

<b>Section D: Valves and Accessories</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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<b>D 1 – VALVES - RESILIENT SEAT/ 2" (FIPT X FIPT):</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

- Resilient seat or wedge (RW) line valves shall meet or exceed the performance specifications of AWWA C509 or C515 for resilient seat gate valves with non-rising stems (NRS).
- Both ends shall have Female Iron Pipe Threads (FIPT).
- ANSI/ AWWA C550, all interior and exterior body and bonnet surfaces shall be coated with a fusion bonded epoxy coating.
- Valves supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.
- Shall comply with and be labeled as approved by the National Sanitation Foundation (NSF) for use in potable water lines meeting NSF 61.
- Affidavit of compliance to this specification shall be available upon request.

**MATERIAL:**

**Body:**

- Cast or ductile iron conforming to ASTM Standards A126 or A536.

**Wedge:**

- Ductile iron fully encapsulated (no exposed iron) or bronze vulcanized with EPDM (ethylene-propylene) rubber.

**Seal & O-rings:**

- Triple O-ring seals, Nitrile Buna-N or EPDM rubber.

**Stuffing Box & Operating Nut:**

- Cast or ductile iron conforming to ASTM Standards A126 or A536.

**Stem:**

- Bronze per ASTM Standards B584 or stainless steel per AISI 430F.

**Hex Head Nuts and Bolts:**

- 316 Stainless steel.

**DESIGN:**

- Resilient seat gate valve, NRS, open left (counterclockwise).
- Both ends shall have female iron pipe threads (FIPT).
- Pressure rated for 200 psi minimum.
- Two-inch (2") square operating nut.

**RESTRICTIONS:**

**SIZE:**

- 2"



**MANUFACTURER:**

- AMERICAN AFC-2500 SERIES
- AMERICAN AVK 03-063-39
- CLOW VALVE 2639 & 2640
- KENNEDY VALVE KS-RW 8057 or 7057
- M & H VALVE COMPANY 4067-07
- MUELLER A-2360 SERIES
- U.S. PIPE A-USP0-8

<b>D 1.1 – VALVES - AWWA C509/C515 RESILIENT SEAT/ 2" thru 12" (MJ X MJ):</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

Resilient seat or wedge (RW) line valves shall meet or exceed the performance specifications of AWWA C509 or C515 for resilient seat gate valves with non-rising stems (NRS) and meet the following specific provisions:

- Both ends shall be mechanical joint in accordance with ANSI/ AWWA C111/A21.11.
- ANSI/ AWWA C550, all interior and exterior body and bonnet surfaces shall be coated with a fusion bonded epoxy coating.
- Valves supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.
- Shall comply with and be labeled as approved by the National Sanitation Foundation (NSF) for use in potable water lines meeting NSF 61.
- Factory Mutual Approved (FM) and Underwriter Laboratory Listed (UL) as noted by (UL/FM).
- Shall have UL, FM mark displayed visibly and permanently on the valve.
- Affidavit of compliance to this specification shall be available upon request.

**MATERIAL:**

**Body:**

- Ductile iron conforming to ASTM Standards A126 or A536.

**Wedge:**

- Cast or ductile iron fully encapsulated (no exposed iron) with EPDM (ethylene-propylene) rubber

**Seal & O-rings:**

- Triple O-ring seals Nitrile Buna-N or EPDM rubber.

**Stuffing Box & Operating Nut:**

- Cast or ductile iron conforming to ASTM Standards A126 or A536.

**Stem:**

- Copper alloy/ bronze.

**Hex Head Nuts and Bolts:**

- 316 Stainless steel.

**RESTRICTIONS:**

**DESIGN:**

- Resilient seat gate valve, NRS, open left (counterclockwise)
- Both ends shall be mechanical joint (MJ).
- Pressure rated for 250 psi minimum.
- 2" square operating nut.

**SIZE:**

- 2" thru 12"

**INCLUDE:**

- Two– properly sized mechanical joint accessory kits.



