# Section D: Valves and Accessories

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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.

**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

**RESTRICTIONS:**
D 1.1 – VALVES - AWWA C509/C515 RESILIENT SEAT/ 2" thru 12" (MJ X MJ):

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.

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

RESTRICTIONS:
### 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:

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D 1.3 – VALVES - RESILIENT SEAT/ 2” thru 12” (FLG X FLG):

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.

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

RESTRICTIONS:
### 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.

### 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

### RESTRICTIONS:
D 1.5 – VALVES- ECCENTRIC PLUG/ 4” thru 24” (FLG X FLG):

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.

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

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

Effective Date: 01-01-20
Revision #: 2
## D 2 – Check Valve- Resilient Seat/ Potable Water 2” Thru 30” (FLG X FLG):

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

**MATERIAL:**

<table>
<thead>
<tr>
<th>Body:</th>
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<tbody>
<tr>
<td>Ductile iron, ASTM Standards A536 grade 65-45-12.</td>
</tr>
</tbody>
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<table>
<thead>
<tr>
<th>Disc:</th>
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<tr>
<td>Ductile iron, encapsulated with:</td>
</tr>
<tr>
<td>• EPDM (ethylene-propylene) rubber</td>
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<td>• Buna- N rubber</td>
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<table>
<thead>
<tr>
<th>Shaft:</th>
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<tbody>
<tr>
<td>Stainless steel.</td>
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</tbody>
</table>

## MANUFACTURER:

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

## RESTRICTIONS:
### D 3 – SWING CHECK VALVES - POTABLE WATER 2” THRU 16” (FLG X FLG):

**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:**

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**Effective Date:** 01-01-20
Revision #: 2
D 3.1 – SWING CHECK VALVES- SANITARY SEWER 4” THRU 16” (FLG X FLG):

**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:**
### D 3.2 – SWING CHECK VALVES/ RESILIENT SEAT– SANITARY SEWER (3” THRU 12”) (FLG X FLG):

<table>
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<tr>
<th>SPECIFICATION:</th>
<th>DESIGN:</th>
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<tbody>
<tr>
<td>• Check valves shall meet or exceed the performance specifications of AWWA C508, swing check valves.</td>
<td>• Shall be designed such that the disc, hinge, and bonnet can be removed as one assembly.</td>
</tr>
<tr>
<td>• Shall be manufactured from ductile iron per ASTM Standards A536 65-45-12.</td>
<td>• Can be mounted vertically or horizontally.</td>
</tr>
<tr>
<td>• Body and bonnet shall have fusion bonded epoxy coating on interior and exterior complying with AWWA C550.</td>
<td>• All internal exposed metal is stainless steel.</td>
</tr>
<tr>
<td>• Shall be pressure rated for 175 psi (minimum) working pressure.</td>
<td></td>
</tr>
<tr>
<td>• Both ends shall be flanged, faced and drilled in accordance with ANSI B16.1, Class 125.</td>
<td></td>
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<tr>
<td>• Shall have a resilient seat that is drop tight, even at low pressure.</td>
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<tr>
<td>• Shall have no obstructions in the flow path for a 100% clear waterway.</td>
<td></td>
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<tr>
<td>• Valves supplied must have ISO 9001 or later certification, or poured in a foundry located in the U.S.A.</td>
<td></td>
</tr>
<tr>
<td>• Shall be furnished with an outside lever and spring.</td>
<td></td>
</tr>
<tr>
<td>• Affidavit of compliance to this specification shall be available upon request.</td>
<td></td>
</tr>
</tbody>
</table>

### 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).

### MANUFACTURER:
- AMERICAN AVK SERIES 41/ 42-43X
## Specifications:
- 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

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D 4 – COMBINATION AIR VALVES– STAINLESS STEEL/ SANITARY SEWER/ 2” thru 12” FORCE MAINS:
### D 4.1 – COMBINATION AIR VALVES– STAINLESS STEEL/ SANITARY SEWER/ 12” AND LARGER FORCE MAINS:

