

Dry Pit Solids Handling Centrifugal Pumps

Duty

Furnish and install, as shown on the plans, _____ Deming (Fig. 7170 Series Horizontal Mtd.)(Fig. 7180 Series Vertical Mtd.) Solids Handling Type Centrifugal Pumps, size _____ x _____ x _____. Each pump shall be designed for a capacity of _____ GPM operating against a total pumping head of _____ feet when operating at a maximum speed of _____ RPM and capable of passing _____ inch diameter spheres. Minimum acceptable shut-off head shall be _____ feet. Pump rotation shall be (clockwise)(counter-clockwise) when viewed from the driver end.

Construction Details

The pump shall be standard all iron construction. Castings shall have minimum tensile strength of 30,000 lbs. and all assembled parts shall be machined register fit to assure maximum pump alignment. Suction and discharge flanges shall be 125 lbs. ANSI standard.

Impeller shall be of the enclosed type, accurately balanced, with pumping vane on the back shroud to reduce pressure at the hub and prevent accumulation of solids behind the impeller. The impeller vanes shall be rounded at the periphery, designed for minimum noise and shall be keyed and securely fastened to the motor shaft.

The pump casing shall be of the vertically split design with single volute and of sufficient wall thickness to withstand full operating pressure and a hydrostatic test pressure of 1-1/2 times the designed working pressure. A hand hole shall be provided in the volute for clean out purposes. A separate suction cover, easily removable, shall include sealing ring for the impeller inlet and permit inspection and servicing. The motor shaft shall be protected by a renewable type (416) stainless steel sleeve, rigidly mounted on the shaft and extending to the machined step of the motor shaft.

A double mechanical shaft seal shall be provided to prevent leakage. The seal shall include O-ring mounted stationary seats and carbon washer on the rotating assembly. All metal parts shall be stainless steel. Seal bellows and O-ring shall be Buna-N rubber.

The seal shall be cooled and lubricated by (liquid from the pump discharge through a suitable filter assembly) (with clear liquid, under pressure, from an outside source). Seal head shall include inlet and outlet connections.

Fig. 7180 Series

The pump shall be supported by a sturdy cast iron base with openings large enough to permit installation of adequate flanged suction elbow to the suction cover and of sufficient height that the suction elbow will not rest on the foundation. Suction elbow shall be equal to or larger than the pump suction inlet and include large hand hole for clean out purposes.

Motor

The motor shall be of the close coupled pump design, not less than _____ hp _____ RPM, NEMA Type JM, (Drip Proof)(TEFC)(Explosion Proof) EISA efficiency motor with (1.15)(1.0) service factor and suitable for operation on (115)(230) volt, 1 phase, (50)(60) Hertz power supply OR (200)(230)(460)(575) volt, 3 phase, 60 hertz power supply. Motor size shall be sufficient to prevent overloading at operating conditions or at the lowest listed head conditions whichever point requires greater horsepower.

Following installation, grouting and connection of all piping, pump and motor must be checked for alignment in accordance with standards of the Hydraulic Institute.