

First Co.

PRODUCT SPECIFICATIONS

CW & CWX

Chilled Water Cooling with
Hot Water or Electric Heat



Standard unit shown
(Closet application - Front Return Air)

**CW SERIES-PSC MOTOR
CWX SERIES-ECM MOTOR**

Vertical
190-1190 CFM



Unit shown with bottom return air kit
(Closet application - Bottom Return Air)

• **HIGH EFFICIENCY** • **HIGH PERFORMANCE**

ECM Motor Options

The ECM motor option includes 24V controls, a constant torque, permanent magnet, brushless DC motor, with 4 discrete speed taps that allow for high static applications and precise air balancing
277V option available

PSC Motor Options

3 speed 120V with 24V controls (230V on CWE)
277V option available



Unit shown with louvered wall panel
(Recessed wall application)



First Company
P.O. Box 270969
Dallas, TX 75227
Ph. (214)-388-5751
www.firstco.com



NEW! 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 P4. for additional information)

Standard Features:

- 120V motor, 24V 3-speed fan control (see description on Page 4)
- **Electrical service pullout** (not on 277V models)

CW(X)	Thru-Door
120/24V	YES
277/24V	NO
- 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 Page 3)

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.

CW(X) models with other motor voltages may be available. (Contact factory)

(X) Denotes with ECM motor



CW(X) Series - 2-Pipe Upflow Wall/Closet

The CW series is designed as an upflow indoor air handler with a chilled water coil for cooling. This space saving front return unit provides easy access for service and maintenance.



CW Series

Wall / Closet Fan Coils

CW Series

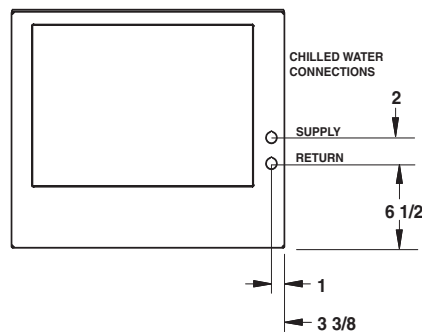
Upflow Wall / Closet Fan Coils

2-Pipe Chilled Water - Hot Water

(230 - 1160 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	400	1.5	4.3	9.7	8.8	13.0	7.8	7.8	10.4	1.5	4.3	10.6	9.1	14.1	8.6	8.6	11.4
		2.5	10.5	12.0	9.6	9.6	9.2	8.5	7.4	2.5	10.5	13.1	10.0	10.5	10.0	8.8	8.0
		3.5	19.0	13.1	10.0	7.5	10.0	8.8	5.7	3.5	19.0	14.2	10.5	8.1	10.9	9.2	6.2
6CW	600	3.0	5.0	17.3	13.1	11.5	13.2	11.5	8.8	3.5	6.7	20.0	14.1	11.4	15.3	12.3	8.7
		4.0	8.6	19.2	13.8	9.6	14.7	12.1	7.3	4.5	10.7	21.7	14.8	9.6	16.6	12.8	7.4
		5.0	13.0	20.4	14.3	8.2	15.6	12.5	6.2	5.5	15.5	22.8	15.2	8.3	17.4	13.2	6.3
8CW	800	6.5	11.4	23.2	17.1	7.1	17.7	15.0	5.4	6.0	9.8	24.6	17.6	8.2	18.8	15.4	6.3
		7.5	14.8	24.2	17.4	6.5	18.5	15.3	4.9	7.0	13.1	25.8	18.1	7.4	19.7	15.8	5.6
		8.5	18.7	25.0	17.7	5.9	19.1	15.5	4.5	8.0	16.7	26.8	18.4	6.7	20.5	16.1	5.1
10CW	1000	6.5	5.7	29.0	21.6	8.9	22.2	19.0	6.8	6.0	4.6	30.7	22.2	10.2	23.5	19.4	7.8
		8.0	8.2	31.0	22.3	7.8	23.7	19.5	5.9	8.0	8.2	33.8	23.4	8.5	25.8	20.4	6.5
		9.5	11.0	32.5	22.9	6.8	24.8	20.0	5.2	10.0	12.1	35.8	24.1	7.2	27.3	20.9	5.5
12CW	1200	6.0	6.3	33.0	26.1	11.0	25.2	23.2	8.4	5.5	5.4	34.7	26.7	12.6	26.5	23.5	9.6
		7.5	9.5	36.1	27.3	9.6	27.6	24.0	7.4	7.0	8.4	38.3	28.1	10.9	29.3	24.6	8.4
		9.0	13.2	38.5	28.1	8.5	29.4	24.7	6.5	8.5	11.9	41.1	29.2	9.7	31.4	25.5	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	
4CW	400	1.0	2.1	26.0	130	21.3	119	16.6	108	11.8	97	
		2.0	7.1	30.2	140	24.7	127	19.2	114	13.7	102	
		3.0	14.5	31.8	144	26.1	130	20.3	117	14.5	104	
6CW	600	1.0	0.7	35.7	125	29.2	115	22.7	105	16.2	95	
		2.0	2.4	44.7	139	36.5	126	28.4	114	20.3	101	
		3.0	5.0	48.4	145	39.6	131	30.8	118	22.0	104	
8CW	800	3.5	3.6	56.8	136	46.5	124	36.1	112	25.8	100	
		5.0	7.0	60.2	140	49.3	127	38.3	114	27.4	102	
		6.5	11.4	62.6	142	51.2	129	39.8	116	28.5	103	
10CW	1000	4.0	2.4	73.0	138	59.7	125	46.4	113	33.2	101	
		6.0	4.9	78.2	142	64.0	129	49.8	116	35.6	103	
		8.0	8.2	81.5	145	66.7	132	51.9	118	37.1	104	
12CW	1200	3.0	1.8	81.5	133	66.7	121	51.9	110	37.0	99	
		4.5	3.7	92.8	142	75.9	129	59.1	116	42.2	103	
		6.0	6.3	97.1	145	79.4	131	61.8	118	44.1	104	



