



TRANQUILITY 20 SERIES

  
**CLIMATEMASTER**<sup>®</sup>  
Water-Source Heat Pump Systems

# THE TRANQUILITY 20 SINGLE-STAGE (TS) SERIES



The Tranquility 20 Single-Stage (TS) Series builds on ClimateMaster's commitment to utilizing the most advanced technology and design to create one of the most efficient single-stage water-source heat pump available today. The Tranquility 20 Single-Stage Series combines EarthPure® (HFC-410A) refrigerant with the Copeland Scroll compressor (size 018 and above) and either an ECM variable speed or PSC multi-speed fan motor to create unmatched performance and flexibility.

## UNIT FEATURES

- Sizes 006 (1/2 ton, 1.8 kW) through 070 (6 ton, 21.1 kW)
- Environmentally-friendly EarthPure® (HFC-410A) refrigerant
- Unsurpassed efficiencies (far exceeds ASHRAE 90.1)
- Copeland Scroll compressor (size 018 and above)
- Multi-speed PSC fan motor (optional variable speed ECM motor on size 018 and above)
- Galvanized steel construction and powder coat paint on all units
- Unique double isolation compressor mounting for quiet operation
- Discharge muffler standard (except rotary compressors) for superior sound attenuation
- Microprocessor controls standard (optional DXM and/or DDC controls)
- Field convertible discharge air arrangement for horizontal units
- Bi-directional, balanced port expansion valve refrigerant metering device standard
- Standard range or extended range operation
- Water connections securely mounted flush to the cabinet corner post (no backup wrench required)
- Eight safeties standard

Easy to remove blower housing for quick service and optional ECM variable speed motor

Foil faced insulation in the blower section and fiberglass insulation in the compressor section



Dual compressor vibration isolation for quiet operation

Easy service access from multiple sides



Easy access control box contains advanced digital controls with Remote Service Sentinel (Optional Enhanced controls (DXM) & DDC Controllers)