**MANUFACTURER:**

- AMERICAN AFC 2500 SERIES
- AMERICAN AVK 25 or 45 SERIES
- CLOW VALVE 2638, 2639 & 2640 SERIES
- KENNEDY VALVE KS-RW 7571 & 8571 SERIES
- M & H VALVE COMPANY 4067 & 7000 SERIES
- MUELLER A-2361 SERIES
- US PIPE A-USPO-23 SERIES

<b>D 1.2 – TAP VALVES - AWWA C509/C515 RESILIENT SEAT/ 4” THRU 12” (FLG X MJ):</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

- Resilient seat or wedge (RW) tap valves shall meet or exceed the performance specifications of AWWA C509 or C515 for resilient seat gate valves with non-rising stems (NRS).
- One end shall be mechanical joint in accordance with ANSI/AWWA C111/A21.11.
- One end shall be flange design with a raised tapping alignment centering ring and conform to MSS SP-60 standard.
- ANSI/AWWA C550, all interior and exterior body and bonnet surfaces shall be coated with a fusion bonded epoxy coating.
- Valves supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.
- Shall comply with and be labeled as approved by the National Sanitation Foundation (NSF) for use in potable water lines meeting NSF 61.
- Factory Mutual Approved (FM) and Underwriter Laboratory Listed (UL) as noted by (UL/FM).
- Shall have UL, FM mark displayed visibly and permanently on the valve.
- Affidavit of compliance to this specification shall be available upon request.

**MATERIAL:**

**Body:**

- Cast or ductile iron conforming to ASTM Standards A126 or A536.

**Wedge:**

- Cast or ductile iron fully encapsulated (no exposed iron) with EPDM (ethylene-propylene) rubber.

**Seal & O-rings:**

- Triple O-ring seals Nitrile Buna-N or EPDM rubber.

**Stuffing Box & Operating Nut:**

- Cast or ductile iron conforming to ASTM Standards A536.

**Stem:**

- Copper alloy/ bronze.

**Hex Head Nuts and Bolts:**

- 316 Stainless steel.

**SIZE:**

- 4” thru 12”

**INCLUDE:**

- One– properly sized mechanical joint accessory kit.
- One– properly sized flange joint accessory kit.

**DESIGN:**

- Resilient seat gate valve, NRS, open left counterclockwise).
- Pressure rated for 250 psi minimum.
- 2” square operating nut.



**MANUFACTURER:**

- AMERICAN AFC-2500 SERIES
- AMERICAN AVK 45 (DI) SERIES
- CLOW VALVE 2638, 2639 & 2640 SERIES
- KENNEDY VALVE KS-RW 7950 & 8950 SERIES
- M & H VALVE COMPANY 4751 & 7590 SERIES
- MUELLER A-2361 SERIES
- US PIPE T-USPO-19 SERIES

**RESTRICTIONS:**

<b>D 1.3 – VALVES - RESILIENT SEAT/ 2" thru 12" (FLG X FLG):</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

- Resilient seat or wedge (RW) control valves shall meet or exceed the performance specifications of AWWA C509 or C515 for resilient seat gate valves with non- rising stems (NRS).
- Both ends shall be flanged, faced and drilled in accordance with ANSI Class 125 B16.1.
- ANSI/ AWWA C550, all interior and exterior body and bonnet surfaces shall be coated with a fusion bonded epoxy coating.
- Valves supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.
- Factory Mutual Approved (FM) and Underwrite Laboratory Listed (UL) as noted by \*(UL/FM).
- Affidavit of compliance to this specification shall be available upon request.

**MATERIAL:**

**Body:**

- Cast or ductile iron conforming to ASTM Standards A126 or A536.

**Wedge:**

- Ductile iron fully encapsulated (no exposed iron) with EPDM (ethylene-propylene) rubber.

**Seal & O-rings:**

- Triple O-Ring seals Nitrile Buna-N or EPDM rubber.

**Stuffing Box & Operating Nut:**

- Ductile iron conforming to ASTM Standards A126 or A536.

**Stem:**

- Copper alloy/ bronze.

**Hex Head Nuts and Bolts:**

- 316 Stainless steel.

**DESIGN:**

- Resilient seat gate valve, NRS, open left (counterclockwise).
- Both ends shall be flange joint (FLG).
- Pressure rated for 250 psi minimum.
- Operated by a ductile or cast iron hand wheel.

**RESTRICTIONS:**

**SIZE:**

- 2" thru 12"
- Two (2) properly sized flange joint accessory kit.