NOTES:

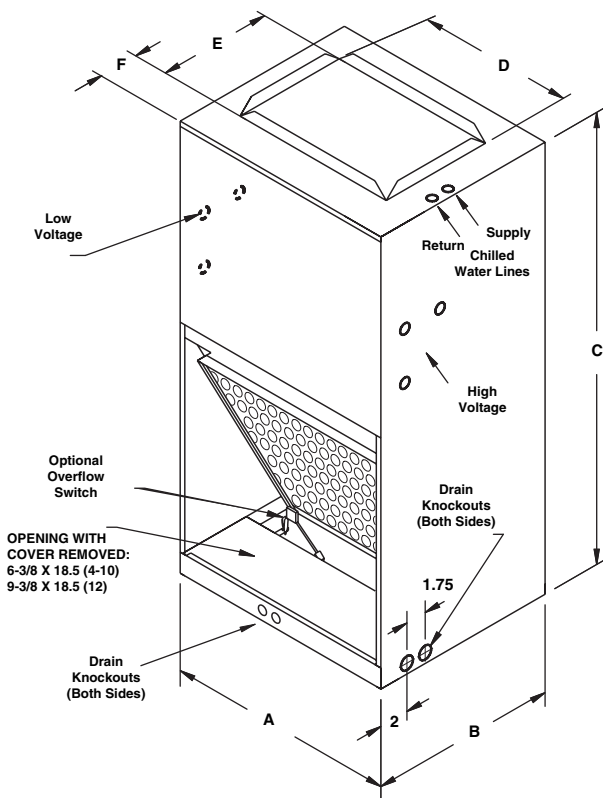
1. Above capacities are at nominal CFM conditions. Maximum discharge air temperature must not exceed 145° at actual CFM.

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
4CW	1/6	2.1	MED. HIGH	520	500	485	470	450	430	415
			MED. LOW	380	370	360	350	340	330	310
			LOW	300	290	280	270	260	250	230
6CW	1/6	2.1	HIGH	620	615	610	600	585	570	555
			MED. HIGH	410	400	390	380	370	360	350
			MED. LOW	300	290	280	270	260	250	230
8CW	1/6	3.2	HIGH	855	840	820	800	775	750	730
			MEDIUM	710	700	685	670	655	640	625
			LOW	580	570	560	550	540	530	515
10CW	1/4	4.6	HIGH	1075	1050	1025	1000	980	960	930
			MEDIUM	875	860	845	830	815	800	780
			LOW	705	700	690	680	670	660	645
12CW	1/4	3.8	HIGH	-	1160	1130	1100	1070	1040	1010
			MED-HIGH	-	1070	1045	1020	995	970	940
			MED-LOW	-	1000	975	950	930	910	885

PHYSICAL DIMENSIONS								
UNIT MODEL	A	B	C	D	E	F	FILTER SIZE	CHILLED WATER COIL CONNECTIONS
4 - 10CW	22-1/8	15-1/8	40	14	10-1/2	3-5/8	18 X 18	5/8 O.D.
12CW	22-1/8	18-1/8	43	14	13	3-5/8	18 X 24	5/8 O.D.

