	(1) 1/3	1	4.9	5.0	8.7	2.2	2.8	4.8	1.9	2.6	4.5
	Medium	(1) 1/5			4.1			1.5			1.2		
	Low	(1) 1/6			3.2			1.1			0.8		
12	High	(2) 1/6	(2) 1/3	2	5.2	10.0	17.3	2.2	5.6	9.7	1.8	5.2	9.0
	Medium	(2) 1/8			4.2			1.8			1.6		
	Low	(2) 1/10			3.6			1.2			1.4		
14	High	(2) 1/4	(2) 1/3	2	7.6	10.0	17.3	3.2	5.6	9.7	2.6	5.2	9.0
	Medium	(2) 1/6			6.6			2.0			1.6		
	Low	(2) 1/8			5.2			1.6			1.4		
16	High	(2) 1/4	(2) 1/3	2	9.8	10.0	17.3	4.4	5.6	9.7	3.8	5.2	9.0
	Medium	(2) 1/5			8.2			3.0			2.4		
	Low	(2) 1/6			6.4			2.2			1.6		
18	High	(2) 1/4	(2) 1/3	2	9.8	10.0	17.3	4.4	5.6	9.7	3.8	5.2	9.0
	Medium	(2) 1/5			8.2			3.0			2.4		
	Low	(2) 1/6			6.4			2.2			1.6		
20	High	(2) 1/4	(2) 1/3	2	9.8	10.0	17.3	4.4	5.6	9.7	3.8	5.2	9.0
	Medium	(2) 1/5			8.2			3.0			2.4		
	Low	(2) 1/6			6.4			2.2			1.6		

- Notes:**
1. Motor electrical data is nameplate data. Actual data will vary with application.
  2. Motors nameplated for 208-230/1/60. Data is at 230 volts.
  3. ECM motors operated on 208/1/60 power result in reduced airflow

SOUND DATA

Unit Size	Motor Speed	Motor RPM	UNIT SCFM (ECM)	UNIT SCFM (PSC)							
					2	3	4	5	6	7	8
06	High	1161	768	722	69	67	65	65	61	63	55
	Medium	965	589	622	66	62	62	59	57	54	47
	Low	678	403	502	58	53	55	50	46	44	33
08	High	1118	887	1030	72	69	68	67	65	65	56
	Medium	924	710	948	67	63	63	61	60	57	48
	Low	699	495	795	61	57	58	54	51	47	38
10	High	1118	999	1074	73	70	69	69	67	65	58
	Medium	911	791	988	68	64	65	63	62	57	48
	Low	689	563	785	62	60	60	56	54	49	39
12	High	1142	1552	1543	74	73	70	71	67	67	60
	Medium	920	1185	1275	69	67	65	64	62	59	50
	Low	708	862	1001	64	61	61	57	55	52	41
14	High	1109	1832	1978	74	72	70	71	67	66	58
	Medium	896	1458	1847	70	68	65	65	63	60	51
	Low	677	1044	1565	64	60	60	58	55	51	40
16	High	1120	2026	2000	75	73	71	70	68	69	58
	Medium	906	1606	1851	69	66	65	66	63	59	49
	Low	680	1145	1556	64	61	59	58	54	51	40
18	High	1112	2057	2058	74	71	69	71	68	66	58
	Medium	875	1608	1878	68	64	64	64	62	57	48
	Low	669	1168	1538	63	61	59	57	54	50	39
20	High	1111	2099	2145	74	72	69	71	67	66	58
	Medium	886	1647	1935	70	67	64	65	63	60	50
	Low	660	1167	1545	64	59	59	58	53	50	39



## RBH Series Design Features

## new product offering

### HIGH PERFORMANCE

Superior Rex RBH Series horizontal low profile fan coil units are designed to maximize flexibility of selection and installation.

The units are also designed to exceed the stringent quality standards of the institutional market, while remaining cost competitive in the light commercial segment of the market.

Superior Rex horizontal fan coil units set the new standards for quality, flexibility, and competitive pricing.

### DESIGN FLEXIBILITY

The extensive variety of standard options available on the RBH Series units are where you find the versatility to fit any HVAC system designer's needs.

Options include: rear or bottom ducted return, foil faced or elastomeric closed cell foam insulation, solid or telescoping bottom panels for unit recessing, single wall stainless steel drain pans, electric heat with single point power connection. All electric heat units are listed with ETL as an assembly and carry the cETL label.

All units comply with the latest edition of AHRI Standard 440 for testing and rating fan coil units, are certified, and display the AHRI symbol.

High efficiency motors, fan relays, disconnects and fusing mean easier coordination between mechanical and electrical trades.

Coil options allow for three or four row chilled water or DX cooling coils. One or two row hot water or standard steam coils may be placed in the preheat or reheat position.

Silent solid state relays are available for fan and electric heat control in sound sensitive environments.

### CONVENIENT INSTALLATION

All RBH Series fan coil units are shipped completely assembled, reducing field installation time and labor.

All units are thoroughly inspected and tested prior to shipment, eliminating potential problems at startup. Motor wiring is brought to a junction box on the outside of the unit casing, reducing electrical hook-up time.

Plenum units are field reversible for either rear or bottom return without special adapters, tools or additional parts.

All RBH Series fan coil units have the option of a hinged cover electrical enclosure in the bottom of the unit. The expansive compartment allows for easy access to all electrical components, terminal blocks and wiring.

Factory furnished valve packages assure proper fit, operation and performance.

For fast track jobs, the RBH Series fan coil is available on Quick Ship with 5, 10 or 15 day lead times.

### QUALITY PRODUCT

Concealed Model RBH Series fan coil units are built from galvanized steel. This metal surpasses the ASTM 125 hour salt spray test for corrosion and rust. Exposed Model RBHC cabinetry is powder coated galvanized steel.

Standard insulation is ½ inch thick fiberglass, complying with UL 181 and NFPA 90A. Optional foil faced or elastomeric closed cell foam insulation may be specified.

All units, with or without electric heat, are cETL listed and labeled. All wiring is in compliance with NEC, assuring safety and quality for the owner.

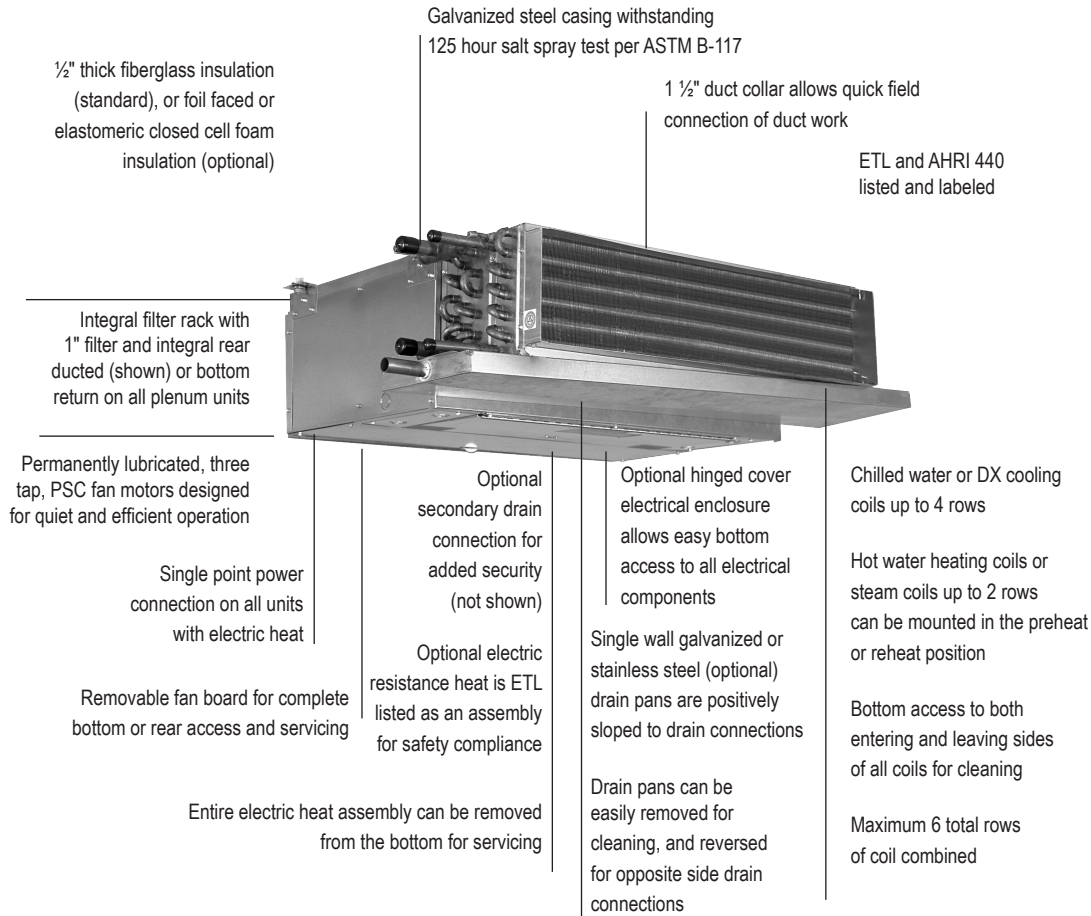
RBH Series fan coil units have a removable fan assembly. The entire fan assembly can be removed from the unit and serviced easily on a workbench.

