

# **UNITAIRE**5

FAN COIL UNITS



**AIR THERM**  
A Mestek Company





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### Powder Coat:

See color chart for available colors.

### Coils:

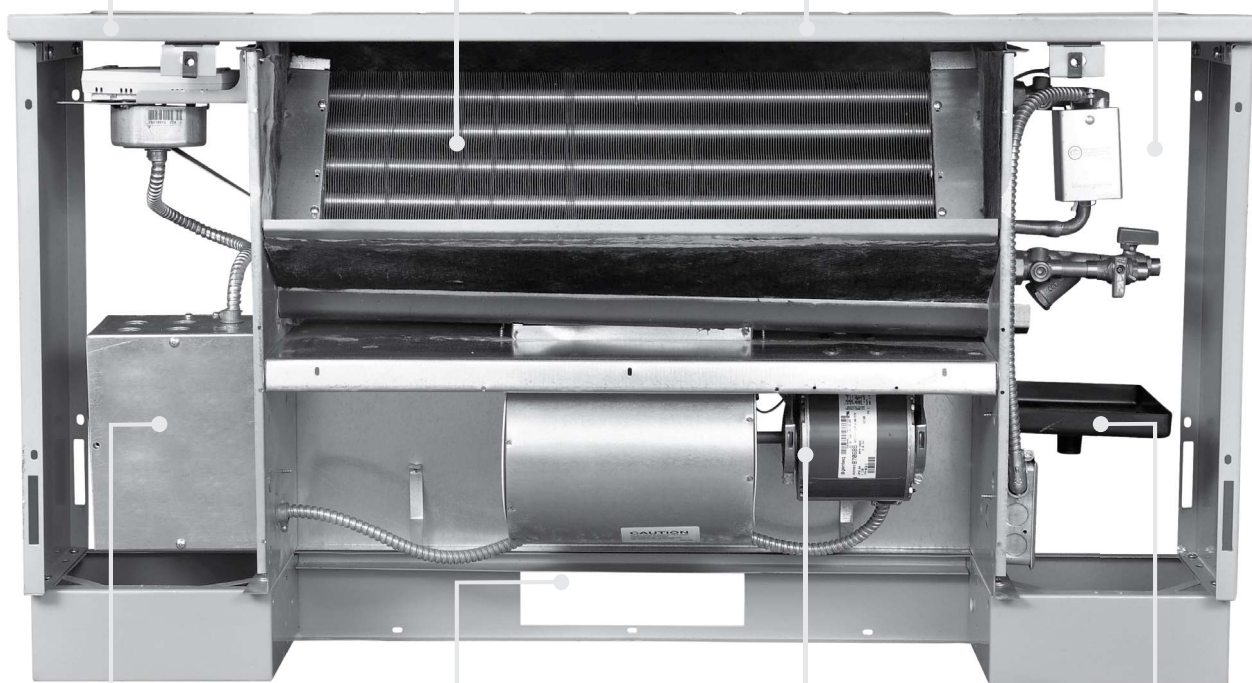
- **3-Row Water**
- 4-Row Water High Capacity
- 1-Row Hot Water
- 2-Row Hot Water
- **Manual Air Vents**
- Auto Air Vents
- Piping Packages

### Unit:

- **18 Gauge Cabinet**
- 16 Gauge Cabinet
- 14 Gauge Cabinet
- Extended End Pockets
- Leveling Legs
- **Tamperproof Front Panel & Access Doors**
- Supply & Return Grilles

### Right or left hand coil and drain connections.

4-pipe systems can be same end or opposite end connections.



### Power Supply:

- 120v/1/60
- 208V/1/60
- 240V/1/60
- 277V/1/60

### Control Packages:

- 120v
- 24v
- Custom

### Outside Air:

- Manual Damper
- Motorized Damper

### Motors:

- **PSC**
- ECM

### Auxiliary Drain Pans:

- **Plastic**
- Galvanized

**Bold type indicates a standard feature.**

### UNITAIRE Vertical Fan Coil Unit Model Number Description

Following is a complete description of the fan coil model number. Each "Code Item" in the model number has a corresponding code that identifies specific unit options.

**31U F E T F 02 5 L A 1 N 1 M N 1 16 U A V S 1**  
**1 5 10 15 20 21**

#### Code Item 1—Product Line/Factory Location

31 = Forest City  
 U = Unitaire

#### Code Items 2-6—Base Unit

##### Code Item 2—Installed

C = Ceiling  
 F = Floor  
 L = Low Profile  
 R = Reduced Height  
 S = Slope Top  
 W = Wall

##### Code Item 3—Application

C = Concealed  
 E = Exposed  
 F = Semi Recessed 5"  
 P = Plenum Concealed  
 R = Recessed  
 S = Semi Recessed 7"  
 T = Semi Recessed 3"  
 W = Windowsill

##### Code Item 4—Discharge Air Location

B = Bottom  
 F = Front  
 T = Top

##### Code Item 5—Return Air Location

B = Bottom  
 F = Front  
 R = Rear

##### Code Item 6—CFM

02 = 200  
 03 = 300  
 04 = 400  
 06 = 600  
 08 = 800  
 10 = 1000  
 12 = 1200

##### Code Item 7—Series

Pre-set by AIRTHERM

##### Code Item 8—Primary Coil Connection

L = Left Hand  
 R = Right Hand

##### Code Item 9—Motor Option

A = PSC Motor  
 C = PSC Motor with Quick Disconnect  
 E = ECM Motor  
 F = ECM with Quick Disconnect  
 J = High Static ECM Motor  
 K = High Static ECM Motor with Quick Disconnect

##### Code Item 10—Supply Voltage

1 = 120 Volts  
 2 = 208 Volts  
 3 = 240 Volts  
 4 = 277 Volts

#### Code Item 11—Service Switch

N = None  
 1 = Electric Heat Fused Switch  
 2 = Non Fused Switch (Other Voltages) DDC  
 3 = Toggle Operated Switch (120V Units)  
 4 = Toggle Operated Fused Switch (120V Units)

#### Code Item 12—Primary Coil

1 = 3-Row  
 4 = 4-Row

#### Code Item 13—Air Vent

M = Manual (Default)  
 A = Automatic Primary  
 B = Automatic Secondary  
 C = Both

#### Code Item 14—Heating Coil

N = None  
 1 = 1-Row Water, Same End  
 2 = 1-Row Water, Opposite End  
 5 = 2-Row Water, Same End  
 6 = 2-Row Water, Opposite End  
 E = 120/208/240/277, 1.0 K.W.  
 F = 120/208/240/277, 1.5 K.W.  
 G = 208/240/277, 2.0 K.W.  
 H = 208/240/277, 3.0 K.W.  
 J = 208/240/277, 4.0 K.W.  
 Other K.W. Consult Factory

#### Code Item 15—Control Voltage

1 = 120 volts  
 2 = 24 volts

#### Code Item 16—Thermostat Type

S = Standard  
 E = Electric Heat  
 M = Modulating  
 C = Control Interface (ECM)

#### Code Item 17—Thermostat Location

R = Remote Mounted  
 U = Unit Mounted  
 N = None (Field furnished)

#### Code Item 18—Changeover Control

A = Automatic  
 D = Auto Dead Band

#### Code Item 19—Cycle

V = Valve Cycle  
 F = Fan and Valve Cycle

#### Primary Coil

#### Code Item 20—Coil Connection

S = Solder (Standard)  
 U = Union



## Nomenclature

N B N S N N N N N N 1 E 6 D 8 A T  
S P 1 A 1 S P 1 A 1 B 2 C 1 B U 1 N N A 1 A 31  
22 24 25 30 35 40 45

### Code Item 21—Primary Coil Test Port

N = None (Standard)  
G = Gauge Cock  
P = Pressure Temperature Port  
B = Gauge Cock & P/T Port

### Code Item 22—Primary Coil Control Valve

N = None (Standard)  
 1 = 2-Way N.C. Electric Valve  
 2 = 2-Way N.C. Electric Valve w/Bleed Line  
 3 = 3-Way N.C. Electric Valve  
 7 = 2-Way N.C. 50 PSI Electric Valve  
 9 = 3-Way N.C. 50 PSI Electric Valve  
 A = 2-Way Med. 0-10VDC  
 B = 2-Way Modulating (NSR, 3-Wire Floating)  
 C = 3-Way Modulating (NSR, 3-Wire Floating)  
 D = 3-Way Modulating (NSR, 3-Wire Floating)

### Code Item 23—Primary Coil Flow Control

N = None (Default)  
A = Manual Balance Valve (3-Way Bypass)  
B = Manual Circuit Setter  
M = Manual Balance Valve & Manual Circuit Setter  
C = .25 GPM Griswold Flo-Control  
D = .33 GPM Griswold Flo-Control  
E = .50 GPM Griswold Flo-Control  
F = 1.00 GPM Griswold Flo-Control  
G = 1.50 GPM Griswold Flo-Control  
H = 2.00 GPM Griswold Flo-Control  
J = 2.50 GPM Griswold Flo-Control  
K = 3.00 GPM Griswold Flo-Control

### Auxiliary Coil

### Code Item 24—Primary Coil Isolation and Straining

N = None (Standard)  
B = Ball Valves  
C = Strainer  
D = Ball Valve & Strainer

Code Items 25—29 use Identical Codes as Code Items 20—24.

### Code Item 30—Blower Wheels

A = Plastic (Standard)  
B = Aluminum

### Code Item 31—Left End Pocket Modification

Standard end pocket is 9". End pocket may be reduced to 2" or extended to 14 3/4". Indicate total length of end pocket required, I.E. 5" indicates a 5" end pocket required, 4" would be removed. 13" indicates a 13" end pocket required, 4" would be added.

### Code Item 32—Right End Pocket Modification

See description above for Code Item 31, left hand end pocket modification.

### Code Item 33—Rear Extensions

N = None (Standard)  
2 = 2" Rear Extension  
4 = 4" Rear Extension  
6 = 6" Rear Extension

### Code Item 34—Discharge Air Options

N = None  
1 = Aluminum Bar Grille  
3 = 2-Way Single Deflection Aluminum Grille  
4 = 4-Way Double Deflection Aluminum Grille  
5 = 1" Duct Collar

### Code Item 35—Return Air Options

A = Stamped Steel Grille  
B = 1" Duct Collar  
C = 6" Round Inlet Duct Collar

### Code Item 36—Outside Air Dampers

- 3 = 25% Rear Inlet—(Actuator by others)
- 4 = 25% Bottom Inlet—(Actuator by others)
- 6 = Motorized 25% Rear Inlet
- 7 = Motorized 25% Bottom Inlet
- 8 = Motorized 25% Rear Inlet Damper (horizontal units only)

### Code Item 37—Steel Painted Cabinets

A = 18 Gauge Steel (Standard)  
B = 16 Gauge Steel  
C = 16 Gauge Steel Front Panel    D = 14 Gauge Steel  
E = 14 Gauge Steel Front Panel

### Code Item 38—Color

6 = VP2 - Eggshell  
7 = SB1 - Light Gray  
8 = SB6 - Deluxe Beige  
9 = SB7 - Soft Dove  
A = WB2 - Almond  
C = DB1 - Dark Bronze  
D = DB5 - Flat Black

E = P1 - White  
F = VP1 - Bright White  
G = SAI - Silver Aluminum  
H = MC2 - Champagne  
J = MC3 - Bronze Mica  
X = Special Color

### Code Item 39—Tamper Resistant Fasteners

A = Access Doors (Hex Key)

### Code Item 40—Filters

T = 1" Throwaway Glass Media (Standard)  
A = 1" Cleanable Aluminum Mesh

### Code Item 41—Insulation

A = 1/2" Coated Fiberglass (Standard)  
 B = 1/2" Foil Faced Fiberglass  
 C = Insulated Plenum Section, CPFR & CPFB Models Only  
 D = 1/2" Foil Faced, Unit & Plenum, CPFR & CPFB Models Only  
 E = Closed Cell  
 F = Closed Cell, Unit & Plenum, CPFR & CPFB Models Only

### Code Item 42—Drain Pans

1 = Stainless Steel Drain Trough - Vertical Units Only  
2 = Stainless Steel Drain Pan - Horizontal Units Only  
3 = 18 Gauge Steel Auxiliary Drain Pan - Vertical Units Only  
4 = Stainless Steel Drain Trough and 18 Gauge Steel Auxiliary Drain Pan - Vertical Units  
A = Standard Drain Trough with Safety Overflow Switch  
B = Stainless Steel Drain Trough with Safety Overflow Switch  
C = 18 Gauge Auxiliary Drain Pan with Safety Overflow Switch  
D = Stainless Steel Drain Trough and 18 Gauge Auxiliary Drain Pan with Safety Overflow Switch  
E = Standard Drain Pan with Safety Overflow Switch  
F = Stainless Steel Drain Pan with Safety Overflow Switch

### Code Item 43—Installation Accessories

A = Manually Adjusted Leveling Bolts - Vertical Units Only  
V = Vibration Isolation Grommets - Horizontal Units Only  
N = None

### Code Item 45– Ship Loose Items

31STRAINER - Strainer  
31GLASSFILTER - Spare Throwaway Filter  
31ALFILTER - Spare Aluminum Mesh Filter

## Vertical Units



### **FETF and FEFF**

FETF (shown) and FEFF are floor exposed units with return air in the front of the unit. The FETF has air discharge out of the top while the FEFF has front air discharge.

Construction features are on pages 9 & 10.

Dimensional data is on page 32.



### **WETB and WEFB**

WETB (shown) and WEFB are wall exposed units with return air in the bottom of the unit. The WETB has air discharge out of the top while the WEFB has front air discharge.

Construction features are on pages 9 & 10.

Dimensional data is on page 33.



### **SETF**

SETF is a floor exposed sloped top unit with return air in the front of the unit. The SETF is a top discharge unit.

Construction features are on pages 9 & 10.

Dimensional data is on page 34.



### **RETF and REFF**

RETF (shown) and REFF are reduced height floor mounted exposed units. The RETF has air discharge out of the top while the REFF has front air discharge.

Construction features are on pages 9 & 10.

Dimensional data is on page 38.



### **FRFF and WRFF**

FRFF is a floor mounted, fully recessed unit.

The WRFF (shown) is a wall mounted, fully recessed unit.

Construction features are on pages 9 & 10.

Dimensional data is on page 35.



**FTFF and WTFF**

FTFF is a floor mounted, partially recessed unit.

WTFF (shown) is a wall mounted, partially recessed unit.

Both of these units are recessed 3".

Construction features are on pages 9 & 10.

Dimensional data is on page 36.

**FFFF and WFFF**

FFFF is a floor mounted, partially recessed unit.

WFFF (shown) is a wall mounted, partially recessed unit.

Both of these units are recessed 5".

Construction features are on pages 9 & 10.

Dimensional data is on page 36.

**FSFF and WSFF**

FSFF is a floor mounted, partially recessed unit.

WSFF (shown) is a wall mounted, partially recessed unit.

Both of these units are recessed 7".

Construction features are on pages 9 & 10.

Dimensional data is on page 36.

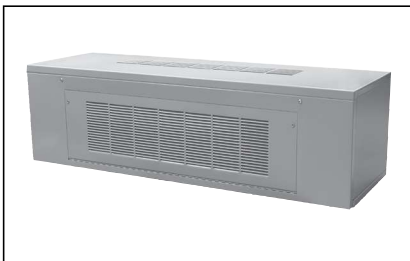
**LETF and LEFF**

LETF (shown) and LEFF are Low Profile, floor exposed units with return air in the front of the unit. The LETF has air discharge out of the top while the LEFF has front air discharge.

Construction features are on pages 9 & 10.

Dimensional data is on page 39.

Note: Models not available with electric heat.

**LWTF and LWCF**

LWTF (Shown) LWCF (concealed not shown) LWTF/LWCF is our lowest profile unit with a height of 14-1/5" it is designed to fit underneath a window. This Unit has a front return and top discharge and some specific construction details. For the construction features of this unit please refer to the specification (UAWSD-041515).

Construction features are on pages 9 & 10.

Dimensional data is on page 40.

**FCTF and LCTF**

FCTF (shown) is a floor mounted concealed unit.

LCTF is a Low Profile concealed unit.

Both of these units feature return air to the front and top air discharge.

Construction features are on pages 9 & 10.

Dimensional data for the FCTF is on page 37.

LCTF is on page 41.

Note: Model LCTF is not available with electric heat.

## Horizontal Units



### **CEFR and CEFB**

CEFB (shown) is a ceiling mounted exposed cabinet with front discharge.

The CEFR (not shown) has rear inlet

Construction features are on pages 9 & 10.

Dimensional data is on page 42.



### **\*CRFB and CRFR**

CRFB (shown) is a ceiling recessed unit with front discharge and bottom inlet.

The CRFR (not shown) has rear inlet.

Construction features are on pages 9 & 10.

Dimensional data is on page 43.



### **CPFR and CPFB**

CPFB (shown) is a ceiling concealed unit with bottom inlet on the plenum. Discharge is to the front.

CPFR (not shown) has a rear inlet on the plenum.

Construction features are on pages 9 & 10.

Dimensional data is on page 45.



### **CCFR**

CCFR is a ceiling concealed unit.

No filter is provided with this unit.

Construction features are on pages 9 & 10.

Dimensional data is on page 46.



### **\*CRBR and CRBB**

CRBB (shown) is a ceiling recessed unit with bottom inlet and discharge.

The CRBR (not shown) has a rear inlet and bottom discharge.

Construction features are on pages 9 & 10.

Dimensional data is on page 44.

Note: Models not available with electric heat.



**BASIC UNIT**—Is constructed of galvanized steel and insulated to meet the AHRI Fan-coil industry test standard for insulation efficiency. Insulation and adhesive meet U.L. and NFPA 90A requirements. Included in the basic unit are the coil, motor speed control, electric junction box, primary and auxiliary drain pans, motor board, motor(s) and fan(s).

**COILS**—May be 3-row standard or 4-row high capacity, for 2-pipe systems. An optional 1-row or 2-row heating coil is used in combination with the above for 4-pipe systems. Manual air vents are supplied on all coils. Coils, including return bends, are completely enclosed within the insulated basic unit.

**MOTOR SPEED CONTROL**—(PSC) A multi-speed switch is mounted on the side opposite piping, subject to control requirements. (ECM) ECM motors accept a 0-10 vdc signal provided by Building Management System or optional Airtherm interface Control Board.

**ELECTRIC JUNCTION BOX**—Each unit is supplied with an electric junction box located on the side opposite the piping. This location may vary, depending on control requirements.

**INTERNAL WIRING**—Is in accordance with the National Electric Code. Exposed wiring is in flexible conduit. Unit mounted electrical devices are pre-wired to a junction box.

**DRAIN PANS**—Vertical models have a externally insulated galvanized steel drip shield mounted beneath the coil surface to direct condensate from the coil to a drain trough. Drain surfaces are separate from the motor board assembly.

