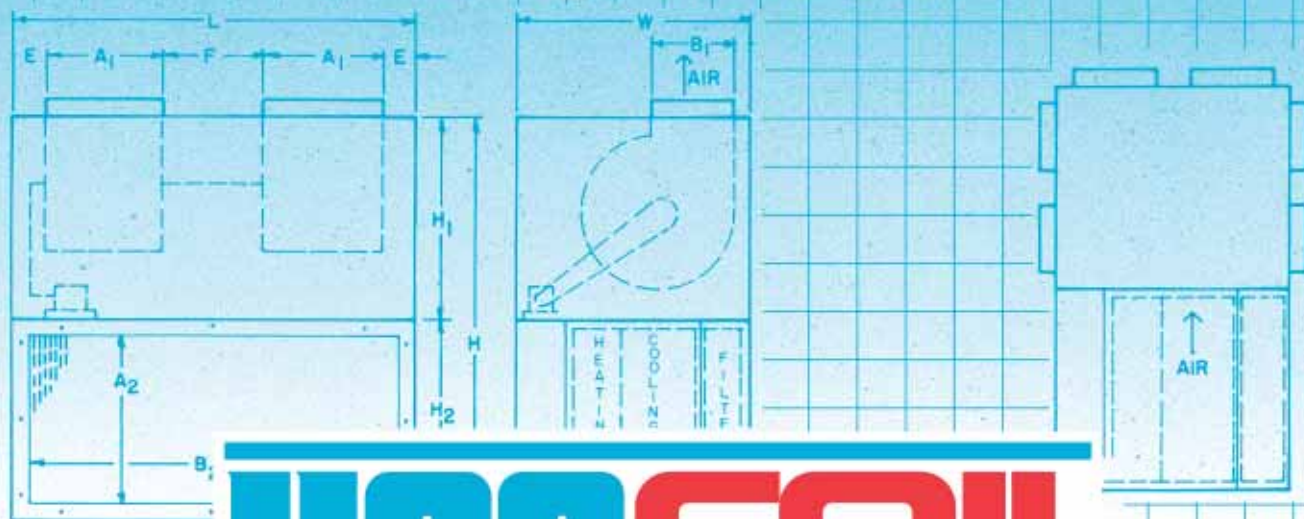
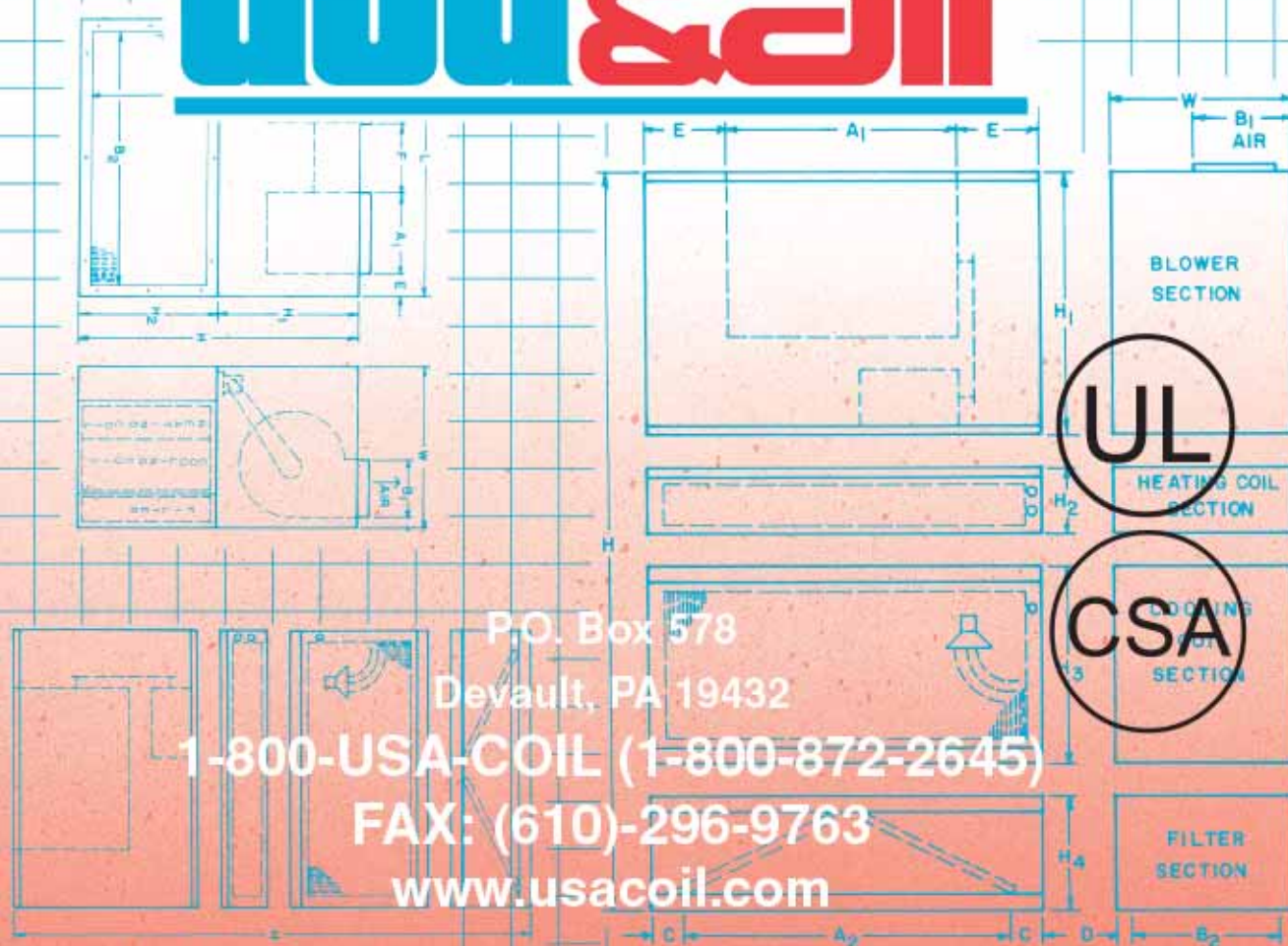


# VERTICAL FAN COILS

## *Utility/Closet*



# USA COIL & AIR



P.O. Box 578  
Devault, PA 19432  
1-800-USA-COIL (1-800-872-2645)  
FAX: (610)-296-9763  
[www.usacoil.com](http://www.usacoil.com)



# At USA, We Really Do Build Quickship Fan/Coil Units

**USA Offers 6 sizes of Horizontal and Vertical  
Direct Drive Fan/Coils, both in Chilled Water and DX.**



When was the last time you had to wait 8 to 10 weeks for two or three small Fan/Coil units? Maybe you had a cooling or heating emergency job, or maybe the job just had to be completed by a certain time. In any case, you couldn't obtain the units that were required in a reasonable amount of time. Well, now you can! USA builds 6 sizes of Horizontal

and Vertical Fan/Coil units with either Chilled Water or DX Coils installed. You can add heating in a 2 pipe system by utilizing the chilled water coil, or you can use a separate hot water coil for a 4 pipe system. No matter what you're looking for, USA can ship it quickly. We forecast usage on all sizes and types of units, and build them to stock for immediate shipment to you.