RBH Series Construction Features

**MODEL RAHR**

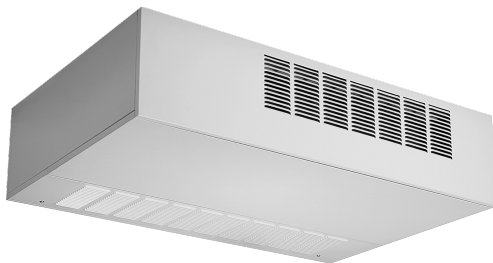
HORIZONTAL PLENUM RETURN

(Photo as shown for RBHR). RBH Series fan coils have many standard and optional features which are unique to the industry.



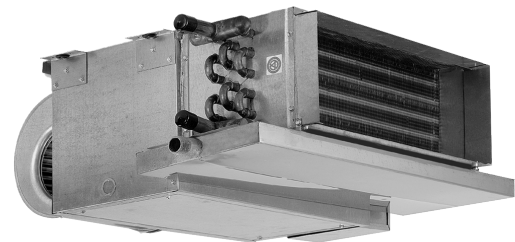
**MODEL RBHC**

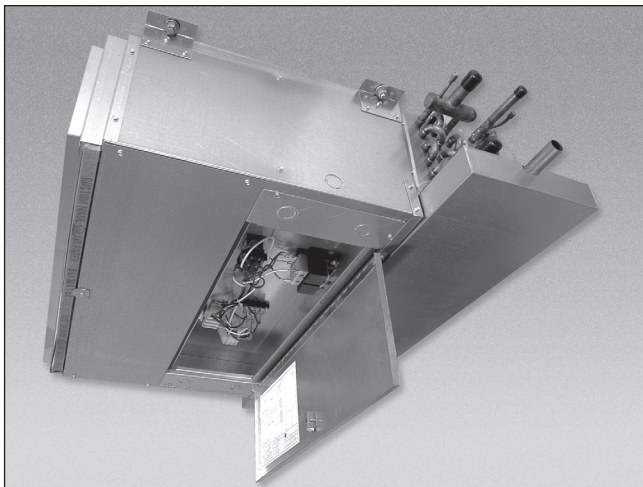
Horizontal Exposed Cabinet



**MODEL RBHO**

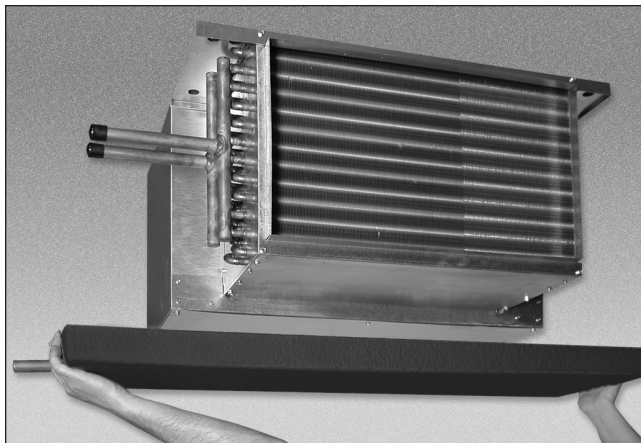
Horizontal Free Return





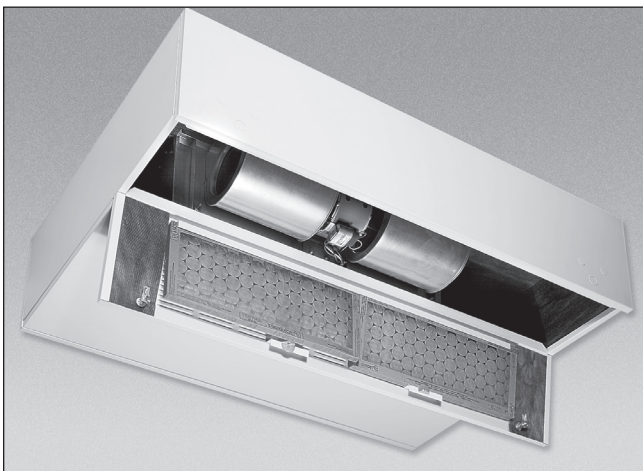
### ELECTRICAL ENCLOSURE

The bottom hinged electrical enclosure provides access to a spacious electrical compartment. This compartment houses all electric heat and control components. Terminal strips are furnished for simple power and control wiring connections. Multiple knockouts allow wiring entries from either side of the compartment.



### DRAIN PAN

Standard drain pans are externally insulated, single wall galvanized steel with an option for stainless steel. Drain pans are available with secondary drain connection. On concealed models, the RBH Series drain pan is easily removable for cleaning or reversing connections.



### FILTERS

One inch throwaway filters are tight fitting to prevent air bypass. Filters are easily removable from the bottom through the access panel or plenum.

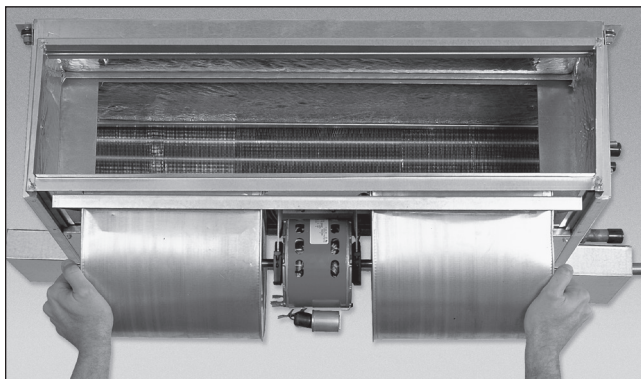
### COILS

All fan coils are available in 2 or 4 pipe configurations. The heating coil may be placed in the reheat or preheat position. On concealed models, heating and cooling coils are available with right, left or opposite side connections.



### TELESCOPING BOTTOM PANEL

The telescoping bottom panel allows for fully recessing the unit while permitting service access into the ceiling plenum. The architectural ceiling panel is finished with a durable powder coat paint.



### FAN DECK

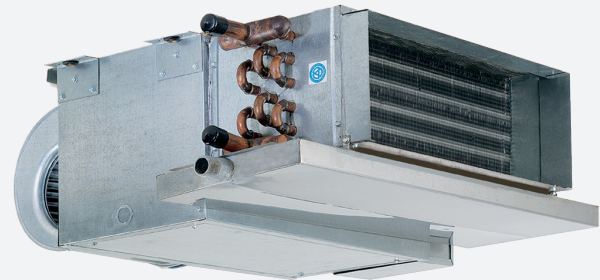
The fan assembly is easily removed without disconnecting the ductwork for service access to motors and blowers at, or away from the unit.



## Horizontal Low Profile Series

### RBHO

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000 (non-ducted equipment)
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency motor, Solid State Relays and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type



RBHO

#### AVAILABLE MODEL:

RBHO

#### OVERVIEW

Factory assembled, horizontal blow-thru ducted RBHO fan coils are designed for concealed installations above the ceiling and are suitable for projects such as hotels, motels, condominiums and general commercial applications.

#### OPTIONAL FEATURES INCLUDE:

##### Construction

###### All Units

- » Foil faced fiberglass insulation
- » Elastomeric closed cell foam insulation

###### Plenum Units

- » Bottom return
- » 1" pleated filters (MERV 8)
- » Spare 1" throwaway filters
- » Telescoping Bottom Panels

###### Exposed Units

- » 1" pleated filters (MERV 8)
- » Double deflection discharge grille
- » Ducted supply and/or return

##### Coils

- » Automatic air vents
- » Stainless steel coil casings

##### Drain Pans

- » Stainless steel with external insulation
- » 5/8" O.D. secondary drain connection
- » Auxiliary drip pans, galvanized or stainless steel



See website for Specifications

#### Fan Assemblies

- » 208-230 & 277 volt, single phase, three tap PSC motors

#### Electrical

- » Bottom hinged cover electrical enclosure
- » SCR fan speed controller
- » Fan relay packages
- » Silent solid state fan relays
- » Toggle disconnect switch
- » Condensate overflow switch (drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches

#### Electric Heat

- » Manual reset secondary thermal limits
- » Door interlocking disconnect switches
- » Main fusing
- » Silent relay / contactors



