"Apollo"® Valves

# backflow prevention

Authorized Distributor
**MONILEK OILFIELD**

MONILEK OILFIELD

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W: www.monilekgroup.com



## catalog

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customer service 704.841.6000

aalberts integrated piping systems

PRODUCT CATALOG

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| TYPE | | MODEL NUMBER | PART NUMBER | SIZE | PAGE | FLOW CURVE |
|---|---|---|---|---|---|---|
| 1/2" - 2" TESTABLE | Double Check Valve Assembly | DC 4A, DCLF 4A | 4A-100, 4ALF-100 | 1/2"- 2" | 9 | 58 |
| | | DC/DCLF 4AST | 4A100-ST | 1-1/2"- 2" | 9 | 58 |
| | | DC 4AY. DCLF 4AY | 4AY-100, 4AYLF-100 | 3/4" - 1" | 10 | 60 |
| | Double Check Valve Detector Assembly | DCDA2/DCDA2LF 4AST | 4A600-ST | 1-1/2"- 2" | 11 | 60 |
| | Reduced Pressure Principle | RP 4A, RPLF 4A | 4A-200, 4ALF-200 | 1/2"- 2" | 12 | 58 |
| | | RP/RPLF 4AST | 4A200-ST | 1-1/2"- 2" | 12 | 59 |
| | | RP 4AFHB | 4A-200FHB | 1" | 13 | 59 |
| | Reduced Pressure Detector Assembly | RPDA2/RPDA2LF 4AST | 4A700-ST | 1-1/2"- 2" | 14 | 59 |
| | Pressure Vacuum Breaker | PVB 4A, PVBLF 4A | 4A-500, 4ALF-500 | 1/2"- 2" | 15 | 70 |
| | Spill Resistant Pressure Vacuum Breaker | SVB 4A, SVBLF 4A | 4A-900, 4ALF-900 | 3/4"- 1" | 16 | 69 |
| | | | | | | |
| 2-1/2" - 12" TESTABLE | Double Check Valve Assembly | DCLF 4A | 4ALF-100 | 2-1/2"- 12" | 18-19 | 60 |
| | | DCLF4SG | 4SGLF-100 | 2-1/2"- 6" | 20-21 | 62 |
| | | DC4SG | 4SG-100 | 8" | 20-21 | 63 |
| | | DC 4S | 4S-100 | 10" | 20-21 | 63 |
| | | DCLF 4An | 4AnLF-100 | 2-1/2"- 12" | 22-23 | 61 |
| | Double Check Valve Detector Assembly | DCDALF/DCDA2LF 4A | 4ALF-600 | 2-1/2"- 12" | 24-25 | 63 |
| | | DCDA 4SG | 4SG-600 | 2-1/2"- 8" | 26-27 | 62 |
| | | DCDA 4S | 4S-600 | 10" | 26-27 | 62 |
| | | DCDALF/DCDA2LF 4An | 4AnLF-600 | 2-1/2"- 12" | 28-29 | 64 |
| | Reduced Pressure Principle | RPLF4A | 4ALF-200 | 2-1/2"- 12" | 30-31 | 65 |
| | | RPLF4An | 4AnLF-200 | 2-1/2"- 12" | 32-33 | 66 |
| | Reduced Pressure Detector Assembly | RPDALF/RPDA2LF 4A | 4ALF-700 | 2-1/2"- 12" | 34-35 | 67 |
| | | RPDALF/RPDA2LF 4An | 4AnLF-700 | 2-1/2"- 12" | 36-37 | 68 |
| | | | | | | |
| 1/2" - 2" NON-TESTABLE | Atmospheric Type Vacuum Breaker | AVB1, AVBLF1, AVB2 | 38-100/38LF-100/200 | 1/4"- 2" | 40 | 69 |
| | Dual Check w/Atmospheric Port | DCAP, DCAPLF | 4A-400, 4ALF-400 | 1/2"- 3/4" | 41 | 71 |
| | Dual Check Valve | DUC 4ALF | 4ALF-300 | 3/8" - 1-1/4" | 42 | 71 |
| | | DUC4FP | DUC4FP | 1" - 1-1/4" | 43 | 72 |
| | Carbonated Beverage Backflow Preventer | CBBP-A | 4C-100A | 1/4", 3/8" | 44 | 72 |
| | Hose Connection Vacuum Breaker | HBV2 | 38-300 | 3/4" | 45 | - |
| | Anti-Freeze Hose Connection Vacuum Breaker | HBVAF2 | 38-400 | 3/4" | 45 | - |
| | Hose Connection Dual Check | HBDUC | 38-300 | 3/4" | 46 | 73 |
| | Lab Faucet Dual Check | LFDUC | 38LF-500 | 1/4"-3/8" | 46 | 73 |
| | | | | | | |
| PARTS & ACCESSORIES | Freeze Protection Valve | FPV, FPVLF | 40-000 | 1/4" | 47 | - |
| | "Y" Strainers | YB, YBLF, YSCF | 59/59LF & YCF | 1/4"-12" | 48-49 | - |
| | Thermal Expansion Relief Valve | EXV, EXVLF | 78-RV, RVLF | 3/4" - 1" | 50 | - |
| | Expansion Tanks for Potable Systems | EXP | 40-XT | 2-10 Gallon | 50 | - |
| | Test Kits | TK | 40-200-TK | 3 Valve / 5 Valve | 51 | - |
| | Air Gap Drains | AGD | AGD 4A | 1/4"-12" | 52 | 74 (Discharge Rates) |
| | Backflow Shut-Off Valves | - | - | 1/2" - 12" | 53-55 | - |
| | Valve Setters | 4An | 4An-000 | 2-1/2" - 12" | 56 | - |

"Apollo" Valves



**WATERWORKS**
RP 4AN SERIES



**PLUMBING**
RP 4A SERIES



**FIRE PROTECTION**
DCDA 4A SERIES



**IRRIGATION**
PVB 4A SERIES

aalberts integrated piping systems



# backflow prevention solutions

Backflow prevention is critical to maintaining safe, clean water systems. Aalberts integrated piping systems offers a complete line of backflow solutions designed to prevent back pressure and back siphonage to protect system integrity. Built for durability, tested for compliance, and engineered for peace of mind—our products deliver where it counts.

waterworks

plumbing

fire protection

irrigation

## applications

| service | | series | back siphonage | back pressure | non-hazardous | hazardous |
|---|---|---|---|---|---|---|
| double check valve | ✓ | • DCLF 4A[1] | ✓ | ✓ | ✓ | |
| | ✓ | • DCLF 4AN[2] | | | | |
| | | • DCLF 4SG | | | | |
| | | • DCLF 4S | | | | |
| | ✓ | • DC4AY | | | | |
| double check detector assembly | ✓ | • DCDALF 4A[3] | ✓ | ✓ | ✓ | |
| | | • DCDALF 4AN | | | | |
| | | • DCDA 4SG | | | | |
| | | • DCDA 4S | | | | |
| reduced pressure principle (n & v flow) | ✓ | • RPLF 4AN[4] | ✓ | ✓ | ✓ | ✓ |
| reduced pressure detector assembly | ✓ | • RPDALF 4A[5] | ✓ | ✓ | ✓ | ✓ |
| | ✓ | • RPDALF 4AN | | | | |
| atmospheric vacuum breaker | ✓ | • AVB1 | ✓ | | ✓ | ✓ |
| | ✓ | • AVB1LF | | | | |
| | | • AVB2 | | | | |
| pressure vacuum breaker | ✓ | • PVB 4A[6] | ✓ | | ✓ | ✓ |
| | ✓ | • PVBLF 4A | | | | |
| spill resistant pressure vacuum breaker | ✓ | • SVB 4A | ✓ | | ✓ | ✓ |
| | ✓ | • SVB 4ALF | | | | |
| dual check | | • DUC 4ALF | ✓ | ✓ | ✓ | |
| | ✓ | • DUC 4FP | | | | |
| dual check with atmospheric port | | • DCAP 4A | ✓ | ✓ | ✓ | |
| | | • DCAP 4ALF | | | | |
| carbonated beverage backflow preventer | ✓ | • CBBP-A | ✓ | ✓ | ✓ | |
| hose connection vacuum breaker | | • HBV2 | ✓ | ✓* | ✓ | ✓ |
| | | • HBV2LF | | | | |
| anti freeze hose connection vacuum breaker | | • HBVAF2 | ✓ | ✓* | ✓ | ✓ |
| hose connection backflow preventer | ✓ | • HBDUC | ✓ | ✓* | ✓ | ✓ |
| | ✓ | • HBDUCLF | | | | |

