

SCF - STANDARD

SPEC 1: COOLING WATER FILTER

I. CONDENSER WATER FILTER

II. PROCESS WATER FILTER

A. GENERAL:

Contractor shall furnish and install a high efficiency media filtration system rated for (specifications and selections):

1. 5% of the HVAC system flow rate.
2. 10% of the process water system flow rate.
3. _____% of the system flow rate.
4. System volume once per hour.
5. Closed Loop system volume + 360 = Filter flow rate.

B. Filter system shall operate continuously to remove airborne contaminants from the water

C. Provide a complete system, filter, pump, valves and media as manufactured by PROCESS EFFICIENCY PRODUCTS, INC., or approved equal.

D. Quality Assurance: Filter shall be capable of removing 90% of all particles ____micron and larger with each pass through the media.

E. Equipment – Product:

1. Unit to be a vessel with cartridge, system matched pump with pre-strainer and removable lid, and valves for flow control. Total system shall be skid mounted assembly, tested and adjusted at the manufacturer's plant prior to shipping.
 - a. Filter Vessel to be manufactured of:
 - 1) High-pressure 304 stainless steel 150 PSI.
 - 2) Vessel to be Electra polished to protect against corrosion.
 - b. Vessel to be equipped with automatic air vent, manual air vent and pressure gauge mounted on tank for accurate reading.
2. Filter Cartridge:
 - 1) Cartridge to be ____micron cartridge, manufactured of corrugated polyester.
 - 2) A PVC core will be provided to prevent cartridge from collapsing.
 - 3) Cartridge to withstand 80 psi pressure differential and temperature to 160° F.
 - 4) Cartridge to be manufactured to FDA acceptable standards,
3. Filter Pump:
 - a. Filter pump shall be closed coupled, centrifugal type with pre-strainer and easily re-moveable lid. Pump to be _____GPM at 50 TDH. Pump motors to be TEFC.
4. Unit Piping:
 - a. Face piping between filter unit components shall be _____.
 - 1) Schedule 80 PVC/UV stabilizer.
 - 2) Schedule 40 steel.
 - 3) Type L copper.

5. Filter Unit Control Panel:
 - a. Filter unit shall be provided with a complete system. All control shall be mounted in a NEMA _____ rated.
 - 1) Nema 3R watertight outdoors rated.
 - 2) Nema 4X watertight, FRP.
 - 3) Other.
 - b. Panel to contain the following:
 - 1) Filter systems electrical disconnect on door of panel.
 - 2) Step down transformer to convert main line power, 3 phase,
 - 3) to 110-volt control power.
 - 4) Overload and short circuit protection.
 - 5) Panel shall have single point connection to panel. Panel to be neatly wired and arranged to meet National Electric Code. Panel to be UL or E & L Stamped.

OPTIONS:

6. Total system to be skid mounted for ease of installation.
7. Control panel to have PLC to connect to BMS system.
8. Sweeper jet basin piping will be installed to follow the natural flow of the tower system. Isolation valves should be provided to permit maintenance of both tower and filter system. Drain lines should be sized based on full flow for backwash. A check valve should be installed in the suction piping to insure the pump will maintain it's prime. The return piping should be provided with sweeper jets to supply water at a 4 to 1 velocity and wash area underneath the fill. The filter manufacturer will provide the nozzles. A recommended design and layout of suction and return piping shall be provided with manufacturer's submittal. All piping shall be Schedule 80 PVC.