



## WSVC Series WATER SOURCE HEAT PUMP Vertical - R-410A 1-1/2 thru 5 Tons

### HydroTech™ R-410A Water Source Heat Pump



First Co. is pleased to introduce the all-new series **Hydro HydroTech** water source heat pump. Designed by contractors, for contractors, the **HydroTech** is the most feature-packed product available today.

The **HydroTech** includes many standard features found only in higher priced products, plus a number of **unique features**, including:

- **2-speed blower operation** in the summer: The **HydroTech** removes more moisture from the air by operating on a lower speed for up to 10 minutes before quietly switching to a higher speed. An even higher speed is also available for high static applications.
- Having the **smallest footprint** of any product in its class ensures a perfect fit when replacing older models in tight closets (even the 036 model is only 21.5 wide by 21.5 deep!).
- **Blower assemblies are field-reversible** 180 degrees (except model 040). This option can improve airflow when the units are installed in closets with very little room for supply plenums.
- Optional **Vacated Premises Control (VPC)** kit with reset feature: Ensures that the unit will operate a minimum of one or two hours per day during extended periods of unoccupancy. This option also includes an automatic reset feature. If a fault occurs, the system will shut down, but then automatically reset every 24 hours. If the same fault exists each day, the unit will lockout on the fourth day and have to be manually reset.
- **Superior insulation:** Fully insulated with ¾" Tuf-Skin RX™, which offers greater sound absorption and better thermal efficiency. The insulation has a special acrylic coating that's formulated with an EPA registered anti-microbial agent.
- **Removable discharge flange:** Provides additional installation clearance.
- **Tool-less filter rack installation:** Can be installed after the unit is in the closet, providing additional installation clearance.
- State-of-the-art **Digital Control Module** (see p. 2)

#### Additional Standard Features -

- **100% Factory Tested!**
- **R-410A Refrigerant** - All units operate with environmentally friendly R-410A refrigerant.
- **Non-corrosive Thermoplastic Condensate Pan**- Sloped for positive drainage
- **High and Low pressure Service Ports**
- **Refrigerant Filter-drier and Discharge Muffler**
- **Panel-mounted FPT Water Connections** - No back-up wrench needed.
- **Removable Panels for Service**
- **50 VA Transformer**
- **1" Throwaway Filter**

#### Optional Features -

- Cupronickel Coaxial Heat Exchanger
- Vacated Premises Control
- E-Coated Air Coil Corrosion Protection
- Compressor Cover: A heavy duty, insulated compressor cover that reduces unwanted compressor noise (must be field installed on the **WSVC** unit before the unit is installed in the closet).
  - Part No. **K3821332** (fits WSVC18-42)
  - Part No. **K4251** (fits WSVC48/60)
- Evaporator Temperature Sensor

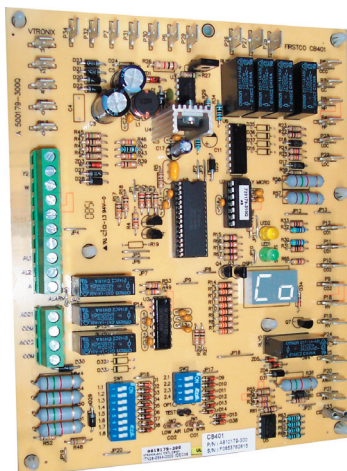
**Digital Control Module** - Controls unit operation and monitors all safety controls. (Patent Pending)

**Standard Features -**

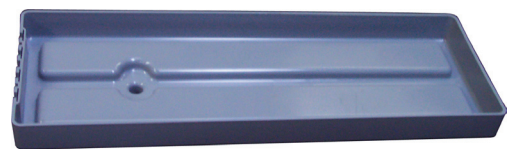
- Digital Diagnostic Display - A two-digit display indicates either the current operational mode or a fault code
- 24V Status LED - Green light indicates 24V power to the control module
- VPC (Vacated Premises Control) - Allows the unit to operate for either 1 or 2 hours per day (total) during extended periods of unoccupancy (requires optional kit).
- Nuisance Trip Protection - Unit will attempt to start up to three times with a fault signal. If the fault continues, the unit locks out.
- Condensate Overflow Lockout
- High and Low Pressure Controls
- Water Coil Low Temperature Protection
- Over / Under Voltage Protection
- Random Re-start Timer
- Anti-short Cycle Timer
- Test Mode With LED Indicator - Speeds up control timers for service personnel
- Alarm Relay - Activated if the unit locks out
- Conformal Coating (both sides) for humidity and condensation protection