A Participating Corporation in the AHRI 440 Certification Program



### Piping Packages

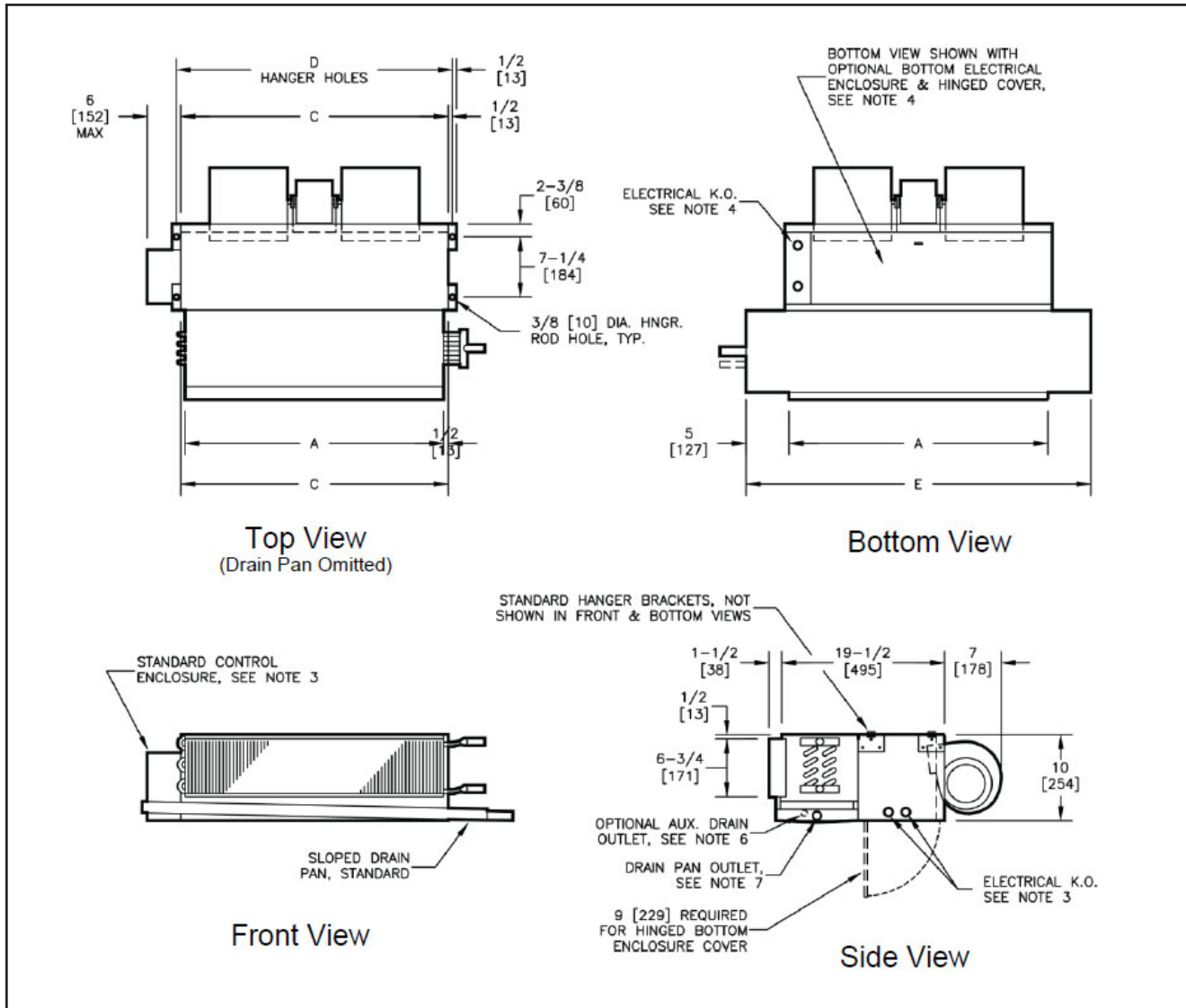
- » Factory-assembled - shipped loose for field installation
- » ½" and ¾", and 1", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Isolation ball valves with memory stop
- » Fixed and adjustable flow control devices
- » Unions and P/T ports
- » Floating point modulating control valves
- » High-pressure, close-off actuators (½" = 50 PSIG; ¾" = 25 PSIG)
- » 4-strainers

### Thermostats

- » Remote mounted analog, digital display, or programmable
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover
- » Integral three speed fan switches

Dimensions

RBHO UNIT DIMENSIONS



Unit Size	Dimensions			
	A	C	D	E
20	20 [508]	21 [533]	22 [559]	30 [762]
25	26 [660]	27 [686]	28 [711]	36 [914]
30	30 [762]	31 [787]	32 [813]	40 [1016]
40	40 [1016]	41 [1041]	42 [1067]	50 [1270]
50	50 [1270]	51 [1295]	52 [1321]	60 [1524]
60	60 [1524]	61 [1549]	62 [1575]	70 [1778]

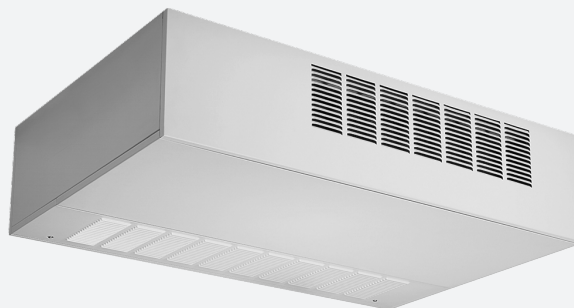
**Notes:**

1. All dimensions are in inches [millimeters]. All dimensions are  $\pm 1/4"$  [6mm]. Metric values are soft conversion.
2. Left hand unit shown, right hand unit opposite
3. Standard control enclosure is mounted on unit side opposite cooling coil connections. Unit casing includes (2) knockouts on each side. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.
4. Optional bottom control enclosure with hinged cover replaces standard side mounted enclosure and includes (2) additional knockouts on bottom of unit side, on left side
5. Standard externally foam coated galvanized steel drain pan has 7/8" ODM cooper outlet. Stainless steel drain pan has 3/4" MPT galvanized steel outlet.
6. Aux. drain outlet is 5/8" ODM cooper or 3/8" MPT galvanized steel respectively
7. See submittals for coil connection sizes and locations



## RBHC

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000 (non-ducted equipment)
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed and Variable speed constant RPM ECM motor available for higher energy efficiencies
- » High-efficiency motor, Solid State Relays and Electric heat control available for quite operations
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available



RBHC

### AVAILABLE MODEL:

RBHC

### OVERVIEW

Factory assembled, horizontal blow-thru ducted RBHC fan coils are designed for concealed installations above the ceiling and are suitable for projects such as hotels, motels, condominiums and general commercial applications.

### OPTIONAL FEATURES INCLUDE:

#### Construction

##### All Units

- » Foil faced fiberglass insulation
- » Elastomeric closed cell foam insulation

##### Plenum Units

- » Bottom return
- » 1" pleated filters (MERV 8)
- » Spare 1" throwaway filters
- » Telescoping Bottom Panels

##### Exposed Units

- » 1" pleated filters (MERV 8)
- » Double deflection discharge grille
- » Ducted supply and/or return
- » Pearl white cabinet finish

#### Coils

- » Automatic air vents
- » Stainless steel coil casings

#### Drain Pans

- » Stainless steel with external insulation
- » 5/8" O.D. secondary drain connection
- » Auxiliary drip pans, galvanized or stainless steel



See website for Specifications

#### Fan Assemblies

- » 208-230 & 277 volt, single phase, three tap PSC motors
- » ECM motors

#### Electrical

- » Bottom hinged cover electrical enclosure
- » SCR fan speed controller
- » Fan relay packages
- » Silent solid state fan relays
- » Toggle disconnect switch
- » Condensate overflow switch (drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches

#### Electric Heat

- » Manual reset secondary thermal limits
- » Door interlocking disconnect switches
- » Main fusing
- » Silent relay / contactors