Our service extends beyond our stock program. We have a nationwide representative organization of many fine sales-application engineers who will visit your job site, analyze your situation and offer many viable alternatives that provide longevity as well as value. We hope you will call us at your earliest opportunity.

*Tom Jacobs*

Tom Jacobs  
President

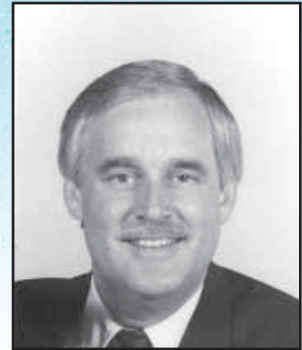


USA builds quality Fan/Coil units. Now that's "saying something" in an industry where Fan/Coil units are treated as second-class equipment. Everybody seems concerned with chillers, compressors, central station air handlers and the major jobs. Well, how about all the small jobs or the large number of Fan/Coil units on the large jobs?

Isn't quality equally as important for these units? It sure is - and we at USA Coil & Air build Fan/Coil units to meet the most rugged conditions.

Our units are individually factory tested and inspected to insure the highest quality in the industry.

We also offer several features with all our units that really distinguish them from other units - top or bottom access to filter and blowers, heat pumps ready for DX units, high static pressure and other features that give you a more complete installation. Look to USA for all your Fan/Coil needs!



*Bob Jacobs*

Bob Jacobs  
Vice President

**Replacement Engineering Made Easy.**

**USA COIL  
& AIR**

1-800-USA-COIL  
(1-800-872-2645)

FAX: (610) 296-9763

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## TERMS AND CONDITIONS

USA Coil & Air, Inc. reserves the right to change dimensional, construction, performance or any other criteria shown in this publication without notice to its customers.

**Acceptance of orders.** Purchase orders are subject to acceptance and approval by USA Coil & Air, Inc. (seller). No Terms or Conditions appearing on purchase orders of other related documents that are contrary to our Standard Terms and Conditions shall be binding unless specifically agreed to beforehand by the Seller in writing.

**Cancellation of orders.** The Purchaser can cancel or modify an order upon written notice and Purchaser shall pay all costs (cancellation or modification) and charges as determined in an equitable way by seller.

**Quotations.** Any quotation in writing by USA Coil & Air, Inc. may or may not include freight charges within the quoted price(s). Regardless, all equipment is sent F.O.B. Factory and it is the Purchaser's responsibility to make claim for loss or damage with transportation (delivering) carrier.

**Warranty.** USA COIL & AIR, INC. WARRANTS TO THE ORIGINAL OWNER/USER OF THE USA COIL & AIR, INC. UNIT IDENTIFIED ABOVE TO BE FREE OF ORIGINAL DEFECTS IN MATERIAL OR WORKMANSHIP FOR A PERIOD OF ONE YEAR FROM THE EFFECTIVE DATE OF THIS WARRANTY.

The Warranty extends for twelve (12) months from date of start-up, but no longer than eighteen (18) months from the date of shipment. The warranty does not include the filter.

This Warranty on the units obligates USA Coil & Air, Inc. to repair or replace, free of charge, any part or parts that show evidence of being defective in material and workmanship and are deemed so defective by personnel of USA Coil & Air, Inc.. The part must be returned for replacement with the proper information as required.

USA Coil & Air, Inc. assumes no obligation for labor required to

replace the defective part or parts nor the freight or postage required to return or to secure the part which shall be at the cost and expense of the Original Owner/User. Warranty does not include breakage or rupture of water tubing and/or water condenser coil when subjected to freezing temperatures.

USA Coil & Air, Inc., will replace the defective part or parts within 21 days after the return to the USA Coil & Air, Inc. of such defective part or parts provided notice of such defect was given by Original Owner/User within the Warranty period.

An optional, additional four-year protection plan on the compressor is available at modest cost at the time of original unit sale only. This obligates USA Coil & Air, Inc. to replace f.o.b. factory, a defective compressor with a comparable compressor of equal capacity free of charge. No responsibility is assumed by USA Coil & Air, Inc. for refrigerant, labor, or freight to and from factory.

THIS WARRANTY IS EXPRESSLY IN LIEU OF ALL OTHER EXPRESS WARRANTIES. ALL IMPLIED WARRANTIES, INCLUDING WARRANTIES OF MERCHANTABILITY OR FITNESS FOR ANY PARTICULAR PURPOSE ARE LIMITED IN DURATION TO ONE (1) YEAR FROM EFFECTIVE DATE OF THIS WARRANTY. USA COIL & AIR, INC. IS NOT LIABLE FOR CONSEQUENTIAL DAMAGES RESULTING FROM ANY DEFECT IN PART. THERE ARE NO OTHER OBLIGATIONS ON THE PART OF THE USA COIL & AIR, INC..

Warranty of Fitness

USA Coil & Air, Inc. does not provide a warranty of fitness since, in good faith USA Coil & Air, Inc. cannot anticipate or control the many different conditions under which the products of USA Coil & Air, Inc. may be used.

## Some Models and Options Available with Quick Ship

### VERTICAL FAN COIL FEATURES

**Coils** – 1/2" OD copper tube with aluminum fins (12 FPI) equipped with manual-air vent. DX and steam coils do not include manual-air vent. Coils are 100% underwater pressure tested at 350 PSI with a 300 PSI working pressure.

**Cabinet** – Heavy-gauge galvanized steel with 1/2" thick, over three pound density, neoprene coated fiberglass.

**Drain Pan** – Galvanized and powder coated epoxy with a 1/4" thick closed-cell insulation and has primary and secondary drain connections.

**Motors** – All motors are 3-speed, 115V/1/60 PSC with quick-connect plug.

**Blower** – Easy slide-out, draw-through blower and motor assembly.

**Controls** – Controls and motors are factory-wired and terminated in a junction box for single-point power supply.

**Air Openings** – One-inch duct collar on supply-air openings.

**Filter** – One-inch fiberglass, throwaway filter.

**Added Features** – Protective cardboard covers openings during shipment and construction. Each unit is tagged and crated as scheduled for installation.

