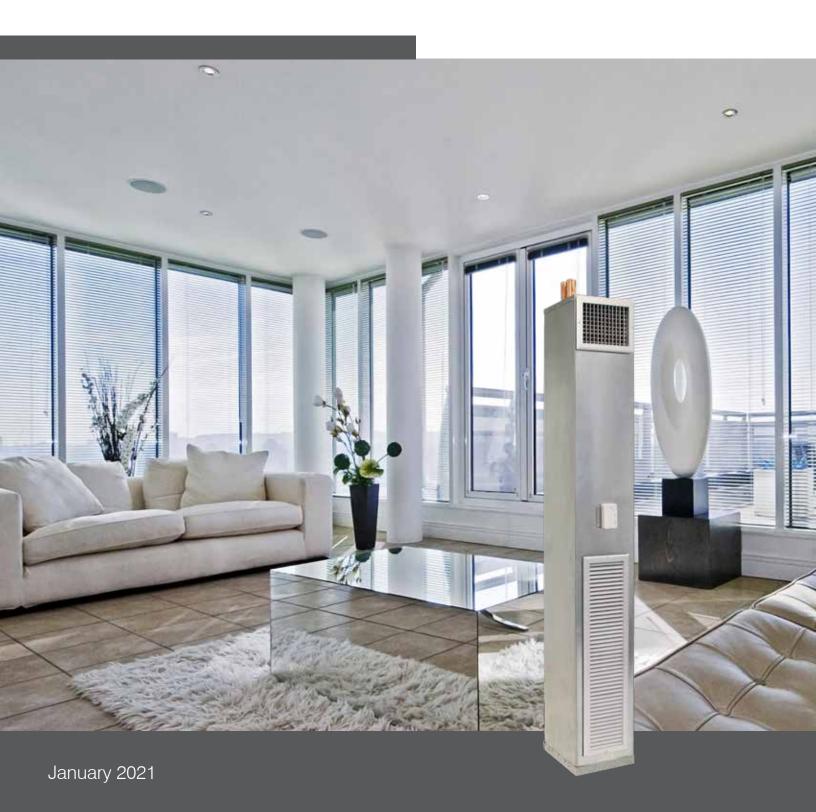


PRODUCT DESIGN GUIDE

Innoline® Riser Fan Coil





Vertical Stack



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Category	Position	Option Digit and Description	
Product Family	1	W = Whalen Riser Fan Coil	
		20 = 200 CFM (0.5-ton)	
		30 = 300 CFM (0.75-ton)	
		40 = 400 CFM (1.0-ton)	
11.9.0	0.0	60 = 600 CFM (1.5-ton)	
Unit Capacity	2, 3	80 = 800 CFM (2.0-ton)	
		10 = 1000 CFM (2.5-ton)	
		12 = 1200 CFM (3.0-ton)	
		16 = 1600 CFM (3.5-ton)	
		1 = Heating Only	
		2 = 2-pipe Heating & Cooling	
System Configuration	4, 5	4 = 4-pipe Heating & Cooling	
		22 = 4-pipe Riser Fan Coil	
		X = High Capacity Output	
		F = Face & Bypass	
Fan Configuration	6	H = Humidifier	
		E = Total Electric Heat	
		EA = Auxiliary Electric Heat	



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

		Florid Malacian	(Cooling Capacit	Heating Capacity ²		
Model	CFM	Fluid Velocity (FPS)	EWT (ºF)	TC (Btu/hr)	SC (Btu/hr)	EWT (ºF)	TC (Btu/hr)
W200	222	6.0	45	5,834.0	4,985.2	140	9,838.9
W300	241	6.0	45	8,249.5	6,227.5	140	14,976.6
W300X	241	6.0	45	9,528.8	6,682.8	140	14,997.0
W400	362	6.0	45	11,692.0	8,889.3	140	16,797.8
W500	455	6.0	45	12,562.5	9,806.5	140	19,804.6
W600	580	6.0	45	15,710.5	12,531.0	140	23,771.1
W800	683	6.0	45	20,651.8	16,971.8	140	30,581.9

¹ Rated in accordance with ARI Standard 440. Cooling capacities based on 80°F DB/67°F WB entering air, 45°F entering water, 10°F water temperature rise

² Water heating coils rated at 70°F DB entering air, 140°F entering water, 20°F water temperature drop



Features & Benefits

- 2-pipe Fan Cycled The simplest of configurations, the 2-pipe fan cycle units have one (1) supply and one (1) return riser. The supply riser provides either cold or hot water to the unit depending on the time of year. When the occupied space needs heating or cooling, the fan cycles on and off to provide comfort conditioning to the occupied space.
- 2-pipe Heat Only Heat only units have one (1) supply and one (1) return riser with the supply riser providing only hot water to the unit. When the occupied space needs heating, the fan cycles on and off to provide comfort conditioning to the space. If cooling is required, the cooling cycle would be accomplished via a separate unit.
- 2-pipe Face & Bypass Units with the face & bypass configuration, include a bypass chamber and dampers to bypass the cooling coil and provide constant recirculation of air. When the occupied space needs heating or cooling, the bypass damper closes to provide comfort conditioning to the space.
- 2-pipe Auxiliary Electric For applications where a small amount of supplemental heat is required, an auxiliary electric heater is added. Built upon the face & bypass configuration, the electric heating element is installed in the bypass chamber. Dampers operate to bypass the cooling coil and provide supplemental heat. When the occupied space needs cooling, the heating element is disengaged and the bypass damper closes to provide comfort cooling to the space.
- 2-pipe Total Electric For applications where space heating is accomplished solely via an electric heating element, the heating element is sized based on the particular building requirement. Built upon the face & bypass configuration, the electric heating element is installed in the bypass chamber. Dampers operate to bypass the cooling coil and provide space heating. When the occupied space needs cooling, the heating element is disengaged and the bypass damper closes to provide comfort cooling to the space.

4-pipe Heating & Cooling Four-pipe heating & cooling units have two (2) supply risers and two (2) return risers. This allows either hot or cold water to enter the unit at any given time. In applications where it is necessary to heat and cool different areas of a building at the same time, due to differences in internal heat loss or heat gains, the four-pipe riser fan coil unit is the best option.

Riser Fan Coil Options

- Constant Torque EC Motor Are optional on size 400 and larger units; 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.
- **PSC** Are standard on all units. The supplied motor is available in single or 3-speed configurations.
- 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.
- 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.
- Unfused disconnect Units are available with an optional non-fused disconnect switch, located on the unit front behind the return air panel. The disconnect switch is used to break power to the unit for safety and ease of service.



- **Circuit breaker** Units are available with an optional circuit breaker (HACR breaker). The circuit breaker is used to break power to the unit for safety and ease of service.
- **T-stat extension** Low voltage wire harness ranging from 5 to 20 foot ending with 9-Pin Molex quick connector. The extension can exit the cabinet on the top or either side.
- Condensate overflow The controller is designed to sense when condensate water levels in the drain pan become excessively high. When high condensate water levels are detected during cooling or dehumidification mode, the unit is shut down to prevent additional condensation entering the drain pan.
- 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 cooling 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 fan motor. The ½" thick neoprene isolation pads are attached to the bottom of the cabinet at the factory eliminating any additional field labor.
- **Hot Water Coil** Available on 4-pipe units only, these coils are available to provide heating in a 4-pipe system configuration.
- **3-way valve** Available on 4-pipe heating coils, these 1/2" valves are normally closed to the coil as standard and will isolate the coil during a loss of power. Normally open configurations are simply achieved by turning the valve around. Upon response to a signal from the controller, the valve will be either fully open allowing full flow to the coil or fully closed to the coil diverting full flow to the bypass line.
- Automatic flow control Available on 4-pipe heating coils, the automatic flow control device includes a ball valve cast in the valve body and is located on the return water pipe. The flow control valve consists of a stainless steel/brass flow cartridge

- and a contoured orifice plate. As the pressure drop increases, the flow cartridge will move into the contoured orifice plate to decrease the flow. This flexing action provides a constant flow, independent of pressure (2-80 psi), makes it difficult to clog and resistant to cavitation damage. This valve sets flow through the coil without any action required by a system balancer.
- Manual flow control A manual flow control valve, acts as both a flow setting device and a stop valve, taking the place of a ball valve. This valve allows water flow through the unit and can be set quickly and accurately.
- O.A. motorized OA damper The control can be configured to operate as a ventilation damper in a 2-position ventilation mode to provide the minimum ventilation requirements during occupied periods. This control operation still utilizes the modulating damper actuator.
- Filter Units come standard with a one-inch glass fiber throwaway filter. High efficiency MERV 7, and MERV 8 throw away filters as well as a washable aluminum mesh filter are also available as an option.
- Air vents Optional air vents are available for installation in each riser to vent incidental air trapped within the riser. Air vents are available in various configurations including: manual, manual piped to drain, manual piped to drain with a ball valve, or automatic.
- **Turbulators** Optional turbulators are installed in the coil riser to maintain proper velocity and performance in low flow applications.
- EZ Clean drain guard Designed with proper maintenance in mind, the EZ Clean drain guard allows quick efficient cleaning of the unit drain pan by slipping the guard up the drain line for cleaning and then returned after to minimize debris from clogging the unit drain pan.
- Finished Cabinet Available for applications where drywall is not used to enclose the unit, finished cabinets, top skirts, & bottom skirts are available to conceal the unit piping and provide a finished appearance. Panels can be field painted to match the interior room color.



Table 2: Innoline® Riser Fan Coil Thermostats for Standalone Operation

		V= F	ÿ= ÿ=
	Feature	SCI SC700V	SCI SC700LV
• • • • • • • • • • • • • • • • • • •	Electrical Box	•	•
Mounting Style	Drywall	•	•
	Backlit LCD		
	Temperature & Setpoint		
Display	Operating Mode		
	Fan Status		
	Remote Setback		
	Non-programmable	•	•
	Programmable		
Operation	Sensing	Local or Remote	Local or Remote
	Setpoint Range	50°F to 90°F	50°F to 90°F
	Changeover	Automatic	Automatic
	System Settings	On - Off	On - Off
Operating Modes	Fan Settings	Off - Lo - Med - Hi	Off - Lo - Med - Hi
	Fan Speeds	3	3
Ptana	Heating	1	1
Stages	Cooling	1	1
/oltage	Operating Voltage	110 - 277 VAC	18 - 30 VAC
Application	System Type	4-pipe Fan Coil	4-pipe Fan Coil



Table 3: Physical Data Table

Common	1			Models			
Component	W202	W302	W302X	W402	W502	W602	W802
Nominal Tonnage	0.50	0.75	0.75	1.00	1.25	1.50	2.00
COOLING PERFORMANCE	1		i	i			
Rated Airflow (CFM)	200	300	300	400	500	600	800
Entering Air Temp DB / WB (°F)	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 67	80 / 6
Total Cooling (MBTUH)	6.50	9.52	11.05	13.60	14.67	18.84	25.96
Sensible Cooling (MBTUH)	4.55	6.66	7.66	10.48	11.52	14.62	19.31
Entering Water Temp (°F)	48.00	48.00	48.00	48.00	48.00	48.00	48.00
Water Velocity (FPS)	6	6	6	6	6	6	6
HEATING PERFORMANCE							
Heating Capacity (MBTUH)	8.1	12.3	12.4	13.9	16.4	19.7	25.3
Entering Air Temp DB (°F)	70	70	70	70	70	70	70
Entering Water Temp (°F)	120	120	120	120	120	120	120
Water Velocity (FPS)	6	6	6	6	6	6	6
DIMENSIONS (inches)							
Width (in.)	12	12	14	16	16	18	18
Depth (in.)	14	14	14	14	14	16	16
Height (in.)	90	90	90	90	90	90	90
OPERATING WEIGHT (lbs.)							
2-Pipe System	103	103	123	138	138	188	188
4-Pipe System	123	123	143	158	158	208	208
SHIPPING WEIGHT (lbs.)							
2-Pipe System	115	115	135	150	150	200	200
4-Pipe System	135	135	155	170	170	220	220
WATER COIL DATA							
Configuration	2 or 4-pipe	2 or 4-p					
Circuiting	2 pass	2 pas					
SUPPLY FAN DATA	†	'	<u> </u>	<u> </u>		· ·	
Quantity	1 1	1	1	1	1	1	1
Fan Size (D x W)	8 x 3	8 x 3	8 x 3	8 x 6	8 x 6	9 x 6	10 x
Fan type	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifugal	Centrifu
Maximum E.S.P.		J	j	j	j j	j – j	
PSC Motor	0.30	0.30	0.30	0.40	0.40	0.35	0.40
ECM Motor	NA NA	NA NA	NA	0.50	0.70	0.70	0.70
PSC MOTOR HP	1	100		0.00	00	0.70	0.70
Voltage - 115/60/1	1/12	1/12	1/12	1/12	1/12	1/6	1/5
Voltage - 208-230/60/1	1/12	1/12	1/12	1/12	1/12	1/6	1/5
Voltage - 265/60/1	1/15	1/15	1/15	1/15	1/15	1/9	1/5
Type E - ECM MOTOR HP	1 ', ' -	.,	.,	.,	.,	.,-	.,,_
Voltage - 115/60/1	NA	NA NA	NA	1/2	1/2	1/2	1/2
Voltage - 208-230/60/1	NA NA	NA NA	NA NA	1/2	1/2	1/2	1/2
Voltage - 265/60/1	NA NA	NA NA	NA NA	1/2	1/2	1/2	1/2
RETURN AIR PANEL	1			.,_	.,_	.,_	
2-Pipe System (W x H)	8 x 34	8 x 34	10 x 34	10 x 34	10 x 34	12 x 34	12 x 3
4-Pipe System (W x H)	8 x 36	8 x 36	10 x 36	10 x 36	10 x 36	12 x 36	12 x 3
SUPPLY GRILLE	0 7 88		10 % 00	10 % 00	10 % 00	12 × 00	ILAC
Type 1 (W x H)	8 x 8	10 x 8	10 x 8	12 x 10	12 x 10	10 x 14	10 x 1
Type 2 (W x H)	8 x 4	10 x 4	10 x 4	12 x 10	12 x 10	10 x 14	10 x 1
Type 3 (W x H)	8 x 4	10 x 4	10 x 4	12 x 6	12 x 6	10 x 8	10 x 1
Type 3 (W x H)	4 x 8	4 x 10	4 x 10	6 x 12	6 x 12	6 x 12	6 x 1
Type 5 (W x H)	8 x 4	10 x 4	10 x 4	12 x 6	12 x 6	10 x 8	10 x 1
FILTERS		1071	10 % 1	12.0	12.0	10 / 0	10 / 1
Size (in.)	7 x 33.5 x 0.5	7 x 33.5 x 0.5	9 x 33.5 x 0.5	9 x 33.5 x 0.5	9 x 33.5 x 0.5	11 x 33.5 x 0.5	11 x 33.5
Quantity	1	/ A 00.0 A 0.0	1	1	1	1	11 / 00.0

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Table 4: Unit Voltage Limitations

Voltage	Minimum	Maximum	
208/230-60-1	197	252	
265-60-1	239	292	

Table 5: Innoline® Riser Fan Coil Continuous Operating Limits

	Entering Fluid °F					
Mode	2-Pi	pe¹	4-Pipe			
	Min	Max	Min	Max		
Cooling	42	50	42	50		
Heating	85	160	130	180		

¹ If entering water temperature exceeds 140 $^{\circ}\text{F},$ remote mounted thermostats are required.

Return water temperatures must be above 100 °F when changing from cooling to heating.

Table 6: Innoline® Riser Fan Coil Start-Up Operating Limits

	Entering Fluid °F					
Mode	2-Pi	pe¹	4-Pipe			
	Min	Max	Min	Max		
Cooling	42	65	42	65		
Heating	85	160	85	180		

¹ If entering water temperature exceeds 140 $^{\circ}\text{F},$ remote mounted thermostats are required.

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.

Table 7: Outdoor Temperature Reset

Outdoor Air Temperature	Water Temperature		
0°	140 °F		
10°	130 °F		
20°	120 °F		
30°	110 °F		
40°	100 °F		
50°	90 °F		
60°	80 °F		

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.

Return water temperatures must be above 100 $^{\circ}\text{F}$ when changing from cooling to heating.



