



# 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 a wide range of units for most any installation with an extended range refrigerant circuit, capable of ground loop (geothermal) as well as water loop (boiler-tower) applications. As ClimateMaster's most adaptable EarthPure® HFC-410A 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 dual level compressor isolation 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.

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.

### Application Flexibility

- Three Capacities 036 [8.7 kW], 060 [13.5 kW], & 120 [26.9 kW].
- Copeland scroll compressors.
- Dual refrigeration circuits on size 120.
- Galvanized steel construction with epoxy powder coat paint.
- 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.

### Service & Installation Advantages

- Three Removable access panels.
- Low profile control box grants easy access to all internal components.
- Factory installed liquid line filter/drier.
- EarthPure® HFC-410A zero ozone depletion refrigerant.
- Brass swivel-type water connections for quick connection and elimination of wrenches or sealants during installation.
- Bi-directional thermal expansion valve.
- CXM control features status lights with memory for easy diagnostics.
- Circuit breaker protected 75VA control transformer.

- High and low pressure service ports on refrigerant circuit.
- Accurate refrigerant sensing low-temperature protection.
- Solid state CXM digital compressor control features: Anti-short cycle, high & low pressure, loss of charge protection, LED fault, and status indication with memory for easy diagnostics.
- 24vac accessory relays.

### Factory Quality & Certifications

- All units are built on our Integrated Process Control Assembly System (IPCS). The IPCS is a unique state-of-the-art manufacturing system that is designed to assure quality of the highest standards of any manufacturer in the water-source industry. Our IPCS system:
  - Verifies that the correct components are being assembled.
  - Automatically performs special leak tests on all joints.
  - Conducts pressure tests.
  - Performs highly detailed run test unparalleled in the HVAC industry.
  - Automatically disables packaging for a "failed" unit.
  - Creates computer database for future service analysis and diagnostics from run test results.
- All units are water run-tested in all modes to insure efficiency and reliability.
- Heavy gauge galvanized steel cabinets are epoxy powder coated for durable and long-lasting finish.
- All refrigerant brazing is done in a nitrogen atmosphere.
- All units are deep evacuated to less than 100 microns prior to refrigerant charging.
- All joints are both helium and halogen leak tested to insure annual leak rate of less than 1/4 ounce.
- Coaxial heat exchanger, refrigerant suction lines and all water lines are fully insulated to eliminate condensation problems in low temperature applications.
- Noise reduction features include: dual level compressor isolation, insulated compressor compartment, interior cabinet insulation using 1/2" coated glass fiber, and variable speed fan.
- Safety features include: high pressure and loss of charge to protect the compressor, condensate overflow protection, low-temperature protection sensors to safeguard the coaxial heat exchanger and air coil, hot water high-limit, and low compressor discharge temperature switch provided to shut down the hot water generator when conditions dictate. Fault lockout enables emergency heat and prevents compressor operation until thermostat or circuit breaker has been reset.
- Standard 10-year limited warranty on all parts with 5-year labor allowance; Optional additional extended 5-year limited labor allowance available.
- AHRI/ASHRAE/ANSI/ISO 13256-2 certified.
- ETL listed.
- US EPA "Energy Star" compliant.
- ISO 9001:2000 Certified.

### Options & Accessories

- Cupro-nickel coaxial heat exchanger.
- Hot water generator with internal pump.
- Additional extended 5-year limited labor allowance.

# Tranquility Water-To-Water (TMW) Series

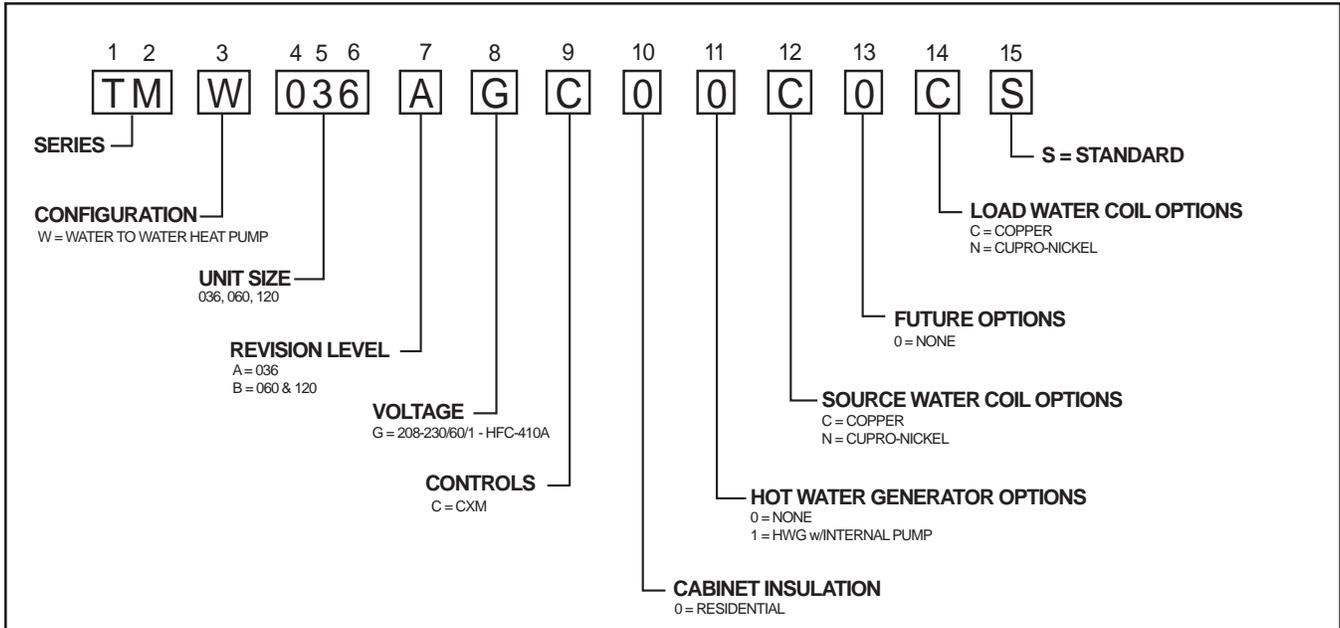
## Tranquility Water-To-Water (TMW) Series Features

- 1 Copeland™ High Efficiency 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 Dual Level Compressor Isolation Mounting for Ultra Quiet Operation
- 9 Multiple Removable Access Panels for Service



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## Unit Model Key



# Tranquility Water-To-Water (TMW) Series

## AHRI/ISO/ASHRAE/ANSI 13256-2 Performance

ASHRAE/AHRI/ISO 13256-2. English (I-P) Units

Model	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
	Cooling		Heating		Cooling		Heating		Cooling		Heating	
	Indoor 53.6°F Outdoor 86°F		Indoor 104°F Outdoor 68°F		Indoor 53.6°F Outdoor 59°F		Indoor 104°F Outdoor 50°F		Indoor 53.6°F Outdoor 77°F		Indoor 104°F Outdoor 32°F	
	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP	Capacity Btuh	EER Btuh/W	Capacity Btuh	COP
<b>TMW036</b>	32,300	14.60	43,100	4.90	36,200	23.10	35,300	4.00	33,300	16.40	27,400	3.10
<b>TMW060</b>	52,800	14.30	72,700	4.70	56,600	20.30	60,300	4.00	55,600	16.20	48,500	3.10
<b>TMW120</b>	105,600	14.10	145,400	4.60	113,200	20.10	120,600	3.90	111,200	16.10	97,000	3.10

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

ASHRAE/AHRI/ISO 13256-2. Metric (S-I) 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
<b>TMW036</b>	9,472	4.28	12,639	4.90	10,616	6.77	10,352	4.00	9,765	4.81	8,035	3.10
<b>TMW060</b>	15,484	4.19	21,320	4.70	16,598	5.95	17,683	4.00	16,305	4.75	14,223	3.10
<b>TMW120</b>	30,968	4.13	42,639	4.60	33,197	5.89	35,367	3.90	32,610	4.69	28,446	3.10

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

## 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). Otherwise, appropriate levels of a proper anti-freeze should be used in systems with leaving water temperatures of 40°F or below and the JW3 jumper should be clipped. 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.

### 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.

$$TD = HE / (GPM \times 500)$$

$$TD = 22,500 / (4.5 \times 500)$$

$$TD = 10^\circ\text{F}$$

$$\text{LWT} = \text{EWT} - \text{TD}$$

$$\text{LWT} = 50 - 10 = 40^\circ\text{F}$$

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).

Flow 15.0 GPM									
WPD		HC Mbtuh	Power KW	HE Mbtuh	LWT F	COP	WPD		
PSI	FT						PSI	FT	
3.3	7.7	45.3	2.70	36.1	66.0	4.9	6.0	13.8	
3.1	7.1	45.1	3.43	33.4	86.0	3.8	5.6	13.0	
2.9	6.7	43.6	4.48	28.3	105.8	2.9	5.3	12.3	
3.3	7.7	48.5	2.69	39.4	66.5	5.3	6.0	13.8	
3.1	7.1	48.7	3.42	37.0	86.5	4.2	5.6	13.0	
2.9	6.7	47.7	4.46	32.5	106.4	3.1	5.3	12.3	
2.8	6.4	45.6	5.82	25.8	126.1	2.3	5.1	11.7	
3.3	7.7	53.9	2.70	44.7	67.2	5.8	6.0	13.8	
3.1	7.1	53.9	3.44	42.2	87.2	4.6	5.6	13.0	
2.9	6.7	52.5	4.48	37.2	107.0	3.4	5.3	12.3	
2.8	6.4	49.8	5.84	29.9	126.6	2.5	5.1	11.7	
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	
3.3	7.7	55.1	2.70	45.8	67.3	6.0	6.0	13.8	
3.1	7.1	55.4	3.44	43.7	87.4	4.7	5.6	13.0	
2.9	6.7	54.2	4.47	39.0	107.2	3.6	5.3	12.3	
2.8	6.4	52.0	5.84	32.1	126.9	2.6	5.1	11.7	
3.3	7.7	54.9	2.71	45.9	68.5	6.9	6.0	13.8	
3.1	7.1	54.9	3.46	43.7	88.6	5.0	5.6	13.0	
2.9	6.7	52.5	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	

### Antifreeze Correction Table

Antifreeze Type	Antifreeze %	Cooling			Heating		WPD Corr. Fct. EWT 30°F
		EWT 90°F			EWT 30°F		
		Total Cap	Sens Cap	Power	Htg Cap	Power	
Water	0	1.000	1.000	1.000			1.000
Propylene Glycol	5	0.995	0.995	1.003	0.989	0.997	1.070
	15	0.986	0.986	1.009	0.968	0.990	1.210
	25	0.978	0.978	1.014	0.947	0.983	1.360
Methanol	5	0.997	0.997	1.002	0.989	0.997	1.070
	15	0.990	0.990	1.007	0.968	0.990	1.160
	25	0.982	0.982	1.012	0.949	0.984	1.220
Ethanol	5	0.998	0.998	1.002	0.981	0.994	1.140
	15	0.994	0.994	1.005	0.944	0.983	1.300
	25	0.986	0.986	1.009	0.917	0.974	1.360
Ethylene Glycol	5	0.998	0.998	1.002	0.993	0.998	1.040
	15	0.994	0.994	1.004	0.980	0.994	1.120
	25	0.988	0.988	1.008	0.966	0.990	1.200

# Tranquility Water-To-Water (TMW) Series

## Performance Data — TMW036 - Cooling

SOURCE					LOAD																							
EWT °F	Flow				Flow 4.5 GPM										Flow 6.8 GPM							Flow 9.0 GPM						
	GPM	WPD		EWT °F	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	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	67.7	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																	
	9.0	6.0	13.9	Operation not recommended																								
				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																					
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																	
	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																	
	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																	
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																	
	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																	
	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																	
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			
				90	40.5	3.35	51.8	72.8	12.5	0.3	0.8																	
	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			
				90	41.0	3.18	51.6																					

