



TRANQUILITY® 16 COMPACT (TC) SERIES

  
**CLIMATEMASTER®**  
Water-Source Heat Pump Systems

## THE TRANQUILITY® 16 COMPACT (TC) SERIES



The Tranquility® 16 Compact (TC) Series raises the bar for water-source heat pump efficiencies, features and application flexibility. Not only does the Tranquility® 16 Compact Series exceed ASHRAE 90.1 efficiencies, but with the new ECM fan motor option, it also delivers higher efficiencies up to 15.9 EER (Tower-Boiler) and 18.1 EER (Geothermal).

With one of the smallest cabinets in the industry, the Tranquility® 16 Compact (TC) Series will easily fit into tight spaces. Designed to be backward compatible with thousands of older water-source heat pumps, the Tranquility® 16 Compact (TC) Series heat pump is packed full of the innovation you have come to expect from the experts at ClimateMaster.

### UNIT FEATURES

- Sizes 006 (1/2 ton, 1.8 kW) through 060 (5 tons, 17.6 kW)
- **\*NEW\*** ECM fan motor option
- EarthPure® (HFC-410A) refrigerant
- Exceeds ASHRAE 90.1 efficiencies
- Galvanized steel construction with attractive matte black epoxy powder coat paint front access panel
- Epoxy powder painted galvanized steel drain pan
- Sound absorbing glass fiber insulation
- Unique double isolation compressor mounting for quiet operation
- Insulated divider and separate compressor/air handler compartments
- Copeland scroll compressors (size 024 and above)
- TXV metering device
- Microprocessor controls standard (optional DXM and/or DDC controls)
- Field convertible discharge air arrangement for horizontal units

Easy to remove blower housing for quick service and PSC three-speed fan motor or optional ECM fan motor

Easy service access from multiple sides



Dual compressor vibration isolation for quiet operation



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



Epoxy powder painted drain pan with condensate overflow protection



## PERFORMANCE AND SPECIFICATIONS

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

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]	
TC-015	HFC-410A	14,500 [4.3]	15.5 [4.5]	16,800 [4.9]	5.1	16,800 [4.9]	25.0 [7.3]	13,800 [4.0]	4.4	15,000 [4.4]	17.9 [5.2]	10,900 [3.2]	3.6
TC-018	HFC-410A	19,600 [5.7]	15.9 [4.7]	22,000 [6.5]	5.3	22,300 [6.5]	24.8 [7.3]	18,200 [5.3]	4.6	20,200 [5.9]	18.1 [5.3]	14,100 [4.1]	3.8
TC-024	HFC-410A	23,800 [7.0]	14.3 [4.2]	27,700 [8.1]	4.9	26,700 [7.8]	21.5 [6.3]	23,400 [6.9]	4.1	24,900 [7.3]	16.4 [4.8]	18,500 [5.4]	3.5
TC-030	HFC-410A	28,300 [8.3]	14.3 [4.2]	35,800 [1.5]	4.8	32,400 [9.5]	22.0 [6.4]	30,000 [8.8]	4.4	29,300 [8.6]	16.5 [4.8]	23,600 [6.9]	3.7
TC-036	HFC-410A	34,500 [10.1]	14.0 [4.1]	43,400 [12.7]	4.5	39,000 [11.4]	20.9 [6.1]	35,800 [10.5]	4.0	35,400 [10.4]	15.5 [4.5]	28,700 [8.4]	3.4
TC-042	HFC-410A	42,100 [12.3]	14.9 [4.4]	50,400 [14.8]	4.5	46,400 [13.6]	22.0 [6.4]	42,400 [12.4]	4.0	42,200 [12.4]	16.8 [4.9]	33,900 [9.9]	3.4
TC-048	HFC-410A	47,900 [14.0]	14.2 [4.2]	53,000 [15.5]	4.8	53,600 [15.7]	21.0 [6.2]	45,600 [13.4]	4.3	49,000 [14.4]	16.2 [4.7]	36,400 [10.7]	3.6
TC-060	HFC-410A	60,000 [17.6]	14.8 [4.3]	71,200 [20.9]	4.4	67,000 [19.6]	21.0 [6.2]	59,600 [17.5]	4.0	61,400 [18.0]	16.5 [4.8]	47,500 [13.9]	3.4

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

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.

