AE-Air™
Applied Environmental Air

CW(X)-HW

Commercial Chilled Water Closet Fan Coil with Hot Water or Electric Heat

CW-HW PSC Motor Options

CWX-HW ECM Motor Options

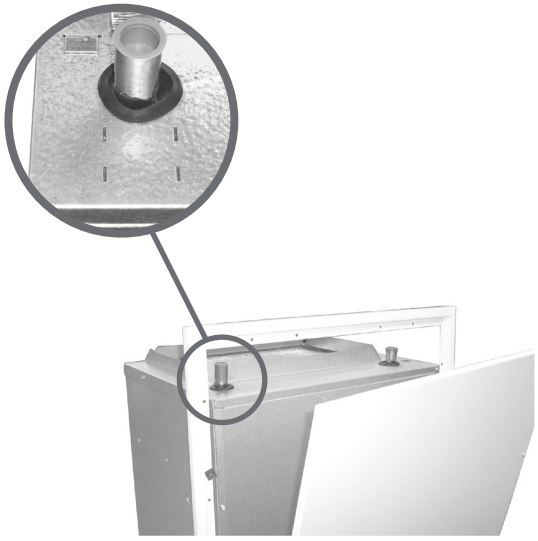
INTERTEK ETL LISTED C US

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

CW(X) ECM MOTOR OPTION

This new ECM motor option includes 24V controls, a constant torque, permanent magnet, brushless DC motor, with 4 discrete speed taps that allow for precise air balancing.

The CW(X) is equipped with a control board that allows 24V 3-speed fan operation from a 3-speed wall mounted thermostat. Three compatible 3-speed thermostats are available from First Co.: manual changeover (#T420), auto changeover (#T421), and the all new "Autospeed 24V" (#T200 and #T201). The T200/T201 Autospeed 24V provides maximum comfort and efficiency by automatically varying the fan speed between High, Medium, and Low speeds, depending on room temperature and desired thermostat setting. (See P6. for additional information)



*** Accessible HW Connections**

CW(X)-HW SERIES

4-PIPE UPFLOW WALL/CLOSET

The CW(X)-HW series is designed for as an upflow indoor air handler with a chilled water coil for cooling and hot water coil for heating.

STANDARD FEATURES

- 120V motor, 24V 3-speed fan control
- Electrical service pullout not available on CW-HW four pipe unit
- Factory installed electric heat
- Non-corrosive thermoplastic drain pan, sloped for positive drainage
- Separate compartment for drain connections (allows the use of PVC drain piping)
- Drain pan has female primary and secondary fittings
- Easily accessible 1" filter
- Various optional factory installed valve packages
- Coil connections stub out top of unit

OPTIONAL ACCESSORIES (see Pages 7,8,9)

Optional accessories include 3-speed wall thermostats, wall panels with captive screws (for recessed wall mounting), condensate overflow switch, closet hanger bracket kit, bottom return air kit and various chilled water valve packages.

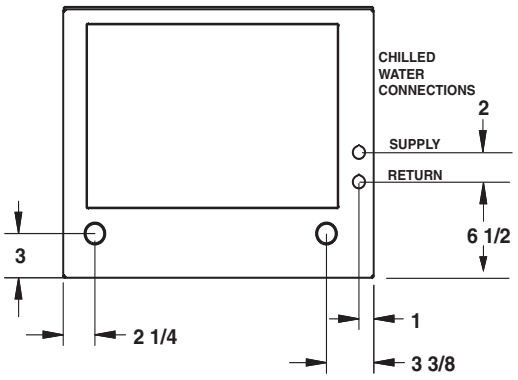
Standard unit shown
(closet application - front return air)

Unit shown with bottom return air kit
(closet application - bottom return air)

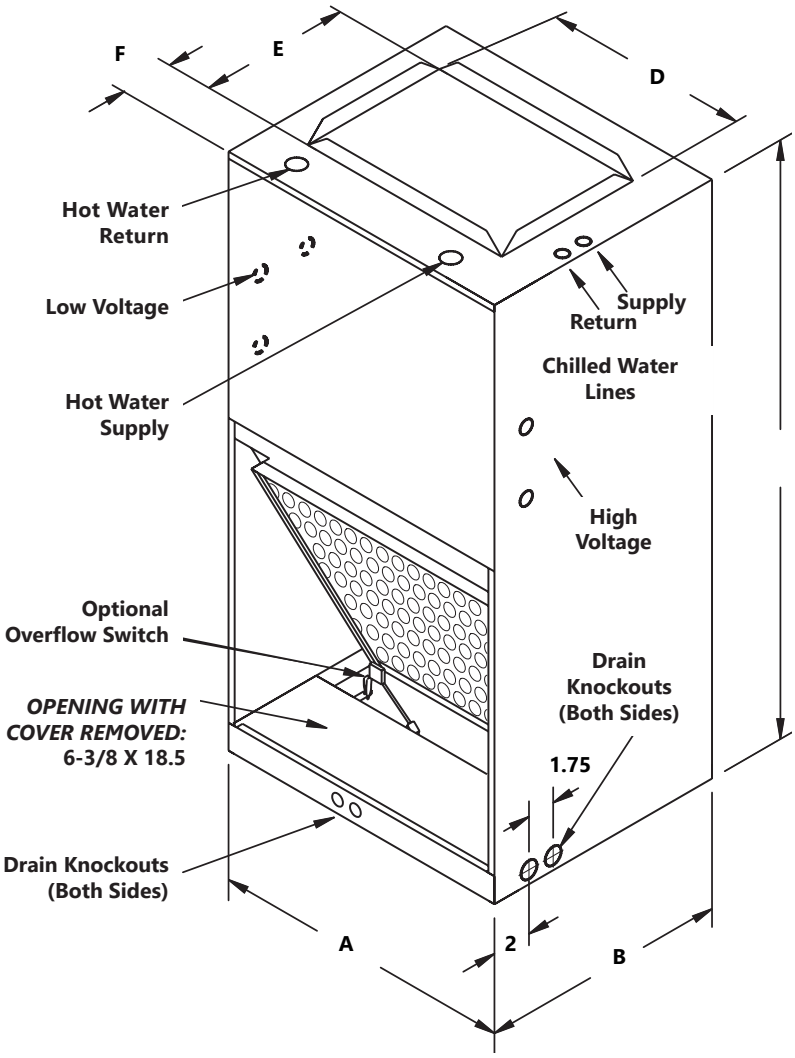
CW-HW Series Upflow Wall / Closet Fan Coils

