

# CDV Fan-Coil Units High-Performance, Vertical



# Model CDV construction features

Piping and supply-duct connections are from top of unit, eliminating the need for side or back access

Right or left-hand configurations for coil (same end only) and electrical connections

Integral, discharge-collar for simple field-installation

Premium-grade, galvanized-steel casing meets 125-hour, salt-spray specifications per ASTM B-117

Product labeling including tagging, air-flow and electrical information

Single-point-power connection for simple installation and wiring

Statically and dynamically balanced, direct-drive, fan assembly

Galvanized, forward-curved fan wheel in galvanized housing

All hot-water, chilled-water, and DX coils are AHRI Standard 410-certified and labeled

Permanently lubricated, three-speed (H.P.) fan motors available in 115, 208-230 or 277-volt, single-phase, 60 Hz

ODP, PSC motors with inherent thermal overload protection

G90 galvanized-steel drain pan with 3/4" MPT connection

Drain connection at front of unit – side access not required

Removable access panels sized for easy handling and maintenance

All unit configurations listed with ETL for safety compliance

1/2" thick, fiberglass insulation complying with UL 181 and NFPA 90A (optional foil-faced insulation shown; elastomeric, closed-cell foam is also available)

Small footprint

Bottom (shown) or front return-air connection

1" glass fiber throwaway filter

All access from the front panels – units can be mounted in a pipe chase (ducted units require optional return-plenum for access)

# CDV Fan-Coil Units: The vertical, high- performance solution

## Owners

An extensive variety of components provide a flexible and versatile fan-coil unit to meet the needs of your building. Plus, the variety of options available with CDV units is where you find the versatility to fit any Heating, Ventilating, and Air-Conditioning (HVAC) need for your facility.

Options include:

- Mixing box without linkage
- Rear or bottom return
- Bottom-return plenum
- Single-wall, stainless-steel drain pans
- Elastomeric, closed-cell foam or foil-faced insulation
- Electric heat with single-point-power connection

## Designers

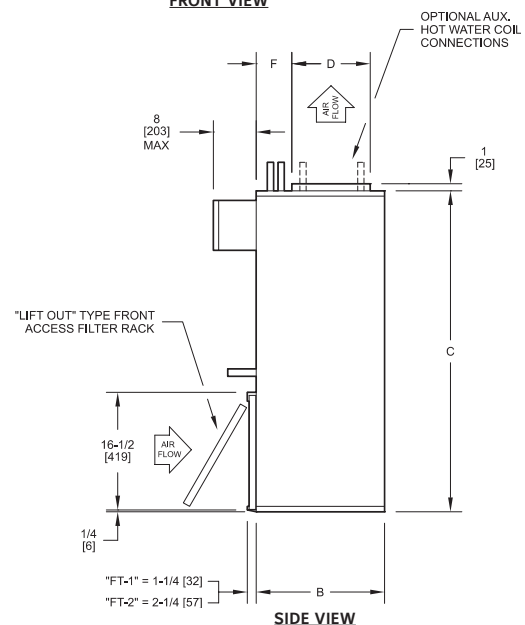
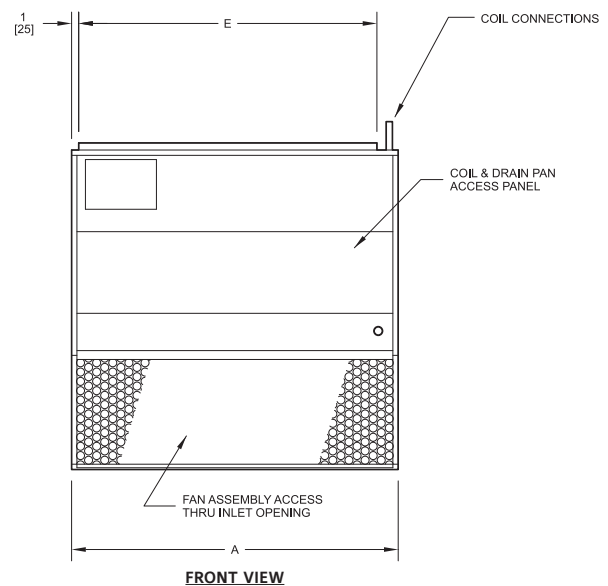
CDV vertical, high-performance fan-coil units are designed to maximize selection flexibility, making them versatile enough to fit any HVAC design need. And the units are designed to exceed the stringent quality standards of the institutional market, while remaining cost-competitive in the light-commercial segment. CDV units set the new standard for quality, flexibility, and competitive pricing.