**Piping Packages**

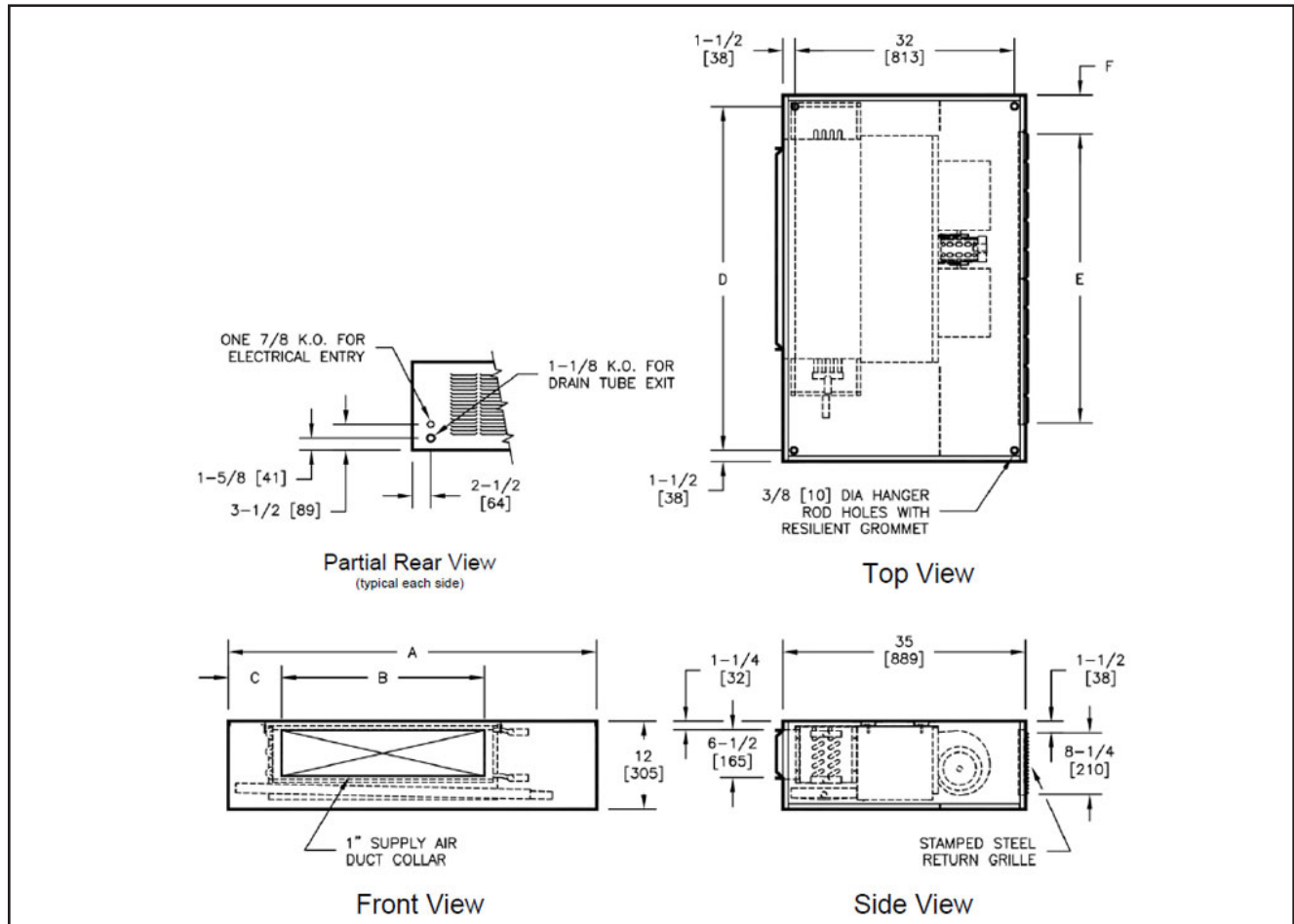
- » Factory-assembled - shipped loose for field installation
- » ½" and ¾", and 1", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Isolation ball valves with memory stop
- » Fixed and adjustable flow control devices
- » Unions and P/T ports
- » Floating point modulating control valves
- » High-pressure, close-off actuators (½" = 50 PSIG; ¾" = 25 PSIG)
- » 4-strainers

**Thermostats**

- » Remote mounted analog, digital display, or programmable
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover
- » Integral three speed fan switches



RBHC UNIT DIMENSIONS



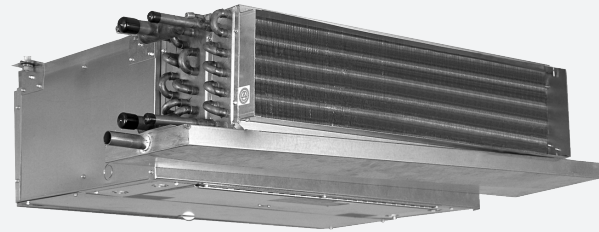
Dimensions						
Unit Size	A	B	C	D	E	F
20	40 [1016]	19 1/2 [495]	6 1/4 [159]	37 [940]	27 1/2 [699]	6 1/4 [159]
25	46 [1168]	23 1/2 [597]	6 1/4 [159]	43 [1092]	35 1/2 [902]	5 1/4 [133]
30	50 [1270]	27 1/2 [699]	7 1/4 [184]	47 [1194]	39 1/2 [1003]	5 1/4 [133]
40	60 [1524]	39 1/2 [1003]	6 1/4 [159]	57 [1448]	47 1/2 [1207]	6 1/4 [159]
50	70 [1778]	47 1/2 [1207]	7 1/4 [184]	67 [1702]	59 1/2 [1511]	5 1/4 [133]
60	80 [2032]	59 1/2 [1511]	6 1/4 [159]	77 [1956]	67 1/2 [1715]	6 1/4 [159]

Notes:

1. All dimensions are inches [millimeters]. All dimensions ± 1/4" [6mm]. Metric values are soft conversion.
2. Left hand unit shown, right hand unit opposite
3. Electrical enclosure size and location may vary with optional features. Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.
4. Drain piping should be routed through casting opening indicated to provide proper drain slope
5. Louvered bottom panel is hinged and removable for access to filter and fan assembly
6. Fixed bottom panel is removable for access to optional electrical enclosure, coil, and drain pan
7. Internal insulation of field piping may be required
8. Field piping casting penetrations must be cut in the field to match individual job requirements

## RBHR

- » Performance AHRI Certified to Standard 440
- » Sound Performance tested as per AHRI Standard 350-2000 (non-ducted equipment)
- » ETL-Listed, Constructed in compliance with ANSI/UL 1995 Standard
- » High-efficiency 3 speed and Variable speed constant RPM ECM motor available for higher energy efficiencies
- » Chilled Water, Hot Water and DX coils with factory mount or field install piping package available
- » Field Reversible for either Bottom or Rear Return



RBHR

### AVAILABLE MODEL:

RBHR

### OVERVIEW

Factory assembled, horizontal blow-thru ducted RBHR fan coils are designed for concealed installations above ceilings with ducted return and discharge air and are available with DWDI whisper quiet blowers. Suitable for projects such as hotels, motels, condominiums and general commercial applications.

### OPTIONAL FEATURES INCLUDE:

#### Construction

##### All Units

- » Foil faced fiberglass insulation
- » Elastomeric closed cell foam insulation

##### Plenum Units

- » Bottom return
- » 1" pleated filters (MERV 8)
- » Spare 1" throwaway filters
- » Telescoping Bottom Panels

#### Coils

- » Automatic air vents
- » Stainless steel coil casings

#### Drain Pans

- » Stainless steel with external insulation
- » 5/8" O.D. secondary drain connection
- » Auxiliary drip pans, galvanized or stainless steel

#### Fan Assemblies

- » 208-230 & 277 volt, single phase, three tap PSC motors



See website for Specifications

#### Electrical

- » Bottom hinged cover electrical enclosure
- » SCR fan speed controller
- » Fan relay packages
- » Silent solid state fan relays
- » Toggle disconnect switch
- » Condensate overflow switch (drain pan)
- » Main fusing
- » Unit and remote mounted three speed fan switches

#### Electric Heat

- » Manual reset secondary thermal limits
- » Door interlocking disconnect switches
- » Main fusing
- » Silent relay / contactors



A Participating Corporation in the  
AHRI 440 Certification Program



### Piping Packages

- » Factory-assembled - shipped loose for field installation
- » ½" and ¾", and 1", 2-way and 3-way, normally closed, two-position electric motorized valves
- » Isolation ball valves with memory stop
- » Fixed and adjustable flow control devices
- » Unions and P/T ports
- » Floating point modulating control valves
- » High-pressure, close-off actuators (½" = 50 PSIG; ¾" = 25 PSIG)
- » 4-strainers