**Certification** – UL and cUL approved.

### OPTIONAL FEATURES FOR 'BEST IN THE INDUSTRY' FAN/COILS.\*

**Cabinet** – Soft-white, powder-coated epoxy cabinet.

**Drain Pans** – Stainless steel, double-wall.

**Coils** – Copper fins, phenolic coated, stainless-steel end plates. All options are available on one to six rows.

**Insulation** – fiberglass, foil-faced, elastomeric and double-wall (solid or perforated) in 1/2" and 1" thickness.

**Systems** – Two or Four-pipe, Hydronic cooling/heating, Steam, Direct-expansion (DX) and/or Electric Heat.

**Grilles** – eliminates the need for closet doors - available in custom colors.

**Controls** – Unlimited selection of factory-mounted valves and controls.

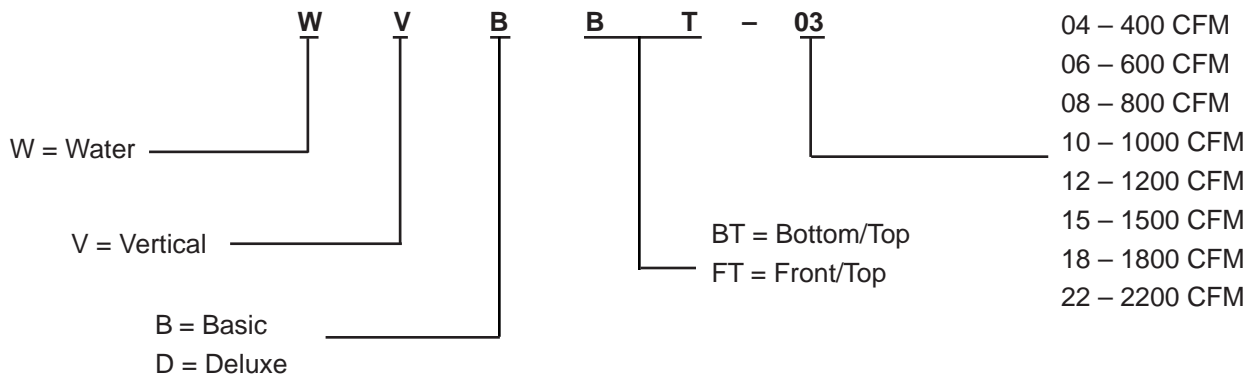
**Filters** – Two-inch thick throwaway, washable.

**Flow-Control Pump** – For water heating applications.

**Electric Strip Heat** – From 1 to 9 kW

\*Not all options available on Quickship.

### VERTICAL FAN COIL NOMENCLATURE





# Vertical Fan Coils from USA Coil & Air



Bottom Return/Top Outlet  
Basic Vertical  
Direct Drive  
in Water and DX

**Basic Vertical Model (WVBBT)** is a high-static, ducted vertical cased fan coil with bottom return. It is primarily used in vertical floor-mounted or hideaway applications. Fan coil is furred into partition walls or hidden in closets, utility rooms and other concealed locations with a ducted discharge. A removable front access panel facilitates easy servicing of the coil, blower assembly, with quick-connect plug, and filter. A one-inch discharge duct flange is standard on top panel of each unit.

400 CFM thru 2200 CFM



Bottom Return/Top Outlet  
Deluxe Vertical  
Direct Drive  
in Water and DX

**Deluxe Vertical Model (WVDBT)** is manufactured of cold-rolled steel, phosphate conversion-coated then finished in a soft-white, powder-coated epoxy that has been tested to 500 hours of salt spray test in accordance with ASTM B117.

400 CFM thru 2200 CFM



Front Return/Top Outlet  
Basic Vertical  
Direct Drive  
in Water and DX

**Front Return with Top Supply Vertical Model (WVBFT)** is a high-static, ducted vertical fan coil for installation in a closet-type enclosure. The front panel is removable for easy service access to the slide-out blower assembly, with quick-connect plug. Front return-air filter may be removed without removing front panel. Top-discharge opening has a one-inch duct collar. The Return-Air grille option allows unit to be furred in. Grille mounts to drywall for easy access without the expense of a closet door.

600 CFM thru 2200 CFM

**PERFORMANCE DATA - VERTICAL FAN COILS - AIR FLOW DATA**

Models	Coil Rows	External Static Pressure (Inches H2O)																	
		0.00			0.05			0.10			0.15			0.20			0.25		
		HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO	HI	MED	LO
WVBBT-04	4	535	430	345	510	415	340	500	405	330	490	400	310	490	390	300	480	375	280
WVBBT-06	4	614	480	370	590	460	350	575	450	335	560	440	320	550	415	300	530	400	260
WVBBT-08	4	775	605	500	760	590	490	750	580	485	725	570	475	705	560	470	690	535	450
WVBBT-10	4	920	700	540	800	690	530	890	675	525	870	670	520	850	660	500	810	640	485
WVBBT-12	4	1130	920	700	1100	900	690	1010	890	675	1050	870	670	1010	850	660	980	810	640
WVBBT-15	4	1620	1325	1140	1580	1305	1110	1540	1290	1100	1500	1260	1070	1460	1220	1060	1405	1190	1030
WVBBT-18	4	1900	1750	1515	1850	1710	1480	1795	1650	1430	1740	1590	1390	1670	1540	1340	1610	1490	1280
WVBBT-22	4	2100	1980	1390	2015	1920	1370	1930	1850	1350	1870	1770	1300	1795	1705	1255	1730	1640	1220
WVDBT-04	4	535	430	345	510	415	340	500	405	330	490	400	310	490	390	300	480	375	280
WVDBT-06	4	614	480	370	590	460	350	575	450	335	560	440	320	550	415	300	530	400	260
WVDBT-08	4	775	605	500	760	590	490	750	580	485	725	570	475	705	560	470	690	535	450
WVDBT-10	4	920	700	540	800	690	530	890	675	525	870	670	520	850	660	500	810	640	485
WVDBT-12	4	1130	920	700	1100	900	690	1010	890	675	1050	870	670	1010	850	660	980	810	640
WVDBT-15	4	1620	1325	1140	1580	1305	1110	1540	1290	1100	1500	1260	1070	1460	1220	1060	1405	1190	1030
WVDBT-18	4	1900	1750	1515	1850	1710	1480	1795	1650	1430	1740	1590	1390	1670	1540	1340	1610	1490	1280
WVDBT-22	4	2100	1980	1390	2015	1920	1370	1930	1850	1350	1870	1770	1300	1795	1705	1255	1730	1640	1220
WVBFT-06	4	755	640	550	725	625	540	705	605	525	690	595	515	665	570	490	640	550	475
WVBFT-08	4	970	860	670	960	830	660	930	810	640	900	790	630	880	770	610	860	750	600
WVBFT-10	4	1095	965	785	1060	935	770	1025	900	740	1000	880	725	960	850	710	925	810	680
WVBFT-12	4	1355	1110	630	1310	1100	620	1280	1080	615	1240	1070	610	1200	1045	610	1170	1025	600
WVBFT-15	4	1620	1325	1140	1580	1305	1110	1540	1290	1100	1500	1260	1070	1460	1220	1060	1405	1190	1030
WVBFT-18	4	1900	1750	1515	1850	1710	1480	1795	1650	1430	1740	1590	1390	1670	1540	1340	1610	1490	1280
WVBFT-22	4	2100	1980	1390	2015	1920	1370	1930	1850	1350	1870	1770	1300	1795	1705	1255	1730	1640	1220

For Each Additional Row Add 0.05 to The Desired Static Pressure  
Air Flow Data Under Dry