4-Pipe Chilled Water - Hot Water

(190 - 1190 CFM)



Top Panel View



PHYSICAL DIMENSIONS								
UNIT MODEL	**A**	**B**	**C**	**D**	**E**	**F**	**FILTER SIZE**	**CW AND HW COIL CONNECTIONS**
4 - 8CW-HW	22-1/8	18-1/8	43	18	12-1/2	4-3/4	18 X 18	5/8 O.D.
10CW-HW	22-1/8	18-1/8	43	18	12-1/2	4-3/4	18 X 20	5/8 O.D.
12CW-HW	22-1/8	21/1/8	43	18	15-1/2	4-3/4	18 X 20	5/8 O.D.

NOTE:

1. Coil connections are sweat and stub out top of unit

CW-HW Series Upflow Wall / Closet Fan Coils

4-Pipe Chilled Water - Hot Water

(190 - 1190 CFM)

COOLING CAPACITY

UNIT MODEL	NOMINAL CFM	45 DEGREE ENTERING WATER								42 DEGREE ENTERING WATER							
		GPM	P.D. (Ft. Wtr.)	80F D.B. / 67F W.B.			75F D.B. / 63F W.B.			GPM	GPM (Ft. Wtr.)	80F D.B. / 67F W.B.			75F D.B. / 63F W.B.		
				TH	SH	TR	TH	SH	TR			TH	SH	TR	TH	SH	TR
4CW-HW	400	1.5 2.5 3.4	4.5 11.1 19.2	9.7 11.8 12.8	8.0 9.0 9.5	12.8 9.4 7.5	8.0 9.5 10.3	7.3 8.1 8.4	10.6 7.6 6.0	1.5 2.5 3.4	4.5 11.1 19.2	10.8 13.2 14.5	8.4 9.5 10.2	14.3 10.5 8.4	9.0 10.8 11.8	7.7 8.6 9.1	11.9 8.6 6.9
6CW-HW	600	3.0 4.0 5.0	5.0 8.6 13.0	17.0 19.0 20.5	13.5 14.5 15.1	11.3 9.5 8.1	13.9 15.3 16.4	12.3 13.0 13.5	9.2 7.6 6.5	3.0 4.0 5.0	5.0 8.6 13.0	19.0 21.3 23.0	14.3 15.4 16.1	12.6 10.6 9.1	15.7 17.5 18.8	13.0 13.9 14.5	10.4 8.7 7.5
8CW-HW	800	6.5 7.5 8.3	12.5 16.4 19.9	22.6 23.8 24.7	18.2 18.6 18.9	6.9 6.3 5.9	18.4 19.2 19.9	16.2 16.7 17.0	5.6 5.1 4.8	6.5 7.5 8.3	12.5 16.4 19.9	25.2 26.6 27.6	19.1 19.7 20.1	7.7 7.1 6.6	20.8 21.9 22.6	17.4 17.9 18.2	6.4 5.8 5.4
10CW-HW	1000	6.5 8.0 9.5	5.7 8.2 11.0	28.7 31.0 32.9	22.8 23.8 24.5	8.8 7.7 6.9	23.4 25.1 26.4	20.5 21.3 22.0	7.2 6.2 5.5	6.5 8.0 9.5	5.7 8.2 11.0	32.1 34.7 36.9	24.1 25.2 26.2	9.8 8.6 7.7	26.4 28.5 30.2	21.9 22.8 23.5	8.1 7.1 6.3
12CW-HW	1200	6.0 7.5 9.0	6.3 9.5 13.2	32.4 35.8 38.4	26.8 28.3 29.5	10.8 9.5 8.5	26.7 29.0 31.0	24.2 25.5 26.4	8.8 7.7 6.9	6.0 7.5 9.0	6.3 9.5 13.2	36.1 40.0 43.3	28.3 29.9 31.4	12.0 10.6 9.6	29.9 32.9 35.4	25.7 27.1 28.2	9.9 8.7 7.8

HEATING CAPACITY

UNIT MODEL	NOMINAL CFM	GPM	P.D. (Ft. Wtr.)	HEATING DATA (70° ENTERING AIR)							
				BTUH @ 180 F	LVG AIR F	BTUH @ 160 F	LVG AIR F	BTUH @ 140 F	LVG AIR F	BTUH @ 120 F	LVG AIR F
4CW-HW	400	2.0 3.2 ---	1.2 2.9 ---	30.0 33.3 ---	139 147 ---	see below		see below		see blow	
4CW-HW	400	2.0 4.0 6.0	1.2 4.4 9.3	see above		24.3 27.2 28.2	124.7 131.1 133.4	18.8 21.1 21.9	112.3 117.3 119.2	13.3 15.0 15.6	100.0 103.6 105.0
6CW-HW	600	2.0 4.0 6.0	1.2 4.4 9.3	37.0 43.0 45.3	125.5 134.4 137.9	30.1 35.0 37.0	115.1 122.5 125.4	23.3 27.1 28.6	104.8 110.6 112.9	16.5 19.2 20.4	94.6 98.8 100.5
8CW-HW	800	4.0 5.5 7.0	4.4 7.9 12.3	51.4 54.3 56.1	127.8 131.0 133.0	41.9 44.3 45.7	117.0 119.7 121.4	32.4 34.2 35.4	106.4 108.5 109.8	22.9 24.3 25.1	106.4 108.5 109.8
10CW-HW	1000	4.0 5.5 7.0	4.4 7.9 12.3	58.4 62.2 64.6	122.4 125.9 128.1	47.5 50.7 52.7	112.7 115.5 117.3	36.7 39.2 40.8	103.0 105.2 106.6	26.0 27.8 28.9	93.3 95.0 96.0
12CW-HW	1200	4.0 5.5 7.0	4.5 8.2 12.9	67.1 71.9 75.0	120.2 123.9 126.1	54.6 58.6 61.1	110.9 113.9 115.8	42.2 45.3 47.3	101.6 103.9 105.4	29.9 32.2 33.6	92.4 94.1 95.1