## Performance Data — TMW036 - Heating

SOURCE				LOAD																					
EWT °F	Flow			EWT °F	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	
		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	30.7	1.41	25.9	71.5	6.4	0.5	1.2	31.2	1.33	26.7	67.9	6.9	1.3	3.1	31.3	1.30	26.9	66.0	7.1	2.5	5.8
				80	30.6	1.81	24.4	90.8	4.9	0.4	0.9	31.0	1.72	25.1	87.4	5.3	1.2	2.8	31.1	1.67	25.3	85.6	5.4	2.3	5.4
				100	29.9	2.39	21.7	109.7	3.7	0.3	0.7	30.1	2.27	22.4	106.6	3.9	1.1	2.5	30.1	2.21	22.6	105.0	4.0	2.1	4.9
				120	28.8	3.17	18.0	128.0	2.7	0.2	0.5	28.7	3.00	18.5	125.5	2.8	0.9	2.1	28.6	2.92	18.6	124.1	2.9	1.8	4.3
	6.8	3.7	8.6	60	32.6	1.48	27.5	72.2	6.4	0.5	1.2	33.1	1.40	28.3	68.4	6.9	1.3	3.1	33.3	1.37	28.6	66.4	7.1	2.5	5.8
				80	32.1	1.90	25.6	91.4	4.9	0.4	0.9	32.5	1.80	26.3	87.8	5.3	1.2	2.8	32.6	1.75	26.6	85.9	5.4	2.3	5.4
				100	31.1	2.49	22.6	110.0	3.7	0.3	0.7	31.3	2.36	23.3	106.9	3.9	1.1	2.5	31.3	2.30	23.5	105.2	4.0	2.1	4.9
				120	29.7	3.26	18.6	128.3	2.7	0.2	0.5	29.7	3.09	19.1	125.7	2.8	0.9	2.1	29.6	3.01	19.3	124.3	2.9	1.8	4.3
	9.0	6.5	15.1	60	34.5	1.55	29.2	73.0	6.5	0.5	1.2	35.0	1.47	30.0	68.9	7.0	1.3	3.1	35.2	1.43	30.3	66.7	7.2	2.5	5.8
				80	33.6	1.99	26.8	91.9	4.9	0.4	0.9	34.0	1.89	27.6	88.2	5.3	1.2	2.8	34.1	1.84	27.8	86.2	5.4	2.3	5.4
				100	32.3	2.59	23.5	110.4	3.7	0.3	0.7	32.5	2.45	24.2	107.2	3.9	1.1	2.5	32.5	2.39	24.4	105.4	4.0	2.1	4.9
				120	30.7	3.36	19.2	128.5	2.7	0.2	0.5	30.6	3.18	19.8	125.9	2.8	0.9	2.1	30.5	3.09	20.0	124.4	2.9	1.8	4.3
50	4.5	1.3	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
					Operation not recommended																				
	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
					Operation not recommended																				
	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	
				Operation not recommended																					
				130																					

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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 40°F EWT is based upon 15% methanol 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

# Tranquility Water-To-Water (TMW) Series

## Performance Data — TMW036 - Heating

Table Continued from Previous Page

SOURCE				LOAD																					
EWT °F	Flow			EWT °F	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	
		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																				
	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																				
	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																					
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																				
	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																				
	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																					
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																				
	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																				
	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	
130				Operation not recommended																					

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 40°F EWT is based upon 15% methanol 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

# ClimateMaster Geothermal Heat Pump Systems

## Performance Data — TMW060 - Cooling

SOURCE					LOAD																					
EWT °F	Flow				EWT °F	Flow 7.5 GPM						Flow 11.25 GPM						Flow 15.0 GPM								
	GPM	WPD		FT		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	7.5	1.3	2.9	50	52.6	2.20	60.1	38.2	23.9	1.4	3.3	53.5	2.23	61.1	41.0	24.0	3.5	8.0	55.3	2.25	63.0	42.5	24.6	4.8	11.0	
				60	53.2	2.22	60.8	47.1	23.9	1.4	3.2	54.1	2.25	61.7	50.5	24.1	3.3	7.7	55.9	2.27	63.7	52.4	24.7	4.6	10.6	
				70	53.8	2.24	61.4	56.0	24.0	1.3	3.0	54.7	2.26	62.4	60.0	24.1	3.2	7.4	56.6	2.29	64.4	62.2	24.7	4.4	10.1	
				80	55.5	2.24	63.2	64.7	24.7	1.2	2.9	56.4	2.27	64.1	69.4	24.9	3.1	7.1	58.4	2.29	66.2	72.0	25.5	4.3	9.8	
	11.25	3.4	7.9	50	53.4	2.23	61.0	38.0	24.0	1.4	3.3	54.1	2.25	61.8	40.8	24.1	3.5	8.0	56.0	2.27	63.8	42.3	24.7	4.8	11.0	
				60	55.5	2.25	63.1	46.7	24.7	1.4	3.2	56.2	2.27	64.0	50.1	24.8	3.3	7.7	58.2	2.29	66.0	52.0	25.4	4.6	10.6	
				70	57.5	2.26	65.3	55.4	25.4	1.3	3.0	58.3	2.29	66.1	59.4	25.5	3.2	7.4	60.4	2.31	68.3	61.6	26.1	4.4	10.2	
				80	58.1	2.27	65.8	64.3	25.6	1.2	2.9	58.9	2.29	66.7	69.0	25.7	3.1	7.1	60.9	2.31	68.8	71.5	26.4	4.3	9.8	
	15.0	6.2	14.2	50	55.6	2.25	63.2	35.8	24.7	1.4	3.3	56.5	2.27	64.2	40.3	24.9	3.5	8.0	57.9	2.29	65.8	42.1	25.2	4.8	11.1	
				60	57.5	2.27	65.2	45.0	25.3	1.4	3.2	58.7	2.29	66.6	49.8	25.6	3.3	7.7	61.5	2.31	69.4	51.5	26.6	4.6	10.6	
				70	59.4	2.29	67.2	54.1	26.0	1.3	3.0	61.0	2.31	68.9	59.3	26.4	3.2	7.4	65.1	2.33	73.1	60.9	27.9	4.4	10.1	
				80	60.3	2.29	68.1	63.5	26.4	1.2	2.9	61.8	2.31	69.7	68.7	26.7	3.1	7.1	65.8	2.34	73.8	70.8	28.2	4.2	9.8	
70	7.5	1.1	2.5	50	49.1	2.82	58.7	38.1	17.4	1.4	3.3	50.3	2.85	60.0	41.1	17.7	3.5	8.0	52.0	2.88	61.8	42.9	18.1	4.7	11.0	
				60	53.2	2.84	62.9	46.4	18.7	1.4	3.2	54.5	2.87	64.3	50.0	19.0	3.3	7.7	56.3	2.90	66.2	52.3	19.4	4.6	10.5	
				70	57.2	2.86	67.0	54.8	20.0	1.3	3.0	58.7	2.89	68.5	59.1	20.3	3.2	7.4	60.6	2.92	70.6	61.7	20.8	4.4	10.1	
				80	59.3	2.92	69.3	63.4	20.3	1.2	2.9	60.8	2.95	70.9	68.3	20.6	3.1	7.1	62.9	2.98	73.0	71.4	21.1	4.3	9.8	
	11.25	3.0	6.9	50	50.2	2.85	59.9	38.0	17.6	1.4	3.3	51.4	2.88	61.2	41.0	17.8	3.5	8.0	53.1	2.91	63.0	42.8	18.3	4.8	11.0	
				60	54.5	2.87	64.3	46.2	19.0	1.4	3.2	55.9	2.90	65.8	49.8	19.3	3.3	7.7	57.7	2.93	67.7	52.1	19.7	4.6	10.6	
				70	58.9	2.89	68.8	54.5	20.4	1.3	3.0	60.4	2.92	70.3	58.8	20.7	3.2	7.4	62.4	2.94	72.4	61.4	21.2	4.4	10.2	
				80	60.8	2.95	70.8	63.1	20.6	1.2	2.9	62.3	2.98	72.4	68.1	20.9	3.1	7.1	64.4	3.01	74.6	71.1	21.4	4.3	9.9	
	15.0	5.5	12.8	50	61.3	2.29	69.1	72.8	26.7	1.2	2.7	62.6	2.31	70.5	78.1	27.0	3.0	6.9	66.6	2.34	74.6	80.7	28.5	4.1	9.4	
				60	51.2	2.88	61.0	36.9	17.8	1.4	3.3	53.3	2.91	63.2	40.8	18.3	3.5	8.0	54.3	2.94	64.3	42.6	18.5	4.8	11.0	
				70	55.6	2.90	65.5	45.4	19.2	1.4	3.2	57.6	2.93	67.6	49.6	19.7	3.3	7.7	59.4	2.96	69.5	51.8	20.1	4.6	10.6	
				80	60.1	2.92	70.1	53.9	20.6	1.3	3.0	61.9	2.94	72.0	58.5	21.0	3.2	7.4	64.5	2.97	74.6	61.1	21.7	4.4	10.1	
80	7.5	0.9	2.1	50	47.3	3.13	58.0	38.0	15.1	1.4	3.3	48.7	3.16	59.5	41.1	15.4	3.5	8.0	50.3	3.19	61.2	43.1	15.8	4.7	10.9	
				60	53.1	3.15	63.9	46.1	16.9	1.4	3.2	54.7	3.18	65.6	49.8	17.2	3.3	7.7	56.5	3.21	67.5	52.3	17.6	4.6	10.5	
				70	58.9	3.17	69.7	54.2	18.6	1.3	3.0	60.7	3.20	71.6	58.6	19.0	3.2	7.4	62.7	3.23	73.7	61.5	19.4	4.4	10.1	
				80	61.3	3.25	72.4	62.7	18.8	1.2	2.9	63.1	3.29	74.3	67.8	19.2	3.1	7.1	65.1	3.32	76.5	71.1	19.6	4.3	9.8	
	11.25	2.7	6.1	50	48.5	3.16	59.3	38.0	15.3	1.4	3.3	50.0	3.19	60.9	41.1	15.6	3.5	8.0	51.6	3.23	62.6	43.0	16.0	4.8	11.1	
				60	54.1	3.18	64.9	46.0	17.0	1.4	3.2	55.7	3.21	66.6	49.7	17.3	3.3	7.7	57.5	3.24	68.6	52.2	17.7	4.6	10.6	
				70	59.6	3.20	70.5	54.0	18.7	1.3	3.0	61.4	3.23	72.4	58.4	19.0	3.2	7.4	63.4	3.26	74.5	61.3	19.4	4.4	10.2	
				80	62.1	3.29	73.4	62.5	18.9	1.2	2.9	64.0	3.32	75.3	67.6	19.3	3.1	7.1	66.1	3.35	77.5	70.9	19.7	4.3	9.9	
	15.0	5.0	11.6	50	64.6	3.38	76.2	71.0	19.1	1.2	2.7	66.6	3.41	78.2	76.8	19.5	3.0	6.9	68.7	3.45	80.5	80.6	19.9	4.2	9.6	
				60	49.0	3.19	59.9	37.4	15.3	1.4	3.3	51.7	3.23	62.7	41.0	16.0	3.5	8.0	52.4	3.26	63.5	42.9	16.1	4.8	11.0	
				70	54.7	3.21	65.7	45.6	17.0	1.4	3.2	57.1	3.24	68.1	49.5	17.6	3.3	7.7	58.3	3.28	69.5	52.0	17.8	4.6	10.6	
				80	60.5	3.23	71.5	53.8	18.7	1.3	3.0	62.4	3.26	73.5	58.1	19.1	3.2	7.4	64.2	3.30	75.4	61.1	19.5	4.4	10.1	
90	63.3	3.32	74.7	62.3	19.1	1.2	2.9	65.3	3.35	76.7	67.4	19.5	3.1	7.1	67.8	3.39	79.3	70.5	20.0	4.3	9.8					
	66.2	3.41	77.9	70.8	19.4	1.2	2.7	68.2	3.45	79.9	76.7	19.8	3.0	6.9	71.4	3.48	83.2	80.0	20.5	4.1	9.6					