<table>
<thead>
<tr>
<th>SPECIFICATION:</th>
<th>MATERIAL:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Combination air valves for sewage shall meet or exceed the performance specifications of AWWA C512-15.</td>
<td>Body:</td>
</tr>
<tr>
<td>• Shall be specially designed to operate with liquids carrying solid particles such as sewage and effluent.</td>
<td>• 316 Stainless Steel.</td>
</tr>
<tr>
<td>• Shall release accumulated air from the system while the system is under pressure.</td>
<td>Outer Metal Parts:</td>
</tr>
<tr>
<td>• The valve must discharge air at high velocity during the filling of the system and admit air during its drainage.</td>
<td>• 316 Stainless Steel</td>
</tr>
<tr>
<td>• The valve shall be a double or triple float design.</td>
<td>Inner Metal Parts:</td>
</tr>
<tr>
<td>• Shall be pressure rated for at least 150 psi.</td>
<td>• 316 Stainless Steel.</td>
</tr>
<tr>
<td>• Shall be test pressure rated for at least 1.5 times working pressure.</td>
<td>Floats:</td>
</tr>
<tr>
<td>• Flange surface shall be faced and drilled in accordance with ANSI Class 125 B16.1.</td>
<td>• Plastic materials/ Foamed Polypropylene, High Density Polyethylene or 316 Stainless Steel.</td>
</tr>
<tr>
<td>• Valves supplied must have ISO 9001 or later certification, or manufactured in the U.S.A.</td>
<td>O-Ring:</td>
</tr>
<tr>
<td>• Affidavit of compliance to this specification shall be available upon request.</td>
<td>• Nitrile Buna-N or EPDM (ethylene epropylene) rubber.</td>
</tr>
</tbody>
</table>

### CONNECTIONS:

<table>
<thead>
<tr>
<th>Inlet:</th>
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<tbody>
<tr>
<td>• 4” Flange for mains up to and including 24” mains.</td>
</tr>
<tr>
<td>• 6” Flange for mains larger than 24”.</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outlet:</th>
</tr>
</thead>
<tbody>
<tr>
<td>• Stainless Steel screen mesh &amp; cover.</td>
</tr>
<tr>
<td>• Flushing connection.</td>
</tr>
</tbody>
</table>

### MATERIALS:

**Body:**
- 316 Stainless Steel.

**Outer Metal Parts:**
- 316 Stainless Steel

**Inner Metal Parts:**
- 316 Stainless Steel

**Floats:**
- Plastic materials/ Foamed Polypropylene, High Density Polyethylene or 316 Stainless Steel.

**O-Ring:**
- Nitrile Buna-N or EPDM (ethylene epropylene) rubber.

### MANUFACTURER:

- ARI USA, INC.– Model D -020

### RESTRICTIONS:

- For force main sizes 12” and larger.
### D 5 – AIR RELEASE VALVES (UL/FM)- POTABLE WATER:

**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).

**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

**RESTRICTIONS/ OPTIONAL USE:**
- UL/FM is required on valves installed on potable mains in sizes 12" and smaller.
**D 6 – AIR RELEASE VALVES (2") - POTABLE WATER:**

**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:

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.
**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
D 9 – REDUCED PRESSURE DETECTOR ASSEMBLY / 2 ½” thru 10”

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
- Stainless Steel

SIZE
- 2 ½” – 10”

MANUFACTURER:
- WATTS – Model Series 909 RPDA
- OPEN

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

- AWWA C510
- The assembly shall meet the basic requirements of ASSE 1048
- Shall be installed on fire protection systems when connected to a public water supply.
- The unit shall be a complete assembly including UL listed resilient seated OSY shutoff valves and test cocks
- The auxiliary line shall consist of an approved backflow preventer and water meter.
- 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 – 110°F continuous, 140°F intermittent
- 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
- 3” – 10”

### MANUFACTURER:
- WATTS – Model Series 709 DCDA
- OPEN

### RESTRICTIONS: