Titus
Redefine your comfort zone.™

# fan coils

woodgrains | hospitals | energy solutions | k-12 education | condos | apartments | hotels / motels

# V

Titus
Redefine your comfort zone.™

# Table of Contents



## fan coil products


Fan Coil Products ..... V4


## overview


Overview ..... V7
Application Icons Key ..... V7


## vertical stack series


VSR Recessed Hi-Rise ..... V8
- Dimensions ..... V10
- Performance Data ..... V11

VSRM Recessed Hi-Rise Remote Master ..... V12
- Dimensions ..... V14
- Performance Data ..... V15

VSRS Recessed Hi-Rise Remote Drone ..... V16
- Dimensions ..... V18
- Performance Data ..... V19

VSM / VSS Recessed Master/Drone ..... V20
- Dimensions ..... V22
- Performance Data ..... V23


## horizontal basic series


HBC Concealed Ceiling ..... V24
- Dimensions ..... V25
- Performance Data ..... V26

HBP Concealed Ceiling with Plenum ..... V28
- Dimensions ..... V29
- Performance Data ..... V30

HBE Exposed Cabinet ..... V32
- Dimensions ..... V33
- Performance Data ..... V34

HBR Recessed Cabinet ..... V35
- Dimensions ..... V36
- Performance Data ..... V37


## vertical basic series


VBC Concealed Floor ..... V39
- Dimensions ..... V40
- Performance Data ..... V41

VBF Flat Top Cabinet ..... V43
- Dimensions ..... V44
- Performance Data ..... V45

VBA Angled Top Cabinet ..... V46
- Dimensions ..... V47
- Performance Data ..... V48

VBL Low Profile Cabinet ..... V49
- Dimensions ..... V50
- Performance Data ..... V51

VBLC Low Profile Concealed Floor ..... V52
- Dimensions ..... V53
- Performance Data ..... V54

## horizontal high output series

HHC Concealed Ceiling ..... V55
Dimensions ..... V56
Performance Data ..... V57
HHP Concealed Ceiling with Plenum ..... V59
Dimensions ..... V60
Performance Data ..... V61
HHE Exposed Cabinet ..... V63
Dimensions ..... V64
Performance Data ..... V65

## vertical high output series

VHC Concealed Closet ..... V67
Dimensions ..... V68
Performance Data ..... V69

## accessories

Accessories ..... V71
Thermostats ..... V71
Thermostat Accessories ..... V71
Motorized Control Valves / Motorized Valve Actuators / Valve Package Accessories ..... V72
Flexible Connectors ..... V74
"Combo" Accessories ..... V74
Wireless Accessories ..... V75

Titus
Redefine your comfort zone.™

# Fan Coil Products



## vertical stack series

pages: V8-V23

### VSR

VERTICAL STACK SERIES

- Designed for free-blow or ducted, concealed installations
- Automatic 2-pipe changeover switch for heating and cooling applications
- 300 to 1200 cfm nominal airflows
- 0 to 0.3 inches external static pressure
- 0 to 0.5 high static option

### VSRM

VERTICAL STACK SERIES

- Designed for free-blow or ducted, concealed installations
- Automatic 2-pipe changeover switch for heating and cooling applications
- 300 to 1200 cfm nominal airflows
- 0 to 0.3 inches external static pressure
- 0 to 0.5 high static option

### VSRS

VERTICAL STACK SERIES

- Designed for free-blow or ducted, concealed installations
- Automatic 2-pipe changeover switch for heating and cooling applications
- 300 to 1200 cfm nominal airflows
- 0 to 0.3 inches external static pressure
- 0 to 0.5 high static option

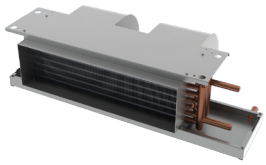
### VSM / VSS

VERTICAL STACK SERIES

- Designed for free-blow or ducted, concealed installations
- Automatic 2-pipe changeover switch for heating and cooling applications
- 300 to 1200 cfm nominal airflows
- 0 to 0.3 inches external static pressure
- 0 to 0.5 high static option

## horizontal basic series

pages: V24-V38



### HBC

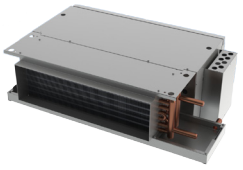
HORIZONTAL BASIC SERIES

- Designed for concealed installations above ceilings with ducted air discharge
- High-efficiency 2-row coil suitable for a 2-pipe system
- 200 to 1200 cfm nominal airflows
- 0 to 0.3 inches external static pressure

### HBE

HORIZONTAL BASIC SERIES

- Designed for exposed installations above ceilings with ducted air discharge
- High-efficiency 2-row coil suitable for a 2-pipe system
- 200 to 1200 cfm nominal airflows
- 0 to 0.3 inches external static pressure



### HBP

HORIZONTAL BASIC SERIES

- Designed for concealed installations above ceilings with ducted air discharge
- High-efficiency 2-row coil suitable for a 2-pipe system
- 200 to 1200 cfm nominal airflows
- 0 to 0.3 inches external static pressure

### HBR

HORIZONTAL BASIC SERIES

- Designed for recessed installations above ceilings with ducted air discharge
- High-efficiency 2-row coil suitable for a 2-pipe system
- 200 to 1200 cfm nominal airflows
- 0 to 0.3 inches external static pressure

pages: V39-V54

## vertical basic series

### VBA

VERTICAL BASIC SERIES

- Vertical blow-thru ducted fan coils designed for floor installations requiring an angled top
- 200 to 1200 cfm nominal airflows
- 0 to 0.3 inches external static pressure

### VBC

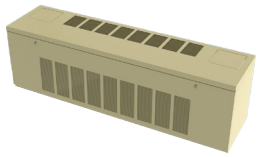
VERTICAL BASIC SERIES

- Vertical blow-thru ducted fan coils designed for concealed installations
- 200 to 1200 cfm nominal airflows
- 0 to 0.3 inches external static pressure

### VBF

VERTICAL BASIC SERIES

- Vertical blow-thru ducted fan coils designed for floor installations
- 200 to 1200 cfm nominal airflows
- 0 to 0.3 inches external static pressure



### VBL

VERTICAL BASIC SERIES

- Vertical blow-thru ducted fan coils designed for floor installations where height is limited
- 200 to 600 cfm nominal airflows
- 0 to 0.3 inches external static pressure

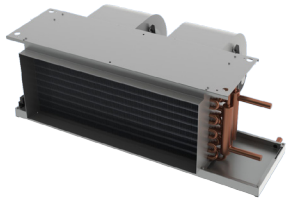
### VBLC

VERTICAL BASIC SERIES

- Vertical blow-thru ducted fan coils designed for concealed installations
- 200 to 600 cfm nominal airflows
- 0 to 0.3 inches external static pressure

## horizontal high output series

pages: V55-V66



### HHC

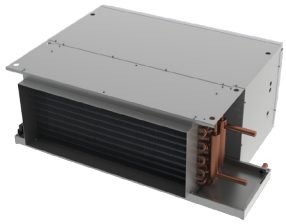
HORIZONTAL HIGH OUTPUT SERIES

- Designed for concealed installations above ceilings with ducted air discharge
- High-efficiency 3-row coil suitable for a 2-pipe system
- 600 to 2000 cfm nominal airflows
- 0 to 0.5 inches external static pressure

### HHE

HORIZONTAL HIGH OUTPUT SERIES

- Designed for exposed installations above ceilings with ducted air discharge
- High-efficiency 3-row coil suitable for a 2-pipe system
- 600 to 2000 cfm nominal airflows
- 0 to 0.5 inches external static pressure



### HHP

HORIZONTAL HIGH OUTPUT SERIES

- Designed for concealed installations above ceilings with ducted air discharge
- High-efficiency 3-row coil suitable for a 2-pipe system
- 600 to 2000 cfm nominal airflows
- 0 to 0.5 inches external static pressure

## vertical high output series

pages: V67-V89

### VHC

VERTICAL HIGH OUTPUT SERIES

- Designed for ducted closet installations suitable for industrial and commercial applications
- High-efficiency 3-row coil suitable for a 2-pipe system
- 600 to 2000 cfm nominal airflows
- 0 to 0.5 inches external static pressure

# Overview

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

For hotels, hi-rise condominiums, and multi-unit residences the Vertical Stack Series minimizes first costs and simplifies installation. In applications when floor space is limited, the ceiling mounted Horizontal Basic and High Output Series deliver the same high levels of personal comfort while allowing floor space to be maximized. Vertical Basic 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. Titus 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.

## APPLICATION ICONS KEY

- contributes toward energy savings by reducing operating costs of air distribution devices — energy solutions
- great for apartments or other similar applications — apartments
- excellent air distribution device for hotels, motels or any similar commercial building application — hotels / motels
- for use in vital areas within hospitals & patient rooms to remove contaminants from the air — hospitals
- for usage in condos and other industrial or commercial building applications — condos
- excellent air distribution device for schools and other educational facilities — k-12 education
- additional finish options available for HVAC products that resemble realistic woodgrains, and adds high-end detail quality to any application — woodgrains

[* Contact a Titus representative for availability]
[** Contact a Titus representative for special color selection & prices]

# Vertical Stack Series





## VSR

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All casing sheet metal components fabricated of 18GA G90 galvanized steel
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- 1" thick disposable filter
- Cabinet liner in ½" dual-density fiberglass
- Multi-speed motor of the permanent split capacitor (PSC) type
- Direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally protected on the outside*
- Translucent flexible condensate water P-trap
- Plenum discharge air flanges for duct and dry wall applications

VSR

woodgrains apartments hotels / motels



## AVAILABLE MODEL:

VSR

## OVERVIEW

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

## OPTIONAL FEATURES INCLUDE

- 3-, 4- and 5-row coils for 2-pipe systems
- Single block 2, 3 and 4 rows CW with 1-row re-heat or pre-heat coils for 4-pipe system applications (5 rows max)
- Single block 2 and 3 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (5 rows max)
- Filter options include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Cabinet liner in 1" dual-density fiberglass
- Cabinet liner in ½" foil face
- Cabinet liner in 1" foil face
- Motor voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect
- Thermostat and Accessories [Accessories on page V71]
- Single power supply disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- Standby electric heater auto changeover switch
- Fresh air opening

See website for Specifications

- Fresh air manual and auto dampers
- Fresh air freeze protection
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel*
  - » Double wall construction consisting of outer and inner skins
  - » Condensate pan overflow safety switch
- Discharge air grilles:
  - » Aluminum double deflection
  - » Deluxe aluminum double deflection grilles*
  - » Linear bar aluminum grilles
- Discharge air grille options:
  - » Dual discharge
  - » Air damper controls for units with dual discharge grilles
  - » Special discharge air grille colors**
  - » Discharge air grille location
- Return air/access panels painted white:
  - » Stamped galvanealed steel
  - » Remote stamped galvanealed steel
  - » ADA stamped galvanealed steel

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

ETL®

A Participating Corporation in the
AHRI 440 Certification Program

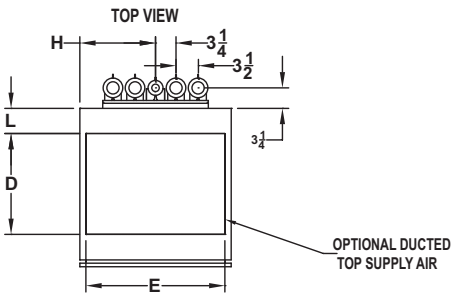
  - » ADA remote stamped panel
  - » Invisislot blank front panel
  - » Deluxe aluminum panel with a removable core
- Linear bar aluminum panel with a removable core
- Special return air/access panel color**
- Return air/access panel fasteners:
  - » Philips head fasteners
  - » Tamper proof fasteners
  - » Quarter turn fasteners
- Fan section noise reduction kit
- 1-hour fire rating

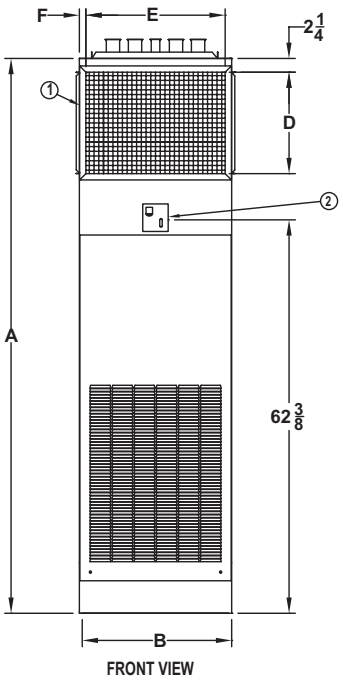
## OPTIONAL RISER ASSEMBLY FEATURES INCLUDE

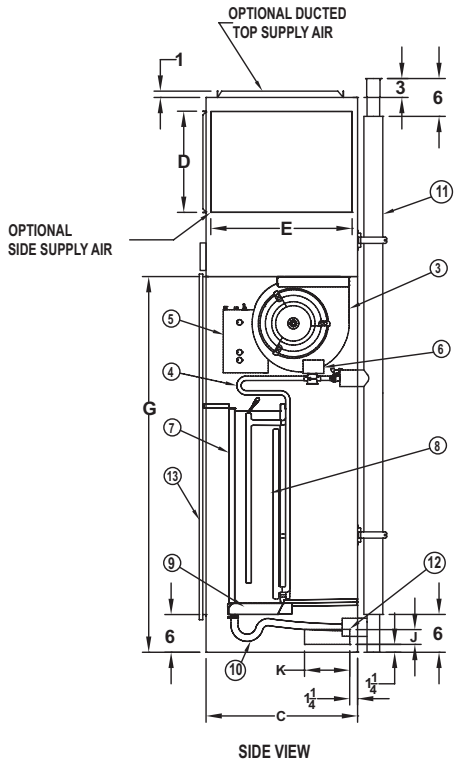
- Unit mounted riser
- Risers supplied loose
- Riser pipe type M, L and K. (Contact a Titus representative for availability of type K risers)
- Riser thermal Insulation in ½" or ¾" wall thickness
- Riser connections to unit options:
  - » Welded to the unit piping
  - » Union connections using rigid copper pipe
  - » Union connections with flexible braided stainless steel hoses
- Riser extensions
- Riser extension end connection reducers

## DIMENSIONS

### VSR RECESSED HI-RISE




1. Supply Air Grille (optional)
2. Unit-Mounted Thermostat (optional)
3. Motor/Blower Assembly
4. Riser Expansion Loops
5. Electrical Control Box
6. Valve Package (optional)
7. Filter
8. Coil
9. Condensate Tray
10. See through P-Trap Drain
11. Riser Assembly
12. Fresh Air Damper Opening (optional)
13. Stamped Return Air/Access Panel (optional)

Note: For units with stamped return and basic double-deflection supply grilles

| Model | Dimensions - Single Supply Option (inches) | | | | | | | | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K | L | Filter | |
| VSR03 | 88 | 17 | 17 | 8 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 230 |
| VSR04 | 88 | 17 | 17 | 10 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 240 |
| VSR06 | 88 | 20 | 20 | 10 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 270 |
| VSR08 | 88 | 20 | 20 | 12 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 280 |
| VSR10 | 88 | 24 | 24 | 12 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 5 | 20 x 31 x 1 | 310 |
| VSR12 | 88 | 24 | 24 | 16 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 4 | 20 x 31 x 1 | 320 |

| Model | Dimensions - Dual Supply Option (inches) | | | | | | | | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K | L | Filter | |
| VSR03 | 88 | 17 | 17 | 6 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 230 |
| VSR04 | 88 | 17 | 17 | 6 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 240 |
| VSR06 | 88 | 20 | 20 | 6 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 270 |
| VSR08 | 88 | 20 | 20 | 6 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 280 |
| VSR10 | 88 | 24 | 24 | 8 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 5 | 20 x 31 x 1 | 310 |
| VSR12 | 88 | 24 | 24 | 8 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 4 | 20 x 31 x 1 | 320 |

All dimensions are in inches

## VSR RECESSED HI-RISE

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSR03 | 9.5 | 6.8 | 1.9 | 4.35 | 24.7 | 1.7 | 2.71 |
| VSR04 | 10.8 | 7.9 | 2.2 | 5.57 | 29.0 | 2.0 | 3.66 |
| VSR06 | 14.9 | 11.1 | 3.0 | 2.39 | 41.7 | 2.8 | 1.86 |
| VSR08 | 18.3 | 14.1 | 3.7 | 3.56 | 53.1 | 3.6 | 2.95 |
| VSR10 | 24.4 | 18.6 | 4.9 | 3.31 | 70.1 | 4.8 | 2.86 |
| VSR12 | 26.2 | 20.2 | 5.2 | 3.78 | 76.2 | 5.2 | 3.35 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSR03 | 9.1 | 6.6 | 1.8 | 4.01 | 15.8 | 1.1 | 4.24 |
| VSR04 | 10.5 | 7.5 | 2.1 | 5.21 | 18.1 | 1.2 | 5.46 |
| VSR06 | 14.2 | 10.5 | 2.8 | 2.20 | 26.3 | 1.8 | 2.08 |
| VSR08 | 17.6 | 13.5 | 3.5 | 3.30 | 32.8 | 2.2 | 3.15 |
| VSR10 | 23.5 | 17.7 | 4.7 | 3.06 | 43.7 | 3.0 | 7.13 |
| VSR12 | 25.1 | 19.2 | 5.0 | 3.49 | 47.1 | 3.2 | 8.19 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSR03 | 12.4 | 8.3 | 2.5 | 10.72 | 31.1 | 2.1 | 6.26 |
| VSR04 | 12.8 | 9.1 | 2.6 | 1.97 | 35.8 | 2.4 | 1.52 |
| VSR06 | 20.0 | 13.8 | 4.0 | 5.83 | 53.0 | 3.6 | 4.00 |
| VSR08 | 23.4 | 17.2 | 4.7 | 3.28 | 67.5 | 4.6 | 2.83 |
| VSR10 | 33.5 | 23.5 | 6.7 | 7.82 | 90.0 | 6.1 | 5.87 |
| VSR12 | 34.3 | 25.0 | 6.9 | 4.95 | 97.2 | 6.6 | 4.32 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSR03 | 11.9 | 7.9 | 2.4 | 9.79 | 15.0 | 1.0 | 3.92 |
| VSR04 | 12.2 | 8.7 | 2.4 | 1.81 | 17.2 | 1.2 | 5.04 |
| VSR06 | 19.0 | 13.1 | 3.8 | 5.29 | 25.1 | 1.7 | 2.02 |
| VSR08 | 22.5 | 16.4 | 4.5 | 3.04 | 31.4 | 2.1 | 3.04 |
| VSR10 | 31.9 | 22.3 | 6.4 | 7.11 | 41.8 | 2.9 | 6.87 |
| VSR12 | 32.8 | 23.7 | 6.6 | 4.53 | 45.0 | 3.1 | 7.85 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSR03 | 12.9 | 8.6 | 2.6 | 2.54 | 32.7 | 2.2 | 1.61 |
| VSR04 | 15.0 | 10.1 | 3.0 | 3.39 | 39.1 | 2.7 | 2.26 |
| VSR06 | 21.8 | 14.7 | 4.4 | 3.46 | 56.8 | 3.9 | 2.45 |
| VSR08 | 28.1 | 19.4 | 5.6 | 5.61 | 75.2 | 5.1 | 4.17 |
| VSR10 | 37.6 | 25.5 | 7.5 | 6.85 | 98.1 | 6.7 | 5.11 |
| VSR12 | 40.9 | 28.0 | 8.2 | 8.04 | 108.0 | 7.4 | 6.13 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSR03 | 12.2 | 8.0 | 2.4 | 2.27 | 14.3 | 1.0 | 3.57 |
| VSR04 | 14.2 | 9.5 | 2.8 | 3.05 | 16.4 | 1.1 | 4.62 |
| VSR06 | 20.6 | 13.8 | 4.1 | 3.11 | 23.9 | 1.6 | 1.90 |
| VSR08 | 26.6 | 18.3 | 5.3 | 5.07 | 29.9 | 2.0 | 2.94 |
| VSR10 | 35.5 | 24.0 | 7.1 | 6.12 | 39.8 | 2.7 | 6.48 |
| VSR12 | 38.7 | 26.4 | 7.7 | 7.25 | 42.9 | 2.9 | 7.49 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSR03 | 13.7 | 8.8 | 2.7 | 3.44 | 33.0 | 2.3 | 1.96 |
| VSR04 | 16.2 | 10.5 | 3.2 | 4.69 | 39.8 | 2.7 | 2.79 |
| VSR06 | 23.4 | 15.2 | 4.7 | 4.63 | 57.6 | 3.9 | 2.93 |
| VSR08 | 29.5 | 19.9 | 5.9 | 4.16 | 77.0 | 5.3 | 3.11 |
| VSR10 | 40.5 | 26.5 | 8.1 | 9.00 | 100.4 | 6.9 | 6.07 |
| VSR12 | 44.5 | 29.3 | 8.9 | 10.77 | 111.2 | 7.6 | 7.37 |

1. Standard basic unit
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| VSR03 | 1/10 | 1.50 |
| VSR04 | 1/10 | 1.50 |
| VSR06 | 1/10 | 1.90 |
| VSR08 | 1/4 | 3.50 |
| VSR10 | 1/4 | 3.90 |
| VSR12 | 1/3 | 4.00 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| VSR03 | 362 | 303 | 254 |
| VSR04 | 445 | 355 | 293 |
| VSR06 | 643 | 488 | 399 |
| VSR08 | 916 | 731 | 576 |
| VSR10 | 1153 | 945 | 651 |
| VSR12 | 1300 | 1202 | 977 |

1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with zero static pressure
2. Air volumes are based at high fan speed

# VSRM

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All casing sheet metal components fabricated of 18GA G90 galvanized steel
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- 1" thick disposable filter
- Cabinet liner in ½" dual-density fiberglass
- Multi-speed motor of the permanent split capacitor (PSC) type
- Direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally protected on the outside*
- Translucent flexible condensate water P-trap
- Plenum discharge air flanges for duct and dry wall applications

VSRM

woodgrains apartments hotels / motels

See website for Specifications

## AVAILABLE MODEL:

VSRM

## OVERVIEW

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

## OPTIONAL FEATURES INCLUDE

- 3-, 4- and 5-row coils for 2-pipe systems
- Single block 2, 3 and 4 rows CW with 1-row re-heat or pre-heat coils for 4-pipe system applications (5 rows max)
- Single block 2 and 3 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (5 rows max)
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Cabinet liner in 1" dual-density fiberglass
- Cabinet liner in ½" foil face
- Cabinet liner in 1" foil face
- Motor Voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect
- Thermostat and Accessories [Accessories on page V71]
- Single power supply disconnects switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- Standby electric heater auto changeover switch
- Fresh air opening
- Fresh air manual and auto dampers
- Fresh air freeze protection
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner skins
  - » Condensate pan mastic coating applicable overflow safety switch
- Discharge air grilles:
  - » Aluminum double deflection
  - » Deluxe aluminum double deflection grilles*
  - » Linear bar aluminum grilles
- Discharge air grille options:
  - » Dual discharge
  - » Air damper controls for units with dual discharge grilles
  - » Special discharge air grille colors**
  - » Discharge air grille location
- Return air/access panels painted white:
  - » Stamped galvanealed steel

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

ETL®

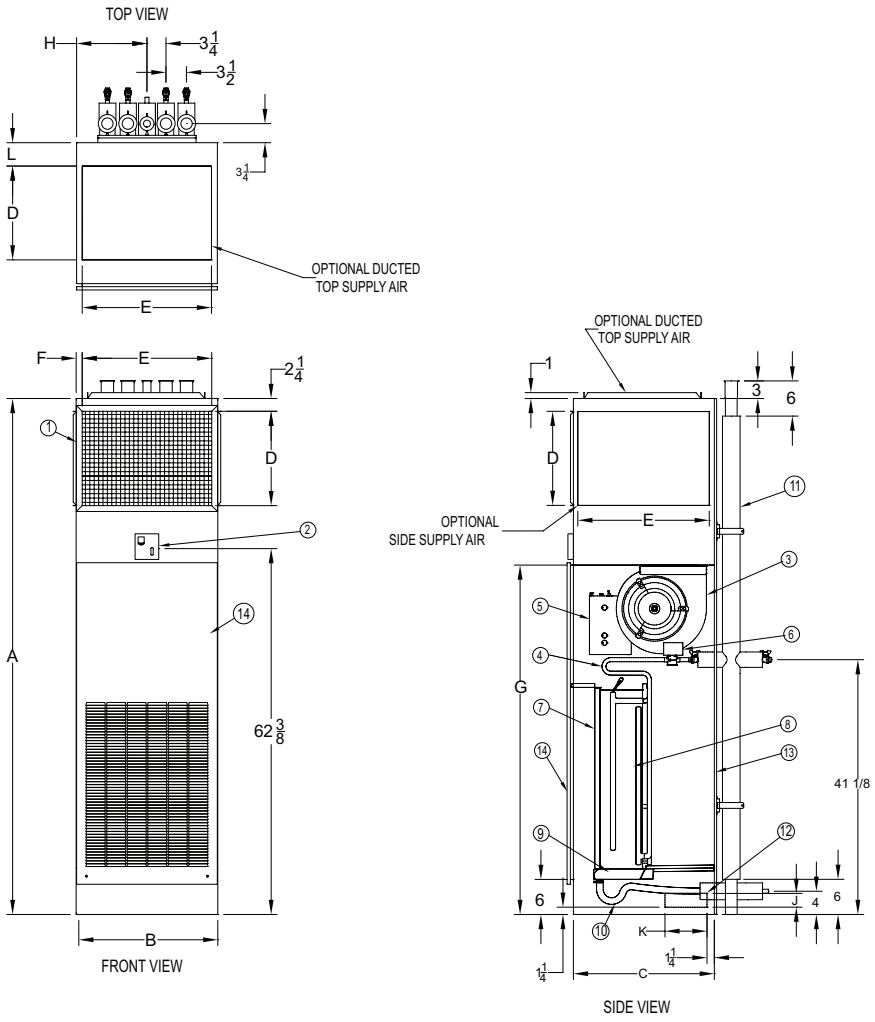
A Participating Corporation in the AHRI 440 Certification Program

  - » Remote stamped galvanealed steel
  - » ADA stamped galvanealed steel
  - » ADA remote stamped panel
  - » Invisislot blank front panel
  - » Deluxe aluminum panel with a removable core
- Linear bar aluminum panel with a removable core
- Special return air/access panel color**
- Return air/access panel fasteners:
  - » Philips head fasteners
  - » Tamper proof fasteners
  - » Quarter turn fasteners
- Fan section noise reduction kit
- 1-hour fire rating

## OPTIONAL RISER ASSEMBLY FEATURES INCLUDE

- Unit mounted riser
- Risers supplied loose
- Riser pipe type M, L and K. (Consult Titus for availability of type K risers)
- Riser thermal Insulation in ½" or ¾" wall thickness
- Riser connections to master unit options:
  - » Welded to the unit piping
  - » Union connections using rigid copper pipe
  - » Union connections with flexible braided stainless steel hoses
  - » Riser connections to drone unit (supplied separate) options:
  - » Union connections using rigid copper pipe
  - » Union connections with flexible braided stainless steel hoses
  - » Riser extensions
  - » Riser extension end connection reducers

## VSRM RECESSED HI-RISE REMOTE MASTER




1. Supply Air Grille (optional)
2. Unit-Mounted Thermostat (optional)
3. Motor/Blower(s) Assembly
4. Riser Expansion Loops (optional)
5. Electrical Control Box
6. Valve Package (optional)
7. Filter
8. Coil
9. Condensate Tray
10. See through P-Trap Drain
11. Riser Assembly (optional)
12. Fresh Air Damper Opening (optional)
13. 1-hour Firewall (optional)
14. Return Air/Access Panel (optional)

Note: For units with stamped return and basic double-deflection supply grilles

| Model | Dimensions - Single Supply Option (inches) | | | | | | | | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K | L | Filter | |
| VSRM03 | 88 | 17 | 17 | 8 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 230 |
| VSRM04 | 88 | 17 | 17 | 10 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 240 |
| VSRM06 | 88 | 20 | 20 | 10 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 270 |
| VSRM08 | 88 | 20 | 20 | 12 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 280 |
| VSRM10 | 88 | 24 | 24 | 12 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 5 | 20 x 31 x 1 | 310 |
| VSRM12 | 88 | 24 | 24 | 16 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 4 | 20 x 31 x 1 | 320 |

| Model | Dimensions - Dual Supply Option (inches) | | | | | | | | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K | L | Filter | |
| VSRM03 | 88 | 17 | 17 | 6 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 230 |
| VSRM04 | 88 | 17 | 17 | 6 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 240 |
| VSRM06 | 88 | 20 | 20 | 6 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 270 |
| VSRM08 | 88 | 20 | 20 | 6 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 280 |
| VSRM10 | 88 | 24 | 24 | 8 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 5 | 20 x 31 x 1 | 310 |
| VSRM12 | 88 | 24 | 24 | 8 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 4 | 20 x 31 x 1 | 320 |

All dimensions are in inches

## VSRM RECESSED HI-RISE REMOTE MASTER

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRM03 | 9.5 | 6.8 | 1.9 | 4.35 | 24.7 | 1.7 | 2.71 |
| VSRM04 | 10.8 | 7.9 | 2.2 | 5.57 | 29.0 | 2.0 | 3.66 |
| VSRM06 | 14.9 | 11.1 | 3.0 | 2.39 | 41.7 | 2.8 | 1.86 |
| VSRM08 | 18.3 | 14.1 | 3.7 | 3.56 | 53.1 | 3.6 | 2.95 |
| VSRM10 | 24.4 | 18.6 | 4.9 | 3.31 | 70.1 | 4.8 | 2.86 |
| VSRM12 | 26.2 | 20.2 | 5.2 | 3.78 | 76.2 | 5.2 | 3.35 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRM03 | 9.1 | 6.6 | 1.8 | 4.01 | 15.8 | 1.1 | 4.24 |
| VSRM04 | 10.5 | 7.5 | 2.1 | 5.21 | 18.1 | 1.2 | 5.46 |
| VSRM06 | 14.2 | 10.5 | 2.8 | 2.20 | 26.3 | 1.8 | 2.08 |
| VSRM08 | 17.6 | 13.5 | 3.5 | 3.30 | 32.8 | 2.2 | 3.15 |
| VSRM10 | 23.5 | 17.7 | 4.7 | 3.06 | 43.7 | 3.0 | 7.13 |
| VSRM12 | 25.1 | 19.2 | 5.0 | 3.49 | 47.1 | 3.2 | 8.19 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRM03 | 12.4 | 8.3 | 2.5 | 10.72 | 31.1 | 2.1 | 6.26 |
| VSRM04 | 12.8 | 9.1 | 2.6 | 1.97 | 35.8 | 2.4 | 1.52 |
| VSRM06 | 20.0 | 13.8 | 4.0 | 5.83 | 53.0 | 3.6 | 4.00 |
| VSRM08 | 23.4 | 17.2 | 4.7 | 3.28 | 67.5 | 4.6 | 2.83 |
| VSRM10 | 33.5 | 23.5 | 6.7 | 7.82 | 90.0 | 6.1 | 5.87 |
| VSRM12 | 34.3 | 25.0 | 6.9 | 4.95 | 97.2 | 6.6 | 4.32 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRM03 | 11.9 | 7.9 | 2.4 | 9.79 | 15.0 | 1.0 | 3.92 |
| VSRM04 | 12.2 | 8.7 | 2.4 | 1.81 | 17.2 | 1.2 | 5.04 |
| VSRM06 | 19.0 | 13.1 | 3.8 | 5.29 | 25.1 | 1.7 | 2.02 |
| VSRM08 | 22.5 | 16.4 | 4.5 | 3.04 | 31.4 | 2.1 | 3.04 |
| VSRM10 | 31.9 | 22.3 | 6.4 | 7.11 | 41.8 | 2.9 | 6.87 |
| VSRM12 | 32.8 | 23.7 | 6.6 | 4.53 | 45.0 | 3.1 | 7.85 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRM03 | 12.9 | 8.6 | 2.6 | 2.54 | 32.7 | 2.2 | 1.61 |
| VSRM04 | 15.0 | 10.1 | 3.0 | 3.39 | 39.1 | 2.7 | 2.26 |
| VSRM06 | 21.8 | 14.7 | 4.4 | 3.46 | 56.8 | 3.9 | 2.45 |
| VSRM08 | 28.1 | 19.4 | 5.6 | 5.61 | 75.2 | 5.1 | 4.17 |
| VSRM10 | 37.6 | 25.5 | 7.5 | 6.85 | 98.1 | 6.7 | 5.11 |
| VSRM12 | 40.9 | 28.0 | 8.2 | 8.04 | 108.0 | 7.4 | 6.13 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRM03 | 12.2 | 8.0 | 2.4 | 2.27 | 14.3 | 1.0 | 3.57 |
| VSRM04 | 14.2 | 9.5 | 2.8 | 3.05 | 16.4 | 1.1 | 4.62 |
| VSRM06 | 20.6 | 13.8 | 4.1 | 3.11 | 23.9 | 1.6 | 1.90 |
| VSRM08 | 26.6 | 18.3 | 5.3 | 5.07 | 29.9 | 2.0 | 2.94 |
| VSRM10 | 35.5 | 24.0 | 7.1 | 6.12 | 39.8 | 2.7 | 6.48 |
| VSRM12 | 38.7 | 26.4 | 7.7 | 7.25 | 42.9 | 2.9 | 7.49 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRM03 | 13.7 | 8.8 | 2.7 | 3.44 | 33.0 | 2.3 | 1.96 |
| VSRM04 | 16.2 | 10.5 | 3.2 | 4.69 | 39.8 | 2.7 | 2.79 |
| VSRM06 | 23.4 | 15.2 | 4.7 | 4.63 | 57.6 | 3.9 | 2.93 |
| VSRM08 | 29.5 | 19.9 | 5.9 | 4.16 | 77.0 | 5.3 | 3.11 |
| VSRM10 | 40.5 | 26.5 | 8.1 | 9.00 | 100.4 | 6.9 | 6.07 |
| VSRM12 | 44.5 | 29.3 | 8.9 | 10.77 | 111.2 | 7.6 | 7.37 |

