

BACKFLOW PREVENTION CATALOG



FIRE PROTECTION



WATERWORKS



IRRIGATION



PLUMBING



2014



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Reduced Pressure Backflow Preventers

RPLF 4A SERIES



Sizes 2-1/2"-12"



TriForce™ Check

REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER

The Apollo® MODEL RPLF 4A Reduced Pressure Principle Backflow Preventers consist of two independently acting, TriForce™ center stem guided check valves with a differential pressure relief valve located between the check valves. The unit is designed to give maximum protection against backflow of health or non-health hazard fluids by either back-pressure or back-siphonage. The durable domestic stainless steel units (2-1/2"-8") and the FDA epoxy coated ductile iron units (10" and 12") are easily maintained in the line without any special tools. The TriForce™ check valves operate with a spring assist in the flowing condition to provide excellent flow rates which are documented by an independent laboratory.

OPERATION

During normal flow conditions, the two check valves are held off their seats, supplying water downstream. The relief valve is held shut by supply pressure acting through the sensing tube on the relief valve diaphragm. In the area between the check valves, called the zone, the pressure is maintained approximately 7 psi lower than supply pressure. Should a back-pressure or back-siphonage condition occur, the second check valve will seal, prohibiting the backflow of water. Should the second check become fouled, the pressure in the zone will increase causing the differential relief valve to open to atmosphere. This will maintain the pressure in the zone at least 2 psi lower than supply pressure.

FEATURES

- Domestic Stainless steel body: 2-1/2"-8"
- FDA epoxy coated ductile iron body: 10" & 12"
- Easy maintenance - no special tools required
- Snap-in check retainers: 2-1/2"-6"
- Bolted-in checks: 8"-12"
- Low pressure loss as documented by an independent laboratory
- Center stem guided TriForce™ check valves
- Approved for horizontal flow*
- Chloramine-resistant elastomers
- Made in the USA
- **Lead-Free** standard
- ASSE 1013
- CSA B64.4
- AWWA C-511
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2", 3", 4", 6")
- UL, ULC Classified
- FM approved
- Maximum working pressure 175 psi
- Temperature range 33°F - 140°F, 180°F intermittent
- US Patent Nos. 6,443,184; 7,025,085; 7,533,699
- Optional Air Gap Drains (see page 52 for details and discharge rates)
- 5 year, domestic warranty

MATERIALS

| Part | Material |
|--------------------|-------------------------------|
| Body (2-1/2"-8") | 304 Stainless Steel |
| Body (10 & 12") | FDA Epoxy Coated Ductile Iron |
| Covers (2-1/2"-6") | Glass Filled PPO/SS |
| Covers (8") | 304 Stainless Steel |
| Covers (10 & 12") | FDA Epoxy Coated Ductile Iron |
| Relief Valve | Bronze C84400/ LF C89836 |
| Check Valves | Bronze/Glass-filled PPO/SS |
| Springs | Stainless Steel |
| Seat Discs | Chloramine-resistant Silicone |

FACTORY CODE

| 4ALF | 2 X | X | O X |
|---------------------------|--|--|--|
| | Y-STRAINER | SIZE | SHUT-OFF VALVES |
| 4ALF = Lead Free Standard | 0 = Standard 1 = w/Y-strainer (shipped loose) | 9 = 2-1/2" 0 = 3" A = 4" C = 6" E = 8" G = 10" H = 12" | 1 = Less Shut-off Valves 2 = NRS Flg x NRS Flg 3 = OS&Y Flg x OS&Y Flg 4 = OS&Y Flg x Monitored (Mon.) Butterfly Vlv Grv† 6 = OS&Y Flg x Post indicator Flg** 7 = OS&Y Flg x OS&Y Grv 8 = OS&Y Grv x OS&Y Grv 9 = Mon. Butterfly Vlv Grv x Mon. Butterfly Vlv Grv† 10 = OS&Y Flg x Post Indicator Grv** 11 = NRS Grv x NRS Grv 12 = NRS Flg x NRS Grv 13 = Post Indicator Flg x Mon. Butterfly Vlv Grv† 14 = Post Indicator Flg x Post Indicator Flg 16 = Mon Butterfly Vlv Grv x Post Indicator Flg† 17 = Post Indicator Flg x OS&Y Grv 18 = OS&Y Grv x Post Indicator Grv 19 = Mon. Butterfly Vlv Grv x Post Indicator Grv 20 = Post Indicator Flg x OS&Y Flg |

** Post indicator with plate & nut option not available in 2-1/2" size.

† Butterfly valves not available in 12" size.