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

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

# Tranquility Water-To-Water (TMW) Series

## Performance Data — TMW060 - Cooling

Table Continued from Previous Page

SOURCE				LOAD																								
EWT °F	Flow			EWT °F	Flow 7.5 GPM						Flow 11.25 GPM						Flow 15.0 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		
90	7.5	0.8	1.8	50	44.8	3.57	57.0	38.7	12.5	1.4	3.3	46.3	3.61	58.6	41.6	12.8	3.5	8.0	47.5	3.65	59.9	43.4	13.0	4.7	10.9			
				60	50.7	3.61	63.0	46.8	14.0	1.4	3.2	52.3	3.65	64.8	50.3	14.3	3.3	7.7	53.7	3.68	66.3	52.6	14.6	4.5	10.5			
				70	56.6	3.65	69.0	54.9	15.5	1.3	3.0	58.4	3.69	70.9	59.1	15.8	3.2	7.4	59.9	3.72	72.6	61.8	16.1	4.4	10.1			
				80	59.6	3.73	72.4	63.4	16.0	1.2	2.9	61.5	3.77	74.4	68.2	16.3	3.1	7.1	63.1	3.81	76.1	71.3	16.6	4.3	9.8			
					90	62.7	3.82	75.7	71.9	16.4	1.2	2.7	64.7	3.86	77.9	77.3	16.8	3.0	6.9	66.4	3.90	79.7	80.9	17.0	4.1	9.6		
	11.25	2.4	5.6	50	45.9	3.61	58.2	38.6	12.7	1.4	3.3	47.4	3.65	59.8	41.5	13.0	3.5	8.0	48.6	3.68	61.2	43.4	13.2	4.8	11.0			
				60	51.8	3.65	64.3	46.7	14.2	1.4	3.2	53.5	3.68	66.0	50.2	14.5	3.3	7.7	54.9	3.72	67.6	52.5	14.7	4.6	10.6			
				70	57.7	3.69	70.3	54.8	15.7	1.3	3.0	59.6	3.72	72.3	58.9	16.0	3.2	7.4	61.1	3.76	73.9	61.6	16.2	4.4	10.2			
				80	60.7	3.77	73.6	63.2	16.1	1.2	2.9	62.6	3.81	75.7	68.0	16.4	3.1	7.1	64.3	3.85	77.4	71.1	16.7	4.3	9.9			
					90	63.7	3.86	76.9	71.7	16.5	1.2	2.7	65.7	3.90	79.0	77.1	16.9	3.0	6.9	67.4	3.94	80.9	80.6	17.1	4.1	9.6		
	15.0	4.6	10.7	50	46.5	3.65	59.0	38.1	12.8	1.4	3.3	48.6	3.68	61.1	41.4	13.2	3.5	8.0	49.5	3.72	62.2	43.3	13.3	4.7	10.9			
				60	52.4	3.68	64.9	46.2	14.2	1.4	3.2	54.2	3.72	66.9	50.1	14.6	3.3	7.7	55.8	3.76	68.6	52.4	14.8	4.6	10.5			
70				58.2	3.72	70.9	54.3	15.6	1.3	3.0	59.8	3.76	72.7	58.7	15.9	3.2	7.4	62.0	3.80	75.0	61.5	16.3	4.4	10.1				
80				61.6	3.81	74.6	62.9	16.2	1.2	2.9	63.4	3.85	76.6	67.8	16.5	3.1	7.1	65.8	3.89	79.0	70.8	16.9	4.3	9.8				
				90	65.1	3.90	78.4	71.6	16.7	1.2	2.7	67.0	3.94	80.5	77.0	17.0	3.0	6.9	69.5	3.98	83.1	80.2	17.5	4.1	9.5			
110	7.5	0.7	1.7	50	39.8	4.46	55.0	39.9	8.9	1.4	3.3	41.3	4.50	56.7	42.5	9.2	3.5	8.0	41.7	4.55	57.3	44.1	9.2	4.7	10.9			
				60	45.8	4.54	61.3	48.2	10.1	1.4	3.2	47.5	4.58	63.1	51.2	10.4	3.3	7.7	48.0	4.63	63.8	53.2	10.4	4.5	10.4			
				70	51.8	4.62	67.5	56.4	11.2	1.3	3.0	53.7	4.66	69.6	60.0	11.5	3.2	7.4	54.3	4.71	70.4	62.4	11.5	4.3	10.0			
				80	56.4	4.69	72.4	64.9	12.0	1.2	2.9	58.5	4.74	74.7	69.0	12.3	3.1	7.1	59.1	4.79	75.5	71.7	12.3	4.2	9.8			
					90	61.0	4.77	77.3	73.4	12.8	1.2	2.7	63.3	4.82	79.7	78.0	13.1	3.0	6.9	64.0	4.87	80.6	81.1	13.1	4.2	9.6		
	11.25	2.4	5.5	50	40.6	4.50	56.0	39.9	9.0	1.4	3.3	42.2	4.55	57.7	42.4	9.3	3.5	8.0	42.6	4.60	58.3	44.1	9.3	4.8	11.0			
				60	47.3	4.58	62.9	48.1	10.3	1.4	3.2	49.0	4.63	64.8	51.2	10.6	3.3	7.7	49.6	4.68	65.5	53.2	10.6	4.6	10.5			
				70	53.9	4.66	69.8	56.3	11.6	1.3	3.0	55.9	4.71	72.0	59.9	11.9	3.2	7.4	56.5	4.76	72.7	62.2	11.9	4.4	10.1			
				80	57.9	4.74	74.0	64.7	12.2	1.2	2.9	60.0	4.79	76.4	68.8	12.5	3.1	7.1	60.7	4.84	77.2	71.5	12.5	4.2	9.8			
					90	61.8	4.82	78.3	73.1	12.8	1.2	2.7	64.1	4.87	80.8	77.7	13.2	3.0	6.9	64.8	4.92	81.6	80.8	13.2	4.1	9.5		
	15.0	4.5	10.3	50	41.5	4.55	57.1	39.4	9.1	1.4	3.3	42.3	4.60	58.0	42.4	9.2	3.5	8.0	43.8	4.64	59.7	44.0	9.4	4.7	10.8			
				60	47.6	4.63	63.4	47.4	10.3	1.4	3.2	48.5	4.68	64.5	51.1	10.4	3.3	7.7	50.7	4.72	66.8	53.1	10.7	4.5	10.5			
70				53.7	4.71	69.8	55.3	11.4	1.3	3.0	54.7	4.76	70.9	59.9	11.5	3.2	7.4	57.6	4.80	74.0	62.2	12.0	4.4	10.2				
80				58.3	4.79	74.6	64.2	12.2	1.2	2.9	59.7	4.84	76.2	68.7	12.3	3.1	7.1	61.7	4.89	78.4	71.4	12.6	4.3	9.8				
				90	62.8	4.87	79.4	73.0	12.9	1.2	2.7	64.8	4.92	81.6	77.6	13.2	3.0	6.9	65.8	4.97	82.8	80.7	13.2	4.1	9.5			
120	7.5	0.7	1.7	50	37.0	5.04	54.2	40.3	7.3	1.4	3.3	38.5	5.09	55.9	43.2	7.6	3.5	8.0	39.3	5.14	56.8	44.7	7.6	4.7	10.9			
				60	42.7	5.13	60.2	48.6	8.3	1.4	3.2	44.4	5.18	62.1	52.0	8.6	3.3	7.7	45.3	5.23	63.2	53.8	8.7	4.5	10.5			
				70	48.4	5.21	66.2	56.9	9.3	1.3	3.0	50.4	5.27	68.3	60.8	9.6	3.2	7.4	51.4	5.32	69.5	62.9	9.7	4.3	10.0			
				80	53.0	5.31	71.1	65.2	10.0	1.2	2.9	55.1	5.36	73.4	69.7	10.3	3.1	7.1	56.2	5.42	74.7	72.1	10.4	4.2	9.7			
					90	57.5	5.40	76.0	73.5	10.6	1.2	2.7	59.9	5.46	78.5	78.6	11.0	3.0	6.9	61.1	5.51	79.9	81.3	11.1	4.1	9.4		
	11.25	2.4	5.5	50	37.2	5.09	54.6	40.3	7.3	1.4	3.3	38.8	5.14	56.3	43.1	7.5	3.5	8.0	39.6	5.19	57.3	44.6	7.6	4.8	11.1			
				60	43.2	5.18	60.8	48.5	8.3	1.4	3.2	44.9	5.23	62.8	51.9	8.6	3.3	7.7	45.8	5.28	63.8	53.7	8.7	4.6	10.6			
				70	49.1	5.27	67.0	56.7	9.3	1.3	3.0	51.1	5.32	69.2	60.6	9.6	3.2	7.4	52.1	5.37	70.4	62.7	9.7	4.4	10.1			
				80	53.6	5.36	71.9	65.0	10.0	1.2	2.9	55.8	5.42	74.3	69.6	10.3	3.1	7.1	57.0	5.47	75.6	72.0	10.4	4.2	9.8			
					90	58.2	5.46	76.9	73.4	10.7	1.2	2.7	60.6	5.51	79.4	78.5	11.0	3.0	6.9	61.8	5.57	80.9	81.3	11.1	4.1	9.5		
	15.0	4.5	10.3	50	38.5	5.14	56.0	40.0	7.5	1.4	3.3	40.1	5.19	57.8	42.9	7.7	3.5	8.0	40.8	5.25	58.7	44.5	7.8	4.7	11.0			
				60	44.4	5.23	62.2	48.2	8.5	1.4	3.2	46.4	5.28	64.4	51.7	8.8	3.3	7.7	47.3	5.34	65.5	53.6	8.9	4.6	10.5			
70				50.3	5.32	68.4	56.5	9.5	1.3	3.0	52.7	5.37	71.1	60.5	9.8	3.2	7.4	53.8	5.43	72.3	62.6	9.9	4.4	10.1				
80				54.9	5.42	73.4	64.9	10.1	1.2	2.9	57.5	5.47	76.2	69.5	10.5	3.1	7.1	58.6	5.53	77.5	71.9	10.6	4.2	9.8				
				90	59.6	5.51	78.4	73.3	10.8	1.2	2.7	62.3	5.57	81.3	78.5	11.2	3.0	6.9	63.4	5.63	82.6	81.2	11.3	4.1	9.5			

