



CLIMATE MASTER[®]
Water-Source Heat Pump Systems



Tranquility[®] Ducted Vertical Stack (TSL) Series

Models TSL09 - 36 60Hz - HFC - 410A

The Tranquility[®] Ducted Vertical Stack (TSL) Series offers an innovative, labor-saving solution for spaces where individual, quiet control of the heating and cooling system is important. Using EarthPure[®] (HFC-410A) refrigerant, the Tranquility[®] Ducted Vertical Stack (TSL) Series not only protects the environment, it does so while delivering unprecedented comfort, efficiency, and reliability.

Advantages of the Vertical TSL Series:

- Environmentally-friendly EarthPure[®] (HFC-410A) zero ozone depletion refrigerant
- High efficiency rotary or scroll compressors
- Exceeds ASHRAE 90.1 efficiencies
- Removable chassis allows staged installation and ease of maintenance
- Galvanized steel cabinet
- Double isolation compressor mounting for quiet operation
- TXV metering device
- Wall-mounted controller available
- Choice of high efficiency ECM or PSC motor
- Cabinet can slide over riser ball valve easily. This allows riser stack to be completed first
- Microprocessor controls standard (optional DXM2 and/or DDC controls)
- LonWorks, BACnet, Modbus and Johnson N2 compatibility options for DDC controls
- Unit Performance Sentinel performance monitoring system
- Top supply air discharge for ducted applications
- Stainless steel braided hose kits for connection from piping risers to chassis
- Eight safety standard
- Optional top discharge air dust cover
- Optional modulating water valve in lieu of auto flow regulator and normal water valve
- Optional internal 200 PSI load matching pump (single pipe)
- Riser options for sweat or crimped connections

Unit Size

Model		W	D	H
09 - 18	in.	19.25	19.0	65.0
	cm	48.9	48.3	165.1
24 - 36	in.	24.25	24.0	65.0
	cm	61.6	61.0	165.1

Physical Data

Model	09	12	15	18	24	30	36
Compressor (1 Each)	Rotary				Scroll		
Factory Charge HFC-410A (oz) [kg]	34 [.07]	34 [.97]	43 [1.22]	53 [1.51]	71 [2.01]	66 [1.87]	84 [2.38]
PSC Blower Wheel							
Motor (HP) [W]	1/10 [75]		1/3 [248]			3/4 [561]	
Blower Wheel Size (dia x w) - (in) [mm]	6.75 x 7.25 [174 x 184]	6.75 x 7.25 [174 x 184]	9.50 x 7.12 [241 x 181]	9.50 x 7.12 [241 x 181]	9.50 x 8.06 [241 x 205]		
ECM Blower Wheel							
Motor (HP) [W]	1/4 [186]		1/3 [248]			1/2 [373]	3/4 [561]
Blower Wheel Size (dia x w) - (in) [mm]	6.75 x 7.25 [174 x 184]	6.75 x 7.25 [174 x 184]	9.50 x 7.12 [241 x 181]	9.50 x 7.12 [241 x 181]	9.50 x 8.06 [241 x 205]		
Chassis Air Coil							
Air Coil Dimensions (h x w) - (in) [mm]	28 x 14 [711 x 356]	28 x 14 [711 x 356]	28 x 14 [711 x 356]	28 x 14 - [711 x 356]	30 x 18 [762 x 457]	30 x 18 [762 x 457]	30 x 18 [762 x 457]
Standard Filter - 1" [25.4 mm], (w x h) - (in) [mm]	16 x 30 [406 x 762]	16 x 30 [406 x 762]	16 x 30 [406 x 762]	16 x 30 [406 x 762]	20 x 32 [508 x 813]	20 x 32 [508 x 813]	20 x 32 [508 x 813]
Coax Volume (Gallons)	0.215	0.26	0.367	0.367	0.602	0.602	0.602
Hose Size (in)	1/2	1/2	3/4	3/4	1		
Weight							
Chassis - (lbs) [kg]	103 [47]	105 [48]	123 [56]	125 [57]	186 [84]	190 [86]	192 [87]
Cabinet - (lbs) [kg]	108 [49]				142 [64]		

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

Model with ECM 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
TSL09	10,000	15.2	13,100	5.4	11,800	24.8	10,400	4.4	10,400	17.3	7,500	3.3
TSL12	11,600	14.9	15,800	5.1	13,600	24.2	12,900	4.2	12,500	17.5	9,400	3.3
TSL15	14,600	16.3	18,900	5.4	16,800	25.8	15,000	4.6	15,400	19.2	11,000	3.7
TSL18	17,100	15.1	22,300	5.4	20,300	24.6	17,700	4.6	18,400	17.8	13,000	3.5
TSL24	25,000	16.4	30,500	5.3	29,000	27.2	25,000	4.6	26,500	19.4	18,500	3.6
TSL30	28,500	16.1	33,500	5.3	32,500	24.7	27,500	4.7	29,500	18.4	21,000	3.7
TSL36	37,500	14.8	44,000	5.0	42,500	22.6	36,000	4.3	38,500	16.7	28,000	3.5

Model with PSC 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
TSL09	9,500	14.1	13,000	5.0	11,300	22.5	10,400	4.2	10,000	16.0	7,500	3.2
TSL12	11,600	14.3	15,900	4.7	13,500	22.9	13,000	4.1	12,100	16.4	9,600	3.2
TSL15	14,000	14.3	19,000	5.0	17,500	25.8	15,500	4.8	15,400	17.7	11,500	3.6
TSL18	16,800	13.2	22,800	5.0	19,900	20.6	18,400	4.2	18,600	16.9	13,100	3.4
TSL24	24,500	15.2	31,500	5.0	28,500	24.3	25,500	4.3	26,000	17.9	18,500	3.4
TSL30	28,000	15.2	34,000	5.2	32,000	23.7	27,000	4.4	29,500	18.0	21,000	3.4
TSL36	34,500	14.3	41,500	5.0	38,500	22.0	33,500	4.3	36,000	16.6	25,500	3.5

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 units AHRI/ISO/ASHRAE 13256-1 rated on high speed motor TAP
 All ratings based upon operation at lower voltage of dual voltage rated models



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