Series 7800 SWING CHECK VALVE
Stayflow Specification

1 Scope

1.1 This specification covers the design, manufacture, and testing of 2 in. (50 mm) through 48 in. (1200 mm) Swing Check Valves suitable for cold working pressures of 250 psig.

1.2 The Swing Check Valve shall be of the full waterway body type, with a domed access cover and vent port.

1.3 The check valve shall be capable of accepting air cushion, lever and weight or lever and spring

2 Standards, Approvals and Verification

2.1 The valves shall be designed, manufactured and tested in accordance with American Water Works Association Standard ANSI/AWWA C508 and in accordance with Manufacturers Standardization Society Standard Practice MSS SP-71 or MSS SP-136.

2.2 The valves used in potable water service shall be certified to NSF/ANSI 61, Drinking Water System Components - Health Effects, and certified to be Lead-Free in accordance with NSF/ANSI 372.

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

3 Connections

3.1 The Valves shall be provided with flanges drilled in accordance with ASME B16.1, Class 125 iron flanges or ASME B16.42, Class 150 for ductile iron flanges.

4 Design

4.1 The valve body shall be full flow equal to nominal pipe diameter area at all points through the valve and shall be equipped with a threaded adjustable open stop. The body seat shall be O-ring sealed and field replaceable without removing the valve from the line. The end flanges shall contain integrally case mounting pads.

4.2 The top access port shall be full size, allowing removal of the disc without removing the valve from the line. The access cover shall be domed in shape to provide flushing action over the disc for operating in lines containing high solids content.

4.3 The disc shall be of one-piece construction and connected to the shaft with a disc arm and two pivot pins to provide pivot action to allow self-adjusting seating at all pressures. 14” and larger discs shall be convex shape for lift, stabilization and strength.

4.4 When specified, the disc seat shall be resilient with integral O-ring type sealing surface for drop tight shut-off at high and low pressures and for easy replacement in the field without removing the valve from the line.

4.5 When specified, metal seated valves shall have aluminum bronze seats.

4.6 The shaft seals shall consist of V-type packing in a fixed gland with an adjustable follower designed to prevent over compression of the packing and to meet design parameter of the packing manufacturer. Removable, slotted shims shall be provided under the follower flanges to provide for adjustment and prevent over loading of the packing.

4.7 When specified, the valve shall be factory equipped with a lever and weight assembly. The lever shall be equipped with three holes for adjusting the bolted weight assembly. When the valve is closed, the lever and weight shall be located 30 degrees below horizontal.

4.8 When specified, the valve shall be factory equipped with a lever and air cushion assembly mounted between the weight assembly and the valve body. The air cushion assembly shall consist of a clevis mounted tie-rod type closed cylinder with speed control valves.

4.9 When specified, the valve shall be factory equipped with a lever and spring assembly. The spring shall be mounted to a bracket on the side of the valve body with a bolt assembly to adjust the spring tension.

5 Materials

5.1 The valve body, cover and disc shall be constructed of ASTM A536 Grade 65-45-12 ductile iron for sizes 2 in. (50 mm) through 24 in. (600 mm) and ASTM A126 class B, gray iron for sizes 30 in. (800 mm) through 48 in. (1200 mm), with optional body material ASTM A536 Grade 65-45-12 ductile iron.

5.2 The exterior and interior of the valve shall be coated with an NSF/ANSI 61 approved fusion bonded epoxy coating.

5.3 The removable body seat shall be constructed of ASTM A276, Type 304 stainless steel.

5.4 The removable resilient seat shall be precision molded Buna-N (NBR), ASTM D2000-BG. When specified, optional seat material includes EPDM.

5.5 The disc arm and external levers shall be ductile iron.

6 Options

6.1 A pre-wired limit switch shall be provided (when specified) to indicate open/closed position to a remote location. The mechanical type limit switch shall be activated by the external arm and rated for NEMA 4, 6, or 6P and shall have U.L. rated 5 amp, 125 or 250 VAC contacts.

6.2 When specified, the lever and weight assembly shall be enclosed within a removable safety guard constructed of perforated metal for visibility.

7 Manufacture

7.1 Manufacturer shall demonstrate a minimum of five (5) years' experience in the manufacture of swing check valves.

7.2 All valves shall be hydrostatically and seat tested per AWWA C508 to demonstrate zero leakage and structural integrity. When requested, the manufacturer shall provide test certificates, dimensional drawings, parts list drawings, and operation and maintenance manuals.

7.3 Swing Check Valves shall be Series 7800 (resilient seated) or 7800M (metal seated) and equipped with AC (air cushion), LW (lever and weight), or LS (lever and spring) as manufactured by Stayflow Valve & Mfg. Corporation, Elmhurst, IL USA or approved equal.