1. Standard basic unit
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| VSRM03 | 1/10 | 1.50 |
| VSRM04 | 1/10 | 1.50 |
| VSRM06 | 1/10 | 1.90 |
| VSRM08 | 1/4 | 3.50 |
| VSRM10 | 1/4 | 3.90 |
| VSRM12 | 1/3 | 4.00 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| VSRM03 | 362 | 303 | 254 |
| VSRM04 | 445 | 355 | 293 |
| VSRM06 | 643 | 488 | 399 |
| VSRM08 | 916 | 731 | 576 |
| VSRM10 | 1153 | 945 | 651 |
| VSRM12 | 1300 | 1202 | 977 |

1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with zero static pressure
2. Air volumes are based at high fan speed

# VSRS

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All casing sheet metal components fabricated of 18GA G90 galvanized steel
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- 1" thick disposable filter
- Cabinet liner in ½" dual-density fiberglass
- Multi-speed motor of the permanent split capacitor (PSC) type
- Direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally protected on the outside*
- Translucent flexible condensate water P-trap
- Plenum discharge air flanges for duct and dry wall applications

VSRS

woodgrains apartments hotels / motels

See website for Specifications

## AVAILABLE MODEL:

VSRS

## OVERVIEW

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

## OPTIONAL FEATURES INCLUDE

- 3-, 4- and 5-row coils for 2-pipe systems
- Single block 2, 3 and 4 rows CW with 1-row re-heat or pre-heat coils for 4-pipe system applications (5 rows max)
- Single block 2 and 3 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (5 rows max)
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Cabinet liner in 1" dual-density fiberglass
- Cabinet liner in ½" foil face
- Cabinet liner in 1" foil face
- Motor voltage suitable for 208V, 230V or 277V/1ph/60hz power supplies
- Motor in-line quick disconnect
- Thermostat and Accessories [Accessories on page V71]
- Single power supply disconnects switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- Standby electric heater auto changeover switch
- Fresh air opening
- Fresh air manual and auto dampers
- Fresh air freeze protection
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel*
  - » Double wall construction consisting of outer and inner skins
  - » Condensate pan overflow safety switch
- Discharge air grilles:
  - » Aluminum double deflection
  - » Deluxe aluminum double deflection grilles*
  - » Linear bar aluminum grilles
- Discharge air grille options:
  - » Dual discharge
  - » Air damper controls for units with dual discharge grilles
  - » Special discharge air grille colors**
  - » Discharge air grille location
- Return air/access panels painted white:
  - » Stamped galvanealed steel
  - » Remote stamped galvanealed steel

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

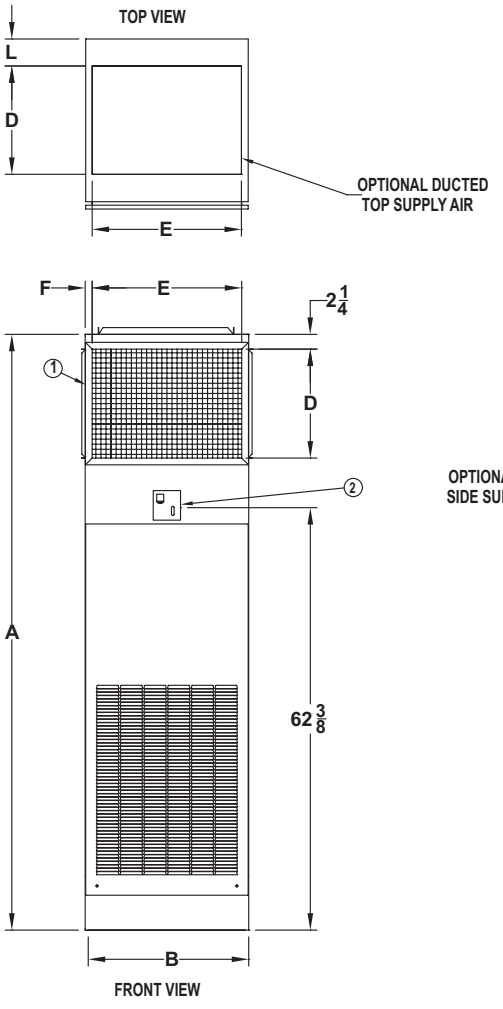
ETL®

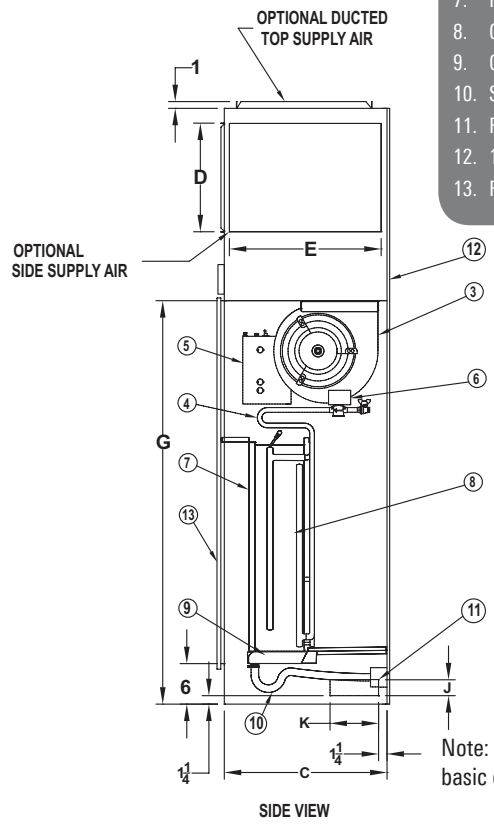
A Participating Corporation in the
AHRI 440 Certification Program

  - » ADA stamped galvanealed steel
  - » ADA remote stamped panel
  - » Invisislot blank front panel
  - » Deluxe aluminum panel with a removable core
- Linear bar aluminum panel with a removable core
- Special return air/access panel color**
- Return air/access panel fasteners:
  - » Philips head fasteners
  - » Tamper proof fasteners
  - » Quarter turn fasteners
- Fan section noise reduction kit
- 1-hour fire rating
- Connections to master unit risers options (supplied separate):
- Union connections using rigid copper pipe
- Union connections with flexible braided stainless steel hoses

## DIMENSIONS

### VSRS RECESSED HI-RISE REMOTE DRONE




1. Supply Air Grille (optional)
2. Unit-Mounted Thermostat (optional)
3. Blower / Motor Assembly
4. Riser Expansion Loops (optional)
5. Electrical Control Box
6. Valve Package (optional)
7. Filter
8. Coil Assembly
9. Condensate pan
10. See through P-Trap Drain
11. Fresh Air Damper Opening (optional)
12. 1-hour Firewall (optional)
13. Return Air/Access Panel (optional)

Note: For units with stamped return and basic double-deflection supply grilles

| Model | Dimensions - Single Supply Option (inches) | | | | | | | | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K | L | Filter | |
| VSRS03 | 88 | 17 | 17 | 8 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 230 |
| VSRS04 | 88 | 17 | 17 | 10 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 240 |
| VSRS06 | 88 | 20 | 20 | 10 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 270 |
| VSRS08 | 88 | 20 | 20 | 12 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 280 |
| VSRS10 | 88 | 24 | 24 | 12 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 5 | 20 x 31 x 1 | 310 |
| VSRS12 | 88 | 24 | 24 | 16 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 4 | 20 x 31 x 1 | 320 |

| Model | Dimensions - Dual Supply Option (inches) | | | | | | | | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K | L | Filter | |
| VSRS03 | 88 | 17 | 17 | 6 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 230 |
| VSRS04 | 88 | 17 | 17 | 6 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 240 |
| VSRS06 | 88 | 20 | 20 | 6 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 270 |
| VSRS08 | 88 | 20 | 20 | 6 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 280 |
| VSRS10 | 88 | 24 | 24 | 8 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 5 | 20 x 31 x 1 | 310 |
| VSRS12 | 88 | 24 | 24 | 8 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 4 | 20 x 31 x 1 | 320 |

All dimensions are in inches

## VSRS RECESSED HI-RISE REMOTE DRONE

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRS03 | 9.5 | 6.8 | 1.9 | 4.35 | 24.7 | 1.7 | 2.71 |
| VSRS04 | 10.8 | 7.9 | 2.2 | 5.57 | 29.0 | 2.0 | 3.66 |
| VSRS06 | 14.9 | 11.1 | 3.0 | 2.39 | 41.7 | 2.8 | 1.86 |
| VSRS08 | 18.3 | 14.1 | 3.7 | 3.56 | 53.1 | 3.6 | 2.95 |
| VSRS10 | 24.4 | 18.6 | 4.9 | 3.31 | 70.1 | 4.8 | 2.86 |
| VSRS12 | 26.2 | 20.2 | 5.2 | 3.78 | 76.2 | 5.2 | 3.35 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRS03 | 9.1 | 6.6 | 1.8 | 4.01 | 15.8 | 1.1 | 4.24 |
| VSRS04 | 10.5 | 7.5 | 2.1 | 5.21 | 18.1 | 1.2 | 5.46 |
| VSRS06 | 14.2 | 10.5 | 2.8 | 2.20 | 26.3 | 1.8 | 2.08 |
| VSRS08 | 17.6 | 13.5 | 3.5 | 3.30 | 32.8 | 2.2 | 3.15 |
| VSRS10 | 23.5 | 17.7 | 4.7 | 3.06 | 43.7 | 3.0 | 7.13 |
| VSRS12 | 25.1 | 19.2 | 5.0 | 3.49 | 47.1 | 3.2 | 8.19 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRS03 | 12.4 | 8.3 | 2.5 | 10.72 | 31.1 | 2.1 | 6.26 |
| VSRS04 | 12.8 | 9.1 | 2.6 | 1.97 | 35.8 | 2.4 | 1.52 |
| VSRS06 | 20.0 | 13.8 | 4.0 | 5.83 | 53.0 | 3.6 | 4.00 |
| VSRS08 | 23.4 | 17.2 | 4.7 | 3.28 | 67.5 | 4.6 | 2.83 |
| VSRS10 | 33.5 | 23.5 | 6.7 | 7.82 | 90.0 | 6.1 | 5.87 |
| VSRS12 | 34.3 | 25.0 | 6.9 | 4.95 | 97.2 | 6.6 | 4.32 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRS03 | 11.9 | 7.9 | 2.4 | 9.79 | 15.0 | 1.0 | 3.92 |
| VSRS04 | 12.2 | 8.7 | 2.4 | 1.81 | 17.2 | 1.2 | 5.04 |
| VSRS06 | 19.0 | 13.1 | 3.8 | 5.29 | 25.1 | 1.7 | 2.02 |
| VSRS08 | 22.5 | 16.4 | 4.5 | 3.04 | 31.4 | 2.1 | 3.04 |
| VSRS10 | 31.9 | 22.3 | 6.4 | 7.11 | 41.8 | 2.9 | 6.87 |
| VSRS12 | 32.8 | 23.7 | 6.6 | 4.53 | 45.0 | 3.1 | 7.85 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRS03 | 12.9 | 8.6 | 2.6 | 2.54 | 32.7 | 2.2 | 1.61 |
| VSRS04 | 15.0 | 10.1 | 3.0 | 3.39 | 39.1 | 2.7 | 2.26 |
| VSRS06 | 21.8 | 14.7 | 4.4 | 3.46 | 56.8 | 3.9 | 2.45 |
| VSRS08 | 28.1 | 19.4 | 5.6 | 5.61 | 75.2 | 5.1 | 4.17 |
| VSRS10 | 37.6 | 25.5 | 7.5 | 6.85 | 98.1 | 6.7 | 5.11 |
| VSRS12 | 40.9 | 28.0 | 8.2 | 8.04 | 108.0 | 7.4 | 6.13 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRS03 | 12.2 | 8.0 | 2.4 | 2.27 | 14.3 | 1.0 | 3.57 |
| VSRS04 | 14.2 | 9.5 | 2.8 | 3.05 | 16.4 | 1.1 | 4.62 |
| VSRS06 | 20.6 | 13.8 | 4.1 | 3.11 | 23.9 | 1.6 | 1.90 |
| VSRS08 | 26.6 | 18.3 | 5.3 | 5.07 | 29.9 | 2.0 | 2.94 |
| VSRS10 | 35.5 | 24.0 | 7.1 | 6.12 | 39.8 | 2.7 | 6.48 |
| VSRS12 | 38.7 | 26.4 | 7.7 | 7.25 | 42.9 | 2.9 | 7.49 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSRS03 | 13.7 | 8.8 | 2.7 | 3.44 | 33.0 | 2.3 | 1.96 |
| VSRS04 | 16.2 | 10.5 | 3.2 | 4.69 | 39.8 | 2.7 | 2.79 |
| VSRS06 | 23.4 | 15.2 | 4.7 | 4.63 | 57.6 | 3.9 | 2.93 |
| VSRS08 | 29.5 | 19.9 | 5.9 | 4.16 | 77.0 | 5.3 | 3.11 |
| VSRS10 | 40.5 | 26.5 | 8.1 | 9.00 | 100.4 | 6.9 | 6.07 |
| VSRS12 | 44.5 | 29.3 | 8.9 | 10.77 | 111.2 | 7.6 | 7.37 |

1. Standard basic unit
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| VSRS03 | 1/10 | 1.50 |
| VSRS04 | 1/10 | 1.50 |
| VSRS06 | 1/10 | 1.90 |
| VSRS08 | 1/4 | 3.50 |
| VSRS10 | 1/4 | 3.90 |
| VSRS12 | 1/3 | 4.00 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| VSRS03 | 362 | 303 | 254 |
| VSRS04 | 445 | 355 | 293 |
| VSRS06 | 643 | 488 | 399 |
| VSRS08 | 916 | 731 | 576 |
| VSRS10 | 1153 | 945 | 651 |
| VSRS12 | 1300 | 1202 | 977 |

1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with zero static pressure
2. Air volumes are based at high fan speed

# VSM / VSS

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All casing sheet metal components fabricated of 18GA G90 galvanized steel
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- 1" thick disposable filter
- Cabinet liner in ½" dual-density fiberglass
- Multi-speed motor of the permanent split capacitor (PSC) type
- Direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally protected on the outside*
- Translucent flexible condensate water P-trap
- Plenum discharge air flanges for duct and dry wall applications

VSM / VSS

woodgrains | apartments | hotels / motels

See website for Specifications

## AVAILABLE MODEL:

VSM / VSS

## OVERVIEW

Factory assembled, vertical high-rise building VSM/VSS (master/drone) twin pack fan coils are designed for free-blow or ducted, concealed installations, suitable for hotel, motel and apartment building applications.

## OPTIONAL FEATURES INCLUDE

- 3-, 4- And 5-row coils for 2-pipe systems
- Single block 2, 3 and 4 rows CW with 1-row re-heat or pre-heat coils for 4-pipe system applications (5 rows max)
- Single block 2 and 3 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (5 rows max)
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Cabinet liner in 1" dual-density fiberglass
- Cabinet liner in ½" foil face
- Cabinet liner in 1" foil face
- Motor voltage suitable for 208V, 230V or 277V/1ph/60hz power supplies
- Motor in-line quick disconnect
- Thermostat and Accessories [Accessories on page V71]
- Single power supply disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- Standby electric heater auto changeover switch
- Fresh air opening
- Fresh air manual and auto dampers
- Fresh air freeze protection
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel*
  - » Double wall construction consisting of outer and inner skins
  - » Condensate pan overflow safety switch
- Discharge air grilles:
  - » Aluminum double deflection
  - » Deluxe aluminum double deflection grilles*
  - » Linear bar aluminum grilles
- Discharge air grille options:
  - » Dual discharge
  - » Air damper controls for units with dual discharge grilles
  - » Special discharge air grille colors**
  - » Discharge air grille location
- Return air/access panels painted white:
  - » Stamped galvanealed steel
  - » Remote stamped galvanealed steel

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

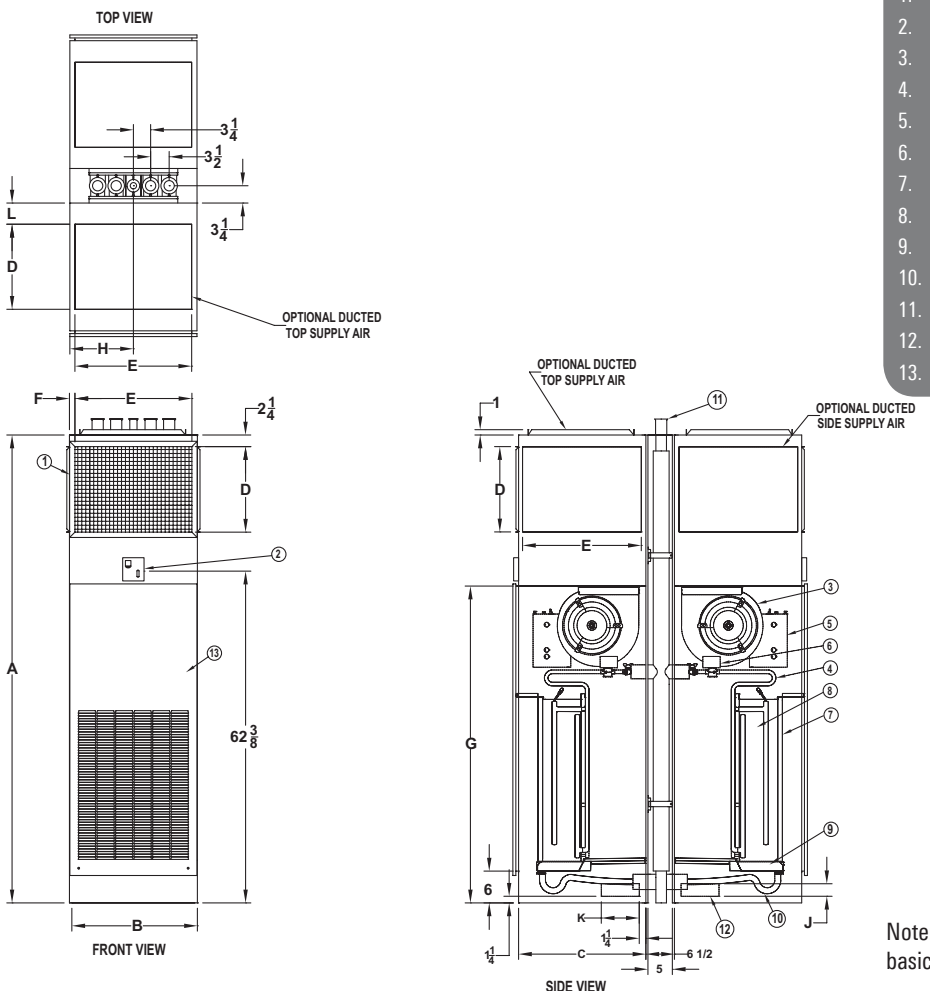
ETL®

A Participating Corporation in the
AHRI 440 Certification Program

  - » ADA stamped galvanealed steel
  - » ADA remote stamped panel
  - » Invisislot blank front panel
  - » Deluxe aluminum panel with a removable core
- Linear bar aluminum panel with a removable core
- Special return air/access panel color**
- Return air/access panel fasteners:
  - » Philips head fasteners
  - » Tamper proof fasteners
  - » Quarter turn fasteners
- Fan section noise reduction kit
- 1-hour fire rating
- Unit mounted risers
- Welded connections to risers
- Riser pipe type M, L and K. (Contact a Titus representative for availability of type K risers)
- Riser thermal insulation in ½" or ¾" wall thickness
- Riser extensions
- Riser extension end connection reducers

## DIMENSIONS

### VSM / VSS RECESSED MASTER / DRONE




1. Supply Air Grille (optional)
2. Unit-Mounted Thermostat (optional)
3. Blower / Motor Assembly
4. Riser Expansion Loops (optional)
5. Electrical Control Box
6. Valve Package (optional)
7. Filter
8. Coil Assembly
9. Condensate pan
10. See through P-Trap Drain
11. Fresh Air Damper Opening (optional)
12. 1-hour Firewall (optional)
13. Return Air/Access Panel (optional)

Note: For units with stamped return and basic double-deflection supply grilles

| Model | Dimensions - Single Supply Option (inches) | | | | | | | | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K | L | Filter | |
| VSS / VSM03 | 88 | 17 | 17 | 8 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 230 |
| VSS / VSM04 | 88 | 17 | 17 | 10 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 240 |
| VSS / VSM06 | 88 | 20 | 20 | 10 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 270 |
| VSS / VSM08 | 88 | 20 | 20 | 12 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 280 |
| VSS / VSM10 | 88 | 24 | 24 | 12 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 5 | 20 x 31 x 1 | 310 |
| VSS / VSM12 | 88 | 24 | 24 | 16 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 4 | 20 x 31 x 1 | 320 |

| Model | Dimensions - Dual Supply Option (inches) | | | | | | | | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | G | H | J | K | L | Filter | |
| VSS / VSM03 | 88 | 17 | 17 | 6 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 230 |
| VSS / VSM04 | 88 | 17 | 17 | 6 | 15 | 1 | 56 5/8 | 8 1/2 | 3 1/4 | 7 3/8 | 3 1/2 | 13 x 23 x 1 | 240 |
| VSS / VSM06 | 88 | 20 | 20 | 6 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 270 |
| VSS / VSM08 | 88 | 20 | 20 | 6 | 18 | 1 | 56 5/8 | 10 | 3 1/4 | 8 7/8 | 4 | 16 x 27 x 1 | 280 |
| VSS / VSM10 | 88 | 24 | 24 | 8 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 5 | 20 x 31 x 1 | 310 |
| VSS / VSM12 | 88 | 24 | 24 | 8 | 22 | 1 | 59 5/8 | 12 | 2 3/8 | 10 7/8 | 4 | 20 x 31 x 1 | 320 |

All dimensions are in inches

## VSM / VSS RECESSED MASTER / DRONE

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSM / S03 | 9.5 | 6.8 | 1.9 | 4.35 | 24.7 | 1.7 | 2.71 |
| VSM / S04 | 10.8 | 7.9 | 2.2 | 5.57 | 29.0 | 2.0 | 3.66 |
| VSM / S06 | 14.9 | 11.1 | 3.0 | 2.39 | 41.7 | 2.8 | 1.86 |
| VSM / S08 | 18.3 | 14.1 | 3.7 | 3.56 | 53.1 | 3.6 | 2.95 |
| VSM / S10 | 24.4 | 18.6 | 4.9 | 3.31 | 70.1 | 4.8 | 2.86 |
| VSM / S12 | 26.2 | 20.2 | 5.2 | 3.78 | 76.2 | 5.2 | 3.35 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSM / S03 | 9.1 | 6.6 | 1.8 | 4.01 | 15.8 | 1.1 | 4.24 |
| VSM / S04 | 10.5 | 7.5 | 2.1 | 5.21 | 18.1 | 1.2 | 5.46 |
| VSM / S06 | 14.2 | 10.5 | 2.8 | 2.20 | 26.3 | 1.8 | 2.08 |
| VSM / S08 | 17.6 | 13.5 | 3.5 | 3.30 | 32.8 | 2.2 | 3.15 |
| VSM / S10 | 23.5 | 17.7 | 4.7 | 3.06 | 43.7 | 3.0 | 7.13 |
| VSM / S12 | 25.1 | 19.2 | 5.0 | 3.49 | 47.1 | 3.2 | 8.19 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSM / S03 | 12.4 | 8.3 | 2.5 | 10.72 | 31.1 | 2.1 | 6.26 |
| VSM / S04 | 12.8 | 9.1 | 2.6 | 1.97 | 35.8 | 2.4 | 1.52 |
| VSM / S06 | 20.0 | 13.8 | 4.0 | 5.83 | 53.0 | 3.6 | 4.00 |
| VSM / S08 | 23.4 | 17.2 | 4.7 | 3.28 | 67.5 | 4.6 | 2.83 |
| VSM / S10 | 33.5 | 23.5 | 6.7 | 7.82 | 90.0 | 6.1 | 5.87 |
| VSM / S12 | 34.3 | 25.0 | 6.9 | 4.95 | 97.2 | 6.6 | 4.32 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSM / S03 | 11.9 | 7.9 | 2.4 | 9.79 | 15.0 | 1.0 | 3.92 |
| VSM / S04 | 12.2 | 8.7 | 2.4 | 1.81 | 17.2 | 1.2 | 5.04 |
| VSM / S06 | 19.0 | 13.1 | 3.8 | 5.29 | 25.1 | 1.7 | 2.02 |
| VSM / S08 | 22.5 | 16.4 | 4.5 | 3.04 | 31.4 | 2.1 | 3.04 |
| VSM / S10 | 31.9 | 22.3 | 6.4 | 7.11 | 41.8 | 2.9 | 6.87 |
| VSM / S12 | 32.8 | 23.7 | 6.6 | 4.53 | 45.0 | 3.1 | 7.85 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSM / S03 | 12.9 | 8.6 | 2.6 | 2.54 | 32.7 | 2.2 | 1.61 |
| VSM / S04 | 15.0 | 10.1 | 3.0 | 3.39 | 39.1 | 2.7 | 2.26 |
| VSM / S06 | 21.8 | 14.7 | 4.4 | 3.46 | 56.8 | 3.9 | 2.45 |
| VSM / S08 | 28.1 | 19.4 | 5.6 | 5.61 | 75.2 | 5.1 | 4.17 |
| VSM / S10 | 37.6 | 25.5 | 7.5 | 6.85 | 98.1 | 6.7 | 5.11 |
| VSM / S12 | 40.9 | 28.0 | 8.2 | 8.04 | 108.0 | 7.4 | 6.13 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSM / S03 | 12.2 | 8.0 | 2.4 | 2.27 | 14.3 | 1.0 | 3.57 |
| VSM / S04 | 14.2 | 9.5 | 2.8 | 3.05 | 16.4 | 1.1 | 4.62 |
| VSM / S06 | 20.6 | 13.8 | 4.1 | 3.11 | 23.9 | 1.6 | 1.90 |
| VSM / S08 | 26.6 | 18.3 | 5.3 | 5.07 | 29.9 | 2.0 | 2.94 |
| VSM / S10 | 35.5 | 24.0 | 7.1 | 6.12 | 39.8 | 2.7 | 6.48 |
| VSM / S12 | 38.7 | 26.4 | 7.7 | 7.25 | 42.9 | 2.9 | 7.49 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VSM / S03 | 13.7 | 8.8 | 2.7 | 3.44 | 33.0 | 2.3 | 1.96 |
| VSM / S04 | 16.2 | 10.5 | 3.2 | 4.69 | 39.8 | 2.7 | 2.79 |
| VSM / S06 | 23.4 | 15.2 | 4.7 | 4.63 | 57.6 | 3.9 | 2.93 |
| VSM / S08 | 29.5 | 19.9 | 5.9 | 4.16 | 77.0 | 5.3 | 3.11 |
| VSM / S10 | 40.5 | 26.5 | 8.1 | 9.00 | 100.4 | 6.9 | 6.07 |
| VSM / S12 | 44.5 | 29.3 | 8.9 | 10.77 | 111.2 | 7.6 | 7.37 |

1. Standard basic unit
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| VSM / S03 | 1/10 | 1.50 |
| VSM / S04 | 1/10 | 1.50 |
| VSM / S06 | 1/10 | 1.90 |
| VSM / S08 | 1/4 | 3.50 |
| VSM / S10 | 1/4 | 3.90 |
| VSM / S12 | 1/3 | 4.00 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| VSM / S03 | 362 | 303 | 254 |
| VSM / S04 | 445 | 355 | 293 |
| VSM / S06 | 643 | 488 | 399 |
| VSM / S08 | 916 | 731 | 576 |
| VSM / S10 | 1153 | 945 | 651 |
| VSM / S12 | 1300 | 1202 | 977 |

1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with zero static pressure
2. Air volumes are based at high fan speed

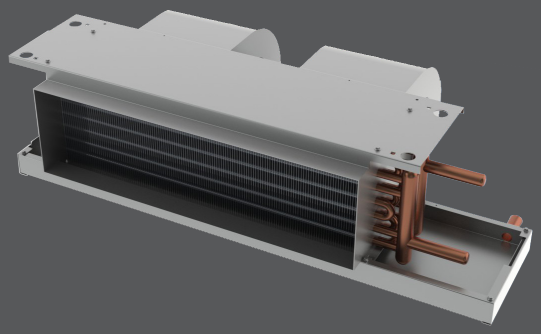
[* Contact a Titus representative for availability]
[** Contact a Titus representative for special color selection & prices]

# Horizontal Basic Series



## HBC

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All casing sheet metal components are fabricated of 18GA G90 galvanized steel
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- Multi-speed motor of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally protected on the outside*
- 1" discharge air flange
- Anti-Vibration Mounts for field installation