### CHILLED WATER CAPACITIES - VERTICAL FAN COILS (BOTTOM/TOP)

Cooling Capacities For Water Temperature Rise 10° – Entering Air 80°F DB/67°F WB											
				Entering Water Temperature 40°				Entering Water Temperature 45°			
MODEL WVBBT WVDBT	ROWS	CIR.	CFM	TOTAL BTU	SENS BTU	GPM	WPD	TOTAL BTU	SENS BTU	GPM	WPD
04	3	3	525	24.6	16.0	5.2	4.2	18.7	13.6	3.9	2.5
	4	4	515	27.9	17.7	5.9		21.5	15.0	4.5	2.1
06	3	3	610	27.0	17.9	5.6	4.4	20.6	15.3	4.4	3.0
	4	4	595	30.8	19.8	6.5	3.5	23.8	17.0	5.0	2.6
08	3	3	780	31.7	21.5	6.7	5.9	23.9	18.3	5.0	3.9
	4	4	755	36.5	23.8	7.7	4.8	27.9	20.3	5.9	2.9
10	3	3	930	36.8	24.9	7.8	8.5	27.8	21.5	5.8	5.0
	4	4	895	42.5	27.9	9.0	6.9	32.5	23.8	6.8	4.1
12	3	3	1135	41.5	28.8	8.8	10.7	31.3	24.8	6.6	6.2
	4	4	1075	47.8	31.9	10.0	8.4	36.7	27.6	7.7	5.2
15	3	5	1616	68.7	47.5	13.7	15.1	54.2	41.6	10.8	12.2
	4	8	1589	75.1	50.0	15.0	9.2	58.8	43.3	11.8	7.5
18	3	6	1898	83.5	57.0	16.7	15.6	65.8	49.7	13.2	12.7
	4	8	1862	94.2	61.3	19.3	13.7	74.8	53.1	15.0	11.2
22	3	6	2060	87.9	60.7	17.6	16.3	69.8	53.6	14.0	13.3
	4	8	2030	100.2	65.7	20.0	14.4	79.4	57.1	15.9	11.7

### CHILLED WATER CAPACITIES - VERTICAL FAN COILS (FRONT/TOP)

Cooling Capacities For Water Temperature Rise 10° – Entering Air 80°F DB/67°F WB											
				Entering Water Temperature 40°				Entering Water Temperature 45°			
MODEL WVBFT	ROWS	CIR.	CFM	TOTAL BTU	SENS BTU	GPM	WPD	TOTAL BTU	SENS BTU	GPM	WPD
06	3	3	795	29.4	20.4	6.2	12.5	22.2	17.6	4.7	7.7
	4	4	750	30.6	21.2	6.4	2.9	23.1	18.3	4.8	2.1
08	3	3	1025	36.2	25.6	7.6	6.8	27.5	22.1	5.8	4.1
	4	4	975	42.2	28.6	8.8	5.6	32.3	24.7	6.9	3.5
10	3	3	1160	43.3	29.8	9.2	11.0	32.8	25.7	6.9	6.4
	4	4	1100	50.2	33.5	10.6	8.9	38.3	28.6	8.1	5.3
12	3	3	1415	53.3	36.9	11.3	7.7	40.2	31.4	8.5	4.8
	4	4	1350	65.1	42.5	13.7	14.9	50.1	36.4	10.5	9.5
15	3	4	1616	66.3	46.4	13.3	19.1	52.3	40.7	10.5	15.5
	4	5	1607	77.8	51.3	15.6	20.0	61.9	44.7	12.4	16.4
18	3	6	1898	74.5	53.1	14.9	12.1	58.4	46.7	11.7	9.8
	4	6	1886	89.6	59.2	17.9	17.6	71.1	51.9	14.2	14.4
22	3	6	2075	86.5	60.2	17.5	17.3	68.3	52.9	13.7	12.4
	4	8	2060	99.4	65.7	18.9	13.6	78.7	57.1	15.7	11.0

### HOT WATER CAPACITIES - VERTICAL FAN COILS - MODEL WVBBT & WVDBT (BOTTOM/TOP)

**HOT WATER**

Heating Capacities Entering Conditions: 70° DB/180°F EWT

Temperature Drop 20°

MODEL WVBBT WVDBT	ROWS	CIR.	TOTAL BTU	GPM	WPD
04	1	1	24.4	2.6	3.4
	2	2	39.6	4.2	3.0
06	1	1	27.1	2.9	4.1
	2	2	44.4	4.7	3.7
08	1	1	31.9	7.3	5.4
	2	2	52.5	5.6	5.1
10	1	1	38.0	4.0	2.1
	2	2	65.7	7.0	9.1
12	1	1	44.6	4.6	13.2
	2	2	74.9	7.7	11.0
15	1	2	91.0	9.1	11.5
	2	4	137.4	13.7	9.2
18	1	2	113.1	11.3	16.9
	2	4	168.0	16.8	13.4
22	1	2	117.5	11.7	17.5
	2	4	175.9	17.5	13.9

### HOT WATER CAPACITIES - VERTICAL FAN COILS - MODEL WVBBT (FRONT/TOP)

**HOT WATER**

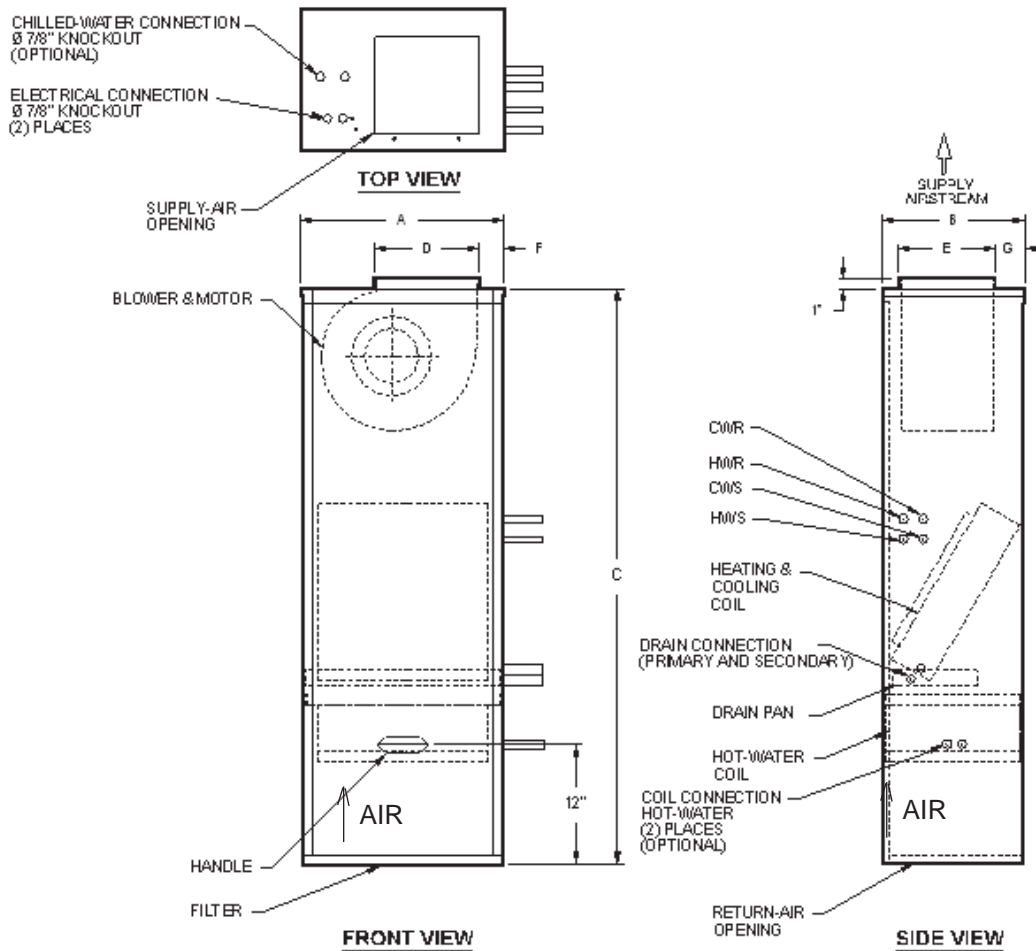
Heating Capacities Entering Conditions: 70° DB/180°F EWT

