



Bulletin B-205B

Bell & Gossett



End Suction Pump System

Series 1510 Centrifugal Pumps
Triple Duty® Valves
Suction Diffusers



Equipment Selection Programs
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Bell & Gossett

ITT Fluid Technology Corporation

Engineering Specifications for Bell & Gossett Series 1510 Base Mounted, Flexible Coupled, End-Suction Pumps

Furnish and install pumps with capacities as shown on plans. Pumps shall be base mounted, single stage, end suction design with a foot mounted volute to allow servicing of the impeller and bearing assembly without disturbing piping connections.

Pump volute shall be Class 30 cast iron with integrally cast pedestal support feet. The impeller shall be cast bronze enclosed type, dynamically balanced, keyed to the shaft and secured by a locking capscrew.

The liquid cavity shall be sealed off at the pump shaft by an internally-flushed mechanical seal with ceramic seat and carbon seal ring, suitable for continuous operation at 225°F. A replaceable bronze shaft sleeve shall completely cover the wetted area under the seal.

Pump shall be rated for minimum of 175 psi working pressure. Volute shall have gauge tapings at the suction and discharge nozzles and vent and drain tapings at the top and bottom.

Baseplate shall be of structural steel or fabricated steel channel with fully enclosed sides and ends, and securely welded cross members. Grouting area shall be fully opened. A flexible type, center dropout design coupler, capable of absorbing torsional vibration, shall be employed between the pump and motor. Coupler shall be shielded by a coupler guard securely fastened to the base.

Motor shall meet NEMA specifications and shall be of the size, voltage and enclosure called for on the plans. Pump and motor shall be factory aligned, and shall be realigned by contractor after installation.

Each pump shall be factory tested per Hydraulic Institute standards. It shall then be thoroughly cleaned and painted with at least one coat of high grade machinery enamel prior to shipment.

Pumps shall be Series 1510 as manufactured by ITT Bell & Gossett.

Typical Specifications for Triple Duty Valve

Furnish and install as shown on plans, a(n) (choose one: angle or straight) _____ pattern valve designed to perform the functions of a non-slam check valve, throttling valve, shutoff valve and calibrated balancing valve.

The valve should be of heavy-duty cast-iron construction with standard 125 psig ANSI flanged connections, and rated for a maximum working pressure of 175 psig at 250°F. The valve shall be fitted with a replaceable bronze disc with EPDM seat insert, stainless steel stem and chatter-preventing spring. The valve design shall permit repacking under full system pressure.

Each valve shall be equipped with brass readout valves (with integral check valve) for taking differential pressure readings across the orifice to accurately balance the system to specified design conditions and be available in flanged, groove-locked or threaded configurations.

All valves shall be ITT Bell & Gossett Model No. (choose one: 3D (Angle Pattern) or 3DS (Straight Pattern) _____ - _____ Triple Duty Valve.

Typical Specifications for Suction Diffuser

Provide at each pump a Suction Diffuser of size and type noted on drawings. Units shall consist of angle type body with straightening vanes and combination Diffuser-Strainer-Orifice Cylinder with 3/16" diameter openings for pump protection. A permanent magnet shall be located within the flow stream and shall be removed for cleaning. The orifice cylinder shall be equipped with a disposable fine mesh strainer which shall be removed after system start-up. Orifice cylinder shall be designed to withstand pressure differential equal to pump shut-off head

(maximum _____ PSI) and shall have a free area equal to five times cross area of pump suction opening. Straightening vanes shall extend the full length of the orifice cylinder and shall be stainless steel material and replaceable. Unit shall be provided with adjustable support foot to carry weight of suction piping and will be available in flanged, groove-locked or threaded configurations. Each Suction Diffuser to be ITT Bell & Gossett. Model No. _____, Type.

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