HBC

condos hotels / motels

See website for Specifications

## AVAILABLE MODEL:

HBC

## OVERVIEW

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

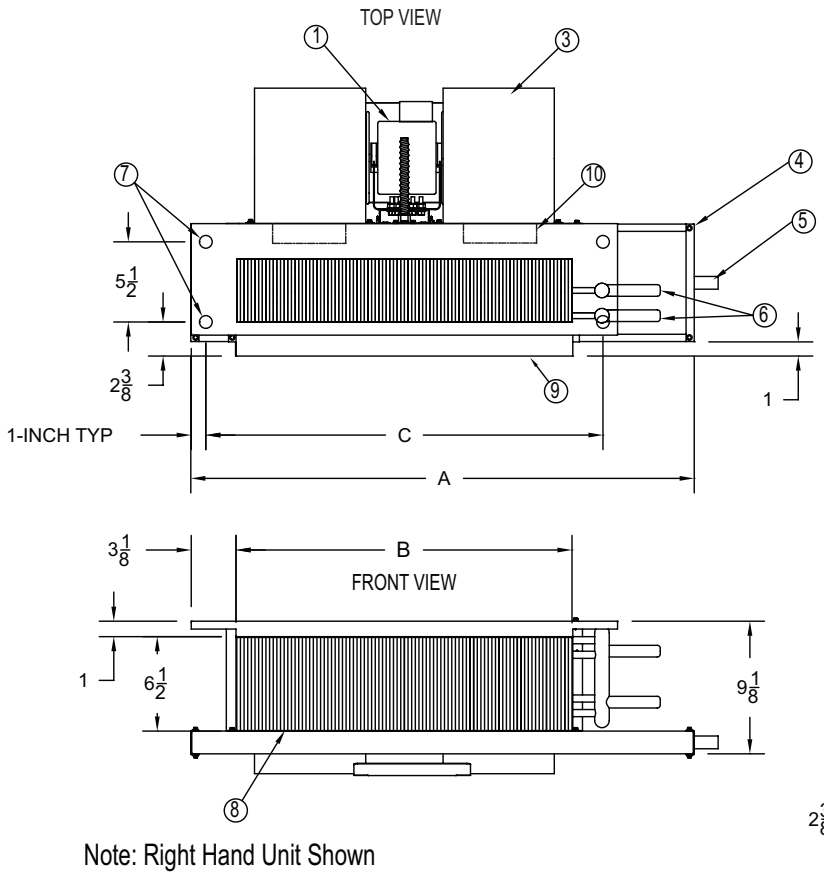
## OPTIONAL FEATURES INCLUDE

- 3-, 4- And 5-row coils for 2-pipe systems
- Single block 2, 3 and 4 rows CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (5 rows max)
- Single block 2 and 3 rows CW with 2 rows re-heat or pre-heat for 4-Pipe system applications (5 rows max)
- LH or RH entry pipe connections
- Motor voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Thermostat and Accessories [Accessories on page V71]
- Single power supply disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- HW standby electric heater auto changeover switch
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner skins
  - » Condensate pan overflow safety switch
  - » Condensate pan safety overflow connection

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

A Participating Corporation in the AHRI 440 Certification Program

## HBC CONCEALED CEILING




1. Motor
2. Motor under protection plate
3. Motor/Blower(s) Assembly
4. Condensate Tray (Double Wall optional)
5. Condensate Copper Connection 3/4" MNPT
6. Coil Connections (2-Pipe Shown)
7. Installation Hanging Points
8. Coil
9. Supply Air Flange
10. Electric Heaters (optional)

| Model | Dimensions (inches) | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|
| | A | B | C | D | |
| HBC02 | 25½ | 14.¼ | 18¼ | 5/8 | 43 |
| HBC03 | 28½ | 17¼ | 21¼ | 5/8 | 52 |
| HBC04 | 34½ | 23¼ | 27¼ | 5/8 | 65 |
| HBC06 | 43½ | 32¼ | 36¼ | 5/8 | 76 |
| HBC08 | 51½ | 40¼ | 44¼ | 5/8 | 85 |
| HBC10 | 61½ | 50¼ | 54¼ | 7/8 | 115 |
| HBC12 | 71½ | 60¼ | 64¼ | 7/8 | 118 |

All dimensions are in inches

## HBC CONCEALED CEILING

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| HBC02 | 4.3 | 3.6 | 0.9 | 0.39 | 14.2 | 1.0 | 0.37 |
| HBC03 | 6.3 | 5.1 | 1.2 | 0.85 | 19.8 | 1.4 | 0.77 |
| HBC04 | 9.2 | 7.5 | 1.8 | 2.02 | 28.5 | 1.9 | 1.74 |
| HBC06 | 12.4 | 10.5 | 2.5 | 1.03 | 40.6 | 2.8 | 1.12 |
| HBC08 | 15.8 | 12.8 | 3.2 | 1.86 | 48.0 | 3.3 | 1.78 |
| HBC10 | 22.0 | 17.4 | 4.4 | 3.94 | 65.7 | 4.5 | 3.52 |
| HBC12 | 25.1 | 20.4 | 5.0 | 2.72 | 78.0 | 5.3 | 2.78 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| HBC02 | 4.1 | 3.4 | 0.8 | 0.35 | 8.0 | 0.5 | 0.46 |
| HBC03 | 6.0 | 4.8 | 1.2 | 1.89 | 11.0 | 0.8 | 0.93 |
| HBC04 | 8.9 | 7.2 | 1.8 | 1.89 | 15.7 | 1.1 | 2.07 |
| HBC06 | 11.9 | 10.0 | 2.4 | 0.96 | 23.4 | 1.6 | 5.89 |
| HBC08 | 15.3 | 12.2 | 3.0 | 1.72 | 27.3 | 1.9 | 1.36 |
| HBC10 | 21.2 | 16.6 | 4.2 | 3.65 | 36.4 | 2.5 | 2.80 |
| HBC12 | 24.2 | 19.5 | 4.8 | 2.52 | 44.1 | 3.0 | 4.58 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| HBC02 | 6.2 | 4.6 | 1.2 | 1.16 | 18.4 | 1.3 | 0.92 |
| HBC03 | 8.7 | 6.6 | 1.8 | 2.50 | 25.8 | 1.8 | 1.92 |
| HBC04 | 13.2 | 9.8 | 2.6 | 6.01 | 37.5 | 2.6 | 4.41 |
| HBC06 | 18.0 | 13.6 | 3.6 | 2.78 | 53.5 | 3.6 | 2.46 |
| HBC08 | 22.5 | 16.5 | 4.5 | 4.81 | 64.0 | 4.4 | 3.90 |
| HBC10 | 28.6 | 21.6 | 5.7 | 3.97 | 84.5 | 5.8 | 3.67 |
| HBC12 | 35.7 | 26.4 | 7.1 | 6.60 | 102.3 | 7.0 | 5.75 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| HBC02 | 6.0 | 4.4 | 1.2 | 1.07 | 7.7 | 0.5 | 0.44 |
| HBC03 | 8.5 | 6.3 | 1.7 | 2.33 | 10.6 | 0.7 | 0.89 |
| HBC04 | 12.5 | 9.2 | 2.5 | 5.47 | 15.1 | 1.0 | 1.98 |
| HBC06 | 17.2 | 12.9 | 3.4 | 2.55 | 22.5 | 1.5 | 5.57 |
| HBC08 | 21.5 | 15.6 | 4.3 | 4.42 | 26.2 | 1.8 | 1.42 |
| HBC10 | 27.3 | 20.5 | 5.5 | 3.63 | 35.0 | 2.4 | 2.81 |
| HBC12 | 34.0 | 25.0 | 6.8 | 6.02 | 42.4 | 2.9 | 4.65 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| HBC02 | 7.5 | 5.2 | 1.5 | 2.19 | 20.5 | 1.4 | 1.50 |
| HBC03 | 10.7 | 7.4 | 2.1 | 4.75 | 28.8 | 2.0 | 3.18 |
| HBC04 | 13.9 | 10.3 | 2.8 | 1.71 | 41.2 | 2.8 | 1.49 |
| HBC06 | 21.9 | 15.5 | 4.4 | 5.01 | 60.3 | 4.1 | 3.80 |
| HBC08 | 25.1 | 17.9 | 5.0 | 3.29 | 70.7 | 4.8 | 2.77 |
| HBC10 | 34.8 | 24.6 | 7.0 | 6.81 | 95.4 | 6.5 | 5.44 |
| HBC12 | 41.2 | 29.3 | 8.2 | 6.45 | 110.4 | 7.8 | 5.54 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| HBC02 | 7.1 | 4.9 | 1.4 | 1.98 | 7.4 | 0.5 | 0.42 |
| HBC03 | 10.1 | 7.0 | 2.0 | 4.31 | 10.1 | 0.7 | 0.85 |
| HBC04 | 13.1 | 9.7 | 2.6 | 1.53 | 14.4 | 1.0 | 1.85 |
| HBC06 | 20.8 | 14.6 | 4.2 | 4.54 | 21.6 | 1.5 | 5.23 |
| HBC08 | 23.8 | 16.8 | 4.8 | 2.96 | 25.1 | 1.7 | 1.40 |
| HBC10 | 33.1 | 23.2 | 6.6 | 6.18 | 33.5 | 2.3 | 2.85 |
| HBC12 | 38.9 | 27.5 | 7.8 | 5.79 | 40.6 | 2.8 | 4.57 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| HBC02 | 8.2 | 5.4 | 1.6 | 3.26 | 21.1 | 1.4 | 1.98 |
| HBC03 | 10.4 | 7.3 | 2.1 | 1.05 | 29.3 | 2.0 | 0.83 |
| HBC04 | 15.7 | 11.0 | 3.1 | 2.52 | 43.4 | 3.0 | 1.93 |
| HBC06 | 24.3 | 16.4 | 4.9 | 7.27 | 63.0 | 4.3 | 4.88 |
| HBC08 | 28.0 | 19.0 | 5.6 | 4.60 | 73.7 | 5.0 | 3.41 |
| HBC10 | 36.9 | 25.4 | 7.4 | 5.39 | 98.9 | 6.7 | 4.35 |
| HBC12 | 45.6 | 30.9 | 9.1 | 8.71 | 119.3 | 8.1 | 6.71 |

1. Standard basic unit
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed

## PERFORMANCE DATA

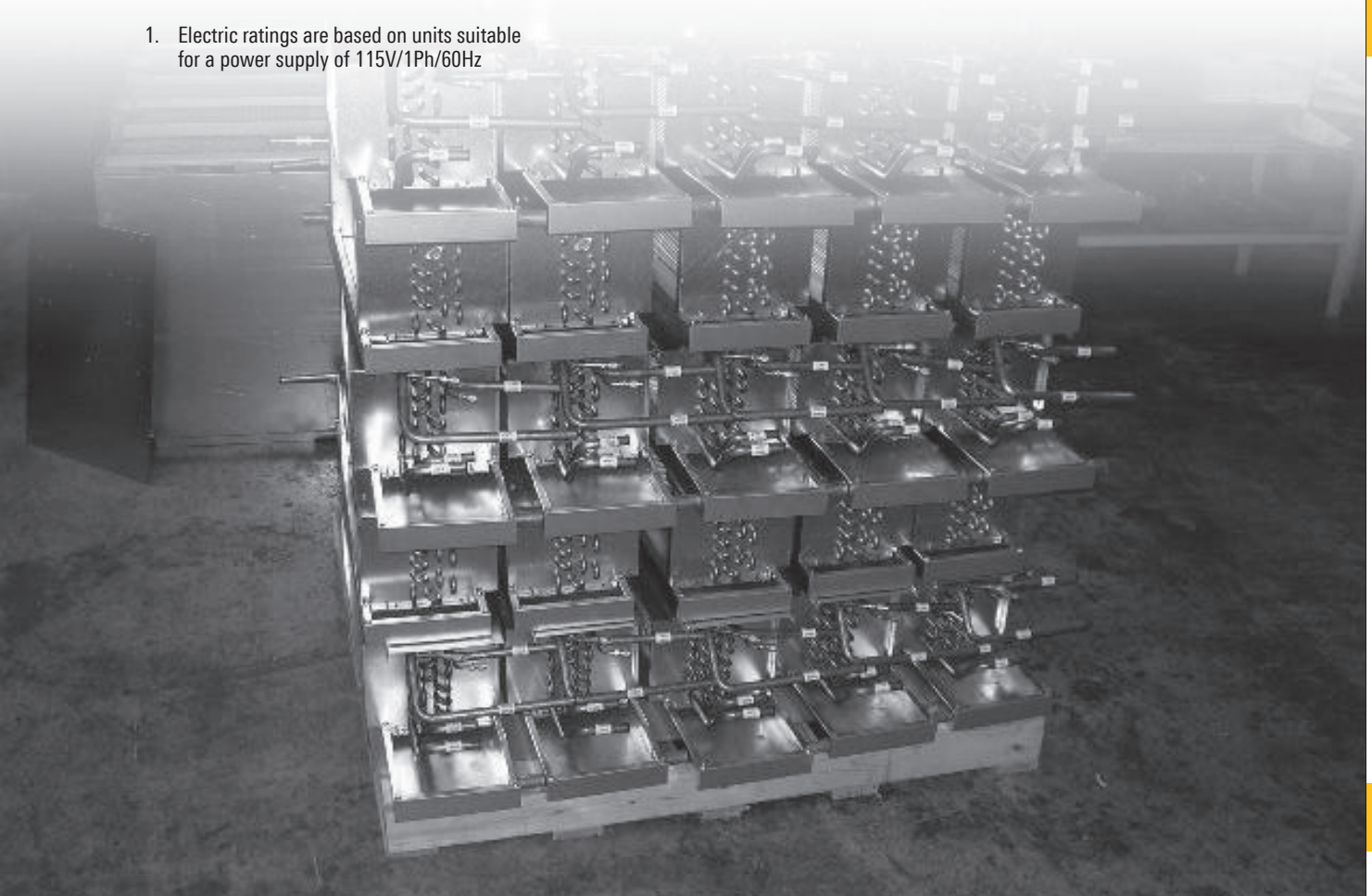
| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| HBC02 | 246 | 214 | 198 |
| HBC03 | 358 | 316 | 278 |
| HBC04 | 551 | 439 | 364 |
| HBC06 | 776 | 631 | 471 |
| HBC08 | 899 | 696 | 562 |
| HBC10 | 1231 | 883 | 674 |
| HBC12 | 1477 | 979 | 797 |

| Air Volume (cfm) Vs External Static Pressure in wg (2) | | | | | | |
|---|---|---|---|---|---|---|
| Model | 0.05 | 0.10 | 0.15 | 0.20 | 0.25 | 0.30 |
| HBC02 | 230 | 203 | 171 | - | - | - |
| HBC03 | 321 | 299 | 235 | 177 | - | - |
| HBC04 | 509 | 458 | 419 | 379 | 288 | - |
| HBC06 | 727 | 664 | 599 | 525 | 417 | - |
| HBC08 | 864 | 758 | 715 | 734 | 688 | 537 |
| HBC10 | 1178 | 1095 | 988 | 869 | 751 | 652 |
| HBC12 | 1405 | 1360 | 1293 | 1192 | 1090 | 1058 |

1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with 0 external static pressure
2. Air volumes at alternative external static pressures are based at high fan speed

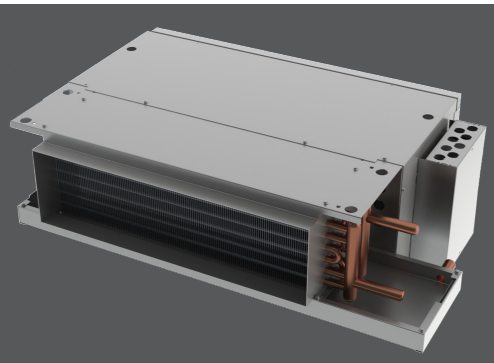
| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| HBC02 | 1/20 | 0.8 |
| HBC03 | 1/20 | 0.8 |
| HBC04 | 1/20 | 0.8 |
| HBC06 | 1/10 | 1.5 |
| HBC08 | 1/10 | 1.5 |
| HBC10 | 1/10 | 1.5 |
| HBC12 | 1/10 | 1.5 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz



# HBP

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All casing sheet metal components are fabricated of 18GA G90 galvanized steel
- Return air plenum thermally and acoustically insulated covering the motor(s) / blower(s) assembly to reduce sound levels from the unit
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- 1" thick disposable filter
- Multi-speed motor of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally protected on the outside*



HBP

- 1" discharge air flange
- 1" return air flange
- Anti-Vibration Mounts for field installation

condos hotels / motels

See website for Specifications

## AVAILABLE MODEL:

HBP

## OVERVIEW

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

## OPTIONAL FEATURES INCLUDE

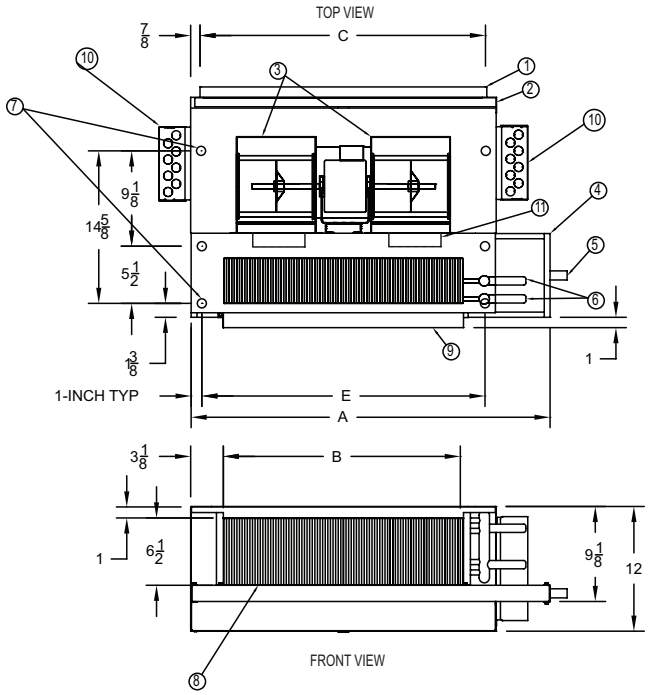
- 3-, 4- And 5-row coils for 2-pipe systems
- Single block 2, 3 and 4 rows CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (5 rows max)
- Single block 2 and 3 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (5 rows max)
- Automatic coil air vents
- LH or RH entry pipe connections
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Bottom or rear return air and filter location
- Filter supports with slides or clips
- Filter removal from LH/RH, bottom and rear
- Cabinet liner in ½" foil face
- Motor voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect (Not available on bottom return filter)
- Thermostat and Accessories [Accessories on page V71]
- Single power supply disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- HW standby electric heater auto changeover switch
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner skins
  - » Condensate pan overflow safety switch
  - » Condensate pan safety overflow connection

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

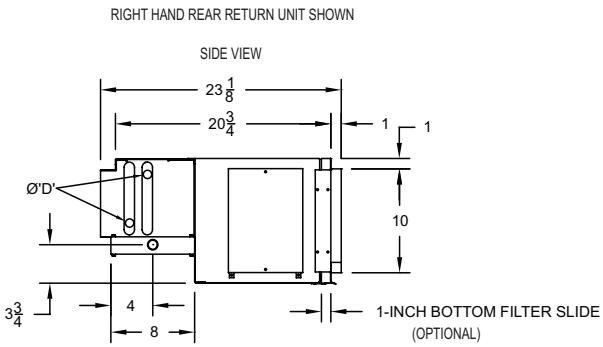
ETL®

A Participating Corporation in the AHRI 440 Certification Program

## HBP CONCEALED CEILING WITH PLENUM




1. Return Air Flange
2. Filter Rear Return
3. Motor/Blower(s) Assembly
4. Condensate Tray (Double Wall optional)
5. Condensate Copper Connection ¾" MNPT
6. Coil Connections (2-Pipe Shown)
7. Hanging Points
8. Coil
9. Supply Air Flange
10. Electric Control Panel - Note: Control box may mounted on either side
11. Electric Heaters (optional)




| Model | Dimensions (inches) | | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | Filter | |
| HBP02 | 25½ | 14¼ | 18¼ | 5/8 | 18¼ | 20 x 12 x 1 | 63 |
| HBP03 | 28½ | 17¼ | 21¼ | 5/8 | 21¼ | 23 x 12 x 1 | 70 |
| HBP04 | 34½ | 23¼ | 27¼ | 5/8 | 27¼ | 29 x 12 x 1 | 80 |
| HBP06 | 43½ | 32¼ | 36¼ | 5/8 | 36¼ | 38 x 12 x 1 | 99 |
| HBP08 | 51½ | 40¼ | 44¼ | 5/8 | 44¼ | 46 x 12 x 1 | 106 |
| HBP10 | 61½ | 50¼ | 54¼ | 7/8 | 54¼ | 56 x 12 x 1 | 136 |
| HBP12 | 71½ | 60¼ | 64¼ | 7/8 | 64¼ | 66 x 12 x 1 | 150 |

All dimensions are in inches

## HBP CONCEALED CEILING WITH PLENUM

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBP02 | 4.1 | 3.3 | 0.8 | 0.34 | 13.2 | 0.9 | 0.32 |
| HBP03 | 5.9 | 4.8 | 1.2 | 0.77 | 18.6 | 1.3 | 0.69 |
| HBP04 | 8.7 | 7.0 | 1.7 | 1.84 | 26.9 | 1.8 | 1.56 |
| HBP06 | 11.6 | 9.7 | 2.3 | 0.92 | 37.6 | 2.6 | 0.97 |
| HBP08 | 15.0 | 11.9 | 3.0 | 1.66 | 45.9 | 3.1 | 1.58 |
| HBP10 | 21.2 | 16.7 | 4.2 | 3.66 | 62.9 | 4.3 | 3.24 |
| HBP12 | 24.1 | 19.4 | 4.8 | 2.50 | 74.3 | 5.1 | 2.54 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBP02 | 3.9 | 3.2 | 0.8 | 0.31 | 7.5 | 0.5 | 0.40 |
| HBP03 | 5.7 | 4.6 | 1.1 | 0.72 | 10.4 | 0.7 | 0.84 |
| HBP04 | 8.4 | 6.7 | 1.7 | 1.72 | 14.9 | 1.0 | 1.89 |
| HBP06 | 11.2 | 9.3 | 2.2 | 0.85 | 22.0 | 1.5 | 5.24 |
| HBP08 | 14.3 | 11.3 | 2.9 | 1.52 | 25.8 | 1.8 | 1.22 |
| HBP10 | 20.4 | 15.9 | 4.1 | 3.39 | 35.0 | 2.4 | 2.60 |
| HBP12 | 23.0 | 18.4 | 4.6 | 2.28 | 42.3 | 2.9 | 4.22 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBP02 | 5.8 | 4.2 | 1.2 | 1.00 | 17.0 | 1.2 | 0.78 |
| HBP03 | 8.4 | 6.1 | 1.7 | 2.25 | 24.2 | 1.6 | 1.70 |
| HBP04 | 12.5 | 9.1 | 2.5 | 5.39 | 35.2 | 2.4 | 3.92 |
| HBP06 | 16.8 | 12.6 | 3.4 | 2.44 | 49.5 | 3.4 | 2.12 |
| HBP08 | 21.1 | 15.3 | 4.2 | 4.26 | 59.7 | 4.1 | 3.41 |
| HBP10 | 27.5 | 20.6 | 5.5 | 3.67 | 80.7 | 5.5 | 3.36 |
| HBP12 | 34.0 | 25.0 | 6.8 | 6.02 | 97.1 | 6.6 | 5.20 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBP02 | 5.5 | 4.0 | 1.1 | 0.93 | 7.2 | 0.5 | 0.38 |
| HBP03 | 8.0 | 5.8 | 1.6 | 2.07 | 10.0 | 0.7 | 0.80 |
| HBP04 | 11.9 | 8.7 | 2.4 | 4.92 | 14.4 | 1.0 | 1.80 |
| HBP06 | 16.0 | 11.9 | 3.2 | 2.22 | 21.1 | 1.4 | 4.94 |
| HBP08 | 20.2 | 14.5 | 4.0 | 3.91 | 24.8 | 1.7 | 1.27 |
| HBP10 | 26.2 | 19.5 | 5.2 | 3.34 | 33.7 | 2.3 | 2.60 |
| HBP12 | 32.6 | 23.8 | 6.5 | 5.53 | 40.6 | 2.8 | 4.28 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBP02 | 6.9 | 4.8 | 1.4 | 1.88 | 18.7 | 1.3 | 1.26 |
| HBP03 | 10.0 | 6.9 | 2.0 | 4.21 | 26.9 | 1.8 | 2.78 |
| HBP04 | 13.1 | 9.6 | 2.6 | 1.52 | 38.5 | 2.6 | 1.31 |
| HBP06 | 20.4 | 14.3 | 4.1 | 4.36 | 55.5 | 3.8 | 3.25 |
| HBP08 | 23.5 | 16.6 | 4.7 | 2.88 | 65.5 | 4.5 | 2.40 |
| HBP10 | 33.3 | 23.4 | 6.6 | 6.24 | 90.7 | 6.2 | 4.94 |
| HBP12 | 39.0 | 27.6 | 7.8 | 5.82 | 100.8 | 7.4 | 4.96 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBP02 | 6.6 | 4.5 | 1.3 | 1.70 | 6.9 | 0.5 | 0.36 |
| HBP03 | 9.5 | 6.5 | 1.9 | 3.81 | 9.6 | 0.7 | 0.76 |
| HBP04 | 12.3 | 9.0 | 2.5 | 1.35 | 13.7 | 0.9 | 1.68 |
| HBP06 | 19.2 | 13.4 | 3.8 | 3.91 | 20.2 | 1.4 | 4.63 |
| HBP08 | 22.2 | 15.6 | 4.4 | 2.58 | 23.7 | 1.6 | 1.25 |
| HBP10 | 31.6 | 22.0 | 6.3 | 5.64 | 32.2 | 2.2 | 2.63 |
| HBP12 | 37.0 | 26.0 | 7.4 | 5.23 | 38.9 | 2.7 | 4.19 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBP02 | 7.6 | 5.0 | 1.5 | 2.77 | 19.2 | 1.3 | 1.65 |
| HBP03 | 9.8 | 6.8 | 2.0 | 0.93 | 27.1 | 1.9 | 0.72 |
| HBP04 | 14.7 | 10.2 | 2.9 | 2.23 | 40.4 | 2.8 | 1.68 |
| HBP06 | 22.4 | 15.0 | 4.5 | 6.20 | 57.7 | 3.9 | 4.13 |
| HBP08 | 26.0 | 17.5 | 5.2 | 4.00 | 68.0 | 4.6 | 2.93 |
| HBP10 | 35.2 | 24.0 | 7.0 | 4.91 | 93.7 | 6.4 | 3.93 |
| HBP12 | 43.2 | 29.2 | 8.6 | 7.86 | 112.4 | 7.7 | 5.99 |

1. Standard basic unit
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed

## PERFORMANCE DATA

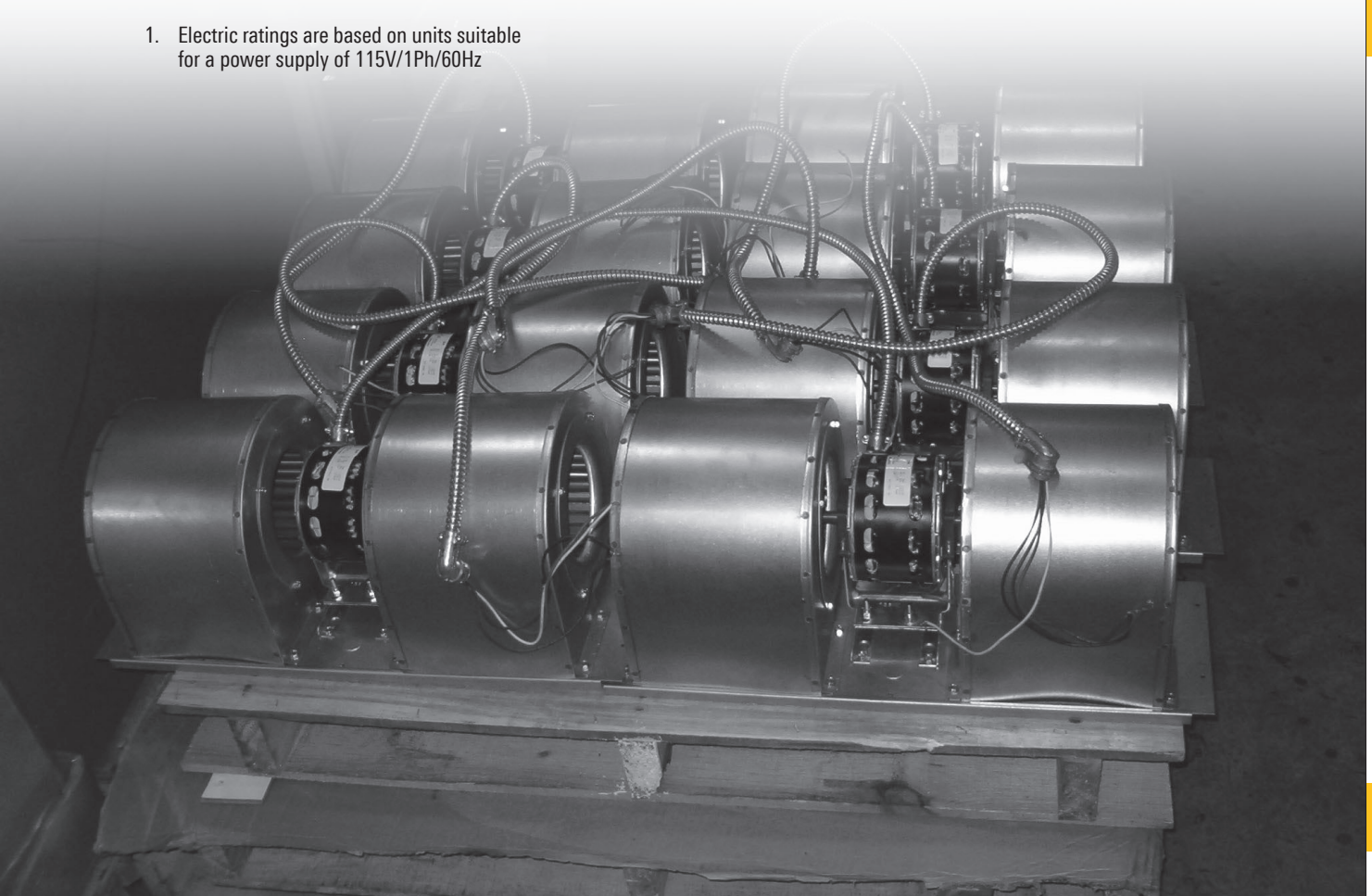
| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| HBP02 | 219 | 187 | 171 |
| HBP03 | 326 | 289 | 230 |
| HBP04 | 503 | 391 | 310 |
| HBP06 | 696 | 567 | 439 |
| HBP08 | 813 | 647 | 535 |
| HBP10 | 1150 | 867 | 696 |
| HBP12 | 1370 | 931 | 781 |

| Air Volume (cfm) Vs External Static Pressure in wg (2) | | | | | | |
|---|---|---|---|---|---|---|
| Model | 0.05 | 0.10 | 0.15 | 0.20 | 0.25 | 0.30 |
| HBP02 | 198 | 182 | 166 | - | - | - |
| HBP03 | 289 | 262 | 219 | 150 | - | - |
| HBP04 | 478 | 441 | 399 | 341 | 245 | - |
| HBP06 | 651 | 613 | 569 | 504 | 401 | - |
| HBP08 | 777 | 722 | 681 | 658 | 628 | 536 |
| HBP10 | 1075 | 1012 | 939 | 848 | 737 | 616 |
| HBP12 | 1297 | 1236 | 1171 | 1095 | 1015 | 947 |

1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with 0 external static pressure
2. Air volumes at alternative external static pressures are based at high fan speed

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| HBP02 | 1/20 | 0.8 |
| HBP03 | 1/20 | 0.8 |
| HBP04 | 1/20 | 0.8 |
| HBP06 | 1/10 | 1.5 |
| HBP08 | 1/10 | 1.5 |
| HBP10 | 1/10 | 1.5 |
| HBP12 | 1/10 | 1.5 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz



# HBE

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All internal metal components are fabricated of 18GA G90 galvanized steel and the exposed metal casing panels are fabricated of 18GA galvanealed for superior adhesion of the powder paint
- Cabinet components are painted with a powder polyester baked coating in white or beige and are acoustically insulated to reduce noise dissipation from the unit
- Cabinet liner in ½" dual-density fiberglass
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- 1" thick disposable filter
- Multi-speed motor of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply

HBE

- Single wall condensate pan in galvanized steel, thermally protected on the outside*
- Stamped discharge grille
- Stamped return air/access panel grille
- Anti-vibration mounts for field installation

condos hotels / motels

## AVAILABLE MODEL:

HBE

## OVERVIEW

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

## OPTIONAL FEATURES INCLUDE

- 3-, 4- And 5-row coils for 2-pipe systems
- Single block 2, 3 and 4 rows CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (5 rows max)
- Single block 2 and 3 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (5 rows max)
- LH or RH entry pipe connections
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Cabinet liner in ½" foil face
- Motor voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect
- Thermostat and Accessories [Accessories on page V71]
- Single power supply disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- HW standby electric heater auto changeover switch
- Valve Packages [Accessories on page V71]

See website for Specifications

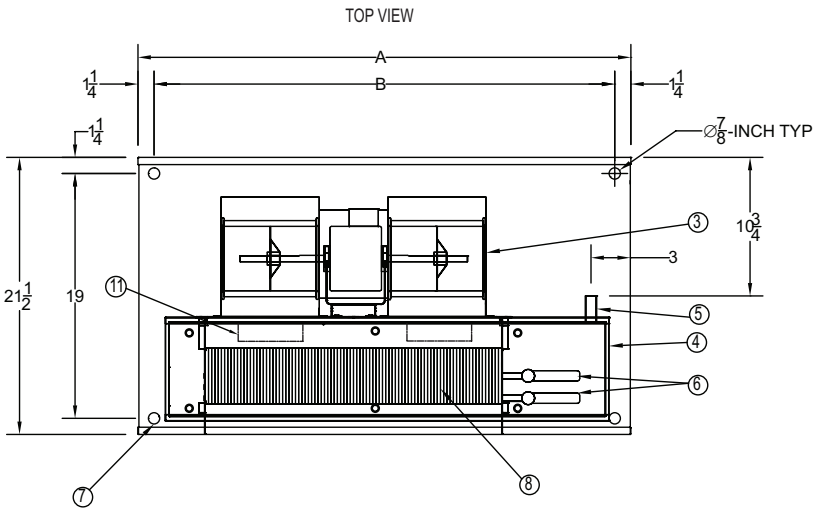
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner skins
  - » Condensate pan overflow safety switch
  - » Condensate pan overflow connection
- Aluminum double deflection discharge air grilles
- Cabinet painted in a powder polyester baked coating in either white or beige colors**
- Return air/access panel fasteners:
  - » Philips head screws
  - » Tamper proof fasteners
  - » Quarter turn fasteners

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

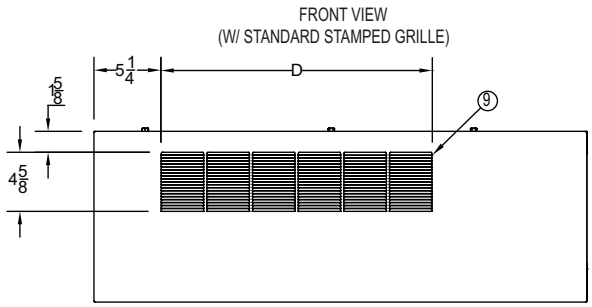
ETL®

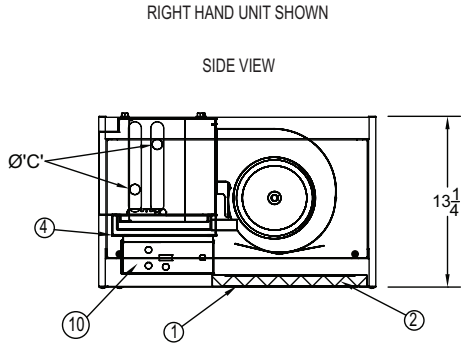
A Participating Corporation in the AHRI 440 Certification Program

## HBE EXPOSED CABINET




1. Access Panel w/ Return Air Stamped Grille
2. Filter
3. Motor/Blower(s) Assembly
4. Condensate Tray (Double Wall optional)
5. Condensate Connection 3/4" MNPT
6. Coil Connections (2-Pipe Shown)
7. Hanging Points
8. Coil
9. Discharge Air Stamped Grille
10. Electric Control Panel
11. Electric Heaters (optional)




| Model | Dimensions (inches) | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|
| | A | B | C | D | Filter | |
| HBE02 | 29¼ | 26¾ | 5/8 | 14 | 16 x 12 x 1 | 98 |
| HBE03 | 32¼ | 29¾ | 5/8 | 15 11/16 | 24 x 12 x 1 | 112 |
| HBE04 | 38¼ | 35¾ | 5/8 | 21 1/16 | 29 x 12 x 1 | 126 |
| HBE06 | 47¼ | 44¾ | 5/8 | 31 13/16 | 38 x 12 x 1 | 144 |
| HBE08 | 55¼ | 52.¾ | 5/8 | 39 | 46 x 12 x 1 | 165 |
| HBE10 | 65¼ | 62¾ | 7/8 | 49½ | (2) 28 x 14 x 1 | 196 |
| HBE12 | 75¼ | 72¾ | 7/8 | 60 | (2) 31 x 14 x 1 | 221 |

All dimensions are in inches

## HBE EXPOSED CABINET

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBE02 | 3.9 | 3.2 | 0.8 | 0.31 | 12.5 | 0.9 | 0.29 |
| HBE03 | 5.8 | 4.7 | 1.2 | 0.74 | 18.2 | 1.2 | 0.66 |
| HBE04 | 8.3 | 6.6 | 1.7 | 1.68 | 25.4 | 1.7 | 1.40 |
| HBE06 | 11.2 | 9.3 | 2.3 | 0.86 | 36.5 | 2.5 | 0.91 |
| HBE08 | 14.9 | 11.8 | 3.0 | 1.64 | 45.5 | 3.1 | 1.55 |
| HBE10 | 20.5 | 16.0 | 4.1 | 3.41 | 60.4 | 4.1 | 2.99 |
| HBE12 | 23.2 | 18.6 | 4.6 | 2.32 | 71.3 | 4.9 | 2.34 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBE02 | 3.7 | 3.0 | 0.7 | 0.29 | 8.0 | 0.5 | 0.46 |
| HBE03 | 5.6 | 4.5 | 1.1 | 0.69 | 11.4 | 0.8 | 0.98 |
| HBE04 | 8.0 | 6.3 | 1.6 | 1.56 | 15.5 | 1.1 | 2.02 |
| HBE06 | 10.8 | 8.9 | 2.2 | 0.80 | 22.7 | 1.6 | 5.55 |
| HBE08 | 14.2 | 11.3 | 2.8 | 1.50 | 28.0 | 1.9 | 1.40 |
| HBE10 | 19.6 | 15.2 | 3.9 | 3.14 | 36.6 | 2.5 | 2.77 |
| HBE12 | 22.1 | 17.7 | 4.4 | 2.12 | 43.6 | 3.0 | 4.43 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBE02 | 5.5 | 4.0 | 1.1 | 0.92 | 16.0 | 1.1 | 0.71 |
| HBE03 | 8.2 | 6.0 | 1.6 | 2.16 | 23.6 | 1.6 | 1.62 |
| HBE04 | 11.8 | 8.6 | 2.3 | 4.85 | 33.1 | 2.3 | 3.49 |
| HBE06 | 16.2 | 12.1 | 3.2 | 2.29 | 47.6 | 3.3 | 1.97 |
| HBE08 | 20.9 | 15.2 | 4.2 | 4.19 | 59.1 | 4.0 | 3.35 |
| HBE10 | 26.4 | 19.7 | 5.3 | 3.40 | 77.3 | 5.3 | 3.09 |
| HBE12 | 32.7 | 23.9 | 6.5 | 5.57 | 92.8 | 6.3 | 4.77 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBE02 | 5.3 | 3.8 | 1.1 | 0.84 | 7.6 | 0.5 | 0.43 |
| HBE03 | 7.8 | 5.7 | 1.6 | 1.98 | 10.9 | 0.7 | 0.92 |
| HBE04 | 11.2 | 8.1 | 2.2 | 4.43 | 14.8 | 1.0 | 1.90 |
| HBE06 | 15.5 | 11.4 | 3.1 | 2.08 | 21.7 | 1.5 | 5.19 |
| HBE08 | 20.0 | 14.4 | 4.0 | 3.85 | 26.8 | 1.8 | 1.43 |
| HBE10 | 25.3 | 18.6 | 5.0 | 3.12 | 35.0 | 2.4 | 2.74 |
| HBE12 | 31.2 | 22.7 | 6.2 | 5.11 | 41.8 | 2.9 | 4.42 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBE02 | 6.6 | 4.5 | 1.3 | 1.70 | 17.6 | 1.2 | 1.13 |
| HBE03 | 9.8 | 6.7 | 2.0 | 4.04 | 26.2 | 1.8 | 2.64 |
| HBE04 | 12.3 | 9.0 | 2.5 | 1.35 | 36.0 | 2.5 | 1.15 |
| HBE06 | 19.6 | 13.7 | 3.9 | 4.06 | 53.2 | 3.6 | 3.00 |
| HBE08 | 23.3 | 16.4 | 4.7 | 2.83 | 64.9 | 4.4 | 2.35 |
| HBE10 | 31.9 | 22.3 | 6.4 | 5.73 | 86.5 | 5.9 | 4.51 |
| HBE12 | 37.3 | 26.3 | 7.5 | 5.34 | 100.3 | 7.0 | 4.52 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBE02 | 6.2 | 4.2 | 1.2 | 1.54 | 7.3 | 0.5 | 0.40 |
| HBE03 | 9.3 | 6.3 | 1.9 | 3.65 | 10.3 | 0.7 | 0.86 |
| HBE04 | 11.7 | 8.5 | 2.3 | 1.22 | 14.1 | 1.0 | 1.75 |
| HBE06 | 18.6 | 12.9 | 3.7 | 3.65 | 20.7 | 1.4 | 4.83 |
| HBE08 | 22.0 | 15.4 | 4.4 | 2.53 | 25.5 | 1.7 | 1.38 |
| HBE10 | 30.2 | 20.9 | 6.0 | 5.18 | 33.4 | 2.3 | 2.72 |
| HBE12 | 35.3 | 24.7 | 7.1 | 4.79 | 39.8 | 2.7 | 4.27 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBE02 | 7.1 | 4.7 | 1.4 | 2.49 | 18.0 | 1.2 | 1.47 |
| HBE03 | 9.5 | 6.6 | 1.9 | 0.88 | 26.4 | 1.8 | 0.68 |
| HBE04 | 13.8 | 9.5 | 2.8 | 1.98 | 37.6 | 2.6 | 1.47 |
| HBE06 | 21.5 | 14.4 | 4.3 | 5.79 | 55.1 | 3.8 | 3.79 |
| HBE08 | 25.7 | 17.3 | 5.2 | 3.92 | 67.2 | 4.6 | 2.87 |
| HBE10 | 33.7 | 22.9 | 6.7 | 4.52 | 89.1 | 6.1 | 3.57 |
| HBE12 | 41.2 | 27.7 | 8.2 | 7.16 | 110.6 | 7.3 | 5.41 |

1. Standard basic unit
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| HBE02 | 203 | 171 | 155 |
| HBE03 | 316 | 278 | 219 |
| HBE04 | 460 | 342 | 262 |
| HBE06 | 658 | 535 | 396 |
| HBE08 | 803 | 621 | 487 |
| HBE10 | 1081 | 803 | 621 |
| HBE12 | 1284 | 893 | 717 |

1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with 0 external static pressure

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| HBE02 | 1/20 | 0.8 |
| HBE03 | 1/20 | 0.8 |
| HBE04 | 1/20 | 0.8 |
| HBE06 | 1/10 | 1.5 |
| HBE08 | 1/10 | 1.5 |
| HBE10 | 1/10 | 1.5 |
| HBE12 | 1/10 | 1.5 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz

# HBR

- Performance certified to AHRI Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All casing sheet metal components fabricated of 18GA G90 galvanized steel
- Fascia panels are fabricated of 18GA galvannealed for superior adhesion of the powder paint
- Telescopic ceiling fascia panel with adjustment up to 3 inches
- Cabinet liner in ½" dual-density fiberglass
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- 1" thick disposable filter
- Multi-speed motor of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply

HBR

- Single wall condensate pan in galvanized steel, thermally protected on the outside*
- ¾" discharge air flange
- Stamped return air/access panel grille
- Anti-vibration mounts for field installation

condos hotels / motels

See website for Specifications

## AVAILABLE MODEL:

HBR

## OVERVIEW

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

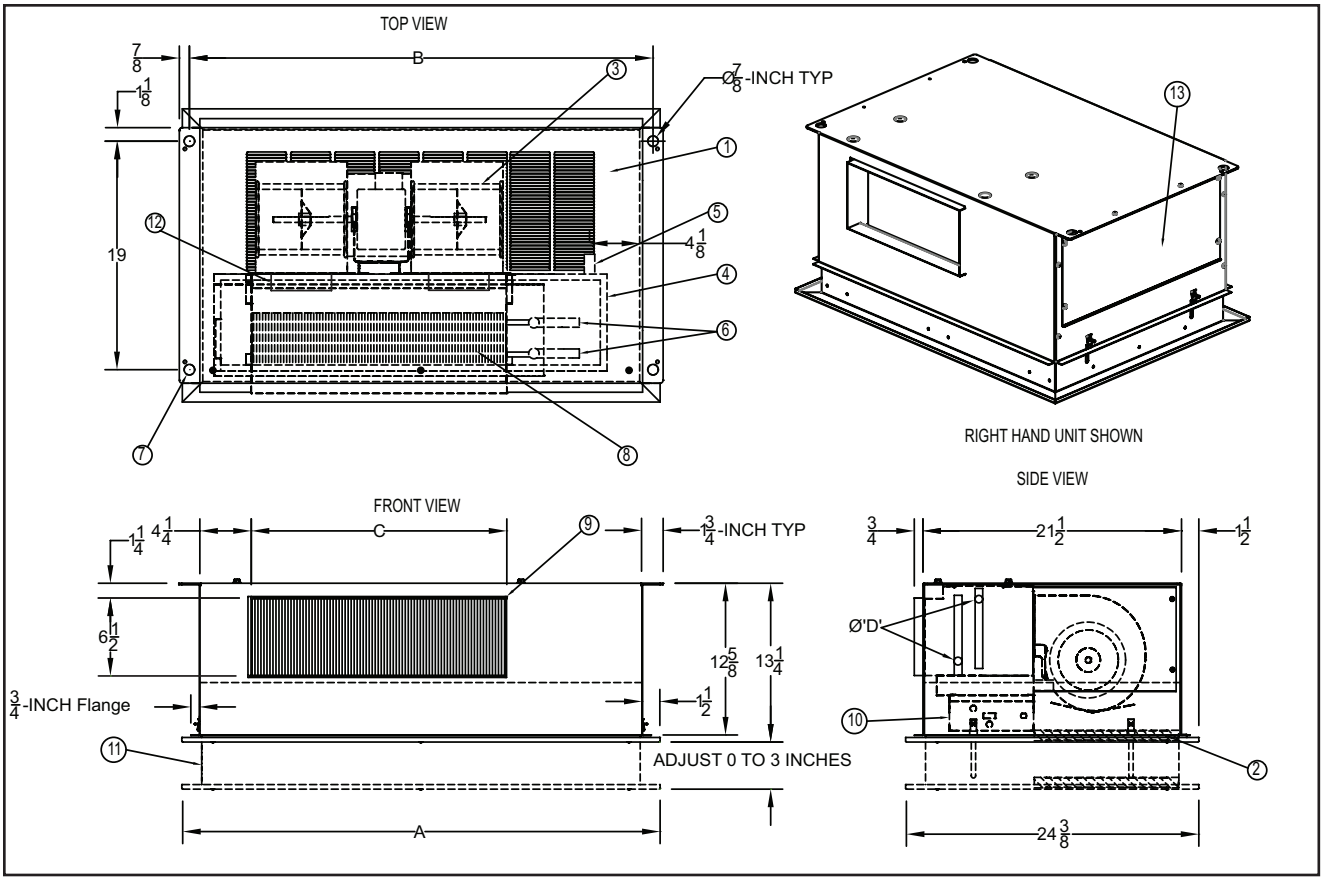
## OPTIONAL FEATURES INCLUDE

- 3-, 4- And 5-row coils for 2-pipe systems
- Single block 2, 3 and 4 rows CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (5 rows max)
- Single block 2 and 3 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (5 rows max)
- LH or RH entry pipe connections
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Cabinet liner in ½" foil face
- Motor voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect (Available with rear return air)
- Thermostat and Accessories [Accessories on page V71]
- Single power supply disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- HW standby electric heater auto changeover switch
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner skins
  - » Condensate pan overflow safety switch
  - » Condensate pan safety overflow connection
- Bottom or rear return air
- Fascia panel painted in a powder polyester baked coating in either white or beige colors**
- Return air/access panel fasteners:
  - » Philips head screws
  - » Tamper proof fasteners
  - » Quarter turn fasteners

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

A Participating Corporation in the AHRI 440 Certification Program

## HBR RECESSED CABINET




1. Access Panel w/ Return Air Stamped Grille
2. Filter
3. Motor/Blower(s) Assembly
4. Condensate Tray (Double Wall optional)
5. Condensate Connection 3/4" MNPT
6. Coil Connections (2-Pipe Shown)
7. Hanging Points
8. Coil
9. Supply Air Flange
10. Electric Control Panel
11. Telescopic Return Air / Access Panel
12. Electric Heaters (optional)
13. Side access panel

| Model | Dimensions (inches) | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|
| | A | B | C | D | Filter | |
| HBR02 | 32¾ | 31½ | 14¼ | 5/8 | 24 x 12 x 1 | 100 |
| HBR03 | 35¾ | 34½ | 17¼ | 5/8 | 28 x 12 x 1 | 115 |
| HBR04 | 41¾ | 40½ | 23¼ | 5/8 | 28 x 12 x 1 | 130 |
| HBR06 | 50¾ | 49½ | 32¼ | 5/8 | 42 x 12 x 1 | 145 |
| HBR08 | 58¾ | 57½ | 40¼ | 5/8 | 50 x 12 x 1 | 170 |
| HBR10 | 68¾ | 67½ | 50¼ | 7/8 | (2) 30 x 12 x 1 | 200 |
| HBR12 | 78¾ | 77½ | 60¼ | 7/8 | (2) 34 x 12 x 1 | 225 |

All dimensions are in inches

## HBR RECESSED CABINET

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBR02 | 4.2 | 3.5 | 0.8 | 0.37 | 13.8 | 0.9 | 0.35 |
| HBR03 | 5.8 | 4.7 | 1.2 | 0.74 | 18.2 | 1.2 | 0.66 |
| HBR04 | 8.0 | 6.4 | 1.6 | 1.57 | 24.4 | 1.7 | 1.30 |
| HBR06 | 11.2 | 9.3 | 2.2 | 0.86 | 36.3 | 2.5 | 0.90 |
| HBR08 | 14.6 | 11.6 | 2.9 | 1.59 | 44.7 | 3.1 | 1.50 |
| HBR10 | 19.3 | 14.9 | 3.9 | 3.05 | 56.6 | 3.9 | 2.64 |
| HBR12 | 22.0 | 17.5 | 4.4 | 2.10 | 67.3 | 4.6 | 2.09 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBR02 | 4.1 | 3.3 | 0.8 | 0.34 | 7.8 | 0.5 | 0.43 |
| HBR03 | 5.6 | 4.5 | 1.1 | 0.69 | 10.2 | 0.7 | 0.81 |
| HBR04 | 7.7 | 6.1 | 1.5 | 1.46 | 13.7 | 0.9 | 1.61 |
| HBR06 | 10.8 | 8.8 | 2.1 | 0.79 | 21.2 | 1.4 | 5.55 |
| HBR08 | 14.0 | 11.1 | 2.8 | 1.46 | 25.1 | 1.7 | 1.16 |
| HBR10 | 18.5 | 14.2 | 3.7 | 2.81 | 31.9 | 2.2 | 2.18 |
| HBR12 | 21.1 | 16.7 | 4.2 | 1.93 | 38.7 | 2.6 | 3.58 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBR02 | 6.0 | 4.5 | 1.2 | 1.09 | 17.9 | 1.2 | 0.86 |
| HBR03 | 8.2 | 6.0 | 1.6 | 2.16 | 23.6 | 1.6 | 1.62 |
| HBR04 | 11.3 | 8.2 | 2.3 | 4.50 | 31.7 | 2.2 | 3.22 |
| HBR06 | 16.2 | 12.0 | 3.2 | 2.26 | 47.4 | 3.2 | 1.95 |
| HBR08 | 20.6 | 14.9 | 4.1 | 4.06 | 58.0 | 4.0 | 3.23 |
| HBR10 | 24.8 | 18.3 | 5.0 | 3.01 | 72.0 | 4.9 | 2.70 |
| HBR12 | 30.9 | 22.4 | 6.2 | 5.01 | 87.3 | 6.0 | 4.24 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBR02 | 5.8 | 4.3 | 1.2 | 1.02 | 7.5 | 0.5 | 0.41 |
| HBR03 | 7.8 | 5.7 | 1.6 | 1.98 | 9.8 | 0.7 | 0.77 |
| HBR04 | 10.8 | 7.8 | 2.2 | 4.15 | 13.2 | 0.9 | 1.53 |
| HBR06 | 15.4 | 11.4 | 3.1 | 2.08 | 20.4 | 1.4 | 4.60 |
| HBR08 | 19.7 | 14.1 | 3.9 | 3.72 | 24.1 | 1.6 | 1.21 |
| HBR10 | 23.7 | 17.4 | 4.7 | 2.76 | 30.7 | 2.1 | 2.17 |
| HBR12 | 29.6 | 21.3 | 5.9 | 4.59 | 37.2 | 2.5 | 3.61 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBR02 | 7.3 | 5.0 | 1.5 | 2.06 | 19.8 | 1.4 | 1.40 |
| HBR03 | 9.8 | 6.7 | 2.0 | 4.03 | 26.2 | 1.8 | 2.64 |
| HBR04 | 11.8 | 8.6 | 2.4 | 1.25 | 34.4 | 2.4 | 1.06 |
| HBR06 | 19.5 | 13.6 | 3.9 | 4.02 | 53.0 | 3.6 | 2.96 |
| HBR08 | 22.9 | 16.1 | 4.6 | 2.73 | 63.5 | 4.3 | 2.26 |
| HBR10 | 29.7 | 20.6 | 5.9 | 5.00 | 80.2 | 5.5 | 3.90 |
| HBR12 | 35.2 | 24.6 | 7.0 | 4.76 | 96.0 | 6.6 | 3.98 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBR02 | 6.9 | 4.7 | 1.4 | 187.00 | 7.2 | 0.5 | 0.39 |
| HBR03 | 9.3 | 6.3 | 1.9 | 3.65 | 9.4 | 0.6 | 0.73 |
| HBR04 | 11.2 | 8.1 | 2.2 | 1.13 | 12.6 | 0.9 | 1.42 |
| HBR06 | 18.5 | 12.8 | 3.7 | 3.62 | 19.4 | 1.3 | 4.31 |
| HBR08 | 21.6 | 15.1 | 4.3 | 2.45 | 23.1 | 1.6 | 1.18 |
| HBR10 | 28.2 | 19.4 | 5.6 | 4.54 | 29.3 | 2.0 | 2.18 |
| HBR12 | 33.3 | 23.0 | 6.6 | 4.26 | 35.5 | 2.4 | 3.51 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HBR02 | 8.0 | 5.3 | 1.6 | 3.07 | 20.3 | 1.4 | 1.85 |
| HBR03 | 9.6 | 6.6 | 1.9 | 0.89 | 26.4 | 1.8 | 0.68 |
| HBR04 | 13.3 | 9.1 | 2.7 | 1.83 | 35.8 | 2.4 | 1.34 |
| HBR06 | 21.4 | 14.3 | 4.3 | 5.69 | 54.8 | 3.7 | 3.74 |
| HBR08 | 25.2 | 16.9 | 5.0 | 3.76 | 65.7 | 4.5 | 2.75 |
| HBR10 | 33.7 | 22.9 | 6.7 | 4.52 | 89.1 | 6.1 | 3.57 |
| HBR12 | 38.7 | 25.8 | 7.7 | 6.34 | 99.3 | 6.8 | 4.73 |

1. Standard basic unit
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed

# PERFORMANCE DATA







| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| HBR02 | 235 | 209 | 182 |
| HBR03 | 316 | 262 | 203 |
| HBR04 | 433 | 310 | 225 |
| HBR06 | 653 | 471 | 321 |
| HBR08 | 781 | 615 | 449 |
| HBR10 | 979 | 861 | 567 |
| HBR12 | 1177 | 931 | 642 |

| Air Volume (cfm) Vs External Static Pressure in wg (2) | | | | | | |
|---|---|---|---|---|---|---|
| Model | 0.05 | 0.10 | 0.15 | 0.20 | 0.25 | 0.30 |
| HBR02 | 198 | 150 | 102 | - | - | - |
| HBR03 | 278 | 241 | 193 | 166 | - | - |
| HBR04 | 401 | 363 | 337 | 310 | 235 | - |
| HBR06 | 602 | 546 | 508 | 473 | 380 | - |
| HBR08 | 690 | 624 | 578 | 542 | 497 | 419 |
| HBR10 | 911 | 840 | 769 | 693 | 602 | 475 |
| HBR12 | 1106 | 1044 | 986 | 927 | 859 | 775 |

1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with 0 external static pressure
2. Air volumes at alternative external static pressures are based at high fan speed

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| HBR02 | 1/20 | 0.8 |
| HBR03 | 1/20 | 0.8 |
| HBR04 | 1/20 | 0.8 |
| HBR06 | 1/10 | 1.5 |
| HBR08 | 1/10 | 1.5 |
| HBR10 | 1/10 | 1.5 |
| HBR12 | 1/10 | 1.5 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz

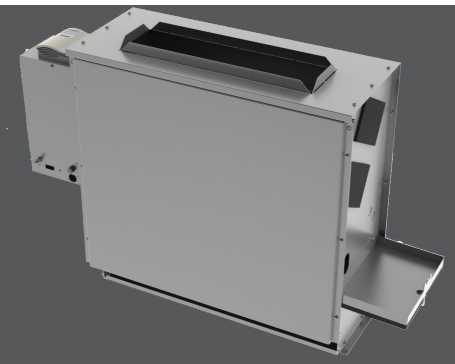
[* Contact a Titus representative for availability]
[** Contact a Titus representative for special color selection & prices]

# Vertical Basic Series

fan coils

## VBC

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All sheet metal components fabricated of 18GA G90 galvanized steel
- Cabinet liner in ½" dual-density fiberglass
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- Easily removal 1" thick disposable filter
- Multi-speed motor of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally insulated on the outside*



VBC

- Single wall auxiliary condensate pan thermally insulates on the outside
- Top discharge air flange

k-12 education | hospitals | hotels / motels

See website for Specifications

## AVAILABLE MODEL:

VBC

## OVERVIEW

Factory assembled, vertical blow-thru, ducted VBC 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

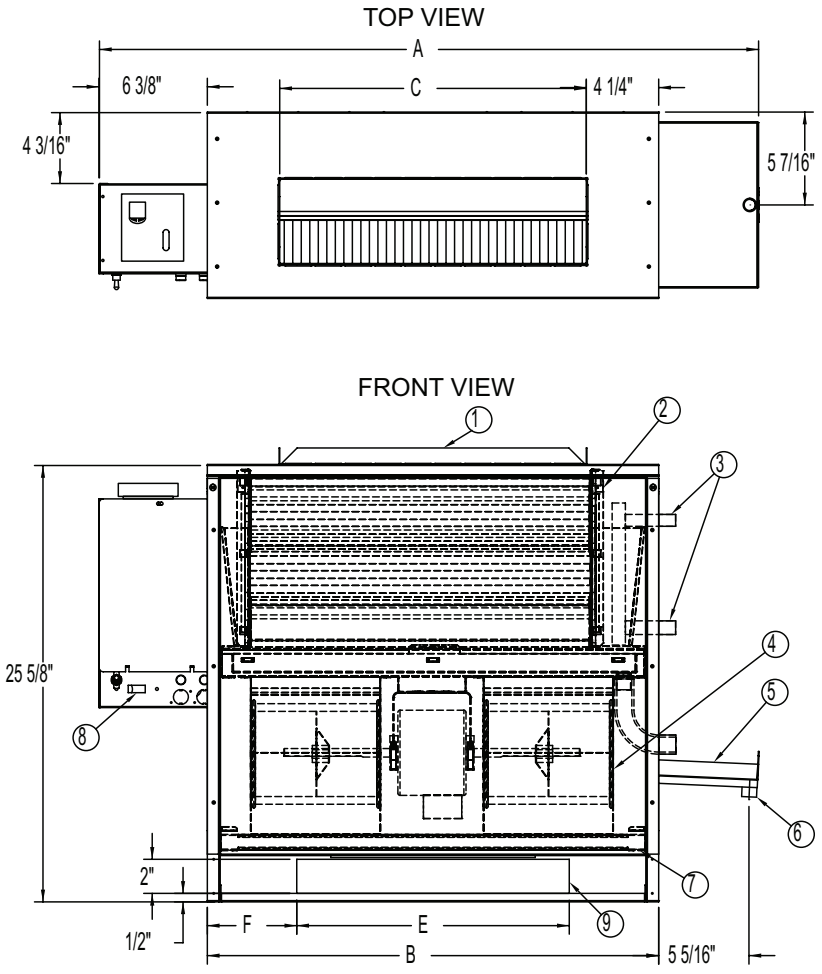
- 3-, 4- And 5-row coils for 2-pipe systems.
- Single block 2, 3 and 4 rows CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (5 rows max)
- Single block 2 and 3 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (5 rows max)
- LH or RH pipe entry connections
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Cabinet liner in ½" foil face
- Motor voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect
- Thermostat and Accessories [Accessories on page V71]
- Single power supplies disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- HW standby electric heater auto changeover switch

- Fresh air opening
- Fresh air with manual or auto dampers
- Fresh air freeze protection
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner skins
  - » Single wall auxiliary condensate pan manufactured in 20GA 304 Stainless Steel
  - » Auxiliary condensate pan overflow safety switch
  - » Remote discharge air grilles
  - » Stamped with access doors
  - » Aluminum double deflection
  - » Deluxe aluminum double deflection grilles*
  - » Linear bar aluminum grilles*
  - » Special discharge air grille colors**
  - » Remote stamped return air/access panel with filter access door

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

A Participating Corporation in the AHRI 440 Certification Program

## VBC CONCEALED FLOOR




1. Supply Air Flange = "C"
2. Coil
3. Coil Connections (2-Pipe Shown)
4. Motor/Blower(s) Assembly
5. Auxiliary Condensate Tray
6. Condensate Connection
7. Filter
8. Control box
9. Fresh Air Damper Opening (optional) = 2" x "E"
10. Electric Heaters (optional)

Note: Right Hand Unit Shown

| Model | Dimensions (inches) | | | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | F | Filter | |
| VBC02 | 31¾ | 19½ | 11 | 5/8 | 12 | 3¾ | 17 x 10 x 1 | 63 |
| VBC03 | 34¾ | 22½ | 14 | 5/8 | 12 | 5¼ | 20 x 10 x 1 | 70 |
| VBC04 | 38¾ | 26½ | 18 | 5/8 | 12 | 7¼ | 24 x 10 x 1 | 80 |
| VBC06 | 49¾ | 37½ | 29 | 5/8 | 24 | 6¾ | 35 x 10 x 1 | 99 |
| VBC08 | 57¾ | 45½ | 37 | 5/8 | 24 | 10¾ | 43 x 10 x 1 | 106 |
| VBC10 | 67¾ | 55½ | 47 | 7/8 | 36 | 9¾ | 2(26) x 10 x 1 | 136 |
| VBC12 | 77¾ | 65½ | 57 | 7/8 | 36 | 14¾ | 2(31) x 10 x 1 | 150 |

