



# TF Series Water-to-Air & Water Heat Pump



- Geothermal forced air heating and cooling
- Radiant in-floor heating
- Field selectable air or water priority
- Desuperheater for domestic hot water
- COPh up to 4.7
- Available in sizes 3 to 6 nominal tons for whole home applications
- Open or closed loop



## TF Series

The Triple Function Series features air heating and air conditioning controlled by an air thermostat, and hydronic heating controlled by an aquastat. User can set the priority to be air or water heating.

Features & Benefits	
<b>Size</b> - A 28" x 34" footprint	<b>Sight Glass</b> - Standard on all units.
<b>Fan</b> - Oversized blower with a variable speed ECM motor for quiet operation. Serviceable from one side, field changeable from top to side discharge.	<b>Gen2 Electronic Control Board</b> - Includes built-in aquastat functionality, BACnet, data logging, electronic readout of refrigerant pressures and water in/out temperatures.
<b>Filter Rack</b> - Filter can be changed from either side.	<b>Electronic Expansion Valves (EEV's)</b> - For precise refrigerant control.
<b>Drip Tray</b> - Stainless steel with internally trapped clear vinyl drain.	<b>Coaxial Heat Exchangers</b> - Heavy duty for reliability and enhanced surface for efficiency (CuNi available).
<b>Hard Start Kit</b> - Standard on all single phase models.	<b>Filter Dryer</b> - Standard on all units.
<b>Compressor</b> - Copeland high efficiency two-stage scroll, with double isolation for quiet operation.	<b>Refrigerant Pressure Sensors</b> - Electronic high and low, displayed by user interface.
<b>Accumulator</b> - Protects compressor against liquid slugging.	<b>Domestic Hot Water</b> - Double wall heat exchanger and factory installed ECM bronze head circulator.
<b>Cabinet</b> - Satin galvanized with powder coat finish. Acoustically insulated for quiet operation.	<b>Loop or Well</b> - Unit pre-wired for operation on a closed loop or a water well.

### Standard Capacity Ratings for Open Loop (60Hz)

Rating Conditions	Model	Tons	Flow (GPM)	Outdoor dP (psi)	Mode	Heating Capacity (Btu/hr)	Input Energy (Watts)	COPh (Heating)	Cooling Capacity (Btu/hr)	Input Energy (Watts)	COPc (Cooling)	EER
Heating ELT 50°F Cooling ELT 59°F	45	3	10	4.0	Stage 1	24,200	1,500	4.50	28,900	895	7.98	27.2
					Stage 2	34,300	2,480	4.20	39,200	1,640	6.10	20.8
	55	4	12	3.7	Stage 1	33,400	2,315	4.70	40,100	1,525	7.92	27.0
					Stage 2	47,100	3,305	4.40	51,100	2,515	6.60	22.5
	65	5	14	5.0	Stage 1	42,600	2,645	4.60	46,900	1,760	8.01	27.3
					Stage 2	58,400	3,790	4.40	62,500	2,950	6.36	21.7
	75	6	16	4.0	Stage 1	51,200	3,610	4.20	53,800	2,485	7.07	24.1
					Stage 2	67,200	4,880	4.10	70,200	3,875	5.66	19.3
	80*	6.5	17	4.1	Stage 1	77,100	5,600	4.04	84,100	4,350	5.66	19.3
					Stage 2							

### Standard Capacity Ratings for Closed Loop (60Hz)

Heating ELT 32°F (Stage 1 ELT 41°F) Cooling ELT 77°F (Stage 1 ELT 68°F)	45	3	10	6.2	Stage 1	20,100	1,550	4.10	27,400	1,060	7.48	25.5
					Stage 2	25,200	2,290	3.60	36,200	1,965	4.75	16.2
	55	4	12	5.8	Stage 1	28,300	2,250	4.17	36,300	1,750	6.98	23.8
					Stage 2	35,400	3,000	3.80	45,400	3,015	5.01	17.1
	65	5	14	7.6	Stage 1	35,500	2,615	4.00	45,200	2,025	6.54	22.3
					Stage 2	43,800	3,510	3.70	57,400	3,500	4.87	16.6
	75	6	16	6.2	Stage 1	42,300	3,600	3.70	51,800	2,790	6.01	20.5
					Stage 2	52,600	4,465	3.50	65,800	4,460	4.43	15.1
	80*	6.5	17	6.0	Stage 1	61,900	5,155	3.52	77,200	5,235	4.32	14.7
					Stage 2							

### Standard Capacity Ratings for Hydronic Heating (60Hz)

Rating Conditions	Model	Tons	Flow (GPM)	Outdoor dP (psi)	Mode	Closed Loop Heating Capacity (Btu/hr)	Input Energy (Watts)	COPh	Open Loop Heating Capacity (Btu/hr)	Input Energy (Watts)	COPh
Closed Loop ELT 32°F (Stage 1 ELT 41°F)	45	3	10	3.8	Stage 1	20,400	1,940	3.10	23,800	1,840	3.70
					Stage 2	24,000	2,665	3.10	33,500	2,595	3.70
	55	4	12	3.4	Stage 1	28,400	2,920	3.15	31,200	2,860	3.70
					Stage 2	34,300	3,950	3.10	44,200	3,910	3.80
Open Loop ELT 50°F	65	5	14	4.7	Stage 1	34,400	3,340	3.10	39,800	3,305	3.70
					Stage 2	43,000	4,340	3.10	55,200	4,365	3.70
	75	6	16	6.3	Stage 1	38,800	4,395	3.10	47,200	4,335	3.60
					Stage 2	48,500	5,425	3.10	64,100	5,565	3.80
80*	6.5	17	7.0	Stage 1	56,600	6,490	2.83	73,300	6,245	3.44	
				Stage 2							

\*TF-80 is **NOT** AHRI or Energy Star Certified