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

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 °F	Flow			EWT °F	Flow 7.5 GPM						Flow 11.25 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	
		PSI	FT							PSI	FT						PSI	FT						PSI	FT
20	15.0	7.3	16.9	60	41.1	2.43	32.8	71.5	5.0	1.4	3.2	41.3	2.38	33.2	67.4	5.1	3.3	7.7	41.5	2.33	33.5	65.3	5.2	6.0	13.8
				80	40.5	3.17	29.6	91.2	3.7	1.2	2.9	40.6	3.11	30.0	87.2	3.8	3.1	7.1	40.7	3.05	30.3	85.3	3.9	5.6	13.0
				100	39.7	4.11	25.6	110.8	2.8	1.1	2.6	39.7	4.03	25.9	106.9	2.9	2.9	6.7	39.7	3.95	26.2	105.1	2.9	5.3	12.3
30	7.5	1.5	3.5	60	47.8	2.52	39.2	73.3	5.6	1.4	3.2	48.0	2.47	39.6	68.6	5.7	3.3	7.7	48.3	2.42	40.0	66.3	5.8	6.0	13.8
				80	46.9	3.28	35.7	92.9	4.2	1.2	2.9	47.1	3.21	36.1	88.4	4.3	3.1	7.1	47.2	3.15	36.5	86.1	4.4	5.6	13.0
				100	45.8	4.22	31.4	112.4	3.2	1.1	2.6	45.9	4.14	31.8	108.1	3.3	2.9	6.7	45.9	4.05	32.1	105.9	3.3	5.3	12.3
				120	44.6	5.36	26.3	131.9	2.4	1.1	2.4	44.5	5.25	26.6	127.7	2.5	2.8	6.4	44.4	5.14	26.9	125.7	2.5	5.1	11.7
	11.25	4.0	9.2	60	50.0	2.56	41.3	73.6	5.7	1.4	3.2	50.3	2.51	41.7	68.9	5.9	3.3	7.7	50.5	2.46	42.1	66.6	6.0	6.0	13.8
				80	49.0	3.33	37.6	93.3	4.3	1.2	2.9	49.1	3.26	38.0	88.7	4.4	3.1	7.1	49.3	3.20	38.4	86.5	4.5	5.6	13.0
				100	47.8	4.29	33.2	112.8	3.3	1.1	2.6	47.9	4.21	33.5	108.4	3.3	2.9	6.7	47.9	4.12	33.9	106.2	3.4	5.3	12.3
				120	46.6	5.45	28.0	132.1	2.5	1.1	2.4	46.5	5.34	28.3	128.0	2.6	2.8	6.4	46.4	5.23	28.6	125.9	2.6	5.1	11.7
	15.0	6.9	15.9	60	52.0	2.61	43.1	73.9	5.8	1.4	3.2	52.2	2.55	43.5	69.1	6.0	3.3	7.7	52.5	2.50	43.9	66.8	6.1	6.0	13.8
				80	50.9	3.39	39.3	93.4	4.4	1.2	2.9	51.1	3.32	39.7	88.9	4.5	3.1	7.1	51.2	3.25	40.1	86.6	4.6	5.6	13.0
				100	49.6	4.36	34.7	112.9	3.3	1.1	2.6	49.7	4.28	35.1	108.6	3.4	2.9	6.7	49.7	4.19	35.4	106.4	3.5	5.3	12.3
				120	48.1	5.54	29.2	132.3	2.5	1.1	2.4	48.0	5.43	29.5	128.2	2.6	2.8	6.4	47.9	5.32	29.8	126.1	2.6	5.1	11.7
40	7.5	1.4	3.2	60	54.4	2.61	45.5	75.0	6.1	1.4	3.2	54.7	2.56	46.0	69.7	6.3	3.3	7.7	55.1	2.51	46.5	67.2	6.4	6.0	13.8
				80	53.4	3.38	41.8	94.6	4.6	1.2	2.9	53.6	3.31	42.3	89.6	4.7	3.1	7.1	53.8	3.25	42.7	87.0	4.9	5.6	13.0
				100	52.0	4.33	37.2	114.0	3.5	1.1	2.6	52.1	4.24	37.6	109.2	3.6	2.9	6.7	52.2	4.16	38.0	106.7	3.7	5.3	12.3
				120	50.4	5.46	31.8	133.4	2.7	1.1	2.4	50.3	5.35	32.1	128.7	2.8	2.8	6.4	50.3	5.24	32.4	126.4	2.8	5.1	11.7
	11.25	3.7	8.5	60	57.4	2.65	48.3	75.5	6.4	1.4	3.2	57.7	2.59	48.8	70.1	6.5	3.3	7.7	58.0	2.54	49.3	67.5	6.7	6.0	13.8
				80	55.9	3.42	44.2	95.1	4.8	1.2	2.9	56.1	3.36	44.7	90.0	4.9	3.1	7.1	56.4	3.29	45.1	87.4	5.0	5.6	13.0
				100	54.3	4.38	39.4	114.5	3.6	1.1	2.6	54.4	4.30	39.8	109.7	3.7	2.9	6.7	54.5	4.21	40.2	107.1	3.8	5.3	12.3
				120	52.6	5.53	33.7	133.8	2.8	1.1	2.4	52.6	5.42	34.1	129.1	2.8	2.8	6.4	52.5	5.31	34.4	126.8	2.9	5.1	11.7
	15.0	6.5	15.1	60	59.2	2.68	50.1	75.9	6.5	1.4	3.2	59.6	2.63	50.6	70.5	6.6	3.3	7.7	59.9	2.58	51.1	67.9	6.8	6.0	13.8
				80	57.8	3.47	46.0	95.3	4.9	1.2	2.9	58.0	3.40	46.4	90.3	5.0	3.1	7.1	58.3	3.33	46.9	87.6	5.1	5.6	13.0
				100	56.1	4.44	40.9	114.7	3.7	1.1	2.6	56.2	4.35	41.3	109.9	3.8	2.9	6.7	56.3	4.27	41.7	107.3	3.9	5.3	12.3
				120	54.0	5.60	34.9	134.0	2.8	1.1	2.4	54.0	5.49	35.2	129.3	2.9	2.8	6.4	54.0	5.38	35.6	127.0	2.9	5.1	11.7
50	7.5	1.3	2.9	60	61.1	2.70	51.9	76.8	6.6	1.4	3.2	61.5	2.65	52.4	70.8	6.8	3.3	7.7	61.8	2.60	53.0	68.1	7.0	6.0	13.8
				80	59.8	3.48	47.9	96.3	5.0	1.2	2.9	60.1	3.41	48.4	90.8	5.2	3.1	7.1	60.3	3.34	48.9	87.8	5.3	5.6	13.0
				100	58.2	4.43	43.0	115.6	3.8	1.1	2.6	58.3	4.34	43.5	110.4	3.9	2.9	6.7	58.5	4.26	43.9	107.5	4.0	5.3	12.3
				120	56.2	5.55	37.2	134.9	3.0	1.1	2.4	56.2	5.44	37.6	129.7	3.0	2.8	6.4	56.2	5.33	38.0	127.2	3.1	5.1	11.7
					Operation not recommended							55.2	6.16	34.2	139.8	2.6	2.7	6.2	55.1	6.03	34.5	137.2	2.7	5.0	11.5
	11.25	3.4	7.9	60	64.7	2.73	55.4	77.4	6.9	1.4	3.2	65.1	2.68	56.0	71.3	7.1	3.3	7.7	65.5	2.62	56.5	68.5	7.3	6.0	13.8
				80	62.8	3.52	50.8	96.9	5.2	1.2	2.9	63.1	3.45	51.4	91.3	5.4	3.1	7.1	63.4	3.38	51.9	88.3	5.5	5.6	13.0
				100	60.8	4.48	45.5	116.2	4.0	1.1	2.6	61.0	4.39	46.0	110.9	4.1	2.9	6.7	61.1	4.30	46.5	108.0	4.2	5.3	12.3
				120	58.6	5.61	39.4	135.4	3.1	1.1	2.4	58.6	5.50	39.8	130.2	3.1	2.8	6.4	58.6	5.39	40.2	127.7	3.2	5.1	11.7
					Operation not recommended							57.9	6.22	36.7	139.9	2.7	2.7	6.2	57.8	6.09	37.1	137.3	2.8	5.0	11.5
	15.0	6.2	14.2	60	66.5	2.76	57.1	78.0	7.1	1.4	3.2	66.9	2.70	57.7	71.9	7.3	3.3	7.7	67.3	2.65	58.3	69.0	7.4	6.0	13.8
				80	64.7	3.55	52.6	97.2	5.3	1.2	2.9	65.0	3.48	53.1	91.6	5.5	3.1	7.1	65.3	3.41	53.6	88.6	5.6	5.6	13.0
100				62.5	4.52	47.1	116.4	4.1	1.1	2.6	62.7	4.43	47.6	111.1	4.1	2.9	6.7	62.9	4.34	48.0	108.2	4.2	5.3	12.3	
120				60.0	5.67	40.6	135.6	3.1	1.1	2.4	60.0	5.55	41.0	130.5	3.2	2.8	6.4	60.0	5.44	41.4	127.9	3.2	5.1	11.7	
				Operation not recommended							58.8	6.28	37.3	140.3	2.7	2.7	6.2	58.7	6.15	37.7	137.7	2.8	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 40°F EWT is based upon 15% methanol 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

