

A-USP2 RESILIENT WEDGE GATE VALVES, 2"-12"



1. GENERAL CLASSIFICATION

- 1.1 USP2H Resilient Wedge Gate Valves comply with ANSI/AWWA C509 where applicable.
- 1.2 USP2H Resilient Wedge Gate Valves are approved by Factory Mutual Research Corporation (FM).
- 1.3 USP2H Resilient Wedge Gate Valves are listed by Underwriters Laboratories, Inc. (UL). Valves with actuators are not listed.
- 1.4 USP2H Resilient Wedge Gate Valves are tested and certified to ANSI/NSF Standard 61 & 372.
- 1.5 USP2H Resilient Wedge Gate Valves are suitable for potable water applications.
- 1.6 USP2H Resilient Wedge Gate Valves are iron body, fully encapsulated resilient wedge type.
- 1.7 Mueller Resilient Wedge Gate Valves are manufactured in the U.S.A. at an ISO9001 Certified factory.

2. SIZE RANGE, WORKING TEMPERATURE & WORKING PRESSURE

- 2.1 **Sizes:** 2" thru 12"
- 2.2 **Working Temperature:** 33° F minimum to 170° F maximum.
- 2.3 **Working Pressure**
 - 2.3.1 250 psi for AWWA.
 - 2.3.2 250 psi for UL/FM.

3. TYPE OF VALVE

- 3.1 USP2H Resilient Wedge Gate Valves are non-rising stem or post indicator type.
- 3.2 USP2H NRS Resilient Wedge Gate Valves are offered with O-ring stem seals.
- 3.3 USP2H Resilient Wedge Gate Valves are offered to open either left or right.
- 3.4 USP2H Resilient Wedge Gate Valves have a 2" square wrench nut complying with AWWA C509. Optional hand wheels are available.
- 3.5 USP2H Resilient Wedge Gate Valves of the non-rising stem type and post indicator type are offered with the following end connections:
 - 3.5.1 Flanged Ends (2" thru 12") with flange drilling complying to ANSI B16.1 Class 125 (ISO PN10/PN16 drilling optional).
 - 3.5.2 Standard Mechanical Joint Ends (2", 3" thru 12") for cast iron pipe or ductile iron pipe with end dimensions complying with ANSI/AWWA C111/A21.11.
 - 3.5.3 Slip-On Joint Ends* (4" thru 12") complete with Mueller Slip-On Gasket, complying with ANSI/AWWA C111/A21.11. Fits plain end of classes 150, 200 and 250 cast iron; ductile iron, and classes 150 and 200 cast iron O.D. PVC**.

**Design and dimensions of the joint are manufactured under license of U.S. Pipe and Foundry Company.
 **When using DI O.D. PVC pipe, the gaskets supplied by Mueller Co. must be used with this valve connection.*

- 3.5.4 Radial Compression Joint Ends (2" thru 8") for I.P. size PVC pipe.
- 3.6 USP2H Resilient Wedge Tapping valves (2", 3" thru 12") have an inlet flange complying with ANSI B16.1 Class 125 and MSS SP-60, and are offered with a Standard Mechanical Joint outlet end with dimensions complying with ANSI/AWWA C111/A2.11.

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VALVE &
HYDRANT

- 3.7 USP2H Resilient Wedge Cut-In valves (4" thru 8") have D-150 Mechanical Joint Ends with two specially designed gaskets to fit either of two diameters of Cast Iron or Ductile Iron Pipe; duck-tipped rubber gasket for Class 150 pipe, or plain rubber gasket for Class D pit cast pipe.