Size (Tons)	EWT	Riser	Cooling Performance - 80°F / 67°F		Cooling Performance - 78°F / 65°F		Cooling Performance - 75°F / 63°F	
	(°F)	Delta T (°F)	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity
		10	6856.1	5324.0	5972.3	5085.7	5066.7	4598.8
	42	12	6505.1	5219.9	5657.9	5026.6	4786.0	4453.8
	42	14	6164.4	5107.0	5353.3	4938.1	4512.6	4294.9
		16	5834.0	4985.2	5058.5	4820.0	4246.5	4122.4
		10	6505.1	5219.9	5657.9	5026.6	4786.0	4453.8
	40	12	6164.4	5107.0	5353.3	4938.1	4512.6	4294.9
	43	14	5834.0	4985.2	5058.5	4820.0	4246.5	4122.4
		16	5513.9	4854.5	4773.5	4672.4	3987.6	3936.0
	44	10	6164.4	5107.0	5353.3	4938.1	4512.6	4294.9
		12	5834.0	4985.2	5058.5	4820.0	4246.5	4122.4
	44	14	5513.9	4854.5	4773.5	4672.4	3987.6	3936.0
		16	5204.1	4715.0	4498.3	4495.4	3736.0	3735.9
ĺ		10	5834.0	4985.2	5058.5	4820.0	4246.5	4122.4
200		12	5513.9	4854.5	4773.5	4672.4	3987.6	3936.0
(0.50)	45	14	5204.1	4715.0	4498.3	4495.4	3736.0	3736.0
` ′		16	4904.7	4566.5	4232.8	4232.8	3491.6	3491.6
		10	5513.9	4854.5	4773.5	4672.4	3987.6	3936.0
		12	5204.1	4715.0	4498.3	4495.4	3736.0	3735.9
	46	14	4904.7	4566.5	4232.8	4232.8	3491.6	3491.6
		16	4615.5	4409.2	3977.2	3977.2	3254.5	3254.5
		10	5204.1	4715.0	4498.3	4495.4	3736.0	3735.9
	47	12	4904.7	4566.5	4232.8	4232.8	3491.6	3491.6
	47	14	4615.5	4409.2	3977.2	3977.2	3254.5	3254.5
		16	4336.7	4243.0	3731.3	3731.3	3024.7	3024.7
		10	4904.7	4566.5	4232.8	4232.8	3491.6	3491.6
	40	12	4615.5	4409.2	3977.2	3977.2	3254.5	3254.5
	48	14	4336.7	4243.0	3731.3	3731.3	3024.7	3024.7
		16	4068.2	4068.0	3495.2	3495.2	2802.1	2802.1

Performance based on riser velocity of 6.0 F.P.S.

Heating Performance

0:	БМТ	Riser	Entering Air - 65°F	Entering Air - 70°F	Entering Air - 75°F	
Size (Tons)	ewt (°F)	Delta T (°F)	Total Capacity	Total Capacity	Total Capacity	
		15	7795.5	6968.4	6151.8	
	100	20	7385.6	6558.3	5741.6	
	120	25	6975.7	6148.2	5331.5	
		30	6565.8	5738.2	4921.3	
	130	15	9435.1	8608.7	7792.3	
		20	9025.2	8198.6	7382.2	
		25	8615.3	7788.5	6972.1	
200		30	8205.4	7378.5	6561.9	
(0.50)	440	15	11074.7	10249.0	9433.0	
• •		20	10664.8	9838.9	9022.8	
	140	25	10254.9	9428.8	8612.7	
		30	9845.0	9018.8	8202.5	
		15	12714.3	11889.3	11073.6	
	150	20	12304.4	11479.2	10663.4	
	150	25	11894.5	11069.1	10253.3	
		30	11484.6	10659.1	9843.1	



0:	EWT	Riser	Cooling Performs	ance - 80°F / 67°F	Cooling Perform	ance - 78°F / 65°F	Cooling Performance - 75°F / 63°F	
Size (Tons)	(°F)	Delta T (°F)	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity
		10	9688.0	6793.4	8407.3	6434.7	7150.8	5816.4
	42	12	9194.6	6597.3	7973.1	6273.5	6756.8	5708.2
	42	14	8715.1	6408.6	7550.7	6109.9	6372.6	5575.8
		16	8249.5	6227.5	7140.3	5944.0	5998.3	5419.0
		10	9194.6	6597.3	7973.1	6273.5	6756.8	5708.2
		12	8715.1	6408.6	7550.7	6109.9	6372.6	5575.8
	43	14	8249.5	6227.5	7140.3	5944.0	5998.3	5419.0
		16	7797.7	6053.9	6741.6	5775.7	5633.7	5238.0
	44	10	8715.1	6408.6	7550.7	6109.9	6372.6	5575.8
		12	8249.5	6227.5	7140.3	5944.0	5998.3	5419.0
		14	7797.7	6053.9	6741.6	5775.7	5633.7	5238.0
		16	7359.8	5887.9	6354.8	5605.1	5279.1	5032.6
		10	8249.5	6227.5	7140.3	5944.0	5998.3	5419.0
300		12	7797.7	6053.9	6741.6	5775.7	5633.7	5238.0
(0.75)	45	14	7359.8	5887.9	6354.8	5605.1	5279.1	5032.6
(16	6935.8	5729.4	5979.9	5432.1	4934.2	4803.0
		10	7797.7	6053.9	6741.6	5775.7	5633.7	5238.0
		12	7359.8	5887.9	6354.8	5605.1	5279.1	5032.6
	46	14	6935.8	5729.4	5979.9	5432.1	4934.2	4803.0
		16	6525.7	5578.4	5616.9	5256.9	4599.2	4549.1
		10	7359.8	5887.9	6354.8	5605.1	5279.1	5032.6
		12	6935.8	5729.4	5979.9	5432.1	4934.2	4803.0
	47	14	6525.7	5578.4	5616.9	5256.9	4599.2	4549.1
		16	6129.4	5435.0	5265.6	5079.2	4274.0	4270.8
		10	6935.8	5729.4	5979.9	5432.1	4934.2	4803.0
		12	6525.7	5578.4	5616.9	5256.9	4599.2	4549.1
	48	14	6129.4	5435.0	5265.6	5079.2	4274.0	4270.8
		16	5747.0	5299.1	4926.3	4899.3	3958.6	3958.6

Performance based on riser velocity of 6.0 F.P.S.

Heating Performance

0:	БМТ	Riser	Entering Air - 65°F	Entering Air - 70°F	Entering Air - 75°F	
Size (Tons)	ewt (°F)	Delta T (°F)	Total Capacity	Total Capacity	Total Capacity	
		15	11860.9	10608.3	9366.9	
	120	20	11236.7	9984.2	8742.7	
		25	10612.5	9360.2	8118.5	
		30	9988.4	8736.1	7494.3	
	130	15	14357.6	13104.5	11863.6	
		20	13733.4	12480.4	11239.4	
	130	25	13109.2	11856.4	10615.2	
300		30	12485.1	11232.3	9991.1	
(0.75)		15	16854.3	15600.7	14360.3	
, ,	140	20	16230.1	14976.6	13736.1	
	140	25	15605.9	14352.6	13111.9	
		30	14981.8	13728.5	12487.8	
		15	19351.0	18096.9	16857.0	
	150	20	18726.8	17472.8	16232.8	
	150	25	18102.6	16848.8	15608.6	
		30	17478.5	16224.7	14984.5	



0:	EWT	Riser	Cooling Performs	ance - 80°F / 67°F	Cooling Perform	ance - 78°F / 65°F	Cooling Perform	ance - 75°F / 63°F
Size (Tons)	(°F)	Delta T (°F)	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity
		10	11077.1	7335.2	9637.1	6907.1	8164.4	6185.9
	42	12	10580.4	7117.7	9134.8	6696.4	7713.4	6018.5
	42	14	10064.3	6900.2	8647.0	6493.8	7274.1	5845.9
		16	9528.8	6682.8	8173.8	6299.5	6846.5	5668.0
		10	10580.4	7117.7	9134.8	6696.4	7713.4	6018.5
	43	12	10064.3	6900.2	8647.0	6493.8	7274.1	5845.9
	43	14	9528.8	6682.8	8173.8	6299.5	6846.5	5668.0
		16	8973.9	6465.3	7715.0	6113.4	6430.7	5484.7
	44	10	10064.3	6900.2	8647.0	6493.8	7274.1	5845.9
		12	9528.8	6682.8	8173.8	6299.5	6846.5	5668.0
		14	8973.9	6465.3	7715.0	6113.4	6430.7	5484.7
		16	8399.6	6247.9	7270.8	5935.6	6026.6	5296.2
	45	10	9528.8	6682.8	8173.8	6299.5	6846.5	5668.0
300X		12	8973.9	6465.3	7715.0	6113.4	6430.7	5484.7
(0.75)		14	8399.6	6247.9	7270.8	5935.6	6026.6	5296.2
, ,		16	7805.9	6030.6	6841.1	5766.0	5634.2	5102.3
		10	8973.9	6465.3	7715.0	6113.4	6430.7	5484.7
	46	12	8399.6	6247.9	7270.8	5935.6	6026.6	5296.2
	46	14	7805.9	6030.6	6841.1	5766.0	5634.2	5102.3
		16	7192.8	5813.2	6426.0	5604.6	5253.6	4903.2
		10	8399.6	6247.9	7270.8	5935.6	6026.6	5296.2
	47	12	7805.9	6030.6	6841.1	5766.0	5634.2	5102.3
	47	14	7192.8	5813.2	6426.0	5604.6	5253.6	4903.2
		16	6560.3	5596.0	6025.3	5451.5	4884.7	4698.7
		10	7805.9	6030.6	6841.1	5766.0	5634.2	5102.3
	40	12	7192.8	5813.2	6426.0	5604.6	5253.6	4903.2
	48	14	6560.3	5596.0	6025.3	5451.5	4884.7	4698.7
		16	5908.4	5378.7	5639.2	5306.6	4527.5	4489.0

Performance based on riser velocity of 6.0 F.P.S.

Heating Performance

Size	EWE	Riser	Entering Air - 65°F	Entering Air - 70°F	Entering Air - 75°F	
Size (Tons)	EWT	Delta T	Total	Total	Total	
(IOIIS)	(°F)	(°F)	Capacity	Capacity	Capacity	
		15	11865.5	10627.3	9377.1	
	120	20	11240.0	10003.0	8751.5	
	120	25	10614.5	9378.8	8125.9	
		30	9989.0	8754.5	7500.3	
	130	15	14367.5	13124.3	11879.6	
		20	13742.0	12500.0	11254.0	
		25	13116.5	11875.8	10628.4	
300X		30	12491.0	11251.5	10002.8	
(0.75)		15	16869.5	15621.3	14382.1	
	140	20	16244.0	14997.0	13756.5	
	140	25	15618.5	14372.8	13130.9	
		30	14993.0	13748.5	12505.3	
		15	19371.5	18118.3	16884.6	
	150	20	18746.0	17494.0	16259.0	
	130	25	18120.5	16869.8	15633.4	
		30	17495.0	16245.5	15007.8	



0:	EME	Riser	Cooling Performs	ance - 80°F / 67°F	Cooling Perform	ance - 78°F / 65°F	Cooling Perform	ance - 75°F / 63°F
Size (Tons)	EWT (°F)	Delta T (°F)	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity
	İ	10	13718.0	9683.5	11922.6	9218.5	10149.4	8260.6
	42	12	13024.0	9408.6	11294.7	8995.4	9581.0	8149.7
	42	14	12348.7	9143.9	10686.0	8761.3	9028.0	7992.5
		16	11692.0	8889.3	10096.8	8516.1	8490.3	7789.0
		10	13024.0	9408.6	11294.7	8995.4	9581.0	8149.7
	43	12	12348.7	9143.9	10686.0	8761.3	9028.0	7992.5
	43	14	11692.0	8889.3	10096.8	8516.1	8490.3	7789.0
		16	11053.9	8644.7	9526.8	8259.8	7967.9	7539.3
		10	12348.7	9143.9	10686.0	8761.3	9028.0	7992.5
	44	12	11692.0	8889.3	10096.8	8516.1	8490.3	7789.0
	44	14	11053.9	8644.7	9526.8	8259.8	7967.9	7539.3
		16	10434.5	8410.2	8976.1	7992.4	7460.8	7243.3
	45	10	11692.0	8889.3	10096.8	8516.1	8490.3	7789.0
400		12	11053.9	8644.7	9526.8	8259.8	7967.9	7539.3
(1.0)	45	14	10434.5	8410.2	8976.1	7992.4	7460.8	7243.3
		16	9833.7	8185.9	8444.8	7714.0	6969.1	6901.0
		10	11053.9	8644.7	9526.8	8259.8	7967.9	7539.3
	46	12	10434.5	8410.2	8976.1	7992.4	7460.8	7243.3
	46	14	9833.7	8185.9	8444.8	7714.0	6969.1	6901.0
		16	9251.5	7971.6	7932.8	7424.5	6492.7	6492.7
		10	10434.5	8410.2	8976.1	7992.4	7460.8	7243.3
	47	12	9833.7	8185.9	8444.8	7714.0	6969.1	6901.0
	47	14	9251.5	7971.6	7932.8	7424.5	6492.7	6492.7
		16	8687.9	7767.4	7440.2	7123.9	6031.7	6031.7
		10	9833.7	8185.9	8444.8	7714.0	6969.1	6901.0
	40	12	9251.5	7971.6	7932.8	7424.5	6492.7	6492.7
	48	14	8687.9	7767.4	7440.2	7123.9	6031.7	6031.7
		16	8143.0	7573.3	6966.8	6812.3	5585.9	5585.9

Performance based on riser velocity of 6.0 F.P.S.

Heating Performance

0:	БМТ	Riser	Entering Air - 65°F	Entering Air - 70°F	Entering Air - 75°F
Size (Tons)	ewt (°F)	Delta T (°F)	Total Capacity	Total Capacity	Total Capacity
		15	13295.0	11893.3	10499.5
	120	20	12595.0	11192.6	9799.0
	120	25	11895.0	10492.0	9098.5
		30	11195.0	9791.3	8398.0
	130	15	16095.0	14695.9	13301.5
		20	15395.0	13995.2	12601.0
	130	25	14695.0	13294.6	11900.5
400		30	13995.0	12593.9	11200.0
(1.0)		15	18895.0	17498.5	16103.5
. ,	140	20	18195.0	16797.8	15403.0
	140	25	17495.0	16097.2	14702.5
		30	16795.0	15396.5	14002.0
		15	21695.0	20301.1	18905.5
	150	20	20995.0	19600.4	18205.0
	150	25	20295.0	18899.8	17504.5
		30	19595.0	18199.1	16804.0



Size	EWT	Riser	Cooling Performa	ınce - 80°F / 67°F	Cooling Performa	ance - 78°F / 65°F	Cooling Performs	ance - 75°F / 63°F
(Tons)	(°F)	Delta T (°F)	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity
		10	14783.7	10664.4	12855.5	10123.8	10894.0	9083.2
	42	12	14018.2	10366.0	12165.8	9849.8	10292.0	8884.8
	42	14	13277.8	10080.0	11503.3	9589.2	9703.9	8664.8
		16	12562.5	9806.5	10868.0	9342.0	9129.5	8423.4
		10	14018.2	10366.0	12165.8	9849.8	10292.0	8884.8
	43	12	13277.8	10080.0	11503.3	9589.2	9703.9	8664.8
	43	14	12562.5	9806.5	10868.0	9342.0	9129.5	8423.4
_		16	11872.4	9545.4	10259.9	9108.1	8568.9	8160.5
	44	10	13277.8	10080.0	11503.3	9589.2	9703.9	8664.8
		12	12562.5	9806.5	10868.0	9342.0	9129.5	8423.4
		14	11872.4	9545.4	10259.9	9108.1	8568.9	8160.5
		16	11207.4	9296.7	9679.0	8887.7	8022.2	7876.2
	45	10	12562.5	9806.5	10868.0	9342.0	9129.5	8423.4
500		12	11872.4	9545.4	10259.9	9108.1	8568.9	8160.5
(1.25)	45	14	11207.4	9296.7	9679.0	8887.7	8022.2	7876.2
` '		16	10567.5	9060.5	9125.3	8680.5	7489.2	7489.2
		10	11872.4	9545.4	10259.9	9108.1	8568.9	8160.5
	46	12	11207.4	9296.7	9679.0	8887.7	8022.2	7876.2
	46	14	10567.5	9060.5	9125.3	8680.5	7489.2	7489.2
		16	9952.8	8836.7	8598.7	8486.8	6970.1	6970.1
		10	11207.4	9296.7	9679.0	8887.7	8022.2	7876.2
	47	12	10567.5	9060.5	9125.3	8680.5	7489.2	7489.2
	47	14	9952.8	8836.7	8598.7	8486.8	6970.1	6970.1
		16	9363.2	8625.3	8099.4	8099.4	6464.7	6464.7
		10	10567.5	9060.5	9125.3	8680.5	7489.2	7489.2
	48	12	9952.8	8836.7	8598.7	8486.8	6970.1	6970.1
	48	14	9363.2	8625.3	8099.4	8099.4	6464.7	6464.7
		16	8798.7	8426.4	7627.3	7627.3	5973.1	5973.1

Performance based on riser velocity of 6.0 F.P.S.

