



## CHILLED WATER PUMP TANK SYSTEMS

All of our pump tank assemblies are backed by proven engineering and expert construction that have made our systems the standard of the industry for more than 30 years.

Process cooling water is circulated by centrifugal pumps with cast iron housings, bronze impellers, and mechanical seals. Full-sized pump suction and discharge valves, discharge check valves, pressure gauges, and gauge trim. You can customize your AEC pump tank assembly with dozens of pump configurations and control options.



Pump Tank

### STANDARD FEATURES

- Centrifugal close-coupled pump, featuring cast iron impellers with 230/ or 460/3/60 ODP motor; other voltages and motor designs are available
- Tank, sides, bottom, and baffles are stainless steel
- Insulation and composite covers
- Lug-mount butterfly valves
- #304 stainless steel tank side walls 3/16" from C150 to C2000; 1/4" from C2700 to C5100D
- Standard hardware includes thermometer(s), pump pressure gauge(s), drain valve
- Full-size pump trim for maximum efficiency; includes isolation, throttling, and check valves
- Automatic level control makeup valve
- 8-foot support legs
- Butterfly valve handles
- Solid diamond-plate pump ledge
- 1 year warranty on parts and labor

### OPTIONAL FEATURES

- Second pump ledge
- OSHA handrail and ladder
- Sight glass
- 1" Clayton float valve (claval makeup valve)
- Well reinforcement
- P1 process pump, P2 recirculating pump
- TEFC motor, in lieu of ODP motor
- Bronze impeller
- Single suction or double suction trim
- Discharge manifold: process/recirculation standby
- Plugged or valved opening, mild or stainless steel
- Digital temperature display
- Amp meter, hour meter, digital flow meter
- UL Panel
- NEMA 12 enclosure with fused transformer
- Through-the-door disconnect
- Panel mounted on tank and wired

## SELECTION

Model	Max. chiller, tons (Kcal/hr)		Capacity, gallons (l)		Max. pumps/ledge	Return water conn., in. (mm) NPT
	1 well	2 wells	Overflow	Operating		
CT150 (D)	56 (170,300)	28 (85,100)	135 (511)	100 (378)	3	3 (76)
PC400 (D)	162 (492,000)	81 (246,000)	390 (1476)	350 (1325)	3	5 (127)
C500 (D)	200 (605,700)	100 (302,800)	480 (1817)	360 (1362)	3	4 (102)
C700 (D)	300 (908,300)	150 (454,200)	720 (2725)	540 (2044)	4	4 (102)
C1100 (D)	448 (1,356,300)	224 (678,200)	1075 (4069)	825 (3122)	4	6 (152)
C1600 (D)	672 (2,037,700)	336 (1,018,800)	1615 (6113)	1240 (4693)	4	6 (152)
C2000 (D)	850 (2,572,700)	425 (1,286,800)	2040 (7721)	1565 (5923)	5	6 (152)
C2700 (D)	1125 (3,406,700)	562 (1,703,300)	2700 (10,219)	2065 (7816)	6	6 (152)
C3700 (D)	1527 (4,624,000)	763 (2,312,000)	3665 (13,872)	2830 (10711)	6	6 (152)
C5100 (D)	2138 (6,472,300)	1069 (3,236,200)	5130 (19,417)	3960 (14988)	7	8 (203)

Calculated for chiller volume capacity based upon 2.4 gpm per ton with the chiller within 25 ft. of the tank

## PUMP TANK CAPACITIES

Capacity		Trim size, in. NPT (mm)	Process pump, hp (kW)	Recirculating pump, hp (kW)
Nominal refrigeration, tower water, tons (Kcal/hr)	Nominal flow, gal. (l)			
25 (75,600)	60 (227)	2.5 (64)	5 (3.73)	3 (2.24)
35 (105,840)	84 (318)	2.5 (64)	7.5 (5.59)	3 (2.24)
50 (151,200)	120 (454)	3 (76)	7.5 (5.59)	5 (3.73)
60 (181,440)	144 (545)	3 (76)	10 (7.5)	5 (3.73)
75 (226,800)	180 (682)	4 (102)	10 (7.5)	5 (3.73)
90 (272,160)	216 (818)	4 (102)	15 (11.19)	7.5 (5.59)
100 (302,400)	240 (909)	4 (102)	15 (11.19)	7.5 (5.59)
125 (378,000)	300 (1135)	4 (102)	20 (14.91)	7.5 (5.59)
155 (468,720)	372 (1408)	6 (152)	20 (14.91)	10 (7.5)
185 (559,440)	444 (1680)	6 (152)	25 (18.64)	10 (7.5)
220 (665,280)	528 (1998)	6 (152)	30 (22.37)	15 (11.19)
250 (756,000)	600 (2271)	6 (152)	30 (22.37)	15 (11.19)
310 (937,440)	744 (2816)	6 (152)	40 (29.93)	20 (14.91)
375 (1,134,000)	900 (3406)	6 (152)	50 (37.29)	20 (14.91)

## DIMENSIONS

Model	Length, in. (cm)	Width, in. (cm)	Height, in. (cm)	Ship. weight, lbs.	Operating weight, lbs.
CT150 (D)	72 (183)	36 (91)	40 (102)	600 (273)	1800 (817)
PC400 (D)	95 (241)	56 (142)	64 (162)	500 (227)	3500 (1588)
C500 (D)	102 (259)	48 (122)	52 (132)	2000 (908)	6000 (2722)
C700 (D)	114 (289)	72 (183)	52 (132)	2600 (1180)	8600 (3901)
C1100 (D)	114 (289)	72 (183)	77 (195)	3400 (1543)	12400 (5625)
C1600 (D)	138 (350)	72 (183)	77 (195)	4000 (1815)	17500 (7938)
C2000 (D)	150 (381)	92 (234)	78 (198)	5000 (2268)	22100 (10025)
C2700 (D)	150 (381)	120 (305)	78 (198)	6000 (2722)	28500 (12928)
C3700 (D)	162 (411)	120 (305)	90 (229)	7000 (3176)	37600 (17056)
C5100 (D)	162 (411)	168 (427)	92 (234)	7800 (3539)	50700 (22998)

## SIZING CONSIDERATIONS

In sizing a chilled water pump tank system, make sure you have enough volume to avoid unacceptable levels of turbulence in the tank. Typically, you can accomplish this by allowing one gallon of capacity for each gallon per minute (gpm [liters per minute; lpm]) of flow entering the tank. Standard tank selections in this specification are based on a flow rate entering the tank at 2.4 gallons per minute per ton (3 lpm per 1,000 Kcal/hr) of refrigeration.

For flow rates other than the standard tank selection specification, perform the procedure listed below.

### Sizing Example

What tank size is required for a 100-ton system with standard flow through the chiller and double flow to process?

Flow entering the tank = Flow through the chiller (100 ton x 2.4 gpm/ton) + Flow through process (100 tons x 4.8 gpm/ton) = 720 gpm

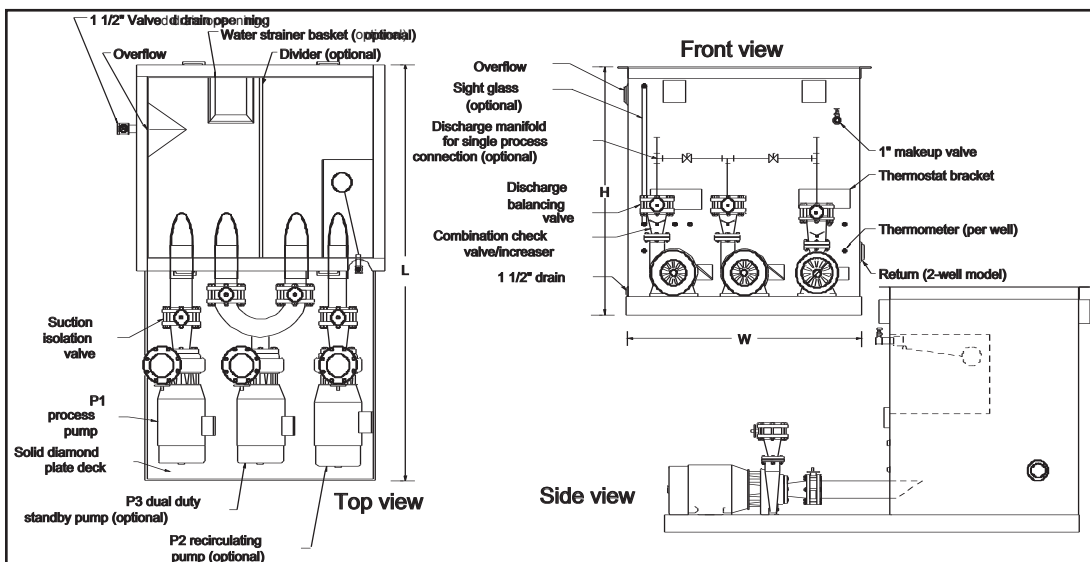
Minimum tank volume to overflow = 720 gallons

Result: Select a C700D model pump tank.

