



Max-Seal Performance Series

Design & Feature Presentation

This will be a review of the Max-Seal Performance Series Resilient Seated Butterfly Valve. Hereinafter referred to as the PS Series.

A. Body Style: The Performance Series butterfly valve is available in both wafer style (51 Series) and lug style (52 Series) designs. (figure 52). These configurations are provided to meet the needs of today's popular piping requirements.

Sizes Available: Max-Seal offers sizes from 2" to 36". Standard stock sizes will include 2" through 24". Larger sizes up to 80" are also available on project basis.

A.1 Pressure Rating: The pressure ratings of the PS Series Butterfly valves are as follows:

- **Sizes 2" – 12" 225 psi WOG**
- **Sizes 14" – 24" 200 psi WOG**
- **Sizes 26" – 36" 150 psi WOG**

Max-Seal will also offer an optional 250psi WOG in its Performance 250 Series on Lug Styles 2" - 12", Please consult factory.

A.2 Body Material: Both the 51 and 52 Series bodies are offered in ductile iron material ASTM A536. Rugged design heavy duty construction. Built for the more demanding industrial process markets.

A.3 Body Coating & Color: Max-Seal provides a high quality blue epoxy coating as standard for excellent corrosion resistance.

A.4 Body Lugs: The lug holes are fully drilled and tapped. All threads are supplied with grease to protect against corrosion and provide ease of installation. Plastic caps can also be added to protect against dirt build up in threaded lugs.



A.6 Butterfly Neck Design: The performance series provides a space-saving extended neck design. The Max-Seal neck design allows for a minimum full 2" clearance of insulation, yet provides a reduced weight as well as additional body strength.

B.1 DISC MATERIALS: The PS Series provides stainless steel 316, CF8M, Aluminum Bronze or a Nylon Coated (ductile iron) disc as standards. Optional special materials are available, please consult factory.

B.2 Seat Design: The PS Series offers, as standard, a totally supported phenolic bonded cartridge seat. This seat is blow-out proof, stretch resistance and non-collapsible. This seat design is also field replaceable. This design provides a dimensionally stable seat which will promote to longer seat life due to support and reduced deflection.

B.3 Flange Gaskets: Flange gaskets are not required nor recommended on the Max-Seal PS Series valves.

B.4 Seat Offerings: The PS Series seats are offered in EPDM, BUNA, TEFLON, and Viton as standard options. Other seating materials are available upon request.

B.5 BI-DIRECTIONAL VALVES: The PS Series valves are bi-directional and bubble tight. They are marked with an arrow to indicate the preferred high pressure sealing side in our 52 lug design body .

B.6 STEM MATERIAL: The PS Series valve stems are manufactured as stainless steel 416, 316, and 17-4PH. All three options are also readily available on sizes 14" and larger. Special Alloys are also available C/F.

B.7 Stem Design: The Max-Seal PS valves offer a two-piece geometric disc-to-stem design. The upper stem is square and inserts into the upper portion of the disc, which is machined to accept the square-stem design. The bottom stem acts as a trunnion support and inserts into the bottom portion of the disc. The pinless disc design provides superior strength and durability. The disc floats inside the seat for positive sealing, lower torque, and longer life.

B.8 Stem Seal Design: Primary stem seals are formed with O-Rings and preloaded contact between the disc and the seat. A secondary seal is affected by having a stem diameter greater than the stem hole through the seat.

B.9 Lower Stem: The lower stem utilizes the same stem seal and O-ring sealing design. There is no lower stem bushing due to the fact that the lower stem operates as a trunnion support to the disc only. The bottom stem provides a built-in machined groove.



to facilitate lower stem removal which then provides easier valve disassembly and maintenance.

B.10 Bushings: The upper stem of the Max-Seal PS Series valve utilizes three acetal bushings. These bushings provide for full upper stem support, stem deflection during operation, and reduces friction. 14" and larger are slightly different.

C.1 Positive Stem Orientation: The top of the PS stem is marked with a machined groove which provides both a visible and positive orientation of the disc-to-stem connection. Being able to determine the orientation of the disc is key for safety and maintenance.

C.2 Blow-Out Proof Stem Design: Shaft retainers are offset in the upper neck and the bottom stem areas of the body. This pin design mechanically retains the upper and lower shaft in the valve body, ensuring a blow-out proof stem design. This stem design also allows for a blowout proof stem design and additionally provides the user a method of stem seal failure alert.

C.3 Disc Design: The geometric stem drive provides for a unique high-flow disc design, providing for a higher level of flow and CV. The disc is streamlined to provide greater flow and Cv. This is accomplished by the fact the stem does not pass completely through the disc thus allowing for the reduced boss area, eliminating the bolt or pin retention system.

C.4 Disc Edge: The Max-Seal design utilizes a precision machined disc edge to help provide the highest level of sealing capability, as well as a smooth low-torque operation.

C.5 No Pin Stem Design: The Max-Seal design utilizes no pins or bolts that are exposed in the flow path. This makes it easier to remove the disc and stems for maintenance and also allows for a greater flow through the valve.

D.1 Dead-End Service: Max-Seal PS Series offers dead-end capabilities up to 80% of the rated pressure of the valve with the downstream flange removed. The Max-Seal design incorporates a unique machined "step" into the body of the lug style butterfly. This step will positively retain the seat into the body providing for full shut off pressure with a downstream flange removed. An arrow is provided on the body to show this preferred direction of flow. NOTE: OSHA as well as good safe piping practices would state that the operation of a valve should be done with a downstream flange in place. Consult factory for additional information.



D.2 Handle Design: Cast Iron, 10 position lever lock handle. Lockable in either the open or closed position with our standard handle design. Infinite handle is also available for finer control applications.

E.1 Vacuum Service: Providing up to 28" of Hg and bi-directional sealing, the Max-Seal butterfly valves are designed for bubble-tight shutoff in either direction of flow.

E.2 Mounting Plate: The upper mounting plate (mounting flange) is dual-drilled to effectively utilize various actuator mountings. This provides for two slotted bolt drilling circles. These will be for ISO 5211 as well as other popular industry valve brands.

E.3 SILICONE FREE: The Max-Seal Butterfly valve can be provided as a silicon free valve.

F.1 MAX-SEAL LABEL: The valve body is cast with our name, pressure rating, and figure number. MTR's are also available with advance notification. The Max-Seal Butterfly Valve comes complete with a full offering of literature and documentation.

F.2 PRIVATE LABEL: Max-Seal is able to provide various labeling options, consult factory.

F.3 DOMESTIC OFFERING: Max-Seal can comply with USA government guidelines for "Domestic Content," which states 51% or more of any product must be purchased or produced in the United States. All Domestic content will be labeled as follows: Assembled and Tested in the USA.

F.4 MAX-SEAL'S PS SERIES Certifications: ABS certification number 12-HS918322-PDA and PS Series valves are manufactured in full accordance with ISO-9001 certification .

****VALVE AUTOMATION IS OUR SPECIALITY****