Temperature Drop 20°

MODEL WVBBT WVDBT	ROWS	CIR.	TOTAL BTU	GPM	WPD
06	1	2	31.0	3.3	1.3
	2	2	54.1	5.7	5.4
08	1	2	40.8	4.3	2.3
	2	2	70.3	7.2	9.0
10	1	1	50.1	5.1	17.7
	2	2	81.6	8.3	13.6
12	1	2	59.5	6.3	5.0
	2	3	10.3	10.7	8.1
15	1	2	85.6	8.5	10.0
	2	3	133.0	13.3	13.3
18	1	2	100.7	10.0	13.1
	2	3	155.9	15.6	16.9
22	1	4	108.8	10.8	4.4
	2	4	174.6	17.4	13.1



**VERTICAL BASIC & DELUXE - 400-800 CFM  
BOTTOM RETURN / TOP SUPPLY**

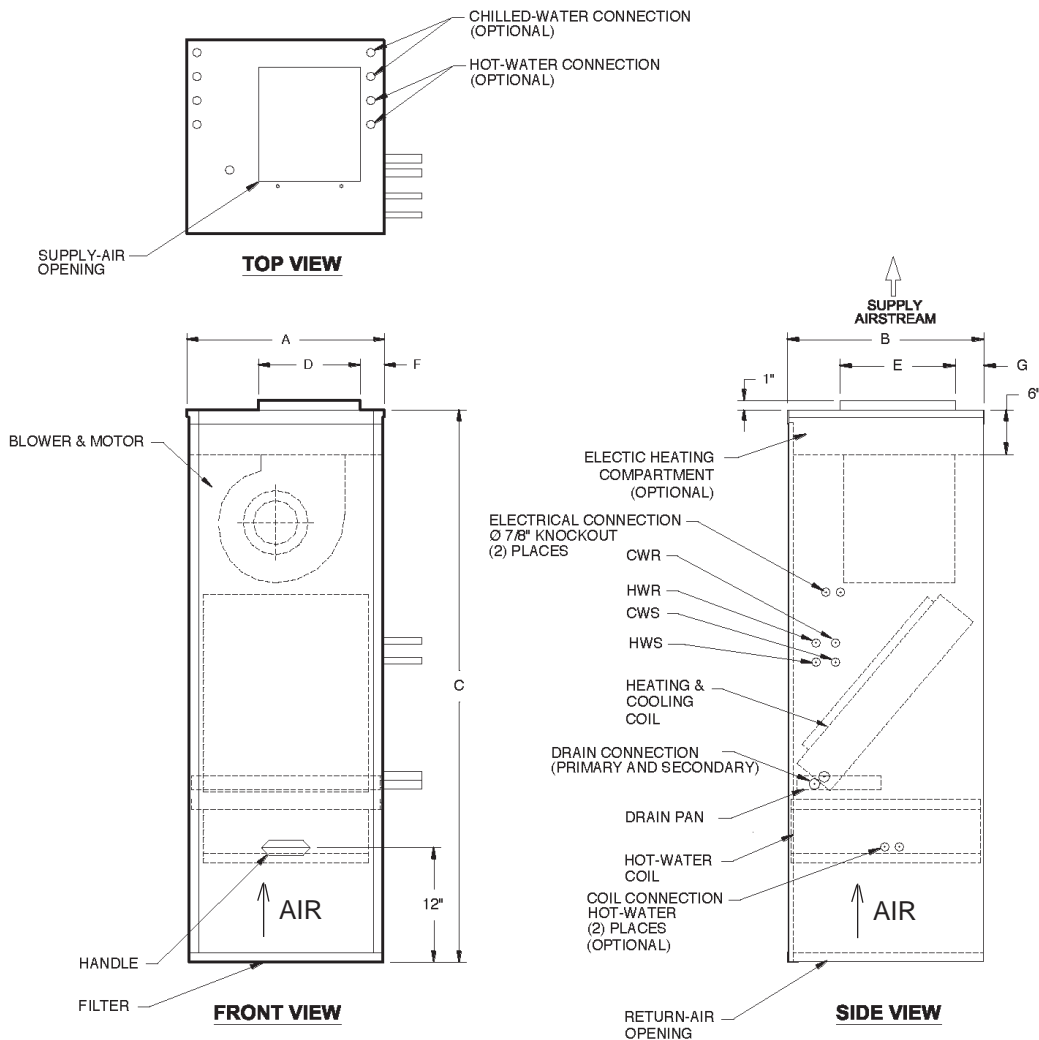


MODEL WVBBT XVBBT WVDBT XVDBT	A	B	C	D	E	F	G	FILTER
04	20 5/32	14 5/32	57 5/8	10 15/32	7 3/32	2 7/8	3 1/32	16x1
06	20 5/32	14 5/32	57 5/8	10 15/32	8 15/32	2 7/8	3 1/32	16x2
08	20 5/32	14 5/32	57 5/8	10 15/32	9 13/32	2 7/8	3 1/32	20x2

Models WVBBT & WVDBT - 04 thru 08.

- Right-hand unit shown, left-hand unit opposite.
- Coil connections determined by facing the front access panel.
- Electrical junction box is located on the same side as the coil connections.
- Drain pan is powder-coated epoxy with a 1/4" thick closed-cell insulation and has 3/4" NPT (sizes 04-08) primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy-gauge, galvanized steel.
- Coil connections: 1/2" CW and HW on sizes 04-08.

