

Pump Tank Systems

Pump tank systems support cooling equipment including evaporative cooling towers, central chillers and fluid coolers. A vented reservoir with fluid pumps and controls specifically selected to meet the needs of your process and/or entire facility. The standard unit is designed to be installed indoors or protected from the elements. Use of a pump tank assembly improves plant cooling effectiveness by providing a stable reserve of cooling fluid to moderate the affects of rapid load changes.



1-Pump Systems... circulate the cooling fluid to process then directly back through the chiller or cooling tower.

2-Pump Systems... are preferred for most applications because constant and optimum flow and pressure is maintained through the cooling tower or chiller regardless of the process flow.

Pumps

Temptek provides high efficiency centrifugal pump and motor assemblies from recognized leaders in their field. Careful consideration to service, efficiency and motor protection are central to the design and selection of the best pump for your application. All pumps include full pump trim including suction and discharge service valves. Schedule 80 PVC or welded steel pump trim may be used depending on pipe size and duty.

Nominal pump flow rates are 2.4 gallons per minute per ton for chilled water systems and 3 gallons per minute for cooling tower systems. Process pumps are selected to provide approximately 45 to 60 pounds per square inch of pressure while recirculating pumps produce 25 to 30 pounds per square inch. Where higher flow rates or higher system pressure is required appropriate pump selections are made by our experienced application engineers.



Control Systems



All Temptek pump tank systems include controls appropriate for a complete and workable system. All systems include pump motor starters with motor protection. Cooling tower systems include fan motor starters and staging thermostats.

MULTISTAGE CONTROLLER... Stages tower fans and tower pumps to match system capacity to the cooling load. This panel mounted control package maintains a consistent water temperature regardless of load and ambient conditions. The electronic thermostat features a digital set point and a digital readout of actual water temperature. A single set point value is entered and offsets stage fans, pumps and alarms are staged appropriately... no need to set individual thermostats.

Reservoirs



Polyethylene Reservoir

Reservoirs are offered in three materials: polyethylene, mild steel and stainless steel. A drain port with valve, mechanical water make-up valve and overflow port are standard. Chilled water systems have 3/8" insulation. 2-pump systems include a baffle for hot/cold service.

Polyethylene... is a cylindrical, seamless one piece tank. Rotational molded from linear low density polyethylene. A baffle provides hot and cold water service. Pump assemblies are mounted on a structural steel deck and attached via flexible connectors. The rectangular base offers greater stability and expansion capacity. A tank lid is included.

Mild & Stainless Steel... 10 gauge stainless or 7 gauge mild steel sheets are welded into form with perimeter belting to increase strength. Wetted surfaces on mild steel tanks receive a thick layer of 2 part epoxy coating. A partition inside the tank serves as a hot and cold divider. The tank is set onto a structural steel base. The base area not immediately underneath the tank is decked with sheet metal and becomes the pump platform.

Optional Features to Customize Your System

Save money by always using only the pumping energy necessary for your system by installing a variable speed drive on your process pump. A variable speed drive system adjusts the process flow rate to meet the ever changing needs of your system. A 20% reduction in flow can equal nearly a 50% reduction in pumping energy.

Provides easier and less costly installation and operator convenience. Includes a Nema 12 cabinet, seal tight conduit, branch circuit fusing, control transformer and single power connection. Power On light and off/on selector switches are mounted on the cabinet exterior.

This option is required when selecting the CheckMate™ cooling tower system control and monitoring Instrument.

Prewired standby pumps and preplumbed manifolds are offered for process, tower or evaporator pumps. This feature assures continual operation when service is required on the primary pump but continued operation is necessary. Costs are higher for systems that must have field supplied manifolds, compared to systems with factory supplied manifolds.

Pump pressure and fluid temperatures are constantly monitored. A pressure switch is mounted in the process pump discharge stream and a thermostat monitors water temperature in the tank. An out-of-spec condition will activate the audible and visual alarm.

The polyethylene reservoir is set on top of the pumping system to save floor space. Many pump configurations, from single, dual and standby pumps with manifolds are designed to occupy space underneath the tank.

A float switch activates a solenoid valve to feed water to the tank. The float is mounted in a small enclosed tank positioned at the proper operating water level external to the main reservoir. The water inside the float tank is not subject to turbulence that may exist inside the main tank. Water level can be visually sighted by the clear sight tube on polyethylene reservoirs.