All dimensions are in inches

## VBC CONCEALED FLOOR

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBC02 | 4.1 | 3.5 | 0.8 | 0.33 | 13.8 | 0.9 | 0.34 |
| VBC03 | 5.6 | 4.6 | 1.1 | 0.66 | 18.0 | 1.2 | 0.62 |
| VBC04 | 7.9 | 6.3 | 1.6 | 1.47 | 24.4 | 1.7 | 1.26 |
| VBC06 | 11.1 | 9.3 | 2.2 | 0.83 | 36.5 | 2.5 | 0.90 |
| VBC08 | 14.4 | 11.5 | 2.9 | 1.52 | 44.3 | 3.0 | 1.45 |
| VBC10 | 19.1 | 14.8 | 3.8 | 2.95 | 56.5 | 3.9 | 2.60 |
| VBC12 | 21.9 | 17.5 | 4.4 | 2.06 | 67.8 | 4.6 | 2.10 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBC02 | 3.9 | 3.3 | 0.8 | 0.31 | 7.7 | 0.5 | 0.41 |
| VBC03 | 5.4 | 4.4 | 1.1 | 0.63 | 10.0 | 0.7 | 0.76 |
| VBC04 | 7.6 | 6.1 | 1.5 | 1.36 | 13.6 | 0.9 | 1.53 |
| VBC06 | 10.7 | 8.9 | 2.1 | 0.76 | 21.2 | 1.4 | 4.76 |
| VBC08 | 13.7 | 10.9 | 2.7 | 1.39 | 25.8 | 1.8 | 8.21 |
| VBC10 | 18.4 | 14.2 | 3.7 | 2.76 | 32.8 | 2.2 | 15.46 |
| VBC12 | 21.0 | 16.7 | 4.2 | 1.91 | 40.0 | 2.7 | 26.00 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBC02 | 5.9 | 4.5 | 1.2 | 1.01 | 18.1 | 1.2 | 0.84 |
| VBC03 | 8.0 | 5.9 | 1.6 | 1.99 | 23.4 | 1.6 | 1.55 |
| VBC04 | 11.2 | 8.2 | 2.2 | 4.26 | 31.8 | 2.2 | 3.14 |
| VBC06 | 16.1 | 12.1 | 3.2 | 2.21 | 47.8 | 3.3 | 1.95 |
| VBC08 | 20.3 | 14.8 | 4.0 | 3.89 | 57.6 | 3.9 | 3.14 |
| VBC10 | 24.6 | 18.2 | 4.9 | 2.93 | 71.9 | 4.9 | 2.67 |
| VBC12 | 31.0 | 22.6 | 6.2 | 4.97 | 88.0 | 6.0 | 4.27 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBC02 | 5.7 | 4.3 | 1.1 | 0.94 | 7.4 | 0.5 | 0.39 |
| VBC03 | 7.6 | 5.6 | 1.5 | 1.81 | 9.7 | 0.7 | 0.72 |
| VBC04 | 10.7 | 7.8 | 2.1 | 3.90 | 13.0 | 0.9 | 1.46 |
| VBC06 | 15.4 | 11.5 | 3.1 | 2.03 | 20.4 | 1.4 | 4.50 |
| VBC08 | 19.4 | 14.0 | 3.9 | 3.57 | 24.8 | 1.7 | 7.73 |
| VBC10 | 23.5 | 17.3 | 4.7 | 2.69 | 31.4 | 2.1 | 14.44 |
| VBC12 | 29.6 | 21.4 | 5.9 | 4.56 | 38.3 | 2.6 | 24.40 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBC02 | 7.2 | 5.1 | 1.4 | 1.97 | 20.1 | 1.4 | 1.39 |
| VBC03 | 9.6 | 6.7 | 1.9 | 3.78 | 26.0 | 1.8 | 2.55 |
| VBC04 | 11.7 | 8.6 | 2.3 | 1.19 | 34.7 | 2.4 | 1.05 |
| VBC06 | 19.5 | 13.7 | 3.9 | 3.95 | 53.5 | 3.7 | 2.97 |
| VBC08 | 24.2 | 16.6 | 4.8 | 6.77 | 64.0 | 4.4 | 4.75 |
| VBC10 | 29.7 | 20.6 | 5.9 | 4.94 | 80.2 | 5.5 | 3.87 |
| VBC12 | 37.0 | 25.4 | 7.4 | 8.31 | 97.9 | 6.7 | 6.19 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBC02 | 6.9 | 4.8 | 1.4 | 1.78 | 7.1 | 0.5 | 0.37 |
| VBC03 | 9.1 | 6.3 | 1.8 | 3.39 | 9.2 | 0.6 | 0.68 |
| VBC04 | 11.1 | 8.1 | 2.2 | 1.07 | 12.4 | 0.9 | 1.36 |
| VBC06 | 18.5 | 12.9 | 3.7 | 3.57 | 19.4 | 1.3 | 4.22 |
| VBC08 | 22.9 | 15.6 | 4.6 | 6.11 | 23.6 | 1.6 | 7.21 |
| VBC10 | 28.0 | 19.4 | 5.6 | 4.43 | 30.0 | 2.0 | 13.43 |
| VBC12 | 34.9 | 23.9 | 7.0 | 7.42 | 36.6 | 2.5 | 22.65 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBC02 | 8.0 | 5.4 | 1.6 | 2.97 | 20.8 | 1.4 | 1.86 |
| VBC03 | 10.6 | 7.1 | 2.1 | 5.64 | 27.0 | 1.8 | 3.40 |
| VBC04 | 13.2 | 9.1 | 2.6 | 1.77 | 36.2 | 2.5 | 1.34 |
| VBC06 | 21.5 | 14.4 | 4.3 | 5.66 | 55.6 | 3.8 | 3.78 |
| VBC08 | 26.4 | 17.4 | 5.3 | 9.56 | 66.1 | 4.5 | 6.00 |
| VBC10 | 32.5 | 21.7 | 6.5 | 6.78 | 82.9 | 5.7 | 4.72 |
| VBC12 | 40.4 | 26.7 | 8.1 | 11.30 | 101.2 | 6.9 | 7.58 |

1. Standard basic unit
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed

# PERFORMANCE DATA







| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| VBC02 | 246 | 214 | 187 |
| VBC03 | 321 | 268 | 209 |
| VBC04 | 444 | 326 | 241 |
| VBC06 | 669 | 482 | 332 |
| VBC08 | 781 | 626 | 471 |
| VBC10 | 984 | 872 | 583 |
| VBC12 | 1198 | 952 | 669 |

| Air Volume (cfm) Vs External Static Pressure in wg (2) | | | | | | |
|---|---|---|---|---|---|---|
| Model | 0.05 | 0.10 | 0.15 | 0.20 | 0.25 | 0.30 |
| VBC02 | 198 | 150 | 102 | - | - | - |
| VBC03 | 278 | 241 | 193 | 166 | - | - |
| VBC04 | 402 | 363 | 338 | 310 | 235 | - |
| VBC06 | 602 | 545 | 509 | 473 | 380 | - |
| VBC08 | 690 | 624 | 578 | 542 | 497 | 419 |
| VBC10 | 912 | 839 | 769 | 693 | 601 | 476 |
| VBC12 | 1107 | 1043 | 987 | 928 | 858 | 775 |

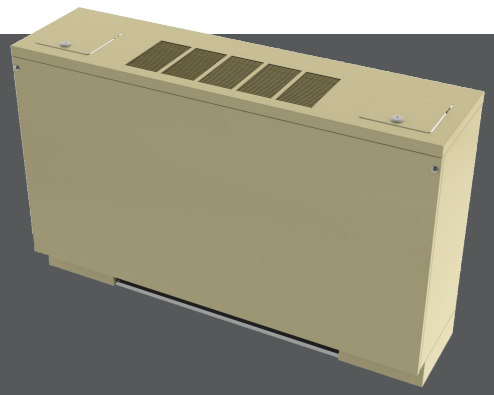
1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with 0 external static pressure
2. Air volumes at alternative external static pressures are based at high fan speed

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| VBC02 | 1/30 | 0.5 |
| VBC03 | 1/30 | 0.5 |
| VBC04 | 1/20 | 0.8 |
| VBC06 | 1/20 | 0.8 |
| VBC08 | 1/20 | 0.8 |
| VBC10 | 1/20 | 0.8 |
| VBC12 | 1/20 | 0.8 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz

# VBF

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All internal sheet metal components are fabricated of 18GA G90 galvanized steel and exposed metal casing panels fabricated of 18GA galvanealed for superior adhesion of the powder paint
- Cabinet components are painted with a powder polyester baked coating in white or beige and are acoustically insulated to reduce noise dissipation from the unit
- Cabinet liner in ½" dual-density fiberglass
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- Easily removal 1" thick disposable filter
- Multi-speed motor of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally insulated on the outside*



VBF

- Single wall auxiliary condensate pan thermally insulated on the outside
- Flat stamped discharge top / grille
- Electric controls and valve package access doors

woodgrains | k-12 education | hospitals | hotels / motels

See website for Specifications

## AVAILABLE MODEL:

VBF

## OVERVIEW

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

## OPTIONAL FEATURES INCLUDE

- 3-, 4- And 5-row coils for 2-pipe systems
- Single block 2, 3 and 4 rows CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (5 rows max)
- Single block 2 and 3 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (5 rows max)
- LH or RH pipe connections entry
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Cabinet liner in ½" foil face
- Motor voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect
- Thermostat and Accessories [Accessories on page V71]
- Single power supply disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- HW standby electric heater auto changeover switch
- Fresh air opening
- Fresh air with manual or auto dampers
- Fresh air freeze protection
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner skins
  - » Single wall auxiliary condensate pan manufactured in 20GA 304 Stainless Steel
  - » Auxiliary condensate pan overflow safety switch
- Discharge air grilles:
  - » Aluminum single deflection, left/right or front/back
  - » Deluxe aluminum single deflection grilles*
  - » Linear bar aluminum grilles*
  - » Special discharge air grille colors**
- Special cabinet paints**
- Heavy duty access panel in 16GA painted steel
- Return air/access panel fasteners:
  - » Philips head screws
  - » Tamper proof fasteners
  - » Quarter turn fasteners
  - » Access doors keyed locks

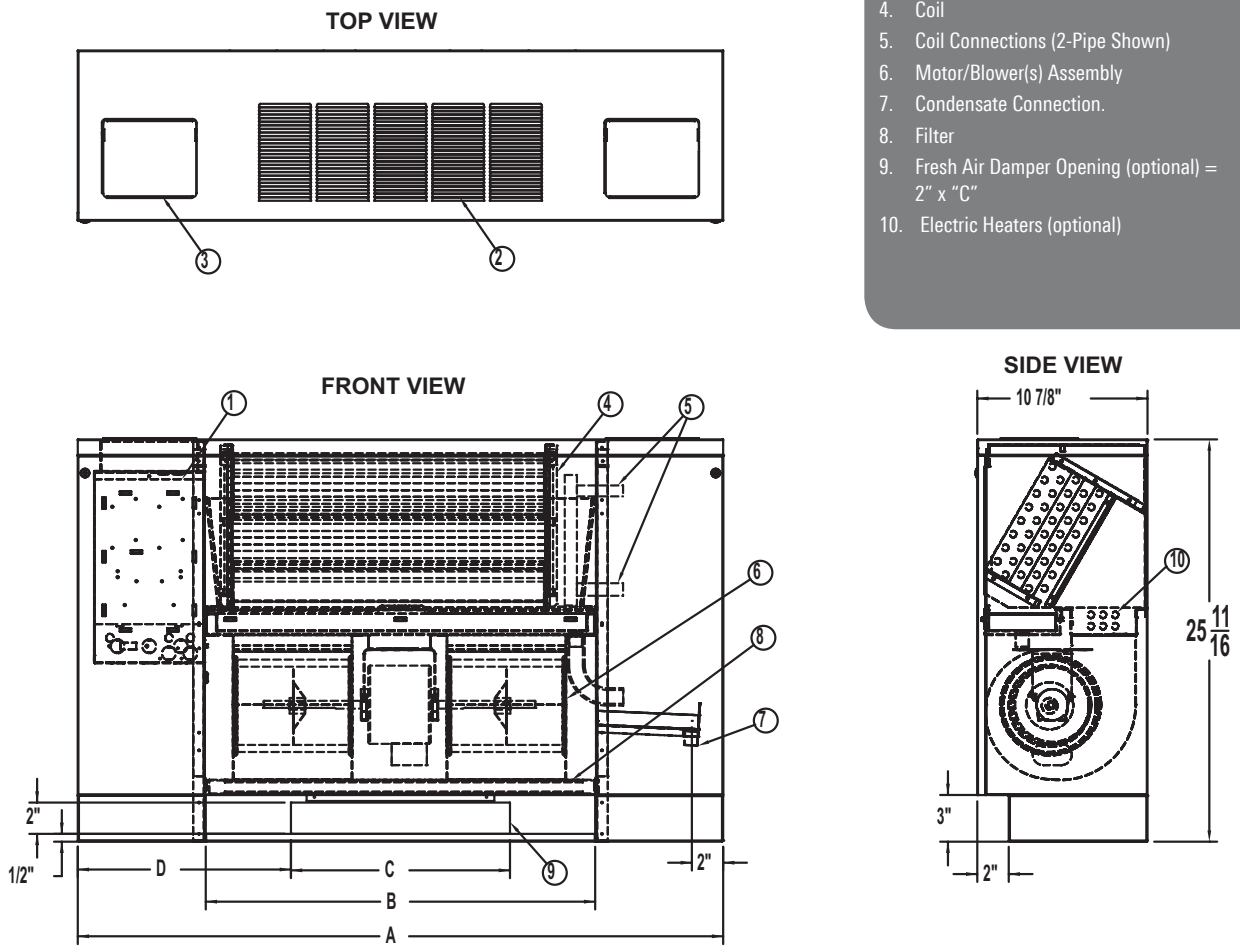
AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

ETL®

A Participating Corporation in the AHRI 440 Certification Program

## DIMENSIONS

### VBF FLAT TOP CABINET




1. Control Box
2. Stamped Supply Air Grille
3. Control Access Door
4. Coil
5. Coil Connections (2-Pipe Shown)
6. Motor/Blower(s) Assembly
7. Condensate Connection.
8. Filter
9. Fresh Air Damper Opening (optional) = 2" x "C"
10. Electric Heaters (optional)

Note: Right Hand Unit Shown

| Model | Dimensions (inches) | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|
| | A | B | C | D | Filter | |
| VBF02 | 34¼ | 18 | 12 | 11 | 17 x 10 x 1 | 95 |
| VBF03 | 37¼ | 21 | 12 | 12 | 20 x 10 x 1 | 104 |
| VBF04 | 41¼ | 25 | 12 | 14 | 24 x 10 x 1 | 106 |
| VBF06 | 52¼ | 36 | 24 | 14 | 35 x 10 x 1 | 128 |
| VBF08 | 60¼ | 44 | 24 | 18 | 43 x 10 x 1 | 146 |
| VBF10 | 70¼ | 54 | 36 | 17 | (2)26 x 10 x 1 | 178 |
| VBF12 | 80¼ | 64 | 36 | 22 | (2)31 x 10 x 1 | 186 |

All dimensions are in inches

## VBF FLAT TOP CABINET

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBF02 | 4.0 | 3.4 | 0.8 | 0.31 | 13.4 | 0.9 | 0.32 |
| VBF03 | 5.5 | 4.5 | 1.1 | 0.65 | 17.8 | 1.2 | 0.61 |
| VBF04 | 7.8 | 6.2 | 1.6 | 1.43 | 23.9 | 1.6 | 1.22 |
| VBF06 | 11.0 | 9.1 | 2.2 | 0.80 | 35.9 | 2.4 | 0.87 |
| VBF08 | 14.4 | 11.5 | 2.9 | 1.52 | 44.3 | 3.0 | 1.45 |
| VBF10 | 19.0 | 14.8 | 3.8 | 2.94 | 56.2 | 3.8 | 2.58 |
| VBF12 | 21.8 | 17.3 | 4.3 | 2.04 | 66.9 | 4.6 | 2.05 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBF02 | 3.8 | 3.2 | 0.8 | 0.29 | 8.5 | 0.6 | 0.49 |
| VBF03 | 5.3 | 4.3 | 1.1 | 0.61 | 11.0 | 0.8 | 0.90 |
| VBF04 | 7.5 | 6.0 | 1.5 | 1.33 | 14.7 | 1.0 | 1.76 |
| VBF06 | 10.5 | 8.7 | 2.1 | 0.74 | 22.3 | 1.5 | 5.24 |
| VBF08 | 13.7 | 10.9 | 2.7 | 1.39 | 27.3 | 1.9 | 9.08 |
| VBF10 | 18.3 | 14.0 | 3.6 | 2.71 | 34.2 | 2.3 | 16.70 |
| VBF12 | 20.8 | 16.5 | 4.2 | 1.87 | 41.1 | 2.8 | 27.50 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBF02 | 5.8 | 4.3 | 1.2 | 0.96 | 17.5 | 1.2 | 0.79 |
| VBF03 | 7.9 | 5.8 | 1.6 | 1.95 | 23.1 | 1.6 | 1.51 |
| VBF04 | 11.0 | 8.0 | 2.2 | 4.14 | 31.2 | 2.1 | 3.03 |
| VBF06 | 15.8 | 11.9 | 3.2 | 2.15 | 46.9 | 3.2 | 1.88 |
| VBF08 | 20.3 | 14.8 | 4.1 | 3.89 | 57.5 | 3.9 | 3.14 |
| VBF10 | 24.5 | 18.2 | 4.9 | 2.92 | 71.6 | 4.9 | 2.64 |
| VBF12 | 30.6 | 22.2 | 6.1 | 4.88 | 86.8 | 5.9 | 4.16 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBF02 | 5.5 | 4.1 | 1.1 | 0.89 | 8.2 | 0.6 | 0.46 |
| VBF03 | 7.5 | 5.6 | 1.5 | 1.78 | 10.6 | 0.7 | 0.85 |
| VBF04 | 10.4 | 7.6 | 2.1 | 3.79 | 14.0 | 1.0 | 1.66 |
| VBF06 | 15.2 | 11.3 | 3.0 | 1.97 | 21.4 | 1.5 | 4.90 |
| VBF08 | 19.4 | 14.0 | 3.9 | 3.57 | 26.1 | 1.8 | 8.49 |
| VBF10 | 23.4 | 17.2 | 4.7 | 2.67 | 32.7 | 2.2 | 15.54 |
| VBF12 | 29.3 | 21.1 | 5.9 | 4.47 | 39.4 | 2.7 | 25.63 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBF02 | 7.0 | 4.9 | 1.4 | 1.86 | 19.4 | 1.3 | 1.30 |
| VBF03 | 9.5 | 6.6 | 1.9 | 3.70 | 25.8 | 1.8 | 2.48 |
| VBF04 | 11.5 | 8.4 | 2.3 | 1.16 | 34.0 | 2.3 | 1.01 |
| VBF06 | 19.2 | 13.4 | 3.8 | 3.84 | 52.4 | 3.6 | 2.87 |
| VBF08 | 24.2 | 16.6 | 4.8 | 6.79 | 64.0 | 4.4 | 4.75 |
| VBF10 | 29.5 | 20.5 | 5.9 | 4.91 | 79.8 | 5.4 | 3.83 |
| VBF12 | 36.6 | 25.1 | 7.3 | 8.13 | 96.5 | 6.6 | 6.03 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBF02 | 6.7 | 4.6 | 1.3 | 1.68 | 7.8 | 0.5 | 0.43 |
| VBF03 | 9.0 | 6.2 | 1.8 | 3.34 | 10.1 | 0.7 | 0.80 |
| VBF04 | 10.9 | 7.9 | 2.2 | 1.04 | 13.4 | 0.9 | 1.53 |
| VBF06 | 18.2 | 12.7 | 3.6 | 3.46 | 20.4 | 1.4 | 4.57 |
| VBF08 | 22.9 | 15.6 | 4.6 | 6.12 | 24.9 | 1.7 | 7.88 |
| VBF10 | 27.9 | 19.3 | 5.6 | 4.41 | 31.2 | 2.1 | 14.38 |
| VBF12 | 34.6 | 23.6 | 6.9 | 7.30 | 37.5 | 2.6 | 23.69 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBF02 | 7.7 | 5.1 | 1.5 | 2.79 | 20.0 | 1.4 | 1.73 |
| VBF03 | 10.4 | 7.0 | 2.1 | 5.51 | 26.7 | 1.8 | 3.31 |
| VBF04 | 13.0 | 9.0 | 2.6 | 1.71 | 35.4 | 2.4 | 1.29 |
| VBF06 | 21.1 | 14.2 | 4.2 | 5.47 | 54.4 | 3.7 | 3.63 |
| VBF08 | 26.4 | 17.4 | 5.3 | 9.56 | 66.1 | 4.5 | 6.00 |
| VBF10 | 32.4 | 21.5 | 6.5 | 6.73 | 82.5 | 5.6 | 4.67 |
| VBF12 | 39.8 | 26.3 | 7.9 | 11.00 | 99.7 | 6.8 | 7.36 |

1. Standard basic unit
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| VBF02 | 235 | 209 | 182 |
| VBF03 | 316 | 262 | 203 |
| VBF04 | 433 | 310 | 225 |
| VBF06 | 653 | 471 | 321 |
| VBF08 | 781 | 615 | 449 |
| VBF10 | 979 | 861 | 567 |
| VBF12 | 1177 | 931 | 642 |

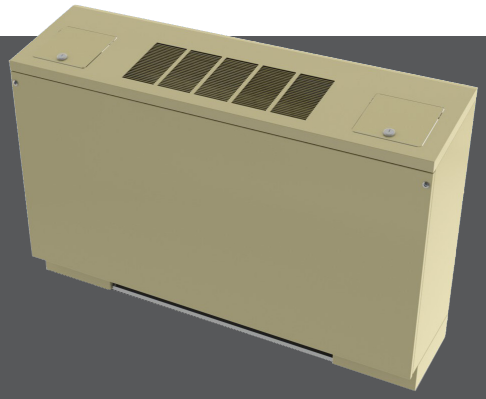
1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with 0 external static pressure

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| VBF02 | 1/30 | 0.5 |
| VBF03 | 1/30 | 0.5 |
| VBF04 | 1/20 | 0.8 |
| VBF06 | 1/20 | 0.8 |
| VBF08 | 1/20 | 0.8 |
| VBF10 | 1/20 | 0.8 |
| VBF12 | 1/20 | 0.8 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz

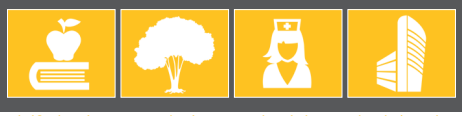
# VBA

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All internal sheet metal components are fabricated of 18GA G90 galvanized steel and exposed metal casing panels fabricated of 18GA galvanealed for superior adhesion of the powder paint
- Cabinet components are painted with a powder polyester baked coating in white or beige and are acoustically insulated to reduce noise dissipation from the unit
- Cabinet liner in ½" dual-density fiberglass
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- Easily removal 1" thick disposable filter
- Multi-speed motor of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally insulated on the outside*



VBA

- Single wall auxiliary condensate pan thermally insulated on the outside
- Angle stamped discharge top / grille
- Electric controls and valve package access doors



k-12 education | woodgrains | hospitals | hotels / motels

## AVAILABLE MODEL:

VBA

## OVERVIEW

Slim and attractively styled VBA fan coils are designed for exposed floor standing applications.

## OPTIONAL FEATURES INCLUDE

- 3-, 4- And 5-row coils for 2-pipe systems
- Single block 2, 3 and 4 rows CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (5 rows max)
- Single block 2 and 3 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (5 rows max)
- Automatic coil air vents
- LH or RH pipe connections entry
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Cabinet liner in ½" foil face
- Motor voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect
- Thermostat and Accessories [Accessories on page V71]
- Single power supply disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- HW standby electric heater auto changeover switch
- Fresh air opening
- Fresh air with manual or auto dampers
- Fresh air freeze protection

See website for Specifications

- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner skins
  - » Condensate pan mastic coating applicable to the inside of the condensate pans for a prolonged life
  - » Single wall auxiliary condensate pan manufactured in 20GA 304 Stainless Steel
  - » Auxiliary condensate pan mastic coating applicable to the inside of the condensate pans for a prolonged life
  - » Auxiliary condensate pan overflow safety switch
- Discharge air grilles:
  - » Aluminum single deflection, left/right or front/back
  - » Deluxe aluminum single deflection grilles*
  - » Linear bar aluminum grilles*
  - » Special discharge air grille colors**
- Special cabinet paints**
- Heavy duty access panel in 16GA painted steel
- Return air/access panel fasteners:
  - » Philips head screws
  - » Tamper proof fasteners
  - » Quarter turn fasteners
  - » Access doors keyed locks

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

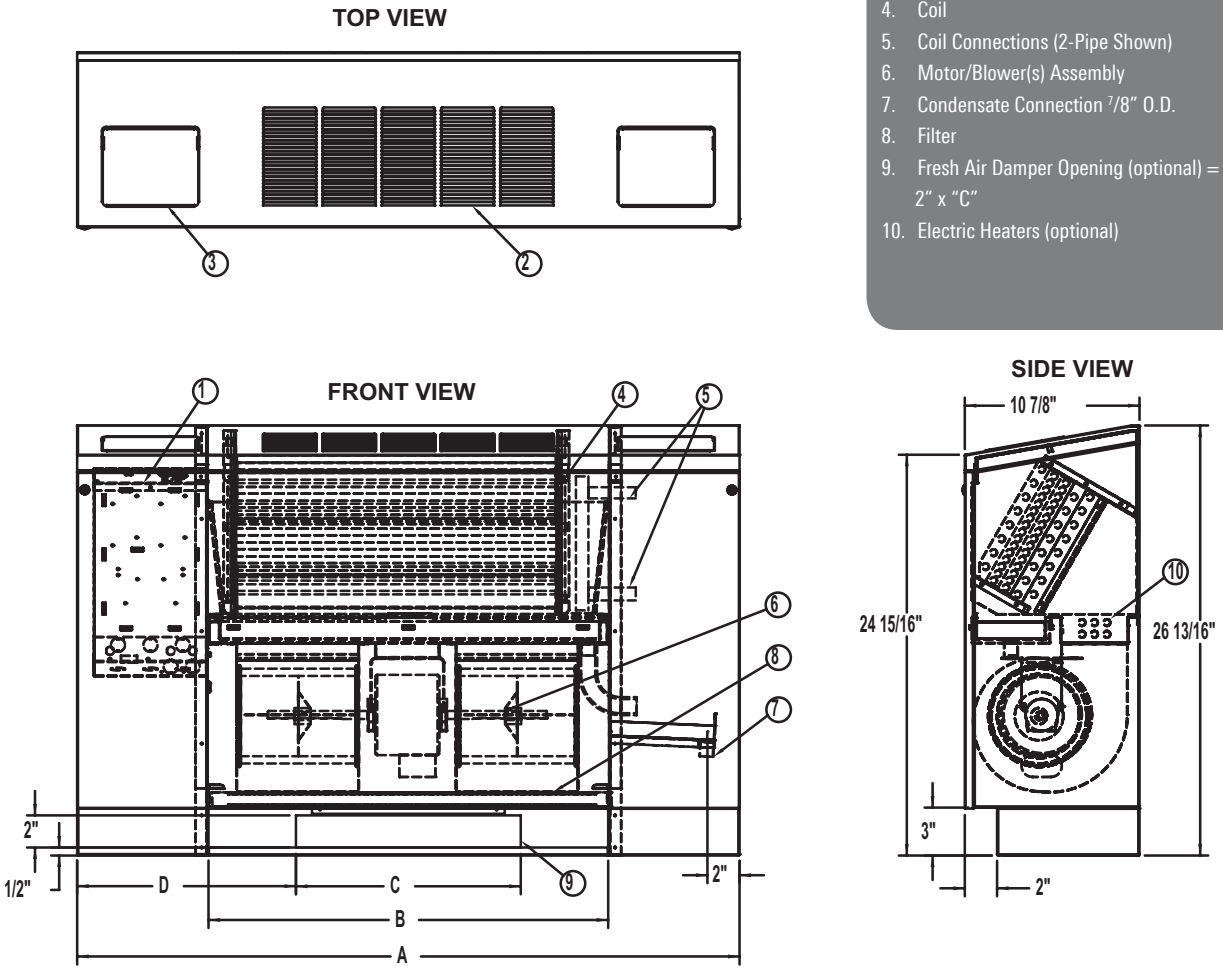
ETL®

A Participating Corporation in the AHRI 440 Certification Program

## DIMENSIONS

### VBA ANGLED TOP CABINET

1. Control Box
2. Stamped Supply Air Grille
3. Control Access Door
4. Coil
5. Coil Connections (2-Pipe Shown)
6. Motor/Blower(s) Assembly
7. Condensate Connection 7/8" O.D.
8. Filter
9. Fresh Air Damper Opening (optional) = 2" x "C"
10. Electric Heaters (optional)




Note: Right Hand Unit Shown

| Model | Dimensions (inches) | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|
| | A | B | C | D | Filter | |
| VBA02 | 34¼ | 18 | 12 | 11⅛ | 17 x 10 x 1 | 95 |
| VBA03 | 37¼ | 21 | 12 | 12⅝ | 20 x 10 x 1 | 104 |
| VBA04 | 41¼ | 25 | 12 | 14⅝ | 24 x 10 x 1 | 106 |
| VBA06 | 52¼ | 36 | 24 | 14⅛ | 35 x 10 x 1 | 128 |
| VBA08 | 60¼ | 44 | 24 | 18⅛ | 43 x 10 x 1 | 146 |
| VBA10 | 70¼ | 54 | 36 | 17⅛ | (2)26 x 10 x 1 | 178 |
| VBA12 | 80¼ | 64 | 36 | 22⅛ | (2)31 x 10 x 1 | 186 |

