

# MUELLER® MODERN CENTURION® FIRE HYDRANT



## 1. GENERAL CLASSIFICATION

- 1.1 Suitable for general waterworks service.
- 1.2 Dry barrel, post type with compression main valve closing with the inlet pressure.
- 1.3 Replaceable Safety Stem coupling and a replaceable Safety Flange at the ground line to prevent or minimize traffic damage.
- 1.4 Complies with AWWA Standard C502, are UL listed and FM approved.

## 2. SELECTIVE SPECIFICATIONS (TO BE SELECTED BY CUSTOMER)

- 2.1 **Size of Hydrant** -- 5-1/4". Hydrant is sized by seat ring internal diameter.
- 2.2 **Size and type of inlet connections:**
  - 2.2.1 **Mueller AquaGrip® connection** -- Horizontal or vertical in relation to hydrant barrel -- Stab compression connection with integral restraint. Furnished ready to install with all hardware and O-ring seal assembled. Use on Ductile Iron C900, PVC (DR14 & DR18), C909 PVC (DR25), DIPS PE (DR7 through DR17), IPS PVC (DR17 & DR21), IPS PE (DR7 through DR13) and IPS Steel. 6" size.
  - 2.2.2 **Flange** -- Horizontal or vertical in relation to hydrant barrel -- American Standard complying to ANSI B16.1 class 125 (ISO PN10/PN16 drilling optional). 4" and 6" sizes.
  - 2.2.3 **Standardized Mechanical Joint** -- Dimensions comply with ANSI/AWWA C111/A21.11. Furnished with integral anti-rotational pads on all bolt holes (allowing use of standard tee-head bolts), and with two strapping lugs. 4", 6" and 8" sizes.
  - 2.2.4 **D-150 Mechanical Joint** -- 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" and 6" sizes.
  - 2.2.5 **Slip-on Joint\*** -- Complete with Mueller Slip-on Gasket, complies with ANSI/AWWA C111/A21.11. Fits 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.\*\*  
  
*\* Design and dimensions of the joint are manufactured under license of U.S. Pipe and Foundry Company.*  
*\*\* When using Ductile Iron O.D. PVC pipe the gaskets supplied by Mueller must be used with this hydrant connection.*
- 2.3 **Operating nut and nozzle cap nut** -- Shape and dimension determined by customer.
- 2.4 **Opening direction** -- Opens left or right. Arrow on weather cap indicates direction.
- 2.5 **Nozzle arrangement** -- Furnished 3-way, with 2 hose nozzles 180 degrees apart, 1 pumper in between, and all on the same horizontal plane.
  - 2.5.1 **Hose nozzle threading** -- Regularly furnished with 2-1/2" national Standard Hose thread. Other 2-1/2" or 3" hose threads to customer specifications.
  - 2.5.2 **Pumper nozzle threading** -- Regularly furnished with 4-1/2" national Standard Pumper Hose thread. Other 3-1/2", 4", 4-1/4", 4-1/2", and 5" pumper hose threads to customer specifications. Integral 4" or 5" Storz pumper connection available.

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## 3. WORKING AND TEST PRESSURES

- 3.1 Working pressure is 250 psi.
- 3.2 Mueller Super Centurion 250 Hydrants are subjected to two hydrostatic tests per AWWA C502 Standard.
  - 3.2.1 500 PSI Shell test (hydrant pressurized with main valve open).
  - 3.2.2 500 PSI Seat test (shoe pressurized with main valve closed).

*During the above tests, no indication of leakage is permitted through castings, joints, main valve, or stem seals. Drain valve leakage cannot exceed five (5) fluid ounces per minute.*