*limited back pressure to 10' head

warning: check with the local authorities having jurisdiction

made in the USA & BABA compliant

[1] bronze, ½" through 2" only
[2] bronze, ¾" & 1" only
[3] bronze, 1½" through 2" only
[4] bronze, ¾" & 1" only
[5] bronze, 1½" through 2" only
[6] ½" & 1¼" through 2" only



"Apollo" Valves

# HOW TO ORDER

## APOLLO BACKFLOW PREVENTERS MODEL NUMBERS

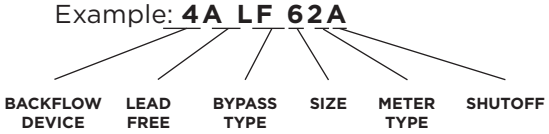
Example: DCDA2 LF 4A OFBG GPM 4




**– OR –**

## APOLLO BACKFLOW PREVENTERS PART NUMBERS

Example: 4A LF 62A




| | MODEL NUMBERS | PART NUMBERS |
|---|---|---|
| **BACKFLOW DEVICE** | **SERIES** | |
| Double Check Valve Assemblies (DC) | DC 4A (LF) | 4A 10X (4ALF) |
| | DC 4AY (LF) | 4AY 10X (4AYLF) |
| | DCLF 4An | 4AnLF 10X |
| | DC 4SG, 4SGLF | 4SG 10X, 4SGLF 10X |
| Double Check Detector Assemblies (DCDA) | DCDA LF 4A | 4ALF 62X |
| | DCDA 4AnLF | 4AnLF 62X |
| | DCDA 4SG, 4SGLF | 4SG 60X, 4SGLF 60X |
| Reduced Pressure Assemblies (RP) | RP 4A (LF) | 4A 20X (4ALF) |
| | RP 4AnLF | 4AnLF 20X |
| Reduced Pressure Detector Assemblies (RPDA) | RPDA 4ALF | 4ALF 72X |
| | RPDA 4AnLF | 4AnLF 72X |
| **OPTIONS** | | |
| Standard. "81" metal Bronze | No Code | No Code |
| Lead Free Bronze | LF | LF |
| No Strainer (Standard 1/2" - 12") | No Code | No Code |
| With Wye Strainer | YS | 1 |
| **TYPE - DETECTOR BYPASS CONFIGURATION ORIENTATION DETERMINED BY FACING DOWNSTREAM** | | |
| Type 2 - Standard & On Right Side (except 4SG - on top) | 2 | 2 |
| Type 1 - On Right Side (Except 4SG - on top) | 1 | No Code |
| Type 3 (Same as Type 1, Only on Left Side) | 3 | 3 |
| Type 4 (Same as Type 2, Only on Left Side) | 4 | 4 |
| **SIZE** | | |
| 1/4' | 14 | 1 |
| 3/8" | 38 | 2 |
| 1/2" | 12 | 3 |
| 3/4" | 34 | 4 |
| 1" | 1 | 5 |
| 1-1/4" | 114 | 6 |
| 1-1/2" | 112 | 7 |
| 2" | 2 | 8 |
| 2-1/2" | 212 | 9 |
| 3" | 3 | 0 |
| 4" | 4 | A |
| 6" | 6 | C |
| 8" | 8 | E |
| 10" | 10 | G |
| 12" | 12IN | H |
| **DETECTOR ASSEMBLY METERS** | | |
| Cubic Feet Meter | CFM | C |
| Gallons Meter | GPM | E |
| Less Meter | LM | G |

# HOW TO ORDER

| | MODEL NUMBERS | PART NUMBERS |
|---|---|---|
| **ASSEMBLY SHUTOFF VALVE OPTIONS** | | |
| **1/2" - 2"** | | |
| Less Shutoffs | LS | T1 |
| Ball Valves FNPT | Standard No Code | A2 |
| Union Ball Valves | UBV | A4 |
| Press Connection | PR | PR |
| Push Connection | P | P |
| **2-1/2" - 12"** | | |
| Less Shutoffs | LS | 1 |
| NRS Flanged X Flanged | NF | 2 |
| NRS Flanged X Grooved | NFG | 12 |
| NRS Grooved X Grooved | NG | 11 |
| OS&Y Flanged X Flanged | OF | 3 |
| OS&Y Flanged X Grooved | OFG | 7 |
| OS&Y Grooved X Grooved | OG | 8 |
| Flanged OS&Y X Butterfly Grooved | OFBG | 4 |
| Flanged OS&Y X Post Indicator Flanged | OFPIF | 6 |
| Flanged OS&Y X Post Indicator Grooved | OFPIG | 5 |
| Grooved Butterfly X Butterfly Grooved | BG | 9 |
| Grooved Butterfly X Post Indicator Flanged | BGPIF | 15 |
| Flanged Ball Valve X Ball Valve Flanged | FBV | 5 |
| Flanged Post Indicator X Butterfly Grooved | PIFBG | 13 |
| Flanged Post Indicator X Post Indicator Flanged | PIFPIF | 14 |
| Flanged Post Indicator X OSY Grooved | PIFOG | 17 |
| Grooved OS&Y x Post Indicator Grooved | OGPIG | 18 |
| Grooved Butterfly x Post Indicator Grooved | BVGPIG | 19 |
| Flanged Post Indicator x OS&Y Flanged | PIFOF | 20 |
| Grooved Post Indicator x OS&Y Grooved | PIGOF | 21 |
| Grooved Post Indicator x Butterfly Grooved | PIGBG | 22 |
| Grooved Butterfly x OS&Y Flanged | GBOF | 23 |
| **TESTCOCK OPTIONS** | | |
| 1/8" SAE Flare (Standard 1/2" - 1" Assemblies) | F | F |
| 1/4" FNPT (Standard 1 1/4" - 2" Assemblies) | No Code | No Code |
| 1/2" FNPT (Standard 2 1/2" - 4" Assemblies) | No Code | No Code |
| 3/4" FNPT (Standard 6" - 12" Assemblies) | No Code | No Code |
| **SHUTOFF VALVE HANDLE OPTIONS** | | |
| "T" Handles (Standard on 1/2" - 1" Assemblies) | No Code | No Code |
| Level Handles (Standard on 1-1/4" - 2" Assemblies) | No Code | No Code |
| Locking Lever Handles (1/2" - 2") | LL | LL |
| **DUAL CHECK, DCAP OPTIONS - INLET, OUTLET OPTIONS** | | |
| FNPT | F | A |
| MNPT | M | B |
| Solder | S | H |
| F Meter Threads | FMR | C |
| M Meter Threads | MMR | E |
| F Swivel Meter Threads | FSMTR | S |
| F BSPP | FBSP | F |
| **CHROME PLATING OPTIONS (SELECTED MODELS)** | | |
| Rough Chrome | RC | 03 |
| Satin Chrome | SC | CS |
| Polished Chrome | PC | 06 |