The galvanized steel drain trough rapidly carries condensate directly into a molded plastic auxiliary drain pan. The drain trough exterior is insulated with 8 lb. per cubic foot density closed cell vinyl foam.

**FANS**—Wheels are centrifugal, forward curved, dynamically balanced. Fan housings are constructed of galvanized steel with streamlined air inlets.

**MOTORBOARD**—Motor(s) and fan(s) are mounted on a galvanized steel motor-board assembly, which is removable.

**MOTORS**—Are resilient mounted permanent split capacitor, totally enclosed, tap wound for three speeds, with integral thermal overload protection and automatic reset, for 115/60/1. Minimum power factor is .96. Optional brushless DC ECM motors 0-10 vdc.

Motors are permanently lubricated. Under normal operating conditions, anticipated motor life is 100,000 hours.

**CABINETS**—Are constructed with 18 gauge steel fronts and tops and 16 gauge end panels. Front and discharge panels are insulated with 1/2", 2 lb. density glass fiber insulation. Cabinet parts are cleaned and phosphatized before powder coating.

The standard finish is light beige powder coat that may be field painted.

Cabinets have 9" end pockets on both sides. Two die-formed, flush hinged access doors are provided.

Front panels are one piece, secured using tamperproof fasteners. (not for Horizontal units)

**FRONT PANELS**—For models FRFF, WRFF, FSFF and WSFF are 18 gauge steel and provided with a hinged front inlet grille for easy access to the filter. Two die-formed flushed, hinged access doors are furnished for fan control and piping access. Front panels are cleaned, phosphatized and powder coated with a beige color that may be field painted.

**GRILLES**—All models with cabinets have integrally stamped outer grilles.

Models FRFF, WRFF, FSFF and WSFF have hinged stamped inlet grilles in the front panel.

**FILTERS**—1" throwaway filters are standard in all models with optional MERV 13 filters available. Filters on all vertical models with cabinets, except WETB and WEFB, are removable without removing the front panel.

PHYSICAL DATA										
			UNIT SIZE							
			2	3	4	6	8	10	12	
CFM – 3-Row Coil		High	240	310	400	600	800	1020	1170	
		Low	90	100	160	170	210	265	390	
CFM – 4-Row		High	230	300	390	590	780	995	1060	
		Low	90	100	160	170	210	265	390	
Air Inlet Opening – Minimum Free Area – Square Inches			67.6	81.2	94.9	149.6	190.7	259.1	259.1	
Air Outlet Opening – Minimum Free Area – Square Inches			57.9	69.6	81.4	128.3	163.4	222.1	222.1	
Filters		QTY.	1	1	1	1	1	2	2	
SIZE-1" X 9" X		Length (In.)	20 7/8	26 7/8	30 7/8	44 7/8	56 7/8	46 & 30 7/8	46 & 30 7/8	
Fans	Wheel	QTY	1	1	2	2	3	4	4	
		Diameter (In.)	5.72	5.72	5.72	5.72	5.72	5.72	5.72	
		Width (In.)	7.875	7.875	7.875	7.875	7.875	7.875	7.875	
		Type	Double Width – Double Inlet – Forward Curve							
	Construction	U.L. Rated Plastic Fan – Dynamically Balanced								
	Housing	Width (In.)	9.175							
		Construction	Galvanized Steel							
		Air Vent	Manual Air Vent Furnished On All Coils							
Coils	Tube Diameter		1/2" Seamless Copper							
	Connection Size		5/8" O.D. Sweat							
	Test Pressure		450 PSI							
	Working Pressure		300 PSIG Maximum							
	Depth 3-ROW		3 1/4							
	Depth 4-ROW		4 3/8							
	Width (In.)		7.5							
	Length (In.)		15 1/12	22 1/2	26 1/2	40 7/8	53 7/8	72 5/8	72 5/8	
	Face Area (Sq.Ft.)	3 & 4-Row	0.81	1.2	1.4	2.1	2.8	3.8	3.8	
	Fin Material		Aluminum							
	FPI		10.5					14		
	Water Vol. Gal. 3-Row		0.41	0.5	0.56	0.75	0.93	1.22	1.22	
	Water Vol. Gal. 4-Row		0.55	0.67	0.75	1	1.24	1.62	1.62	

STANDARD PSC MOTOR DATA											
STANDARD 115/60/1 HIGH EFFICIENCY PERMANENT SPLIT CAPACITOR MOTOR											
UNIT SIZE/ COIL ROWS	QTY PER UNIT	HP PER MOTOR	RUNNING AMPS	WATTS INPUT	POWER FACTOR	HIGH SPEED		MED SPEED		LOW SPEED	
						RPM	CFM	RPM	CFM	RPM	CFM
02-3	1	0.03	0.38	55	0.99	1010	240	950	220	750	175
02-4	1	0.03	0.38	55	0.99	1020	230	950	210	750	170
03-3	1	0.04	0.54	60	0.97	1060	310	950	275	750	220
03-4	1	0.04	0.54	60	0.97	1080	300	950	270	750	220
04-3	1	0.04	0.52	58	0.99	1060	400	950	350	750	280
04-4	1	0.04	0.52	58	0.99	1070	390	950	340	750	270
06-3	1	0.06	0.7	80	0.99	1060	600	950	535	750	425
06-4	1	0.06	0.7	80	0.99	1070	590	950	525	750	420
08-3	2	.04/.06	1.2	135	0.98	1070	800	950	710	750	560
08-4	2	.04/.06	1.2	135	0.98	1070	780	950	700	750	540
10-3	2	0.06	1.36	150	0.96	1080	1020	950	900	750	710
10-4	2	0.06	1.36	150	0.96	1090	995	950	875	750	700
12-3	2	0.13	2.4	320	0.98	1220	1170	1110	1065	830	800
12-4	2	0.13	3.1	348	0.99	1350	1300	1140	1100	875	840



MOTOR DATA OPTIONAL POWER SUPPLY 60 Hz - SINGLE PHASE												
UNIT SIZE	VOLTS	QTY PER UNIT	HP PER MOTOR	RUNNING AMPS	WATTS INPUT	POWER FACTOR	HIGH SPEED		MED SPEED		LOW SPEED	
							RPM	CFM	RPM	CFM	RPM	CFM
02	208 240 277	1 Motor 1 Blower	.03	.35 .30 .26	71	.97	1010	240	950	220	750	175
03	208 240 277	1 Motor 1 Blower	.04	.39 .34 .29	80	.97	1060	310	950	275	750	220
04	208 240 277	1 Motor 2 Blowers	.04	.42 .39 .29	79	.98	1060	400	950	350	750	280
06	208 240 277	1 Motor 2 Blowers	.06	.50 .43 .37	101	.97	1060	600	950	535	750	425
08	208 240 277	2 Motors 3 Blowers	.04/.06	.77 .67 .58	157	.97	1070	800	950	710	750	560
10	208 240 277	2 Motors 4 Blowers	.06	.87 .75 .65	172	.95	1080	1020	950	900	750	710
12-1	208 240 277	2 Motors 4 Blowers	.13	1.70 1.47 1.28	340	.96	1220	1170	1100	1065	830	800
12-2	208 240 277	2 Motors 4 Blowers	.13	1.84 1.59 1.37	366	.96	1350	1060	1140	1100	875	840

NON-DUCTED STANDARD ECM MOTOR DATA									DUCTED HIGH STATIC ECM MOTOR DATA @ .3 ESP								
UNIT SIZE/COIL ROWS	QTY PER UNIT	HP PER MOTOR	WATTS INPUT	POWER FACTOR	HIGH SPEED		LOW SPEED		UNIT SIZE/COIL ROWS	QTY PER UNIT	HP PER MOTOR	WATTS INPUT	POWER FACTOR	HIGH SPEED		LOW SPEED	
					RPM	CFM	RPM	CFM						RPM	CFM	RPM	CFM
02/3	1	1/15	24/4	0.99	1050	240	400	90	02/3	1	1/10	42	.99	1350	240	400	84
02/4	1	1/15	25/4	0.99	1100	220	400	90	02/4	1	1/10	42	.99	1350	233	400	80
03/3	1	1/15	27/4	0.99	1050	320	400	105	03/3	1	1/8	100	.99	1600	380	800	150
03/4	1	1/15	29/4	0.99	1100	310	400	105	03/4	1	1/8	100	.99	1600	370	800	147
04/3	1	1/15	33	0.99	1050	420	400	150	04/3	1	1/7	120	.99	1600	630	800	220
04/4	1	1/15	33	0.99	1100	410	400	150	04/4	1	1/7	120	.99	1600	620	800	220
06/3	1	1/15	52	0.99	1050	610	400	170	06/3	1	1/7	130	.99	1600	740	800	225
06/4	1	1/15	52	0.99	1100	600	400	170	06/4	1	1/7	130	.99	1600	700	800	225
08/3	2	1/15	60	0.99	1050	815	400	210	08/3	2	1/7	200	.99	1600	1050	800	510
08/4	2	1/15	60	0.99	1100	800	400	210	08/4	2	1/7	200	.99	1600	1040	800	520
10/3	2	1/15	85	0.99	1050	1020	400	250	10/3	2	1/7	250	.99	1600	1330	800	530
10/4	2	1/15	85	0.99	1100	1000	400	250	10/4	2	1/7	250	.99	1600	1320	800	525
12/3	2	1/10	170	0.99	1330	1250	425	370	12/3	2	1/7	250	.99	1600	1330	800	530
12/4	2	1/10	175	0.99	1350	1230	425	370	12/4	2	1/7	250	.99	1600	1320	800	525

Code Item 9	MOTOR OPTIONS
CODE	DESCRIPTION
A	115v PSC Motor
C	PSC Motor with Motor Cord Quick Disconnect
E	ECM Motor 0-10 vdc
F	ECM with Quick Disconnect
J	High Static ECM Motor
K	High Static ECM Motor with Quick Disconnect

Code Item 10	SUPPLY VOLTAGE OPTIONS
CODE	DESCRIPTION
1	120 Volt (standard)
2	208 Volt
3	240 Volt
4	277 Volt

Code Item 11	SERVICE SWITCH OPTIONS
CODE	DESCRIPTION
N	None
1	Electric Heat Fused Switch - All Voltages (30 Amp max.)
2	Non Fused Switch - Hydronic & Electric Heat Units Only - All Voltages (30 Amp max.)
3	Toggle Operated Switch - Hydronic Units Only - 115 Volt Only
4	Toggle Operated Fused Switch - Hydronic Units Only - 115 Volt Only

Code Item 12	PRIMARY COIL	
CODE	DESCRIPTION	NOTES
1	3-Row Standard Coil (standard)	1, 2
4	4-Row High Capacity	1, 2

**NOTES:**

- Specify right hand or left hand connection when ordering. Hand of piping determined when facing air outlet.
- Water coils include manual air vents.



Code Item 13	COIL OPTIONS
CODE	DESCRIPTION
M	Manual Air Vent (standard)
A	Automatic Air Vent - Primary
B	Automatic Air Vent - Secondary
C	Automatic Air Vent - Both

Code Item 14	AUXILIARY HEATING COILS	
CODE	DESCRIPTION	NOTES
1=Same End 2=Opposite End	1-Row Water	1, 2, 3, 4
5=Same End 6=Opposite End	2-Row Water	1, 2, 3, 4

**NOTES:**

1. Specify same end or opposite end piping connection when ordering. Hand of piping determined when facing air outlet.
2. Coils include manual air vents (Standard).
3. Heating coils are in the reheat position.
4. Auxiliary heating coils are not available on units with electric heat (field 14, items E-M).

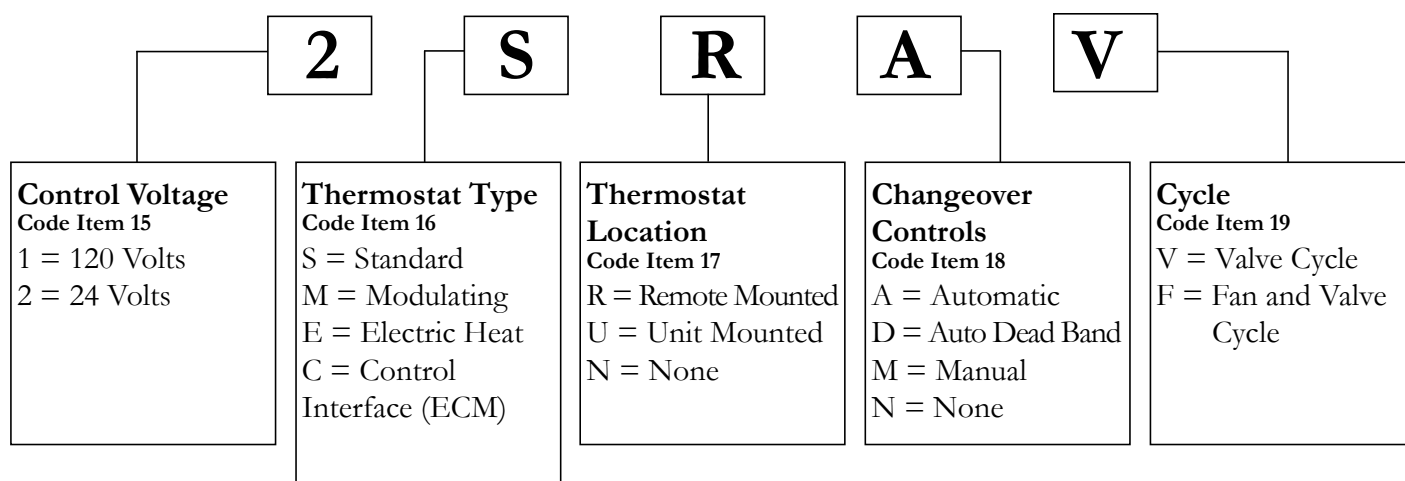
Code Item 14	ELECTRIC HEAT						
CODE	KW	02 VOLTAGE	03 VOLTAGE	04 VOLTAGE	06 VOLTAGE	08 VOLTAGE	10 VOLTAGE
E	1.0	120/208/240/277	120/208/240/277				
F	1.5	120/208/240/277	120/208/240/277	208/240/277	208/240/277		
G	2.0	120/240/277	120/240/277	120/208/240/277	120/208/240/277		
H	3.0		208	208/240/277	208/240/277	208/240/277	208/240/277
J	4.0			240/277	240/277	240/277	208/240/277

CONSULT FACTORY FOR OVER 4 KW.

**NOTES:**

1. Electric heat is not available on units with 4-row primary coils or auxiliary water/steam heating coil.
2. Electric heat is not available on units with DDC controls.
3. Electric heat is not available on Low Profile units.

### Control Package Code Code Item 15-19



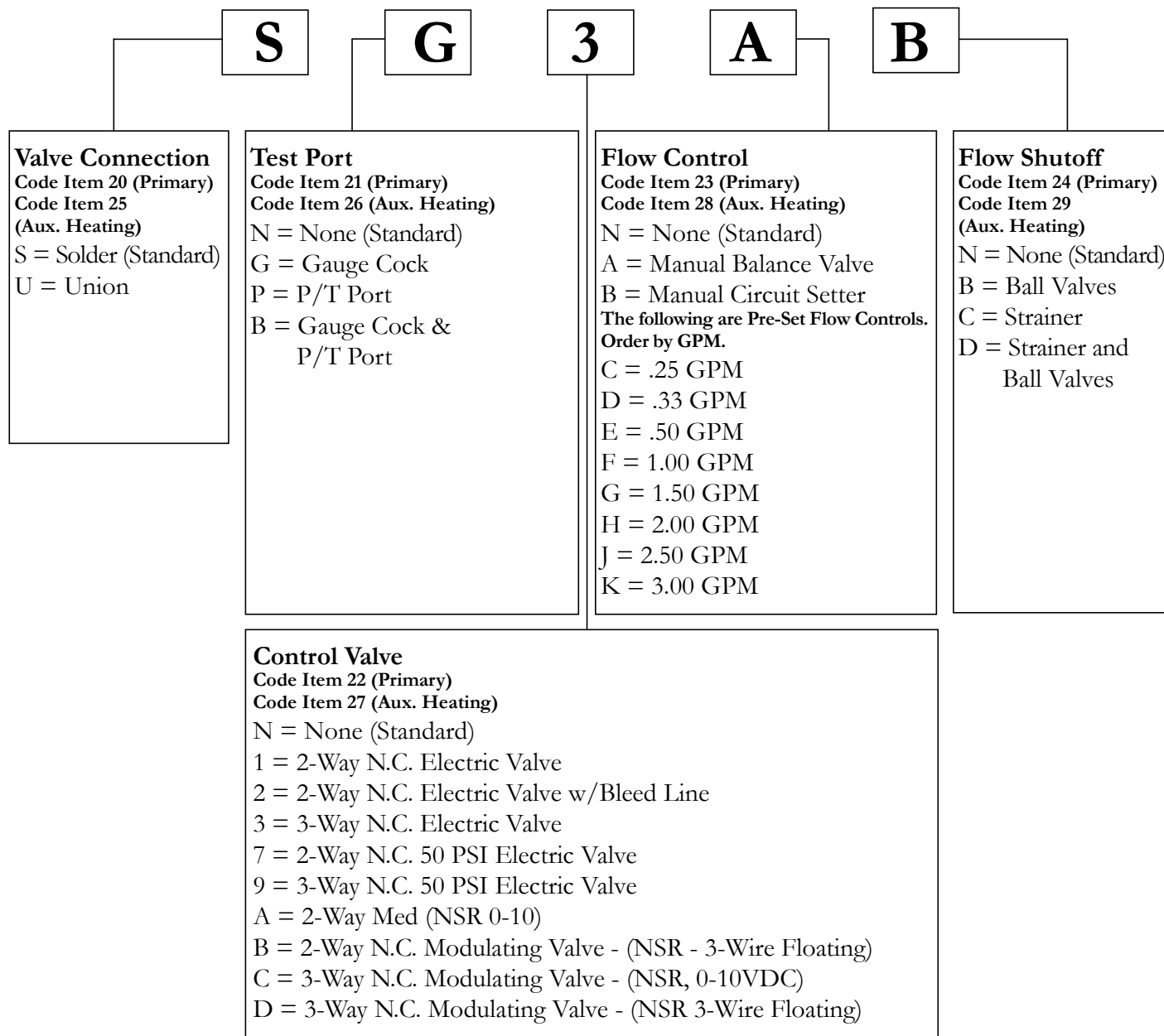
UNIT/REMOTE MOUNTED THERMOSTAT OPTIONS							
VOLTAGE	SYSTEM TYPE	THERMOSTAT LOCATION	FAN SWITCH	CONTROL SYSTEM	CHANGEOVER CONTROLS	CONTROL CYCLE	THERMOSTAT CODE
120	2-Pipe (3)	Unit	Integral	Heat/Cool	Automatic	Valve	1SUAV
	2-Pipe (3)	Wall	Integral	Heat/Cool	Automatic	Valve	1SRV (1)
	2-Pipe	Unit	Integral	Heat/Cool	Automatic	Fan & Valve	1SUAF
	2-Pipe	Wall	Integral	Heat/Cool	Automatic	Fan & Valve	1SRAF
	4-Pipe	Unit	Integral	Heat/Cool	Dead Band	Valve	1SUDV
	4-Pipe (1)	Wall	Integral (4)	Heat/Cool	Dead Band	Valve	1SRDV (1)
	2-Pipe EH	Unit	Integral	Cool/EH	Dead Band	Electric Heat	1EUDV
	2-Pipe EH	Wall	Wall	Cool/EH	Dead Band	Electric Heat	1ERDV (1)
	2-Pipe EH	Unit	Integral	Cool/EH	Automatic	Electric Heat	1EUAV (3)
24	2-Pipe EH	Wall	Integral	Cool/EH	Automatic	Electric Heat	1ERAV (1, 3)
	2-Pipe	Unit	Integral	Heat/Cool	Automatic	Valve	2SUAV
	2-Pipe	Wall	Unit	Heat/Cool	Automatic	Valve	2SRAF
	4-Pipe	Wall	Unit	Heat/Cool	Dead Band	Valve	2SRDV (1)
	4-Pipe	Unit	Integral	Heat/Cool	Automatic	Valve	2SUDV
	2-Pipe Mod	Wall	Integral	Heat/Cool	Automatic	Valve-Modulating	2MRV (1, 2)
	2-Pipe Mod	Unit	Integral	Heat/Cool	Automatic	Valve-Modulating	2MUAV (2)
	4-Pipe Mod	Wall	Integral	Heat/Cool	Automatic	Valve-Modulating	2MRDV (1, 2)
	4-Pipe Mod	Unit	Integral	Heat/Cool	Automatic	Valve-Modulating	2MUDV (2)
ECM	2-Pipe EH	Wall	Wall	Cool/EH	Dead Band	Electric Heat	2ERDV (1)
	2-Pipe	Wall	ECM	Heat/Cool	Automatic	Valve	2CRAV
	2-Pipe	Unit	ECM	Heat/Cool	Automatic	Valve	2CUAV
	4-Pipe	Unit	ECM	Heat/Cool	Dead Band	Valve	2CUDV
	4-Pipe	Wall	ECM	Heat/Cool	Dead Band	Valve	2CRDV
Control Interface and Foot Mount Transformer Only							2CNDV

#### NOTES:

- (1) Remote wall mounted thermostats are shipped loose for field installation.
- (2) Modulating thermostat controls require the use of modulating valves on page 17.
- (3) This control package requires a 2-way valve with bleed line or a 3-way valve.
- (4) Fan switch locations - Horizontal, wall; Vertical, unit.

