Tranquility (TMW) Water-to-Water Series

WATER-TO-WATER SYSTEMS
SIZES 036, 060, AND 120 [8.7, 13.5 and 26.9 kW]

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Tranquility Water-To-Water (TMW) Series Features

The Tranquility Water-To-Water (TMW) Series
The TMW water-to-water series offers high efficiency with advanced features, extremely quiet operation and application flexibility at competitive prices. As ClimateMaster's most adaptable EarthPure® HFC410A refrigerant units, the TMW series can be used for radiant floor heating, snow/ice melt, chilled water for fan coils, potable hot water generation, hot/chilled water for make-up air, and many other types of HVAC applications.

Available in sizes 036 [8.7 kW], 060 [13.5 kW] and 120 [26.9 kW] the TMW series offers a wide range of units for most any installation. The TMW has an extended range refrigerant circuit, capable of ground loop (geothermal) applications as well as water loop (boiler-tower) applications. Standard features are many. Microprocessor controls, galvanized steel cabinet, powder coat paint, stainless steel front access panels and TXV refrigerant metering device are just some of the features of the flexible TMW series.

ClimateMaster's exclusive double isolation compressor mounting system makes the TMW series the quietest water-to-water unit on the market. Compressors are mounted on vibration isolation grommets to a heavy gauge mounting plate, which is then isolated from the cabinet base with rubber grommets for maximized vibration/sound attenuation. Optional double-wall load heat exchanger (for potable hot water generation) allows customized design solutions.

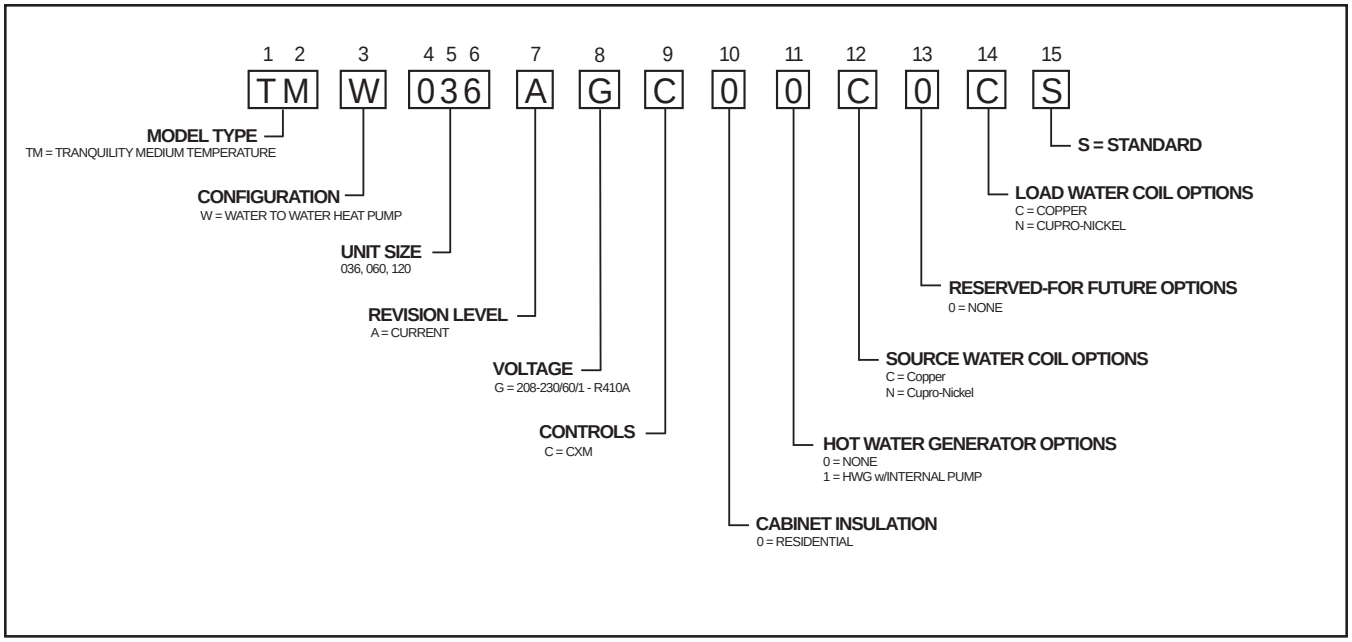
The TMW Series water-to-water heat pumps are designed to meet the challenges of today's HVAC demands with a high efficiency, high value solution.

Unit Features
- Sizes 036 [8.7 kW], 060 [13.5 kW], and 120 [26.9 kW]
- Copeland scroll compressors
- Dual refrigeration circuits on size 120
- Galvanized steel construction with epoxy powder coat paint
- Unique double isolation compressor mounting for quiet operation
- Insulated compressor compartment
- TXV metering device
- Extended range (20 to 120°F, -6.7 to 48.9°C) operation
- Microprocessor controls standard
- 1" swivel-type water connections for distributor (residential) models 036 & 060
- Flush securely-mounted corner post water connections (no backup wrench required) for model 120
- Compressor "run" and "fault" lights on the front of the cabinet
- Seven Safeties Standard
- Optional double-wall load heat exchanger and HWG (hot water generator - desuperheater)

Tranquility Water-To-Water (TMW) Series Features

1. Copeland™ High Efficient Scroll Compressor
2. Optional Hot Water Generator With Internal Pump
3. Fully Insulated Water and Refrigerant Lines
4. Fully Insulated Compressor Section
5. Powder Coated Steel Cabinet with Stainless Steel Access Panels For Long Life
6. System Operating LED Lights
7. Unit Performance Sentinel: Automatic Alert System Lets You Know If The System Is Not Running At Peak Performance
8. Exclusive Double Isolation Compressor Mounting For Ultra Quiet Operation
9. Multiple Removable Access Panels for Service With Stainless Steel Front Panels

Unit Model Key



ARI/ISO/ASHRAE/ANSI 13256-2 Performance

ASHRAE/ARI/ISO 13256-2. English (IP) Units

Model	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
	Cooling		Heating		Cooling		Heating		Cooling		Heating	
	Indoor 53.6°C Outdoor 86°C		Indoor 104°C Outdoor 68°C		Indoor 53.6°C Outdoor 59°C		Indoor 104°C Outdoor 50°C		Indoor 53.6°C Outdoor 77°C		Indoor 104°C Outdoor 32°C	
	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
036	33,000	14.60	44,000	5.00	37,000	23.10	36,000	4.00	34,000	16.80	28,000	3.10
060	55,400	14.10	79,000	4.70	62600	21.7	61400	3.8	58,000	15.40	51,000	3.00
120	110,800	13.80	158,000	4.60	125,200	21.30	122,900	3.74	116,000	15.10	102,000	2.90

All ratings based upon 208V operation
Indoor coil also called “Load” and outdoor coil also called “Source”

ASHRAE/ARI/ISO 13256-2. Metric (SI) Units

Model	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
	Cooling		Heating		Cooling		Heating		Cooling		Heating	
	Indoor 12°C Outdoor 30°C		Indoor 40°C Outdoor 20°C		Indoor 12°C Outdoor 15°C		Indoor 40°C Outdoor 10°C		Indoor 12°C Outdoor 25°C		Indoor 40°C Outdoor 0°C	
	Capacity Watts	EER W/W	Capacity Watts	COP	Capacity Watts	EER W/W	Capacity Watts	COP	Capacity Watts	EER W/W	Capacity Watts	COP
036	9,672	4.28	12,896	5.00	10,844	6.77	10,551	4.00	9,965	4.92	8,206	3.10
060	16,237	4.13	23,154	4.70	18,347	6.36	17,995	3.8	16,999	4.51	14,947	3.00
120	32,474	4.04	13,572	4.60	36,694	6.24	36,020	3.74	33,998	4.42	29,895	2.90

All ratings based upon 208V operation
Indoor coil also called “Load” and outdoor coil also called “Source”

Performance Data — TMW036 - Cooling

Source				Load																						
EWT °F	Flow	WPD		EWT °F	Flow 4.5 GPM					WPD		Flow 6.8 GPM					WPD		Flow 9.0 GPM					WPD	
	GPM	PSI	FT		TC Mbtuh	Power kW	HR Mbtuh	LWT °F	EER	PSI	FT	TC Mbtuh	Power kW	HR Mbtuh	LWT °F	EER	PSI	FT	TC Mbtuh	Power kW	HR Mbtuh	LWT °F	EER	PSI	FT
50	4.5	1.3	3.1	50	32.5	1.49	37.6	35.6	21.8	0.6	1.4	34.5	1.52	39.7	39.8	22.7	1.4	3.2	35.3	1.5	40.5	42.1	23.2	2.6	5.9
				60	36.8	1.53	42.0	43.6	24.1	0.5	1.2	38.4	1.54	43.6	48.6	24.9	1.3	3.1	39.2	1.5	44.5	51.3	25.3	2.5	5.8
				70	40.4	1.55	45.7	52.0	26.0	0.5	1.1	41.6	1.56	47.0	57.7	26.6	1.3	2.9	42.4	1.6	47.8	60.6	27.0	2.4	5.6
				80	43.2	1.57	48.6	60.8	27.5	0.4	0.9	44.2	1.58	49.6	66.9	28.0	1.2	2.8	44.8	1.6	50.3	70.0	28.1	2.3	5.4
				90	45.1	1.58	50.5	69.9	28.6	0.3	0.8	46.2	1.60	51.7	76.3	28.9	1.1	2.6	46.6	1.6	52.1	79.7	28.9	2.2	5.1
	6.8	3.4	7.8	50	32.9	1.41	37.7	35.4	23.3	0.6	1.4	34.9	1.44	39.8	39.7	24.2	1.4	3.2	35.8	1.4	40.7	42.0	24.8	2.6	5.9
				60	37.3	1.45	42.2	43.4	25.7	0.5	1.2	38.9	1.46	43.9	48.5	26.6	1.3	3.1	39.7	1.5	44.7	51.2	27.1	2.5	5.8
				70	40.9	1.47	46.0	51.8	27.8	0.5	1.1	42.2	1.48	47.2	57.5	28.4	1.3	2.9	42.9	1.5	48.0	60.5	28.8	2.4	5.6
				80	43.8	1.49	48.9	60.5	29.4	0.4	0.9	44.8	1.50	49.9	66.7	29.9	1.2	2.8	45.4	1.5	50.6	69.9	30.0	2.3	5.4
				90	45.7	1.50	50.8	69.7	30.5	0.3	0.8	Operation Not Recommended													
	9.0	6.0	13.9	50	33.3	1.33	37.8	35.2	25.1	0.6	1.4	35.4	1.35	40.0	39.5	26.1	1.4	3.2	36.2	1.4	40.9	41.9	26.8	2.6	5.9
				60	37.8	1.36	42.4	43.2	27.8	0.5	1.2	39.4	1.37	44.0	48.3	28.7	1.3	3.1	40.2	1.4	44.9	51.1	29.2	2.5	5.8
				70	41.5	1.38	46.2	51.6	30.0	0.5	1.1	42.7	1.39	47.5	57.3	30.7	1.3	2.9	43.5	1.4	48.3	60.3	31.1	2.4	5.6
				80	44.3	1.40	49.1	60.3	31.7	0.4	0.9	45.4	1.41	50.2	66.6	32.3	1.2	2.8	46.0	1.4	50.8	69.8	32.5	2.3	5.4
				90	46.3	1.41	51.1	69.4	33.0	0.3	0.8	Operation Not Recommended													
70	4.5	1.0	2.3	50	30.1	1.96	36.8	36.6	15.3	0.6	1.4	32.1	1.95	38.8	40.5	16.4	1.4	3.2	33.0	2.0	39.7	42.7	16.7	2.6	5.9
				60	34.1	1.98	40.9	44.8	17.2	0.5	1.2	37.6	1.96	44.3	48.9	19.2	1.3	3.1	36.6	2.0	43.3	51.9	18.7	2.5	5.8
				70	39.0	2.01	45.9	52.7	19.4	0.5	1.1	41.7	1.98	48.5	57.6	21.0	1.3	2.9	39.9	2.0	46.7	61.1	19.9	2.4	5.6
				80	42.7	2.03	49.7	61.0	21.1	0.4	1.0	45.4	2.01	52.3	66.5	22.5	1.2	2.8	42.9	2.0	49.8	70.5	21.1	2.3	5.4
				90	46.2	2.05	53.2	69.5	22.5	0.3	0.8	Operation Not Recommended													
	6.8	2.8	6.5	50	30.5	1.86	36.8	36.5	16.4	0.6	1.4	32.5	1.85	38.8	40.4	17.5	1.4	3.2	33.4	1.9	39.8	42.6	17.8	2.6	5.9
				60	34.6	1.88	41.0	44.6	18.4	0.5	1.2	38.1	1.86	44.4	48.7	20.4	1.3	3.1	37.1	1.9	43.4	51.8	19.9	2.5	5.8
				70	39.5	1.90	46.0	52.4	20.8	0.5	1.1	42.3	1.88	48.7	57.5	22.4	1.3	2.9	40.4	1.9	46.9	61.0	21.3	2.4	5.6
				80	43.3	1.93	49.9	60.8	22.5	0.4	0.9	46.0	1.91	52.5	66.4	24.1	1.2	2.8	43.4	1.9	50.0	70.3	22.5	2.3	5.4
				90	46.8	1.95	53.4	69.2	24.0	0.3	0.8	Operation Not Recommended													
	9.0	5.1	11.9	50	30.8	1.74	36.8	36.3	17.7	0.6	1.4	32.9	1.74	38.8	40.2	19.0	1.4	3.2	33.8	1.8	39.8	42.5	19.3	2.6	5.9
				60	35.0	1.76	41.0	44.4	19.9	0.5	1.2	38.6	1.75	44.5	48.6	22.1	1.3	3.1	37.5	1.7	43.5	51.7	21.5	2.5	5.8
				70	40.0	1.78	46.1	52.2	22.4	0.5	1.1	42.8	1.77	48.8	57.3	24.2	1.3	2.9	40.9	1.8	47.0	60.9	23.0	2.4	5.6
				80	43.8	1.81	50.0	60.5	24.3	0.4	0.9	46.6	1.79	52.7	66.2	26.0	1.2	2.8	44.0	1.8	50.2	70.2	24.3	2.3	5.4
				90	47.4	1.83	53.6	68.9	26.0	0.3	0.8	Operation Not Recommended													
90	4.5	0.8	1.8	50	27.0	2.55	35.7	38.0	10.6	0.6	1.4	28.9	2.59	37.7	41.4	11.1	1.4	3.2	29.7	2.6	38.4	43.4	11.5	2.6	5.9
				60	31.1	2.58	39.9	46.2	12.1	0.5	1.2	34.0	2.60	42.8	49.9	13.1	1.3	3.1	33.6	2.6	42.3	52.5	13.1	2.5	5.8
				70	36.2	2.60	45.1	53.9	13.9	0.5	1.1	38.9	2.62	47.8	58.5	14.9	1.3	2.9	37.4	2.6	46.2	61.7	14.4	2.4	5.6
				80	40.5	2.62	49.4	62.0	15.5	0.4	0.9	42.9	2.65	52.0	67.3	16.2	1.2	2.8	41.1	2.6	50.0	70.9	15.6	2.3	5.4
				90	44.2	2.64	53.2	70.4	16.7	0.3	0.8	Operation Not Recommended													
	6.8	2.4	5.4	50	27.3	2.42	35.6	37.9	11.3	0.6	1.4	29.3	2.46	37.7	41.3	11.9	1.4	3.2	30.0	2.4	38.4	43.3	12.3	2.6	5.9
				60	31.5	2.44	39.8	46.0	12.9	0.5	1.2	34.4	2.46	42.8	49.8	14.0	1.3	3.1	34.0	2.4	42.3	52.4	14.0	2.5	5.8
				70	36.7	2.47	45.1	53.7	14.9	0.5	1.1	39.4	2.48	47.9	58.3	15.9	1.3	2.9	37.8	2.5	46.2	61.6	15.4	2.4	5.6
				80	41.0	2.49	49.5	61.8	16.5	0.4	0.9	43.5	2.51	52.1	67.1	17.3	1.2	2.8	41.6	2.5	50.1	70.8	16.7	2.3	5.4
				90	44.7	2.50	53.3	70.1	17.9	0.3	0.8	Operation Not Recommended													
	9.0	4.5	10.3	50	27.7	2.27	35.4	37.7	12.2	0.6	1.4	29.6	2.31	37.5	41.2	12.9	1.4	3.2	30.4	2.3	38.2	43.2	13.3	2.6	5.9
				60	31.9	2.29	39.7	45.8	13.9	0.5	1.2	34.8	2.31	42.7	49.7	15.1	1.3	3.1	34.4	2.3	42.2	52.3	15.1	2.5	5.8
				70	37.2	2.31	45.1	53.5	16.1	0.5	1.1	39.9	2.33	47.8	58.2	17.1	1.3	2.9	38.3	2.3	46.2	61.5	16.6	2.4	5.6
				80	41.5	2.33	49.5	61.5	17.8	0.4	0.9	44.0	2.35	52.1	67.0	18.7	1.2	2.8	42.1	2.3	50.1	70.6	18.0	2.3	5.4
				90	45.3	2.35	53.3	69.9	19.3	0.3	0.8	Operation Not Recommended													
110	4.5	0.6	1.4	50	23.3	3.27	34.4	39.7	7.1	0.6	1.4	24.9	3.33	36.2	42.6	7.5	1.4	3.2	25.3	3.3	36.7	44.4	7.6	2.6	5.9
				60	27.7	3.30	39.0	47.7	8.4	0.5	1.2	29.4	3.33	40.8	51.3	8.8	1.3	3.1	30.2	3.3	41.6	53.3	9.1	2.5	5.8
				70	32.1	3.33	43.5	55.7	9.6	0.5	1.1	33.9	3.34	45.3	60.0	10.2	1.3	2.9	34.9	3.3	46.3	62.3	10.4	2.4	5.6
				80	36.4	3.34	47.8	63.8	10.9	0.4	0.9	38.4	3.36	49.8	68.6	11.4	1.2	2.8	39.4	3.4	50.9	71.3	11.7	2.3	5.4
	6.75	2.0	4.7	50	23.5	3.10	34.1	39.5	7.6	0.6	1.4	25.2	3.16	36.0	42.5	8.0	1.4	3.2	25.7	3.2	36.4	44.3	8.1	2.6	5.9
				60	28.1	3.14	38.8	47.5	9.0	0.5	1.2	29.8	3.16	40.6	51.2	9.4	1.3	3.1	30.6	3.2	41.4	53.2	9.7	2.5	5.8
				70	32.5	3.16	43.3	55.6	10.3	0.5	1.1	34.3	3.17	45.1	59.8	10.8	1.3	2.9	35.3	3.2	46.2	62.2	11.1	2.4	5.6
				80	36.9	3.17	47.7	63.6	11.6	0.4	0.9	38.8	3.19	49.7	68.5	12.2	1.2	2.8	39.9	3.2	50.8	71.1	12.5	2.3	5.4
	9	4.0	9.2	50	23.8	2.91	33.8	39.4	8.2	0.6	1.4	25.5	2.96	35.6	42.4	8.6	1.4	3.2	26.0	3.0	36.1	44.2	8.8	2.6	5.9
				60	28.4	2.94	38.5	47.4	9.7	0.5	1.2	30.2	2.96	40.3	51.1	10.2	1.3	3.1	31.0	3.0	41.1	53.1	10.4	2.5	5.8
				70	32.9	2.96	43.0	55.4	11.1	0.5	1.1	34.8	2.97	44.9	59.7	11.7	1.3	2.9	35.8	3.0	45.9	62.1	12.0	2.4	5.6
				80	37.4	2.97	47.5	63.4	12.6	0.4	0.9	39.3	2.99	49.5	68.3	13.1	1.2	2.8	40.4	3.0	50.6	71.0	13.5	2.3	5.4
120	6.75	1.9	4.4	50	20.7	3.55	32.8	40.8	5.8	0.6	1.4	22.1	3.60	34.4	43.4	6.1	1.4	3.2	22.5	3.6	34.9	45.0	6.2	2.6	5.9
				60	25.3	3.59	37.6	48.7	7.1	0.5	1.2	26.9	3.61	39.2	52.0	7.5	1.3	3.1	27.6	3.6	39.9	53.9	7.6	2.5	5.8
				70	30.0	3.60	42.3	56.7	8.3	0.5	1.1	31.7	3.61	44.0	60.6	8.8	1.3	2.9	32.6	3.6	45.0	62.8	9.0	2.4	5.6
				80	34.4	3.61	46.8	64.7	9.5	0.4	0.9	36.2	3.64	48.6	69.3	9.9	1.2	2.8	37.2	3.6	49.7	71.7	10.2	2.3	5.4
	9	3.8	8.8	50	21.0	3.39	32.6	40.7	6.2	0.6	1.4	22.5	3.45	34.2	43.3	6.5	1.4	3.2	22.9	3.5	34.7	44.9	6.6	2.6	5.9
				60	25.7	3.43	37.4	48.6	7.5	0.5	1.2	27.3	3.45	39.1	51.9	7.9	1.3	3.1	28.0	3.5	39.8	53.8	8.1	2.5	5.8
				70	30.5	3.45	42.2	56.5	8.8	0.5	1.1	32.2	3.46	44.0	60.5	9.3	1.3	2.9	33.1	3.5	44.9	62.6	9.5	2.4	5.6