"Apollo" Valves

# PRODUCT APPROVALS

| TYPE OF DEVICE | MODEL NUMBER | PART NUMBER | SIZE | APPROVALS | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|
| | | | | FOUNDATION FOR CROSS-CONNECTION CONTROL AND HYDRAULIC RESEARCH AT THE UNIVERSITY OF SOUTHERN CALIFORNIA | ASSE | CSA | IAPMO | AWWA | UL/CUL* | FM* |
| Double Check | DC 4A | 4A 100 | 1/2" - 2" | Yes | 1015 | B64.5 | Yes | Yes | 3/4" - 2" | N/A |
| | DCLF 4A | 4ALF 100 | 1/2" - 2" | Yes | 1015 | B64.5 | Yes | Yes | 3/4" - 2" | N/A |
| | DC 4AY | 4AY 100 | 3/4" - 1" | Yes | 1015 | B64.5 | Yes | N/A | N/A | N/A |
| | DCLF 4AY | 4AYLF 100 | 3/4" - 1" | Yes | 1015 | B64.5 | Yes | N/A | N/A | N/A |
| | DC 4AST*** | 4A100-ST | 1-1/2" - 2" | Yes | 1015 | B64.5 | N/A | Yes | Yes | N/A |
| | DCLF 4A | 4ALF 100 | 2-1/2" - 12" | Yes | 1015 | B64.5 | Yes | Yes | Yes | Yes |
| | DCLF 4An | 4AnLF 100 | 2-1/2" - 12" | Yes | 1015 | B64.5 | Yes | Yes | Yes | Yes |
| | DC 4S | 4S 100 | 10" | Yes | 1015 | B64.5 | Yes | C-510 | Yes | Yes |
| | DC 4SG, LF | 4SG 100, LF | 2-1/2" - 8" † | Yes | 1015 | B64.5 | Yes | C-510 | Yes | Yes |
| Reduced Pressure | RP 4A | 4A 200 | 1/2" - 2" | Yes | 1013 | B64.4 | Yes | Yes | 3/4" - 2" | N/A |
| | RPLF 4A | 4ALF 200 | 1/2" - 2" | Yes | 1013 | B64.4 | Yes | Yes | 3/4" - 2" | N/A |
| | RP 4AST*** | 4A200-ST | 1-1/2" - 2" | Yes | 1015 | B64.4 | N/A | Yes | Yes | N/A |
| | RPLF 4A | 4ALF 200 | 2-1/2" - 12" | Yes | 1013 | B64.4 | Yes | Yes | Yes | Yes |
| | RPLF 4An | 4AnLF 200 | 2-1/2" - 12" | Yes | 1013 | B64.4 | Yes | Yes | Yes | Yes |
| Dual Check | DUC 40 | 40 300 | 1/2" - 1" | N/A | 1024 | B64.6 | N/A | N/A | N/A | N/A |
| | DUC 4n | 4N 300 | 3/8" - 1" | N/A | 1024 | B64.6 | N/A | N/A | N/A | N/A |
| Dual Check Atmospheric Port | DCAP | 40 400 | 1/2" - 3/4" | N/A | 1012 | B64.3 | N/A | N/A | N/A | N/A |
| Dual Check Fire Protection | DUC 4FP | 4FP 300 | 1" - 1-1/4" | N/A | 1024 | B64.6 | N/A | N/A | Yes | N/A |
| Pressure Vacuum Breaker | PVBLF 4A | 4ALF 500 | 3/4" - 1" | N/A | 1020 | B64.1.2 | Yes | N/A | N/A | N/A |
| | PVB 4A | 4A 500 | 1/2" - 2" | Yes | 1020 | B64.1.2 | Yes | N/A | N/A | N/A |
| Spill-Resistant SVB | SVB | 4A 900 | 1/4" - 1/2" | Pending | 1056 | Pending | Pending | N/A | N/A | N/A |
| Double Check Detector Assembly | DCDALF 4A DCDA2LF 4A | 4ALF 600 | 2-1/2" - 12" | Yes | 1048 | B64.5 | N/A | N/A# | Yes | Yes |
| | DCDALF 4An DCDA2LF 4An | 4AnLF 600 | 2-1/2" - 12" | 2 1/2"-8 Type 1, 10"-12" Type 2 | 1048 | B64.5 | N/A | N/A# | Yes | Yes |
| | DCDA 4AST*** | 4A600-ST | 1-1/2" - 2" | Yes | 1048 | B64.5 | N/A | N/A# | Yes | N/A |
| | DCDA 4SG | 4SG 600 | 2-1/2" - 8" | Yes | 1048 | B64.5 | N/A | N/A# | Yes | Yes |
| | DCDA 4S | 4S 600 | 10" | Yes | 1048 | N/A | N/A | N/A# | Yes | Yes |
| Reduced Pressure Detector Assembly | RPDALF 4A RPDA2LF 4A | 4ALF 700 | 2-1/2" - 12" | Yes | 1047 | B64.4 | N/A | N/A# | Yes | Yes |
| | RPDA2LF4An | 4AnLF 700 | 2-1/2" - 12" | 2 1/2"-8 Type 1, 10"-12" Type 2 | 1047 | B64.4 | N/A | N/A# | Yes | Yes |
| | RPDA 4AST*** | 4A700-ST | 1-1/2" - 2" | Yes | 1047 | B64.4 | N/A | N/A# | Yes | N/A |
| Atmospheric Vacuum Breaker | AVB1 | 38 100 | 1/4" - 2" | N/A | 1001 | B64.1.1 | Yes | N/A | N/A | N/A |
| | AVB2 | 38 200 | 1/4" - 3/4" | N/A | 1001 | B64.1.1 | Yes | N/A | N/A | N/A |
| Carbonated Beverage Back. | CBBP-A | 4C 100A | 1/4" - 3/8" | N/A | 1022 | B64.3.1 | Yes | N/A | N/A | N/A |
| Hose Conn. Vacuum Breaker | HVB | 38 304 | 3/4" | N/A | 1011 | B64.2 | Yes | N/A | N/A | N/A |
| Hose Conn. Backflow Dual | HBDUC | 38 304 02 | 3/4" | N/A | 1052 | B64.2 | N/A | N/A | N/A | N/A |
| Anti-Freeze Hose Con. | HBVB | 38 404 | 3/4" | N/A | 1011 | B64.2 | Yes | N/A | N/A | N/A |
| Lab Faucet Dual Check | LFDUC | 38 500 | 1/4" - 3/8" | N/A | 1035 | B64.7 | Yes | N/A | N/A | N/A |

Approved for horizontal and vertical installation - 4ANLF models VUVD and VUVU installation.
* Must have indicating type shut-off valves
** Consult with factory for current approval details
*** Slow Close Tamper Switched
\# Detector assemblies are not addressed by AWWA.
† 4SGLF is Lead Free 2-1/2" - 6" only

