



PICSA[®]

Bombas y Sistemas

SUBMITTAL

SPECIFICATIONS

HORIZONTAL FRAME MOUNTED END SUCTION CENTRIFUGAL PUMPS PENTAIR AURORA 3804

General Description

The Contractor shall supply materials, equipment and labor to furnish, install and test the pumping system complete with the pumps, motors, mounting bases, piping, valves and accessories, as indicated on the contract drawings and following the instructions specified by the manufacturer. The Contractor shall ensure that the pumps and motors are properly installed and checked in accordance with the standard of the Hydraulic Institute and there shall be no pipe strain transmitted to the pump casing.

Product

The pump shall be a centrifugal horizontal flexible-coupled end suction base mounted pump, suitable for operation with a VFD, Pentair Aurora Model 3804 or pre-approved equal with following characteristics and materials of construction:

Pump volute shall be Ductile Iron (ASTM A536) with integrated foot to support the volute and allow back pull out feature. Pump shall include gauge tapings at the suction and discharge flanges and vent and drain tapings at top, bottom and side of the volute. Simple design with no center drop out spacer coupling needed to disassemble the rotating elements without disturbing the casing or suction, the discharge piping, and the electrical motor connections.

Impeller shall be of enclosed type Stainless Steel (ASTM A743 Type 316), finished all over, the exterior being turned and the interior being finished smooth and cleaned of all burrs, trimmings, and irregularities. Impeller shall be dynamically balanced to ANSI/HI 9.6.4 balance grade G6.#,keyed to the shaft, and fastened with a washer, gasket and cap screw.

Pump internal design shall include a self-flushing mechanical seal with Stainless Steel (ASTM 303) metal parts, Buna-N elastomers parts, Ceramic seat and Carbon washer suitable for continuous operation at 225°F (107°C). Pump shall be equipped with a Steel (AISI C1045) shaft and fitted with a replaceable Stainless Steel 316 ASTM shaft sleeve to minimize shaft wear. The sleeve shall be sealed to the impeller hub by an O-ring, and shall be positively driven by a pin to the keyway. The use of adhesive compounds to fasten the sleeve to the shaft shall not be accepted.

Pump seal plate and motor bracket shall be of a two piece design, and shall provide an adequate area for internal recirculation of the pumped fluid around the sealing medium.

Pumps shall be able to handle minimum 175 PSI working pressure.

The pump and motor shall be mounted on a groutable formed steel baseplate or a drip-rim baseplate with integral drip channels incorporated on each side. Each channel shall include a NPT drain connection and plug. The base shall be sufficiently rigid to support the pump and the motor without the use of additional supports or members to prevent lateral movement and improve the vibration absorbing characteristics of the foundation in accordance with ANSI/HI Standards.

Pump power frame shall be of heavy duty rating with regreasable L10 bearings and a three (3) year (26,000 hours) minimum life at maximum load. A bearing cartridge end cap shall be provided on the outboard side of the power frame to allow inspection of the thrust bearing without the need for disassembling the power frame housing.

A flexible coupling shall be provided to connect the pump shaft to the motor shaft. The coupling shall be of an all metal type with a flexible rubber insert. The entire rotating coupling assembly shall be enclosed by a coupling guard.

Motor(s) shall be a NEMA configuration in accordance with the latest NEMA Standards and shall have a sufficient horsepower rating to operate the pump at any point within the manufacturer's recommended operating range on the pump's head-capacity curve without overloading the nameplate horsepower rating of the motor, regardless of service factor. The motor shall have a service factor of at least 1.15. The service factor is reserved for variations in voltage and frequency.

Each centrifugal pump furnished under these specifications shall be tested at the factory to Verify Individual Performance (VIP). Certified copies of all test reports shall be submitted to the engineer for approval prior to shipment. Each unit shall be hydrostatically tested in accordance with the Hydraulic Institute Standards.

Pump manufacturer warranty shall be for a period of five (5) years from the date of installation or start-up, or for five (5) years after the date of shipment, whichever comes first.

Pump(s) shall be manufactured, assembled and tested in an ISO 9001 approved facility.

After January 27, 2020 all pumps must be compliant with the Department of Energy (DOE) New Standard (PEI of 1 or less) and include all new mandatory information on the nameplate.

Pumps shall be 3804 Series as manufactured by Pentair Aurora or equal.

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