**MANUFACTURER:**

- AMERICAN AFC-2500 SERIES
- AMERICAN AVK 25 (CI) & 45 (DI) SERIES
- CLOW VALVE 2638, 2639 & 2640 SERIES
- KENNEDY VALVE KS-RW
- M & H VALVE COMPANY
- MUELLER A-2360 SERIES
- US PIPE A-USPO-6 SERIES



<b>D 1.4 – VALVES- RESILIENT SEAT/ 14” thru 48” (MJ X MJ):</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

Resilient seat or wedge (RW) line valves shall meet or exceed the performance specifications of:

- Valves shall be ductile iron.
- AWWA C509 or C515 for resilient seat gate valves with non-rising stems (NRS).
- Both ends shall be mechanical joint in accordance with ANSI/AWWA C111/A21.11.
- ANSI/AWWA C550, all interior and exterior body and bonnet surfaces shall be coated with a fusion bonded epoxy coating.
- Valves supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.
- Shall comply with and be labeled as approved by the National Sanitation Foundation (NSF) for use in potable water lines meeting NSF 61.
- Affidavit of compliance to this specification shall be available upon request.

**MATERIAL:**

**Body:**

- Ductile iron conforming to ASTM Standards A536.

**Wedge:**

- Ductile iron fully encapsulated (no exposed iron) with EPDM (ethylene-propylene) rubber.

**Seal & O-rings:**

- Triple O-ring seals Nitrile Buna-N or EPDM rubber.

**Stuffing Box & Operating Nut:**

- Ductile iron conforming to ASTM Standards A536.

**Stem:**

- Copper alloy in accordance with AWWA C515 Standards.

**Bonnet Hex Head Nuts and Bolts:**

- 316 Stainless steel (no socket head bolts allowed).

**DESIGN:**

- Resilient seat gate valve, NRS, open left (counterclockwise).
- Both ends shall be mechanical joint (MJ).
- Pressure rated for 150 psi minimum.
- 2” square operating nut.

**RESTRICTIONS:**

**SIZE:**

- 14” thru 48”

**ADDITIONAL REQUIREMENTS:**

- Valves 16” and larger require a gear operator.
- Valves 30” and larger require a bypass valve.
- Valves shall be installed vertical when used in raw sewer or sludge applications.



**MANUFACTURER:**

- AMERICAN AFC-2500 SERIES
- CLOW VALVE CO.
- KENNEDY RW
- MUELLER A-2361 SERIES
- US PIPE A-USP1 SERIES

<b>D 1.5 – VALVES- ECCENTRIC PLUG/ 4” thru 24” (FLG X FLG):</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

Eccentric plug valves shall meet or exceed the performance specifications of:

- Shall be designed and manufactured to have a minimum wall thickness per AWWA C 517-16.
- Interior ferrous metal surfaces shall be epoxy coated to comply with AWWA C550.
- Port area shall be a minimum 80% of full pipe area.
- Shall be non-lubricating type.
- Bearings shall be sintered, oil impregnated type 316 stainless steel.
- Stem packing seals shall be repackable while under pressure without removing the bonnet from the valve.
- Both ends shall be flanged, faced and drilled in accordance with ANSI Class 125 B16.1.
- Affidavit of compliance to this specification shall be available upon request.

**MATERIAL:**

**Body:**

- Cast iron or ductile iron conforming to ASTM Standards A126 or A536.

**Plug:**

- Cast iron or ductile iron encapsulated with Nitrile Buna-N or EPDM (ethylene-propylene) rubber.

**Seal & O-rings:**

- Nitrile Buna-N or EPDM rubber.

**DESIGN:**

- Both ends shall be flange joint (FLG).
- Pressure rated for 150 psi minimum.
- Shall rotate 90 degrees (quarter turn) from full-open to full-closed position.
- Operated by a ductile or cast iron lever.
- Plug valves 6” and larger shall be gear operated.



**MANUFACTURER:**

- CLOW VALVE CO.
- DEZURIK
- HENRY PRATT CO.
- MILLIKEN VALVE CO.
- VAL-MATIC

**RESTRICTIONS:**

- Use of this product is limited to pumping station valve vaults.

