



**PICSA**<sup>®</sup>

Bombas y Sistemas

**SUBMITTAL**

## SPECIFICATIONS

### VERTICAL IN-LINE CENTRIFUGAL PUMPS PENTAIR AURORA 382B SPLIT COUPLED

#### General Description

The Contractor shall supply materials, equipment and labor to furnish, install and test the pumping system complete with the pumps, motors, 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 undue pipe strain transmitted to the pump casing.

#### Product

The pump shall be a Vertical Split Coupled In-line Centrifugal Pump, suitable for operation with a VFD, Pentair Aurora Model 382B-SC or pre-approved equal with following characteristics and materials of construction:

Pump volute shall be of Ductile Iron (ASTM A536) design for mounting directly in a pipeline with provisions for mounting an optional support base should the pump sit on the floor. Pumps shall be also available with various hanging installation options. Pump shall have suction and discharge flanges of the same size located on a common centerline 180° apart for mounting in pipe line, shall be flanged and drilled. Pump shall include gauge tapings at the suction and discharge flanges and vent and drain tapings at top and bottom of the volute.

Impeller shall be enclosed type, Stainless Steel (ASTM A743 Type 316), finished all over, 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. The impeller shall be direct-coupled to the stainless steel pump shaft. The pump shaft shall have a radial keyway to ensure position the impeller height, and prevent slipping on the pump shaft.

Pump design shall include an internal mechanical seal with Stainless Steel (ASTM 303) metal parts and spring, Buna-N elastomers, Ceramic seat and Carbon washer suitable for continuous operation at 225°F (107°C). The pump shall be provided with a Stainless steel (ASTM A582 Type 416) gland with external Mechanical seal as an optional offering. A bypass line must be provided between the seal faces and the discharge flange to assure adequate venting of the seal. Pump shall be equipped with a Stainless Steel (ASTM A582 Type 416) shaft. Pump shall include a Cast Iron (ASTM A48 CL 30B) gland with internal Mechanical seal.

Pump shall allow easy service of the Mechanical seal without disturbing the casing and the electrical motor connection. The pump's seal plate shall have provision to jack the gland with a jacking mechanism to facilitate easy servicing/replacement of Mechanical seal single handedly without the use of any lifting/prying arrangements, no wood blocks and allow one man operation. A muff coupling in high tensile Aluminum Alloy (ASTM B211 GR 2011) shall be provided to connect the pump shaft to the motor shaft. The coupling shall be enclosed by coupling guards.

Pump(s) shall be provided with a throttle bushing at bottom of seal chamber to ensure seal maintain positive cooling and lubrication.

Pump(s) shall be able to handle up to Max 290 PSI working pressure.

Pump motor bracket shall accommodate most common NEMA rated motor configurations 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 one (1) year from the date of installation or start-up, or for eighteen (18) months 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 382B Split Coupled Series as manufactured by Pentair Aurora or equal.

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