



Vertical Stack



Cabinet Nomenclature	1
Chassis Nomenclature	7
AHRI Performance Rating	11
Features & Benefits	12
Unit Protection & LED Fault Status	15
Multi-protocol DDC Controller	16
Physical Data Table	17
Unit Voltage Limitations	18
Continuous Operating Limits	18
Whisperline® Performance Data	19
Airflow – PSC Motor	28
Airflow – EC Constant Torque Motor	29
Airflow – EC Constant Volume Motor	30
Electrical Data	31
Sound Data	48
Wiring Diagrams	52
Whisperline® Riser Detail	59
Whisperline® Discharge Arrangements	61
Whisperline® Cabinet Drawings	65
Mechanical Specifications	70
Whisperline® Warranty Statements	77
Whisperline® Design Guide Revision Table	81

Category	Position	Option Digit	Option Description
Product Family	1	V	Vertical Stack Water Source Heat Pump
Product Type	2	I	Internal Whalen Drain
		P	Whisper Series 1-stage
		H	Whisperpack Hydronic Heating Unit
		S	Whisper Series Single Riser System
		T	Whisper Series Integrated Thermal Recovery Unit (Enthalpy Core)
		R	Whisper Series Integrated Thermal Recovery Unit (Sensible Core)
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 (Supplemental heat)
		J	Heat Pump or Electric Heat (Boilerless heat)
Unit Capacity / Cabinet	4-6	020	020 - 0.50-ton
		030	030 - 0.75-ton
		040	040 - 1.00-ton
		050	050 - 1.25-ton
		060	060 - 1.5-ton
		080	080 - 2.0-ton Standard
		081	081 - 2.0-ton Enhanced
		100	100 - 2.5-ton
		120	120 - 3.0-ton
Revision (Major)	7	1	1st Generation
		3	3rd Generation
		4	4th Generation
Unit Voltage	8	B	Single Point Power: 208/230-60-1
		D	Single Point Power: 265-60-1
		F	Dual Point Power: 208/230-60-1
		H	Dual Point Power: 265-60-1
Fan	9	S	PSC - Standard Motor
		H	PC - High Static Motor
		D	ECM - Constant Torque Motor (Size 080-120)
		E	ECM - Constant Air Volume Motor (Size 040-120)
		G	ECM - Constant Torque Motor (Size 020-060)
Revision (Minor)	10	B	B - Minor Revision B
		C	C - Minor Revision C
		D	D - Minor Revision D
Sound Attenuation	11	A	Standard Quiet Construction
		B	Whalen Drain with silver rails
		C	Standard Quiet Construction with Vibration Isolator Pad
		D	Standard Quiet Construction with Silver Rails

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Cabinet Nomenclature

Category	Position	Option Digit	Option Description
Sound Attenuation	11	E	Standard Quiet Construction with Silver Rails and Vibration Isolator Pad
		F	Standard Quiet Construction with Vibration Isolator Pad
Cabinet Type / Height	12	A	88 inch tall - Galvanized
		B	84 inch tall - Galvanized
		C	80 inch tall - Galvanized
		D	74 inch tall - Galvanized
		E	Ducted Vertical - Galvanized
		F	88 inch tall - Paint Grip
		G	84 inch tall - Paint Grip
		H	80 inch tall - Paint Grip
		J	74 inch tall - Paint Grip
		K	Ducted Vertical - Paint Grip
		R	88 inch tall with Factory Mounted Cabinet Stand
		S	84 inch tall with Factory Mounted Cabinet Stand
		T	80 inch tall with Factory Mounted Cabinet Stand
		U	74 inch tall with Factory Mounted Cabinet Stand
		W	Ducted Vertical with Factory Mounted Cabinet Stand
Electric Heat / TRU	13	X	No electric heat installed
		A	Electric Heat - 1.0 kW
		B	Electric Heat - 1.5 kW
		C	Electric Heat - 2.0 kW
		D	Electric Heat - 2.5 kW
		E	Electric Heat - 3.0 kW
		F	Electric Heat - 3.5 kW
		G	Electric Heat - 4.0 kW
		H	Electric Heat - 4.5 kW
		J	Electric Heat - 5.0 kW
		L	Electric Heat - 6.0 kW
		N	Electric Heat - 7.0 kW
		Q	Electric Heat - 8.0 kW
		S	Electric Heat - 9.0 kW
		U	Electric Heat - 10.0 kW
		1	35 CFM (constant) / 150 CFM (intermittent with accessory switch) TRU Ventilation Rate
		2	50 CFM (constant) / 150 CFM (intermittent with accessory switch) TRU Ventilation Rate
		3	70 CFM (constant) / 150 CFM (intermittent with accessory switch) TRU Ventilation Rate
		4	90 CFM (constant) / 150 CFM (intermittent with accessory switch) TRU Ventilation Rate
		5	25 CFM (constant) / 100 CFM (intermittent with accessory switch) TRU Ventilation Rate
		6	35 CFM (constant) / 100 CFM (intermittent with accessory switch) TRU Ventilation Rate
		7	50 CFM (constant) / 100 CFM (intermittent with accessory switch) TRU Ventilation Rate
		8	70 CFM (constant) / 100 CFM (intermittent with accessory switch) TRU Ventilation Rate
Electric Heat Voltage / TRU	14	X	No electric heat installed
		B	Single Point Power: 208/230-60-1
		D	Single Point Power: 265-60-1
		F	Dual Point Power: 208/230-60-1
		H	Dual Point Power: 265-60-1

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Category	Position	Option Digit	Option Description
Fan Control	15	A	A - Thermostat - Single speed
		B	B - Thermostat - Single speed with 2-speed fan switch
		D	D - Thermostat - Single speed with Ultra-low airflow
		E	E - Thermostat - Single speed with Ultra-low airflow and 2-speed fan switch
		F	F - Thermostat - Two speed
		G	G - Thermostat - Two speed with Ultra-low airflow
		H	H - Thermostat - Three speed
		J	J - Thermostat - Three speed with Ultra-low airflow
		K	K - DDC Wall Sensor
		L	L - Customer Supplied Speed Control
Supply Air Discharge	16	1	Front
		2	Left
		3	Right
		4	Top
		5	Back
		6	Front - Back (Includes Sight Baffle with Sound Insulation)
		7	Front - Left
		8	Front - Right
		9	Front - Top
		A	Left - Right (Includes Sight Baffle with Sound Insulation)
		B	Left - Top
		C	Right - Top
		D	Back - Left
		E	Back - Right
		F	Back - Top
		G	Front - Left - Right
		H	Front - Left - Back
		J	Front - Right - Back
		K	Front - Left - Top
		L	Front - Right - Top
		R	Front - Back - Top
		M	Cornerstone : Front - Right
		N	Cornerstone: Front - Left
		P	Knockouts - all sides
		Z	Z - Special Configuration
Cabinet Protection	17	X	No SA / RA covers installed
		A	Return Air Opening Cover
		B	All Supply Air Openings Covered
		C	All Supply & Return Air Openings Covered
		D	All Openings Shrink Wrapped
Power Termination / Entry Location	18	X	Side Entry - Single Point Power: without unit disconnect
		A	Side Entry - Single Point Power: Unfused unit disconnect
		B	Side Entry - Single Point Power: Unit circuit breaker (Fused disconnect to protect unit only)
		C	Side Entry - Dual Point Power: Unfused unit disconnect on both circuit
		D	Side Entry - Dual Point Power: Unit circuit breaker on both circuits
		E	Side Entry - Dual Point Power: Unfused unit disconnect on unit & circuit breaker on E-heat

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Category	Position	Option Digit	Option Description
Power Termination / Entry Location	18	F	Side Entry - Dual Point Power: Unit circuit breaker on unit & unfused disconnect on E-heat
		G	Top Entry - Single Point Power: Unfused unit disconnect
		H	Top Entry - Single Point Power: Unit circuit breaker (Fused disconnect to protect unit only)
		J	Top Entry - Dual Point Power: Unfused unit disconnect on both circuit
		K	Top Entry - Dual Point Power: Unit circuit breaker on both circuits
		L	Top Entry - Dual Point Power: Unfused unit disconnect on unit & circuit breaker on E-heat
		M	Top Entry - Dual Point Power: Unit circuit breaker on unit & unfused disconnect on E-heat
		N	Top Entry - Single Point Power: Without unit disconnect
		P	Side Entry - Dual Point Power: without unit disconnect
		Q	Top Entry - Dual Point Power: without unit disconnect
Thermostat Extension	19	A	Standard Front
		B	T-stat Extension w/plug for offset mounting - 5 ft
		C	T-stat Extension w/plug for offset mounting - 10 ft
		D	T-stat Extension w/plug for offset mounting - 20 ft
		E	T-stat Extension w/plug for offset mounting - 30 ft
		F	T-stat Extension w/plug for offset mounting - 40 ft
		G	T-stat Extension w/plug for offset mounting - 50 ft
		P	Panel Mount Thermostat / Wall Sensor
		2	Factory Wired Remote Thermostat (Secondary Unit) - Front
		3	Factory Wired Remote Thermostat (Secondary Unit) - Right Side
		4	Factory Wired Remote Thermostat (Secondary Unit) - Left Side
		7	Factory Wired Remote Thermostat - Right Side
		8	Factory Wired Remote Thermostat - Left Side
Control Type	20	A	Solid State Control
		Z	Special
Water Temperature Sensors	21	A	32°F Freeze Protection with 36°F Low/High Liquid Temp setting
		E	32°F Freeze Protection with 125°F Low/High Liquid Temp setting
		G	20°F Freeze Protection with 20°F Low/High Liquid Temp setting
		N	10°F Freeze Protection with 10°F Low/High Liquid Temp setting
		P	10°F Freeze Protection with 0°F Low/High Liquid Temp setting
DDC Control	22	X	X - No DDC control package installed
		B	B - Whalen DDC Control (IO Zone 560) no current switch
		C	C - Customer supplied: DDC Controller - No sensors or fan speeds
		D	D - Return Air Sensor
		E	E - IO Zone 560 DDC Control with Fan & Compressor status current switch
		F	F - IO Zone 560 DDC Control with Discharge Air Temperature
		G	G - IO Zone 560 DDC Control with Fault Alarm
		H	H - IO Zone 560 DDC Control with Fan & Compressor status current switch with Discharge Air Temperature
		J	J - IO Zone 560 DDC Control with Fan & Compressor status current switch with Fault Alarm
		K	K - IO Zone 560 DDC Control with Fan & Compressor status current switch, Discharge Air Temperature, and Fault Alarm
		L	L - IO Zone 560 DDC Control with Discharge Air Temperature & Fault Alarm
		Z	Z - Special control configuration
Drain Pan Options	23	A	A - Standard Stainless Steel P-trap Drain Pan
		B	B - Standard Stainless Steel P-trap Drain Pan with Condensate Pump

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Category	Position	Option Digit	Option Description
Drain Pan Options	23	E	E - Standard Stainless Steel Whalen Style Insulated Drain Pan with Condensate Pump
		G	G - Standard Stainless Steel Whalen Style Insulated Drain Pan
Insulation Option	24	A	1/2" thick fiberglass insulation
		B	1/2" thick Foil Face fiberglass insulation - Entire Unit
		C	1/2" thick Closed Cell insulation - Entire Unit
		D	1" thick fiberglass insulation in top of unit for sound reduction - 1/2" thick fiberglass in bottom of unit
Outdoor Air	25	X	No outside air opening installed
		A	4" Internal Duct - top connection
		B	4" Internal Duct - top connection with constant airflow regulator
		C	5" Internal Duct - top connection
		D	5" Internal Duct - top connection with constant airflow regulator
		J	2x8 Opening in side of cabinet with Manual outdoor air damper
		K	2x8 Opening in side of cabinet with Motorized outdoor air damper - (not for use with Internal Duct)
		1	Whispertherm Top Connections
		2	Whispertherm Right Side Connections - Contact Factory, Special
		3	Whispertherm Rear Top Connections - Contact Factory, Special
Filtration	26	X	Field installed / field furnished 1" thick air filters
		A	1" MERV 4 Throwaway
		B	1" MERV 8 Throwaway
		C	1" MERV 11 Throwaway
		D	1" MERV 13 Throwaway
		E	2" MERV 4 Throwaway
		F	2" MERV 8 Throwaway
		G	2" MERV 11 Throwaway
		H	2" MERV 13 Throwaway
		J	Aluminum
Riser Style	27	A	Unit mounted risers with riser cover
		B	Unit mounted risers without riser cover
		C	Unit mounted primary riser with riser cover
		D	Unit mounted primary riser without riser cover
		E	Unit mounted secondary riser with condensate riser
		F	Shipped Separate - Chassis Shipped in Cabinet
		K	Shipped Separate - Chassis Shipped in cabinet with Sweat x Push-on ball valves
		M	Shipped Separate - with Sweat x GHT ball valves
		N	Shipped Separate - with FPT x GHT ball valves
		P	Shipped Separate - with Sweat x Push-on ball valves
		Q	Knockouts - all sides
		X	None / Secondary unit with no risers or condensate
Riser Spacing	28	A	Standard Spacing
		B	Standard spacing with Bulls-Eye Stand-off
		C	Standard spacing with 4" x 4" (W x H) Riser Opening
		D	Standard spacing with 7" x 4" (W x H) Riser Opening
		F	Extended Spacing
		G	Extended spacing with Bulls-Eye Stand-off

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Category	Position	Option Digit	Option Description
Riser Spacing	28	H	Extended spacing with 4" x 4" (W x H) Riser Opening
		J	Extended spacing with 8" x 4" (W x H) Riser Opening
		L	Split Spacing
		M	Split spacing with Bulls-Eye Stand-off
		N	Split spacing with 4" x 4" (W x H) Riser Opening
		P	Split spacing with 7" x 4" (W x H) Riser Opening
		S	Cast-in Firestop Device - Upto 2" Max Riser
		T	Cast-in Firestop Device - 3" Max Riser
		U	Cast-in Firestop Device - 4" Max Riser
		X	None
		Z	Z - Special Riser Spacing / Configuration
Riser Location	29	1	Rear
		2	Right
		3	Left
		X	None
Special Configuration	30	Z	Future option

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Category	Position	Option Digit and Description	
Brand	1	W	Whalen
Product Family	2-3	VI	Vertical Stack Water Source Heat Pump w/ Whalen drain
		VP	Vertical Stack Water Source Heat Pump - 1-stage
System Configuration	4	A	Heat Pump (Cooling default)
		B	Cooling Only
		C	Air Conditioning or Hydronic Heat
		E	Heating Only
		G	Heat Pump (heating default) Standard option
		J	Heat Pump or Electric Heat (Boilerless)
Unit Capacity / Cabinet	5-7	020	0.50-ton
		030	0.75-ton
		040	1.00-ton
		050	1.25-ton
		060	1.5-ton
		080	2.0-ton Standard
		081	2.0-ton Enhanced
		100	2.5-ton
		120	3.0-ton
Revision (Major)	8	3	3rd Generation
		4	4th Generation
Unit Voltage	9	B	Single Point Power: 208/230-60-1
		D	Single Point Power: 265-60-1
Compressor	10	C	Copeland
		B	Bristol
		T	Tecumseh
		L	LG
Distributor Options	11	G	Geothermal (TXV)
		Y	Standard (TXV)
Revision (Minor)	12	B	B - Minor Revision B
		C	C - Minor Revision C
		D	D - Minor Revision D
Control Voltage	13	L	Normally Closed - 24 VAC
		1	Normally Open - 24 VAC

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Chassis Nomenclature

Category	Position	Option Digit and Description	
Control Type	14	A	Solid State Control
Sound Attenuation	15	X	Standard
		A	Anti-vibe Compressor Enclosure
Coil / Chassis Protection	16	A	Standard (Galvanized) Chassis & Galvanized Coil Casing with Copper tube / Aluminum fin
		B	Standard (Galvanized) Chassis & Galvanized Coil Casing with Tin Dipped Hairpins
		C	Standard (Galvanized) Chassis & Galvanized Coil Casing with Epoxy Coating (E-Coating)
		F	Standard (Galvanized) Chassis & Stainless Steel Coil Casing with Copper tube / Aluminum fin
		G	Standard (Galvanized) Chassis & Stainless Steel Coil Casing with Tin Dipped Hairpins
		H	Standard (Galvanized) Chassis & Stainless Steel Coil Casing with Epoxy Coating (E-Coating)
Hot Water Coil	17	X	None
		B	2-row Hot Water Coil
		C	3-row Hot Water Coil
Control Valve	18	X	X - None
		A	A - 2-way valve, on/off, std diff
		B	B - 2-way valve, on/off, 60 psi diff
		C	C - 2-way valve, on/off, 125 psi diff
		H	H - Pressure Independent Control Valve
		J	J - 3-way valve, on/off, std diff (Whisperpack Only)
		K	K - 3-way valve, on/off, 60 psi diff (Whisperpack Only)
		W	W - Factory installed valve supplied by customer
		2	2 - Two 2-way valve, on/off, std diff (Qty 2 valves for use with Whisperpack)
		3	3 - Two 2-way valve, on/off, 60 psi diff (Qty 2 valves for use with Whisperpack)
		4	4 - Two 2-way valve, on/off, 125 psi diff (Qty 2 valves for use with Whisperpack)
Flow Control	19	X	X - None
		C	C - Automatic Flow Valve - Griswold K with PT Ports
		D	D - Automatic Flow Valve - Hays
		E	E - Automatic Flow Valve - Hays with PT Ports
		H	H - Manual Flow Control Valve
		L	L - Internal Circulating Pump - Taco (208 or 265V)
		M	M - Internal Circulating Pump - Grundfos (208V only)
		Q	Q - Pressure Independent Control Valve
Water Flow	20-23	XXXX	Manual valve or no flow control device installed
		0100	1.0 GPM
		0113	1.13 GPM
		0120	1.20 GPM
		0125	1.25 GPM
		0150	1.5 GPM

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Category	Position	Option Digit and Description	
Water Flow	20-23	0163	1.63 GPM
		0175	1.75 GPM
		0200	2.0 GPM
		0225	2.25 GPM
		0230	2.30 GPM
		0250	2.5 GPM
		0300	3.0 GPM
		0325	3.25 GPM
		0330	3.30 GPM
		0350	3.5 GPM
		0400	4.0 GPM
		0450	4.5 GPM
		0500	5.0 GPM
		0550	5.5 GPM
		0600	6.0 GPM
		0650	6.5 GPM
		0660	6.6 GPM
		0700	7.0 GPM
		0740	7.4 GPM
		0750	7.5 GPM
Strainer	24	X	None
		2	Y-strainer
		3	Y-strainer with blowdown
Water Connections	25	A	GHT (Male)
		D	MNPT (Tapered)
		J	Insta-Lock™ Connector
Water-side Access Ports	26	X	None
		A	Pressure / Temperature Port (Supply)
		B	Pressure / Temperature Port (Return)
		C	Pressure / Temperature Port (Supply & Return)
		D	Pressure / Temperature Port (Supply) and Manual Air Vent
		E	Pressure / Temperature Port (Return) and Manual Air Vent
		F	Pressure / Temperature Port (Supply & Return) and Manual Air Vent
		G	Pressure / Temperature Port (Supply) with Manual Air Vent & Drain Petcock
		H	Pressure / Temperature Port (Return) with Manual Air Vent & Drain Petcock
		J	Pressure / Temperature Port (Supply & Return) with Manual Air Vent & Drain Petcock

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Chassis Nomenclature

Category	Position	Option Digit and Description	
Coax Type	27	A	Standard
		B	Cupro-Nickel Coax
Chassis Plug	28	Q	15 pin
Air / Fluid Sensor	29	X	None
		D	Differential Pressure Switch
Coil height		D	D - 18" tall
		E	E - 20" tall
		G	G - 24" tall
		J	J - 28" tall
		N	N - 36" tall

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Table 1: AHRI Performance Ratings – ASHRAE / ANSI / AHRI / ISO Standard 13256-1

Model with PSC Motor	CFM	GPM	Water Loop Heat Pump				Ground Loop Heat Pump			
			Cooling 86°F		Heating 68°F		Cooling 77°F		Heating 32°F	
			Capacity Btuh	EER Btuh / W	Capacity Btuh	COP	Capacity Btuh	EER Btuh / W	Capacity Btuh	COP
VP-A-0204*SC	280	1.5	6,500	13.5	8,000	5.3	6,600	14.0	4,600	3.1
VP-A-0304*SC	340	2.5	9,300	13.8	12,500	5.3	9,650	14.8	6,850	3.2
VP-A-0404*SC	420	3.3	12,300	14	14,900	5.0	12,500	15.8	9,300	3.2
VP-A-0604*SB	630	4.5	18,000	14.5	21,600	5.0	18,800	15.5	13,000	3.2

Model with EC Motor	CFM	GPM	Water Loop Heat Pump				Ground Loop Heat Pump			
			Cooling 86°F		Heating 68°F		Cooling 77°F		Heating 32°F	
			Capacity Btuh	EER Btuh / W	Capacity Btuh	COP	Capacity Btuh	EER Btuh / W	Capacity Btuh	COP
VP-A-0204*GC	280	1.5	6,500	15.0	8,000	5.5	6,600	14.2	4,600	3.2
VP-A-0304*GC	340	2.5	9,300	15.0	12,500	5.7	9,650	15.4	6,850	3.3
VP-A-0404*GC	420	3.3	12,800	15.6	15,000	5.5	12,700	16.0	9,400	3.3
VP-A-0504*GB	540	3.9	15,000	16.1	18,200	5.5	15,500	17.0	10,800	3.2
VP-A-0604*GB	655	4.5	18,200	15.2	21,600	5.1	19,000	16.2	13,000	3.3
VP-A-0804*DB	830	6.0	23,000	13.1	30,000	5.0	25,000	14.5	19,000	3.2
VP-A-0814*DD	830	6.0	23,200	16.0	28,200	5.6	24,000	17.1	17,000	3.8
VP-A-1004*DD	970	7.5	30,000	17.0	34,800	5.5	31,000	18.2	20,800	3.8
VP-A-1204*DD	1170	9.0	37,000	17.0	41,200	5.5	38,200	18.0	24,800	3.7

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

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.

Tin Dipped Coil Optional tin electro-plated copper tubing protect the air coil from many corrosive elements in the air stream. Corrosion often referred to as Formicary Corrosion occurs due to the presence of dissimilar metals such as copper and aluminum in conjunction with water causes results in refrigerant leaks and eventual failure of the air coil costing hundreds of dollars to replace. Studies have also shown that isolating the copper from the aluminum greatly reduces or eliminates the corrosion thereby increasing the life of the air coil.

Constant Torque EC Motor Are standard on size 0800 and 1200 units; they are optional on size 600 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 Air Volume EC Motor Are optional on size 0400 – 1200 units and will maintain a constant unit airflow as the static pressure in the system increases. Constant airflow ECMs provide only single speed settings.

PSC (Permanent Split Capacitor) Are standard on size 0600 and smaller units. Our PSC motor is available in standard static range as well as high static applications. The supplied motor is available in single or two-speed configurations (two manual two-speed fan switch, control based fan relay, or two-speed thermostat).

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 allow 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 allow 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 (Magnetic Hydraulic 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 6-P-in Molex quick connector. The extension can exit cabinet on the top, front, 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. The 1/2" thick isolation pads are composed of closed cell insulation and are 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.

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, tak-

ing 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.

P/T Port 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 20 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.

Insta-lock™ Braided Hoses Brass body with stainless locking balls and EPDM seals. 304 stainless steel (ASTM A580-18) outer braid. Full flow technology to minimize pressure drop.

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. The O.A. Internal Duct is insulated when internal to cabinet.

O.A. Motorized O.A. 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. Note that the motorized O.A.

Features & Benefits

damper cannot be used with the internal O.A. duct.

Filter Units come standard with a one-inch glass fiber throwaway filter. High efficiency MERV 4, 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 pressure 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.

Silver Rail Package The silver rail sound package further attenuates the sounds levels of our standard unit by adding a set of rubber in shear isolators under the compressor chassis rails in lieu of our

Table 2: Whisperline® 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	•	•	•
	Non-programmable	•	•	
Operation	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 - 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								
	VP-A-0204	VP-A-0304	VP-A-0404	VP-A-0504	VP-A-0604	VP-A-0804	VP-A-0814	VP-A-1004	VP-A-1204
Nominal Tonnage	0.50	0.75	1.00	1.25	1.50	2.00	2.00	2.50	3.00
COOLING PERFORMANCE									
Capacity (MBTUH), ECM fan	6.5	9.3	12.8	15.0	18.2	23.0	24.5	29.2	36.5
EER (BtuH/W), ECM fan	15.0	15.0	15.6	16.1	15.2	13.1	14.5	14.2	14.0
Entering Water Temp (°F)	86	86	86	86	86	86	86	86	86
Water Flow (GPM)	1.5	2.5	3.3	3.9	4.5	6.0	6.0	7.5	9.0
Rated CFM	280	340	440	540	655	830	830	970	1170
Refrigerant type	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A	R410A
Refrigerant charge (oz)	24.0	25.5	25.3	33.5	35.0	38.0	48.0	48.0	54.0
HEATING PERFORMANCE									
Capacity (MBTUH), ECM fan	8.0	12.5	15.0	18.2	21.6	30.0	30.0	35.9	44.5
COP ECM fan	5.5	5.2	5.5	5.5	5.1	5.0	5.0	5.0	5.0
Entering Water Temp (°F)	68	68	68	68	68	68	68	68	68
Water Flow (GPM)	1.5	2.5	3.3	3.9	4.5	6.0	6.0	7.5	9.0
DIMENSIONS (inches)									
Width (in.)	16	16	16	18	18	18	20	20	20
Depth (in.)	17	17	17	20	20	20	22	22	22
Height (in.)	88	88	88	88	88	88	88	88	88
OPERATING WEIGHT (lbs.)									
Chassis	79	81	83	122	123	132	180	165	175
Cabinet	133	133	133	153	153	153	173	173	173
SHIPPING WEIGHT (lbs.)									
Chassis	85	87	89	128	129	138	186	171	181
Cabinet	145	145	145	165	165	165	185	185	185
COMPRESSORS									
Type	Rotary	Rotary	Rotary	Rotary	Rotary	Rotary/Scroll	Recip	Recip	Recip
Quantity	1	1	1	1	1	1	1	1	1
EVAPORATOR COIL DATA									
Rows	3	3	3	3	3	3	3	3	3
Refrigerant control	TXV	TXV	TXV	TXV	TXV	TXV	TXV	TXV	TXV
SUPPLY FAN DATA									
Quantity	1	1	1	1	1	1	1	1	1
Fan Size (D x W)	7.62 x 5	7.62 x 5	8 x 5	8.5 x 7	8.5 x 7	9 x 8	9.5 x 7.8	10 x 6	10 x 6
Fan type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal
Maximum E.S.P.									
PSC Motor - Standard	0.15	0.2	0.25	NA	0.3	NA	NA	NA	NA
PSC Motor - High Static	0.2	0.25	0.35	NA	0.4	NA	NA	NA	NA
ECM Motor - Constant Torque	0.35	0.4	0.4	0.5	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	0.5
PSC MOTOR HP									
Voltage - 208-230/60/1	1/15	1/15	1/15	NA	1/12	NA	NA	NA	NA
Voltage - 265/60/1	1/20	1/20	1/12	NA	0.15	NA	NA	NA	NA
PSC HIGH STATIC MOTOR HP									
Voltage - 208-230/60/1	1/15	1/15	1/12	NA	1/5	NA	NA	NA	NA
Voltage - 265/60/1	1/20	1/12	0.15	NA	0.17	NA	NA	NA	NA
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	1/2
Voltage - 265/60/1	1/4	1/4	1/4	1/4	1/4	1/2	1/2	1/2	1/2
CONSTANT VOLUME ECM HP									
Voltage - 208-230/60/1	NA	NA	1/3	1/3	1/3	1/2	1/2	1/2	1/2
Voltage - 265/60/1	NA	NA	1/2	1/2	1/2	1/2	1/2	1/2	1/2
ACOUSTICAL RETURN AIR PANEL									
Flush Mounted	16 x 46	16 x 46	16 x 46	18 x 46	18 x 46	18 x 46	20 x 56	20 x 56	20 x 56
Chassis Accessable Flush Mounted	22 x 49	22 x 49	22 x 49	24 x 49	24 x 49	24 x 49	26 x 59	26 x 59	26 x 59
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	NA
2 Grille (W x H)	10 x 4	14 x 6	14 x 6	16 x 6	16 x 6	16 x 6	18 x 8	18 x 10	18 x 12
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	NA
3 Grille (W x H)	10 x 4	14 x 6	14 x 6	16 x 6	16 x 6	16 x 6	18 x 8	18 x 8	18 x 8
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	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 40 x 1	17 x 40 x 1	17 x 40 x 1
Quantity	1	1	1	1	1	1	1	1	1

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Table 4: Unit Voltage Limitations

Table X: Unit Voltage Limitations		
Voltage	Minimum	Maximum
208/230-60-1	197	252

Table 5: VP 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	90	20	90

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

Table 6: VP 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	90	20	90

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

The Whalen Company recommends the addition of antifreeze with Entering Fluid Temperature of 50° F and below. This is based on a minimum Entering Air Temperature of 75° F at unit rated air flow and GPM. The Entering Fluid Temperature may change based on reduced air flow and GPM.

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.