Standard tank selections are based on flow rates being equal to 2.4 gpm per ton of cooling. Therefore, standard volumes are as follows:

Single well volume = 2.4 x tons

Dual well volume = 4.8 x tons



All pumps are close-coupled centrifugal types and include a compound pressure gauge and ODP-type motors. TEFC motors are available as an option. Trim is full size, including butterfly valve (and reducer if necessary) on the suction side, combination increaser/check valve, and butterfly valve on the discharge side.

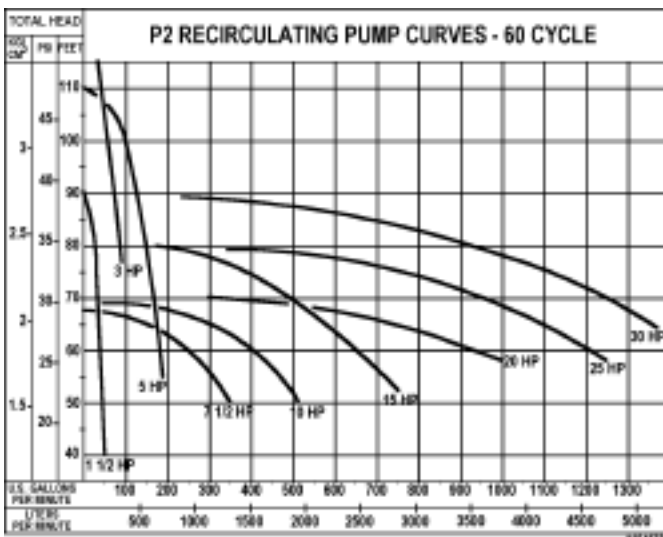
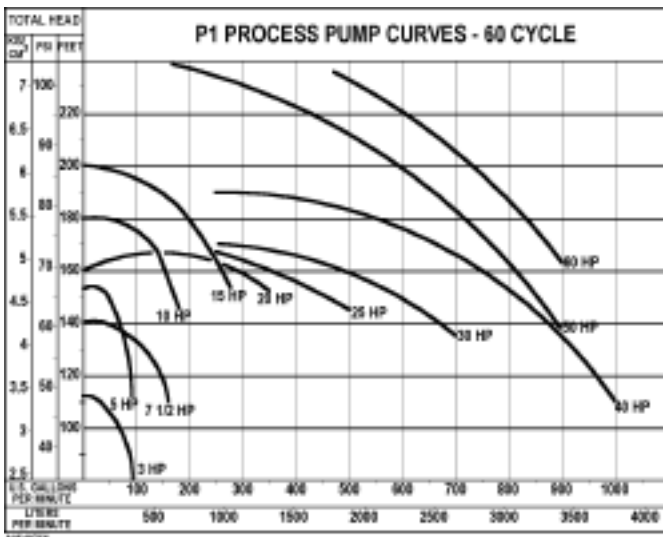
## PUMP INFORMATION

Pump hp	1.5	3	5	7.5	10	15	20	25	30	40	50	60
Amp draw, 460/3/60	2.6	4.8	7.6	11	14	21	27	34	40	52	65	77
Ship. weight. lbs. P1	—	95	115	125	165	180	300	310	400	465	710	730
Ship. weight. lbs. P2	60	90	115	275	320	425	510	630	670	—	—	—

## TRIM SIZE

Trim size	2"	2.5"	3"	4"	6"	8"
Max. flow, gpm (lpm)	50 (189)	90 (340)	160 (624)	320 (1211)	900 (3406)	2000 (7570)
Shipping wt., lbs. (kg)	25 (12)	35 (16)	50 (23)	75 (35)	120 (55)	165 (75)

## PUMP CURVES



## NEMA 1 STARTERS

2-60 hp pumps are available with 460/3/60 or 230/3/60 individual NEMA 1 starters. (230/3/60 voltage not available on 50 and 60 hp pumps).

Thermostat, well, on/off switch for cycling tower fans, and P2 recirculating pumps are available at extra cost. Mounting the starter on the pump tank and wiring to the motor is also available at extra cost.

Starters are shipped loose.

Note: For 50 Hz operation, derate by multiplying pressures by 0.69