<p><b>D 2 – Check Valve- Resilient Seat/ Potable Water 2” Thru 30” (FLG X FLG):</b></p>	<p>Effective Date: <u>01-01-19</u>                  Revision #: <u>2</u></p>
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**SPECIFICATION:**

- Check valves shall meet or exceed the performance specifications of ANSI/AWWA C508 standards.
- Shall have resilient seat.
- Shall be manufactured from ductile iron per ASTM Standards A536 65-45-12.
- Shall be pressure rated for 250 psi (minimum) working pressure.
- Both ends shall be flanged, faced and drilled in accordance with ANSI B16.1, Class 125.
- All ferrous interior and exterior body and bonnet surfaces shall be coated with a fusion bonded epoxy coating in compliance with ANSI/AWWA C550.
- Valves supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.
- Shall comply with and be labeled as approved by the National Sanitation Foundation (NSF) for use in potable water lines meeting NSF 61.
- A mechanical indicator shall be provided to provide disc position.
- Affidavit of compliance to this specification shall be available upon request.

**MATERIAL:**

**Body:**

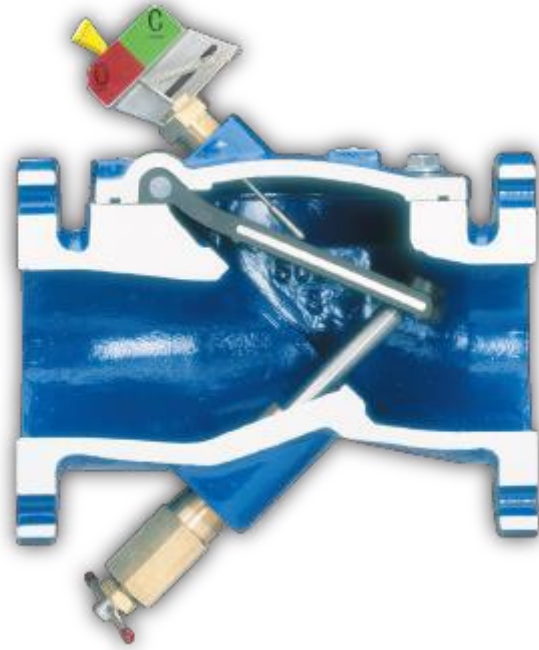
- Ductile iron, ASTM Standards A536 grade 65-45-12.

**Disc:**

- Ductile iron, encapsulated with:
  - EPDM (ethylene-propylene) rubber
  - Buna- N rubber

**Shaft:**

- Stainless steel.



**MANUFACTURER:**

- AMERICAN FLOW CONTROL
- DEZURIK-APCO
- VAL-MATIC VALVE & MFG. CORP.

**RESTRICTIONS:**



<b>D 3 – SWING CHECK VALVES - POTABLE WATER 2” THRU 16” (FLG X FLG):</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

- Check valves shall meet or exceed the performance specifications of AWWA C508, swing check valves.
- Shall be manufactured from ductile iron per ASTM Standards A536 65-45-12.
- Shall be pressure rated for 175 psi (minimum) working pressure.
- Both ends shall be flanged, faced and drilled in accordance with ANSI B16.1, Class 125.
- All ferrous interior and exterior body and bonnet surfaces shall be coated with a fusion bonded epoxy coating in compliance with ANSI/AWWA C550.
- Valves supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.
- Shall comply with and be labeled as approved by the National Sanitation Foundation (NSF) for use in potable water lines meeting NSF 61.
- Factory Mutual Approved (FM) and Underwriter Laboratory Listed (UL) as noted by \*(UL/FM).
- Affidavit of compliance to this specification shall be available upon request.

**MATERIAL:**

**Body:**

- Ductile iron, ASTM Standards A536 grade 65 45-12.

**Disc:**

- Bronze with EPDM (ethylene-propylene) rubber facing and a stainless steel shaft.



**MANUFACTURER:**

- AMERICAN FLOW CONTROL
- DEZURIK-APCO
- GA INDUSTRIES
- KENNEDY VALVE
- M&H VALVE
- MUELLER

**RESTRICTIONS:**

<b>D 3.1 – SWING CHECK VALVES- SANITARY SEWER 4” THRU 16” (FLG X FLG):</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

- Check valves shall meet or exceed the performance specifications of AWWA C508, swing check valves.
- Horizontal swing type with bolted bonnets.
- Shall be manufactured from ductile iron per ASTM Standards A536 65-45-12 (cast iron per ASTM Standards A126 Class B).
- Shall be pressure rated for 175 psi. (minimum) working pressure.
- Both ends shall be flanged, faced and drilled in accordance with ANSI B16.1, Class 125.
- Valves supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.
- Shall be furnished with an outside lever and weight.
- Affidavit of compliance to this specification shall be available upon request.