NOTES:

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



CWX Series

Wall / Closet Fan Coils

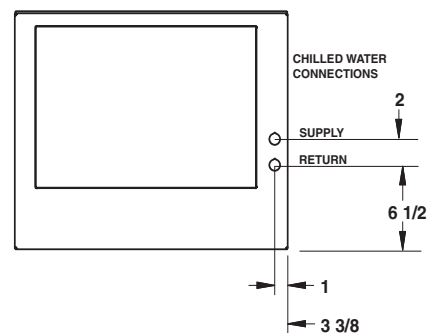
CWX Series

Upflow Wall / Closet Fan Coils

2-Pipe Chilled Water - Hot Water
(230 - 1160 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	400	1.5	4.3	9.7	8.8	13.0	7.8	7.8	10.4	1.5	4.3	10.6	9.1	14.1	8.6	8.6	11.4
		2.5	10.5	12.0	9.6	9.6	9.2	8.5	7.4	2.5	10.5	13.1	10.0	10.5	10.0	8.8	8.0
		3.5	19.0	13.1	10.0	7.5	10.0	8.8	5.7	3.5	19.0	14.2	10.5	8.1	10.9	9.2	6.2
6CWX	600	3.0	5.0	17.3	13.1	11.5	13.2	11.5	8.8	3.5	6.7	20.0	14.1	11.4	15.3	12.3	8.7
		4.0	8.6	19.2	13.8	9.6	14.7	12.1	7.3	4.5	10.7	21.7	14.8	9.6	16.6	12.8	7.4
		5.0	13.0	20.4	14.3	8.2	15.6	12.5	6.2	5.5	15.5	22.8	15.2	8.3	17.4	13.2	6.3
8CWX	800	6.5	11.4	23.2	17.1	7.1	17.7	15.0	5.4	6.0	9.8	24.6	17.6	8.2	18.8	15.4	6.3
		7.5	14.8	24.2	17.4	6.5	18.5	15.3	4.9	7.0	13.1	25.8	18.1	7.4	19.7	15.8	5.6
		8.5	18.7	25.0	17.7	5.9	19.1	15.5	4.5	8.0	16.7	26.8	18.4	6.7	20.5	16.1	5.1
10CWX	1000	6.5	5.7	29.0	21.6	8.9	22.2	19.0	6.8	6.0	4.6	30.7	22.2	10.2	23.5	19.4	7.8
		8.0	8.2	31.0	22.3	7.8	23.7	19.5	5.9	8.0	8.2	33.8	23.4	8.5	25.8	20.4	6.5
		9.5	11.0	32.5	22.9	6.8	24.8	20.0	5.2	10.0	12.1	35.8	24.1	7.2	27.3	20.9	5.5
12CWX	1200	6.0	6.3	33.0	26.1	11.0	25.2	23.2	8.4	5.5	5.4	34.7	26.7	12.6	26.5	23.5	9.6
		7.5	9.5	36.1	27.3	9.6	27.6	24.0	7.4	7.0	8.4	38.3	28.1	10.9	29.3	24.6	8.4
		9.0	13.2	38.5	28.1	8.5	29.4	24.7	6.5	8.5	11.9	41.1	29.2	9.7	31.4	25.5	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	400	1.0	2.1	26.0	130	21.3	119	16.6	108	11.8	97
		2.0	7.1	30.2	140	24.7	127	19.2	114	13.7	102
		3.0	14.5	31.8	144	26.1	130	20.3	117	14.5	104
6CWX	600	1.0	0.7	35.7	125	29.2	115	22.7	105	16.2	95
		2.0	2.4	44.7	139	36.5	126	28.4	114	20.3	101
		3.0	5.0	48.4	145	39.6	131	30.8	118	22.0	104
8CWX	800	3.5	3.6	56.8	136	46.5	124	36.1	112	25.8	100
		5.0	7.0	60.2	140	49.3	127	38.3	114	27.4	102
		6.5	11.4	62.6	142	51.2	129	39.8	116	28.5	103
10CWX	1000	4.0	2.4	73.0	138	59.7	125	46.4	113	33.2	101
		6.0	4.9	78.2	142	64.0	129	49.8	116	35.6	103
		8.0	8.2	81.5	145	66.7	132	51.9	118	37.1	104
12CWX	1200	3.0	1.8	81.5	133	66.7	121	51.9	110	37.0	99
		4.5	3.7	92.8	142	75.9	129	59.1	116	42.2	103
		6.0	6.3	97.1	145	79.4	131	61.8	118	44.1	104