All dimensions are in inches

## VBA ANGLED TOP CABINET

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBA02 | 4.0 | 3.4 | 0.8 | 0.31 | 13.4 | 0.9 | 0.32 |
| VBA03 | 5.5 | 4.5 | 1.1 | 0.65 | 17.8 | 1.2 | 0.61 |
| VBA04 | 7.8 | 6.2 | 1.6 | 1.43 | 23.9 | 1.6 | 1.22 |
| VBA06 | 11.0 | 9.1 | 2.2 | 0.80 | 35.9 | 2.4 | 0.87 |
| VBA08 | 14.4 | 11.5 | 2.9 | 1.52 | 44.3 | 3.0 | 1.45 |
| VBA10 | 19.1 | 14.8 | 3.8 | 2.94 | 56.2 | 3.8 | 2.58 |
| VBA12 | 21.8 | 17.3 | 4.3 | 2.04 | 66.9 | 4.6 | 2.05 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBA02 | 3.8 | 3.2 | 0.8 | 0.29 | 8.6 | 0.6 | 0.49 |
| VBA03 | 5.3 | 4.3 | 1.1 | 0.61 | 11.1 | 0.8 | 0.90 |
| VBA04 | 7.5 | 5.9 | 1.5 | 1.33 | 14.7 | 1.0 | 1.76 |
| VBA06 | 10.5 | 8.7 | 2.1 | 0.74 | 22.4 | 1.5 | 5.24 |
| VBA08 | 13.7 | 11.0 | 2.7 | 1.39 | 27.3 | 1.9 | 9.08 |
| VBA10 | 18.3 | 14.1 | 3.6 | 2.71 | 34.2 | 2.3 | 16.70 |
| VBA12 | 20.8 | 16.5 | 4.2 | 1.87 | 41.1 | 2.8 | 27.52 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBA02 | 5.8 | 4.3 | 1.2 | 0.96 | 17.5 | 1.2 | 0.79 |
| VBA03 | 7.9 | 5.9 | 1.6 | 1.95 | 23.1 | 1.6 | 1.51 |
| VBA04 | 11.0 | 8.0 | 2.2 | 4.14 | 31.2 | 2.1 | 3.03 |
| VBA06 | 15.8 | 11.9 | 3.2 | 2.15 | 46.9 | 3.2 | 1.88 |
| VBA08 | 20.3 | 14.8 | 4.1 | 3.89 | 57.5 | 3.9 | 3.14 |
| VBA10 | 24.5 | 18.2 | 4.9 | 2.92 | 71.6 | 4.9 | 2.64 |
| VBA12 | 30.7 | 22.3 | 6.1 | 4.88 | 86.8 | 5.9 | 4.16 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBA02 | 5.5 | 4.1 | 1.1 | 0.89 | 8.2 | 0.6 | 0.46 |
| VBA03 | 7.5 | 5.6 | 1.5 | 1.78 | 10.6 | 0.7 | 0.85 |
| VBA04 | 10.5 | 7.6 | 2.1 | 3.79 | 14.0 | 1.0 | 1.66 |
| VBA06 | 15.1 | 11.2 | 3.0 | 1.97 | 21.3 | 1.5 | 4.91 |
| VBA08 | 19.4 | 14.0 | 3.9 | 3.57 | 26.1 | 1.8 | 8.49 |
| VBA10 | 23.4 | 17.2 | 4.7 | 2.67 | 32.7 | 2.2 | 15.54 |
| VBA12 | 29.3 | 21.1 | 5.9 | 4.47 | 39.4 | 2.7 | 25.60 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBA02 | 7.0 | 4.9 | 1.4 | 1.86 | 19.5 | 1.3 | 1.30 |
| VBA03 | 9.5 | 6.6 | 1.9 | 3.70 | 25.8 | 1.8 | 2.48 |
| VBA04 | 11.5 | 8.4 | 2.3 | 1.16 | 34.0 | 2.3 | 1.01 |
| VBA06 | 19.2 | 13.4 | 3.8 | 3.84 | 52.5 | 3.6 | 2.87 |
| VBA08 | 24.2 | 16.6 | 4.8 | 6.79 | 64.0 | 4.4 | 4.75 |
| VBA10 | 29.6 | 20.5 | 5.9 | 4.91 | 79.8 | 5.4 | 3.83 |
| VBA12 | 36.6 | 25.1 | 7.3 | 8.13 | 96.5 | 6.6 | 6.03 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBA02 | 6.7 | 4.6 | 1.3 | 1.68 | 7.8 | 0.5 | 0.43 |
| VBA03 | 9.0 | 6.2 | 1.8 | 3.34 | 10.1 | 0.7 | 0.80 |
| VBA04 | 10.9 | 7.9 | 2.2 | 1.04 | 13.4 | 0.9 | 1.53 |
| VBA06 | 18.2 | 12.6 | 3.6 | 3.46 | 20.4 | 1.4 | 4.57 |
| VBA08 | 22.9 | 15.6 | 4.6 | 6.12 | 24.9 | 1.7 | 7.88 |
| VBA10 | 27.9 | 19.3 | 5.6 | 4.41 | 31.2 | 2.1 | 14.38 |
| VBA12 | 34.6 | 23.6 | 6.9 | 7.30 | 37.6 | 2.6 | 23.69 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBA02 | 7.7 | 5.2 | 1.5 | 2.79 | 20.0 | 1.4 | 1.73 |
| VBA03 | 10.4 | 7.0 | 2.1 | 5.51 | 26.7 | 1.8 | 3.31 |
| VBA04 | 13.0 | 9.0 | 2.6 | 1.71 | 35.0 | 2.4 | 1.29 |
| VBA06 | 21.1 | 14.1 | 4.2 | 5.47 | 54.4 | 3.7 | 3.63 |
| VBA08 | 26.4 | 17.4 | 5.3 | 9.56 | 66.1 | 4.5 | 6.00 |
| VBA10 | 32.4 | 21.5 | 6.5 | 6.73 | 82.5 | 5.6 | 4.67 |
| VBA12 | 39.8 | 26.3 | 7.9 | 11.02 | 99.7 | 6.8 | 7.36 |

1. Standard basic unit
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| VBA02 | 235 | 209 | 182 |
| VBA03 | 316 | 262 | 203 |
| VBA04 | 433 | 310 | 225 |
| VBA06 | 653 | 471 | 321 |
| VBA08 | 781 | 615 | 449 |
| VBA10 | 979 | 861 | 567 |
| VBA12 | 1177 | 931 | 642 |

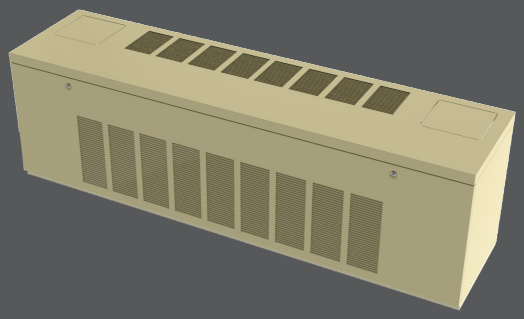
1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with 0 external static pressure

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| VBA02 | 1/30 | 0.5 |
| VBA03 | 1/30 | 0.5 |
| VBA04 | 1/20 | 0.8 |
| VBA06 | 1/20 | 0.8 |
| VBA08 | 1/20 | 0.8 |
| VBA10 | 1/20 | 0.8 |
| VBA12 | 1/20 | 0.8 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz

# VBL

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All internal sheet metal components are fabricated of 18GA G90 galvanized steel and exposed metal casing panels fabricated of 18GA galvanealed for superior adhesion of the powder paint
- Cabinet components are painted with a powder polyester baked coating in white or beige and are acoustically insulated to reduce noise dissipation from the unit
- Cabinet liner in ½" dual-density fiberglass
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- 1" thick disposable filter
- Multi-speed motor of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally insulated on the outside*



VBL

- Single wall auxiliary condensate pan thermally insulated on the outside
- Flat stamped discharge top / grille
- Electric controls and valve package access door

k-12 education | hospitals | hotels / motels

See website for Specifications

## AVAILABLE MODEL:

VBL

## OVERVIEW

The low height silhouette styling of this cabinet unit makes it ideal for applications in public buildings, hotels, schools, hospitals and general commercial applications where the unit height is restricted.

## OPTIONAL FEATURES INCLUDE

- 3-, and 4-row coils for 2-pipe systems
- Single block 2 and 3 row CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (4 rows max)
- Single block 2 row CW with 2 rows re-heat or pre-heat for 4-pipe system applications (4 rows max)
- LH or RH pipe connections entry
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Cabinet liner in ½" foil face
- Motor voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect
- Thermostat and Accessories [Accessories on page V71]
- Single power supplies disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- HW standby electric heater auto changeover switch
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner skins
  - » Single wall auxiliary condensate pan manufactured in 20GA 304 Stainless Steel
  - » Auxiliary condensate pan overflow safety switch
- Special Cabinet paints**
- Heavy duty access panel in 16GA painted steel
- Return air/access panel fasteners:
  - » Philips head screws
  - » Tamper proof fasteners
  - » Quarter turn fasteners
  - » Access doors keyed locks

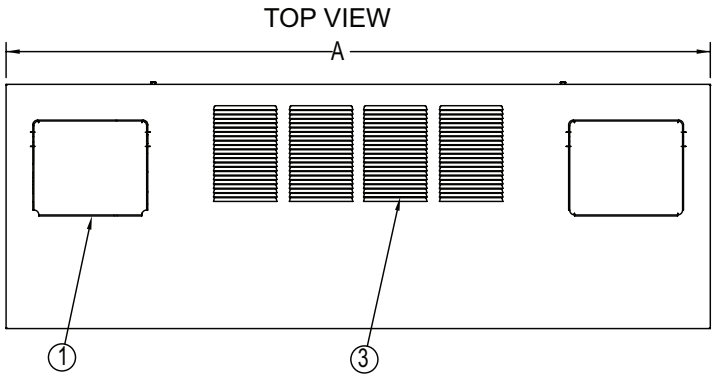
AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

ETL®

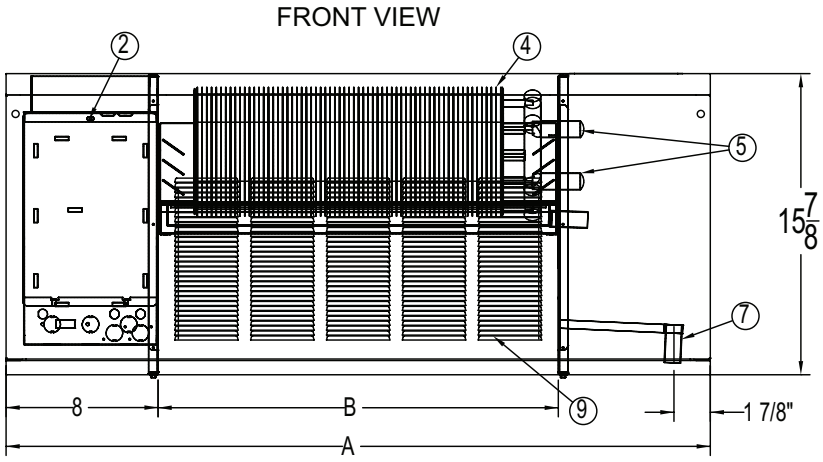
A Participating Corporation in the AHRI 440 Certification Program

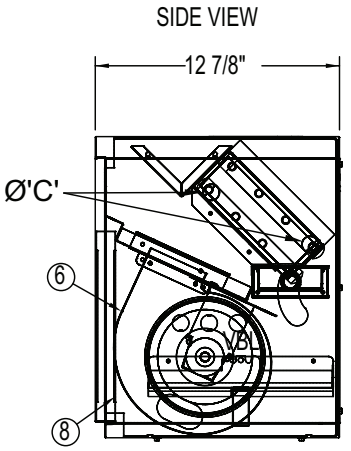
## DIMENSIONS

### VBL LOW PROFILE CABINET




1. Control Access Door
2. Control Box
3. Stamped Supply Air Grille
4. Coil
5. Coil Connections (2-Pipe Shown)
6. Motor/Blower(s) Assembly
7. Condensate Connection 7/8" O.D.
8. Filter
9. Stamped Return Air Grille




Note: Right Hand Unit Shown

| Model | Dimensions (inches) | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|
| | A | B | C | Filter | |
| VBL02 | 37 | 21 | 5/8 | 21 x 10 x 1 | 90 |
| VBL03 | 41 | 25 | 5/8 | 25 x 10 x 1 | 95 |
| VBL04 | 52 | 36 | 5/8 | 36 x 10 x 1 | 100 |
| VBL06 | 60 | 44 | 5/8 | 44 x 10 x 1 | 120 |

All dimensions are in inches

## VBL LOW PROFILE CABINET

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBL02 | 4.8 | 4.1 | 0.9 | 0.43 | 16.5 | 1.1 | 0.46 |
| VBL03 | 7.0 | 5.9 | 1.4 | 1.03 | 23.4 | 1.6 | 1.02 |
| VBL04 | 11.5 | 9.0 | 2.3 | 3.54 | 34.6 | 2.4 | 2.87 |
| VBL06 | 14.1 | 12.0 | 2.8 | 1.34 | 47.4 | 3.2 | 1.51 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBL02 | 4.6 | 3.9 | 0.9 | 0.40 | 11.1 | 0.8 | 0.79 |
| VBL03 | 6.8 | 5.6 | 1.4 | 0.96 | 15.4 | 1.0 | 1.67 |
| VBL04 | 11.1 | 8.5 | 2.2 | 3.27 | 22.3 | 1.5 | 4.57 |
| VBL06 | 13.6 | 11.4 | 2.7 | 1.25 | 31.0 | 2.1 | 10.00 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBL02 | 6.7 | 5.0 | 1.3 | 1.24 | 20.8 | 1.4 | 1.08 |
| VBL03 | 9.8 | 7.3 | 2.0 | 2.91 | 29.7 | 2.0 | 2.42 |
| VBL04 | 15.3 | 10.9 | 3.1 | 9.05 | 43.3 | 3.0 | 6.61 |
| VBL06 | 19.7 | 14.8 | 3.9 | 3.35 | 60.4 | 4.1 | 3.12 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBL02 | 6.4 | 4.7 | 1.3 | 1.13 | 10.6 | 0.7 | 0.74 |
| VBL03 | 9.3 | 6.9 | 1.9 | 2.64 | 14.7 | 1.0 | 1.56 |
| VBL04 | 14.5 | 10.3 | 2.9 | 8.23 | 21.3 | 1.5 | 4.25 |
| VBL06 | 18.8 | 14.0 | 3.8 | 3.05 | 29.7 | 2.0 | 9.38 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBL02 | 7.8 | 5.4 | 1.6 | 2.23 | 22.4 | 1.5 | 1.66 |
| VBL03 | 11.4 | 8.0 | 2.3 | 5.20 | 32.2 | 2.2 | 3.76 |
| VBL04 | 15.7 | 11.0 | 3.1 | 2.35 | 45.4 | 3.1 | 1.96 |
| VBL06 | 23.1 | 16.2 | 4.6 | 5.61 | 65.6 | 4.5 | 4.48 |

1. Standard basic unit
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| VBL02 | 241 | 171 | 123 |
| VBL03 | 353 | 235 | 182 |
| VBL04 | 492 | 364 | 268 |
| VBL06 | 728 | 567 | 396 |

1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with 0 external static pressure

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| VBL02 | 1/30 | 0.5 |
| VBL03 | 1/30 | 0.5 |
| VBL04 | 1/20 | 0.8 |
| VBL06 | 1/20 | 0.8 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz

# VBLC

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All sheet metal components are fabricated of 18GA G90 galvanized steel
- Cabinet liner in ½" dual-density fiberglass
- High-efficiency 2-row coil suitable for a 2-pipe system
- Coil manual air vent
- Easily removal 1" thick disposable filter
- Multi-speed motor of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally insulated on the outside*
- Single wall auxiliary condensate pan thermally insulated on the outside

VBLC

- ½" top discharge air flange

k-12 education | hospitals | hotels / motels

See website for Specifications

## AVAILABLE MODEL:

VBLC

## OVERVIEW

The low silhouette, vertical discharge, floor mounted unit is designed for concealed applications inside a closet or furred-in under window installations for applications in public buildings, hotels, schools, hospitals and general commercial applications where the unit height is restricted.

## OPTIONAL FEATURES INCLUDE

- 3- And 4-row coils for 2-pipe systems
- Single block 2 and 3 rows CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (4 rows max)
- Single block 2 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (4 rows max)
- LH or RH pipe connections entry
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Cabinet liner in ½" foil face
- Motor voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect
- Thermostat and Accessories [Accessories on page V71]
- Single power supplies disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- HW standby electric heater auto changeover switch
- Fresh air opening
- Fresh air with manual or auto dampers
- Fresh air freeze protection
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner skins
  - » Single wall auxiliary condensate pan manufactured in 20GA 304 Stainless Steel
  - » Auxiliary condensate pan overflow safety switch
- Remote discharge air grilles:
  - » Stamped with access doors
  - » Aluminum double deflection
  - » Deluxe aluminum double deflection grilles*
  - » Linear bar aluminum grille*
  - » Special discharge air grille colors**
  - » Remote stamped return air/access panel with filter access door

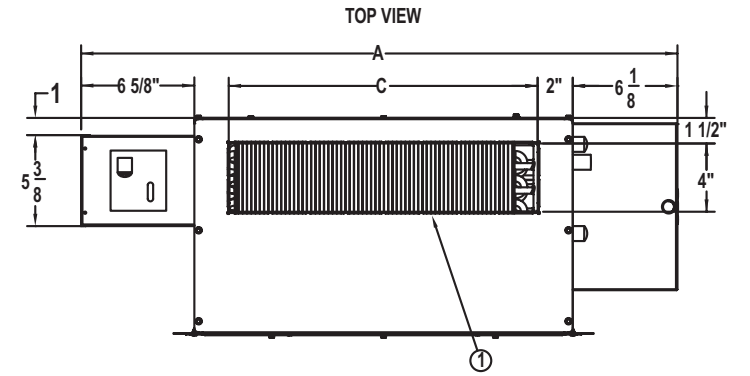
AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

ETL®

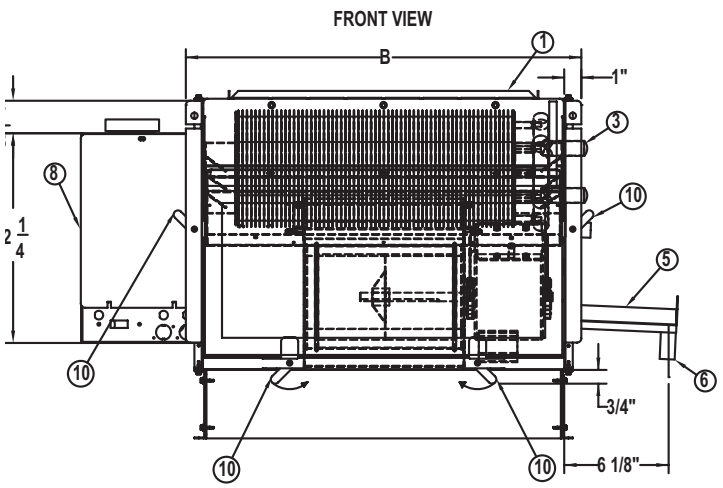
A Participating Corporation in the AHRI 440 Certification Program

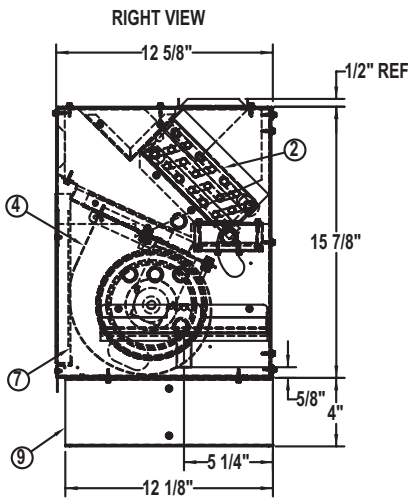
## DIMENSIONS

### VBLC LOW PROFILE CONCEALED FLOOR




1. Supply Duct Collar
2. Coil
3. Coil Connections (2-Pipe Shown)
4. Motor/Blower(s) Assembly
5. Auxillary Condensate Tray
6. Condensate Connection 7/8" O.D.
7. Filter
8. Control Box
9. Sub-base (optional)
10. Filter Clips




| Model | Dimensions (inches) | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|
| | A | B | C | Filter | Opt. Cover | |
| VBLC02 | 34 7/8 | 23 1/9 | 18 | 21 x 10 x 1 | 37 1/8 x 15 5/7 x ½ | 90 |
| VBLC03 | 38 7/8 | 27 1/9 | 22 | 25 x 10 x 1 | 41 1/8 x 15 5/7 x ½ | 95 |
| VBLC04 | 49 7/8 | 38 1/9 | 33 | 36 x 10 x 1 | 52 1/8 x 15 5/7 x ½ | 100 |
| VBLC06 | 57 7/8 | 46 1/9 | 44 | 44 x 10 x 1 | 60 1/8 x 15 5/7 x ½ | 120 |

All dimensions are in inches

## VBLC LOW PROFILE CONCEALED FLOOR

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling (1) | | | | 2 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBLC02 | 4.8 | 4.1 | 0.9 | 0.43 | 16.5 | 1.1 | 0.46 |
| VBLC03 | 7.0 | 5.9 | 1.4 | 1.03 | 23.4 | 1.6 | 1.02 |
| VBLC04 | 11.5 | 9.0 | 2.3 | 3.54 | 34.6 | 2.4 | 2.87 |
| VBLC06 | 14.1 | 12.0 | 2.8 | 1.34 | 47.4 | 3.2 | 1.51 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBLC02 | 4.6 | 3.9 | 0.9 | 0.40 | 11.1 | 0.8 | 0.79 |
| VBLC03 | 6.8 | 5.6 | 1.4 | 0.96 | 15.4 | 1.0 | 1.67 |
| VBLC04 | 11.1 | 8.5 | 2.2 | 3.27 | 22.3 | 1.5 | 4.57 |
| VBLC06 | 13.6 | 11.4 | 2.7 | 1.25 | 31.0 | 2.1 | 10.00 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 3 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBLC02 | 6.7 | 5.0 | 1.3 | 1.24 | 20.8 | 1.4 | 1.08 |
| VBLC03 | 9.8 | 7.3 | 2.0 | 2.91 | 29.7 | 2.0 | 2.42 |
| VBLC04 | 15.3 | 10.9 | 3.1 | 9.05 | 43.3 | 3.0 | 6.61 |
| VBLC06 | 19.7 | 14.8 | 3.9 | 3.35 | 60.4 | 4.1 | 3.12 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBLC02 | 6.4 | 4.7 | 1.3 | 1.13 | 10.6 | 0.7 | 0.74 |
| VBLC03 | 9.3 | 6.9 | 1.9 | 2.64 | 14.7 | 1.0 | 1.56 |
| VBLC04 | 14.5 | 10.3 | 2.9 | 8.23 | 21.3 | 1.5 | 4.25 |
| VBLC06 | 18.8 | 14.0 | 3.8 | 3.05 | 29.7 | 2.0 | 9.38 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| VBLC02 | 7.8 | 5.4 | 1.6 | 2.23 | 22.4 | 1.5 | 1.66 |
| VBLC03 | 11.4 | 8.0 | 2.3 | 5.20 | 32.2 | 2.2 | 3.76 |
| VBLC04 | 15.7 | 11.0 | 3.1 | 2.35 | 45.4 | 3.1 | 1.96 |
| VBLC06 | 23.1 | 16.2 | 4.6 | 5.61 | 65.6 | 4.5 | 4.48 |

1. Standard basic unit.
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid.
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed.
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed.

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| VBLC02 | 241 | 171 | 123 |
| VBLC03 | 353 | 235 | 182 |
| VBLC04 | 492 | 364 | 268 |
| VBLC06 | 728 | 567 | 396 |

1. Nominal air volume ratings are based on a 2-row coil at sea level altitude with 0 external static pressure.

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| VBLC02 | 1/30 | 0.5 |
| VBLC03 | 1/30 | 0.5 |
| VBLC04 | 1/20 | 0.8 |
| VBLC06 | 1/20 | 0.8 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz.

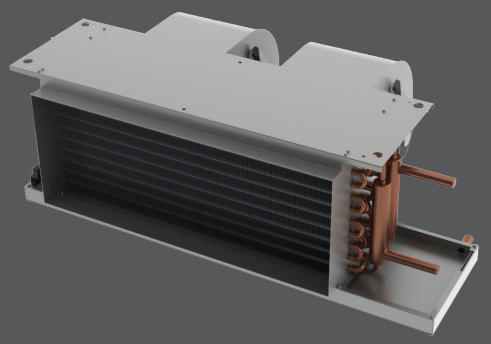
[* Contact a Titus representative for availability]
[** Contact a Titus representative for special color selection & prices]



# Horizontal High Output Series

## HHC

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All casing sheet metal components fabricated of 18GA G90 galvanized steel
- High-efficiency 3-row coil suitable for a 2-pipe system
- Coil manual air vent
- Multi-speed motor(s) of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blower(s) of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally protected on the outside*
- 1" discharge air flange



HHC

apartments hotels / motels



See website for Specifications

### AVAILABLE MODEL:

HHC

### OVERVIEW

Factory assembled, horizontal blow-thru, high-output HHC 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

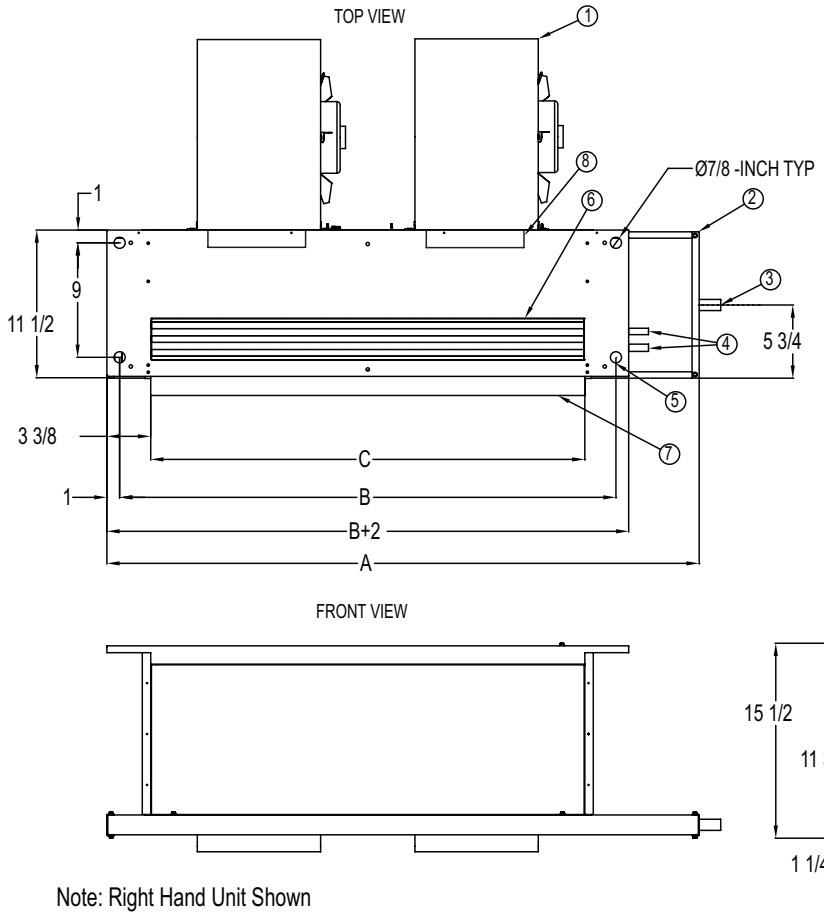
- 4-, 5- And 6-row coils for 2-pipe systems
- Single block 2, 3, 4 and 5 rows CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (6 rows max)
- Single block 2, 3, and 4 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (6 rows max)
- LH or RH pipe connections entry
- Motor voltage suitable for 208V, 230V or 277V1Ph/60Hz power supplies
- Thermostat and Accessories [Accessories on page V71]
- Single power supplies disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- HW Standby electric heater auto changeover switch
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner shins
  - » Condensate pan overflow safety switch
  - » Condensate pan satety overflow connection

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

ETL®

A Participating Corporation in the
AHRI 440 Certification Program

## HHC CONCEALED CEILING




1. Motor/Blower(s) Assemblies
2. Condensate Tray (Double Wall)
3. Condensate Connection 3/4" MNPT
4. Coil Connections (2-Pipe Shown)
5. Installation Hanging Points
6. Coil
7. Supply Air Flange
8. Electirc Heaters (optional)

Note: Right Hand Unit Shown

| Model | Dimensions (inches) | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|
| | A | B | C | D | |
| HHC06 | 25½ | 18 | 13 | 5/8 | 60 |
| HHC08 | 30½ | 23 | 18 | 5/8 | 69 |
| HHC10 | 33½ | 26 | 21 | 7/8 | 75 |
| HHC12 | 38½ | 31 | 26 | 7/8 | 99 |
| HHC14 | 42½ | 35 | 30 | 7/8 | 108 |
| HHC16 | 46½ | 39 | 34 | 7/8 | 115 |
| HHC18 | 51½ | 44 | 39 | 7/8 | 125 |
| HHC20 | 55½ | 48 | 43 | 7/8 | 175 |

All dimensions are in inches

## HHC CONCEALED CEILING

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling (1) | | | | 3 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHC06 | 17.0 | 14.9 | 3.4 | 3.41 | 56.6 | 3.9 | 3.30 |
| HHC08 | 24.1 | 20.0 | 4.8 | 7.45 | 75.7 | 5.2 | 6.50 |
| HHC10 | 28.4 | 22.8 | 5.7 | 10.85 | 86.4 | 5.9 | 8.97 |
| HHC12 | 29.7 | 25.1 | 5.9 | 2.46 | 97.9 | 6.7 | 2.50 |
| HHC14 | 39.1 | 33.3 | 7.8 | 4.35 | 127.0 | 8.7 | 4.31 |
| HHC16 | 45.2 | 37.7 | 9.0 | 6.07 | 143.4 | 9.8 | 5.76 |
| HHC18 | 51.6 | 41.7 | 10.3 | 8.34 | 158.3 | 10.8 | 7.45 |
| HHC20 | 53.8 | 45.6 | 10.7 | 4.08 | 175.3 | 12.0 | 4.25 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHC06 | 10.8 | 10.7 | 2.2 | 1.02 | 21.5 | 1.5 | 1.34 |
| HHC08 | 15.8 | 14.5 | 3.2 | 2.36 | 29.8 | 2.0 | 2.81 |
| HHC10 | 18.8 | 16.6 | 3.7 | 3.47 | 34.4 | 2.3 | 3.96 |
| HHC12 | 23.3 | 19.8 | 4.7 | 5.80 | 41.1 | 2.8 | 6.19 |
| HHC14 | 25.4 | 24.2 | 5.1 | 1.44 | 52.3 | 3.6 | 10.33 |
| HHC16 | 29.5 | 27.4 | 5.9 | 2.03 | 56.1 | 3.8 | 1.97 |
| HHC18 | 33.9 | 30.3 | 6.8 | 2.82 | 63.0 | 4.3 | 2.67 |
| HHC20 | 39.1 | 34.7 | 7.8 | 3.86 | 71.3 | 4.9 | 3.57 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHC06 | 21.8 | 17.4 | 4.3 | 7.06 | 67.1 | 4.6 | 5.97 |
| HHC08 | 26.1 | 21.6 | 5.2 | 2.06 | 85.4 | 5.8 | 2.06 |
| HHC10 | 30.7 | 24.6 | 6.1 | 2.97 | 97.5 | 6.7 | 2.81 |
| HHC12 | 38.0 | 29.2 | 7.6 | 4.86 | 114.1 | 7.8 | 4.17 |
| HHC14 | 49.9 | 38.9 | 10.0 | 8.58 | 149.6 | 10.2 | 7.33 |
| HHC16 | 52.6 | 42.2 | 10.5 | 4.23 | 164.9 | 11.3 | 4.11 |
| HHC18 | 59.5 | 46.4 | 11.9 | 5.68 | 181.1 | 12.4 | 5.22 |
| HHC20 | 68.5 | 53.2 | 13.7 | 7.71 | 205.7 | 14.0 | 6.93 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHC06 | 16.4 | 14.3 | 3.3 | 3.22 | 20.9 | 1.4 | 1.30 |
| HHC08 | 23.4 | 19.1 | 4.7 | 7.06 | 29.0 | 2.0 | 2.73 |
| HHC10 | 27.5 | 21.8 | 5.5 | 10.25 | 33.4 | 2.3 | 3.83 |
| HHC12 | 28.7 | 24.0 | 5.7 | 2.32 | 39.9 | 2.7 | 5.92 |
| HHC14 | 37.9 | 31.9 | 7.6 | 4.11 | 50.8 | 3.5 | 9.96 |
| HHC16 | 43.8 | 36.1 | 8.7 | 5.74 | 54.5 | 3.7 | 2.06 |
| HHC18 | 49.9 | 39.9 | 10.0 | 7.86 | 61.2 | 4.2 | 2.77 |
| HHC20 | 52.1 | 43.7 | 10.4 | 3.84 | 69.3 | 4.7 | 3.60 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHC06 | 21.6 | 17.5 | 4.3 | 1.54 | 70.2 | 4.8 | 1.51 |
| HHC08 | 30.7 | 23.5 | 6.1 | 3.34 | 92.9 | 6.3 | 2.89 |
| HHC10 | 35.8 | 26.7 | 7.1 | 4.74 | 105.5 | 7.2 | 3.91 |
| HHC12 | 43.3 | 31.3 | 8.7 | 7.46 | 122.5 | 8.4 | 5.72 |
| HHC14 | 53.4 | 40.6 | 10.7 | 4.78 | 159.2 | 10.9 | 4.24 |
| HHC16 | 61.2 | 45.8 | 12.2 | 6.52 | 179.0 | 12.2 | 5.59 |
| HHC18 | 68.6 | 50.2 | 13.7 | 8.63 | 195.5 | 13.3 | 7.04 |
| HHC20 | 74.9 | 56.0 | 15.0 | 6.22 | 219.6 | 15.0 | 5.59 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHC06 | 20.9 | 16.6 | 4.2 | 6.59 | 20.3 | 1.4 | 1.27 |
| HHC08 | 25.1 | 20.5 | 5.0 | 1.92 | 28.1 | 1.9 | 2.60 |
| HHC10 | 29.4 | 23.4 | 5.9 | 2.75 | 32.4 | 2.2 | 3.65 |
| HHC12 | 36.2 | 27.6 | 7.2 | 4.47 | 38.6 | 2.6 | 5.68 |
| HHC14 | 47.9 | 37.0 | 9.6 | 8.00 | 49.2 | 3.4 | 9.58 |
| HHC16 | 50.4 | 40.1 | 10.1 | 3.92 | 52.9 | 3.6 | 2.07 |
| HHC18 | 56.9 | 44.0 | 11.4 | 5.22 | 59.3 | 4.0 | 2.77 |
| HHC20 | 66.0 | 50.6 | 13.2 | 7.21 | 67.1 | 4.6 | 3.71 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 6 Rows Cooling | | | | 6 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHC06 | 24.3 | 18.5 | 4.9 | 2.23 | 74.0 | 5.1 | 1.95 |
| HHC08 | 34.0 | 24.6 | 6.8 | 4.70 | 97.2 | 6.6 | 3.66 |
| HHC10 | 39.3 | 27.9 | 7.9 | 6.57 | 109.7 | 7.5 | 4.91 |
| HHC12 | 44.1 | 31.4 | 8.8 | 3.60 | 124.7 | 8.5 | 2.90 |
| HHC14 | 59.3 | 42.6 | 11.8 | 6.61 | 166.7 | 11.4 | 5.26 |
| HHC16 | 67.6 | 48.0 | 13.5 | 8.94 | 186.9 | 12.8 | 6.90 |
| HHC18 | 71.6 | 51.0 | 14.3 | 6.11 | 200.8 | 13.7 | 5.07 |
| HHC20 | 82.3 | 58.5 | 16.4 | 8.25 | 228.9 | 15.6 | 6.75 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHC06 | 20.8 | 16.7 | 4.1 | 1.44 | 19.8 | 1.4 | 1.21 |
| HHC08 | 29.5 | 22.4 | 5.9 | 3.11 | 27.3 | 1.9 | 2.52 |
| HHC10 | 34.6 | 25.5 | 6.9 | 4.45 | 31.4 | 2.1 | 3.53 |
| HHC12 | 41.7 | 29.9 | 8.3 | 6.96 | 37.4 | 2.6 | 5.47 |
| HHC14 | 51.4 | 38.7 | 10.3 | 4.46 | 47.8 | 3.3 | 9.17 |
| HHC16 | 58.9 | 43.6 | 11.8 | 6.08 | 51.4 | 3.5 | 2.14 |
| HHC18 | 66.4 | 48.0 | 13.3 | 8.12 | 57.6 | 3.9 | 2.85 |
| HHC20 | 72.4 | 53.5 | 14.4 | 5.83 | 65.2 | 4.4 | 3.70 |

1. Standard basic unit.
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid.
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed.
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed.