Cooling Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 80°F / 67°F					Entering Air - 78°F / 65°F					Entering Air - 75°F / 63°F				
			TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)
0204 (0.5)	20	1															
		1.25															
		1.5															
	30	1	7.021	5.395	0.301	8.048	16.1	6.721	5.402	0.301	7.748	15.5	6.422	5.104	0.300	7.447	14.9
		1.25	7.221	5.466	0.291	8.215	13.1	6.913	5.474	0.291	7.906	12.6	6.606	5.172	0.290	7.597	12.2
		1.5	7.283	5.499	0.285	8.257	11.0	6.973	5.507	0.285	7.945	10.6	6.663	5.203	0.285	7.634	10.2
	40	1	6.975	5.422	0.322	8.074	16.1	6.678	5.430	0.322	7.775	15.6	6.381	5.130	0.321	7.477	15.0
		1.25	7.175	5.494	0.311	8.237	13.2	6.869	5.502	0.311	7.930	12.7	6.563	5.198	0.311	7.623	12.2
		1.5	7.236	5.528	0.305	8.277	11.0	6.928	5.535	0.305	7.967	10.6	6.620	5.230	0.304	7.658	10.2
	50	1	6.861	5.414	0.350	8.057	16.1	6.569	5.422	0.350	7.763	15.5	6.277	5.123	0.349	7.469	14.9
		1.25	7.057	5.486	0.339	8.213	13.1	6.756	5.494	0.338	7.911	12.7	6.456	5.191	0.338	7.609	12.2
		1.5	7.118	5.519	0.332	8.250	11.0	6.814	5.527	0.331	7.946	10.6	6.511	5.222	0.331	7.641	10.2
	60	1	6.678	5.370	0.386	7.996	16.0	6.393	5.377	0.386	7.709	15.4	6.109	5.081	0.385	7.423	14.8
		1.25	6.869	5.441	0.373	8.143	13.0	6.576	5.449	0.373	7.848	12.6	6.283	5.148	0.372	7.554	12.1
		1.5	6.928	5.474	0.366	8.176	10.9	6.633	5.482	0.365	7.879	10.5	6.338	5.179	0.365	7.583	10.1
	70	1	6.426	5.289	0.429	7.891	15.8	6.152	5.297	0.429	7.615	15.2	5.878	5.004	0.428	7.340	14.7
		1.25	6.609	5.360	0.415	8.026	12.8	6.328	5.367	0.415	7.743	12.4	6.046	5.071	0.414	7.459	11.9
		1.5	6.666	5.392	0.407	8.054	10.7	6.382	5.399	0.406	7.768	10.4	6.098	5.102	0.406	7.483	10.0
	80	1	6.105	5.173	0.480	7.743	15.5	5.845	5.180	0.480	7.481	15.0	5.585	4.894	0.479	7.219	14.4
		1.25	6.279	5.241	0.464	7.863	12.6	6.012	5.249	0.464	7.594	12.1	5.744	4.959	0.463	7.324	11.7
		1.5	6.333	5.273	0.455	7.885	10.5	6.063	5.280	0.454	7.613	10.2	5.794	4.989	0.454	7.342	9.8
	90	1	5.715	5.020	0.538	7.552	15.1	5.471	5.027	0.538	7.306	14.6	5.228	4.750	0.537	7.060	14.1
		1.25	5.878	5.087	0.520	7.654	12.2	5.628	5.094	0.520	7.401	11.8	5.377	4.813	0.519	7.149	11.4
		1.5	5.929	5.117	0.510	7.669	10.2	5.676	5.124	0.509	7.414	9.9	5.424	4.842	0.509	7.159	9.5
	100	1	5.256	4.831	0.604	7.317	14.6	5.032	4.838	0.603	7.090	14.2	4.808	4.571	0.602	6.864	13.7
		1.25	5.406	4.895	0.584	7.398	11.8	5.176	4.902	0.583	7.166	11.5	4.946	4.631	0.582	6.933	11.1
		1.5	5.453	4.925	0.572	7.405	9.9	5.220	4.932	0.571	7.170	9.6	4.988	4.660	0.571	6.935	9.2
	110	1	4.728	4.606	0.677	7.038	14.1	4.527	4.612	0.676	6.834	13.7	4.325	4.358	0.675	6.630	13.3
		1.25	4.863	4.667	0.655	7.097	11.4	4.656	4.673	0.654	6.887	11.0	4.449	4.416	0.653	6.677	10.7
		1.5	4.905	4.695	0.641	7.093	9.5	4.696	4.702	0.641	6.882	9.2	4.487	4.442	0.640	6.670	8.9
	120	1	4.132	4.345	0.757	6.716	13.4	3.955	4.351	0.757	6.537	13.1	3.780	4.111	0.756	6.358	12.7
		1.25	4.250	4.402	0.732	6.749	10.8	4.068	4.408	0.731	6.564	10.5	3.887	4.165	0.731	6.380	10.2
		1.5	4.286	4.429	0.718	6.735	9.0	4.103	4.435	0.717	6.549	8.7	3.921	4.191	0.716	6.364	8.5

Heating Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 65°F db				Entering Air - 70°F db				Entering Air - 75°F db			
			HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Rise (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)
0204 (0.5)	20	1												
		1.25												
		1.5	3.589	0.420	2.155	2.9	3.512	0.442	2.005	2.7	3.434	0.464	1.852	2.5
	30	1	4.472	0.428	3.011	6.0	4.376	0.450	2.841	5.7	4.279	0.472	2.667	5.3
		1.25	4.590	0.428	3.129	5.0	4.492	0.450	2.956	4.7	4.392	0.472	2.780	4.4
		1.5	4.674	0.429	3.210	4.3	4.574	0.451	3.036	4.0	4.472	0.473	2.858	3.8
	40	1	5.461	0.435	3.976	8.0	5.345	0.457	3.784	7.6	5.226	0.480	3.587	7.2
		1.25	5.606	0.435	4.121	6.6	5.486	0.458	3.925	6.3	5.365	0.480	3.726	6.0
		1.5	5.708	0.436	4.220	5.6	5.586	0.458	4.023	5.4	5.462	0.481	3.821	5.1
	50	1	6.403	0.441	4.899	9.8	6.266	0.463	4.685	9.4	6.127	0.486	4.468	8.9
		1.25	6.573	0.441	5.069	8.1	6.433	0.463	4.851	7.8	6.290	0.486	4.630	7.4
		1.5	6.693	0.442	5.186	6.9	6.550	0.464	4.966	6.6	6.404	0.487	4.742	6.3
	60	1	7.298	0.445	5.779	11.6	7.142	0.468	5.546	11.1	6.983	0.491	5.308	10.6
		1.25	7.491	0.445	5.972	9.6	7.331	0.468	5.735	9.2	7.168	0.491	5.493	8.8
		1.5	7.627	0.446	6.106	8.1	7.464	0.468	5.866	7.8	7.298	0.492	5.621	7.5
	70	1	8.144	0.448	6.617	13.2	7.970	0.470	6.365	12.7	7.793	0.494	6.108	12.2
		1.25	8.360	0.448	6.832	10.9	8.181	0.470	6.576	10.5	7.999	0.494	6.314	10.1
		1.5	8.512	0.448	6.982	9.3	8.330	0.471	6.722	9.0	8.145	0.495	6.457	8.6
	80	1	8.942	0.449	7.412	14.8	8.751	0.472	7.142	14.3	8.557	0.495	6.868	13.7
		1.25	9.179	0.449	7.648	12.2	8.983	0.472	7.374	11.8	8.784	0.495	7.095	11.4
		1.5	9.346	0.449	7.813	10.4	9.147	0.472	7.535	10.0	8.943	0.496	7.252	9.7
	90	1	9.693	0.448	8.164	16.3	9.486	0.471	7.878	15.8	9.275	0.494	7.588	15.2
		1.25	9.950	0.448	8.420	13.5	9.737	0.471	8.130	13.0	9.521	0.495	7.833	12.5
		1.5	10.131	0.449	8.599	11.5	9.914	0.472	8.304	11.1	9.694	0.495	8.004	10.7

PERF-WA-VI-WL-Classic-02-515

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Whisperline® 0304 Performance Data

Cooling Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 80°F / 67°F					Entering Air - 78°F / 65°F					Entering Air - 75°F / 63°F				
			TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)
0304 (0.75)	20	1.5															
		1.875															
		2.5															
	30	1.5	12.496	8.439	0.334	13.636	18.2	11.963	8.450	0.334	13.102	17.5	11.431	7.984	0.333	12.568	16.8
		1.875	12.631	8.497	0.325	13.740	14.7	12.093	8.509	0.325	13.201	14.1	11.555	8.039	0.324	12.661	13.5
		2.5	12.823	8.536	0.316	13.901	11.1	12.276	8.547	0.316	13.353	10.7	11.730	8.076	0.315	12.806	10.2
	40	1.5	12.154	8.447	0.386	13.473	18.0	11.636	8.459	0.386	12.953	17.3	11.118	7.992	0.386	12.434	16.6
		1.875	12.286	8.506	0.376	13.569	14.5	11.762	8.517	0.376	13.043	13.9	11.239	8.047	0.375	12.519	13.4
		2.5	12.472	8.544	0.366	13.720	11.0	11.940	8.556	0.365	13.186	10.5	11.409	8.084	0.365	12.654	10.1
	50	1.5	11.735	8.396	0.445	13.252	17.7	11.234	8.407	0.444	12.750	17.0	10.735	7.943	0.444	12.249	16.3
		1.875	11.862	8.454	0.433	13.339	14.2	11.356	8.465	0.432	12.831	13.7	10.851	7.998	0.432	12.324	13.1
		2.5	12.042	8.492	0.421	13.478	10.8	11.528	8.504	0.420	12.962	10.4	11.015	8.035	0.420	12.448	10.0
	60	1.5	11.238	8.284	0.509	12.975	17.3	10.759	8.295	0.508	12.494	16.7	10.280	7.838	0.508	12.013	16.0
		1.875	11.359	8.341	0.495	13.050	13.9	10.875	8.353	0.495	12.563	13.4	10.391	7.892	0.494	12.077	12.9
		2.5	11.532	8.379	0.482	13.175	10.5	11.040	8.391	0.481	12.681	10.1	10.549	7.928	0.480	12.188	9.8
	70	1.5	10.663	8.113	0.579	12.640	16.9	10.209	8.124	0.579	12.183	16.2	9.755	7.676	0.578	11.726	15.6
		1.875	10.779	8.169	0.564	12.702	13.5	10.319	8.180	0.563	12.240	13.1	9.860	7.729	0.562	11.779	12.6
		2.5	10.942	8.206	0.548	12.812	10.2	10.476	8.217	0.547	12.343	9.9	10.010	7.764	0.547	11.875	9.5
	80	1.5	10.011	7.881	0.655	12.247	16.3	9.584	7.892	0.655	11.818	15.8	9.158	7.457	0.654	11.389	15.2
		1.875	10.120	7.936	0.638	12.295	13.1	9.688	7.947	0.637	11.861	12.7	9.257	7.508	0.636	11.428	12.2
		2.5	10.273	7.972	0.620	12.389	9.9	9.835	7.983	0.619	11.948	9.6	9.398	7.542	0.619	11.508	9.2
	90	1.5	9.282	7.590	0.737	11.798	15.7	8.886	7.600	0.737	11.399	15.2	8.491	7.181	0.736	11.001	14.7
		1.875	9.382	7.642	0.718	11.830	12.6	8.982	7.653	0.717	11.427	12.2	8.583	7.231	0.716	11.025	11.8
		2.5	9.524	7.677	0.698	11.905	9.5	9.118	7.687	0.697	11.496	9.2	8.713	7.263	0.696	11.088	8.9
	100	1.5	8.474	7.238	0.825	11.291	15.1	8.113	7.248	0.824	10.926	14.6	7.752	6.848	0.823	10.562	14.1
		1.875	8.566	7.288	0.803	11.307	12.1	8.201	7.298	0.802	10.938	11.7	7.836	6.896	0.801	10.570	11.3
		2.5	8.696	7.321	0.781	11.361	9.1	8.325	7.331	0.780	10.987	8.8	7.955	6.927	0.779	10.613	8.5
	110	1.5	7.590	6.827	0.919	10.726	14.3	7.266	6.836	0.918	10.399	13.9	6.943	6.459	0.917	10.072	13.4
		1.875	7.672	6.874	0.895	10.724	11.4	7.345	6.883	0.893	10.393	11.1	7.018	6.504	0.892	10.063	10.7
		2.5	7.788	6.905	0.870	10.756	8.6	7.456	6.915	0.869	10.420	8.3	7.124	6.533	0.868	10.085	8.1
	120	1.5	6.627	6.355	1.019	10.105	13.5	6.345	6.364	1.018	9.818	13.1	6.063	6.013	1.017	9.532	12.7
		1.875	6.699	6.399	0.992	10.083	10.8	6.413	6.408	0.991	9.793	10.4	6.128	6.055	0.989	9.504	10.1
		2.5	6.801	6.428	0.964	10.091	8.1	6.511	6.437	0.963	9.797	7.8	6.221	6.082	0.962	9.504	7.6

Heating Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 65°F db				Entering Air - 70°F db				Entering Air - 75°F db			
			HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Rise (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)
0304 (0.75)	20	1.5												
		1.875												
		2.5	2.301	0.383	3.608	2.9	2.252	0.403	3.625	2.9	2.202	0.423	3.643	2.9
	30	1.5	3.782	0.397	5.135	6.8	3.701	0.417	5.123	6.8	3.619	0.438	5.112	6.8
		1.875	3.870	0.398	5.228	5.6	3.787	0.418	5.214	5.6	3.703	0.439	5.201	5.5
		2.5	3.959	0.399	5.319	4.3	3.875	0.419	5.304	4.2	3.789	0.440	5.289	4.2
	40	1.5	5.185	0.410	6.583	8.8	5.074	0.431	6.544	8.7	4.961	0.452	6.504	8.7
		1.875	5.306	0.411	6.709	7.2	5.193	0.432	6.667	7.1	5.077	0.454	6.625	7.1
		2.5	5.428	0.412	6.833	5.5	5.312	0.433	6.789	5.4	5.194	0.454	6.744	5.4
	50	1.5	6.407	0.421	7.842	10.5	6.270	0.442	7.779	10.4	6.130	0.464	7.714	10.3
		1.875	6.557	0.422	7.997	8.5	6.416	0.444	7.930	8.5	6.274	0.466	7.863	8.4
		2.5	6.708	0.423	8.150	6.5	6.564	0.444	8.080	6.5	6.419	0.466	8.010	6.4
	60	1.5	7.447	0.429	8.913	11.9	7.288	0.451	8.828	11.8	7.126	0.474	8.743	11.7
		1.875	7.622	0.431	9.092	9.7	7.459	0.453	9.004	9.6	7.293	0.475	8.915	9.5
		2.5	7.798	0.431	9.270	7.4	7.631	0.453	9.178	7.3	7.462	0.476	9.086	7.3
	70	1.5	8.307	0.436	9.794	13.1	8.130	0.458	9.693	12.9	7.949	0.481	9.590	12.8
		1.875	8.502	0.437	9.994	10.7	8.320	0.460	9.888	10.5	8.135	0.482	9.781	10.4
		2.5	8.698	0.438	10.192	8.2	8.512	0.460	10.082	8.1	8.323	0.483	9.971	8.0
	80	1.5	8.986	0.440	10.487	14.0	8.794	0.462	10.372	13.8	8.599	0.485	10.255	13.7
		1.875	9.196	0.441	10.702	11.4	9.000	0.464	10.583	11.3	8.800	0.487	10.461	11.2
		2.5	9.409	0.442	10.917	8.7	9.207	0.465	10.793	8.6	9.003	0.488	10.667	8.5
	90	1.5	9.484	0.442	10.991	14.7	9.281	0.464	10.866	14.5	9.075	0.488	10.738	14.3
		1.875	9.706	0.443	11.218	12.0	9.498	0.466	11.088	11.8	9.287	0.489	10.956	11.7
		2.5	9.930	0.444	11.444	9.2	9.717	0.467	11.309	9.0	9.502	0.490	11.173	8.9

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Cooling Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 80°F / 67°F					Entering Air - 78°F / 65°F					Entering Air - 75°F / 63°F				
			TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)
0404 (1.0)	20	2															
		2.5															
		3.3															
	30	2	14.111	9.037	0.502	15.823	15.8	13.509	9.049	0.501	15.219	15.2	12.908	8.550	0.501	14.617	14.6
		2.5	14.420	9.156	0.487	16.081	12.9	13.805	9.168	0.486	15.465	12.4	13.191	8.663	0.486	14.849	11.9
		3.3	14.670	9.250	0.470	16.273	9.9	14.044	9.262	0.469	15.645	9.5	13.420	8.752	0.469	15.019	9.1
	40	2	14.011	9.150	0.559	15.917	15.9	13.413	9.163	0.558	15.318	15.3	12.817	8.657	0.557	14.719	14.7
		2.5	14.318	9.270	0.542	16.168	12.9	13.707	9.283	0.541	15.555	12.4	13.098	8.771	0.541	14.943	12.0
		3.3	14.566	9.366	0.523	16.350	9.9	13.945	9.378	0.522	15.727	9.5	13.325	8.861	0.522	15.105	9.2
	50	2	13.771	9.176	0.625	15.905	15.9	13.184	9.188	0.625	15.316	15.3	12.598	8.681	0.624	14.727	14.7
		2.5	14.073	9.296	0.607	16.144	12.9	13.473	9.309	0.606	15.541	12.4	12.874	8.795	0.605	14.939	12.0
		3.3	14.317	9.392	0.585	16.315	9.9	13.707	9.404	0.585	15.702	9.5	13.097	8.886	0.584	15.090	9.1
	60	2	13.392	9.113	0.702	15.787	15.8	12.821	9.126	0.701	15.214	15.2	12.251	8.622	0.700	14.640	14.6
		2.5	13.686	9.233	0.681	16.010	12.8	13.102	9.246	0.680	15.423	12.3	12.519	8.736	0.679	14.838	11.9
		3.3	13.923	9.328	0.657	16.165	9.8	13.329	9.341	0.656	15.568	9.4	12.736	8.825	0.655	14.973	9.1
	70	2	12.873	8.964	0.788	15.563	15.6	12.325	8.976	0.787	15.011	15.0	11.776	8.481	0.786	14.460	14.5
		2.5	13.156	9.082	0.765	15.765	12.6	12.595	9.094	0.764	15.201	12.2	12.035	8.592	0.763	14.638	11.7
		3.3	13.384	9.175	0.738	15.901	9.6	12.813	9.187	0.737	15.327	9.3	12.243	8.681	0.736	14.755	8.9
	80	2	12.215	8.727	0.884	15.233	15.2	11.694	8.739	0.883	14.709	14.7	11.174	8.256	0.882	14.185	14.2
		2.5	12.483	8.841	0.858	15.411	12.3	11.951	8.853	0.857	14.875	11.9	11.419	8.365	0.856	14.340	11.5
		3.3	12.699	8.932	0.828	15.524	9.4	12.158	8.944	0.827	14.979	9.1	11.617	8.451	0.826	14.435	8.7
	90	2	11.417	8.402	0.990	14.796	14.8	10.930	8.413	0.989	14.306	14.3	10.444	7.949	0.988	13.815	13.8
		2.5	11.667	8.512	0.961	14.946	12.0	11.170	8.524	0.960	14.445	11.6	10.673	8.054	0.959	13.944	11.2
		3.3	11.870	8.600	0.927	15.032	9.1	11.363	8.611	0.926	14.523	8.8	10.858	8.136	0.925	14.013	8.5
	100	2	10.480	7.990	1.106	14.254	14.3	10.033	8.001	1.105	13.803	13.8	9.587	7.559	1.103	13.352	13.4
		2.5	10.709	8.095	1.073	14.371	11.5	10.253	8.106	1.072	13.910	11.1	9.797	7.659	1.071	13.450	10.8
		3.3	10.895	8.178	1.035	14.427	8.7	10.430	8.189	1.034	13.959	8.5	9.966	7.737	1.033	13.490	8.2
	110	2	9.402	7.490	1.232	13.605	13.6	9.001	7.500	1.230	13.199	13.2	8.601	7.086	1.229	12.794	12.8
		2.5	9.608	7.588	1.195	13.686	10.9	9.199	7.599	1.194	13.271	10.6	8.790	7.180	1.192	12.857	10.3
		3.3	9.775	7.666	1.153	13.708	8.3	9.358	7.677	1.151	13.287	8.1	8.942	7.253	1.150	12.866	7.8
	120	2	8.186	6.903	1.367	12.850	12.9	7.837	6.912	1.365	12.496	12.5	7.488	6.531	1.364	12.141	12.1
		2.5	8.365	6.993	1.326	12.890	10.3	8.008	7.003	1.325	12.528	10.0	7.652	6.617	1.323	12.167	9.7
		3.3	8.510	7.065	1.279	12.876	7.8	8.147	7.075	1.278	12.508	7.6	7.785	6.684	1.276	12.140	7.4

Heating Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 65°F db				Entering Air - 70°F db				Entering Air - 75°F db			
			HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)
0404 (1.0)	20	2												
		2.5												
		3.3	7.365	0.684	5.031	3.0	7.208	0.719	4.754	2.9	7.048	0.755	4.472	2.7
	30	2	8.919	0.698	6.537	6.5	8.728	0.734	6.225	6.2	8.534	0.770	5.907	5.9
		2.5	9.125	0.703	6.726	5.4	8.930	0.739	6.408	5.1	8.732	0.776	6.085	4.9
		3.3	9.303	0.711	6.879	4.2	9.104	0.747	6.556	4.0	8.902	0.784	6.227	3.8
	40	2	10.678	0.723	8.212	8.2	10.450	0.760	7.858	7.9	10.218	0.797	7.497	7.5
		2.5	10.925	0.728	8.441	6.8	10.691	0.765	8.081	6.5	10.454	0.803	7.714	6.2
		3.3	11.138	0.736	8.628	5.2	10.900	0.773	8.262	5.0	10.658	0.812	7.889	4.8
	50	2	12.339	0.746	9.793	9.8	12.075	0.784	9.400	9.4	11.807	0.823	8.999	9.0
		2.5	12.624	0.751	10.060	8.0	12.354	0.790	9.659	7.7	12.080	0.829	9.251	7.4
		3.3	12.871	0.759	10.279	6.2	12.595	0.798	9.872	6.0	12.316	0.838	9.457	5.7
	60	2	13.901	0.768	11.280	11.3	13.604	0.807	10.849	10.8	13.302	0.847	10.410	10.4
		2.5	14.222	0.774	11.582	9.3	13.918	0.813	11.143	8.9	13.609	0.854	10.696	8.6
		3.3	14.500	0.782	11.832	7.2	14.190	0.822	11.386	6.9	13.875	0.863	10.931	6.6
	70	2	15.365	0.789	12.672	12.7	15.036	0.829	12.207	12.2	14.702	0.870	11.732	11.7
		2.5	15.720	0.795	13.008	10.4	15.383	0.835	12.533	10.0	15.042	0.877	12.050	9.6
		3.3	16.027	0.803	13.286	8.1	15.684	0.844	12.804	7.8	15.336	0.886	12.312	7.5
	80	2	16.730	0.809	13.971	14.0	16.372	0.850	13.472	13.5	16.008	0.892	12.964	13.0
		2.5	17.116	0.814	14.337	11.5	16.750	0.856	13.829	11.1	16.378	0.899	13.312	10.6
		3.3	17.450	0.823	14.642	8.9	17.077	0.865	14.125	8.6	16.698	0.908	13.600	8.2
	90	2	17.996	0.827	15.174	15.2	17.611	0.869	14.646	14.6	17.220	0.912	14.107	14.1
		2.5	18.412	0.833	15.570	12.5	18.018	0.875	15.031	12.0	17.618	0.919	14.482	11.6
		3.3	18.771	0.842	15.899	9.6	18.370	0.885	15.351	9.3	17.962	0.929	14.793	9.0

PERF-WA-VI-WL-Classic-04-511

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Whisperline® 0504 Performance Data

Cooling Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 80°F / 67°F					Entering Air - 78°F / 65°F					Entering Air - 75°F / 63°F				
			TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)
0504 (1.25)	20	2.5															
		3.125															
		3.9															
	30	2.5	19.063	13.118	0.457	20.621	16.5	18.250	13.135	0.456	19.806	15.8	17.438	12.411	0.456	18.993	15.2
		3.125	19.310	13.245	0.439	20.808	13.3	18.487	13.263	0.438	19.983	12.8	17.665	12.532	0.438	19.159	12.3
		3.9	19.335	13.210	0.428	20.795	10.7	18.511	13.228	0.427	19.968	10.2	17.688	12.499	0.427	19.143	9.8
	40	2.5	18.794	13.044	0.504	20.516	16.4	17.993	13.061	0.504	19.712	15.8	17.193	12.341	0.503	18.910	15.1
		3.125	19.039	13.171	0.485	20.693	13.2	18.227	13.188	0.484	19.879	12.7	17.416	12.461	0.484	19.067	12.2
		3.9	19.063	13.136	0.472	20.675	10.6	18.250	13.154	0.472	19.860	10.2	17.439	12.428	0.471	19.047	9.8
	50	2.5	18.358	12.895	0.577	20.326	16.3	17.575	12.913	0.576	19.540	15.6	16.793	12.201	0.575	18.756	15.0
		3.125	18.596	13.021	0.554	20.488	13.1	17.803	13.039	0.554	19.692	12.6	17.012	12.319	0.553	18.898	12.1
		3.9	18.620	12.987	0.540	20.463	10.5	17.826	13.004	0.539	19.667	10.1	17.034	12.287	0.539	18.872	9.7
	60	2.5	17.753	12.673	0.673	20.050	16.0	16.996	12.690	0.673	19.291	15.4	16.240	11.990	0.672	18.532	14.8
		3.125	17.984	12.796	0.647	20.192	12.9	17.217	12.814	0.646	19.422	12.4	16.451	12.107	0.646	18.654	11.9
		3.9	18.007	12.763	0.631	20.158	10.3	17.239	12.780	0.630	19.388	9.9	16.472	12.075	0.629	18.619	9.5
	70	2.5	16.980	12.376	0.794	19.691	15.8	16.256	12.393	0.793	18.963	15.2	15.533	11.709	0.793	18.237	14.6
		3.125	17.201	12.496	0.763	19.806	12.7	16.467	12.513	0.763	19.069	12.2	15.735	11.823	0.762	18.334	11.7
		3.9	17.223	12.464	0.744	19.761	10.1	16.488	12.481	0.743	19.024	9.8	15.755	11.792	0.742	18.287	9.4
	80	2.5	16.039	12.005	0.940	19.246	15.4	15.355	12.021	0.939	18.558	14.8	14.672	11.358	0.938	17.871	14.3
		3.125	16.247	12.122	0.903	19.329	12.4	15.554	12.138	0.902	18.633	11.9	14.862	11.469	0.901	17.937	11.5
		3.9	16.268	12.090	0.880	19.271	9.9	15.574	12.106	0.879	18.574	9.5	14.882	11.438	0.878	17.878	9.2
	90	2.5	14.929	11.559	1.110	18.716	15.0	14.292	11.575	1.109	18.075	14.5	13.657	10.936	1.107	17.435	13.9
		3.125	15.123	11.672	1.067	18.762	12.0	14.478	11.688	1.065	18.113	11.6	13.834	11.043	1.064	17.465	11.2
		3.9	15.142	11.641	1.039	18.689	9.6	14.497	11.657	1.038	18.039	9.3	13.852	11.014	1.037	17.390	8.9
	100	2.5	13.651	11.039	1.304	18.101	14.5	13.069	11.054	1.303	17.514	14.0	12.488	10.445	1.301	16.927	13.5
		3.125	13.828	11.147	1.253	18.105	11.6	13.239	11.162	1.252	17.511	11.2	12.650	10.546	1.250	16.917	10.8
		3.9	13.846	11.117	1.221	18.014	9.2	13.256	11.133	1.220	17.418	8.9	12.666	10.518	1.218	16.824	8.6
	110	2.5	12.205	10.445	1.523	17.402	13.9	11.684	10.459	1.521	16.875	13.5	11.165	9.882	1.519	16.349	13.1
		3.125	12.363	10.547	1.464	17.358	11.1	11.836	10.561	1.462	16.825	10.8	11.310	9.978	1.460	16.293	10.4
		3.9	12.379	10.519	1.426	17.246	8.8	11.852	10.533	1.425	16.712	8.6	11.324	9.952	1.423	16.180	8.3
	120	2.5	10.590	9.777	1.766	16.617	13.3	10.139	9.790	1.764	16.159	12.9	9.688	9.250	1.762	15.700	12.6
		3.125	10.728	9.872	1.698	16.520	10.6	10.271	9.885	1.695	16.056	10.3	9.814	9.340	1.693	15.592	10.0
		3.9	10.742	9.846	1.654	16.386	8.4	10.284	9.859	1.652	15.921	8.2	9.826	9.315	1.650	15.457	7.9

Heating Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 65°F db				Entering Air - 70°F db				Entering Air - 75°F db			
			HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)
0504 (1.25)	20	2.5												
		3.125												
		3.9	7.481	0.833	4.639	2.4	7.321	0.876	4.333	2.2	7.159	0.919	4.023	2.1
	30	2.5	9.563	0.852	6.657	5.3	9.359	0.895	6.305	5.0	9.151	0.939	5.945	4.8
		3.125	9.763	0.856	6.842	4.4	9.554	0.900	6.484	4.1	9.342	0.944	6.120	3.9
		3.9	9.909	0.860	6.976	3.6	9.697	0.903	6.614	3.4	9.482	0.948	6.246	3.2
	40	2.5	11.816	0.877	8.825	7.1	11.563	0.921	8.419	6.7	11.306	0.967	8.007	6.4
		3.125	12.063	0.881	9.056	5.8	11.805	0.926	8.645	5.5	11.543	0.972	8.226	5.3
		3.9	12.243	0.885	9.224	4.7	11.981	0.930	8.808	4.5	11.715	0.976	8.384	4.3
	50	2.5	13.978	0.900	10.906	8.7	13.679	0.946	10.450	8.4	13.376	0.993	9.986	8.0
		3.125	14.270	0.905	11.182	7.2	13.965	0.951	10.719	6.9	13.655	0.998	10.248	6.6
		3.9	14.484	0.909	11.383	5.8	14.174	0.955	10.915	5.6	13.859	1.003	10.438	5.4
	60	2.5	16.050	0.923	12.901	10.3	15.707	0.970	12.397	9.9	15.359	1.018	11.884	9.5
		3.125	16.386	0.928	13.220	8.5	16.036	0.975	12.708	8.1	15.680	1.024	12.187	7.8
		3.9	16.631	0.932	13.452	6.9	16.275	0.979	12.934	6.6	15.914	1.028	12.407	6.4
	70	2.5	18.033	0.944	14.810	11.8	17.647	0.993	14.260	11.4	17.255	1.042	13.700	11.0
		3.125	18.410	0.949	15.170	9.7	18.016	0.998	14.611	9.4	17.616	1.047	14.042	9.0
		3.9	18.685	0.953	15.432	7.9	18.285	1.002	14.866	7.6	17.879	1.052	14.291	7.3
	80	2.5	19.925	0.965	16.633	13.3	19.499	1.014	16.039	12.8	19.066	1.064	15.434	12.3
		3.125	20.341	0.970	17.032	10.9	19.906	1.019	16.429	10.5	19.464	1.070	15.814	10.1
		3.9	20.645	0.974	17.323	8.9	20.204	1.023	16.712	8.6	19.755	1.074	16.090	8.3
	90	2.5	21.726	0.984	18.370	14.7	21.262	1.034	17.734	14.2	20.790	1.085	17.087	13.7
		3.125	22.181	0.989	18.807	12.0	21.706	1.039	18.160	11.6	21.224	1.091	17.502	11.2
		3.9	22.512	0.993	19.124	9.8	22.031	1.044	18.470	9.5	21.541	1.095	17.804	9.1

PERF-WA-VI-WL-Classic-05-315

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Cooling Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 80°F / 67°F					Entering Air - 78°F / 65°F					Entering Air - 75°F / 63°F				
			TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)
0604 (1.5)	20	3															
		3.75															
		4.5															
	30	3	22.383	14.710	0.634	24.546	16.4	21.429	14.730	0.633	23.589	15.7	20.476	13.917	0.632	22.633	15.1
		3.75	22.698	14.703	0.613	24.790	13.2	21.730	14.723	0.613	23.820	12.7	20.764	13.911	0.612	22.851	12.2
		4.5	22.818	14.810	0.600	24.865	11.1	21.845	14.830	0.599	23.889	10.6	20.874	14.012	0.598	22.915	10.2
	40	3	21.970	14.793	0.724	24.442	16.3	21.034	14.813	0.724	23.502	15.7	20.098	13.996	0.723	22.564	15.0
		3.75	22.279	14.786	0.701	24.671	13.2	21.329	14.806	0.700	23.718	12.6	20.381	13.989	0.699	22.766	12.1
		4.5	22.397	14.894	0.685	24.736	11.0	21.442	14.914	0.685	23.778	10.6	20.489	14.091	0.684	22.822	10.1
	50	3	21.432	14.779	0.827	24.252	16.2	20.518	14.799	0.826	23.335	15.6	19.605	13.982	0.825	22.419	14.9
		3.75	21.733	14.772	0.800	24.462	13.0	20.806	14.792	0.799	23.532	12.6	19.881	13.976	0.798	22.603	12.1
		4.5	21.848	14.879	0.782	24.517	10.9	20.916	14.900	0.781	23.582	10.5	19.986	14.078	0.780	22.649	10.1
	60	3	20.767	14.667	0.940	23.976	16.0	19.882	14.687	0.939	23.086	15.4	18.997	13.877	0.938	22.198	14.8
		3.75	21.059	14.661	0.910	24.163	12.9	20.161	14.680	0.909	23.262	12.4	19.265	13.871	0.908	22.361	11.9
		4.5	21.171	14.767	0.890	24.207	10.8	20.268	14.787	0.889	23.301	10.4	19.366	13.972	0.888	22.396	10.0
	70	3	19.977	14.459	1.066	23.613	15.7	19.125	14.478	1.065	22.757	15.2	18.274	13.680	1.063	21.902	14.6
		3.75	20.258	14.452	1.031	23.776	12.7	19.394	14.472	1.030	22.908	12.2	18.531	13.673	1.029	22.041	11.8
		4.5	20.365	14.557	1.009	23.806	10.6	19.496	14.577	1.007	22.934	10.2	18.629	13.773	1.006	22.063	9.8
	80	3	19.060	14.153	1.203	23.165	15.4	18.248	14.172	1.202	22.347	14.9	17.436	13.390	1.200	21.531	14.4
		3.75	19.328	14.146	1.164	23.300	12.4	18.504	14.166	1.162	22.471	12.0	17.681	13.384	1.161	21.643	11.5
		4.5	19.431	14.249	1.138	23.315	10.4	18.602	14.269	1.137	22.482	10.0	17.775	13.482	1.136	21.650	9.6
	90	3	18.018	13.750	1.352	22.631	15.1	17.250	13.768	1.350	21.857	14.6	16.483	13.009	1.349	21.084	14.1
		3.75	18.272	13.743	1.308	22.734	12.1	17.493	13.762	1.306	21.950	11.7	16.715	13.003	1.305	21.166	11.3
		4.5	18.368	13.843	1.279	22.733	10.1	17.585	13.862	1.278	21.945	9.8	16.803	13.098	1.276	21.157	9.4
	100	3	16.850	13.249	1.512	22.010	14.7	16.132	13.267	1.510	21.285	14.2	15.414	12.535	1.509	20.562	13.7
		3.75	17.087	13.243	1.463	22.079	11.8	16.359	13.261	1.461	21.345	11.4	15.631	12.530	1.459	20.611	11.0
		4.5	17.178	13.340	1.431	22.060	9.8	16.445	13.358	1.429	21.322	9.5	15.714	12.621	1.428	20.585	9.1
	110	3	15.556	12.652	1.684	21.303	14.2	14.893	12.669	1.682	20.633	13.8	14.231	11.970	1.680	19.964	13.3
		3.75	15.775	12.646	1.629	21.335	11.4	15.103	12.663	1.628	20.656	11.0	14.431	11.965	1.626	19.978	10.7
		4.5	15.859	12.738	1.594	21.297	9.5	15.182	12.756	1.592	20.614	9.2	14.507	12.052	1.590	19.933	8.9
	120	3	14.137	11.957	1.868	20.511	13.7	13.534	11.973	1.866	19.900	13.3	12.932	11.313	1.864	19.291	12.9
		3.75	14.336	11.952	1.807	20.502	10.9	13.724	11.968	1.805	19.884	10.6	13.114	11.308	1.803	19.266	10.3
		4.5	14.411	12.039	1.768	20.443	9.1	13.797	12.055	1.766	19.821	8.8	13.183	11.390	1.763	19.201	8.5