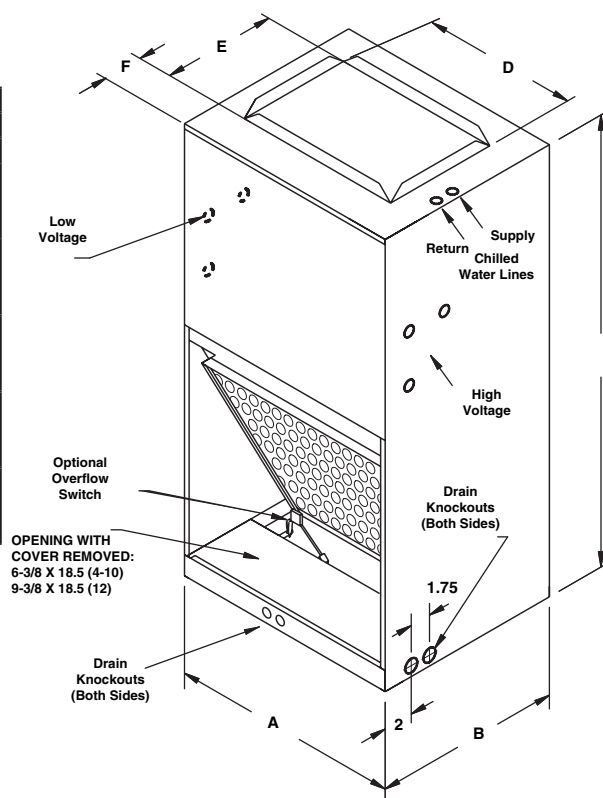


NOTES:

1. Above capacities are at nominal CFM conditions. Maximum discharge air temperature must not exceed 145° at actual CFM.

BLOWER DATA - ECM											
UNIT MODEL	MOTOR HP	AMPS	SPEED TAPS	CFM vs EXTERNAL STATIC PRESSURE							
				0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.45
4CWX	1/3	4.8	4	575	560	545	530	515	500	485	470
			3	515	500	485	470	450	430	420	410
			2	425	410	395	380	360	340	320	300
			1	350	330	310	290	265	230	225	210
6CWX	1/3	4.8	4	710	700	690	680	665	650	635	620
			3	665	650	635	620	605	590	575	560
			2	540	520	500	480	465	450	435	420
			1	375	360	345	330	315	300	275	250
8CWX	1/3	4.8	4	980	960	940	920	905	890	865	840
			3	860	850	835	820	810	800	785	770
			2	710	700	690	680	665	650	635	620
			1	580	570	550	530	515	500	485	470
10CWX	1/2	6.8	4	1200	1180	1155	1130	1105	1080	1060	1040
			3	1060	1050	1040	1030	1020	1010	1000	990
			2	920	910	900	890	870	850	840	830
			1	770	760	750	740	720	700	690	680
12CWX	1/2	6.8	4	1345	1330	1315	1300	1275	1250	1225	1200
			3	1275	1260	1245	1230	1215	1200	1185	1170
			2	1125	1110	1090	1070	1060	1050	1035	1020
			1	975	960	945	930	915	900	880	860

PHYSICAL DIMENSIONS								
UNIT MODEL	A	B	C	D	E	F	FILTER SIZE	CHILLED WATER COIL CONNECTIONS
4 - 10CWX	22-1/8	15-1/8	40	13	10-1/2	3-5/8	18 X 18	5/8 O.D.
12CWX	22-1/8	18-1/8	43	14	13	3-5/8	18 X 24	5/8 O.D.