Heating Performance

0:	БМТ	Riser	Entering Air - 65°F	Entering Air - 70°F	Entering Air - 75°F	
Size (Tons)	ewt (°F)	Delta T (°F)	Total Capacity	Total Capacity	Total Capacity	
		15	15685.0	14031.0	12377.5	
	120	20	14861.4	13206.2	11551.6	
	120	25	14037.8	12381.4	10725.7	
		30	13214.2	11556.6	9899.8	
	130	15	18979.4	17330.2	15681.1	
		20	18155.8	16505.4	14855.2	
	130	25	17332.2	15680.6	14029.3	
500		30	16508.6	14855.8	13203.4	
(1.25)		15	22273.8	20629.4	18984.7	
` '	440	20	21450.2	19804.6	18158.8	
	140	25	20626.6	18979.8	17332.9	
		30	19803.0	18155.0	16507.0	
		15	25568.2	23928.6	22288.3	
	150	20	24744.6	23103.8	21462.4	
	150	25	23921.0	22279.0	20636.5	
		30	23097.4	21454.2	19810.6	



a :		Riser	Cooling Performa	nce - 80°F / 67°F	Cooling Performa	ance - 78°F / 65°F	Cooling Performa	ance - 75°F / 63°F
Size (Tons)	ewt (°F)	Delta T (°F)	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity
		10	18432.2	13572.5	16057.4	12921.4	13779.0	11582.9
	42	12	17499.1	13211.5	15212.3	12589.0	13028.1	11380.0
	42	14	16591.8	12864.3	14395.6	12270.9	12295.5	11116.7
		16	15710.5	12531.0	13607.5	11967.0	11581.0	10793.0
		10	17499.1	13211.5	15212.3	12589.0	13028.1	11380.0
_	40	12	16591.8	12864.3	14395.6	12270.9	12295.5	11116.7
	43	14	15710.5	12531.0	13607.5	11967.0	11581.0	10793.0
		16	14855.0	12211.5	12847.8	11677.3	10884.7	10408.9
		10	16591.8	12864.3	14395.6	12270.9	12295.5	11116.7
	44	12	15710.5	12531.0	13607.5	11967.0	11581.0	10793.0
		14	14855.0	12211.5	12847.8	11677.3	10884.7	10408.9
		16	14025.5	11905.9	12116.7	11401.9	10206.6	9964.4
	45	10	15710.5	12531.0	13607.5	11967.0	11581.0	10793.0
600		12	14855.0	12211.5	12847.8	11677.3	10884.7	10408.9
(1.5)	45	14	14025.5	11905.9	12116.7	11401.9	10206.6	9964.4
` '		16	13221.8	11614.1	11414.0	11140.7	9546.7	9459.5
		10	14855.0	12211.5	12847.8	11677.3	10884.7	10408.9
		12	14025.5	11905.9	12116.7	11401.9	10206.6	9964.4
	46	14	13221.8	11614.1	11414.0	11140.7	9546.7	9459.5
		16	12444.0	11336.2	10739.8	10739.8	8905.0	8894.2
		10	14025.5	11905.9	12116.7	11401.9	10206.6	9964.4
	4-	12	13221.8	11614.1	11414.0	11140.7	9546.7	9459.5
	47	14	12444.0	11336.2	10739.8	10739.8	8905.0	8894.2
		16	11692.1	11072.1	10094.0	10094.0	8281.5	8268.6
		10	13221.8	11614.1	11414.0	11140.7	9546.7	9459.5
		12	12444.0	11336.2	10739.8	10739.8	8905.0	8894.2
	48	14	11692.1	11072.1	10094.0	10094.0	8281.5	8268.6
		16	10966.1	10821.9	9476.8	9476.8	7676.2	7582.5

Performance based on riser velocity of 6.0 F.P.S.

Heating Performance

0:	БМТ	Riser	Entering Air - 65°F	Entering Air - 70°F	Entering Air - 75°F
Size (Tons)	ewt (°F)	Delta T (°F)	Total Capacity	Total Capacity	Total Capacity
		15	18813.6	16838.1	14836.9
	120	20	17822.3	15847.7	13846.7
		25	16831.0	14857.3	12856.5
		30	15839.7	13866.9	11866.4
	130	15	22778.9	20799.8	18797.6
		20	21787.6	19809.4	17807.4
	130	25	20796.3	18819.0	16817.2
600		30	19805.0	17828.6	15827.1
(1.5)		15	26744.2	24761.5	22758.3
	140	20	25752.9	23771.1	21768.1
	140	25	24761.6	22780.7	20777.9
		30	23770.3	21790.3	19787.8
		15	30709.5	28723.2	26719.0
	150	20	29718.2	27732.8	25728.8
	150	25	28726.9	26742.4	24738.6
		30	27735.6	25752.0	23748.5



0:		Riser	Cooling Performs	ınce - 80°F / 67°F	Cooling Perform	ance - 78°F / 65°F	Cooling Performs	ance - 75°F / 63°F
Size (Tons)	EWT (°F)	Delta T (°F)	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity	Total Capacity	Sensible Capacity
		10	24285.7	18343.6	21048.8	17600.4	17919.3	15795.6
	42	12	23061.9	17874.7	19957.7	17343.8	16915.4	15401.9
	42	14	21850.6	17417.4	18898.1	17007.3	15941.3	14944.9
		16	20651.8	16971.8	17870.0	16591.0	14997.0	14424.5
		10	23061.9	17874.7	19957.7	17343.8	16915.4	15401.9
	43	12	21850.6	17417.4	18898.1	17007.3	15941.3	14944.9
	43	14	20651.8	16971.8	17870.0	16591.0	14997.0	14424.5
_		16	19465.4	16537.7	16873.3	16094.7	14082.5	13840.7
		10	21850.6	17417.4	18898.1	17007.3	15941.3	14944.9
	44	12	20651.8	16971.8	17870.0	16591.0	14997.0	14424.5
		14	19465.4	16537.7	16873.3	16094.7	14082.5	13840.7
		16	18291.5	16115.2	15908.1	15518.6	13197.8	13193.5
	45	10	20651.8	16971.8	17870.0	16591.0	14997.0	14424.5
800		12	19465.4	16537.7	16873.3	16094.7	14082.5	13840.7
(2.0)	45	14	18291.5	16115.2	15908.1	15518.6	13197.8	13193.5
` '		16	17130.0	15704.3	14974.4	14862.5	12342.9	12342.9
		10	19465.4	16537.7	16873.3	16094.7	14082.5	13840.7
		12	18291.5	16115.2	15908.1	15518.6	13197.8	13193.5
	46	14	17130.0	15704.3	14974.4	14862.5	12342.9	12342.9
		16	15981.0	15304.9	14072.2	14072.2	11517.8	11517.8
		10	18291.5	16115.2	15908.1	15518.6	13197.8	13193.5
	4-	12	17130.0	15704.3	14974.4	14862.5	12342.9	12342.9
	47	14	15981.0	15304.9	14072.2	14072.2	11517.8	11517.8
		16	14844.5	14844.5	13201.4	13201.4	10722.5	10722.5
		10	17130.0	15704.3	14974.4	14862.5	12342.9	12342.9
	40	12	15981.0	15304.9	14072.2	14072.2	11517.8	11517.8
	48	14	14844.5	14844.5	13201.4	13201.4	10722.5	10722.5
		16	13720.4	13720.4	12362.1	12362.1	9957.0	9957.0

Performance based on riser velocity of 6.0 F.P.S.

Heating Performance

0:	FMT	Riser	Entering Air - 65°F	Entering Air - 70°F	Entering Air - 75°F
Size (Tons)	ewt (°F)	Delta T (°F)	Total Capacity	Total Capacity	Total Capacity
		15	24232.5	21663.4	19131.4
	120	20	22959.4	20389.3	17855.3
	120	25	21686.3	19115.2	16579.2
		30	20413.2	17841.2	15303.2
	130	15	29324.9	26759.7	24235.7
		20	28051.8	25485.6	22959.6
	130	25	26778.7	24211.5	21683.5
800		30	25505.6	22937.5	20407.5
(2.0)		15	34417.3	31856.0	29340.0
. ,	140	20	33144.2	30581.9	28063.9
	140	25	31871.1	29307.8	26787.8
		30	30598.0	28033.8	25511.8
		15	39509.7	36952.3	34444.3
	150	20	38236.6	35678.2	33168.2
	150	25	36963.5	34404.1	31892.1
		30	35690.4	33130.1	30616.1



Table 7: W PSC Performance Table

Unit	Rated	Min.	Fan C	ption				CFM at E	xternal Sta	tic Pressur	e (in wg.)			
Unit	CFM	CFM	Option	Speed	0.00	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.50
Wooo			Ctondord	HI	351	241	227	213	199	186	173			
W202	200	170	Standard PSC	Med	312	222	207	192	178					
(0.5)			PSC	Low	225	187	174							
W302			Ctondord	HI	479	241	227	213	199	186	173			
	300	170	Standard PSC	Med	358	222	207	192	178					
(0.75)			PSC	Low	280	187	174							
W402			Standard	HI	626	362	343	326	309	303	291	285	264	
	400	150	PSC	Med	528	237	214	205	181	166				
(1.0)			PSC	Low	358	175	158							
W502			Standard	HI	832	455	428	399	383	364	345	325	309	
	500	160	PSC	Med	652	362	343	326	309	303	291	285	264	
(1.25)			PSC	Low	457	237	214	205	181	166				
W602			Ctondord	HI	981	580	556	531	507	483	460	436		
	600	250	Standard	Med	846	457	439	421	403	384	365	346		
(1.5)		PSC PSC	Low	558	320	302	286	272	260					
Weee			Ctondord	HI	1171	683	659	636	613	591	568	546	524	
W802	800	190	Standard PSC	Med	1019	395	375	357	340	324	310	296		
(2.0)			PSC	Low	843	279	252	229	208	191				



Table 8: W Blower EC Constant Torque Performance Table

Unit	Rated	Min.	Fan C	ption					CFM a	t Externa	l Static P	ressure (in wg.)				
Onit	CFM	CFM	Option	Speed	0.00	0.05	0.10	0.15	0.20	0.25	0.30	0.35	0.40	0.45	0.50	0.60	0.70
			EC	HI													
W202	200	NA	Constant	MED	1				1	Not Availa	ıble; See I	PSC Moto	r				
			Torque	LO	1												
			EC	HI													
W302	300	NA	Constant	MED					1	Not Availa	ıble; See l	PSC Moto	r				
			Torque	LO													
			EC	HI	447	426	406	387	369	352	335	319	303	289	275		
W402	400	190	Constant	MED	372	349	327	306	286	266	246	227	208				
			Torque	LO	291	264	237	213	192								
			EC	HI	524	505	488	471	455	439	423	409	394	380	366	341	317
W502	500	230	Constant	MED	446	426	406	387	369	352	335	319	303	289	275		
			Torque	LO	346	322	299	277	256	235							
			EC	HI	627	610	594	577	562	546	531	516	502	488	474	448	423
W602	600	250	Constant	MED	531	511	492	473	455	438	421	404	388	372	357		
			Torque	LO	415	392	369	348	327	307	288	269	252				
			EC	HI	816	802	790	777	764	750	735	720	704	688	671	636	599
W802	800	350	Constant	MED	706	689	673	657	642	627	613	600	587	575	563		
			Torque	LO	531	511	492	473	455	438	421	404	388	372	357		



Table 9: RHE Electrical Data - Standard PSC Motor

Size (Tons)	Supp	ly Blower	Motor	E	lectric Hea	t	Single Poin	t Power
	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD
					0.0	0.0	1.3	15
				115/1/00	1.0	8.7	12.1	15
				115/1/60	1.5	13.0	17.6	20
					2.0	17.4	23.0	25
					0.0	0.0	NA	NA
	445/4/00	4.0	4/45	000/4/00	1.0	4.8	7.3	15
	115/1/60	1.0	1/15	208/1/60	1.5	7.2	10.3	15
14/000					2.0	9.6	13.3	15
W200					0.0	0.0	NA	NA
				000 /4 /00	1.0	4.3	6.7	15
				230/1/60	1.5	6.5	9.4	15
					2.0	8.7	12.1	15
					0.0	0.0	0.6	15
	005/4/00	0.5	4.40	005/4/00	1.0	3.8	5.3	15
	265/1/60	0.5	1/12	265/1/60	1.5	5.7	7.7	15
					2.0	7.5	10.1	15
					0.0	0.0	1.3	15
					1.0	8.7	12.1	15
					1.5	13.0	17.6	20
				115/1/60	2.0	17.4	23.0	25
					2.5	21.7	28.4	30
					3.0	26.1	NA	NA
					0.0	0.0	NA	NA
					1.0	4.8	7.3	15
				000/1/00	1.5	7.2	10.3	15
	115/1/60	1.0	1/15	208/1/60	2.0	9.6	13.3	15
					2.5	12.0	16.3	20
14/000					3.0	14.4	19.3	20
W300					0.0	0.0	NA	NA
					1.0	4.3	6.7	15
					1.5	6.5	9.4	15
				230/1/60	2.0	8.7	12.1	15
					2.5	10.9	14.8	15
					3.0	13.0	17.6	20
					0.0	0.0	0.6	15
					1.0	3.8	5.3	15
		_			1.5	5.7	7.7	15
	265/1/60	0.5	1/12	265/1/60	2.0	7.5	10.1	15
					2.5	9.4	12.4	15
					3.0	11.3	14.8	15

	Dual Point	Power	
Unit	Unit	E-Heat	E-Heat
MCA	MOPD	MCA	MOPD
NA	NA	NA	NA
1.3	15	10.9	15
1.3	15	16.3	20
1.3	15	21.7	25
NA	NA	NA	NA
NA	NA	6.0	15
NA	NA	9.0	15
NA	NA	12.0	15
NA	NA	NA	NA
NA	NA	5.4	15
NA	NA	8.2	15
NA	NA	10.9	15
NA	NA	NA	NA
0.6	15	4.7	15
0.6	15	7.1	15
0.6	15	9.4	15
NA	NA	NA	NA
1.3	15	10.9	15
1.3	15	16.3	20
1.3	15	21.7	25
1.3	15	27.2	30
1.3	15	32.6	35
NA	NA	NA	NA
NA	NA	6.0	15
NA	NA	9.0	15
NA	NA	12.0	15
NA	NA	15.0	20
NA	NA	18.0	20
NA	NA	NA	NA
NA	NA	5.4	15
NA	NA	8.2	15
NA	NA	10.9	15
NA	NA	13.6	15
NA	NA	16.3	20
NA	NA	NA	NA
0.6	15	4.7	15
0.6	15	7.1	15
0.6	15	9.4	15
0.6	15	11.8	15
0.6	15	14.2	15



Size (Tons)	Suppl	y Blower	Motor	E	lectric Hea	ıt	Single Poi	nt Power
	Voltage	FLA	HP	Voltage	kW	Amps	MCA	МОРД
					0.0	0.0	1.3	15
					1.0	8.7	12.1	15
				445/4/00	1.5	13.0	17.6	20
				115/1/60	2.0	17.4	23.0	25
					2.5	21.7	28.4	30
					3.0	26.1	NA	NA
					0.0	0.0	NA	NA
					1.0	4.8	7.3	15
	115/1/60	1.0	1/15	000/1/00	1.5	7.2	10.3	15
	115/1/60	1.0	1/15	208/1/60	2.0	9.6	13.3	15
					2.5	12.0	16.3	20
W300X					3.0	14.4	19.3	20
W300X					0.0	0.0	NA	NA
					1.0	4.3	6.7	15
					1.5	6.5	9.4	15
				230/1/60	2.0	8.7	12.1	15
					2.5	10.9	14.8	15
					3.0	13.0	17.6	20
					0.0	0.0	0.6	15
					1.0	3.8	5.3	15
					1.5	5.7	7.7	15
	265/1/60	0.5	1/12	265/1/60	2.0	7.5	10.1	15
					2.5	9.4	12.4	15
					3.0	11.3	14.8	15
	1				0.0	0.0	2.0	15
					1.0	8.7	12.9	15
					1.5	13.0	18.3	20
				44577.00	2.0	17.4	23.7	25
				115/1/60	2.5	21.7	29.2	30
					3.0	26.1	NA	NA
					3.5	30.4	NA	NA
14/400	445/1/00	4.0	4/10		4.0	34.8	NA	NA
W400	115/1/60	1.6	1/12		0.0	0.0	NA	NA
					1.0	4.8	8.0	15
					1.5	7.2	11.0	15
					2.0	9.6	14.0	15
				208/1/60	2.5	12.0	17.0	20
					3.0	14.4	20.0	25
					3.5	16.8	23.0	25
					4.0	19.2	26.0	30

Unit	Unit	E-Heat	E-Heat
MCA	MOPD	MCA	MOPD
NA	NA	NA	NA
1.3	15	10.9	15
1.3	15	16.3	20
1.3	15	21.7	25
1.3	15	27.2	30
1.3	15	32.6	35
NA	NA	NA	NA
NA	NA	6.0	15
NA	NA	9.0	15
NA	NA	12.0	15
NA	NA	15.0	20
NA	NA	18.0	20
NA	NA	NA	NA
NA	NA	5.4	15
NA	NA	8.2	15
NA	NA	10.9	15
NA	NA	13.6	15
NA	NA	16.3	20
NA	NA	NA	NA
0.6	15	4.7	15
0.6	15	7.1	15
0.6	15	9.4	15
0.6	15	11.8	15
0.6	15	14.2	15
NA	NA	NA	NA
2.0	15	10.9	15
2.0	15	16.3	20
2.0	15	21.7	25
2.0	15	27.2	30
2.0	15	32.6	35
2.0	15	38.0	40
2.0	15	43.5	45
NA	NA	NA	NA
NA	NA	6.0	15
NA	NA	9.0	15
NA	NA	12.0	15
NA	NA	15.0	20
NA	NA	18.0	20
NA	NA	21.0	25
NA	NA	24.0	25



