

Power Tower[®] G3 Series Cooling Towers

Through extensive development and testing, the Power Tower G3 cooling tower cells are space efficient, highly versatile and have a lower first cost and operating cost when compared to other cooling methods.

Advantage's Power Tower G3 is simple to operate and utilizes energy-efficient evaporative cooling to provide cooled water for a variety of industrial applications and equipment.

Power Towers receive warm water returning from the process and evenly distributes it over the wet deck using its water distribution header and spray nozzles. The direct drive fan draws air from the inlet louvers, through the wet deck and out the top of the tower.

The falling water and counter airflow causes a portion of the warm process water to evaporate. The small amount of water evaporating cools the remaining water.

Under design conditions about 1% of the water flow rate evaporates to achieve the cooling affect desired.



135 Ton Power Tower[®] G3 Series

- Maintains full capacity & temperature control stability over a wide range of wind, air temperature and humidity extremes
- Capacity range is from 45 to 270 tons
- The nominal rating condition is cooling 3 gallons per minute per ton of capacity from 95°F to 85°F at 78°F wet bulb
- All wetted surfaces are made of fiberglass, galvanized steel, stainless steel, PVC or other non-rusting material
- Materials are designed for constant water contact under hot/cold air temperature extremes
- Fiberglass shell is thicker in structural areas assuring mechanical integrity and long service life
- No seam in lower basin
- G3 Series has been engineered to provide optimal efficiency

A dynamic splash of water in shades of blue and white, creating a sense of movement and freshness, serves as the background for the entire page.

Engineered and Constructed for Performance and Dependability

FEATURES

TOWER DESIGN

- Seamless bottom pan reduces potential for water leaks
- Single fan and multiple fan cells totally non-ferrous wetted surfaces
- Single inlet and drain connections (45 to 135 ton models) or two inlet and drain connections (170 to 270 ton models)
- Structural galvanized steel base on all models

SHELL CONSTRUCTION

- High strength fiberglass, with additional structural thickness in reinforced areas and finished with UV stabilized coating
- A two part methacrylate adhesive bonds the shell together
- Closed-face molding process minimizes gases released into the environment

FAN

- Glass filled polypropylene blades are air foil shaped for optimum air flow
- Fan is direct drive and is the only moving part in the cooling tower

MOTOR

- Totally Enclosed Fan Cooled (TEFC) motors are rated for outdoor and moist air extremes
- The fan and motor assembly is supported by a galvanized steel framework attached to the fiberglass shell at reinforced locations held in place by stainless steel fasteners

WATER DISTRIBUTION HEADER

- The computer designed non-ferrous water distribution header assures complete wet deck coverage under a wide range of flow rates.
- The spray nozzles have no small orifices to plug
- The PVC header is stationary, with no rotating “spray trees” that create excessive pressure drop and waste system pump energy

WET DECK

- Constructed using PVC with stacked honeycomb pattern maximizing water and air flow promoting greater cooling efficiency

DRIFT ELIMINATORS

- Placed above the stationary water distribution header to prevent water drift from the top of the cell
- Drift eliminators and air inlet louvers combine to save water, prevent winter icing and maintain a dry area around the cell

INSPECTION COVERS

- Easy to remove and reinstall
- A gasket seals the cover to prevent water leakage
- Fasteners attach the cover to the shell
- The inspection openings are used for water distribution system maintenance and are large enough for wet deck replacement

WARRANTY

- 10 year shell warranty
- 5 year fan and motor warranty

OPTIONS

FAN STARTER KIT

- Motor starter
- NEMA 1 enclosure
- Fan thermostat

BASIN FLOAT VALVE

(required when no remote tank will be used)

- Mechanical float and water make-up valve
- Factory or field installed

TOWER STAND (pictured right)

- Elevates tower for use with above ground indoor or remote tanks
- Since all Power Tower Cells include a structural base, stands are simple and inexpensive compared to stands for competitive cooling towers that often require special and more complex structures

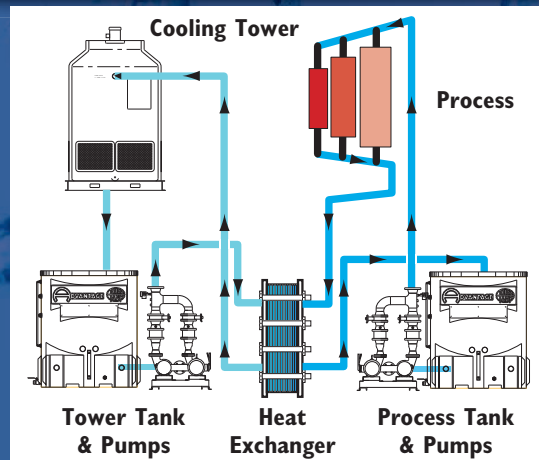
OPTIONAL CLOSED LOOP SYSTEM

(See detailed information below)



Reduce Maintenance with a Closed Loop System

Closed loop systems use high efficiency plate and frame heat exchangers to isolate the process water from the water circulated through the cooling tower. Process water is isolated from the contaminants contained in the tower water loop keeping the process water clean and decreasing maintenance needs for hydraulic heat exchangers, molds, rolls, chiller condensers and other equipment.