# Tranquility Water-To-Water (TMW) Series

## Performance Data — TMW060 - Heating

Table Continued from Previous Page

SOURCE				LOAD																									
EWT °F	Flow			EWT °F	Flow 7.5 GPM						Flow 11.25 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					
		PSI	FT						PSI	FT					PSI	FT						PSI	FT				PSI	FT	
60	7.5	1.2	2.7	60	64.9	2.76	55.5	78.5	6.9	1.4	3.2	65.2	2.70	56.0	71.7	7.1	3.3	7.7	65.6	2.65	56.6	68.6	7.3	6.0	13.8				
				80	64.8	3.54	52.7	98.1	5.4	1.2	2.9	65.1	3.47	53.3	91.8	5.5	3.1	7.1	65.4	3.40	53.8	88.6	5.6	5.6	13.0				
				100	63.7	4.49	48.3	117.6	4.2	1.1	2.6	63.9	4.40	48.8	111.5	4.3	2.9	6.7	64.1	4.31	49.4	108.4	4.4	5.3	12.3				
				120	61.4	5.60	42.3	136.7	3.2	1.1	2.4	61.5	5.48	42.8	130.9	3.3	2.8	6.4	61.6	5.37	43.2	128.0	3.4	5.1	11.7				
					OPERATION NOT RECOMMENDED																								
					130																								
		11.25	3.2	7.3	60	67.7	2.78	58.2	79.0	7.1	1.4	3.2	68.1	2.73	58.8	72.2	7.3	3.3	7.7	68.5	2.67	59.4	69.1	7.5	6.0	13.8			
	80				67.7	3.58	55.5	98.7	5.5	1.2	2.9	68.0	3.51	56.0	92.3	5.7	3.1	7.1	68.3	3.44	56.6	89.1	5.8	5.6	13.0				
	100				66.4	4.54	50.9	118.1	4.3	1.1	2.6	66.6	4.45	51.5	112.0	4.4	2.9	6.7	66.9	4.36	52.0	108.9	4.5	5.3	12.3				
	120				64.0	5.67	44.6	137.2	3.3	1.1	2.4	64.1	5.56	45.1	131.3	3.4	2.8	6.4	64.2	5.45	45.6	128.5	3.5	5.1	11.7				
					130																								
		15.0	5.8	13.5	60	70.0	2.81	60.4	79.4	7.3	1.4	3.2	70.4	2.76	61.0	72.6	7.5	3.3	7.7	70.8	2.70	61.6	69.5	7.7	6.0	13.8			
80	70.0				3.62	57.7	99.0	5.7	1.2	2.9	70.4	3.54	58.3	92.6	5.8	3.1	7.1	70.7	3.47	58.9	89.4	6.0	5.6	13.0					
100	68.8				4.60	53.1	118.3	4.4	1.1	2.6	69.0	4.50	53.6	112.2	4.5	2.9	6.7	69.2	4.41	54.2	109.1	4.6	5.3	12.3					
120	66.2				5.75	46.6	137.4	3.4	1.1	2.4	66.3	5.63	47.1	131.6	3.4	2.8	6.4	66.4	5.52	47.5	128.7	3.5	5.1	11.7					
				130																									
70	7.5	1.1	2.5	60	68.6	2.81	59.0	80.1	7.2	1.4	3.2	69.0	2.76	59.6	72.6	7.3	3.3	7.7	69.5	2.70	60.2	69.2	7.5	6.0	13.8				
				80	69.8	3.61	57.5	100.0	5.7	1.2	2.9	70.2	3.53	58.1	92.8	5.8	3.1	7.1	70.5	3.46	58.7	89.4	6.0	5.6	13.0				
				100	69.2	4.55	53.6	119.5	4.5	1.1	2.6	69.4	4.46	54.2	112.6	4.6	2.9	6.7	69.7	4.37	54.8	109.3	4.7	5.3	12.3				
				120	66.7	5.64	47.4	138.5	3.5	1.1	2.4	66.8	5.52	47.9	132.0	3.5	2.8	6.4	66.9	5.41	48.5	128.9	3.6	5.1	11.7				
					130																								
		11.25	3.0	6.9	60	70.7	2.84	61.0	80.7	7.3	1.4	3.2	71.2	2.78	61.7	73.2	7.5	3.3	7.7	71.6	2.73	62.3	69.7	7.7	6.0	13.8			
	80				72.5	3.64	60.1	100.5	5.8	1.2	2.9	72.9	3.57	60.7	93.3	6.0	3.1	7.1	73.2	3.50	61.3	89.9	6.1	5.6	13.0				
	100				72.1	4.61	56.3	119.9	4.6	1.1	2.6	72.3	4.52	56.9	113.1	4.7	2.9	6.7	72.6	4.43	57.5	109.7	4.8	5.3	12.3				
	120				69.4	5.73	49.9	139.0	3.5	1.1	2.4	69.6	5.62	50.4	132.4	3.6	2.8	6.4	69.7	5.51	50.9	129.3	3.7	5.1	11.7				
					130																								
		15.0	5.5	12.8	60	73.5	2.87	63.7	80.9	7.5	1.4	3.2	73.9	2.81	64.3	73.4	7.7	3.3	7.7	74.4	2.75	65.0	70.0	7.9	6.0	13.8			
	80				75.4	3.68	62.8	100.7	6.0	1.2	2.9	75.8	3.61	63.5	93.5	6.2	3.1	7.1	76.2	3.53	64.1	90.1	6.3	5.6	13.0				
100	75.1				4.67	59.1	120.2	4.7	1.1	2.6	75.3	4.57	59.7	113.3	4.8	2.9	6.7	75.6	4.48	60.3	109.9	4.9	5.3	12.3					
120	72.5				5.83	52.6	139.2	3.6	1.1	2.4	72.6	5.71	53.1	132.7	3.7	2.8	6.4	72.7	5.60	53.6	129.5	3.8	5.1	11.7					
				130																									
80	7.5	1.0	2.3	60	72.4	2.87	62.6	81.7	7.4	1.4	3.2	72.8	2.81	63.2	73.5	7.6	3.3	7.7	73.3	2.75	63.9	69.8	7.8	6.0	13.8				
				80	74.8	3.67	62.3	101.8	6.0	1.2	2.9	75.2	3.60	62.9	93.9	6.1	3.1	7.1	75.6	3.52	63.6	90.2	6.3	5.6	13.0				
				100	74.7	4.61	58.9	121.4	4.8	1.1	2.6	75.0	4.51	59.6	113.8	4.9	2.9	6.7	75.3	4.42	60.2	110.2	5.0	5.3	12.3				
				120	71.9	5.68	52.5	140.4	3.7	1.1	2.4	72.1	5.56	53.1	133.2	3.8	2.8	6.4	72.3	5.45	53.7	129.8	3.9	5.1	11.7				
					130																								
		11.25	2.8	6.5	60	73.7	2.89	63.9	82.3	7.5	1.4	3.2	74.2	2.84	64.5	74.1	7.7	3.3	7.7	74.7	2.78	65.2	70.3	7.9	6.0	13.8			
	80				77.3	3.71	64.7	102.3	6.1	1.2	2.9	77.7	3.63	65.3	94.3	6.3	3.1	7.1	78.2	3.56	66.0	90.6	6.4	5.6	13.0				
	100				77.7	4.67	61.8	121.8	4.9	1.1	2.6	78.0	4.58	62.4	114.2	5.0	2.9	6.7	78.4	4.49	63.0	110.6	5.1	5.3	12.3				
	120				74.8	5.79	55.1	140.7	3.8	1.1	2.4	75.0	5.68	55.7	133.5	3.9	2.8	6.4	75.2	5.56	56.2	130.1	4.0	5.1	11.7				
					130																								
		15.0	5.3	12.1	60	76.9	2.92	67.0	82.4	7.7	1.4	3.2	77.4	2.87	67.6	74.2	7.9	3.3	7.7	77.9	2.81	68.3	70.4	8.1	6.0	13.8			
	80				80.7	3.74	68.0	102.5	6.3	1.2	2.9	81.2	3.67	68.7	94.5	6.5	3.1	7.1	81.6	3.60	69.3	90.8	6.7	5.6	13.0				
100	81.3				4.74	65.2	122.0	5.0	1.1	2.6	81.7	4.64	68.8	114.4	5.2	2.9	6.7	82.0	4.55	66.5	110.8	5.3	5.3	12.3					
120	78.7				5.91	58.5	141.0	3.9	1.1	2.4	78.9	5.79	59.1	133.8	4.0	2.8	6.4	79.1	5.68	59.7	130.4	4.1	5.1	11.7					
				130	77.4	6.79	54.3	150.7	3.3	1.1	2.4	76.8	6.45	54.8	143.3	3.5	2.7	6.2	76.3	6.12	55.4	139.9	3.6	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 40°F EWT is based upon 15% methanol 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	105.2	4.41	120.3	38.2	23.9	1.6	3.7	106.9	4.45	122.1	41.0	24.0	3.8	8.8	110.7	4.50	126.0	42.5	24.6	6.8	15.7			
				60	106.4	4.45	121.6	47.1	23.9	1.5	3.5	108.1	4.49	123.4	50.5	24.1	3.7	8.4	111.9	4.54	127.4	52.4	24.7	6.6	15.2			
				70	107.6	4.48	122.9	56.0	24.0	1.4	3.3	109.3	4.53	124.8	60.0	24.1	3.5	8.1	113.1	4.57	128.7	62.2	24.7	6.4	14.7			
				80	111.0	4.49	126.3	64.7	24.7	1.4	3.2	112.8	4.53	128.3	69.4	24.9	3.4	7.9	116.7	4.58	132.4	72.0	25.5	6.2	14.3			
	22.5	3.8	8.7	50	106.8	4.45	122.0	38.0	24.0	1.6	3.7	108.3	4.50	123.6	40.8	24.1	3.8	8.8	112.1	4.54	127.6	42.3	24.7	6.8	15.7			
				60	110.9	4.49	126.2	46.7	24.7	1.5	3.5	112.5	4.54	128.0	50.1	24.8	3.7	8.4	116.4	4.58	132.0	52.0	25.4	6.6	15.2			
				70	115.1	4.53	130.5	55.4	25.4	1.4	3.3	116.7	4.57	132.3	59.4	25.5	3.5	8.1	120.8	4.62	136.5	61.6	26.1	6.4	14.7			
				80	116.1	4.53	131.6	64.3	25.6	1.4	3.2	117.7	4.58	133.4	69.0	25.7	3.4	7.9	121.9	4.62	137.6	71.5	26.4	6.2	14.3			
	30.0	6.8	15.6	50	117.2	4.54	132.6	73.2	25.8	1.3	3.0	118.8	4.58	134.5	78.5	25.9	3.3	7.6	123.0	4.63	138.8	81.4	26.6	6.0	13.9			
				60	111.1	4.50	126.5	35.8	24.7	1.6	3.7	113.0	4.54	128.5	40.3	24.9	3.8	8.8	115.9	4.59	131.5	42.1	25.2	6.8	15.7			
				70	114.9	4.54	130.4	45.0	25.3	1.5	3.5	117.5	4.58	133.1	49.8	25.6	3.7	8.4	123.0	4.63	138.8	51.5	26.6	6.6	15.2			
				80	118.8	4.57	134.4	54.1	26.0	1.4	3.3	122.0	4.62	137.8	59.3	26.4	3.5	8.1	130.2	4.67	146.1	60.9	27.9	6.4	14.7			
70	15.0	1.2	2.7	50	98.2	5.64	117.5	38.1	17.4	1.6	3.7	100.6	5.70	120.1	41.1	17.7	3.8	8.8	104.0	5.76	123.7	42.9	18.1	6.8	15.7			
				60	106.3	5.68	125.7	46.4	18.7	1.5	3.5	109.0	5.74	128.6	50.0	19.0	3.7	8.4	112.6	5.79	132.4	52.3	19.4	6.6	15.2			
				70	114.4	5.71	133.9	54.8	20.0	1.4	3.3	117.3	5.77	137.0	59.1	20.3	3.5	8.1	121.3	5.83	141.2	61.7	20.8	6.4	14.7			
				80	118.7	5.83	138.6	63.4	20.3	1.4	3.2	121.7	5.89	141.8	68.3	20.6	3.4	7.9	125.7	5.95	146.1	71.4	21.1	6.2	14.3			
	22.5	3.3	7.6	50	100.3	5.70	119.8	38.0	17.6	1.6	3.7	102.7	5.76	122.4	41.0	17.8	3.8	8.8	106.2	5.82	126.0	42.8	18.3	6.8	15.7			
				60	109.1	5.74	128.7	46.2	19.0	1.5	3.5	111.7	5.79	131.5	49.8	19.3	3.7	8.4	115.5	5.85	135.4	52.1	19.7	6.6	15.2			
				70	117.9	5.77	137.6	54.5	20.4	1.4	3.3	120.7	5.83	140.6	58.8	20.7	3.5	8.1	124.8	5.89	144.9	61.4	21.2	6.4	14.7			
				80	121.6	5.89	141.7	63.1	20.6	1.4	3.2	124.5	5.95	144.9	68.1	20.9	3.4	7.9	128.7	6.01	149.2	71.1	21.4	6.2	14.3			
	30.0	6.1	14.1	50	125.2	6.02	145.8	71.7	20.8	1.3	3.0	128.3	6.08	149.1	77.3	21.1	3.3	7.6	132.6	6.14	153.6	80.8	21.6	6.0	13.9			
				60	102.4	5.76	122.0	36.9	17.8	1.6	3.7	106.6	5.82	126.4	40.8	18.3	3.8	8.8	108.5	5.88	128.6	42.6	18.5	6.8	15.7			
				70	111.3	5.79	131.1	45.4	19.2	1.5	3.5	115.2	5.85	135.2	49.6	19.7	3.7	8.4	118.8	5.91	138.9	51.8	20.1	6.6	15.2			
				80	120.2	5.83	140.1	53.9	20.6	1.4	3.3	123.9	5.89	144.0	58.5	21.0	3.5	8.1	129.0	5.95	149.3	61.1	21.7	6.4	14.7			
80	15.0	1.1	2.5	50	94.7	6.26	116.1	38.0	15.1	1.6	3.7	97.5	6.33	119.1	41.1	15.4	3.8	8.8	100.7	6.39	122.5	43.1	15.8	6.8	15.7			
				60	106.3	6.30	127.8	46.1	16.9	1.5	3.5	109.4	6.36	131.1	49.8	17.2	3.7	8.4	113.0	6.42	134.9	52.3	17.6	6.6	15.2			
				70	117.9	6.33	139.5	54.2	18.6	1.4	3.3	121.4	6.39	143.2	58.6	19.0	3.5	8.1	125.3	6.46	147.4	61.5	19.4	6.4	14.7			
				80	122.5	6.51	144.7	62.7	18.8	1.4	3.2	126.1	6.57	148.6	67.8	19.2	3.4	7.9	130.3	6.64	152.9	71.1	19.6	6.2	14.3			
	22.5	3.1	7.1	50	97.1	6.33	118.7	38.0	15.3	1.6	3.7	99.9	6.39	121.7	41.1	15.6	3.8	8.8	103.2	6.45	125.2	43.0	16.0	6.8	15.7			
				60	108.2	6.36	129.9	46.0	17.0	1.5	3.5	111.4	6.42	133.3	49.7	17.3	3.7	8.4	115.0	6.49	137.1	52.2	17.7	6.6	15.2			
				70	119.3	6.39	141.1	54.0	18.7	1.4	3.3	122.8	6.46	144.8	58.4	19.0	3.5	8.1	126.8	6.52	149.1	61.3	19.4	6.4	14.7			
				80	124.3	6.57	146.7	62.5	18.9	1.4	3.2	127.9	6.64	150.6	67.6	19.3	3.4	7.9	132.1	6.71	155.0	70.9	19.7	6.2	14.3			
	30.0	5.8	13.4	50	129.3	6.75	152.3	71.0	19.1	1.3	3.0	133.1	6.82	156.4	76.8	19.5	3.3	7.6	137.5	6.89	161.0	80.6	19.9	6.0	13.9			
				60	98.0	6.39	119.8	37.4	15.3	1.6	3.7	103.4	6.45	125.4	41.0	16.0	3.8	8.8	104.8	6.52	127.1	42.9	16.1	6.8	15.7			
				70	109.5	6.42	131.4	45.6	17.0	1.5	3.5	114.1	6.49	136.3	49.5	17.6	3.7	8.4	116.6	6.55	139.0	52.0	17.8	6.6	15.2			
				80	120.9	6.46	143.0	53.8	18.7	1.4	3.3	124.8	6.52	147.1	58.1	19.1	3.5	8.1	128.4	6.59	150.9	61.1	19.5	6.4	14.7			
90	15.0	1.0	2.3	50	89.7	7.15	114.1	38.7	12.5	1.6	3.7	92.5	7.22	117.2	41.6	12.8	3.8	8.8	95.0	7.29	119.8	43.4	13.0	6.8	15.7			
				60	101.4	7.22	126.0	46.8	14.0	1.5	3.5	104.6	7.30	129.5	50.3	14.3	3.7	8.4	107.4	7.37	132.5	52.6	14.6	6.6	15.2			
				70	113.1	7.30	138.0	54.9	15.5	1.4	3.3	116.7	7.37	141.9	59.1	15.8	3.5	8.1	119.8	7.45	145.2	61.8	16.1	6.4	14.7			
				80	119.3	7.47	144.8	63.4	16.0	1.4	3.2	123.1	7.54	148.8	68.2	16.3	3.4	7.9	126.3	7.62	152.3	71.3	16.6	6.2	14.3			
	22.5	2.9	6.7	50	91.8	7.22	116.4	38.6	12.7	1.6	3.7	94.7	7.29	119.6	41.5	13.0	3.8	8.8	97.2	7.37	122.4	43.4	13.2	6.8	15.7			
				60	103.6	7.30	128.5	46.7	14.2	1.5	3.5	106.9	7.37	132.1	50.2	14.5	3.7	8.4	109.7	7.44	135.1	52.5	14.7	6.6	15.2			
				70	115.4	7.37	140.6	54.8	15.7	1.4	3.3	119.1	7.45	144.5	58.9	16.0	3.5	8.1	122.2	7.52	147.9	61.6	16.2	6.4	14.7			
				80	121.4	7.54	147.2	63.2	16.1	1.4	3.2	125.3	7.62	151.3	68.0	16.4	3.4	7.9	128.5	7.70	154.8	71.1	16.7	6.2	14.3			
	30.0	5.5	12.7	50	127.4	7.72	153.7	71.7	16.5	1.3	3.0	131.5	7.80	158.1	77.1	16.9	3.3	7.6	134.9	7.87	161.7	80.6	17.1	6.0	13.9			
				60	93.0	7.29	117.9	38.1	12.8	1.6	3.7	97.2	7.37	122.3	41.4	13.2	3.8	8.8	99.1	7.44	124.5	43.3	13.3	6.8	15.7			
				70	104.7	7.37	129.9	46.2	14.2	1.5	3.5	108.4	7.44	133.8	50.1	14.6	3.7	8.4	111.6	7.52	137.2	52.4	14.8	6.6	15.2			
				80	116.4	7.45	141.8	54.3	15.6	1.4	3.3	119.7	7.52	145.3	58.7	15.9	3.5	8.1	124.0	7.60	149.9	61.5	16.3	6.4	14.7			
30.0	5.5	12.7	50	123.3	7.62	149.3	62.9	16.2	1.4	3.2	126.9	7.70	153.1	73.1	16.8	3.4	7.9	131.5	7.78	158.0	70.8	16.9	6.2	14.3				
			60	130.2	7.80	156.8	71.6	16.7	1.3	3.0	134.1	7.87	160.9	77.0	17.0	3.3	7.6	139.0	7.95	166.2	80.2	17.5	6.0	1				