BLOWER DATA - PSC

UNIT MODEL	MOTOR H.P. (120V)	AMPS	MOTOR SPEED	CFM VS. EXTERNAL STATIC PRESSURE							
				0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40
4CW-HW	1/15	0.8	HIGH MEDIUM LOW	485 395 300	470 380 280	455 365 265	440 350 250	410 325 230	380 300 210	350 275 190	--- --- ---
6CW-HW	1/4	2.9	HIGH MEDIUM LOW	730 600 465	710 580 450	685 565 435	660 550 420	640 530 405	620 510 390	595 490 375	--- --- ---
8CW-HW	1/3	5.8	HIGH MED. LOW LOW	890 715 575	870 700 560	845 685 550	820 670 540	800 655 525	780 640 510	760 625 500	740 610 490
10CW-HW	1/2	8.0	HIGH MED. LOW LOW	1085 910 745	1060 890 730	1070 870 715	1020 850 700	995 835 690	970 820 680	950 800 665	930 780 650
12CW-HW	1/2	7.0	HIGH MED. LOW LOW	1190 955 765	1170 940 760	1150 930 750	1130 920 740	1105 905 735	1080 890 730	1055 875 720	1030 860 710

CWX-HW Series Upflow Wall / Closet Fan Coils

4-Pipe Chilled Water - Hot Water

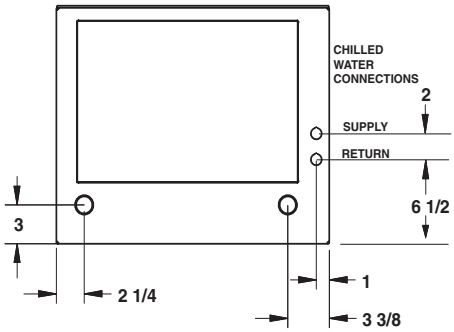
(190 - 1190 CFM)

COOLING CAPACITY

UNIT MODEL	NOMINAL CFM	45 DEGREE ENTERING WATER								42 DEGREE ENTERING WATER							
		GPM	P.D. (Ft. Wtr.)	80F D.B. / 67F W.B.			75F D.B. / 63F W.B.			GPM	GPM (Ft. Wtr.)	80F D.B. / 67F W.B.			75F D.B. / 63F W.B.		
				TH	SH	TR	TH	SH	TR			TH	SH	TR	TH	SH	TR
4CWX-HW	400	1.5 2.5 3.5	4.3 10.5 19.0	9.7 12.0 13.1	8.8 9.6 10.0	13.0 9.6 7.5	7.8 9.2 10.0	7.8 8.5 8.8	10.4 7.4 5.7	1.5 2.5 3.5	4.3 10.5 19.0	10.6 13.1 14.2	9.1 10.0 10.5	14.1 10.5 8.1	8.6 10.0 10.9	8.6 8.8 9.2	11.4 8.0 6.2
6CWX-HW	600	3.0 4.0 5.0	5.0 8.6 13.0	17.3 19.2 20.4	13.1 13.8 14.3	11.5 9.6 8.2	13.2 14.7 15.6	11.5 12.1 12.5	8.8 7.3 6.2	3.5 4.5 5.5	6.7 10.7 15.5	20.0 21.7 22.8	14.1 14.8 15.2	11.4 9.6 8.3	15.3 16.6 17.4	12.3 12.8 13.2	8.7 7.4 6.3
8CWX-HW	800	6.5 7.5 8.5	11.4 14.8 18.7	23.2 24.2 25.0	17.1 17.4 17.7	7.1 6.5 5.9	17.7 18.5 19.1	15.0 15.3 15.5	5.4 4.9 4.5	6.0 7.0 8.0	9.8 13.1 16.7	24.6 25.8 26.8	17.6 18.1 18.4	8.2 7.4 6.7	18.8 19.7 20.5	15.4 15.8 16.1	6.3 5.6 5.1
10CWX-HW	1000	6.5 8.0 9.5	5.7 8.2 11.0	29.0 31.0 32.5	21.6 22.3 22.9	8.9 7.8 6.8	22.2 23.7 24.8	19.0 19.5 20.0	6.8 5.9 5.2	6.0 8.0 10.0	4.6 8.2 12.1	30.7 33.8 35.8	22.2 23.4 24.1	10.2 8.5 7.2	23.5 25.8 27.3	19.4 20.4 20.9	7.8 6.5 5.5
12CWX-HW	1200	6.0 7.5 9.0	6.3 9.5 13.2	33.0 36.1 38.5	26.1 27.3 28.1	11.0 9.6 8.5	25.2 27.6 29.4	23.1 24.0 24.7	8.4 7.4 6.5	5.5 7.0 8.5	5.4 8.4 11.9	34.7 38.3 41.1	26.7 28.1 29.2	12.6 10.9 9.7	26.5 29.3 31.4	23.5 24.6 25.5	9.6 8.4 7.4