NOTES:

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

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

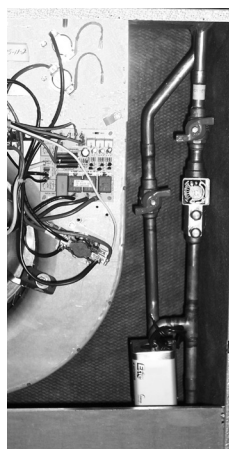
Wall / Closet Fan Coils

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:	
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

NOTES:

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)



T200/T201
"AUTOSPEED 24V™"
THERMOSTAT

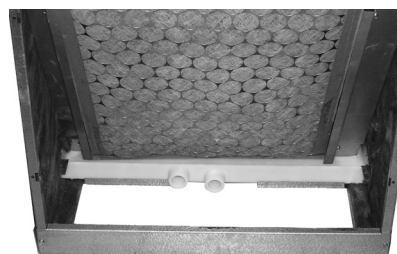


Optional wall panel
(Recessed wall application)



T420/T421
THERMOSTAT

In keeping with its policy of continuous progress and product improvement, First Operations reserves the right to make changes without notice. Maintenance for all First Co. products is available under "Product Maintenance" at www.firstco.com.



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

WARNING AVERTISSEMENT ADVERTENCIA
Cancer and Reproductive Harm
Cancer et Troubles de l'appareil reproducteur
Cáncer y Daño Reproductivo
www.P65Warnings.ca.gov LBY0057

The "Autospeed 24V™" Thermostats (Part #'s T200/T201)

**AUTOMATIC
FAN SPEED CONTROL**

Accurate, Efficient, and Quiet Fan Coil Operation

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 shown with wall plate)

T200/T201 Thermostat Features

- Compatible with 2 pipe and 4 pipe fan coils: Series HBC/PHBC/RHBC/CHBC, MB/MB-HW, HYB/PHYB, and CW/CH-HW/CWE
- Cycle fan or continuous fan operation
- **T200**-Manual Heat / Cool changeover switch
- **T201**-Automatic Heat / Cool changeover switch
- 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.
- 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 it to a particular fan speed.
- 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
- Set points are permanently retained in memory in case of power interruption
- 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	°F (default)	°C
P4	Cycled fan standard	Cycled fan overdrive (default)
P5	Low temp limit 64 °F (default)	Low temp limit 67 °F
P6	Hi temp limit 88 °F (default)	Hi temp limit 84 °F

Options CW(X)

2-Pipe Chilled Water / Hot Water

Cabinet Return Panel

Return air panel converts front return air to bottom return air configuration.

90PK4 - CW(X)4-10

90PK4F – CW(X)4-10 Foil Faced Insulation.

90PK5 – CW(X)12

90PK5F – CW(X)12 Foil Faced Insulation.

Wall Mount Bracket Kit

Kit allows unit to be mounted directly to the wall.

90PK3 - CW(X)4-12

Insulation

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

Coils

2,3 and 4 row coils available.

Wall Panels

Framed wall panels are available with return air louvers or solid for bottom return configurations.

LOUVERED PANEL

9PWUCO1L CW(X)4-10

9PWUCO2L CW(X)12

SOLID PANEL

9PWUCO1S CW(X)4-10

9PWUCO2S CW(X)12

2-Pipe Cooling/Heating

Manual Changeover – Requires thermostat with Heat/Cool switch.

Auto Changeover – Requires thermostat with Heat/Cool/auto switch.

(Heating Requires T4071 Aquastat with 3way valve or bypass tube)

Motors

PSC 3-Speed

Includes CB500 3-Speed control board and 24-V transformer.

115-V, single phase, 60-Hz

277-V single phase 60-Hz

ECM 3-speed

Includes 24-V Transformer and terminal strip.

115-V, single phase, 60-Hz

277-V single phase 60-Hz

Valve packages

Factory assembled and installed inside the cabinet and factory wired.

2-Pipe

2-Way Valve w/2-bv - 9VCW22BM

3-Way Valve w/2-bv - 9VCW23BM

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

T4071 - Aquastat

Thermostats

T420 Manual Changeover

2-Pipe/4-Pipe 3-Speed, 24 to 277 VAC, remote sensing available.