Specifications

MODEL		PPT-400	PPT-800	PPT-1500	PPT-3000	PPT-400-SS	PPT-800-SS	PPT-1500-SS	PPT-3000-SS
Water Capacity (gallons)	To Overflow	400	800	1,475	2,950	400	800	1,475	2,950
	Normal Operating (Tower)	255	425	800	1,475	255	425	840	1,475
	Normal Operating (Chiller)	350	675	1,200	2,400	350	675	1,200	2,400
Reservoir	Type ¹	PE	PE	PE	PE	PE	PE	PE	PE
Connection Sizes (inches)	Water Make-Up	1	1	1	1	1	1	1	1
	Tank Drain	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
	Tank Overflow	4	4	6	6	4	4	6	6
Dimensions (inches)	Height	60	72	96	96	60	120	144	144
	Width	48	62	75	160	48	66	78	160
	Depth (tank only)	50	62	75	75	50	68	80	80
	Depth (tank - 2 Pump)	100	116	130	130	n/a	n/a	n/a	n/a
	Depth (tank - 3 Pump)	109	124	138	138	n/a	n/a	n/a	n/a
Weights (LBS)	Dry	860	1,590	2,243	4,636	2,100	3,390	4,493	9,136
	Maximum	4,640	8,730	15,525	31,516	5,880	10,530	17,935	36,016
	Shipping ⁴	860	1,590	2,243	4,636	2,100	3,390	4,473	9,136

MODEL ³		PT-275	PT-400	PT-600	PT-750	PT-1000	PT-1250	PT-1500	PT-2000	PT-2500	PT-3000
Water Capacity (gallons)	To Overflow	275	400	600	750	1,000	1,250	1,500	2,000	2,500	3,000
	Normal Operating (Tower)	180	240	345	450	560	700	840	1,120	1,875	1,625
	Normal Operating (Chiller)	180	300	485	615	790	985	1,185	1,575	1,400	2,35
Reservoir	Type ¹	ST	ST	ST	ST	ST	ST	ST	ST	ST	ST
Connection Sizes (inches)	Water Make-Up	1	1	1	1	1	1 1/4	1 1/4	1 1/4	1 1/4	1 1/4
	Tank Drain	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2	1 1/2
	Tank Overflow	4	4	4	4	4	4	4	4	6	6
Dimensions (inches)	Height	55	55	67	79	79	79	79	79	79	79
	Width	60	60	72	72	72	72	72	72	72	144
	Depth (tank)	24	36	36	36	48	60	72	72	120	72
	Depth (total)	60	72	80	80	100	112	112	112	174	124
Weights (LBS)	Dry	1,625	1,745	2,300	2,800	3,250	4,300	4,500	4,500	8,480	6,580
	Maximum	3,915	5,075	7,295	9,050	11,580	14,715	17,000	17,000	26,300	31,600
	Shipping ⁴	1,725	1,845	2,400	2,920	3,370	4,500	4,700	4,700	5,700	6,750

Process Pump		PP-2	PP-3	PP-5	PP-7.5	PP-10	PP-15	PP-20	PP-25	PP-30	PP-40	PP-50	PP-60
Pump	HP	2	3	5	7.5	10	15	20	25	30	40	50	60
	GPM ²	40	60	90	150	210	360	405	525	600	900	1,100	1,250
	PSI ²	40	60	60	60	60	60	60	60	60	60	60	60
Unit Amperage (Full Load) @3ø/60hz	230 Volts	6.8	9.6	15.2	22.0	28.0	42.0	54.0	68.0	84.0	104.0	130.	154.0
	460 Volts	3.4	4.8	7.6	11.0	14.0	21.0	27.0	34.0	42.0	52.0	65.0	77.0
	575 Volts	2.7	3.9	6.1	9.0	11.0	17.0	22.0	27.0	32.0	41.0	52.0	62.0

Tower/Evaporator Pump		TP-2	TP-3	TP-5	TP-7.5	TP-10	TP-15	TP-20	TP-25	TP-30	TP-40
Pump	HP	2	3	5	5	10	15	20	25	30	40
	GPM ²	60	90	210	255	405	525	810	900	1,100	1,750
	PSI ²	30	30	30	30	30	30	30	30	30	30
Unit Amperage (Full Load) @3ø/60hz	230 Volts	6.8	9.6	15.2	22.0	28.0	42.0	54.0	68.0	84.0	104.0
	460 Volts	3.4	4.8	7.6	11.0	14.0	21.0	27.0	34.0	42.0	52.0
	575 Volts	2.7	3.9	6.1	9.0	11.0	17.0	22.0	27.0	32.0	41.0

Stanby Pump		SP-2	SP-3	SP-5	SP-7.5	SP-10	SP-15	SP-20	SP-25	SP-30	SP-40	SP-50	SP-60
Pump	HP	2	3	5	7.5	10	15	20	25	30	40	50	60
	GPM ²	40	60	90	150	210	360	405	525	600	900	1,100	1,250
	PSI ²	40	80	60	60	60	60	60	60	60	60	60	60
Unit Amperage (Full Load) @3ø/60hz	230 Volts	6.8	9.6	15.2	22.0	28.0	42.0	54.0	68.0	84.0	104.0	130.	154.0
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	575 Volts	2.7	3.9	6.1	9.0	11.0	17.0	22.0	27.0	32.0	41.0	52.0	62.0

Notes: 1. PE = Polyethylene reservoir, 115°F maximum continuous water temperature; ST = steel reservoir. 2. Approximate flow and pressure. 3. PTS - uninsulated steel or stainless steel tank; CPTS insulated steel or stainless steel tank. 4. Estimated shipping weight subject to change based on pump configurations and options selected.

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