**Dip Switches (field selectable settings):**

- 5 Second Compressor Delay - Blower starts before the compressor, which helps attenuate compressor start up sound.
- 45 Second Blower-off Delay - Increases cooling efficiency.
- Continuous Dehumidification Mode - Selects continuous low speed fan operation for increased humidity removal.
- VPC Switch - Selects either one or two hour daily operation (requires optional kit)
- Lower Water and Air Coil Temperature Cutout Options - Optional 10 degree F. cutouts for applications where water temperature is below 50 degrees F. (requires antifreeze solution).
- Two Accessory Relays - The relays can cycle with either the fan or compressor. In addition, relay number one can be configured for use with slow opening water valves (60 second pre-compressor initialization) and relay number 2 can be configured for a 30 second post fan delay.



Digital Control Module



Thermoplastic Drain Pan



Optional Vacated Premises Selector Switch  
(Kit# 9WS01)

# WSVC Series

## WATER SOURCE HEAT PUMP



ELECTRICAL DATA							
MODEL NUMBER	VOLTAGE	COMPRESSOR		BLOWER		MIN. CIRCUIT AMPACITY	MAX. CIRCUIT PROTECTION
		RLA	LRA	FLA	HP		
WSVC018	208/230V-1-60	7.1	43	0.9	1/8	10	15
WSVC024	208/230V-1-60	8.1	43	1.6	1/6	13	20
WSVC030	208/230V-1-60	10.6	54	3.1	1/2	17	25
WSVC036	208/230V-1-60	13.1	74	3.1	1/2	20	30
WSVC040	208/230V-1-60	15.7	88	3.1	1/2	26	40
WSVC042	208/230V-1-60	15.7	88	3.1	1/2	26	40
WSVC048	208/230V-1-60	20.2	117	3.5	1/2	29	50
WSVC060	208/230V-1-60	26.4	134	5.7	3/4	39	60



PERFORMANCE DATA - AT STANDARD OPERATING CONDITIONS							PERFORMANCE DATA - CERTIFIED AT ARI/ISO 13256-1 CONDITIONS						
MODEL	NOM. CFM	GPM	WATER LOOP (entering Water Temperature)				MODEL	NOM. CFM	GPM	WATER LOOP (entering Water Temperature)			
			85 Deg.F		70 Deg.F					86 Deg.F		68 Deg.F	
			COOLING	EER	HEATING	COP				COOLING	EER	HEATING	COP
WSVC018	550	5.0	17,200	13.1	22,300	4.2	WSVC018	550	5.0	17,100	13.00	22,100	4.20
WSVC024	680	6.0	22,700	13.1	28,280	4.2	WSVC024	680	6.0	22,500	13.00	28,000	4.20
WSVC030	930	7.5	28,050	13.2	34,230	4.3	WSVC030	930	7.5	27,800	13.00	33,900	4.20
WSVC036	970	9.1	33,150	13.2	42,300	4.3	WSVC036	970	9.1	33,000	13.00	41,900	4.20
WSVC040	980	10.0	37,530	12.7	46,350	4.2	WSVC040	980	10.0	37,100	12.50	45,800	4.20
WSVC042	1250	10.7	40,970	13.1	49,600	4.3	WSVC042	1250	10.7	40,500	13.00	49,000	4.20
WSVC048	1400	12.0	47,610	13.6	55,550	4.3	WSVC048	1400	12.0	47,100	13.60	54,900	4.20
WSVC060	1760	15.0	56,610	13.4	70,120	4.3	WSVC060	1760	15.0	56,000	13.30	69,400	4.20

**Note:**

Tabulated performance data is at noted entering water temperature and entering air conditions of 80 degree DB / 67 degree WB for cooling and 70 degree DB for heating at 208V CFM.