# Tranquility Water-To-Water (TMW) Series

## Performance Data — TMW120 - Cooling

Table Continued from Previous Page

110	15.0	0.8	2.0	50	79.6	8.92	110.0	39.9	8.9	1.6	3.7	82.6	9.01	113.3	42.5	9.2	3.8	8.8	83.5	9.10	114.5	44.1	9.2	6.8	15.7
				60	91.6	9.08	122.6	48.2	10.1	1.5	3.5	95.0	9.17	126.3	51.2	10.4	3.7	8.4	96.1	9.26	127.6	53.2	10.4	6.6	15.2
				70	103.6	9.23	135.1	56.4	11.2	1.4	3.3	107.4	9.32	139.3	60.0	11.5	3.5	8.1	108.6	9.42	140.8	62.4	11.5	6.4	14.7
				80	112.8	9.39	144.8	64.9	12.0	1.4	3.2	117.0	9.48	149.4	69.0	12.3	3.4	7.9	118.3	9.58	151.0	71.7	12.3	6.2	14.3
	90	122.0	9.55	154.6	73.4	12.8	1.3	3.0	126.6	9.64	159.5	78.0	13.1	3.3	7.6	128.0	9.74	161.2	81.1	13.1	6.0	13.9			
	50	81.3	9.01	112.0	39.9	9.0	1.6	3.7	84.3	9.10	115.4	42.4	9.3	3.8	8.8	85.2	9.19	116.6	44.1	9.3	6.8	15.7			
	60	94.5	9.17	125.8	48.1	10.3	1.5	3.5	98.0	9.26	129.6	51.2	10.6	3.7	8.4	99.1	9.35	131.0	53.2	10.6	6.6	15.2			
	70	107.8	9.32	139.6	56.3	11.6	1.4	3.3	111.8	9.42	143.9	59.9	11.9	3.5	8.1	113.0	9.51	145.5	62.2	11.9	6.4	14.7			
	80	115.7	9.48	148.1	64.7	12.2	1.4	3.2	120.0	9.58	152.7	68.8	12.5	3.4	7.9	121.3	9.68	154.4	71.5	12.5	6.2	14.3			
	90	123.7	9.64	156.6	73.1	12.8	1.3	3.0	128.3	9.74	161.5	77.7	13.2	3.3	7.6	129.7	9.84	163.3	80.8	13.2	6.0	13.9			
	50	83.1	9.10	114.1	39.4	9.1	1.6	3.7	84.7	9.19	116.1	42.4	9.2	3.8	8.8	87.6	9.28	119.3	44.0	9.4	6.8	15.7			
	60	95.2	9.26	126.8	47.4	10.3	1.5	3.5	97.0	9.35	128.9	51.1	10.4	3.7	8.4	101.4	9.45	133.7	53.1	10.7	6.6	15.2			
70	107.4	9.42	139.5	55.3	11.4	1.4	3.3	109.3	9.51	141.8	59.9	11.5	3.5	8.1	115.2	9.61	148.0	62.2	12.0	6.4	14.7				
80	116.5	9.58	149.2	64.2	12.2	1.4	3.2	119.5	9.68	152.5	68.7	12.3	3.4	7.9	123.4	9.77	156.8	71.4	12.6	6.2	14.3				
90	125.6	9.74	158.9	73.0	12.9	1.3	3.0	129.6	9.84	163.1	77.6	13.2	3.3	7.6	131.7	9.94	165.6	80.7	13.2	6.0	13.9				
120	15.0	0.8	1.8	50	74.0	10.08	108.4	40.3	7.3	1.6	3.7	77.0	10.18	111.8	43.2	7.6	3.8	8.8	78.6	10.28	113.7	44.7	7.6	6.8	15.7
				60	85.4	10.25	120.4	48.6	8.3	1.5	3.5	88.9	10.36	124.2	52.0	8.6	3.7	8.4	90.7	10.46	126.4	53.8	8.7	6.6	15.2
				70	96.8	10.42	132.4	56.9	9.3	1.4	3.3	100.8	10.53	136.7	60.8	9.6	3.5	8.1	102.8	10.64	139.1	62.9	9.7	6.4	14.7
				80	105.9	10.62	142.1	65.2	10.0	1.4	3.2	110.2	10.72	146.8	69.7	10.3	3.4	7.9	112.5	10.83	149.4	72.1	10.4	6.2	14.3
	90	115.1	10.81	151.9	73.5	10.6	1.3	3.0	119.7	10.92	157.0	78.6	11.0	3.3	7.6	122.2	11.03	159.8	81.3	11.1	6.0	13.9			
	50	74.5	10.18	109.2	40.3	7.3	1.6	3.7	77.5	10.28	112.6	43.1	7.5	3.8	8.8	79.1	10.39	114.6	44.6	7.6	6.8	15.7			
	60	86.3	10.36	121.6	48.5	8.3	1.5	3.5	89.8	10.46	125.5	51.9	8.6	3.7	8.4	91.6	10.57	127.7	53.7	8.7	6.6	15.2			
	70	98.1	10.53	134.0	56.7	9.3	1.4	3.3	102.1	10.64	138.4	60.6	9.6	3.5	8.1	104.2	10.74	140.8	62.7	9.7	6.4	14.7			
	80	107.3	10.72	143.9	65.0	10.0	1.4	3.2	111.7	10.83	148.6	69.6	10.3	3.4	7.9	113.9	10.94	151.3	72.0	10.4	6.2	14.3			
	90	116.5	10.92	153.7	73.4	10.7	1.3	3.0	121.2	11.03	158.9	78.5	11.0	3.3	7.6	123.7	11.14	161.7	81.3	11.1	6.0	13.9			
	50	76.9	10.28	112.0	40.0	7.5	1.6	3.7	80.2	10.39	115.7	42.9	7.7	3.8	8.8	81.7	10.49	117.5	44.5	7.8	6.8	15.7			
	60	88.8	10.46	124.4	48.2	8.5	1.5	3.5	92.8	10.57	128.9	51.7	8.8	3.7	8.4	94.6	10.67	131.0	53.6	8.9	6.6	15.2			
70	100.6	10.64	136.9	56.5	9.5	1.4	3.3	105.5	10.74	142.1	60.5	9.8	3.5	8.1	107.6	10.85	144.6	62.6	9.9	6.4	14.7				
80	109.9	10.83	146.8	64.9	10.1	1.4	3.2	115.1	10.94	152.4	69.5	10.5	3.4	7.9	117.2	11.05	154.9	71.9	10.6	6.2	14.3				
90	119.2	11.03	156.8	73.3	10.8	1.3	3.0	124.7	11.14	162.7	78.5	11.2	3.3	7.6	126.9	11.25	165.3	81.2	11.3	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 °F	Flow			EWT °F	Flow 15.0 GPM						Flow 22.5 GPM						Flow 30.0 GPM								
	GPM	WPD PSI	FT		HC Mbtuh	Power kW	HE Mbtuh	LWT °F	COP	WPD PSI	FT	HC Mbtuh	Power kW	HE Mbtuh	LWT °F	COP	WPD PSI	FT	HC Mbtuh	Power kW	HE Mbtuh	LWT °F	COP	WPD PSI	FT
20	30.0	8.0	18.6	60	82.2	4.86	65.6	71.5	5.0	1.5	3.5	82.6	4.76	66.3	67.4	5.1	3.3	7.7	82.9	4.67	67.0	65.3	5.2	6.0	13.8
				80	80.9	6.34	59.3	91.2	3.7	1.4	3.2	81.1	6.22	59.9	87.2	3.8	3.1	7.1	81.3	6.09	60.5	85.3	3.9	5.6	13.0
				100	79.3	8.23	51.3	110.8	2.8	1.3	2.9	79.3	8.06	51.8	106.9	2.9	2.9	6.7	79.3	7.90	52.4	105.1	2.9	5.3	12.3
30	15.0	1.7	3.9	60	95.6	5.04	78.4	73.3	5.6	1.5	3.5	96.0	4.94	79.2	68.6	5.7	3.3	7.7	96.5	4.84	80.0	66.3	5.8	6.0	13.8
				80	93.8	6.55	71.5	92.9	4.2	1.4	3.2	94.1	6.42	72.2	88.4	4.3	3.1	7.1	94.4	6.29	73.0	86.1	4.4	5.6	13.0
				100	91.7	8.44	62.9	112.4	3.2	1.3	2.9	91.8	8.27	63.5	108.1	3.3	2.9	6.7	91.9	8.11	64.2	105.9	3.3	5.3	12.3
				120	89.1	10.71	52.6	131.9	2.4	1.2	2.7	89.0	10.50	53.2	127.7	2.5	2.8	6.4	88.8	10.29	53.7	125.7	2.5	5.1	11.7
	22.5	4.4	10.1	60	100.0	5.13	82.5	73.6	5.7	1.5	3.5	100.5	5.02	83.4	68.9	5.9	3.3	7.7	101.0	4.92	84.2	66.6	6.0	6.0	13.8
				80	97.9	6.66	75.2	93.3	4.3	1.4	3.2	98.3	6.53	76.0	88.7	4.4	3.1	7.1	98.6	6.40	76.8	86.5	4.5	5.6	13.0
				100	95.7	8.58	66.4	112.8	3.3	1.3	2.9	95.8	8.41	67.1	108.4	3.3	2.9	6.7	95.9	8.24	67.8	106.2	3.4	5.3	12.3
				120	93.2	10.89	56.0	132.1	2.5	1.2	2.7	93.0	10.67	56.6	128.0	2.6	2.8	6.4	92.9	10.46	57.2	125.9	2.6	5.1	11.7
	30.0	7.6	17.5	60	103.9	5.21	86.1	73.9	5.8	1.5	3.5	104.4	5.11	87.0	69.1	6.0	3.3	7.7	105.0	5.01	87.9	66.8	6.1	6.0	13.8
				80	101.8	6.77	78.7	93.4	4.4	1.4	3.2	102.1	6.64	79.5	88.9	4.5	3.1	7.1	102.5	6.50	80.3	86.6	4.6	5.6	13.0
				100	99.2	8.73	69.4	112.9	3.3	1.3	2.9	99.3	8.55	70.1	108.6	3.4	2.9	6.7	99.4	8.38	70.8	106.4	3.5	5.3	12.3
				120	96.1	11.08	58.3	132.3	2.5	1.2	2.7	95.9	10.85	58.9	128.2	2.6	2.8	6.4	95.8	10.64	59.5	126.1	2.6	5.1	11.7
40	15.0	1.5	3.5	60	108.9	5.22	91.1	75.0	6.1	1.5	3.5	109.5	5.12	92.0	69.7	6.3	3.3	7.7	110.1	5.02	93.0	67.2	6.4	6.0	13.8
				80	106.7	6.76	83.6	94.6	4.6	1.4	3.2	107.1	6.62	84.5	89.6	4.7	3.1	7.1	107.6	6.49	85.4	87.0	4.9	5.6	13.0
				100	104.0	8.65	74.5	114.0	3.5	1.3	2.9	104.2	8.48	75.3	109.2	3.6	2.9	6.7	104.4	8.31	76.1	106.7	3.7	5.3	12.3
				120	100.7	10.91	63.5	133.4	2.7	1.2	2.7	100.7	10.69	64.2	128.7	2.8	2.8	6.4	100.6	10.48	64.9	126.4	2.8	5.1	11.7
	22.5	4.1	9.3	60	114.7	5.29	96.7	75.5	6.4	1.5	3.5	115.4	5.19	97.7	71.1	6.5	3.3	7.7	116.0	5.08	98.7	67.5	6.7	6.0	13.8
				80	111.8	6.85	88.5	95.1	4.8	1.4	3.2	112.3	6.71	89.4	90.0	4.9	3.1	7.1	112.7	6.58	90.3	87.4	5.0	5.6	13.0
				100	108.6	8.77	78.7	114.5	3.6	1.3	2.9	108.8	8.59	79.5	109.7	3.7	2.9	6.7	109.1	8.42	80.3	107.1	3.8	5.3	12.3
				120	105.2	11.06	67.4	133.8	2.8	1.2	2.7	105.1	10.84	68.1	129.1	2.8	2.8	6.4	105.1	10.62	68.8	126.8	2.9	5.1	11.7
	30.0	7.2	16.6	60	118.5	5.36	100.2	75.9	6.5	1.5	3.5	119.1	5.26	101.2	70.5	6.6	3.3	7.7	119.8	5.15	102.2	67.9	6.8	6.0	13.8
				80	115.6	6.94	91.9	95.3	4.9	1.4	3.2	116.1	6.80	92.8	90.3	5.0	3.1	7.1	116.5	6.67	93.8	87.6	5.1	5.6	13.0
				100	112.1	8.89	81.8	114.7	3.7	1.3	2.9	112.3	8.71	82.6	109.9	3.8	2.9	6.7	112.6	8.54	83.5	107.3	3.9	5.3	12.3
				120	108.0	11.21	69.8	134.0	2.8	1.2	2.7	108.0	10.98	70.5	129.3	2.9	2.8	6.4	107.9	10.76	71.2	127.0	2.9	5.1	11.7
50	15.0	1.4	3.2	60	122.2	5.40	103.8	76.8	6.6	1.5	3.5	122.9	5.30	104.9	70.8	6.8	3.3	7.7	123.7	5.19	106.0	68.1	7.0	6.0	13.8
				80	119.6	6.97	95.8	96.3	5.0	1.4	3.2	120.1	6.83	96.8	90.8	5.2	3.1	7.1	120.7	6.69	97.9	87.8	5.3	5.6	13.0
				100	116.3	8.87	86.1	115.6	3.8	1.3	2.9	116.6	8.69	87.0	110.4	3.9	2.9	6.7	117.0	8.52	87.9	107.5	4.0	5.3	12.3
				120	112.3	11.11	74.4	134.9	3.0	1.2	2.7	112.4	10.89	75.2	129.7	3.0	2.8	6.4	112.5	10.67	76.1	127.2	3.1	5.1	11.7
	22.5	3.8	8.7	60	129.4	5.46	110.8	77.4	6.9	1.5	3.5	130.2	5.35	111.9	71.3	7.1	3.3	7.7	131.0	5.24	113.1	68.5	7.3	6.0	13.8
				80	125.7	7.04	101.7	96.9	5.2	1.4	3.2	126.3	6.90	102.7	91.3	5.4	3.1	7.1	126.8	6.76	103.8	88.3	5.5	5.6	13.0
				100	121.6	8.96	91.0	116.2	4.0	1.3	2.9	121.9	8.78	92.0	110.9	4.1	2.9	6.7	122.3	8.60	92.9	108.0	4.2	5.3	12.3
				120	117.2	11.22	78.9	135.4	3.1	1.2	2.7	117.2	11.00	79.7	130.2	3.1	2.8	6.4	117.3	10.78	80.5	127.7	3.2	5.1	11.7
	30.0	6.8	15.6	60	133.0	5.51	114.2	78.0	7.1	1.5	3.5	133.8	5.40	115.3	71.9	7.3	3.3	7.7	134.6	5.30	116.5	69.0	7.4	6.0	13.8
				80	129.4	7.11	105.1	97.2	5.3	1.4	3.2	130.0	6.97	106.2	91.6	5.5	3.1	7.1	130.6	6.83	107.3	88.6	5.6	5.6	13.0
				100	125.0	9.05	94.2	116.4	4.1	1.3	2.9	125.4	8.87	95.1	111.1	4.1	2.9	6.7	125.7	8.69	96.1	108.2	4.2	5.3	12.3
				120	119.9	11.34	81.2	135.6	3.1	1.2	2.7	120.0	11.11	82.1	130.5	3.2	2.8	6.4	120.0	10.89	82.9	127.9	3.2	5.1	11.7
60	15.0	1.3	3.0	60	129.7	5.51	110.9	78.5	6.9	1.5	3.5	130.5	5.40	112.1	71.7	7.1	3.3	7.7	131.3	5.30	113.2	68.6	7.3	6.0	13.8
				80	129.6	7.09	105.4	98.1	5.4	1.4	3.2	130.2	6.95	106.5	91.8	5.5	3.1	7.1	130.9	6.81	107.6	88.6	5.6	5.6	13.0
				100	127.3	8.98	96.7	117.6	4.2	1.3	2.9	127.7	8.80	97.7	111.5	4.3	2.9	6.7	128.2	8.63	98.7	108.4	4.4	5.3	12.3
				120	122.8	11.19	84.7	136.7	3.2	1.2	2.7	123.0	10.97	85.6	130.9	3.3	2.8	6.4	123.2	10.75	86.5	128.0	3.4	5.1	11.7
	22.5	3.5	8.1	60	135.5	5.57	116.4	79.0	7.1	1.5	3.5	136.3	5.46	117.6	72.2	7.3	3.3	7.7	137.1	5.35	118.8	69.1	7.5	6.0	13.8
				80	135.3	7.16	110.9	98.7	5.5	1.4	3.2	136.0	7.02	112.1	92.3	5.7	3.1	7.1	136.7	6.88	113.2	89.1	5.8	5.6	13.0
				100	132.9	9.09	101.9	118.1	4.3	1.3	2.9	133.3	8.90	102.9	112.0	4.4	2.9	6.7	133.7	8.73	104.0	108.9	4.5	5.3	12.3
				120	128.0	11.34	89.3	137.2	3.3	1.2	2.7	128.2	11.12	90.2	131.3	3.4	2.8	6.4	128.3	10.89	91.2	128.5	3.5	5.1	11.7
	30.0	6.4	14.8	60	140.0	5.63	120.8	79.4	7.3	1.5	3.5	140.8	5.51	122.0	72.6	7.5	3.3	7.7	141.7	5.40	123.2	69.5	7.7	6.0	13.8
				80	140.1	7.23	115.4	99.0	5.7	1.4	3.2	140.8	7.09	116.6	92.6	5.8	3.1	7.1	141.5	6.95	117.7	89.4	6.0	5.6	13.0
				100	137.6	9.19	106.2	118.3	4.4	1.3	2.9	138.0	9.01	107.3	112.2	4.5	2.9	6.7	138.5	8.83	108.4	109.1	4.6	5.3	12.3
				120	132.4	11.50	93.2	137.4	3.4	1.2	2.7	132.6	11.27	94.1	131.6	3.4	2.8	6.4	132.7	11.04	95.1	128.7	3.5	5.1	11.7

