

## CHILLED WATER COOLING SYSTEMS

***A cooling solution for the most demanding equipment cooling requirements and severe environmental conditions.*** All water-cooled heat-producing industrial processes and equipment requiring coolant supply temperatures below those possible with an evaporative type cooling system are candidates for this thermostatically controlled heavy-duty (CW) system. That's because it removes heat from machines and processes by supplying coolant from 20 to 90 degrees F at the most severe ambient design conditions. Continuously, efficiently and with minimum maintenance.



***Completely automatic operation, reliable control of temperature.***

The system is filled with a low-cost, water/glycol mixture which is continually circulated. Because it is a self-contained system, you won't need to add or change the glycol coolant which prevents freeze problems. Operation is so simple, no assigned operator is needed. The pump and chiller control package regulates temperature, flow rates and heat exchange using a fixed amount of coolant indefinitely.

***Saves water, reduces cooling costs.*** The HydroThrift system is designed to provide years of trouble-free, low-cost service, even in tough environments. Because the water/glycol mixture is recirculated, economical, efficient cooling is possible. At specified glycol/water mixtures, wintertime freeze-ups don't happen and there is no need for make-up water because there is no evaporation. And you avoid water use regulations and sewer charges related to the discharge of water.



***Compact, simple to install.*** HydroThrift chilled water cooling systems utilize a compact pump package and either a water-cooled or air-cooled industrial chiller. Air-cooled chillers below 20 tons and all water-cooled chillers are typically mounted directly on the pump and control unit, completely pre-piped and pre-wired. Chillers from 1 to 250 tons refrigeration capacity are available.

***Non-contaminating system extends equipment service life.*** As a closed-loop system, the HydroThrift CW unit operates cleanly. And that saves you downtime and money. No entrained air, contaminants, air-borne dirt or chemicals from water treatment as in an open type or "once-through" water system. Service life of production equipment can be greatly increased because scaling, liming and corrosion on coils, water jackets and heat exchangers is prevented.

***Continuous, high efficiency operation cuts maintenance.*** The elimination of scale and dirt build-up on heat exchanger and water jacket surfaces results in high-efficiency operation. It also saves the cost of heat exchanger repair and maintenance and the downtime associated with it. Another reason for the efficient service is that flow, temperature and pressure in operation are controlled constantly, minimizing the costly inconsistencies found in external "once-through" water cooling.

***Lowest recycled coolant temperature.*** The HydroThrift chilled water cooling system can obtain lower coolant temperatures than evaporative-type closed-loop cooling systems, since the coolant temperature depends on the refrigeration equipment selections rather than ambient temperature limitations.

***Engineered systems boost cooling capacity even further.***

The HydroThrift chilled water cooling system will be custom engineered to the application requirements for optimum efficiency and maximum cooling capacity.



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**Water or air cooled chillers.** HydroThrift chillers include heavy duty, industrial compressors; multiple condenser options including air-cooled, water-cooled, integral, or remote; shell and tube or brazed plate evaporators; and custom engineered refrigeration control options to accommodate low ambient, high ambient, and variable cooling capacity requirements. Automatic thermostatic controls provide accurate, continuously varying capacity control

**Surge and vent tank.** To minimize oxidation of heat transfer surfaces, the ASME code-welded surge and vent tank de-aerates the coolant, and includes gauge glass, fill port, drain and vent valves.

**System line gauges.** Inlet and outlet gauges display pressure and temperature for continuous monitoring of the cooling system.



**Automatic control with manual override for reliability and safety.** The NEMA 12 or 4 design electrical enclosure includes a sub-panel with motor starter protectors with integrated circuit breaker and overload protection for the pump, compressor and fan motors; off/on selector switch for circulating pump motors; automatic/manual/off selector switch for thermostatically controlled compressors and fans. Indicating lights, LCD display panels, programmable logic controllers, and multiple alarm options are available for your custom engineered electrical controls.

**Rugged, close-coupled centrifugal pump provides compact design.** Couplings, alignment problems and attendant wear are eliminated in HydroThrift cooling systems through the use of heavy-duty centrifugal pumps close-coupled on the motor shafts. Pumps are equipped with mechanical seals. Pump capacities are typically rated at 100 feet head with higher pump heads available as conditions demand.



**Packaged pump and control skid.** Pumps, electrical enclosure, vent and surge tank, piping, valves, gauges, wiring and thermostatic spray pump control are all completely factory assembled on a full-deck fabricated steel base.

**Optional equipment.** Custom engineering allows a wide-range of options including dual stand-by pumps with automatic switchover, flow switch/alarm circuits, service valves, and disconnect switches.

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