Submersible Carbon Steel Pump Check Valves Model 80MDW VFD 2⅜" Through 9⅝"

Flomatic® Valve Written Specification

Scope

1.1 This specification covers the design, manufacture, and testing of 2⅜ in. (60 mm) through 9⅝ in. (245 mm) Threaded In-Line Carbon Steel Submersible Pump Check Valves suitable for pressures up to 2,000 psig (13,790 kPa) water service.

1.2 The Submersible Pump Check Valve shall be flow efficient of the silent operating type that begins to close as the forward flow diminishes and fully closes at zero velocity preventing flow reversal and reduces resultant water hammer.

1.3 Compatible with VFD control submersible pumps with variable flow conditions.

Standards and Approvals

2.1 Certified to be Lead-Free in accordance with NSF/ANSI 372.

2.2 Manufacturer shall have a quality management system that is certified to ISO 9001 and ISO 14001 by an accredited, certifying body.

Connections

3.1 Threaded Style valves shall be provided in sizes 2⅜ in. (60 mm) through 4½ in. (114 mm) EU male inlet x female outlet threads (API 5B 2019, Table 7) and 4½ in. (114 mm) though 9⅝ in. (245 mm) Casing Short Male inlet threads (API 5B 2019, Table 1) and Casing Long Female outlet threads (API 5B 2019, Table 4).

3.2 Threaded Style valve shall be compatible to API J55 tubing.

Design

4.1 The valve design shall incorporate a downstream center guided, spring loaded poppet and having a short linear stroke with a positive stop that generates a flow area equal to the nominal valve seat size.

4.2 Valve body material shall be Carbon Steel ASTM A519 Grade 1026 or stronger to support a submersible pump at a maximum setting of 3,300 feet.

4.3 All internal component parts shall be corrosion resistant and be field replaceable without the need of special tools. The spring shall be designed to withstand 100,000 cycles without failure and provide a minimum cracking pressure of 1 psi.

4.4 The valve poppet shall be convex to the flow direction providing for disc stabilization, maximum strength, and a minimum flow velocity to open the valve.

4.5 The valve poppet shall have metal to metal sealing surface that complies with ANSI Class V shutoff classification.

4.6 The valve shall be stable and noiseless at variable flow rates from 1 ft./sec. to 10 ft./sec.

4.7 Features only metal to metal seating.

4.8 Pressure Max: 2,000 PSI (13,790 kPa).

4.9 Temp Max: 180°F (82°C).

Coating

5.1 Carbon Steel Valve bodies shall be fusion epoxy coated with NSF/ANSI 61 approved powder.

Marking

6.1 The valve shall have a cast-in, engraved or metal tag showing direction of flow arrow and manufacturer name, size, model, serial number (for traceability) and year of manufacture.

6.2 The valve shall have a date coded quality control (Q.C.) tag or water resistant label.

Approved Manufacturer

7.1 The valve shall be equal in all respect to the Carbon Steel Series 80MDW VFD as manufactured by Flomatic® Corporation, Glens Falls, NY.