

SECTION 23 16 00 - PUMPS

PART 1 - GENERAL

1.1 DESCRIPTION

- A. Provide labor, materials, equipment and services as required, for the complete installation designed in Contract Documents.

1.2 SUBMITTALS TO THE ARCHITECT/ENGINEER

- A. Shop drawings and performance curves, on pumps and pump accessories. Clearly indicate which equipment is being submitted.

PART 2 - PRODUCTS

2.1 GENERAL REQUIREMENTS

- A. Pumps shall be non-overloading over their entire performance range with motors capable of running continuously without undue noise, heating, or sparking. Impellers statically and dynamically balanced. Mechanical seals for closed systems, shall be constructed of carbon rings with ceramic mating seat up to 220°F. Packing type seals for open systems only. Materials suitable for water pressures, temperature and conditions for each application. Tapped discharges and suction connections for gauges, vent and drain. With trimmed impeller if required to meet initial delivery requirements.
- B. Factory service engineer or machinist must check each pump alignment before pump is started. Include the cost of checking and start-up in pump quotation.
- C. Pumps used for propylene or ethylene glycol service shall be constructed of materials that are compatible with propylene or ethylene glycol.

2.2 CIRCULATOR PUMPS

- A. The pump shall be a maintenance-free, in-line, single stage, wet rotor type with the motor mounted directly to the pump volute.
- B. The pump valve shall be constructed of cast iron and rated at 145 psi working pressure.
- C. The impeller, impeller inlet cone, rotor can, and rotor cladding shall be constructed of stainless steel.
- D. The impeller shall be secured directly to the motor shaft by means of a stainless steel split cone.
- E. The motor shaft shall be constructed of aluminum oxide ceramic and shall be supported by two radial bearings mounted in a stainless steel bearing plate and rotor can.
- F. The pump shall not have a coupling or mechanical seal.

G. Design Equipment: Grunfos / Taco

PART 3 - EXECUTION

3.1 INSTALLATION

- A. Adjust gpm of each pump to capacity called for on schedule, readjust during balancing. Install in-line pumps in locations shown, supported independently of piping using hangers on both pump flanges.
- B. Level base so that pump and pump casing are not strained. Align pumps as directed by manufacturer. After pumps have been aligned, install dowels to prevent shifting. Fill base with concrete through grouting holes provided in baseplate. Contractor responsible for accurate size of base and exact location of mounting bolts. Contractor responsible for trouble resulting from poor pump alignment. Provide Concrete Base Pad For Each Base Mounted Pump.

END OF SECTION