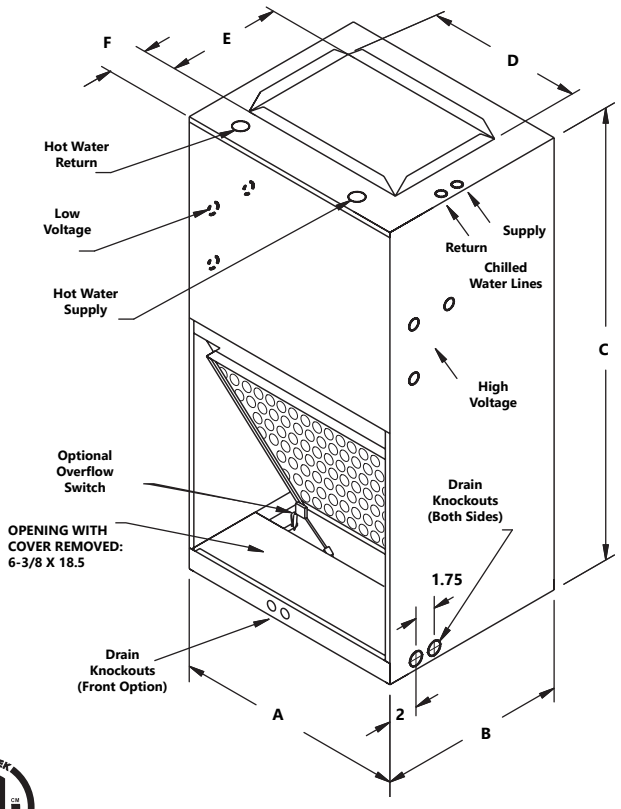
HEATING CAPACITY

UNIT MODEL	NOMINAL CFM	GPM	P.D. (Ft. Wtr.)	HEATING DATA (70° ENTERING AIR)							
				BTUH @ 180 F	LVG AIR F	BTUH @ 160 F	LVG AIR F	BTUH @ 140 F	LVG AIR F	BTUH @ 120 F	LVG AIR F
4CWX-HW	400	2.0 4.0 6.0	1.3 4.5 9.6	30.0 33.3 34.9	139 147 151	24.6 27.3 28.5	127 133 136	19.1 21.2 22.2	114 119 121	13.6 15.1 15.9	102 105 107
6CWX-HW	600	2.0 4.0 6.0	1.3 4.5 9.6	38.5 43.4 45.7	129 137 141	31.5 35.5 37.4	119 125 128	24.5 27.6 29.1	108 113 115	17.5 19.7 20.8	97 100 102
8CWX-HW	800	4.0 5.5 7.0	4.5 8.0 12.5	52.0 54.5 55.9	130 133 135	42.6 44.6 45.8	119 122 123	33.1 34.7 35.6	108 110 111	23.6 24.8 25.4	97 99 99
10CWX-HW	1000	4.0 5.5 7.0	4.5 8.0 12.5	59.4 62.5 64.3	125 128 130	48.6 51.2 52.6	115 117 119	37.8 39.8 40.9	105 107 108	27.0 28.4 29.2	95 96 97
12CWX-HW	1200	4.0 5.5 7.0	4.5 8.2 12.9	70.2 73.7 75.8	124 127 128	57.4 60.3 62.0	114 116 117	44.6 46.9 48.2	104 106 107	31.9 33.5 34.4	95 96 97



BLOWER DATA - ECM

UNIT MODEL	MOTOR HP	AMPS	SPEED TAP	CFM vs EXTERNAL STATIC PRESSURE							
				0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40
4CWX-HW	1/3	4.8	4 3 2 1	660 500 415 340	640 490 400 330	615 480 385 310	590 470 370 290	560 450 350 275	530 430 330 260	500 415 310 235	470 400 290 210
6CWX-HW	1/3	4.8	4 3 2 1	730 660 540 400	720 650 520 380	710 640 500 360	700 630 480 340	685 615 470 320	670 600 460 300	655 585 440 280	640 570 420 260
8CWX-HW	1/2	6.8	4 3 2 1	990 860 710 560	980 850 700 550	960 835 690 540	940 820 680 530	920 810 665 515	900 800 650 500	875 785 635 485	850 770 620 470
10CWX-HW	1/2	6.8	3 2 1	1100 900 770	1080 890 760	1060 880 740	1040 870 720	1020 860 710	1000 850 700	975 835 690	950 820 680
12CWX-HW	3/4	8.4	3 2 1	1280 1115 960	1260 1100 950	1230 1085 940	1220 1070 930	1195 1060 915	1170 1050 900	1150 1035 890	1130 1020 880



PHYSICAL DIMENSIONS

UNIT MODEL	A	B	C	D	E	F	FILTER SIZE	CW AND HW COIL CONNECTIONS
4 - 8CWX-HW	22-1/8	18-1/8	43	18	12-1/2	4-3/4	18 X 18	5/8 O.D.
10CWX-HW	22-1/8	18-1/8	43	18	12-1/2	4-3/4	18 X 20	5/8 O.D.
12CWX-HW	22-1/8	21/1/8	43	18	15-1/2	4-3/4	18 X 20	5/8 O.D.

NOTES:

1. Coil connections are sweat and stub out top of unit

AUTOMATIC FAN SPEED CONTROL

The **Autospeed 24V™** Thermostats

(PART #'S T200/T201)

(T200 shown with wall plate)

The new Autospeed 24V™ thermostat (part's # T200 and T201) provides 24V AC single stage temperature control of 2 pipe and 4 pipe fan coil applications. The T200/T201 thermostat offers maximum comfort and efficiency by automatically selecting the appropriate High, Medium, or Low fan speed, depending on room temperature and thermostat temperature setting. This automatic fan speed control not only brings the room temperature to the desired set point quickly, it maintains the room temperature with the most efficient fan speed selection.