Interpolation is permissible, extrapolation is not
All performance data is based upon the lower voltage of dual voltage rated units
All performance data is based upon a load coaxial heat exchanger of single-walled copper construction. For vented double-wall performance consult the factory
See performance data notes for operation in the shaded areas
Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated

Performance Data — TMW036 - Heating

SOURCE				LOAD																					
EWT	Flow			EWT	Flow 4.5 GPM							Flow 6.8 GPM							Flow 9.0 GPM						
	GPM	WPD			HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD	
F		PSI	FT							PSI	FT						PSI	FT						PSI	FT
20	9.0	7.7	17.9	60	26.1	1.53	20.9	71.6	5.0	0.5	1.2	26.4	1.45	21.5	67.8	5.3	1.3	3.1	26.5	1.41	21.7	65.9	5.5	2.5	5.8
				80	25.7	1.96	19.0	91.4	3.8	0.4	0.9	25.9	1.86	19.6	87.7	4.1	1.2	2.8	25.9	1.81	19.8	85.8	4.2	2.3	5.4
				100	25.0	2.56	16.3	111.1	2.9	0.3	0.7	25.0	2.42	16.7	107.4	3.0	1.1	2.5	24.9	2.36	16.9	105.5	3.1	2.1	4.9
30	4.5	1.7	4.0	60	27.1	1.54	21.9	72.1	5.2	0.5	1.2	27.5	1.45	22.5	68.1	5.5	1.3	3.1	27.6	1.42	22.7	66.1	5.7	2.5	5.8
				80	26.7	1.97	20.0	91.9	4.0	0.4	0.9	27.0	1.86	20.6	88.0	4.2	1.2	2.8	27.0	1.81	20.8	86.0	4.4	2.3	5.4
				100	26.1	2.56	17.3	111.6	3.0	0.3	0.7	26.1	2.43	17.8	107.7	3.2	1.1	2.5	26.0	2.36	18.0	105.8	3.2	2.1	4.9
				120	25.1	3.32	13.8	131.2	2.2	0.2	0.5	24.9	3.14	14.2	127.4	2.3	0.9	2.1	24.7	3.06	14.3	125.5	2.4	1.8	4.3
	6.8	4.1	9.4	60	28.4	1.54	23.2	72.6	5.4	0.5	1.2	28.8	1.46	23.8	68.5	5.8	1.3	3.1	28.9	1.42	24.1	66.4	6.0	2.5	5.8
				80	27.9	1.97	21.2	92.4	4.2	0.4	0.9	28.2	1.87	21.8	88.4	4.4	1.2	2.8	28.2	1.82	22.0	86.3	4.6	2.3	5.4
				100	27.1	2.57	18.3	112.0	3.1	0.3	0.7	27.2	2.43	18.9	108.0	3.3	1.1	2.5	27.1	2.37	19.0	106.0	3.4	2.1	4.9
				120	25.9	3.33	14.6	131.5	2.3	0.2	0.5	25.7	3.15	15.0	127.6	2.4	0.9	2.1	25.6	3.07	15.1	125.7	2.4	1.8	4.3
	9.0	7.1	16.4	60	29.2	1.54	23.9	73.0	5.5	0.5	1.2	29.6	1.46	24.6	68.8	5.9	1.3	3.1	29.7	1.42	24.8	66.6	6.1	2.5	5.8
				80	28.6	1.98	21.9	92.7	4.2	0.4	0.9	28.9	1.87	22.5	88.6	4.5	1.2	2.8	28.9	1.82	22.7	86.4	4.7	2.3	5.4
				100	27.7	2.58	18.9	112.3	3.2	0.3	0.7	27.8	2.44	19.5	108.2	3.3	1.1	2.5	27.7	2.37	19.6	106.2	3.4	2.1	4.9
				120	26.4	3.34	15.0	131.7	2.3	0.2	0.5	26.2	3.16	15.4	127.8	2.4	0.9	2.1	26.1	3.08	15.6	125.8	2.5	1.8	4.3
40	4.5	1.5	3.5	60	30.0	1.55	24.7	93.3	5.7	0.4	0.9	30.4	1.46	25.4	89.0	6.1	1.2	2.8	30.5	1.42	25.7	86.8	6.3	2.3	5.4
				80	29.0	2.26	21.3	112.9	3.8	0.3	0.7	29.2	2.14	21.9	108.7	4.0	1.1	2.5	29.3	2.08	22.2	106.5	4.1	2.1	4.9
				100	28.6	2.58	19.8	132.7	3.2	0.2	0.5	28.7	2.44	20.3	128.5	3.4	0.9	2.1	28.6	2.38	20.5	126.4	3.5	1.8	4.3
				120	31.4	1.55	26.1	74.0	5.9	0.5	1.2	31.9	1.47	26.9	69.5	6.4	1.3	3.1	32.0	1.43	27.2	67.1	6.6	2.5	5.8
	6.8	3.7	8.6	60	30.8	1.99	24.0	93.7	4.5	0.4	0.9	31.1	1.88	24.7	89.2	4.8	1.2	2.8	31.2	1.83	24.9	86.9	5.0	2.3	5.4
				80	29.7	2.59	20.9	113.2	3.4	0.3	0.7	29.9	2.45	21.5	108.9	3.6	1.1	2.5	29.8	2.38	21.7	106.6	3.7	2.1	4.9
				100	28.3	3.35	16.9	132.6	2.5	0.2	0.5	28.2	3.17	17.4	128.4	2.6	0.9	2.1	28.1	3.09	17.6	126.2	2.7	1.8	4.3
				120	32.2	1.55	26.9	74.3	6.1	0.5	1.2	32.7	1.47	27.7	69.7	6.5	1.3	3.1	32.9	1.43	28.0	67.3	6.7	2.5	5.8
	9.0	6.5	15.1	60	31.5	1.99	24.7	94.0	4.6	0.4	0.9	31.9	1.89	25.4	89.4	5.0	1.2	2.8	31.9	1.84	25.7	87.1	5.1	2.3	5.4
				80	30.4	2.59	21.5	113.5	3.4	0.3	0.7	30.5	2.45	22.2	109.0	3.6	1.1	2.5	30.5	2.39	22.4	106.8	3.7	2.1	4.9
				100	28.9	3.36	17.4	132.8	2.5	0.2	0.5	28.8	3.18	17.9	128.5	2.7	0.9	2.1	28.7	3.09	18.1	126.4	2.7	1.8	4.3
				120	28.9	3.36	17.4	127.7	2.5	0.2	0.5	28.8	3.18	17.9	125.3	2.7	0.9	2.1	28.7	3.09	18.1	124.0	2.7	1.8	4.3
50	4.5	1.5	3.1	60	35.9	1.55	30.6	76.0	6.8	0.5	1.2	36.5	1.47	31.5	70.8	7.3	1.3	3.1	36.7	1.43	31.8	68.2	7.5	2.5	5.8
				80	35.0	2.00	28.2	95.6	5.1	0.4	0.9	35.5	1.89	29.0	90.5	5.5	1.2	2.8	35.6	1.84	29.3	87.9	5.7	2.3	5.4
				100	33.8	2.60	24.9	115.0	3.8	0.3	0.7	34.0	2.46	25.6	110.1	4.1	1.1	2.5	34.0	2.39	25.9	107.6	4.2	2.1	4.9
				120	32.2	3.36	20.7	134.3	2.8	0.2	0.5	32.1	3.18	21.3	129.5	3.0	0.9	2.1	32.1	3.09	21.5	127.1	3.0	1.8	4.3
				130	OPERATION NOT RECOMMENDED							31.1	3.59	18.8	139.2	2.5	0.8	1.9	30.9	3.50	19.0	136.9	2.6	1.7	3.9
	6.75	3.4	7.8	60	37.7	1.56	32.4	76.8	7.1	0.5	1.2	38.4	1.48	33.3	71.4	7.6	1.3	3.1	38.5	1.44	33.6	68.6	7.9	2.5	5.8
				80	36.6	2.00	29.8	96.3	5.4	0.4	0.9	37.1	1.89	30.7	91.0	5.7	1.2	2.8	37.3	1.84	31.0	88.3	5.9	2.3	5.4
				100	35.2	2.60	26.3	115.6	4.0	0.3	0.7	35.5	2.46	27.1	110.5	4.2	1.1	2.5	35.5	2.40	27.3	107.9	4.3	2.1	4.9
				120	33.4	3.37	21.9	134.8	2.9	0.2	0.5	33.4	3.19	22.5	129.9	3.1	0.9	2.1	33.3	3.10	22.7	127.4	3.1	1.8	4.3
				130	OPERATION NOT RECOMMENDED							32.2	3.60	19.9	139.5	2.6	0.8	1.9	32.0	3.51	20.1	137.1	2.7	1.7	3.9
	9.0	6.0	13.9	60	38.6	1.56	33.3	77.2	7.2	0.5	1.2	39.3	1.48	34.3	71.7	7.8	1.3	3.1	39.5	1.44	34.6	68.8	8.0	2.5	5.8
				80	37.5	2.01	30.7	96.7	5.5	0.4	0.9	38.0	1.90	31.6	91.3	5.9	1.2	2.8	38.2	1.85	31.9	88.5	6.1	2.3	5.4
				100	36.0	2.61	27.1	116.0	4.0	0.3	0.7	36.3	2.47	27.9	110.8	4.3	1.1	2.5	36.3	2.40	28.1	108.1	4.4	2.1	4.9
				120	34.0	3.37	22.5	135.1	3.0	0.2	0.5	34.1	3.19	23.2	130.1	3.1	0.9	2.1	34.0	3.11	23.4	127.6	3.2	1.8	4.3
				130	OPERATION NOT RECOMMENDED							32.8	3.61	20.5	139.7	2.7	0.8	1.9	32.6	3.52	20.6	137.3	2.7	1.7	3.9

Table Continued on Next Page

Interpolation is permissible, extrapolation is not
All performance data is based upon the lower voltage of dual voltage rated units
All performance data is based upon a load coaxial heat exchanger of single-walled copper construction. For vented double-wall performance consult the factory
Operation below 40F EWT is based upon 15% antifreeze solution
See performance data notes for operation in the shaded areas
Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated

Performance Data — TMW036 - Heating

Table Continued from Previous Page

SOURCE				LOAD																					
EWT	Flow			EWT	Flow 4.5 GPM							Flow 6.8 GPM							Flow 9.0 GPM						
	GPM	WPD			HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD	
F		PSI	FT							PSI	FT						PSI	FT						PSI	FT
60	4.5	1.2	2.7	60	39.0	1.57	33.6	77.3	7.3	0.5	1.2	39.7	1.48	34.6	71.8	7.8	1.3	3.1	39.9	1.44	34.9	68.9	8.1	2.5	5.8
				80	38.6	2.01	31.8	97.2	5.6	0.4	0.9	39.2	1.90	32.7	91.6	6.0	1.2	2.8	39.3	1.85	33.0	88.7	6.2	2.3	5.4
				100	37.6	2.61	28.7	116.7	4.2	0.3	0.7	38.0	2.47	29.6	111.3	4.5	1.1	2.5	38.0	2.40	29.8	108.5	4.6	2.1	4.9
				120	36.0	3.37	24.5	136.0	3.1	0.2	0.5	36.1	3.19	25.2	130.7	3.3	0.9	2.1	36.0	3.11	25.4	128.0	3.4	1.8	4.3
				130	OPERATION NOT RECOMMENDED							34.8	3.61	22.5	140.3	2.8	0.8	1.9	34.7	3.51	22.7	137.7	2.9	1.7	3.9
	6.75	3.1	7.1	60	40.6	1.57	35.3	78.1	7.6	0.5	1.2	41.4	1.49	36.3	72.3	8.2	1.3	3.1	41.6	1.45	36.6	69.2	8.4	2.5	5.8
				80	40.2	2.01	33.4	97.9	5.9	0.4	0.9	40.8	1.90	34.3	92.1	6.3	1.2	2.8	41.0	1.85	34.6	89.1	6.5	2.3	5.4
				100	39.1	2.61	30.2	117.4	4.4	0.3	0.7	39.5	2.47	31.0	111.7	4.7	1.1	2.5	39.5	2.41	31.3	108.8	4.8	2.1	4.9
				120	37.2	3.38	25.7	136.5	3.2	0.2	0.5	37.3	3.20	26.4	131.1	3.4	0.9	2.1	37.3	3.11	26.6	128.3	3.5	1.8	4.3
				130	OPERATION NOT RECOMMENDED							35.9	3.62	23.6	140.6	2.9	0.8	1.9	35.8	3.52	23.8	138.0	3.0	1.7	3.9
	9.0	5.6	12.8	60	41.5	1.57	36.1	78.4	7.7	0.5	1.2	42.2	1.49	37.2	72.5	8.3	1.3	3.1	42.4	1.45	37.5	69.4	8.6	2.5	5.8
				80	41.0	2.01	34.1	98.2	6.0	0.4	0.9	41.6	1.91	35.1	92.3	6.4	1.2	2.8	41.8	1.86	35.5	89.3	6.6	2.3	5.4
				100	39.8	2.62	30.9	117.7	4.5	0.3	0.7	40.2	2.48	31.8	111.9	4.8	1.1	2.5	40.3	2.41	32.0	109.0	4.9	2.1	4.9
				120	37.8	3.38	26.3	136.8	3.3	0.2	0.5	38.0	3.20	27.0	131.2	3.5	0.9	2.1	37.9	3.12	27.3	128.4	3.6	1.8	4.3
				130	OPERATION NOT RECOMMENDED							36.5	3.62	24.1	140.8	3.0	0.8	1.9	36.4	3.53	24.4	138.1	3.0	1.7	3.9
70	4.5	1.0	2.3	60	42.1	1.58	36.7	78.7	7.8	0.5	1.2	42.9	1.49	37.8	72.7	8.4	1.3	3.1	43.1	1.46	38.1	69.6	8.7	2.5	5.8
				80	42.4	2.02	35.5	98.8	6.2	0.4	0.9	43.0	1.91	36.5	92.7	6.6	1.2	2.8	43.2	1.86	36.8	89.6	6.8	2.3	5.4
				100	41.6	2.62	32.7	118.5	4.7	0.3	0.7	42.1	2.48	33.6	112.5	5.0	1.1	2.5	42.2	2.41	33.9	109.4	5.1	2.1	4.9
				120	39.8	3.38	28.3	137.7	3.5	0.2	0.5	40.0	3.20	29.1	131.9	3.7	0.9	2.1	40.0	3.12	29.4	128.9	3.8	1.8	4.3
				130	OPERATION NOT RECOMMENDED							38.6	3.62	26.3	141.4	3.1	0.8	1.9	38.5	3.53	26.5	138.6	3.2	1.7	3.9
	6.75	2.8	6.5	60	43.6	1.58	38.2	79.4	8.1	0.5	1.2	44.4	1.50	39.3	73.2	8.7	1.3	3.1	44.7	1.46	39.7	69.9	9.0	2.5	5.8
				80	43.8	2.02	36.9	99.5	6.4	0.4	0.9	44.5	1.91	38.0	93.2	6.8	1.2	2.8	44.7	1.86	38.4	89.9	7.0	2.3	5.4
				100	43.0	2.62	34.0	119.1	4.8	0.3	0.7	43.5	2.49	35.0	112.9	5.1	1.1	2.5	43.6	2.42	35.3	109.7	5.3	2.1	4.9
				120	41.0	3.39	29.5	138.2	3.5	0.2	0.5	41.3	3.21	30.3	132.2	3.8	0.9	2.1	41.3	3.13	30.6	129.2	3.9	1.8	4.3
				130	OPERATION NOT RECOMMENDED							39.7	3.63	27.3	141.8	3.2	0.8	1.9	39.7	3.54	27.6	138.8	3.3	1.7	3.9
	9.0	5.1	11.9	60	44.3	1.59	38.9	79.7	8.2	0.5	1.2	45.1	1.50	40.0	73.4	8.8	1.3	3.1	45.4	1.46	40.4	70.1	9.1	2.5	5.8
				80	44.5	2.02	37.6	99.8	6.4	0.4	0.9	45.2	1.92	38.7	93.4	6.9	1.2	2.8	45.4	1.87	39.1	90.1	7.1	2.3	5.4
				100	43.6	2.63	34.6	119.4	4.9	0.3	0.7	44.1	2.49	35.6	113.1	5.2	1.1	2.5	44.2	2.42	36.0	109.8	5.4	2.1	4.9
				120	41.6	3.40	30.0	138.5	3.6	0.2	0.5	41.8	3.22	30.9	132.4	3.8	0.9	2.1	41.8	3.13	31.1	129.3	3.9	1.8	4.3
				130	OPERATION NOT RECOMMENDED							40.2	3.64	27.8	141.9	3.2	0.8	1.9	40.2	3.54	28.1	138.9	3.3	1.7	3.9
80	4.5	0.9	2.0	60	45.3	1.59	39.8	80.1	8.3	0.5	1.2	46.1	1.51	41.0	73.7	9.0	1.3	3.1	46.4	1.47	41.4	70.3	9.3	2.5	5.8
				80	46.2	2.03	39.2	100.5	6.7	0.4	0.9	46.9	1.92	40.4	93.9	7.2	1.2	2.8	47.1	1.87	40.8	90.5	7.4	2.3	5.4
				100	45.7	2.63	36.7	120.3	5.1	0.3	0.7	46.3	2.49	37.8	113.7	5.4	1.1	2.5	46.4	2.42	38.1	110.3	5.6	2.1	4.9
				120	43.8	3.40	32.2	139.5	3.8	0.2	0.5	44.1	3.22	33.2	133.1	4.0	0.9	2.1	44.2	3.13	33.5	129.8	4.1	1.8	4.3
				130	OPERATION NOT RECOMMENDED							27.9	3.61	15.6	138.3	2.3	0.8	1.9	27.7	3.51	15.7	136.2	2.3	1.7	3.9
	6.75	2.6	5.9	60	46.6	1.59	41.2	80.7	8.6	0.5	1.2	47.5	1.51	42.4	74.1	9.2	1.3	3.1	47.8	1.47	42.8	70.6	9.5	2.5	5.8
				80	47.5	2.03	40.6	101.1	6.9	0.4	0.9	48.3	1.92	41.7	94.3	7.4	1.2	2.8	48.5	1.87	42.1	90.8	7.6	2.3	5.4
				100	46.9	2.64	37.9	120.9	5.2	0.3	0.7	47.5	2.50	39.0	114.1	5.6	1.1	2.5	47.7	2.43	39.4	110.6	5.8	2.1	4.9
				120	44.9	3.40	33.3	140.0	3.9	0.2	0.5	45.3	3.22	34.3	133.4	4.1	0.9	2.1	45.3	3.14	34.6	130.1	4.2	1.8	4.3
				130	OPERATION NOT RECOMMENDED							28.5	3.62	16.1	138.4	2.3	0.8	1.9	28.3	3.52	16.3	136.3	2.4	1.7	3.9
	9.0	4.8	11.0	60	47.1	1.60	41.7	81.0	8.7	0.5	1.2	48.1	1.51	42.9	74.2	9.3	1.3	3.1	48.3	1.47	43.3	70.7	9.6	2.5	5.8
				80	48.0	2.03	41.1	101.3	6.9	0.4	0.9	48.8	1.93	42.3	94.5	7.4	1.2	2.8	49.0	1.88	42.7	90.9	7.7	2.3	5.4
				100	47.4	2.64	38.4	121.1	5.3	0.3	0.7	48.1	2.50	39.5	114.2	5.6	1.1	2.5	48.2	2.43	39.9	110.7	5.8	2.1	4.9
				120	45.4	3.41	33.7	140.2	3.9	0.2	0.5	45.7	3.23	34.7	133.5	4.2	0.9	2.1	45.8	3.14	35.0	130.2	4.3	1.8	4.3

Interpolation is permissible, extrapolation is not
All performance data is based upon the lower voltage of dual voltage rated units
All performance data is based upon a load coaxial heat exchanger of single-walled copper construction. For vented double-wall performance consult the factory
Operation below 40F EWT is based upon 15% antifreeze solution
See performance data notes for operation in the shaded areas
Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated

Performance Data — TMW060 - Cooling

Source				Load																									
EWT °F	Flow	WPD		EWT °F	Flow 7.5 GPM					WPD		Flow 11.3 GPM					WPD		Flow 15.0 GPM					WPD					
	GPM	PSI	FT		TC Mbtuh	Power kW	HR Mbtuh	LWT °F	EER	PSI	FT	TC Mbtuh	Power kW	HR Mbtuh	LWT °F	EER	PSI	FT	TC Mbtuh	Power kW	HR Mbtuh	LWT °F	EER	PSI	FT					
50	7.5	1.3	2.9	50	51.8	2.42	60.1	36.2	21.4	1.4	3.3	55.0	2.43	63.3	40.2	22.7	3.5	8.0	56.5	2.45	64.9	42.5	23.1	6.2	14.2					
				60	57.2	2.45	65.6	44.7	23.3	1.4	3.2	60.8	2.46	69.1	49.2	24.7	3.3	7.7	62.4	2.48	70.9	51.7	25.2	6.0	13.8					
				70	61.2	2.48	69.7	53.7	24.7	1.3	3.0	65.0	2.48	73.5	58.4	26.2	3.2	7.4	66.8	2.51	75.4	61.1	26.6	5.8	13.4					
				80	63.7	2.50	72.3	63.0	25.5	1.2	2.9	67.7	2.51	76.2	68.0	27.0	3.1	7.1	69.5	2.53	78.2	70.7	27.5	5.6	13.0					
				90	64.7	2.52	73.3	72.7	25.6	1.2	2.7	68.7	2.53	77.3	77.8	27.2	3.0	6.9	70.6	2.55	79.3	80.6	27.7	5.5	12.6					
	11.25	3.4	7.9	50	54.0	2.45	62.3	35.6	22.1	1.4	3.3	57.3	2.45	65.7	39.8	23.4	3.5	8.0	58.9	2.47	67.3	42.1	23.8	6.2	14.2					
				60	58.9	2.47	67.3	44.3	23.8	1.4	3.2	62.5	2.47	71.0	48.9	25.3	3.3	7.7	64.2	2.50	72.8	51.4	25.7	6.0	13.8					
				70	62.4	2.49	70.9	53.4	25.0	1.3	3.0	66.3	2.50	74.8	58.2	26.6	3.2	7.4	68.1	2.52	76.7	60.9	27.0	5.8	13.4					
				80	64.6	2.51	73.2	62.8	25.7	1.2	2.9	68.6	2.52	77.2	67.8	27.3	3.1	7.1	70.5	2.54	79.2	70.6	27.7	5.6	13.0					
				90	65.4	2.53	74.0	72.6	25.8	1.2	2.7	69.4	2.53	78.1	77.7	27.4	3.0	6.9	71.3	2.56	80.0	80.5	27.8	5.5	12.6					
	15.0	6.2	14.2	50	56.1	2.47	64.6	35.0	22.7	1.4	3.3	59.6	2.47	68.0	39.4	24.1	3.5	8.0	61.2	2.50	69.8	41.8	24.5	6.2	14.2					
				60	60.5	2.49	69.0	43.9	24.3	1.4	3.2	64.3	2.49	72.8	48.6	25.8	3.3	7.7	66.0	2.52	74.6	51.2	26.3	6.0	13.8					
				70	63.6	2.51	72.2	53.0	25.4	1.3	3.0	67.6	2.51	76.1	58.0	26.9	3.2	7.4	69.4	2.53	78.1	60.7	27.4	5.8	13.4					
				80	65.5	2.52	74.1	62.5	26.0	1.2	2.9	69.5	2.53	78.1	67.6	27.5	3.1	7.1	71.4	2.55	80.1	70.5	28.0	5.6	13.0					
				90	66.0	2.54	74.7	72.4	26.0	1.2	2.7	70.1	2.54	78.8	77.5	27.6	3.0	6.9	72.0	2.57	80.8	80.4	28.0	5.5	12.6					
70	7.5	1.3	2.5	50	48.2	3.05	58.6	37.2	15.8	1.4	3.3	51.1	3.05	61.6	40.9	16.7	3.5	8.0	52.5	3.09	63.1	43.0	17.0	6.2	14.2					
				60	54.4	3.11	65.0	45.5	17.5	1.4	3.2	57.7	3.11	68.3	6.0	18.5	3.3	7.7	59.3	3.14	70.0	52.1	18.9	6.0	13.8					
				70	59.0	3.16	69.8	54.3	18.7	1.3	3.0	62.7	3.17	73.5	58.9	19.8	3.2	7.4	64.4	3.20	75.3	61.4	20.1	5.8	13.4					
				80	62.0	3.21	72.9	63.5	19.3	1.2	2.9	65.8	3.21	76.8	68.3	20.5	3.1	7.1	67.6	3.25	78.7	71.0	20.8	5.6	13.0					
				90	63.1	3.26	74.2	73.2	19.4	1.2	2.7	67.0	3.26	78.2	78.1	20.6	3.0	6.9	68.9	3.29	80.1	80.8	20.9	5.5	12.6					
	11.25	3.0	6.9	50	50.3	3.09	60.9	36.6	16.3	1.4	3.3	53.4	3.10	64.0	40.5	17.3	3.5	8.0	54.9	3.13	65.6	42.7	17.5	6.2	14.2					
				60	56.1	3.14	66.8	45.0	17.8	1.4	3.2	59.6	3.15	70.3	49.4	18.9	3.3	7.7	61.2	3.18	72.0	51.8	19.3	6.0	13.8					
				70	60.3	3.19	71.2	53.9	18.9	1.3	3.0	64.0	3.19	74.9	58.6	20.1	3.2	7.4	65.8	3.23	76.8	61.2	20.4	5.8	13.4					
				80	62.9	3.23	74.0	63.2	19.5	1.2	2.9	66.8	3.24	77.9	68.1	20.6	3.1	7.1	68.7	3.27	79.8	70.8	21.0	5.6	13.0					
				90	63.9	3.28	75.1	73.0	19.5	1.2	2.7	67.8	3.28	79.0	77.9	20.7	3.0	6.9	69.7	3.31	81.0	80.7	21.0	5.5	12.6					
	15.0	5.5	12.8	50	52.5	3.14	63.2	36.0	16.7	1.4	3.3	55.7	3.14	66.4	40.1	17.7	3.5	8.0	57.2	3.17	68.1	42.4	18.1	6.2	14.2					
				60	57.8	3.18	68.7	44.6	18.2	1.4	3.2	61.4	3.18	72.2	49.1	19.3	3.3	7.7	63.1	3.21	74.0	51.6	19.6	6.0	13.8					
				70	61.6	3.22	72.6	53.6	19.2	1.3	3.0	65.4	3.22	76.4	58.4	20.3	3.2	7.4	67.2	3.25	78.3	61.0	20.7	5.8	13.4					
				80	63.9	3.26	75.0	63.0	19.6	1.2	2.9	67.9	3.26	79.0	67.9	20.8	3.1	7.1	69.7	3.29	81.0	70.7	21.2	5.6	13.0					
				90	64.6	3.30	75.9	72.8	19.6	1.2	2.7	68.6	3.30	79.9	77.8	20.8	3.0	6.9	70.5	3.34	81.9	80.6	21.1	5.5	12.6					
90	7.5	0.9	2.1	50	45.6	3.89	58.8	37.9	11.7	1.4	3.3	46.6	3.88	59.8	41.7	12.0	3.5	8.0	47.5	3.94	61.0	43.7	12.0	6.2	14.2					
				60	52.6	3.91	65.9	46.0	13.5	1.4	3.2	53.7	3.91	67.1	50.4	13.8	3.3	7.7	54.8	3.96	68.4	52.7	13.8	6.0	13.8					
				70	58.1	3.96	71.6	54.5	14.7	1.3	3.0	59.4	3.95	72.9	59.4	15.0	3.2	7.4	60.6	4.01	74.3	61.9	15.1	5.8	13.4					
				80	62.1	4.03	75.8	63.4	15.4	1.2	2.9	63.5	4.02	77.2	68.7	15.8	3.1	7.1	64.7	4.09	78.7	71.4	15.8	5.6	13.0					
				90	64.3	4.13	78.4	72.9	15.6	1.2	2.7	65.7	4.12	79.8	78.3	15.9	3.0	6.9	67.1	4.18	81.3	81.1	16.0	5.5	12.6					
	11.25	2.7	6.1	50	47.7	3.95	61.2	37.3	12.1	1.4	3.3	48.8	3.95	62.2	41.3	12.3	3.5	8.0	49.8	4.01	63.4	43.4	12.4	6.2	14.2					
				60	54.4	3.96	67.9	45.5	13.7	1.4	3.2	55.6	3.96	69.1	50.1	14.0	3.3	7.7	56.7	4.02	70.4	52.4	14.1	6.0	13.8					
				70	59.6	4.00	73.2	54.1	14.9	1.3	3.0	60.9	4.00	74.5	59.2	15.2	3.2	7.4	62.1	4.06	76.0	61.7	15.3	5.8	13.4					
				80	63.2	4.07	77.1	63.1	15.5	1.2	2.9	64.6	4.06	78.5	68.5	15.9	3.1	7.1	65.9	4.12	80.0	71.2	16.0	5.6	13.0					
				90	65.2	4.16	79.4	72.6	15.7	1.2	2.7	66.7	4.16	80.9	78.1	16.0	3.0	6.9	68.0	4.22	82.4	80.9	16.1	5.5	12.6					
	15.0	5.0	11.6	50	49.9	4.02	63.6	36.7	12.4	1.4	3.3	51.0	4.01	64.6	40.9	12.7	3.5	8.0	52.0	4.07	65.9	43.1	12.8	6.2	14.2					
				60	56.2	4.02	69.9	45.0	14.0	1.4	3.2	57.4	4.01	71.1	49.8	14.3	3.3	7.7	58.6	4.07	72.5	52.2	14.4	6.0	13.8					
				70	61.0	4.05	74.8	53.7	15.1	1.3	3.0	62.3	4.04	76.1	58.9	15.4	3.2	7.4	63.6	4.10	77.6	61.5	15.5	5.8	13.4					
				80	64.3	4.11	78.3	62.8	15.7	1.2	2.9	65.7	4.10	79.7	68.3	16.0	3.1	7.1	67.1	4.16	81.3	71.1	16.1	5.6	13.0					
				90	66.2	4.20	80.5	72.4	15.8	1.2	2.7	67.6	4.19	81.9	78.0	16.1	3.0	6.9	69.0	4.26	83.5	80.8	16.2	5.5	12.6					
110	7.5	0.8	1.8	50	40.6	4.91	57.4	39.2	8.3	1.4	3.3	41.0	4.92	57.8	42.7	8.3	3.5	8.0	41.5	5.02	58.6	44.5	8.3	6.2	14.2					
				60	48.0	4.84	64.6	47.2	9.9	1.4	3.2	48.5	4.85	65.1	51.4	10.0	3.3	7.7	49.0	4.95	65.9	53.5	9.9	6.0	13.8					
				70	54.5	4.85	71.0	55.5	11.2	1.3	3.0	55.0	4.86	71.6	60.2	11.3	3.2	7.4	55.6	4.95	72.5	62.6	11.2	5.8	13.4					
				80	59.8	4.94	76.6	64.1	12.1	1.2	2.9	60.4	4.95	77.3	69.3	12.2	3.1	7.1	61.0	5.05	78.2	71.9	12.1	5.6	13.0					
				90	63.8	5.11	81.3	73.0	12.5	1.2	2.7	64.5	5.12	82.0	78.5	12.6	3.0	6.9	65.1	5.23	83.0	81.3	12.5	5.5	12.6					
	11.25	2.4	5.6	50	42.6	5.00	59.7	38.6	8.5	1.4	3.3	43.0	5.01	60.1	42.4	8.6	3.5	8.0	43.5	5.11	60.9	44.2	8.5	6.2	14.2					
				60	49.7	4.91	66.5	46.7	10.1	1.4	3.2	50.3	4.92	67.0	51.1	10.2	3.3	7.7	50.8	5.02	67.9	53.2	10.1	6.0	13.8					
				70	55.9	4.91	72.7	55.1	11.4	1.3	3.0	56.5	4.92	73.3	60.0	11.5	3.2	7.4	57.1	5.02	74.2	62.4	11.4	5.8	13.4					
				80	61.0	4.99	78.0	63.7	12.2	1.2	2.9	61.6	5.00	78.7	69.0	12.3	3.1	7.1	62.3	5.10	79.7	71.7	12.2	5.6	13.0					
				90	65.0	5.16	82.6	72.7	12.6	1.2	2.7	65.7	5.18	83.3	78.3	12.7	3.0	6.9	66.3	5.28	84.3	81.2	12.6	5.5	12.6					
	15.0	4.6	10.7	50	44.6	5.09	61.9	38.1	8.8	1.4	3.3	45.0	5.10	62.4	42.0	8.8	3.5	8.0	45.5	5.21	63.2	43.9	8.7	6.2	14.2					
				60	51.5	4.98	68.5	46.3	10.3	1.4	3.2	52.0	4.99	69.0	50.8	10.4	3.3	7.7	52.5	5.10	69.9	53.0	10.3	6.0	13.8					
				70	57.3	4.97	74.3	54.7	11.5	1.3	3.0	57.9	4.98	74.9	59.7	11.6	3.2	7.4	58.5	5.08	75.9	62.2	11.5	5.8	13.4					
				80	62.2	5.05	79.5	63.4	12.3	1.2	2.9	62.9	5.06	80.1	68.8	12.4	3.1	7.1	63.5	5.16	81.1	71.5	12.3	5.6	13.0					
				90	66.1	5.22	83.9	72.4	12.7	1.2	2.7	66.8	5.23	84.7	78.1	12.8	3.0	6.9	67.5	5.33	85.7	81.0	12.7	5.5	12.6					
120	7.5	0.7	1.7	50	37.6	5.58	56.6	40.0	6.7	1.4	3.3	37.9	5.59	57.0	43.3	6.8	3.5	8.0	38.3	5.70	57.8	44.9	6.7	6.2	14.2					
				60	43.9	5.65	63.2	48.3	7.8	1.4	3.2	44.4	5.66	63.7	52.1	7.8	3.3	7.7	44.8	5.77	64.5	54.0	7.8	6.0	13.8					
				70	50.2	5.71	69.7	56.6	8.8	1.3	3.0	50.7	5.72	70.2	61.0	8.9	3.2	7.4	51.2	5.84	71.1	63.2	8.8	5.8	13.4					
				80	56.3	5.76	76.0	65.0	9.8	1.2	2.9	56.9	5.78	76.6	69.9	9.8	3.1	7.1	57.4	5.89	77.5	72.3	9.7	5.6	13.0					
				90	62.1	5.81	81.9	73.4	10.7	1.2	2.7	62.7	5.82	82.6	78.8	10.8	3.0	6.9	63.4	5.94	83.6	81.6	10.7	5.5	12.6					
	11.25	2.4	5.5	50	39.6	5.69	59.0	39.5	6.9	1.4	3.3	40.0	5.70	59.4	42.9	7.0	3.5	8.0	40.4	5.82	60.2	44.6	6.9	6.2	14.2					
				60	45.6	5.75	65.2	47.8	7.9	1.4	3.2	46.1	5.76	65.7	51.8	8.0	3.3	7.7	46.5	5.88	66.6	53.8	7.9	6.0	13.8					
				70	51.6	5.80	71.4	56.2	8.9	1.3	3.0	52.2	5.81	72.0	60.7	9.0	3.2	7.4	52.7	5.93	72.9	63.0	8.9	5.8	13.4					
				80	57.6	5.84	77.5	64.6	9.9	1.2	2.9	58.2	5.86	78.2	69.7	9.9	3.1	7.1	58.8	5.97	79.2	72.2	9.8	5.6	13.0					
				90	63.4	5.89	83.5	73.1	10.8	1.2	2.7	64.0	5.90	84.2	78.6	10.9	3.0	6.9	64.7	6.02	85.2	81.4	10.7	5.5	12.6					
	15.0	4.5	10.3	50	41.5	5.81	61.4	38.9	7.2	1.4	3.3	42.0	5.82	61.8	42.5	7.2	3.5	8.0	42.4	5.94	62.7	44.3	7.1	6.2	14.2					
				60	47.3	5.85	67.3	47.4	8.1	1.4	3.2	47.8	5.86	67.8	51.5	8.2	3.3	7.7	48.3	5.98	68.7	53.6	8.1	6.0	13.8					
				70	53.1	5.88	73.2	55.8	9.0	1.3	3.0	53.7	5.90	73.8	60.5	9.1	3.2	7.4	54.2	6.02	74.7	62.8	9.0	5.8	13.4					
				80	58.9	5.92	79.1	64.3	9.9	1.2	2.9	59.5	5.94	79.7	69.4	10.0	3.1	7.1	60.1	6.06	80.8	72.0	9.9	5.6	13.0					
				90	64.7	5.96	85.0	72.8	10.8	1.2	2.7	65.3	5.97	85.7	78.4	10.9	3.0	6.9	66.0	6.10	86.8	81.2	10.8	5.5	12.6					