### Valve Package Code

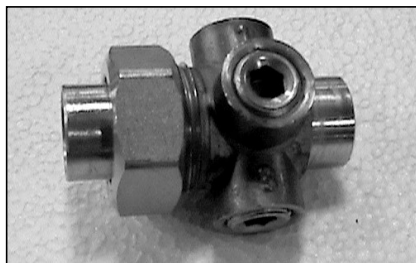
Code items 20-24 are for the primary coil. Code items 25-29 are for an auxiliary heating coil.  
Valve package codes are the same for both coils.



#### NOTE:

All valve packages are shipped loose, packed with the unit.

## Valve Package Glossary



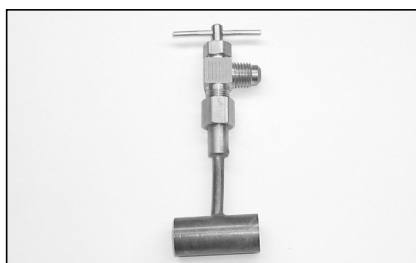
### Unions

Code Item 20 for Primary Coil

Code Item 25 for Auxiliary Heating Coil

A fitting used to provide a means of quickly disconnecting and re-connection valve packages from the unit.

Nominal Size:	1/2"
Body Material:	Bronze/Copper
Connection:	Sweat
Pressure Rating (psig):	125
Temp. Rating:	200°F



### Gauge Cock

Code Item 21 for Primary Coil

Code Item 26 for Auxiliary Heating Coil

Nominal Size:	1/2"
Body Material:	Bronze/Copper
Connection:	Sweat
Pressure Rating (psig):	125
Temp. Rating:	200°F



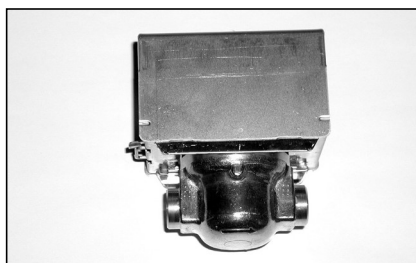
### Pressure/Temperature (P/T) Ports

Code Item 21 for Primary Coil

Code Item 26 for Auxiliary Heating Coil

Designed to allow testing of water pressure, differential pressure or water temperature without interrupting the operation of the fan coil.

Nominal Size:	1/4"
Body Material:	Brass
Connection:	Threaded
Pressure Rating (psig):	400
Temp. Rating:	250°F



### 2-Way Control Valve (typical)

Code Item 22 for Primary Coil

Code Item 27 for Auxiliary Heating Coil

A 2-position water control valve driven open or closed upon a call for heating or cooling to maintain space temperature. Control valves are piped normally closed to the coil as standard. Actuators can be line (120) or low (24) voltage.

Nominal Size:	1/2"
Body Material:	Brass
Connection:	Sweat
Pressure Rating (psig):	300
Temp. Rating:	200°F
Cv:	2.5
Max. Close-off Press. (psig):	30



### 2-Way Modulating Control Valve (typical)

Code Item 22 for Primary Coil

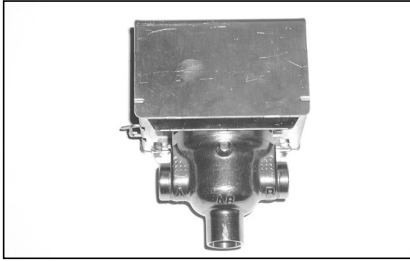
Code Item 27 for Auxiliary Heating Coil

A 3-wire modulating non-spring return control valve, when connected to a compatible modulating thermostat incrementally adjusts the valve actuator to maintain a set point. Valves are piped normally closed to the coil as standard. Actuators are 24V only.

Nominal Size:	1/2"
Body Material:	Brass
Connection:	Sweat
Pressure Rating (psig):	400
Temp. Rating:	200°F
Cv:	4.0
Max. Close-off Press. (psig):	50

**NOTE:** Photos are for representation purposes only.  
Vendors and models subject to change without notice.





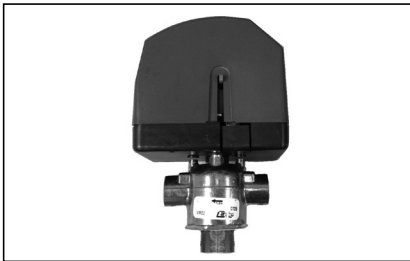
### 3-Way Control Valve (typical)

Code Item 23 for Primary Coil

Code Item 27 for Auxiliary Heating Coil

A 3-position water control valve driven open or closed (bypass) upon a call for heating or cooling to maintain space temperature. Control valves are piped normally closed to the coil as standard (in full bypass) Valve actuators can be line (120) or low (24) voltage

Nominal Size:	1/2"
Body Material:	Brass
Connection:	Sweat
Pressure Rating (psig):	300
Temp. Rating:	200°F
Cv:	3.0
Max. Close-off Press. (psig):	25



### 3-Way Modulating Control Valve (typical)

Code Item 22 for Primary Coil

Code Item 27 for Auxiliary Heating Coil

A 3-wire modulating non-spring return control valve, when connected to a compatible modulating thermostat incrementally adjusts the valve actuator to maintain a set point. Valves are piped normally closed to the coil as standard. Actuators are 24V only.

Nominal Size:	1/2"
Body Material:	Brass
Connection:	Sweat
Pressure Rating (psig):	400
Temp. Rating:	200°F
Cv:	4.0
Max. Close-off Press. (psig):	50



### Manual Circuit Setter

Code Item 23 for Primary Coil

Code Item 28 for Auxiliary Heating Coil

A control fitting designed to allow maximum water flow through the fan coil unit in the open position, and as little as 10% of flow in the closed position. Has calibrated nameplate, built in test ports and adjustable mechanical stops, and is suitable for positive shutoff.

Nominal Size:	1/2"
Body Material:	Bronze
Connection:	Sweat
Pressure Rating (psig):	300
Temp. Rating:	250°F



### Pre-Set Flow Controls

Code Item 23 for Primary Coil

Code Item 28 for Auxiliary Heating Coil

A automatic fixed flow control device designed to limit the GPM (gallons per minute) flow through the fan coil unit. Available in the following GPM's: .25, .33, .50, 1.00, 1.50, 2.00, 2.50, 3.00

Nominal Size:	1/2"
Body Material:	Copper
Connection:	Sweat
Pressure Rating (psig):	400
Temp. Rating:	250°F

**NOTE:** Photos are for representation purposes only.  
 Vendors and models subject to change without notice.

## Valve Package Glossary



### Manual Balance Valve

Code Item 23 for Primary Coil

Code Item 28 for Auxiliary Heating Coil

A plug type valve designed to balance the waterside of the fan coil to ensure proper flow through the bypass circuit of a 3-Way control valve. Manual adjustment is required. No calibration is provided at the valve

Nominal Size:	1/2"
Body Material:	Bronze
Connection:	Sweat
Pressure Rating (psig):	350
Temp. Rating:	200°F
Cv:	Adjustable



### Ball Valves

Code Item 24 for Primary Coil

Code Item 29 for Auxiliary Heating Coil

A full port forged brass ball valve used to isolate the Fan Coil Unit and associated piping. This valve requires manual operation.

Nominal Size:	1/2"
Body Material:	Brass
Connection:	Sweat
Pressure Rating (psig):	600
Temp. Rating:	325°F



### Strainer

Code Item 24 for Primary Coil

Code Item 29 for Auxiliary Heating Coil

Designed to allow water to flow through a built-in screen to filter debris or contaminants from the water system

Nominal Size:	1/2"
Body Material:	Bronze
Connection:	Sweat
Pressure Rating (psig):	200
Temp. Rating:	150°F
Screen:	20 Mesh Stainless Steel

**NOTE:** Photos are for representation purposes only.  
Vendors and models subject to change without notice.

Code Item 30	BLOWER WHEEL OPTIONS
CODE	DESCRIPTION
A	Plastic (standard)
B	Aluminum

Code Item 31	LEFT HAND END POCKET MODIFICATION	
CODE	DESCRIPTION	NOTES
N	None	
L	Left Hand End Pocket Modification	1, 2, 3

**NOTES:**

- Total length of the end pocket must be specified. Standard length is 9". End pocket length is available from 2" to 14 3/4".  
 EXAMPLE:  
 If 3" end pocket is specified, 6" will be eliminated from the end pocket selected. If 13" end pocket is specified, 4" will be added to the end pocket.
- Only available on vertical models listed on page 6-7, except FCTF and LCTF.
- 10 and 12 sized units cannot be increased in length.

Code Item 32	RIGHT HAND END POCKET MODIFICATION	
CODE	DESCRIPTION	NOTES
N	None	
R	Right Hand End Pocket Modification	1,2,3

**NOTES:**

- Total length of the end pocket must be specified. Standard length is 9". End pocket length is available from 2" to 14 3/4".  
 EXAMPLE:  
 If 3" end pocket is specified, 6" will be eliminated from the end pocket selected. If 13" end pocket is specified, 4" will be added to the end pocket.
- Only available on vertical models listed on page 6-7, except FCTF and LCTF.
- 10 and 12 sized units cannot be increased in length.

Code Item 33	REAR EXTENSION	
CODE	DESCRIPTION	NOTES
N	None	
2	2" Rear Extension	1
4	4" Rear Extension	1
6	6" Rear Extension	1

**NOTE:**

- Exposed vertical cabinet models, except WETB and WEFB. Cabinet extension attached to the rear of top and sides of vertical cabinet. Sheet metal extension between unit and outside air opening furnished and mounted by the installer.

Code Item 34	GRILLES & DUCT COLLARS DISCHARGE AIR	
CODE	DESCRIPTION	NOTES
N	None	
1	Aluminum Bar Grille	
3	2-Way Single Deflection Aluminum Grille (removable)	
4	4-Way Double Deflection Aluminum Grille (removable)	
5	1" Duct Collar - 2	1

**NOTES:**

1. Models CEFR, CEFB and FETF, RETF, LETF only. Field installed

Code Item 35	GRILLES & DUCT COLLARS RETURN AIR	
CODE	DESCRIPTION	NOTES
N	None	
A	Stamped Steel Grille (powder coated to match unit color)	1
B	1" Inlet Duct Collar	2
C	6" Round Duct Collar	3

**NOTES:**

1. Models FETF, FEFF and SETF only. Front panel must be removed to change the filter.

2. Model CEFR. Shipped loose.



Code Item 36	OUTSIDE AIR DAMPERS	
CODE	DESCRIPTION	NOTES
N	None	
1	25% Rear Inlet Manual Damper	4
3	25% Rear Inlet Damper - Automatic	1,2
4	25% Bottom Inlet Damper - Automatic	1,2
6	Motorized 25% Rear Inlet Damper	1,4
7	Motorized 25% Bottom Inlet Damper	1,4
8	Motorized 25% Rear Inlet Damper (horizontal units only)	4

**NOTES:**

1. Damper motor and linkage furnished and installed by others.
2. Models FETF, FEFF and SETF only.
3. Available on units with electric heat, units will not be U.L. labeled.
4. Not available on RETF, REFF, LETF, LEFF, LWTF, and LCTF.

Code Item 37	METAL GAUGE OPTIONS	
CODE	DESCRIPTION	NOTES
A	18 Gauge Steel Cabinet (standard)	
B	16 Gauge Steel Cabinet	
C	16 Gauge Steel Front Panel	1
D	14 Gauge Steel Cabinet	
E	14 Gauge Steel Front Panel	1

**NOTE:**

1. Models FRFF, WRFF, FFFF, WFFF, FSFF, WSFF, FTFF and WTFF only.

Code Item 38	CABINET COLORS	
CODE	DESCRIPTION	NO
6	Eggshell	VP-2
7	Light Grey	SB-1
8	Deluxe Beige (standard)	SB-6
9	Soft Dove	SB-7
A	Almond	WB-2
C	Dark Bronze	DB-1

Code Item 38	CABINET COLORS	
CODE	DESCRIPTION	NO
D	Flat Black	DB-5
E	White	P-1
F	Bright White	VP-1
G	Silver Aluminum	SA-1
H	Champagne	MC-2
J	Bronze Mica	MC-3

Code Item 39	TAMPER RESISTANT FASTENERS	
CODE	DESCRIPTION	NOTES
N	None	
A	Access Doors	1,2

**NOTE:**

1. Requires Allen Wrench, furnished by others.

Code Item 40	FILTERS	
CODE	DESCRIPTION	
T	Throwaway Fiberglass Media (standard)	
A	Cleanable Aluminum Mesh	
B	MERV 13 Throwaway Filter	

Code Item 41	INSULATION	
CODE	DESCRIPTION	
A	1/2" Coated Fiberglass (standard)	
B	1/2" Foil Faced Fiberglass	
C	Insulated Plenum Section, CPFR & CPFB Models Only - 1/2" Fiberglass	
D	1/2" Foil Faced Fiberglass, Unit and Plenum, CPFR & CPFB Models Only	
E	Closed Cell	
F	Closed Cell, Unit and Plenum, CPFR & CPFB Models Only	

Code Item 42	DRAIN PAN OPTIONS
CODE	DESCRIPTION
1	Stainless Steel Drain Trough (vertical units only)
2	Stainless Steel Drain Pan (horizontal units only)
3	18 Gauge Steel Auxiliary Drain Pan (vertical units only)
4	Stainless Steel Drain Trough and 18 Gauge Steel Auxiliary Drain Pan (vertical units only)
A	Standard Drain Trough with Safety Overflow Switch (vertical units only)
B	Stainless Steel Drain Trough with Safety Overflow Switch (vertical units only)
C	18 Gauge Auxiliary Drain Pan with Safety Overflow Switch (vertical units only)
D	Stainless Steel Drain Trough and 18 Gauge Auxiliary Drain Pan with Safety Overflow Switch (vertical units only)
E	Standard Drain Pan with Safety Overflow Switch (horizontal units only)
F	Stainless Steel Drain Pan with Safety Overflow Switch (horizontal units only)

Code Item 43	LEVELING FEET/VIBRATION ISOLATION
CODE	DESCRIPTION
N	None
A	Manually Adjustable Leveling Bolts (vertical floor mounted units only)
V	Vibration Grommet (horizontal units only)

Code Item 44	SPEED SWITCH OPTIONS
CODE	DESCRIPTION
N	None
A*	Unit Mount Speed Switch (horizontal units only)
C**	24V Fan Switching (add to control package) (PSC motors only)

\* Standard vertical units with PSC motors include 3-speed switch.

\*\* Provides 24V control on PSC motors.

	SHIP LOOSE ITEMS
CODE	DESCRIPTION
31STRAINER	Strainer (field installed)
31GLASSFILTER	Spare Throwaway Glass Media Filter
31ALFILTER	Spare Aluminum Cleanable Mesh Filter
31 MERV 13	MERV 13 Throwaway Filter

All Airtherm Fan coil units have a certified capacity rating through the AHRI 440 program. These base capacity ratings can be found on pages 11 and 12. For additional rating and configuration information please visit our web site at [www.airthermhvac.com](http://www.airthermhvac.com) and click on our selection link.

Before unit sizes can be selected, the following design criteria must be developed.

Indoor design conditions

Entering water temperatures

Ventilation air requirements & static pressures

Room total & sensible cooling loads

Room heat loss

Heating season room design temperatures

Decide - 2-pipe system or 4-pipe system

- 2-pipe system with intermediate electric heat

- 2-pipe system with total electric heat

Available power voltage, motor type, and control system (stand alone or networked)

**CABINETS**—Unitaire fan coil units are offered in seven sizes and a variety of arrangements and enclosure types to accommodate most building design requirements.

**COILS**—Primary coil options are 3-row, standard and high capacity 4-row, are available for all unit sizes. 1-row or 2-row auxiliary coils are available to provide heating in a 4-pipe system. Base hot water capacities are listed on pages 11 and 12. For additional rating and configuration information please visit our web site at [www.airtherm-hvac.com](http://www.airtherm-hvac.com) and click on our selection link.