Example:

4ALF 20A 07 = 4" size Lead Free Reduced Pressure Assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off valves.

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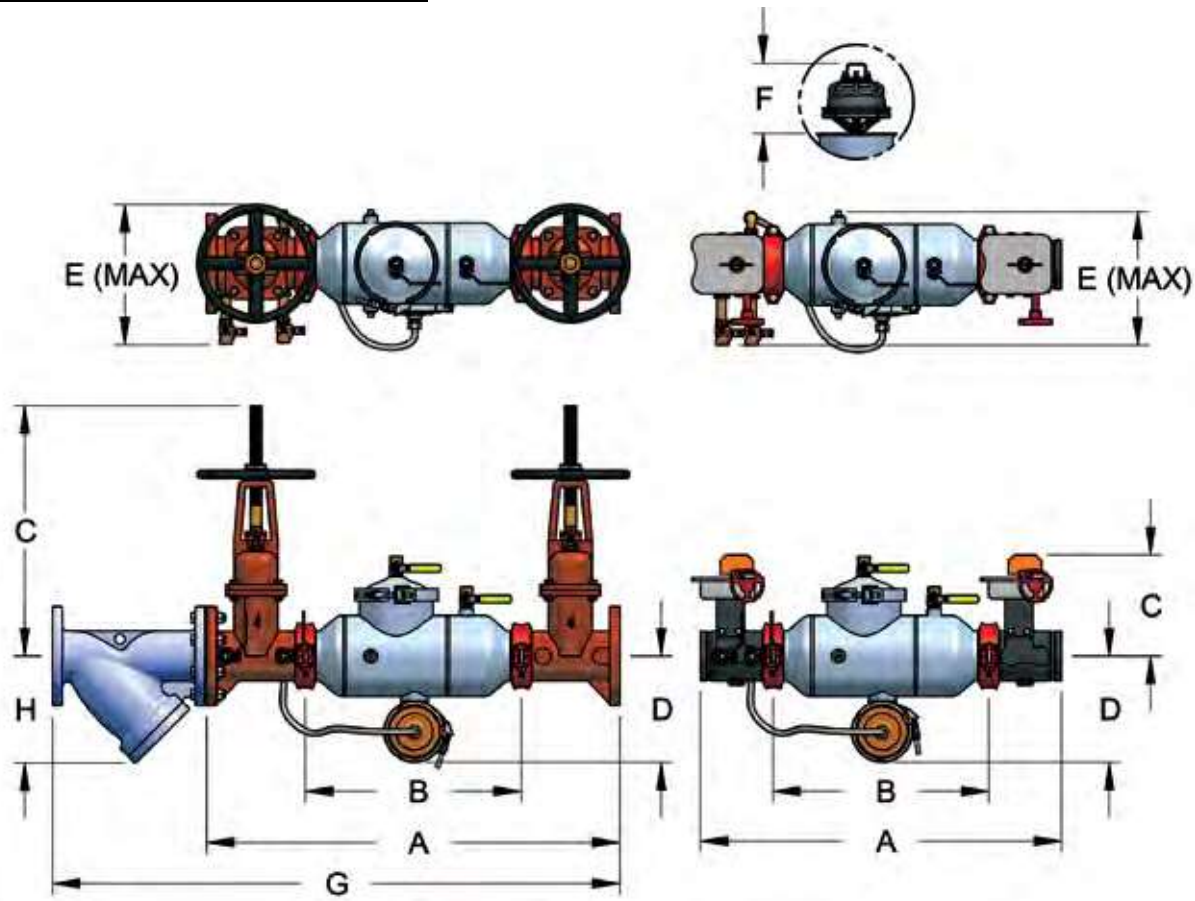
Customer Service (704) 841-6000