Size (Tons)	Suppl	Supply Blower Motor			ectric Hea	at	Single Poi	nt Power
	Voltage	FLA	НР	Voltage	kW	Amps	МСА	MOPD
					0.0	0.0	NA	NA
					1.0	4.3	7.4	15
					1.5	6.5	10.2	15
	445/4/00	4.0	4/40	000/4/00	2.0	8.7	12.9	15
	115/1/60	1.6	1/12	230/1/60	2.5	10.9	15.6	20
					3.0	13.0	18.3	20
					3.5	15.2	21.0	25
14/400					4.0	17.4	23.7	25
W400					0.0	0.0	0.9	15
					1.0	3.8	5.6	15
					1.5	5.7	8.0	15
					2.0	7.5	10.4	15
	265/1/60	0.7	0.11	265/1/60	2.5	9.4	12.7	15
					3.0	11.3	15.1	20
					3.5	13.2	17.4	20
					4.0	15.1	19.8	20
					0.0	0.0	2.0	15
					1.0	8.7	12.9	15
					1.5	13.0	18.3	20
					2.0	17.4	23.7	25
					2.5	21.7	29.2	30
				115/1/60	3.0	26.1	NA	NA
					3.5	30.4	NA	NA
					4.0	34.8	NA	NA
					4.5	39.1	NA	NA
					5.0	43.5	NA	NA
					0.0	0.0	NA	NA
					1.0	4.8	8.0	15
W500	115/1/60	1.6	1/12		1.5	7.2	11.0	15
					2.0	9.6	14.0	15
					2.5	12.0	17.0	20
				208/1/60	3.0	14.4	20.0	25
					3.5	16.8	23.0	25
					4.0	19.2	26.0	30
					4.5	21.6	29.0	30
					5.0	24.0	NA NA	NA
					0.0	0.0	NA NA	NA
					1.0	4.3	7.4	15
				230/1/60	1.5	6.5	10.2	15
	1		I	1	1.0	1 0.0	1 13.2	1 10

	Dual Point Power								
Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD						
NA	NA	NA	NA						
NA	NA	5.4	15						
NA	NA	8.2	15						
NA	NA	10.9	15						
NA	NA	13.6	15						
NA	NA	16.3	20						
NA	NA	19.0	20						
NA	NA	21.7	25						
NA	NA	NA	NA						
0.9	15	4.7	15						
0.9	15	7.1	15						
0.9	15	9.4	15						
0.9	15	11.8	15						
0.9	15	14.2	15						
0.9	15	16.5	20						
0.9	15	18.9	20						
NA	NA	NA	NA						
2.0	15	10.9	15						
2.0	15	16.3	20						
2.0	15	21.7	25						
2.0	15	27.2	30						
2.0	15	32.6	35						
2.0	15	38.0	40						
2.0	15	43.5	45						
2.0	15	48.9	50						
2.0	15	54.3	55						
NA	NA	NA	NA						
NA	NA	6.0	15						
NA	NA	9.0	15						
NA	NA	12.0	15						
NA	NA	15.0	20						
NA	NA	18.0	20						
NA	NA	21.0	25						
NA	NA	24.0	25						
NA	NA	27.0	30						
NA	NA	30.0	35						
NA	NA	NA	NA						
NA	NA	5.4	15						
NA	NA	8.2	15						
NA	NA	10.9	15						



Size (Tons)	Suppl	y Blower	Motor	E	lectric Hea	nt	Single Poi	nt Power			Dual Poin	t Power	
	Voltage	FLA	НР	Voltage	kW	Amps	MCA	MOPD		Unit MCA	Unit MOPD	E-Heat MCA	E-Hea
					2.5	10.9	15.6	20		NA	NA	13.6	15
					3.0	13.0	18.3	20		NA	NA	16.3	20
	145/4/00		1/10	000/4/00	3.5	15.2	21.0	25		NA	NA	19.0	20
	115/1/60	1.6	1/12	230/1/60	4.0	17.4	23.7	25		NA	NA	21.7	25
					4.5	19.6	26.5	30		NA	NA	24.5	25
					5.0	21.7	29.2	30		NA	NA	27.2	30
					0.0	0.0	0.9	15		NA	NA	NA	NA
14/500					1.0	3.8	5.6	15		0.9	15	4.7	15
W500					1.5	5.7	8.0	15		0.9	15	7.1	15
					2.0	7.5	10.4	15		0.9	15	9.4	15
				00=/1/00	2.5	9.4	12.7	15		0.9	15	11.8	15
	265/1/60	0.7	0.11	265/1/60	3.0	11.3	15.1	20		0.9	15	14.2	15
					3.5	13.2	17.4	20		0.9	15	16.5	20
					4.0	15.1	19.8	20		0.9	15	18.9	20
					4.5	17.0	22.1	25		0.9	15	21.2	25
					5.0	18.9	24.5	25		0.9	15	23.6	25
					0.0	0.0	2.9	15		NA	NA	NA	NA
					1.0	8.7	13.7	15		2.9	15	10.9	15
					1.5	13.0	19.2	20		2.9	15	16.3	20
					2.0	17.4	24.6	25		2.9	15	21.7	25
					2.5	21.7	NA	NA		2.9	15	27.2	30
					3.0	26.1	NA	NA		2.9	15	32.6	35
				115/1/60	3.5	30.4	NA	NA		2.9	15	38.0	40
					4.0	34.8	NA	NA		2.9	15	43.5	45
					4.5	39.1	NA	NA		2.9	15	48.9	50
					5.0	43.5	NA	NA		2.9	15	54.3	55
					5.5	47.8	NA	NA		2.9	15	59.8	60
					6.0	NA	NA	NA		NA	NA	NA	NA
W600	115/1/60	2.3	1/6		0.0	0.0	NA	NA		NA	NA	NA	NA
					1.0	4.8	8.9	15		NA	NA	6.0	15
					1.5	7.2	11.9	15		NA	NA	9.0	15
					2.0	9.6	14.9	15		NA	NA	12.0	15
					2.5	12.0	17.9	20		NA	NA	15.0	20
					3.0	14.4	20.9	25		NA	NA	18.0	20
				208/1/60	3.5	16.8	23.9	25		NA	NA	21.0	25
					4.0	19.2	26.9	30		NA	NA	24.0	25
					4.5	21.6	29.9	30		NA	NA	27.0	30
					5.0	24.0	NA	NA		NA	NA	30.0	35
					5.5	26.4	NA	NA		NA	NA	33.1	35
					6.0	28.8	NA	NA		NA	NA	36.1	40



Size (Tons)	Suppl	y Blower	Motor	E	lectric Hea	t	Single Poir	nt Power
	Voltage	FLA	НР	Voltage	kW	Amps	MCA	MOPD
					0.0	0.0	NA	NA
					1.0	4.3	8.3	15
					1.5	6.5	11.0	15
					2.0	8.7	13.7	15
					2.5	10.9	16.5	20
	115/1/00	0.0	1.00	000/4/00	3.0	13.0	19.2	20
	115/1/60	2.3	1/6	230/1/60	3.5	15.2	21.9	25
					4.0	17.4	24.6	25
					4.5	19.6	27.3	30
					5.0	21.7	NA	NA
					5.5	23.9	NA	NA
W600					6.0	26.1	NA	NA
WOOO					0.0	0.0	1.1	15
					1.0	3.8	5.8	15
					1.5	5.7	8.2	15
					2.0	7.5	10.6	15
					2.5	9.4	12.9	15
	065/1/60	0.0	1/6	065/1/60	3.0	11.3	15.3	20
	265/1/60	0.9	1/6	265/1/60	3.5	13.2	17.6	20
					4.0	15.1	20.0	20
					4.5	17.0	22.4	25
					5.0	18.9	24.7	25
					5.5	20.8	27.1	30
					6.0	22.6	29.4	30
					0.0	0.0	3.8	15
					1.0	8.7	14.6	15
					1.5	13.0	20.1	25
					2.0	17.4	25.5	30
					2.5	21.7	NA	NA
					3.0	26.1	NA	NA
					3.5	30.4	NA	NA
\\/\@OO	115/1/60	2.0	1/5	115/1/60	4.0	34.8	NA	NA
W800	115/1/60	3.0	1/5	110/1/00	4.5	39.1	NA	NA
					5.0	43.5	NA	NA
					5.5	47.8	NA	NA
					6.0	NA	NA	NA
					6.5	NA	NA	NA
					7.0	NA	NA	NA
					7.5	NA	NA	NA
					8.0	NA	NA	NA

	Dual Poin	t Power	
Unit	Unit	E-Heat	E-Heat
MCA	MOPD	MCA	MOPD
NA	NA	NA	NA
NA	NA	5.4	15
NA	NA	8.2	15
NA	NA	10.9	15
NA	NA	13.6	15
NA	NA	16.3	20
NA	NA	19.0	20
NA	NA	21.7	25
NA	NA	24.5	25
NA	NA	27.2	30
NA	NA	29.9	30
NA	NA	32.6	35
NA	NA	NA	NA
1.1	15	4.7	15
1.1	15	7.1	15
1.1	15	9.4	15
1.1	15	11.8	15
1.1	15	14.2	15
1.1	15	16.5	20
1.1	15	18.9	20
1.1	15	21.2	25
1.1	15	23.6	25
1.1	15	25.9	30
1.1	15	28.3	30
NA	NA	NA	NA
3.8	15	10.9	15
3.8	15	16.3	20
3.8	15	21.7	25
3.8	15	27.2	30
3.8	15	32.6	35
3.8	15	38.0	40
3.8	15	43.5	45
3.8	15	48.9	50
3.8	15	54.3	55
3.8	15	59.8	60
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA
NA	NA	NA	NA



Size (Tons)	Suppl	y Blower	Motor	E	lectric Hea	t	Single Poi	nt Power
	Voltage	FLA	HP	Voltage	kW	Amps	МСА	МОРЕ
					0.0	0.0	NA	NA
					1.0	4.8	9.8	15
					1.5	7.2	12.8	15
					2.0	9.6	15.8	20
					2.5	12.0	18.8	20
					3.0	14.4	21.8	25
					3.5	16.8	24.8	25
				208/1/60	4.0	19.2	27.8	30
				200/1/00	4.5	21.6	NA	NA
					5.0	24.0	NA	NA
					5.5	26.4	NA	NA
					6.0	28.8	NA	NA
					6.5	31.3	NA	NA
					7.0	33.7	NA	NA
					7.5	36.1	NA	NA
	115/1/60	3.0	1/5		8.0	38.5	NA	NA
	115/1/60	3.0	1/5		0.0	0.0	NA	NA
					1.0	4.3	9.2	15
					1.5	6.5	11.9	15
W800					2.0	8.7	14.6	15
VV000					2.5	10.9	17.3	20
					3.0	13.0	20.1	25
					3.5	15.2	22.8	25
				230/1/60	4.0	17.4	25.5	30
				230/1/00	4.5	19.6	28.2	30
					5.0	21.7	NA	NA
					5.5	23.9	NA	NA
					6.0	26.1	NA	NA
					6.5	28.3	NA	NA
					7.0	30.4	NA	NA
					7.5	32.6	NA	NA
					8.0	34.8	NA	NA
					0.0	0.0	1.5	15
					1.0	3.8	6.2	15
					1.5	5.7	8.6	15
	265/1/60	1.2	1/5	265/1/60	2.0	7.5	10.9	15
	203/1/00	1.4	1/0	200/1/00	2.5	9.4	13.3	15
					3.0	11.3	15.7	20
					3.5	13.2	18.0	20
					4.0	15.1	20.4	25

Unit MCA	Unit MOPD	E-Heat MCA	E-Heat
NA	NA	NA	NA
NA	NA	6.0	15
NA	NA	9.0	15
NA	NA	12.0	15
NA	NA	15.0	20
NA	NA	18.0	20
NA	NA	21.0	25
NA	NA	24.0	25
NA	NA	27.0	30
NA	NA	30.0	35
NA	NA	33.1	35
NA	NA	36.1	40
NA	NA	39.1	40
NA	NA	42.1	45
NA	NA	45.1	50
NA	NA	48.1	50
NA	NA	NA	NA
NA	NA	5.4	15
NA	NA	8.2	15
NA	NA	10.9	15
NA	NA	13.6	15
NA	NA	16.3	20
NA	NA	19.0	20
NA	NA	21.7	25
NA	NA	24.5	25
NA	NA	27.2	30
NA	NA	29.9	30
NA	NA	32.6	35
NA	NA	35.3	40
NA	NA	38.0	40
NA	NA	40.8	45
NA	NA	43.5	45
NA	NA	NA	NA
1.5	15	4.7	15
1.5	15	7.1	15
1.5	15	9.4	15
1.5	15	11.8	15
1.5	15	14.2	15
1.5	15	16.5	20
1.5	15	18.9	20



Size (Tons)	Supply Blower Motor		Electric Heat			Single Point Power		
	Voltage	FLA	НР	Voltage	kW	Amps	MCA	MOPD
					4.5	17.0	22.7	25
				5.0	18.9	25.1	30	
					5.5	20.8	27.4	30
14/000	005/4/00	4.0	4/5	005/4/00	6.0	22.6	29.8	30
W800	265/1/60	1.2	1/5	265/1/60	6.5	24.5	NA	NA
				7.0	26.4	NA	NA	
					7.5	28.3	NA	NA
					8.0	30.2	NA	NA

	Dual Point Power							
Unit	Unit	E-Heat	E-Heat					
MCA	MOPD	MCA	MOPD					
1.5	15	21.2	25					
1.5	15	23.6	25					
1.5	15	25.9	30					
1.5	15	28.3	30					
1.5	15	30.7	35					
1.5	15	33.0	35					
1.5	15	35.4	40					
1.5	15	37.7	40					



Table 10: RHE Electrical Data - Constant Torque EC Motor

Size (Tons)	Supply	y Blower I	Motor	EI	ectric Hea	at	Single Po	oint Powe				
	Voltage	FLA	HP	Voltage	kW	Amps	МСА	MOPD				
W200	115/1/60	Not A	vailable			ł-						
	265/1/60	110171										
W300	115/1/60	Not A	vailable									
	265/1/60	110171										
W300X	115/1/60	Not A	vailable									
	265/1/60	110171	valiable									
					0.0	0.0	4.6	15				
					1.0	8.7	15.5	20				
					1.5	13.0	20.9	25				
				115/1/60	2.0	17.4	26.4	30				
				110/1/00	2.5	21.7	NA	NA				
					3.0	26.1	NA	NA				
					3.5	30.4	NA	NA				
				_		4.0	34.8	NA	NA			
						0.0	0.0	NA	NA			
					1.0	4.8	10.6	15				
					1.5	7.2	13.6	15				
	115/1/60	2.7	3.7 1/4	1/4	1/4	208/1/60	2.0	9.6	16.6	20		
	113/1/00	3.7		200/1/00	2.5	12.0	19.6	20				
					3.0	14.4	22.7	25				
									3.5	16.8	25.7	30
								4.0	19.2	28.7	30	
W400					0.0	0.0	NA	NA				
						1.0	4.3	10.1	15			
							1.5	6.5	12.8	15		
				230/1/60	2.0	8.7	15.5	20				
				230/1/00	2.5	10.9	18.2	20				
				3.0	13.0	20.9	25					
					3.5	15.2	23.6	25				
					4.0	17.4	26.4	30				
					0.0	0.0	2.8	15				
					1.0	3.8	7.5	15				
					1.5	5.7	9.8	15				
					2.0	7.5	12.2	15				
	265/1/60	2.2	2.2 0.25	265/1/60	2.5	9.4	14.5	15				
					3.0	11.3	16.9	20				
					3.5	13.2	19.3	20				
					4.0	15.1	21.6	25				
W500	115/1/60	3.7	1/4	115/1/60	0.0	0.0	4.6	15				

	Dual Point Power							
Unit	Unit	E-Heat	E-Heat					
MCA	MOPD	MCA	MOPD					
NA	NA	NA	NA					
4.6	15	10.9	15					
4.6	15	16.3	20					
4.6	15	21.7	25					
4.6	15	27.2	30					
4.6	15	32.6	35					
4.6	15	38.0	40					
4.6	15	43.5	45					
NA	NA	NA	NA					
NA	NA	6.0	15					
NA	NA	9.0	15					
NA	NA	12.0	15					
NA	NA	15.0	20					
NA	NA	18.0	20					
NA	NA	21.0	25					
NA	NA	24.0	25					
NA	NA	NA	NA					
NA	NA	5.4	15					
NA	NA	8.2	15					
NA	NA	10.9	15					
NA	NA	13.6	15					
NA	NA	16.3	20					
NA	NA	19.0	20					
NA	NA	21.7	25					
NA	NA	NA	NA NA					
2.8	15	4.7	15					
2.8	15	7.1	15					
2.8	15	9.4	15					
2.8	15	11.8	15					
2.8	15	14.2	15					
2.8	15	16.5	20					
2.8	15	18.9	20					
NA	NA	NA	NA					