# COMPETITIVE CROSS REFERENCE

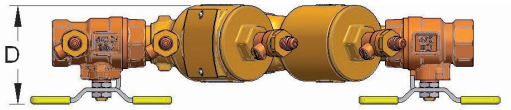
| SIZE | DESCRIPTION | APOLLO MODEL NO. | APOLLO PART NO. | WATTS | WILKINS | AMES | FEBCO | BACKFLOW DIRECT | CASH ACME |
|---|---|---|---|---|---|---|---|---|---|
| **BACKFLOW PREVENTERS** | | | | | | CHECK SPEC SHEET FOR APPROVALS, SOME SIZES/OPTIONS ARE NOT FULLY APPROVED | | BUTTERFLY UNIBODY OPTION DOES NOT HAVE REPLACEABLE BUTTERFLY SHUT OFF VALVES | |
| 1/2" - 2" | Reduced Pressure Bronze (RP) | RPLF 4A (1/2"-2") RP4A (1/2"-2") | 4ALF-200, 4A-200 | 009, LF009, 909, LF909, 919, LF919 | 975XL, 975XL2, 375, 375XL | 4000B | 860, 825Y, 825YA, LF860, LF825Y, LF825YA | Deringer 40 (2" butterfly option only) | RPZE |
| 1/2" - 2" | Reduced Pressure Bronze (RP) Bronze Strainer | RP 4A YS (1/2"-2") RPLF 4A YS (1/2"-2") | 4A-210, 4ALF-210 | 009-S, 909-S, 919-S | 975XLS, 975XL2S, 375S, 375XLS | | | | |
| 1/2" - 2" | Reduced Pressure Bronze (RP) Locking Handles | RP 4A LL(1/2"-2"), RPLF 4A LL(1/2"-2") | 4A-200LL, 4ALF-200LL | 009-LH, 909-LH, 919-LH | 975XL-BVLK, 975XL2-BVLK, 375-BVLK, 375XL-BVLK | | | | |
| 3/4" - 2" | Reduced Pressure Bronze (RP) Union Ball Valves | RP 4A UBV RPLF 4A UBV | 4A-200-A4, 4ALF200-A4 | U009, U909, U919 | 975XLU | | 860U, LF860U | | |
| 2 1/2" - 12" | Reduced Pressure - Stainless Steel (2 1/2"-8"), Epoxy Ductile (10", 12") | RPLF 4A | 4ALF-200 | 009, LF009, 909, LF909, 994, 957 (no 12" option) | 375, 375A, 375AST (no 12" option) | 4000SS, C400, M400 (no 12" option) | LF860 | Deringer 40/40X/40G (2 1/2" - 8") | RPZ (no 12") |
| 2 1/2" - 12" | Reduced Pressure - Stainless Steel (2 1/2"-8"), Epoxy Ductile (10", 12") | RPLF 4An | 4AnLF-200 | 957N, 957Z (no 12" option) | 475/475ST (no 12" option) | C400N (no 12" option) | LF880V | | |
| 2 1/2" - 12" | Reduced Pressure Detector - Stainless Steel (2 1/2" - 8") Reduced Pressure Detector -Epoxy Ductile Iron (10", 12") | RPDALF 4A | 4ALF-700 | 909RPDA, 994RPDA, 957RPDA (no 12" option) | 375DA/375ADA /375ASTDA (no 12" option) | 4000SS, C400, M400, D50 (no 12" option) | LF866 | Deringer 50/50X/50G (2 1/2" - 8") | |
| 2 1/2" - 12" | Reduced Pressure DA npattern - Stainless Steel (2 1/2" - 8") Reduced Pressure DA npattern -Epoxy Ductile Iron (10", 12") | RPDALF 4An | 4AnLF-700 | 957NRPDA (no 12" option) | 475DA/475DAST (4"-10"only) | C500N, M500N (no 12" option) | LF886V | | |
| 1/2" - 2" | Pressure Vacuum Breaker (PVB) (FR included no charge) | PVB 4A, PVBLF 4A | 4A-500, 4ALF 500 | 800, LF800 (no FR) | 720A (no LF), 710 (3/4/1" only no LF) (no FR) | | 765 (no LF option) | | PVB |
| 1/2" - 2" | Pressure Vacuum Breaker (PVB) Freeze Resistant | PVB 4A, PVBLF 4AF | 4A-500 , 4ALF 500 | 800FR | 420, 420XL | | LF767FR | | |
| 3/4" - 1" | Spill Resistant Vacuum Breaker (SVB) | SVB 4A/4ALF | 4A-900 / 4ALF-900 | 008QT, LF008 | 460, 460XL | | | | |
| 3/4" | Hose Connection VB (HBV) | HBV2 | 38LF-314-AS, 38-314-AS | 8, LF8 | BFP-8 | | | | V-3 |
| 3/4" | Hose Connection VB (HBV) Locking | HBV2 | 38LF-314-AS, 38-314-AS | 8A, LF8A, 8B, LF8B | BFP-8 | | | | V-3 |
| 3/4" | Hose Connection VB Draining Style | HBVAF2 | 38-414 | NF8, LFN8 | BFP-8F | | | | VB-222 |
| 3/4" | Hose Connection Dual Check W/ Vent | HBDUC | 38-304-02 | N9-CD | | | | | |
| 1/2", 3/4" | Dual Check Atmospheric Port (DCAP) | DCAP4A | 4ALF-400M/H, 4A-400M/A | 9D | 760 | | | | BFP |
| 3/8" | Vacuum Breaker - Lab Faucet | LFDUC | 38-502 | NLF-9 | 730 | | | | V-14L |
| 1/4" - 2" | Atmospheric Vacuum Breaker | AVB1, AVB 2 (1/4"-1/2") | 38-100, 38LF-100, 38-200 | 288A, LF288 | 35 | | 710/715 | | V-101 |
| 3/8" - 1 1/4"" | Dual Check Valves (DuC) | DuC4A, DuC4N | 4ALF-300, 4NLF-300 | 7, LF7, LF7R | 700 | | | | BF |
| 1" - 1 1/4" | Dual Check Valves - (DuC) Fire Protection | DUC4FP | 4FP-300 | 07S | 700FP | | | | |
| 1/2" - 1" | Dual Check Valves (DuC) nline Serviceable | DUC40 | 40LF-300, 40-300 | | | | | | |
| 1/4", 3/8" | Dual Check - (CBBP) Carbonated Beverage (new 200PSI option, no equal) | CBBP | 4C-100 | SD-3 | 740 | | | | - |

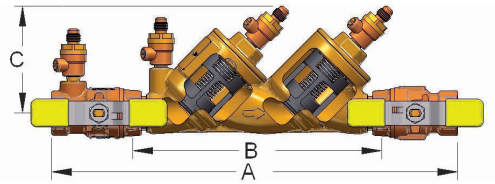
## DC 4A / DCLF 4A SERIES
DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY




The Apollo Model DC 4A or DCLF 4A Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The modular check valve captured spring cartridges have replaceable seats and reversible silicone seat discs. Ball valve shut-offs with stainless steel handles and nuts are standard.

### OPERATION
During normal flow conditions, the two check valves are held off their seats, supplying water downstream. Each check valve is designed to maintain a minimum of 1 psi across the valve during normal operation. Should the downstream pressure increase to within 1 psi of supply pressure, both check valves will close to prevent a backflow condition.






