



Tranquility® 20 High Efficiency (TS) Series

Models TSD/H/V 006 - 070 60Hz - HFC - 410A

The Tranquility® 20 High Efficiency (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 pumps available today. The Tranquility® 20 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.

Advantages of the High Efficiency TS Series:

- 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
- Third Party Bi-Polar Ionization intergrated into unit with third party benefits such as neutralizes odors, kills mold, kills bacteria, controls allergens, controls static and kils virus

Unit Size

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

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

Physical Data

Model	006	009	012	018	024	030	036	042	048	060	070
Compressor (1 Each)	Rotary			Scroll							
Factory Charge HFC-410A (oz) [kg]	24 [0.68]	32 [0.91]	34 [0.96]	50 [1.13]	41 [1.16]	41 [1.16]	48 [1.36]	68 [1.93]	68 [1.93]	136 [3.86]	141 [4.0]
ECM Fan Motor & Blower											
Blower Wheel Size (dia x w) - (in) [mm]	N/A	N/A	N/A	9 x 7 [229 x 178]	9 x 7 [229 x 178]	9 x 7 [229 x 178]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]
PSC Fan Motor & Blower (3 Speeds)											
Blower Wheel Size (dia x w) - (in) [mm]	6 X 5 [152 X 127]	6 X 5 [152 X 127]	6 X 5 [152 X 127]	9 x 7 [229 x 178]	9 x 7 [229 x 178]	9 x 7 [229 x 178]	10 x 10 [254 x 254]	10 x 10 [254 x 254]	10 x 10 [254 x 254]	11 x 10 [279 x 254]	11 x 10 [279 x 254]
Water Connection Size											
FPT (in)	1/2"	1/2"	1/2"	3/4"	3/4"	3/4"	3/4"	1"	1"	1"	1"
HWG Connection Size											
FPT (in)	N/A	N/A	N/A	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"	1/2"
Coax Volume											
Volume (US Gallons) [liters]	0.17 [0.64]	0.29 [1.10]	0.45 [1.70]	0.56 [2.12]	0.76 [2.88]	0.76 [2.88]	0.92 [3.48]	1.24 [4.69]	1.24 [4.69]	1.56 [5.91]	1.56 [5.91]
Vertical Upflow/Downflow											
Air Coil Dimensions (h x w) - (in) [mm]	16 x 16 [406 x 406] Upflow Only	16 x 16 [406 x 406] Upflow Only	16 x 16 [406 x 406] Upflow Only	24 x 20 [610 x 508]	28 x 20 [711 x 508]	28 x 20 [711 x 508]	28 x 25 [711 x 635]	32 x 25 [813 x 635]	32 x 25 [813 x 635]	36 x 25 [914 x 635]	36 x 25 [914 x 635]
Standard Filter - 1" [25.4mm] Throwaway, qty (in) [mm]	16 x 20 [406 x 508]	16 x 20 [406 x 508]	16 x 20 [406 x 508]	24 x 24 [610 x 610]	28 x 24 [711 x 610]	28 x 24 [711 x 610]	28 x 30 [711 x 762]	2 - 16 x 30 [2 - 406 x 762]	2 - 16 x 30 [2 - 406 x 762]	1 - 16 x 30; 1 - 20 x 30 [1 - 406 x 762; 1 - 508 x 762]	1 - 16 x 30; 1 - 20 x 30 [1 - 406 x 762; 1 - 508 x 762]
Weight - Operating, (lbs) [kg]	136 [62]	156 [71]	160 [73]	257 [117]	266 [121]	268 [122]	327 [148]	414 [188]	416 [189]	441 [200]	443 [201]
Weight - Packaged, (lbs) [kg]	146 [66]	166 [75]	170 [77]	267 [121]	276 [125]	278 [126]	337 [153]	424 [192]	426 [193]	451 [205]	453 [205]
Horizontal											
Air Coil Dimensions (h x w) - (in) [mm]	16 x 16 [406 x 406]	16 x 16 [406 x 406]	16 x 16 [406 x 406]	18 x 27 [457 x 686]	18 x 31 [457 x 787]	18 x 31 [457 x 787]	20 x 35 [508 x 889]	20 x 40 [508 x 1016]	20 x 40 [508 x 1016]	20 x 45 [508 x 1143]	20 x 45 [508 x 1143]
Standard Filter - 1" [25.4mm] Throwaway, qty (in) [mm]	16 x 20 [406 x 508]	16 x 20 [406 x 508]	16 x 20 [406 x 508]	2 - 18 x 18 [2 - 457 x 457]	2 - 18 x 18 [2 - 457 x 457]	2 - 18 x 18 [2 - 457 x 457]	1 - 12 x 20; 1 - 20 x 25 [1 - 305 x 508; 1 - 508 x 635]	1 - 18 x 20; 1 - 20 x 24 [1 - 457 x 508; 1 - 508 x 610]	1 - 18 x 20; 1 - 20 x 24 [1 - 457 x 508; 1 - 508 x 610]	2 - 20 x 24 [2 - 508 x 610]	2 - 20 x 24 [2 - 508 x 610]
Weight - Operating, (lbs) [kg]	136 [62]	156 [71]	160 [73]	257 [117]	266 [121]	268 [122]	327 [148]	414 [188]	416 [189]	441 [200]	443 [201]
Weight - Packaged, (lbs) [kg]	146 [66]	166 [75]	170 [77]	267 [121]	276 [125]	278 [126]	337 [153]	424 [192]	426 [193]	451 [205]	453 [205]