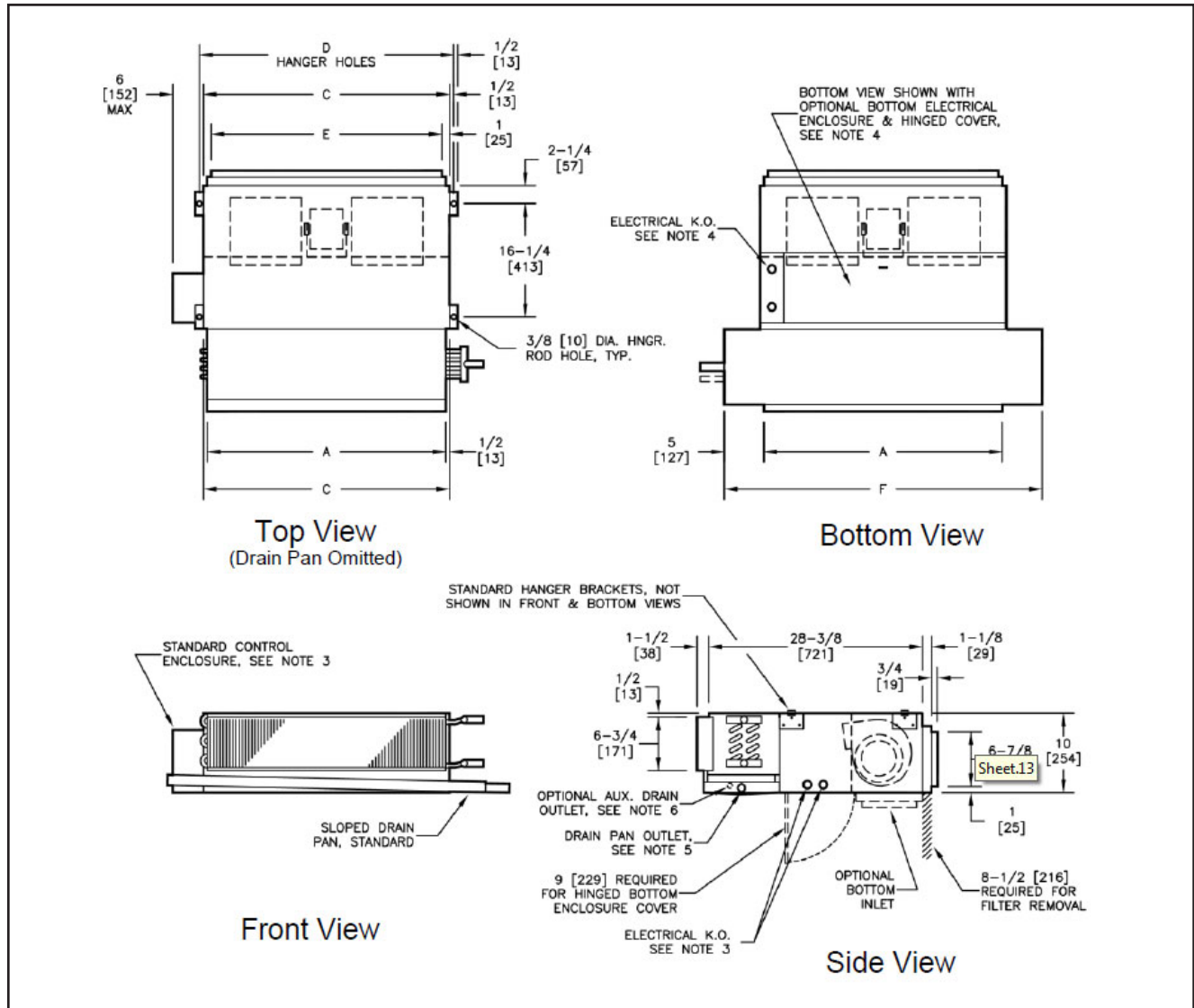
### Thermostats

- » Remote mounted analog, digital display, or programmable
- » 2-pipe and 4-pipe control sequences
- » Automatic and manual changeover
- » Integral three speed fan switches



Dimensions

RBHR UNIT DIMENSIONS



Dimensions					
Unit Size	A	C	D	E	F
20	20 [508]	21 [533]	22 [559]	19 [483]	30 [762]
25	26 [660]	27 [686]	28 [711]	25 [635]	36 [914]
30	30 [762]	31 [787]	32 [813]	29 [737]	40 [1016]
40	40 [1016]	41 [1041]	42 [1067]	39 [991]	50 [1270]
50	50 [1270]	51 [1295]	52 [1321]	49 [1245]	60 [1524]
60	60 [1524]	61 [1549]	62 [1575]	59 [1499]	70 [1778]

- Notes:**
1. All dimensions are inches [millimeters]. All dimensions  $\pm 1/4"$  [6mm]. Metric values are soft conversion.
  2. Left hand unit shown, right hand unit opposite
  3. Standard control enclosure is mounted on unit side opposite cooling coil connections. Unit casting includes (2) knockouts on each side Provide sufficient clearance to access electrical controls and comply with applicable codes and ordinances.
  4. Optional bottom control enclosure with hinged cover replaces standard side mounted enclosure and includes (2) additional knockouts on bottom of unit, on left side
  5. Standard externally foam coated galvanized steel drain pan has 7/8" ODM cooper outlet. Stainless steel drain pan has 3/4" MPT galvanized steel outlet.
  6. Aux. drain outlet is 5/8" ODM cooper or 3/8" MPT galvanized steel respectively
  7. See coil connection drawings for coil connection sizes and locations

All dimensions are in inches

BUILT TOUGH, BUILT TO LAST™ | www.superiorrex.com

DIMENSIONS



## Coil Data: RBH Series

### COILS

Superior Rex offers hot water, chilled water, direct expansion (DX) coils for specific application with all RBH Series Fan Coil Units. Strict on-site

inspection before, during, and after installation guarantees the highest quality and performance available.

#### Standard Features

- » Cooling - 3, 4 or 6 row chilled water or DX
- » Heating - 1, 2, 3 or 4 row hot water
- » 6 total rows of cooling and heating coils maximum
- » ½" O.D. seamless copper tubes
- » 0.016" tube wall thickness
- » High efficiency aluminum fin surface for optimizing heat transfer, pressure drop and carryover
- » Left or right hand, same or opposite side connections
- » Manual air vents

#### Optional Features

- » Automatic air vents
- » Stainless steel coil casings
- » DX coils are heat pump compatible

Superior Rex offers fan coil rating and selection program RAMP for complete unit, coil and sound selection. See your representative for more information.

Unit Size	Coil Face Area	Model RBHC				Model RBHR	
		Return Air Grille Free Area	Supply Air Grille Free Area	Filter Face Area	Nominal Filter Sizes	Filter Face Area	Nominal Filter Sizes
20	1.04 [.09]	0.47 [.04]	0.40 [.04]	1.77 [.16]	30 x 8.5 x 1 [762 X 216 x 25]	1.18 [.11]	20 x 8.5 x 1 [508 x 216 x 25]
25	1.35 [.13]	0.58 [.05]	0.50 [.05]	2.36 [.22]	(2) 20 x 8.5 x 1 [508 x 216 x 25]	1.54 [.14]	26 x 8.5 x 1 [660 x 216 x 25]
30	1.56 [.14]	0.68 [.06]	0.56 [.05]	2.36 [.22]	(2) 20 x 8.5 x 1 [508 x 216 x 25]	1.77 [.11]	30 x 8.5 x 1 [762 x 216 x 25]
40	2.08 [.19]	0.81 [.08]	0.80 [.07]	2.95 [.27]	(1) 20, (1) 30 x 8.5 x 1 [508, 762 x 216 x 25]	2.36 [.22]	(2) 20 x 8.5 x 1 [508 x 216 x 25]
50	2.60 [.24]	1.01 [.09]	0.96 [.09]	3.54 [.33]	(2) 30 x 8.5 x 1 [762 x 216 x 25]	2.95 [.27]	(1) 20, (1) 30 x 8.5 x 1 [508, 762 x 216 x 25]
60	3.13 [.29]	1.15 [.11]	1.20 [.11]	4.13 [.38]	(2) 20, (1) 30 x 8.5 x 1 [508, 762 x 216 x 25]	3.54 [.33]	(2) 30 x 8.5 x 1 [762 x 216 x 25]

#### Notes:

1. Face and free areas are in square feet [square meters]
2. Filter sizes are in inches [millimeters]
3. Return Air Grille Free Area applies to RBHC and Telescoping Bottom Panel return grilles
4. Supply Air Grille Free Area applies to RBHC supply grille and minimum free area allowable for a supply grille supplied by others

AHRI STANDARD RATINGS

Model/Size	Coil		Airflow CFM (Dry Flow)	Cooling Capacity		Water		Power Input (Watts)
	Rows	FPI		QT (BTUH)	QS (BTUH)	Flow Rate (GPM)	WPD (ft-wg)	
RBHO-20	3	10	331	9699	7210	1.9	5.26	57
RBHO-25	3	10	448	14189	10210	2.8	10.66	125
RBHO-30	3	10	771	18750	14640	3.8	6.5	165
RBHO-40	3	10	793	22559	16719	4.5	10.22	261
RBHO-50	3	10	1196	30370	23280	6	9.17	472
RBHO-60	3	10	1440	34169	27000	6.8	4.5	522
RBHO-20	4	10	312	12680	8760	2.5	10.22	57
RBHO-25	4	10	434	15869	11340	3.1	5.79	125
RBHO-30	4	10	721	23790	17469	4.8	11.51	165
RBHO-40	4	10	779	28399	20280	5.7	9.34	261
RBHO-50	4	10	1166	37490	27790	7.5	9.23	472
RBHO-60	4	10	1365	42849	32400	8.5	4.12	522
RBHR-20	3	10	265	8220	6039	1.6	4.05	57
RBHR-25	3	10	414	13430	9609	2.7	10.02	125
RBHR-30	3	10	620	16309	12500	3.3	5.19	165
RBHR-40	3	10	768	22069	16309	4.4	9.63	261
RBHR-50	3	10	1069	28579	21600	5.7	8.34	472
RBHR-60	3	10	1324	32639	25530	6.5	4.2	522
RBHR-20	4	10	253	10819	7369	2.2	8.42	57
RBHR-25	4	10	404	15100	10729	3	5.43	125
RBHR-30	4	10	604	21280	15310	4.3	9.52	165
RBHR-40	4	10	743	27530	19559	5.5	9.01	261
RBHR-50	4	10	1022	34490	25190	6.9	8.06	472
RBHR-60	4	10	1258	40409	30350	8	3.68	522
RBHC-20	3	10	265	8220	6039	1.6	4.05	57
RBHC-25	3	10	414	13430	9609	2.7	10.02	125
RBHC-30	3	10	620	16309	12500	3.3	5.19	165
RBHC-40	3	10	768	22069	16309	4.4	9.63	261
RBHC-50	3	10	1069	28579	21600	5.7	8.34	472
RBHC-60	3	10	1324	32639	25530	6.5	4.2	522
RBHC-20	4	10	253	10819	7369	2.2	8.42	57
RBHC-25	4	10	404	15100	10729	3	5.43	125
RBHC-30	4	10	604	21280	15310	4.3	9.52	165
RBHC-40	4	10	743	27530	19559	5.5	9.01	261
RBHC-50	4	10	1022	34490	25190	6.9	8.06	472
RBHC-60	4	10	1258	40409	30350	8	3.68	522