**VALVE PACKAGES**—AIRTHERM offers a wide selection of valve packages which are described on pages 17-20.

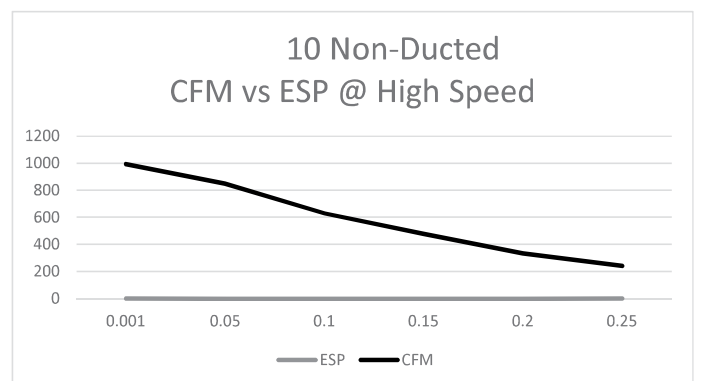
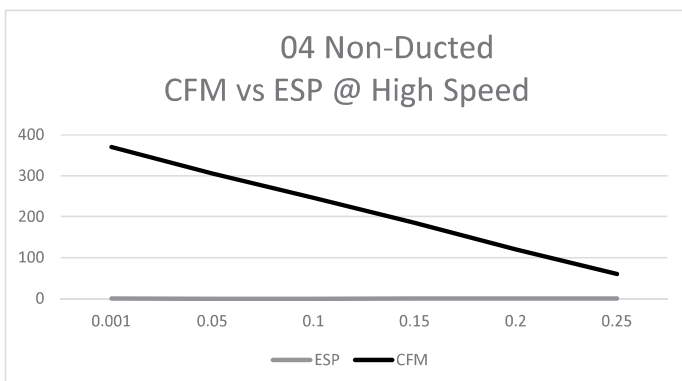
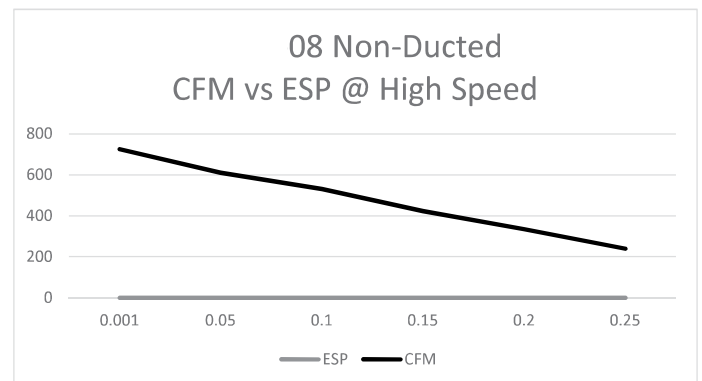
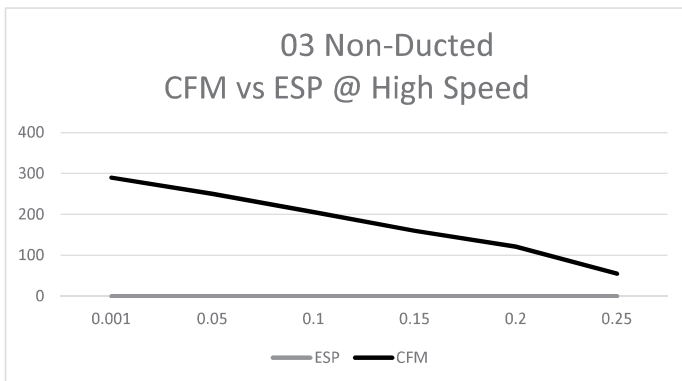
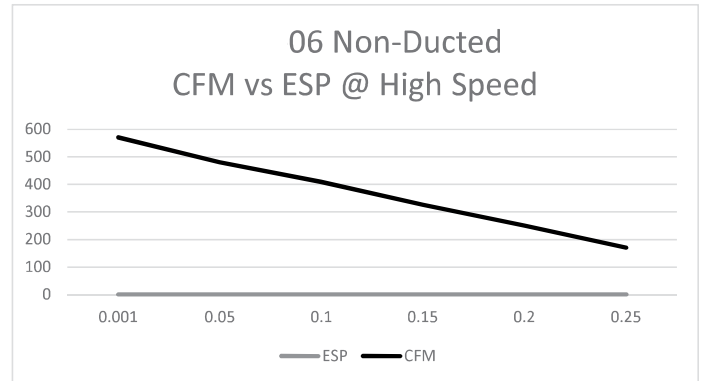
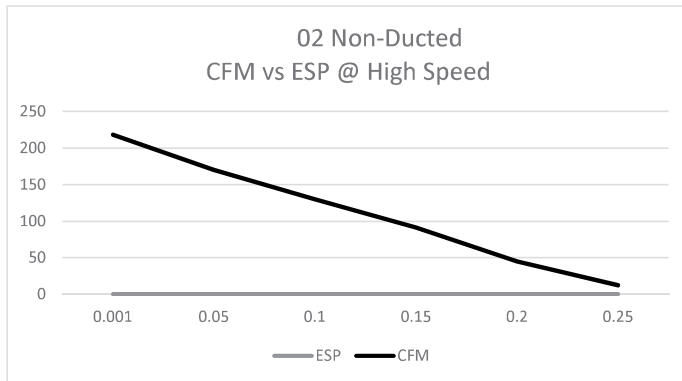
**VENTILATION**—When ventilation air is to be provided through a fan coil unit, it is mixed with return air before the unit coil. The ventilation air load is added to the room load to arrive at the unit capacity requirements.

Optional motorized damper motors are interlocked with the fan speed control. The damper is driven to the open position when fans are running and to the closed position when the fans are off or idling. A spring return operator closes the damper on power failure. A low temperature control interlock should be used to prevent coil freeze up during winter months in cold climates when outside air is brought directly into the fan coil unit. Excessive heat and humidity in direct outdoor air will reduce the capacity of the fan coil and reduce its ability to maintain the space humidity level.

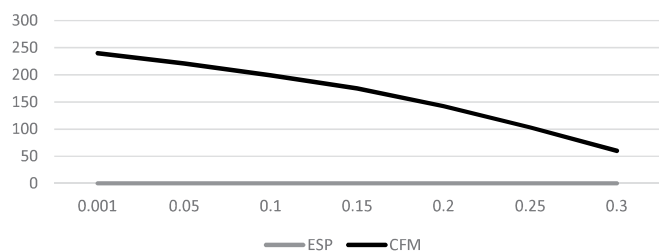
**CONTROL SYSTEMS**—Each basic unit is supplied with a 120V, 3-speed selector switch for standard PSC motors. When using optional EC and High Static EC motors a 0-10 VDC speed signal and in some cases 24V power is required to operate the fan. When EC motor only options are selected these signals are provided by the field.

**ELECTRIC HEAT**—Airtherm offers electric heat coils factory installed on fan coil units for either total heating or as an intermediate season heat source. Electric heat coils are offered on 2-pipe fan coils only. Total electric heat is used in buildings that do not have a hydronic boiler loop to provide heat in winter months such as in southern climates. When the electric heat coils are furnished with intermediate season controls in moderate and cold climates, the user always has a heating option even though the hydronic system may be operating in the cooling mode. When the hydronic system is operating in the heating mode the electric heat coils are locked out so that all heating is provided by the boiler loop. Some models are not available with electric heat, see pages 6-8 for details.

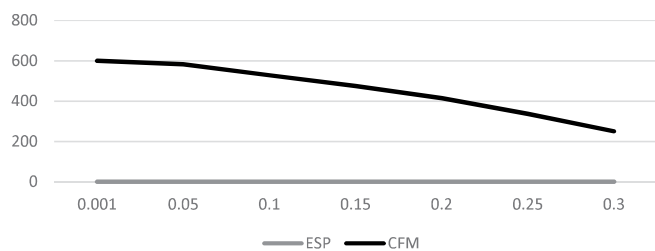




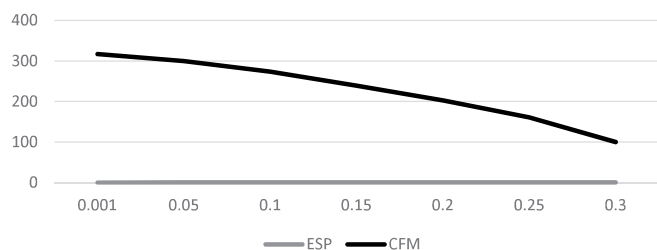
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CFM vs ESP @ High Speed



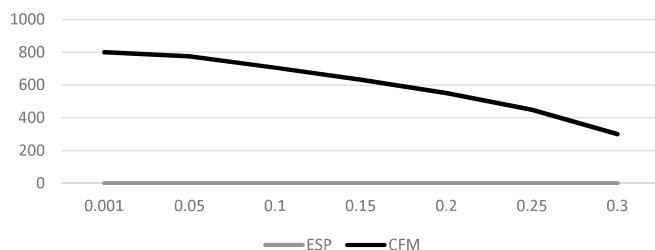
06 Ducted PSC  
CFM vs ESP @ High Speed



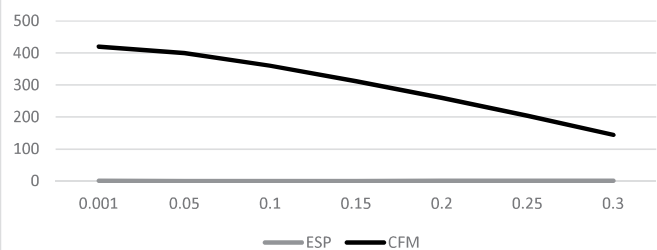
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CFM vs ESP @ High Speed



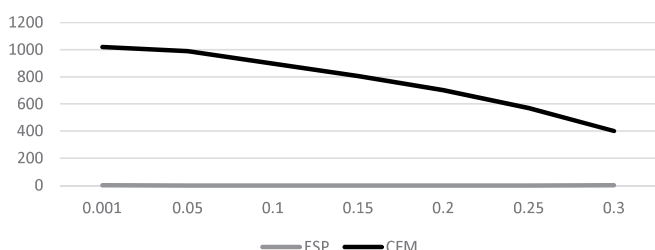
08 Ducted PSC  
CFM vs ESP @ High Speed

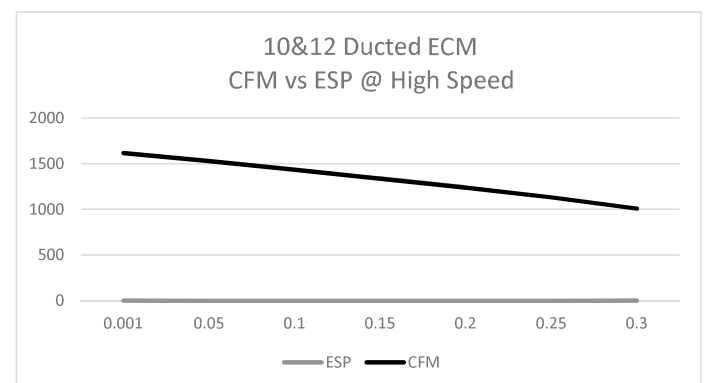
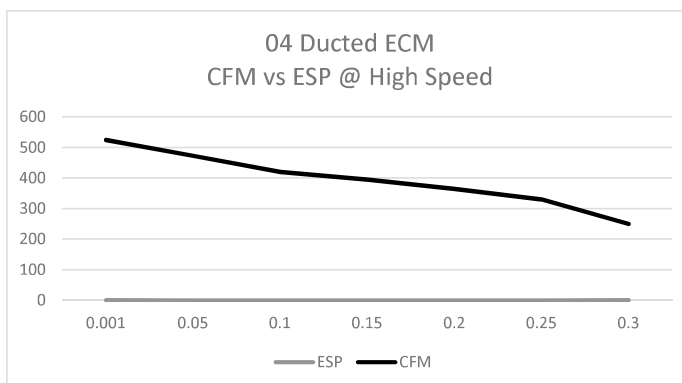
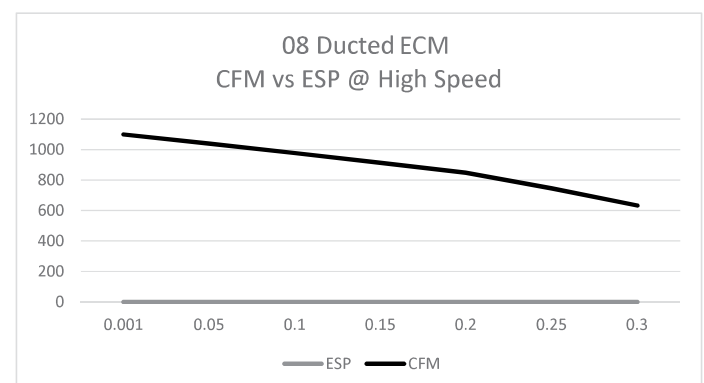
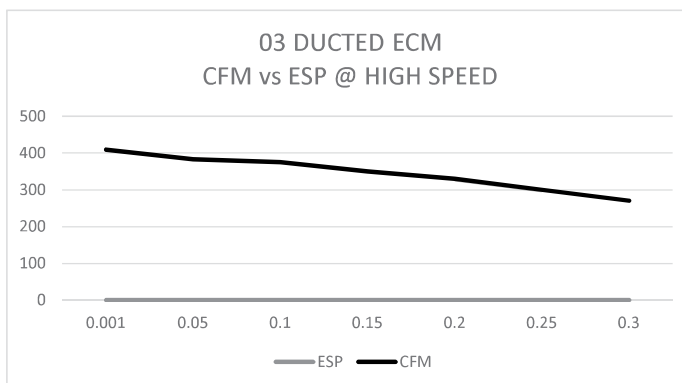
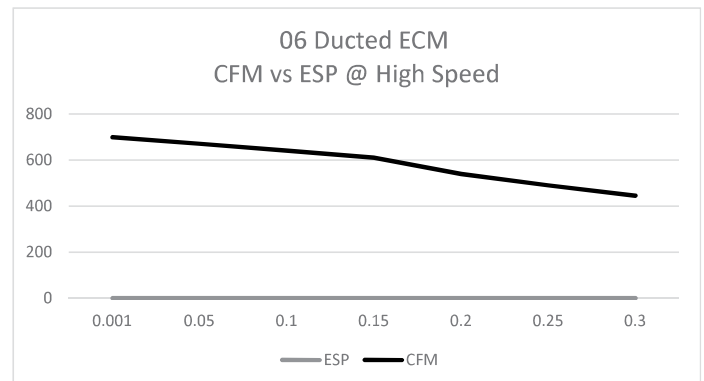
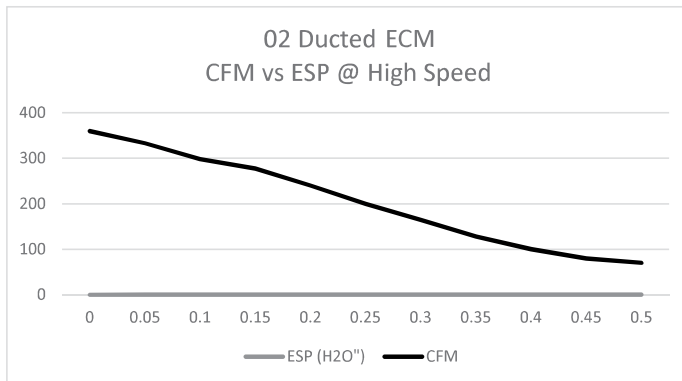


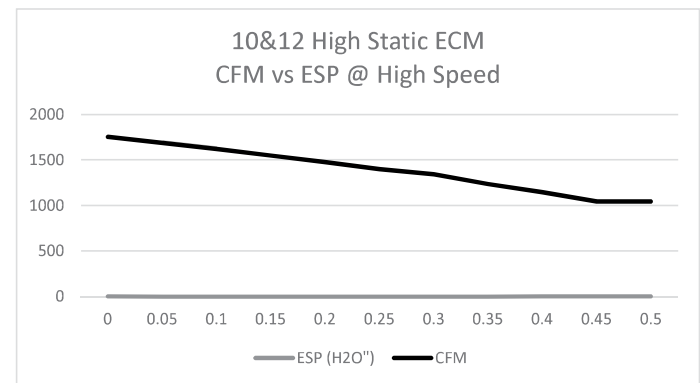
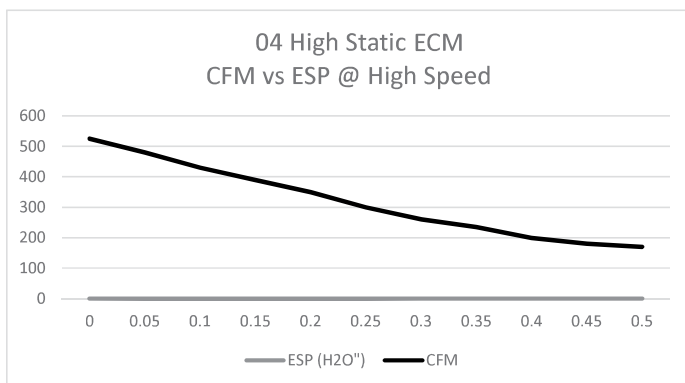
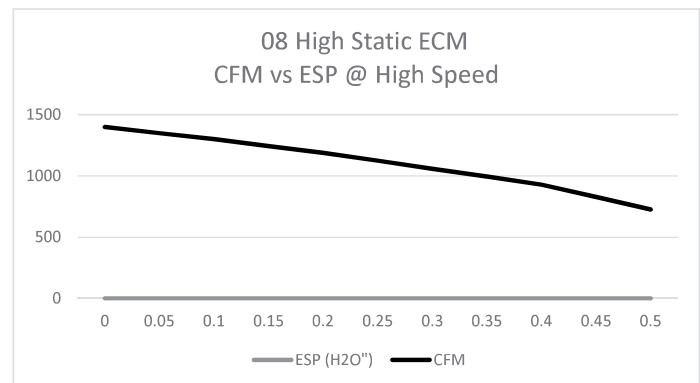
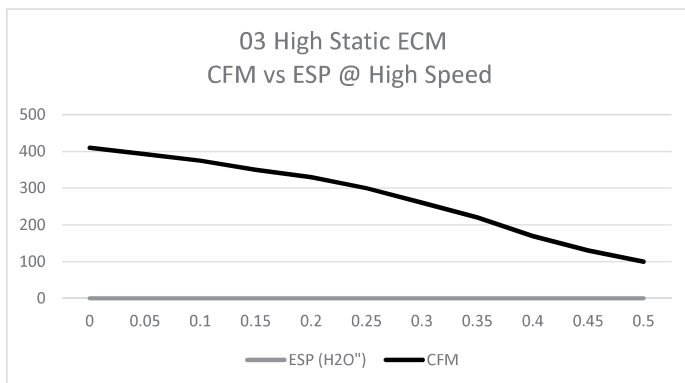
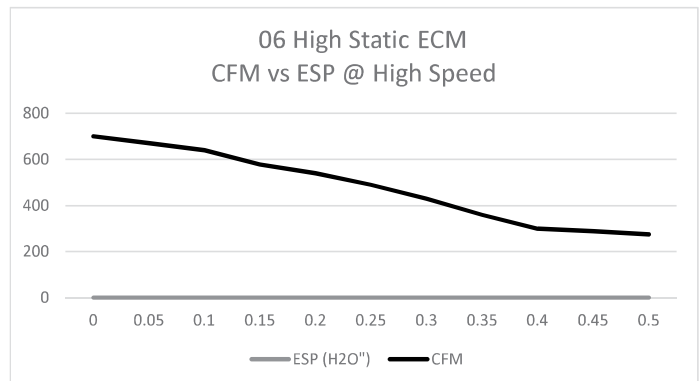
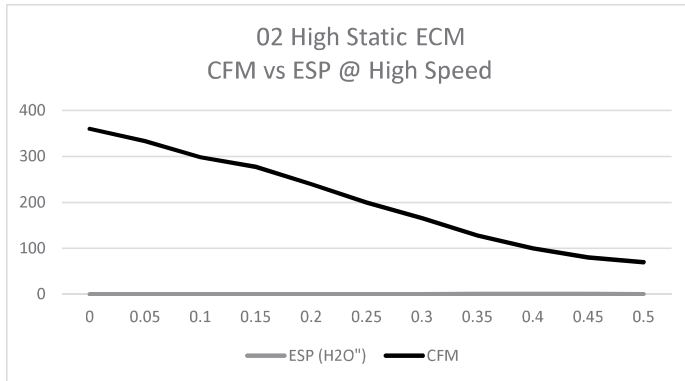
04 Ducted PSC  
CFM vs ESP @ High Speed