**MATERIAL:**

**Body:**

- Ductile iron, ASTM Standards A536 grade 65 45-12.

**Disc:**

- Cast or ductile iron with bronze seat and a 316 stainless steel shaft.



**MANUFACTURER:**

- AMERICAN FLOW CONTROL
- DEZURIK-APCO
- GA INDUSTRIES
- KENNEDY VALVE
- M&H VALVE
- MUELLER

**RESTRICTIONS:**

<b>D 3.2 – SWING CHECK VALVES/ RESILIENT SEAT– SANITARY SEWER (3” THRU 12”) (FLG X FLG):</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

- Check valves shall meet or exceed the performance specifications of AWWA C508, swing check valves.
- Shall be manufactured from ductile iron per ASTM Standards A536 65-45-12.
- Body and bonnet shall have fusion bonded epoxy coating on interior and exterior complying with AWWA C550.
- Shall be pressure rated for 175 psi (minimum) working pressure.
- Both ends shall be flanged, faced and drilled in accordance with ANSI B16.1, Class 125.
- Shall have a resilient seat that is drop tight, even at low pressure.
- Shall have no obstructions in the flow path for a 100% clear waterway.
- Valves supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.
- Shall be furnished with an outside lever and spring.
- Affidavit of compliance to this specification shall be available upon request.

**MATERIAL:**

**Body:**

- Ductile iron, ASTM Standards A536 grade 65-45-12.

**Disc:**

- Shall be a carbon steel core completely encapsulated with EPDM.

**Bonnet Bolts:**

- 316 stainless steel.

**Hinge and Hinge Pin:**

- 316 stainless steel, hinge on 10”-12” is ductile iron.

**O-Rings:**

- Acrylonitrile-butadiene rubber (NBR).

**DESIGN:**

- Shall be designed such that the disc, hinge, and bonnet can be removed as one assembly.
- Can be mounted vertically or horizontally.
- All internal exposed metal is stainless steel.



**MANUFACTURER:**

- AMERICAN AVK SERIES 41/ 42-43X

**RESTRICTIONS:**

<b>D 4 – COMBINATION AIR VALVES– STAINLESS STEEL/ SANITARY SEWER/ 2” thru 12” FORCE MAINS:</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

- Combination air valves for sewage shall meet or exceed the performance specifications of AWWA C512-15.
- Shall be specially designed to operate with liquids carrying solid particles such as sewage and effluent.
- Shall release accumulated air from the system while the system is under pressure.
- The valve must discharge air at high velocity during the filling of the system and admit air during its drainage.
- The valve shall be a double or triple float design.
- Shall be pressure rated for at least 75 psi.
- Shall be test pressure rated for at least 1.5 times working pressure.
- Threaded connection shall be National Pipe Thread (NPT).
- Shall be equipped with a gauge or relief port.
- Valves supplied must have ISO 9001 or later certification, or manufactured in the U.S.A.
- Affidavit of compliance to this specification shall be available upon request.

**MATERIAL:**

**Body:**

- Reinforced Nylon/316 Stainless Steel.

**Outer Metal Parts:**

- 304, 316 Stainless Steel and epoxy coated ductile iron.

**Inner Metal Parts:**

- 316 Stainless Steel.

**Floats:**

- Plastic materials/ Foamed Polypropylene or High Density Polyethylene.

**O-Rings & Seals:**

- Nitrile Buna-N or EPDM (ethylene-propylene) rubber.

**RESTRICTIONS:**

- For force main sizes up and including twelve (12”) inch.

**CONNECTIONS:**

**Inlet:**

- 2” Standard Male Iron Pipe Threads (MNPT).


**Outlet:**

- Stainless Steel screen mesh & cover.
- Flushing connection.