RHE Electrical Data – Constant Torque EC Motor

Size (Tons)	Supply	/ Blower N	Motor	E	lectric Hea	ıt	Single Po	oint Power
	Voltage	FLA	НР	Voltage	kW	Amps	MCA	MOPD
					1.0	8.7	15.5	20
					1.5	13.0	20.9	25
					2.0	17.4	26.4	30
					2.5	21.7	NA	NA
				115/1/60	3.0	26.1	NA	NA
					3.5	30.4	NA	NA
					4.0	34.8	NA	NA
					4.5	39.1	NA	NA
					5.0	43.5	NA	NA
					0.0	0.0	NA	NA
					1.0	4.8	10.6	15
					1.5	7.2	13.6	15
			1/4	208/1/60	2.0	9.6	16.6	20
					2.5	12.0	19.6	20
	115/1/60	3.7			3.0	14.4	22.7	25
					3.5	16.8	25.7	30
					4.0	19.2	28.7	30
					4.5	21.6	NA	NA
					5.0	24.0	NA	NA
W500				230/1/60	0.0	0.0	NA	NA
					1.0	4.3	10.1	15
					1.5	6.5	12.8	15
					2.0	8.7	15.5	20
					2.5	10.9	18.2	20
					3.0	13.0	20.9	25
					3.5	15.2	23.6	25
					4.0	17.4	26.4	30
					4.5	19.6	29.1	30
					5.0	21.7	NA	NA
					0.0	0.0	2.8	15
					1.0	3.8	7.5	15
					1.5	5.7	9.8	15
					2.0	7.5	12.2	15
	265/1/60	2.2	0.25	265/1/60	2.5	9.4	14.5	15
					3.0	11.3	16.9	20
					3.5	13.2	19.3	20
					4.0	15.1	21.6	25
					4.5	17.0	24.0	25
					5.0	18.9	26.3	30

	Dual Point Power								
Unit	Unit	E-Heat	E-Heat						
MCA	MOPD	MCA	MOPD						
4.6	15	10.9	15						
4.6	15	16.3	20						
4.6	15	21.7	25						
4.6	15	27.2	30						
4.6	15	32.6	35						
4.6	15	38.0	40						
4.6	15	43.5	45						
4.6	15	48.9	50						
4.6	15	54.3	55						
NA	NA	NA	NA						
NA	NA	6.0	15						
NA	NA	9.0	15						
NA	NA	12.0	15						
NA	NA	15.0	20						
NA	NA	18.0	20						
NA	NA	21.0	25						
NA	NA	24.0	25						
NA	NA	27.0	30						
NA	NA	30.0	35						
NA	NA	NA	NA						
NA	NA	5.4	15						
NA	NA	8.2	15						
NA	NA	10.9	15						
NA	NA	13.6	15						
NA	NA	16.3	20						
NA	NA	19.0	20						
NA	NA	21.7	25						
NA	NA	24.5	25						
NA	NA	27.2	30						
NA	NA	NA	NA						
2.8	15	4.7	15						
2.8	15	7.1	15						
2.8	15	9.4	15						
2.8	15	11.8	15						
2.8	15	14.2	15						
2.8	15	16.5	20						
2.8	15	18.9	20						
2.8	15	21.2	25						
2.8	15	23.6	25						



RHE Electrical Data – Constant Torque EC Motor

Size (Tons)	Supply	/ Blower N	Motor	Electric Heat			Single Point Power		
	Voltage	FLA	НР	Voltage	kW	Amps	MCA	МОРЕ	
					0.0	0.0	7.8	15	
					1.0	8.7	18.6	20	
					1.5	13.0	24.1	25	
					2.0	17.4	29.5	30	
					2.5	21.7	NA	NA	
				445/4/00	3.0	26.1	NA	NA	
				115/1/60	3.5	30.4	NA	NA	
					4.0	34.8	NA	NA	
					4.5	39.1	NA	NA	
					5.0	43.5	NA	NA	
					5.5	47.8	NA	NA	
					6.0	NA	NA	NA	
					0.0	0.0	NA	NA	
					1.0	4.8	13.8	15	
						1.5	7.2	16.8	20
						2.0	9.6	19.8	20
				1/2 208/1/60	2.5	12.0	22.8	25	
	115/1/00		1/2		3.0	14.4	25.8	30	
	115/1/60	6.2			3.5	16.8	28.8	30	
14/000					4.0	19.2	NA	NA	
W600					4.5	21.6	NA	NA	
					5.0	24.0	NA	NA	
						5.5	26.4	NA	NA
					6.0	28.8	NA	NA	
					0.0	0.0	NA	NA	
					1.0	4.3	13.2	15	
					1.5	6.5	15.9	20	
					2.0	8.7	18.6	20	
					2.5	10.9	21.3	25	
					3.0	13.0	24.1	25	
				230/1/60	3.5	15.2	26.8	30	
					4.0	17.4	29.5	30	
					4.5	19.6	NA	NA	
					5.0	21.7	NA	NA	
					5.5	23.9	NA	NA	
					6.0	26.1	NA	NA	
					0.0	0.0	4.0	15	
					1.0	3.8	8.7	15	
	265/1/60	3.2	1/2	265/1/60	1.5	5.7	11.1	15	
					2.0	7.5	13.4	15	

	Dual Point Power								
Unit	Unit	E-Heat	E-Heat						
MCA	MOPD	MCA	MOPD						
NA	NA	NA	NA						
7.8	15	10.9	15						
7.8	15	16.3	20						
7.8	15	21.7	25						
7.8	15	27.2	30						
7.8	15	32.6	35						
7.8	15	38.0	40						
7.8	15	43.5	45						
7.8	15	48.9	50						
7.8	15	54.3	55						
7.8	15	59.8	60						
NA	NA	NA	NA						
NA	NA	NA	NA						
NA	NA	6.0	15						
NA	NA	9.0	15						
NA	NA	12.0	15						
NA	NA	15.0	20						
NA	NA	18.0	20						
NA	NA	21.0	25						
NA	NA	24.0	25						
NA	NA	27.0	30						
NA	NA	30.0	35						
NA	NA	33.1	35						
NA	NA	36.1	40						
NA	NA	NA	NA						
NA	NA	5.4	15						
NA	NA	8.2	15						
NA	NA	10.9	15						
NA	NA	13.6	15						
NA	NA	16.3	20						
NA	NA	19.0	20						
NA	NA	21.7	25						
NA	NA	24.5	25						
NA	NA	27.2	30						
NA	NA	29.9	30						
NA	NA	32.6	35						
NA	NA	NA	NA						
4.0	15	4.7	15						
4.0	15	7.1	15						
4.0	15	9.4	15						



RHE Electrical Data - Constant Torque EC Motor

Size (Tons)	Supply	Supply Blower Motor			Electric Heat			Single Point Power			
	Voltage	FLA	HP	Voltage	kW	Amps	МСА	MOPD			
					2.5	9.4	15.8	20			
					3.0	11.3	18.2	20			
					3.5	13.2	20.5	25			
Weoo	065/1/60	2.0	1/0	065/1/60	4.0	15.1	22.9	25			
W600	265/1/60	3.2	1/2	265/1/60	4.5	17.0	25.2	30			
					5.0	18.9	27.6	30			
					5.5	20.8	29.9	30			
					6.0	22.6	NA	NA			
					0.0	0.0	7.8	15			
					1.0	8.7	18.6	20			
					1.5	13.0	24.1	25			
					2.0	17.4	29.5	30			
					2.5	21.7	NA	NA			
					3.0	26.1	NA	NA			
				115/1/60	3.5	30.4	NA	NA			
					4.0	34.8	NA	NA			
					4.5	39.1	NA	NA			
					5.0	43.5	NA	NA			
				5.5	47.8	NA	NA				
								6.0	NA	NA	NA
								6.5	NA	NA	NA
						7.0	NA	NA	NA		
					7.5	NA	NA	NA			
14/000	445/4/00	0.0	1/0		8.0	NA	NA	NA			
W800	115/1/60	6.2	1/2	1/2		0.0	0.0	NA	NA		
					1.0	4.8	13.8	15			
					1.5	7.2	16.8	20			
					2.0	9.6	19.8	20			
					2.5	12.0	22.8	25			
					3.0	14.4	25.8	30			
					3.5	16.8	28.8	30			
				000/4/00	4.0	19.2	NA	NA			
				208/1/60	4.5	21.6	NA	NA			
				5.0	24.0	NA	NA				
				5.5	26.4	NA	NA				
				6.0	28.8	NA	NA				
					6.5	31.3	NA	NA			
					7.0	33.7	NA	NA			
					7.5	36.1	NA	NA			
					8.0	38.5	NA	NA			

Dual Point Power							
Unit	Unit	E-Heat	E-Heat				
MCA	MOPD	MCA	MOPD				
4.0	15	11.8	15				
4.0	15	14.2	15				
4.0	15	16.5	20				
4.0	15	18.9	20				
4.0	15	21.2	25				
4.0	15	23.6	25				
4.0	15	25.9	30				
4.0	15	28.3	30				
NA	NA	NA	NA				
7.8	15	10.9	15				
7.8	15	16.3	20				
7.8	15	21.7	25				
7.8	15	27.2	30				
7.8	15	32.6	35				
7.8	15	38.0	40				
7.8	15	43.5	45				
7.8	15	48.9	50				
7.8	15	54.3	55				
7.8	15	59.8	60				
NA	NA	NA	NA				
NA	NA	NA	NA				
NA	NA	NA	NA				
NA	NA	NA	NA				
NA	NA	NA	NA				
NA	NA	NA	NA				
NA	NA	6.0	15				
NA	NA	9.0	15				
NA	NA	12.0	15				
NA	NA	15.0	20				
NA	NA	18.0	20				
NA	NA	21.0	25				
NA	NA	24.0	25				
NA	NA	27.0	30				
NA	NA	30.0	35				
NA	NA	33.1	35				
NA	NA	36.1	40				
NA	NA	39.1	40				
NA	NA	42.1	45				
NA	NA	45.1	50				
NA	NA	48.1	50				



RHE Electrical Data – Constant Torque EC Motor

Size (Tons)	Supply	Blower N	Motor	E	lectric Hea	at	Single Point Power	
	Voltage	FLA	НР	Voltage	kW	Amps	MCA	MOPD
					0.0	0.0	NA	NA
					1.0	4.3	13.2	15
					1.5	6.5	15.9	20
					2.0	8.7	18.6	20
					2.5	10.9	21.3	25
					3.0	13.0	24.1	25
					3.5	15.2	26.8	30
	115/1/60	6.2	1/2	230/1/60	4.0	17.4	29.5	30
	115/1/60	0.2			4.5	19.6	NA	NA
					5.0	21.7	NA	NA
					5.5	23.9	NA	NA
					6.0	26.1	NA	NA
					6.5	28.3	NA	NA
					7.0	30.4	NA	NA
					7.5	32.6	NA	NA
W000					8.0	34.8	NA	NA
W800					0.0	0.0	4.0	15
					1.0	3.8	8.7	15
					1.5	5.7	11.1	15
					2.0	7.5	13.4	15
					2.5	9.4	15.8	20
					3.0	11.3	18.2	20
					3.5	13.2	20.5	25
	065/1/60	2.0	1/0	065/1/60	4.0	15.1	22.9	25
	265/1/60	3.2	1/2	265/1/60	4.5	17.0	25.2	30
					5.0	18.9	27.6	30
					5.5	20.8	29.9	30
					6.0	22.6	NA	NA
					6.5	24.5	NA	NA
					7.0	26.4	NA	NA
					7.5	28.3	NA	NA
					8.0	30.2	NA	NA

	Dual Point Power								
Unit	Unit	E-Heat	E-Heat						
MCA	MOPD	MCA	MOPD						
NA	NA	NA	NA						
NA	NA	5.4	15						
NA	NA	8.2	15						
NA	NA	10.9	15						
NA	NA	13.6	15						
NA	NA	16.3	20						
NA	NA	19.0	20						
NA	NA	21.7	25						
NA	NA	24.5	25						
NA	NA	27.2	30						
NA	NA	29.9	30						
NA	NA	32.6	35						
NA	NA	35.3	40						
NA	NA	38.0	40						
NA	NA	40.8	45						
NA	NA	43.5	45						
NA	NA	NA	NA						
4.0	15	4.7	15						
4.0	15	7.1	15						
4.0	15	9.4	15						
4.0	15	11.8	15						
4.0	15	14.2	15						
4.0	15	16.5	20						
4.0	15	18.9	20						
4.0	15	21.2	25						
4.0	15	23.6	25						
4.0	15	25.9	30						
4.0	15	28.3	30						
4.0	15	30.7	35						
4.0	15	33.0	35						
4.0	15	35.4	40						
4.0	15	37.7	40						



Table 11: RHE Electrical Data - Modulated Airflow EC Motor

Size (Tons)	Supply Blower Motor			Electric Heat			Single Point Power									
	Voltage	FLA	НР	Voltage	kW	Amps	MCA	MOPD								
W200	115/1/60	Not A	vailable													
VV200	265/1/60	NOLA	valiable													
14/000	115/1/60	NI=+ A	! - - -													
W300	265/1/60	NOL A	vailable													
Wanny	115/1/60	Not A	vailable													
W300X	265/1/60	NOI A	valiable													
					0.0	0.0	4.6	15								
					1.0	8.7	15.5	20								
					1.5	13.0	20.9	25								
				115/1/60	2.0	17.4	26.4	30								
				115/1/60	2.5	21.7	NA	NA								
					3.0	26.1	NA	NA								
					3.5	30.4	NA	NA								
				4.0	34.8	NA	NA									
					0.0	0.0	NA	NA								
					1.0	4.8	10.6	15								
			1/4		1.5	7.2	13.6	15								
					2.0	9.6	16.6	20								
	115/1/60	3.7		208/1/60	2.5	12.0	19.6	20								
					3.0	14.4	22.7	25								
					3.5	16.8	25.7	30								
					4.0	19.2	28.7	30								
W400					0.0	0.0	NA	NA								
					1.0	4.3	10.1	15								
													1.5	6.5	12.8	15
						2.0	8.7	15.5	20							
				230/1/60	2.5	10.9	18.2	20								
					3.0	13.0	20.9	25								
					3.5	15.2	23.6	25								
					4.0	17.4	26.4	30								
					0.0	0.0	2.8	15								
					1.0	3.8	7.5	15								
					1.5	5.7	9.8	15								
					2.0	7.5	12.2	15								
	265/1/60	2.2	1/4	265/1/60	2.5	9.4	14.5	15								
					3.0	11.3	16.9	20								
					3.5	13.2	19.3	20								
					4.0	15.1	21.6	25								
					0.0	0.0	4.6	15								
W500	115/1/60	3.7	1/4	115/1/60	1.0	8.7	15.5	20								

	Dual Point Power							
Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD					
	,							
NA	NA	NA	NA					
4.6	15	10.9	15					
4.6	15	16.3	20					
4.6	15	21.7	25					
4.6	15	27.2	30					
4.6	15	32.6	35					
4.6	15	38.0	40					
4.6	15	43.5	45					
NA	NA	NA	NA					
NA	NA	6.0	15					
NA	NA	9.0	15					
NA	NA	12.0	15					
NA	NA	15.0	20					
NA	NA	18.0	20					
NA	NA	21.0	25					
NA	NA	24.0	25					
NA	NA	NA	NA					
NA	NA	5.4	15					
NA	NA	8.2	15					
NA	NA	10.9	15					
NA	NA	13.6	15					
NA	NA	16.3	20					
NA	NA	19.0	20					
NA	NA	21.7	25					
NA	NA	NA	NA					
2.8	15	4.7	15					
2.8	15	7.1	15					
2.8	15	9.4	15					
2.8	15	11.8	15					
2.8	15	14.2	15					
2.8	15	16.5	20					
2.8	15	18.9	20					
NA	NA	NA	NA					
4.6	15	10.9	15					



Size (Tons)	Supply Blower Motor			Electric Heat			Single Point Power	
	Voltage	FLA	HP	Voltage	kW	Amps	MCA	MOPD
					1.5	13.0	20.9	25
					2.0	17.4	26.4	30
					2.5	21.7	NA	NA
				115/1/60	3.0	26.1	NA	NA
				110/1/00	3.5	30.4	NA	NA
					4.0	34.8	NA	NA
					4.5	39.1	NA	NA
					5.0	43.5	NA	NA
					0.0	0.0	NA	NA
					1.0	4.8	10.6	15
					1.5	7.2	13.6	15
					2.0	9.6	16.6	20
			1/4	208/1/60	2.5	12.0	19.6	20
	115/1/60	3.7		200/1/00	3.0	14.4	22.7	25
	110/1/00	3.7			3.5	16.8	25.7	30
					4.0	19.2	28.7	30
					4.5	21.6	NA	NA
					5.0	24.0	NA	NA
W500					0.0	0.0	NA	NA
***************************************						1.0	4.3	10.1
					1.5	6.5	12.8	15
					2.0	8.7	15.5	20
				230/1/60	2.5	10.9	18.2	20
					3.0	13.0	20.9	25
					3.5	15.2	23.6	25
					4.0	17.4	26.4	30
					4.5	19.6	29.1	30
					5.0	21.7	NA	NA
					0.0	0.0	2.8	15
					1.0	3.8	7.5	15
					1.5	5.7	9.8	15
					2.0	7.5	12.2	15
	265/1/60	2.2	1/4	265/1/60	2.5	9.4	14.5	15
	200/1/00		1/7	200,1,00	3.0	11.3	16.9	20
					3.5	13.2	19.3	20
					4.0	15.1	21.6	25
					4.5	17.0	24.0	25
					5.0	18.9	26.3	30
W600	115/1/60	6.2	1/2	115/1/60	0.0	0.0	7.8	15
**500	1 10/1/00	0.2	1/2	1 10/1/00	1.0	8.7	18.6	20

