

MUELLER® 2300 SERIES RESILIENT WEDGE GATE VALVES

PRODUCT SPECIFICATIONS

1. GENERAL CLASSIFICATION

- 1.1 MUELLER Resilient Wedge Gate Valves comply with either ANSI/AWWA C509 or C515 where applicable.
- 1.2 MUELLER Resilient Wedge Gate Valves thru 16" are approved by Factory Mutual Research Corporation (FM).
- 1.3 Mueller Resilient Wedge Gate Valves thru 24" are listed by Underwriters Laboratories, Inc. (UL). Valves with actuators are not listed.
- 1.4 MUELLER Resilient Wedge Gate Valves are tested and certified to ANSI/NSF Standard 61.
- 1.5 MUELLER Resilient Wedge Gate Valves are suitable for ordinary non-shock cold water service.
- 1.6 MUELLER Resilient Wedge Gate Valves are iron body, fully encapsulated resilient wedge type.
- 1.7 MUELLER Resilient Wedge Gate Valves are made in the U.S.A. at an ISO9001: 2000 Certified factory.

2. SIZE RANGE, WORKING PRESSURE AND WORKING TEMPERATURE

- 2.1 2" thru 54" AWWA valves.
 - 2.1.1 250 psi maximum working pressure.
 - 2.1.2 125F maximum working temperature.
 - 2.1.3 33F minimum working temperature.
- 2.2 2-1/2" thru 24" UL/FM valves.
 - 2.2.1 2-1/2" thru 12" have a 200 psi maximum working pressure, 14" & 16" have a 250 psi maximum working pressure and 18 thru 24" have a 175 maximum working pressure.
 - 2.2.2 125F maximum working temperature.
 - 2.2.3 33F minimum working temperature.

3. TYPE OF VALVE

- 3.1 MUELLER Resilient Wedge Gate Valves are either non-rising stem (NRS – 2" thru 54") or rising stem (OS&Y – 2-1/2" thru 24") type.
- 3.2 MUELLER NRS Resilient Wedge Gate Valves are offered with O-ring stem seals.
- 3.3 MUELLER Resilient Wedge Gate Valves are offered to either open left or open right.
- 3.4 MUELLER Resilient Wedge Gate Valves with a 2" square wrench nut complying with AWWA C509/C515. Optional hand wheels are available.
- 3.5 MUELLER Resilient Wedge Gate Valves of the non-rising stem type are offered with the following end connections:
 - 3.5.1 AguaGrip™ Ends, with integral restraint and compression connection, for plain end of Ductile Iron, C900 PVC, or DIPS PE (DR9 thru DR17) pipe.
 - 3.5.2 Flanged Ends, with flange dimensions and drilling complying to ANSI B16.1 Class 125 (ISO PN10/PN16 drilling optional).
 - 3.5.3 Standard Mechanical Joint Ends for cast iron pipe, with end dimensions complying with ANSI/AWWA C111/A21.11.
 - 3.5.4 Slip-On Joint Ends* complete with Mueller Slip-On Gasket, complying with ANSI/AWWA C111/A21.11. Fit Ductile Iron pipe manufactured to ANSI/AWWA C151/A21.51; including the plain end of all makes of Cast Iron or Ductile Iron of the slip connection type. Also fits classes 150 and 200 Ductile Iron O.D. PVC plastic pipe**.
 - 3.5.5 Radial Compression Joint Ends, for I.P. size PVC pipe.
 - 3.5.6 Threaded Ends, with end dimensions complying to ANSI B2.1.
 - 3.5.7 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.

*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 must be used with this valve connection.