Heating Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 65°F db				Entering Air - 70°F db				Entering Air - 75°F db			
			HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)
0604 (1.5)	20	3												
		3.75												
		4.5	8.140	1.004	4.715	2.1	7.966	1.055	4.366	1.9	7.789	1.107	4.011	1.8
	30	3	11.541	1.045	7.976	5.3	11.294	1.098	7.547	5.0	11.043	1.153	7.110	4.7
		3.75	11.782	1.050	8.198	4.4	11.530	1.104	7.764	4.1	11.274	1.159	7.321	3.9
		4.5	11.958	1.055	8.360	3.7	11.702	1.108	7.920	3.5	11.443	1.163	7.473	3.3
	40	3	14.768	1.089	11.052	7.4	14.452	1.145	10.546	7.0	14.131	1.202	10.031	6.7
		3.75	15.077	1.095	11.341	6.0	14.754	1.151	10.828	5.8	14.427	1.208	10.305	5.5
		4.5	15.302	1.099	11.551	5.1	14.975	1.156	11.032	4.9	14.642	1.213	10.504	4.7
	50	3	17.537	1.127	13.690	9.1	17.162	1.185	13.119	8.7	16.781	1.244	12.537	8.4
		3.75	17.904	1.133	14.037	7.5	17.521	1.191	13.456	7.2	17.132	1.250	12.866	6.9
		4.5	18.171	1.138	14.288	6.4	17.783	1.196	13.701	6.1	17.388	1.256	13.104	5.8
	60	3	19.848	1.160	15.891	10.6	19.424	1.219	15.265	10.2	18.993	1.279	14.627	9.8
		3.75	20.263	1.166	16.286	8.7	19.830	1.225	15.649	8.3	19.390	1.286	15.001	8.0
		4.5	20.566	1.171	16.572	7.4	20.126	1.230	15.928	7.1	19.679	1.291	15.273	6.8
	70	3	21.701	1.186	17.655	11.8	21.237	1.246	16.985	11.3	20.766	1.308	16.302	10.9
		3.75	22.155	1.192	18.088	9.6	21.681	1.253	17.407	9.3	21.200	1.315	16.713	8.9
		4.5	22.486	1.197	18.402	8.2	22.005	1.258	17.713	7.9	21.517	1.320	17.011	7.6
	80	3	23.096	1.206	18.982	12.7	22.602	1.267	18.278	12.2	22.101	1.330	17.562	11.7
		3.75	23.579	1.212	19.443	10.4	23.075	1.274	18.728	10.0	22.563	1.337	18.000	9.6
		4.5	23.931	1.217	19.779	8.8	23.420	1.279	19.055	8.5	22.900	1.343	18.318	8.1
	90	3	24.033	1.220	19.872	13.2	23.519	1.282	19.145	12.8	22.997	1.346	18.406	12.3
		3.75	24.536	1.226	20.352	10.9	24.011	1.289	19.614	10.5	23.478	1.353	18.863	10.1
		4.5	24.902	1.231	20.702	9.2	24.370	1.294	19.955	8.9	23.829	1.358	19.194	8.5

PERF-WA-VI-WL-Classic-06-315

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Whisperline® 0804 Performance Data

Cooling Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 80°F / 67°F					Entering Air - 78°F / 65°F					Entering Air - 75°F / 63°F				
			TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)
0804 (2.0)	20	4															
		5															
		6															
	30	4	26.026	19.855	1.077	29.702	14.9	24.917	19.882	1.076	28.588	14.3	23.809	18.785	1.075	27.475	13.7
		5	26.562	20.115	1.046	30.133	12.1	25.430	20.143	1.045	28.996	11.6	24.299	19.032	1.044	27.861	11.1
		6	26.851	20.267	1.030	30.363	10.1	25.706	20.295	1.028	29.214	9.7	24.563	19.175	1.027	28.067	9.4
	40	4	26.127	19.839	1.128	29.975	15.0	25.013	19.866	1.126	28.857	14.4	23.900	18.770	1.125	27.739	13.9
		5	26.665	20.100	1.096	30.404	12.2	25.528	20.127	1.094	29.262	11.7	24.393	19.017	1.093	28.122	11.2
		6	26.954	20.252	1.078	30.632	10.2	25.805	20.279	1.077	29.479	9.8	24.637	19.161	1.075	28.327	9.4
	50	4	25.892	19.679	1.211	30.024	15.0	24.788	19.706	1.210	28.915	14.5	23.686	18.619	1.208	27.808	13.9
		5	26.425	19.938	1.177	30.440	12.2	25.299	19.965	1.175	29.308	11.7	24.173	18.864	1.174	28.178	11.3
		6	26.712	20.088	1.158	30.662	10.2	25.573	20.116	1.156	29.518	9.8	24.436	19.006	1.155	28.376	9.5
	60	4	25.322	19.375	1.327	29.849	14.9	24.243	19.401	1.325	28.764	14.4	23.165	18.331	1.323	27.680	13.8
		5	25.844	19.629	1.289	30.242	12.1	24.742	19.656	1.287	29.135	11.7	23.641	18.572	1.286	28.029	11.2
		6	26.124	19.778	1.268	30.451	10.2	25.010	19.804	1.267	29.332	9.8	23.898	18.712	1.265	28.214	9.4
	70	4	24.418	18.926	1.475	29.450	14.7	23.377	18.951	1.473	28.403	14.2	22.337	17.906	1.471	27.357	13.7
		5	24.920	19.174	1.433	29.809	11.9	23.858	19.200	1.431	28.741	11.5	22.797	18.141	1.429	27.674	11.1
		6	25.191	19.319	1.410	30.001	10.0	24.117	19.345	1.408	28.921	9.6	23.044	18.278	1.406	27.843	9.3
	80	4	23.178	18.332	1.655	28.826	14.4	22.190	18.357	1.653	27.831	13.9	21.203	17.344	1.651	26.838	13.4
		5	23.655	18.573	1.608	29.143	11.7	22.646	18.598	1.606	28.128	11.3	21.639	17.572	1.604	27.114	10.8
		6	23.912	18.713	1.582	29.311	9.8	22.892	18.738	1.580	28.285	9.4	21.874	17.705	1.578	27.260	9.1
	90	4	21.603	17.593	1.868	27.978	14.0	20.682	17.617	1.866	27.050	13.5	19.762	16.646	1.864	26.122	13.1
		5	22.048	17.825	1.815	28.242	11.3	21.108	17.849	1.813	27.294	10.9	20.169	16.864	1.811	26.348	10.5
		6	22.287	17.959	1.786	28.381	9.5	21.337	17.984	1.784	27.423	9.1	20.388	16.992	1.782	26.467	8.8
	100	4	19.693	16.710	2.114	26.906	13.5	18.853	16.733	2.111	26.058	13.0	18.015	15.810	2.109	25.211	12.6
		5	20.098	16.930	2.054	27.107	10.8	19.241	16.953	2.051	26.241	10.5	18.386	16.018	2.049	25.377	10.2
		6	20.316	17.058	2.021	27.211	9.1	19.450	17.081	2.018	26.337	8.8	18.585	16.139	2.016	25.463	8.5
	110	4	17.448	15.683	2.392	25.610	12.8	16.704	15.704	2.389	24.856	12.4	15.961	14.838	2.386	24.103	12.1
		5	17.807	15.889	2.324	25.737	10.3	17.048	15.910	2.321	24.968	10.0	16.290	15.033	2.318	24.201	9.7
		6	18.000	16.009	2.286	25.802	8.6	17.233	16.031	2.284	25.025	8.3	16.466	15.146	2.281	24.249	8.1
	120	4	14.868	14.511	2.703	24.089	12.0	14.234	14.530	2.699	23.444	11.7	13.601	13.729	2.696	22.800	11.4
		5	15.174	14.701	2.626	24.133	9.7	14.527	14.721	2.623	23.476	9.4	13.881	13.909	2.619	22.819	9.1
		6	15.339	14.812	2.583	24.153	8.1	14.685	14.832	2.580	23.488	7.8	14.031	14.014	2.577	22.825	7.6

Heating Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 65°F db				Entering Air - 70°F db				Entering Air - 75°F db			
			HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)
0804 (2.0)	20	4												
		5												
		6	11.678	1.526	6.471	2.2	11.429	1.604	5.956	2.0	11.175	1.684	5.430	1.8
	30	4	15.298	1.551	10.006	5.0	14.971	1.630	9.408	4.7	14.638	1.711	8.800	4.4
		5	15.654	1.565	10.314	4.1	15.319	1.645	9.707	3.9	14.979	1.726	9.088	3.6
		6	15.865	1.575	10.492	3.5	15.525	1.655	9.878	3.3	15.181	1.737	9.253	3.1
	40	4	19.167	1.607	13.683	6.8	18.757	1.689	12.994	6.5	18.341	1.773	12.291	6.1
		5	19.613	1.621	14.080	5.6	19.194	1.704	13.379	5.4	18.768	1.789	12.664	5.1
		6	19.877	1.632	14.310	4.8	19.452	1.715	13.601	4.5	19.020	1.800	12.879	4.3
	50	4	22.869	1.671	17.166	8.6	22.380	1.757	16.385	8.2	21.883	1.844	15.591	7.8
		5	23.401	1.686	17.647	7.1	22.901	1.773	16.853	6.7	22.392	1.861	16.044	6.4
		6	23.716	1.697	17.926	6.0	23.209	1.784	17.123	5.7	22.694	1.872	16.306	5.4
	60	4	26.403	1.744	20.452	10.2	25.838	1.833	19.584	9.8	25.265	1.924	18.699	9.3
		5	27.017	1.760	21.013	8.4	26.440	1.850	20.129	8.1	25.853	1.941	19.228	7.7
		6	27.381	1.771	21.339	7.1	26.796	1.861	20.446	6.8	26.201	1.953	19.535	6.5
	70	4	29.770	1.825	23.542	11.8	29.133	1.918	22.588	11.3	28.486	2.013	21.616	10.8
		5	30.462	1.841	24.179	9.7	29.811	1.935	23.207	9.3	29.149	2.032	22.217	8.9
		6	30.873	1.853	24.550	8.2	30.213	1.947	23.568	7.9	29.542	2.044	22.567	7.5
	80	4	32.969	1.914	26.437	13.2	32.264	2.012	25.399	12.7	31.547	2.112	24.341	12.2
		5	33.736	1.931	27.145	10.9	33.015	2.030	26.088	10.4	32.281	2.131	25.011	10.0
		6	34.190	1.943	27.559	9.2	33.459	2.043	26.489	8.8	32.716	2.144	25.400	8.5
	90	4	36.000	2.012	29.136	14.6	35.231	2.115	28.016	14.0	34.448	2.220	26.875	13.4
		5	36.838	2.030	29.912	12.0	36.050	2.133	28.771	11.5	35.250	2.239	27.609	11.0
		6	37.334	2.042	30.365	10.1	36.536	2.147	29.211	9.7	35.725	2.253	28.036	9.3

PERF-WA-VI-WL-Classic-08-413

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Cooling Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 80°F / 67°F					Entering Air - 78°F / 65°F					Entering Air - 75°F / 63°F				
			TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)
0814 (2.2)	20	4															
		5															
		6															
	30	4	33.708	22.826	0.831	36.543	18.3	32.271	22.857	0.830	35.102	17.6	30.835	21.597	0.829	33.664	16.8
		5	34.454	22.987	0.809	37.216	14.9	32.985	23.018	0.808	35.743	14.3	31.518	21.748	0.807	34.273	13.7
		6	34.802	23.083	0.800	37.532	12.5	33.318	23.115	0.799	36.044	12.0	31.836	21.840	0.798	34.559	11.5
	40	4	32.392	22.190	1.000	35.804	17.9	31.011	22.220	0.999	34.419	17.2	29.632	20.994	0.998	33.036	16.5
		5	33.110	22.346	0.974	36.433	14.6	31.698	22.376	0.973	35.017	14.0	30.288	21.142	0.972	33.603	13.4
		6	33.443	22.440	0.963	36.729	12.2	32.018	22.470	0.962	35.299	11.8	30.594	21.231	0.961	33.871	11.3
	50	4	30.941	21.505	1.166	34.919	17.5	29.622	21.535	1.164	33.595	16.8	28.304	20.347	1.163	32.273	16.1
		5	31.626	21.656	1.135	35.501	14.2	30.278	21.686	1.134	34.147	13.7	28.931	20.489	1.133	32.796	13.1
		6	31.945	21.747	1.123	35.776	11.9	30.583	21.777	1.121	34.409	11.5	29.223	20.576	1.120	33.044	11.0
	60	4	29.353	20.773	1.329	33.888	16.9	28.102	20.801	1.327	32.631	16.3	26.852	19.653	1.326	31.375	15.7
		5	30.003	20.918	1.294	34.419	13.8	28.724	20.947	1.293	33.135	13.3	27.447	19.791	1.291	31.852	12.7
		6	30.306	21.006	1.280	34.672	11.6	29.014	21.035	1.278	33.374	11.1	27.723	19.875	1.276	32.079	10.7
	70	4	27.630	19.992	1.489	32.710	16.4	26.452	20.019	1.487	31.526	15.8	25.275	18.915	1.485	30.343	15.2
		5	28.242	20.132	1.450	33.189	13.3	27.038	20.159	1.448	31.979	12.8	25.835	19.047	1.446	30.771	12.3
		6	28.526	20.217	1.433	33.418	11.1	27.310	20.244	1.432	32.196	10.7	26.096	19.128	1.430	30.975	10.3
	80	4	25.770	19.163	1.646	31.385	15.7	24.672	19.189	1.644	30.280	15.1	23.574	18.131	1.642	29.176	14.6
		5	26.341	19.297	1.603	31.810	12.7	25.218	19.324	1.601	30.680	12.3	24.096	18.258	1.599	29.552	11.8
		6	26.607	19.379	1.585	32.013	10.7	25.472	19.405	1.583	30.872	10.3	24.339	18.335	1.581	29.733	9.9
	90	4	23.775	18.286	1.799	29.915	15.0	22.761	18.311	1.797	28.894	14.4	21.749	17.301	1.795	27.874	13.9
		5	24.301	18.414	1.752	30.281	12.1	23.265	18.439	1.750	29.238	11.7	22.231	17.422	1.748	28.196	11.3
		6	24.546	18.492	1.733	30.458	10.2	23.500	18.517	1.731	29.405	9.8	22.455	17.496	1.728	28.352	9.5
	100	4	21.643	17.361	1.950	28.298	14.1	20.721	17.385	1.948	27.367	13.7	19.799	16.426	1.946	26.437	13.2
		5	22.123	17.483	1.899	28.603	11.4	21.179	17.507	1.897	27.652	11.1	20.237	16.541	1.895	26.703	10.7
		6	22.346	17.557	1.878	28.753	9.6	21.393	17.581	1.876	27.793	9.3	20.441	16.611	1.873	26.834	8.9
	110	4	19.376	16.388	2.098	26.534	13.3	18.550	16.411	2.095	25.700	12.8	17.725	15.505	2.093	24.866	12.4
		5	19.805	16.503	2.043	26.777	10.7	18.960	16.526	2.041	25.924	10.4	18.117	15.614	2.038	25.072	10.0
		6	20.005	16.573	2.020	26.897	9.0	19.152	16.595	2.018	26.036	8.7	18.300	15.680	2.015	25.176	8.4
	120	4	16.972	15.367	2.243	24.624	12.3	16.249	15.388	2.240	23.892	11.9	15.526	14.539	2.237	23.160	11.6
		5	17.348	15.475	2.184	24.801	9.9	16.608	15.496	2.182	24.052	9.6	15.870	14.641	2.179	23.304	9.3
		6	17.523	15.540	2.159	24.891	8.3	16.776	15.561	2.157	24.135	8.0	16.030	14.703	2.154	23.380	7.8

Heating Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 65°F db				Entering Air - 70°F db				Entering Air - 75°F db			
			HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)
0814 (2.2)	20	4												
		5												
		6	10.129	1.224	5.954	2.0	9.913	1.286	5.524	1.8	9.692	1.350	5.086	1.7
	30	4	15.179	1.322	10.668	5.3	14.855	1.390	10.113	5.1	14.525	1.459	9.547	4.8
		5	15.463	1.331	10.922	4.4	15.133	1.399	10.360	4.1	14.797	1.468	9.787	3.9
		6	15.669	1.335	11.112	3.7	15.334	1.404	10.544	3.5	14.993	1.473	9.966	3.3
	40	4	19.887	1.419	15.045	7.5	19.462	1.491	14.373	7.2	19.030	1.566	13.688	6.8
		5	20.259	1.428	15.386	6.2	19.826	1.501	14.704	5.9	19.386	1.576	14.009	5.6
		6	20.528	1.433	15.638	5.2	20.089	1.506	14.949	5.0	19.643	1.581	14.248	4.7
	50	4	23.936	1.502	18.811	9.4	23.424	1.579	18.037	9.0	22.904	1.657	17.250	8.6
		5	24.383	1.512	19.225	7.7	23.862	1.589	18.441	7.4	23.332	1.668	17.642	7.1
		6	24.707	1.517	19.531	6.5	24.179	1.594	18.739	6.2	23.642	1.674	17.932	6.0
	60	4	27.325	1.571	21.965	11.0	26.741	1.651	21.107	10.6	26.147	1.733	20.233	10.1
		5	27.836	1.581	22.441	9.0	27.241	1.662	21.571	8.6	26.636	1.744	20.684	8.3
		6	28.206	1.587	22.792	7.6	27.603	1.668	21.913	7.3	26.990	1.750	21.017	7.0
	70	4	30.055	1.626	24.507	12.3	29.413	1.709	23.581	11.8	28.760	1.794	22.638	11.3
		5	30.618	1.637	25.033	10.0	29.963	1.720	24.094	9.6	29.298	1.806	23.137	9.3
		6	31.024	1.642	25.420	8.5	30.361	1.726	24.471	8.2	29.687	1.812	23.504	7.8
	80	4	32.127	1.667	26.437	13.2	31.440	1.752	25.460	12.7	30.742	1.839	24.465	12.2
		5	32.728	1.678	27.002	10.8	32.028	1.764	26.010	10.4	31.317	1.851	25.000	10.0
		6	33.162	1.684	27.416	9.1	32.453	1.770	26.414	8.8	31.733	1.858	25.394	8.5
	90	4	33.539	1.695	27.756	13.9	32.822	1.781	26.744	13.4	32.093	1.870	25.714	12.9
		5	34.167	1.706	28.347	11.3	33.436	1.793	27.319	10.9	32.694	1.882	26.273	10.5
		6	34.620	1.712	28.780	9.6	33.880	1.799	27.742	9.2	33.128	1.888	26.685	8.9

PERF-WA-VI-WL-Classic-08-615

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Whisperline® 1004 Performance Data

Cooling Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 80°F / 67°F					Entering Air - 78°F / 65°F					Entering Air - 75°F / 63°F				
			TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)
1004 (2.5)	20	5															
		6.25															
		7.5															
	30	5	29.687	18.326	1.325	34.207	13.7	28.421	18.351	1.323	32.936	13.2	27.157	17.339	1.322	31.667	12.7
		6.25	30.058	18.475	1.291	34.464	11.0	28.776	18.500	1.290	33.177	10.6	27.497	17.480	1.288	31.892	10.2
		7.5	30.247	18.541	1.270	34.580	9.2	28.958	18.566	1.268	33.285	8.9	27.670	17.542	1.267	31.992	8.5
	40	5	30.492	19.768	1.376	35.186	14.1	29.192	19.795	1.374	33.880	13.6	27.894	18.703	1.372	32.576	13.0
		6.25	30.873	19.929	1.341	35.448	11.3	29.557	19.956	1.339	34.126	10.9	28.242	18.855	1.338	32.806	10.5
		7.5	31.068	20.000	1.319	35.567	9.5	29.743	20.027	1.317	34.237	9.1	28.420	18.922	1.315	32.909	8.8
	50	5	30.863	20.797	1.460	35.844	14.3	29.547	20.825	1.458	34.522	13.8	28.233	19.676	1.456	33.202	13.3
		6.25	31.249	20.966	1.423	36.104	11.6	29.916	20.995	1.421	34.766	11.1	28.586	19.836	1.420	33.429	10.7
		7.5	31.446	21.041	1.399	36.220	9.7	30.105	21.069	1.398	34.874	9.3	28.766	19.907	1.396	33.529	8.9
	60	5	30.800	21.413	1.577	36.182	14.5	29.487	21.442	1.576	34.863	13.9	28.175	20.259	1.574	33.545	13.4
		6.25	31.185	21.587	1.538	36.431	11.7	29.855	21.617	1.536	35.095	11.2	28.527	20.424	1.534	33.761	10.8
		7.5	31.381	21.664	1.512	36.541	9.7	30.043	21.694	1.510	35.196	9.4	28.707	20.497	1.508	33.854	9.0
	70	5	30.302	21.616	1.728	36.200	14.5	29.010	21.646	1.726	34.901	14.0	27.720	20.452	1.724	33.604	13.4
		6.25	31.249	21.792	1.685	36.429	11.7	29.373	21.822	1.683	35.114	11.2	28.066	20.618	1.681	33.801	10.8
		7.5	30.874	21.870	1.657	36.527	9.7	29.558	21.900	1.655	35.204	9.4	28.243	20.692	1.653	33.883	9.0
	80	5	29.371	21.407	1.913	35.897	14.4	28.118	21.436	1.910	34.637	13.9	26.868	20.254	1.908	33.379	13.4
		6.25	29.737	21.581	1.864	36.099	11.6	28.469	21.611	1.862	34.824	11.1	27.203	20.418	1.860	33.550	10.7
		7.5	29.925	21.658	1.834	36.181	9.6	28.649	21.688	1.831	34.898	9.3	27.375	20.491	1.829	33.616	9.0
	90	5	28.004	20.785	2.130	35.274	14.1	26.810	20.813	2.128	34.071	13.6	25.618	19.665	2.125	32.870	13.1
		6.25	28.354	20.954	2.077	35.440	11.3	27.145	20.983	2.074	34.223	11.0	25.938	19.825	2.072	33.007	10.6
		7.5	28.533	21.029	2.042	35.501	9.5	27.317	21.057	2.040	34.276	9.1	26.102	19.896	2.037	33.053	8.8
	100	5	26.204	19.750	2.382	34.331	13.7	25.087	19.777	2.379	33.204	13.3	23.971	18.686	2.376	32.078	12.8
		6.25	26.531	19.911	2.321	34.452	11.0	25.400	19.938	2.319	33.312	10.7	24.271	18.838	2.316	32.173	10.3
		7.5	26.699	19.981	2.283	34.488	9.2	25.560	20.009	2.280	33.341	8.9	24.424	18.905	2.277	32.195	8.6
	110	5	23.970	18.302	2.666	33.067	13.2	22.948	18.327	2.663	32.034	12.8	21.927	17.316	2.660	31.002	12.4
		6.25	24.269	18.451	2.599	33.136	10.6	23.234	18.476	2.596	32.091	10.3	22.201	17.457	2.592	31.047	9.9
		7.5	24.422	18.517	2.556	33.142	8.8	23.381	18.542	2.553	32.090	8.6	22.341	17.519	2.549	31.040	8.3
	120	5	21.301	16.441	2.984	31.482	12.6	20.393	16.464	2.980	30.562	12.2	19.486	15.556	2.977	29.643	11.9
		6.25	21.567	16.575	2.908	31.491	10.1	20.647	16.598	2.905	30.560	9.8	19.729	15.682	2.902	29.630	9.5
		7.5	21.703	16.634	2.860	31.463	8.4	20.778	16.657	2.857	30.526	8.1	19.854	15.738	2.853	29.590	7.9

Heating Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 65°F db				Entering Air - 70°F db				Entering Air - 75°F db			
			HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)
1004 (2.5)	20	5												
		6.25												
		7.5	13.701	2.025	6.792	1.8	13.408	2.128	6.146	1.6	13.111	2.234	5.488	1.5
	30	5	20.267	2.019	13.376	5.4	19.833	2.123	12.591	5.0	19.393	2.228	11.791	4.7
		6.25	20.521	2.026	13.607	4.4	20.082	2.130	12.815	4.1	19.636	2.235	12.009	3.8
		7.5	20.656	2.033	13.719	3.7	20.214	2.137	12.923	3.4	19.766	2.243	12.112	3.2
	40	5	26.025	2.032	19.092	7.6	25.469	2.136	18.181	7.3	24.903	2.242	17.254	6.9
		6.25	26.351	2.039	19.394	6.2	25.788	2.143	18.476	5.9	25.215	2.249	17.540	5.6
		7.5	26.525	2.046	19.545	5.2	25.958	2.150	18.621	5.0	25.382	2.257	17.681	4.7
	50	5	30.718	2.049	23.726	9.5	30.061	2.154	22.713	9.1	29.394	2.261	21.680	8.7
		6.25	31.103	2.056	24.088	7.7	30.438	2.161	23.065	7.4	29.762	2.268	22.023	7.0
		7.5	31.308	2.063	24.269	6.5	30.639	2.168	23.241	6.2	29.959	2.276	22.193	5.9
	60	5	34.346	2.071	27.281	10.9	33.611	2.176	26.186	10.5	32.865	2.284	25.071	10.0
		6.25	34.776	2.077	27.687	8.9	34.032	2.183	26.582	8.5	33.277	2.292	25.456	8.1
		7.5	35.006	2.085	27.893	7.4	34.257	2.191	26.781	7.1	33.496	2.300	25.649	6.8
	70	5	36.908	2.097	29.754	11.9	36.119	2.204	28.600	11.4	35.317	2.313	27.425	11.0
		6.25	37.370	2.104	30.193	9.7	36.571	2.211	29.027	9.3	35.759	2.321	27.841	8.9
		7.5	37.617	2.111	30.415	8.1	36.813	2.218	29.243	7.8	35.995	2.329	28.050	7.5
	80	5	38.405	2.127	31.147	12.5	37.583	2.236	29.955	12.0	36.749	2.347	28.742	11.5
		6.25	38.886	2.134	31.604	10.1	38.054	2.243	30.401	9.7	37.209	2.354	29.176	9.3
		7.5	39.142	2.141	31.836	8.5	38.305	2.251	30.626	8.2	37.455	2.362	29.394	7.8
	90	5	38.836	2.162	31.459	12.6	38.006	2.272	30.252	12.1	37.162	2.385	29.023	11.6
		6.25	39.322	2.169	31.921	10.2	38.482	2.280	30.703	9.8	37.627	2.393	29.462	9.4
		7.5	39.582	2.177	32.155	8.6	38.736	2.288	30.930	8.2	37.876	2.401	29.682	7.9

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Cooling Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 80°F / 67°F					Entering Air - 78°F / 65°F					Entering Air - 75°F / 63°F				
			TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)	TC (Btu/hr)	SC (Btu/hr)	kW	HR (Btu/hr)	Liquid Temp Rise (°F)
1204 (3.0)	20	6															
		7.5															
		9															
	30	6	38.799	27.978	1.596	44.244	14.7	37.144	28.016	1.594	42.583	14.2	35.492	26.470	1.592	40.924	13.6
		7.5	39.577	28.360	1.548	44.857	12.0	37.889	28.399	1.546	43.164	11.5	36.204	26.832	1.544	41.472	11.1
		9	40.009	28.581	1.521	45.198	10.0	38.303	28.620	1.519	43.486	9.7	36.599	27.042	1.517	41.776	9.3
	40	6	38.145	27.846	1.671	43.847	14.6	36.518	27.884	1.669	42.214	14.1	34.894	26.346	1.667	40.583	13.5
		7.5	38.909	28.227	1.621	44.440	11.9	37.250	28.265	1.619	42.775	11.4	35.594	26.706	1.617	41.111	11.0
		9	39.334	28.447	1.593	44.770	9.9	37.657	28.486	1.591	43.086	9.6	35.982	26.914	1.589	41.405	9.2
	50	6	37.231	27.554	1.789	43.336	14.4	35.643	27.592	1.787	41.741	13.9	34.058	26.070	1.785	40.148	13.4
		7.5	37.977	27.931	1.735	43.898	11.7	36.358	27.969	1.733	42.272	11.3	34.741	26.426	1.731	40.648	10.8
		9	38.392	28.149	1.705	44.211	9.8	36.755	28.187	1.703	42.567	9.5	35.120	26.632	1.701	40.925	9.1
	60	6	36.057	27.102	1.949	42.709	14.2	34.520	27.139	1.947	41.163	13.7	32.985	25.642	1.945	39.620	13.2
		7.5	36.780	27.472	1.890	43.231	11.5	35.212	27.510	1.888	41.655	11.1	33.646	25.992	1.886	40.081	10.7
		9	37.182	27.687	1.858	43.521	9.7	35.597	27.724	1.856	41.928	9.3	34.013	26.195	1.853	40.337	9.0
	70	6	34.624	26.489	2.152	41.966	14.0	33.148	26.525	2.149	40.481	13.5	31.674	25.062	2.146	38.998	13.0
		7.5	35.318	26.851	2.087	42.439	11.3	33.813	26.888	2.084	40.924	10.9	32.309	25.404	2.082	39.412	10.5
		9	35.704	27.060	2.051	42.701	9.5	34.182	27.097	2.048	41.171	9.1	32.662	25.602	2.046	39.642	8.8
	80	6	32.931	25.716	2.396	41.108	13.7	31.527	25.751	2.393	39.694	13.2	30.125	24.330	2.391	38.282	12.8
		7.5	33.592	26.067	2.324	41.521	11.1	32.159	26.103	2.321	40.080	10.7	30.729	24.663	2.318	38.640	10.3
		9	33.958	26.270	2.284	41.751	9.3	32.510	26.306	2.281	40.294	9.0	31.065	24.855	2.278	38.839	8.6
	90	6	30.979	24.782	2.683	40.134	13.4	29.658	24.816	2.680	38.802	12.9	28.339	23.447	2.677	37.472	12.5
		7.5	31.600	25.121	2.602	40.479	10.8	30.252	25.155	2.599	39.121	10.4	28.907	23.767	2.596	37.765	10.1
		9	31.945	25.316	2.557	40.671	9.0	30.583	25.351	2.554	39.298	8.7	29.223	23.952	2.551	37.928	8.4
	100	6	28.766	23.688	3.012	39.045	13.0	27.540	23.720	3.009	37.806	12.6	26.315	22.411	3.005	36.569	12.2
		7.5	29.343	24.011	2.921	39.312	10.5	28.092	24.044	2.918	38.049	10.1	26.843	22.718	2.914	36.787	9.8
		9	29.663	24.199	2.871	39.460	8.8	28.399	24.232	2.868	38.183	8.5	27.136	22.895	2.864	36.909	8.2
	110	6	26.294	22.433	3.384	37.840	12.6	25.173	22.463	3.380	36.705	12.2	24.054	21.224	3.376	35.572	11.9
		7.5	26.821	22.740	3.282	38.019	10.1	25.678	22.771	3.278	36.862	9.8	24.536	21.514	3.274	35.707	9.5
		9	27.114	22.917	3.225	38.119	8.5	25.958	22.948	3.221	36.949	8.2	24.804	21.682	3.217	35.782	8.0
	120	6	23.562	21.018	3.798	36.520	12.2	22.558	21.046	3.793	35.500	11.8	21.555	19.885	3.788	34.481	11.5
		7.5	24.035	21.305	3.683	36.602	9.8	23.010	21.334	3.679	35.562	9.5	21.987	20.157	3.674	34.523	9.2
		9	24.297	21.471	3.619	36.647	8.1	23.261	21.500	3.615	35.596	7.9	22.227	20.314	3.611	34.547	7.7

Heating Performance

Size (Tons)	EWT (°F)	GPM	Entering Air - 65°F db				Entering Air - 70°F db				Entering Air - 75°F db			
			HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)	HC (Btu/hr)	kW	HE (Btu/hr)	Liquid Temp Drop (°F)
1204 (3.0)	20	6												
		7.5												
		9	21.292	1.986	14.517	3.2	20.837	2.087	13.716	3.0	20.374	2.191	12.899	2.9
	30	6	25.584	2.058	18.561	6.2	25.037	2.163	17.656	5.9	24.481	2.270	16.733	5.6
		7.5	26.097	2.075	19.017	5.1	25.539	2.181	18.098	4.8	24.972	2.289	17.161	4.6
		9	26.401	2.084	19.289	4.3	25.837	2.191	18.362	4.1	25.263	2.299	17.417	3.9
	40	6	30.302	2.151	22.962	7.7	29.654	2.261	21.939	7.3	28.996	2.373	20.897	7.0
		7.5	30.910	2.169	23.510	6.3	30.249	2.279	22.471	6.0	29.577	2.393	21.413	5.7
		9	31.270	2.179	23.836	5.3	30.601	2.290	22.788	5.1	29.922	2.403	21.721	4.8
	50	6	34.787	2.240	27.143	9.0	34.043	2.355	26.009	8.7	33.288	2.472	24.854	8.3
		7.5	35.485	2.259	27.779	7.4	34.727	2.374	26.627	7.1	33.955	2.492	25.453	6.8
		9	35.899	2.269	28.157	6.3	35.131	2.385	26.995	6.0	34.351	2.503	25.811	5.7
	60	6	39.040	2.325	31.106	10.4	38.205	2.444	29.867	10.0	37.357	2.565	28.604	9.5
		7.5	39.823	2.344	31.825	8.5	38.972	2.464	30.565	8.2	38.106	2.586	29.282	7.8
		9	40.287	2.355	32.253	7.2	39.426	2.475	30.981	6.9	38.550	2.598	29.686	6.6
	70	6	43.060	2.406	34.851	11.6	42.139	2.529	33.511	11.2	41.203	2.654	32.147	10.7
		7.5	43.924	2.426	35.648	9.5	42.985	2.549	34.286	9.1	42.030	2.676	32.900	8.8
		9	44.435	2.436	36.122	8.0	43.485	2.561	34.748	7.7	42.520	2.688	33.348	7.4
	80	6	46.847	2.482	38.377	12.8	45.845	2.609	36.943	12.3	44.827	2.739	35.482	11.8
		7.5	47.787	2.503	39.247	10.5	46.765	2.630	37.790	10.1	45.727	2.761	36.306	9.7
		9	48.343	2.514	39.766	8.8	47.310	2.642	38.294	8.5	46.259	2.773	36.796	8.2
	90	6	50.401	2.555	41.684	13.9	49.323	2.685	40.161	13.4	48.228	2.819	38.611	12.9
		7.5	51.412	2.576	42.624	11.4	50.313	2.707	41.076	11.0	49.196	2.842	39.500	10.5
		9	52.011	2.587	43.183	9.6	50.899	2.719	41.621	9.2	49.769	2.854	40.030	8.9

PERF-WA-VI-WL-Classic-12-113

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Table 7: VP PSC Performance Table

Unit	Rated CFM	Min. CFM	Fan Option		CFM at Total 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 (0.5)	280	170	Standard	HI	294	284	273	260							
				LO	229	221	210								
			High Static	HI	362	351	338	323	306						
				LO	240	227	214								
0304 (0.75)	345	220	Standard	HI	391	374	357	339	321						
				LO	229	221									
			High Static	HI	445	427	409	391	372	353					
				LO	393	377	360	342	323						
0404 (1.0)	420	280	Standard	HI	465	444	424	406	389	373					
				LO	337	305									
			High Static	HI	525	511	496	478	458	435	411	384			
				LO	368	356	341	325	307	287					
0504 (1.25)	540	380	Standard	HI	Not Available										
				LO											
			High Static	HI	660	650	638	624	608	589	569				
				LO	504	494	483	471	459						
0604 (1.5)	655	420	Standard	HI	Not Available; See Constant Torque EC Motor										
				LO											
			High Static	HI	Not Available; See Constant Torque EC Motor										
				LO											
0804 (2.0)	830	580	Standard	HI	Not Available; See Constant Torque EC Motor										
				LO											
			High Static	HI	Not Available; See Constant Torque EC Motor										
				LO											
0814 (2.0)	830	580	Standard	HI	Not Available; See Constant Torque EC Motor										
				LO											
			High Static	HI	Not Available; See Constant Torque EC Motor										
				LO											
1004 (2.5)	970	650	Standard	HI	Not Available; See Constant Torque EC Motor										
				LO											
			High Static	HI	Not Available; See Constant Torque EC Motor										
				LO											
1204 (3.0)	1170	750	Standard	HI	Not Available; See Constant Torque EC Motor										
				LO											
			High Static	HI	Not Available; See Constant Torque EC Motor										
				LO											

* Total External Static Pressure includes, external ductwork, supply grille(s), filter and return panel (see page 47 for these pressure drops).