10 Ducted PSC  
CFM vs ESP @ High Speed









Code Item 14	ELECTRIC HEAT			
CODE	VOLTAGE ALL SINGLE PHASE	KW	AVAILABLE ON UNIT SIZE	NOTES
E	120/208/240/277	1.0	02-03	1, 2, 3, 4
F	120/208/240/277	1.5	02-03	1, 2, 3, 4
F	208/240/277	1.5	04-06	1, 2, 3, 4
G	120/208/240/277	2.0	02-06	1, 2, 3, 4
H	208/240/277	3.0	03-10	1, 2, 3, 4
J	208/240/277	4.0	04-10	1, 2, 3, 4

CONSULT FACTORY FOR K.W. OVER 4.0

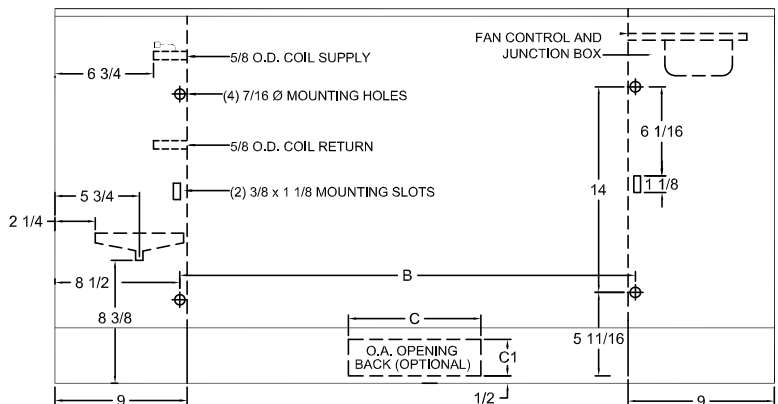
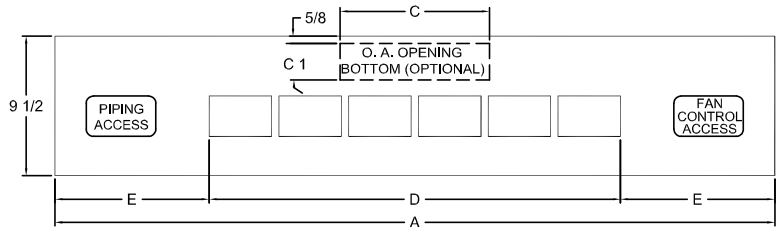
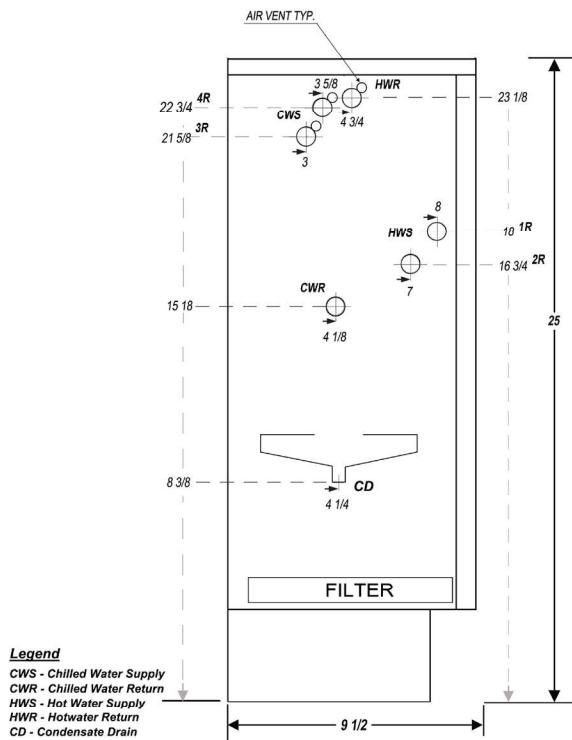
UNIT SIZE	ELECTRICAL SERVICE (amp value includes motor current)							
	120/60/1				208/60/1			
	NO. OF ELEMENTS	KW	MBH	AMPS	NO. OF ELEMENTS	KW	MBH	AMPS
02	1	1.0	3.41	8.8	1	1.0	3.41	5.2
	1	2.0	6.82	17.2	—	—	—	—
03	1	1.0	3.41	8.8	1	1.0	3.41	5.2
	1	2.0	6.82	17.2	—	—	—	—
04	—	—	—	—	1	3.0	10.24	14.8
	1	1.0	3.41	8.8	1	1.0	3.41	5.2
	2	2.0	6.82	17.2	2	2.0	6.82	10.2
06	—	—	—	—	—	—	—	—
	1	1.0	3.41	8.8	1	1.0	3.41	5.2
	2	2.0	6.82	17.2	2	2.0	6.82	10.2
08	—	—	—	—	2	6.0	20.47	29.4
	1	1.0	3.41	8.8	1	1.0	3.41	5.2
	2	2.0	6.82	17.2	2	2.0	6.82	10.2
	—	—	—	—	3	3.0	10.24	15.4
10	—	—	—	—	3	9.0	30.71	44.3
	1	1.0	3.41	8.8	1	1.0	3.41	5.2
	2	2.0	6.82	17.2	2	2.0	6.82	10.2
	—	—	—	—	4	4.0	13.65	20.4

UNIT SIZE	ELECTRICAL SERVICE (amp value includes motor current)							
	240/60/1				277/60/1			
	NO OF ELEMENTS	KW	MBH	AMPS	NO OF ELEMENTS	KW	MBH	AMPS
02	1	1.0	3.41	4.7	1	1.0	3.41	4.0
	1	2.0	6.82	8.8	1	2.0	6.82	7.6
03	1	1.0	3.41	4.7	1	1.0	3.41	4.0
	1	2.0	6.82	8.8	1	2.0	6.82	7.6
04	1	1.0	3.41	4.7	1	1.0	3.41	4.0
	2	2.0	6.82	9.0	2	2.0	6.82	7.6
06	2	4.0	13.65	17.4	2	4.0	13.65	14.8
	1	1.0	3.41	4.7	1	1.0	3.41	4.0
	2	2.0	6.82	9.0	2	2.0	6.82	7.6
08	2	4.0	13.65	17.4	2	4.0	13.65	14.8
	1	1.0	3.41	4.7	1	1.0	3.41	4.0
	2	2.0	6.82	9.0	2	2.0	6.82	7.6
	3	3.0	10.24	13.6	3	3.0	10.24	11.6
10	2	4.0	13.65	17.4	2	4.0	13.65	14.8
	3	6.0	20.47	26.1	3	6.0	20.47	22.5
	1	1.0	3.41	4.7	1	1.0	3.41	4.0
	2	2.0	6.82	9.0	2	2.0	6.82	7.6
10	4	4.0	13.65	18.0	4	4.0	13.65	19.0
	4	8.0	27.30	34.6	4	8.0	27.30	29.7

**NOTES:**

- Price includes electric heating element, linear limit control and fusible link safety thermal cutoff(s).
- Electric heat is not available on units with 4-row primary coil or auxiliary water heating coil (code item 14, options 1-4).
- 30 Amp max on all disconnects.
- Not available on low profile units, or vertical units with 4-row primary coil.

### FETF & FEFF Floor Exposed



FETF\_V5

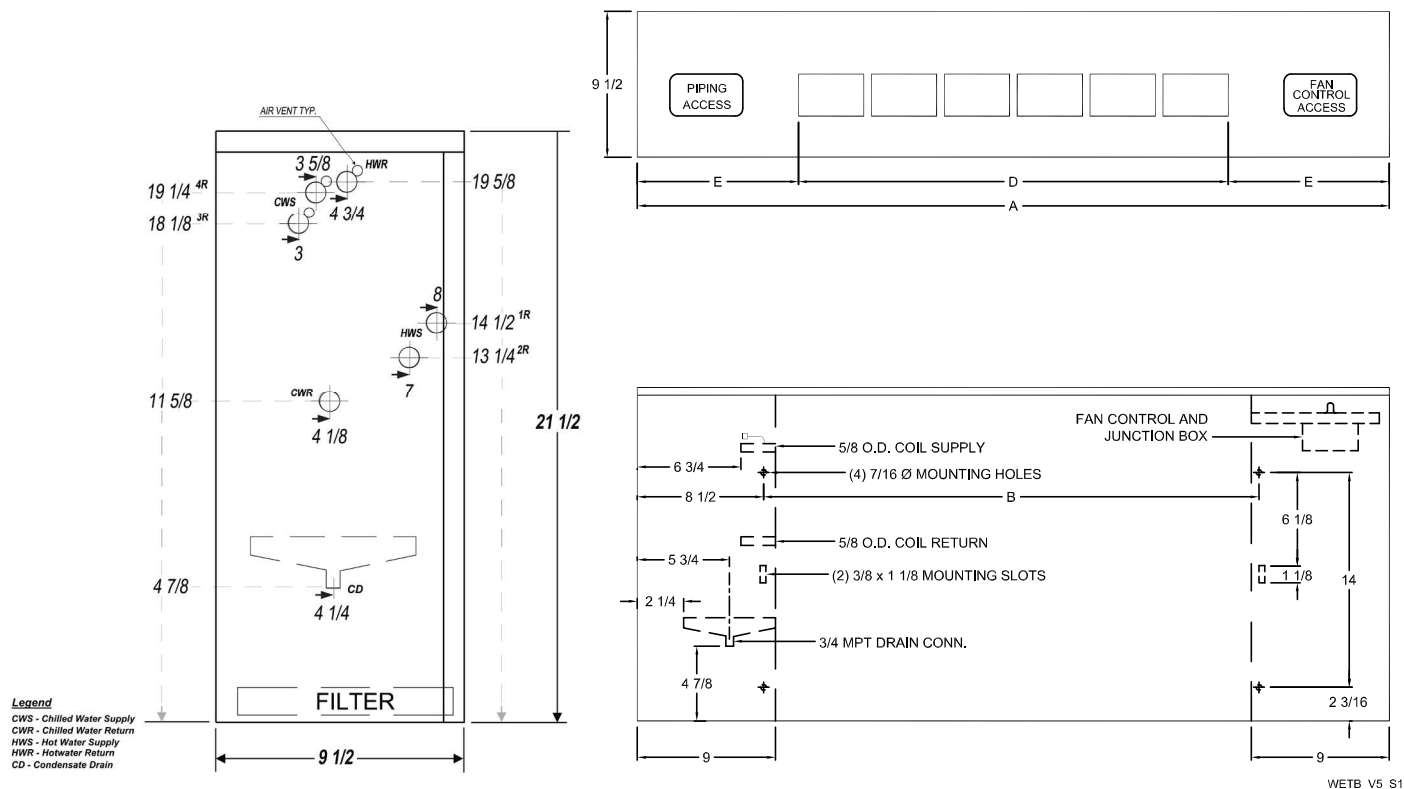
(Standard End Pocket Dimensions)

Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet.  
 Electric junction box location may vary depending on control requirements. Contact Factory.  
 Model FETF is shown. Model FEFF is furnished with air outlet, piping access and fan control access located in the front panel.

UNIT SIZE	DIMENSIONS							
	A	B	25% OA INTAKE		100% OA INTAKE		D	E
			C	C1	C	C1		
02	39	22	9	2-1/2	21	3	19-3/4	9-5/8
03	45	28	9	2-1/2	27	3	23-3/4	10-5/8
04	49	32	15	2-1/2	31	3	27-3/4	10-5/8
06	63	46	15	2-1/2	45	3	43-3/4	9-5/8
08	75	58	27	2-1/2	—	—	55-3/4	9-5/8
10/12	95	78	27	2-1/2	—	—	75-3/4	9-5/8

Dimensions are approximate and are subject to change without notice.

### WETB & WEFB Wall Exposed



(Standard End Pocket Dimensions)

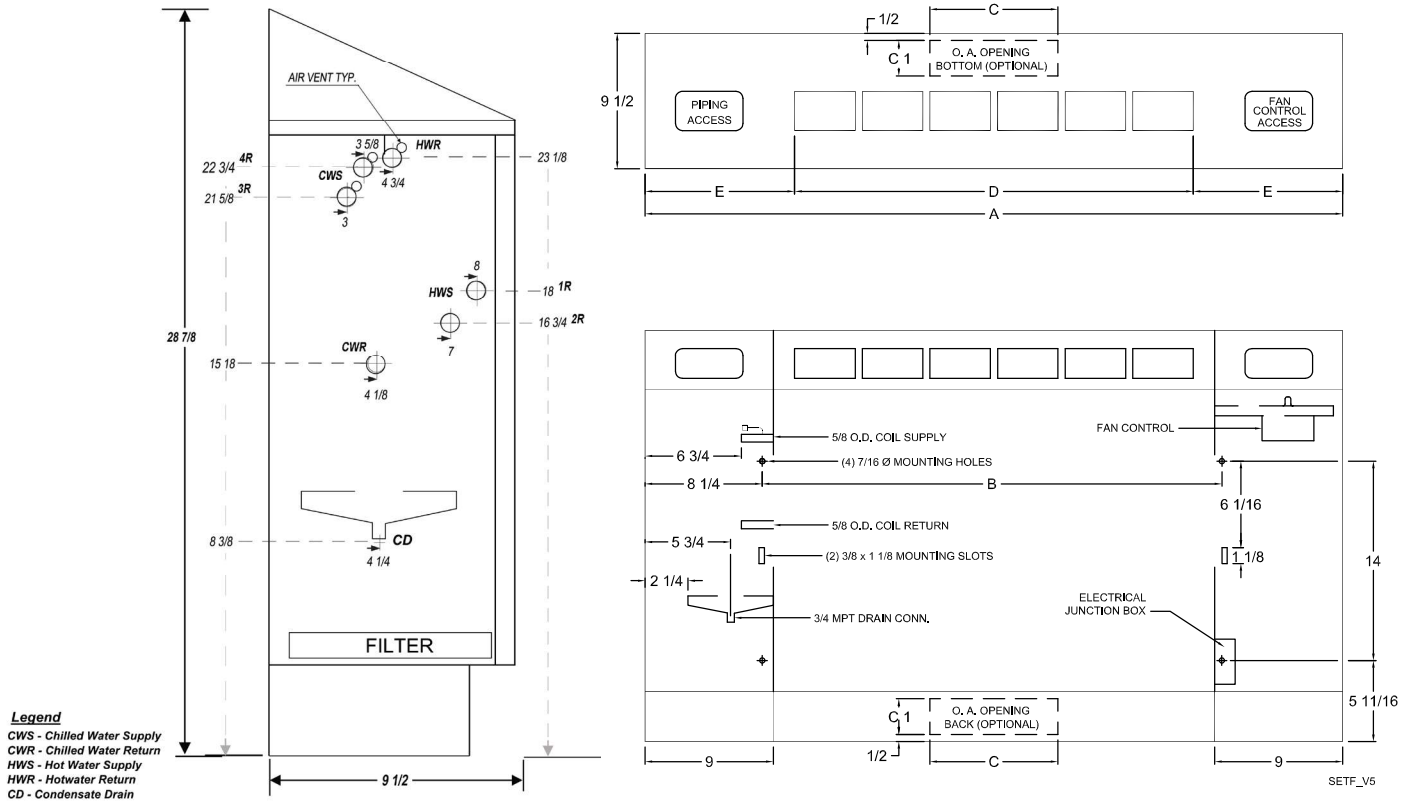
Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet.  
Electric junction box location may vary depending on control requirements. Contact Factory.  
Model WETB is shown. Model WEFB is furnished with air outlet, piping access, and fan control access located in the front panel.

UNIT SIZE	DIMENSIONS			
	A	B	D	E
02	39	22	19-3/4	9-5/8
03	45	28	23-3/4	10-5/8
04	49	32	27-3/4	10-5/8
06	63	46	43-3/4	9-5/8
08	75	58	55-3/4	9-5/8
10/12	95	78	75-3/4	9-5/8

Dimensions are approximate and are subject to change without notice.