## Contractors

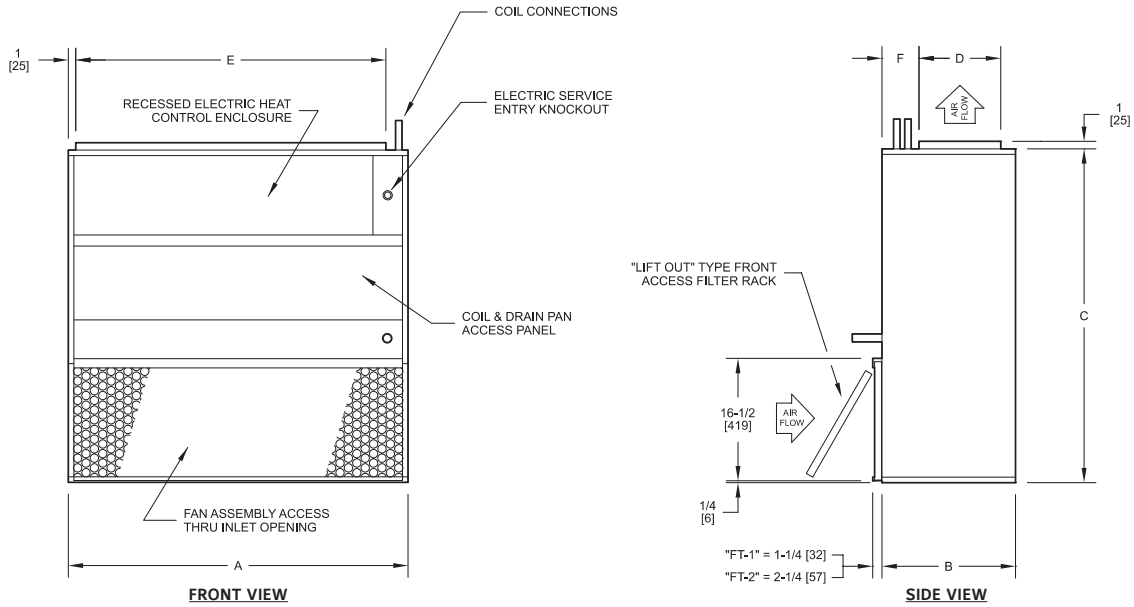
Units are shipped completely assembled, reducing field-installation time and labor.

All units comply with the latest edition of Air-Conditioning and Refrigeration Institute (AHRI) Standard 440 for testing and rating fan-coil units, are certified, and display the AHRI symbol. Sizes 16 and 20 exceed the maximum airflow rate in AHRI Standard 440 and are not certified.

## CDV Vertical Units (Without Electric Heat)

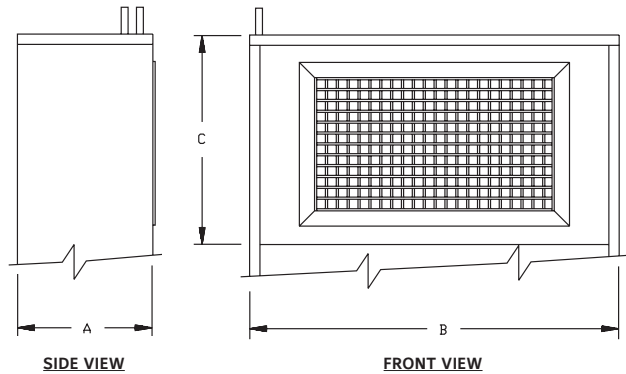


## CDV Vertical Units, with Electric Heat

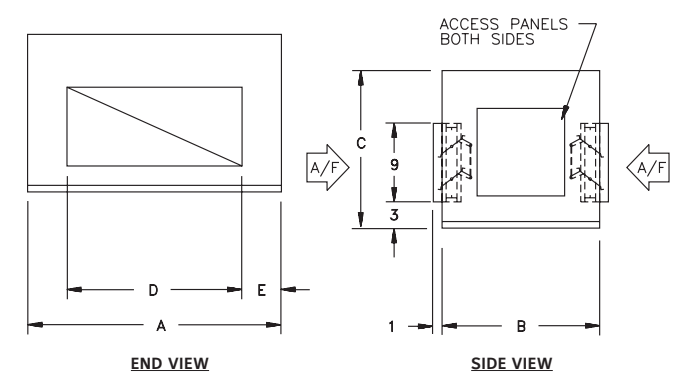


Unit Size	Dimensions					
	A	B	C	D	E	F
04-08	22" [559]	15" [381]	48" [1219]	8" [203]	18" [457]	4" [102]
10-12	22" [737]	18" [457]	48" [1219]	12" [305]	25" [635]	4" [102]
16-20	46" [1168]	18" [457]	48" [1219]	12" [305]	40" [1016]	5" [127]