Interpolation is permissible, extrapolation is not
All performance data is based upon the lower voltage of dual voltage rated units
All performance data is based upon a load coaxial heat exchanger of single-walled copper construction. For vented double-wall performance consult the factory
See performance data notes for operation in the shaded areas
Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated

Performance Data — TMW060 - Heating

SOURCE				LOAD																						
EWT	Flow			EWT	Flow 7.5 GPM							Flow 11.3 GPM							Flow 15.0 GPM						
	GPM	WPD			HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD	
F		PSI	FT							PSI	FT						PSI	FT						PSI	FT
20	9.0	7.7	17.9	60	45.3	2.92	35.3	72.1	4.5	1.4	3.2	45.4	2.77	35.9	68.1	4.8	3.3	7.7	45.3	2.70	36.1	66.0	4.9	6.0	13.8
				80	45.3	3.72	32.6	92.1	3.6	1.2	2.9	45.2	3.53	33.2	88.0	3.8	3.1	7.1	45.1	3.43	33.4	86.0	3.8	5.6	13.0
				100	44.3	4.86	27.7	111.8	2.7	1.1	2.6	43.9	4.61	28.2	107.8	2.8	2.9	6.7	43.6	4.48	28.3	105.8	2.9	5.3	12.3
30	7.5	1.5	3.5	60	48.4	2.92	38.5	72.9	4.9	1.4	3.2	48.6	2.77	39.1	68.6	5.1	3.3	7.7	48.5	2.69	39.4	66.5	5.3	6.0	13.8
				80	48.9	3.71	36.2	93.0	3.9	1.2	2.9	48.8	3.51	36.8	88.7	4.1	3.1	7.1	48.7	3.42	37.0	86.5	4.2	5.6	13.0
				100	48.2	4.83	31.7	112.9	2.9	1.1	2.6	47.9	4.58	32.3	108.5	3.1	2.9	6.7	47.7	4.46	32.5	106.4	3.1	5.3	12.3
				120	46.7	6.31	25.2	132.5	2.2	1.1	2.4	46.0	5.99	25.6	128.2	2.3	2.8	6.4	45.6	5.82	25.8	126.1	2.3	5.1	11.7
	11.3	4.0	9.2	60	53.7	2.93	43.7	74.3	5.4	1.4	3.2	53.9	2.78	44.4	69.6	5.7	3.3	7.7	53.9	2.70	44.7	67.2	5.8	6.0	13.8
				80	54.0	3.73	41.3	94.4	4.2	1.2	2.9	54.0	3.53	42.0	89.6	4.5	3.1	7.1	53.9	3.44	42.2	87.2	4.6	5.6	13.0
				100	53.0	4.86	36.4	114.1	3.2	1.1	2.6	52.8	4.61	37.0	109.4	3.4	2.9	6.7	52.5	4.48	37.2	107.0	3.4	5.3	12.3
				120	50.8	6.33	29.2	133.6	2.4	1.1	2.4	50.2	6.01	29.7	128.9	2.5	2.8	6.4	49.8	5.84	29.9	126.6	2.5	5.1	11.7
	15.0	6.9	15.9	60	51.8	2.94	41.8	73.8	5.2	1.4	3.2	52.0	2.79	42.5	69.2	5.5	3.3	7.7	52.0	2.71	42.7	66.9	5.6	6.0	13.8
				80	51.9	3.75	39.1	93.8	4.1	1.2	2.9	51.9	3.56	39.8	89.2	4.3	3.1	7.1	51.8	3.46	40.0	86.9	4.4	5.6	13.0
				100	50.7	4.89	34.0	113.5	3.0	1.1	2.6	50.4	4.64	34.6	109.0	3.2	2.9	6.7	50.2	4.51	34.8	106.7	3.3	5.3	12.3
				120	48.2	6.35	26.5	132.9	2.2	1.1	2.4	47.5	6.03	27.0	128.5	2.3	2.8	6.4	47.1	5.86	27.1	126.3	2.4	5.1	11.7
40	7.5	1.4	3.2	60	54.8	2.93	44.8	74.6	5.5	1.4	3.2	55.1	2.78	45.6	69.8	5.8	3.3	7.7	55.1	2.70	45.8	67.3	6.0	6.0	13.8
				80	55.4	3.72	42.7	94.8	4.4	1.2	2.9	55.5	3.53	43.4	89.9	4.6	3.1	7.1	55.4	3.44	43.7	87.4	4.7	5.6	13.0
				100	54.7	4.85	38.1	114.6	3.3	1.1	2.6	54.5	4.60	38.8	109.7	3.5	2.9	6.7	54.2	4.47	39.0	107.2	3.6	5.3	12.3
				120	53.0	6.33	31.4	134.1	2.5	1.1	2.4	52.4	6.00	31.9	129.3	2.6	2.8	6.4	52.0	5.84	32.1	126.9	2.6	5.1	11.7
	11.3	3.7	8.5	60	63.7	2.94	53.6	77.0	6.3	1.4	3.2	64.1	2.79	54.6	71.4	6.7	3.3	7.7	64.1	2.71	54.9	68.5	6.9	6.0	13.8
				80	64.2	3.75	51.4	97.1	5.0	1.2	2.9	64.4	3.56	52.2	91.4	5.3	3.1	7.1	64.3	3.46	52.5	88.6	5.4	5.6	13.0
				100	62.9	4.88	46.3	116.8	3.8	1.1	2.6	62.9	4.63	47.1	111.2	4.0	2.9	6.7	62.7	4.50	47.3	108.4	4.1	5.3	12.3
				120	60.3	6.34	38.6	136.1	2.8	1.1	2.4	59.8	6.02	39.3	130.6	2.9	2.8	6.4	59.5	5.85	39.5	127.9	3.0	5.1	11.7
	15.0	6.5	15.0	60	58.3	2.95	48.2	75.5	5.8	1.4	3.2	58.6	2.80	49.0	70.4	6.1	3.3	7.7	58.6	2.72	49.3	67.8	6.3	6.0	13.8
				80	58.5	3.78	45.6	95.6	4.5	1.2	2.9	58.6	3.58	46.3	90.4	4.8	3.1	7.1	58.5	3.49	46.6	87.8	4.9	5.6	13.0
				100	57.1	4.91	40.3	115.2	3.4	1.1	2.6	56.9	4.66	41.0	110.1	3.6	2.9	6.7	56.7	4.53	41.2	107.6	3.7	5.3	12.3
				120	54.1	6.36	32.4	134.4	2.5	1.1	2.4	53.6	6.03	33.0	129.5	2.6	2.8	6.4	53.2	5.87	33.2	127.1	2.7	5.1	11.7
50	7.5	1.3	2.9	60	61.2	2.94	51.2	76.3	6.1	1.4	3.2	61.6	2.78	52.1	70.9	6.5	3.3	7.7	61.6	2.71	52.3	68.2	6.7	6.0	13.8
				80	62.0	3.74	49.2	96.5	4.9	1.2	2.9	62.2	3.55	50.0	91.0	5.1	3.1	7.1	62.1	3.45	50.3	88.3	5.3	5.6	13.0
				100	61.1	4.87	44.5	116.3	3.7	1.1	2.6	61.0	4.62	45.3	110.8	3.9	2.9	6.7	60.8	4.49	45.5	108.1	4.0	5.3	12.3
				120	59.2	6.35	37.6	135.8	2.7	1.1	2.4	58.8	6.02	38.2	130.4	2.9	2.8	6.4	58.4	5.86	38.4	127.8	2.9	5.1	11.7
				130	OPERATION NOT RECOMMENDED							57.3	6.87	33.9	140.2	2.4	2.7	6.2	56.8	6.68	34.0	137.6	2.5	5.0	11.5
	11.25	3.4	7.9	60	64.6	2.95	54.5	77.2	6.4	1.4	3.2	65.0	2.80	55.4	71.6	6.8	3.3	7.7	65.0	2.72	55.7	68.7	7.0	6.0	13.8
				80	65.1	3.77	52.2	97.4	5.1	1.2	2.9	65.3	3.58	53.1	91.6	5.4	3.1	7.1	65.3	3.48	53.4	88.7	5.5	5.6	13.0
				100	63.9	4.90	47.1	117.0	3.8	1.1	2.6	63.8	4.65	47.9	111.3	4.0	2.9	6.7	63.6	4.53	48.2	108.5	4.1	5.3	12.3
				120	61.1	6.36	39.4	136.3	2.8	1.1	2.4	60.7	6.03	40.1	130.8	2.9	2.8	6.4	60.3	5.87	40.3	128.0	3.0	5.1	11.7
				130	OPERATION NOT RECOMMENDED							58.6	6.84	35.2	140.4	2.5	2.7	6.2	58.1	6.66	35.4	137.7	2.6	5.0	11.5
	15	6.2	14.2	60	67.9	2.96	57.8	78.1	6.7	1.4	3.2	68.4	2.81	58.8	72.2	7.1	3.3	7.7	68.5	2.73	59.1	69.1	7.3	6.0	13.8
				80	68.3	3.81	55.3	98.2	5.3	1.2	2.9	68.5	3.61	56.2	92.2	5.6	3.1	7.1	68.5	3.51	56.5	89.1	5.7	5.6	13.0
				100	66.6	4.94	49.8	117.8	4.0	1.1	2.6	66.6	4.69	50.6	111.8	4.2	2.9	6.7	66.5	4.56	50.9	108.9	4.3	5.3	12.3
				120	63.0	6.36	41.3	136.8	2.9	1.1	2.4	62.6	6.04	42.0	131.1	3.0	2.8	6.4	62.3	5.87	42.2	128.3	3.1	5.1	11.7
				130	OPERATION NOT RECOMMENDED							59.8	6.82	36.6	140.6	2.6	2.7	6.2	59.4	6.63	36.8	137.9	2.6	5.0	11.5

Table Continued on Next Page

Interpolation is permissible, extrapolation is not
All performance data is based upon the lower voltage of dual voltage rated units
All performance data is based upon a load coaxial heat exchanger of single-walled copper construction. For vented double-wall performance consult the factory
Operation below 40F EWT is based upon 15% antifreeze solution
See performance data notes for operation in the shaded areas
Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated

Performance Data — TMW060 - Heating

Table Continued from Previous Page

SOURCE				LOAD																					
EWT	Flow			EWT	Flow 7.5 GPM							Flow 11.3 GPM							Flow 15.0 GPM						
	GPM	WPD			HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD	
F		PSI	FT							PSI	FT						PSI	FT						PSI	FT
60	7.5	1.2	2.7	60	64.3	2.96	54.2	77.1	6.4	1.4	3.2	64.7	2.81	55.1	71.5	6.7	3.3	7.7	64.7	2.74	55.4	68.6	6.9	6.0	13.8
				80	65.6	3.74	52.9	97.5	5.1	1.2	2.9	65.9	3.55	53.8	91.7	5.4	3.1	7.1	65.9	3.45	54.1	88.8	5.6	5.6	13.0
				100	65.7	4.85	49.2	117.5	4.0	1.1	2.6	65.7	4.60	50.0	111.7	4.2	2.9	6.7	65.6	4.48	50.3	108.7	4.3	5.3	12.3
				120	65.4	6.34	43.8	137.4	3.0	1.1	2.4	65.1	6.01	44.6	131.6	3.2	2.8	6.4	64.8	5.85	44.8	128.6	3.2	5.1	11.7
				130	OPERATION NOT RECOMMENDED							64.7	6.87	41.3	141.5	2.8	2.7	6.2	64.3	6.68	41.5	138.6	2.8	5.0	11.5
	11.25	3.2	7.3	60	68.1	2.98	57.9	78.2	6.7	1.4	3.2	68.5	2.82	58.9	72.2	7.1	3.3	7.7	68.6	2.75	59.2	69.1	7.3	6.0	13.8
				80	69.2	3.78	56.3	98.5	5.4	1.2	2.9	69.5	3.59	57.3	92.4	5.7	3.1	7.1	69.5	3.49	57.6	89.3	5.8	5.6	13.0
				100	69.0	4.90	52.3	118.4	4.1	1.1	2.6	69.0	4.65	53.2	112.3	4.3	2.9	6.7	68.9	4.53	53.4	109.2	4.5	5.3	12.3
				120	67.8	6.37	46.1	138.1	3.1	1.1	2.4	67.5	6.04	46.9	132.0	3.3	2.8	6.4	67.2	5.87	47.2	129.0	3.4	5.1	11.7
				130	OPERATION NOT RECOMMENDED							66.4	6.86	43.0	141.8	2.8	2.7	6.2	66.0	6.67	43.3	138.8	2.9	5.0	11.5
	15	5.8	13.5	60	71863	2991	61,658	79.2	7.0	1.4	3.2	72.4	2.84	62.7	72.9	7.5	3.3	7.7	72.5	2.76	63.1	69.7	7.7	6.0	13.8
				80	72799	3823	59,756	99.4	5.6	1.2	2.9	73.2	3.63	60.8	93.0	5.9	3.1	7.1	73.1	3.53	61.1	89.8	6.1	5.6	13.0
				100	72250	4956	55,340	119.3	4.3	1.1	2.6	72.3	4.70	56.3	112.9	4.5	2.9	6.7	72.2	4.57	56.6	109.6	4.6	5.3	12.3
				120	70218	6391	48,411	138.7	3.2	1.1	2.4	69.9	6.06	49.2	132.4	3.4	2.8	6.4	69.6	5.90	49.5	129.3	3.5	5.1	11.7
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							67.7	6.66	45.0	139.0	3.0	5.0	11.5
70	7.5	1.1	2.5	60	67.4	2.99	57.2	78.0	6.6	1.4	3.2	67.8	2.84	58.2	72.1	7.0	3.3	7.7	67.9	2.76	58.5	69.1	7.2	6.0	13.8
				80	69.3	3.74	56.6	98.5	5.4	1.2	2.9	69,641	3,548	57,534	92.4	5.8	3.1	7.1	69.6	3.45	57.8	89.3	5.9	5.6	13.0
				100	70.4	4.84	53.8	118.8	4.3	1.1	2.6	70,428	4,588	54,774	112.5	4.5	2.9	6.7	70.3	4.46	55.1	109.4	4.6	5.3	12.3
				120	71.6	6.33	50.0	139.1	3.3	1.1	2.4	71,377	6,004	50,891	132.7	3.5	2.8	6.4	71.1	5.84	51.2	129.5	3.6	5.1	11.7
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							71.8	6.69	49.0	139.6	3.1	5.0	11.5
	11.25	3.0	6.9	60	71.6	3.01	61.3	79.1	7.0	1.4	3.2	72.1	2.85	62.4	72.8	7.4	3.3	7.7	72.2	2.77	62.7	69.6	7.6	6.0	13.8
				80	73.3	3.79	60.4	99.6	5.7	1.2	2.9	73,701	3,595	61,435	93.1	6.0	3.1	7.1	73.7	3.50	61.8	89.8	6.2	5.6	13.0
				100	74.1	4.90	57.4	119.8	4.4	1.1	2.6	74,237	4,652	58,365	113.2	4.7	2.9	6.7	74.1	4.53	58.7	109.9	4.8	5.3	12.3
				120	74.5	6.37	52.8	139.9	3.4	1.1	2.4	74,313	6,046	53,686	133.2	3.6	2.8	6.4	74.0	5.88	54.0	129.9	3.7	5.1	11.7
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							74.0	6.69	51.1	139.9	3.2	5.0	11.5
	15	5.5	12.8	60	75.8	3.02	65.5	80.2	7.4	1.4	3.2	76.4	2.86	66.6	73.6	7.8	3.3	7.7	76.5	2.79	67.0	70.2	8.0	6.0	13.8
				80	77.3	3.84	64.2	100.6	5.9	1.2	2.9	77,761	3,641	65,336	93.8	6.3	3.1	7.1	77.8	3.54	65.7	90.4	6.4	5.6	13.0
				100	77.9	4.97	60.9	120.8	4.6	1.1	2.6	78,047	4,716	61,957	113.9	4.9	2.9	6.7	77.9	4.59	62.3	110.4	5.0	5.3	12.3
				120	77.4	6.42	55.5	140.6	3.5	1.1	2.4	77,250	6,087	56,480	133.7	3.7	2.8	6.4	77.0	5.92	56.8	130.3	3.8	5.1	11.7
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							76.1	6.70	53.2	140.1	3.3	5.0	11.5
80	7.5	1.0	2.3	60	70.5	3.02	60.2	78.8	6.8	1.4	3.2	71.0	2.87	61.2	72.6	7.3	3.3	7.7	71.1	2.79	61.5	69.5	7.5	6.0	13.8
				80	73.0	3.74	60.2	99.5	5.7	1.2	2.9	73,386	3,548	61,281	93.0	6.1	3.1	7.1	73.4	3.45	61.6	89.8	6.2	5.6	13.0
				100	75.0	4.82	58.5	120.0	4.6	1.1	2.6	75,138	4,573	59,533	113.4	4.8	2.9	6.7	75.0	4.45	59.9	110.0	4.9	5.3	12.3
				120	77.8	6.32	56.3	140.8	3.6	1.1	2.4	77,683	5,994	57,230	133.8	3.8	2.8	6.4	77.4	5.83	57.5	130.3	3.9	5.1	11.7
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							79.3	6.69	56.5	140.6	3.5	5.0	11.5
	11.25	2.8	6.5	60	75.1	3.04	64.8	80.0	7.3	1.4	3.2	75.7	2.88	65.9	73.5	7.7	3.3	7.7	75.8	2.80	66.2	70.1	7.9	6.0	13.8
				80	77.4	3.80	64.5	100.7	6.0	1.2	2.9	77,878	3,602	65,586	93.8	6.3	3.1	7.1	77.9	3.50	65.9	90.4	6.5	5.6	13.0
				100	79.2	4.90	62.5	121.1	4.7	1.1	2.6	79,452	4,652	63,579	114.1	5.0	2.9	6.7	79.4	4.53	63.9	110.6	5.1	5.3	12.3
				120	81.2	6.38	59.5	141.7	3.7	1.1	2.4	81,129	6,054	60,475	134.4	3.9	2.8	6.4	80.9	5.89	60.8	130.8	4.0	5.1	11.7
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							81.9	6.71	59.0	140.9	3.6	5.0	11.5
	15	5.3	12.1	60	79.7	3.05	69.3	81.3	7.7	1.4	3.2	80.4	2.89	70.5	74.3	8.1	3.3	7.7	80.5	2.81	70.9	70.7	8.4	6.0	13.8
				80	81.9	3.86	68.7	101.8	6.2	1.2	2.9	82,370	3,657	69,891	94.6	6.6	3.1	7.1	82.4	3.56	70.3	91.0	6.8	5.6	13.0
				100	83.5	4.99	66.5	122.3	4.9	1.1	2.6	83,766	4,731	67,625	114.9	5.2	2.9	6.7	83.7	4.60	68.0	111.2	5.3	5.3	12.3
				120	84.6	6.44	62.6	142.6	3.8	1.1	2.4	84,575	6,113	63,719	135.0	4.1	2.8	6.4	84.4	5.95	64.1	131.2	4.2	5.1	11.7
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							84.5	6.73	61.5	141.3	3.7	5.0	11.5

Interpolation is permissible, extrapolation is not
All performance data is based upon the lower voltage of dual voltage rated units
All performance data is based upon a load coaxial heat exchanger of single-walled copper construction. For vented double-wall performance consult the factory
Operation below 40F EWT is based upon 15% antifreeze solution
See performance data notes for operation in the shaded areas
Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated

Performance Data — TMW120 - Cooling

Source				Load																							
EWT °F	Flow			EWT °F	Flow 15.0 GPM							Flow 22.5 GPM							Flow 30.0 GPM								
	GPM	WPD			TC Mbtuh	Power kW	HR Mbtuh	LWT °F	EER	WPD		TC Mbtuh	Power kW	HR Mbtuh	LWT °F	EER	WPD		TC Mbtuh	Power kW	HR Mbtuh	LWT °F	EER	WPD	
		PSI	FT							PSI	FT						PSI	FT						PSI	FT
50	15.0	1.4	3.2	50	103.6	4.85	120.2	36.2	21.4	1.5	3.3	110.1	4.85	126.6	40.2	22.7	3.8	8.8	113.1	4.90	129.8	42.5	23.1	6.8	15.7
				60	114.4	4.91	131.2	44.7	23.3	1.5	3.2	121.5	4.91	138.3	49.2	24.7	3.7	8.4	124.8	4.96	141.8	51.7	25.2	6.6	15.2
				70	122.5	4.96	139.4	53.7	24.7	1.4	3.0	130.0	4.97	147.0	58.4	26.2	3.5	8.1	133.6	5.02	150.7	61.1	26.6	6.4	14.7
				80	127.5	5.01	144.6	63.0	25.5	1.4	2.9	135.4	5.01	152.5	68.0	27.0	3.4	7.9	139.1	5.07	156.4	70.7	27.5	6.2	14.3
				90	129.4	5.05	146.6	72.7	25.6	1.3	2.7	137.4	5.05	154.7	77.8	27.2	3.3	7.6	141.2	5.10	158.6	80.6	27.7	6.0	13.9
	22.5	3.8	8.7	50	108.0	4.89	124.7	35.6	22.1	1.6	3.3	114.6	4.90	131.3	39.8	23.4	3.8	8.8	117.8	4.95	134.7	42.1	23.8	6.8	15.7
				60	117.7	4.94	134.6	44.3	23.8	1.5	3.2	125.0	4.95	141.9	48.9	25.3	3.7	8.4	128.5	5.00	145.5	51.4	25.7	6.6	15.2
				70	124.9	4.99	141.9	53.4	25.0	1.4	3.0	132.6	4.99	149.6	58.2	26.6	3.5	8.1	136.2	5.04	153.4	60.9	27.0	6.4	14.7
				80	129.2	5.03	146.4	62.8	25.7	1.4	2.9	137.2	5.03	154.4	67.8	27.3	3.4	7.9	141.0	5.08	158.3	70.6	27.7	6.2	14.3
				90	130.7	5.06	148.0	72.6	25.8	1.3	2.7	138.8	5.07	156.1	77.7	27.4	3.3	7.6	142.6	5.12	160.1	80.5	27.8	6.0	13.9
	30.0	6.8	15.6	50	112.3	4.94	129.1	35.0	22.7	1.6	3.3	119.2	4.94	136.1	39.4	24.1	3.8	8.8	122.5	4.99	139.5	41.8	24.5	6.8	15.7
				60	121.0	4.97	138.0	43.9	24.3	1.5	3.2	128.5	4.98	145.5	48.6	25.8	3.7	8.4	132.1	5.03	149.2	51.2	26.3	6.6	15.2
				70	127.3	5.01	144.4	53.0	25.4	1.4	3.0	135.1	5.02	152.3	58.0	26.9	3.5	8.1	138.8	5.07	156.1	60.7	27.4	6.4	14.7
				80	130.9	5.05	148.2	62.5	26.0	1.4	2.9	139.0	5.05	156.3	67.6	27.5	3.4	7.9	142.8	5.10	160.3	70.5	28.0	6.2	14.3
				90	132.0	5.08	149.4	72.4	26.0	1.3	2.7	140.2	5.09	157.6	77.5	27.6	3.3	7.6	144.1	5.14	161.6	80.4	28.0	6.0	13.9
70	15.0	1.2	2.7	50	96.3	6.10	117.1	37.2	15.8	1.6	3.3	102.3	6.11	123.1	40.9	16.7	3.8	8.8	105.1	6.17	126.1	43.0	17.0	6.8	15.7
				60	108.7	6.22	129.9	45.5	17.5	1.5	3.2	115.4	6.22	136.7	6.0	18.5	3.7	8.4	118.6	6.29	140.1	52.1	18.9	6.6	15.2
				70	118.0	6.32	139.6	54.3	18.7	1.4	3.0	125.3	6.33	146.9	58.9	19.8	3.5	8.1	128.7	6.39	150.6	61.4	20.1	6.4	14.7
				80	123.9	6.42	145.8	63.5	19.3	1.4	2.9	131.6	6.43	153.5	68.3	20.5	3.4	7.9	135.2	6.49	157.4	71.0	20.8	6.2	14.3
				90	126.3	6.51	148.5	73.2	19.4	1.3	2.7	134.1	6.52	156.3	78.1	20.6	3.3	7.6	137.8	6.59	160.2	80.8	20.9	6.0	13.9
	22.5	3.3	7.6	50	100.6	6.19	121.7	36.6	16.3	1.6	3.3	106.9	6.19	128.0	40.5	17.3	3.8	8.8	109.8	6.26	131.1	42.7	17.5	6.8	15.7
				60	112.2	6.29	133.6	45.0	17.8	1.5	3.2	119.1	6.29	140.6	49.4	18.9	3.7	8.4	122.4	6.36	144.1	51.8	19.3	6.6	15.2
				70	120.6	6.38	142.4	53.9	18.9	1.4	3.0	128.1	6.39	149.9	58.6	20.1	3.5	8.1	131.6	6.45	153.6	61.2	20.4	6.4	14.7
				80	125.9	6.47	147.9	63.2	19.5	1.4	2.9	133.6	6.48	155.7	68.1	20.6	3.4	7.9	137.3	6.54	159.6	70.8	21.0	6.2	14.3
				90	127.8	6.56	150.1	73.0	19.5	1.3	2.7	135.7	6.56	158.1	77.9	20.7	3.3	7.6	139.4	6.63	162.0	80.7	21.0	6.0	13.9
	30.0	6.1	14.1	50	104.9	6.27	126.4	36.0	16.7	1.6	3.3	111.4	6.28	132.9	40.1	17.7	3.8	8.8	114.5	6.34	136.1	42.4	18.1	6.8	15.7
				60	115.6	6.35	137.3	44.6	18.2	1.5	3.2	122.8	6.36	144.5	49.1	19.3	3.7	8.4	126.2	6.42	148.1	51.6	19.6	6.6	15.2
				70	123.2	6.44	145.2	53.6	19.2	1.4	3.0	130.9	6.44	152.9	58.4	20.3	3.5	8.1	134.5	6.51	156.7	61.0	20.7	6.4	14.7
				80	127.8	6.52	150.0	63.0	19.6	1.4	2.9	135.7	6.52	158.0	67.9	20.8	3.4	7.9	139.4	6.59	161.9	70.7	21.2	6.2	14.3
				90	129.3	6.60	151.8	72.8	19.6	1.3	2.7	137.3	6.60	159.8	77.8	20.8	3.3	7.6	141.0	6.67	163.8	80.6	21.1	6.0	13.9
90	15.0	1.0	2.3	50	91.1	7.78	117.6	37.9	11.7	1.6	3.3	93.1	7.77	119.6	41.7	12.0	3.8	8.8	95.0	7.89	121.9	43.7	12.0	6.8	15.7
				60	105.2	7.82	131.8	46.0	13.5	1.5	3.2	107.5	7.81	134.1	50.4	13.8	3.7	8.4	109.7	7.93	136.7	52.7	13.8	6.6	15.2
				70	116.3	7.91	143.3	54.5	14.7	1.4	3.0	118.8	7.90	145.8	59.4	15.0	3.5	8.1	121.3	8.02	148.7	61.9	15.1	6.4	14.7
				80	124.2	8.06	151.7	63.4	15.4	1.4	2.9	126.9	8.05	154.4	68.7	15.8	3.4	7.9	129.5	8.17	157.4	71.4	15.8	6.2	14.3
				90	128.6	8.25	156.8	72.9	15.6	1.3	2.7	131.4	8.24	159.6	78.3	15.9	3.3	7.6	134.1	8.37	162.7	81.1	16.0	6.0	13.9
	22.5	2.9	6.7	50	95.4	7.91	122.4	37.3	12.1	1.6	3.3	97.5	7.90	124.5	41.3	12.3	3.8	8.8	99.5	8.02	126.9	43.4	12.4	6.8	15.7
				60	108.7	7.93	135.8	45.5	13.7	1.5	3.2	111.1	7.92	138.2	50.1	14.0	3.7	8.4	113.4	8.04	140.8	52.4	14.1	6.6	15.2
				70	119.1	8.00	146.4	54.1	14.9	1.4	3.0	121.7	7.99	149.0	59.2	15.2	3.5	8.1	124.2	8.12	151.9	61.7	15.3	6.4	14.7
				80	126.4	8.13	154.2	63.1	15.5	1.4	2.9	129.2	8.13	156.9	68.5	15.9	3.4	7.9	131.8	8.25	160.0	71.2	16.0	6.2	14.3
				90	130.5	8.32	158.9	72.6	15.7	1.3	2.7	133.3	8.32	161.7	78.1	16.0	3.3	7.6	136.1	8.44	164.9	80.9	16.1	6.0	13.9
	30.0	5.5	12.7	50	99.7	8.03	127.1	36.7	12.4	1.6	3.3	101.9	8.03	129.3	40.9	12.7	3.8	8.8	104.0	8.15	131.8	43.1	12.8	6.8	15.7
				60	112.3	8.03	139.7	45.0	14.0	1.5	3.2	114.8	8.02	142.2	49.8	14.3	3.7	8.4	117.1	8.15	144.9	52.2	14.4	6.6	15.2
				70	122.0	8.09	149.6	53.7	15.1	1.4	3.0	124.6	8.08	152.2	58.9	15.4	3.5	8.1	127.2	8.21	155.2	61.5	15.5	6.4	14.7
				80	128.6	8.21	156.7	62.8	15.7	1.4	2.9	131.5	8.20	159.5	68.3	16.0	3.4	7.9	134.2	8.33	162.6	71.1	16.1	6.2	14.3
				90	132.3	8.40	161.0	72.4	15.8	1.3	2.7	135.3	8.39	163.9	78.0	16.1	3.3	7.6	138.0	8.51	167.1	80.8	16.2	6.0	13.9
110	15.0	0.8	2.0	50	81.3	9.83	114.8	39.2	8.3	1.6	3.3	82.1	9.85	115.7	42.7	8.3	3.8	8.8	82.9	10.05	117.2	44.5	8.3	6.8	15.7
				60	96.1	9.68	129.1	47.2	9.9	1.5	3.2	97.1	9.70	130.2	51.4	10.0	3.7	8.4	98.1	9.89	131.8	53.5	9.9	6.6	15.2
				70	109.0	9.69	142.0	55.5	11.2	1.4	3.0	110.1	9.71	143.2	60.2	11.3	3.5	8.1	111.2	9.91	145.0	62.6	11.2	6.4	14.7
				80	119.6	9.87	153.3	64.1	12.1	1.4	2.9	120.8	9.89	154.5	69.3	12.2	3.4	7.9	122.0	10.10	156.5	71.9	12.1	6.2	14.3
				90	127.7	10.22	162.6	73.0	12.5	1.3	2.7	129.0	10.25	163.9	78.5	12.6	3.3	7.6	130.3	10.45	165.9	81.3	12.5	6.0	13.9
	22.5	2.7	6.2	50	85.2	10.00	119.3	38.6	8.5	1.6	3.3	86.1	10.02	120.3	42.4	8.6	3.8	8.8	86.9	10.23	121.8	44.2	8.5	6.8	15.7
				60	99.5	9.82	133.0	46.7	10.1	1.5	3.2	100.5	9.84	134.1	51.1	10.2	3.7	8.4	101.5	10.04	135.8	53.2	10.1	6.6	15.2
				70	111.8	9.81	145.3	55.1	11.4	1.4	3.0	113.0	9.83	146.5	60.0	11.5	3.5	8.1	114.1	10.04	148.4	62.4	11.4	6.4	14.7
				80	122.0	9.98	156.1	63.7	12.2	1.4	2.9	123.3	10.00	157.4	69.0	12.3	3.4	7.9	124.5	10.21	159.4	71.7	12.2	6.2	14.3
				90	130.0	10.33	165.2	72.7	12.6	1.3	2.7	131.3	10.35	166.6	78.3	12.7	3.3	7.6	132.6	10.56	168.7	81.2	12.6	6.0	13.9
	30.0	5.1	11.7	50	89.1	10.18	123.9	38.1	8.8	1.6	3.3	90.0	10.20	124.8	42.0	8.8	3.8	8.8	90.9	10.41	126.5	43.9	8.7	6.8	15.7
				60	102.9	9.97	136.9	46.3	10.3	1.5	3.2	104.0	9.99	138.0	50.8	10.4	3.7	8.4	105.0	10.19	139.8	53.0	10.3	6.6	15.2
				70	114.7	9.94	148.6	54.7	11.5	1.4	3.0	115.9	9.96	149.8	59.7	11.6	3.5	8.1	117.0	10.16	151.7	62.2	11.5	6.4	14.7
				80	124.5	10.09	158.9	63.4	12.3	1.4	2.9	125.8	10.11	160.3	68.8	12.4	3.4	7.9	127.0	10.32	162.3	71.5	12.3	6.2	14.3
				90	132.3	10.43	167.9	72.4	12.7	1.3	2.7	133.6	10.45	169.3	78.1	12.8	3.3	7.6	135.0	10.67	171.4	81.0	12.7	6.0	13.9
120	15.0	0.8	1.8	50	75.1	11.15	113.2	40.0	6.7	1.6	3.3	75.9	11.17	114.0	43.3	6.8	3.8	8.8	76.6	11.40	115.5	44.9	6.7	6.8	15.7
				60	87.8	11.29	126.3	48.3	7.8	1.5	3.2	88.7	11.31	127.3	52.1	7.8	3.7	8.4	89.6	11.54	129.0	54.0	7.8	6.6	15.2
				70	100.4	11.42	139.3	56.6	8.8	1.4	3.0	101.4	11.44	140.4	61.0	8.9	3.5	8.1	102.4	11.67	142.3	63.2	8.8	6.4	14.7
				80	112.6	11.53	151.9	65.0	9.8	1.4	2.9	113.7	11.55	153.1	69.9	9.8	3.4	7.9	114.9	11.79	155.1	72.3	9.7	6.2	14.3
				90	124.2	11.63	163.8	73.4	10.7	1.3	2.7	125.4	11.65	165.2	78.8	10.8	3.3	7.6	126.7	11.89	167.3	81.6	10.7	6.0	13.9
	22.5	2.6	6.0	50	79.1	11.38	117.9	39.5	6.9	1.6	3.3	79.9	11.41	118.8	42.9	7.0	3.8	8.8	80.7	11.64	120.4	44.6	6.9	6.8	15.7
				60	91.2	11.49	130.4	47.8	7.9	1.5	3.2	92.2	11.52	131.5	51.8	8.0	3.7	8.4	93.1	11.75	133.2	53.8	7.9	6.6	15.2
				70	103.3	11.59	142.9	56.2	8.9	1.4	3.0	104.4	11.62	144.0	60.7	9.0	3.5	8.1	105.4	11.85	145.9	63.0	8.9	6.4	14.7
				80	115.2	11.69	155.1	64.6	9.9	1.4	2.9	116.4	11.71	156.3	69.7	9.9	3.4	7.9	117.5	11.95	158.3	72.2	9.8	6.2	14.3
				90	126.8	11.77	166.9	73.1	10.8	1.3	2.7	128.1	11.80	168.3	78.6	10.9	3.3	7.6	129.3	12.04	170.4	81.4	10.7	6.0	13.9
	30.0	4.9	11.3	50	83.1	11.62	122.7	38.9	7.2	1.6	3.3	83.9	11.64	123.7	42.5	7.2	3.8	8.8	84.8	11.88	125.3	44.3	7.1	6.8	15.7
				60	94.7	11.69	134.6	47.4	8.1	1.5	3.2	95.6	11.72	135.6	51.5	8.2	3.7	8.4	96.6	11.96	137.4	53.6	8.1	6.6	15.2
				70	106.2	11.77	146.4	55.8	9.0	1.4	3.0	107.3	11.79	147.5	60.5	9.1	3.5	8.1	108.4	12.03	149.4	62.8	9.0	6.4	14.7
				80	117.8	11.85	158.2	64.3	9.9	1.4	2.9	119.0	11.87	159.5	69.4	10.0	3.4	7.9	120.2	12.11	161.5	72.0	9.9	6.2	14.3
				90	129.3	11.92	170.0	72.8	10.8	1.3	2.7	130.7	11.95	171.4	78.4	10.9	3.3	7.6	132.0	12.19	173.6	81.2	10.8	6.0	13.9