4. MATERIAL SPECIFICATIONS

- 4.1 **Cap screw** – Stainless Steel, Type 316.
- 4.2 **Wrench nut** – Ductile, ASTM A-536.
- 4.3 **Handwheel** – Cast Iron, ASTM A-126, Class B.
- 4.4 **Stuffing box** – Cast Iron, ASTM A-126, Class B.
- 4.5 **Stem O-rings** – Nitrile, ASTM D2000.
- 4.6 **Anti-friction washers** – Acetal Copolymer.
- 4.7 **Stem** – Manganese Bronze, ASTM B138 Alloy C67600.
- 4.8 **Bonnet** - Ductile Iron, ASTM A-536.
- 4.9 **Bonnet seal**
 - 4.9.1 2" thru 3" – Flat gasket, Neoprene, ASTM D-2000.
 - 4.9.2 4" thru 12" - O-ring, Nitrile, ASTM D-2000.
- 4.10 **Stuffing box bolts & nuts** – Stainless Steel, Type 316.
- 4.11 **Bonnet bolts & nuts** - Stainless Steel, Type 316.
- 4.12 **Disc nut** – Bronze, ASTM B-584 Alloy.
- 4.13 **Guide cap bearings** – Acetal Copolymer.
- 4.14 **Disc**
 - 4.14.1 2" thru 3" sizes – Cast Iron, ASTM A-126, Class B.
 - 4.14.2 4" thru 12" sizes – Ductile Iron, ASTM A-536.
- 4.15 **Disc encapsulated** – SBR ASTM D-2000.
- 4.16 **Body** – Ductile Iron, ASTM A-536.
- 4.17 **Coating** – Inside and outside of valve fully coated with Mueller PRO-GARD[®] Fusion Bonded Epoxy. Coating complies with ANSI/AWWA C550 and is certified to ANSI/NSF Standard 61 & 372.

5. DESIGN FEATURES

- 5.1 **Fully unobstructed, oversized flow-way** – the sealing mechanism is withdrawn from the flow-way in a full open position. No pockets in bottom of flow-way to trap sediment or debris. The flow-way will permit passage of full-sized shell cutters.
- 5.2 **Bronze Disc Nut** - all valves.
- 5.3 **Anti-Friction Washers on non-rising stem valves** – Located above and below the thrust collar portion of the stem to reduce friction and provide more effective conversion of operating torques into seating loads.

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- 5.4 **Stem for non-rising stem valves, with O-ring Seals** – One O-ring is located below the thrust collar of the stem and two are located above the thrust collar, with the uppermost serving as a dirt seal (4” thru 12”). The O-rings and thrust collar are factory lubricated. The two primary O-rings seal the thrust collar area from outside contaminants and water, and retain an ample amount of lubricant on the thrust collar and anti-friction washers to reduce operating torque and wear.
- 5.5 **Stem** – The threads on the bronze stem are Acme form threads for strength and efficiency. The stem thrust collar is made integral with the stem -- and is formed by a heat upset operation.
- 5.6 **Upper Stem O-ring Replacement** – The two O-rings above the thrust collar of all USP2 Resilient Wedge Gate Valves can be replaced with the valve in the fully open position, under pressure, with no leakage.
- 5.7 **Corrosion Resistant** – all inside and outside cast iron surfaces are coated with Mueller PRO-GARD® Fusion Bonded Epoxy Coating, 10 mils nominal. Mueller PRO-GARD® Fusion Bonded Epoxy Coating is non-toxic, imparts no taste to water, and complies with ANSI/AWWA C550. Valves are certified to ANSI/NSF Standard 61 & 372.

6. OPTIONAL FEATURES

- 6.1 USP2 Resilient Wedge Gate Valves can be furnished with the following optional designs or features:
 - 6.1.1 **Gearing** – Bevel and Spur gearing available on 3” thru 12” valves. Bevel-gear valves are for horizontal installations; spur-gear for vertical. Geared valves provide an additional bearing to support the extreme end of the stem.
 - 6.1.2 **Position indicator** – Available for NRS valves 3” and larger.
 - 6.1.3 **Stem** – Silicon bronze - ASTM B98 C66100; 304 Stainless Steel or 316 Stainless Steel.
 - 6.1.4 **Disc encapsulation & O-rings** – EPDM ASTM D2000.

7. TEST PRESSURE

- 7.1 The pressure test on each USP2 Resilient Wedge Gate Valve meets the requirements of AWWA Standard C509 for Resilient Seated Valves.
 - 7.1.1 Each USP2 Resilient Wedge Gate Valve is subjected to two pressure tests. The seat test is at the working pressure of AWWA valves and 1-1/2 times working pressure of UL Listed valves. Shell tests are at 2 times the working pressure.
 - 7.1.2 Pressure tests at the working pressure shall show NO leakage past the seat from either side of the wedge or at the flange joints. Pressure tests at twice the working pressure shall show NO leakage through the metal or flange joints.
 - 7.1.3 Test pressures are as follows: 300 psi seat test, 500 psi shell test.



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