## Supply Plenum, with Double-Deflection Grille



## Mixing Box Section



Unit Size	Dimensions			
	A	B	C	Supply Grille W x H
04-08	15" [381]	22" [559]	15" [381]	18" x 8" [457 x 203]
10-12	18" [457]	29" [737]	18" [457]	24" x 12" [610 x 305]
16-20	18" [457]	46" [1168]	18" [457]	40" x 12" [1016 x 305]

Unit Size	Dimensions				
	A	B	C	D	E
04-08	22" [559]	15" [381]	15" [381]	15" [381]	3-1/2" [89]
10-12	29" [737]	18" [457]	18" [457]	20" [508]	4-1/2" [114]
16-20	46" [1168]	18" [457]	18" [457]	36" [914]	5" [127]

## AHRI Standard Ratings

Unit Size	AHRI 440 Certified	Coil		Airflow CFM (Dry Flow)	Cooling Capacity		Water		Power Input (Watts)
		Rows	FPI		QT (BTUH)	QS (BTUH)	Flow Rate GPM	WPD ft. wg	
04	Yes	4	10	400	13.6	9.4	2.7	3.2	250
06	Yes	4	10	600	18.0	12.9	3.6	3.6	275
08	Yes	4	10	800	24.3	17.2	4.9	4.8	425
10	Yes	4	10	1000	33.6	23.0	6.7	5.8	450
12	Yes	4	10	1200	40.4	27.5	8.1	8.2	850
16		4	10	1600	57.6	38.4	11.5	9.8	850
20		4	10	2000	66.4	45.7	13.3	4.3	900

## Heating Capacity

Unit Size	Nominal CFM	1 Row			2 Row		
		QS (MBH)	GPM	WPD	QS (MBH)	GPM	WPD
04	400	12.5	1.3	1.5	21.2	2.2	1.5
06	600	14.9	1.5	2.1	26.4	2.7	2.2
08	800	20.5	2.1	4.9	36.3	3.7	4.9
10	1000	30.7	3.2	2.9	52.9	5.4	4.3
12	1200	33.5	3.4	3.4	58.5	6.0	5.2
16	1600	50.4	5.2	4.4	89.0	9.1	12.3
20	2000	56.0	5.7	5.4	100.9	10.3	15.7

## Unit Weight Data

Component	Unit Size							
	04	06	08	10	12	16	20	
Base Unit	81 [37]	81 [37]	103 [47]	103 [47]	106 [48]	128 [58]	134 [61]	
Missing Box	24 [11]	24 [11]	24 [11]	37 [17]	37 [17]	54 [24]	54 [24]	
Supply Plenum	21 [10]	21 [10]	21 [10]	33 [15]	33 [15]	48 [22]	48 [22]	
Return Plenum	17 [8]	17 [8]	17 [8]	25 [11]	25 [11]	33 [15]	33 [15]	
Coil Rows	1 Row: Dry	7 [3]	7 [3]	8 [4]	11 [5]	11 [5]	16 [7]	16 [7]
	1 Row: Wet	8 [4]	8 [4]	9 [4]	14 [6]	14 [6]	19 [9]	19 [9]
	2 Row: Dry	10 [5]	10 [5]	12 [5]	17 [8]	17 [8]	25 [11]	25 [11]
	2 Row: Wet	12 [5]	12 [5]	14 [6]	21 [10]	21 [10]	31 [14]	31 [14]
	3 Row: Dry	16 [7]	19 [9]	21 [10]	27 [12]	29 [13]	38 [17]	46 [21]
	3 Row: Wet	20 [9]	23 [10]	26 [12]	35 [16]	38 [17]	49 [22]	60 [27]
	4 Row: Dry	20 [9]	23 [10]	26 [12]	34 [15]	37 [17]	49 [22]	59 [27]
	4 Row: Wet	25 [11]	29 [13]	34 [15]	44 [20]	48 [22]	64 [29]	77 [35]

### GENERAL NOTES:

- All dimensions are inches [millimeters] ±1/4" [6mm]. Metric values are soft conversion.
- Front access only is required for installation and service.
- Right-hand unit shown, left-hand unit opposite.

### SUPPLY PLENUM NOTE:

- C-dimension adds to basic unit height.