T421 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 or Manual Changeover

2-Pipe/4-Pipe 3-Speed Auto Speed, 24 VAC or 110-277, LCD Display backlight, setback capability, key pad lock-out, local or remote sensing, temperature range limits.

T427 Programmable Auto or 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.

CW, CWHW, CWE SYSTEM DESCRIPTION

GUIDE SPECIFICATIONS

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. Coils are equipped with two manual air vents for the supply and return lines.

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 psig 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 UL94V-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) 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.

VALVE PACKAGES AND ACCESSORIES

ACTUATOR			ACTUATOR MATERIALS								
2-POSITION (ON-OFF) 50/60HZ			BASE	POLYCARBONATE	APPROVALS						
VOLTAGE	PART #		COVER	POLYCARBONATE	ETL Cul CE						
24V	E50131180		BASE PLATE	ALUMINUM							
230/1/60	E50138180		LEAD LENGTH	6" - (24V 18")							
277/1/60	E50137180		AMBIENT TEMPERATURE RANGE	32 TO 170 F							
220/1/50	E50138180		MICRO SWITCH	5 A, 250 V							
		2-Way Valve and Actuator	HUMIDITY	95% NON-CONDENSING							
VALVE BODY MATERIALS			VALVE BODIES (2-POSITION)								
BODY		BRASS	E43XXXX 3-WAY		E42XXXX 2-WAY						
STEM		STAINLESS STEEL									
TWO O-RINGS SEALS		EPDM									
PADDLE		EPDM									
FLUID		WATER/GLYCOL									
MAXIMUM % OF GLYCOL		50%	VALVE PACKAGE ACCESSORIES								
TEMPERATURE RANGE		32 TO 230									
MAXIMUM STATIC PRESSURE		300 PSI	Automatic Fixed Flow Control		Manual Adj. Flow Setter						
SWEAT CONNECTION		1/2", 3/4", 1"	1/2"	3/4"		1/2"	3/4"				
FLOW CHARACTERISTICS			CP654XXXXX	CP655XXXXX		CP601	CP6011				
Connection Size	Flow Coefficient	Maximum Close-Off Pressure AP	PETE'S PLUG	Requires CP6025 CP61712							
1/2"	1.0 Cv	75	Ball Valves (Sweat)								
1/2"	2.5 Cv	50	Full Port (T-Handle)					Y-Strainer (Sweat)			
3/4"			1/2"	3/4"	1"	1/2"	3/4"				
1/2"	3.5 Cv	30	CP-9	CP-90	CP-905	CP603	CP6031				
3/4"											
3/4"	5 Cv	25									
1"											
3/4"	7.5 Cv	20									
1"											
1"	8 Cv	20									