**SLOW CLOSE WITH MONITOR SWITCHES**
**T2ST OPTION (1-1/2" AND 2" ONLY)**
**SEE SS1396 FOR DIMENSIONS**

**Flow Curves - Page 57**

### FEATURES
- Low Pressure Loss
- Captured Spring Cartridge Check Valves
- Compact, Yet Easy to Maintain
- Ball Valve Shut-Offs w/ SS Handles & Nuts Standard
- Top Access for Fast Testing & Maintenance
- Threaded Testcock Protectors
- Corrosion Resistant
- No Special Tools Required
- 5 Year Warranty
- Lead-Free Option
- Chloramine-Resistant Elastomers
- **Designed, Cast, Machined, Assembled and Tested in the USA**

### PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 180°F

### APPROVALS
- Horizontal and Vertical Up Approvals
- AWWA C510
- UL, ULC Classified (T2ST Option or Less Shutoffs)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- ASSE 1015
- IAPMO
- CSA
- NSF/ANSI/CAN 61 - Water Quality (4ALF only)
- NSF/ANSI 372 - Lead Free (4ALF only)

### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY, CAPS** | Bronze C84400/LF |
| **BV SHUT-OFFS TEST COCKS** | Bronze C84400 or LF C87800 |
| **CHECK VALVES** | Glass-Filled PPO |
| **SPRINGS** | 300 Series Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant |
| **O-RINGS** | Chloramine-Resistant |
| **BV HANDLES** | Stainless Steel |

### PART NUMBER MATRIX

| 4A X | 1 X | X | XX | X |
|---|---|---|---|---|
| | Y-STRAINER | SIZE | SHUT-OFF VALVES | OPTIONS (CAN BE |
| 4A - Standard | 0 - Standard | 3 - 1/2" | A2 - w/ Ball Valves (Standard) | F - SAE Threaded Test Cocks (Standard 1/2" |
| 4ALF - Lead Free | 1 - w/ Y-strainer (Shipped Loose) | 4 - 3/4" | A4 - w/ Union Ball Valves (3/4" - | LL - SS Locking Lever Handles |
| | | 5 - 1" | | PR - Press Connections (Factory Installed) |
| | | 6 - 1-1/4" | | P - Push Connections (Factory Installed) (3/4" |
| | | 7 - 1-1/2" | | |
| | | 8 - 2" | | |

EXAMPLE: 4A 104 A4LL = 3/4" double check valve assembly with union ball valves with locking lever handles

### DIMENSIONS

| MODEL NO, PART NO. SIZE | 4A 103 A2F DC 4A 12 1/2" | 4A 103 A2F DC 4A 12 15 MM. | 4A 104 A2F DC 4A 34 3/4" | 4A 104 A2F DC 4A 34 20 MM. | 4A 105 A2F DC 4A 1 1" | 4A 105 A2F DC 4A 1 25MM. | 4A 106 A2F DC 4A 114 1-1/4" | 4A 106 A2F DC 4A 114 32 MM. | 4A 107 A2F DC 4A 112 1-1/2" | 4A 107 A2F DC 4A 112 40 MM. | 4A 108 A2 DC 4A 2 2" | 4A 108 A2 DC 4A 2 50 MM. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A* | 10-7/8 | 276 | 12-5/8 | 321 | 14-5/8 | 371 | 17-1/2 | 445 | 18 | 457 | 20-1/8 | 511 |
| B | 7-3/8 | 187 | 8-1/2 | 215 | 9-1/2 | 241 | 11-3/4 | 298 | 11-5/8 | 295 | 12-3/4 | 324 |
| C | 3-1/4 | 83 | 3-1/2 | 89 | 4 | 100 | 4-1/2 | 114 | 4-1/2 | 114 | 5 | 127 |
| D | 2-1/2 | 64 | 3 | 76 | 3-1/4 | 83 | 4-3/4 | 121 | 4-3/4 | 121 | 5-3/8 | 136 |
| **WEIGHTS** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** |
| Net Wt. | 4.1 | 1.9 | 5.4 | 2.5 | 9.0 | 4.0 | 9.1 | 4.1 | 12.9 | 5.9 | 16.5 | 7.5 |

*For T2ST Option, Union Ball Valve, Press, and Push connection dimensions, see submittal sheets.

## DC 4AY / DCLF 4AY SERIES
Y-PATTERN DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY

New!

LEADFREE OPTIONS



The Apollo Model DC 4AY Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable to the potable water supply, but non-health hazards. The modular check valve cartridges provide captured springs, replaceable seats, and reversible silicone seat discs. This Made in America assembly features Apollo ball valves with stainless steel handles and nuts as standard and carries the five-year Apollo factory warranty.

### OPERATION
During normal flow conditions, the two check valves are held off their seats, supplying water downstream. Each check valve is designed to maintain a minimum of 1 psi across the valve during normal operation. Should the downstream pressure increase to within 1 psi of supply pressure, both check valves will close to prevent a backflow condition.

### FEATURES
- Low Pressure Loss
- Captured Stainless Steel Springs
- Compact Yet Easy to Maintain
- Ball Valve Shut-offs w/ SS Handles & Nuts Standard
- Threaded Testcock Protectors
- Corrosion Resistant
- No Special Tools Required
- Chloramine-Resistant Elastomers
- 5 Year Warranty
- **Designed, Cast, Machined, Assembled and Tested in the USA**

### PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 180°F

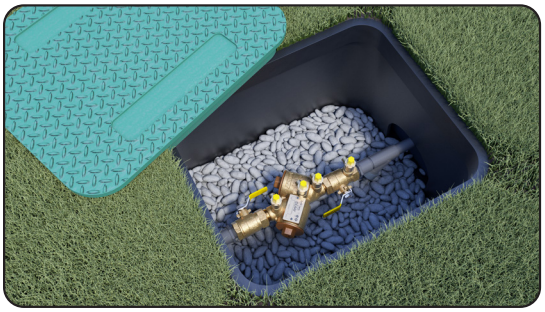
### APPROVALS
- Horizontal and Vertical Up Approvals
- ASSE 1015
- IAPMO
- CSA
- NSF/ANSI/CAN 61 - Water Quality (4AYLF only)

### STANDARD MATERIALS LIST

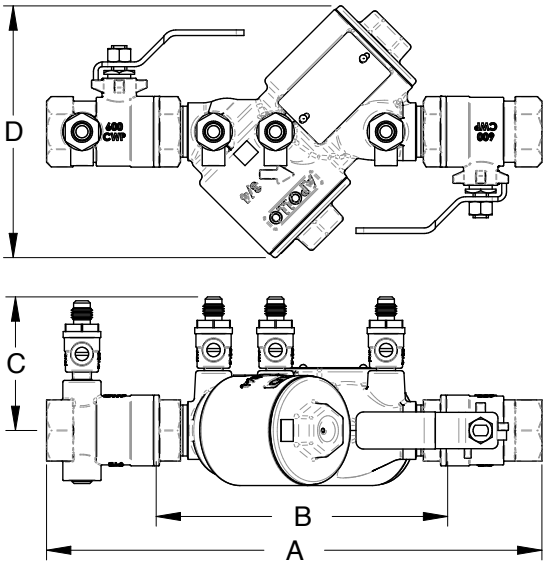
| | |
|---|---|
| **BODY, CAPS** | Bronze C84400 or C89836 Lead Free* |
| **BV SHUTOFFS, TEST COCKS** | Bronze C84400 or C87800 Lead Free* |
| **CHECK VALVE CARTRIDGES** | Glass-Filled PPO |
| **SPRINGS** | 300 Series Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant Silicone |

### DIMENSIONS

| PART NUMBER | SIZE | DIMENSIONS (IN.) | | | | WT. (LB.) |
|---|---|---|---|---|---|---|
| | | A | B | C | D | |
| | 3/4" | 10.2 | 6 | 2.8 | 5.2 | 6.5 |
| | 1" | 12.2 | 7.1 | 3 | 6.2 | 8.7 |