Factory installed hanger brackets on horizontal units



Standard stainless steel insulated drain pan with condensate overflow protection



# PERFORMANCE AND SPECIFICATIONS

## AHRI/ISO/ASHRAE 13256-1 Data (English (I-P) Units & Metric (S-I) Units)

Model*	Refrigerant	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
		Cooling 86°F [30°C]		Heating 68°F [20°C]		Cooling 59°F [15°C]		Heating 50°F [10°C]		Cooling 77°F [25°C]		Heating 32°F [0°C]	
		Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP	Capacity	EER	Capacity	COP
		Btuh [kW]	Btuh/W [W/W]	Btuh [kW]		Btuh [kW]	Btuh/W [W/W]	Btuh [kW]		Btuh [kW]	Btuh/W [W/W]	Btuh [kW]	
TS-006 PSC	HFC-410A	6,300 [1.85]	15.7 [4.6]	8,000 [2.34]	5.4	7,400 [2.17]	25.5 [7.5]	6,300 [1.85]	4.4	6,700 [1.96]	18.5 [5.4]	4,800 [1.41]	3.4
TS-009 PSC	HFC-410A	9,300 [2.74]	15.3 [4.5]	11,100 [3.26]	4.8	11,100 [3.26]	25.2 [7.4]	9,400 [2.76]	4.3	10,000 [2.94]	18.1 [5.3]	7100 [2.09]	3.4
TS-012 PSC	HFC-410A	11,700 [3.43]	15.4 [4.5]	13,800 [4.05]	4.5	13,300 [3.90]	24.6 [7.2]	11,800 [3.46]	4.0	12,300 [3.60]	18.1 [5.3]	9,500 [2.78]	3.5
TS-018 PSC	HFC-410A	18,600 [5.47]	15.0 [4.4]	23,000 [6.76]	5.2	21,300 [6.26]	24.8 [7.3]	18,800 [5.53]	4.5	19,500 [5.74]	18.4 [5.4]	14,500 [4.27]	3.6
TS-018 ECM		19,200 [5.65]	16.5 [4.8]	23,300 [6.85]	5.9	22,100 [6.50]	26.3 [7.7]	18,900 [5.56]	4.9	20,200 [5.94]	19.4 [5.5]	14,500 [4.43]	3.9
TS-024 PSC	HFC-410A	25,100 [7.36]	16.2 [4.8]	29,600 [8.68]	4.9	28,600 [8.38]	25.7 [7.5]	25,000 [7.33]	4.3	26,300 [7.71]	19.1 [5.6]	19,000 [5.57]	3.7
TS-024 ECM		25,000 [7.33]	17.0 [5.0]	30,000 [8.79]	5.3	28,100 [8.24]	27.4 [8.0]	25,100 [7.36]	4.6	26,000 [7.62]	20.0 [5.0]	19,400 [5.69]	3.8
TS-030 PSC	HFC-410A	28,200 [8.26]	15.3 [4.5]	34,900 [10.23]	5.0	31,700 [9.29]	22.9 [6.7]	29,400 [8.62]	4.4	29,400 [8.62]	17.6 [5.2]	23,600 [6.92]	3.8
TS-030 ECM		28,600 [8.38]	15.6 [4.6]	35,200 [10.32]	5.3	32,200 [9.44]	23.9 [7.0]	29,400 [8.62]	4.6	29,800 [8.73]	18.0 [5.3]	23,700 [6.95]	3.9
TS-036 PSC	HFC-410A	33,000 [9.67]	16.6 [4.9]	39,800 [11.66]	5.5	37,300 [10.93]	25.1 [7.4]	32,900 [9.64]	4.8	34,500 [10.11]	19.2 [5.6]	25,700 [7.53]	3.9
TS-036 ECM		33,100 [9.70]	17.6 [5.2]	39,500 [11.58]	5.8	37,300 [10.93]	26.5 [7.8]	32,900 [9.64]	5.1	34,600 [10.14]	20.2 [5.9]	25,800 [7.56]	4.2
TS-042 PSC	HFC-410A	37,400 [10.96]	16.0 [4.7]	49,400 [14.48]	5.4	42,900 [12.57]	24.3 [7.1]	40,100 [11.75]	4.6	39,300 [11.52]	18.4 [5.4]	31,600 [9.26]	3.8
TS-042 ECM		37,800 [11.08]	17.1 [5.0]	48,600 [14.24]	5.7	44,200 [12.95]	27.1 [7.9]	39,300 [11.52]	4.9	40,000 [11.72]	20.0 [5.9]	30,400 [8.91]	4.0
TS-048 PSC	HFC-410A	47,000 [13.77]	15.3 [4.5]	60,000 [17.58]	5.0	53,900 [15.80]	23.3 [6.8]	49,000 [14.36]	4.4	49,900 [14.62]	17.6 [5.2]	39,000 [11.43]	3.7
TS-048 ECM		47,600 [13.95]	15.9 [4.7]	59,700 [17.50]	5.2	54,100 [15.86]	24.6 [7.2]	48,700 [14.27]	4.5	50,100 [14.68]	18.5 [5.4]	38,400 [11.25]	3.8
TS-060 PSC	HFC-410A	61,000 [17.88]	15.9 [4.7]	70,400 [20.63]	5.0	67,000 [19.64]	23.2 [6.8]	58,700 [17.20]	4.5	63,300 [18.55]	18.2 [5.3]	46,500 [13.63]	3.7
TS-060 ECM		62,000 [17.88]	16.4 [4.8]	70,800 [20.75]	5.2	67,200 [19.70]	24.3 [7.1]	59,100 [17.32]	4.6	64,000 [18.76]	19.0 [5.6]	46,700 [13.69]	3.8
TS-070 PSC	HFC-410A	67,500 [19.78]	14.4 [4.2]	85,800 [25.15]	5.0	77,100 [22.60]	21.6 [6.3]	69,400 [20.34]	4.3	70,800 [20.75]	16.6 [4.9]	54,000 [15.83]	3.6
TS-070 ECM		67,000 [19.64]	15.2 [4.5]	84,900 [24.88]	5.0	77,000 [22.57]	23.5 [6.9]	69,000 [20.22]	4.4	70,000 [20.52]	17.8 [5.2]	53,900 [15.80]	3.6

Cooling capacities based upon 80.6°F [27°C] DB, 66.2°F [19°C] WB entering air temperature.