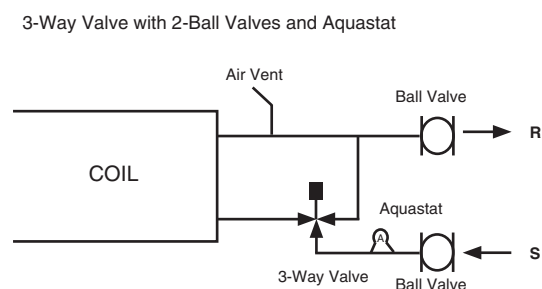
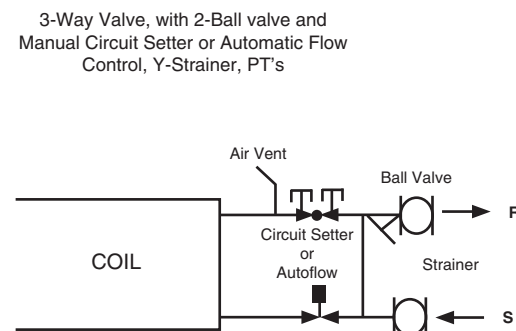
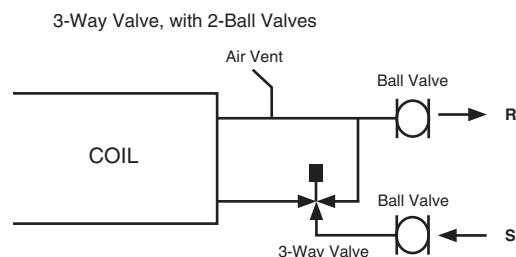
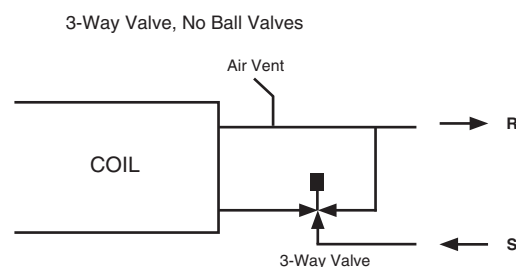
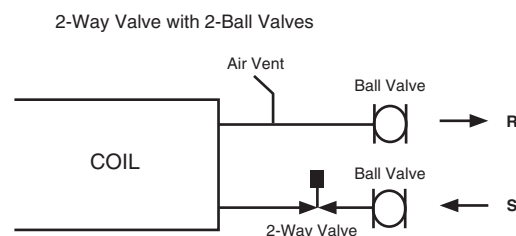
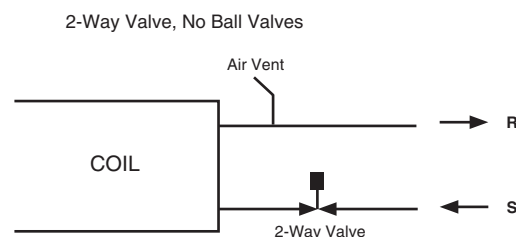
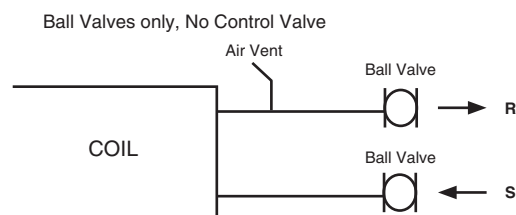
Unit shown with an optional valve package factory installed

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.



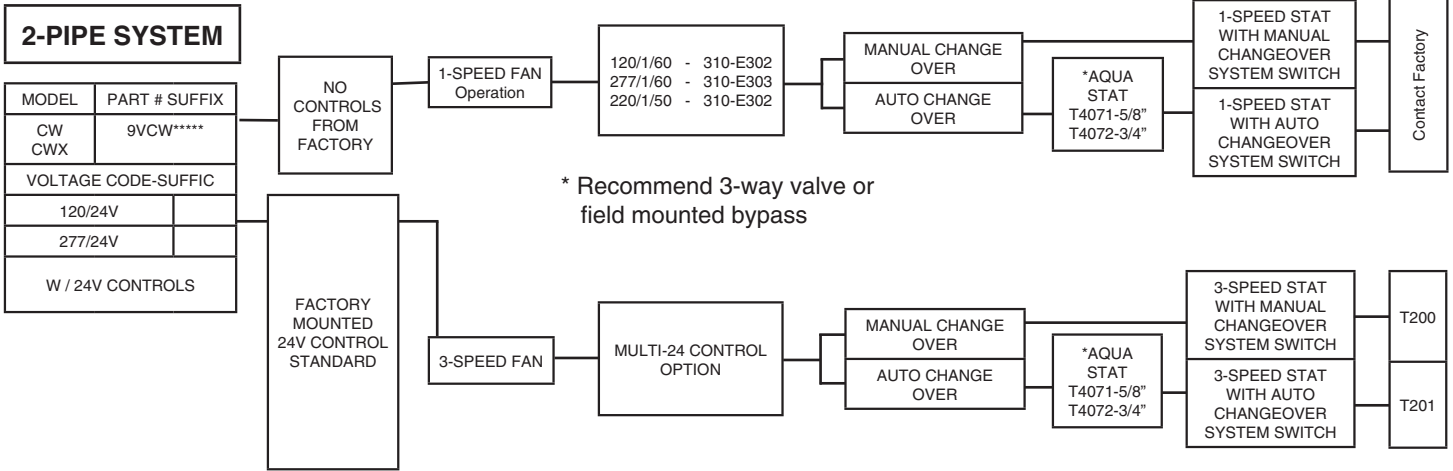
Add Options:

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 availability.

LOW VOLTAGE 24V CONTROLS



LINE VOLTAGE 120/230/277V CONTROLS OPTIONAL