## SETF

### Sloped Top Exposed



(Standard End Pocket Dimensions)

**Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet. Electric junction box location may vary depending on control requirements. Contact Factory.**

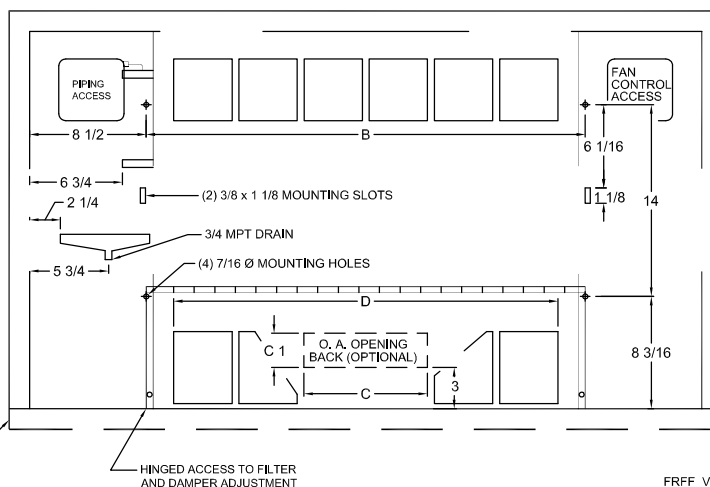
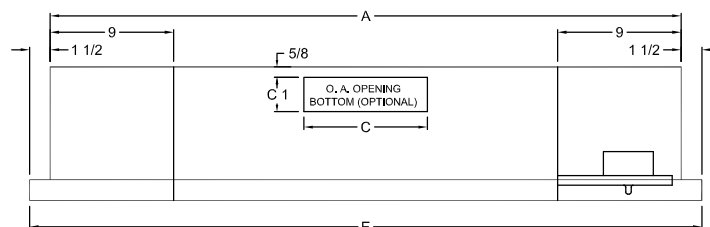
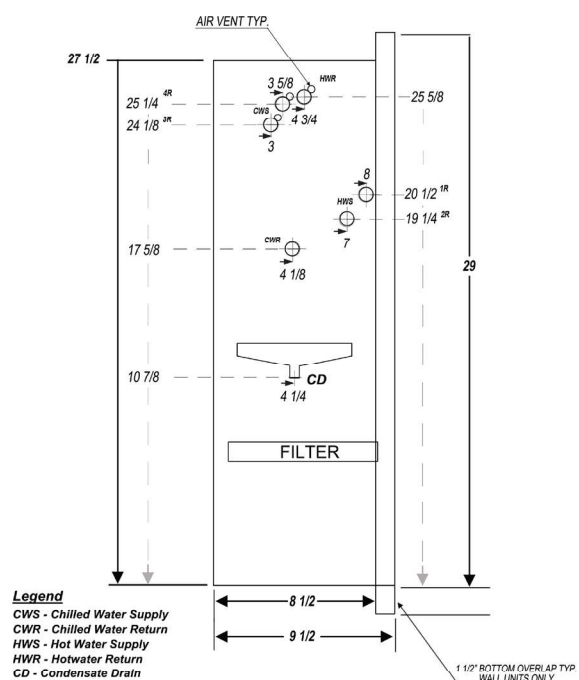
UNIT SIZE	DIMENSIONS							
	A	B	25% OA INTAKE		100% OA INTAKE		D	E
			C	C1	C	C1		
02	39	22	9	2-1/2	21	3	19-3/4	9-5/8
03	45	28	9	2-1/2	27	3	23-3/4	10-5/8
04	49	32	15	2-1/2	31	3	27-3/4	10-5/8
06	63	46	15	2-1/2	45	3	43-3/4	9-5/8
08	75	58	27	2-1/2	—	—	55-3/4	9-5/8
10/12	95	78	27	2-1/2	—	—	75-3/4	9-5/8

**End pocket modifications limited to next size Unit A dimension.  
Dimensions are approximate and are subject to change without notice.**

## FRFF & WRFF

### Floor & Wall Recessed

(Standard End Pocket Dimensions)



FRFF V5 S1

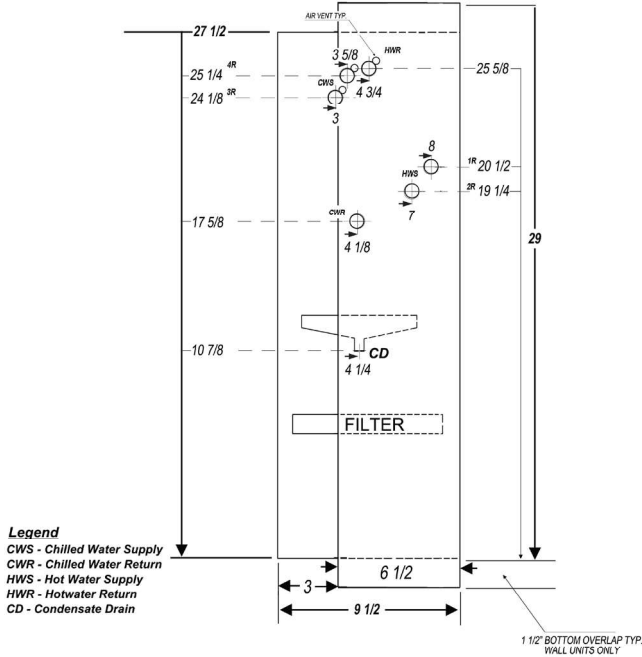
**Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet. Electric junction box location may vary depending on control requirements. Contact Factory.**

UNIT SIZE	DIMENSIONS					
	A	B	25% OA INTAKE		D	E
			C	C1		
02	39	22	9	2-1/2	19-3/4	42
03	45	28	9	2-1/2	23-3/4	48
04	49	32	15	2-1/2	27-3/4	52
06	63	46	15	2-1/2	43-3/4	66
08	75	58	27	2-1/2	55-3/4	78
10/12	95	78	27	2-1/2	75-3/4	98

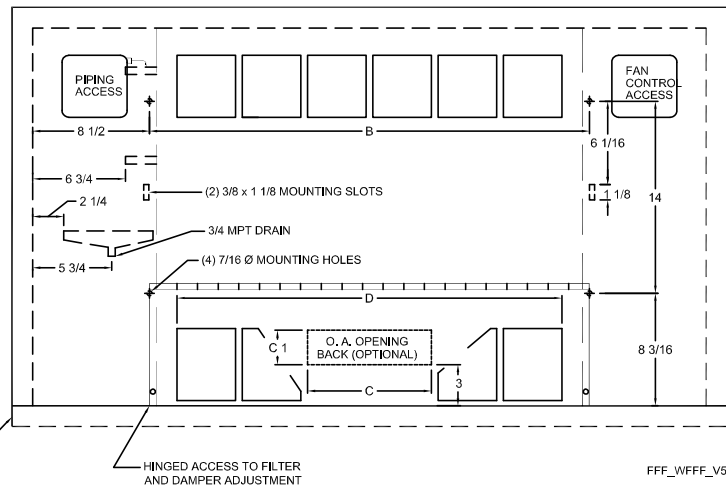
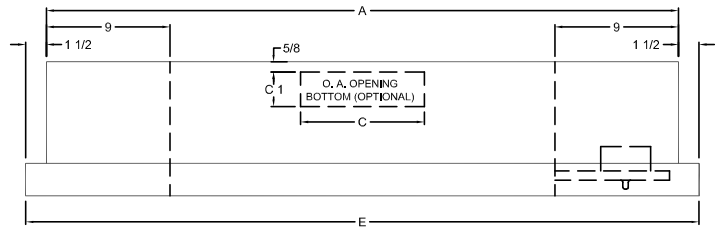
**Dimensions are approximate and are subject to change without notice.**

### FTFF, FFFF, FSFF, WTFF, WFFF & WSFF Floor & Wall Semi-Recessed

(Standard End Pocket Dimensions)



**Legend**  
CWS - Chilled Water Supply  
CWR - Chilled Water Return  
HWS - Hot Water Supply  
HWR - Hotwater Return  
CD - Condensate Drain



FFF\_WFFF\_V5\_S1

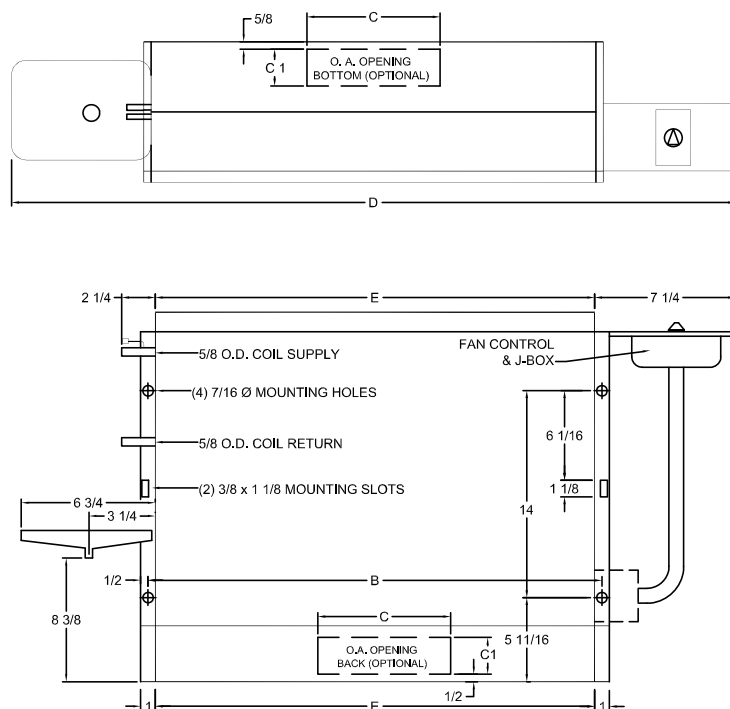
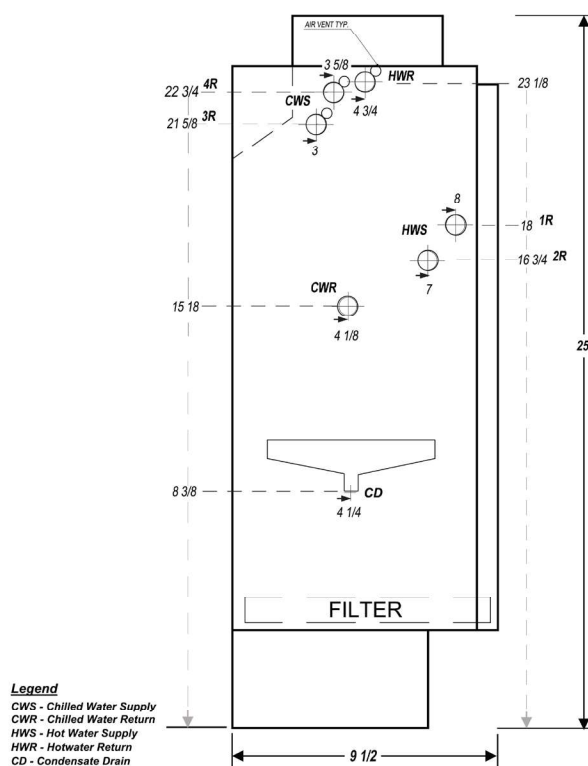
Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet.  
Electric junction box location may vary depending on control requirements. Contact Factory.

UNIT SIZE	DIMENSIONS											
	A	B	25% OA INTAKE		D	E	FTFF WTFF		FFFF WFFF		FSFF WSFF	
			C	C1			P	R	P	R	P	R
02	39	22	9	2-1/2	19-3/4	42	6-1/2	3	4-1/2	5	2-1/2	7
03	45	28	9	2-1/2	23-3/4	48	6-1/2	3	4-1/2	5	2-1/2	7
04	49	32	15	2-1/2	27-3/4	52	6-1/2	3	4-1/2	5	2-1/2	7
06	63	46	15	2-1/2	43-3/4	66	6-1/2	3	4-1/2	5	2-1/2	7
08	75	58	27	2-1/2	55-3/4	78	6-1/2	3	4-1/2	5	2-1/2	7
10/12	95	78	27	2-1/2	75-3/4	98	6-1/2	3	4-1/2	5	2-1/2	7

Dimensions are approximate and are subject to change without notice.



### FCTF Floor Concealed



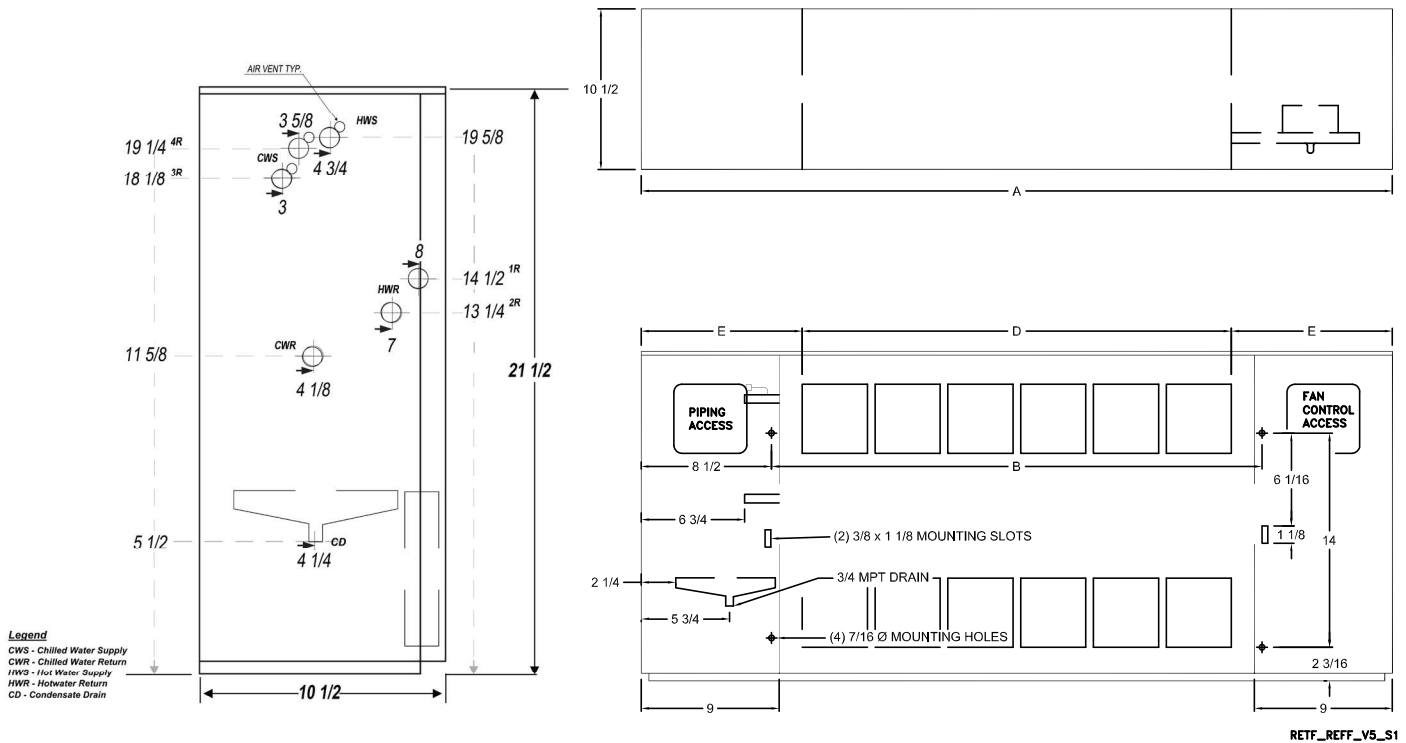
FCTF\_V5\_S1

Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet. Electric junction box location may vary depending on control requirements. Contact Factory.

UNIT SIZE	DIMENSIONS				
	B	25% OA INTAKE		D	E
		C	C1		
02	22	9	2-1/2	35	21
03	28	9	2-1/2	41	27
04	32	15	2-1/2	45	31
06	46	15	2-1/2	59	45
08	58	27	2-1/2	71	57
10/12	78	27	2-1/2	91	77

Dimensions are approximate and are subject to change without notice.

### RETF & REFF Reduced Height Exposed



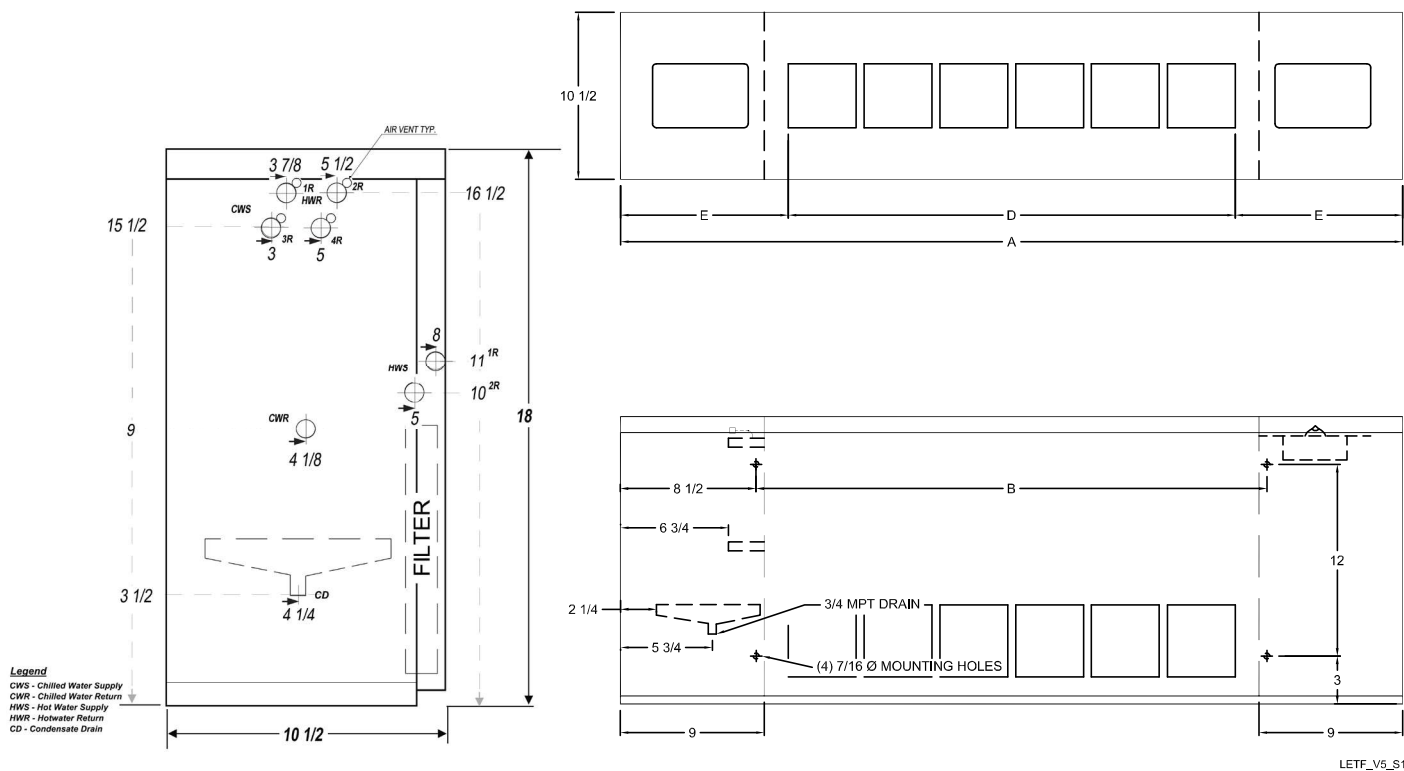
(Standard End Pocket Dimensions)

Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet.  
 Electric junction box location may vary depending on control requirements. Contact Factory.  
 Model RETF is shown. Model REFF is furnished with air outlet, piping access and fan control access located in the front panel.

UNIT SIZE	DIMENSIONS			
	A	B	D	E
02	39	22	19-3/4	9-5/8
03	45	28	23-3/4	10-5/8
04	49	32	27-3/4	10-5/8
06	63	46	43-3/4	9-5/8
08	75	58	55-3/4	9-5/8
10/12	95	78	75-3/4	9-5/8

Dimensions are approximate and are subject to change without notice.