Interpolation is permissible, extrapolation is not
All performance data is based upon the lower voltage of dual voltage rated units
All performance data is based upon a load coaxial heat exchanger of single-walled copper construction. For vented double-wall performance consult the factory
See performance data notes for operation in the shaded areas
Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated

Performance Data — TMW120 - Heating

SOURCE				LOAD																					
EWT	Flow			EWT	Flow 15.0 GPM							Flow 22.5 GPM							Flow 30.0 GPM						
	GPM	WPD			HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD	
F		PSI	FT							PSI	FT						PSI	FT						PSI	FT
20	30.0	8.0	18.6	60	90.6	5.85	70.7	72.1	4.5	1.5	3.5	90.8	5.55	71.9	68.1	4.8	3.7	8.4	90.7	5.40	72.3	66.0	4.9	6.6	15.2
				80	90.6	7.44	65.2	92.1	3.6	1.4	3.2	90.4	7.06	66.4	88.0	3.8	3.4	7.9	90.1	6.86	66.7	86.0	3.8	6.2	14.3
				100	88.6	9.72	55.4	111.8	2.7	1.3	2.9	87.8	9.22	56.4	107.8	2.8	3.2	7.4	87.3	8.97	56.7	105.8	2.9	5.8	13.5
30	15.0	1.7	3.9	60	96.9	5.84	77.0	72.9	4.9	1.5	3.5	97.2	5.54	78.3	68.6	5.1	3.7	8.4	97.1	5.39	78.7	66.5	5.3	6.6	15.2
				80	97.7	7.41	72.4	93.0	3.9	1.4	3.2	97.7	7.03	73.7	88.7	4.1	3.4	7.9	97.4	6.84	74.1	86.5	4.2	6.2	14.3
				100	96.4	9.66	63.5	112.9	2.9	1.3	2.9	95.8	9.16	64.6	108.5	3.1	3.2	7.4	95.3	8.91	64.9	106.4	3.1	5.8	13.5
				120	93.4	12.62	50.4	132.5	2.2	1.2	2.7	92.1	11.97	51.2	128.2	2.3	3.0	7.0	91.3	11.65	51.5	126.1	2.3	5.6	12.9
	22.5	4.4	10.1	60	107.4	5.86	87.4	74.3	5.4	1.5	3.5	107.8	5.56	88.9	69.6	5.7	3.7	8.4	107.8	5.40	89.4	67.2	5.8	6.6	15.2
				80	108.0	7.45	82.5	94.4	4.2	1.4	3.2	108.1	7.07	84.0	89.6	4.5	3.4	7.9	107.9	6.88	84.4	87.2	4.6	6.2	14.3
				100	106.0	9.72	72.8	114.1	3.2	1.3	2.9	105.5	9.22	74.1	109.4	3.4	3.2	7.4	105.1	8.96	74.5	107.0	3.4	5.8	13.5
				120	101.6	12.66	58.4	133.6	2.4	1.2	2.7	100.4	12.01	59.4	128.9	2.5	3.0	7.0	99.6	11.68	59.7	126.6	2.5	5.6	12.9
	30.0	7.6	17.5	60	103.6	5.87	83.5	73.8	5.2	1.5	3.5	104.0	5.57	85.0	69.2	5.5	3.7	8.4	103.9	5.42	85.4	66.9	5.6	6.6	15.2
				80	103.8	7.50	78.2	93.8	4.1	1.4	3.2	103.8	7.11	79.5	89.2	4.3	3.4	7.9	103.6	6.92	80.0	86.9	4.4	6.2	14.3
				100	101.4	9.77	68.0	113.5	3.0	1.3	2.9	100.8	9.27	69.2	109.0	3.2	3.2	7.4	100.3	9.02	69.6	106.7	3.3	5.8	13.5
				120	96.4	12.71	53.0	132.9	2.2	1.2	2.7	95.1	12.05	54.0	128.5	2.3	3.0	7.0	94.3	11.72	54.3	126.3	2.4	5.6	12.9
40	15.0	1.5	3.5	60	109.6	5.86	89.7	74.6	5.5	1.5	3.5	110.1	5.55	91.2	69.8	5.8	3.7	8.4	110.1	5.40	91.7	67.3	6.0	6.6	15.2
				80	110.8	7.45	85.4	94.8	4.4	1.4	3.2	111.0	7.06	86.9	89.9	4.6	3.4	7.9	110.8	6.87	87.4	87.4	4.7	6.2	14.3
				100	109.3	9.70	76.2	114.6	3.3	1.3	2.9	108.9	9.20	77.5	109.7	3.5	3.2	7.4	108.5	8.95	78.0	107.2	3.6	5.8	13.5
				120	106.0	12.66	62.8	134.1	2.5	1.2	2.7	104.8	12.01	63.8	129.3	2.6	3.0	7.0	104.0	11.68	64.2	126.9	2.6	5.6	12.9
	22.5	4.0	9.3	60	127.3	5.88	107.3	77.0	6.3	1.5	3.5	128.1	5.57	109.1	71.4	6.7	3.7	8.4	128.2	5.42	109.7	68.5	6.9	6.6	15.2
				80	128.3	7.50	102.7	97.1	5.0	1.4	3.2	128.8	7.11	104.5	91.4	5.3	3.4	7.9	128.7	6.92	105.1	88.6	5.4	6.2	14.3
				100	125.9	9.76	92.5	116.8	3.8	1.3	2.9	125.7	9.26	94.1	111.2	4.0	3.2	7.4	125.4	9.01	94.6	108.4	4.1	5.8	13.5
				120	120.5	12.69	77.2	136.1	2.8	1.2	2.7	119.6	12.04	78.6	130.6	2.9	3.0	7.0	118.9	11.71	79.0	127.9	3.0	5.6	12.9
	30.0	7.2	16.6	60	116.5	5.90	96.4	75.5	5.8	1.5	3.5	117.1	5.59	98.0	70.4	6.1	3.7	8.4	117.1	5.44	98.6	67.8	6.3	6.6	15.2
				80	116.9	7.55	91.1	95.6	4.5	1.4	3.2	117.1	7.16	92.7	90.4	4.8	3.4	7.9	117.0	6.97	93.2	87.8	4.9	6.2	14.3
				100	114.2	9.83	80.6	115.2	3.4	1.3	2.9	113.8	9.32	82.0	110.1	3.6	3.2	7.4	113.4	9.07	82.5	107.6	3.7	5.8	13.5
				120	108.3	12.72	64.9	134.4	2.5	1.2	2.7	107.1	12.06	66.0	129.5	2.6	3.0	7.0	106.4	11.73	66.3	127.1	2.7	5.6	12.9
50	15.0	1.4	3.2	60	122.4	5.87	102.4	76.3	6.1	1.5	3.5	123.1	5.57	104.1	70.9	6.5	3.7	8.4	123.2	5.42	104.7	68.2	6.7	6.6	15.2
				80	123.9	7.48	98.4	96.5	4.9	1.4	3.2	124.3	7.10	100.1	91.0	5.1	3.4	7.9	124.2	6.91	100.6	88.3	5.3	6.2	14.3
				100	122.2	9.74	89.0	116.3	3.7	1.3	2.9	122.0	9.23	90.5	110.8	3.9	3.2	7.4	121.7	8.98	91.0	108.1	4.0	5.8	13.5
				120	118.5	12.70	75.1	135.8	2.7	1.2	2.7	117.5	12.05	76.4	130.4	2.9	3.0	7.0	116.8	11.72	76.8	127.8	2.9	5.6	12.9
				130	OPERATION NOT RECOMMENDED							114.6	13.74	67.7	140.2	2.4	3.0	6.9	113.7	13.36	68.1	137.6	2.5	5.5	12.6
	22.5	3.8	8.7	60	129.1	5.90	109.0	77.2	6.4	1.5	3.5	130.0	5.59	110.9	71.6	6.8	3.7	8.4	130.0	5.44	111.5	68.7	7.0	6.6	15.2
				80	130.2	7.55	104.5	97.4	5.1	1.4	3.2	130.7	7.16	106.3	91.6	5.4	3.4	7.9	130.6	6.96	106.8	88.7	5.5	6.2	14.3
				100	127.7	9.81	94.3	117.0	3.8	1.3	2.9	127.6	9.30	95.9	111.3	4.0	3.2	7.4	127.3	9.05	96.4	108.5	4.1	5.8	13.5
				120	122.2	12.72	78.9	136.3	2.8	1.2	2.7	121.4	12.06	80.2	130.8	2.9	3.0	7.0	120.7	11.73	80.7	128.0	3.0	5.6	12.9
				130	OPERATION NOT RECOMMENDED							117.1	13.68	70.4	140.4	2.5	3.0	6.9	116.2	13.31	70.8	137.7	2.6	5.5	12.6
	30.0	6.8	15.6	60	135.9	5.92	115.6	78.1	6.7	1.5	3.5	136.8	5.62	117.6	72.2	7.1	3.7	8.4	136.9	5.47	118.3	69.1	7.3	6.6	15.2
				80	136.5	7.61	110.6	98.2	5.3	1.4	3.2	137.1	7.22	112.5	92.2	5.6	3.4	7.9	137.0	7.02	113.1	89.1	5.7	6.2	14.3
				100	133.2	9.88	99.5	117.8	4.0	1.3	2.9	133.2	9.37	101.2	111.8	4.2	3.2	7.4	132.9	9.12	101.8	108.9	4.3	5.8	13.5
				120	126.0	12.73	82.6	136.8	2.9	1.2	2.7	125.2	12.07	84.0	131.1	3.0	3.0	7.0	124.5	11.74	84.5	128.3	3.1	5.6	12.9
				130	OPERATION NOT RECOMMENDED							119.6	13.63	73.1	140.6	2.6	3.0	6.9	118.8	13.26	73.5	137.9	2.6	5.5	12.6

Table Continued on Next Page

Interpolation is permissible, extrapolation is not
All performance data is based upon the lower voltage of dual voltage rated units
All performance data is based upon a load coaxial heat exchanger of single-walled copper construction. For vented double-wall performance consult the factory
Operation below 40F EWT is based upon 15% antifreeze solution
See performance data notes for operation in the shaded areas
Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated

Performance Data — TMW120 - Heating

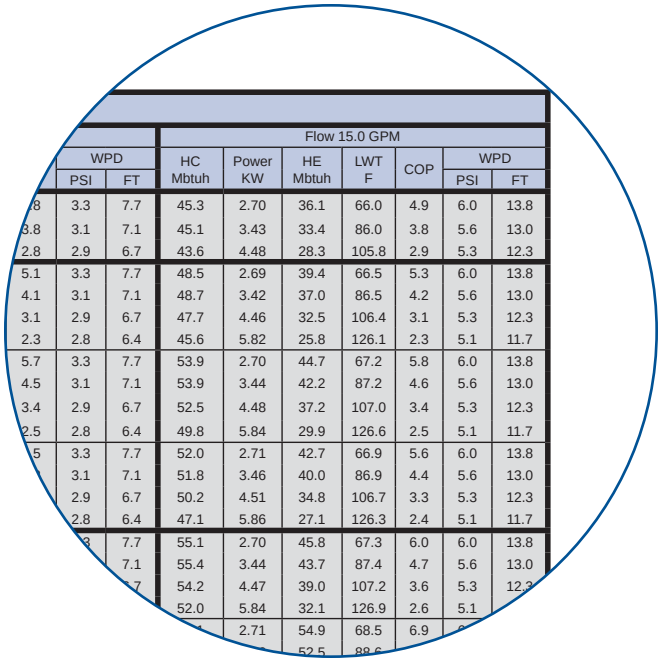
Table Continued from Previous Page

SOURCE				LOAD																					
EWT	Flow			EWT	Flow 15.0 GPM							Flow 22.5 GPM							Flow 30.0 GPM						
	GPM	WPD			HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD	
F		PSI	FT							PSI	FT						PSI	FT						PSI	FT
60	15.0	1.3	3.0	60	128.6	5.93	108.4	77.1	6.4	1.5	3.5	129.4	5.62	110.2	71.5	6.7	3.7	8.4	129.5	5.47	110.8	68.6	6.9	6.6	15.2
				80	131.3	7.48	105.8	97.5	5.1	1.4	3.2	131.8	7.10	107.6	91.7	5.4	3.4	7.9	131.7	6.90	108.2	88.8	5.6	6.2	14.3
				100	131.5	9.71	98.3	117.5	4.0	1.3	2.9	131.4	9.21	100.0	111.7	4.2	3.2	7.4	131.1	8.96	100.6	108.7	4.3	5.8	13.5
				120	130.9	12.68	87.6	137.4	3.0	1.2	2.7	130.1	12.03	89.1	131.6	3.2	3.0	7.0	129.5	11.70	89.6	128.6	3.2	5.6	12.9
				130	OPERATION NOT RECOMMENDED							129.5	13.74	82.6	141.5	2.8	3.0	6.9	128.7	13.37	83.0	138.6	2.8	5.5	12.6
	22.5	3.5	8.1	60	136.2	5.96	115.8	78.2	6.7	1.5	3.5	137.1	5.65	117.8	72.2	7.1	3.7	8.4	137.2	5.49	118.5	69.1	7.3	6.6	15.2
				80	138.4	7.56	112.6	98.5	5.4	1.4	3.2	139.0	7.17	114.6	92.4	5.7	3.4	7.9	139.0	6.98	115.2	89.3	5.8	6.2	14.3
				100	138.0	9.81	104.5	118.4	4.1	1.3	2.9	138.0	9.30	106.3	112.3	4.3	3.2	7.4	137.8	9.05	106.9	109.2	4.5	5.8	13.5
				120	135.7	12.73	92.2	138.1	3.1	1.2	2.7	135.0	12.08	93.8	132.0	3.3	3.0	7.0	134.4	11.75	94.3	129.0	3.4	5.6	12.9
				130	OPERATION NOT RECOMMENDED							132.9	13.72	86.1	141.8	2.8	3.0	6.9	132.1	13.35	86.5	138.8	2.9	5.5	12.6
	30.0	6.4	14.8	60	143.7	5.98	123.3	79.2	7.0	1.5	3.5	144.8	5.67	125.4	72.9	7.5	3.7	8.4	144.9	5.52	126.1	69.7	7.7	6.6	15.2
				80	145.6	7.65	119.5	99.4	5.6	1.4	3.2	146.3	7.25	121.6	93.0	5.9	3.4	7.9	146.3	7.05	122.2	89.8	6.1	6.2	14.3
				100	144.5	9.91	110.7	119.3	4.3	1.3	2.9	144.7	9.40	112.6	112.9	4.5	3.2	7.4	144.4	9.15	113.2	109.6	4.6	5.8	13.5
				120	140.4	12.78	96.8	138.7	3.2	1.2	2.7	139.8	12.12	98.5	132.4	3.4	3.0	7.0	139.3	11.79	99.0	129.3	3.5	5.6	12.9
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							135.5	13.33	90.0	139.0	3.0	5.5	12.6
70	15.0	1.2	2.7	60	134.8	5.99	114.4	78.0	6.6	1.5	3.5	135.7	5.68	116.3	72.1	7.0	3.7	8.4	135.8	5.52	117.0	69.1	7.2	6.6	15.2
				80	138.7	7.48	113.1	98.5	5.4	1.4	3.2	139.3	7.10	115.1	92.4	5.8	3.4	7.9	139.3	6.90	115.7	89.3	5.9	6.2	14.3
				100	140.7	9.68	107.7	118.8	4.3	1.3	2.9	140.9	9.18	109.5	112.5	4.5	3.2	7.4	140.6	8.93	110.1	109.4	4.6	5.8	13.5
				120	143.3	12.66	100.1	139.1	3.3	1.2	2.7	142.8	12.01	101.8	132.7	3.5	3.0	7.0	142.2	11.68	102.3	129.5	3.6	5.6	12.9
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							143.6	13.38	98.0	139.6	3.1	5.5	12.6
	22.5	3.3	7.6	60	143.2	6.01	122.7	79.1	7.0	1.5	3.5	144.2	5.70	124.8	72.8	7.4	3.7	8.4	144.4	5.55	125.5	69.6	7.6	6.6	15.2
				80	146.7	7.58	120.8	99.6	5.7	1.4	3.2	147.4	7.19	122.9	93.1	6.0	3.4	7.9	147.4	6.99	123.5	89.8	6.2	6.2	14.3
				100	148.2	9.81	114.8	119.8	4.4	1.3	2.9	148.5	9.30	116.7	113.2	4.7	3.2	7.4	148.2	9.05	117.4	109.9	4.8	5.8	13.5
				120	149.1	12.75	105.6	139.9	3.4	1.2	2.7	148.6	12.09	107.4	133.2	3.6	3.0	7.0	148.1	11.76	108.0	129.9	3.7	5.6	12.9
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							147.9	13.39	102.2	139.9	3.2	5.5	12.6
	30.0	6.1	14.4	60	151.6	6.04	131.0	80.2	7.4	1.5	3.5	152.8	5.73	133.2	73.6	7.8	3.7	8.4	153.0	5.57	134.0	70.2	8.0	6.6	15.2
				80	154.7	7.68	128.5	100.6	5.9	1.4	3.2	155.5	7.28	130.7	93.8	6.3	3.4	7.9	155.6	7.08	131.4	90.4	6.4	6.2	14.3
				100	155.8	9.94	121.8	120.8	4.6	1.3	2.9	156.1	9.43	123.9	113.9	4.9	3.2	7.4	155.9	9.17	124.6	110.4	5.0	5.8	13.5
				120	154.9	12.84	111.1	140.6	3.5	1.2	2.7	154.5	12.17	113.0	133.7	3.7	3.0	7.0	154.0	11.84	113.6	130.3	3.8	5.6	12.9
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							152.2	13.39	106.5	140.1	3.3	5.5	12.6
80	15.0	1.1	2.5	60	141.0	6.04	120.4	78.8	6.8	1.5	3.5	142.0	5.73	122.4	72.6	7.3	3.7	8.4	142.1	5.57	123.1	69.5	7.5	6.6	15.2
				80	146.0	7.48	120.5	99.5	5.7	1.4	3.2	146.8	7.10	122.6	93.0	6.1	3.4	7.9	146.8	6.90	123.2	89.8	6.2	6.2	14.3
				100	150.0	9.64	117.1	120.0	4.6	1.3	2.9	150.3	9.15	119.1	113.4	4.8	3.2	7.4	150.1	8.90	119.7	110.0	4.9	5.8	13.5
				120	155.7	12.64	112.5	140.8	3.6	1.2	2.7	155.4	11.99	114.5	133.8	3.8	3.0	7.0	154.9	11.66	115.1	130.3	3.9	5.6	12.9
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							158.6	13.38	113.0	140.6	3.5	5.5	12.6
	22.5	3.1	7.1	60	150.2	6.07	129.5	80.0	7.3	1.5	3.5	151.4	5.76	131.7	73.5	7.7	3.7	8.4	151.6	5.60	132.5	70.1	7.9	6.6	15.2
				80	154.9	7.60	129.0	100.7	6.0	1.4	3.2	155.8	7.20	131.2	93.8	6.3	3.4	7.9	155.8	7.01	131.9	90.4	6.5	6.2	14.3
				100	158.5	9.81	125.0	121.1	4.7	1.3	2.9	158.9	9.30	127.2	114.1	5.0	3.2	7.4	158.7	9.05	127.9	110.6	5.1	5.8	13.5
				120	162.5	12.77	118.9	141.7	3.7	1.2	2.7	162.3	12.11	120.9	134.4	3.9	3.0	7.0	161.8	11.78	121.6	130.8	4.0	5.6	12.9
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							163.8	13.42	118.0	140.9	3.6	5.5	12.6
	30.0	5.8	13.4	60	159.5	6.10	138.7	81.3	7.7	1.5	3.5	160.8	5.78	141.0	74.3	8.1	3.7	8.4	161.0	5.63	141.8	70.7	8.4	6.6	15.2
				80	163.7	7.71	137.4	101.8	6.2	1.4	3.2	164.7	7.31	139.8	94.6	6.6	3.4	7.9	164.8	7.12	140.5	91.0	6.8	6.2	14.3
				100	167.0	9.98	133.0	122.3	4.9	1.3	2.9	167.5	9.46	135.2	114.9	5.2	3.2	7.4	167.4	9.20	136.0	111.2	5.3	5.8	13.5
				120	169.3	12.89	125.3	142.6	3.8	1.2	2.7	169.2	12.23	127.4	135.0	4.1	3.0	7.0	168.7	11.89	128.1	131.2	4.2	5.6	12.9
				130	OPERATION NOT RECOMMENDED							OPERATION NOT RECOMMENDED							168.9	13.46	123.0	141.3	3.7	5.5	12.6

Interpolation is permissible, extrapolation is not
All performance data is based upon the lower voltage of dual voltage rated units
All performance data is based upon a load coaxial heat exchanger of single-walled copper construction. For vented double-wall performance consult the factory
Operation below 40F EWT is based upon 15% antifreeze solution
See performance data notes for operation in the shaded areas
Performance stated is at the rated power supply, performance may vary as the power supply varies from the rated

Performance Data Selection Notes

For operation in the shaded area when water is used in lieu of an anti-freeze solution, the LWT (Leaving Water Temperature) must be calculated. Flow must be maintained to a level such that the LWT is maintained above 40°F [4.4°C] when the JW3 jumper is not clipped (see example below). This is due to the potential of the refrigerant temperature being as low as 32°F [0°C] with 40°F [4.4°C] LWT, which may lead to a nuisance cutout due to the activation of the Low Temperature Protection. JW3 should never be clipped for standard range equipment or systems without antifreeze.



			Flow 15.0 GPM						
	WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD	
	PSI	FT						PSI	FT
.8	3.3	7.7	45.3	2.70	36.1	66.0	4.9	6.0	13.8
3.8	3.1	7.1	45.1	3.43	33.4	86.0	3.8	5.6	13.0
2.8	2.9	6.7	43.6	4.48	28.3	105.8	2.9	5.3	12.3
5.1	3.3	7.7	48.5	2.69	39.4	66.5	5.3	6.0	13.8
4.1	3.1	7.1	48.7	3.42	37.0	86.5	4.2	5.6	13.0
3.1	2.9	6.7	47.7	4.46	32.5	106.4	3.1	5.3	12.3
2.3	2.8	6.4	45.6	5.82	25.8	126.1	2.3	5.1	11.7
5.7	3.3	7.7	53.9	2.70	44.7	67.2	5.8	6.0	13.8
4.5	3.1	7.1	53.9	3.44	42.2	87.2	4.6	5.6	13.0
3.4	2.9	6.7	52.5	4.48	37.2	107.0	3.4	5.3	12.3
2.5	2.8	6.4	49.8	5.84	29.9	126.6	2.5	5.1	11.7
.5	3.3	7.7	52.0	2.71	42.7	66.9	5.6	6.0	13.8
	3.1	7.1	51.8	3.46	40.0	86.9	4.4	5.6	13.0
	2.9	6.7	50.2	4.51	34.8	106.7	3.3	5.3	12.3
	2.8	6.4	47.1	5.86	27.1	126.3	2.4	5.1	11.7
		7.7	55.1	2.70	45.8	67.3	6.0	6.0	13.8
		7.1	55.4	3.44	43.7	87.4	4.7	5.6	13.0
		.7	54.2	4.47	39.0	107.2	3.6	5.3	12.3
			52.0	5.84	32.1	126.9	2.6	5.1	
				2.71	54.9	68.5	6.9		
					52.5	88.6			

Example:

At 50°F EWT (Entering Water Temperature) and 1.5 gpm/ ton, a 3 ton unit has a HE of 22,500 Btuh. To calculate LWT, rearrange the formula for HE as follows:

HE = TD x GPM x 500, where HE = Heat of Extraction (Btuh); TD = temperature difference (EWT - LWT) and GPM = U.S. Gallons per Minute.

TD = HE / (GPM x 500)

TD = 22,500 / (4.5 x 500)

TD = 10°F

LWT = EWT - TD

LWT = 50 - 10 = 40°F

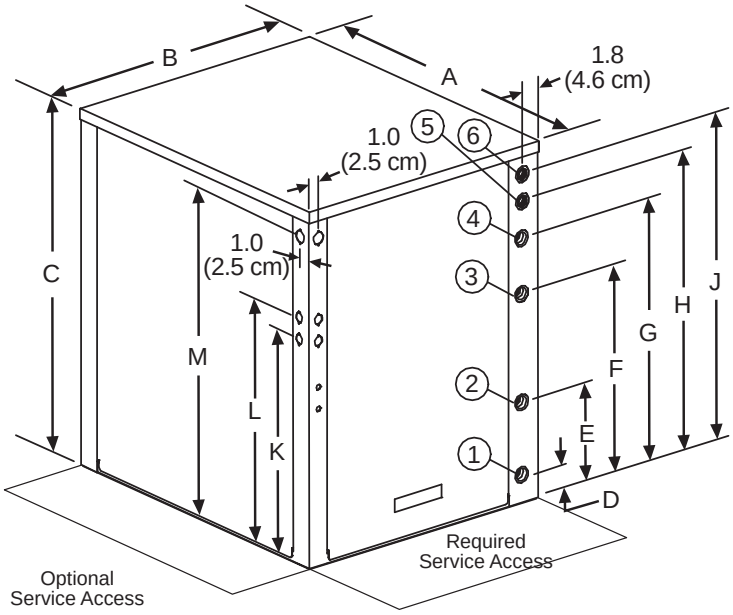
In this example, as long as the EWT does not fall below 50°F, the system will operate as designed. For EWTs below 50°F, higher flow rates will be required (open loop systems, for example, require at least 2 gpm/ton when EWT is below 50°F).