Table 8: VP Blower EC Constant Torque Performance Table

Unit	Rated CFM	Min. CFM	Fan Option		CFM at Total 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)	280	170	EC Constant Torque	HI	354	346	330	308	278	240	196				
				MED HI1	320	303	280	251	217	176					
				MED	307	290	267	238	204						
				MED LO2	272	247	217	181							
				LOW	219	193									
0304-xG (0.75)	345	220	EC Constant Torque	HI	443	411	378	346	315	283	252	221			
				MED HI1	408	375	343	311	280	250	221				
				MED	378	352	323	291	257	220					
				MED LO2	337	302	263	220							
				LOW	278	248									
0404-xG (1.0)	420	280	EC Constant Torque	HI	521	493	466	439	413	386	360	334	309	283	
				MED HI1	479	450	420	391	361	332	302				
				MED	445	411	378	345	312	280					
				MED LO2	400	366	328	286							
				LOW	364	319	281								
0504-xG (1.25)	540	380	EC Constant Torque	HI	594	579	563	546	528	509	489	468	446	423	400
				MED HI1	557	541	523	504	484	462	438	413	387		
				MED	521	504	486	464	440	414	385				
				MED LO2	478	457	435	410	383						
				LOW	440	410	383								
0604-xG (1.5)	655	420	EC Constant Torque	HI	723	711	698	684	670	655	639	622	604	585	566
				MED HI1	677	665	652	639	624	609	593	576	558	540	520
				MED	588	572	555	535	513	489	463	434			
				MED LO2	509	492	473	453	431						
				LOW	464	447	428								
0804-xD (2.0)	830	580	EC Constant Torque	HI	966	949	931	914	897	880	863	847	830	814	798
				MED HI1	902	886	870	853	837	821	804	788	771	755	738
				MED	848	829	810	792	773	755	737	720	702		
				MED LO2	752	731	710	690	671	652					
				LOW	645	625	605	585							
0814-xD (2.0)	830	580	EC Constant Torque	HI	905	887	870	854	839	825	812	800	789	779	770
				MED HI1	853	835	818	802	787	773	760	748	737	727	718
				MED	781	762	744	727	712	697	684	672	661		
				MED LO2	723	704	685	668	652	637	624	611	600		
				LOW	660	641	622	605	589						
1004-xD (2.5)	970	650	EC Constant Torque	HI	1192	1175	1157	1140	1123	1106	1089	1073	1056	1040	1023
				MED HI1	1018	1001	983	966	949	933	916	900	884	869	853
				MED	936	918	900	882	864	847	829	812	795	777	761
				MED LO2	845	828	811	793	776	758	741	723	705		
				LOW	730	713	695	676	657						
1204-xD (3.0)	1170	750	EC Constant Torque	HI	1328	1313	1297	1281	1266	1250	1234	1218	1202	1186	1170
				MED HI1	1244	1227	1211	1194	1178	1161	1145	1129	1113	1097	1081
				MED	1131	1113	1095	1077	1059	1041	1024	1006	988	971	953
				MED LO2	1029	1012	994	977	960	944	927	911	895		
				LOW	858	841	824	807	789						

1 - Indicates single / high speed factory default setting

2 - Indicates dual / low speed factory default setting

* Total External Static Pressure includes, external ductwork, supply grille(s), filter and return panel (see page 47 for these pressure drops).

Table 9: VP Blower EC Constant Volume Performance Table

Unit	Rated CFM	Min. CFM	Fan Option		CFM at Total 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 (0.5)	280	280	EC Constant Volume	Default	NA										
0304 (0.75)	345	345	EC Constant Volume	Default	NA										
0404 (1.0)	420	420	EC Constant Volume	Default	420	420	420	420	420	420	420	420	420	420	420
0504 (1.25)	540	540	EC Constant Volume	Default	540	540	540	540	540	540	540	540	540	540	540
0604 (1.5)	655	655	EC Constant Volume	Default	655	655	655	655	655	655	655	655	655	655	655
0804 (2.0)	830	830	EC Constant Volume	Default	830	830	830	830	830	830	830	830	830	830	830
0814 (2.0)	830	830	EC Constant Volume	Default	830	830	830	830	830	830	830	830	830	830	830
1004 (2.5)	970	970	EC Constant Volume	Default	970	970	970	970	970	970	970	970	970	970	970
1204 (3.0)	1170	1170	EC Constant Volume	Default	1170	1170	1170	1170	1170	1170	1170	1170	1170	1170	1170

* Total External Static Pressure includes, external ductwork, supply grille(s), filter and return panel (see page 47 for these pressure drops).



Table 10: VP Electrical Data - Standard PSC Motor

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power			
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD
0204-**C	208- 230/1/60	2.5	17.7	1	208- 230/1/60	0.6	1/15	208/1/60	0.0	0.0	3.7	15	NA	NA	NA	NA
									1.0	4.8	9.7	15	3.7	15	6.0	15
									1.5	7.2	12.7	15	3.7	15	9.0	15
								230/1/60	2.0	9.6	15.7	20	3.7	15	12.0	15
									0.0	0.0	3.7	15	NA	NA	NA	NA
									1.0	4.3	9.2	15	3.7	15	5.4	15
	265/1/60	2.6	13.5	1	265/1/60	0.4	0.05	265/1/60	1.5	6.5	11.9	15	3.7	15	8.2	15
									2.0	8.7	14.6	15	3.7	15	10.9	15
									0.0	0.0	3.7	15	NA	NA	NA	NA
								265/1/60	1.0	3.8	8.4	15	3.7	15	4.7	15
									1.5	5.7	10.7	15	3.7	15	7.1	15
									2.0	7.5	13.1	15	3.7	15	9.4	15
0304-**C	208- 230/1/60	5.1	22.0	1	208- 230/1/60	0.6	1/15	208/1/60	0.0	0.0	7.0	15	NA	NA	NA	NA
									1.0	4.8	13.0	15	7.0	15	6.0	15
									1.5	7.2	16.0	20	7.0	15	9.0	15
								230/1/60	2.0	9.6	19.0	20	7.0	15	12.0	15
									2.5	12.0	22.0	25	7.01	15.00	15.02	20
									3.0	14.4	25.0	30	7.01	15.00	18.03	20
									0.0	0.0	7.0	15	NA	NA	NA	NA
								230/1/60	1.0	4.3	12.5	15	7.01	15.00	5.43	15
									1.5	6.5	15.2	20	7.01	15.00	8.15	15
	265/1/60	4.5	22.0	1	265/1/60	0.4	0.05	265/1/60	2.0	8.7	17.9	20	7.01	15.00	10.87	15
									2.5	10.9	20.6	25	7.01	15.00	13.59	15
									3.0	13.0	23.3	25	7.01	15.00	16.30	20
								265/1/60	0.0	0.0	6.0	15	NA	NA	NA	NA
									1.0	3.8	10.7	15	6.01	15.00	4.72	15
									1.5	5.7	13.1	15	6.01	15.00	7.08	15
									2.0	7.5	15.4	20	6.01	15.00	9.43	15
									2.5	9.4	17.8	20	6.01	15.00	11.79	15
									3.0	11.3	20.2	25	6.01	15.00	14.15	15
0404-**C	208- 230/1/60	6.4	25.0	1	208- 230/1/60	0.6	1/15	208/1/60	0.0	0.0	8.6	15	NA	NA	NA	NA
									1.0	4.8	14.6	15	8.61	15.00	6.01	15
									1.5	7.2	17.6	20	8.61	15.00	9.01	15
								230/1/60	2.0	9.6	20.6	25	8.61	15.00	12.02	15
									2.5	12.0	23.6	25	8.61	15.00	15.02	20
									3.0	14.4	26.6	30	8.61	15.00	18.03	20
									3.5	16.8	29.7	30	8.61	15.00	21.03	25
									4.0	19.2	NA	NA	8.61	15.00	24.04	25
								230/1/60	0.0	0.0	8.6	15	NA	NA	NA	NA
									1.0	4.3	14.1	15	8.61	15.00	5.43	15
									1.5	6.5	16.8	20	8.61	15.00	8.15	15
									2.0	8.7	19.5	20	8.61	15.00	10.87	15
									2.5	10.9	22.2	25	8.61	15.00	13.59	15
	265/1/60	5.1	22.0	1	265/1/60	0.5	1/12	265/1/60	3.0	13.0	24.9	25	8.61	15.00	16.30	20
									3.5	15.2	27.6	30	8.61	15.00	19.02	20
									4.0	17.4	NA	NA	8.61	15.00	21.74	25
								265/1/60	0.0	0.0	6.9	15	NA	NA	NA	NA
									1.0	3.8	11.6	15	6.91	15.00	4.72	15
									1.5	5.7	14.0	15	6.91	15.00	7.08	15
									2.0	7.5	16.3	20	6.91	15.00	9.43	15
									2.5	9.4	18.7	20	6.91	15.00	11.79	15
									3.0	11.3	21.1	25	6.91	15.00	14.15	15
									3.5	13.2	23.4	25	6.91	15.00	16.51	20
									4.0	15.1	25.8	30	6.91	15.00	18.87	20

VP Electrical Data - Standard PSC Motor (cont'd.)

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power			
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD
	265/1/60	7.1	30.0	1	265/1/60	0.6	0.15	265/1/60	0.0	0.0	9.4	15	NA	NA	NA	NA
									1.0	3.8	14.1	20	9.41	15.00	4.72	15
									1.5	5.7	16.5	20	9.41	15.00	7.08	15
									2.0	7.5	18.9	20	9.41	15.00	9.43	15
									2.5	9.4	21.2	25	9.41	15.00	11.79	15
									3.0	11.3	23.6	25	9.41	15.00	14.15	15
									3.5	13.2	25.9	30	9.41	15.00	16.51	20
									4.0	15.1	28.3	30	9.41	15.00	18.87	20
									4.5	17.0	NA	NA	9.41	15.00	21.23	25
									5.0	18.9	NA	NA	9.41	15.00	23.58	25
									5.5	20.8	NA	NA	9.41	15.00	25.94	30
									6.0	22.6	NA	NA	9.41	15.00	28.30	30



VP Electrical Data - Standard PSC Motor (cont'd.)

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power			
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD
0804-**B	N/A : See Electrical Data - CT Motor												N/A : See Electrical Data - CT Motor			
0814-**D	N/A : See Electrical Data - CT Motor												N/A : See Electrical Data - CT Motor			
1004-**D	N/A : See Electrical Data - CT Motor												N/A : See Electrical Data - CT Motor			
1204-**D	N/A : See Electrical Data - CT Motor												N/A : See Electrical Data - CT Motor			

Table 11: VP Electrical Data – High Static PSC Motor

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power				
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD	
0204-**C	208-230/1/60	2.5	17.7	1	208-230/1/60	0.6	1/15	208/1/60	0.0	0.0	3.7	15	NA	NA	NA	NA	
									1.0	4.8	9.7	15	3.7	15	6.0	15	
									1.5	7.2	12.7	15	3.7	15	9.0	15	
								230/1/60	2.0	9.6	15.7	20	3.7	15	12.0	15	
									0.0	0.0	3.7	15	NA	NA	NA	NA	
									1.0	4.3	9.2	15	3.7	15	5.4	15	
	265/1/60	2.6	13.5	1	265/1/60	0.4	0.05	265/1/60	1.5	6.5	11.9	15	3.7	15	8.2	15	
									2.0	8.7	14.6	15	3.7	15	10.9	15	
									0.0	0.0	3.7	15	NA	NA	NA	NA	
								265/1/60	1.0	3.8	8.4	15	3.7	15	4.7	15	
									1.5	5.7	10.7	15	3.7	15	7.1	15	
									2.0	7.5	13.1	15	3.7	15	9.4	15	
0304-**C	208-230/1/60	5.1	22.0	1	208-230/1/60	0.6	1/15	208/1/60	0.0	0.0	7.0	15	NA	NA	NA	NA	
									1.0	4.8	13.0	15	7.0	15	6.0	15	
									1.5	7.2	16.0	20	7.0	15	9.0	15	
									2.0	9.6	19.0	20	7.0	15	12.0	15	
									2.5	12.0	22.0	25	7.01	15.00	15.02	20	
									3.0	14.4	25.0	30	7.01	15.00	18.03	20	
								230/1/60	0.0	0.0	7.0	15	NA	NA	NA	NA	
									1.0	4.3	12.5	15	7.01	15.00	5.43	15	
									1.5	6.5	15.2	20	7.01	15.00	8.15	15	
									2.0	8.7	17.9	20	7.01	15.00	10.87	15	
									2.5	10.9	20.6	25	7.01	15.00	13.59	15	
									3.0	13.0	23.3	25	7.01	15.00	16.30	20	
	265/1/60	4.5	22.0	1	265/1/60	0.5	1/12	265/1/60	0.0	0.0	6.1	15	NA	NA	NA	NA	
									1.0	3.8	10.8	15	6.11	15.00	4.72	15	
									1.5	5.7	13.2	15	6.11	15.00	7.08	15	
									2.0	7.5	15.5	20	6.11	15.00	9.43	15	
									2.5	9.4	17.9	20	6.11	15.00	11.79	15	
									3.0	11.3	20.3	25	6.11	15.00	14.15	15	
	0404-**C	208-230/1/60	6.4	25.0	1	208-230/1/60	0.9	1/12	208/1/60	0.0	0.0	8.9	15	NA	NA	NA	NA
										1.0	4.8	14.9	20	8.91	15.00	6.01	15
										1.5	7.2	17.9	20	8.91	15.00	9.01	15
										2.0	9.6	20.9	25	8.91	15.00	12.02	15
										2.5	12.0	23.9	25	8.91	15.00	15.02	20
										3.0	14.4	26.9	30	8.91	15.00	18.03	20
230/1/60									3.5	16.8	30.0	30	8.91	15.00	21.03	25	
									4.0	19.2	NA	NA	8.91	15.00	24.04	25	
									0.0	0.0	8.9	15	NA	NA	NA	NA	
									1.0	4.3	14.4	15	8.91	15.00	5.43	15	
									1.5	6.5	17.1	20	8.91	15.00	8.15	15	
									2.0	8.7	19.8	20	8.91	15.00	10.87	15	
265/1/60		5.1	22.0	1	265/1/60	0.6	0.15	265/1/60	2.5	10.9	22.5	25	8.91	15.00	13.59	15	
									3.0	13.0	25.2	30	8.91	15.00	16.30	20	
									3.5	15.2	27.9	30	8.91	15.00	19.02	20	
									4.0	17.4	NA	NA	8.91	15.00	21.74	25	
									0.0	0.0	7.0	15	NA	NA	NA	NA	
									1.0	3.8	11.7	15	7.01	15.00	4.72	15	
									1.5	5.7	14.1	15	7.01	15.00	7.08	15	
									2.0	7.5	16.4	20	7.01	15.00	9.43	15	
									2.5	9.4	18.8	20	7.01	15.00	11.79	15	
									3.0	11.3	21.2	25	7.01	15.00	14.15	15	
									3.5	13.2	23.5	25	7.01	15.00	16.51	20	
									4.0	15.1	25.9	30	7.01	15.00	18.87	20	



VP Electrical Data – High Static PSC Motor (cont'd.)

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power			
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD
0504-**B	N/A : See Electrical Data - CT Motor															
0604-**B	208- 230/1/60	7.7	38.0	1	208- 230/1/60	1.5	1/5	208/1/60	0.0	0.0	11.1	15	NA	NA	NA	NA
									1.0	4.8	17.1	20	11.12	15.00	6.01	15
									1.5	7.2	20.1	25	11.12	15.00	9.01	15
									2.0	9.6	23.1	25	11.12	15.00	12.02	15
									2.5	12.0	26.1	30	11.12	15.00	15.02	20
									3.0	14.4	29.1	30	11.12	15.00	18.03	20
									3.5	16.8	NA	NA	11.12	15.00	21.03	25
									4.0	19.2	NA	NA	11.12	15.00	24.04	25
									4.5	21.6	NA	NA	11.12	15.00	27.04	30
									5.0	24.0	NA	NA	11.12	15.00	30.05	35
									5.5	26.4	NA	NA	11.12	15.00	33.05	35
									6.0	28.8	NA	NA	11.12	15.00	36.06	40
	230/1/60	7.7	38.0	1	230/1/60	1.5	1/5	230/1/60	0.0	0.0	11.1	15	NA	NA	NA	NA
									1.0	4.3	16.6	20	11.12	15.00	5.43	15
									1.5	6.5	19.3	25	11.12	15.00	8.15	15
									2.0	8.7	22.0	25	11.12	15.00	10.87	15
									2.5	10.9	24.7	25	11.12	15.00	13.59	15
									3.0	13.0	27.4	30	11.12	15.00	16.30	20
									3.5	15.2	NA	NA	11.12	15.00	19.02	20
									4.0	17.4	NA	NA	11.12	15.00	21.74	25
									4.5	19.6	NA	NA	11.12	15.00	24.46	25
									5.0	21.7	NA	NA	11.12	15.00	27.17	30
									5.5	23.9	NA	NA	11.12	15.00	29.89	30
									6.0	26.1	NA	NA	11.12	15.00	32.61	35
	265/1/60	7.1	30.0	1	265/1/60	0.9	0.17	265/1/60	0.0	0.0	9.7	15	NA	NA	NA	NA
									1.0	3.8	14.4	20	9.71	15.00	4.72	15
									1.5	5.7	16.8	20	9.71	15.00	7.08	15
									2.0	7.5	19.2	20	9.71	15.00	9.43	15
									2.5	9.4	21.5	25	9.71	15.00	11.79	15
									3.0	11.3	23.9	25	9.71	15.00	14.15	15
									3.5	13.2	26.2	30	9.71	15.00	16.51	20
									4.0	15.1	28.6	30	9.71	15.00	18.87	20
									4.5	17.0	NA	NA	9.71	15.00	21.23	25
									5.0	18.9	NA	NA	9.71	15.00	23.58	25
									5.5	20.8	NA	NA	9.71	15.00	25.94	30
									6.0	22.6	NA	NA	9.71	15.00	28.30	30

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Electrical Data – High Static PSC Motor

VP Electrical Data – High Static PSC Motor (cont'd.)

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power			
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD
0804.**B	N/A : See Electrical Data - CT Motor												N/A : See Electrical Data - CT Motor			
0814.**D	N/A : See Electrical Data - CT Motor												N/A : See Electrical Data - CT Motor			
1004.**D	N/A : See Electrical Data - CT Motor												N/A : See Electrical Data - CT Motor			
1204.**D	N/A : See Electrical Data - CT Motor												N/A : See Electrical Data - CT Motor			

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Table 12: VP Electrical Data – Constant Torque EC Motor

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power												
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD									
0204-**C	208-230/1/60	2.5	17.7	1	208-230/1/60	2.2	1/4	208/1/60	0.0	0.0	5.3	15	NA	NA	NA	NA									
									1.0	4.8	11.3	15	5.3	15	6.0	15									
									1.5	7.2	14.3	15	5.3	15	9.0	15									
									2.0	9.6	17.3	20	5.3	15	12.0	15									
								230/1/60	0.0	0.0	5.3	15	NA	NA	NA	NA									
									1.0	4.3	10.8	15	5.3	15	5.4	15									
									1.5	6.5	13.5	15	5.3	15	8.2	15									
									2.0	8.7	16.2	20	5.3	15	10.9	15									
	265/1/60	0.0	0.0	5.5	15	NA	NA	NA	NA																
		1.0	3.8	10.2	15	5.5	15	4.7	15																
		1.5	5.7	12.5	15	5.5	15	7.1	15																
		2.0	7.5	14.9	15	5.5	15	9.4	15																
0304-**C	208-230/1/60	5.1	22.0	1	208-230/1/60	2.2	1/4	208/1/60	0.0	0.0	8.6	15	NA	NA	NA	NA									
									1.0	4.8	14.6	15	8.6	15	6.0	15									
									1.5	7.2	17.6	20	8.6	15	9.0	15									
									2.0	9.6	20.6	25	8.6	15	12.0	15									
									2.5	12.0	23.6	25	8.6	15	15.0	20									
									3.0	14.4	26.6	30	8.6	15	18.0	20									
								230/1/60	0.0	0.0	8.6	15	NA	NA	NA	NA									
									1.0	4.3	14.1	15	8.6	15	5.4	15									
									1.5	6.5	16.8	20	8.6	15	8.2	15									
									2.0	8.7	19.5	20	8.6	15	10.9	15									
	265/1/60	4.5	22.0	1	265/1/60	2.2	1/4	265/1/60	2.5	10.9	22.2	25	8.6	15	13.6	15									
									3.0	13.0	24.9	25	8.6	15	16.3	20									
									0.0	0.0	7.8	15	NA	NA	NA	NA									
									1.0	3.8	12.5	15	7.8	15	4.7	15									
									1.5	5.7	14.9	15	7.8	15	7.1	15									
									2.0	7.5	17.2	20	7.8	15	9.4	15									
								265/1/60	2.5	9.4	19.6	20	7.8	15	11.8	15									
									3.0	11.3	22.0	25	7.8	15	14.2	15									
									0404-**C	208-230/1/60	6.4	25.0	1	208-230/1/60	2.2	1/4	208/1/60	0.0	0.0	10.2	15	NA	NA	NA	NA
																		1.0	4.8	16.2	20	10.2	15	6.0	15
1.5	7.2	19.2	20	10.2	15	9.0	15																		
2.0	9.6	22.2	25	10.2	15	12.0	15																		
2.5	12.0	25.2	30	10.2	15	15.0	20																		
3.0	14.4	28.2	30	10.2	15	18.0	20																		
3.5	16.8	NA	NA	10.2	15	21.0	25																		
4.0	19.2	NA	NA	10.2	15	24.0	25																		
230/1/60	0.0	0.0	10.2	15	NA	NA	NA	NA																	
	1.0	4.3	15.7	20	10.2	15	5.4	15																	
	1.5	6.5	18.4	20	10.2	15	8.2	15																	
	2.0	8.7	21.1	25	10.2	15	10.9	15																	
	2.5	10.9	23.8	25	10.2	15	13.6	15																	
	3.0	13.0	26.5	30	10.2	15	16.3	20																	
265/1/60	3.5	15.2	29.2	30	10.2	15	19.0	20																	
	4.0	17.4	NA	NA	10.2	15	21.7	25																	
	265/1/60	5.1	22.0	1	265/1/60	2.2	1/4	265/1/60		0.0	0.0	8.6	15	NA	NA	NA	NA								
										1.0	3.8	13.3	15	8.6	15	4.7	15								
1.5									5.7	15.7	20	8.6	15	7.1	15										
2.0									7.5	18.0	20	8.6	15	9.4	15										
2.5									9.4	20.4	25	8.6	15	11.8	15										
3.0									11.3	22.8	25	8.6	15	14.2	15										
3.5									13.2	25.1	30	8.6	15	16.5	20										
4.0									15.1	27.5	30	8.6	15	18.9	20										

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Electrical Data – Constant Torque EC Motor

VP Electrical Data – Constant Torque EC Motor (cont'd.)

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power			
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD
0504-***B	208-230/1/60	4.8	26.0	1	208-230/1/60	2.2	1/4	208/1/60	0.0	0.0	8.2	15	NA	NA	NA	NA
									1.0	4.8	14.2	15	8.2	15	6.0	15
									1.5	7.2	17.2	20	8.2	15	9.0	15
									2.0	9.6	20.2	25	8.2	15	12.0	15
									2.5	12.0	23.2	25	8.2	15	15.0	20
									3.0	14.4	26.2	30	8.2	15	18.0	20
									3.5	16.8	29.2	30	8.2	15	21.0	25
									4.0	19.2	NA	NA	8.2	15	24.0	25
									4.5	21.6	NA	NA	8.2	15	27.0	30
								5.0	24.0	NA	NA	8.2	15	30.0	35	
								230/1/60	0.0	0.0	8.2	15	NA	NA	NA	NA
									1.0	4.3	13.6	15	8.2	15	5.4	15
									1.5	6.5	16.4	20	8.2	15	8.2	15
									2.0	8.7	19.1	20	8.2	15	10.9	15
									2.5	10.9	21.8	25	8.2	15	13.6	15
									3.0	13.0	24.5	25	8.2	15	16.3	20
									3.5	15.2	27.2	30	8.2	15	19.0	20
									4.0	17.4	30.0	30	8.2	15	21.7	25
	4.5	19.6	NA	NA	8.2	15	24.5		25							
	5.0	21.7	NA	NA	8.2	15	27.2	30								
	265/1/60	4.2	25.0	1	265/1/60	2.2	1/4	265/1/60	0.0	0.0	7.4	15	NA	NA	NA	NA
									1.0	3.8	12.1	15	7.4	15	4.7	15
									1.5	5.7	14.5	15	7.4	15	7.1	15
									2.0	7.5	16.8	20	7.4	15	9.4	15
									2.5	9.4	19.2	20	7.4	15	11.8	15
									3.0	11.3	21.6	25	7.4	15	14.2	15
									3.5	13.2	23.9	25	7.4	15	16.5	20
									4.0	15.1	26.3	30	7.4	15	18.9	20
4.5									17.0	28.6	30	7.4	15	21.2	25	
5.0									18.9	NA	NA	7.4	15	23.6	25	
0604-***B	208-230/1/60	7.7	38.0	1	208-230/1/60	2.2	1/4	208/1/60	0.0	0.0	11.8	15	NA	NA	NA	NA
									1.0	4.8	17.8	20	11.8	15	6.0	15
									1.5	7.2	20.8	25	11.8	15	9.0	15
									2.0	9.6	23.8	25	11.8	15	12.0	15
									2.5	12.0	26.8	30	11.8	15	15.0	20
									3.0	14.4	29.8	30	11.8	15	18.0	20
									3.5	16.8	NA	NA	11.8	15	21.0	25
									4.0	19.2	NA	NA	11.8	15	24.0	25
									4.5	21.6	NA	NA	11.8	15	27.0	30
									5.0	24.0	NA	NA	11.8	15	30.0	35
									5.5	26.4	NA	NA	11.8	15	33.1	35
									6.0	28.8	NA	NA	11.8	15	36.1	40
								230/1/60	0.0	0.0	11.8	15	NA	NA	NA	NA
									1.0	4.3	17.3	20	11.8	15	5.4	15
									1.5	6.5	20.0	25	11.8	15	8.2	15
									2.0	8.7	22.7	25	11.8	15	10.9	15
									2.5	10.9	25.4	30	11.8	15	13.6	15
									3.0	13.0	28.1	30	11.8	15	16.3	20
									3.5	15.2	NA	NA	11.8	15	19.0	20
									4.0	17.4	NA	NA	11.8	15	21.7	25
									4.5	19.6	NA	NA	11.8	15	24.5	25
									5.0	21.7	NA	NA	11.8	15	27.2	30
									5.5	23.9	NA	NA	11.8	15	29.9	30
									6.0	26.1	NA	NA	11.8	15	32.6	35
	265/1/60	7.1	30.0	1	265/1/60	2.2	1/4	265/1/60	0.0	0.0	11.0	15	NA	NA	NA	NA
									1.0	3.8	15.7	20	11.0	15	4.7	15
									1.5	5.7	18.1	20	11.0	15	7.1	15
									2.0	7.5	20.5	25	11.0	15	9.4	15
2.5									9.4	22.8	25	11.0	15	11.8	15	
3.0									11.3	25.2	30	11.0	15	14.2	15	
3.5									13.2	27.5	30	11.0	15	16.5	20	
4.0									15.1	29.9	30	11.0	15	18.9	20	
0604-***B									4.5	17.0	NA	NA	11.0	15	21.2	25
									5.0	18.9	NA	NA	11.0	15	23.6	25
									5.5	20.8	NA	NA	11.0	15	25.9	30
									6.0	22.6	NA	NA	11.0	15	28.3	30

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VP Electrical Data – Constant Torque EC Motor (cont'd.)