	Dual Point Power							
Unit	Unit	E-Heat	E-Heat					
MCA	MOPD	MCA	MOPD					
4.6	15	16.3	20					
4.6	15	21.7	25					
4.6	15	27.2	30					
4.6	15	32.6	35					
4.6	15	38.0	40					
4.6	15	43.5	45					
4.6	15	48.9	50					
4.6	15	54.3	55					
NA	NA	NA	NA					
NA	NA	6.0	15					
NA	NA	9.0	15					
NA	NA	12.0	15					
NA	NA	15.0	20					
NA	NA	18.0	20					
NA	NA	21.0	25					
NA	NA	24.0	25					
NA	NA	27.0	30					
NA	NA	30.0	35					
NA	NA	NA	NA					
NA	NA	5.4	15					
NA	NA	8.2	15					
NA	NA	10.9	15					
NA	NA	13.6	15					
NA	NA	16.3	20					
NA	NA	19.0	20					
NA	NA	21.7	25					
NA	NA	24.5	25					
NA	NA	27.2	30					
NA	NA	NA	NA					
2.8	15	4.7	15					
2.8	15	7.1	15					
2.8	15	9.4	15					
2.8	15	11.8	15					
2.8	15	14.2	15					
2.8	15	16.5	20					
2.8	15	18.9	20					
2.8	15	21.2	25					
2.8	15	23.6	25					
NA	NA	NA	NA					
7.8	15	10.9	15					



Size (Tons)	Supply Blower Motor			Electric Heat			Single Point Power	
	Voltage	FLA	НР	Voltage	kW	Amps	MCA	MOPD
					1.5	13.0	24.1	25
					2.0	17.4	29.5	30
					2.5	21.7	NA	NA
					3.0	26.1	NA	NA
				115/1/60	3.5	30.4	NA	NA
				115/1/00	4.0	34.8	NA	NA
					4.5	39.1	NA	NA
					5.0	43.5	NA	NA
					5.5	47.8	NA	NA
					6.0	NA	NA	NA
					0.0	0.0	NA	NA
					1.0	4.8	13.8	NA
			1/2		1.5	7.2	16.8	NA
	115/1/60	6.2		208/1/60	2.0	9.6	19.8	NA
					2.5	12.0	22.8	NA
					3.0	14.4	25.8	NA
					3.5	16.8	28.8	NA
					4.0	19.2	NA	NA
					4.5	21.6	NA	NA
W600					5.0	24.0	NA	NA
VV000					5.5	26.4	NA	NA
					6.0	28.8	NA	NA
					0.0	0.0	NA	NA
					1.0	4.3	13.2	NA
					1.5	6.5	15.9	NA
					2.0	8.7	18.6	NA
					2.5	10.9	21.3	NA
				230/1/60	3.0	13.0	24.1	NA
				230/1/00	3.5	15.2	26.8	NA
					4.0	17.4	29.5	NA
					4.5	19.6	NA	NA
					5.0	21.7	NA	NA
					5.5	23.9	NA	NA
					6.0	26.1	NA	NA
					0.0	0.0	4.0	15
					1.0	3.8	8.7	15
	265/1/60	3.2	1/2	265/1/60	1.5	5.7	11.1	15
	200/1/00	J.Z	1/2	200/1/00	2.0	7.5	13.4	15
					2.5	9.4	15.8	20
					3.0	11.3	18.2	20

	Dual Point Power							
Unit	Unit	E-Heat	E-Heat					
MCA	MOPD	MCA	MOPD					
7.8	15	16.3	20					
7.8	15	21.7	25					
7.8	15	27.2	30					
7.8	15	32.6	35					
7.8	15	38.0	40					
7.8	15	43.5	45					
7.8	15	48.9	50					
7.8	15	54.3	55					
7.8	15	59.8	60					
NA	NA	NA	NA					
NA	NA	NA	NA					
NA	NA	6.0	15					
NA	NA	9.0	15					
NA	NA	12.0	15					
NA	NA	15.0	20					
NA	NA	18.0	20					
NA	NA	21.0	25					
NA	NA	24.0	25					
NA	NA	27.0	30					
NA	NA	30.0	35					
NA	NA	33.1	35					
NA	NA	36.1	40					
NA	NA	NA	NA					
NA	NA	5.4	15					
NA	NA	8.2	15					
NA	NA	10.9	15					
NA	NA	13.6	15					
NA	NA	16.3	20					
NA	NA	19.0	20					
NA	NA	21.7	25					
NA	NA	24.5	25					
NA	NA	27.2	30					
NA	NA	29.9	30					
NA	NA	32.6	35					
NA	NA	NA	NA					
4.0	15	4.7	15					
4.0	15	7.1	15					
4.0	15	9.4	15					
4.0	15	11.8	15					
4.0	15	14.2	15					



Size (Tons)	Supply Blower Motor			Ele	Electric Heat			Single Point Power									
	Voltage	FLA	НР	Voltage	kW	Amps	МСА	МОРІ									
					3.5	13.2	20.5	25									
					4.0	15.1	22.9	25									
W600	265/1/60	20	1/2	265/1/60	4.5	17.0	25.2	30									
VV000	265/1/60	3.2	1/2	265/1/60	5.0	18.9	27.6	30									
					5.5	20.8	29.9	30									
					6.0	22.6	NA	NA									
					0.0	0.0	7.8	15									
					1.0	8.7	18.6	20									
					1.5	13.0	24.1	25									
					2.0	17.4	29.5	30									
					2.5	21.7	NA	NA									
					3.0	26.1	NA	NA									
					3.5	30.4	NA	NA									
				115/1/60	4.0	34.8	NA	NA									
				113/1/00	4.5	39.1	NA	NA									
					5.0	43.5	NA	NA									
					5.5	47.8	NA	NA									
					6.0	NA	NA	NA									
					6.5	NA	NA	NA									
														7.0	NA	NA	NA
										7.5	NA	NA	NA				
					8.0	NA	NA	NA									
W800	115/1/60	6.2	1/2	1/2	0.0	0.0	NA	NA									
VV800	113/1/00	0.2	1/2		1.0	4.8	13.8	15									
											1.5	7.2	16.8	20			
					2.0	9.6	19.8	20									
					2.5	12.0	22.8	25									
					3.0	14.4	25.8	30									
					3.5	16.8	28.8	30									
				208/1/60	4.0	19.2	NA	NA									
				200/1/00	4.5	21.6	NA	NA									
					5.0	24.0	NA	NA									
					5.5	26.4	NA	NA									
					6.0	28.8	NA	NA									
					6.5	31.3	NA	NA									
					7.0	33.7	NA	NA									
					7.5	36.1	NA	NA									
					8.0	38.5	NA	NA									
				230/1/60	0.0	0.0	NA	NA									
				230/1/00	1.0	4.3	13.2	15									

	Dual Point Power							
Unit MCA	Unit MOPD	E-Heat MCA	E-Heat MOPD					
4.0	15	16.5	20					
4.0	15	18.9	20					
4.0	15	21.2	25					
4.0	15	23.6	25					
4.0	15	25.9	30					
4.0	15	28.3	30					
NA	NA	NA	NA					
7.8	15	10.9	15					
7.8	15	16.3	20					
7.8	15	21.7	25					
7.8	15	27.2	30					
7.8	15	32.6	35					
7.8	15	38.0	40					
7.8	15	43.5	45					
7.8	15	48.9	50					
7.8	15	54.3	55					
7.8	15	59.8	60					
NA	NA	NA	NA					
NA	NA	NA	NA					
NA	NA	NA	NA					
NA	NA	NA	NA					
NA	NA	NA	NA					
NA	NA	NA	NA					
NA	NA	6.0	15					
NA	NA	9.0	15					
NA	NA	12.0	15					
NA	NA	15.0	20					
NA	NA	18.0	20					
NA	NA	21.0	25					
NA	NA	24.0	25					
NA	NA	27.0	30					
NA	NA	30.0	35					
NA	NA	33.1	35					
NA	NA	36.1	40					
NA	NA	39.1	40					
NA	NA	42.1	45					
NA	NA	45.1	50					
NA	NA	48.1	50					
NA	NA	NA	NA					
NA	NA	5.4	15					



Size (Tons)	Supply Blower Motor			Ele	Electric Heat			Single Point Power		
	Voltage	FLA	НР	Voltage	kW	Amps	MCA	MOPD		
					1.5	6.5	15.9	20		
					2.0	8.7	18.6	20		
					2.5	10.9	21.3	25		
					3.0	13.0	24.1	25		
					3.5	15.2	26.8	30		
					4.0	17.4	29.5	30		
	115/1/60	6.0	1/0	000/1/60	4.5	19.6	NA	NA		
	115/1/60	6.2	1/2	230/1/60	5.0	21.7	NA	NA		
					5.5	23.9	NA	NA		
					6.0	26.1	NA	NA		
					6.5	28.3	NA	NA		
					7.0	30.4	NA	NA		
					7.5	32.6	NA	NA		
					8.0	34.8	NA	NA		
14/000					0.0	0.0	4.0	15		
W800					1.0	3.8	8.7	15		
					1.5	5.7	11.1	15		
					2.0	7.5	13.4	15		
					2.5	9.4	15.8	20		
					3.0	11.3	18.2	20		
					3.5	13.2	20.5	25		
	005 14 100		1 (0	005/4/00	4.0	15.1	22.9	25		
	265/1/60	3.2	1/2	265/1/60	4.5	17.0	25.2	30		
					5.0	18.9	27.6	30		
					5.5	20.8	29.9	30		
					6.0	22.6	NA	NA		
					6.5	24.5	NA	NA		
					7.0	26.4	NA	NA		
					7.5	28.3	NA	NA		
					8.0	30.2	NA	NA		

Dual Point Power								
Unit	Unit	E-Heat	E-Heat					
MCA	MOPD	MCA	MOPD					
NA	NA	8.2	15					
NA	NA	10.9	15					
NA	NA	13.6	15					
NA	NA	16.3	20					
NA	NA	19.0	20					
NA	NA	21.7	25					
NA	NA	24.5	25					
NA	NA	27.2	30					
NA	NA	29.9	30					
NA	NA	32.6	35					
NA	NA	35.3	40					
NA	NA	38.0	40					
NA	NA	40.8	45					
NA	NA	43.5	45					
NA	NA	NA	NA					
4.0	15	4.7	15					
4.0	15	7.1	15					
4.0	15	9.4	15					
4.0	15	11.8	15					
4.0	15	14.2	15					
4.0	15	16.5	20					
4.0	15	18.9	20					
4.0	15	21.2	25					
4.0	15	23.6	25					
4.0	15	25.9	30					
4.0	15	28.3	30					
4.0	15	30.7	35					
4.0	15	33.0	35					
4.0	15	35.4	40					
4.0	15	37.7	40					

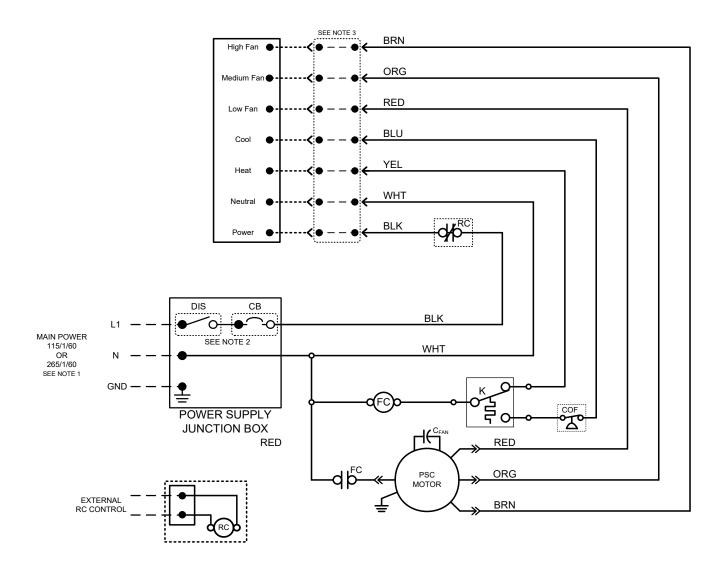


Table 12: Additional Static Resistance

Size			Filter ¹				
(Tons)	Model	Fan Speed	MERV 4 (Fiberglass)	MERV 4 (Poly)	MERV 8		
200		High	0.01	0.02	0.05		
		Medium	0.01	0.01	0.04		
(0.5)		Low	0.01	0.01	0.03		
300	1	High	0.01	0.02	0.05		
		Medium	0.01	0.01	0.04		
(0.75)		Low	0.01	0.01	0.03		
300X		High	0.01	0.01	0.03		
		Medium	0.01	0.01	0.03		
(0.75)	WX01,	Low	0.00	0.01	0.02		
400	WX02,	High	0.01	0.02	0.06		
	**************************************	Medium	0.01	0.01	0.03		
(1.5)		Low	0.00	0.00	0.02		
500	WX04	High	0.02	0.03	0.08		
		Medium	0.01	0.02	0.06		
(1.25)		Low	0.01	0.01	0.03		
600	1	High	0.02	0.03	0.09		
		Medium	0.02	0.02	0.06		
(1.5)	J	Low	0.01	0.01	0.04		
800		High	0.03	0.05	0.12		
		Medium	0.01	0.02	0.05		
(2.0)		Low	0.01	0.01	0.03		

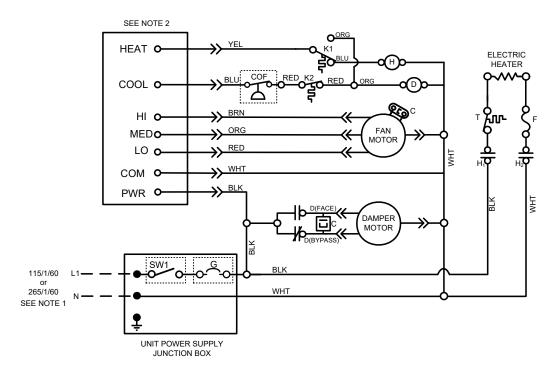
¹ Deduct these values from the available external static pressure shown in the respective Blower Performance Tables.





12P01-+3d.vsd 7 June, 2017





LEGEND:

K2	- TEMPERATURE SENSOR FOR COOLIN	NG T - TEMPERATURE LIMIT
Н	- ELECTRIC HEAT RELAY	- — - INDICATES FIELD WIRING
D	- DAMPER MOTOR RELAY	INDICATES OPTIONAL WIRING/COMPONENT
С	- CAPACITOR	O - INDICATES FACTORY CONNECTION
F	- THERMAL CUTOFF	■ - INDICATES FIELD CONNECTION
K1	- TEMPERATURE SENSOR FOR	G - CIRCUIT BREAKER
	ELECTRIC HEAT OR HOT WATER	COF - CONDENSATE OVERFLOW SWITCH
SW1	- DISCONNECT SWITCH	<u> </u>

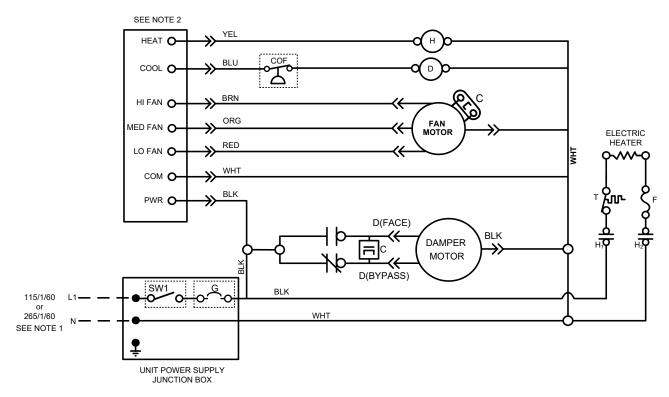
NOTES:

- Use copper conductors only.
 Thermostat is field installed and may be remote mounted.