# Tranquility Water-To-Water (TMW) Series

## Performance Data — TMW120 - Heating

Table Continued from Previous Page

SOURCE				LOAD																								
EWT °F	Flow			EWT °F	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				
		PSI	FT							PSI	FT						PSI	FT						PSI	FT			
70	15.0	1.2	2.7	60	137.2	5.62	118.0	80.1	7.2	1.5	3.5	138.1	5.51	119.3	72.6	7.3	3.3	7.7	138.9	5.40	120.5	69.2	7.5	6.0	13.8			
				80	139.6	7.21	115.0	100.0	5.7	1.4	3.2	140.3	7.07	116.2	92.8	5.8	3.1	7.1	141.1	6.93	117.4	89.4	6.0	5.6	13.0			
				100	138.3	9.01	107.3	119.5	4.5	1.3	2.9	138.8	8.92	108.4	112.6	4.6	2.9	6.7	139.4	8.74	109.6	109.3	4.7	5.3	12.3			
				120	133.3	11.27	94.9	138.5	3.5	1.2	2.7	133.6	11.05	95.9	132.0	3.5	2.8	6.4	133.9	10.83	96.9	128.9	3.6	5.1	11.7			
	OPERATION NOT RECOMMENDED																											
	22.5	3.3	7.6	60	141.5	5.68	122.1	80.7	7.3	1.5	3.5	142.3	5.57	123.3	73.2	7.5	3.3	7.7	143.2	5.46	124.6	69.7	7.7	6.0	13.8			
				80	145.0	7.29	120.1	100.5	5.8	1.4	3.2	145.7	7.14	121.4	93.3	6.0	3.1	7.1	146.5	7.00	122.6	89.9	6.1	5.6	13.0			
				100	144.1	9.22	112.7	119.9	4.6	1.3	2.9	144.7	9.03	113.9	113.1	4.7	2.9	6.7	145.2	8.85	115.0	109.7	4.8	5.3	12.3			
				120	138.9	11.46	99.7	139.0	3.5	1.2	2.7	139.1	11.24	100.8	132.4	3.6	2.8	6.4	139.4	11.01	101.8	129.3	3.7	5.1	11.7			
	OPERATION NOT RECOMMENDED																											
	30.0	6.1	14.1	60	146.9	5.74	127.3	80.9	7.5	1.5	3.5	147.8	5.62	128.6	73.4	7.7	3.3	7.7	148.7	5.50	129.9	70.0	7.9	6.0	13.8			
				80	150.8	7.36	125.7	100.7	6.0	1.4	3.2	151.6	7.21	126.9	93.5	6.2	3.1	7.1	152.3	7.07	128.2	90.1	6.3	5.6	13.0			
100				150.1	9.33	118.3	120.2	4.7	1.3	2.9	150.7	9.15	119.5	113.3	4.8	2.9	6.7	151.3	8.97	120.7	109.9	4.9	5.3	12.3				
120				144.9	11.66	105.1	139.2	3.6	1.2	2.7	145.2	11.43	106.2	132.7	3.7	2.8	6.4	145.5	11.20	107.3	129.5	3.8	5.1	11.7				
OPERATION NOT RECOMMENDED																												
80	15.0	1.1	2.5	60	144.7	5.73	125.2	81.7	7.4	1.5	3.5	145.6	5.62	126.5	73.5	7.6	3.3	7.7	146.5	5.51	127.8	69.8	7.8	6.0	13.8			
				80	149.6	7.34	124.6	101.8	6.0	1.4	3.2	150.4	7.19	125.9	93.9	6.1	3.1	7.1	151.2	7.05	127.2	90.2	6.3	5.6	13.0			
				100	149.3	9.21	117.9	121.4	4.8	1.3	2.9	149.9	9.03	119.1	113.8	4.9	2.9	6.7	150.6	8.85	120.4	110.2	5.0	5.3	12.3			
				120	143.8	11.35	105.1	140.4	3.7	1.2	2.7	144.2	11.13	106.2	133.2	3.8	2.8	6.4	144.5	10.91	107.3	129.8	3.9	5.1	11.7			
	OPERATION NOT RECOMMENDED																											
	22.5	3.1	7.1	60	147.5	5.79	127.7	82.3	7.5	1.5	3.5	148.4	5.67	129.0	74.1	7.7	3.3	7.7	149.3	5.56	130.3	70.3	7.9	6.0	13.8			
				80	154.7	7.41	129.4	102.3	6.1	1.4	3.2	155.5	7.26	130.7	94.3	6.3	3.1	7.1	156.3	7.12	132.0	90.6	6.4	5.6	13.0			
				100	155.4	9.34	123.5	121.8	4.9	1.3	2.9	156.0	9.16	124.8	114.2	5.0	2.9	6.7	156.7	8.97	126.1	110.6	5.1	5.3	12.3			
				120	149.7	11.59	110.2	140.7	3.8	1.2	2.7	150.1	11.35	111.3	133.5	3.9	2.8	6.4	150.4	11.13	112.5	130.1	4.0	5.1	11.7			
	OPERATION NOT RECOMMENDED																											
	30.0	5.8	13.4	60	153.9	8.85	133.9	82.4	7.7	1.5	3.5	154.8	5.73	135.3	74.2	7.9	3.3	7.7	155.8	5.62	136.6	70.4	8.1	6.0	13.8			
				80	161.5	7.49	135.9	102.5	6.3	1.4	3.2	162.3	7.34	137.3	94.5	6.5	3.1	7.1	163.2	7.19	138.7	90.8	6.7	5.6	13.0			
100				162.7	9.48	130.3	122.0	5.0	1.3	2.9	163.3	9.29	131.6	114.4	5.2	2.9	6.7	164.0	9.10	133.0	110.8	5.3	5.3	12.3				
120				157.4	11.82	117.1	141.0	3.9	1.2	2.7	157.8	11.59	118.3	133.8	4.0	2.8	6.4	158.2	11.36	119.4	130.4	4.1	5.1	11.7				
OPERATION NOT RECOMMENDED																												
				130																								