Heat Exchanger

Built for the Industrial Environment



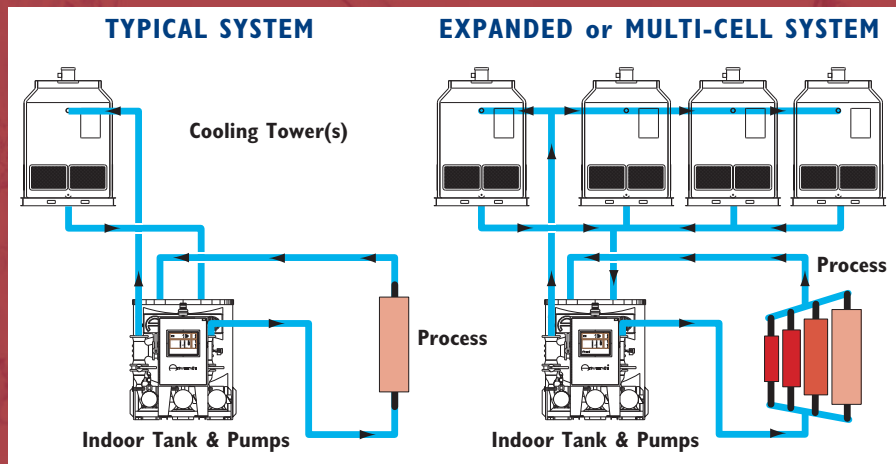
- TEFC fan motor with heavy duty galvanized steel support frame and air-foil shaped glass filled polypropylene fan blades
- Drift eliminator to minimize water loss (not visible)
- Tower water inlet with stationary water distribution header and spray nozzles to provide full coverage of wet deck (wet deck, distribution header and spray nozzles not visible)
- Stacked high efficiency honeycomb wet deck (not visible)
- Inspection cover for easy access to wet deck and spray nozzles
- Air inlet louvers minimize water loss
- Seamless sump
- Structural galvanized steel base with mounting holes for stand
- Tower water outlet in bottom of cell (not visible)

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TYPICAL FLOW SCHEMATIC

– OPEN LOOP SYSTEM

Most Advantage cooling tower systems employ a two pump system with a pump dedicated to process flow and a second pump dedicated to providing the proper flow through the cooling tower. A two pump system is preferred because process flow often changes based on production demand changes while the second pump delivers a constant flow to the tower to maximize cooling efficiency. With advanced planning, your system can be expanded to meet future cooling needs and to provide system back up and redundancy.



	Model	PT-45G3	PT-85G3	PT-105G3	PT-135G3	PT-170G3	PT-210G3	PT-270G3
Water Capacity	Tons ¹	45	85	105	135	170	210	270
Flow Rate	GPM	135	255	315	405	510	630	810
Fan (direct drive)	Quantity	1	1	1	1	2	2	2
	RPM	1,170	1,170	1,170	870	1,170	1,170	870
	CFM (total)	12,040	25,000	25,000	30,500	43,400	50,000	61,000
Fan Motor	Quantity	1	1	1	1	2	2	2
	Fan HP (each)	3	5	10	7.5	5	10	7.5
	Total Nameplate HP	3	5	10	7.5	10	20	15
	Amps @ 230/3/60	9.2	14.6	28.2	24.2	29.2	56.4	48.4
	Amps @ 460/3/60	4.6	7.3	14.1	12.1	14.6	28.2	24.2
	Amps @ 575/3/60	3.7	5.8	11.5	9	11.6	23.0	18.0
Tower Connections	To Tower (inches)	3	4	4	4	2 @ 4	2 @ 4	2 @ 4
	From Tower (inches) (drain ²)	4	6	6	6	2 @ 6	2 @ 6	2 @ 6
	Drain Location	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom	Bottom
Dimensions (inches)	Height	135	136	136	139	140	140	140
	Length	55	79	79	91	210	210	210
	Depth	57.5	81.5	81.5	93.5	80	80	92
Weight (pounds)	Dry	725	1,290	1,390	1,950	2,210	2,250	3,125
	Wet	1,470	3,100	3,200	4,200	5,600	5,640	7,800
	Shipping	1,100	1,580	1,680	1,950	2,210	2,250	3,125

1. Cooling water from 95°F to 85°F at 3 gpm/ton and 78°F wet bulb temperature. 2. When used with remote sump. Consult factory for connection size when the base of the tower will be used as the water reservoir. The treatment of cooling tower water is critical. Chemicals and biocides or other treatment systems must be used in quantities and combinations sufficient to control the presence of Legionella, minimize biofilms and prevent scaling and corrosion. Always consult with a local water treatment expert.

Model Designator for Power Tower G3 Series Cooling Towers

PT — 135G3

Power Tower

Tons of Capacity

Factory Identifier



Proudly Made In The USA since 1977

Since product innovation and improvement is our constant goal, all features and specifications are subject to change without notice or liability.

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