

# MUELLER® 2300 SERIES RESILIENT WEDGE TAPPING VALVES

## PRODUCT SPECIFICATIONS

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### 1. GENERAL CLASSIFICATION

- 1.1 MUELLER Resilient Wedge Tapping Valves comply with AWWA C509 or C515.
- 1.2 MUELLER Resilient Wedge Tapping Valves through 16" are listed by Underwriters Laboratories, Inc. (UL) and approved by Factory Mutual Research Corporation (FM).
- 1.3 MUELLER Resilient Wedge Tapping Valves are tested and certified to ANSI/NSF Standard 61.
- 1.4 MUELLER Resilient Wedge Tapping Valves are suitable for ordinary non-shock cold water service.
- 1.5 MUELLER Resilient Wedge Tapping Valves are iron body, fully encapsulated resilient wedge type.
- 1.6 MUELLER Resilient Wedge Tapping Valves are made in the U.S.A. at an ISO 9001:2000 Certified factory.

### 2. SIZE RANGE, WORKING PRESSURE AND WORKING TEMPERATURE

- 2.1 2" thru 48" 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" thru 12" UL/FM Valves
  - 2.2.1 200 psi maximum working pressure.
  - 2.2.2 125F maximum working temperature.
  - 2.2.3 33F minimum working temperature.
- 2.3 14" and 16" UL/FM Valves
  - 2.3.1 250 psi maximum working pressure.
  - 2.3.2 125F maximum working temperature.
  - 2.3.3 33F minimum working temperature.

### 3. TYPE OF VALVE

- 3.1 MUELLER Resilient Wedge Tapping Valves are non-rising stem type.
- 3.2 MUELLER Resilient Wedge Tapping Valves are offered with O-ring stem seals.
- 3.3 MUELLER Resilient Wedge Tapping Valves are offered to either open left or open right.
- 3.4 MUELLER Resilient Wedge Tapping Valves are furnished with a 2" square wrench nut complying with AWWA C509/C515. (Handwheels are available as an option.)
- 3.5 MUELLER Resilient Wedge Tapping Valves are offered with the following end connections:
  - 3.5.1 Inlet flange machine specifically for mating with Mueller® Tapping Sleeves and Crosses. Raised ring on flange face complies with MMS SP60. Dimensions and drilling comply with ANSI B16.1 Class 125 flange.
  - 3.5.2 Standard mechanical joint outlet connection complies with ANSI/AWWA C111/A21.11 and is precision machined for proper alignment of MUELLER® Drilling Machines.

### 4. MATERIAL SPECIFICATIONS

- 4.1 Cap screw
  - 4.1.1 2" thru 12" sizes – Stainless Steel Type 304.
  - 4.1.2 14" thru 48" 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 48" sizes – Ductile Iron, ASTM A-536, Grade 65-45-12.
- 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 48" sizes – Bronze, ASTM B-584, Alloy C86200 or C86400 or C86500.

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- 4.8 Bonnet
  - 4.8.1 2" thru 12" sizes – Cast Iron, ASTM A-126, Class B.
  - 4.8.2 14" thru 48" sizes – Ductile Iron, ASTM A-536, Grade 65-45-12.
- 4.9 Bonnet seal
  - 4.9.1 2" thru 3" sizes – Flat gasket, Neoprene, ASTM D2000.
  - 4.9.2 4" thru 48" sizes – O-ring, Nitrile, ASTM D2000.
- 4.10 Stuffing box bolts & nuts
  - 4.10.1 2" thru 12" sizes – Stainless Steel Type 304.
  - 4.10.2 14" thru 48" 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 48" 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 48" sizes – Ductile Iron, ASTM A-536, Grade 65-45-12.
- 4.15 Disc encapsulated
  - 4.15.1 2" thru 36" sizes – SBR ASTM D2000
  - 4.15.2 42" and 48" sizes – EPDM; optional SBR ASTM D2000
- 4.16 Body
  - 4.16.1 2" thru 12" sizes – Cast Iron, ASTM A-126, Class B.
  - 4.16.2 14" thru 48" sizes – Ductile Iron, ASTM A-536, Grade 65-45-12.
- 4.17 Inside and outside of valve fully coated with MUELLER® PRO-GARD™ Epoxy Coating - coating complies with ANSI/AWWA C550 and certified to ANSI/NSF Standard 61.

## 5. DESIGN FEATURES

- 5.1 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 through 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 Tapping 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™ Epoxy Coating, 10 mils nominal. MUELLER® PRO-GARD™ Epoxy Coating is non-toxic and imparts no taste to water.

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### 6. OPTIONAL FEATURES

- 6.1 MUELLER 2300 Series Resilient Wedge Tapping Valves can be furnished with the following optional designs or features:
  - 6.1.1 Gearing – Required for valves 30" and larger. Valves 4" and larger can be furnished with bevel gearing; valves 14" and larger can be furnished with spur gearing. 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 encapsulated – Valves 42" and 48" sizes - SBR D2000

### 7. TEST PRESSURE

- 7.1 The pressure test on each MUELLER Resilient Wedge Tapping Valve meets the requirements of AWWA Standard C509 for Resilient Seated Valves.
  - 7.1.1 Each MUELLER Resilient Wedge Tapping Valve is subjected to two pressure tests. The seat test is at the working pressure of the valve and the shell test 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 48" - 250 psi - Seat Test, 500 psi - Shell Test



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