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 40°F EWT is based upon 15% methanol 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

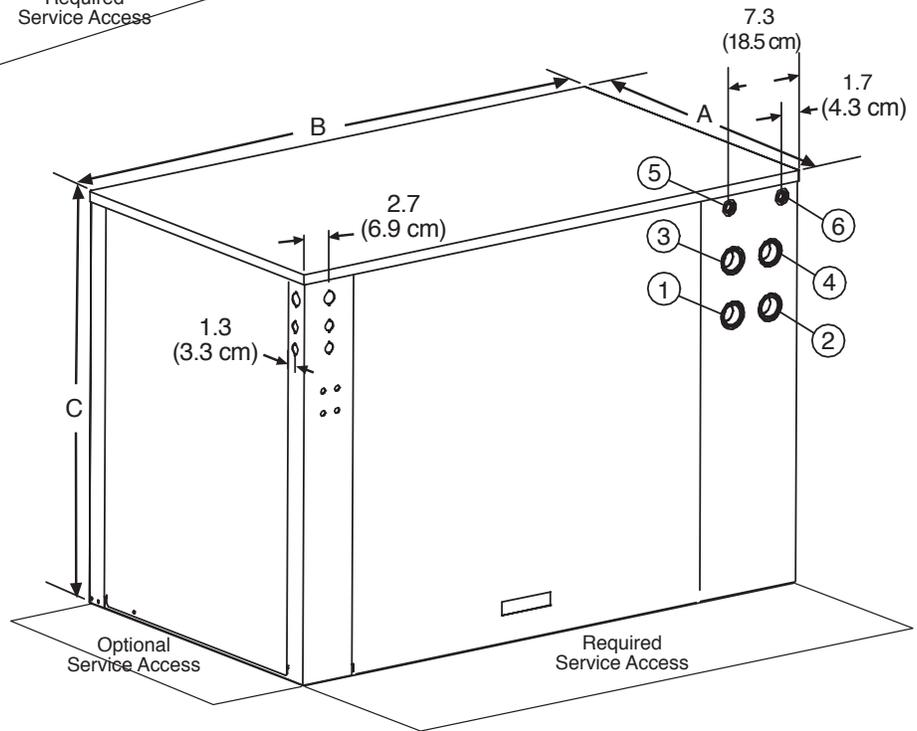
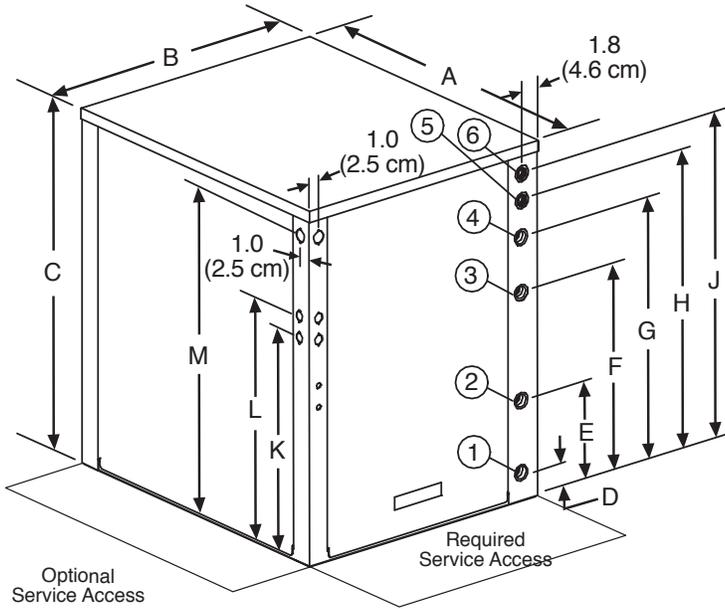
## Physical Data

Model	036	060	120
Compressor (qty)	Scroll (1)		Scroll (2)
Factory Charge HFC-410A (lbs) [kg] Per Circuit	4.5 [2.04]	5.5 [2.49]	5.5 [2.49]
<b>Water Connection Size</b>			
Source/Load	1" Swivel		1-1/2 FPT
HWG (in)	1" Swivel		1/2" FPT
Weight - Operating (lbs) [kg]	348 [158]	360 [163]	726 [329]
Weight - Packaged (lbs) [kg]	373 [169]	385 [175]	770 [349]
<b>Water Volume (Source)</b>			
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

# Tranquility Water-To-Water (TMW) Series

## Dimensions - TMW036, TMW060 & TMW120



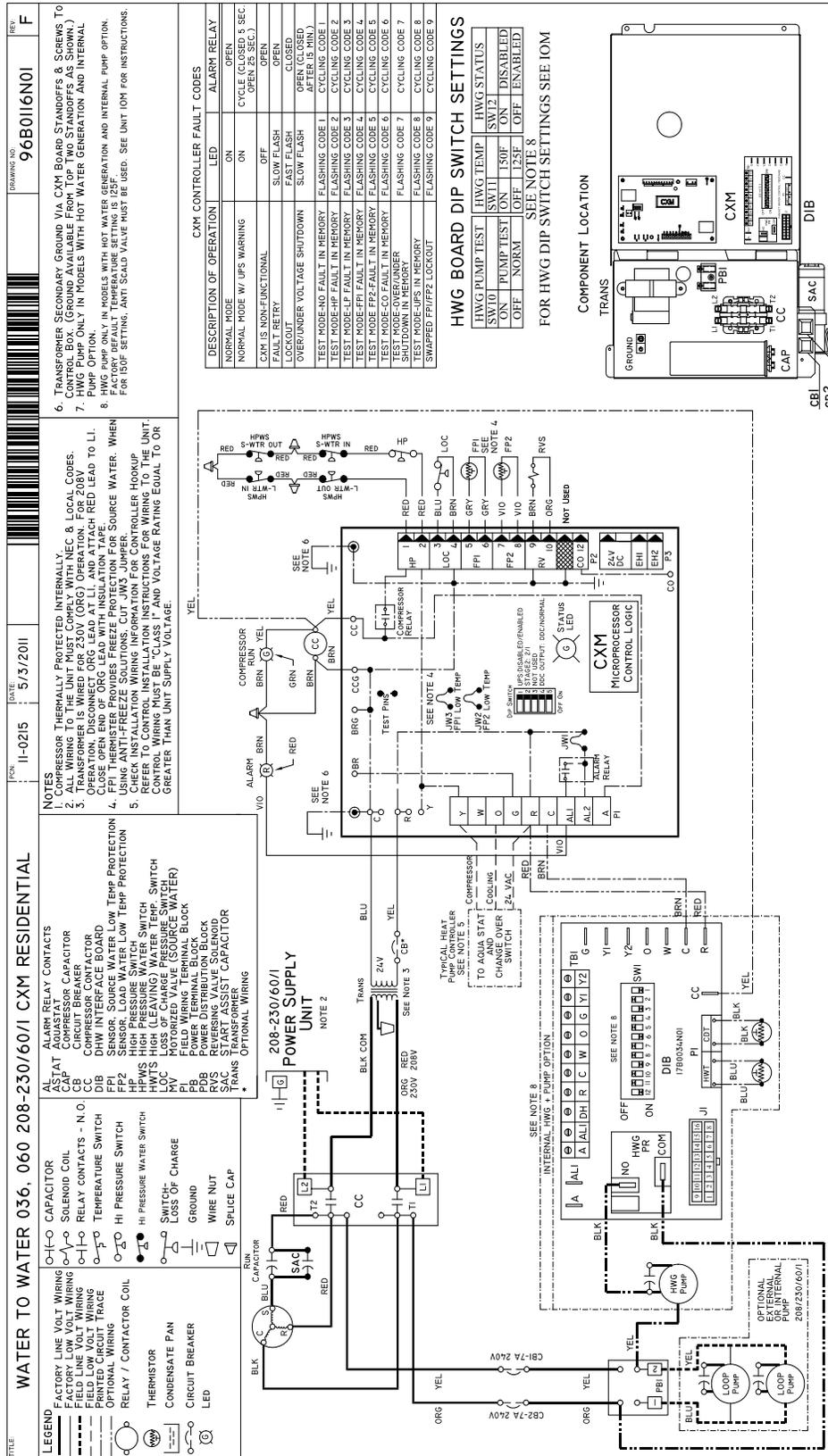
Water to Water	Overall Cabinet			Water Connections						Electric Access Plugs			
	A	B	C	1	2	3	4	5	6	K	L	M	
	Depth	Width	Height	D Source (Outdoor) Water In	E Source (Outdoor) Water Out	F Load (Indoor) Water In	G Load (Indoor) Water Out	H HWG Water In	J HWG Water Out	Low Voltage	External Pump	Power Supply	
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	3	208-230/60/1	187/254	1	16.7	79	0.4	4	21.1	25.3	40
060	3	208-230/60/1	187/254	1	26.3	134	0.4	4	30.7	37.3	60
120	3	208-230/60/1	187/254	2	26.3	134	0.4	4	57.0	63.6	80

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

## TMW036 & TMW060 Electrical Wiring Diagram - 96B0116N01





## 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 Air-Conditioning, Heating and Refrigeration Institute / International Standards Organization (AHRI / 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.

## Accessories & Warranty

### 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.

### 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

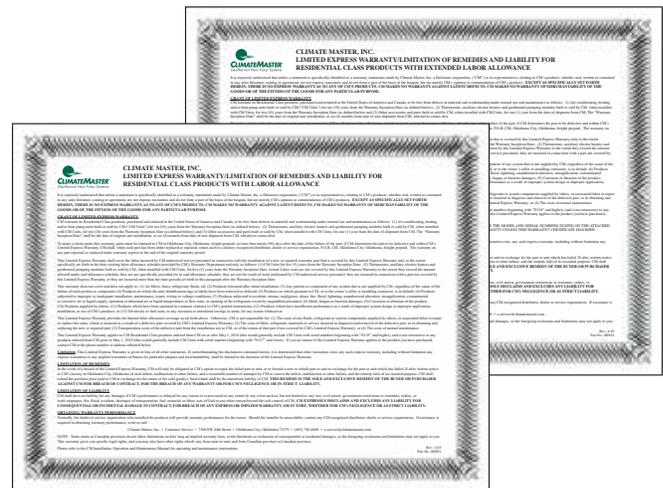
The 2010 standard warranty applies to units ordered on or after May 1, 2010. See ClimateMaster's 2010 Limited Express Residential Warranty Certificate RP851 for specific coverage and limitation.

ClimateMaster residential class heat pumps are backed by a ten-year limited warranty on all unit parts, including the following accessories when installed with ClimateMaster units: Flow Controllers, Thermostats & Electric Heaters.

ClimateMaster goes even further to back up its commitment to quality by including a service labor allowance for the first five years on unit parts and thermostats, auxiliary electric heaters and geothermal pumping modules.

The Optional Extended Factory Service Labor Allowance Warranty offers additional length of term protection to the consumer by offsetting service labor costs for 10 years.

To order this warranty, contact your ClimateMaster distributor. This coverage must be purchased within 90 days of unit installation. See Limited Express Extended Labor Warranty Certificate RP852 for details.



## Revision History

Date	Page #	Description
2 May, 12	181	Antifreeze Correction Table Added
2 May, 12	177, 199	Double-Walled Heat Exchanger References Removed
26 July, 10	Wire Diagram Pages	Wire Diagram revision: water-side high pressure switches added
20 May, 10	175-185	New Performance Data Tables
	187	Physical Data-Updated Factory Charge for sizes 60 & 120
30 April, 09	17	Water Volume Data Corrected
30 April, 09	6	I-P Table Updated
4 April, 09	All	First Published