Once the desired room temperature is achieved the fan coil operates on low speed for extremely quiet operation. The fan coil control board (which is factory installed in all CW units) is a circuit board that provides control of a 3-speed line voltage fan motor. The control board allows the thermostat to control the fan motor even though, by itself, the thermostat does not have the amperage capability nor the voltage rating capability to control the fan motor.

T200/T201 THERMOSTAT FEATURES

- Compatible with 2-pipe and 4-pipe fan coils: HBC Series, MB Series, HYB Series, and CW Series
- Cycle fan or continuous fan operation
- T200-Manual Heat / Cool changeover switch
- T201-Automatic Heat / Cool changeover switch
- Set points are permanently retained in memory in case of power interruption
- 3-speed fan operation, with speed indicator lights
- Fan speed determination:
  - If room temperature is 4 degrees (F.) off thermostat set point, fan will operate on High speed.
  - If 3 degrees off set point, fan will operate on Medium speed.
  - If within 2 degrees of set point, fan will operate on Low speed.
- One or 3 hour auto override - fan speed defaults to "Auto" mode after 1 hour if the user manually changes to a particular fan speed.
- Large LED digital display
- Allows less expensive 24V control wiring from the fan coil to the thermostat, rather than larger, more expensive line voltage wiring.
- Temperature set range: 64-88 degrees F.
- Adjustable high and low temperature set points
- Selectable fahrenheit / centigrade display
- Power switch turns system off/on
- Requires 7-wire 24V thermostat wire
- No batteries required
- Simple operation
- Mercury free
- Wall plate included

DISPLAY CODES		
DISPLAY	**STEADY**	**FLASHING**
P1	Auto fan timer - 1 hour (default)	Auto fan timer - 3 hour
P2	Continuous fan (default)	Cycled fan
P3	^{O}F (default)	^{O}C
P4	Cycled fan standard	Cycled fan overdrive (default)
P5	Low temp limit 64 ^{O}F (default)	Low temp limit 67 ^{O}F
P6	Hi temp limit 88 ^{O}F (default)	Hi temp limit 84 ^{O}F

CW-HW Series Upflow Wall / Closet Fan Coils

OPTIONAL ACCESSORIES (FIELD INSTALLED)			
DESCRIPTION	**PART #**	**DIMENSIONS**	
WALL PANEL (1)	**9PWUC01L (4-10)**	43-3/8 X 25-5/8 (Outside Frame)	40-3/8 X 22-5/8 (Inside Frame)
	9PWUC02L (12)	46-3/8 X 25-5/8 (Outside Frame)	43-3/8 X 22-5/8 (Inside Frame)
HANGER BRKT. SET	**90PK3**	1-1/2 X 22-1/8	---
RETURN AIR COVER	**90PK4 (4-10)**	19-13/16 X 22	---
	90PK5 (12)	21-5/8 X 22	---
CONDENSATE OVERFLOW SWITCH	**SS3**	---	---
WALL THERMOSTAT 3-SPD., MANUAL CHANGEOVER	**T420** (120/230/277)	---	---
WALL THERMOSTAT 3-SPD., AUTO CHANGEOVER	**T421** (120/230/277)	---	---
24V WALL THERMOSTAT 3-SPD., MANUAL CHANGEOVER **(AUTOSPEED 24V)**	**T200** (24V)	---	---
24V WALL THERMOSTAT 3-SPD., AUTO CHANGEOVER **(AUTOSPEED 24V**	**T201** (24V)	---	---

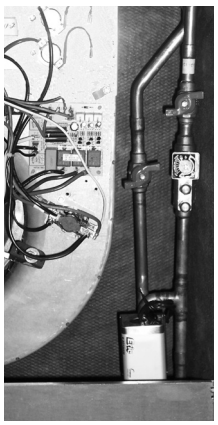
OPTIONAL VALVE CLUSTERS (Factory installed)	
PART #	**DESCRIPTION**
VALVE CLUSTER:	**Chilled Water Coils**
9VCWNVM	No valves, stub kit only
9VCW2BVM	2 hand valves
9VCW22BM	2-way, valve body, 2 hand valves
9VCW23BM	3-way, valve body, 2 hand valves
POWER HEAD:	
911-111	24V
VALVE CLUSTER:	**Hot Water Coil including Power Head**
HW-2WM	2-way, valve body, 2 hand valves
HW-3WM	3-way, valve body, 2 hand valves

T200/T201
AUTOSPEED 24V™
THERMOSTAT

T420/T421
THERMOSTAT

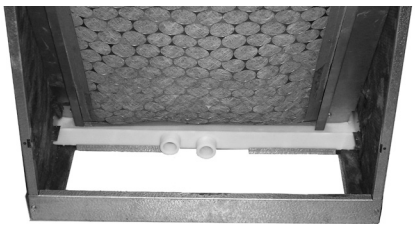
Optional wall panel
(Recessed wall application)

NOTE:
All models are available with or without factory installed valve clusters. Above are "standard" 2-way and 3-way valve clusters. Contact the factory for other options such as circuit setters, strainers, auto-flow valves, etc.



Unit shown with an optional valve package

Unit shown with optional bottom return air kit (**#90PK4**)



Condensate drain connections
(With drain cover removed)
(Thermoplastic pan shown)

In keeping with its policy of continuous progress and product improvement, AE Air reserves the right to make changes without notice.

CW-HW Series Upflow Wall / Closet Fan Coils

4-Pipe Chilled Water - Hot Water

(190 - 1190 CFM)

OPTIONS

CABINET RETURN PANEL
Return air panel converts front return air to bottom return air configuration.
90PK4 - CW(X)-HW4-10
90PK4F – CW(X)-HW4-10 foil faced insulation.
90PK5 – CW(X)-HW-12
90PK5F – CW(X)-HW-12 foil faced insulation.

WALL MOUNT BRACKET KIT
Kit allows unit to be mounted directly to the wall.
90PK3 - CW(X)-HW4-12

INSULATION
Foil faced with wrapped edges prevents fiberglass fibers from entering the air stream.