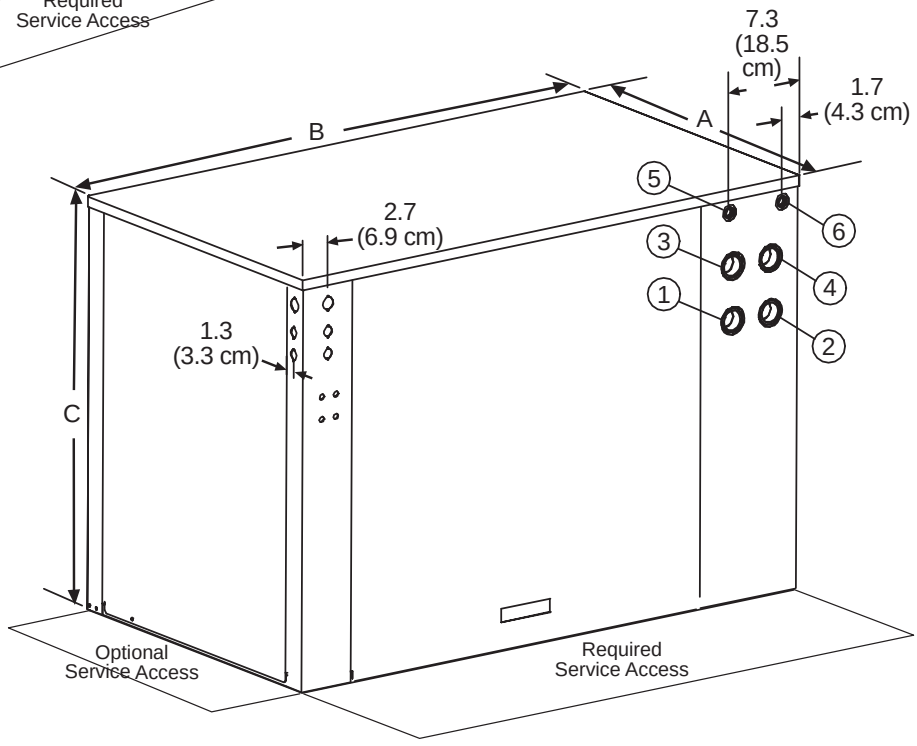
Physical Data

Model	036	060	120
Compressor (qty)	Scroll (1)		Scroll (2)
Factory Charge R410A (lbs) [kg] Per Circuit	4.5 [2.04]	6.25 [2.83]	6.25 [2.83]
Water Connection Size			
Source/Load	1" Swivel		1-1/2 IPT
HWG (in)	1" Swivel		1/2" IPT
Weight - Operating (lbs) [kg]	348 [158]	360 [163]	726 [329]
Weight - Packaged (lbs) [kg]	373 [169]	385 [175]	770 [349]
Water Volume (Source)			
Gallons (Liters)	0.96 (3.64)	1.33 (5.04)	2.65 (10.02)

Dual isolated compressor mounting
Balanced port expansion valve (TXV)
Insulated Source and Load Water Coils standard
Insulated Refrigerant Circuit standard
Compressor on (green) and fault (red) light

Dimensions - TMW036, TMW060 & TMW120





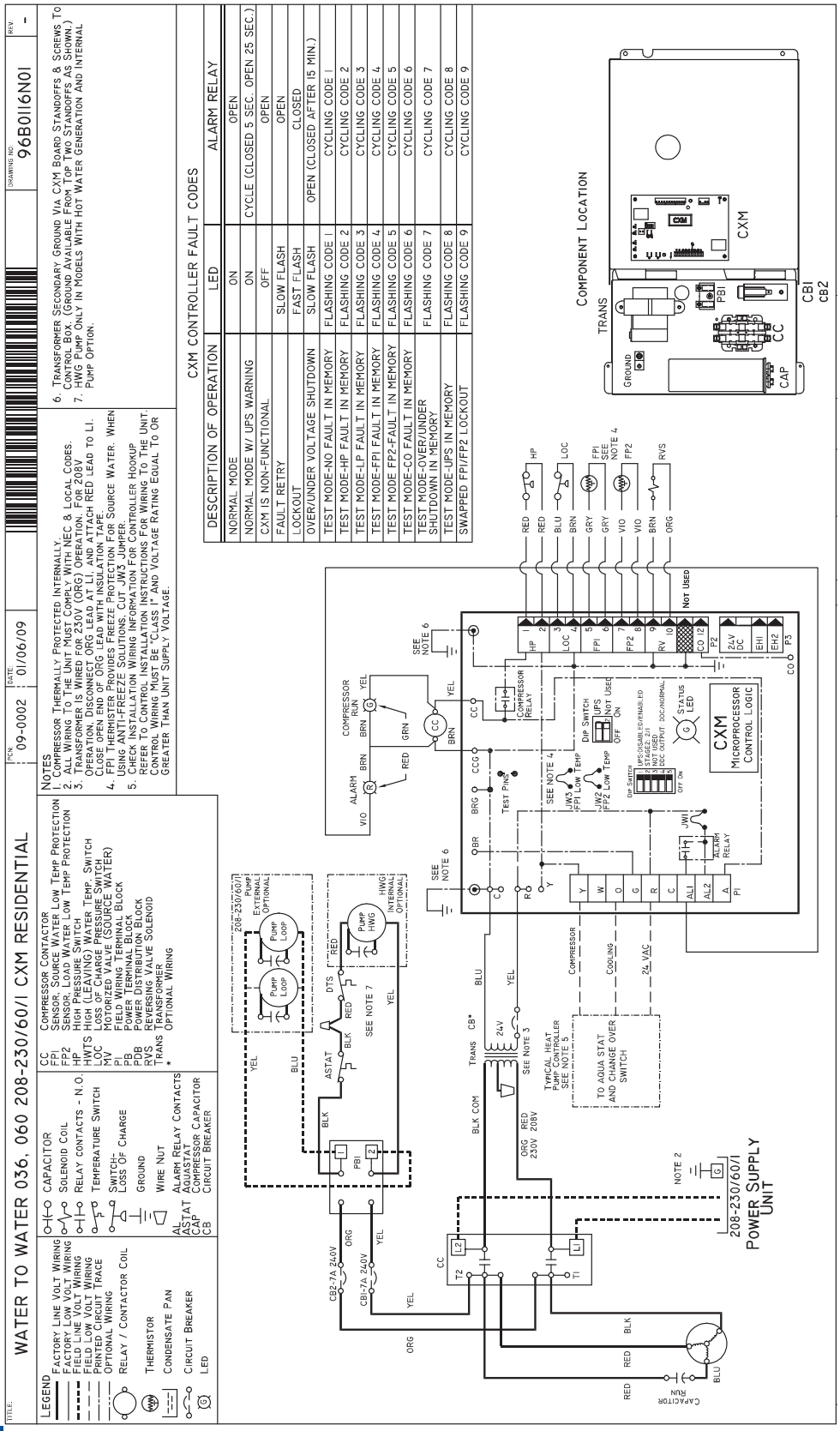
Water to Water		Overall Cabinet			Water Connections						Electric Access Plugs		
					1	2	3	4	5	6			
		A Depth	B Width	C Height	D Source (Outdoor) Water In	E Source (Outdoor) Water Out	F Load (Indoor) Water In	G Load (Indoor) Water Out	H HWG Return In	J HWG Water Out	K Low Voltage	L External Pump	M Power Supply
036-060	in.	30.6	25.4	33	2.7	9.4	19.4	24.5	27.9	30.4	20.9	22.9	30.9
	cm.	77.8	64.5	83.8	6.9	23.9	49.3	62.2	70.9	77.2	53.1	58.2	78.5
120	in.	30.6	52.9	37	25.2	25.2	30.1	30.1	34.9	34.9	29.9	31.9	34.4
	cm.	77.8	134.4	94	64.0	64.0	76.5	76.5	88.6	88.6	75.9	81.0	87.4

Electrical Data

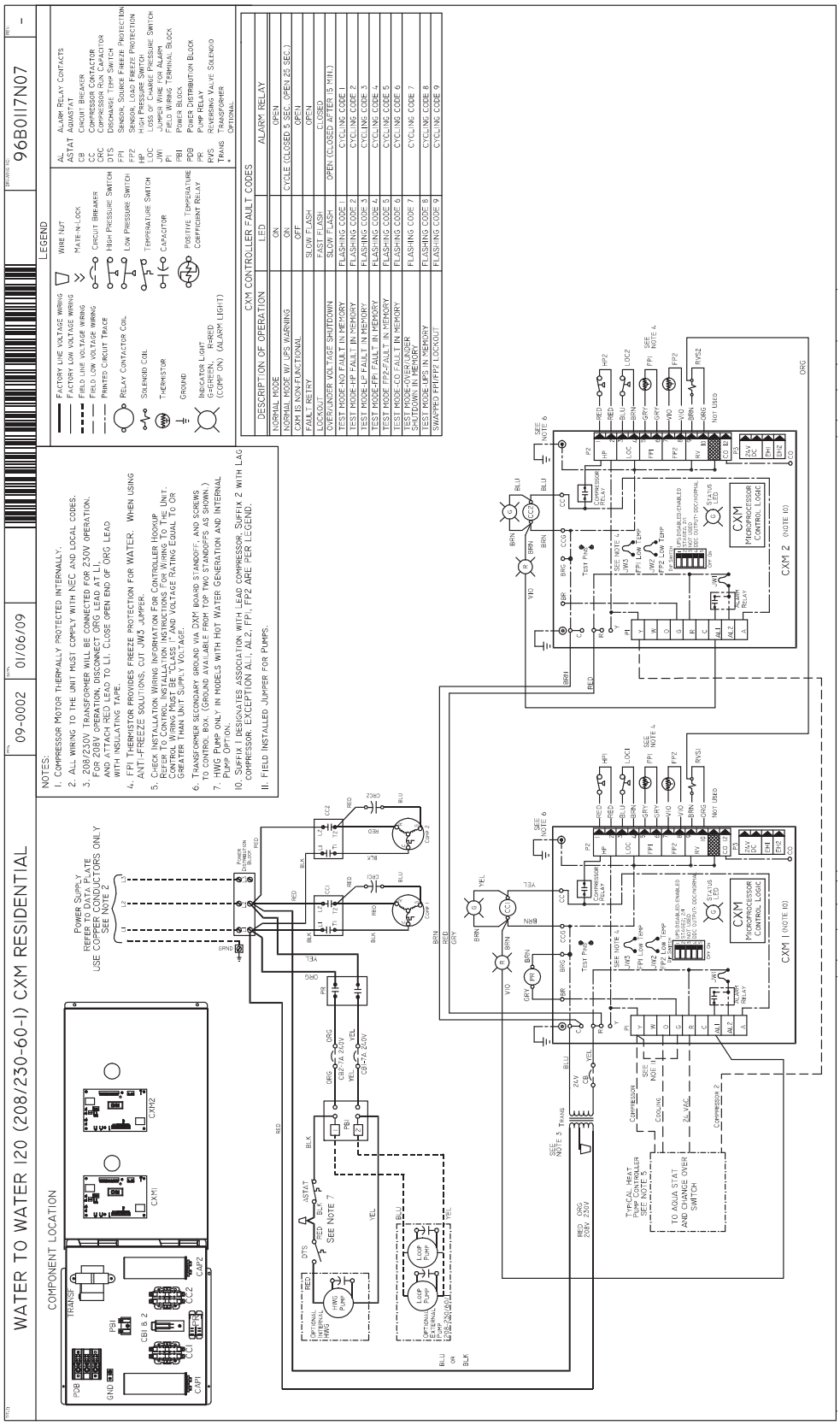
Model	Voltage Code	Voltage	Min/Max Voltage	Compressor			HWG Pump FLA	EXT Loop Pump Fla	Total Unit FLA	Min Circuit Amps	Max Fuse/ HACR
				QTY	RLA	LRA					
036	G	208-230/60/1	187/254	1	16.7	79	0.4	4	21.1	25.3	40
060	G	208-230/60/1	187/254	1	30.1	158	0.4	4	34.5	42.0	70
120	G	208-230/60/1	187/254	2	30.1	158	0.4	4	64.6	72.1	100

HACR circuit breaker in USA only
Residential units come standard with 75VA transformer, HWG pump, and HWG connections

TMW036 & TMW060 Electrical Wiring Diagram - 96B0116N01



TMW120 Electrical Wiring Diagram - 96B0117N07



Engineering Guide Specifications

General
The water-to-water heating/cooling units shall be supplied completely factory built for an entering source water temperature range from 20° to 120°F [-6.7° to 48.9°C] and entering load water temperature range from 50° to 130°F [10.0° to 54.4°C] as standard. All equipment listed in this section must be rated in accordance with American Air Conditioning and Refrigeration Institute / International Standards Organization (ARI / ISO) and Environmental Testing Laboratories for United States and Canada (ETL-US-C). The units shall have the ETL-US-C label.

All units shall be fully quality tested by factory run testing under normal operating conditions and water flow rates as described herein. Quality control system shall automatically perform via computer: triple leak check, pressure tests, evacuate and accurately charge system, perform detailed heating and cooling mode tests, and quality cross check all operational and test conditions to pass/fail data base. Detailed report card will ship with each unit displaying all test performance data. Note: If unit fails on any cross check, system shall not be allowed unit to ship. Serial numbers will be recorded by factory and furnished to contractor on report card for ease of unit warranty status. Each unit shall be pallet mounted and shipped in clear shrink wrap for visual shipping damage inspection.

The units shall be warranted by the manufacturer against defects in materials and workmanship for a period of five years on all parts, and ten years on the compressor and refrigerant circuit parts with a service labor allowance during the first two/five years. An optional extended warranty is available for the Tranquility™ Series units, which adds a labor allowance and trip charge.

Furnish and install ClimateMaster "Tranquility" Water Source Heat Pumps, as indicated on the plans. Equipment shall be completely assembled, piped and internally wired. Capacities and characteristics as listed in the schedule and the specifications that follow.

Casing and Cabinet
All units must have multiple access panels for serviceability of compressor compartment. The heat pumps shall be fabricated from heavy gauge galvanized steel with powder coat paint finish and a stainless steel front access panel. Both sides of the steel shall be painted for added protection. All interior surfaces shall be lined with 1/2 inch [12.7mm] thick, dual density, acoustic type glass fiber insulation. Insulation placement shall be designed in a manner that will eliminate any exposed edges.

Cabinets shall have separate holes and knockouts for entrance of line voltage and low voltage control wiring. All factory-installed wiring passing through factory knockouts and openings shall be protected from sheet metal edges at openings by plastic ferrules.

Unit(s) shall have exterior indicator lights showing, 1) compressor operation (on/off) and 2) unit "fault" status. Contractor shall be responsible for providing control circuitry and indicator lights for units not providing this feature.

Refrigerant Circuit
Units shall have a sealed refrigerant circuit including a high efficiency scroll compressor designed for heat pump operation, a thermostatic expansion valve for refrigerant metering, a reversing valve, coaxial (tube in tube) refrigerant to water heat exchangers, and safety controls including a high pressure switch, low pressure switch (loss of charge), and low temperature sensors. Access fittings shall be factory installed on high and low pressure refrigerant lines to facilitate field service. 120 units shall have 2 independent refrigeration circuits. Activation of any safety device shall prevent compressor operation via a microprocessor lockout circuit.

Hermetic compressors shall be internally sprung. The compressor(s) shall have a dual level vibration isolation system. Compressor(s) will be mounted on rubber grommets to a large heavy gauge compressor mounting plate, which is then isolated from the cabinet base with rubber grommets for maximized vibration attenuation. Compressor shall have thermal overload protection. Refrigerant to water heat exchangers shall be of copper inner water tube and steel refrigerant outer tube design, rated to withstand 625 PSIG [3101 kPa] working refrigerant pressure and 500 PSIG [3101 kPa] working water pressure. Plate to plate heat exchangers are not acceptable.

Refrigerant metering shall be accomplished by thermostatic expansion valve only. Expansion valves shall be dual port balanced types with external equalizer for optimum refrigerant metering. Units shall be designed and tested for operating ranges of entering water temperatures from 20° to 120°F. Reversing valve shall be four-way solenoid activated refrigerant valve, which shall default to heating mode should the solenoid fail to function.

Electrical
CXM Control - A microprocessor-based compressor controller (CXM) shall be provided to monitor and control unit operation. The control shall provide compressor sequencing (120 size), high and low pressure monitoring, field selectable water coil low temperature sensing, over/under voltage monitoring, and unit performance sentinel (UPS). The control shall also provide for water valve connection, a test mode, short cycle protection, random start-up, as well as fault LED, fault memory, and intelligent fault retry.

The control shall employ quick attach harness assemblies for low voltage connections to the control board to aid in troubleshooting or replacement. An integral terminal block with screw terminals shall be provided on the control for all field low voltage connections. A circuit breaker protected 75VA transformer shall be employed. Line voltage box lugs shall be provided for unit wiring. Units shall have knockouts for entrance of low and line voltage wiring.

Piping
For 036 and 060 size units, supply and return water connections (and optional HWG connections) shall be of gasketed brass swivel union type and provide a working pressure rating to 450 psi [3101 kPa]. For 120 units, copper threaded fittings are mechanically fastened to the cabinet, eliminating the need to use a back-up wrench when making field piping connections. The threaded copper adaptors shall be low-temperature soldered to prevent misshaping or weakening of the fitting, eliminating potential start-up piping leaks. All water piping shall be insulated to prevent condensation at low liquid temperatures.

Accessories & Options

Hot Water Generator
An optional heat reclaiming desuperheater coil of vented double-wall construction suitable for potable water shall be provided. The coil and hot water circulating pump shall be factory mounted inside the unit. A high limit and low compressor discharge line temperature switch shall be provided to disable the pump when these conditions occur.

Cupro-Nickel Heat Exchanger
An optional corrosion resistant CuNi coaxial heat exchanger shall be factory installed in lieu of standard copper construction.

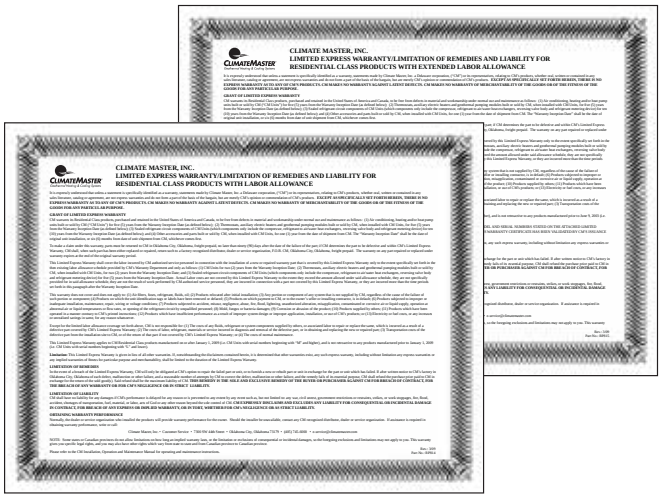
Double-Walled Load Heat Exchanger
An optional double-walled load side heat exchanger shall be factory installed when unit is dedicated to providing domestic hot water.

Flow Controller (field installed)
A self-contained module shall provide all fluid pumping, fill and connection requirements for ground-source closed-loop systems up to 20 GPM. The Flow Controller shall provide 1" pump isolation valves and 3-way service valves. Pump heads shall be removable from the volute for easy replacement. The Flow Controller shall be enclosed in a polystyrene case and fully insulated with urethane foam to prevent condensation. The Flow Controller shall have a 5- year warranty on all parts.

Hose Connection Kit (field installed)
An accessory hose kit shall provide 150psi 1" rubber hose with brass fittings equipped with service pressure/temperature ports for connection between the unit and Flow Controller.

Warranty Information

The ClimateMaster residential warranty reflects the reliability built in to every unit and includes five years on all parts, and ten years on the compressor and refrigerant circuit parts with a service labor allowance during the first two/five years. An optional extended warranty is available for residential units, which adds a labor allowance and trip charge. See extended warranty certificate for details.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Notes

Notes

Revision History

Date	Page #	Description
30 April, 09	17	Water Volume Data Corrected
30 April, 09	6	IP Table Updated
4 April, 09	All	First Published

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