# PERFORMANCE DATA







| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| HHC06 | 1/4 | 3.6 |
| HHC08 | 1/4 | 4.3 |
| HHC10 | 1/4 | 4.3 |
| HHC12 | 1/3 | 5.1 |
| HHC14 | 2 x 1/4 | 2 x 4.2 |
| HHC16 | 2 x 1/4 | 2 x 4.2 |
| HHC18 | 2 x 1/4 | 2 x 4.5 |
| HHC20 | 2 x 1/3 | 2 x 4.5 |

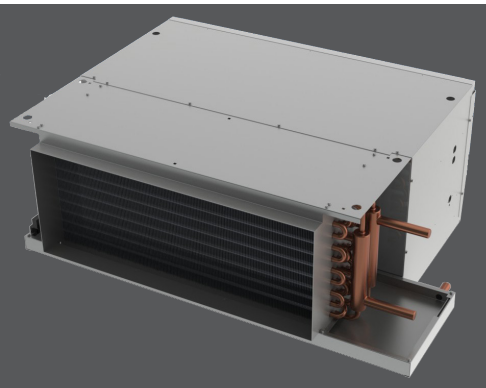
1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz.

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| HHC06 | 992 | 671 | 548 |
| HHC08 | 1243 | 733 | 593 |
| HHC10 | 1366 | 989 | 754 |
| HHC12 | 1528 | 1102 | 839 |
| HHC14 | 2138 | 1264 | 1048 |
| HHC16 | 2365 | 1434 | 1173 |
| HHC18 | 2503 | 2013 | 1419 |
| HHC20 | 2877 | 2306 | 1792 |

1. Nominal air volume ratings are based on a 3-row coil at sea level altitude with 0 external static pressure.
2. Air volumes are based at high fan speed.

# HHP

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- Casing sheet metal components fabricated of 18GA G90 galvanized steel
- Return air plenum thermally and acoustically insulated covering the motor(s)/blower(s) assembly to reduce sound levels from the unit
- High-efficiency 3-row coil suitable for a 2-pipe system
- Coil manual air vent
- 1" thick disposable filter
- Filter removal from LH or RH sides
- Multi-speed motor(s) of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blower(s) of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally protected on the outside*
- 1" discharge air flange
- 1" return air return air flange



HHP

- Anti-vibration mounts for field installation

apartments hotels / motels

See website for Specifications

## AVAILABLE MODEL:

HHP

## OVERVIEW

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

## OPTIONAL FEATURES INCLUDE

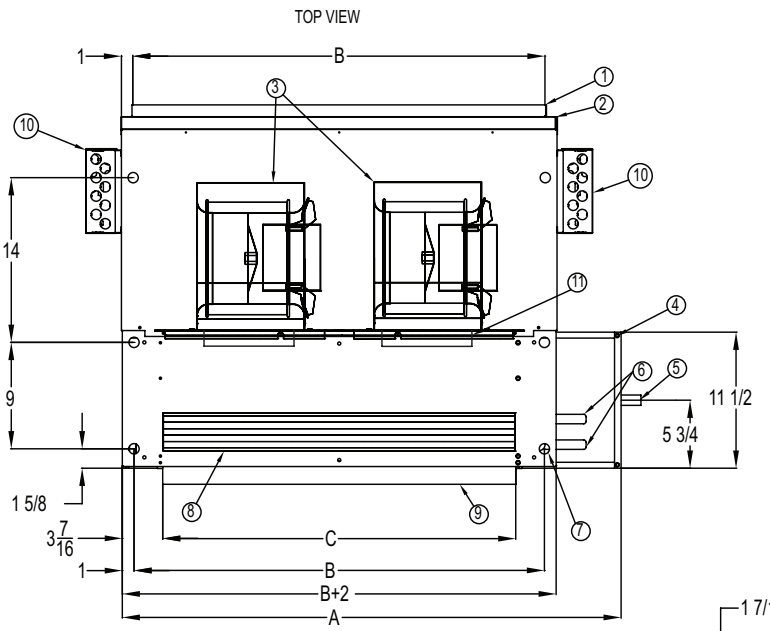
- 4-, 5- And 6-row coils for 2-pipe systems
- Single block 2, 3, 4 and 5 rows CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (5 rows max)
- Single block 2, 3 and 4 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (5 rows max)
- LH or RH entry pipe connections
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Bottom or rear return air and filter location
- Filter supports with slides or clips
- Vertical removal of filter on return air installations
- Cabinet liner in ½" foil face
- Motor(s) voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect(s) (Rear return air option only)
- Thermostat and Accessories [Accessories on page V71]
- Single power supplies disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications
- Electric heaters
- HW standby electric heater auto changeover switch
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner skins
  - » Condensate pan overflow safety switch

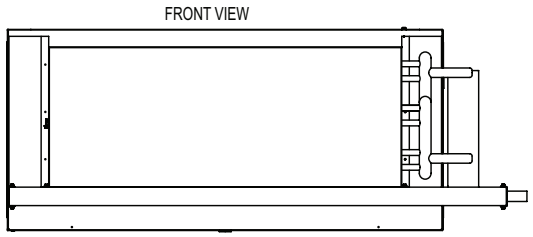
AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

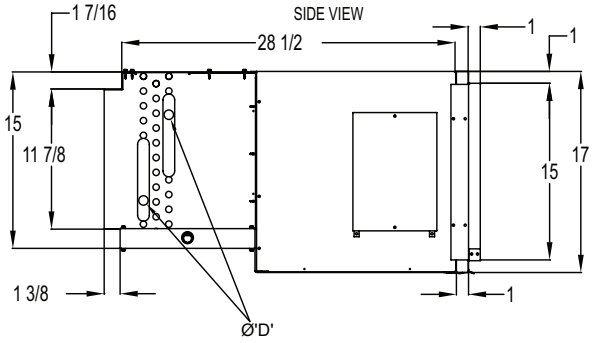
ETL®

A Participating Corporation in the AHRI 440 Certification Program

## HHP CONCEALED CEILING WITH PLENUM




1. Return Air Flange
2. Filter Bottom Return (Optional)
3. Motor/Blower(s) Assembly
4. Condensate Tray (Double Wall optional)
5. Condensate Connection ¾" MNPT
6. Coil Connections (2-Pipe Shown)
7. Hanging Points
8. Coil
9. Supply Air Flange
10. Electric Control Panel - Note: Control box may be mounted on either side
11. Electric Heaters (optional)

Note: Right Hand Rear Return Unit Shown

| Model | Dimensions (inches) | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|
| | A | B | C | D | Filter | |
| HHP06 | 25½ | 18 | 13 | 5/8 | 20 x 17 x 1 | 81 |
| HHP08 | 30½ | 23 | 18 | 5/8 | 25 x 17 x 1 | 94 |
| HHP10 | 33½ | 26 | 21 | 7/8 | 28 x 17 x 1 | 106 |
| HHP12 | 38½ | 31 | 26 | 7/8 | 33 x 17 x 1 | 117 |
| HHP14 | 42½ | 35 | 30 | 7/8 | 37 x 17 x 1 | 154 |
| HHP16 | 46½ | 39 | 34 | 7/8 | 41 x 17 x 1 | 175 |
| HHP18 | 51½ | 44 | 39 | 7/8 | 46 x 17 x 1 | 195 |
| HHP20 | 55½ | 48 | 43 | 7/8 | 50 x 17 x 1 | 212 |

All dimensions are in inches

## HHP CONCEALED CEILING WITH PLENUM

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling (1) | | | | 3 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHP06 | 15.5 | 13.4 | 3.1 | 2.92 | 51.9 | 3.5 | 2.83 |
| HHP08 | 23.0 | 18.7 | 4.6 | 6.84 | 71.3 | 4.9 | 5.86 |
| HHP10 | 27.5 | 21.9 | 5.5 | 10.27 | 83.1 | 5.7 | 8.38 |
| HHP12 | 29.3 | 24.6 | 5.8 | 2.39 | 96.1 | 6.6 | 2.42 |
| HHP14 | 36.7 | 30.6 | 7.3 | 3.89 | 117.9 | 8.0 | 3.77 |
| HHP16 | 43.3 | 35.5 | 8.6 | 5.61 | 135.9 | 9.3 | 5.22 |
| HHP18 | 49.8 | 39.8 | 9.9 | 7.83 | 151.9 | 10.4 | 6.92 |
| HHP20 | 51.8 | 43.4 | 10.3 | 3.80 | 167.6 | 11.4 | 3.92 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHP06 | 10.0 | 9.7 | 2.0 | 0.89 | 20.1 | 1.4 | 1.19 |
| HHP08 | 15.1 | 13.6 | 3.0 | 2.17 | 28.4 | 1.9 | 2.59 |
| HHP10 | 18.2 | 16.0 | 3.6 | 3.29 | 33.4 | 2.3 | 3.76 |
| HHP12 | 23.0 | 19.4 | 4.6 | 5.67 | 40.6 | 2.8 | 6.05 |
| HHP14 | 23.8 | 22.3 | 4.8 | 1.28 | 49.3 | 3.4 | 9.32 |
| HHP16 | 28.3 | 25.9 | 5.6 | 1.87 | 53.9 | 3.7 | 1.83 |
| HHP18 | 32.8 | 29.1 | 6.6 | 2.65 | 61.0 | 4.2 | 2.52 |
| HHP20 | 37.7 | 33.1 | 7.5 | 3.61 | 68.8 | 4.7 | 3.35 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHP06 | 19.9 | 15.6 | 4.0 | 6.05 | 60.8 | 4.2 | 5.03 |
| HHP08 | 24.6 | 20.1 | 4.9 | 1.86 | 80.0 | 5.1 | 1.83 |
| HHP10 | 29.5 | 23.5 | 5.9 | 2.78 | 93.4 | 6.4 | 2.61 |
| HHP12 | 37.4 | 28.6 | 7.5 | 4.73 | 111.9 | 7.6 | 4.03 |
| HHP14 | 46.4 | 35.5 | 9.3 | 7.53 | 137.6 | 9.4 | 6.32 |
| HHP16 | 49.9 | 39.5 | 10.0 | 3.84 | 155.4 | 10.6 | 3.68 |
| HHP18 | 57.0 | 44.1 | 11.4 | 5.25 | 173.1 | 11.8 | 4.81 |
| HHP20 | 65.9 | 50.5 | 13.2 | 7.19 | 195.7 | 13.4 | 6.34 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHP06 | 15.1 | 12.8 | 3.0 | 2.77 | 19.6 | 1.3 | 1.16 |
| HHP08 | 22.2 | 17.9 | 4.4 | 6.47 | 27.6 | 1.9 | 2.50 |
| HHP10 | 26.4 | 20.9 | 5.3 | 9.55 | 32.4 | 2.2 | 3.63 |
| HHP12 | 28.3 | 23.5 | 5.7 | 2.26 | 39.4 | 2.7 | 5.79 |
| HHP14 | 35.5 | 29.3 | 7.1 | 3.67 | 47.8 | 3.3 | 8.97 |
| HHP16 | 41.9 | 34.0 | 8.4 | 5.29 | 52.3 | 3.6 | 1.91 |
| HHP18 | 48.1 | 38.1 | 9.6 | 7.35 | 59.2 | 4.0 | 2.61 |
| HHP20 | 50.1 | 41.5 | 10.0 | 3.58 | 66.8 | 4.6 | 3.38 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHP06 | 19.6 | 15.6 | 3.9 | 1.30 | 63.3 | 4.3 | 1.26 |
| HHP08 | 28.9 | 21.8 | 5.8 | 2.99 | 86.6 | 5.9 | 2.55 |
| HHP10 | 34.4 | 25.5 | 6.9 | 4.41 | 100.7 | 6.9 | 3.60 |
| HHP12 | 42.6 | 30.7 | 8.5 | 7.23 | 120.0 | 8.2 | 5.51 |
| HHP14 | 49.4 | 36.8 | 9.9 | 4.15 | 145.6 | 9.9 | 3.60 |
| HHP16 | 57.9 | 42.8 | 11.6 | 5.90 | 167.8 | 11.5 | 4.97 |
| HHP18 | 65.8 | 47.6 | 13.1 | 7.98 | 186.0 | 12.7 | 6.43 |
| HHP20 | 71.5 | 52.9 | 14.3 | 5.70 | 208.1 | 14.2 | 5.06 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHP06 | 19.3 | 14.9 | 3.8 | 5.70 | 19.0 | 1.3 | 1.12 |
| HHP08 | 23.6 | 19.0 | 4.7 | 1.72 | 26.7 | 1.8 | 2.38 |
| HHP10 | 28.2 | 22.3 | 5.6 | 2.56 | 31.4 | 2.1 | 3.46 |
| HHP12 | 35.7 | 27.1 | 7.1 | 4.35 | 38.1 | 2.6 | 5.55 |
| HHP14 | 44.7 | 33.8 | 8.9 | 7.05 | 46.3 | 3.2 | 8.60 |
| HHP16 | 47.7 | 37.4 | 9.5 | 3.53 | 50.7 | 3.5 | 1.91 |
| HHP18 | 54.8 | 41.9 | 11.0 | 4.88 | 57.4 | 3.9 | 2.60 |
| HHP20 | 62.9 | 47.9 | 12.6 | 6.61 | 64.7 | 4.4 | 3.46 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 6 Rows Cooling | | | | 6 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHP06 | 22.0 | 16.3 | 4.4 | 1.87 | 66.2 | 4.5 | 1.59 |
| HHP08 | 31.8 | 22.7 | 6.4 | 4.17 | 90.1 | 6.1 | 3.20 |
| HHP10 | 37.7 | 26.5 | 7.5 | 6.10 | 104.5 | 7.1 | 4.50 |
| HHP12 | 43.3 | 30.7 | 8.6 | 3.48 | 122.0 | 8.3 | 2.78 |
| HHP14 | 54.3 | 38.4 | 10.8 | 5.63 | 151.3 | 10.3 | 4.41 |
| HHP16 | 63.4 | 44.6 | 12.7 | 7.94 | 174.3 | 11.9 | 6.08 |
| HHP18 | 68.5 | 48.3 | 13.7 | 5.62 | 190.4 | 13.0 | 4.60 |
| HHP20 | 78.3 | 55.1 | 15.6 | 7.53 | 216.1 | 14.7 | 6.07 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHP06 | 18.7 | 14.8 | 3.7 | 1.19 | 18.5 | 1.3 | 1.07 |
| HHP08 | 27.9 | 20.8 | 5.6 | 2.80 | 26.0 | 1.8 | 2.31 |
| HHP10 | 33.0 | 24.2 | 6.6 | 4.10 | 30.5 | 2.1 | 3.34 |
| HHP12 | 43.9 | 29.3 | 8.2 | 6.74 | 36.9 | 2.5 | 5.33 |
| HHP14 | 47.4 | 35.0 | 9.5 | 3.84 | 44.9 | 3.1 | 8.21 |
| HHP16 | 55.8 | 40.8 | 11.1 | 5.51 | 49.3 | 3.4 | 1.97 |
| HHP18 | 62.9 | 45.3 | 12.6 | 7.36 | 55.7 | 3.8 | 2.65 |
| HHP20 | 68.5 | 50.3 | 13.7 | 5.27 | 62.8 | 4.3 | 3.44 |

1. Standard basic unit.
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid.
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed.
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed.

## PERFORMANCE DATA

| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| HHP06 | 1/4 | 3.6 |
| HHP08 | 1/4 | 4.3 |
| HHP10 | 1/4 | 4.3 |
| HHP12 | 1/3 | 5.1 |
| HHP14 | 2 x 1/4 | 2 x 4.2 |
| HHP16 | 2 x 1/4 | 2 x 4.2 |
| HHP18 | 2 x 1/4 | 2 x 4.5 |
| HHP20 | 2 x 1/3 | 2 x 4.5 |

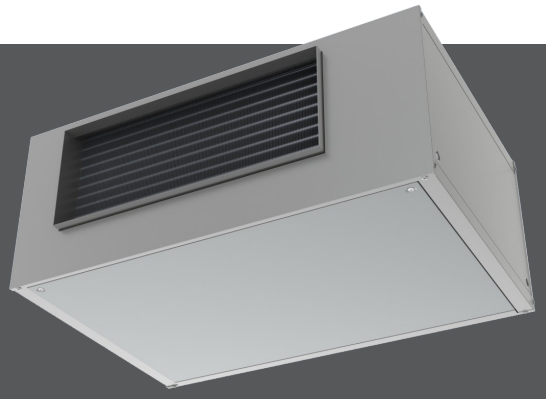
1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz.

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| HHP06 | 843 | 638 | 536 |
| HHP08 | 1119 | 736 | 599 |
| HHP10 | 1280 | 1094 | 774 |
| HHP12 | 1486 | 1131 | 850 |
| HHP14 | 1873 | 1265 | 1041 |
| HHP16 | 2154 | 1434 | 1172 |
| HHP18 | 2330 | 2008 | 1477 |
| HHP20 | 2660 | 2258 | 1844 |

1. Nominal air volume ratings are based on a 3-row coil at sea level altitude with 0 external static pressure.
2. Air volumes are based at high fan speed.

# HHE

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- Cabinet components fabricated of 18GA G90 galvanized
- Unpainted cabinet
- Cabinet liner in ½" dual-density fiberglass
- High-efficiency 3-row coil suitable for a 2-pipe system
- Coil manual air vent
- 1" thick disposable filter
- Multi-speed motor(s) of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blower(s) of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally protected on the outside*
- 1" discharge grille air flanges



HHE

- 1" return air flanges
- Anti-vibration mounts for field installation

## AVAILABLE MODEL:

HHE

## OVERVIEW

Factory assembled, horizontal blow-thru, high-output HHE fan coils are designed for exposed ceiling installations free blowing into the space suitable for industrial and commercial applications.

## OPTIONAL FEATURES INCLUDE

- 4-, 5- And 6-row coils for 2-pipe systems
- Single block coil with 2, 3, 4 and 5 rows CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (6 rows max)
- Single block coil with 2, 3 and 4 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (6 rows max)
- LH or RH pipe connections entry
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Bottom or rear return air and filter location
- Cabinet liner in ½" foil face
- Motor voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect
- Thermostat and Accessories [Accessories on page V71]
- Single power supplies disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications

See website for Specifications

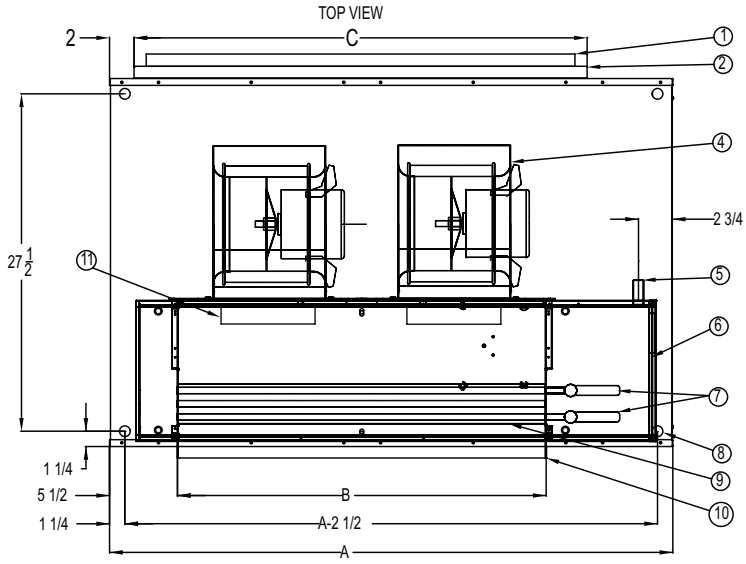
- Electric heaters
- HW standby electric heater auto changeover switch
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Double wall construction consisting of outer and inner skins
  - » Condensate pan overflow safety switch
- Bottom or rear return air
- Access panel fasteners:
  - » Philips head screws
  - » Tamper proof fasteners
  - » Quarter turn fasteners

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

ETL®

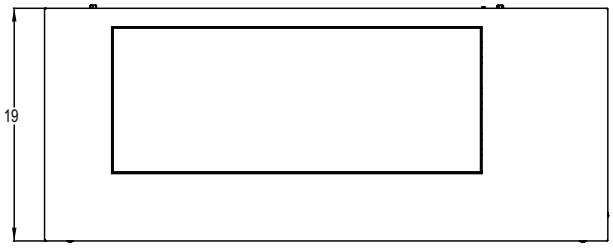
A Participating Corporation in the
AHRI 440 Certification Program

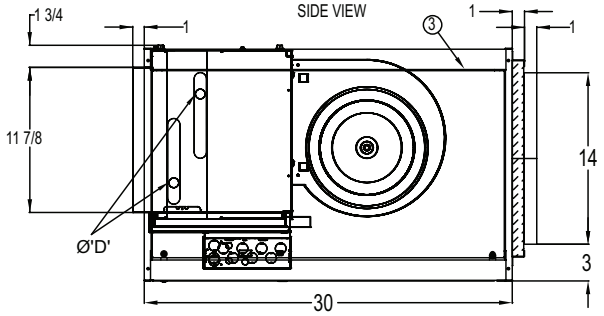
## HHE EXPOSED CABINET




1. Return Air Flange
2. Filter
3. Access panel
4. Motor/Blower(s) Assembly
5. Condensate Connection ¾" MNPT
6. Condensate Tray (Double Wall optional)
7. Coil Connections (2-Pipe Shown)
8. Hanging Points
9. Coil
10. Supply Air Flange
11. Electric Heaters (optional)

Note: Right Hand Unit with Duct Flange Shown




| Model | Dimensions (inches) | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|
| | A | B | C | D | Filter | |
| HHE06 | 29 | 13 | 20 | 5/8 | 22 x 16 x 1 | 120 |
| HHE08 | 34 | 18 | 25 | 5/8 | 27 x 16 x 1 | 132 |
| HHE10 | 37 | 21 | 28 | 7/8 | 30 x 16 x 1 | 135 |
| HHE12 | 42 | 26 | 33 | 7/8 | 35 x 16 x 1 | 156 |
| HHE14 | 46 | 30 | 37 | 7/8 | 39 x 16 x 1 | 200 |
| HHE16 | 50 | 34 | 41 | 7/8 | 43 x 16 x 1 | 230 |
| HHE18 | 55 | 39 | 46 | 7/8 | 48 x 16 x 1 | 248 |
| HHE20 | 59 | 43 | 50 | 7/8 | 52 x 16 x 1 | 262 |

All dimensions are in inches

## HHE EXPOSED CABINET

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling (1) | | | | 3 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHE06 | 15.5 | 13.4 | 3.1 | 2.92 | 51.9 | 3.5 | 2.83 |
| HHE08 | 23.0 | 18.7 | 4.6 | 6.84 | 71.3 | 4.9 | 5.86 |
| HHE10 | 27.5 | 21.9 | 5.5 | 10.27 | 83.1 | 5.7 | 8.38 |
| HHE12 | 29.3 | 24.6 | 5.8 | 2.39 | 96.1 | 6.6 | 2.42 |
| HHE14 | 36.7 | 30.6 | 7.3 | 3.89 | 117.9 | 8.0 | 3.77 |
| HHE16 | 43.3 | 35.5 | 8.6 | 5.61 | 135.9 | 9.3 | 5.22 |
| HHE18 | 49.8 | 39.8 | 9.9 | 7.83 | 151.9 | 10.4 | 6.92 |
| HHE20 | 51.8 | 43.4 | 10.3 | 3.80 | 167.6 | 11.4 | 3.92 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHE06 | 10.0 | 9.7 | 2.0 | 0.89 | 20.1 | 1.4 | 1.19 |
| HHE08 | 15.1 | 13.6 | 3.0 | 2.17 | 28.4 | 1.9 | 2.59 |
| HHE10 | 18.2 | 16.0 | 3.6 | 3.29 | 33.4 | 2.3 | 3.76 |
| HHE12 | 23.0 | 19.4 | 4.6 | 5.67 | 40.6 | 2.8 | 6.05 |
| HHE14 | 23.8 | 22.3 | 4.8 | 1.28 | 49.3 | 3.4 | 9.32 |
| HHE16 | 28.3 | 25.9 | 5.6 | 1.87 | 53.9 | 3.7 | 1.83 |
| HHE18 | 32.8 | 29.1 | 6.6 | 2.65 | 61.0 | 4.2 | 2.52 |
| HHE20 | 37.7 | 33.1 | 7.5 | 3.61 | 68.8 | 4.7 | 3.35 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHE06 | 19.9 | 15.6 | 4.0 | 6.05 | 60.8 | 4.2 | 5.03 |
| HHE08 | 24.6 | 20.1 | 4.9 | 1.86 | 80.0 | 5.1 | 1.83 |
| HHE10 | 29.5 | 23.5 | 5.9 | 2.78 | 93.4 | 6.4 | 2.61 |
| HHE12 | 37.4 | 28.6 | 7.5 | 4.73 | 111.9 | 7.6 | 4.03 |
| HHE14 | 46.4 | 35.5 | 9.3 | 7.53 | 137.6 | 9.4 | 6.32 |
| HHE16 | 49.9 | 39.5 | 10.0 | 3.84 | 155.4 | 10.6 | 3.68 |
| HHE18 | 57.0 | 44.1 | 11.4 | 5.25 | 173.1 | 11.8 | 4.81 |
| HHE20 | 65.9 | 50.5 | 13.2 | 7.19 | 195.7 | 13.4 | 6.34 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHE06 | 15.1 | 12.8 | 3.0 | 2.77 | 19.6 | 1.3 | 1.16 |
| HHE08 | 22.2 | 17.9 | 4.4 | 6.47 | 27.6 | 1.9 | 2.50 |
| HHE10 | 26.4 | 20.9 | 5.3 | 9.55 | 32.4 | 2.2 | 3.63 |
| HHE12 | 28.3 | 23.5 | 5.7 | 2.26 | 39.4 | 2.7 | 5.79 |
| HHE14 | 35.5 | 29.3 | 7.1 | 3.67 | 47.8 | 3.3 | 8.97 |
| HHE16 | 41.9 | 34.0 | 8.4 | 5.29 | 52.3 | 3.6 | 1.91 |
| HHE18 | 48.1 | 38.1 | 9.6 | 7.35 | 59.2 | 4.0 | 2.61 |
| HHE20 | 50.1 | 41.5 | 10.0 | 3.58 | 66.8 | 4.6 | 3.38 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHE06 | 19.6 | 15.6 | 3.9 | 1.30 | 63.3 | 4.3 | 1.26 |
| HHE08 | 28.9 | 21.8 | 5.8 | 2.99 | 86.6 | 5.9 | 2.55 |
| HHE10 | 34.4 | 25.5 | 6.9 | 4.41 | 100.7 | 6.9 | 3.60 |
| HHE12 | 42.6 | 30.7 | 8.5 | 7.23 | 120.0 | 8.2 | 5.51 |
| HHE14 | 49.4 | 36.8 | 9.9 | 4.15 | 145.6 | 9.9 | 3.60 |
| HHE16 | 57.9 | 42.8 | 11.6 | 5.90 | 167.8 | 11.5 | 4.97 |
| HHE18 | 65.8 | 47.6 | 13.1 | 7.98 | 186.0 | 12.7 | 6.43 |
| HHE20 | 71.5 | 52.9 | 14.3 | 5.70 | 208.1 | 14.2 | 5.06 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHE06 | 19.3 | 14.9 | 3.8 | 5.70 | 19.0 | 1.3 | 1.12 |
| HHE08 | 23.6 | 19.0 | 4.7 | 1.72 | 26.7 | 1.8 | 2.38 |
| HHE10 | 28.2 | 22.3 | 5.6 | 2.56 | 31.4 | 2.1 | 3.46 |
| HHE12 | 35.7 | 27.1 | 7.1 | 4.35 | 38.1 | 2.6 | 5.55 |
| HHE14 | 44.7 | 33.8 | 8.9 | 7.05 | 46.3 | 3.2 | 8.60 |
| HHE16 | 47.7 | 37.4 | 9.5 | 3.53 | 50.7 | 3.5 | 1.91 |
| HHE18 | 54.8 | 41.9 | 11.0 | 4.88 | 57.4 | 3.9 | 2.60 |
| HHE20 | 62.9 | 47.9 | 12.6 | 6.61 | 64.7 | 4.4 | 3.46 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 6 Rows Cooling | | | | 6 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHE06 | 22.0 | 16.3 | 4.4 | 1.87 | 66.2 | 4.5 | 1.59 |
| HHE08 | 31.8 | 22.7 | 6.4 | 4.17 | 90.1 | 6.1 | 3.20 |
| HHE10 | 37.7 | 26.5 | 7.5 | 6.10 | 104.5 | 7.1 | 4.50 |
| HHE12 | 43.3 | 30.7 | 8.6 | 3.48 | 122.0 | 8.3 | 2.78 |
| HHE14 | 54.3 | 38.4 | 10.8 | 5.63 | 151.3 | 10.3 | 4.41 |
| HHE16 | 63.4 | 44.6 | 12.7 | 7.94 | 174.3 | 11.9 | 6.08 |
| HHE18 | 68.5 | 48.3 | 13.7 | 5.62 | 190.4 | 13.0 | 4.60 |
| HHE20 | 78.3 | 55.1 | 15.6 | 7.53 | 216.1 | 14.7 | 6.07 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow gpm | PD ft wg | Sensible MBH | Flow gpm | PD ft wg |
| HHE06 | 18.7 | 14.8 | 3.7 | 1.19 | 18.5 | 1.3 | 1.07 |
| HHE08 | 27.9 | 20.8 | 5.6 | 2.80 | 26.0 | 1.8 | 2.31 |
| HHE10 | 33.0 | 24.2 | 6.6 | 4.10 | 30.5 | 2.1 | 3.34 |
| HHE12 | 43.9 | 29.3 | 8.2 | 6.74 | 36.9 | 2.5 | 5.33 |
| HHE14 | 47.4 | 35.0 | 9.5 | 3.84 | 44.9 | 3.1 | 8.21 |
| HHE16 | 55.8 | 40.8 | 11.1 | 5.51 | 49.3 | 3.4 | 1.97 |
| HHE18 | 62.9 | 45.3 | 12.6 | 7.36 | 55.7 | 3.8 | 2.65 |
| HHE20 | 68.5 | 50.3 | 13.7 | 5.27 | 62.8 | 4.3 | 3.44 |

1. Standard basic unit.
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid.
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed.
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed.