COILS
Chilled water
2,3 and 4 row coils available.
Hot water
1,2,3 and 4 row coils available.
(Contact factory for availability)

WALL PANELS
Framed wall panels are available with return air louvers or solid for bottom return configurations.
Louvered panel: 9PWUCO3L CW(X)-HW4-12
Solid panel: 9PWUCO3S CW(X)-HW4-12

4-PIPE COOLING AND HEATING
Manual changeover – requires thermostat with heat/cool switch.
Auto changeover – requires thermostat with heat/cool/auto switch.

MOTORS
PSC 3-speed
Includes CB500 3-speed control board and 24-V transformer.
115-V single phase 60-Hz

ECM 3-SPEED
Includes 24-V transformer and terminal strip.
115-V single phase 60-Hz

VALVE PACKAGES
Factory assembled and installed inside the cabinet and factory wired.
4-Pipe
2-Way valve w/4-bv - 9VCW42BM
3-Way valve w/4-bv - 9VCW43BM

VALVE ACTUATORS
E50132180 24V

NO VALVES
Stub-out tubing kit only - 9VCWHNVW

FACTORY INSTALLED VALVE PACKAGE ACCESSORIES
CP601 – ½" manual circuit setter
CP6011 – ¾" manual circuit setter
Auto flow control Hays 2517
CP6025 – Pete's plugs ¼" NPT
CP603 – ½" Y-strainer
CP6031 – ¾" Y-strainer
CP603B – ½" Y-strainer w/blow down
CP6031B – ¾" Y-strainer w/blow down

THERMOSTATS
T-420 manual changeover
2-Pipe/4-Pipe 3-Speed, 24 to 277 VAC, remote sensing available.

T-421 AUTO CHANGEOVER
2-Pipe/4-pipe 3-speed, 24 to 277 VAC, remote sensing available.

T200 MANUAL CHANGEOVER
2-Pipe/4-pipe 3-speed auto speed, 24 VAC, LCD display

T201 AUTO CHANGEOVER
2-Pipe/4-pipe 3-speed auto speed, 24 VAC, LCD display

T426 AUTO / MANUAL CHANGEOVER
2-Pipe/4-pipe 3-speed auto speed, 24 VAC or 110-277, LCD display backlight, setback capability, key pad lockout, local or remote sensing, temperature range limits.

T427 PROGRAMMABLE AUTO / MANUAL CHANGEOVER
2-Pipe/4-pipe 3-speed auto speed, 24 VAC or 110-277, LCD display backlight, 7 day, 4 event, setback capability, key pad lockout, local or remote sensing, temperature range limits.

SS-3 Condensate overflow switch is field mounted to the drain pan.

VALVE PACKAGES AND ACCESSORIES

ACTUATOR	
2-POSITION (ON-OFF) 50/60HZ	
VOLTAGE	PART #
24V	E50131180
230/1/60	E50138180
277/1/60	E50137180
220/1/50	E50138180

2-Way Valve and Actuator

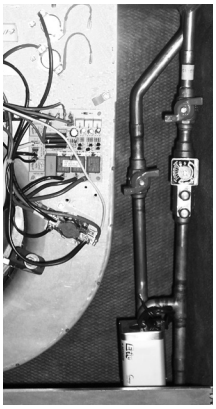
ACTUATOR MATERIALS		
BASE	POLYCARBONATE	APPROVALS
COVER	POLYCARBONATE	ETL Cul CE
BASE PLATE	ALUMINUM	
LEAD LENGTH	6" - (24V 18")	
AMBIENT TEMPERATURE RANGE	32 TO 170 F	
MICRO SWITCH	5 A, 250 V	
HUMIDITY	95% NON-CONDENSING	

VALVE BODY MATERIALS	
BODY	BRASS
STEM	STAINLESS STEEL
TWO O-RINGS SEALS	EPDM
PADDLE	EPDM
FLUID	WATER/GLYCOL
MAXIMUM % OF GLYCOL	50%
TEMPERATURE RANGE	32 TO 230
MAXIMUM STATIC PRESSURE	300 PSI
SWEAT CONNECTION	1/2", 3/4", 1"

FLOW CHARACTERISTICS		
Connection Size	Flow Coefficient	Maximum Close-Off Pressure AP
1/2"	1.0 Cv	75
1/2"	2.5 Cv	50
3/4"		
1/2"	3.5 Cv	30
3/4"		
3/4"	5 Cv	25
1"		
3/4"	7.5 Cv	20
1"		
1"	8 Cv	20

VALVE BODIES (2-POSITION)	
E43XXXX 3-WAY	E42XXXX 2-WAY

VALVE PACKAGE ACCESSORIES				
Automatic Fixed Flow Control			Manual Adj. Flow Setter	
1/2"	3/4"		1/2"	3/4"
CP654XXXXX	CP655XXXXX		CP601	CP6011
PETE'S PLUG	Requires CP6025 CP61712			
Ball Valves (Sweat)			**Y-Strainer (Sweat)**	
Full Port (T-Handle)				
1/2"	3/4"	1"	1/2"	3/4"
CP-9	CP-90	CP-905	CP603	CP6031



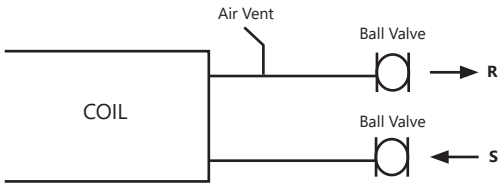
Unit shown with an optional valve package factory installed

PIPING PACKAGE OPTIONS

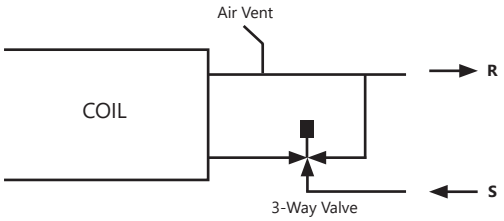
TWO POSITION · MODULATING

Manual air vents are standard and are factory mounted on all chilled water and hot water coils.
All pre-piped on/off or modulating valve packages are factory assembled with sweat connections.