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DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances ($\pm 1/8"$ (3 mm) per joint)
See Page 63 For Flow Curves

| DIMENSIONS | 2-1/2" | 60 mm. | 3" | 75 mm. | 4" | 100 mm. | 6" | 150 mm. | 8" | 200 mm. | 10" | 250 mm. | 12" | 300 mm. |
|-------------------------------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|------------|-----------|
| A (Butterfly Valves) | 28 | 711 ± | 28-1/2 ± | 724 ± | 33-1/4 ± | 845 ± | 38-7/8 ± | 987 ± | 46-3/8 ± | 1178 ± | 52-1/4 ± | 1327 ± | N/A | N/A |
| A (Gate Valves) | 31 ± | 787 ± | 32 ± | 813 ± | 38 ± | 965 ± | 45-7/8 ± | 1165 ± | 53-3/8 ± | 1356 ± | 62-1/4 ± | 1581 ± | 62-1/2 ± | 1586 ± |
| B (Less Shut-off Valves) | 15-7/8 ± | 403 ± | 15-7/8 ± | 403 ± | 19-5/8 ± | 498 ± | 24-1/2 ± | 622 ± | 30 ± | 762 ± | 36 ± | 914 ± | 37 ± | 940 ± |
| C (Butterfly Valves) | 8 | 203 | 8-3/8 | 213 | 9-1/8 | 233 | 10-1/8 | 257 | 12 | 306 | 13-3/8 | 340 | N/A | N/A |
| C (NRS/PI Gate Valves) | 11-3/8 | 289 | 12-3/8 | 314 | 14-3/4 | 375 | 19 | 483 | 22-1/2 | 572 | 26-1/2 | 673 | 30 | 762 |
| C (OS&Y Open) | 16-3/8 | 416 | 18-7/8 | 479 | 22-3/4 | 578 | 30-1/8 | 765 | 37-3/4 | 959 | 45-3/4 | 1162 | 53-1/8 | 1349 |
| D (Centerline to bottom) | 9-5/8 | 238 | 9-5/8 | 238 | 10-3/8 | 264 | 11-5/8 | 295 | 15-5/8 | 397 | 21 | 533 | 21 | 533 |
| E (Width Max) | 11-1/2 | 292 | 12 | 305 | 12-1/2 | 318 | 14-3/8 | 365 | 17-5/8 | 449 | 21 | 533 | 22 | 559 |
| F (Check Removal Clearance) | 4-3/4 | 121 | 4-3/4 | 121 | 6-1/2 | 165 | 7-1/2 | 191 | 7-1/2 | 191 | 10 | 254 | 10 | 254 |
| G (With Strainer) | 41-7/8 | 1064 | 43-5/8 | 1108 | 52 | 1321 | 64-1/2 | 1638 | 74-7/8 | 1902 | 88-3/8 | 2245 | 95-5/8 | 2429 |
| H (Strainer Clearance) | 8 | 203 | 8-3/4 | 222 | 9-1/2 | 241 | 12-5/8 | 321 | 16-3/8 | 416 | 19 | 483 | 22 | 559 |
| Test Cocks (NPT) | 1/2" | 15 | 1/2" | 15 | 1/2" | 15 | 3/4" | 20 | 3/4" | 20 | 3/4" | 20 | 3/4" | 20 |
| WEIGHTS | lb. | kg | lb. | kg | lb. | kg | lb. | kg | lb. | kg | lb. | kg | lb. | kg |
| Net Wt. (Less Shut-offs) | 31 | 14 | 32 | 5 | 48 | 22 | 84 | 38 | 228 | 103 | 762 | 346 | 865 | 392 |
| Net Wt. (w/ Butterfly Valves) | 58 | 26 | 62 | 28 | 92 | 42 | 152 | 69 | 359 | 163 | 980 | 445 | N/A | N/A |
| Net Wt. (w/NRS Gate Valves) | 117 | 53 | 143 | 65 | 197 | 89 | 323 | 147 | 691 | 313 | 1608 | 729 | 2003 | 909 |
| Net Wt. (w/ OS&Y Gate Valves) | 127 | 58 | 153 | 69 | 203 | 92 | 333 | 151 | 705 | 320 | 1648 | 748 | 2057 | 933 |

Notes:

1. Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (1/8" per joint).
2. Internal body connections are grooved on 2 1/2" – 10" sizes.
3. Internal body connections are flanged on 12" size.
4. Strainer option only available for flanged-end shut-off options.



For additional information, submittal sheets and manuals, visit www.apollovalves.com

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