### MIXING BOX NOTES:

- Return-air plenum (one inlet, no dampers) is available in lieu of mixing-box section.
- C-dimension adds to basic unit height.
- Linkage and actuator for damper control shall be provided/installed by others.

### AHRI STANDARD RATING NOTES:

- Based on 80°F Dry Bulb (DB) and 67°F Wet Bulb (WB) Entering Air Temperature (EAT), 45°F Entering Water Temperature (EWT), 10°F temperature rise, high fan speed. Motor type is Permanent Split Capacitor (PSC) and motor voltage is 115/1/60. Airflow under dry coil conditions. All models tested at 0.05" external static pressure.
- Airflow CFM on sizes 16 and 20 exceed minimum ratings in Air-Conditioning and Refrigeration Institute (AHRI) Standard 440 and are not certified.

### HEATING CAPACITY NOTE:

- Based on 70°F EAT, 180°F EWT, 20°F temperature drop, high fan speed.

### UNIT WEIGHT DATA NOTE:

- Unit weight data is shipping weight in pounds [kilograms].

**NOTE:** Drawings are not to scale and are not for installation purposes. Refer to [www.enviro-tec.com](http://www.enviro-tec.com) for more information. All data and dimensions are subject to change without notice.

# CDV Fan-Coil Unit Features

## STANDARD FEATURES:

### Construction

- AHRI Standard 440–certified and labeled
- Heavy-gauge, galvanized-steel construction
- 1/2" thick, fiberglass insulation, mechanically fastened for added security
- 1" duct-discharge collar
- Removable access panels for easy handling

### Coils

- Mechanically-expanded copper tubes leak tested to a minimum 450 psig air pressure under water
- Manual air-vent plug on all water coils
- Copper sweat connections
- 300 psig working pressure at 200°F
- Evaporator coils are factory-sealed and charged with a minimum of 5 psig nitrogen or refrigerated dry air
- Refrigerant coils provided with a fixed-orifice metering device
- AHRI Standard 410–certified and labeled
- Cooling: 3 or 4-row chilled-water or direct-expansion (DX), heat-pump compatible
- Heating: 1 or 2-row hot-water – reheat position
- 1/2" O.D., seamless copper tubes
- 0.016" tube-wall thickness
- Left-hand or right-hand connections
- 300 psig working pressure at 200°F
- Removable for service
- Manual air vents

### Filter Rack and Filters

- 1" flat filter rack
- 1" nominal throwaway filters

### Drain Pans

- Single-wall, galvanized-steel, externally insulated (fire retardant and anti-microbial closed-cell foam)
- Positively sloped to drain connection
- 3/4" male pipe thread (MPT), galvanized drain connection

### Fan Assemblies

- Forward-curved, double-width, double inlet-(DWDI), centrifugal-type
- 115-volt, single-phase, three-tap, permanent-split-capacitor (PSC) motors
- Quick-disconnect motor connections
- Removable fan(s)/motor(s) for service

### Electrical Components

- cETL listed for safety compliance
- Electrical junction box for field-wiring terminations
- Terminal block for field connections

### Electric Heat

- cETL listed as an assembly for safety compliance
- Integral electric-heat assembly with removable elements for easy service
- Automatic-reset primary and back-up secondary thermal limits
- Single-point-power connection
- Side-hinged, electrical enclosure

## OPTIONAL FEATURES:

### Construction

- Scrim-reinforced, foil-faced insulation meeting American Society for Testing and Materials (ASTM) C1136 for mold, mildew, and humidity resistance
- 1/2" elastomeric, closed-cell-foam insulation
- Double-deflection discharge grille
- Quarter-turn, quick-open, access-panel fasteners
- Return and supply plenums

### Coils

- Automatic air vents
- Stainless-steel coil casings
- 0.025" tube-wall thickness
- DX coils are heat-pump compatible

### Filter Rack and Filters

- 2" flat filter rack
- Spare throwaway filters

### Inlet Damper Section

- Factory-assembled and installed
- Heavy-gauge, galvanized-steel, formed-blade dampers
- Low-leak dampers with extruded-vinyl blade seals and flexible-metal jamb seals
- Parallel-blade operation

### Drain Pans

- Single-wall, stainless-steel with external insulation

### Fan Assemblies

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

### Electrical Components

- Front-access electrical enclosure
- SCR fan-speed controller
- Fan-relay packages
- Toggle-disconnect switch and condensate-overflow switch (drain pan)
- Main fusing
- Unit and remote-mounted, three-speed, fan switches

### Electric Heat

- Door-interlocking disconnect switches
- Main fusing

### Thermostats

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



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