**MANUFACTURER:**

- ARI USA, INC.– MODEL D-020
- GA INDUSTRICS
- APCO VALVES
- VAL-MATIC

<b>D 4.1 – COMBINATION AIR VALVES– STAINLESS STEEL/ SANITARY SEWER/ 12” AND LARGER FORCE MAINS:</b>		Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
<p><b><u>SPECIFICATION:</u></b></p> <ul style="list-style-type: none"> <li>• Combination air valves for sewage shall meet or exceed the performance specifications of AWWA C512-15.</li> <li>• Shall be specially designed to operate with liquids carrying solid particles such as sewage and effluent.</li> <li>• Shall release accumulated air from the system while the system is under pressure.</li> <li>• The valve must discharge air at high velocity during the filling of the system and admit air during its drainage.</li> <li>• The valve shall be a double or triple float design.</li> <li>• Shall be pressure rated for at least 150 psi.</li> <li>• Shall be test pressure rated for at least 1.5 times working pressure.</li> <li>• Flange surface shall be faced and drilled in accordance with ANSI Class 125 B16.1.</li> <li>• Valves supplied must have ISO 9001 or later certification, or manufactured in the U.S.A.</li> <li>• Affidavit of compliance to this specification shall be available upon request.</li> </ul> <p><b><u>CONNECTIONS:</u></b></p> <p><b>Inlet:</b></p> <ul style="list-style-type: none"> <li>• 4” Flange for mains up to and including 24” mains.</li> <li>• 6” Flange for mains larger than 24”.</li> </ul> <p><b>Outlet:</b></p> <ul style="list-style-type: none"> <li>• Stainless Steel screen mesh &amp; cover.</li> <li>• Flushing connection.</li> </ul>	<p><b><u>MATERIAL:</u></b></p> <p><b>Body:</b></p> <ul style="list-style-type: none"> <li>• 316 Stainless Steel.</li> </ul> <p><b>Outer Metal Parts:</b></p> <ul style="list-style-type: none"> <li>• 316 Stainless Steel</li> </ul> <p><b>Inner Metal Parts:</b></p> <ul style="list-style-type: none"> <li>• 316 Stainless Steel.</li> </ul> <p><b>Floats:</b></p> <ul style="list-style-type: none"> <li>• Plastic materials/ Foamed Polypropylene, High Density Polyethylene or 316 Stainless Steel.</li> </ul> <p><b>O-Ring:</b></p> <ul style="list-style-type: none"> <li>• Nitrile Buna-N or EPDM (ethylene propylene) rubber.</li> </ul> <div style="text-align: center;">  </div>	
<p><b><u>RESTRICTIONS:</u></b></p> <ul style="list-style-type: none"> <li>• For force main sizes 12” and larger.</li> </ul>	<p><b><u>MANUFACTURER:</u></b></p> <ul style="list-style-type: none"> <li>• ARI USA, INC.– Model D -020</li> </ul>	

<b>D 5 – AIR RELEASE VALVES (UL/FM)- POTABLE WATER:</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

Air release valves for potable water shall meet or exceed the performance specifications of:

- Shall be automatic float operated designed to release accumulated air from the piping system while the system is in operation and under pressure.
- AWWA C512.
- Shall be Underwriters Laboratories Listed (UL) and Factory Mutual Approved (FM) as noted by (UL/FM).
- Shall have a screened hood.
- The valve body shall be threaded with National Pipe Thread (NPT) inlets and outlets.
- Shall be pressure rated for at least 175 psi.
- Shall be test pressure rated for at least 1.5 times working pressure.
- Valves supplied must have ISO 9001 or later certification, or manufactured in the U.S.A.
- Affidavit of compliance to this specification shall be available upon request.

**CONNECTIONS:**

**Inlet:**

- 1” Standard Female Iron Pipe Threads (FNPT).

**RESTRICTIONS/ OPTIONAL USE:**

- UL/FM is required on valves installed on potable mains in sizes 12” and smaller.

**MATERIAL:**

**Body & Cover:**

- Cast iron or ductile iron conforming to ASTM Standards A126 or A536.

**Coating:**

- Fusion bonded epoxy.

**Outer trim:**

- Stainless Steel.

**Inner metal parts:**

- 316 Stainless Steel.

**Inner rubber parts:**

- Nitrile Buna-N, EPDM (ethylene propylene) or Viton rubber.



**MANUFACTURER:**

- VALVE MATIC MFG. CORP.– VM-15AH
- VALVE MATIC MFG. CORP.– VM-22H
- OPEN



<b>D 6 – AIR RELEASE VALVES (2”) - POTABLE WATER:</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

Air release valves for potable water shall meet or exceed the performance specifications of:

- Shall be automatic float operated designed to release accumulated air from the piping system while the system is in operation and under pressure.
- AWWA C512.
- Shall have a screened hood (not shown in detail).
- The valve body shall be threaded with National Pipe Thread (NPT) inlets and outlets.
- Shall be pressure rated for at least 150 psi.
- Shall be test pressure rated for at least 1.5 times working pressure.
- Valves supplied must have ISO 9001 or later certification, or manufactured in the U.S.A.
- Affidavit of compliance to this specification shall be available upon request.