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- 3.6 MUELLER Resilient Wedge Gate Valves of the rising stem (OS&Y) style have Flanged Ends with flange dimensions and drilling complying with ANSI B16.1 Class 125 (ISO PN10/PN16 drilling optional).
- 3.7 MUELLER Resilient Wedge Tapping valves have an inlet flange complying with ANSI B16.1 Class 125 (2" thru 12" also MSS SP-60), and are offered with a Standard Mechanical Joint outlet end with dimensions complying with ANSI/AWWA C111/A2.11.
- 3.8 MUELLER Resilient Wedge Cut-In valves 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
 - 4.1.1 2" thru 12" sizes – Stainless Steel Type 304.
 - 4.1.2 14" thru 54" sizes – Steel, SAE J429 Grade 2 Zinc Plated.
- 4.2 Wrench nut – Cast Iron, ASTM A-126, Class B.
- 4.3 Handwheel – Cast Iron, ASTM A-126, Class B.
- 4.4 Stuffing box
 - 4.4.1 2" thru 12" sizes – Cast Iron, ASTM A-126, Class B.
 - 4.4.2 14" thru 24" sizes – Ductile Iron, ASTM A-536, Grade 64-45-12.
 - 4.4.3 30" thru 54" sizes - Hot Rolled Steel, ASTM A36
- 4.5 Stem O-rings – Nitrile, ASTM D2000, 3CH 720.
- 4.6 Anti-friction washers – Acetal Copolymer.
- 4.7 Stem
 - 4.7.1 2" thru 16" sizes – Manganese Bronze, CDA Alloy C67600.
 - 4.7.2 18" thru 54" sizes – Bronze, ASTM B-584, Alloy C86200 or C86400 or C86500.
- 4.8 Bonnet
 - 4.8.1 2" thru 12" sizes – Cast Iron, ASTM A-126, Class B.
 - 4.8.2 14" thru 54" sizes – Ductile Iron, ASTM A-536, Grade 64-45-12.
- 4.9 Bonnet seal
 - 4.9.1 2" thru 3" sizes – Flat gasket, Neoprene, ASTM D2000.
 - 4.9.2 4" thru 16" sizes – O-ring, Nitrile, ASTM D2000.
 - 4.9.3 18" thru 54" sizes - O-ring, EPDM
- 4.10 Stuffing box bolts & nuts
 - 4.10.1 2" thru 12" sizes – Stainless Steel Type 304.
 - 4.10.2 14" thru 54" sizes – Steel - Bolts: SAE J429, Grade 2; Nuts: ASTM A-536 Grade B – Plated to ASTM F1941 Class Fe/Zn 12c.
- 4.11 Bonnet bolts & nuts
 - 4.11.1 2" thru 12" sizes – Stainless Steel Type 304.
 - 4.11.2 14" thru 54" sizes – Steel - Bolts: SAE J429 Grade 2; Nuts: ASTM A-536 Grade B – Plated to ASTM F1941 Class Fe/Zn 12c.
- 4.12 Disc nut – Bronze, ASTM B62 CDA 83600.
- 4.13 Guide cap bearings – Acetal Copolymer.
- 4.14 Disc
 - 4.14.1 2" thru 12" sizes – Cast Iron, ASTM A-126, Class B.
 - 4.14.2 14" thru 54" sizes – Ductile Iron, ASTM A-536, Grade 64-45-12.
- 4.15 Disc encapsulated
 - 4.15.1 2" thru 16" sizes – SBR ASTM D2000
 - 4.15.2 18" thru 54" sizes – EPDM

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- 4.16 Body
 - 4.16.1 2" thru 12" sizes – Cast Iron, ASTM A-126, Class B.
 - 4.16.2 14" thru 54" sizes – Ductile Iron, ASTM A-526, Grade 64-45-12.
- 4.17 Inside and outside of valve fully coated - coating complies with ANSI/AWWA C550 and is certified to ANSI/NSF Standard 61.
 - 4.17.1 2" thru 36" sizes - MUELLER PRO-GARD® Fusion Bonded Epoxy
 - 4.17.2 42" thru 54" sizes - MUELLER HP® Epoxy.

5. DESIGN FEATURES

- 5.1 2-1/2" thru 48" sizes - fully unobstructed, oversized (except 16" which is same size) 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 (except 16" which requires undersized cutter).
- 5.2 Bronze Disc Nut on non-rising stem valves.
- 5.3 Anti-Friction Washers on non-rising stem valves – Are 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.
- 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, the upper most serving as a dirt seal. 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 for valves thru 16" in size; cast in place for 18" and larger valves.
- 5.6 Upper Stem O-ring Replacement – The two O-rings above the thrust collar of all MUELLER Resilient Wedge Gate Valves can be replaced with the valve in the fully open position, under pressure, with no leakage.
- 5.7 Corrosion Resistant – 2" thru 36" sizes - all inside and outside cast iron surfaces are coated with MUELLER PRO-GARD® Epoxy Coating, 10 mils nominal. MUELLER PRO-GARD® Epoxy Coating is non-toxic and imparts no taste to water. 42" thru 54" sizes - all inside and outside cast iron surfaces coated with MUELLER HP® Epoxy Coating. Both coatings comply with ANSI/AWWA C550 and are certified to ANSI/NSF Standard 61.

6. OPTIONAL FEATURES

- 6.1 MUELLER 2300 Series Resilient Wedge Gate Valves can be furnished with the following optional designs or features:
 - 6.1.1 Gearing – Bevel and Spur gearing available on valves 4" and larger. Valves 30" and larger gearing is required. Bevel geared valves are for horizontal installations; spur geared for vertical. Geared valves provide an additional bearing to support the extreme end of the stem. Bevel and spur geared valves are furnished with a grease case. Any valve leakage past the stuffing box does not enter the grease case.
 - 6.1.2 Bypass valve – Valves 18" or larger. The bypass valves are non-rising stem Mueller® Series 2360 Resilient Wedge Valves. The bypass size and location comply with Section 24 of AWWA C500.
 - 6.1.3 Position indicator – Available for NRS valves 4" and larger.
 - 6.1.4 Bolts and nuts – Stainless Steel, Type 316.
 - 6.1.5 Stem – Silicon bronze - Valves 16" and smaller ASTM B98 C66100; 18" and larger ASTM B763 C99400 or C99500.
 - 6.1.6 Disc encapsulation – 2" thru 16" sizes - EPDM.

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7. TEST PRESSURE

- 7.1 The pressure test on each MUELLER Resilient Wedge Gate Valve meets the requirements of AWWA Standard C509 and C515 for Resilient Seated Valves.
 - 7.1.1 Each MUELLER 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 two 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: 2" thru 54" – 250 psi - Seat Test, 500 psi - Shell Test.



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