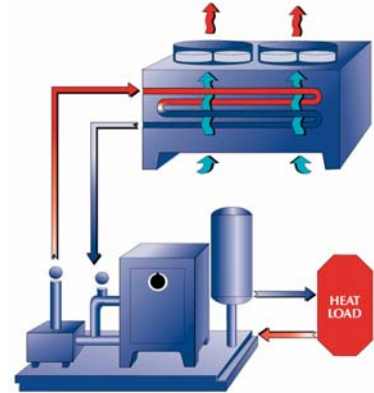


## Closed-Loop Dry-Type (CD) Cooling System

***A cost-efficient way to maintain consistent equipment cooling temperatures and prevent corrosion.*** Any heat-producing industrial process or equipment will benefit from the installation of this system. That's because the HydroThrift system removes heat from machines and processes continuously, cleanly and with little or no maintenance.

***Completely automatic operation and control of flow, temperature, and pressure.*** HydroThrift CD cooling systems are two-component systems utilizing a compact pump package and a remote, air-cooled heat exchanger. The system is filled with a low-cost, water/glycol coolant mixture which is continually circulated under pressure through the process or machine. Operation is so simple, no assigned operator is needed. Pumps, heat exchanger and control package regulate temperature, flow rates and heat exchange using a fixed amount of coolant indefinitely. And because it is a self-contained system, you won't need to add or change water or glycol.



***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.

***Noncontaminating systems extend equipment service life.*** As a closed-loop system, the HydroThrift CD unit operates cleanly. And that saves you downtime and money. No entrained air, contaminants, airborne 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.



***Compact, simple to install.*** The pump and control unit is delivered to you skid-mounted -- prepped and prewired with built-in temperature controls. On-site, simply mount the main heat exchanger where it will have an adequate supply of clean ambient air and locate the pumps anywhere between the heat load and the heat exchanger. Connect the piping and wiring and add the coolant. The surge tank provides easy access for filling the system.

***The bottom line is that HydroThrift cooling systems provide continuous, high-efficiency heat transfer. And deliver it at less initial cost and with better payback than other cooling systems.***

# Closed-Loop Dry-Type (CD) Cooling System



**Air-cooled heat exchanger.** Our heat exchanger features copper headers and corrugated aluminum fins mechanically bonded to copper tubes. The oversize draw-through fans permit low speed, quiet operation and uniform air distribution across the heat exchanger surfaces. Fan sections are baffled to prevent air bypass for greater efficiency. Units are constructed of reinforced heavy-gauge galvanized steel, bolted and riveted. They are easily mounted at grade level or on the roof of your building.

**Vent and surge 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 differentials for continuous monitoring of the cooling system.

**Automatic control with manual override for reliability and safety.** The NEMA 12 design electrical enclosure includes the sub-panel with fused circuits, starters with overload heaters for the pump and fan motors; start/stop pushbuttons for pump motors; automatic/manual/off selector switch for fan motors. The 115-volt control circuit interfaces with thermostatically controlled components for automatic operation.



**Thermostatic fan optimizes temperature control.** An adjustable temperature control activates each heat exchanger fan motor, automatically cycling the fans to maintain correct coolant temperature despite changes in ambient temperature and load.

**Rugged, close-coupled centrifugal pump provides compact design.** Couplings, alignment problems and attendant wear are eliminated 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, valving, gauges, wiring and thermostatic fan control are all completely factory assembled on a full-deck fabricated steel base.

**Custom engineered.** Some projects require custom engineered systems, such as this unit which has an emergency natural gas driven pump to assure uninterrupted coolant flow during a power outage.

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

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