Tested To ASHRAE/AHRI/ISO 13256-1 (I-P) English Units

Model	Fan Motor	Water Loop Heat Pump				Ground Water Heat Pump				Ground Loop Heat Pump			
		Cooling 86°F		Heating 68°F		Cooling 59°F		Heating 50°F		Cooling 77°F		Heating 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
TSH/V006	PSC	6,300	15.7	8,000	5.4	7,400	25.5	6,300	4.4	6,700	18.5	4,800	3.4
TSH/V009	PSC	9,300	15.3	11,100	4.8	11,100	25.2	9,400	4.3	10,000	18.1	7,100	3.4
TSH/V012	PSC	11,700	15.4	13,800	4.5	13,300	24.6	11,800	4.0	12,300	18.1	9,500	3.5
TSH/V/D 018	PSC	18,600	15.0	23,000	5.2	21,300	24.8	18,600	4.5	19,500	18.4	14,500	3.6
	ECM	19,200	16.5	23,300	5.9	22,100	26.3	18,900	4.9	20,200	19.4	14,500	3.9
TSH/V/D 024	PSC	23,800	16.9	30,800	5.9	26,500	24.9	24,100	5.0	25,300	18.9	19,200	4.0
	ECM	23,900	17.9	30,400	6.1	26,900	26.9	23,800	5.2	25,500	20.9	19,100	4.2
TSH/V/D 030	PSC	28,000	16.3	35,500	5.5	31,000	24.9	28,400	4.7	29,200	18.5	22,200	3.9
	ECM	28,000	17.3	35,100	5.8	30,800	26.7	28,000	4.9	29,200	19.4	22,000	4.1
TSH/V/D 036	PSC	33,400	17.0	40,400	5.6	35,400	23.2	33,200	4.7	34,300	19.2	25,900	4.1
	ECM	33,500	18.1	39,900	5.9	35,400	24.9	32,600	4.9	34,600	20.4	25,600	4.3
TSH/V/D 042	PSC	38,500	17.2	46,300	5.6	43,700	25.4	36,200	4.7	40,100	19.4	28,700	3.8
	ECM	39,400	19.6	45,100	6.0	44,400	29.5	35,200	5.2	40,700	21.9	27,400	4.1
TSH/V/D 048	PSC	47,100	14.8	58,000	4.7	53,600	21.3	47,500	4.0	49,600	16.8	36,600	3.4
	ECM	48,900	17.2	57,700	5.2	53,700	23.9	45,700	4.4	50,600	18.8	36,100	3.7
TSH/V/D 060	PSC	62,400	15.9	73,900	5.0	68,500	23.1	58,200	4.2	63,900	17.2	46,900	3.7
	ECM	63,200	17.2	73,200	5.4	68,900	24.9	58,200	4.6	64,400	18.4	46,400	3.9
TSH/V/D 070	PSC	71,000	14.6	82,100	4.6	78,000	21.1	66,100	4.0	72,900	16.2	53,800	3.4
	ECM	71,100	15.7	82,000	4.8	78,100	23.0	65,200	4.1	73,000	17.2	53,000	3.6

Cooling capacities based upon 80.6°F DB, 66.2°F WB entering air temperature
 Heating capacities based upon 68°F DB, 59°F WB entering air temperature
 All ratings based upon operation at lower voltage of dual voltage rated models



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