

Industrial Flow Solutions Operating, LLC

PUMP SPECIFICATION

PERFECTA® PUMPS-Single & Three Phase

PUMP REQUIREMENTS

Supply (Qty) ____, ____inch discharge Electric Submersible Chemical Resistant Pump(s). The pump shall be driven by a close coupled 0.4 HP, Submersible Electric Motor with a nominal rating ____ Volts, ____ Phase, ____ Hz, ____ RPM.

The pump shall be capable of delivering ____US GPM flow at ____FT TDH. The pump shut off head shall be at least 27 FT TDH for 60Hz, and 26.2 FT TDH for 50Hz. The pump shall be capable of a maximum Submergence Depth of 33 FT.

DESIGN AND CONSTRUCTION

The Suction Cover Plate, Impeller and Motor Housing Cover shall be designed and constructed of NORYL GTX830. The Pump Casing (Motor Housing) shall be designed and constructed of NORYL GTX830 with 30% Glass Reinforcement. The Strainer, Threaded Female Flange, Discharge Cap and Float Switch Cable Clamp shall be constructed of PPO-PA (Polyphenylene Oxide). The Pump Top Cover shall be constructed of Ultramid B3 WG 7 and the Pump Handle shall be constructed of PP.

The Pump shall be equipped with (select one)

304SS Hardware with Buna-N and FKM Elastomers – GF32 Model

316SS Hardware with FKM / EPDM Elastomers – IGF32 Model

Titanium Hardware with FKM / EPDM Elastomers – TIGF32 Model

Impeller

The Pump shall be supplied with a Multi-vane Impeller constructed of NORYL GTX830.

The impeller shall be affixed to the motor rotor shaft by placing it on the shaft, locked in place by a drive flat molded into both the impeller hub and pump shaft. The impeller shall then be tightened to the shaft with a screw and lock washer screwed into threads tapped into the end of the shaft.

Strainer

The pump shall be fitted with a replaceable Strainer and Suction Cover Plate. The Suction Cover Plate be constructed of NORYL GTX830 and shall be press fit into place. The Strainer shall be constructed of PPO-PA (Polyphenylene Oxide) and shall be screwed directly to the Pump Casing. The Strainer shall pass solids up to size ¼".

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Pump Housing / Motor Housing

The Upper Pump Housing and Motor Housing (Pump Casing) should be molded as one piece constructed of NORYL GTX830 30% Glass Reinforcement.

Discharge Flange

The Pump shall be supplied with a 1.25" NPT Threaded Female Flange screwed directly into the Pump Casing. The Pump shall also be supplied with a 1.5" Tapered Hose Connection discharge flange as an alternate. The Discharge Flange/Hose shall be constructed of PPO-PA.

Seals

The pump shall be supplied with two Shaft Sealing Ring (Lip Seals) to protect the motor from the pumped liquid. The seals shall be constructed of (select one).

Buna-N Lower Seal and FKM Upper Seal – GF32 Model

FKM Lower Seal and FKM Upper Seal – IGF32 Model, *TIGF32 Model

EPDM Lower Seal and EPDM Upper Seal – TIGF32 Model

*TIGF32 Lip Seals to utilize an O-ring of same material as Lip Seal in place of SS garter spring.

Motor

The Single and Three Phase Motors shall be constructed in different Rating of Voltage and Frequency.

The Single and Three Phase Pump Motors shall be an Oil Filled, and the Single Phase Motor shall be with Permanent Split Capacitor fitted into it, specifically designed for Submersible Pump usage for Continuous Duty(S₁) to pump liquid up to 135 °F.

The stator windings and leads for Perfecta motors shall be insulated with moisture resistant Class F insulation rated for 311 °F.

The motor horsepower shall be non-overloading over the full range of the performance curve, from shut-off to full flow. The combined service factor (Voltage, Frequency, and Liquid Specific Gravity) of the motor shall be 1.10.

The Single Phase Motor (except 220V/50Hz) shall be with Direct Plug-In Cable and protected from failure from overheating and from low voltage or high amperage by a Thermal Overload Relay fitted into the Motor Housing Cover.

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The Three Phase Motor (Pump) shall be supplied with suitable Control Panel. The Control Panel shall be consisting of an Overload Relay and Single Phase Preventor to protect the motor from failure from overload, over current and single phasing.

Rotor / Pump Shaft

The Rotor (Pump) Shaft shall be constructed of (select one)

304SS – GF Model

316SS – IGF Model

Titanium – TIGF Model

Rotor Core shall be made of Electrical Lamination Sheet Die-casted with EC Grade Aluminum and Core shall be fitted on a Shaft. The rotor cylindrical surfaces shall be Grinding finished and finished rotor shall be dynamically balanced.

Bearings

The upper bearing shall be a single row deep groove ball bearing. The lower bearing shall be a single row deep groove ball bearing.

The upper and lower bearings shall be lubricated by NSF Approved ISO 32 Grade Oil. Minimum bearing L10 life shall be 30,000 hours.

Power Cable

The pump shall be supplied with a 22 FT power cable connected to the motor lead wires in a water and oil resistant sealed cable entry. The power cable shall be sized in accordance with NEC standards. The outer jacket of the power cable shall be oil resistant and capable of submergence in water to 104 °F.

For GF and IGF models, the power cable shall be SJOOW type with a Neoprene outer jacket. For TIGF model, the power cable shall be SOOW type with the outer jacket shall be Super VU-TRON.

The Three Phase pumps shall have two cable-Power Cable and Float Switch Cable.

The power cable entry shall be sealed by a cable grommet between the cable and the power cable entry.

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Float Switch

The pump shall be (select one) supplied / not supplied with an integral Float Switch. The Float Switch body shall be constructed of PP basis material. The Float Switch cord shall be type SJOOW / SOOW, same as the pump power cable.

Control Panel (Three Phase Pump Control)

The Three Phase Pump shall be supplied with a Control Panel suitable to the pump rating type. The Control Panel shall be built in a sheet metal box with ON/OFF Push Buttons, Digital Volt-Amp Meter, Single Phase Preventor Switch, Contactor with Overload Relay, Cable Connectors and Grounding Screw. The Cable Glands shall be provided to secure cables up to the connector ports.

TESTING

After the end of the assembly process, each pump is High Potential tested to UL/CSA standards and then tested for Performance. BJM Pumps® also performs qualification audits on each production lot to confirm product quality.

OVERALL

The pump shall be a BJM Pumps® Perfecta® Model _____

Dimensions:

Pump with Float Switch : 11.65" X 7.02" X 10.19"

Pump without Float Switch : 7.25" X 6.24" X 10.19"