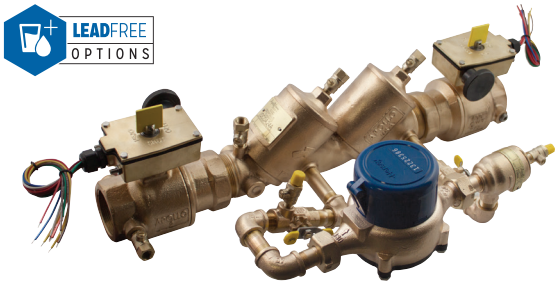
**Flow Curves - Page 59**




### PART NUMBER MATRIX

| 4A [X] | 1X | X | X X | X B |
|---|---|---|---|---|
| | Y-STRAINER | SIZE | SHUT-OFF VALVES | OPTIONS (CAN BE COMBINED) |
| 4AY - Standard | 0 - Standard | 4 - 3/4" | A2 - w/ Ball Valves (Standard) | F - SAE Threaded Test Cocks (Standard 1/2" -2") |
| 4AYLF - Lead Free | 1 - w/ Y-strainer (Shipped Loose) | 5 - 1" | A4 - w/ Union Ball Valves (3/4" - 2") | L - Lever Handle (Standard 3/4" & 1" Only) |
| | | | | PR - Press Connections (Factory Installed) |
| | | | | P - Push Connections (Factory Installed) (3/4" -1") |
| EXAMPLE: 4AY 105 A4FB = 1" Double Check Backflow Preventer, Union Ball Valves and Locking Lever Handles | | | | |

## DCDA2LF 4AST SERIES
DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY



The Apollo Model DCDA2LF 4AST Lead Free* 1-1/2"– 2" Double Check Detector Assembly consists of a mainline double check valve with a Type 2 bypass consisting of a single check (SCV) and meter bypassing the mainline second check to prevent backflow while accurately measuring all flows up to 2 gpm while the mainline 2nd check remains closed. The pressure drop across the assembly shall be documented by independent approval agencies. The assembly shall prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are non-health hazards. This Made in America assembly features Apollo UL® Listed, slow-close, full open port, gear operated ball valves with integral tamper switches and carries the five-year Apollo factory warranty.

### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY, CAPS, BALL VALVE SHUTOFFS, TEST COCKS** | Bronze C89836 or C87800 (Lead Free*) |
| **CHECK VALVE CARTRIDGES** | Glass-Filled PPO |
| **SPRINGS** | 300 Series Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant Silicone |
| **O-RINGS** | Chloramine-Resistant EPDM |

### DIMENSIONS

| SIZE (IN.) | DIMENSIONS (IN.) | | | | WT. (LB.) |
|---|---|---|---|---|---|
| | A | B | C | D | |
| 1-1/2" | 22-1/4 | 2-5/8 | 9-3/4 | 7-5/8 | 35.2 |
| 2" | 23-3/4 | 2-5/8 | 10 | 8 | 45.8 |

**Flow Curves - Page 63**

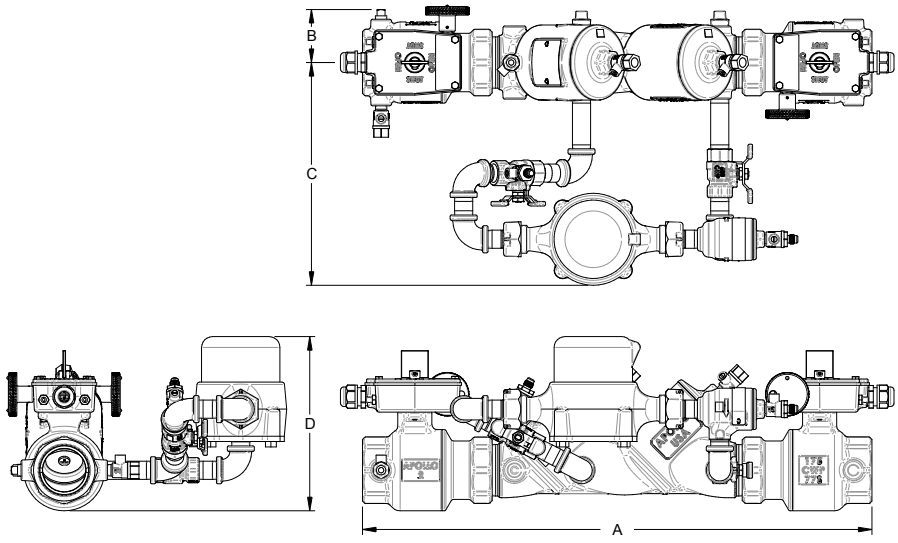
### FEATURES
- Low Pressure Loss Documented By Independent Approval Agencies
- Easily Removable Modular Check Valve Cartridges
- Captured Stainless Steel Springs
- Apollo UL® Listed, Slow-Close, Full Open Port, Gear Operated Ball Valves with Integral Tamper Switches
- Top-Mounted Test Cocks for Easy Testing
- No Special Tools Required
- Chloramine-Resistant Elastomers
- **Designed, Cast, Machined, Assembled and Tested in the USA**
- Short Lay-Length for Small Spaces
- Pre-Wired Tamper (Supervisory) Switches
- 5 Year Warranty

### PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F
- Hydrostatic Test Pressure: 350 psi

### APPROVALS
- ASSE 1048 (Horizontal & Vertical Up)
- UL® Classified (Horizontal & Vertical Up)
- C-UL® Classified (Horizontal & Vertical Up)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. (Horizontal & Vertical Up)
- NSF/ANSI/CAN 61 - Water Quality (4ALF only)
- NSF/ANSI 372 - Lead Free (4ALF only)

### PART NUMBER MATRIX

| 4A X | 6 X | X | X 2ST F |
|---|---|---|---|
| | BYPASS SIDE | SIZE | METER OPTION |
| 4ALF 62 8 E 2ST | 2 -Bypass Line on Right Side (Standard - as Shown) | 7 - 1-1/2" | C - Cubic ft/min |
| 4ALF - Lead Free | | 8 - 2" | E - GPM |
| | 4 - Bypass Line on Left Side | | G - No Meter |
| EXAMPLE: 4ALF 62 8 E 2ST = 2" double check detector, right side bypass with GPM meter. | | | |

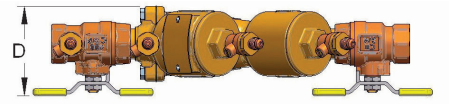


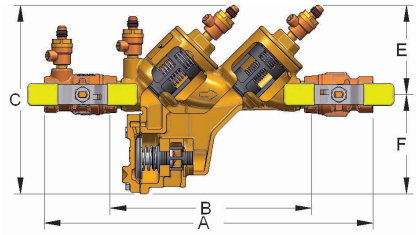
## RP 4A / RPLF 4A SERIES

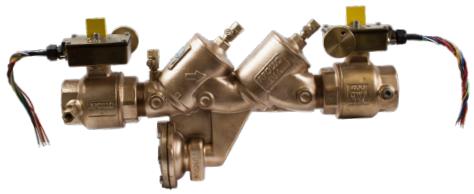
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY

LEADFREE OPTIONS





**SLOW CLOSE WITH MONITOR SWITCHES T2ST OPTION (1-1/2" AND 2" ONLY) SEE SS1397 FOR DIMENSIONS**

**Flow Curves - Page 58**

The Apollo Series RP 4A or RPLF 4A Reduced Pressure Principle Backflow Preventer is designed to give maximum protection against backflow caused by either back-pressure or back-siphonage from substances that are hazardous. The durable but economical device is easily maintained in the line with modular check cartridge assemblies that require no special tools. It consists of two independently acting spring-loaded check valves with an automatic differential relief valve located between the check valves. All test cocks are mounted at the top of the unit to assure easy access during repair and maintenance when unit is installed in tight places.

