



PRODUCT DESIGN GUIDE

Whisperpack® Hybrid Vertical Stack



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Category	Position	Option Digit and Description
Product Family	1	V = Vertical Stack Water Source Heat Pump
Drain Type	2	P = P-trap Internal Drain
System Configuration	3	A = Heat Pump B = Air Conditioning and Electric Heat C = Air Conditioning and Hydronic Heat D = Cooling Only E = Heating Only H = Heat Pump and Electric Heat
Unit Capacity	4, 5	02 = 200 CFM (0.5-ton) 03 = 300 CFM (0.75-ton) 04 = 400 CFM (1.0-ton) 05 = 500 CFM (1.25-ton) 06 = 600 CFM (1.5-ton) 08 = 800 CFM (2.0-ton) 10 = 1000 CFM (2.5-ton) 12 = 1200 CFM (3.0-ton)
Heat Exchanger / Cabinet	6	0 = Standard 1 = Oversized
Revision (Major)	7	4 = 4th Generation
Voltage	8	A = 115-60-1 (200, 300 and 400 CFM Only) B = 208/230-60-1 D = 265-60-1
Fan	9	S = PSC - Standard Motor H = PC - High Static Motor D = ECM - Constant Torque Motor (Size 08 - 12) G = ECM - Constant Torque (Size 02 - 06) E = ECM - Constant Air Volume Motor
Revision (Minor)	10	- = Original B = 1st Revision C = 2nd Revision
Sound Attenuation	11	- = Standard Quiet Construction D = P-trap Drain / Sound Package

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Chassis Nomenclature

Category	Position	Option Digit and Description
Product Family	1	W = Vertical Stack Water Source Heat Pump
System Configuration	2	A = Heat Pump (Cooling default)
		B = Cooling Only
		C = Air Conditioning and Hydronic Heat
		E = Heating Only
		F = Heat Pump and Hydronic Heat (heating default)
		G = Heat Pump (heating default)
Unit Capacity	3, 4	02 = 200 CFM (0.5-ton)
		03 = 300 CFM (0.75-ton)
		04 = 400 CFM (1.0-ton)
		05 = 500 CFM (1.25-ton)
		06 = 600 CFM (1.5-ton)
		08 = 800 CFM (2.0-ton)
		10 = 1000 CFM (2.5-ton)
12 = 1200 CFM (3.0-ton)		
Heat Exchanger / Cabinet	5	0 = Standard
		1 = Oversized
Revision (Major)	6	4 = 4th Generation
Voltage	7	A = 115-60-1
		B = 208/230-60-1
		D = 265-60-1
Compressor	8	C = Copeland
		B = Bristol
		T = Tecumseh
		M = Matsushita
		L = LG
Distributor Options	9	X = Extended Range (TXV)
		Y = Standard (TXV)
		I = Boilerless (TXV - Must be type A)
Revision (Minor)	10	- = Original
		B = 1st Revision
		C = 2nd Revision
Option Style	11	B = Whalen Drain / Silver Rails / 18ga. Compressor Box
		D = P-trap Drain / Silver Rails / 18ga. Compressor Box

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Table 1: AHRI Performance Ratings – ASHRAE/ANSI/AHRI/ISO/Standard

Model with EC Motor	AHRI Certified Performance ASHRAE / ANSI / AHRI / ISO Standard 13256-1				Heating GPM	Entering Liquid Temp Heating 105°F	
	CFM	GPM	Water Loop Heat Pump Cooling 86°F			Capacity Btuh	EER Btuh / W
			Capacity Btuh	EER Btuh / W			
VP-C-204*D	290	1.5	6,200	13.20	1.5	7,087	239
VP-C-304*D	345	2.5	9,300	14.00	2.5	8,769	317
VP-C-404*D	465	3.3	11,700	13.80	3.3	9,883	371
VP-C-504*D	540	3.9	14,600	15.70	3.9	14,336	482
VP-C-604*D	650	4.5	17,800	14.60	4.5	16,884	603
VP-C-804*D	865	6.0	22,800	13.00	6.0	22,065	829
VP-C-814*D	830	6.0	Contact Factory		6.0	21,483	760
VP-C-1004*D	1045	7.5	28,200	13.50	7.5	27,629	944
VP-C-1204*D	1100	9.0	32,600	12.75	9.0	31,791	1124

Cooling based upon 80.6°F DB, 66.2°F WB entering air temperature

Heating based upon 68°F DB, 59°F WB entering air temperature

Performance based upon 208/60/1 voltage

Features & Benefits

Electric Heat Factory installed electric heaters are available on vertical units. Unit controls are available for boilerless, supplemental, primary or emergency electric heat to serve several different application needs. Boilerless electric heat will be energized when the entering water temperature falls below set point. This will allow electric heat to function while ensuring the compressor remains off. With supplemental electric heat control, the wall thermostat will activate the compressor and heater simultaneously if necessary to maintain room heating conditions.

Internal Pump Internal pump is optional on all size units but cannot be used in conjunction with the two-way solenoid valve. The internal pump is an internally mounted ON/OFF circulating pump for use with our single riser applications.

Constant Torque EC Motor Are standard on size 1000 and 1200 units; they are optional on size 800 and smaller and provide the efficiency and operability of an ECM at a lower cost than a constant airflow ECM. Constant torque ECMs provide 5 available motor speed settings and will maintain a constant motor torque as external static pressure in the system increases. As the system static pressure increases, reduction in fan airflow with a constant torque ECM is minor.

Constant Airflow EC Motor Are optional on all size units and will maintain a constant unit airflow as the static pressure in the system increases. Constant airflow ECMs provide only 3 available speed settings.

Supply Air Grille Diffusers are constructed of aluminum with a mill finish or an optional painted finish, available in three variations: single deflection, double deflection, double deflection with opposed blade damper. Damper blades are positioned vertically and adjust easily for directing the unit discharge air.

Flush Mounted Return Air Panel Constructed of heavy gauge steel, lined with insulation to help attenuate sound from the compressor and fan assembly. Mechanical latching clips ensure the panel

door stays closed during operation. Panels are available in chassis accessible version to all removal of refrigerant chassis without removing the return air panel.

Painted Flush Mounted Return Air Panel Constructed of heavy gauge painted steel, lined with insulation to help attenuate sound from the compressor and fan assembly. Mechanical latching clips ensure the panel door stays closed during operation. Panels are available in chassis accessible version to all removal of refrigerant chassis without removing the return air panel.

Telescoping SA Extension Collar A canvas duct connector to connect the WSHP discharge to the downstream duct system. This reduces vibration-induced noise.

Cabinet Stand An optional cabinet stand is available in heights ranging from 2" up to 14" to accommodate interiors with higher baseboard mouldings.

Unfused Disconnect Units are available with an optional non-fused disconnect switch, located on the unit front behind the return air panel. The disconnect switch is used to break power to the unit for safety and ease of service.

Circuit Breaker Units are available with an optional circuit breaker (HACR breaker). The circuit breaker is used to break power to the unit for safety and ease of service.

T-stat extension Low voltage wire harness ranging from 5 to 20 foot ending with 9-Pin Molex quick connector. The extension can exit cabinet on the top or either side depending on the riser location.

Condensate pump The internal condensate pump allows the unit to be located virtually wherever desired. The internal condensate pump serves as an effective means for disposing of condensate generated during heat pump operation. A condensate pump should be designed and installed at the unit to pump condensate to a building drain.

Vibration Isolation Pad Vibration isolator pads dampen vibration from the compressor and fan motors. attached to the bottom of the cabinet at the

factory eliminating any additional field labor.

2-Way Valve 2-way valves are used for a variety of pumping applications when more than one unit is installed on a common loop. These valves are also used to shut off flow when the unit is not operating. On a call for cooling or heating the valve opens providing full water flow prior to compressor operation. A 24 volt control wire harness is included with the factory provided control valve option.

3-Way Valve These valves are normally closed to the coil as standard and will isolate the coil during a loss of power. Normally open configurations are simply achieved by turning the valve around. Upon response to a signal from the controller, the valve will be either fully open allowing full flow to the coil or fully closed to the coil diverting full flow to the bypass line. All three-way valve configurations include a balance fitting in the bypass line to allow proper flow balancing.

Automatic Flow Control An automatic flow control device includes a ball valve cast in the valve body and is located on the return water pipe. The flow control valve consists of a stainless steel/brass flow cartridge and a contoured orifice plate. As the pressure drop increases, the flow cartridge will move into the contoured orifice plate to decrease the flow. This flexing action provides a constant flow, independent of pressure (2-80 psi), makes it difficult to clog and resistant to cavitation damage. This valve sets flow through the coil without any action required by a system balancer.

Manual Flow Control A manual flow control valve, acts as both a flow setting device and a stop valve, taking the place of a ball valve. This valve allows water flow through the unit and can be set quickly and accurately.

Ball Valve Ball valves allow the unit to be shut off for servicing purposes. They have a low resistance to water flow, operate easily. These valves have a compact handle that rotates 90 degrees to a fully open position. The valve body is forged brass and the ball is polished brass with Teflon seats

and seals. Ball valves are included on both the supply and return risers.

Memory Stop Adjustable Memory Stop provides both balancing and shutoff in one valve. With the memory stop locked in place, the valve can be closed and then reopened to the same balanced position.

Pete's Plug An accessible port where pressure and temperature can be measured. Accepts standard 1/8" gauge adapter or thermometer stem.

Strainer The Y-type strainer body is constructed of brass with a 16 mesh 304 stainless steel screen. Used for removal of small particles from the water supply pipe during normal system operation. The strainer helps protect the coil and minimizes the chance of control valves clogging. Screens should be regularly removed and cleaned as part of a routine maintenance schedule.

Stainless Steel Hoses Flexible 302/304 stainless steel hose with EPTF inner tube and JIC flare connections. Meets UL-94 VO fire rating.

O.A. Internal Duct A 4" round internal duct is factory installed to provide outside air to the return side of the air coil. By introducing the outside air to the return side of the coil, the outside is conditioned prior to entering the occupied space.

O.A. Motorized OA Damper The control can be configured to operate as a ventilation damper in a 2-position ventilation mode to provide the minimum ventilation requirements during occupied periods. This control operation still utilizes the modulating damper actuator.




Filter Units come standard with a one-inch glass fiber throwaway filter. High efficiency MERV 8, MERV 11, and MERV 13 pleated filters as well as a washable aluminum mesh filter are also available as an option.

Cu-Ni Coaxial Heat Exchanger The optional cupronickel tube-in-tube coaxial heat exchanger used in vertical stack water source heat pumps is designed for maximum heat transfer at normal and low water flow rates with minimum pres-

sure drop. The inside tube is deeply fluted to enhance heat transfer and minimize fouling. All coaxial coils are tested to 400 psig on the water side and 600 psig on the refrigerant side. The extended range chassis has coil and piping insulation to protect against condensation in low-temperature geothermal applications.

Sound Package The silver rail sound package further attenuates the sounds levels of our standard unit by adding a set of rubber isolators under the compressor chassis rails to enhance the dual-level vibration isolation.

Table 2: Whisperpack® Thermostats for Standalone Operation

				
Feature		SCI SC2010L	SCI SC4011	SCI SC5011
Mounting Style	Electrical Box			
	Drywall	•	•	•
Display	Backlit LCD	•	•	•
	Temperature & Setpoint	•	•	•
	Operating Mode	•	•	•
	Fan Status	•	•	•
	Remote Setback	•	•	•
Operation	Non-programmable	•	•	
	Programmable			7 day
	Sensing	Local or Remote	Local or Remote	Local or Remote
	Setpoint Range	45°F to 90°F	45°F to 90°F	45°F to 90°F
	Changeover	Manual	Automatic	Manual or Automatic
Operating Modes	System Settings	Heat - Cool - Auto - Off	Heat - Cool - Auto - Off	Heat - Cool - Auto - Off
	Fan Settings	On - Auto	On - Auto	On - Auto
	Fan Speeds	1	1	1
Stages	Heating	1	1	1
	Cooling	1	1	1
Voltage	Operating Voltage	20 - 30 VAC	20 - 30 VAC	20 - 30 VAC

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Unit Protections & LED Fault Status Annunciation

Refrigerant Circuit High Pressure Protection

A normally closed high (compressor discharge) pressure switch is used to help protect the refrigerant circuit from excessively high pressure. If the high pressure switch opens twice within 1 hour, the control board will initiate a hard lockout and the alarm contact will energize.

Refrigerant Circuit Low Pressure Protection

A normally closed low (compressor suction) refrigerant pressure switch is used to help protect the refrigerant circuit from excessively low refrigerant pressure. If the low pressure switch opens twice within 1 hour, the control board will initiate a hard lockout and the alarm contact will energize.

Condensate Overflow Sensor

The control is designed to sense when condensate water levels in the drain pan become excessively high. When high condensate water levels are detected, the controller will go into condensate overflow warning mode. If the condensate overflow sensor detects liquid twice within 1 hour, the control board will initiate a hard lockout and the alarm contact will energize.

Heat Exchanger Low Temperature Protection

The control is designed to sense when the refrigerant temperature drops to a temperature where it is possible to freeze the air coil or the coaxial heat exchanger. The threshold temperature is field selectable for 10°, 20°, or 32°F. If the Freeze Sensor drops below the set temperature twice within 1 hour, the control board will initiate a hard lockout and the alarm contact will energize.

Low water temperature

The control is designed to sense when the leaving water temperature drops to a temperature where it is possible to freeze the coaxial heat exchanger or raises to a temperature high enough to cause



possible damage to the compressor. The threshold temperature is field selectable for 0°, 10°, 20°, 36°, or 125°F. If the sensor drops below (or above 125°) the set temperature twice within 1 hour, the control board will initiate a hard lockout and the alarm contact will energize.

Low Voltage (Brownout) Protection

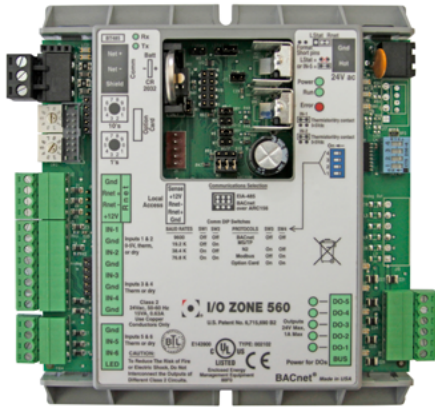
The solid state control will monitor the 24 volt power input supplied to the board. If the supply voltage drops below 18 VAC, the control module will shut down the unit to protect electrical components from low line voltage conditions.

Soft Lockout Reset

This feature is used to minimize nuisance trips of safeties caused by temporary conditions that might inhibit the unit from performing normal functions. When a safety trip occurs, it is counted and the alarm is cleared when the condition returns to normal. If the alarm occurs two times within a 1-hour period, the heat pump remains off (locked out) until the unit is checked and the alarm is manually cleared.

Multi-Protocol DDC Controller

The Whalen Company water source heat pumps are available with a factory installed multi-protocol communication module that is designed to communicate with a building automation system (BAS). The I/O Zone 560 DDC controller



is designed to allow the integration of Whalen water source heat pump equipment into DDC systems. The I/O Zone 560 DDC controller has the ability to communicate through a choice of three widely used protocols: BACnet MS/

TP, Johnson Controls N2, and Modbus. The protocol of choice for the particular system is selected by simply configuring DIP switches on the DDC control. This flexibility allows one controller to be used in a multitude of buildings which use any of these three common protocols. The control serves as a node of information processing between the Whalen heat pump and the DDC network.

Features & Benefits

- Multi-Protocol communications provides DDC system flexibility.
- Supports native BACnet MS/TP communications – the ASHRAE standard protocol for interoperability.
- Supports Johnson Controls N2 communications – for integration into Johnson Controls Metasys DDC systems.
- Supports Modbus communications for integration into Modbus DDC networks.
- Four baud rate levels offer flexible communications speeds of 9600, 19.2k, 38.4k, or 76.8k baud. Enables building operators to easily upgrade firmware in the future.
- Removable field wiring connectors for ease of field service.
- Five (5) digital outputs.
- Six (6) inputs.
- Stand-alone or BAS integrated operational modes.

Hardware Specification

Power:	24Vac \pm 10%, 50 or 60Hz, 18VA power consumption, 26Vdc, Single Class 2 source only, 100 VA or less.
Physical size:	5-1/16" [129mm] width x 5-11/16" [144mm] height x 1-1/2" [38mm] (minimum panel depth).
Housing material:	Rugged GE C2905HG Cylcoloy plastic housing – complies with UL 94 V-O.
Environmental:	0 to 130 degrees F, 10% to 95% non-condensing.
Protection:	Built-in surge transient protection circuitry. Module protected by Internal solid state Polyswitches on incoming power and network connections.
Digital Outputs:	5 digital outputs, relay contacts rated at 1 A resistive @ 24 Vac, configured as dry contact, normally open.
Universal inputs:	6 universal inputs. Inputs 1-6 configurable as thermistor or dry contact; inputs 1 and 2 also configurable as 0-5 Vdc type inputs.
Communication ports:	<i>Port 1:</i> Jumper configurable for ARCNET or EIA-485 communication. In ARCNET mode, the port speaks BACnet (at 156k bps). In EIA-485 mode, the communication protocol and baud rate desired are DIP switch selectable between BACnet MS/TP, Modbus RTU, or N2. <i>Rnet port:</i> Interface with a BACview5, BACview6, RS sensors, or local laptop.
Optional card port:	LonWorks Option Card for connection to Free Topology LON networks (TP/FT-10 Channel).

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Table 3: Physical Data Table

Component	Models							
	VPC0204	VPC0304	VPC0404	VPC0504	VPC0604	VPC0804	VPC1004	VPC1204
Nominal Tonnage	0.5	0.75	1	1.25	1.5	2	2.5	3
COOLING PERFORMANCE								
Capacity (MBTUH)	6.4	9.3	11.7	14.2	17.8	22.8	28.2	32.6
EER (Btuh/W)	13.7	14.0	13.8	15.7	14.6	13.0	13.5	13.6
Entering Water Temp (°F)	86	86	86	86	86	86	86	86
Water Flow (GPM)	1.5	2.5	3.3	3.9	4.5	6.0	7.5	9.0
Rated CFM	290	345	465	540	650	865	1045	1100
Refrigerant type	R-454B	R-454B	R-454B	R-454B	R-454B	R-454B	R-454B	R-454B
Refrigerant charge (oz)	TBD	TBD	TBD	TBD	TBD	TBD	TBD	TBD
HEATING PERFORMANCE								
Capacity (MBTUH)	8.0	8.3	9.6	14.1	16.8	21.3	27.8	31.1
EER (Btuh/W)	270	300	360	475	600	800	950	1100
Entering Water Temp (°F)	105	105	105	105	105	105	105	105
Water Flow (GPM)	1.5	2.5	3.3	3.9	4.5	6.0	7.5	9.0
DIMENSIONS (inches)								
Width (in.)	16	16	16	18	18	18	20	20
Depth (in.)	21	21	21	24	24	24	26	26
Height (in.)	88	88	88	88	88	88	88	88
OPERATING WEIGHT (lbs.)								
Chassis	82	84	87	129	130	142	177	188
Cabinet	141	141	141	161	161	161	180	180
SHIPPING WEIGHT (lbs.)								
Chassis	88	90	93	135	136	148	183	194
Cabinet	153	153	153	173	173	173	192	192
COMPRESSORS								
Type	Recip	Recip	Recip	Recip	Recip	Scroll	Scroll	Scroll
Quantity	1	1	1	1	1	1	1	1
EVAPORATOR COIL DATA								
Cooling Coil (rows)	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4	3 or 4
Heating Coil (rows)	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3	2 or 3
Refrigerant control	TXV	TXV	TXV	TXV	TXV	TXV	TXV	TXV
SUPPLY FAN DATA								
Quantity	1	1	1	1	1	1	1	1
Fan Size (D x W)	7.62 x 5	7.62 x 5	8.5 x 7	8.5 x 7	8.5 x 7	9 x 8	10 x 6	10 x 6
Fan type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Maximum E.S.P.								
ECM Motor - Constant Torque	0.35	0.4	0.4	0.5	0.5	0.5	0.5	0.5
ECM Motor - Constant Volume	0.35	0.4	0.4	0.5	0.5	0.5	0.5	0.5
CONSTANT TORQUE ECM HP								
Voltage - 208-230/60/1	1/4	1/4	1/4	1/4	1/4	1/2	1/2	1/2
Voltage - 265/60/1	1/4	1/4	1/4	1/4	1/4	1/2	1/2	1/2
CONSTANT VOLUME ECM HP								
Voltage - 208-230/60/1	1/3	1/3	1/3	1/3	1/3	1/2	1/2	1/2
Voltage - 265/60/1	1/2	1/2	1/2	1/2	1/2	1/2	1/2	1/2
ACOUSTICAL RETURN AIR PANEL								
Standard	15.5 x 37.8	15.5 x 37.8	15.5 x 37.8	17.5 x 39.8	17.5 x 39.8	17.5 x 39.8	19.5 x 53.8	19.5 x 53.8
Flush Mounted	21 x 39	21 x 39	21 x 39	24 x 41	24 x 41	24 x 41	27 x 55	27 x 55
Chassis Accessible Flush Mounted	22 x 39.8	22 x 39.8	22 x 39.8	25 x 41.8	25 x 41.8	25 x 41.8	28 x 55.8	28 x 55.8
SUPPLY GRILLE								
1 Grille (W x H)	10 x 8	14 x 8	14 x 10	16 x 12	16 x 12	16 x 16	NA	NA
2 Grille (W x H)	10 x 4	14 x 6	14 x 6	16 x 6	16 x 6	16 x 6	NA	NA
2 Grille Cornerstone (W x H)	4 x 10	6 x 14	6 x 14	8 x 16	8 x 16	8 x 16	NA	NA
3 Grille (W x H)	10 x 4	14 x 6	14 x 6	16 x 6	16 x 6	16 x 6	NA	NA
Top Duct (W x H)	12 x 10	12 x 10	12 x 12	14 x 14	14 x 14	14 x 16	16 x 14	16 x 14
FILTERS								
Size	13 x 24 1	13 x 24 1	13 x 24 x 1	15 x 28 x 1	15 x 28 x 1	15 x 28 x 1	17 x 32 x 1	17 x 40 x 1
Quantity	1	1	1	1	1	1	1	1

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Standard Range Units:

Units are designed to start in an ambient of 50°F (10°C) with entering air at 50°F (10°C), with entering water at 50°F (10°C), with nominal air flow and water flow (3.0 GPM/Ton), for initial start-up in heating and cooling mode.

Note: This is not a normal or continuous operating condition. It is assumed that such start-up is for the purpose of bringing the building space up to occupancy temperature and operating for extended periods of time.

Extended Range Units:

Units are designed to start in an ambient of 50°F (10°C) with entering air at 50°F (10°C), with entering water at 20°F (-7°C), with nominal air flow and water flow (3.0 GPM/Ton), for initial start-up in heating.

Units are designed to start in an ambient of 50°F

(10°C) with entering air at 50°F (10°C), with entering water at 30°F (-1°C), with nominal air flow and water flow (3.0 GPM/Ton), for initial start-up in cooling.

Note: This is not a normal or continuous operating condition. It is assumed that such start-up is for the purpose of bringing the building space up to occupancy temperature and operating for extended periods of time.

Environment

This equipment is designed for indoor installation only. Unconditioned locations such as attics, garages, etc., generally will not provide sufficient protection against extremes in temperature and/or humidity, and equipment performance, reliability, and service life may be adversely affected.

Power supply

A voltage variation of +/-10% of nameplate voltage is acceptable.

Table 4: Unit Voltage Limitations

Voltage	Minimum	Maximum
115-60-1	104	127
208/230-60-1	197	252
265-60-1	239	292
460-60-3	414	506
208/230-60-3	197	252

Table 5: Whisperpack® Continuous Operating Limits

Mode	Ambient Air °F		Entering Air °F				Entering Fluid °F			
	Minimum	Maximum	Minimum		Maximum		Standard Range		Extended Range	
	DB	DB	DB	WB	DB	WB	Min	Max	Min	Max
Cooling	60	100	75	63	100	83	60	120	30	120
Heating	60	80	60	–	80	–	60	140	60	140

Note: Extended Range requires insulated risers, correct control jumper setting, and design condition antifreeze solution

Table 6: Whisperpack® Start-up Operating Limits

Mode	Ambient Air °F		Entering Air °F				Entering Fluid °F			
	Minimum	Maximum	Minimum		Maximum		Standard Range		Extended Range	
	DB	DB	DB	WB	DB	WB	Min	Max	Min	Max
Cooling	50	100	50	42	100	83	50	120	30	120
Heating	50	80	50	–	80	–	50	140	50	140

Note: Extended Range requires insulated risers, correct control jumper setting, and design condition antifreeze solution

Table 7: Whisperpack® Outdoor Temperature Reset

Outdoor Air Temperature	Water Temperature
Below 0°	120° Maximum Water Temperature
0°	115°
10°	110°
20°	105°
30°	100°
40°	90°
Above 41°	85° Minimum Water Temperature



Table 8: VP Blower - EC Constant Torque Performance Table

Unit	System Mode	Rated CFM	Min. CFM	Fan Option		CFM at External Static Pressure (in wg.)											
				Option	Speed	0.00	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	
0204-xG (0.5)	Cool	290	170	EC Constant Torque	HI1	310	294	271	240	202							
					LOW												
	Heat	260	N/A		HI1	283	262	235	203	166							
					LOW												
0304-xG (0.75)	Cool	345	220	EC Constant Torque	HI1	369	344	315	283	248							
					LOW	258	228										
	Heat	290	N/A		HI1	329	289	250	211	171							
					LOW	224	194										
0404-xG (1.0)	Cool	465	280	EC Constant Torque	HI1	494	470	446	422	399	377	354	333				
					LOW	398	365	333	300								
	Heat	345	N/A		HI1	377	344	312	279	246							
					LOW	341	286	232									
0504-xG (1.25)	Cool	540	380	EC Constant Torque	HI1	559	541	523	504	485	464	443	420	397			
					LOW	427	401	380									
	Heat	460	N/A		HI1	482	464	441	412	378	339	295					
					LOW	379	353	315									
0604-xG (1.5)	Cool	650	420	EC Constant Torque	HI1	662	649	636	621	606	590	573	556	537	518	498	
					LOW	538	519	496	470	441							
	Heat	590	N/A		HI1	604	591	577	562	546	530	512	494	474	454	433	
					LOW	482	464	441									
0804-xD (2.0)	Cool	865	580	EC Constant Torque	HI1	902	886	870	853	837	821	804	788	771	755	738	
					LOW	752	731	710	690	671	652	633	615	598			
	Heat	790	N/A		HI1	848	829	810	792	773	755						
					LOW	645	625	605	585								
0814-xD (2.0)	Cool	865	580	EC Constant Torque	HI1	881	865	849	833	819	804	790	777	764	752	740	
					LOW	728	709	692	675	660	645	631	619	607	596	586	
	Heat	790	N/A		HI1	809	792	775	759	744	730	716	704	692	681	671	
					LOW	670	650	632	614	598	584						
1004-xD (2.5)	Cool	1045	650	EC Constant Torque	HI1	1018	1001	983	966	949	933	916	900	884	869	853	
					LOW	845	828	811	793	776	758	741	723	705	686	668	
	Heat	935	N/A		HI1	936	918	900	882	864	847	829	812	795			
					LOW	730	713	695	676	657							
1204-xD (3.0)	Cool	1100	750	EC Constant Torque	HI1	1244	1227	1211	1194	1178	1161	1145	1129	1113	1097	1081	
					LOW	1029	1012	994	977	960	944	927	911	895	880	864	
	Heat	1080	N/A		HI1	1131	1113	1095	1077	1059	1041	1024	1006	988			
					LOW	858	841	824	807	789							

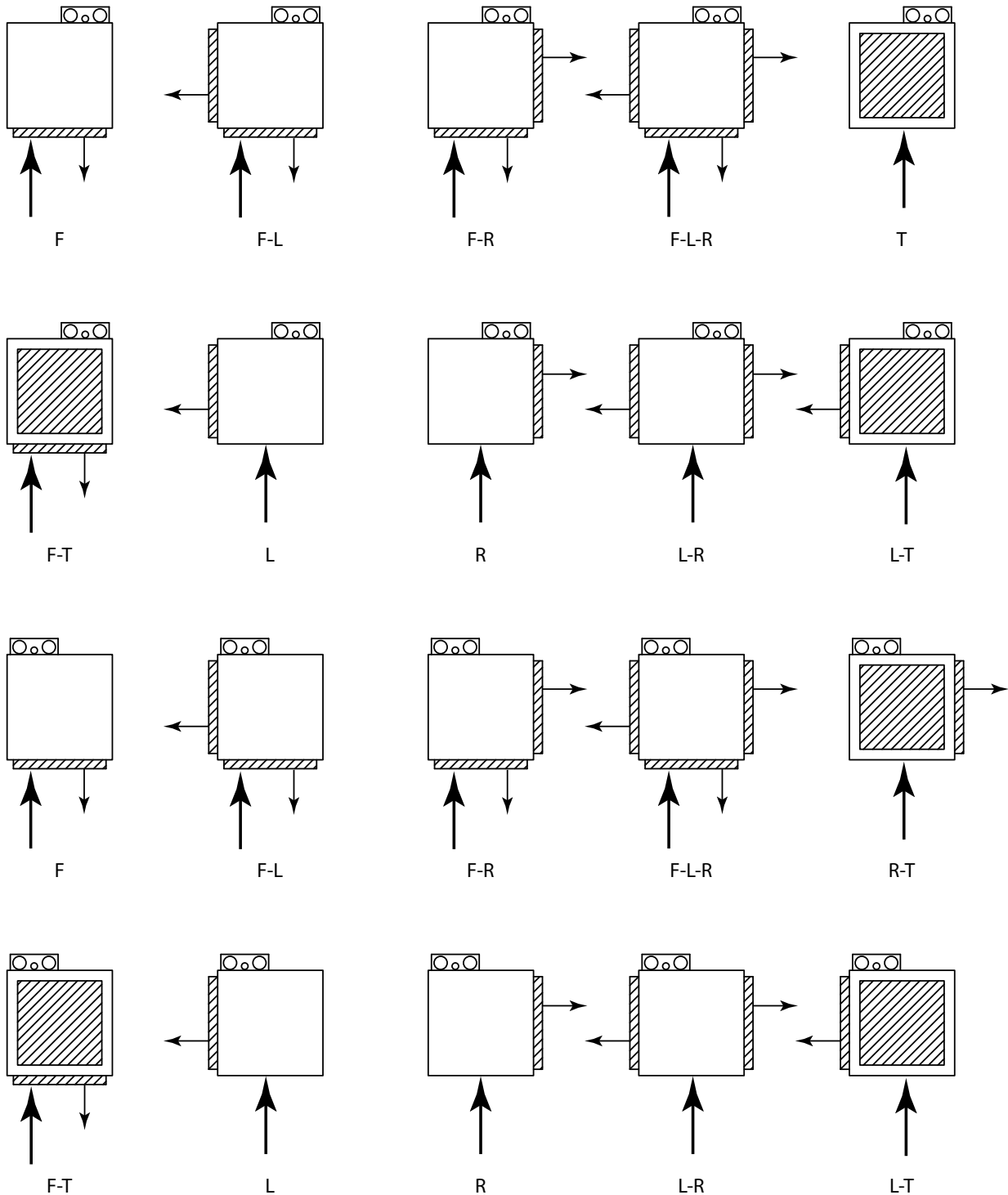
1 - Indicates single / high speed factory default setting

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Table 12: Additional Static Resistance

Size (Tons)	Model	Fan Speed	Filter1				
			MERV 4 (Fiberglass)	MERV 4 (Poly)	MERV 8	MERV 11	MERV 13
0204 (0.5)	VP-C	High	0.02	0.03	0.08	0.10	0.09
		Low	0.02	0.03	0.08	0.09	0.08
0304 (0.75)		High	0.02	0.03	0.08	0.09	0.09
		Low	0.01	0.02	0.05	0.06	0.05
0404 (1.0)		High	0.04	0.05	0.13	0.14	0.14
		Low	0.02	0.03	0.09	0.10	0.10
0504 (1.25)		High	0.03	0.04	0.11	0.12	0.11
		Low	0.02	0.02	0.07	0.08	0.07
0604 (1.5)		High	0.04	0.06	0.14	0.15	0.15
		Low	0.03	0.04	0.10	0.11	0.11
0804 (2.0)		High	0.07	0.10	0.22	0.22	0.26
		Low	0.05	0.07	0.17	0.17	0.19
0814 (2.0)		High	0.02	0.03	0.09	0.10	0.10
		Low	0.02	0.02	0.07	0.08	0.07
1004 (2.5)		High	0.03	0.05	0.11	0.12	0.13
		Low	0.02	0.03	0.09	0.10	0.09
1204 (3.0)		High	0.05	0.07	0.16	0.16	0.18
		Low	0.03	0.05	0.12	0.13	0.13

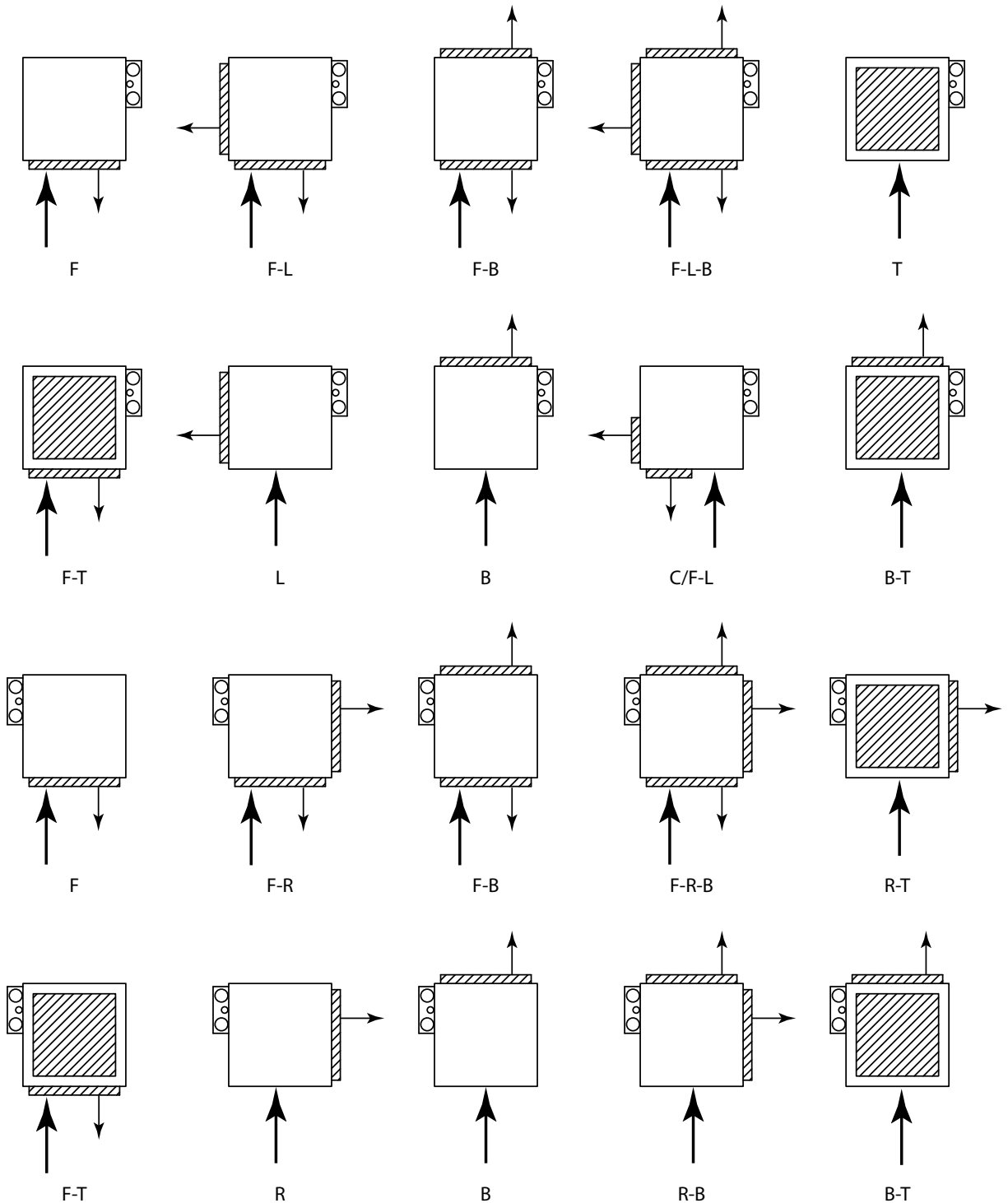
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LARGE ARROW REPRESENTS RETURN AIR LOCATION AND SMALL ARROWS REPRESENT DISCHARGE LOCATION.

B = BACK OR REAR L = LEFT R = RIGHT F = FRONT T = TOP

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GENERAL

Equipment is a Vertical Stack Water Source Heat Pump, factory assembled, piped, internally wired, fully charged with R-454B refrigerant.

ETL Listed under Underwriters Laboratories Standard for Safety UL1995 for heat pumps. Products are certified in accordance ANSI/AHRI/ASHRAE/ISO13256-1 Certification Program.

Products shall be delivered to site, stored and protected from the weather and construction debris. Heat pump cabinets and refrigeration chassis must be individually packaged and be tagged with site location, model number and configuration.

Units shall be protected from construction debris by covering all openings prior to start-up of the equipment. Units must not be used for heating, cooling, or ventilation prior to the start-up of equipment for permanent use. Use of the equipment for the temporary heating, cooling or ventilation is prohibited and will void unit warranty.

All units shall be factory tested at normal operating conditions. Cabinets and fans shall be tested to verify proper fan and control operation. Refrigeration chassis shall be factory tested with cataloged water flow rates and sequenced to verify the proper operation of safety controls. Testing without utilizing cataloged water flow rates is unacceptable. All factory risers shall be pressure tested for leaks.

PRODUCTS

Vertical Stack Heat Pump capable of operation at water source or ground source temperatures with integral risers, air discharge openings, hose kits, and all accessories. Standard units shall operate in an entering fluid temperature range of 60°F to 95°F (15.6°C to 35°C). Ground source units shall operate in an extended entering fluid temperature range of 20°F to 120°F (-6.7°C to 48.9°C).

Capacities shall be certified under AHRI ISO Standard 13256-1.

CABINET

CABINET CONSTRUCTION

The one-piece unit cabinet shall be fabricated of reinforced 22-gauge continuous G60 galvanized steel. All internal assemblies shall be welded and treated to prevent corrosion.

The cabinet shall be insulated with 1/2-inch thick 2-pound density thermal and acoustical fiberglass insulation meeting material standard ASTM-C1071 and have an integral water repellent. The insulation shall have a fungi and bacteria resistant barrier with no growth conforming to ASTM-C1338, ASTM G21 and ASTM G22 and meet fire safety standards under NFPA 90A and NFPA 90B.

The cabinet shall allow the placement of vertical risers on any side not being used for service access or discharge air openings.

The cabinet will have slots with edge protectors to accommodate movement of the risers with the isolation valves affixed. The slots shall remain covered with insulation to minimize air infiltration.

Cabinet return and discharge air openings shall be factory cut and flanged on all sides. All insulation located behind

cabinet openings must be removed by the unit manufacturer prior to shipment.

Cabinet design shall allow a minimum 5-inches below the chassis access opening to allow for full height baseboard.

The heat pump cabinets shall be shipped separately from, and prior to the refrigeration chassis for early installation at the jobsite.

(OPTION): Unit shall be supplied with perforated supply air opening knockouts. Knockouts shall be factory sealed and left in place during shipping and staging at the job site.

(OPTION): Unit shall be supplied with foil faced 1/2-inch thick 2-pound density thermal and acoustical fiberglass insulation meeting material standard ASTM-C1071 and have an integral water repellent. The insulation shall have a fungi and bacteria resistant barrier with no growth conforming to ASTM-C1338, ASTM G21 and ASTM G22 and meet fire safety standards under NFPA 90A and NFPA 90B.

(OPTION): Unit shall be supplied with Elastomeric Closed Cell Foam Insulation in lieu of standard. Insulation shall conform to UL 181 for erosion and NFPA 90A for fire, smoke and melting, and comply with a 25/50 Flame Spread and Smoke Developed Index per ASTM E-84 or UL 723.

(OPTION): Unit shall be supplied with 1-inch thick 1-1/2-pound density thermal and acoustical fiberglass insulated discharge plenum.

(OPTION): Unit shall be supplied with a factory installed vibration isolation pad shall be installed on the bottom of the unit.

DRAIN PAN

The drain pan shall collect and drain condensate that may form from any component internal to the heat pump and shall be fabricated of welded and soldered 20 Ga. 304 stainless steel. The copper condensate drain shall be rolled and soldered into the pan. A drain hose is factory clamped onto the drain connection for field connection.

FAN ASSEMBLY

The fan shall be slow speed, double width, double inlet (DWDI) forward curved, centrifugal type wheel capable of multiple fan speeds, and shall be accessible for removal and maintenance through the return air opening.

The fan motor shall be multi-speed, permanently lubricated, PSC type with thermal overload protection. The fan motor shall be isolated from the fan housing by a motor mounting system with rubber type grommets to inhibit vibration induced noise.

MOTORS

Fan motors for heat pumps under 2-ton shall be of the permanently lubricated PSC standard or hi-static pressure type, as required; suitable for the current characteristics shown on the drawings, and shall have built-in thermal overload protection.

Motors shall be plug-in, multi-speed type with 1050-RPM maximum.

(OPTION): Constant Volume (CV) Electronically Commutated (EC) variable speed ball bearing type motor. The CV EC fan motor shall provide soft starting, maintain constant CFM over its static operating range. The fan motor shall be isolated from housing by rubber grommets. The motor shall be permanently lubricated and have thermal overload protection.

(OPTION): Constant Torque (CT) Electronically Commutated (EC) variable speed ball bearing type motor. The CT EC fan motor shall provide soft starting and provide multiple fan speeds. The fan motor shall be isolated from housing by rubber grommets. The motor shall be permanently lubricated and have thermal overload protection.

(OPTION): Provide a two-speed fan switch located behind the acoustic return air panel. The fan switch must be configurable for use with available fan speed motor taps.

FILTERS

Unit return air filters shall be 1" thick disposable fiberglass media with a MERV 4 rating.

(OPTION): Unit return air filters shall be 2" thick disposable fiberglass media with a MERV 4 rating.

(OPTION): Filters shall be 1-inch or 2-inch thick disposable pleated media with a MERV 8 rating.

(OPTION): Filters shall be 1-inch or 2-inch thick disposable pleated media, MERV 13 rating.

(OPTION): Filters shall be 1-inch or 2-inch thick permanent aluminum cleanable media, MERV 4 rating.

OUTDOOR AIR

(OPTION): A 4" round internal duct is factory installed to provide a top connection for outside air supplied to the return side of the air coil to condition the outdoor air prior to entering the occupied space. The outdoor air internal duct is insulated within the cabinet.

(OPTION): Heat pumps to be furnished with an outdoor air plenum for field installation incorporating an outdoor air opening to provide conditioning of outdoor air and manual (motorized) block-off damper. The OA plenum shall be attached directly to the front of the heat pump unit and surround the return air opening. The outdoor air opening shall be located on the side of the plenum kit for either right or left side connection.

(OPTION): Heat pumps to be furnished with a "deep cabinet" configuration incorporating an outdoor air opening to provide conditioning of outdoor air and manual (motorized) block-off damper. Outdoor air opening must be placed before the heat pump air coil to allow conditioning while the heat pump is operating. The outdoor air opening shall be located on either side of the cabinet.

POWER SUPPLY

Single point field power connection is made to unit junction box through either of the 7/8" knockouts located on the side or on the top of the cabinet as shown on the drawings.

(OPTION): Each unit shall include a non-fused disconnect switch, factory mounted and wired.

(OPTION): Each unit shall include a fused disconnect switch, factory mounted and wired.

CONTROLS

Unit shall include a solid-state control board as part of the unit control system incorporating these features:

1. Random start compressor protection.
2. Anti-short cycle compressor minimum OFF time delay.
3. Safety controls that protect the compressor from the following conditions:
 - a. High pressure
 - b. Low pressure (Loss of Charge Protection)
 - c. Low airflow
 - d. Low liquid flow
 - e. Low entering air temperature
 - f. Brown-out power conditions
 - g. Condensate Overflow Protection
 - h. Low liquid temperature protection with three different settings based on liquid properties.
4. Status LED indicating the device causing a fault condition.
5. Soft lockout feature that provides for an automatic reset prior to the initiation of a hard lockout.
6. Test mode capability with shortened time delays for servicing.

(OPTION): Factory Mounted DDC Board shall have all the features listed above and the control board will be supplied with a multi-protocol interface board. Available protocols are BACnet MS/TP, Modbus, or Johnson Controls N2. The choice of protocol shall be field selectable/changeable via the use of a simple selector switch. Protocol selection shall not require any additional programming or special external hardware or software tools. This will permit all units to be daisy chain connected by a 2-wire twisted pair shielded cable. Product will ship from the factory ready to run. DDC integration is finalized by control contractor.

(OPTION): Factory provided communicating room/zone sensor with no display, set point adjust or override.

(OPTION): Factory provided communicating room/zone sensor with no display. Set point adjustment and override made via slide on sensor.

(OPTION): Factory provided communicating room/zone sensor with programmable LCD display, set point adjustment and override.

(OPTION): Factory provided communicating room/zone sensor with programmable LCD display, set point adjustment and override and fan speed control.

REFRIGERATION CHASSIS

CHASSIS CONSTRUCTION

The refrigeration chassis consisting of the compressor, low global warming potential (GWP) refrigerant, air coil, water coil, reversing valve, expansion device, receiver, filter-drier, and safety controls shall be slide-rail base mounted in the cabinet, and shall be designed for easy removal after disconnecting the two hoses and a polarized electrical power plug. The reversing valve shall be 4-way electric type, pilot operated for quiet reversal.

The compressor shall be the sealed hermetic type approved and tested for reverse cycle operation. Internal thermal overload protection shall be provided. The compressor shall be internally isolated and externally hard rubber mounted to the floating chassis.

The air-to-refrigerant coils shall be copper tubes mechanically bonded to aluminum fins, multi-circuited to insure maximum coil distribution and effectiveness, and a minimum of three rows deep. The coil shall be rated to withstand 600 psig refrigerant working pressure. Face velocity shall not exceed 400 feet per minute to insure quiet operation and positive condensate drainage.

The water-to-refrigerant coils shall incorporate an electro-coated steel outer tube and a copper inner tube. The inner tube shall be spirally fluted and bonded to the outer tube to insure controlled refrigerant velocity and distribution. The coil shall be rated to withstand 650 psig refrigerant and 400 psig fluid working pressures.

The chassis shall be shipped separately from the WSHP cabinets to prevent exposure to and fouling from finishing work.

(OPTION): Automatic flow control valve – An automatic flow control valve shall be provided with each chassis and be factory preset for a fixed flow rate regardless of system pressure. Each automatic balancing valve shall be capable of operation over a pressure differential range of 2 to 80 PSID. Valves must utilize threaded connections and be easily removable for cleaning and maintenance.

(OPTION): Standard Two-way, two-position (On/Off) control valve (30 psi differential pressure) – A two-way, two-position (On/Off) electric control valve shall be factory mounted and wired into the refrigeration chassis.

(OPTION): High Pressure Two-way, two-position (On/Off) control valve (60 psi differential pressure) – A two-way, two-position (On/Off) electric control valve shall be factory mounted and wired into the refrigeration chassis.

(OPTION): The refrigerant to water heat exchanger shall be constructed with a Cupro-Nickel inner water tube for enhanced corrosion protection.

(OPTION): The chassis shall be shipped installed in the WSHP cabinets with a factory installed return air cover to protect the air-to-refrigerant coil from damaged.

CONDENSER WATER RISERS

RISER CONSTRUCTION

The unit manufacturer shall furnish Type L or Type M copper supply and return condenser water risers as an integral factory-assembled component of the heat pump. Supply and return risers shall be protected by a galvanized steel pipe chase the length of the cabinet.

Ball-type isolation valves shall be factory assembled on the risers by the heat pump manufacturer. The chassis shall be connected to the isolation valves through high-pressure stainless-steel hoses provided by the unit manufacturer, to isolate compressor noise and vibration from the piping system. Connection of the refrigerant chassis to building water system through the use of unions is unacceptable.

The unit manufacturer shall furnish the heat pump cabinet with the supply and return risers connected together (short circuited) between the isolation valves to facilitate flushing by bypassing water directly into the return loop without the water passing thru any device in the unit (i.e. refrigeration chassis, automatic flow control valve).

The condensate drain riser shall be Type M copper and insulated the length of the cabinet with 3/8-inch closed-cell insulation. The riser insulation shall be an elastomer with a UL 94-5V rating.

(OPTION): Provide 3/8-inch thick or 1/2-inch thick closed-cell riser insulation the length of the cabinet or length of the riser for extended range applications. The optional riser piping insulation shall be an elastomer with a UL 94-5V rating.

(OPTION): Swages / Transition Up / Transition Down from one diameter to another are performed as part of the manufacturing process as specified by the engineer in the field.

(OPTION): Risers boxed and shipped separate so complete riser stack can be installed, pressure tested, and filled prior to cabinet installation.

(OPTION): Unit shall be supplied with perforated riser opening knockouts. Knockouts shall be factory sealed and left in place during shipping and staging at the job site.

FACTORY ACCESSORIES

SUPPLY/RETURN HOSE KIT

Two fire-rated flexible hoses with ASTM ratings of Flame Spread 25, Fuel Contribution 25 and Smoke Density 50 for connection to unit and field piping. Hose shall be covered with stainless steel braiding to prevent damage.

Water connections between chassis and the riser shall be accomplished via an Insta-Lock™ quick connect accessory hose kit consisting of synthetic yarn-reinforced EPDM core hose surrounded by a 304 stainless-steel braid. Hose kit shall

have brass fittings with stainless-steel locking balls and EPDM seals. Hose ends shall have colored bands to indicate supply or return water as well as colored indicator to verify locking status which connects to Insta-Lock™ fitting on chassis and mating shut-off valve. Threaded connections with or without sealing washers are not permitted. The hose kit shall be rated for maximum working pressure of 750 psi and minimum burst pressure rating of 2250 psi

(OPTION): GHT Connection - Flexible 304 stainless steel hose with EPTF Kevlar reinforced inner tube and brass female garden hose thread fitting connections. Hose shall have a 400-psi working pressure and tagged with tracking and test data. Hoses must meet UL-94 VO fire rating.

(OPTION): NPSH Connection - 304 Stainless Steel hose with Kevlar® reinforced EPDM core built to ASTM E 84-00 / NFPA 255 standard. EPDM gasket with female NPSH swivel on both ends to provide a reliable seal. Hoses must meet UL-94 VO fire rating.

SUPPLY GRILLES

(OPTION): The supply grilles shall be of the single deflection type fabricated of factory white painted extruded aluminum or clear anodized aluminum. All supply openings shall be painted black with a damper assembly and sight baffle provided when one unit is serving two separate rooms.

(OPTION): The supply grilles shall be of the double deflection type fabricated of factory white painted extruded aluminum or clear anodized aluminum. All supply openings shall be painted black with a damper assembly and sight baffle provided when one unit is serving two separate rooms.

(OPTION): Units with multiple supply air openings shall ship with opposed blade dampers to facilitate air balance between each outlet.

RETURN PANELS

(OPTION): Painted or “Paint-ready” Flush Mounted Acoustical Panel – The return air opening shall be covered with a flush mounted hinged front acoustical panel with return air entering through the bottom, top and both sides. The panel shall be fabricated of etched galvanized steel and painted factory white or ready for field painting. The return air panel shall stud mounted and allow for removal of the refrigeration chassis without removing the acoustic panel. Filter must be accessible and removable without the use of tools.

(OPTION): Unit Mounted Acoustical Panel - The return air opening shall be covered with a standard solid hinged front acoustical panel with return air entering through the bottom, top and both sides. The front panel shall be fabricated of etched galvanized steel suitable for field painting to match the room decor. The return air panel shall allow for filter maintenance without the use of tools.

THERMOSTAT

The heat pump manufacturer shall provide a 24-volt manual changeover wall thermostat with a HEAT-OFF-COOL system switch and AUTO-ON fan selector switch.

Others shall install thermostat by plugging into the control wiring with a polarized male-female plug after the walls are finished when unit mounted or attaching to color coded pigtailed when remote mounted. High voltage, return air thermostats with remote bulbs subject to damage during routine service will not be accepted.

(OPTION): The heat pump manufacturer shall provide a thermostat extension whip with thermostat plug out of the top of the unit for remote mounting the thermostat.

WARRANTY

The heat pump manufacturer shall warranty equipment for a period of 12 months from start-up or 18 months from shipment (whichever occurs first).

(OPTION): The heat pump manufacturer shall provide an extended compressor warranty covering the compressor only (no labor) for a total period of 2-years from the date of shipment.

(OPTION): The heat pump manufacturer shall provide an extended parts warranty covering the solid-state control circuit board, air coil, coaxial coil, ERV module (if equipped), reversing valve, expansion valve, and compressor (no labor) for a total period of 2-years from the date of shipment.

(OPTION): The heat pump manufacturer shall provide an extended refrigeration circuit warranty covering coils, reversing valve, expansion valve and compressor (no labor) for a total period of 2-years from the date of shipment.

(OPTION): The heat pump manufacturer shall provide an extended solid-state control warranty covering the solid-state control circuit board (no labor) for a total period of 2-years from the date of shipment.

(OPTION): The heat pump manufacturer shall provide an extended compressor warranty covering the compressor only (no labor) for a total period of 5-years from the date of shipment.

(OPTION): The heat pump manufacturer shall provide an extended parts warranty covering the solid-state control circuit board, air coil, coaxial coil, ERV module (if equipped), reversing valve, expansion valve, and compressor (no labor) for a total period of 5-years from the date of shipment.

(OPTION): The heat pump manufacturer shall provide an extended refrigeration circuit warranty covering coils, reversing valve, expansion valve and compressor (no labor) for a total period of 5-years from the date of shipment.

(OPTION): The heat pump manufacturer shall provide an extended solid-state control warranty covering the solid-state control circuit board (no labor) for a total period of 5-years from the date of shipment.

SPARE PARTS

The installing contractor shall provide to the Owner one spare chassis for each fifty heat pumps of a given size.



INSTALLATION

INSTALLATION

Furnish as shown on the Whalen factory drawings and as specified herein, vertical stack water source heat pumps with integral risers, and with capacity and electrical characteristics as listed in the manufacturer's submittal documents. Units shall be Whisper Series as manufactured by The Whalen Company of Easton, MD.

Install in accordance with manufacturer's installation instructions and maintain manufacturer's recommended clearances for the unit and accessories. Follow manufacturer's recommendations for cleaning and flushing.



**The Whalen Company
Limited Express Warranty
Water-to-Air Heat Pump Standard Warranty**



The Whalen Company warrants to the purchaser each water-to-air heat pump to be free from original defects in materials and workmanship.

Where inspection by an authorized representative of The Whalen Company confirms such defects to be present, for a period of eighteen months from date of shipment, Whalen will furnish replacement components or materials to the original purchaser without charge.

This Limited Express Warranty is intended to cover original equipment defects only and does not cover or apply to: (1) Air filters, refrigerant, fluids, oil; (2) Equipment relocated after initial installation; (3) Any portion or component of any system that is not supplied by The Whalen Company, regardless of the cause of the failure of such portion or component; (4) Equipment on which the unit identification tags or labels have been removed or modified; (5) Equipment which have defects or damage which result from improper installation, wiring, electrical imbalance characteristics or maintenance; or are caused by accident, misuse or abuse, fire, flood, acts of God, alteration or misapplication of the product; (6) Equipment used as temporary heating or cooling while the facility is still under construction is considered misuse and as such, will void all warranty coverage regardless of the cause of failure; (7) Equipment which have defects or damage which result from a contaminated or corrosive air or liquid supply, operation at abnormal temperatures, or unauthorized opening of refrigerant circuit; (8) Mold, fungus or bacteria damages; (9) Equipment subjected to corrosion or abrasion; (10) Equipment manufactured or supplied by others; (11) Equipment which have been operated in any manner contrary to The Whalen Company printed instructions; or (12) Equipment which have defects, damage or insufficient performance as a result of insufficient or incorrect system design or the improper application of The Whalen Company products.

The Whalen Company neither assumes nor authorizes any person to assume for it any obligation or warranty other than those stated herein.

This Limited Express Warranty does not cover labor charges associated with making repairs, inspection and diagnosis of malfunctions, all field labor in connection with repair or replacement of parts, all field labor in connection with removal and transportation to and from a repair facility and all field labor in connection with reinstallation after repairs are completed. However, The Whalen Company at its sole discretion may provide a labor allowance in cases of DOA (Dead on Arrival) equipment for replacement or repair of defective components within 30-days of start-up or 90-days from factory shipment, whichever comes first. After this period only the Limited Express Warranty will apply. Labor will be paid per The Whalen Company Warranty Labor Allowance schedule.

Replacement or repair under this warranty will not extend the warranty time periods defined above. Whalen shall not, in any event, have any liability under this warranty unless and until it has been paid in full for the equipment supplied. The warranty period shall commence on the date of shipment, however, whether or not payment has been made.

This warranty applies only to Whalen heat pump installations in the fifty United States and in Canada. There are no warranties outside those areas.

The Whalen Company has no liability for incidental or consequential damages arising out of the ownership, use, or operation of Whalen heat pumps.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. NO IMPLIED WARRANTY OR MERCHANTABILITY SHALL ACCOMPANY THE SALE OF THIS EQUIPMENT, AND THIS EXPRESS WARRANTY IS INTENDED TO AND DOES REPLACE ANY IMPLIED WARRANTY OF MERCHANTABILITY.

This warranty, its limitations and its exclusions are to be governed by the laws of Maryland. Although some warranties may vary in their effect and coverage from locality to locality, this warranty, its effects, coverage and remedies are only those available in Maryland.

Rev: 12/2020

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The Whalen Company
The Whalen Limited Express Warranty
Water-to-Air Heat Pump Chassis Standard Warranty



The Whalen Company warrants to the purchaser each water-to-air heat pump chassis (or each refrigeration chassis) to be free from original defects in materials and workmanship.

Where inspection by an authorized representative of The Whalen Company confirms such defects to be present, for a period of twelve months from date of shipment, Whalen will furnish replacement components or materials to the original purchaser without charge.

This Limited Express Warranty is intended to cover original equipment defects only and does not cover or apply to: (1) Air filters, refrigerant, fluids, oil; (2) Equipment relocated after initial installation; (3) Any portion or component of any system that is not supplied by The Whalen Company, regardless of the cause of the failure of such portion or component; (4) Equipment on which the unit identification tags or labels have been removed or modified; (5) Equipment which have defects or damage which result from improper installation, wiring, electrical imbalance characteristics or maintenance; or are caused by accident, misuse or abuse, fire, flood, acts of God, alteration or misapplication of the product; (6) Equipment used as temporary heating or cooling while the facility is still under construction is considered misuse and as such, will void all warranty coverage regardless of the cause of failure; (7) Equipment which have defects or damage which result from a contaminated or corrosive air or liquid supply, operation at abnormal temperatures, or unauthorized opening of refrigerant circuit; (8) Mold, fungus or bacteria damages; (9) Equipment subjected to corrosion or abrasion; (10) Equipment manufactured or supplied by others; (11) Equipment which have been operated in any manner contrary to The Whalen Company printed instructions; or (12) Equipment which have defects, damage or insufficient performance as a result of insufficient or incorrect system design or the improper application of The Whalen Company products.

The Whalen Company neither assumes nor authorizes any person to assume for it any obligation or warranty other than those stated herein.

This Limited Express Warranty does not cover labor charges associated with making repairs, inspection and diagnosis of malfunctions, all field labor in connection with repair or replacement of parts, all field labor in connection with removal and transportation to and from a repair facility and all field labor in connection with reinstallation after repairs are completed. However, The Whalen Company at its sole discretion may provide a labor allowance in cases of DOA (Dead on Arrival) equipment for replacement or repair of defective components within 30-days of start-up or 90-days from factory shipment, whichever comes first. After this period only the Limited Express Warranty will apply. Labor will be paid per The Whalen Company Warranty Labor Allowance schedule.

Replacement or repair under this warranty will not extend the warranty time periods defined above. Whalen shall not, in any event, have any liability under this warranty unless and until it has been paid in full for the equipment supplied. The warranty period shall commence on the date of shipment, however, whether or not payment has been made.

This warranty applies only to Whalen heat pump installations in the fifty United States and in Canada. There are no warranties outside those areas.

The Whalen Company has no liability for incidental or consequential damages arising out of the ownership, use, or operation of Whalen heat pumps.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. NO IMPLIED WARRANTY OR MERCHANTABILITY SHALL ACCOMPANY THE SALE OF THIS EQUIPMENT, AND THIS EXPRESS WARRANTY IS INTENDED TO AND DOES REPLACE ANY IMPLIED WARRANTY OF MERCHANTABILITY.

This warranty, its limitations and its exclusions are to be governed by the laws of Maryland. Although some warranties may vary in their effect and coverage from locality to locality, this warranty, its effects, coverage and remedies are only those available in Maryland.

Rev: 12/2020

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The Whalen Company
Limited Express Warranty
Water-to-Air Heat Pump with 5 Year Compressor Warranty

The Whalen Company warrants to the purchaser each water-to-air heat pump to be free from original defects in materials and workmanship.

Where inspection by an authorized representative of The Whalen Company confirms such defects to be present, for a period of eighteen months from date of shipment, Whalen will furnish replacement components or materials to the original purchaser without charge.

In addition, for a period of sixty months from date of shipment, Whalen will furnish a replacement for any compressor found by an authorized representative of The Whalen Company to contain an original defect.

This Limited Express Warranty is intended to cover original equipment defects only and does not cover or apply to: (1) Air filters, refrigerant, fluids, oil; (2) Equipment relocated after initial installation; (3) Any portion or component of any system that is not supplied by The Whalen Company, regardless of the cause of the failure of such portion or component; (4) Equipment on which the unit identification tags or labels have been removed or modified; (5) Equipment which have defects or damage which result from improper installation, wiring, electrical imbalance characteristics or maintenance; or are caused by accident, misuse or abuse, fire, flood, acts of God, alteration or misapplication of the product; (6) Equipment used as temporary heating or cooling while the facility is still under construction is considered misuse and as such, will void all warranty coverage regardless of the cause of failure; (7) Equipment which have defects or damage which result from a contaminated or corrosive air or liquid supply, operation at abnormal temperatures, or unauthorized opening of refrigerant circuit; (8) Mold, fungus or bacteria damages; (9) Equipment subjected to corrosion or abrasion; (10) Equipment manufactured or supplied by others; (11) Equipment which have been operated in any manner contrary to The Whalen Company printed instructions; or (12) Equipment which have defects, damage or insufficient performance as a result of insufficient or incorrect system design or the improper application of The Whalen Company products.

The Whalen Company neither assumes nor authorizes any person to assume for it any obligation or warranty other than those stated herein.

This Limited Express Warranty does not cover labor charges associated with making repairs, inspection and diagnosis of malfunctions, all field labor in connection with repair or replacement of parts, all field labor in connection with removal and transportation to and from a repair facility and all field labor in connection with reinstallation after repairs are completed. However, The Whalen Company at its sole discretion may provide a labor allowance in cases of DOA (Dead on Arrival) equipment for replacement or repair of defective components within 30-days of start-up or 90-days from factory shipment, whichever comes first. After this period only the Limited Express Warranty will apply. Labor will be paid per The Whalen Company Warranty Labor Allowance schedule.

Replacement or repair under this warranty will not extend the warranty time periods defined above. Whalen shall not, in any event, have any liability under this warranty unless and until it has been paid in full for the equipment supplied. The warranty period shall commence on the date of shipment, however, whether or not payment has been made.

This warranty applies only to Whalen heat pump installations in the fifty United States and in Canada. There are no warranties outside those areas.

The Whalen Company has no liability for incidental or consequential damages arising out of the ownership, use, or operation of Whalen heat pumps.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. NO IMPLIED WARRANTY OR MERCHANTABILITY SHALL ACCOMPANY THE SALE OF THIS EQUIPMENT, AND THIS EXPRESS WARRANTY IS INTENDED TO AND DOES REPLACE ANY IMPLIED WARRANTY OF MERCHANTABILITY.

This warranty, its limitations and its exclusions are to be governed by the laws of Maryland. Although some warranties may vary in their effect and coverage from locality to locality, this warranty, its effects, coverage, and remedies are only those available in Maryland.

Rev. 12/2020

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The Whalen Company
Limited Express Warranty
Water-to-Air Heat Pump with 5 Year Refrigeration Circuit Warranty

The Whalen Company warrants to the purchaser each water-to-air heat pump to be free from original defects in materials and workmanship. Where inspection by an authorized representative of The Whalen Company confirms such defects to be present, for a period of eighteen months from date of shipment, Whalen will furnish replacement components or materials to the original purchaser without charge.

In addition, for a period of sixty months from the date of shipment, Whalen will repair or replace refrigeration circuit components found by an authorized representative of The Whalen Company to contain an original defect. Refrigeration circuit components are defined to include the compressor, reversing valve, water coil, air coil, expansion device and interconnecting tubing only.

This Limited Express Warranty is intended to cover original equipment defects only and does not cover or apply to: (1) Air filters, refrigerant, fluids, oil; (2) Equipment relocated after initial installation; (3) Any portion or component of any system that is not supplied by The Whalen Company, regardless of the cause of the failure of such portion or component; (4) Equipment on which the unit identification tags or labels have been removed or modified; (5) Equipment which have defects or damage which result from improper installation, wiring, electrical imbalance characteristics or maintenance; or are caused by accident, misuse or abuse, fire, flood, acts of God, alteration or misapplication of the product; (6) Equipment used as temporary heating or cooling while the facility is still under construction is considered misuse and as such, will void all warranty coverage regardless of the cause of failure; (7) Equipment which have defects or damage which result from a contaminated or corrosive air or liquid supply, operation at abnormal temperatures, or unauthorized opening of refrigerant circuit; (8) Mold, fungus or bacteria damages; (9) Equipment subjected to corrosion or abrasion; (10) Equipment manufactured or supplied by others; (11) Equipment which have been operated in any manner contrary to The Whalen Company printed instructions; or (12) Equipment which have defects, damage or insufficient performance as a result of insufficient or incorrect system design or the improper application of The Whalen Company products

The Whalen Company neither assumes nor authorizes any person to assume for it any obligation or warranty other than those stated herein.

This Limited Express Warranty does not cover labor charges associated with making repairs, inspection and diagnosis of malfunctions, all field labor in connection with repair or replacement of parts, all field labor in connection with removal and transportation to and from a repair facility and all field labor in connection with reinstallation after repairs are completed. However, The Whalen Company at its sole discretion may provide a labor allowance in cases of DOA (Dead on Arrival) equipment for replacement or repair of defective components within 30-days of start-up or 90-days from factory shipment, whichever comes first. After this period only the Limited Express Warranty will apply. Labor will be paid per The Whalen Company Warranty Labor Allowance schedule

Replacement or repair under this warranty will not extend the warranty time periods defined above. Whalen shall not, in any event, have any liability under this warranty unless and until it has been paid in full for the equipment supplied. The warranty period shall commence on the date of shipment, however, whether or not payment has been made.

This warranty applies only to Whalen heat pump installations in the fifty United States and in Canada. There are no warranties outside those areas.

The Whalen Company has no liability for incidental or consequential damages arising out of the ownership, use, or operation of Whalen heat pumps.

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Whisperpack® Design Guide RevisionTable

Date	Description
07/2024	New Release of document



8900 Glebe Park Drive
Easton, MD 21601
Tel, 410.822.9200 • 410.822.8926
whalencompany.com
www.whalencompany.com