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power											
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD								
0804-**B	208-230/1/60	10.3	43.0	1	208-230/1/60	4.6	1/2	208/1/60	0.0	0.0	17.4	25	NA	NA	NA	NA								
									1.0	4.8	23.4	30	17.4	25	6.0	15								
									1.5	7.2	26.4	30	17.4	25	9.0	15								
									2.0	9.6	29.4	35	17.4	25	12.0	15								
									2.5	12.0	NA	NA	17.4	25	15.0	20								
									3.0	14.4	NA	NA	17.4	25	18.0	20								
									3.5	16.8	NA	NA	17.4	25	21.0	25								
									4.0	19.2	NA	NA	17.4	25	24.0	25								
									4.5	21.6	NA	NA	17.4	25	27.0	30								
									5.0	24.0	NA	NA	17.4	25	30.0	35								
									5.5	26.4	NA	NA	17.4	25	33.1	35								
									6.0	28.8	NA	NA	17.4	25	36.1	40								
									6.5	31.3	NA	NA	17.4	25	39.1	40								
									7.0	33.7	NA	NA	17.4	25	42.1	45								
									7.5	36.1	NA	NA	17.4	25	45.1	50								
									8.0	38.5	NA	NA	17.4	25	48.1	50								
								230/1/60	0.0	0.0	17.4	25	NA	NA	NA	NA								
									1.0	4.3	22.9	30	17.4	25	5.4	15								
									1.5	6.5	25.6	30	17.4	25	8.2	15								
									2.0	8.7	28.3	35	17.4	25	10.9	15								
									2.5	10.9	NA	NA	17.4	25	13.6	15								
									3.0	13.0	NA	NA	17.4	25	16.3	20								
									3.5	15.2	NA	NA	17.4	25	19.0	20								
									4.0	17.4	NA	NA	17.4	25	21.7	25								
									4.5	19.6	NA	NA	17.4	25	24.5	25								
									5.0	21.7	NA	NA	17.4	25	27.2	30								
									5.5	23.9	NA	NA	17.4	25	29.9	30								
	6.0	26.1	NA	NA	17.4	25	32.6		35															
	6.5	28.3	NA	NA	17.4	25	35.3		40															
	7.0	30.4	NA	NA	17.4	25	38.0		40															
	7.5	32.6	NA	NA	17.4	25	40.8		45															
	8.0	34.8	NA	NA	17.4	25	43.5		45															
	265/1/60	8.3	54.0	1	265/1/60	3.2	1/2	265/1/60	0.0	0.0	13.6	20	NA	NA	NA	NA								
									1.0	3.8	18.3	25	13.6	20	4.7	15								
									1.5	5.7	20.7	25	13.6	20	7.1	15								
									2.0	7.5	23.0	25	13.6	20	9.4	15								
									2.5	9.4	25.4	30	13.6	20	11.8	15								
									3.0	11.3	27.7	30	13.6	20	14.2	15								
									3.5	13.2	NA	NA	13.6	20	16.5	20								
									4.0	15.1	NA	NA	13.6	20	18.9	20								
									4.5	17.0	NA	NA	13.6	20	21.2	25								
									5.0	18.9	NA	NA	13.6	20	23.6	25								
									5.5	20.8	NA	NA	13.6	20	25.9	30								
6.0									22.6	NA	NA	13.6	20	28.3	30									
6.5									24.5	NA	NA	13.6	20	30.7	35									
7.0									26.4	NA	NA	13.6	20	33.0	35									
7.5									28.3	NA	NA	13.6	20	35.4	40									
8.0									30.2	NA	NA	13.6	20	37.7	40									
0814-**D									208-230/1/60	9.2	49.1	1	208-230/1/60	4.6	1/2	208/1/60	0.0	0.0	16.1	25	NA	NA	NA	NA
																	1.0	4.8	22.2	30	16.1	25	6.0	15
																	1.5	7.2	25.2	30	16.1	25	9.0	15
																	2.0	9.6	28.2	30	16.1	25	12.0	15
																	2.5	12.0	NA	NA	16.1	25	15.0	20
																	3.0	14.4	NA	NA	16.1	25	18.0	20
																	3.5	16.8	NA	NA	16.1	25	21.0	25
																	4.0	19.2	NA	NA	16.1	25	24.0	25
																	4.5	21.6	NA	NA	16.1	25	27.0	30
																	5.0	24.0	NA	NA	16.1	25	30.0	35
	5.5	26.4	NA	NA	16.1	25	33.1	35																
	6.0	28.8	NA	NA	16.1	25	36.1	40																
	6.5	31.3	NA	NA	16.1	25	39.1	40																
	7.0	33.7	NA	NA	16.1	25	42.1	45																
	7.5	36.1	NA	NA	16.1	25	45.1	50																
	8.0	38.5	NA	NA	16.1	25	48.1	50																

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Electrical Data – Constant Torque EC Motor

VP Electrical Data – Constant Torque EC Motor (cont'd.)

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power			
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD
0814-**D	208- 230/1/60	9.2	49.1	1	208- 230/1/60	4.6	1/2	230/1/60	0.0	0.0	16.1	25	NA	NA	NA	NA
									1.0	4.3	21.6	25	16.1	25	5.4	15
									1.5	6.5	24.3	30	16.1	25	8.2	15
									2.0	8.7	27.0	30	16.1	25	10.9	15
									2.5	10.9	29.7	35	16.1	25	13.6	15
									3.0	13.0	NA	NA	16.1	25	16.3	20
									3.5	15.2	NA	NA	16.1	25	19.0	20
									4.0	17.4	NA	NA	16.1	25	21.7	25
									4.5	19.6	NA	NA	16.1	25	24.5	25
									5.0	21.7	NA	NA	16.1	25	27.2	30
									5.5	23.9	NA	NA	16.1	25	29.9	30
									6.0	26.1	NA	NA	16.1	25	32.6	35
									6.5	28.3	NA	NA	16.1	25	35.3	40
									7.0	30.4	NA	NA	16.1	25	38.0	40
									7.5	32.6	NA	NA	16.1	25	40.8	45
									8.0	34.8	NA	NA	16.1	25	43.5	45
	265/1/60	8.3	54.0	1	265/1/60	3.2	1/2	265/1/60	0.0	0.0	13.6	20	NA	NA	NA	NA
									1.0	3.8	18.3	25	13.6	20	4.7	15
									1.5	5.7	20.7	25	13.6	20	7.1	15
									2.0	7.5	23.0	25	13.6	20	9.4	15
									2.5	9.4	25.4	30	13.6	20	11.8	15
									3.0	11.3	27.7	30	13.6	20	14.2	15
									3.5	13.2	NA	NA	13.6	20	16.5	20
									4.0	15.1	NA	NA	13.6	20	18.9	20
									4.5	17.0	NA	NA	13.6	20	21.2	25
									5.0	18.9	NA	NA	13.6	20	23.6	25
									5.5	20.8	NA	NA	13.6	20	25.9	30
									6.0	22.6	NA	NA	13.6	20	28.3	30
									6.5	24.5	NA	NA	13.6	20	30.7	35
									7.0	26.4	NA	NA	13.6	20	33.0	35
									7.5	28.3	NA	NA	13.6	20	35.4	40
									8.0	30.2	NA	NA	13.6	20	37.7	40
1004-**D	208- 230/1/60	12.3	63.0	1	208- 230/1/60	4.6	1/2	208/1/60	0.0	0.0	20.0	30	NA	NA	NA	NA
									1.0	4.8	26.0	35	20.0	30	6.0	15
									1.5	7.2	29.0	35	20.0	30	9.0	15
									2.0	9.6	NA	NA	20.0	30	12.0	15
									2.5	12.0	NA	NA	20.0	30	15.0	20
									3.0	14.4	NA	NA	20.0	30	18.0	20
									3.5	16.8	NA	NA	20.0	30	21.0	25
									4.0	19.2	NA	NA	20.0	30	24.0	25
									4.5	21.6	NA	NA	20.0	30	27.0	30
									5.0	24.0	NA	NA	20.0	30	30.0	35
									5.5	26.4	NA	NA	20.0	30	33.1	35
									6.0	28.8	NA	NA	20.0	30	36.1	40
									6.5	31.3	NA	NA	20.0	30	39.1	40
									7.0	33.7	NA	NA	20.0	30	42.1	45
									7.5	36.1	NA	NA	20.0	30	45.1	50
									8.0	38.5	NA	NA	20.0	30	48.1	50
									8.5	40.9	NA	NA	20.0	30	51.1	55
									9.0	43.3	NA	NA	20.0	30	54.1	55
									9.5	45.7	NA	NA	20.0	30	57.1	60
									10.0	48.1	NA	NA	20.0	30	60.1	65
	230/1/60							230/1/60	0.0	0.0	20.0	30	NA	NA	NA	NA
									1.0	4.3	25.4	35	20.0	30	5.4	15
									1.5	6.5	28.1	35	20.0	30	8.2	15
									2.0	8.7	NA	NA	20.0	30	10.9	15
									2.5	10.9	NA	NA	20.0	30	13.6	15
									3.0	13.0	NA	NA	20.0	30	16.3	20
									3.5	15.2	NA	NA	20.0	30	19.0	20
									4.0	17.4	NA	NA	20.0	30	21.7	25
									4.5	19.6	NA	NA	20.0	30	24.5	25
									5.0	21.7	NA	NA	20.0	30	27.2	30
									5.5	23.9	NA	NA	20.0	30	29.9	30
									6.0	26.1	NA	NA	20.0	30	32.6	35
									6.5	28.3	NA	NA	20.0	30	35.3	40
									7.0	30.4	NA	NA	20.0	30	38.0	40
									7.5	32.6	NA	NA	20.0	30	40.8	45
									8.0	34.8	NA	NA	20.0	30	43.5	45
									8.5	37.0	NA	NA	20.0	30	46.2	50
									9.0	39.1	NA	NA	20.0	30	48.9	50
									9.5	41.3	NA	NA	20.0	30	51.6	55
									10.0	43.5	NA	NA	20.0	30	54.3	55

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VP Electrical Data – Constant Torque EC Motor (cont'd.)

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power			
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD
1004-**D	265/1/60	11.2	60.0	1	265/1/60	3.2	1/2	265/1/60	0.0	0.0	17.2	25	NA	NA	NA	NA
									1.0	3.8	21.9	30	17.2	25	4.7	15
									1.5	5.7	24.3	30	17.2	25	7.1	15
									2.0	7.5	26.6	35	17.2	25	9.4	15
									2.5	9.4	29.0	35	17.2	25	11.8	15
									3.0	11.3	NA	NA	17.2	25	14.2	15
									3.5	13.2	NA	NA	17.2	25	16.5	20
									4.0	15.1	NA	NA	17.2	25	18.9	20
									4.5	17.0	NA	NA	17.2	25	21.2	25
									5.0	18.9	NA	NA	17.2	25	23.6	25
									5.5	20.8	NA	NA	17.2	25	25.9	30
									6.0	22.6	NA	NA	17.2	25	28.3	30
									6.5	24.5	NA	NA	17.2	25	30.7	35
									7.0	26.4	NA	NA	17.2	25	33.0	35
									7.5	28.3	NA	NA	17.2	25	35.4	40
									8.0	30.2	NA	NA	17.2	25	37.7	40
									8.5	32.1	NA	NA	17.2	25	40.1	45
									9.0	34.0	NA	NA	17.2	25	42.5	45
									9.5	35.8	NA	NA	17.2	25	44.8	45
									10.0	37.7	NA	NA	17.2	25	47.2	50
1204-**D	208-230/1/60	13.6	79.0	1	208-230/1/60	4.6	1/2	208/1/60	0.0	0.0	21.6	35	NA	NA	NA	NA
									1.0	4.8	27.6	35	21.6	35	6.0	15
									1.5	7.2	NA	NA	21.6	35	9.0	15
									2.0	9.6	NA	NA	21.6	35	12.0	15
									2.5	12.0	NA	NA	21.6	35	15.0	20
									3.0	14.4	NA	NA	21.6	35	18.0	20
									3.5	16.8	NA	NA	21.6	35	21.0	25
									4.0	19.2	NA	NA	21.6	35	24.0	25
									4.5	21.6	NA	NA	21.6	35	27.0	30
									5.0	24.0	NA	NA	21.6	35	30.0	35
									5.5	26.4	NA	NA	21.6	35	33.1	35
									6.0	28.8	NA	NA	21.6	35	36.1	40
									6.5	31.3	NA	NA	21.6	35	39.1	40
									7.0	33.7	NA	NA	21.6	35	42.1	45
									7.5	36.1	NA	NA	21.6	35	45.1	50
									8.0	38.5	NA	NA	21.6	35	48.1	50
									8.5	40.9	NA	NA	21.6	35	51.1	55
									9.0	43.3	NA	NA	21.6	35	54.1	55
									9.5	45.7	NA	NA	21.6	35	57.1	60
									10.0	48.1	NA	NA	21.6	35	60.1	65
	230/1/60							230/1/60	0.0	0.0	21.6	35	NA	NA	NA	NA
									1.0	4.3	27.0	35	21.6	35	5.4	15
									1.5	6.5	29.7	40	21.6	35	8.2	15
									2.0	8.7	NA	NA	21.6	35	10.9	15
									2.5	10.9	NA	NA	21.6	35	13.6	15
									3.0	13.0	NA	NA	21.6	35	16.3	20
									3.5	15.2	NA	NA	21.6	35	19.0	20
									4.0	17.4	NA	NA	21.6	35	21.7	25
									4.5	19.6	NA	NA	21.6	35	24.5	25
									5.0	21.7	NA	NA	21.6	35	27.2	30
									5.5	23.9	NA	NA	21.6	35	29.9	30
									6.0	26.1	NA	NA	21.6	35	32.6	35
									6.5	28.3	NA	NA	21.6	35	35.3	40
									7.0	30.4	NA	NA	21.6	35	38.0	40
									7.5	32.6	NA	NA	21.6	35	40.8	45
									8.0	34.8	NA	NA	21.6	35	43.5	45
									8.5	37.0	NA	NA	21.6	35	46.2	50
									9.0	39.1	NA	NA	21.6	35	48.9	50
									9.5	41.3	NA	NA	21.6	35	51.6	55
									10.0	43.5	NA	NA	21.6	35	54.3	55
	265/1/60	12.2	72.0	1	265/1/60	3.2	1/2	265/1/60	0.0	0.0	18.5	30	NA	NA	NA	NA
									1.0	3.8	23.2	30	18.5	30	4.7	15
									1.5	5.7	25.5	35	18.5	30	7.1	15
									2.0	7.5	27.9	35	18.5	30	9.4	15
									2.5	9.4	NA	NA	18.5	30	11.8	15
									3.0	11.3	NA	NA	18.5	30	14.2	15
									3.5	13.2	NA	NA	18.5	30	16.5	20
									4.0	15.1	NA	NA	18.5	30	18.9	20
									4.5	17.0	NA	NA	18.5	30	21.2	25
									5.0	18.9	NA	NA	18.5	30	23.6	25
									5.5	20.8	NA	NA	18.5	30	25.9	30
									6.0	22.6	NA	NA	18.5	30	28.3	30
									6.5	24.5	NA	NA	18.5	30	30.7	35
									7.0	26.4	NA	NA	18.5	30	33.0	35
									7.5	28.3	NA	NA	18.5	30	35.4	40
									8.0	30.2	NA	NA	18.5	30	37.7	40
									8.5	32.1	NA	NA	18.5	30	40.1	45
									9.0	34.0	NA	NA	18.5	30	42.5	45
									9.5	35.8	NA	NA	18.5	30	44.8	45
									10.0	37.7	NA	NA	18.5	30	47.2	50

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Electrical Data – Constant Volume EC Motor

Table 13: VP Electrical Data - Constant Volume EC Motor

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power			
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD
0204.**C	N/A : See Electrical Data - CT Motor															
0304.**C	N/A : See Electrical Data - CT Motor															
0404.**C	208- 230/1/60	6.4	25.0	1	208- 230/1/60	2.7	1/3	208/1/60	0.0	0.0	10.7	15	NA	NA	NA	NA
									1.0	4.8	16.7	20	10.7	15	6.0	15
									1.5	7.2	19.7	20	10.7	15	9.0	15
									2.0	9.6	22.7	25	10.7	15	12.0	15
									2.5	12.0	25.7	30	10.7	15	15.0	20
									3.0	14.4	28.7	30	10.7	15	18.0	20
									3.5	16.8	NA	NA	10.7	15	21.0	25
									4.0	19.2	NA	NA	10.7	15	24.0	25
								230/1/60	0.0	0.0	10.7	15	NA	NA	NA	NA
									1.0	4.3	16.2	20	10.7	15	5.4	15
									1.5	6.5	18.9	20	10.7	15	8.2	15
									2.0	8.7	21.6	25	10.7	15	10.9	15
									2.5	10.9	24.3	25	10.7	15	13.6	15
									3.0	13.0	27.0	30	10.7	15	16.3	20
	265/1/60	5.1	22.0	1	265/1/60	3.2	1/2	265/1/60	3.5	15.2	29.7	30	10.7	15	19.0	20
									4.0	17.4	NA	NA	10.7	15	21.7	25
									0.0	0.0	9.6	15	NA	NA	NA	NA
									1.0	3.8	14.3	15	9.6	15	4.7	15
									1.5	5.7	16.7	20	9.6	15	7.1	15
									2.0	7.5	19.0	20	9.6	15	9.4	15
									2.5	9.4	21.4	25	9.6	15	11.8	15
									3.0	11.3	23.8	25	9.6	15	14.2	15
									3.5	13.2	26.1	30	9.6	15	16.5	20
									4.0	15.1	28.5	30	9.6	15	18.9	20
0504.**B	208- 230/1/60	4.8	26.0	1	208- 230/1/60	2.7	1/3	208/1/60	0.0	0.0	8.7	15	NA	NA	NA	NA
									1.0	4.8	14.7	15	8.7	15	6.0	15
									1.5	7.2	17.7	20	8.7	15	9.0	15
									2.0	9.6	20.7	25	8.7	15	12.0	15
									2.5	12.0	23.7	25	8.7	15	15.0	20
									3.0	14.4	26.7	30	8.7	15	18.0	20
									3.5	16.8	29.7	30	8.7	15	21.0	25
									4.0	19.2	NA	NA	8.7	15	24.0	25
									4.5	21.6	NA	NA	8.7	15	27.0	30
									5.0	24.0	NA	NA	8.7	15	30.0	35
	230/1/60	4.8	26.0	1	230/1/60	2.7	1/3	230/1/60	0.0	0.0	8.7	15	NA	NA	NA	NA
									1.0	4.3	14.1	15	8.7	15	5.4	15
									1.5	6.5	16.9	20	8.7	15	8.2	15
									2.0	8.7	19.6	20	8.7	15	10.9	15
									2.5	10.9	22.3	25	8.7	15	13.6	15
									3.0	13.0	25.0	30	8.7	15	16.3	20
									3.5	15.2	27.7	30	8.7	15	19.0	20
									4.0	17.4	NA	NA	8.7	15	21.7	25
									4.5	19.6	NA	NA	8.7	15	24.5	25
									5.0	21.7	NA	NA	8.7	15	27.2	30

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VP Electrical Data - Constant Volume EC Motor

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power												
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD									
0504-**B	265/1/60	4.2	25.0	1	265/1/60	3.2	1/2	265/1/60	0.0	0.0	8.4	15	NA	NA	NA	NA									
									1.0	3.8	13.1	15	8.4	15	4.7	15									
									1.5	5.7	15.5	20	8.4	15	7.1	15									
									2.0	7.5	17.8	20	8.4	15	9.4	15									
									2.5	9.4	20.2	25	8.4	15	11.8	15									
									3.0	11.3	22.6	25	8.4	15	14.2	15									
									3.5	13.2	24.9	25	8.4	15	16.5	20									
									4.0	15.1	27.3	30	8.4	15	18.9	20									
									4.5	17.0	29.6	30	8.4	15	21.2	25									
									5.0	18.9	NA	NA	8.4	15	23.6	25									
									0604-**B	208-230/1/60	7.7	38.0	1	208-230/1/60	2.7	1/3	208/1/60	0.0	0.0	12.3	20	NA	NA	NA	NA
																		1.0	4.8	18.3	20	12.3	20	6.0	15
1.5	7.2	21.3	25	12.3	20	9.0	15																		
2.0	9.6	24.3	25	12.3	20	12.0	15																		
2.5	12.0	27.3	30	12.3	20	15.0	20																		
3.0	14.4	NA	NA	12.3	20	18.0	20																		
3.5	16.8	NA	NA	12.3	20	21.0	25																		
4.0	19.2	NA	NA	12.3	20	24.0	25																		
4.5	21.6	NA	NA	12.3	20	27.0	30																		
5.0	24.0	NA	NA	12.3	20	30.0	35																		
5.5	26.4	NA	NA	12.3	20	33.1	35																		
6.0	28.8	NA	NA	12.3	20	36.1	40																		
230/1/60	0.0	0.0	12.3	20	NA	NA	NA	NA																	
	1.0	4.3	17.8	20	12.3	20	5.4	15																	
	1.5	6.5	20.5	25	12.3	20	8.2	15																	
	2.0	8.7	23.2	25	12.3	20	10.9	15																	
	2.5	10.9	25.9	30	12.3	20	13.6	15																	
	3.0	13.0	28.6	30	12.3	20	16.3	20																	
	3.5	15.2	NA	NA	12.3	20	19.0	20																	
	4.0	17.4	NA	NA	12.3	20	21.7	25																	
	4.5	19.6	NA	NA	12.3	20	24.5	25																	
	5.0	21.7	NA	NA	12.3	20	27.2	30																	
	5.5	23.9	NA	NA	12.3	20	29.9	30																	
	6.0	26.1	NA	NA	12.3	20	32.6	35																	
	265/1/60	0.0	0.0	12.0	15	NA	NA	NA		NA															
		1.0	3.8	16.7	20	12.0	15	4.7		15															
		1.5	5.7	19.1	20	12.0	15	7.1		15															
		2.0	7.5	21.5	25	12.0	15	9.4		15															
2.5		9.4	23.8	25	12.0	15	11.8	15																	
3.0		11.3	26.2	30	12.0	15	14.2	15																	
3.5		13.2	28.5	30	12.0	15	16.5	20																	
4.0		15.1	NA	NA	12.0	15	18.9	20																	
4.5		17.0	NA	NA	12.0	15	21.2	25																	
5.0		18.9	NA	NA	12.0	15	23.6	25																	
0804-**B	208-230/1/60	10.3	43.0	1	208-230/1/60	3.9	1/2	208/1/60		0.0	0.0	16.7	25	NA	NA	NA	NA								
										1.0	4.8	22.7	30	16.7	25	6.0	15								
										1.5	7.2	25.7	30	16.7	25	9.0	15								
										2.0	9.6	28.7	35	16.7	25	12.0	15								
										2.5	12.0	NA	NA	16.7	25	15.0	20								
										3.0	14.4	NA	NA	16.7	25	18.0	20								
										3.5	16.8	NA	NA	16.7	25	21.0	25								
										4.0	19.2	NA	NA	16.7	25	24.0	25								
										4.5	21.6	NA	NA	16.7	25	27.0	30								
										5.0	24.0	NA	NA	16.7	25	30.0	35								
										5.5	26.4	NA	NA	16.7	25	33.1	35								
										6.0	28.8	NA	NA	16.7	25	36.1	40								
										6.5	31.3	NA	NA	16.7	25	39.1	40								
										7.0	33.7	NA	NA	16.7	25	42.1	45								
									7.5	36.1	NA	NA	16.7	25	45.1	50									
									8.0	38.5	NA	NA	16.7	25	48.1	50									
									230/1/60	0.0	0.0	16.7	25	NA	NA	NA	NA								
										1.0	4.3	22.2	30	16.7	25	5.4	15								
										1.5	6.5	24.9	30	16.7	25	8.2	15								
										2.0	8.7	27.6	35	16.7	25	10.9	15								
										2.5	10.9	NA	NA	16.7	25	13.6	15								
										3.0	13.0	NA	NA	16.7	25	16.3	20								
	3.5	15.2	NA	NA	16.7	25	19.0	20																	
	4.0	17.4	NA	NA	16.7	25	21.7	25																	
	4.5	19.6	NA	NA	16.7	25	24.5	25																	
	5.0	21.7	NA	NA	16.7	25	27.2	30																	
	5.5	23.9	NA	NA	16.7	25	29.9	30																	
	6.0	26.1	NA	NA	16.7	25	32.6	35																	
	6.5	28.3	NA	NA	16.7	25	35.3	40																	
	7.0	30.4	NA	NA	16.7	25	38.0	40																	
	7.5	32.6	NA	NA	16.7	25	40.8	45																	
	8.0	34.8	NA	NA	16.7	25	43.5	45																	

Electrical Data – Constant Volume EC Motor

VP Electrical Data - Constant Volume EC Motor

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power			
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD
0804-**B	265/1/60	8.3	54.0	1	265/1/60	3.2	1/2	265/1/60	0.0	0.0	13.6	20	NA	NA	NA	NA
									1.0	3.8	18.3	25	13.6	20	4.7	15
									1.5	5.7	20.7	25	13.6	20	7.1	15
									2.0	7.5	23.0	25	13.6	20	9.4	15
									2.5	9.4	25.4	30	13.6	20	11.8	15
									3.0	11.3	27.7	30	13.6	20	14.2	15
									3.5	13.2	NA	NA	13.6	20	16.5	20
									4.0	15.1	NA	NA	13.6	20	18.9	20
									4.5	17.0	NA	NA	13.6	20	21.2	25
									5.0	18.9	NA	NA	13.6	20	23.6	25
									5.5	20.8	NA	NA	13.6	20	25.9	30
									6.0	22.6	NA	NA	13.6	20	28.3	30
									6.5	24.5	NA	NA	13.6	20	30.7	35
									7.0	26.4	NA	NA	13.6	20	33.0	35
									7.5	28.3	NA	NA	13.6	20	35.4	40
									8.0	30.2	NA	NA	13.6	20	37.7	40
0814-**D	208-230/1/60	9.2	49.1	1	208-230/1/60	3.9	1/2	208/1/60	0.0	0.0	15.4	20	NA	NA	NA	NA
									1.0	4.8	21.5	25	15.4	20	6.0	15
									1.5	7.2	24.5	30	15.4	20	9.0	15
									2.0	9.6	27.5	30	15.4	20	12.0	15
									2.5	12.0	NA	NA	15.4	20	15.0	20
									3.0	14.4	NA	NA	15.4	20	18.0	20
									3.5	16.8	NA	NA	15.4	20	21.0	25
									4.0	19.2	NA	NA	15.4	20	24.0	25
									4.5	21.6	NA	NA	15.4	20	27.0	30
									5.0	24.0	NA	NA	15.4	20	30.0	35
									5.5	26.4	NA	NA	15.4	20	33.1	35
									6.0	28.8	NA	NA	15.4	20	36.1	40
									6.5	31.3	NA	NA	15.4	20	39.1	40
									7.0	33.7	NA	NA	15.4	20	42.1	45
									7.5	36.1	NA	NA	15.4	20	45.1	50
									8.0	38.5	NA	NA	15.4	20	48.1	50
	230/1/60							230/1/60	0.0	0.0	15.4	20	NA	NA	NA	NA
									1.0	4.3	20.9	25	15.4	20	5.4	15
									1.5	6.5	23.6	30	15.4	20	8.2	15
									2.0	8.7	26.3	30	15.4	20	10.9	15
									2.5	10.9	29.0	35	15.4	20	13.6	15
									3.0	13.0	NA	NA	15.4	20	16.3	20
									3.5	15.2	NA	NA	15.4	20	19.0	20
									4.0	17.4	NA	NA	15.4	20	21.7	25
									4.5	19.6	NA	NA	15.4	20	24.5	25
									5.0	21.7	NA	NA	15.4	20	27.2	30
									5.5	23.9	NA	NA	15.4	20	29.9	30
									6.0	26.1	NA	NA	15.4	20	32.6	35
									6.5	28.3	NA	NA	15.4	20	35.3	40
									7.0	30.4	NA	NA	15.4	20	38.0	40
									7.5	32.6	NA	NA	15.4	20	40.8	45
									8.0	34.8	NA	NA	15.4	20	43.5	45
	265/1/60	8.3	54.0	1	265/1/60	3.2	1/2	265/1/60	0.0	0.0	13.6	20	NA	NA	NA	NA
									1.0	3.8	18.3	25	13.6	20	4.7	15
									1.5	5.7	20.7	25	13.6	20	7.1	15
									2.0	7.5	23.0	25	13.6	20	9.4	15
									2.5	9.4	25.4	30	13.6	20	11.8	15
									3.0	11.3	27.7	30	13.6	20	14.2	15
									3.5	13.2	NA	NA	13.6	20	16.5	20
									4.0	15.1	NA	NA	13.6	20	18.9	20
									4.5	17.0	NA	NA	13.6	20	21.2	25
									5.0	18.9	NA	NA	13.6	20	23.6	25
									5.5	20.8	NA	NA	13.6	20	25.9	30
									6.0	22.6	NA	NA	13.6	20	28.3	30
									6.5	24.5	NA	NA	13.6	20	30.7	35
									7.0	26.4	NA	NA	13.6	20	33.0	35
									7.5	28.3	NA	NA	13.6	20	35.4	40
									8.0	30.2	NA	NA	13.6	20	37.7	40

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VP Electrical Data - Constant Volume EC Motor

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power			
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD
1004-**D	208- 230/1/60	12.3	63.0	1	208- 230/1/60	3.9	1/2	208/1/60	0.0	0.0	19.3	30	NA	NA	NA	NA
									1.0	4.8	25.3	35	19.3	30	6.0	15
									1.5	7.2	28.3	35	19.3	30	9.0	15
									2.0	9.6	NA	NA	19.3	30	12.0	15
									2.5	12.0	NA	NA	19.3	30	15.0	20
									3.0	14.4	NA	NA	19.3	30	18.0	20
									3.5	16.8	NA	NA	19.3	30	21.0	25
									4.0	19.2	NA	NA	19.3	30	24.0	25
									4.5	21.6	NA	NA	19.3	30	27.0	30
									5.0	24.0	NA	NA	19.3	30	30.0	35
									5.5	26.4	NA	NA	19.3	30	33.1	35
									6.0	28.8	NA	NA	19.3	30	36.1	40
									6.5	31.3	NA	NA	19.3	30	39.1	40
									7.0	33.7	NA	NA	19.3	30	42.1	45
									7.5	36.1	NA	NA	19.3	30	45.1	50
									8.0	38.5	NA	NA	19.3	30	48.1	50
									8.5	40.9	NA	NA	19.3	30	51.1	55
									9.0	43.3	NA	NA	19.3	30	54.1	55
									9.5	45.7	NA	NA	19.3	30	57.1	60
									10.0	48.1	NA	NA	19.3	30	60.1	65
	230/1/60	12.3	63.0	1	208- 230/1/60	3.9	1/2	230/1/60	0.0	0.0	19.3	30	NA	NA	NA	NA
									1.0	4.3	24.7	35	19.3	30	5.4	15
									1.5	6.5	27.4	35	19.3	30	8.2	15
									2.0	8.7	NA	NA	19.3	30	10.9	15
									2.5	10.9	NA	NA	19.3	30	13.6	15
									3.0	13.0	NA	NA	19.3	30	16.3	20
									3.5	15.2	NA	NA	19.3	30	19.0	20
									4.0	17.4	NA	NA	19.3	30	21.7	25
									4.5	19.6	NA	NA	19.3	30	24.5	25
									5.0	21.7	NA	NA	19.3	30	27.2	30
									5.5	23.9	NA	NA	19.3	30	29.9	30
									6.0	26.1	NA	NA	19.3	30	32.6	35
									6.5	28.3	NA	NA	19.3	30	35.3	40
									7.0	30.4	NA	NA	19.3	30	38.0	40
									7.5	32.6	NA	NA	19.3	30	40.8	45
									8.0	34.8	NA	NA	19.3	30	43.5	45
									8.5	37.0	NA	NA	19.3	30	46.2	50
									9.0	39.1	NA	NA	19.3	30	48.9	50
									9.5	41.3	NA	NA	19.3	30	51.6	55
									10.0	43.5	NA	NA	19.3	30	54.3	55
	265/1/60	11.2	60.0	1	265/1/60	3.2	1/2	265/1/60	0.0	0.0	17.2	25	NA	NA	NA	NA
									1.0	3.8	21.9	30	17.2	25	4.7	15
									1.5	5.7	24.3	30	17.2	25	7.1	15
									2.0	7.5	26.6	35	17.2	25	9.4	15
									2.5	9.4	29.0	35	17.2	25	11.8	15
									3.0	11.3	NA	NA	17.2	25	14.2	15
									3.5	13.2	NA	NA	17.2	25	16.5	20
									4.0	15.1	NA	NA	17.2	25	18.9	20
									4.5	17.0	NA	NA	17.2	25	21.2	25
									5.0	18.9	NA	NA	17.2	25	23.6	25
									5.5	20.8	NA	NA	17.2	25	25.9	30
									6.0	22.6	NA	NA	17.2	25	28.3	30
									6.5	24.5	NA	NA	17.2	25	30.7	35
									7.0	26.4	NA	NA	17.2	25	33.0	35
									7.5	28.3	NA	NA	17.2	25	35.4	40
									8.0	30.2	NA	NA	17.2	25	37.7	40
									8.5	32.1	NA	NA	17.2	25	40.1	45
									9.0	34.0	NA	NA	17.2	25	42.5	45
									9.5	35.8	NA	NA	17.2	25	44.8	45
									10.0	37.7	NA	NA	17.2	25	47.2	50

Electrical Data – Constant Volume EC Motor

VP Electrical Data - Constant Volume EC Motor

Size (Tons)	Compressor				Supply Blower Motor			Electric Heat			Single Point Power		Dual Point Power			
	Voltage	RLA	LRA	QTY	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD	Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD
1204-**D	208- 230/1/60	13.6	79.0	1	208- 230/1/60	3.9	1/2	208/1/60	0.0	0.0	20.9	30	NA	NA	NA	NA
									1.0	4.8	26.9	35	20.9	30	6.0	15
									1.5	7.2	29.9	40	20.9	30	9.0	15
									2.0	9.6	NA	NA	20.9	30	12.0	15
									2.5	12.0	NA	NA	20.9	30	15.0	20
									3.0	14.4	NA	NA	20.9	30	18.0	20
									3.5	16.8	NA	NA	20.9	30	21.0	25
									4.0	19.2	NA	NA	20.9	30	24.0	25
									4.5	21.6	NA	NA	20.9	30	27.0	30
									5.0	24.0	NA	NA	20.9	30	30.0	35
									5.5	26.4	NA	NA	20.9	30	33.1	35
									6.0	28.8	NA	NA	20.9	30	36.1	40
									6.5	31.3	NA	NA	20.9	30	39.1	40
									7.0	33.7	NA	NA	20.9	30	42.1	45
									7.5	36.1	NA	NA	20.9	30	45.1	50
									8.0	38.5	NA	NA	20.9	30	48.1	50
									8.5	40.9	NA	NA	20.9	30	51.1	55
									9.0	43.3	NA	NA	20.9	30	54.1	55
									9.5	45.7	NA	NA	20.9	30	57.1	60
									10.0	48.1	NA	NA	20.9	30	60.1	65
	230/1/60	13.6	79.0	1	230/1/60	3.9	1/2	230/1/60	0.0	0.0	20.9	30	NA	NA	NA	NA
									1.0	4.3	26.3	35	20.9	30	5.4	15
									1.5	6.5	29.0	40	20.9	30	8.2	15
									2.0	8.7	NA	NA	20.9	30	10.9	15
									2.5	10.9	NA	NA	20.9	30	13.6	15
									3.0	13.0	NA	NA	20.9	30	16.3	20
									3.5	15.2	NA	NA	20.9	30	19.0	20
									4.0	17.4	NA	NA	20.9	30	21.7	25
									4.5	19.6	NA	NA	20.9	30	24.5	25
									5.0	21.7	NA	NA	20.9	30	27.2	30
									5.5	23.9	NA	NA	20.9	30	29.9	30
									6.0	26.1	NA	NA	20.9	30	32.6	35
									6.5	28.3	NA	NA	20.9	30	35.3	40
									7.0	30.4	NA	NA	20.9	30	38.0	40
									7.5	32.6	NA	NA	20.9	30	40.8	45
									8.0	34.8	NA	NA	20.9	30	43.5	45
									8.5	37.0	NA	NA	20.9	30	46.2	50
									9.0	39.1	NA	NA	20.9	30	48.9	50
									9.5	41.3	NA	NA	20.9	30	51.6	55
									10.0	43.5	NA	NA	20.9	30	54.3	55
	265/1/60	12.2	72.0	1	265/1/60	3.2	1/2	265/1/60	0.0	0.0	18.5	30	NA	NA	NA	NA
									1.0	3.8	23.2	30	18.5	30	4.7	15
									1.5	5.7	25.5	35	18.5	30	7.1	15
									2.0	7.5	27.9	35	18.5	30	9.4	15
									2.5	9.4	NA	NA	18.5	30	11.8	15
									3.0	11.3	NA	NA	18.5	30	14.2	15
									3.5	13.2	NA	NA	18.5	30	16.5	20
									4.0	15.1	NA	NA	18.5	30	18.9	20
									4.5	17.0	NA	NA	18.5	30	21.2	25
									5.0	18.9	NA	NA	18.5	30	23.6	25
									5.5	20.8	NA	NA	18.5	30	25.9	30
									6.0	22.6	NA	NA	18.5	30	28.3	30
									6.5	24.5	NA	NA	18.5	30	30.7	35
									7.0	26.4	NA	NA	18.5	30	33.0	35
									7.5	28.3	NA	NA	18.5	30	35.4	40
									8.0	30.2	NA	NA	18.5	30	37.7	40
									8.5	32.1	NA	NA	18.5	30	40.1	45
									9.0	34.0	NA	NA	18.5	30	42.5	45
									9.5	35.8	NA	NA	18.5	30	44.8	45
									10.0	37.7	NA	NA	18.5	30	47.2	50



Table 14: Additional Static Resistance - Units of Measurement in Inches W.G.