## 4. DESIGN FEATURES

- 4.1 **Dry top, factory lubricated assembly** -- Oil level checked by removing weather cap and oil filler plug in housing.
- 4.2 **Upper operating system** -- Bronze encased for O-ring seal surface contact.
- 4.3 **Nozzles** -- Interchangeable, threaded in place and retained by stainless steel nozzle locks.
- 4.4 **Nozzle caps** -- Attached to upper barrel with individual non-kinking chains.
- 4.5 **Housing and lower barrel flanges** -- Concealed type for improved appearance.
- 4.6 **Interchangeable design** -- Permits the upper barrel, etc. to be used with existing Mueller Improved Hydrants, Modern Improved and Centurion Hydrants.
- 4.7 **Safety flange** -- Breaks cleanly upon impact, yet strong enough for normal handling, shipping, and use. Permits full 360 degree rotation of upper barrel to position nozzles in any desired direction. Extension sections or upper barrel with different nozzle size or arrangement can easily be added. Full size un-notched steel bolts used to retain safety flange and connect the upper and lower barrels.
- 4.8 **Stem coupling** -- Stainless steel, connects the upper and lower stems and is retained with stainless steel clevis and cotter pins. When traffic damage occurs, the portion of the coupling below the lower clevis pin is pulled free allowing coupling to remain attached to the upper stem. Lower stem retains bottom clevis and cotter pin with no loose parts to fall into hydrant barrel. Upper end of lower stem is located below lower barrel flange surface to prevent it from being held open by vehicle wheel after traffic damage.
- 4.9 **Lower barrel** -- Heavy wall sections where flange joins the barrel section for added strength.
- 4.10 **Shoe** -- Has lugs for strapping anchors on Mechanical Joint, D-150 and slip-on joint ends. Bottom has a support pad and side opposite inlet has a backing support pad.
- 4.11 **Seat ring** -- Bronze ring threads into bronze drain ring, which has two drain holes to provide an all-bronze drain-way.
- 4.12 **Double drain valves with replaceable thermoplastic drain valve facings** -- Operate automatically to force flush the drain way each time the hydrant is opened or closed. No toggles, springs, or adjustable mechanisms are required and the drain valve facings can be replaced when seat ring and main valve assembly is removed.
- 4.13 **Main valve** -- Molded rubber, reversible, compression type; closes with inlet pressure and remains closed during above-ground repairs or changes to upper barrel or bonnet.
- 4.14 **Main valve opening** -- Controlled by lug in bottom of shoe. Stop in bonnet also available.
- 4.15 **Main valve and seat ring** -- Removable from ground flange or weather cap area with seat removal wrench.
- 4.16 **Lower stem end threads** -- Covered with epoxy-coated iron cap nut and sealed with rubber washer to protect from corrosion. Cap nut is retained with a stainless steel lock washer.
- 4.17 **Shoe and upper valve plate design** -- Permits maximum flow by minimizing friction loss.
- 4.18 **Shoe interior, lower valve plate and cap nut** -- Epoxy-coated to resist corrosion.

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## 5. MATERIAL SPECIFICATIONS

- 5.1 **Bonnet, nozzle caps, barrels, safety flange, drain ring housing, lower valve plate, cap nut, shoe** (Flanged, 8" Mechanical Joint and Slip-on) -- Cast iron, ASTM A-126, Grade B.
  - 5.1.1 **AquaGrip® Shoe** -- Ductile iron, ASTM A-536.
  - 5.1.2 **4" & 6" Mechanical Joint Shoe** -- Ductile iron, ASTM A-536.
  - 5.1.3 **D-150 Mechanical Joint Shoe** -- Ductile iron, ASTM A-536.
- 5.2 **Operating nut, hold down nut, nozzles, upper valve plate, seat ring and drain ring** -- Bronze, in compliance with AWWA Standard C502.
- 5.3 **Oil filter plug** -- Brass, ASTM B-16.
- 5.4 **O-ring seals** -- Buna N rubber, ASTM D2000.
- 5.5 **Anti-friction washer** -- Thermoplastic polymer with high resistance to dynamic and static wear.
- 5.6 **Bolts for housing, safety flange, shoe and drain ring housing** -- Steel, electro-galvanized, SAE J429 Grade 2.
- 5.7 **Cap chains** -- Steel, electro-galvanized.
- 5.8 **Upper and lower stems** -- Steel, ASTM A-576.
- 5.9 **Stem pin** -- Stainless Steel, ASTM A-276 Type 302.
- 5.10 **Drain valve facing screws** -- Stainless Steel, ASTM A-276 Type 302.
- 5.11 **Nozzle lock** -- Stainless Steel, ASTM A-276 Type 410.
- 5.12 **O-rings for barrel flanges** -- Buna N rubber, ASTM D2000.
- 5.13 **O-rings for drain ring housing flange** -- Buna N rubber, ASTM, D2000.
- 5.14 **Gaskets for nozzle caps** -- Neoprene, ASTM D2000.
- 5.15 **Safety stem coupling** -- Stainless Steel, ASTM A-890.
- 5.16 **Safety stem coupling clevis pins** -- Stainless Steel, ASTM A-276 Type 305.
- 5.17 **Safety stem coupling cotter pins** -- Stainless Steel, ASTM A-276 Type 302.
- 5.18 **Drain valve facings** -- Resilient precision-molded thermoplastic with unique sealing characteristics.
- 5.19 **Reversible main valve** -- Molded rubber, ASTM D2000.
- 5.20 **Lower valve plate** -- Cast iron, ASTM A-126 Class B coated with high performance 2-part epoxy. NSF61 listed and AWWA C550 compliant.
- 5.21 **Lock washer** -- Stainless Steel, ASTM A-276 Type 302.
- 5.22 **Cap nut** -- Cast iron ASTM A-126 Class B coated with high performance 2-part epoxy. NSF61 listed and AWWA C550 compliant.
- 5.23 **Cap nut seal** -- Rubber, ASTM D2000.
- 5.24 **Shoe coating** -- Interior and exterior coated with high performance 2-part epoxy. NSF61 listed and AWWA C550 compliant.
- 5.25 **Paint** -- Interior and exterior above and below ground line coated with high performance 2-part epoxy. Exterior above ground line -- one coat UV resistant high gloss 2-part polyurethane enamel, color as specified by customer.



Water (U.S.) 1.800.423.1323  
www.muellercompany.com  
moreinfo@muellercompany.com

Water (Canada) 1.905.878.0541  
www.muellercanada.com  
more-info@muellercanada.com

International 1.423.490.9555  
www.mueller-international.com  
international@muellercompany.com

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