### FEATURES

- Maximum Protection Against Back-Pressure/Back-Siphonage
- Modular Check Valve Cartridges w/ Easily Replaced Parts
- Reversible/Removable Chloramine-Resistant Silicone Seat Discs
- Low Head Pressure Loss
- Top Mounted Test Cocks
- Threaded Testcock Protectors
- Internal Sensing Passage
- Modular Captured Spring Relief Valve
- Lead Free Option
- Standard with Full Port Ball Valves with Stainless Steel Handles
- Corrosion Resistant
- Optional Air Gap Drain
- **Designed, Cast, Machined, Assembled and Tested in the USA**
- 5 Year Warranty

### PERFORMANCE RATING

- Maximum Working Pressure: 175 psi
- Operating Temperature Range: 33° to 180°F

### APPROVALS

- ASSE 1013
- CSA B64.4
- Federal Public Law 111-380
- AWWA C511
- UL, ULC Classified (T2ST Option or Less Shutoffs)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
- Horizontal Installation Approvals on 1/2" thru 2"
- NSF/ANSI/CAN 61 - Water Quality (4ALF only)
- NSF/ANSI 372 - Lead Free (4ALF only)

### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY, CAPS** | Bronze (C84400/LF |
| **BV SHUT-OFFS, TEST COCKS** | Bronze (C84400/LF C87800) |
| **SPRINGS** | 300 Series SS |
| **SEAT DISCS** | Chloramine-Resistant |

| | |
|---|---|
| **DIAPHRAGM** | Nitrile and Nylon |
| **CHECK MODULES** | Glass-Filled PPO |
| **O-RINGS** | Chloramine-Resistant |
| **BALL VALVE HANDLES** | Stainless Steel |

Contact local water authorities for installation/service requirements.

### PART NUMBER MATRIX

| 4A X | 2 X | X | XX | X |
|---|---|---|---|---|
| | Y-STRAINER | SIZE | SHUT-OFF VALVES | OPTIONS (CAN BE COMBINED) |
| 4A - Standard | 0 - Standard | 3 - 1/2" | A2 - w/ Ball Valves (Standard) | F - SAE Threaded Test Cocks (Standard 1/2") |
| 4ALF - Lead Free | 1 - w/ Y-Strainer (Shipped Loose) | 4 - 3/4" | A4 - w/ Union Ball Valves (3/4" - 2") | L - Lever Handle (3/4" & 1" Only) |
| | | 5 - 1" | T2ST - Tamper Gear Operated Ball Valves (1-1/2"- 2") | LL - Locking Lever Handles |
| | | 6 - 1-1/4" | | P - Push Connection (Factory Installed) |
| | | 7 - 1-1/2" | | PR - Press Connection (Factory Installed) (3/4" & 1" Only) |
| | | 8 - 2" | | |
| EXAMPLE: 4A 215 A4LL = 1" reduced pressure backflow preventer with strainer, union ball valves and locking lever handles | | | | |

### DIMENSIONS

| MODEL NO. PART NO. SIZE | RP4A12 4A 203 A2F 1/2" | RP4A12 4A 203 A2F 15 MM. | RP4A34 4A 204 A2F 3/4" | RP4A34 4A 204 A2F 20 MM. | RP4A1 4A 205 A2F 1" | RP4A1 4A 205 A2F 25MM. | RP4A114 4A 206 A2F 1-1/4" | RP4A114 4A 206 A2F 32 MM. | RP4A112 4A 207 A2F 1-1/2" | RP4A112 4A 207 A2F 40 MM. | RP4A2 4A 208 A2F 2" | RP4A2 4A 208 A2F 50 MM. |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A* | 10-7/8 | 276 | 12-5/8 | 321 | 14-5/8 | 371 | 17-1/2 | 445 | 18 | 457 | 20-1/8 | 511 |
| B | 7-3/8 | 187 | 8-1/2 | 216 | 9-1/2 | 241 | 11-3/4 | 298 | 11-5/8 | 295 | 12-3/4 | 324 |
| C | 7-1/8 | 181 | 7-3/8 | 187 | 8 | 203 | 9-7/8 | 251 | 9-7/8 | 251 | 11 | 279 |
| D | 2-7/8 | 73 | 3-1/8 | 79 | 3-1/4 | 83 | 5-1/8 | 130 | 5-1/8 | 130 | 5-7/8 | 149 |
| E | 3-1/4 | 83 | 3-1/2 | 89 | 4 | 100 | 4-1/2 | 114 | 4-1/2 | 114 | 5 | 127 |
| F | 3-7/8 | 98 | 3-7/8 | 98 | 4 | 100 | 5-3/8 | 137 | 5-3/8 | 137 | 6 | 150 |
| **WEIGHTS** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** |
| Net Wt. | 6.9 | 3.1 | 8.2 | 3.7 | 11.7 | 5.3 | 13.6 | 6.2 | 17.4 | 7.9 | 24.5 | 11.1 |

*For T2ST Option, Union Ball Valve, Press, and Push connection dimensions, see submittal sheets.

## RPFHB 4A SERIES

REDUCED PRESSURE PRINCIPLE FIRE HYDRANT BACKFLOW PREVENTER ASSEMBLY METER



**SIZE 1”**
**CONTACT LOCAL WATER AUTHORITIES FOR INSTALLATION/SERVICE REQUIREMENTS.**

The Apollo Series RPFHB 4A Fire Hydrant Backflow Meter shall measure potable water flow from a fire hydrant or other non-permanent installation. At the same time it shall protect against backflow by either back-pressure or back-siphonage from a cross-connection between potable water system and substances that are non-health and health hazards. The unit shall consist of a 3/4” Short Water Meter, 1” 4A-205 RP device, 1” resilient-seated full port ball valve with locking device, 2-1/2” - 7-1/2” NST threaded hose couplings, strainer on inlet of meter and adjustable support rod assembly.

### OPERATION

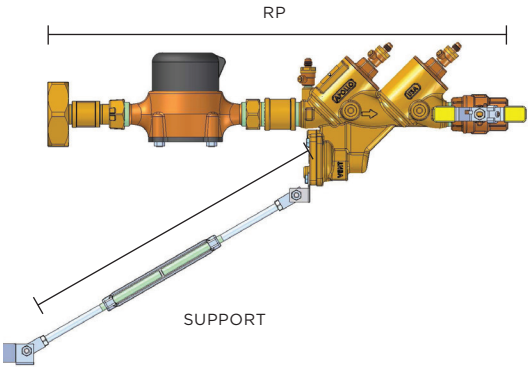
The Fire Hydrant Backflow Meter is connected directly to a fire hydrant with a 2-1/2” - 7-1/2” NST fire hose female swivel coupling. The device operates like a standard Reduced Pressure device except the flow through the device is measured by a Water Meter connected to the inlet of the backflow preventer. Support rod assembly is adjustable to accommodate fire hydrants at different heights from the ground.