1AE01--3c.vsd

18 March, 2015





LEGEND:

H - ELECTRIC HEAT RELAY

D - DAMPER MOTOR RELAY

C - CAPACITOR

F - THERMAL CUTOFF

T - TEMPERATURE LIMIT

SW1 - DISCONNECT SWITCH

- QUICK CONNECT PLUGS

— — - INDICATES FIELD WIRING

·····- INDICATES OPTIONAL WIRING/COMPONENT

O - INDICATES FACTORY CONNECTION

- INDICATES FIELD CONNECTION

G - CIRCUIT BREAKER

COF - CONDENSATE OVERFLOW SWITCH

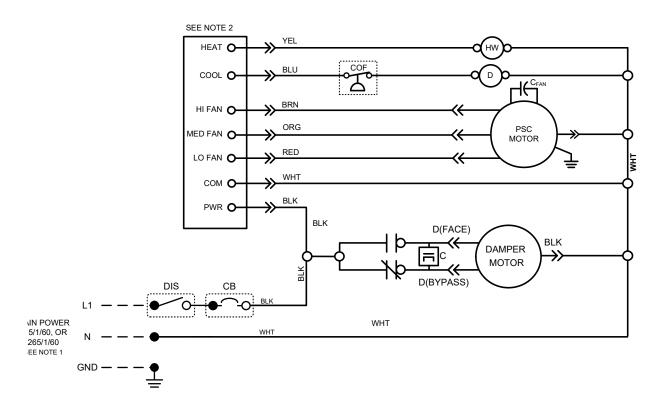
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NOTES:

- 1. Use copper conductors only.
- 2. Thermostat is field installed and may be remote mounted.

1ET01--3b.vsd





LEGEND:

HW - HOT WATER VALVE

- DAMPER MOTOR RELAY

- CAPACITOR

SW - DISCONNECT SWITCH

CB - CIRCUIT BREAKER (See Note 3)

COF - CONDENSATE OVERFLOW SWITCH

- - QUICK CONNECT PLUGS - - INDICATES FIELD WIRING

----- INDICATES OPTIONAL WIRING/COMPONENT

O - INDICATES FACTORY CONNECTION

• - INDICATES FIELD CONNECTION

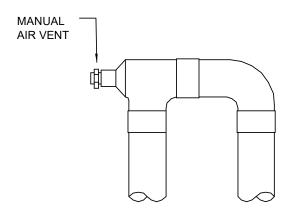
NOTES:

- 1. Use copper conductors only.
- 2. Thermostat is field installed
- and may be remote mounted. 3. If CB selected, replaces DIS

14P01--3h vsd 25 June, 2018

Top and Bottom U-Bends

INTERNAL "TUB": TOP U-BEND



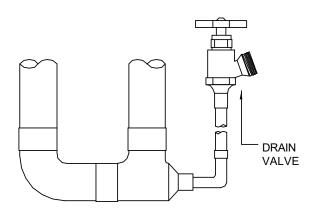
NOTES:

- The top U-bend is factory assembled inside the top unit on each upfeed riser. Joints are brazed with high temperature silver solder.
- The manual air vent faces the unit front, and is normally accessible through the front supply grille. On ducted units, access to the air vent is made possible either by installation of an access panel or by an extension tube which relocates the air vent behind the unit return air grille.
- Unless otherwise noted, units with top U-bends have NO INTERNAL CONDENSATE DRAIN RISER extending through the cabinet top.

INTERNAL "BUB": BOTTOM U-BEND

NOTES:

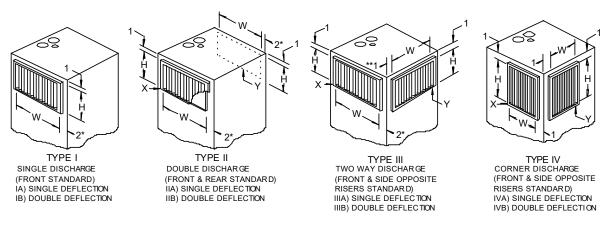
- The bottom U-bend is factory assembled inside the bottom unit on each downfeed riser. Joints are brazed with high temperature silver solder.
- 2. The drain riser extension is shortened to a nominal 8 inches out of the unit bottom.
- The drain valve is concealed behind an internal bulkhead, and is accessible through the unit return air grille behind the fan access panel for blow-down or draining of the riser.
- Care must be excercised to prevent freezing of water trapped in the bottom U-bend if the system is filled and then drained during construction.

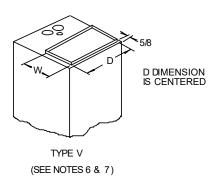


DRAWING NO. 141C AUGUST 2000



2 Pipe Units with Fan Cycle Control





NOTES:

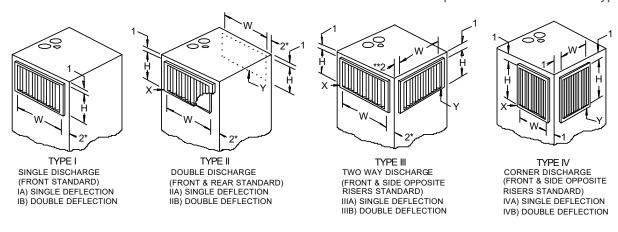
- All standard Whalen supply grilles and registers are fabricated of extruded aluminum, to match the return air grille.
- See unit schedule for type of grilles or registers. Optional supply
 registers are available with either parallel or opposed blade dampers
 at extra cost. Consult factory for use of opposed blade
 dampers with Type III or Type IV discharge arrangement.
- Supply and return air grilles are shipped loose, for installation after the drywall installation is complete.
- 4. Listed grille and register dimensions are for the grille opening size.
- 5. Unless otherwise noted, the front grille blades will be vertical, as
- Type V (top ducted) may be combined with other discharge options, although its use with unit mounted registers should be avoided when possible. Such combinations can increase the noise level at the unit.
- 7. Where Type V is combined with Type I, the front grille will be sized as a Type II X grille.
 - *This dimension from the cabinet edge to the grille opening flange is 1 inch on 300, 600 and 800 CFM units.
- **This dimension from the cabinet edge to the grille opening flange is 3 inches on 200 CFM units and 2 inches on 300 CFM units.

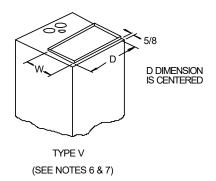
UNIT	TYF	PΕΙ	GRILLE	TYPE II		TYPE III		TYPE IV		TYPE V					
CFM	W	Н	Orticee	W	Н	W	Н	W	Н	W	D				
200	8	8	Х	8	4	8	4	4	8	6	12				
200	°	°	Y	8	4	8	4	4	8	0	IZ				
300	10	8	Х	10	4	10	4	4	10	6	12				
300	10	٥	Υ	10	4	10	4	4	10	0	12				
400	12	10	Х	12	6	12	6	6	12	8	12				
400	12	10	Υ	12	6	12	6	6	12	٥	IZ				
500	12	10	Х	12	6	12	6	6	12	8	12				
500	12	10	Y	12	6	12	6	6	12	0	IZ				
600	10	14	Х	10	8	10	8	6	12	10	14				
000	10	14	Υ	8	10	10	8	6	12	10	14				
900	10	10	10	40	10	10	Х	10	12	10	12	6	16	40 44	14
800	10	18	Υ	8	10	10	12	6	16	10	14				

All dimensions in inches. All sizes are maximum.

DRAWING NUMBER 111D OCTOBER 2001

4 Pipe Electric and Face and Bypass Units





NOTES:

- All standard Whalen supply grilles and registers are fabricated of extruded aluminum, to match the return air grille.
- See unit schedule for type of grilles or registers. Optional supply registers are available with either parallel or opposed blade dampers at extra cost. Consult factory for use of opposed blade dampers with Type III or Type IV discharge arrangement.
- Supply and return air grilles are shipped loose, for installation after the drywall installation is complete.
- 4. Listed grille and register dimensions are for the grille **opening** size.
- Unless otherwise noted, the front grille blades will be vertical, as drawn.
- Type V (top ducted) may be combined with other discharge options, although its use with unit mounted registers should be avoided when possible. Such combinations can increase the noise level at the unit.
- 7. Where Type V is combined with Type I, the front grille will be sized as a Type II X grille.
 - *This dimension from the cabinet edge to the grille opening flange is 1 inch on 300, 600 and 800 CFM units.
- **This dimension from the cabinet edge to the grille opening flange is 3 inches on 200 CFM units and 1 inch on 600 and 800 CFM units.

UNIT	TYF	ΈI	GRILLE	TYP	ΈII	TYF	EΙΙ	TYPE	ΕIV	TYP	ΈV
CFM	w	н	Orticee	W	Н	W	Н	W	Н	W	D
200	8	8	Х	8	6	8	6	4	8	6	12
200	°	0	Y	8	4	8	6	4	8	0	12
300	10	8	Х	10	6	10	6	4	10	6	12
300	10	0	Υ	10	4	10	6	4	10	О	12
400	12	10	Х	12	6	12	6	6	12	8	12
400	12	10	Y	12	6	12	6	6	12	0	12
500	12	10	Х	12	6	12	6	6	12	8	12
500	12	10	Υ	12	6	12	6	6	12	0	12
600	8	18	Х	8	10	8	10	6	12	10	14
000	٥	10	Y	10	8	8	10	6	12	10	14
900	8	20	Х	8	14	8	14	6	16	10	14
800	8	22	Y	10	8	8	14	6	16	10	14

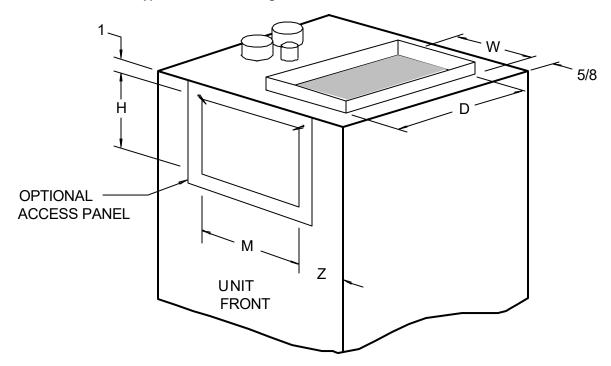
All dimensions in inches. All sizes are maximum.

DRAWING NUMBER 111D-F

OCTOBER 2001



Access Panel for Units with Type V Ducted Discharge



Notes:

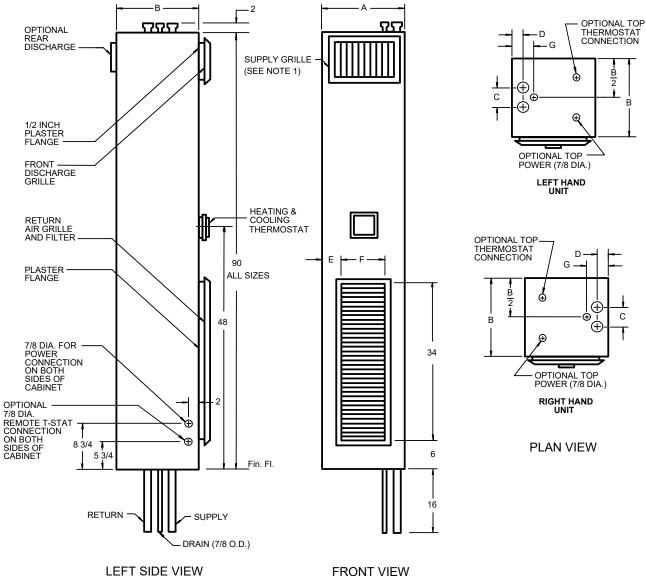
- 1. See unit schedule for type of discharge arrangement.
- 2. Access panel is fabricated of aluminum and finished in white baked enamel.
- 3. Access panel is shipped loose, for installation after the drywall installation is complete.
- 4. Dimensions apply to standard height units **only**, with access panel on front or back of unit.

UNIT CFM	w	D	М	н	Z
200	6	12	10	8	1
300	6	12	10	8	1
400	8	12	10	8	3
500	8	12	10	8	3
600 FRONT	10	14	8	10	1
600 REAR	10	14	6	10	1
800 FRONT	10	14	8	10	1
800 REAR	10	14	6	10	1

All dimensions in inches.

DRAWING NUMBER 112A SEPTEMBER 1989

2 Pipe Heating/Cooling Units with Fan Cycle Control



FRONT VIEW

NOTES:

- 1. See drawing number 111 for supply grille or register options. The return air grille is always on the front of the unit.
- 2. Cabinet is continuous galvanized steel, suitable for direct application of "drywall" plaster board.
- 3. Return air grille is clear anodized aluminum.
- 4. Supply, return and drain risers are copper.
- 5. See drawing number 146 for optional outdoor air opening location.

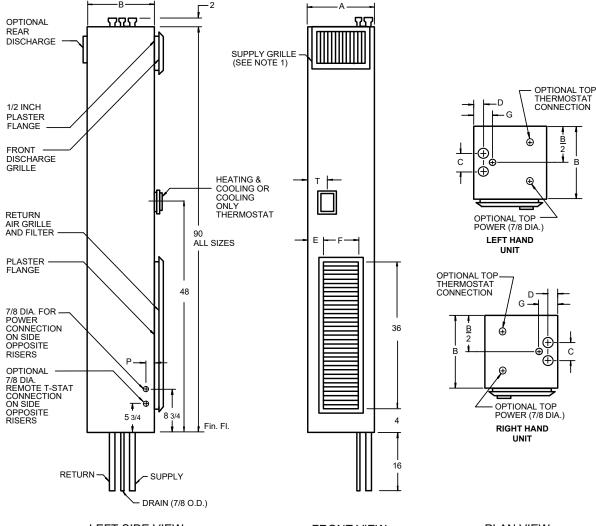
MODEL	NOM- CFM	А	В	С	D	E	F	G	MINIMUM SLEEVE SIZE
W202	200	12	14	2 1/2	1 1/2	2	8	2 3/4	3 1/2 X 5
W302	300	12	14	2 1/2	1 1/2	2	8	2 3/4	3 1/2 X 5
W302X	300	14	14	4	2 3/4	2	10	4 1/2	4 1/2 X 8
W402	400	16	14	4	2 3/4	3	10	4 1/2	4 1/2 X 8
W502	500	16	14	4	2 3/4	3	10	4 1/2	4 1/2 X 8
W602	600	18	16	4	2 3/4	3	12	4 1/2	8 X 10
W802	800	18	16	4	2 3/4	3	12	4 1/2	8 X 10

All dimensions in inches.

DRAWING NUMBER 101H APRIL 2013



2 Pipe Heating/Cooling Units or 2 Pipe Cooling Only Units with Face & Bypass Damper Control



LEFT SIDE VIEW

NOTES:

- See drawing number 111 for supply grille or register options. The return air grille is always on the front of the unit.
- Cabinet is continuous galvanized steel, suitable for direct application of "drywall" plaster board.
- 3. Return air grille is clear anodized aluminum.
- 4. Supply, return and drain risers are copper.

FRONT VIEW	
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PLAN VIEW

MODEL	NOM- CFM	Α	В	С	D	E	F	G	Р	Т	MINIMUM SLEEVE SIZE
W202F	200	12	14	2 1/2	1 1/2	2	8	2 3/4	2 1/2	3	3 1/2 X 5
W302F	300	12	14	2 1/2	1 1/2	2	8	2 3/4	2 1/2	3	3 1/2 X 5
W302XF	300	14	14	4	2 3/4	2	10	4 1/2	2 1/2	4	4 1/2 X 8
W402F	400	16	16	4	2 3/4	3	10	4 1/2	3	4	4 1/2 X 8
W502F	500	16	16	4	2 3/4	3	10	4 1/2	3	4	4 1/2 X 8
W602F	600	18	16	4	2 3/4	3	12	4 1/2	3	6	4 1/2 X 8
W802F	800	18	16	4	2 3/4	3	12	4 1/2	3	6	8 X 10

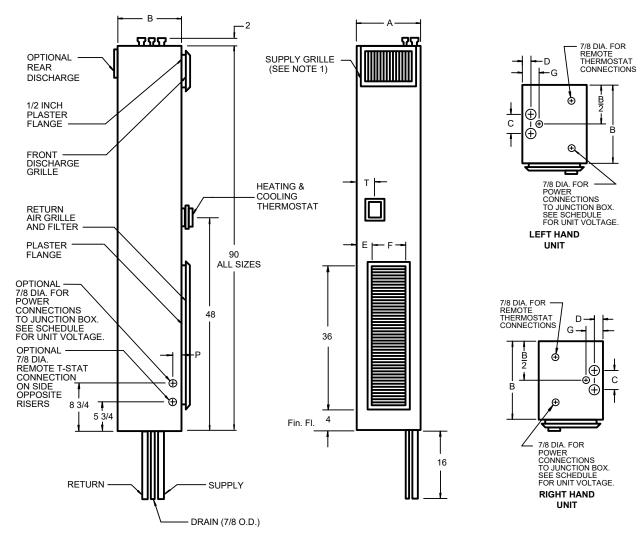
All dimensions in inches.

DRAWING NUMBER 102F MAY 2014

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



2 Pipe with Electric Heat, with Face & Bypass Damper Control and with Single Point Single Voltage Power Supply



LEFT SIDE VIEW

NOTES:

- See drawing number 111 for supply grille or register options. The return air grille is always on the front of the unit.
- 2. Cabinet is continuous galvanized steel, suitable for direct application of "drywall" plaster board.
- 3. Return air grille is clear anodized aluminum.
- 4. Supply, return, and drain risers are copper.
- 5. Sequence of operation may be for either total electric heat or for auxilliary electric heat.