### LEFT & LEFF Low Profile Exposed



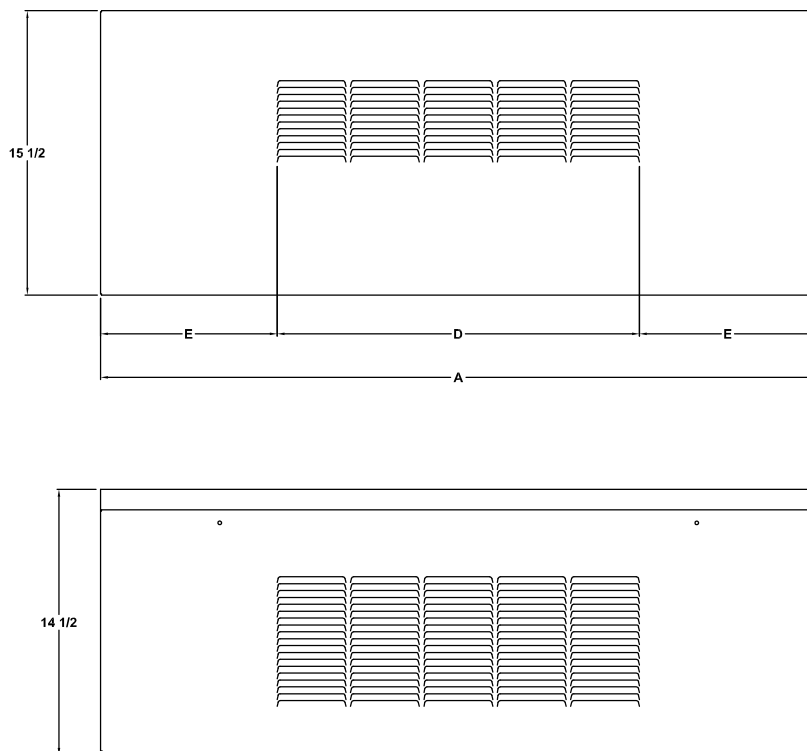
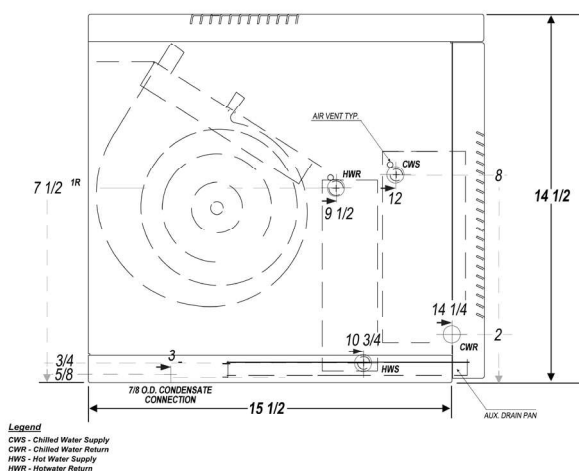
(Standard End Pocket Dimensions)

Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet.  
Electric junction box location may vary depending on control requirements. Contact Factory.  
Model LEFT is shown. Model LEFF is furnished with air outlet, piping access and fan control access doors located in the front panel. Discharge grilles not available. Not available with electric heat.

UNIT SIZE	DIMENSIONS			
	A	B	D	E
02	39	22	19-3/4	9-5/8
03	45	28	23-3/4	10-5/8
04	49	32	27-3/4	10-5/8
06	63	46	43-3/4	9-5/8
08	75	58	55-3/4	9-5/8
10/12	95	78	75-3/4	9-5/8

Dimensions are approximate and are subject to change without notice.

### LWTF Windowsill



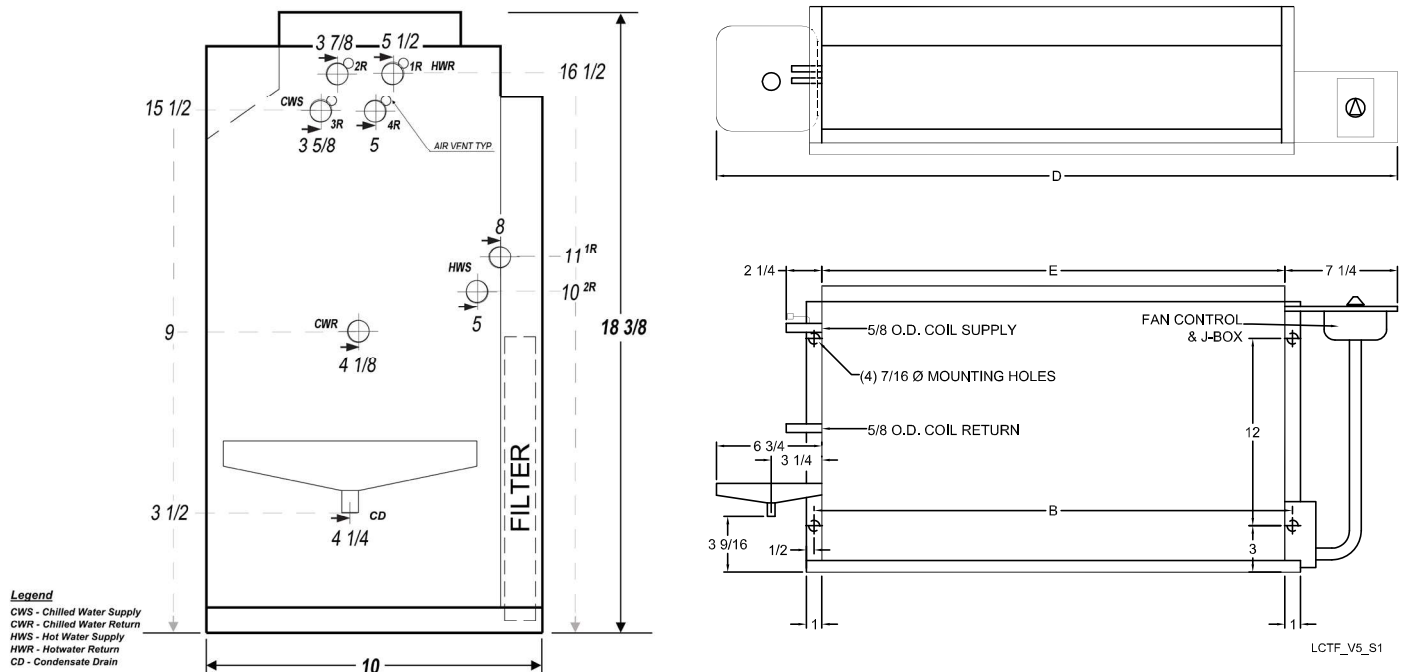
LWTF\_V5

Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet.  
Electric junction box location may vary depending upon control requirements. Contact Factory.

UNIT SIZE	DIMENSIONS			
	A	B	D	E
02	39	22	19-3/4	9-5/8
03	45	28	25-3/4	10-5/8
04	49	32	29-3/4	10-5/8
06	63	46	43-3/4	9-5/8
08	75	58	55-3/4	9-5/8
10/12	95	78	75-3/4	9-5/8

Dimensions are approximate and are subject to change without notice.

### LCTF Low Profile Concealed

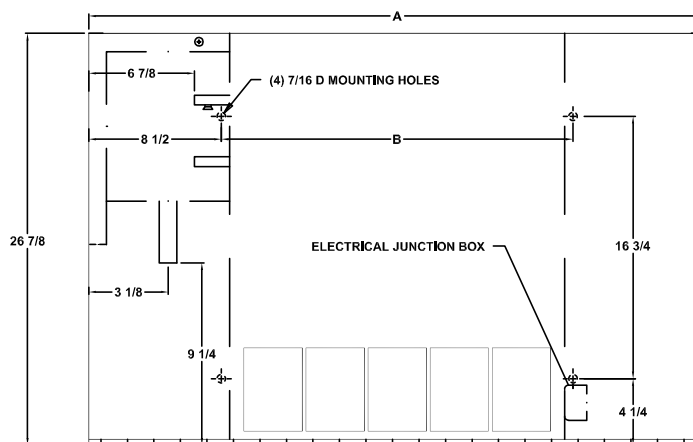
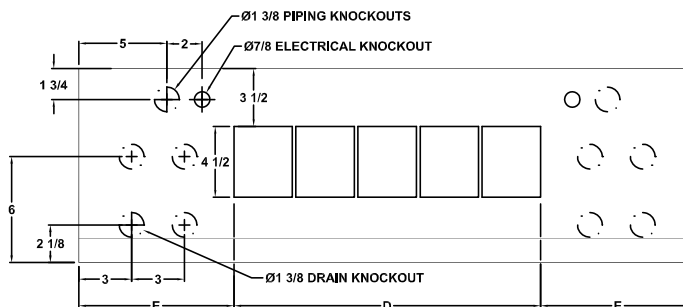
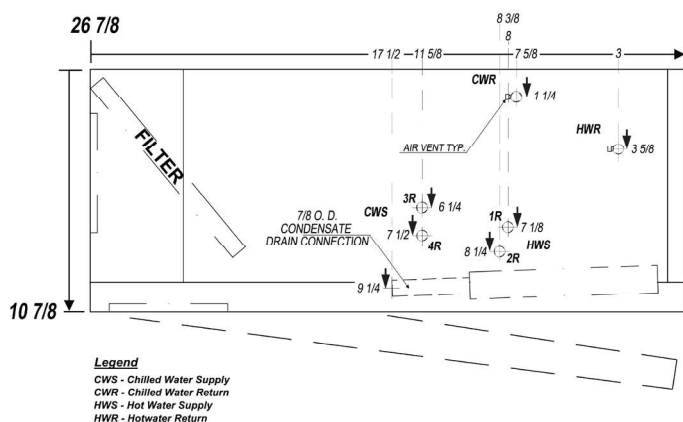


Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet. Electric junction box location may vary depending on control requirements. Contact Factory. Not available with electric heat.

UNIT SIZE	DIMENSIONS		
	B	D	E
02	22	35	21
03	28	41	27
04	32	45	31
06	46	59	45
08	58	71	57
10/12	78	91	77

Dimensions are approximate and are subject to change without notice.

### CEFR & CEFB Ceiling Exposed



CEFR\_CEFB\_V5

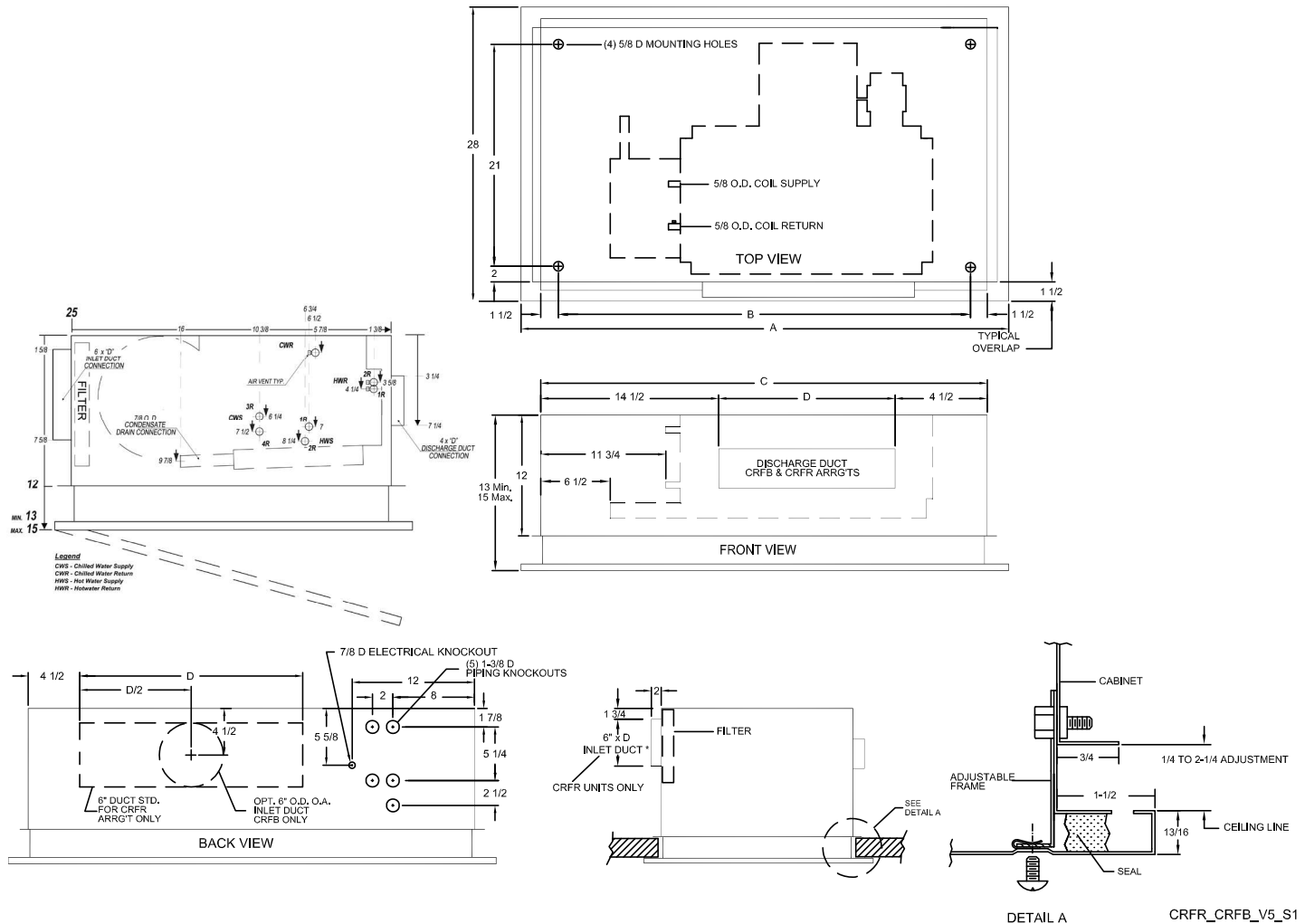
Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet. Standard location of the electrical junction box is opposite the side of piping. The junction box location will vary when factory mounted controls are required. Contact Factory.

UNIT SIZE	DIMENSIONS			
	A	B	D	E
02	39	22	19-3/4	9-5/8
03	45	28	23-3/4	10-5/8
04	49	32	27-3/4	10-5/8
06	63	46	43-3/4	9-5/8
08	75	58	55-3/4	9-5/8
10/12	95	78	75-3/4	9-5/8

Dimensions are approximate and are subject to change without notice.



### CRFR & CRFB Ceiling Recessed



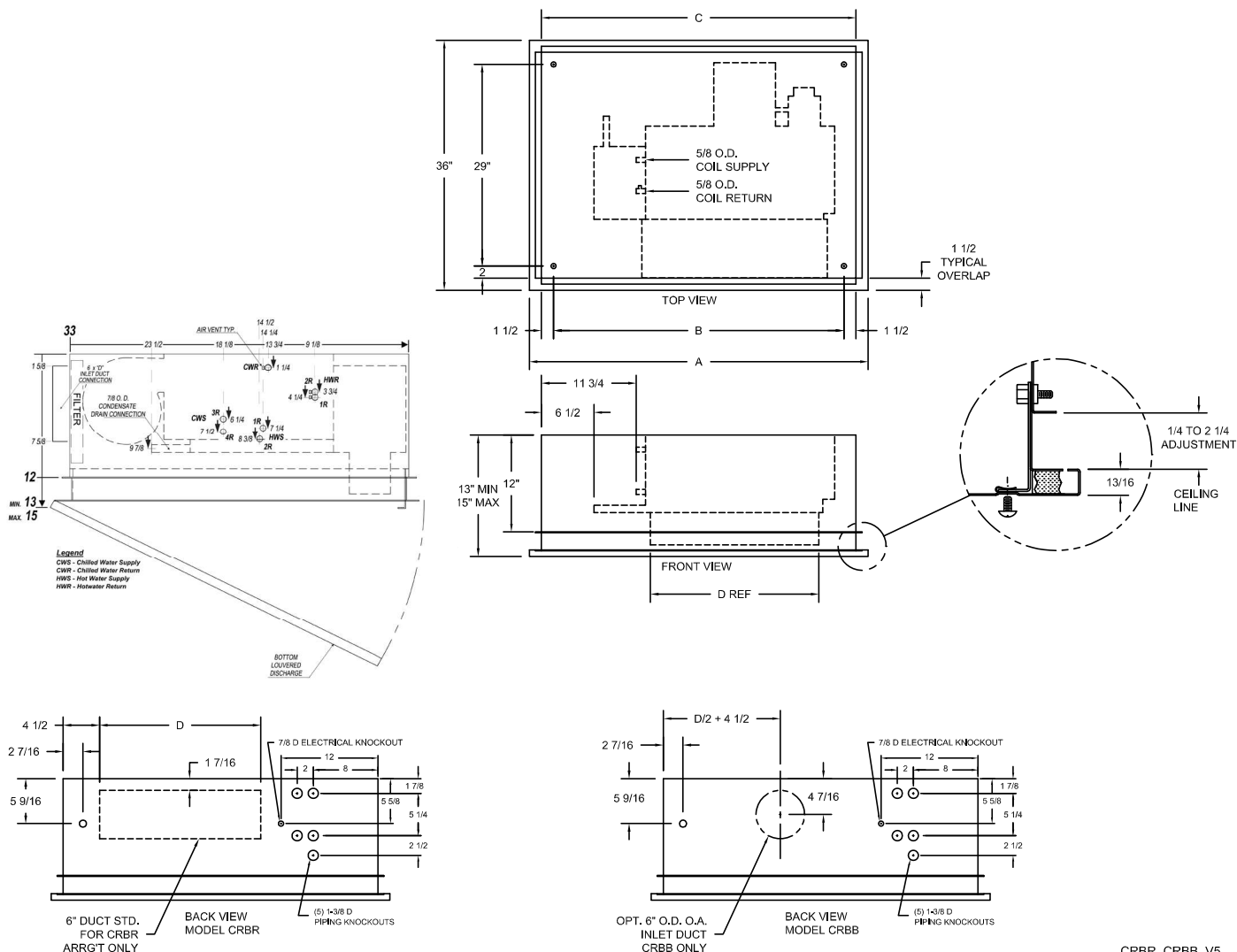
Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet.  
Standard location of the electrical junction box is on the same side as the piping.

UNIT SIZE	DIMENSIONS			
	A*	B	C	D
02	42	36	39	20
03	48	42	45	26
04	52	46	49	30
06	66	60	63	44
08	78	72	75	56
10/12	98	92	95	76

\* = When units are furnished with electric heat, add 4" to "A" dimension

Dimensions are approximate and are subject to change without notice.