**Note:**

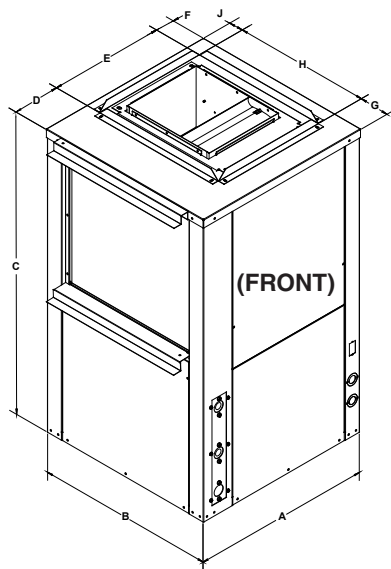
Tabulated performance data is at noted entering water temperature and entering air conditions of 80.6 degree DB / 66.2 degree WB at ARI / ISO 13256-1 rated 208V CFM.

BLOWER DATA								FACTORY BLOWER SETTINGS		
MODEL NUMBER	FAN SPEED	CFM vs EXTERNAL STATIC PRESSURE (inches of water)						CLG		HTG
		0.1	0.2	0.3	0.4	0.5	0.6	1-10 MINS	10+ MINS	
WSVC018	HIGH	835	790	730	670	610	540			
	MED	710	670	620	560	510	---		X	X
	LOW	580	535	490	---	---	---	X		
WSVC024	HIGH	1030	970	910	840	750	650			
	MED	880	850	810	750	690	620		X	X
	LOW	710	690	665	630	---	---	X		
WSVC030	MED-HIGH	1285	1215	1140	1060	980	890			
	MED-LOW	1200	1130	1070	1000	920	---		X	X
	LOW	1085	1030	985	925	850	---	X		
WSVC036	HIGH	1340	1260	1200	1130	1050	960			
	MED-HIGH	1240	1190	1120	1070	980	880		X	X
	MED-LOW	1100	1070	1010	970	890	---	X		
WSVC040	MED-HIGH	1410	1370	1320	1270	1210	1130			
	MED-LOW	1210	1190	1150	1120	1050	970		X	X
	LOW	1090	1080	1050	1010	940	---	X		
WSVC042	HIGH	1750	1730	1680	1620	1550	1460			
	MED-HIGH	1530	1510	1480	1450	1390	1300		X	X
	MED-LOW	1250	1260	1240	1220	1200	---	X		
WSVC048	HIGH	1810	1780	1740	1660	1580	1490			
	MED	1680	1660	1640	1580	1500	---		X	X
	LOW	1560	1550	1540	1510	1460	---	X		
WSVC060	HIGH	2165	2090	2010	1940	1830	1730			
	MED-HIGH	2035	1970	1900	1830	1750	1660		X	X
	MED-LOW	1830	1800	1740	1680	1610	---	X		

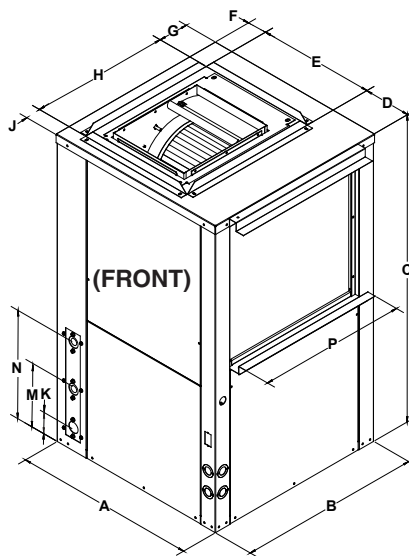
**Note:**

For superior dehumidification in the summer, all models operate at a slightly lower speed for a maximum of ten minutes before shifting to a higher speed. An optional "High" speed is available for higher static applications.

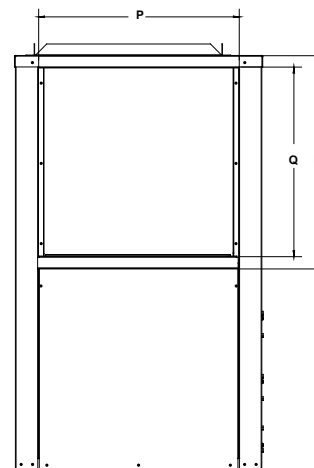
# WSVC Series WATER SOURCE HEAT PUMP



Left Hand Unit



Right Hand Unit

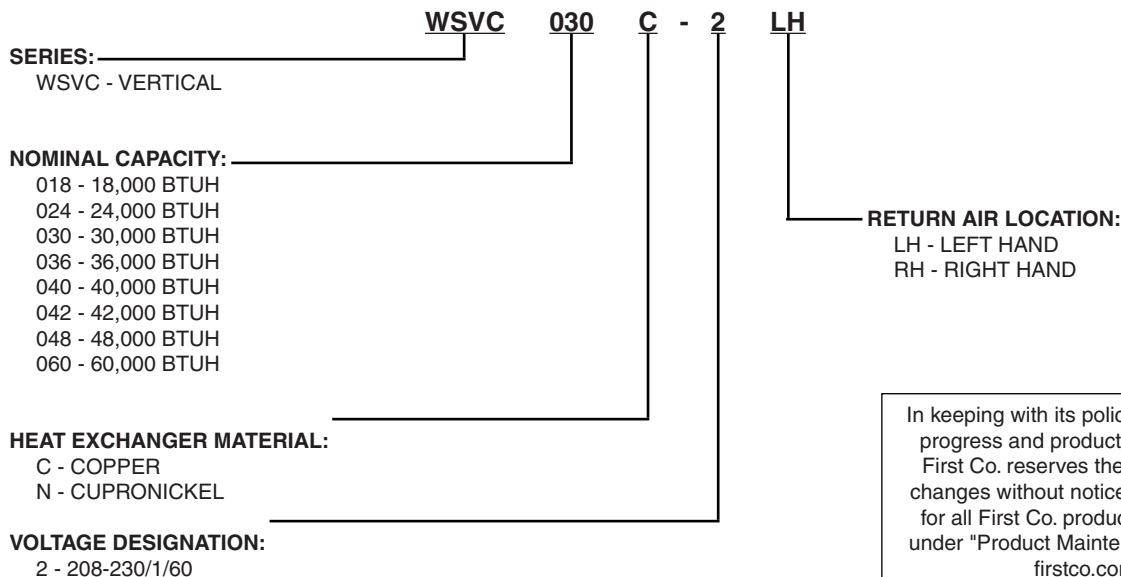


SIDE VIEW

MODEL NUMBER	DIMENSIONS													Condenser Water Connections	Condensate Connections	Nom. Filter Size	Ship WT.		
	A	B	C	D	E	F	G	H	J	K	M	N	P					Q	R
	Width	Depth	Height		Duct			Duct		Water In	Condensate Drain	Water Out	R/A Duct Flange Width	R/A Duct Flange Height	Filter Rack Height				
WSVC018	21.50	21.50	36.25	5.62	13.75	2.25	3.63	16.25	1.75	2.50	7.00	12.50	17.50	16.00	18.00	3/4" F.P.T.	3/4" F.P.T.	18 X 20 X 1	205
WSVC024	21.20	21.50	36.25	5.62	13.75	2.25	3.63	16.25	1.75	2.50	7.00	12.50	17.50	16.00	18.00	3/4" F.P.T.	3/4" F.P.T.	18 X 20 X 1	215
WSVC030	21.50	21.50	39.25	5.62	13.75	2.25	3.63	16.25	1.75	2.50	7.00	12.50	17.50	18.00	20.00	3/4" F.P.T.	3/4" F.P.T.	20 X 20 X 1	230
WSVC036	21.50	21.50	39.25	5.62	13.75	2.25	3.63	16.25	1.75	2.50	7.00	12.50	17.50	18.00	20.00	3/4" F.P.T.	3/4" F.P.T.	20 X 20 X 1	240
WSVC040	21.50	21.50	39.25	5.62	13.75	2.25	3.63	16.25	1.75	2.50	7.00	12.50	17.50	18.00	20.00	3/4" F.P.T.	3/4" F.P.T.	20 X 20 X 1	250
WSVC042	21.50	26.00	43.25	5.00	15.75	0.75	5.00	16.25	4.75	2.50	7.00	12.50	22.00	22.00	24.00	3/4" F.P.T.	3/4" F.P.T.	24 X 24 X 1	265
WSVC048	26.00	26.00	43.25	7.12	17.75	1.25	6.25	17.75	2.12	2.75	6.25	10.75	22.00	28.00	28.00	1" F.P.T.	3/4" F.P.T.	24 X 30 X 1	305
WSVC060	26.00	26.00	43.25	7.12	17.75	1.25	6.25	17.75	2.12	2.75	6.25	10.75	22.00	28.00	28.00	1" F.P.T.	3/4" F.P.T.	24 X 30 X 1	325

Notes: 1. Right Hand and Left Hand return air is determined by facing the front of the unit.

## WATER SOURCE HEAT PUMP MODEL NOMENCLATURE



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