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

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VI / VP Sound Power Levels

Size (Tons)	Model	Sound Rating ¹ (dB-A)	Octave Bands (Hz)						
			125	250	500	1000	2000	4000	8000
204 (.50)	Fan Only - Low	43	49	45	42	36	28	27	28
	Fan Only - High	48	49	51	46	43	34	29	30
	Cooling - Low	46	58	48	41	36	31	30	29
	Cooling - High	50	60	52	46	43	34	34	31
	Heating - Low	49	61	51	46	39	31	31	29
	Heating - High	52	63	56	49	43	34	34	32
304 (.75)	Fan Only - Low	44	49	46	42	37	29	28	28
	Fan Only - High	52	50	51	47	43	34	29	30
	Cooling - Low	47	59	50	43	37	32	32	30
	Cooling - High	52	60	54	47	43	34	36	32
	Heating - Low	50	62	52	47	40	32	32	31
	Heating - High	53	64	56	50	44	35	36	33
404 (1.0)	Fan Only - Low	44	50	47	43	37	29	28	29
	Fan Only - High	49	51	52	47	43	35	30	31
	Cooling - Low	48	60	50	43	38	33	32	31
	Cooling - High	51	61	54	47	44	35	36	33
	Heating - Low	51	63	52	48	41	33	33	31
	Heating - High	54	64	57	51	45	35	36	34
504 (1.25)	Fan Only - Low	50	53	50	50	44	39	34	30
	Fan Only - High	54	54	53	53	49	44	36	33
	Cooling - Low	52	60	50	52	44	39	34	32
	Cooling - High	55	62	54	54	49	44	36	33
	Heating - Low	55	63	56	52	49	43	36	33
	Heating - High	57	64	57	55	51	47	39	34
604 (1.5)	Fan Only - Low	51	55	53	50	45	40	35	30
	Fan Only - High	54	57	55	53	49	44	37	33
	Cooling - Low	53	61	53	52	45	40	35	32
	Cooling - High	55	63	55	54	49	44	37	33
	Heating - Low	56	63	57	53	50	44	37	33
	Heating - High	57	64	58	55	51	47	40	34
804 (2.0)	Fan Only - Low	53	56	54	53	47	41	35	33
	Fan Only - High	56	58	57	54	51	44	39	35
	Cooling - Low	54	62	56	53	48	41	36	33
	Cooling - High	57	64	58	55	51	44	39	35
	Heating - Low	57	66	58	55	49	43	39	34
	Heating - High	59	67	61	56	52	47	42	35

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VI / VP Sound Power Levels

Size (Tons)	Model	Sound Rating ¹ (dB-A)	Octave Bands (Hz)						
			125	250	500	1000	2000	4000	8000
814 (2.0)	Fan Only - Low	53	55	54	53	47	40	35	33
	Fan Only - High	56	56	57	55	51	44	39	35
	Cooling - Low	56	58	59	56	49	41	36	33
	Cooling - High	58	60	61	56	51	44	40	35
	Heating - Low	57	61	59	56	50	42	38	33
	Heating - High	59	62	61	57	54	46	41	35
1004 (2.5)	Fan Only - Low	55	58	54	53	50	43	37	34
	Fan Only - High	58	61	58	56	53	46	39	36
	Cooling - Low	57	66	57	55	50	44	41	35
	Cooling - High	59	67	59	56	55	47	42	36
	Heating - Low	58	67	59	55	51	44	41	36
	Heating - High	60	68	63	57	55	48	42	35
1204 (3.0)	Fan Only - Low	57	62	57	56	53	45	40	35
	Fan Only - High	61	64	62	60	56	48	42	38
	Cooling - Low	59	68	59	57	54	47	44	36
	Cooling - High	63	70	62	61	59	49	46	38
	Heating - Low	62	70	61	60	57	47	44	37
	Heating - High	65	72	66	63	59	51	47	39

1. Rated in accordance with ANSI/AHRI standard 350 and based on single horizontal discharge.

2. Contact factory for sound attenuation options

VI / VP Sound Power Levels with Silver Rail

Size (Tons)	Model	Sound Rating ¹ (dB-A)	Octave Bands (Hz)						
			125	250	500	1000	2000	4000	8000
204 (.50)	Fan Only - Low	43	49	45	42	36	28	27	28
	Fan Only - High	48	49	51	46	43	34	29	30
	Cooling - Low	45	57	47	42	36	31	30	29
	Cooling - High	49	59	51	46	43	34	34	31
	Heating - Low	48	60	50	45	39	31	31	29
	Heating - High	51	61	55	48	43	34	34	32
304 (.75)	Fan Only - Low	44	49	46	42	37	29	28	28
	Fan Only - High	48	50	51	47	43	34	29	30
	Cooling - Low	46	58	48	43	37	32	32	30
	Cooling - High	50	59	52	47	43	34	36	32
	Heating - Low	49	61	50	46	40	32	32	31
	Heating - High	52	61	55	49	44	35	36	33
404 (1.0)	Fan Only - Low	44	50	47	43	37	29	28	29
	Fan Only - High	49	51	52	47	43	35	30	31
	Cooling - Low	47	58	48	43	38	33	32	31
	Cooling - High	50	59	53	47	44	35	36	33
	Heating - Low	49	61	50	47	41	33	33	31
	Heating - High	52	61	55	50	45	35	36	34
504 (1.25)	Fan Only - Low	50	53	50	50	44	39	34	30
	Fan Only - High	54	54	53	53	49	44	36	33
	Cooling - Low	51	58	50	50	44	39	34	32
	Cooling - High	54	60	54	53	49	44	36	33
	Heating - Low	54	61	54	51	49	43	36	33
	Heating - High	56	61	55	54	51	47	39	34
604 (1.5)	Fan Only - Low	51	55	53	50	45	40	35	30
	Fan Only - High	54	57	55	53	49	44	37	33
	Cooling - Low	52	59	53	50	45	40	35	32
	Cooling - High	55	61	55	53	49	44	37	33
	Heating - Low	55	60	55	52	50	44	37	33
	Heating - High	56	61	56	54	51	47	40	34
804 (2.0)	Fan Only - Low	53	56	54	53	47	41	35	33
	Fan Only - High	56	58	57	54	51	44	39	35
	Cooling - Low	54	60	54	53	48	41	36	33
	Cooling - High	56	62	57	54	51	44	39	35
	Heating - Low	56	64	56	54	49	43	39	34
	Heating - High	58	64	59	55	52	47	42	35

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VI / VP Sound Power Levels with Silver Rail

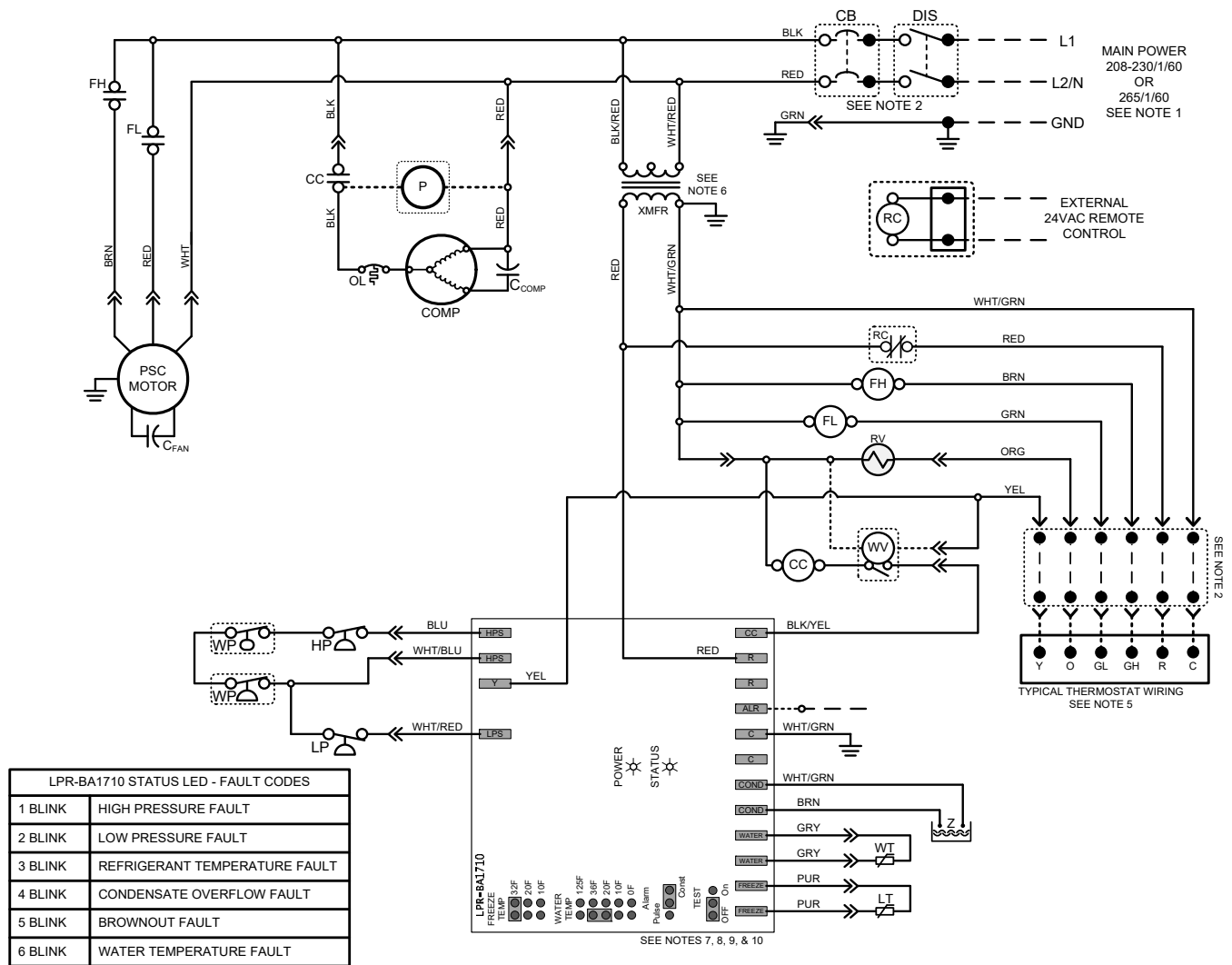
Size (Tons)	Model	Sound Rating ¹ (dB-A)	Octave Bands (Hz)						
			125	250	500	1000	2000	4000	8000
814 (2.0)	Fan Only - Low	53	55	54	53	47	40	35	33
	Fan Only - High	56	56	57	55	51	44	39	35
	Cooling - Low	55	56	57	54	49	41	36	33
	Cooling - High	57	58	60	56	51	44	40	35
	Heating - Low	56	59	57	55	50	42	38	33
	Heating - High	58	60	60	56	54	46	41	35
1004 (2.5)	Fan Only - Low	55	58	54	53	50	43	37	34
	Fan Only - High	58	61	58	56	53	46	39	36
	Cooling - Low	56	64	55	53	50	44	41	35
	Cooling - High	59	65	58	56	55	47	42	36
	Heating - Low	57	65	57	54	51	44	41	36
	Heating - High	60	66	61	56	55	48	42	35
1204 (3.0)	Fan Only - Low	57	62	57	56	53	45	40	35
	Fan Only - High	61	64	62	60	56	48	42	38
	Cooling - Low	59	66	57	56	54	47	44	36
	Cooling - High	63	68	62	60	59	49	46	38
	Heating - Low	61	68	59	59	57	47	44	37
	Heating - High	64	69	64	62	59	51	47	39

1. Rated in accordance with ANSI/AHRI standard 350 and based on single horizontal discharge.

2. Contact factory for sound attenuation options

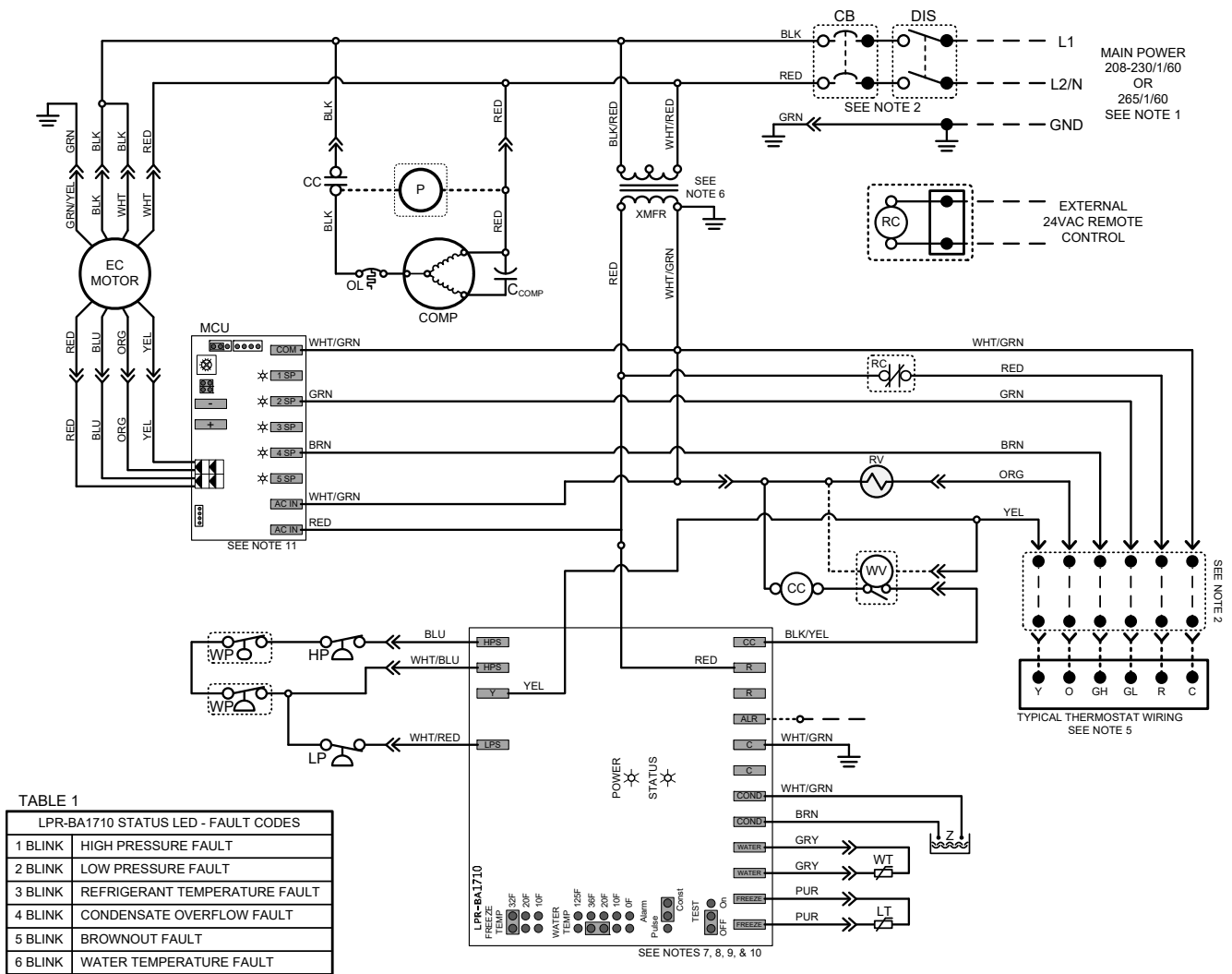


Wiring Diagrams: 200-600: 2 Speed PSC Motor

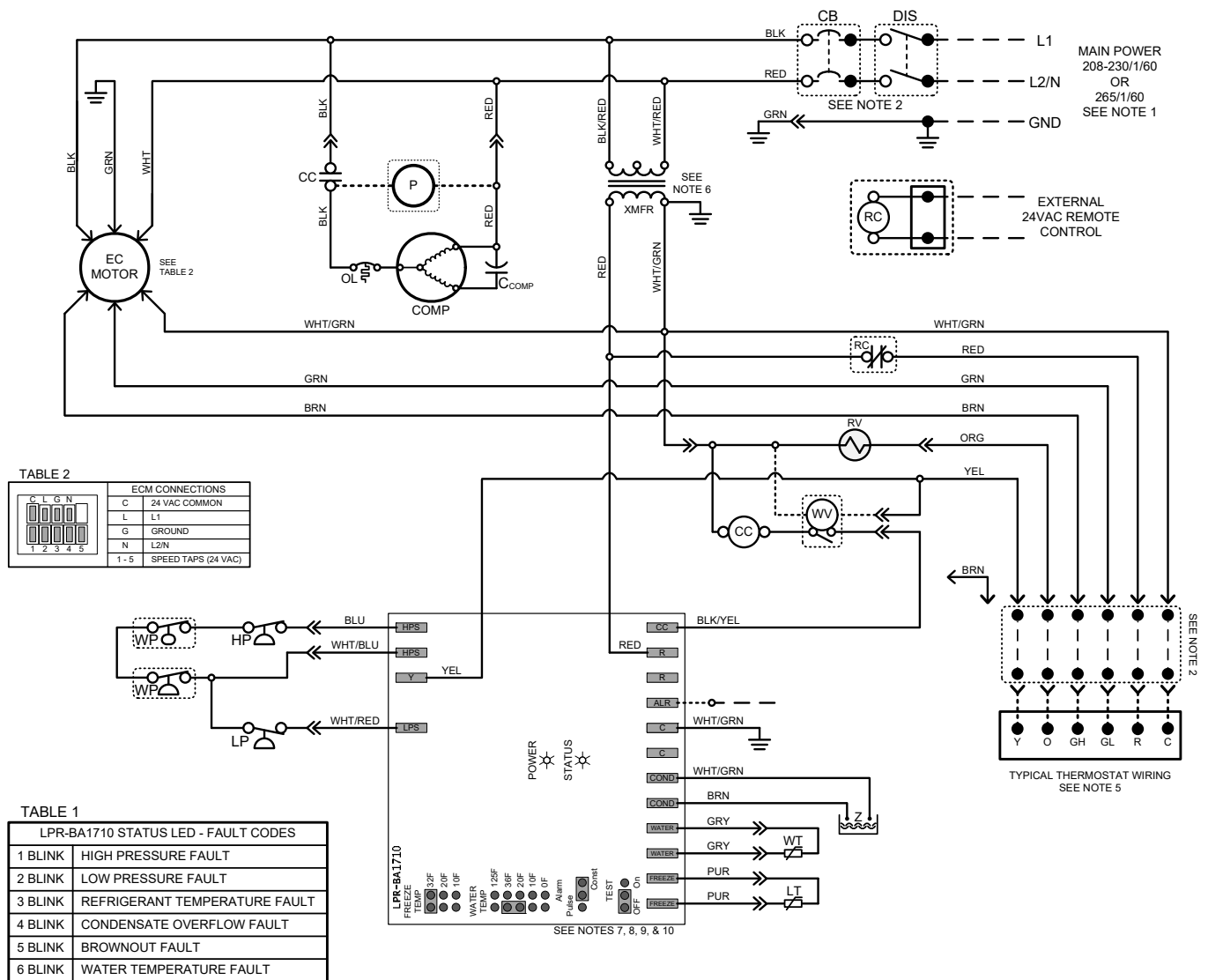


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9 March, 2017

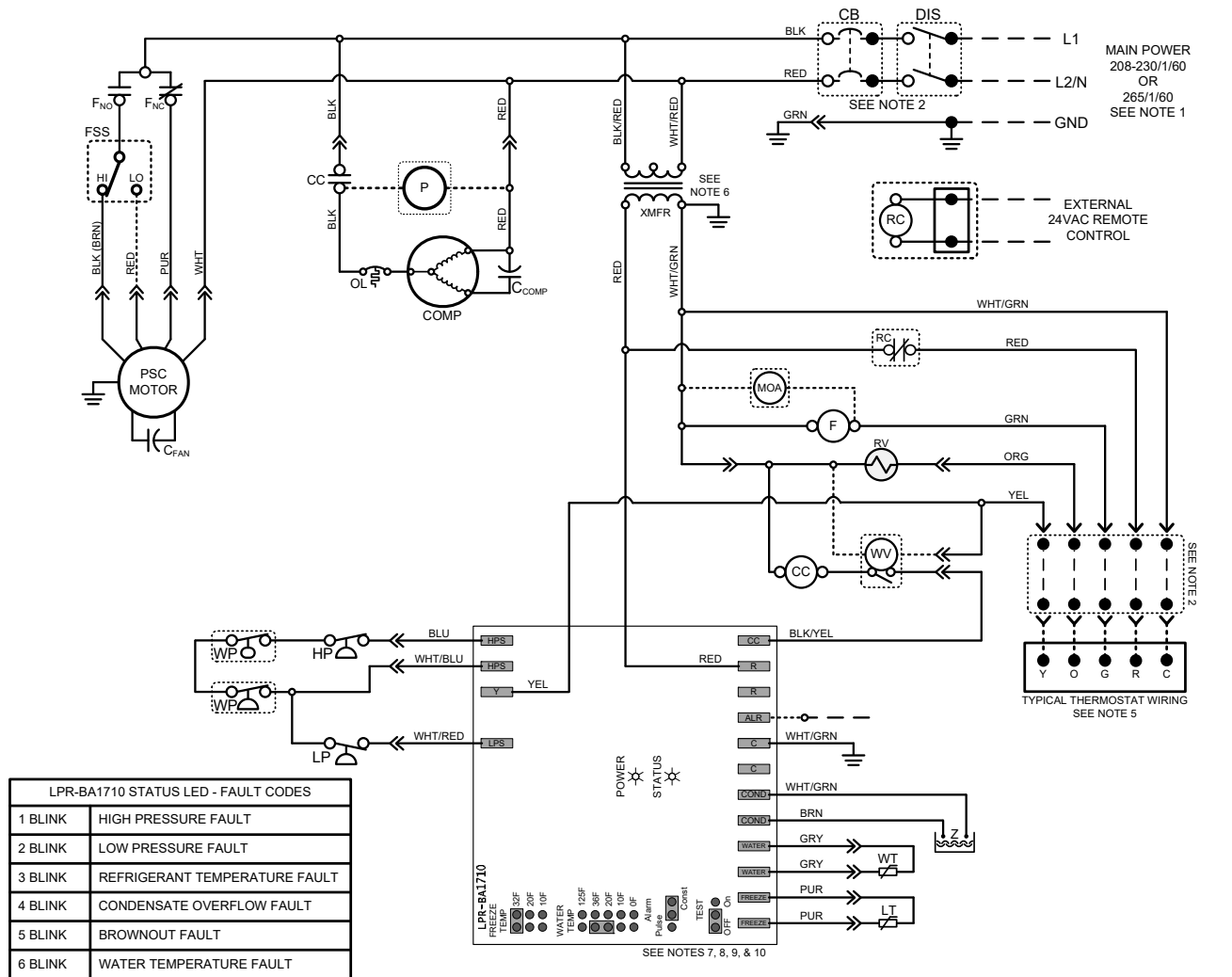


Wiring Diagram: 800-1200: 2 Speed Constant Torque EC Motor



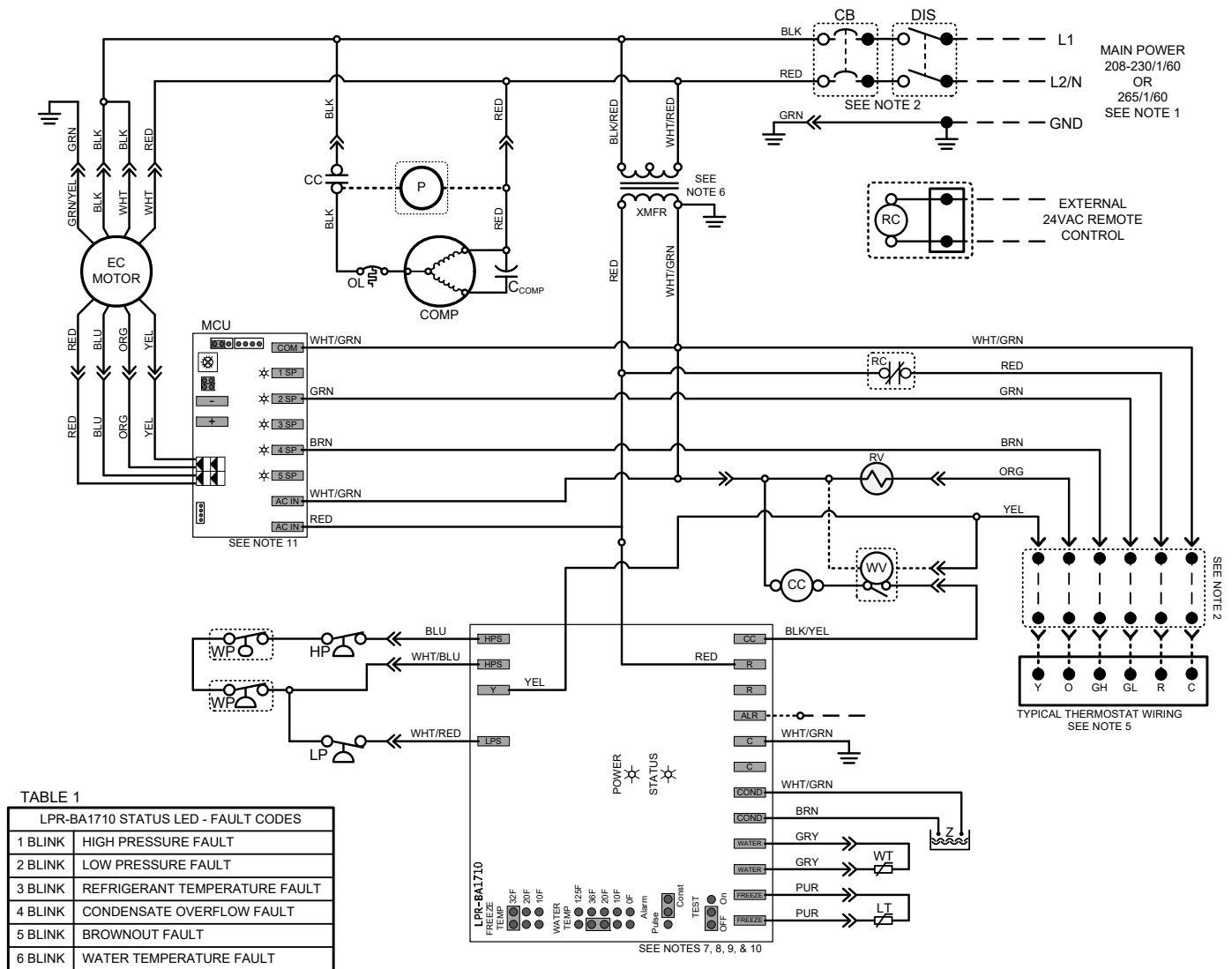
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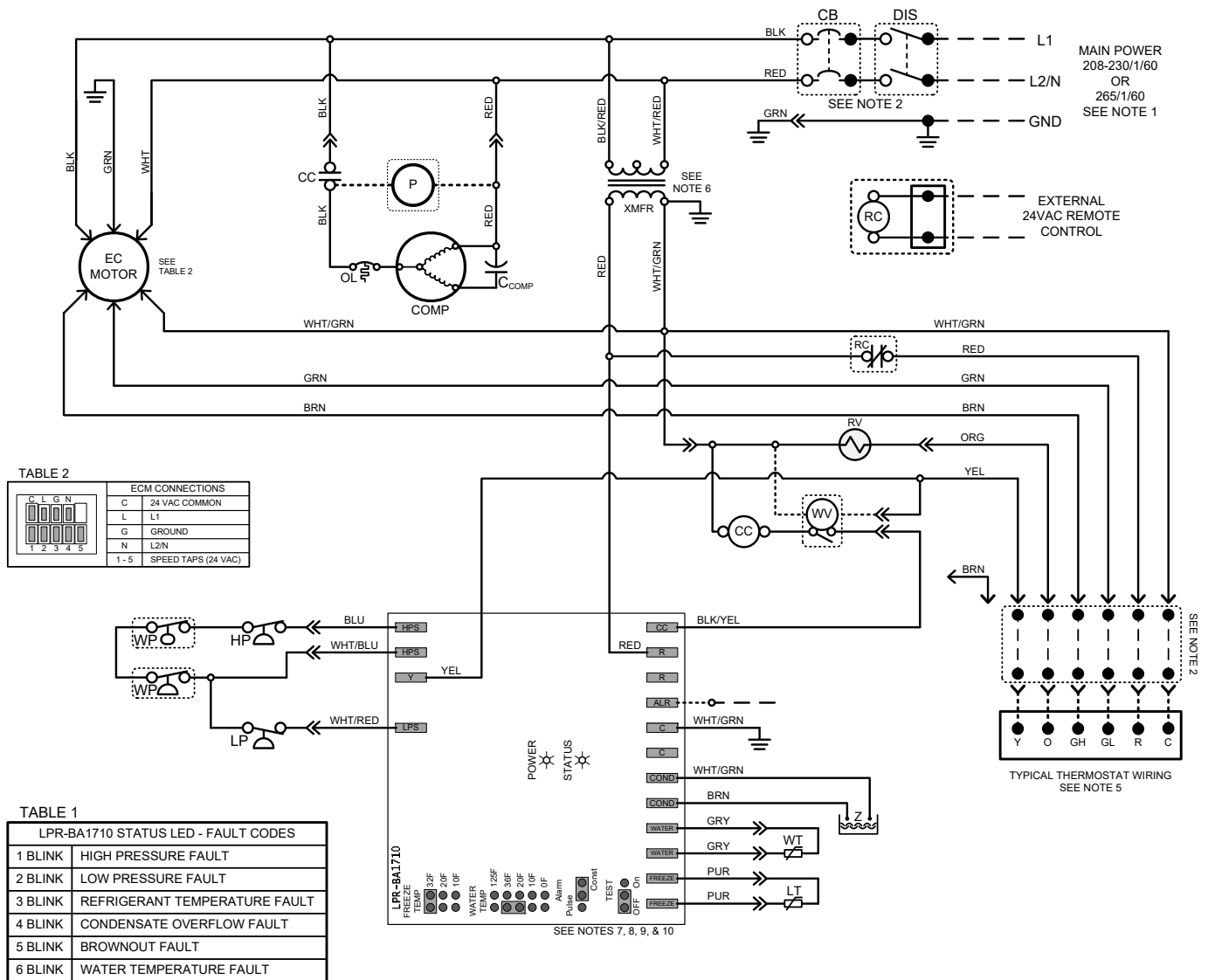
9 March, 2017