**CONNECTIONS:**

**Inlet:**

- 2” Standard Female National Pipe Threads (FNPT).

**MATERIAL:**

**Body & Cover:**

- Cast iron or ductile iron conforming to ASTM Standards A126 or A536.

**Coating:**

- Exterior shall have universal alkyd primer.

**Outer Trim:**

- Stainless Steel.

**Inner Metal Parts:**

- 316 Stainless Steel.

**Inner Rubber Parts:**

- Nitrile Buna-N, EPDM (ethylene propylene) or Viton rubber.



**MANUFACTURER:**

- VALVEMATIC MFG. CORP – VM-45
- OPEN

**RESTRICTIONS/OPTIONAL USE:**

- Acceptable for use on potable main sizes over 12” only.

**D 7 – FULL FLANGE PRESSURE SENSOR:**

Effective Date: 01-01-19  
 Revision #: 2

**SPECIFICATION:**

Full flange sensors shall meet or exceed the performance specifications of:

- Protect and isolate pressure gauge.
- Full 360-deg pressure reading.
- Self-cleaning flex action, non-clogging.
- 2-1/2" diameter companion pressure gauge, ±1% accuracy, pressure range as indicated on drawings.
- Affidavit of compliance to this specification shall be available upon request.

**CONNECTIONS:**

- ANSI B16.5 Class 150 flanges, carbon steel or PVC

**MATERIAL:**

**Body:**

- Carbon steel or PVC.

**Lining:**

- Sleeve lining material recommended for raw sewage.

**Fill Fluid:**

- Ethylene glycol and water, vegetable oil, silicon oil.



**MANUFACTURER:**

- RED VALVE SERIES 40
- ONYX

**RESTRICTIONS/OPTIONAL USE:**

- Pressure gauge installations for valve vaults and meter vaults at wastewater pumping stations.

<b>D 8 – POST TYPE HYDRANTS:</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

Post type hydrants shall meet or exceed the performance specifications of:

- ANSI/AWWA C502.
- Post type dry barrel design.

**MATERIAL:**

**Hydrant Shoe/Elbow:**

- Cast iron, ASTM A0126 Class B

**Stand Pipe:**

- Ductile iron ASTM A-126

**Main Valve Rod:**

- Steel C1117 HFS

**Operating Nut:**

- Bronze alloy CDA 84400, ASTM B-584

**Lubricating Nut:**

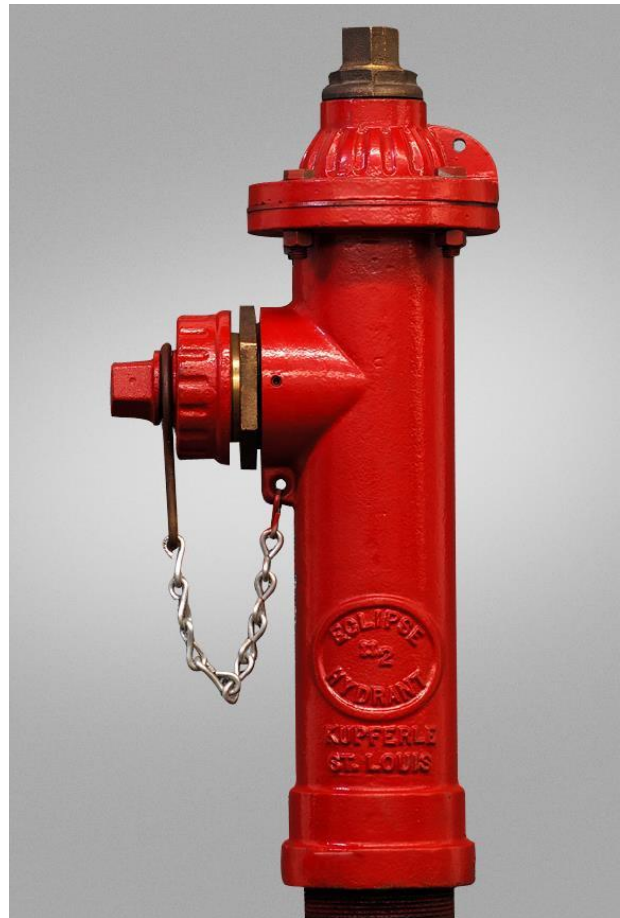
- Brass

**INLET SIZE AND TYPE:**

- 2" mechanical joint.