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

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]	
TC-006	HFC-410A	5,800 [1.70]	13.2 [3.9]	7,500 [2.20]	4.7	6,900 [2.02]	21.1 [6.2]	6,200 [1.82]	4.0	6,200 [1.82]	15.4 [4.5]	4,900 [1.44]	3.4
TC-009	HFC-410A	8,800 [2.58]	13.4 [3.9]	11,600 [3.40]	4.2	10,100 [2.96]	21.0 [6.2]	9,800 [2.87]	3.9	9,300 [2.72]	15.7 [4.6]	7,900 [2.31]	3.4
TC-012	HFC-410A	11,700 [3.43]	13.5 [4.0]	15,200 [4.45]	4.3	13,700 [4.01]	20.8 [6.1]	12,500 [3.66]	3.8	12,000 [3.52]	14.9 [4.4]	9,900 [2.90]	3.2
TC-015	HFC-410A	14,500 [4.25]	15.4 [4.5]	17,300 [5.07]	5.0	16,800 [4.92]	24.5 [7.2]	14,400 [4.22]	4.4	15,000 [4.39]	17.2 [5.0]	11,100 [3.25]	3.6
TC-018	HFC-410A	17,300 [5.07]	14.3 [4.2]	21,500 [6.30]	5.0	20,600 [6.04]	24.2 [7.1]	17,200 [5.04]	4.4	18,400 [5.39]	16.3 [4.8]	13,900 [4.07]	3.4
TC-024	HFC-410A	23,700 [6.94]	13.4 [3.9]	28,500 [8.35]	4.7	26,700 [7.82]	20.9 [6.1]	24,000 [7.03]	4.1	24,900 [7.30]	15.4 [4.5]	18,500 [5.42]	3.3
TC-030	HFC-410A	28,100 [8.23]	13.4 [3.9]	35,100 [10.28]	4.6	31,700 [9.29]	20.1 [5.9]	29,600 [8.67]	4.1	28,900 [8.47]	15.1 [4.4]	23,400 [6.86]	3.4
TC-036	HFC-410A	34,500 [10.11]	13.5 [4.0]	45,200 [13.24]	4.4	38,700 [11.34]	20.7 [6.1]	37,500 [10.99]	4.0	35,300 [10.34]	14.9 [4.4]	29,600 [8.67]	3.3
TCV041	HFC-410A	36,500 [10.69]	13.2 [3.9]	45,700 [13.39]	4.2	41,400 [12.13]	19.7 [5.8]	38,000 [11.13]	3.7	38,000 [11.13]	14.8 [4.3]	30,100 [8.82]	3.1
TC-042	HFC-410A	40,100 [11.75]	13.2 [3.9]	52,700 [15.44]	4.3	45,900 [13.45]	19.6 [5.7]	44,000 [12.89]	3.8	40,500 [11.87]	14.4 [4.2]	34,300 [10.05]	3.2
TC-048	HFC-410A	47,700 [13.98]	13.3 [3.9]	55,900 [16.38]	4.7	54,300 [15.91]	20.5 [6.0]	46,500 [13.62]	4.1	49,000 [14.36]	14.7 [4.3]	36,400 [10.67]	3.4
TC-060	HFC-410A	59,400 [17.40]	13.4 [3.9]	77,000 [22.58]	4.3	66,600 [19.51]	19.9 [5.8]	64,000 [18.75]	3.8	60,100 [17.61]	14.8 [4.3]	50,500 [14.80]	3.1

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

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.

### Dimensional Data

Vertical Upflow Model		Overall Cabinet		
		W	D	H
006 - 012	in. cm	19.1 48.5	19.1 48.5	22.0 55.9
015 - 018	in. cm	21.5 54.6	21.5 54.6	39.0 99.1
024 - 030, 041	in. cm	21.5 54.6	21.5 54.6	40.0 101.6
036 - 042	in. cm	21.5 54.6	26.0 66.0	45.0 114.3
048 - 060	in. cm	24.0 61.0	32.5 82.6	46.0 116.8

Horizontal Model		Overall Cabinet		
		W	D	H
006 - 012	in. cm	19.1 48.5	34.1 86.6	11.1 28.2
015 - 018	in. cm	20.1 51.1	43.1 109.5	17.0 43.2
024 - 030	in. cm	20.1 51.1	43.1 109.5	18.3 46.5
036 - 042	in. cm	20.1 51.1	47.1 119.6	21.0 53.3
048 - 060	in. cm	24.1 61.2	54.1 137.4	21.0 53.3

### Voltage Options

Model	Volts	Hz	Phase
006 - 024	208/230 265	60	1
030 - 036	208/230	60	1
	265	60	1
	208/230	60	3
	460	60	3
041 - 060	208/230	60	1
	208/230	60	3
	460	60	3
	575	60	3



## UNIT FEATURES

Product Series	Standard Features												Factory Installed Options																				
	EarthPure® (HFC-410A) Refrigerant	Microprocessor CXM Controls *	Microprocessor DXM2 Controls	iGate™ Advanced Control	ECM Fan Motor	Extended Range Capable Refrigerant Circuit (20°F to 120°F)	Copper Water Coil **	vFlow™ Modulating Water Valve ‡	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 Insulation ***	Auto-Flow Water Regulation	Two-Way Control Valve	Downflow Configuration	Desuperheater Coil	DDC Controller	DXM Controller *	Coated Air Coil	Internal Secondary Pump	ECM Fan Motor	ClimaDry® Reheat	Internal Service Disconnect	vFlow™ Modulating Water Valve ‡	vFlow™ Internal Variable Water Flow Pump
Tranquility® 30 Digital Two-Stage (TE)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® 30 Two-Stage (TT)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® High Efficiency Two-Stage (TZ)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® 22 High Efficiency Two-Stage (TY)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® 20 Single-Stage (TS)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® 16 Compact (TC)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® High Efficiency (TR)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® Vertical Stack (TSM)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® Vertical Stack (TSL)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® Large (TL)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® Compact Belt Drive (TC)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® Console (TRC)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® Rooftop (TRE)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Rx Energy Recovery Ventilator (ERV)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•
Tranquility® Modular Water-to-Water (TMW)	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	•	†	•	•	•	•	•	•	•	•	•	•	•	•
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 TMW Series.

† Extended Range = 35°F-95°F EWT.

‡ Low system pressure drop valve is a standard feature, high system pressure drop valve is optional.



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The management system governing the manufacture of ClimateMaster's products is ISO 9001:2008 certified.

We are a proud supporter of the Geothermal Exchange Organization - GEO. For more information visit [geoexchange.org](http://geoexchange.org)

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