### VERTICAL BASIC & DELUXE - 1000-2200 CFM BOTTOM RETURN / TOPSUPPLY

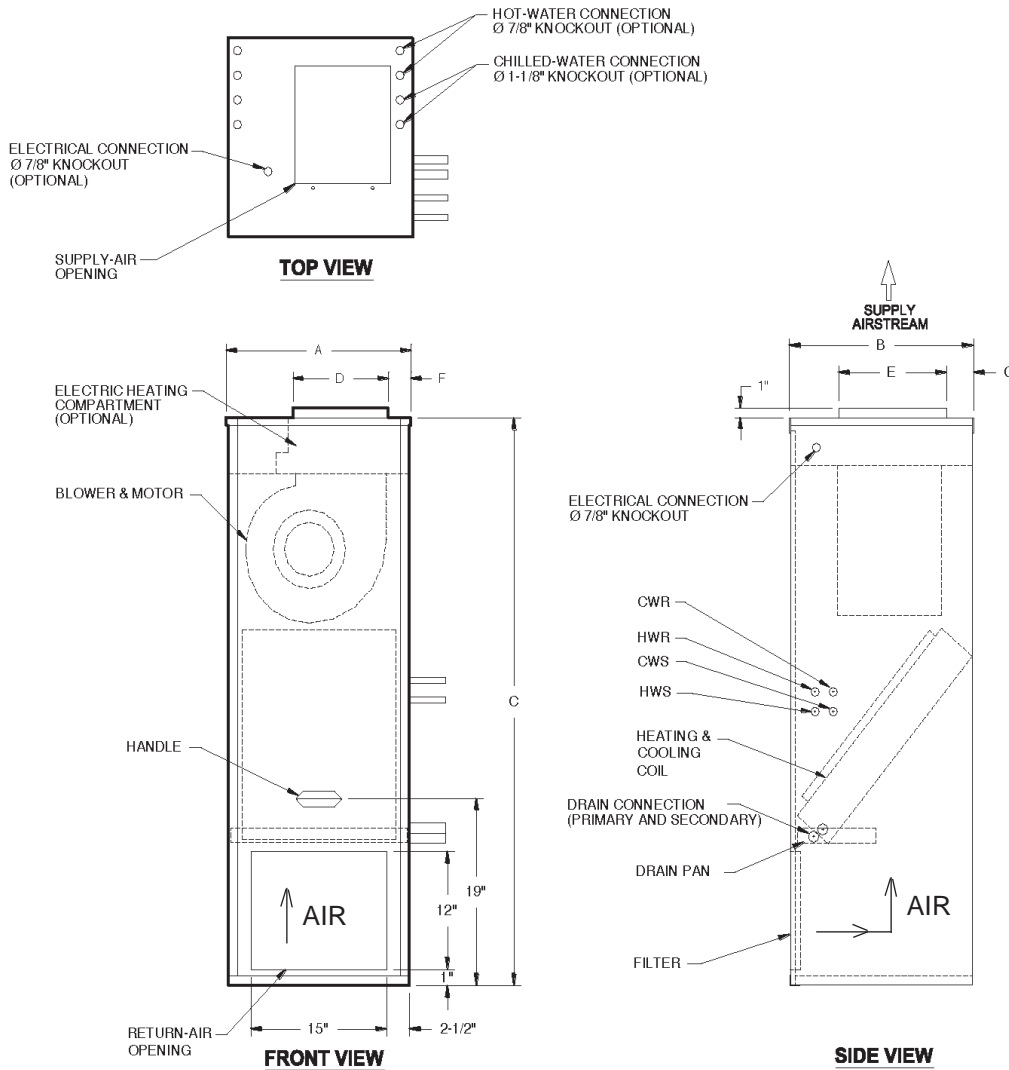


STANDARD MODEL	A	B	C	D	E	F	G	FILTER SIZE
10	20 11/32	20 5/16	57 5/8	10 3/8	11 15/16	2 1/8	3 1/16	20x20x1
12	20 11/32	20 5/16	57 5/8	10 3/8	11 15/16	2 1/8	3 1/16	20x20x1
15	36	24 5/8	62 3/4	24	10 1/2	3	3	30x24x1
18	36	24 5/8	62 3/4	24	10 1/2	3	3	30x24x1
22	36	24 5/8	62 3/4	24	10 1/2	3	3	30x24x1

Models WVBBT & WVDBT - 10 thru 22.

- Right-hand unit shown, left-hand unit opposite.
- Coil connections determined by facing the front access panel.
- Electrical junction box is located on the same side as the coil connections.
- Drain pan is powder-coated epoxy with a 1/4" thick closed-cell insulation and has 3/4" NPT (sizes 10 & 12) primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy-gauge, galvanized steel.
- Coil connections: 1/2" CW on size 10; 3/4" on size 12; 1/2" HW on sizes 10 & 12.

**VERTICAL BASIC & DELUXE - 400 TO 800 CFM  
FRONT RETURN / TOP SUPPLY**



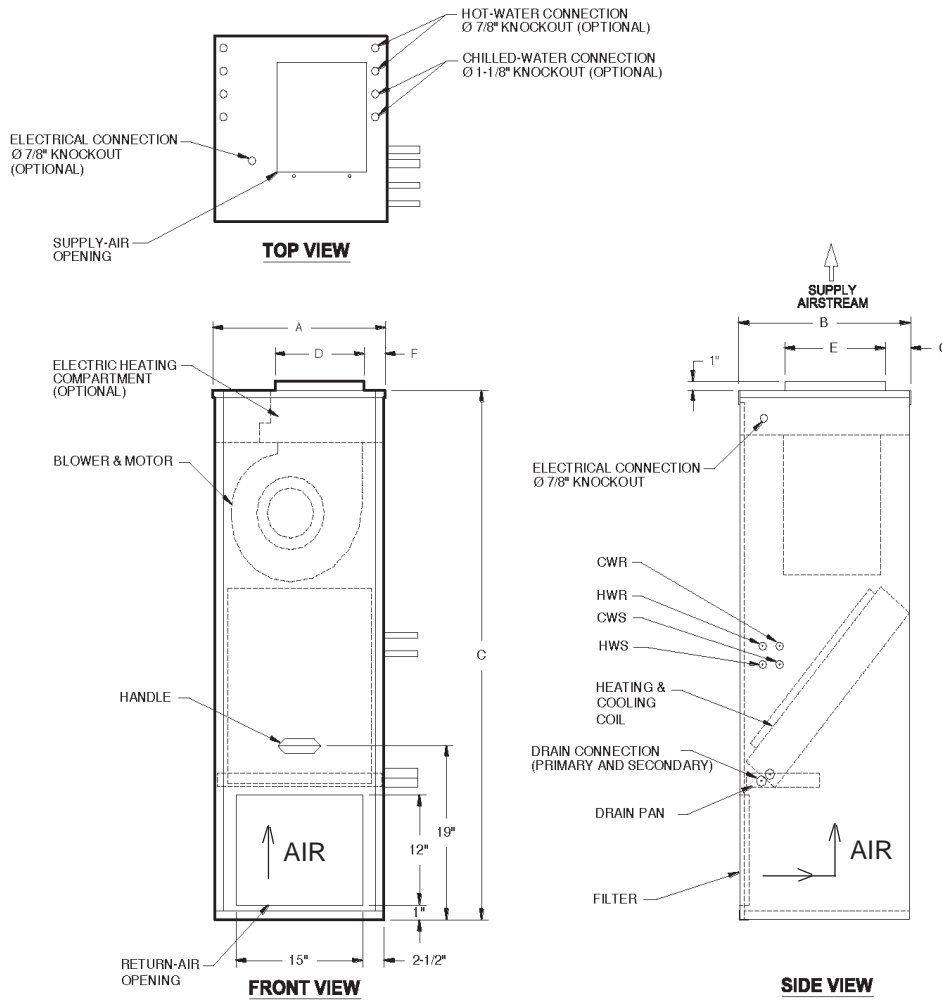
MODEL	A	B	C	D	E	F	G	FILT SZ
04	20 5/32	14 5/32	57 5/8	10 15/32	7 3/32	2 7/32	3 1/32	16x1
06	20 5/32	14 5/32	57 5/8	10 15/32	8 15/32	2 7/32	3 1/32	16x2
08	20 5/32	14 5/32	57 5/8	10 15/32	9 13/32	2 7/32	3 1/32	20x2