Note: Based on 80°F DB and 67°F WB EAT, 45°F EWT, 10°F temperature rise, high fan speed. Motor type is PSC and motor voltage is 115/1/60. Airflow under dry coil conditions. Models RBHC tested at 0.0" external static pressure. Models RBHO and RBHR tested at 0.05" external static pressure.



PHYSICAL DATA

HEATING CAPACITY

Unit Type	Unit Size	Nom CFM	1 Row			2 Row		
			QS (MBH)	GPM	WPD	QS (MBH)	GPM	WPD
RBHO	20	330	12.1	0.6	1.06	20.9	1.1	0.81
	25	447	16.5	0.8	2.27	28.6	1.5	1.76
	30	805	23.0	1.2	4.5	41.9	2.2	3.79
	40	793	24.8	1.3	0.9	47.2	2.4	5.74
	50	1273	35.2	1.8	2.03	64.4	3.3	1.73
	60	1563	44.0	2.3	3.61	80.4	4.1	3.1
RBHR	20	264	10.8	0.6	0.85	18.1	0.9	0.62
	25	414	15.9	0.8	2.11	27.3	1.4	1.6
	30	619	20.4	1.0	3.58	36.2	1.9	2.88
	40	767	24.4	1.3	0.88	46.3	2.4	5.56
	50	1141	33.6	1.7	1.85	60.7	3.1	1.55
	60	1433	42.3	2.2	3.37	76.6	3.9	2.81
RBHC	20	286	11.3	0.6	0.92	19.1	1.0	0.69
	25	431	16.2	0.8	2.22	27.9	1.4	1.67
	30	667	21.1	1.1	3.85	37.8	1.9	3.13
	40	795	24.9	1.3	0.9	47.3	2.4	5.74
	50	1190	34.2	1.8	1.92	19.1	1.0	0.69
	60	1489	43.1	2.2	3.49	78.3	4.0	2.93

Note: Based on 70°F DB EAT, 180°F EWT, 40°F temperature drop, high fan speed

RBH UNIT WEIGHT DATA

Component	Unit Size						
	20	25	30	40	50	60	
RBHO Base Unit	40 [18]	51 [23]	59 [27]	69 [31]	91 [41]	111 [50]	
RBHR Base Unit	45 [20]	56 [25]	65 [30]	80 [36]	103 [47]	123 [56]	
RBHC Base Unit	119 [54]	138 [63]	155 [70]	181 [82]	220 [100]	257 [117]	
Coil Rows	1 Row - Dry	8 [4]	10 [5]	11 [5]	13 [6]	15 [7]	18 [8]
	1 Row - Wet	10 [5]	12 [5]	13 [6]	15 [7]	18 [8]	21 [10]
	2 Row - Dry	11 [5]	13 [6]	15 [7]	18 [8]	22 [10]	26 [12]
	2 Row - Wet	14 [6]	16 [7]	18 [8]	22 [10]	27 [12]	32 [15]
	3 Row - Dry	14 [6]	17 [8]	19 [9]	24 [11]	29 [13]	34 [15]
	3 Row - Wet	17 [8]	21 [10]	24 [15]	30 [14]	36 [16]	42 [19]
	4 Row - Dry	17 [8]	20 [9]	23 [10]	29 [13]	36 [16]	42 [19]
	4 Row - Wet	21 [10]	25 [11]	29 [13]	36 [16]	45 [20]	53 [24]

Note: Unit weight data is in pounds [kilograms]

Performance Data

## Electric Heat

Superior Rex offers electric heating coils for specific application with all RBH Series Fan Coil units. This allows the flexibility to provide an unrivaled amount of electric heat options in one complete package.

### Standard Features

- » ETL listed as an assembly for safety compliance
- » Single point power connection
- » Mounted in preheat position
- » Automatic reset primary and backup secondary thermal limits
- » Internal wiring rated at 105°C
- » Integral electric heat assembly with removable element for easy service
- » Stainless steel terminals and hardware



### Useful Formulas

$$kW^* = \frac{CFM \times \Delta T \times 1.085^{**}}{3413}$$

$$1\emptyset \text{ AMPs} = \frac{kW \times 1000}{\text{Volts}}$$

$$* 1kW = 3413 \text{ BTU/H}$$

\*\* Capacity at sea level

Altitude Considerations:

Reduce by 0.034 for each 1000 ft. of altitude above sea level.

$$\text{Example: } 5000 \text{ ft./}1000 \text{ ft.} = 5$$

$$5 \times 0.034 = 0.17$$

$$1.085 - 0.17 = 0.915$$

### Optional Features

- » Silent solid state relays
- » Door interlocking disconnect switch
- » Main fusing

### Electrical Calculations Information

1. Contact your local Superior Rex sales office
2. Non-Fused Door Interlock Disconnect Switch shall be sized according to MCA
3. Fused Door Interlock Disconnect Switch and Main Fusing shall be sized according to MOP

### RBH ELECTRIC HEAT SELECTION CHART (AMPS)

Unit Size	MBH	5.1	6.8	10.2	13.7	17.1	20.5	25.6	27.3	34.1
	KW	1.5	2.0	3.0	4.0	5.0	6.0	7.0	8.0	10.0
	Volts	AMPS								
20	115	13.0	17.4	26.1						
	208	7.2	9.6	14.4						
	230	6.5	8.7	13.0						
	277	5.4	7.2	10.8						
25	115	13.0	17.4	26.1						
	208	7.2	9.6	14.4						
	230	6.5	8.7	13.0						
	277	5.4	7.2	10.8						
30	115	13.0	17.4	26.1	34.6	43.5				
	208	7.2	9.6	14.4	19.2	24.0	28.8			
	230	6.5	8.7	13.0	17.4	21.7	26.1			
	277	5.4	7.2	10.8	14.4	18.1	21.7			
40	115		17.4	26.1	34.6	43.5				
	208		9.6	14.4	19.2	24.0	28.8	33.7		
	230		8.7	13.0	17.4	21.7	26.1	30.4		
	277		7.2	10.8	14.4	18.1	21.7	25.3		
50	115			26.1	34.6	43.5				
	208			14.4	19.2	24.0	28.8	33.7	38.5	
	230			13.0	17.4	21.7	26.1	30.4	34.8	
	277			10.8	14.4	18.1	21.7	25.3	28.9	
60	115			26.1	34.6	43.5				
	208			14.4	19.2	24.0	28.8	33.7	38.5	
	230			13.0	17.4	21.7	26.1	30.4	34.8	43.5
	277			10.8	14.4	18.1	21.7	25.3	28.9	36.1

### Notes:

1. Shaded areas of the electric heat selection chart indicate kW and voltage options not available
2. Available voltages are single phase, 60 hertz
3. Size heater for Leaving Air Temperature (LAT less than 104°F)
4. Silent, solid state heater relay is available for sound sensitive environments
5. Ask your Superior Rex representative about continuously modulating electric heat using SSR and special control options