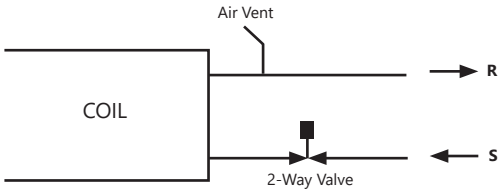
Ball Valves only, No Control Valve



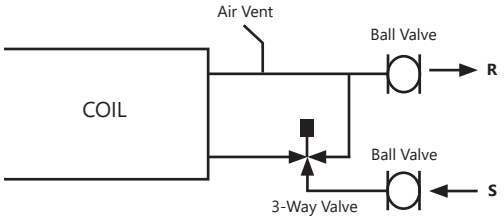
3-Way Valve, No Ball Valves



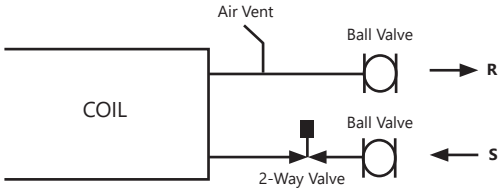
2-Way Valve, No Ball Valves



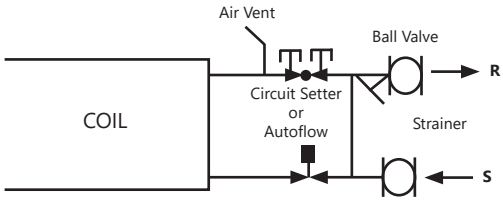
3-Way Valve, with 2-Ball Valves



2-Way Valve with 2-Ball Valves



3-Way Valve, with 2-Ball valve and Manual Circuit Setter or Automatic Flow Control, Y-Strainer, PT's

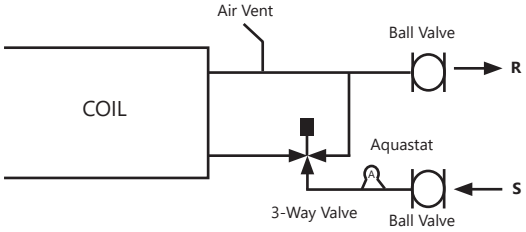


Add Options:
Y-strainers, Pete's plugs, cleanout blow-down, SS hose kits, aqua stats

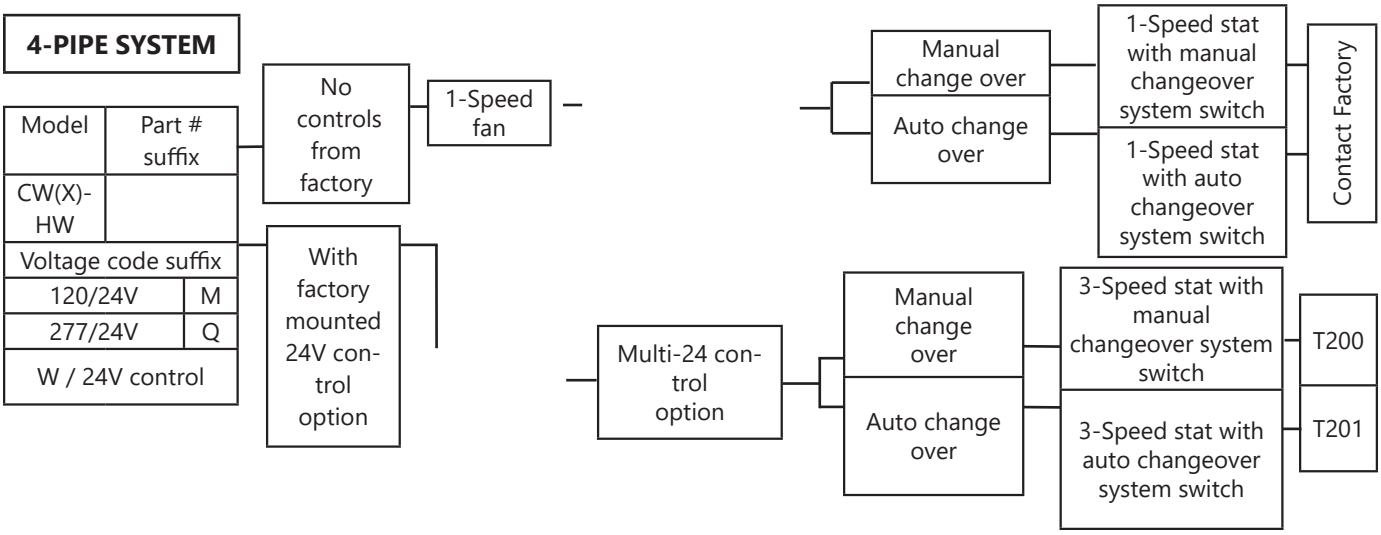
Additional options and configurations may be available. Contact factory for availability.