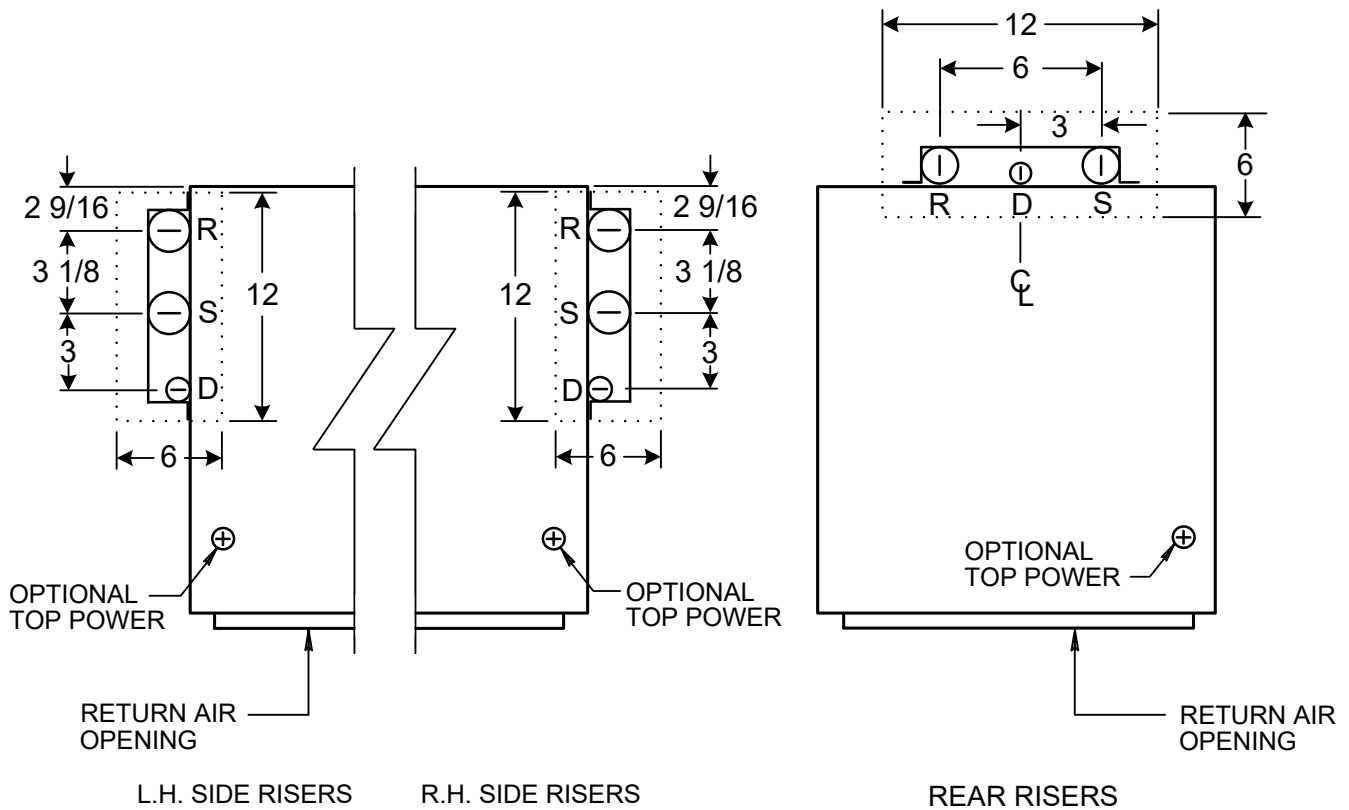




Wiring Diagram: 200-600: 2 Speed Constant Torque EC Motor w/Continuous Fan






Notes:

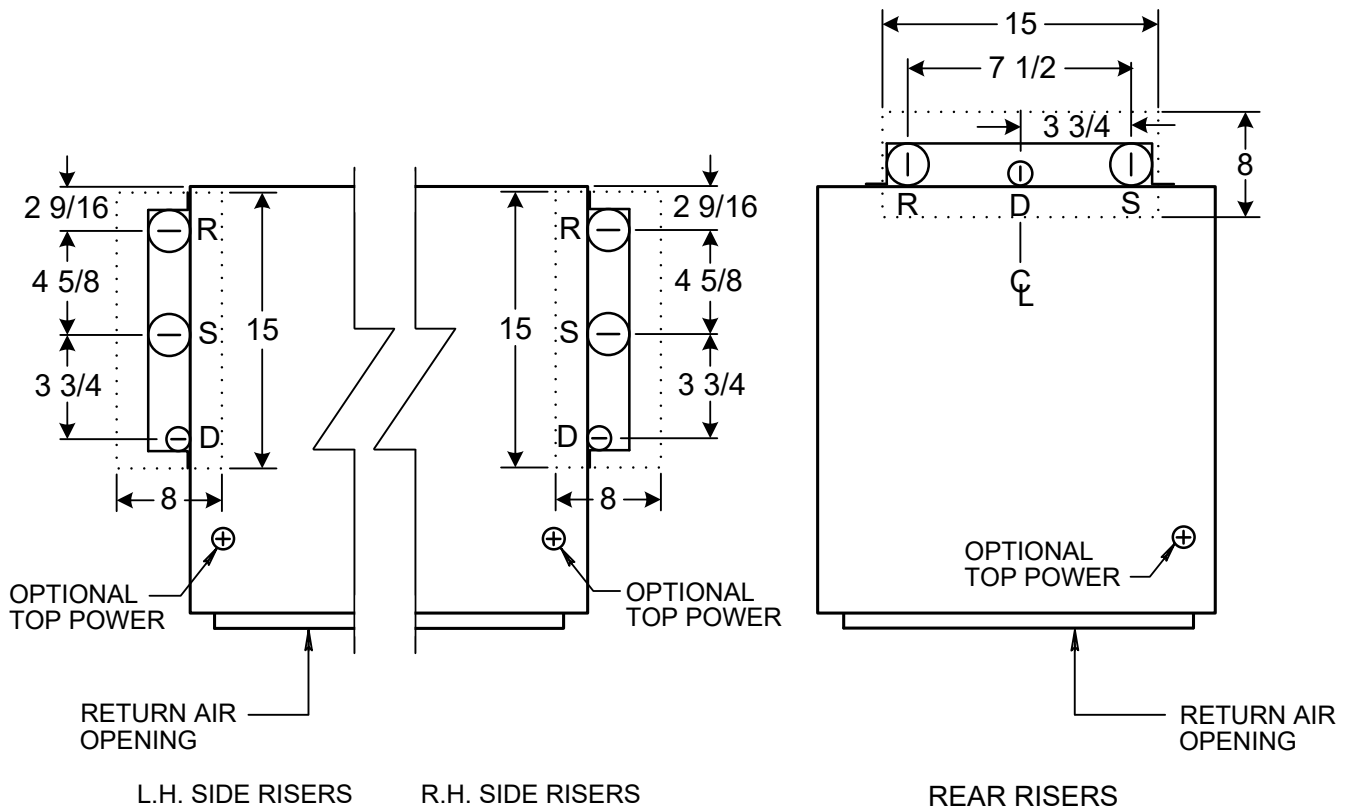
1. "Riser size" refers to the larger of the supply and return risers one each heat pump.
2. Risers are protected by a steel riser cover extending the height of the cabinet. Risers are soldered to a copper clamp to help prevent movement during shipment and jobsite handling.
3. Riser couplings are not furnished by Whalen, unless otherwise noted.
4. Sleeve hole dimensions (12" X 6") are recommended minimums.
5. Supply pipe is always towards the R.A. on side riser units and to the right on rear riser units.
6. Maximum Drain size is 1 1/2" with 3/8" insulation or 1 1/4" with 1/2" insulation for standard or extended option. Use split option for 1 1/2" drain with 1/2" insulation.

OPTION	RISER SIZE **	
	No Insulation	1/2" Insulation
STANDARD	2 1/2	1 1/2

** RISER SIZE REFERS TO THE LARGEST RISER ON PROJECT.

..... REPRESENTS RECOMMENDED SLEEVE HOLE.

DRAWING NUMBER: 609f-PT-STD
JULY 2017



Notes:

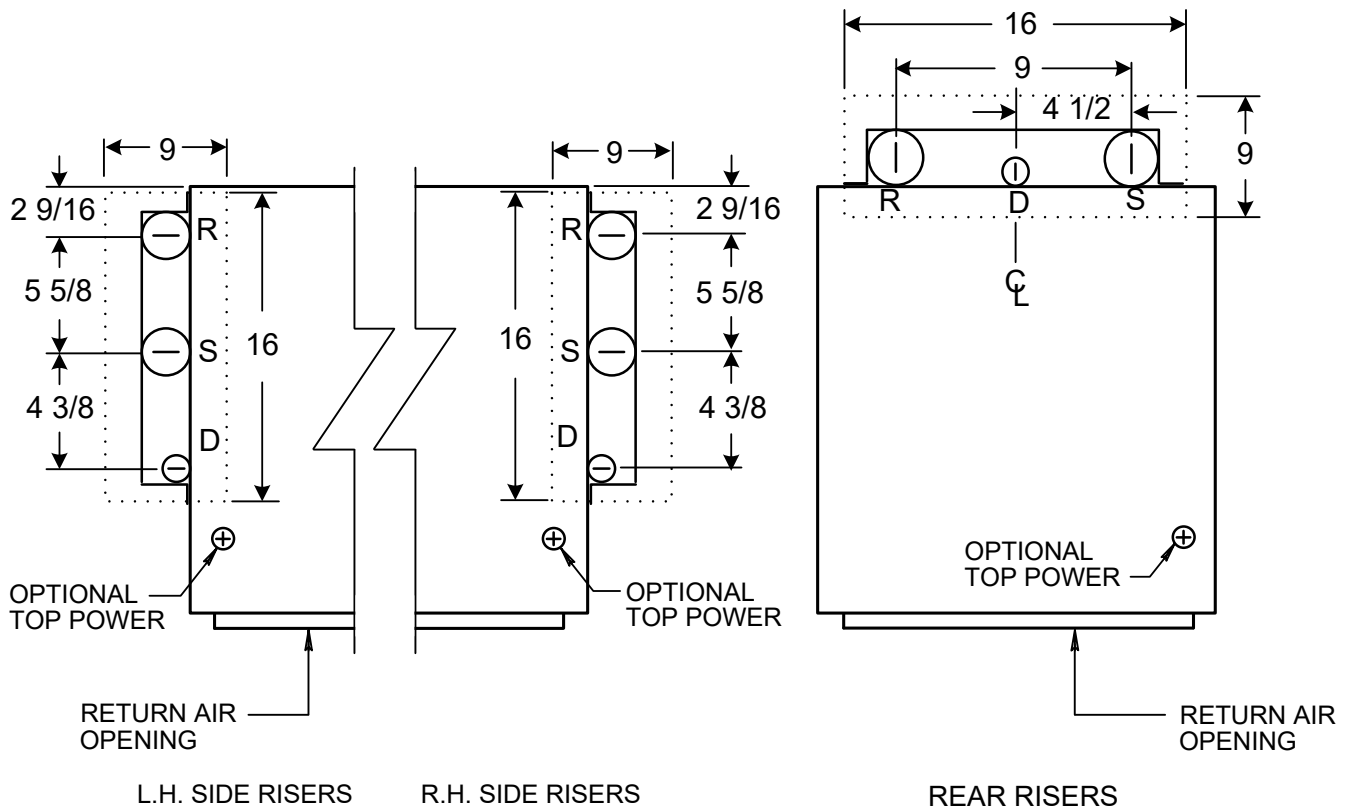
1. "Riser size" refers to the larger of the supply and return risers one each heat pump.
2. Risers are protected by a steel riser cover extending the height of the cabinet. Risers are soldered to a copper clamp to help prevent movement during shipment and jobsite handling.
3. Riser couplings are not furnished by Whalen, unless otherwise noted.
4. Sleeve hole dimensions (15" X 8") are recommended minimums.
5. Supply pipe is always towards the R.A. on side riser units and to the right on rear riser units.
6. Maximum Drain size is 1 1/2" with 3/8" insulation or 1 1/4" with 1/2" insulation for standard or extended option. Use split option for 1 1/2" drain with 1/2" insulation.

OPTION	RISER SIZE **	
	No Insulation	1/2" Insulation
EXTENDED	4	3

** RISER SIZE REFERS TO THE LARGEST RISER ON PROJECT.

..... REPRESENTS RECOMMENDED SLEEVE HOLE.

DRAWING NUMBER: 609f-PT-EXT
JULY 2017



Notes:

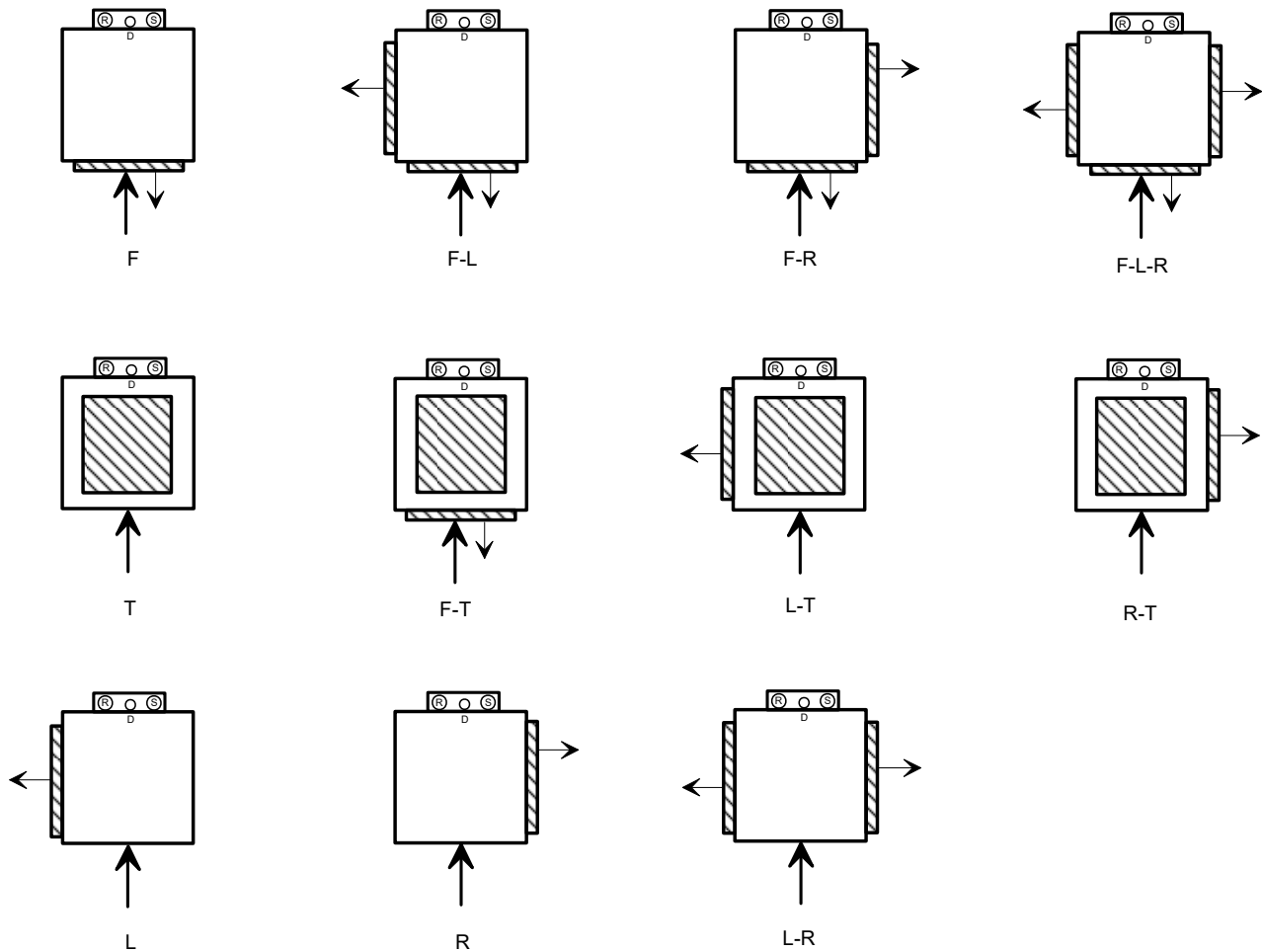
1. "Riser size" refers to the larger of the supply and return risers one each heat pump.
2. Risers are protected by a steel riser cover extending the height of the cabinet. Risers are soldered to a copper clamp to help prevent movement during shipment and jobsite handling.
3. Riser couplings are not furnished by Whalen, unless otherwise noted.
4. Sleeve hole dimensions (16" X 9") are recommended minimums.
5. Supply pipe is always towards the R.A. on side riser units and to the right on rear riser units.
6. Maximum Drain size is 1 1/2" with 3/8" insulation or 1 1/4" with 1/2" insulation for standard or extended option. Use split option for 1 1/2" drain with 1/2" insulation.

OPTION	RISER SIZE **	
	No Insulation	1/2" Insulation
SPLIT	4	4

** RISER SIZE REFERS TO THE LARGEST RISER ON PROJECT.

..... REPRESENTS RECOMMENDED SLEEVE HOLE.

DRAWING NUMBER: 609f-PT-SPLIT
JULY 2017

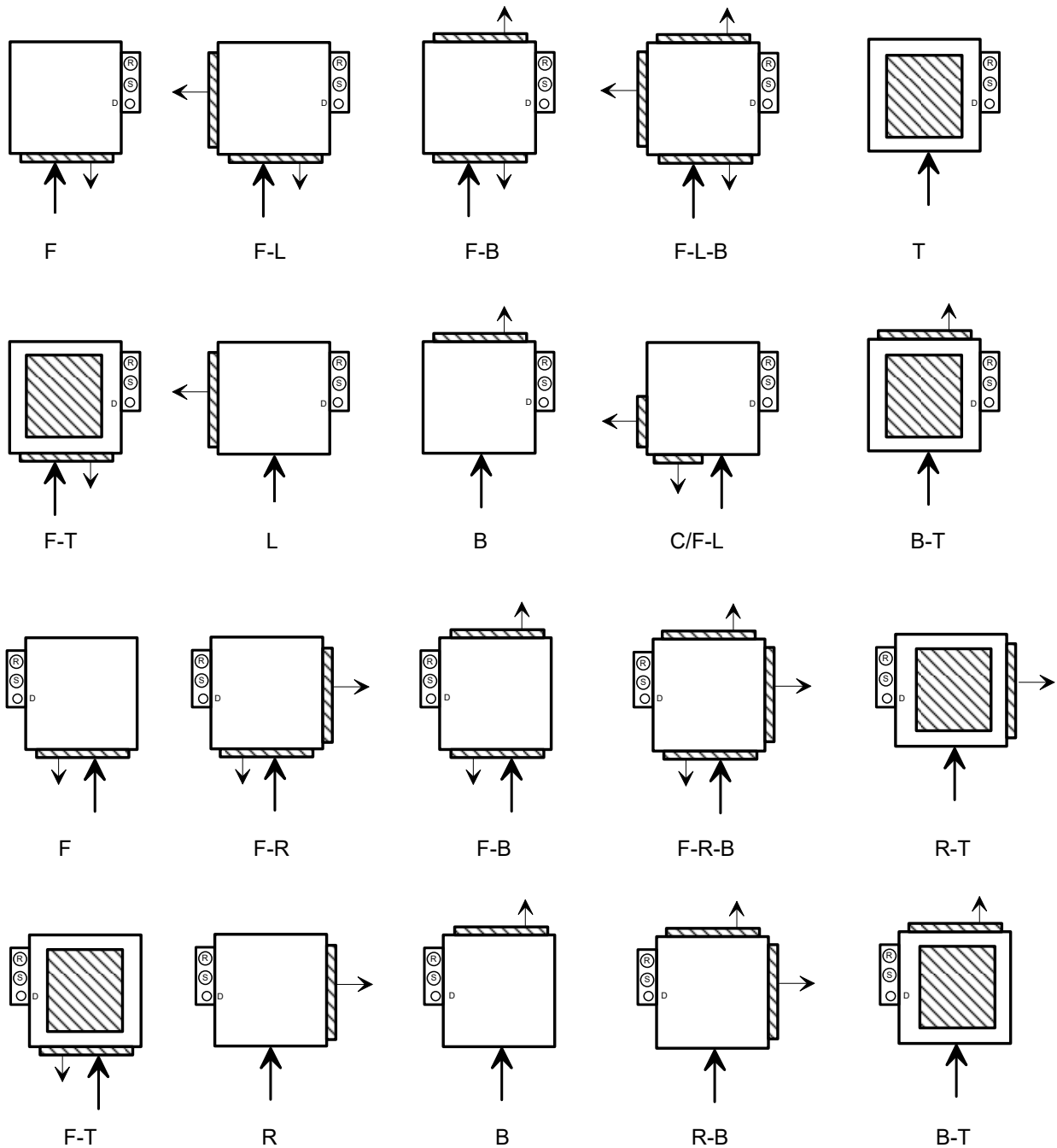


LARGE ARROW REPRESENTS RETURN AIR LOCATION AND SMALL ARROWS REPRESENT DISCHARGE LOCATION.

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

DRAWING NUMBER: 611c-PVR
MARCH 2016

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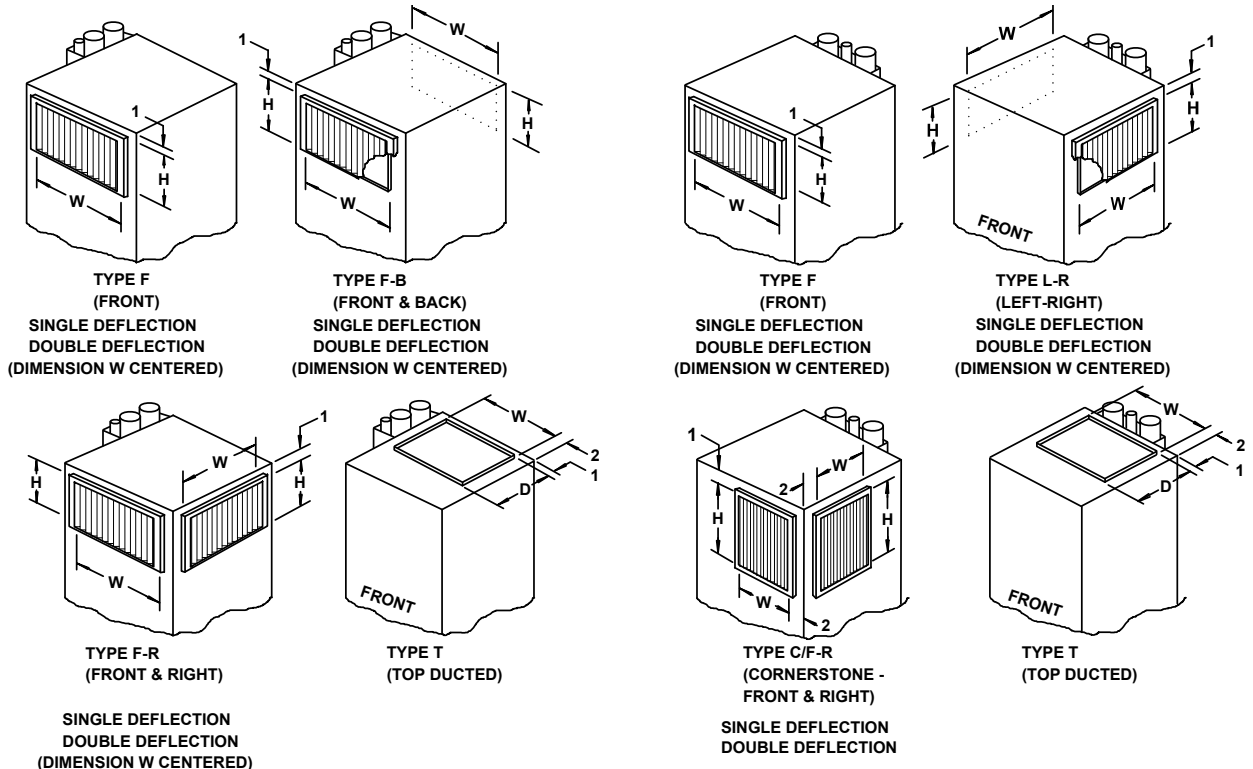


LARGE ARROWS REPRESENT RETURN AIR LOCATION AND SMALL ARROWS REPRESENT DISCHARGE LOCATION.

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

DRAWING NUMBER: 611c-PVS
JUNE 2021

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LH SIDE RISER UNITS SHOWN ABOVE
RH SIDE RISER UNITS OPPOSITE
See Drawing No. 611PVS for plan views.

REAR RISER UNITS SHOWN ABOVE
See Drawing No. 611PVR for plan views.

Notes:

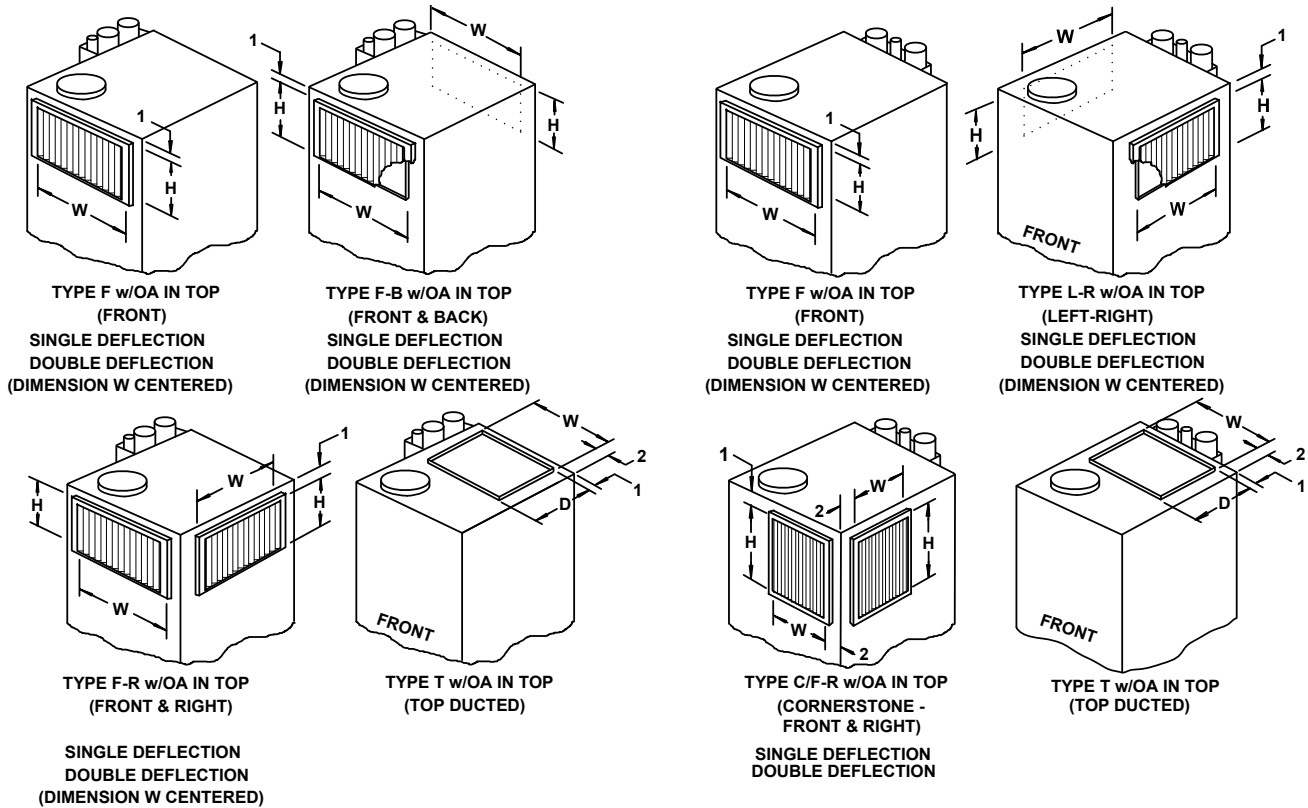
1. All standard Whalen supply grilles and registers are fabricated of clear anodized aluminum.
2. See unit schedule for discharge types. Optional supply registers are available with either parallel or opposed blade dampers at extra cost.
3. Supply and return air grilles are shipped loose, for installation after drywall installation is complete.
4. Listed grille and register dimensions are for the grille opening
5. Unless otherwise noted, the front grille blades will be vertical, as drawn.
6. Registers should be avoided whenever possible, as restriction of airflow may lead to lockout of the compressor. Avoid combining ducted (Type T) discharge with unit mounted registers. This combination can increase the noise level at the unit.
7. Where Type T is combined with Type F, B, L or R, grille height will be that of a two-grille discharge.

UNIT SIZE	1 Grille Type (F,B,L,R)		2 Grille Type (F-B, F-L, F-R, L-R, B-L, B-R)		2 Grille Corner- stone Type (C/F-L, C/F-R)		3 Grille Type (F-L-R, F-B-L, F-B-R)		Top Ducted Type (T)	
	W	H	W	H	W	H	W	H	W	D
0204	10	8	10	4	4	10	10	4	12	10
0304	14	8	14	6	6	14	14	6	12	10
0404	14	10	14	6	6	14	14	6	12	12
0504	16	12	16	6	8	16	16	6	14	14
0604	16	12	16	6	8	16	16	6	14	14
0804	16	16	16	8	8	16	16	8	14	16
0814	Not Available		18	8	Not Available		18	8	16	14
1004	Not Available		18	10	Not Available		18	10	16	14
1204	Not Available		18	12	Not Available		18	12	16	14

All dimensions in inches.

DRAWING NUMBER: 611r
AUGUST 2017

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LH SIDE RISER UNITS SHOWN ABOVE
RH SIDE RISER UNITS OPPOSITE
See Drawing No. 611PVS for plan views.

REAR RISER UNITS SHOWN ABOVE
See Drawing No. 611PVR for plan views.

Notes:

1. All standard Whalen supply grilles and registers are fabricated of clear anodized aluminum.
2. See unit schedule for discharge types. Optional supply registers are available with either parallel or opposed blade dampers at extra cost.
3. Supply and return air grilles are shipped loose, for installation after drywall installation is complete.
4. Listed grille and register dimensions are for the grille opening
5. Unless otherwise noted, the front grille blades will be vertical, as drawn.
6. Registers should be avoided whenever possible, as restriction of airflow may lead to lockout of the compressor. Avoid combining ducted (Type T) discharge with unit mounted registers. This combination can increase the noise level at the unit.
7. Where Type T is combined with Type F, B, L or R, grille height will be that of a two-grille discharge.