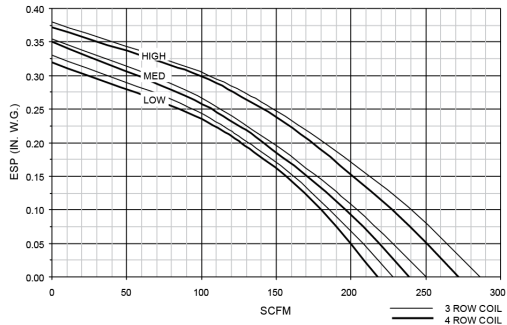


# Fan Performance Curves (PSC Motors)

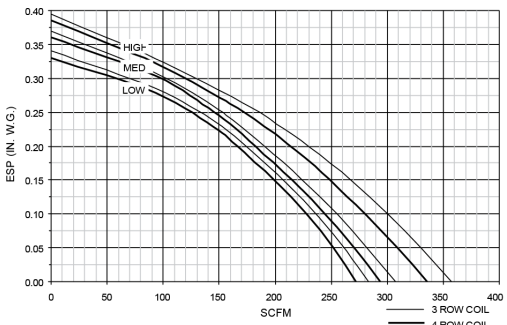
## GENERAL FAN NOTES, PSC MOTORS

1. Fan curves on the following pages depict actual performance of each motor tap without any additional fan balance adjustment. Actual capacities which fall below each curve can be obtained by adding an adjustment device. Units should not be run prior to installation of downstream ductwork; otherwise, damage to the motor may result.
2. Superior Rex Fan Coil Units are equipped with permanent split-capacitor (PSC) motors with three taps (High, Medium and Low) which provides variable horsepower outputs. Most often, size selections are conservative and actual CFM requirements and/or external static pressure requirements are lower than those specified. In this case, the unit fan motor can be run at low or medium tap, substantially reducing the operating cost of the unit.
3. All fan curves are for 115/160 motors and include pressure losses for cabinet, electric heater, and 3 or 4 row coil. Plenum units include a clean 1" throwaway filter. For other coil configurations, adjust performance curves based on pressure losses for the coils using RAMP.
4. See page 114 for fan motor electrical data
5. For additional high static pressure applications and rating points, contact factory

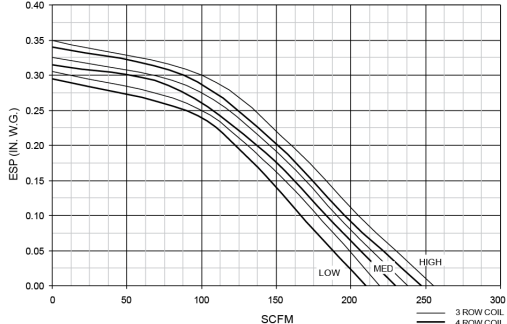
### Size 20 RBHR Plenum Return



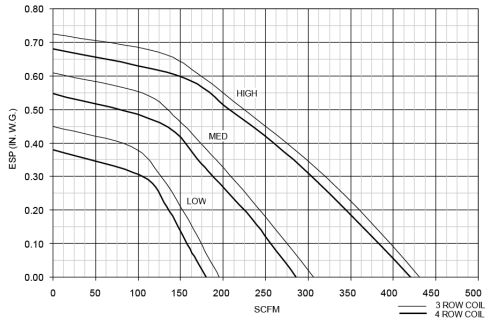
### RBHO Free Return



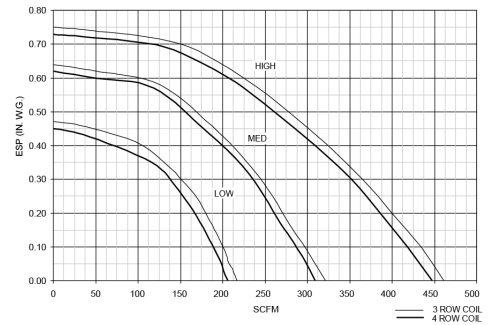
### RBHC Exposed Cabinet



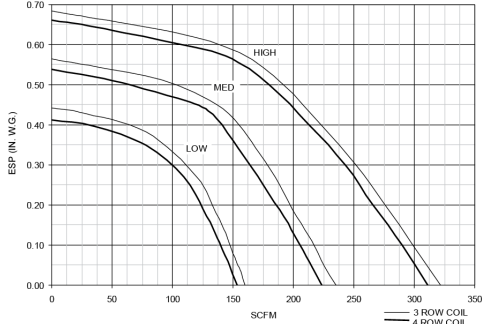
### Size 25 RBHR Plenum Return



### RBHO Free Return



### RBHC Exposed Cabinet



Performance Data

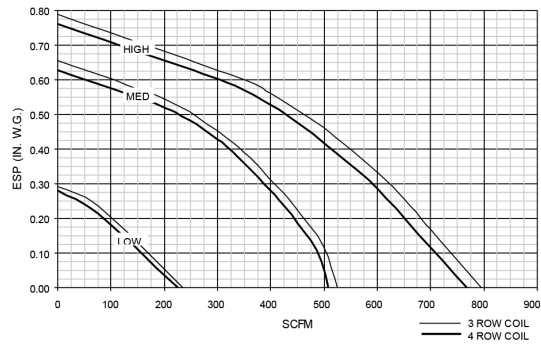
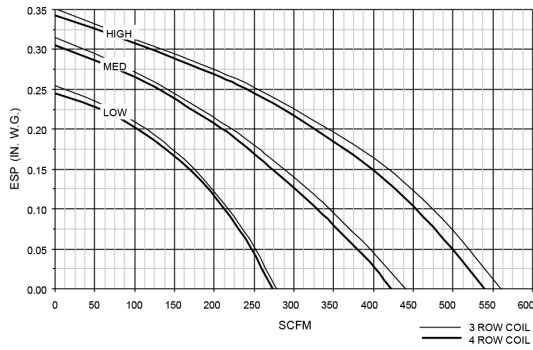
FAN CURVES / PSC MOTOR

**Size 30**

**Size 40**

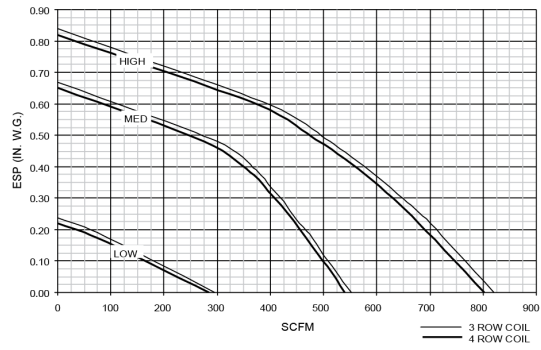
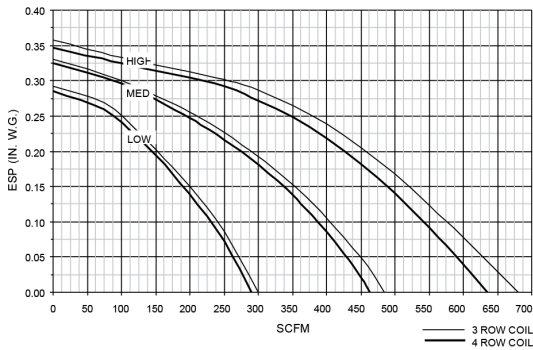
**RBHR Plenum Return**

**RBHR Plenum Return**



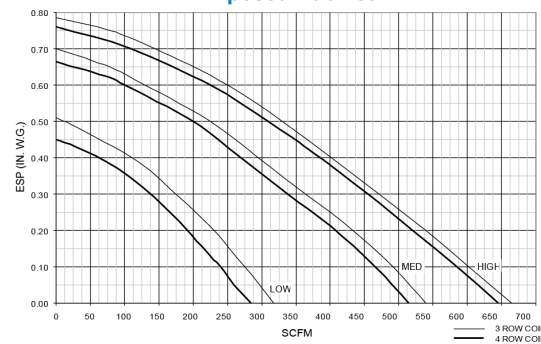
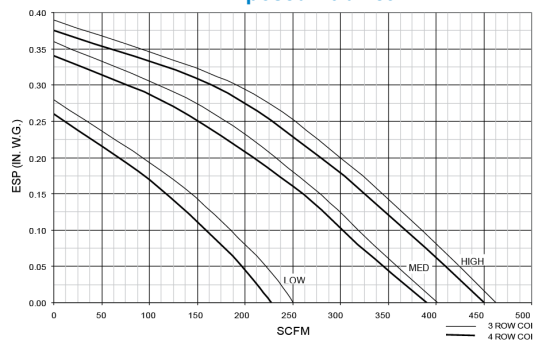
**RBHO Free Return**