Valve packages are available as kits or factory mounted on certain products. Contact factory for

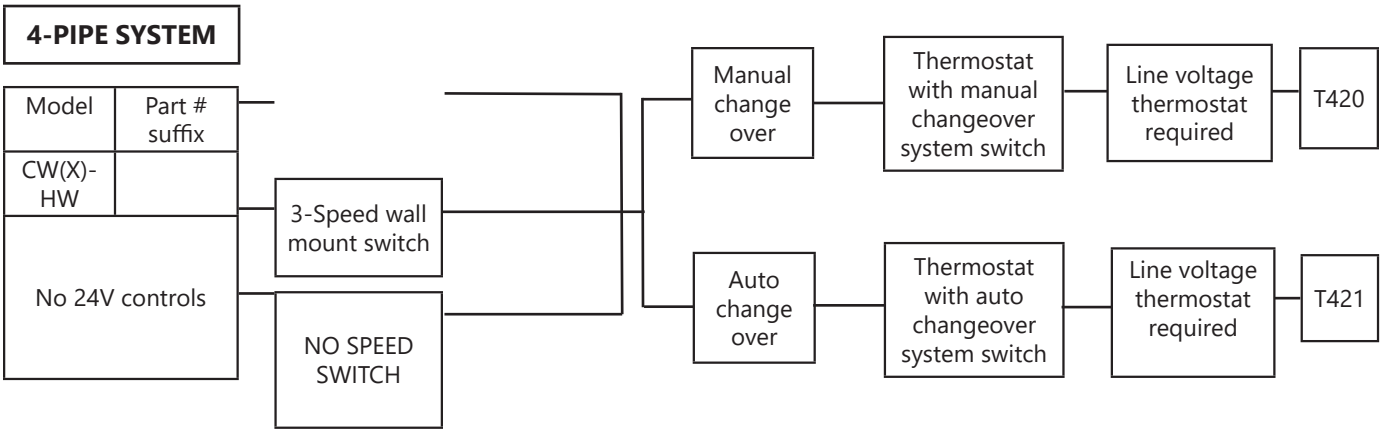
3-Way Valve with 2-Ball Valves and Aquastat



LOW VOLTAGE 24V CONTROLS



LINE VOLTAGE 120/230/277V CONTROLS



CW(X), CW(X)-HW, CWE(X)

GUIDE SPECIFICATIONS

SYSTEM DESCRIPTION

Vertical fan coil units, 2-pipe, 4-pipe or 2-pipe electric heat for closet or wall furred-in applications for single or multi-story buildings. Units shall be completely assembled and complete with water coils, fan, motor, drain pan, and all required wiring, piping, controls and special features.

Water Coils

All coils shall have 3/8-inch copper tubes mechanically bonded to a configured aluminum plate fin. The copper tubes comply with the ASTM B-75. Coils shall be leak tested at the factory to ensure the pressure integrity. The coil shall be leak tested under water to 450 psig for operation to 300 psig. Coil are equipped with two manual air vents for the supply and return lines.

CW(X), CW(X)-HW, CWE(X)

GUIDE SPECIFICATIONS CONTINUED

Valve Package with Automatic Flow Devices (option)
The optional valve package shall contain factory furnished and installed 2-way or 3-way 2-position, spring return, normally open, LEAD FREE, motorized valves rated at 300 pisg for 2-pipe or 4-pipe applications. Valve Actuator to be easily detached from valve body with a push button. The ball valves, strainers, and automatic flow controls shall be rated at 600 psig. The automatic flow control valve shall be factory set to a rated flow, and shall automatically control flow to within 10% of the rated value over a 40 to 1 differential pressure, operating range (2 to 80 PSID). Operational temperature shall be rated from fluid freezing, to 225°F. The valve body shall be constructed from hot forged brass UNS C37700 per ASTM B-283 latest revision. For more information pertaining to the automatic balancing valve packages, see literature documentation.

Cabinet
Fabricated from heavy gauge galvanized steel. Large access panels permit full access to internal components. The structural integrity of the cabinets shall remain unaffected by the removal of any or all access panels. All panels shall be insulated with ½" Tuf-Skin RX™, which offers greater sound absorption and better thermal efficiency. Insulation to have a special acrylic coating that's formulated with an EPA registered anti-microbial agent. The insulation meets the erosion requirements of UL 181. It has a flame spread of less than 25 and a smoke developed classification of less than 50 per ASTM E-84 and UL 723. Access for inspection and cleaning of the unit drain pan, coils and fan section shall be provided. The unit shall be installed for proper access.

Basic Controls
Units include the following controls and functions. Provide with a 3-speed circuit board (CB500) with conformal coating (both sides of board) for humidity and condensation protection. Controls include 24V transformer, 15 amp service disconnect, and fan relays factory mounted and wired.

Drain Pan
The condensate pan shall be constructed of corrosion proof material. The bottom of the drain pan shall be sloped on two planes which pitches the condensate to the drain connection. The drain pan shall be flame rated per UL945V-B.

Electrical
The unit control box shall contain all necessary devices to allow heating and cooling operation to occur from a remote wall thermostat.
These devices shall be as follows:
24 VAC energy limiting class II [40 VA] (minimum) transformer] 24 VAC 3-speed control board.
Thermostat connections shall be provided for ease of hook-up to a terminal strip located in the unit's control box.

Electric Heat (CWE only)
Unit shall be equipped with nichrome wire electric strip heaters for total or auxiliary electric heat as specified on equipment schedule.
Heaters shall be protected by an automatic reset safety cutout switch.
Heater capacity shall be as specified on the equipment schedule.
Heaters shall be single phase, 60 Hz for 208, 240 or 277 volts as specified on the equipment schedule.
For total electric heat, unit controls may include a sequenced heating and cooling thermostat.
*For auxiliary electric heat or twilight heat, optional unit controls shall include 2 additional automatic changeover devices.

Filters
One inch filters shall be standard and factory installed.

Indoor Blower Wheels are double width, double inlet (DWDI), forward curved, centrifugal type. They are statically and dynamically balanced for a smooth, quiet operation. The Class I housing is constructed of heavy gauge steel with die-formed inlet cones. Motors to be multi-speed, 120V, 208-230V, or 277V single phase, 60-Hz, permanent split capacitor (PSC) or electrically commutated motor (ECM) type factory mounted to the blower assembly with rubber isolators or optional ECM with 3 speeds factory programmed.
Wall Panels to be louvered or solid frame type. Panels fabricated of heavy gauge galvanized steel and coated with white epoxy powder finish. Panel to be insulated with ½" Tuf-Skin RX™. Panel to provide full access to all internal components including valve packages.

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JUNE 2024