WVBFT & WVDFT - 04 thru 08

- Right-hand unit shown, left-hand unit opposite.
- Coil connections determined by facing the front access panel.
- Electrical junction box is located on the same side as the coil connections.
- Drain pan is powder-coated epoxy with a 1/4" thick closed-cell insulation and has 3/4" NPT (sizes 04-08) primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy-gauge, galvanized steel.
- Coil connections: 1/2" CW and HW on sizes 04-08.



### VERTICAL BASIC & DELUXE - 1000-2200 CFM FRONT RETURN / TOP SUPPLY

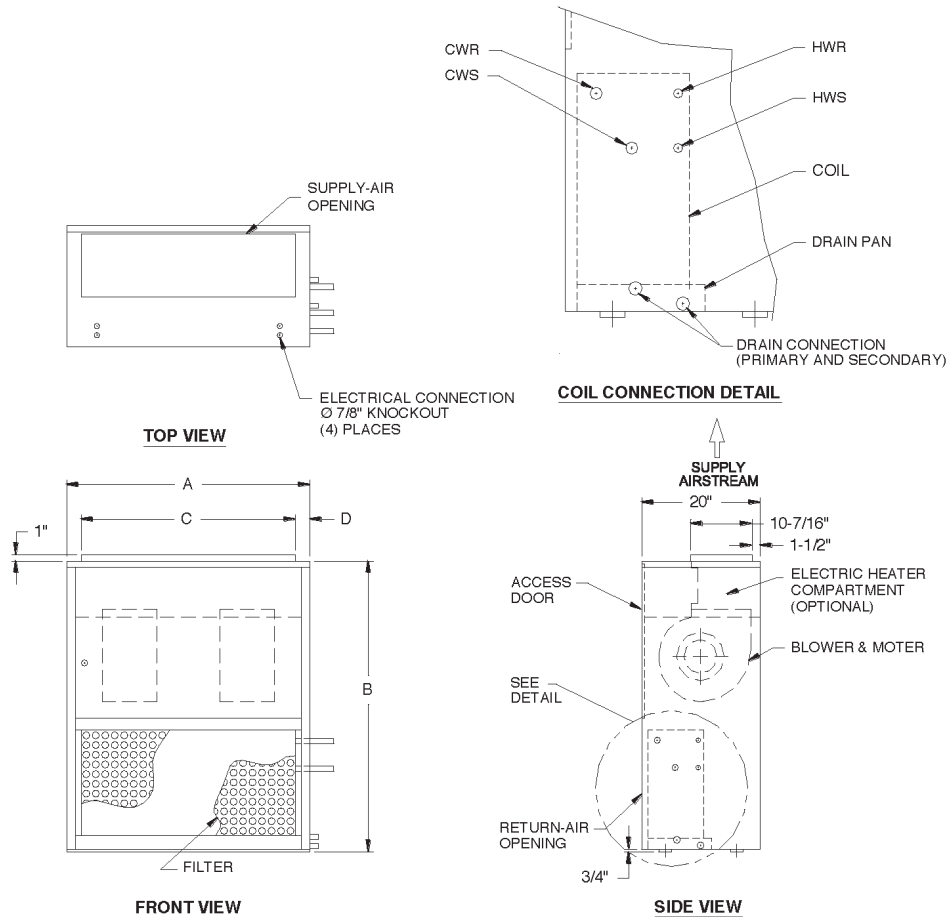


MODEL	A	B	C	D	E	F	G	FILTER SIZE
10	20 11/32	20 5/16	57 5/8	10 3/8	11 15/16	2 1/8	3 1/16	20x20x1
12	20 11/32	20 5/16	57 5/8	10 3/8	11 15/16	2 1/8	3 1/16	20x20x1
15	36	24 5/8	62 3/4	24	10 1/2	3	3	30x24x1
18	36	24 5/8	62 3/4	24	10 1/2	3	3	30x24x1
22	36	24 5/8	62 3/4	24	10 1/2	3	3	30x24x1

#### WVBFT & WVDFT - 10 thru 22

- Right-hand unit shown, left-hand unit opposite.
- Coil connections determined by facing the front access panel.
- Electrical junction box is located on the same side as the coil connections.
- Drain pan is powder-coated epoxy with a 1/4" thick closed-cell insulation and has 3/4" NPT (sizes 10 & 12) primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy-gauge, galvanized steel.
- Coil connections: 1/2" CW on size 10; 3/4" on size 12; 1/2" HW on sizes 10 & 12.

**BASIC VERTICAL - 600-2200 CFM  
FRONT RETURN / TOP DISCHARGE**



MODEL WVBFT	A	B	C	D	FILTER SIZE
600	21	42	12 1/4	4 3/8	16x16x1
800	25	42	12 1/4	6 3/8	16x20x1
1000	25	45	12 1/4	6 3/8	20x20x1
1200	30	45	12 1/4	8 7/8	20x25x1
1500	37	48	25 1/4	5 7/8	25x25x1
1800	37	48	32 1/4	2 3/8	25x16x1
2200	41	48	36 1/4	2 3/8	25x20x1

- Right-hand unit shown, left-hand unit opposite.
- Coil connections determined by facing the return air.
- Electrical junction box is located on the same side as the coil connections.
- Drain pan is powder-coated epoxy with a 1/4" thick closed-cell insulation and has 3/4" NPT (600 -1200) 1-5/16" NPT (1500 - 2200) primary and secondary drain connections.
- Entire cabinet, scroll and blower wheel are heavy-gauge, galvanized steel.
- Coil connections: 1/2" CW for 600, 3/4" on 800 - 2200 chilled water. 1/2" HW on 600 - 2200 hot water.