## PERFORMANCE DATA







| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| HHE06 | 1/4 | 3.6 |
| HHE08 | 1/4 | 4.3 |
| HHE10 | 1/4 | 4.3 |
| HHE12 | 1/3 | 5.1 |
| HHE14 | 2 x 1/4 | 2 x 4.2 |
| HHE16 | 2 x 1/4 | 2 x 4.2 |
| HHE18 | 2 x 1/4 | 2 x 4.5 |
| HHE20 | 2 x 1/3 | 2 x 4.5 |

1. Nominal air volume ratings are based on a 3-row coil at sea level altitude with 0 external static pressure.
2. Air volumes are based at high fan speed.

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| HHE06 | 843 | 638 | 536 |
| HHE08 | 1119 | 736 | 599 |
| HHE10 | 1280 | 1094 | 774 |
| HHE12 | 1486 | 1131 | 850 |
| HHE14 | 1873 | 1265 | 1041 |
| HHE16 | 2154 | 1434 | 1172 |
| HHE18 | 2330 | 2008 | 1477 |
| HHE20 | 2660 | 2258 | 1844 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz.

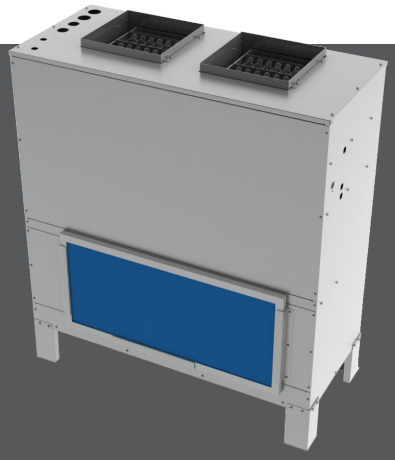
[* Contact a Titus representative for availability]
[** Contact a Titus representative for special color selection & prices]



# Vertical High Output Series

## VHC

- Performance AHRI Certified to Standard 440
- ETL-Listed. Constructed in compliance with ANSI/UL 1995 Standard
- All casing sheet metal components fabricated of 18GA G90 galvanized steel
- High-efficiency 3-row coil suitable for a 2-pipe system
- Coil manual air vent
- 1" thick disposable filter
- Cabinet liner in ½" dual-density fiberglass
- Multi-speed motor of the permanent split capacitor (PSC) type
- Double Width Double Inlet (DWDI) direct driven blowers of the whisper quiet type
- Controls installed in a single control box suitable for single power supply
- Single wall condensate pan in galvanized steel, thermally protected on the outside
- 1" discharge air flange for duct applications



VHC



## AVAILABLE MODEL:

VHC

## OVERVIEW

Factory assembled, vertical draw-thru, high-output VHC fan coils are designed for ducted closet installations suitable for industrial and commercial applications.

## OPTIONAL FEATURES INCLUDE

- 4-, 5- And 6-row coils for 2-pipe systems, or
- Single block coil with 2, 3, 4 and 5 rows CW with 1 row re-heat or pre-heat coils for 4-pipe system applications (6 rows max)
- Single block coil with 2, 3 and 4 rows CW with 2 rows re-heat or pre-heat for 4-pipe system applications (6 rows max)
- LH or RH pipe connections entry
- Automatic coil air vents
- Filter option include:
  - » 1" high-efficiency pleated filters
  - » 1" washable filters
- Cabinet liner in 1" dual-density fiberglass
- Motor voltage suitable for 208V, 230V or 277V/1Ph/60Hz power supplies
- Motor in-line quick disconnect
- Thermostat and Accessories [Accessories on page V71]
- Single power supplies disconnect switch and fuses
- Automatic 2-pipe changeover switch for heating and cooling applications

See website for Specifications

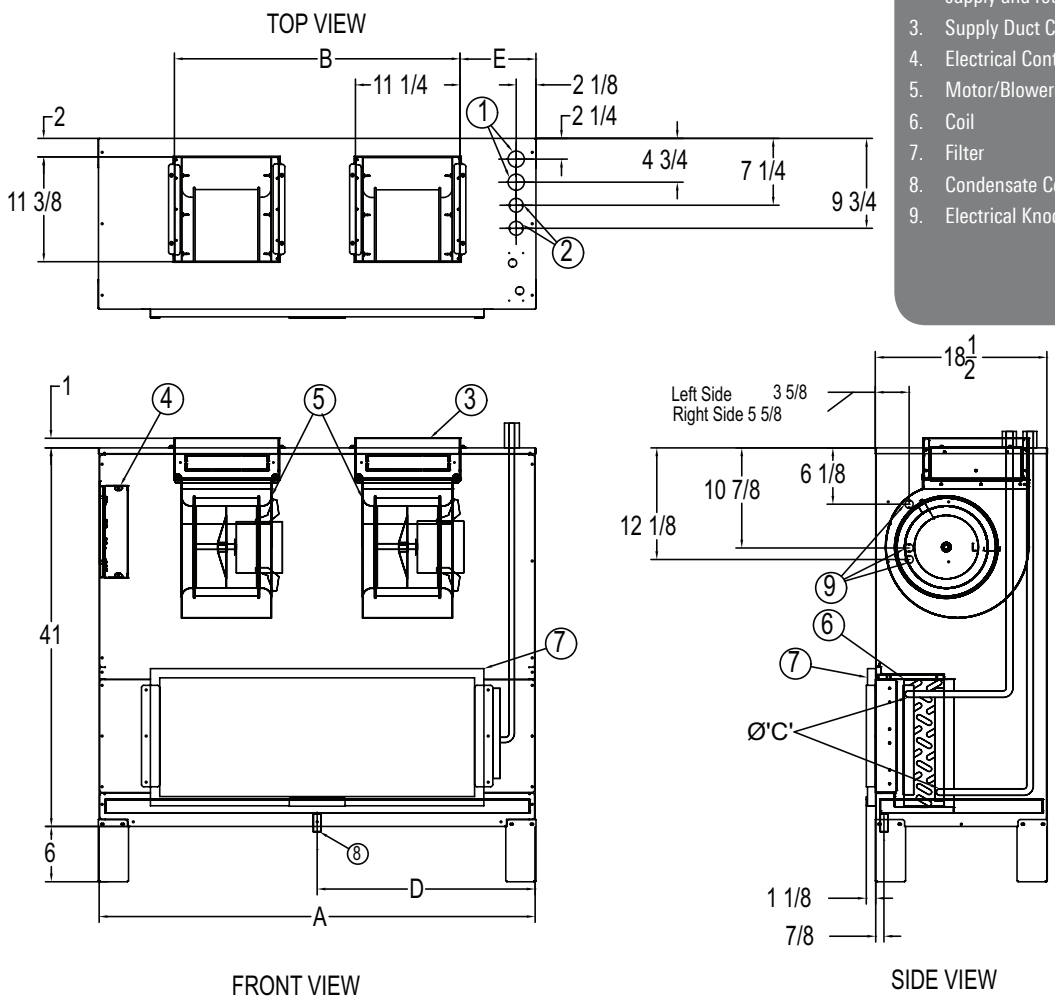
- Electric heaters
- HW standby electric heater auto changeover switch
- Valve Packages [Accessories on page V71]
- Condensate pan options:
  - » Single wall condensate pan manufactured in 20GA 304 Stainless Steel
  - » Condensate pan mastic coating applicable to the inside of the condensate pan for a prolonged life
  - » Condensate pan safety overflow switch

AHRI CERTIFIED™ www.ahridirectory.org
Room Fan-Coils
AHRI Standard 440

A Participating Corporation in the AHRI 440 Certification Program

## DIMENSIONS

### VHC CONCEALED CLOSET




1. Cold Water Coil Connections - 2/4 pipe supply and return O.D. = "C"
2. Hot Water Coil Connections - 4 pipe supply and return O.D. = 5/8"
3. Supply Duct Collar
4. Electrical Control Box
5. Motor/Blower(s) Assembly
6. Coil
7. Filter
8. Condensate Connection 7/8" O.D.
9. Electrical Knockout Entires

| Model | Dimensions (inches) | | | | | | Approx. Weight (pounds) |
|---|---|---|---|---|---|---|---|
| | A | B | C | D | E | Filter | |
| VHC06 | 23 | N/A | 5/8 | 11½ | 5 7/8 | 15 x 17 x 1 | 150 |
| VHC08 | 28 | N/A | 5/8 | 14 | 8 3/8 | 15 x 20 x 1 | 170 |
| VHC10 | 32 | N/A | 7/8 | 16 | 10 3/8 | 15 x 23 x 1 | 195 |
| VHC12 | 37 | N/A | 7/8 | 18½ | 12 7/8 | 15 x 28 x 1 | 200 |
| VHC14 | 42 | 27¾ | 7/8 | 21 | 7 1/8 | 15 x 32 x 1 | 240 |
| VHC16 | 47 | 31¾ | 7/8 | 23½ | 8 1/8 | 15 x 36 x 1 | 260 |
| VHC18 | 52 | 35¾ | 7/8 | 26 | 8 1/8 | 15 x 41 x 1 | 268 |
| VHC20 | 56 | 39¾ | 7/8 | 28 | 8 1/8 | 15 x 45 x 1 | 280 |

All dimensions are in inches

## VHC CONCEALED CLOSET

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling (1) | | | | 3 Rows Heating (1) | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| VHC06 | 16.2 | 13.7 | 3.2 | 3.84 | 52.9 | 3.6 | 3.58 |
| VHC08 | 25.1 | 19.8 | 5.0 | 9.94 | 75.5 | 5.2 | 8.05 |
| VHC10 | 31.0 | 23.5 | 6.2 | 16.30 | 89.6 | 6.1 | 12.36 |
| VHC12 | 34.1 | 26.7 | 6.8 | 3.92 | 103.7 | 7.1 | 3.43 |
| VHC14 | 43.1 | 33.2 | 8.6 | 6.62 | 128.0 | 8.7 | 5.54 |
| VHC16 | 53.3 | 40.6 | 10.6 | 10.60 | 155.2 | 10.6 | 8.57 |
| VHC18 | 60.4 | 45.3 | 12.1 | 14.44 | 172.6 | 11.8 | 11.26 |
| VHC20 | 64.2 | 49.5 | 12.8 | 6.95 | 190.5 | 13.0 | 6.12 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 2 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| VHC06 | 10.4 | 9.9 | 2.1 | 1.17 | 20.7 | 1.4 | 1.53 |
| VHC08 | 16.8 | 14.5 | 3.3 | 3.24 | 30.6 | 2.1 | 3.67 |
| VHC10 | 21.2 | 17.5 | 4.2 | 5.54 | 37.2 | 2.5 | 5.88 |
| VHC12 | 26.6 | 21.2 | 5.3 | 9.53 | 42.8 | 2.9 | 1.35 |
| VHC14 | 29.0 | 24.6 | 5.8 | 2.31 | 53.1 | 3.6 | 2.19 |
| VHC16 | 36.2 | 30.2 | 7.2 | 3.76 | 64.2 | 4.4 | 3.42 |
| VHC18 | 41.6 | 33.8 | 8.3 | 5.23 | 72.4 | 4.9 | 4.66 |
| VHC20 | 47.1 | 38.2 | 9.4 | 6.95 | 81.4 | 5.6 | 6.15 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 4 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| VHC06 | 20.5 | 15.8 | 4.1 | 7.77 | 61.8 | 4.2 | 6.31 |
| VHC08 | 27.1 | 21.3 | 5.4 | 2.66 | 84.2 | 5.7 | 2.40 |
| VHC10 | 33.6 | 25.2 | 6.7 | 4.34 | 99.6 | 6.8 | 3.61 |
| VHC12 | 38.5 | 29.1 | 7.7 | 2.53 | 116.0 | 7.9 | 2.28 |
| VHC14 | 49.0 | 36.4 | 9.8 | 4.28 | 143.3 | 9.8 | 3.66 |
| VHC16 | 60.7 | 44.7 | 12.1 | 6.85 | 174.1 | 11.9 | 5.64 |
| VHC18 | 68.8 | 49.7 | 13.7 | 9.23 | 192.9 | 13.2 | 7.30 |
| VHC20 | 74.6 | 54.9 | 14.9 | 6.49 | 214.7 | 14.7 | 5.63 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 3 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| VHC06 | 15.6 | 13.0 | 3.1 | 3.59 | 20.1 | 1.4 | 1.48 |
| VHC08 | 24.2 | 18.9 | 4.8 | 9.33 | 29.7 | 2.0 | 3.54 |
| VHC10 | 29.9 | 22.5 | 6.0 | 15.29 | 36.0 | 2.5 | 5.65 |
| VHC12 | 32.7 | 25.4 | 6.5 | 3.64 | 41.5 | 2.8 | 1.35 |
| VHC14 | 41.5 | 31.7 | 8.3 | 6.19 | 51.5 | 3.5 | 2.23 |
| VHC16 | 51.4 | 38.8 | 10.3 | 9.92 | 62.2 | 4.2 | 3.47 |
| VHC18 | 58.2 | 43.2 | 11.6 | 13.51 | 70.2 | 4.8 | 4.70 |
| VHC20 | 61.8 | 47.3 | 12.3 | 6.49 | 78.9 | 5.4 | 6.10 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 5 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| VHC06 | 20.3 | 15.8 | 4.1 | 1.64 | 64.2 | 4.4 | 1.52 |
| VHC08 | 31.2 | 22.9 | 6.2 | 4.14 | 90.4 | 6.2 | 3.30 |
| VHC10 | 38.3 | 27.0 | 7.6 | 6.67 | 105.8 | 7.2 | 4.88 |
| VHC12 | 43.7 | 31.0 | 8.7 | 3.75 | 122.8 | 8.4 | 2.97 |
| VHC14 | 55.6 | 38.9 | 11.1 | 6.35 | 151.6 | 10.3 | 4.78 |
| VHC16 | 65.6 | 46.5 | 13.1 | 5.28 | 182.4 | 12.4 | 4.32 |
| VHC18 | 74.0 | 51.6 | 14.8 | 7.03 | 201.3 | 13.7 | 5.51 |
| VHC20 | 84.4 | 58.6 | 16.8 | 9.36 | 227.1 | 15.5 | 7.20 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 4 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| VHC06 | 19.7 | 15.1 | 3.9 | 7.24 | 19.5 | 1.3 | 1.43 |
| VHC08 | 26.0 | 20.2 | 5.2 | 2.46 | 28.7 | 2.0 | 3.36 |
| VHC10 | 32.2 | 24.0 | 6.4 | 4.02 | 34.8 | 2.4 | 5.35 |
| VHC12 | 36.9 | 27.6 | 7.4 | 2.33 | 40.1 | 2.7 | 1.33 |
| VHC14 | 46.9 | 34.5 | 9.4 | 3.96 | 49.7 | 3.4 | 2.20 |
| VHC16 | 58.2 | 42.4 | 11.6 | 6.34 | 60.2 | 4.1 | 3.42 |
| VHC18 | 65.9 | 47.2 | 13.2 | 8.53 | 67.8 | 4.6 | 4.61 |
| VHC20 | 71.5 | 52.1 | 14.3 | 5.99 | 76.2 | 5.2 | 5.99 |

| 2-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 6 Rows Cooling | | | | 6 Rows Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| VHC06 | 22.6 | 16.6 | 4.5 | 2.33 | 66.9 | 4.6 | 1.92 |
| VHC08 | 34.3 | 23.8 | 6.8 | 5.76 | 93.4 | 6.4 | 4.10 |
| VHC10 | 38.7 | 26.9 | 7.7 | 3.11 | 106.8 | 7.3 | 2.38 |
| VHC12 | 47.5 | 32.1 | 9.5 | 5.01 | 125.4 | 8.6 | 3.55 |
| VHC14 | 57.2 | 39.0 | 11.4 | 4.30 | 153.1 | 10.5 | 3.28 |
| VHC16 | 70.9 | 48.1 | 14.2 | 6.85 | 186.7 | 12.7 | 5.07 |
| VHC18 | 79.4 | 53.2 | 15.9 | 9.01 | 205.2 | 14.0 | 6.43 |
| VHC20 | 90.3 | 60.3 | 18.0 | 11.94 | 231.6 | 15.8 | 8.41 |

| 4-PIPE SYSTEM | | | | | | | |
|---|---|---|---|---|---|---|---|
| Model | 5 Rows Cooling | | | | 1 Row Heating | | |
| | Total MBH | Sensible MBH | Flow GPM | PD ft WG | Sensible MBH | Flow GPM | PD ft WG |
| VHC06 | 19.4 | 15.0 | 3.9 | 1.50 | 19.0 | 1.3 | 1.36 |
| VHC08 | 30.0 | 21.8 | 6.0 | 3.86 | 27.9 | 1.9 | 3.23 |
| VHC10 | 36.6 | 25.7 | 7.3 | 6.15 | 33.7 | 2.3 | 5.12 |
| VHC12 | 42.0 | 29.5 | 8.4 | 3.49 | 38.9 | 2.7 | 1.34 |
| VHC14 | 53.0 | 36.9 | 10.6 | 5.84 | 48.2 | 3.3 | 2.20 |
| VHC16 | 62.6 | 44.1 | 12.5 | 4.85 | 58.3 | 4.0 | 3.36 |
| VHC18 | 70.6 | 49.0 | 14.1 | 6.44 | 65.6 | 4.5 | 4.51 |
| VHC20 | 80.7 | 55.7 | 16.1 | 8.63 | 73.8 | 5.0 | 5.94 |

1. Standard basic unit.
2. All ratings are based at sea level altitude, nominal air volumes at 0 external static pressure and with water as the cooling fluid.
3. Cooling capacities are based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise and high fan speed.
4. Heating capacities are based on 70°F DB entering air temperature, 180°F entering hot water, 30°F water temperature drop and high fan speed.

# PERFORMANCE DATA





| Model | Motor | |
|---|---|---|
| | HP | Total AMPS |
| VHC06 | 1/4 | 3.6 |
| VHC08 | 1/4 | 4.3 |
| VHC10 | 1/4 | 4.3 |
| VHC12 | 1/3 | 5.1 |
| VHC14 | 2 x 1/4 | 2 x 4.2 |
| VHC16 | 2 x 1/4 | 2 x 4.2 |
| VHC18 | 2 x 1/4 | 2 x 4.5 |
| VHC20 | 2 x 1/3 | 2 x 4.5 |

1. Electric ratings are based on units suitable for a power supply of 115V/1Ph/60Hz.

| Nominal Air Volumes | | | |
|---|---|---|---|
| Model | cfm (1) | | |
| | High | Med | Low |
| VHC06 | 840 | 683 | 584 |
| VHC08 | 1122 | 801 | 660 |
| VHC10 | 1054 | 1083 | 801 |
| VHC12 | 1433 | 1189 | 934 |
| VHC14 | 1763 | 1384 | 1166 |
| VHC16 | 2160 | 1588 | 1325 |
| VHC18 | 2333 | 2125 | 1629 |
| VHC20 | 2642 | 2389 | 2018 |

1. Nominal air volume ratings are based on a 3-row coil at sea level altitude with 0 external static pressure.
2. Air volumes are based at high fan speed.

## Thermostats

Basic model (RAB) – shall be electromechanical, remote wall thermostat, gas diaphragm based and shall include the following features: Temperature set-point control with dual set-point temperature scale (F/C) and adjustable min/max temperature mechanical limit stops; system off and 3-speed fan switch; heat/cool manual temperature switch; on/off control valve(s) output; fan auto or continuous selection; 24V thru 277V control voltage, 50 or 60Hz; and UL and cUL listed.

Electronic with LED indication model (RCC) – shall be electronic remote wall or unit mounted thermostat with LED indicators and shall include the following features: Temperature set-point control with dual set-point temperature scale (F/C) and adjustable min/max temperature mechanical limit stops; operational modes: off, normal, energy saving and frost protection; system off and 3-speed fan switch; fan continuous or temperature dependent operation; automatic heat/cool temperature changeover control; heat/cool and fan on LED indication; on/off control valve(s) output; 24V control voltage, 50 or 60Hz; optional remote wall or duct sensor connection; and UL and cUL listed.

Electronic with LCD indication model (RDF) – shall be electronic remote wall or unit mounted thermostat with LCD indication and shall include the following features: Operational modes: off, normal, energy saving and standby; system off and 3-speed fan switch; fan continuous or temperature dependent operation; manual or automatic heat/cool temperature changeover control; min/max setpoint temperature limitation; setpoints or room temperature display; on/off control valve(s) output; 24V control voltage, 50 or 60Hz; optional remote duct or wall sensor connection; selectable installation and control parameters; and UL and cUL listed.

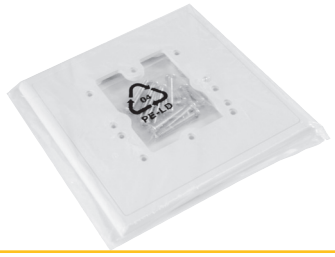
Modulated model (RLA) – Shall be an electronic remote wall mounted thermostat with modulated outputs, UL and cUL listed.

## Thermostat Accessories

Thermostat shall be supplied with a remote duct mounted sensor (RCC, RDF and RLA models only).

Thermostat shall be supplied with a remote wall mounted sensor (RCC, RDF and RLA models only).

## Thermostat Accessories (continued)



Thermostat shall be supplied with a wall mount plate (4.75" SQR) for covering unpainted wall areas or non-wallpaper areas.

Thermostats shall be supplied with lockable covers to prevent unauthorized changes to the temperature set-points.

Thermostat shall be suitable for 24V control voltage (all RCC, RDF and RLA thermostats must be 24V).

## Motorized Control Valves

Motorized control valves shall be 2- or 3-way valve(s) with sweat or threaded connections and shall have the following features: Body and body trim made of brass; stem made of stainless steel ASTM A582 type 303 with Ethylene propylene sealing O-rings, suitable for water/glycol concentrations up to 50%; and operation between 34 to 230°F. Maximum inlet pressure of 125 psig; metal-to-metal seat with a stroke of $^{1}/_{10}$" and rated to ANSI Class 125, close-off ratings in accordance with ANSI/FCI 70-2, class rate ANSI Class III and mounting location shall be NEMA1 (interior only).

## Motorized Valve Actuators

Valve actuators shall be ON/OFF or modulated, normally closed to the coil with spring return action for CW and HW applications or normally open to the coil for HW applications only and shall have the following features: ON/OFF actuators shall be suitable for 24, 120, 208 or 277V control voltage; UL listed for plenums to UL 873; cUL certified to Canadian Standards C22.2 No 24-93; direct coupled installation without tools; manual override; visual position indication; 40 sec max running time; $^{1}/_{10}$" nominal stroke; 24lb nominal force; operation temperature between 41 and 122°F and 0% to 90% relative humidity (non corrosive); NEMA 1 mounting location.

Modulated actuators shall be suitable for 24V control voltage and a signal voltage of 0-10V; UL listed for plenums to UL 873; cUL certified to Canadian Standards C22.2 No 24-93; direct coupled installation without tools; manual override; visual position indication; 40 sec max running time; $^{1}/_{10}$" nominal stroke; 24lb nominal force; Operation temperature between 41 and 122°F.

All valve actuators shall be compatible with 2 or 3-Way valves.

## Valve Package Accessories

Ball valves shall be manufactured of brass OT58-UNI-5705-65 with a chrome plated brass ball with Teflon[b] seals. The shaft shall be sealed via dual VITON O-rings and capable of operating at 325°F and 600 psi pressure WOG. All ball valves shall be supplied with a memory stop actuator and be located in the inlet pipes to the fan coil unit.

Valve Package Accessories (continued)

Unions shall be of forged brass ASTM B283 with VITON O-rings installed in the return and supply CW and/or HW pipes to facilitate the connection or removal of the unit.

Pressure and temperature test plugs shall have ¼" MNPT thread, suitable for operation up to 325°F and 1000 psi pressure. Test plugs shall be located in the return and supply CW and/or HW pipes to measure unit total pressure drop and/or unit water in/out temperatures.

Strainers shall be of forged brass ASTM B283, suitable for operation up to 325°F and 600 psi pressure WOG. Mesh shall be #20 made of stainless steel and the mesh access cap shall be sealed with a VITON O-ring and the cap shall have a ¼" NPT access port. Strainers shall be installed to the supply CW and/or HW pipes to avoid blockages on the unit water system components.

Coil blow down drain valves shall be of the chromed plated ball type with Teflon[b] seals; dual VITON O-rings seal suitable for operation up to 325°F and 600 psi pressure WOG. Valve connections shall be ¼" MNPT and ¾ inch hose bib and cap. Blow down valves shall be installed at the lowest point of the coils to enable the evacuation of all water for system repairs and/or coil replacements.

Automatic water flow control valve shall be manufactured of forged brass ASTM B283, suitable for operation up to 325°F and 600 psi pressure WOG. The automatic flow cartridge shall be removable and be accessible via forged brass cap sealed with VITON and EPDM O-rings. Auto flow control valves shall be installed with two pressure test plugs and be located in the return CW and/or HW pipes. The Auto Flow Control Valve(s) shall control the water flow in accordance with the project Fancoil coil schedule.

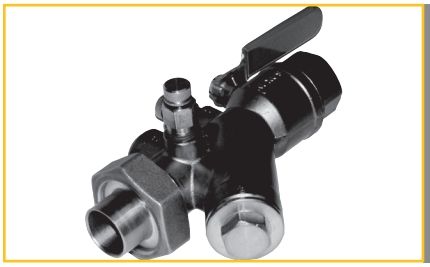
Manual adjustable flow control valve shall br manufactured of forged brass ASTM B283 and be of the calibrated manual balancing valve type, modified venture ball valve with a union end and capable of operation at 325°F, 600 psi pressure WOG with the following featues: Ball valve with chrome plated brass ball and Teflon seals; Shaft sealed via dual VITON O-rings; Handle shall have a calibrated scale indicator and a stainless steel memory stop. Manual flow control valve shall be installed with two pressure test plugs and be located in the return CW and/or HW pipes. The Auto Flow Control Valve shall control the water flow in accordance with the project Fancoil coil schedule.

## Flexible Connectors

Pipe flexible connectors shall be fire rated in compliance with ASTM E 84-00 (NFPA 225, ANSI/UL 723 and UBC 8-1) with the following features:
Operating pressure 400 psi @ 265°F, fittings made of brass with NPSM swivel w/seal and MNPT; fabric reinforced EPDM core; stainless steel braid reinforcement; brass OT58 fittings; stainless steel ferrule; fiber EPDM gasket.

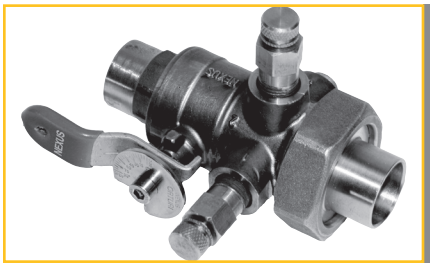
## "Combo" Accessories

Valve package components shall be provided in single body "COMBO" package as follows:



Ball valve + Strainer + Union and be installed in the supply side of the CW and/or HW coil, or

Ball valve + Auto flow control valve + Union and installed in the return side of the CW and/or HW coil, or

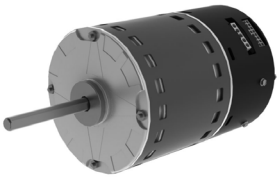


Ball valve + Manual adjustable flow control valve + Union and be installed in the return side of the CW and/or HW coil.

## Valve Package Connection Size

Valve package connections shall be suitable for $^{5}/_{8}$" in diameter copper piping for units up to and including sizes 08 (800 cfm nominal airflows) with CW connections and units up to size 20 (2000 cfm nominal airflow) for HW connections. All units sizes 10 (1000 cfm nominal airflow) and above the CW connections shall be suitable for copper piping in $^{7}/_{8}$" diameter.

## Wireless Accessories



Most ECM motors currently in the market have up to 70% motor efficiency at full and partial loads which substantially reduces energy costs. The ECM motor also has the ability to modulate the airflow to meet partial load requirements thereby further reducing the energy requirements of a building. The low operating temperature of the ECM motor also requires very little energy to offset the heat gain from the motor to the cooled airstream, thus also reducing the building energy requirements.

energy solutions

The modulated valve actuator control device increases Chiller and Boiler efficiency by 15-20% with substantial energy savings by meeting exact conditioned space load requirements. The overall net effect of modulated control valves adjusting the water flow rate to meet occupied space load requirements as they change, is increased occupant comfort in the conditioned space while reducing system energy costs.

energy solutions

One of the easiest ways to save energy and money is to upgrade to a programmable thermostat. These thermostats allow the fan coil unit to be programmed to run only at specific times of the day at specific temperatures. Programming the thermostat to shut down or reduce the cooling/heating demands during periods of time when the occupant is typically away will quickly begin reducing costs after installation. The occupant can always temporary override the program during these times if necessary.

energy solutions

An alternative to improving the efficiency and energy consumption of the fan coil unit is to install a programmable thermostat with occupancy sensors or a keycard. The thermostat can be programmed to gradually reduce the cooling/ heating demand to a pre-specified point if an occupant is not present. By using these sensors in conjunction with a programmable thermostat, tighter control of the energy consumption of a fan coil unit can be maintained.

energy solutions

An alternative to improving the efficiency and energy consumption of the fan coil unit is to install a programmable thermostat with a keycard. The thermostat can be programmed to gradually reduce the cooling/heating demand to a pre-specified point if an occupant is not present. By using this keycard in conjunction with a programmable thermostat, tighter control of the energy consumption of a fan coil unit can be maintained.

energy solutions

An alternative to improving the efficiency and energy consumption of the fan coil unit is to install a programmable thermostat with a motion sensor. The thermostat can be programmed to gradually reduce the cooling/heating demand to a pre-specified point if an occupant is not present. By using this wireless motion sensor in conjunction with a programmable thermostat, tighter control of the energy consumption of a fan coil unit can be maintained.

energy solutions

# Notes