PIONEER PUMP INC.

 Specification Sheet for Pioneer Prime Pump Series

 Pioneer Prime Pump Model: PP44V10L72

The unit described by this specification is the manufacturer’s latest production model for the year solicited and is equipped with all the standard equipment in accordance with the manufacturer’s pertinent literature. A copy of the literature shall accompany the bid alone with any applicable information necessary to verify the unit either meets or exceeds each of the following specifications.

 **Delivery**

The unit will be delivered complete, assembled accordingly, serviced and ready for operation.

**Terms and Conditions**

Pioneer Pump’s current terms and conditions, including limited warranty policy, can be found on our website <http://www.pioneerpump.com> from the homepage by selecting More > Resources > Terms and Conditions or by following this link: <http://pioneerpump.com/media/232391/M5132_Pioneer_Standard_Terms_and_Conditions-1-.pdf>

 **Pioneer Prime Pump**

Pump model is a PP44V10L72, manufactured by Pioneer Pump Inc.

**Design Requirements:**

Maximum Operating Speed: 2000 RPM

Maximum Solids Handling Capability: 4.00 Inches

Suction Size: 4.00 Inches

Discharge Size: 4.00 Inches

Maximum Suction Lift: 24 Feet

Pump Maximum Flow @ Runout: 1,400 GPM

Pump Maximum Head @ Shutoff: 165 Feet

**Pioneer Prime Pump Specifications:**

**Pump Details:**

**Model: PP44V10L72**

The heavy duty, end suction centrifugal pump shall be equal to the Model PP44V10L72 manufactured by Pioneer Pump Inc. It shall be of the open and recessed impeller type with a continually rising performance curve to shut-off. The pump shall have 4.00-inch maximum spherical solids handling capability. The pump casing is of back pull-out design for ease of maintenance with heavy wall sections to provide long life under abrasive and corrosive conditions. Due to the recessed impeller, the pump does not require the use of wear rings.

**Suction Spool**

The suction spool is constructed of heavy section ASTM A536 Grade 65-45-12 Ductile Iron. The suction spool flanges are ANSI Class 150 and is sealed to the suction cover with a Viton O-ring.

**Volute**

The volute is constructed of heavy section ASTM A536 Grade 65-45-12 Ductile Iron. The volute flange is ANSI Class 150. The volute contains a contoured cleanout cover and is sealed with a Viton O-ring. The volute is sealed to the back plate with Viton O-rings.

**Impeller**

The impeller is constructed of heavy section ASTM A536 Grade 65-45-12 Ductile Iron. The impeller is to be open with back vanes to reduce axial thrust and stuffing box pressure. Impeller is to be balanced, with a straight, non-tapered bore and will be keyed to the shaft and secured with a stainless-steel impeller lock screw. The impeller shall also be recessed into the volute to reduce contact with solids.

**Back Plate**

The back plate is constructed of heavy section ASTM A536 Grade 65-45-12 Ductile Iron. The back plate is dished style and houses the mechanical seal’s stationary seat. The back plate is sealed to the volute and bracket with Viton O-rings.

**Bracket**

The bracket is constructed of heavy section ASTM A48 Class 30/35 Cast Iron. The bracket is of the enclosed design and contains oil for mechanical seal lubrication when pump is running dry. The bracket is sealed to the back plate with Viton O-rings.

**Seal Assembly**

The mechanical seal is a single seal design incorporated with a dished style back plate. The mechanical seal is a run-dry design with an oil-filled enclosed style bracket for seal lubrication. The mechanical seal faces are Silicon Carbide rotating and Tungsten Carbide stationary. All seal elastomers are Viton. The seal retainer and spring are to be constructed of 316 stainless steel.

**Bearing Frame and Bearings**

The bearing frame is to be constructed of an ASTM A48 Class 30/35 Gray Iron. The bearings are to be of sufficient size to withstand the radial and axial thrust loads incurred during service. Bearings have a minimum B-10 bearing life of 100,000 hours. The bearings are protected from infiltration of liquid and contaminants by use of a cassette seal located at each end of the bearing frame.

**Shaft**

The pump shaft shall be constructed of ASTM A747 17-4 Stainless Steel.

**SAE Housing and Drive (Modify for specific pump configuration or remove)**

The pump is to be coupled to engine with an S.A.E. #3 style direct mounted housing and a 11-inch rubber disc drive style coupling. The rubber disc drive coupling is to be self aligning and sized to handle full load driver horsepower and speed. The bracket is constructed of ASTM A48 Class 30/35 Gray Iron.

**Discharge Check Valve**

The pump is to have a full-opening, non-return discharge style check valve. The valve body is constructed of ASTM A126 Class B Cast Iron. The disc is constructed of Buna-N with Alloy Steel and Nylon reinforcement. The Cover Gasket is constructed of Buna-N or Compressed Non-Asbestos Fiber.

**Priming System Specification**

The vacuum pump is a mechanically driven, diaphragm style vacuum pump that requires no cooling liquid for operation of unit. The vacuum pump is capable of delivering up to 50 CFM of air handling ability. The priming system incorporates a positive sealing float system to insure separation of air and liquid during the priming cycle. The vacuum pump body is constructed of corrosion resistant aluminum, as is the actuator. The crankcase body is constructed of ASTM A48 Class 30 Cast Iron. Elastomers are of Buna-N and Viton. The float/separator chamber is constructed of steel. The float rod assembly and strainer are constructed of Stainless Steel. The pumping unit is capable of fully dry-priming from a start-up mode. The system can handle large volumes of air and liquid, in addition to intermittent flow conditions. The unit is capable of automatic priming and re-priming throughout its operation.

**Factory Painting**

Pump shall be cleaned prior to painting. Exposed surfaces to be coated with one coat gray W.R. non-lift primer and one coat Pioneer Green (RAL: OC-00D034). The finish coat shall be 1.0 to 1.5 MIL dry film thickness (minimum). The factory finish shall allow for over-coating and touch up after final installation.

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