**RBHO Free Return**



**RBHC Exposed Cabinet**

**RBHC Exposed Cabinet**

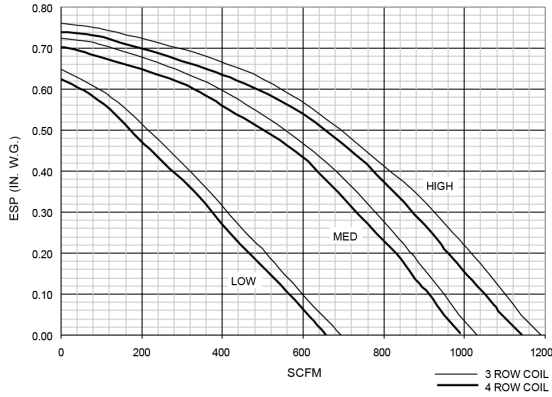




FAN CURVES / PSC MOTOR

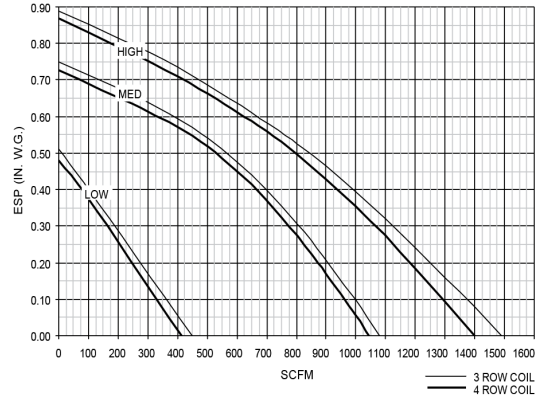
Size 50

RBHR Plenum Return

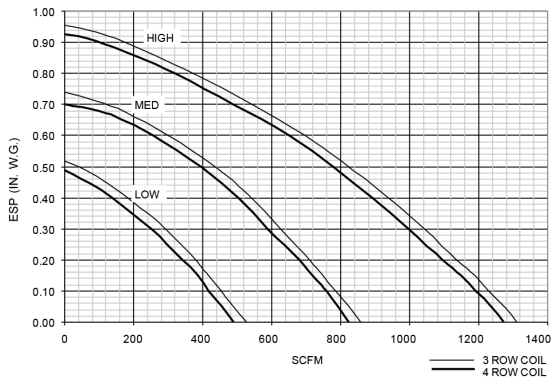


Size 60

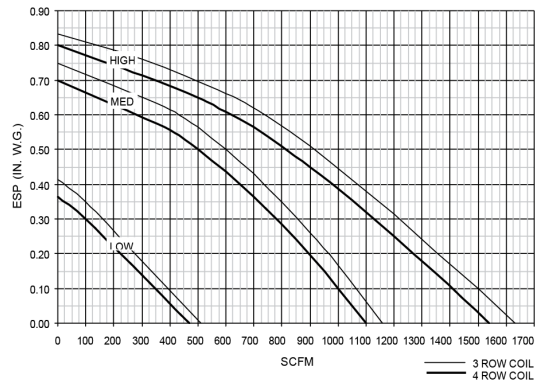
RBHR Plenum Return



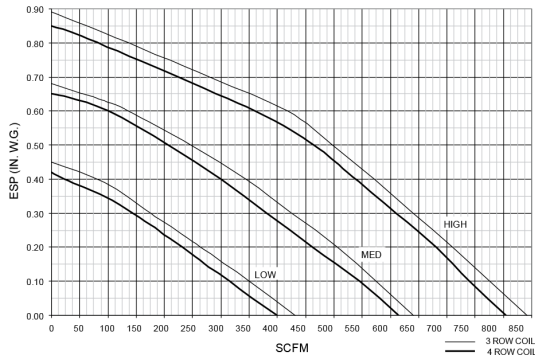
RBHO Free Return



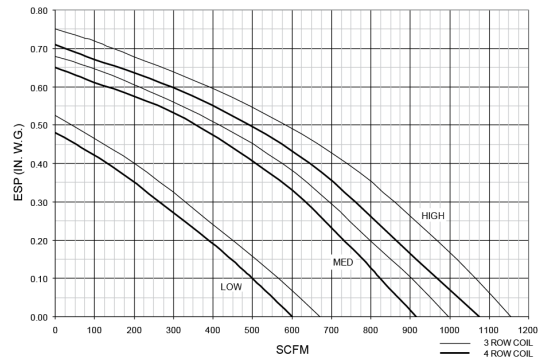
RBHO Free Return



RBHC Exposed Cabinet



RBHC Exposed Cabinet





## Motor, Fan And Sound Data

### PSC MOTOR AND FAN DATA

Unit Size	Fan Speed	Motor H.P. (QTY)	# Of Fan	Watts	115 Volts	208-230 Volts	277 Volts
					AMPS	AMPS	AMPS
20	High	(1) 1/30	1	57	0.8	0.4	0.3
	Medium	(1) 1/50		39	0.4	0.3	0.3
	Low	(1) 1/60		33	0.3	0.3	0.3
25	High	(1) 1/15	1	125	1.0	0.5	0.45
	Medium	(1) 1/30		90	0.9	0.3	0.3
	Low	(1) 1/60		60	0.5	0.2	0.2
30	High	(1) 1/10	2	165	1.6	0.7	0.6
	Medium	(1) 1/30		76	0.8	0.3	0.5
	Low	(1) 1/60		47	0.5	0.2	0.4
40	High	(1) 1/6	2	261	2.6	0.9	0.85
	Medium	(1) 1/12		162	1.5	0.5	0.5
	Low	(1) 1/40		75	0.6	0.4	0.3
50	High	(1) 1/8	3	215	1.6	0.9	0.68
		(1) 1/6		257	2.1	0.9	0.85
	Medium	(1) 1/15		145	1.3	0.6	0.5
		(1) 1/12		156	1.5	0.5	0.5
	Low	(1) 1/40		69	0.8	0.3	0.3
		(1) 1/40		75	0.6	0.4	0.3
60	High	(2) 1/6	4	522	4.2	1.8	1.7
	Medium	(2) 1/12		324	3.0	1.0	1.0
	Low	(2) 1/40		150	1.2	0.6	0.6

**Notes:**

1. Motor electrical data is nameplated data. Actual data will vary with application. Watts shown are for 115V.
2. 230 volt motor is nameplated for 208-230/1/60. Use 230 volt motor data for 208 volt applications.
3. Unit size 30, 208-230 and 277 volt motors are 1/12 HP at high tap



### Fan Curves / ECM™ Motor

#### HORIZONTAL PLENUM

Unit Size	Fan Speed	Motor H.P. (QTY)	# Of Fan	WATTS	115 Volts		208-230 Volts		277 Volts	
					FLA	3-Phase Neutral	FLA	3-Phase Neutral	FLA	3-Phase Neutral
20	High	(1) ¼	1	37	1.00	1.50	0.70	1.00	0.70	1.00
25	High	(1) ¼	1	74	1.70	2.50	1.30	1.90	1.20	1.70
30	High	(1) ¼	2	70	1.70	2.50	1.30	1.90	1.20	1.70
40	High	(1) ¼	2	124	2.80	4.00	2.10	3.00	2.10	3.00
50	High	(2) ¼	3	185	4.00	5.80	3.00	4.40	2.80	4.00
60	High	(2) ¼	4	250	5.20	7.40	4.00	4.80	3.80	5.40

#### HORIZONTAL EXPOSED

Unit Size	Fan Speed	Motor H.P. (QTY)	# Of Fan	WATTS	115 Volts		208-230 Volts		277 Volts	
					FLA	3-Phase Neutral	FLA	3-Phase Neutral	FLA	3-Phase Neutral
20	High	(1) ¼	1	25	0.70	1.00	0.60	0.90	0.60	0.90
25	High	(1) ¼	1	40	1.00	1.50	0.70	1.00	0.70	1.00
30	High	(1) ¼	2	44	1.00	1.50	0.80	1.20	0.80	1.20
40	High	(1) ¼	2	79	1.90	2.70	1.40	2.00	1.40	2.00
50	High	(2) ¼	3	92	2.40	3.40	1.80	2.60	1.80	2.60
60	High	(2) ¼	4	148	3.60	5.20	2.80	4.00	2.80	4.00

**Notes:**

1. Watts as shown are for a Plenum / Exposed unit with .05" ESP, 4 row coil, 115/1/60, 12 FPI, and throwaway filters
2. Motors nameplated for 208-230/1/60. Data is at 230 volts.
3. Motor HP as noted is a nominal rating
4. Data as supplied is for reference only. For project specific operational points see selection tool report out.

Performance Data

Sound Data

RBH SOUND DATA

Unit Size	Fan Speed	SCFM	Total Sound Power Level						
			Octave Band / Center Frequency (HZ)						
			2/125	3/250	4/500	5/1000	6/2000	7/4000	8/8000
20	High	282	57	61	53	52	48	42	40
	Medium	216	53	54	48	45	41	33	36
	Low	175	49	49	44	40	34	30	33
25	High	420	61	63	58	57	54	47	43
	Medium	286	55	53	50	47	45	36	32
	Low	180	50	44	39	38	36	30	30
30	High	522	63	62	58	58	53	48	44
	Medium	458	60	56	54	53	49	43	40
	Low	269	50	45	43	40	34	29	34
40	High	810	68	70	65	63	57	54	51
	Medium	565	63	62	58	54	50	44	40
	Low	300	54	47	42	39	31	31	34
50	High	1050	64	69	69	65	57	55	54
	Medium	840	59	63	63	57	51	47	44
	Low	490	51	55	60	47	42	37	36
60	High	1400	71	75	72	70	61	59	54
	Medium	1050	63	66	68	60	55	49	45
	Low	500	53	58	48	42	35	32	35

1. Sound data tested in accordance with AHRI 350-2000
2. Sound levels are expressed in decibels, dB RE: 1 x 10<sup>-12</sup> watts
3. Total sound power level data based on Model RBHR with fan CFM at corresponding motor tap with 115/1/60 volt motor, 3 or 4 row coil, 1" throwaway filter, 0.0" external static pressure and standard rated internal pressure losses



Notes

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NOTES

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