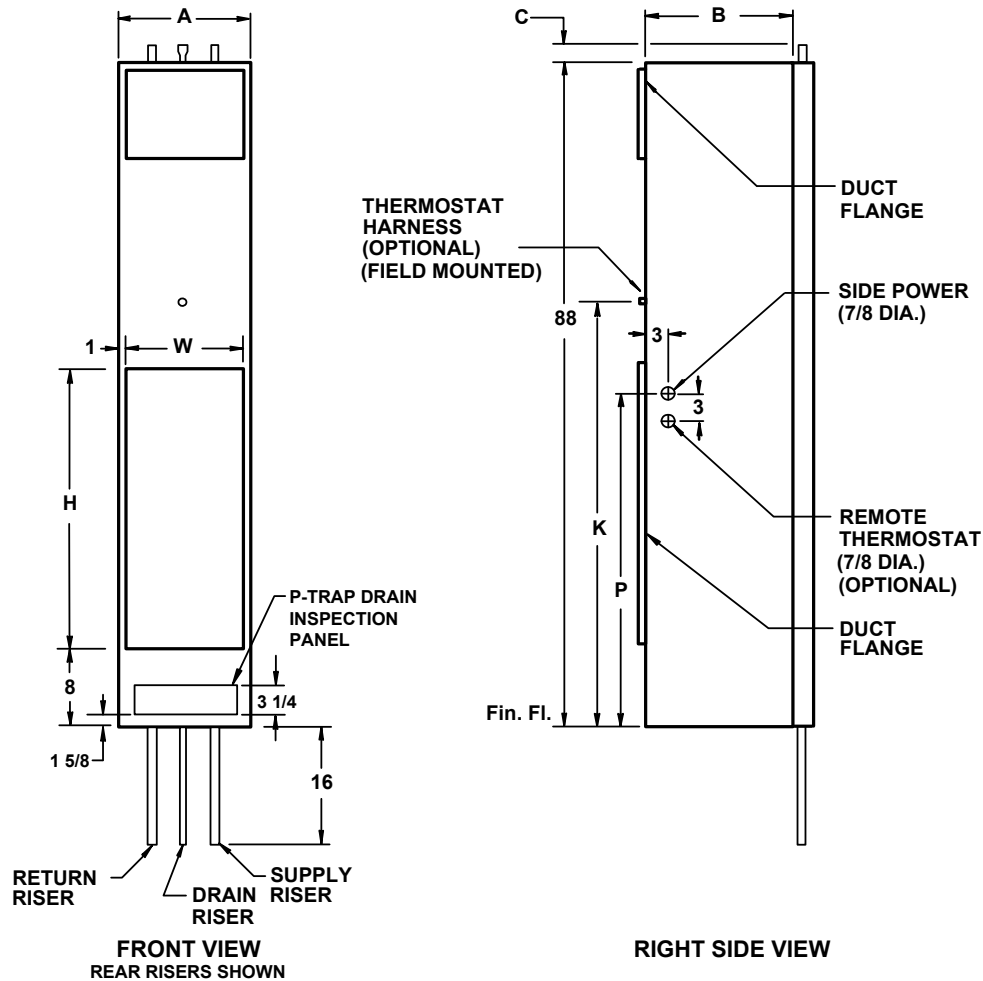
UNIT SIZE	1 Grille Type (F,B,L,R)		2 Grille Type (F-B, F-L, F-R, L-R, B-L, B-R)		2 Grille Corner- stone Type (C/F-L, C/F-R)		3 Grille Type (F-L-R, F-B-L, F-B-R)		Top Ducted Type (T)	
	W	H	W	H	W	H	W	H	W	D
0204	10	8	10	4	4	10	10	4	12	10
0304	14	8	14	6	6	14	14	6	12	10
0404	14	10	14	6	6	14	14	6	12	12
0504	16	12	16	6	8	16	16	6	14	14
0604	16	12	16	6	8	16	16	6	14	14
0804	16	16	16	8	8	16	16	8	14	16
0814	16	16	16	8	8	16	16	8	16	14
1004	Not Available		18	10	Not Available		18	10	16	14
1204	Not Available		18	12	Not Available		18	12	16	14

All dimensions in inches.

DRAWING NUMBER: 611b-ERV
AUGUST 2017

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Whisperline® Units with Internal Drain Rear Risers


Notes:

1. The return air opening is always on the front of the unit.
2. Cabinet is acoustically and thermally insulated and is fabricated of continuous galvanized steel.
3. Supply, return, and drain risers are copper (see notes page for copper type). Riser assemblies include two shut off valves inside the cabinet. Standard units include high-pressure hose kits for connection of the refrigeration chassis.
4. For plan views, see drawing 609-PT.
5. Unit power and remote thermostat connections are located on right side on rear riser units.
6. Supply air options on 814, 1004 & 1204 models are specified on drawing 611, minimum of two discharges.

UNIT SIZE	A	B	W	H	K	P
0204-**C						
0304-**C	16	17	14	44	58	48
0404-**C						
0504-**B						
0604-**B	18	20	16	44	58	48
0804-**B						
0814-**C						
1004-**C	20	22	18	54	68	59
1204-**C						

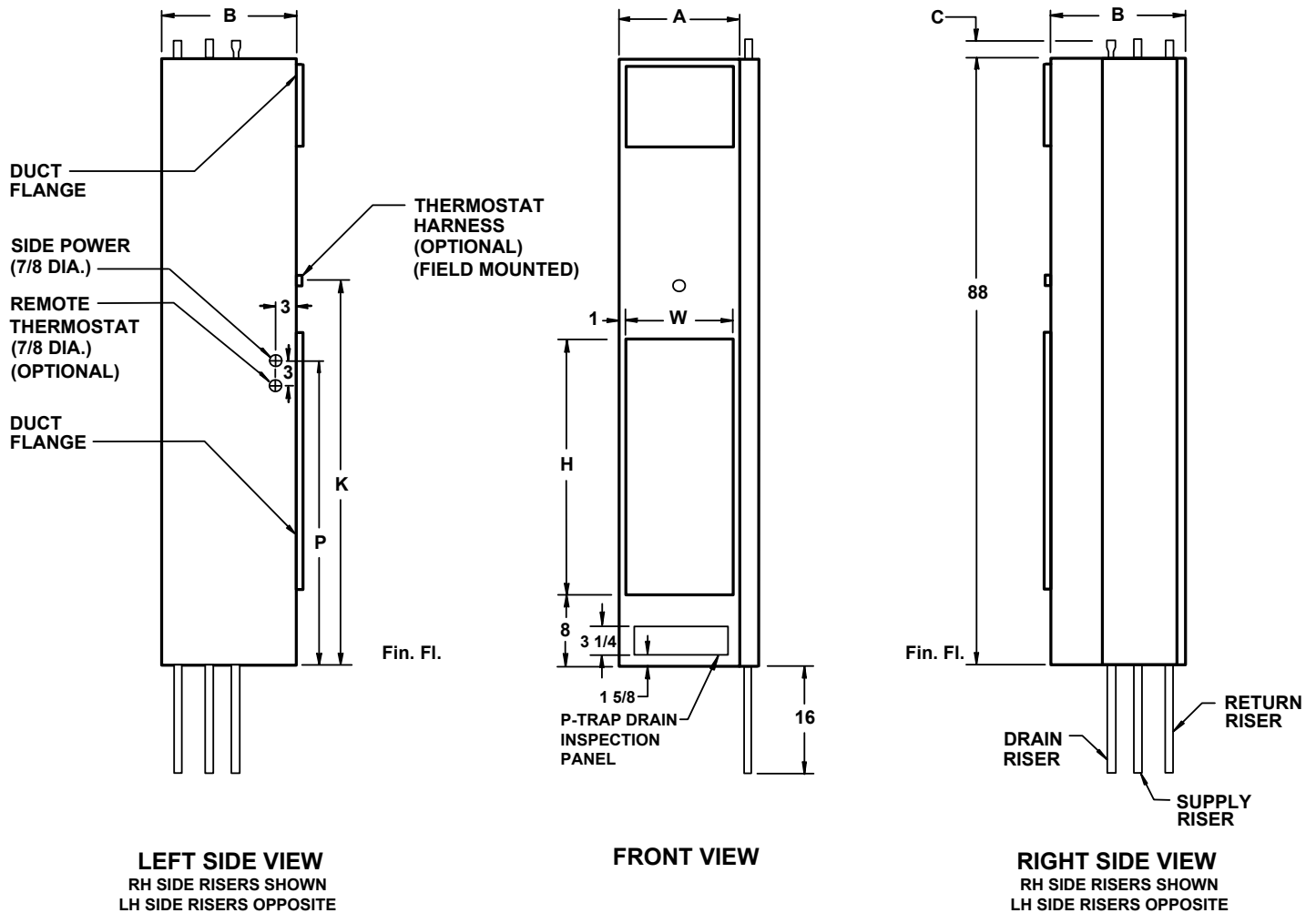
RISER LENGTH	C
9 FOOT	4
10 FOOT	16

All dimensions in inches.

DRAWING NUMBER: 610q-R
MARCH 2018

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Whisperline® Units with Internal Drain Pan Side Risers


Notes:

1. The return air opening is always on the front of the unit.
2. Cabinet is acoustically and thermally insulated and is fabricated of continuous galvanized steel.
3. Supply, return, and drain risers are copper (see notes page for copper type). Riser assemblies include two shut off valves inside the cabinet. Standard units include high-pressure hose kits for connection of the refrigeration chassis.
4. For plan views, see drawing 609-PT.
5. Unit power and remote thermostat connections are located on side opposite risers on side riser units.
6. Supply air options on 814, 1004 & 1204 models are specified on drawing 611, minimum of two discharges.

UNIT SIZE	A	B	W	H	K	P
0204-**C						
0304-**C	16	17	14	44	58	48
0404-**C						
0504-**B						
0604-**B	18	20	16	44	58	48
0804-**B						
0814-**C						
1004-**C	20	22	18	54	68	59
1204-**C						

RISER LENGTH	C
9 FOOT	4
10 FOOT	16

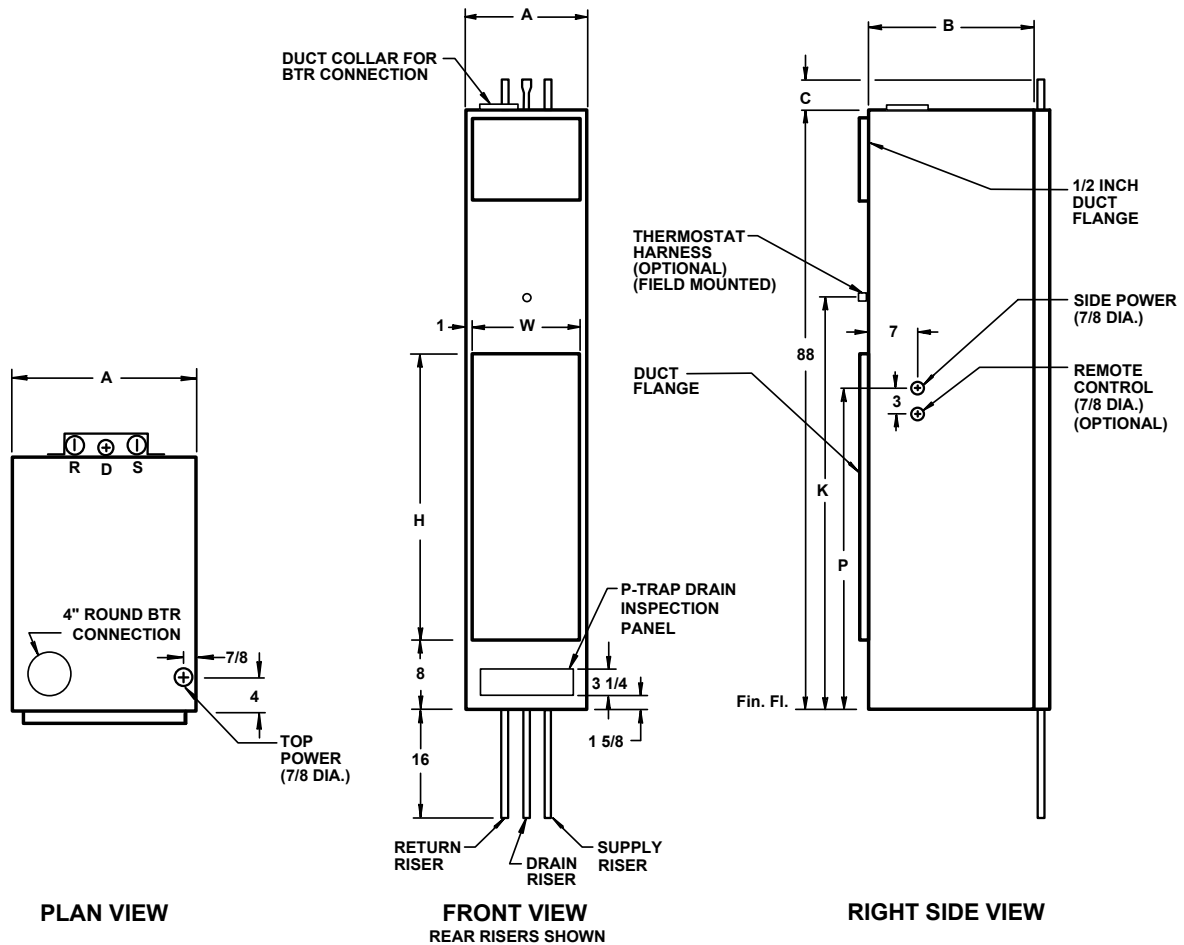
All dimensions in inches.

DRAWING NUMBER: 610q-S

MARCH 2018

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Whisperline® Units with Internal Drain Pan and O.A. Duct Connection Rear Risers



Notes:

1. The return air opening is always on the front of the unit.
2. Cabinet is acoustically and thermally insulated and is fabricated of continuous galvanized steel.
3. Supply, return, and drain risers are copper (see notes page for copper type). Riser assemblies include two shut off valves inside the cabinet. Standard units include high-pressure hose kits for connection of the refrigeration chassis.
4. For plan views, see drawing 609-PT.
5. Unit power and remote thermostat connections are located on right side on rear riser units.
6. Unit includes a 4" top duct connection with an internal distribution conduit and mixing device.
7. Supply air options on 814, 1004 & 1204 models are specified on drawing 611, minimum of two discharges.

UNIT SIZE	A	B	W	H	K	P
0204-**C	16	21	14	44	58	48
0304-**C						
0404-**C						
0504-**B	18	24	16	44	58	48
0604-**B						
0804-**B						
0814-**C	20	26	18	54	68	59
1004-**C						
1204-**C						

All dimensions in inches.

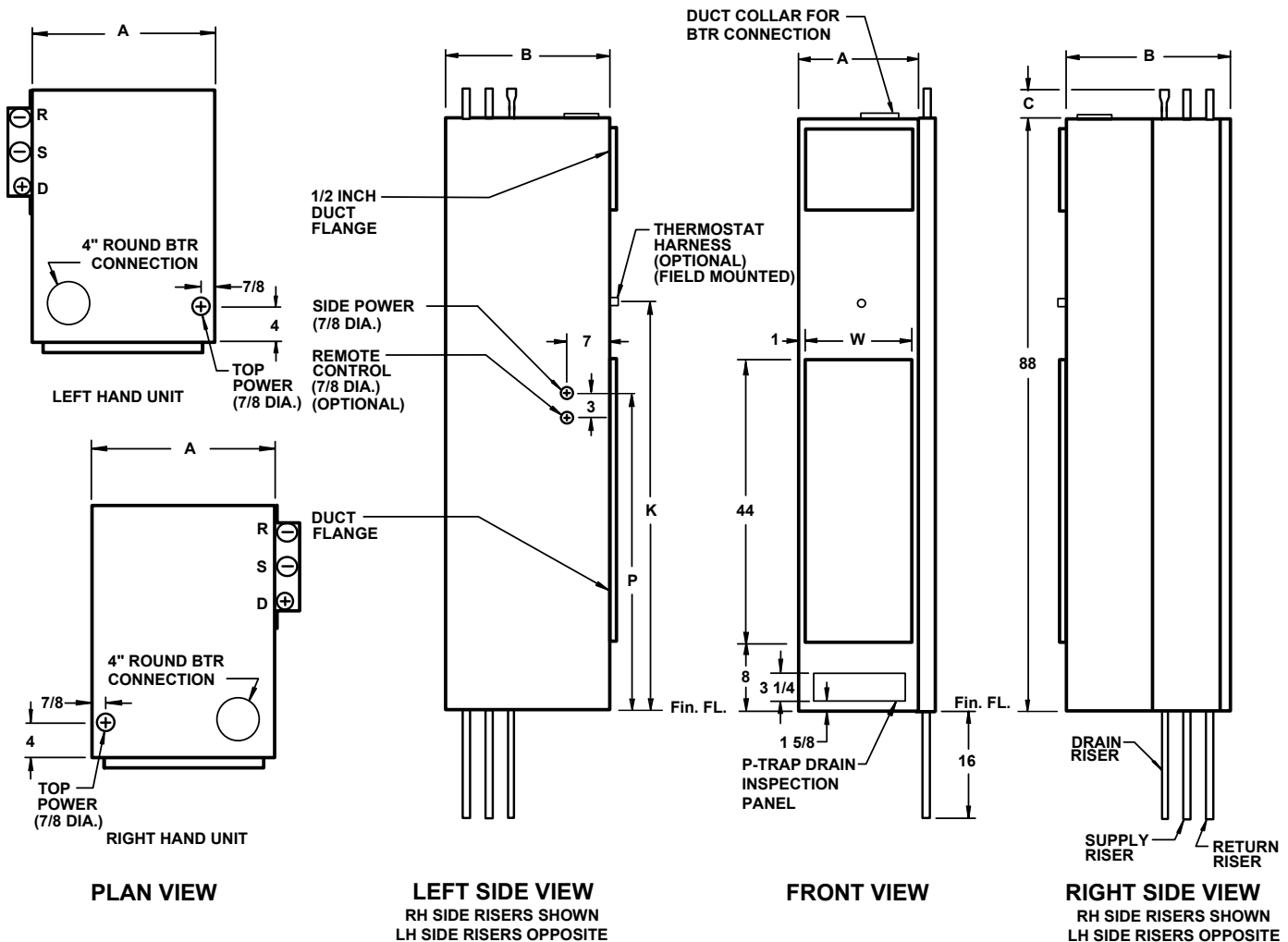
RISER LENGTH	C
9 FOOT	4
10 FOOT	16

DRAWING NUMBER: 602q-PT-R-TOAF4

MARCH 2018

The Whalen Company works continually to improve its products. As a result, the design and specifications of each product at the time of order may be changed without notice and may not be as described herein. Please contact The Whalen Company's Customer Service Department at 1-410-822-9200 for specific information on the current design and specifications. Statements and other information contained herein are not express warranties and do not form the basis of any bargain between the parties, but are merely The Whalen Company's opinion or commendation of its products. The latest version of this document is available at whalencompany.com

Whisperline® Units with Internal Drain Pan and O.A. Duct Connection Side Risers



Notes:

1. The return air opening is always on the front of the unit.
2. Cabinet is acoustically and thermally insulated and is fabricated of continuous galvanized steel.
3. Supply, return, and drain risers are copper (see notes page for copper type). Riser assemblies include two shut off valves inside the cabinet. Standard units include high-pressure hose kits for connection of the refrigeration chassis.
4. For plan views, see drawing 609-PT.
5. Unit power and remote thermostat connections are located on side opposite risers on side riser units.
6. Unit includes a 4" top duct connection with an internal distribution conduit and mixing device.
7. Supply air options on 814, 1004 & 1204 models are specified on drawing 611, minimum of two discharges.

UNIT SIZE	A	B	W	H	K	P
0204-**C 0304-**C 0404-**C	16	21	14	44	58	48
0504-**B 0604-**B 0804-**B	18	24	16	44	58	48
0814-**C 1004-**C 1204-**C	20	26	18	54	68	59

All dimensions in inches.

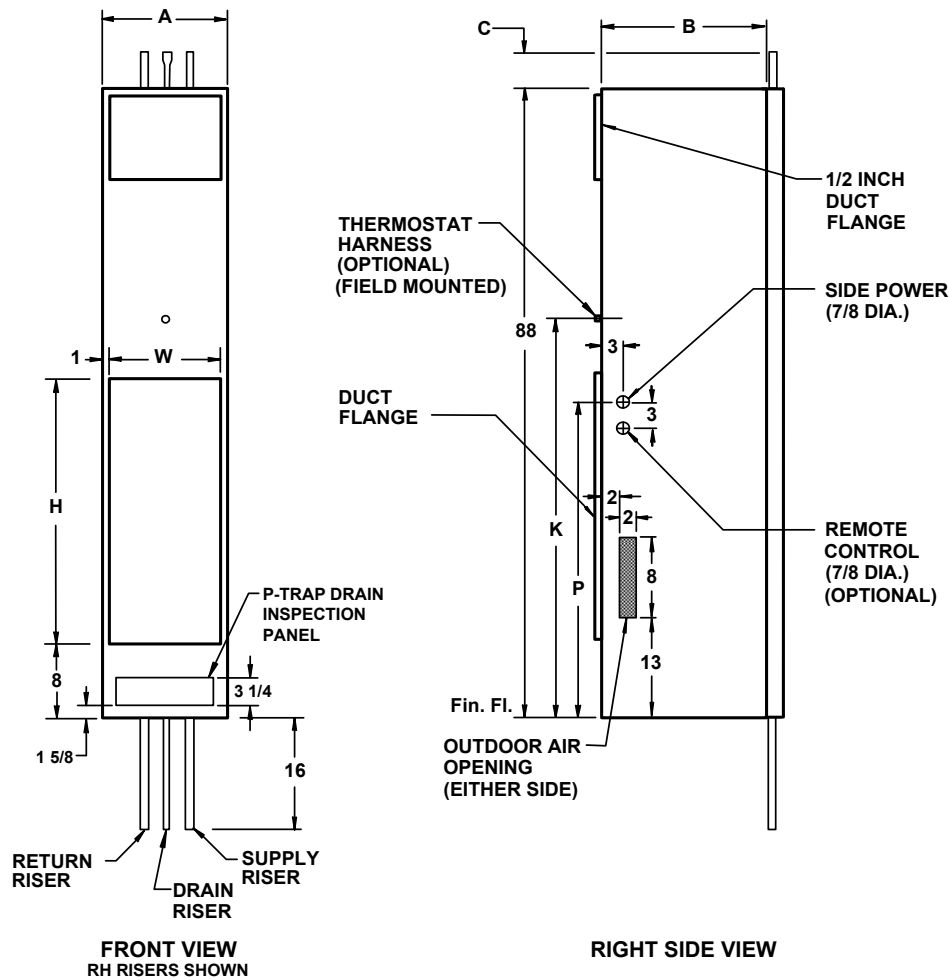
RISER LENGTH	C
9 FOOT	4
10 FOOT	16

DRAWING NUMBER: 602q-PT-S-TOAF4

MARCH 2018



Whisperline® Units with Internal Drain – Deep Cabinet – with Outdoor Air Opening – Rear Risers



Notes:

1. The return air opening is always on the front of the unit.
2. Cabinet is acoustically and thermally insulated and is fabricated of continuous galvanized steel.
3. Supply, return, and drain risers are copper (see notes page for copper type). Riser assemblies include two shut off valves inside the cabinet. Standard units include high-pressure hose kits for connection of the refrigeration chassis.
4. Foam outdoor air filter, and manual damper are standard.
5. For plan views, see drawing 609-PT.
6. Unit power and remote thermostat connections are located on right side on rear riser units.
7. Supply air options on 814, 1004 & 1204 models are specified on drawing 611, minimum of two discharges.

UNIT SIZE	A	B	W	H	K	P	RISER LENGTH	C
0204-**C							9 FOOT	4
0304-**C	16	21	14	44	58	48	10 FOOT	16
0404-**C								
0504-**B								
0604-**B	18	24	16	44	58	48		
0804-**B								
0814-**C								
1004-**C	20	26	18	54	68	59		
1204-**C								

All dimensions in inches.

DRAWING NUMBER: 602h-PT-R
MARCH 2018

The Whalen Company works continually to improve its products. As a result, the design and specifications of each product at the time of order may be changed without notice and may not be as described herein. Please contact The Whalen Company's Customer Service Department at 1-410-822-9200 for specific information on the current design and specifications. Statements and other information contained herein are not express warranties and do not form the basis of any bargain between the parties, but are merely The Whalen Company's opinion or commendation of its products. The latest version of this document is available at whalencompany.com

Mechanical Specifications

SERIES VI WHISPERLINE (WATER SOURCE) (GROUND SOURCE) HEAT PUMPS

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Vertical Stack Water Source Heat Pumps

1.02 RELATED SECTIONS

1.03 REFERENCES

- A. ETL Listed under Underwriters Laboratories Standard for Safety UL1995 for heat pumps.
- B. AHRI ISO Standard 13256-1

1.04 DELIVERY, STORAGE AND HANDLING

- A. Deliver products to site, store and protect 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.

1.05 ENVIROMENTAL REQUIREMENTS

- A. Protect units 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.

1.06 FACTORY TESTING

- A. 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.

1.07 SUBMITTAL DOCUMENTATION

- A. Standard submittals shall include capacities, drawings, electrical data, installation, operation and maintenance manuals and other details.



PART 2 PRODUCTS

2.01 TYPE

- A. Vertical Stack (Water Source) (Ground Source) Heat Pump with integral risers, discharge arrangements, hose kits, and all accessories (ADD SPECIFIC OPTIONS HERE). Units shall be (standard range 60°F to 95°F (15.6°C to 35°C)) (extended range 20°F to 120°F (-6.7°C to 48.9°C)) entering fluid temperature for (water source) (ground source) heat pump applications.

2.02 CAPACITY

- A. Shall be as indicated on the drawings, which are based on Whalen units. Capacities shall be certified under AHRI ISO Standard 13256-1.

2.03 CABINETS

- A. 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.
- B. 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 NFPA90A and NFPA90B. (OPTION) 1-inch thick 1-1/2-pound density thermal and acoustical fiberglass insulated discharge plenum.
- C. The cabinet shall allow the placement of vertical risers on any side not being used for service access or discharge air openings.
- D. The cabinet will have slots with edge protectors to accommodate movement of the risers with the isolation valves affixed (see 2.05 B). The slots shall remain covered with insulation to minimize air infiltration.
- E. 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. Knockouts for field cutting are unacceptable.
- F. Cabinet design shall allow a minimum 5-inches below the chassis access opening to allow for full height base-board.
- G. (OPTION) A factory installed vibration isolation pad shall be installed on the bottom of the unit.
- H. The heat pump cabinets shall be shipped separately from, and prior to the refrigeration chassis for early installation at the jobsite.

2.04 REFRIGERATION CHASSIS

- A. The refrigeration chassis consisting of the compressor, 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.

- B. 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. Compressor motors shall be permanent split capacitor (PSC) type.
- C. The air 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.
- D. The water 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. (OPTION) Provide Cupro-nickel COAX coil.
- E. The reversing valve shall be 4-way electric type, pilot operated for quiet reversal.
- F. (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.
- G. (OPTION1) 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.
(OPTION2) 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.
- H. The chassis shall be shipped separately from the WSHP cabinets to prevent exposure to, and fouling from finishing work.
- I. 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.

2.05 RISERS

- A. The unit manufacturer shall furnish Type M (OPTION: Type L) 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. (OPTION) Provide (3/8) (1/2)-inch thick closed-cell riser insulation the length of the cabinet for ground-source applications.
- B. 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.



- C. 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).
- D. The condensate drain riser shall be Type M copper and insulated the length of the cabinet with 3/8-inch closed-cell insulation.

2.06 DRAIN PAN

- A. 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.

2.07 FANS

- A. The fan shall be slow speed forward curved centrifugal type capable of two fan speeds, and shall be accessible for removal and maintenance through the return air opening.

2.08 MOTORS

- A. Fan motors for heat pumps under 2-ton shall be of the permanently lubricated PSC standard or hi-static pressure (OPTION: ECM) type, as required; suitable for the current characteristics shown on the drawings, and shall have built-in thermal overload protection.
- B. Fan motors for heat pumps 2-ton and above shall be of the permanently lubricated constant-torque ECM (OPTION: constant-volume ECM) type, suitable for the current characteristics shown on the drawings, and shall have built-in overload protection.
- C. Motors shall be plug-in, multi-speed type with 1050-RPM maximum.
- D. (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.

2.09 SUPPLY GRILLES

- A. (OPTION 1) The supply grilles shall be of the single deflection type fabricated of 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 2) The supply grilles shall be of the single deflection type fabricated of (factory white painted extruded aluminum) or (custom painted extruded aluminum) (SELECT ONE). All supply openings shall be painted black with a damper assembly and sight baffle provided when one unit is serving two separate rooms.

(OPTION 3) The supply grilles shall be of the double deflection type fabricated of (clear anodized extruded

aluminum), (factory white painted extruded aluminum) or (custom painted extruded aluminum) (SELECT ONE). All supply openings shall be painted black with a damper assembly and sight baffle provided when one unit is serving two separate rooms.

2.10 RETURN AIR PANEL

- A. (OPTION 1) Painted 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. The return air panel shall allow for filter removal without the use of tools.

(OPTION 2) 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 suitable for field painting to match the room décor after attachment to the field installed drywall framing on the front of the unit. The return air panel shall allow for filter removal without the use of tools.

(OPTION 3) 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.

(OPTION 4) Standard Return Air Grille – The return air opening shall be covered with an (Standard) Clear anodized aluminum, (Option A) Factory white painted extruded aluminum or (Option B) Custom painted extruded aluminum air grille that is attached directly to the unit with two screws.

(OPTION 5) Removable Core Return Air Grille – The return air opening shall be covered with a (Standard) clear anodized aluminum, (Option A) factory white painted extruded aluminum or (Option B) custom painted extruded aluminum air grille with quick-removal fasteners for easy filter removal without the use of tools.

2.11 FILTERS

- B. (STANDARD) Filters shall be 1" thick disposable fiberglass media, MERV 4.

(OPTION 1) Filters shall be 1" thick disposable pleated media, MERV 8.

(OPTION 2) Filters shall be 1" thick disposable pleated media, MERV 13.

(OPTION 3) Filters shall be 1" thick permanent aluminum cleanable media, MERV 4.



2.12 OUTDOOR AIR

- A. (OPTION 1) 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 2) 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.

2.13 POWER SUPPLY

- A. 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 1) Each unit shall include a non-fused disconnect switch, factory mounted and wired.

(OPTION 2) Each unit shall include a fused disconnect switch, factory mounted and wired.

2.14 CONTROLS

- A. Unit shall include a solid-state control board as part of the unit control system incorporating these features:
- a. Random start compressor protection. Anti-short cycle compressor minimum OFF time delay. Safety controls that protect the compressor from the following conditions:
 - i. High pressure
 - ii. Low pressure (Loss of Charge Protection)
 - iii. Low airflow
 - iv. Low liquid flow
 - v. Low entering air temperature
 - vi. Brown-out power conditions
 - vii. Condensate Overflow Protection
 - viii. Low liquid temperature protection with three different settings based on liquid properties.
 - b. Status LED indicating the device causing a fault condition.
 - c. Soft lockout feature that provides for an automatic reset prior to the initiation of a hard lockout.
 - d. Test mode capability with shortened time delays for servicing.

2.15 THERMOSTAT

- A. 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.
- B. On units up to two tons of cooling, the thermostat shall be unit mounted at a height of 48 inches from the bottom of the cabinet. On units greater than two tons of cooling, the thermostat shall be remote mounted.
- C. 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 pigtails when remote mounted. High voltage, return air thermostats with remote bulbs subject to damage during routine service will not be accepted.

2.16 SPARE PARTS

- A. The installing contractor shall provide to the Owner one spare chassis for each fifty heat pumps of a given size. (Add any additional spare parts requirements here).

PART 3 EXECUTION

3.01 INSTALLATION

- A. Furnish as shown on the drawings and as specified herein, vertical stack water source heat pumps with integral risers, and with capacity and electrical characteristics as scheduled. Units shall be Series VI as manufactured by The Whalen Company of Easton, MD.
- B. Install in accordance with manufacturer's installation instructions. Install units plumb and level, and maintain manufacturer's recommended clearances for the unit and accessories.
- C. 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



The Whalen Company
Whalen Limited Express Warranty
Company 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



 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

**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.

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

Whisperline® Design Guide Revision Table

Date	Description
8/13/2021	Added Anitfreeze Note of page 18.
6/7/2021	Added Sound Data, Updated Side Riser Discharge Arrangements Drawing
2/1/2021	Updated Warranty Certificates
9/28/2020	Updated Nomenclature
9/10/2020	Updated Mechanical Specifications
3/29/2019	Updated Nomenclature, Updated Electrical Data
8/31/2018	Updated AHRI Ratings
10/10/17	Model Numbers Updated in Performance Table
09/15/17	Mechanical Specification Updated
09/15/17	Discharge Drawings Updated
07/19/17	Registered Symbols added to Whisperline®
03/16/17	Electrical Data Tables Updated
03/16/17	Physical Data Table Updated
03/16/17	Wire Diagrams Updated
03/16/17	Riser Drawings Updated
03/16/17	Cabinet Drawings Updated
03/16/17	Standard Warranty Updated
11/16/2016	Refrigerant Charge line corrected in Physical Data Table
08/26/2016	Cabinet Drawings and Riser Drawings Updated
07/01/2016	High Static PSC Motor electrical data tables added
06/2016	Supply Grille Discharge with 4" Round Outdoor Air Drawing Added
06/2016	Supply Grille Discharge Arrangement Drawing Updated
03/2016	Drawings Updated; Standard, CV and CT Electrical Data Updated
08/2015	New Release of document
01/15/2015	VP Blower EC Constant Torque Performance Table updated



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