Note: Add 4" [10.16cm] to height for vertical downflow models.

Heating capacities based upon 68°F [20°C] DB, 59°F [15°C] WB entering air temperature.

All ratings based upon operation at the lower voltage of dual voltage rated models.

\* ECM motor available on sizes 018 and larger.

### Dimensional Data

Vertical Upflow Model		Overall Cabinet		
		W	D	H
006 - 012	in.	22.4	21.6	34.5
	cm	56.8	54.9	87.6
018	in.	22.4	25.6	44.5
	cm	56.8	65.1	113.0
024 - 030	in.	22.4	25.6	48.5
	cm	56.8	65.1	123.2
036	in.	25.4	30.6	50.5
	cm	64.5	77.8	128.3
042 - 048	in.	25.4	30.6	54.5
	cm	64.5	77.8	138.4
060 - 070	in.	25.4	30.6	58.5
	cm	64.5	77.8	148.6

Horizontal Model		Overall Cabinet		
		W	D	H
006 - 012	in.	22.4	43.1	17.3
	cm	56.8	109.5	43.9
018 - 030	in.	22.4	62.2	19.3
	cm	56.8	158.0	49.0
036	in.	25.4	71.2	21.3
	cm	64.5	180.8	54.1
042 - 048	in.	25.4	76.2	21.3
	cm	64.5	193.5	54.1
060 - 070	in.	25.4	81.2	21.3
	cm	64.5	206.2	54.1

### Voltage Options

Model	Volts	Hz	Phase
06 - 018	208/230	60	1
	265	60	1
024 - 036	208/230	60	1
	265	60	1
	208/230	60	3
	460	60	3
042 - 070	208/230	60	1
	208/230	60	3
	460	60	3
	575	60	3
		60	3



## UNIT FEATURES

Product Series	Standard Features										Factory Installed Options																	
	EarthPure® (HFC-410A) Refrigerant	Microprocessor CXM Controls*	Standard Entering Water Temperature Range (60 to 95°F)	Copper Water Coil**	TXV	Dual Level Compressor Vibration Isolation	Field Convertible Discharge (Horizontal Units)	Multiple Access Panels for Installation and Service Ease	Scroll Compressors	Factory Installed Hanger Brackets (Horizontal Units)	Remote Reset at Thermostat	Condensate Overflow Protection	Cupro-Nickel Coil**	High Static Blower	UltraQuiet (Mute) Package	Extended Entering Water Temperature †	Auto-Flow Water Regulation	Two-Way Control Valve	Downflow Configuration	Desuperheater Coil	DDC Controller	Deluxe DXM Controller*	Coated Air Coil	Internal Secondary Pump	ECM Fan Motor***	ClimateDry Reheat	Internal Service Disconnect	
Tranquility 27® Two-Stage (TT)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility 20 Single-Stage (TS)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility High Efficiency (TR)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility 16 Compact (TC)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility Vertical Stack (TRM)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility Vertical Stack (TRW)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility Console (TRC)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility Compact (TC)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility Large (TL)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility Water-to-Water (TMW)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Rooftop (TRE)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Rx Energy Recovery Ventilator (ERV)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Vertical Dedicated Outdoor Air (TOV)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Horizontal Dedicated Outdoor Air (TOH)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•

Some exceptions may apply to standard features and options, consult product submittal materials to determine availability.

\* Control for TO Series is DDC with modulating HGR. Control for TMW 360-600 is DDC.

\*\* Water coil construction for TO Series and TMW 360-600 is stainless steel.

\*\*\* Standard on TT Series

† Standard on TMW Series

‡ Extended Range = 35°F-95°F EWT



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