## VERTICAL UNITS

UNIT	MODEL	ROWS	DIMENSIONS/INCHES			WEIGHT/LBS.		DIMENSIONS/MILLIMETERS			WEIGHT/kg	
			HEIGHT	WIDTH	DEPTH	DRY	WET	HEIGHT	WIDTH	DEPTH	DRY	WET
WVBBT WVDBT	04	3	59	21	15	104	109	1499	533	381	47	50
		4	59	21	15	109	116	1499	533	381	49	53
	06	3	59	21	15	110	115	1499	533	381	50	52
		4	59	21	15	116	122	1499	533	381	52	55
	08	3	59	21	15	142	147	1499	533	381	64	67
		4	59	21	15	147	154	1499	533	381	67	70
	10	3	59	21	21	151	156	1499	533	533	58	71
		4	59	21	21	156	167	1499	533	533	71	74
	12	3	59	21	21	167	172	1499	533	533	76	78
		4	59	21	21	172	179	1499	533	533	78	81
	15	3	59	22	30	224	234	1499	559	762	102	106
		4	59	22	30	230	243	1499	559	762	104	110
	18	3	59	22	30	234	244	1499	559	762	106	111
		4	59	22	30	240	253	1499	559	762	109	115
	22	3	59	22	30	234	244	1499	559	762	106	111
		4	59	22	30	240	253	1499	559	762	109	115

UNIT	MODEL	ROWS	DIMENSIONS/INCHES			WEIGHT/LBS.		DIMENSIONS/MILLIMETERS			WEIGHT/kg	
			HEIGHT	WIDTH	DEPTH	DRY	WET	HEIGHT	WIDTH	DEPTH	DRY	WET
WVBFT	06	3	43	21	15	116	121	1092	533	508	53	55
		4	43	21	15	121	128	1092	533	508	55	58
	08	3	43	25	15	131	136	1092	635	508	59	62
		4	43	25	15	136	143	1092	635	508	62	65
	10	3	46	25	21	141	146	1092	635	508	64	66
		4	46	25	21	146	153	1168	635	508	66	70
	12	3	46	30	21	152	157	1168	762	508	69	71
		4	46	30	21	157	164	1168	762	508	71	75
	15	3	49	37	30	202	212	1245	940	508	92	96
		4	49	37	30	208	221	1245	940	508	94	100
	18	3	49	37	30	213	223	1245	940	508	97	101
		4	49	37	30	219	232	1245	940	508	99	105
	22	3	49	41	30	230	240	1245	1041	508	104	109
		4	49	41	30	236	249	1245	1041	508	107	113



## CHILLED AND HOT WATER PIPING INSTRUCTIONS

**Purpose:** This data is intended to explain piping arrangements for chilled and hot water coils to the correct inlet and outlet locations.

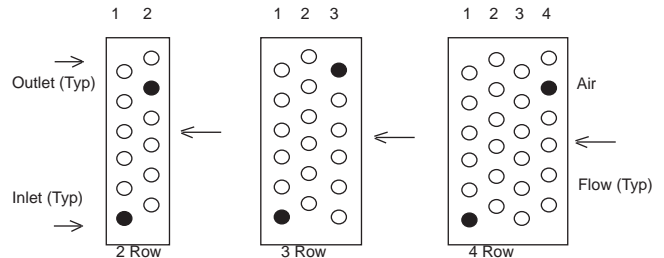
**Two-Pipe Coils:** have one inlet and outlet. Air Handlers may have one to ten rows on each unit. The coil may be 100% chilled water, 100% hot water, or with the addition of a pipe sensor changeover control, it may use chilled water when the chiller is operating or hot water when the boiler is operating. A two-pipe system allows for the chiller or boiler to operate independently, one at a time. The pipe sensor must be clamped onto the supply water line as close to the incoming water source as possible. The purpose of the pipe sensor is to sense the water temperature at its' set point of approximately 88°F. The pipe sensor will change the thermostat control from the cooling mode to the heating mode and vice versa.

The inlet is always at the bottom of the coil and the outlet is always at the top of the coil. All coils are piped so that the inlet is always on the row farthest downstream from the incoming air (See diagram 1).

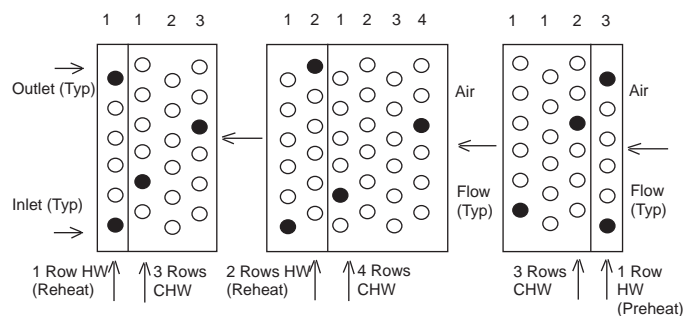
All coils have one or more circuits. Circuits are added to reduce the water pressure drop to an acceptable level (usually 10-ft. H<sub>2</sub>O pressure drop or less). Due to the various circuit options available, the inlet and outlet may change position, making the inlet and outlet locations vary.

**Four-Pipe Coils:** have a dedicated, chilled-water coil, and a dedicated hot-water coil; each with its' own inlet and outlet, equaling four pipes. USA Coil & Air coils use a common tube sheet for four-pipe coils. Example: A four-row, chilled-water coil and a one-row, hot-water coil would use a five-row coil with four rows for chilled-water and one row for hot-water. Normally the one-row, hot-water coil is in the reheat position or downstream from the cooling coil. The hot-water coil may also be ordered in the preheat position or upstream from the chilled-water coil. The controls are wired so that either the chilled-water coil is operating or the hot-water coil is operating, but not both at the same time. When the conditioned space thermostat is satisfied, both the chilled and hot-water control valves are deactivated. The same rule applies for inlet and outlet locations as explained above in "Two-Pipe Coils". (See diagram 2.) Each chilled and hot-water coil is controlled individually so a pipe sensor is not required.

### Two-Pipe Coil Diagrams 1 (Two) Pipe Coils (Right Hand Shown, Left Hand Opposite)



### Four-Pipe Coil Diagrams 2 (Four) Pipe Coils (Right Hand Shown, Left Hand Opposite)

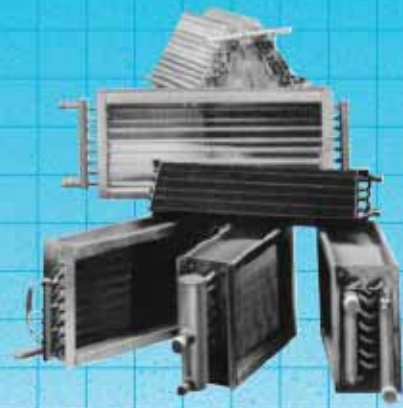


**STANDARD REHEAT POSITION**

**SPECIAL ORDER (Heating coil located in the preheat position)**

Because of the variations of the circuiting available, the location of the inlet and outlet connections may vary up and down. However, always use the following rule to be correct. **The inlet is always the lower connection and the farthest away from the entering-air-side. The outlet connection is always the higher connection the closest to the entering-air-side.**





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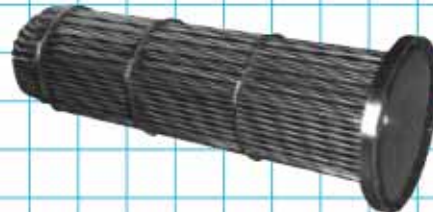
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