FRONT VIEW

PLAN VIEW

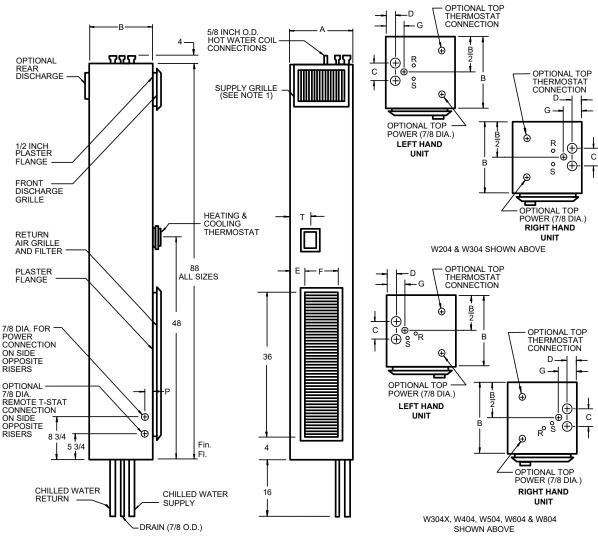
UNIT MODEL	NOM- CFM	Α	В	С	D	E	F	G	Р	Т	MINIMUM SLEEVE SIZE
W202E	200	12	14	2 1/2	1 1/2	2	8	2 3/4	2 1/2	3	3 1/2 X 5
W302E	300	12	14	2 1/2	1 1/2	2	8	2 3/4	2 1/2	3	3 1/2 X 5
W302XE	300	14	14	4	2 3/4	2	10	4 1/2	2 1/2	4	4 1/2 X 8
W402E	400	16	16	4	2 3/4	3	10	4 1/2	3	4	4 1/2 X 8
W502E	500	16	16	4	2 3/4	3	10	4 1/2	3	4	4 1/2 X 8
W602E	600	18	16	4	2 3/4	3	12	4 1/2	3	6	4 1/2 X 8
W802E	800	18	16	4	2 3/4	3	12	4 1/2	3	6	8 X 10

All dimensions in inches.

DRAWING NUMBER 104g APRIL 2015



4 Pipe Heating/Cooling Units without Hot Water Risers



LEFT SIDE VIEW

FRONT VIEW

PLAN VIEW

NOTES:

- See drawing number 111 for supply grille or register options. The return air grille is always on the front of the unit.
- Cabinet is continuous galvanized steel, suitable for direct application of "drywall" plaster board.
- 3. Return air grille is clear anodized aluminum.
- 4. Supply, return and drain risers are copper.

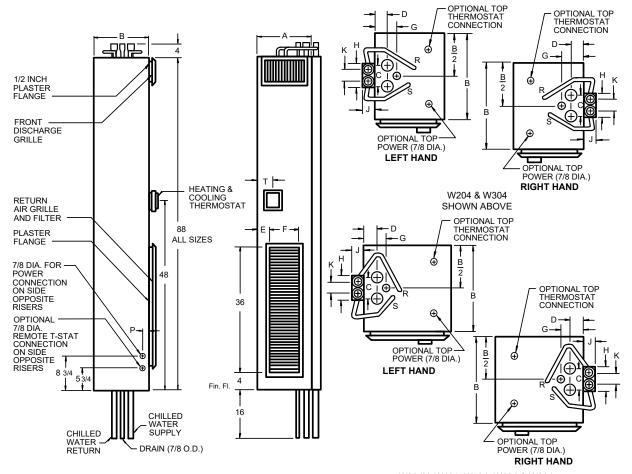
UNIT MODEL	NOM -CFM	А	В	С	D	E	F	G	Р	Т	MINIMUM SLEEVE SIZE
W204	200	12	14	2 1/2	1 1/2	2	8	2 3/4	2 1/2	3	8 X 8
W304	300	12	14	2 1/2	1 1/2	2	8	2 3/4	2 1/2	3	8 X 8
W304X	300	14	14	4	2 3/4	2	10	4 1/2	2 1/2	4	8 X 10
W404	400	16	16	4	2 3/4	3	10	4 1/2	3	4	8 X 10
W504	500	16	16	4	2 3/4	3	10	4 1/2	3	4	8 X 10
W604	600	18	16	4	2 3/4	3	12	4 1/2	3	6	8 X 10
W804	800	18	16	4	2 3/4	3	12	4 1/2	3	6	8 X 10

All dimensions in inches.

DRAWING NUMBER 106C

MAY 2014

4 Pipe Heating/Cooling Units with Hot Water Risers



W304X, W404, W504, W604 & W804 SHOWN ABOVE

LEFT SIDE VIEW

FRONT VIEW

PLAN VIEW

NOTES:

- See drawing number 111 for supply grille or register options. The return air grille is always on the front of the unit.
- Cabinet is continuous galvanized steel, suitable for direct application of "drywall" plaster board.
- 3. Return air grille is clear anodized aluminum.
- 4. Supply, return and drain risers are copper.
- Two ball type hot water shut off valves are factory installed inside the cabinet.
 Standard hot water control valve is electric two way, two position type.
- Hot water risers are centered on the side of each unit, and include 3/8" insulation for full length of cabinet.

UNIT MODEL	NOM CFM	А	В	С	D	Е	F	G	Р	Т	MINIMUM SLEEVE SIZE
W204	200	12	14	2 1/2	1 1/2	2	8	2 3/4	2 1/2	3	8 X 8
W304	300	12	14	2 1/2	1 1/2	2	8	2 3/4	2 1/2	3	8 X 8
W304X	300	14	14	4	2 3/4	2	10	4 1/2	2 1/2	4	8 X 10
W404	400	16	16	4	2 3/4	3	10	4 1/2	3	4	8 X 10
W504	500	16	16	4	2 3/4	3	10	4 1/2	3	4	8 X 10
W604	600	18	16	4	2 3/4	3	12	4 1/2	3	6	8 X 10
W804	800	18	16	4	2 3/4	3	12	4 1/2	3	6	8 X 10

All dimensions in inches.

H.W. RISER SIZE	Н	J	К
3/4	3 1/8	1 1/2	1 5/8
1	3 11/16	1 13/16	1 13/16
1 1/4	4 3/16	2 1/16	2 1/16
1 1/2	4 11/16	2 5/16	2 5/16

DRAWING NUMBER 107C

MAY 2014



Mechanical Specifications

TWO or FOUR PIPE RISER FAN-COIL UNIT

PART 1 GENERAL

1.01 SECTION INCLUDES

- A. Two Pipe Fan-Coil Unit with Fan Cycle Control
- B. Two Pipe Cooling-Only Fan-Coil Unit with Fan Cycle Control
- C. Two Pipe Fan-Coil Unit with Electric Heat
- D. Two Pipe Fan-Coil Unit with Face and Bypass Control
- E. Two Pipe Heating Only Fan-Coil Unit with Fan Cycle Control
- F. Four Pipe Fan Coil Unit

1.02 RELATED SECTIONS

1.03 REFERENCES

A. UL Listed under Underwriters Laboratories Standard for Safety UL1995 for fan coil units.

1.04 DELIVERY, STORAGE AND HANDLING

A. Deliver products to site, store and protect from the weather and construction debris. Units must be individually packaged. Units must be tagged with site location, model number and configuration.

1.05 ENVIRONMENTAL 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.

PART 2 PRODUCTS

2.01 TYPE

A. INTERNAL HEAT EXCHANGER

- a. 2-pipe Fan Cycle The fan-coil unit shall be of the factory assembled, integral fan type with a combination hot water heating and chilled water cooling riser heat exchanger, integral drain riser and all accessories (ADD SPECIFIC OPTIONS HERE).
- b. 2-pipe Cooling Only The fan-coil unit shall be of the factory assembled, integral fan type with a chilled



- water-cooling riser heat exchanger, integral drain riser and all accessories (ADD SPECIFIC OPTIONS HERE).
- c. 2-pipe with Electric Heat The fan-coil unit shall be of the factory assembled, integral fan type with a chilled water riser heat exchanger, electric heating element, and integral drain riser and all accessories (ADD SPECIFIC OPTIONS HERE).
- d. 2-pipe Heating Only The fan-coil unit shall be of the factory assembled, integral fan type with a hot water heating riser heat exchanger and all accessories (ADD SPECIFIC OPTIONS HERE).
- 4-pipe Fan Coils The fan-coil unit shall be of the factory assembled, integral fan type with separate hot water heating coil, chilled water riser heat exchanger, integral hot water supply, return and drain risers and all accessories (ADD SPECIFIC OPTIONS HERE)
- B. The fan-coil unit must be designed to operate without the use of unit mounted control valves or balancing devices.

C. ALTERNATE FAN-COIL UNITS:

- a. In the event the mechanical contractor wishes to propose the installation of valve-controlled fan-coil units, each coil shall include a two-way two-position electric valve with a 50-psi minimum shut off differential, two ball type shut-off valves, a removable Griswold Flowcon control valve, and an automatic air vent.
 - i. The bottom of each supply and return riser shall be fitted with a drain valve and piped to the nearest drain.
 - ii. The circulating pumps shall be selected to handle the increased water friction through the unit piping packages and coil. Any electrical changes shall be the responsibility of the HVAC contractor.
 - iii. An independent balancing sub-contractor shall balance the entire system.
 - iv. The fan-coil units shall otherwise conform to all requirements of the specification with respect to performance, construction and accessories.

2.02 CAPACITY

A. Shall be as indicated on the drawings or specifications, which are based on Whalen units.

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 having an integral water repellent, fungi and bacteria resistant barrier conforming to NFPA90A.
- The cabinets shall be designed for direct attachment of gypsum wallboard.

2.04 COIL

A. The coil shall be a riser heat exchanger capable of performing the supply and return riser duties of the unit and



be constructed of seamless copper tubing mechanically expanded into .008-inch thick aluminum plate fins. Tube wall thickness shall be not less than .032 inches

2.05 RISERS

- A. The unit shall incorporate a factory assembled type "M" (Optional type "L") riser heat exchanger and drain riser of suitable length to reach floor-to-floor without additional contractor furnished material. The tops of all risers shall be swaged so that the risers can be joined during installation without couplings. On down-feed units, the unit manufacturer shall furnish factory assembled bottom U-bends with drains inside the bottom unit for each riser, as noted on the drawings. On up-feed units, the unit manufacturer shall furnish factory assembled top U-bends with manual air vents inside the top unit for each riser, as noted on the drawings.
- B. The supply, return, and drain risers shall be factory insulated with insulation the length of the cabinet.
 (OPTION) The supply, return and drain riser extensions shall be factory-insulated with 1/2" (Optional 3/4") Armaflex or equal.

2.06 DRAIN PAN

A. (STANDARD) The drain pan shall collect and drain condensate that may form from any component internal to the fan coil unit and shall be fabricated of not less than 18 gauge continuous G90 galvanized steel. The copper condensate drain shall be rolled and soldered into the pan prior to coating of the pan with rustproof and waterproof fire rated mastic.

(OPTION) Stainless Steel Drain Pan - Drain pan shall collect and drain condensate that may form from any component internal to the fan-coil unit 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. Motor shall be three-speed permanent split capacitor (PSC) type, suitable for the current characteristics shown on the drawings, and shall have built-in thermal overload protection. Motors shall be three-speed type with 1050 RPM maximum.

2.09 SUPPLY GRILLES

A. (STANDARD) 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 1) 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 2) 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.

(OPTION) Insulated Sight Baffle - Sound insulation shall be furnished on the sight baffle to limit the transmission of sound between two rooms utilizing the same unit.

B. Steel grilles are not acceptable.

2.10 RETURN AIR PANEL

A. (STANDARD) Standard Return Air Grille – The return air opening shall be covered with a clear anodized extruded aluminum return air grille that is attached directly to the unit with two screws.

(OPTION) The return air opening shall be covered with a factory white painted extruded aluminum return air grille that is attached directly to the unit with two screws.

(OPTION) The return air opening shall be covered with a custom painted extruded aluminum return air grille that is attached directly to the unit with two screws.

(OPTION) Hinged Return Air Grille – The return air opening shall be covered with a clear anodized extruded aluminum hinged return air grille that is attached directly to the unit with two screws and contains quick removal fasteners for easy filter maintenance.

(OPTION) The return air opening shall be covered with a factory white painted extruded aluminum hinged return air grille that is attached directly to the unit with two screws and incorporates quick removal fasteners for easy filter maintenance.

(OPTION) The return air opening shall be covered with a custom painted extruded aluminum hinged return air grille that is attached directly to the unit with two screws and contains quick removal fasteners for easy filter maintenance.

B. A second return air opening shall be included when one unit is serving two separate rooms. The second opening shall be located on the rear of the unit and allow the return air to pass through the cooling/heating coil prior to entering the conditioned space.

2.11 FILTERS

2.11.1.1 (STANDARD) 1/2" (MERV 4) Throwaway filter

(Optional) 1/2" (MERV 7) filter

(Optional) 1/2" Aluminum filter

2.12 OUTDOOR AIR

A. (OPTION) Each unit shall include an Outdoor Air (OA) opening, located on side of cabinet (opposite the risers) or (same as risers) (SELECT ONE), with manual block-off damper and outdoor air filter. A dedicated outdoor



air duct must direct outdoor air directly to the chilled/hot water coil and prevent it from blowing through the return air grille.

2.13 POWER SUPPLY

A. The unit manufacturer shall furnish a single point (115/1/60 or 265/1/60) (SELECT ONE) power connection for the fan. Power connections are made to the unit junction box through a 7/8" knockout located on the side of the cabinet as shown on the drawings.

2.14 DISCONNECT

A. (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.

2.15 CONTROLS

- A. The unit manufacturer shall furnish a 115-volt wall thermostat for field mounting on the front of the unit after the wall is finished. The thermostat shall plug into the unit through a polarized male-female plug. The thermostat shall be of the automatic changeover type in conjunction with a factory-mounted and wired changeover aquastat, and shall incorporate a HI-MED-LO fan speed switch. Remote bulb, return air thermostats are not acceptable. The unit shall cycle the fan motor off when the room thermostat is satisfied.
- B. The thermostat shall be unit mounted at a height of 48 inches from the bottom of the cabinet.
- 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.
- D. A motor that drives positively in both directions shall operate face and bypass dampers for control of heating and cooling. The fan shall run continuously when the speed switch is in the HI or LO position.

2.16 SPARE PARTS

A. (ADD ANY SPARE PART REQUIREMENT HERE)

PART 3 EXECUTION

3.01 INSTALLATION

- A. Furnish as shown on the drawings and as specified herein, two pipe fan coil unit with integral risers, and with capacity and electrical characteristics as scheduled. Units shall be Riser Heat Exchanger Fan Coil Unit 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.



ompany Room Fan Coil Standard Warranty **Limited Express Warranty** he Whalen Company

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.

ire, 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 defects or damage which result from improper installation, wiring, electrical imbalance characteristics or maintenance; or are caused by accident, misuse or abuse, 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 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. This Limited Express Warranty is intended to cover original equipment defects only and does not cover or apply to: (1) Air filters, refrigerant, fluids,

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 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 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 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 MERCHANTABIULTY SHALL ACCOMPANY THE SALE OF THIS EQUIPMENT, AND THIS EXPRESS WARRANTY IS INTENDED TO AND DOES REPLACE ANY IMPLIED WARRANTY OF MERCHANTABILITY.

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

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The The Whalen Company
Whalen Limited Express Warranty
Company Room Fan Coil Two Year Warranty

Where inspection by an authorized representative of The Whalen Company confirms such defects to be present, for a period of twenty four months from date of The Whalen Company warrants to the purchaser each fan coil unit to be free from original defects in materials and workmanship. shipment, Whalen will fumish replacement components or materials to the original purchaser without charge.

ire, 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 defects or damage which result from improper installation, wiring, electrical imbalance characteristics or maintenance; or are caused by accident, misuse or abuse, 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 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 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) 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 removal and transportation to and from a repair facility and all field labor in connection with 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 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) 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.

THERE ARE NO WARRANTIES WHICH EXTEND BEYOND THE DESCRIPTION ON THE FACE HEREOF. NO IMPLIED WARRANTY OR MERCHANTABILITY The Whalen Company has no liability for incidental or consequential damages arising out of the ownership, use, or operation of Whalen fan coil units. This warranty applies only to Whalen fan coil unit installations in the fifty United States and in Canada. There are no warranties outside those areas.

SHALL ACCOMPANY THE SALE OF THIS EQUIPMENT, AND THIS EXPRESS WARRANTY IS INTENDED TO AND DOES REPLACE ANY IMPLED 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.

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Innoline® Riser Fan Coil Design Guide Revision Table

Date	Description
1/25/21	Updated Warranty Certificates
8/30/18	Updated Electrical Data
12/4/17	Updated Wire Diagram
4/28/17	Addition of Innoline Name
9/28/2015	Thermostats Updated on Page 5
12/2015	New Release of document



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