### CRBR & CRBB Ceiling Recessed, Bottom Discharge



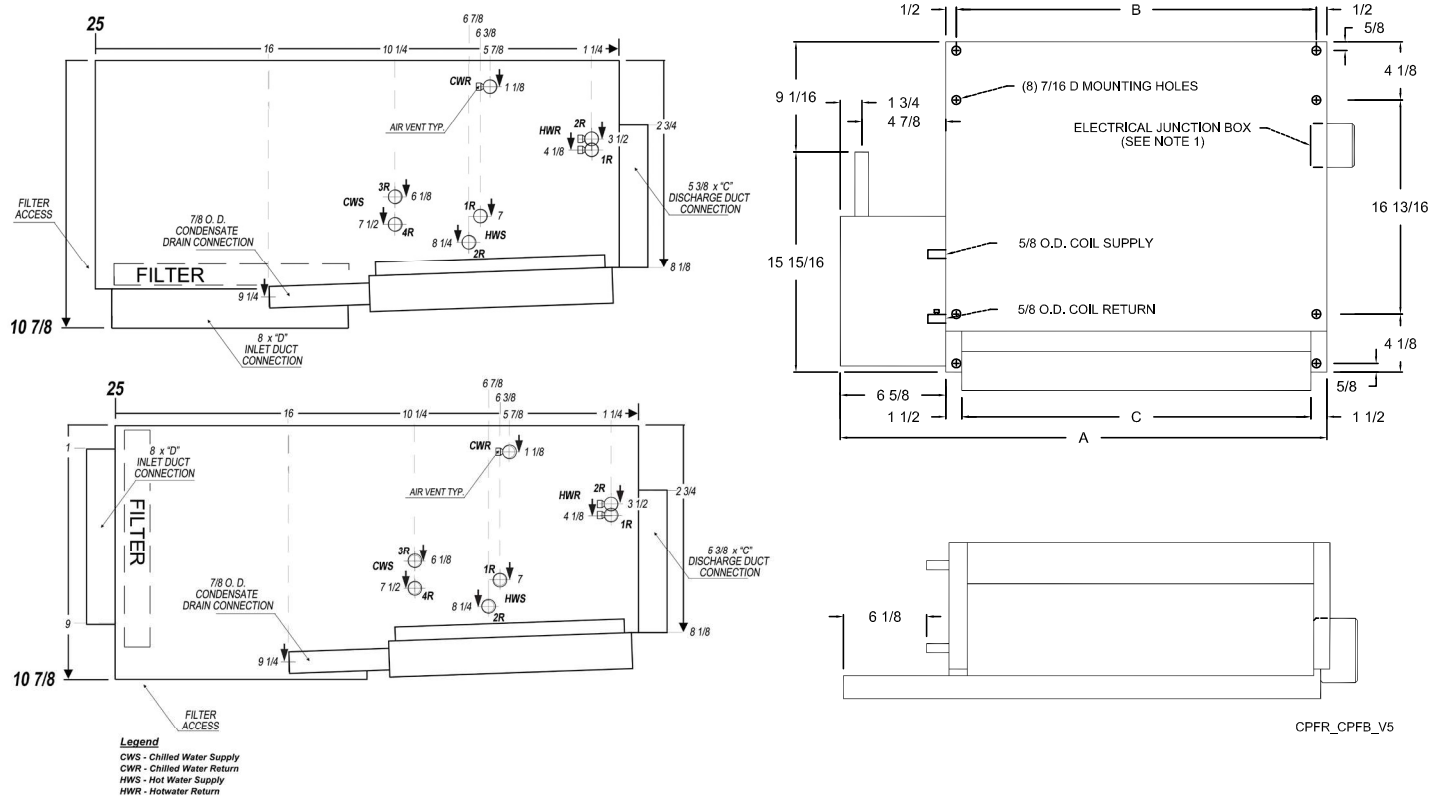
CRBR\_CRBB\_V5

Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet. Standard location of the electrical junction box is on the same side as the piping. Not available with electric heat.

UNIT SIZE	DIMENSIONS			
	A	B	C	D
02	42	36	39	20
03	48	42	45	26
04	52	46	49	30
06	66	60	63	44
08	78	72	75	56
10/12	98	92	95	76

Dimensions are approximate and are subject to change without notice.

### CPFR & CPFB Ceiling Concealed with Plenum



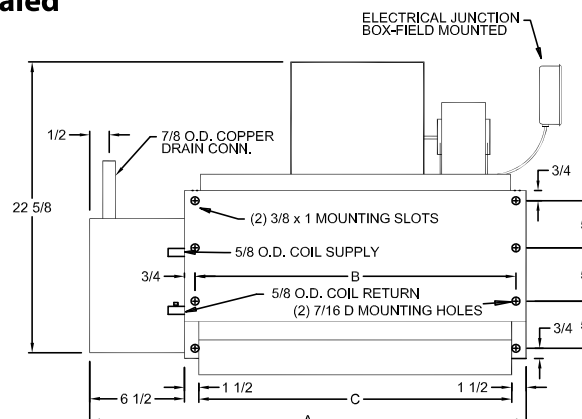
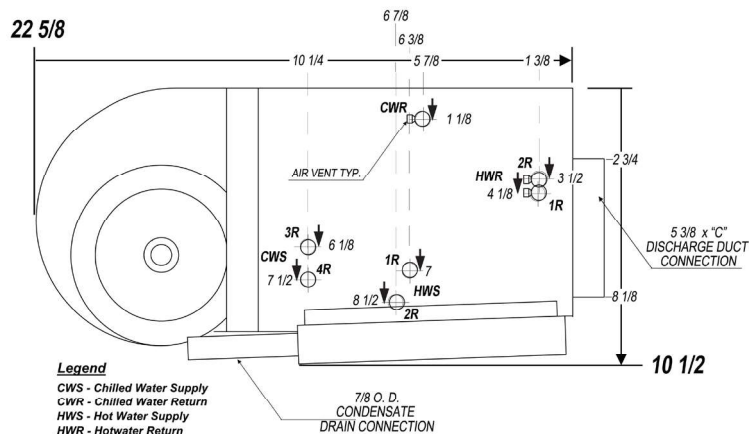
CPFR\_CPFB\_V5

**Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet.  
Standard location of the electrical junction box is on the side opposite the piping. The junction box location will vary when factory mounted controls are required. Contact Factory.**

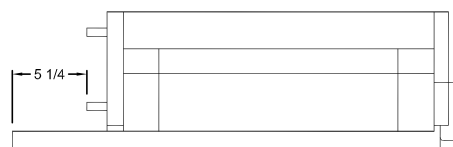
UNIT SIZE	DIMENSIONS			
	A	B	C	D
02	29-1/2	22	20	20-3/8
03	35-1/2	28	26	26-3/8
04	39-1/2	32	30	30-3/8
06	53-1/2	46	44	44-3/8
08	65-1/2	58	56	56-3/8
10/12	85-1/2	78	76	76-3/8

**Dimensions are approximate and are subject to change without notice.**

**CCFR**  
**Ceiling Concealed**



LH piping connections shown. RH opposite.  
Piping hand determined when facing air outlet.



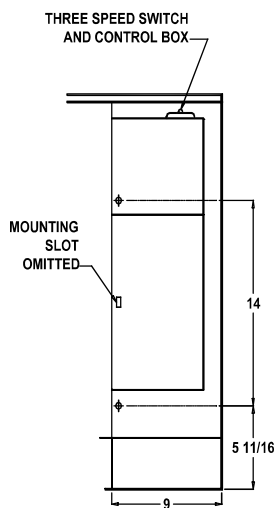
CCFR V5 S1

**Left hand piping connections shown, right hand opposite. Piping hand determined when facing air outlet. Standard location of the electrical junction box is on the side opposite the piping. The junction box location will vary when factory mounted controls are required. Contact Factory.**

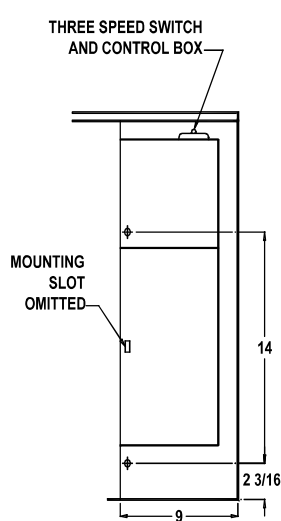
UNIT SIZE	DIMENSIONS		
	A	B	C
02	29-5/8	22	20
03	35-5/8	28	26
04	39-5/8	32	30
06	53-5/8	46	44
08	65-5/8	58	56
10/12	85-5/8	78	76

**Dimensions are approximate and are subject to change without notice.**

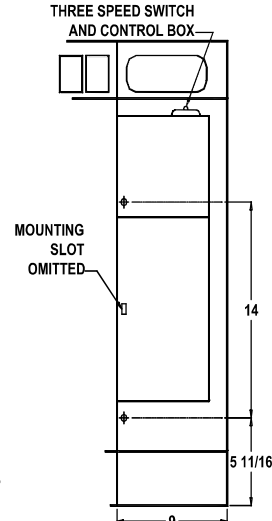
### ELECTRIC HEAT CONTROL BOX DETAILS (RIGHT HAND BOX SHOWN, LEFT HAND OPPOSITE)



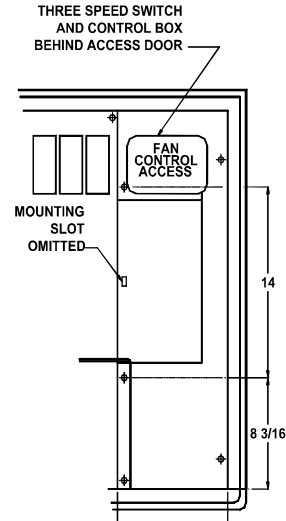
**Models  
FETF, FEFF**



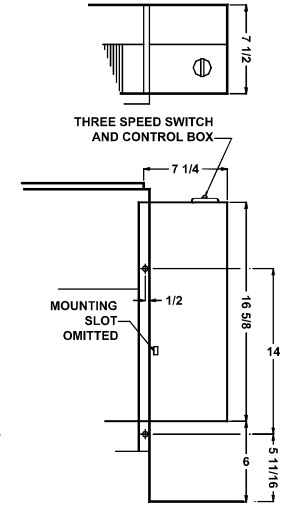
**Models  
WETB, WEFB**



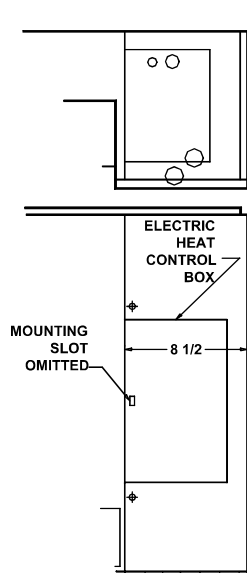
**Model  
SETF**



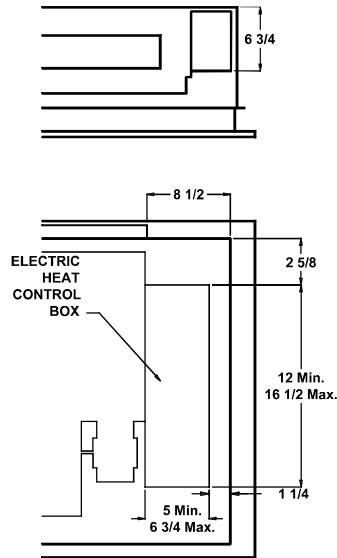
**Models  
FRFF, WRFF, FFFF  
WFFF, FSFF, WSFF**



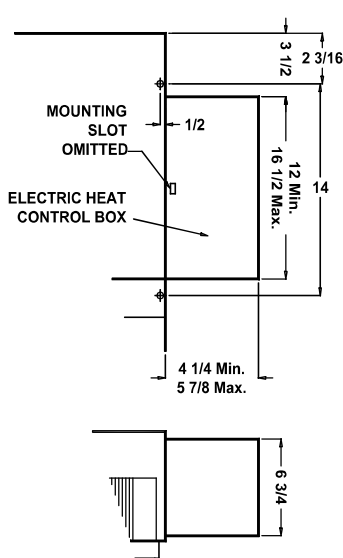
**Model  
FCTF**



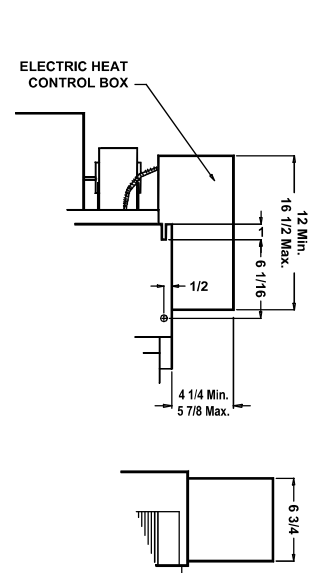
**Models  
CEFR, CEFB**



**Models  
CRFB, CRFR**



**Models  
CPFR, CPFB**



**Model  
CCFR**

Complete piping and dimensional details are given on pages 32-46.

**SHIPPING WEIGHTS**  
**Base Units / No Options**

UNIT SIZE	APPROXIMATE SHIPPING WEIGHTS - LBS											
	MODEL											
	FETF FEFF	WETB WEFB	SETF	FRFF WRFF FTFF WTFF FFFF WFFF FSFF WSFF	FCTF	RETF REFF	LETF LEFF LCTF LWTF	CEFR CEFB	CRFB CRFR	CPFR CPFB	CCFR	CRBR CRBB
02	70	65	75	70	65	80	80	80	90	65	60	115
03	90	85	95	90	80	100	100	100	100	80	70	135
04	105	100	115	105	105	115	115	102	105	110	92	150
06	125	120	135	125	112	135	135	150	130	112	100	170
08	170	165	185	170	152	180	180	180	195	152	135	215
10/12	210	205	230	210	190	220	220	220	210	190	170	305

**Room fan coils shall have the capacities shown on the plans. Capacities shall be certified under Industry Room Fan Coil Air Conditioner Certification Program in accordance with ARI STANDARD 440-89**

**BASIC UNIT**—The basic unit shall be constructed of heavy gage galvanized steel and insulated to meet the ARI Fan Coil Industry test standard for insulation efficiency. The coils, motor speed control, electric junction box, primary and auxiliary drain pans, motor board, motor(s) and fan(s) shall be included in the basic unit.

A multi-speed switch shall be furnished with 3-speed PSC motors for remote mounting with ceiling models if no other control options are ordered. Unit mounting of the switch for vertical models shall be on the side opposite the piping, subject to control requirements.

Each unit shall be supplied with single point power connection to an electric junction box located on the side opposite the piping. This location may vary depending on control requirements.

Exposed wiring shall be in flexible conduit. Unit mounted electrical devices shall be pre-wired to a junction box. Units shall comply with Underwriters' Laboratories standard No. 883 for Room Fan Coil Units.

Vertical models shall have an externally insulated galvanized steel drip shield mounted beneath the coil surface to direct condensate from the coil to a drain trough. Drain surfaces shall be separate from the motor board assembly, and shall carry condensate directly into a molded plastic auxiliary drain pan.

Horizontal models shall be built with a 1-piece galvanized steel combination primary and auxiliary dual sloped drain pan externally insulated with closed cell insulation. The coil and return bends and valve package shall be mounted over the primary drain pan and extension.

Motors and fans shall be mounted on a removable galvanized steel motor board assembly. Fan wheels shall be centrifugal forward curve type, dynamically balanced. Fan housing shall be constructed of galvanized steel with streamlined air inlets.

**COILS**—Coils shall be constructed of 1/2" O.D. seamless copper tubes mechanically bonded to aluminum fins. The entire coil assembly shall be factory tested with 400 PSIG air pressure under warm water and shall have a maximum working pressure of 250 PSIG. Each coil shall be provided with a manual air vent.

**AUXILIARY HEATING COILS**—Auxiliary water heating coils shall be positioned in the re-heat position and constructed of 1/2" O.D. seamless copper tubes mechanically bonded to aluminum fins. The coils shall be tested at 400 PSIG air pressure under warm water and shall have a maximum working pressure of 250 PSIG. Each coil shall be provided with a manual air vent.

**ELECTRIC HEATING ELEMENTS**—Electric heating elements shall conform to the requirements of Underwriters' Laboratories, Inc. and the National Electric Code, and shall be U.L. listed for zero clearance to combustible surfaces.

Shall be constructed of Nikrothal NXT resistance wire with surface temperatures a minimum of 30% below allowable operating temperature.

Each electric heating element shall be mounted to a continuous heavy gauge galvanized steel plate. The plate shall be independent of the fan deck, and shall be insulated with 1/2", 2 lb. density glass fiber insulation. Each electric heating element shall be located in the pre-heat position. Electric heating elements shall be non-accessible to room occupants. The fan coil unit fan deck shall be removable for access to the electric heating element without disconnecting the element wiring.

Units equipped with electric heating elements shall include as standard a unit mounted linear limit primary safety control and fusible link secondary safety device, control box with solid cover, terminal board and field wiring terminals.

**MOTORS**—Motors shall be resilient mounted, 3-speed, permanent split capacitor, totally enclosed, tap wound, with integral thermal overload protection and automatic reset, for 115/60/1. Minimum power factor shall be .96.



**CABINETS**—Shall be constructed with 18 gauge steel fronts and tops, 16 gauge steel end panels. Front and discharge panels are insulated with 1/2", 2 lb. density glass fiber insulation. Cabinet parts are parts are cleaned through a biodegradable single step process called plasticization, which removes surface products through evaporation. before powder coating. The standard finish shall be light beige powder coat that may be field painted.

Cabinets have 9" end pockets on both sides. Vertical non-recessed top panels shall be provided with stamped discharge louvers, and two die formed flush, hinged access doors.

Vertical Exposed model front panels shall be one piece, secured to the unit with tamper resistant fasteners. Horizontal Exposed and recessed bottom panels shall be provided with a continuous hinge along the width of the unit.

Front panels for Vertical Recessed models FRFF, WRFF, FFFF, WFFF, FSFF and WSFF shall be provided with stamped discharge louvers, a hinged front inlet grille and two die formed flush hinged access doors with spring closers for fan control and piping access.

Bottom panels for horizontal recessed models CRFB, CRFR, CRBR and CRBB shall consist of an adjustable frame with hinged panel that adapts to various types of ceilings.

Inlet plenums shall be constructed of 18 gauge galvanized steel. The inlet plenum for models CPFR and CPFB shall enclose the motor(s) and fan(s) and include a filter rack. The inlet plenum for model CRFB and CRFR shall enclose the basic unit and include an outlet duct collar.

**FILTERS**—1" MERV 7 throwaway filters are standard in all models except CCFR. Filter options include 1" Pleated MERV 13 & 1" Washable Aluminum.

### **LIMITED WARRANTY**

Products are guaranteed against defects in material and workmanship to the extent that any product returned, with prior permission, and with transportation prepaid, to the factory and found to be defective, within one year from the date of installation, or 18 months from the date of shipment, will be repaired or replaced, and returned F.O.B. factory.

Under no conditions shall AIRTHERM be held liable for consequential damages or installation or repair costs.

Products of other manufacture, assembled with or accessory to these products, are subject to the warranty of their manufacturer. AIRTHERM reserves the right to make changes in design or dimensions, to add or eliminate products without prior notice.





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