**OUTLET SIZE AND TYPE:**

- 2-1/2" hose nozzle.



**RESTRICTIONS:**

- Not for fire protection. For use only at pump station sites.

**MANUFACTURER:**

- MUELLER
- M&H
- KUPFERLE FOUNDRY COMPANY

<b>D 9 – REDUCED PRESSURE DETECTOR ASSEMBLY / 2 ½” thru 10”</b>	Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
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**SPECIFICATION:**

Reduced Pressure Detector Assembly shall meet or exceed the performance specification of:

- AWWA C511-92
- Shall be installed on fire protection systems when connected to a public water supply.
- The unit shall be a complete assembly including UL listed and FM approved OSY shutoff valves.
- Shall be coated with approved AWWA epoxy coating.
- Assemblies supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.
- Temperature Range: 33°F – 140°F
- Maximum Working Pressure: 175 psi
- Affidavit of compliance to this specification shall be available upon request.

**MATERIALS**

**Body:**

- Epoxy coated cast iron

**Discs:**

- Rubber

**Seat and Disc Holder:**

- Bronze

**Trim:**

- Stainless Steel

**SIZE**

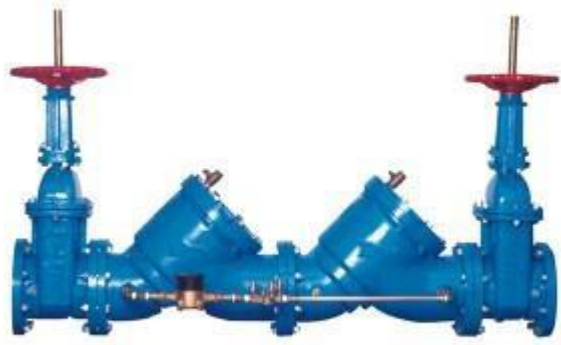
- 2 ½” – 10”



**MANUFACTURER:**

- WATTS – Model Series 909 RPDA
- OPEN

**RESTRICTIONS:**

<b>D 10 – DOUBLE CHECK DETECTOR ASSEMBLY / 3” thru 10”</b>		Effective Date: <u>01-01-19</u> Revision #: <u>2</u>
<p><b><u>SPECIFICATION:</u></b> Reduced Pressure Detector Assembly shall meet or exceed the performance specification of:</p> <ul style="list-style-type: none"> <li>• AWWA C510</li> <li>• The assembly shall meet the basic requirements of ASSE 1048</li> <li>• Shall be installed on fire protection systems when connected to a public water supply.</li> <li>• The unit shall be a complete assembly including UL listed resilient seated OSY shutoff valves and test cocks</li> <li>• The auxiliary line shall consist of an approved backflow preventer and water meter.</li> <li>• Shall be coated with approved AWWA epoxy coating.</li> <li>• Assemblies supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.</li> <li>• Temperature Range: 33°F – 110°F continuous, 140°F intermittent</li> <li>• Maximum Working Pressure: 175 psi</li> <li>• Affidavit of compliance to this specification shall be available upon request.</li> </ul> <p><b><u>MATERIALS</u></b> <b>Body:</b></p> <ul style="list-style-type: none"> <li>• Epoxy coated cast iron</li> </ul> <p><b>Discs:</b></p> <ul style="list-style-type: none"> <li>• Rubber</li> </ul> <p><b>Seat and Disc Holder:</b></p> <ul style="list-style-type: none"> <li>• Bronze</li> </ul> <p><b>Trim:</b></p> <ul style="list-style-type: none"> <li>• Stainless Steel</li> </ul> <p><b><u>SIZE</u></b></p> <ul style="list-style-type: none"> <li>• 3” – 10”</li> </ul>		
<p><b><u>RESTRICTIONS:</u></b></p>	<p><b><u>MANUFACTURER:</u></b></p> <ul style="list-style-type: none"> <li>• WATTS – Model Series 709 DCDA</li> <li>• OPEN</li> </ul>	