### FEATURES

- Normal Operating Flow Range: 2-30 gpm
- Maximum Pressure Loss: 11.0 psi at 30 gpm
- Maximum Operating Pressure: 150 psi
- Trim and Casing Bolts are Stainless Steel
- Tamper Proof Locking System Inside the Meter
- 2-1/2”-7-1/2” NST Fire Hose Swivel Couplings, Female Inlet, Male Outlet
- Maximum Rate Listed is for Intermittent Flow Only
- Maximum Continuous Flow Rate as Specified by AWWA is 15 gpm
- **Designed, Cast, Machined, Assembled and Tested in the USA**
- 5 Year Warranty

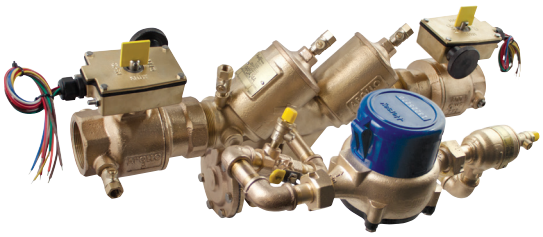
### DIMENSIONS

| PART NUMBER | DIMENSION (IN.) | | WEIGHTS (LB.) | |
|---|---|---|---|---|
| | RP | SUPPORT | NET WT. | SHIPPING WT. |
| 4A205FHB (meter in cu. ft.) | 25-1/8” | 20” - 28” | 24.1 | 27.6 |
| 4A205FHBG (meter in gallons) | 25-1/8” | 20” - 28” | 24.1 | 27.6 |



## RPDA2LF 4A SERIES
BRONZE REDUCED PRESSURE DETECTOR BACKFLOW PREVENTER ASSEMBLY

LEADFREE OPTIONS



The Apollo Model RPDA2LF4A Lead Free* 1-1/2"– 2" Reduced Pressure Detector Assembly consists of a mainline reduced pressure principle backflow preventer (RP) with a Type 2 bypass consisting of a single check (SCV) and meter bypassing the mainline second check to prevent backflow while accurately measuring all flows up to 2 gpm while the mainline 2nd check remains closed. The pressure drop across the assembly shall be documented by independent approval agencies. The assembly shall prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are health and non-health hazards. This Made in America assembly features Apollo UL® Listed, slow-close, full open port, gear operated ball valves with integral tamper switches and carries the five-year Apollo factory warranty.

### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY, CAPS, BALL VALVE SHUTOFFS, TEST COCKS** | Bronze C89836 or C87800 (Lead Free*) |
| **CHECK VALVE CARTRIDGES** | Glass-Filled PPO |
| **SPRINGS** | 300 Series Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant Silicone |
| **O-RINGS** | Chloramine-Resistant EPDM |

### DIMENSIONS

| SIZE (IN.) | DIMENSIONS (IN.) | | | | WT. (LB.) |
|---|---|---|---|---|---|
| | A | B | C | D | |
| 1-1/2" | 22-1/4 | 2-5/8 | 9-3/4 | 10-1/2 | 39.4 |
| 2" | 23-3/4 | 2-5/8 | 10 | 12-3/8 | 51.4 |

**Flow Curves - Page 59**

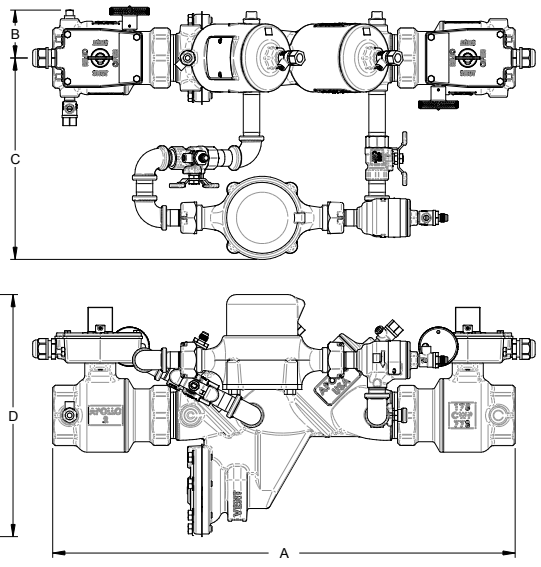
### FEATURES
- Low Pressure Loss Documented By Independent Approval Agencies
- Easily Removable Modular Check Valve Cartridges
- Captured Stainless Steel Springs
- Apollo UL® Listed, Slow-Close, Full Open Port, Gear Operated Ball Valves with Integral Tamper Switches
- Top-Mounted Test Cocks for Easy Testing
- No Special Tools Required
- Chloramine-Resistant Elastomers
- **Designed, Cast, Machined, Assembled and Tested in the USA**
- Short Lay-Length for Small Spaces
- Pre-Wired Tamper (Supervisory) Switches

### PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F
- Hydrostatic Test Pressure: 350 psi

### APPROVALS
- ASSE 1047 (Horizontal)
- UL Classified (Horizontal)
- C-UL Classified (Horizontal)
- Approved by the Foundation for Cross-Connection Control and Hydraulic Reasearch at the Univerity of Southern California. (Horizontal)
- NSF/ANSI/CAN 61 - Water Quality (4ALF only)
- NSF/ANSI 372 - Lead Free (4ALF only)

### PART NUMBER MATRIX

| 4A X | 7 X | X | X 2ST |
|---|---|---|---|
| | BYPASS SIDE | SIZE | METER OPTION |
| 4ALF 72 8 E 2ST | 2 - Bypass Line on Right Side | 7 - 1-1/2" | C - Cubic ft/min |
| 4ALF - Lead Free | 4 - Bypass Line on Left Side | 8 - 2" | E - GPM |
| | | | G - No Meter |
| EXAMPLE: 4ALF 72 8 E 2ST = 2" reduced pressure detector, right side bypass | | | |





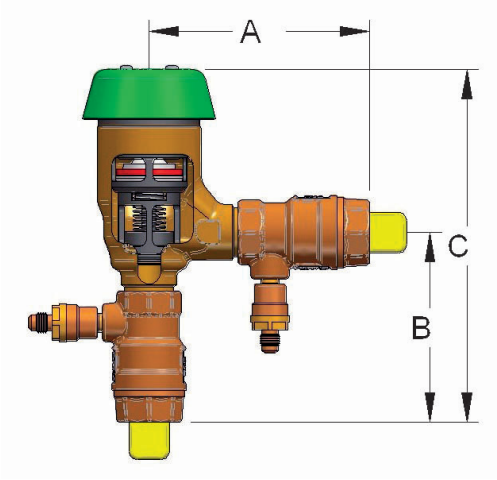

aalberts integrated piping systems

"Apollo" Valves

## PVB 4A / PVBLF 4A SERIES
FREEZE RESISTANT PRESSURE VACUUM BREAKER BACKFLOW PREVENTER

LEADFREE OPTIONS






Flow Curves - Page 70

The Apollo Model PVB 4A or PVBLF 4A Pressure Vacuum Breakers are designed to prevent contamination of potable water due to back-siphonage. An integral relief valve serves to reduce the possibility of damage due to intermittent freezing conditions. The modular check valve cartridge has a replaceable seat and a reversible silicone seat disc. Ball valves with stainless steel handles and nuts are standard.

### FEATURES
- Modular Captured Spring Cartridge Check Valve
- Low Pressure Loss
- Easy Maintenance
- Built-In Freeze Resistant Relief Valve
- Compact Yet Easy to Maintain
- Ball Valves w/SS Handles & Nuts Standard
- Testcocks Located for Easy Draining
- Threaded Testcock Protectors
- Corrosion Resistant
- 5 Year Warranty
- No Special Tools Required
- Lead Free Option (3/4" - 1")
- Unique Canopy Detachment

### PERFORMANCE RATING
- Maximum Operating Pressure: 150 psi
- Design Pressure: 300 psi
- Temperature Range: 33° to 140°F

### APPROVALS
- ASSE 1020
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (1/2" - 2" Non Lead Free Only)
- CSA B64.1.2
- NSF/ANSI 372 - Lead Free (4ALF only)

### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY** | Bronze (C84400/LF C89836) |
| **BALL VALVES, TESTCOCKS** | Bronze (C84800/LF C87800) |
| **CANOPY** | UV Resistant ABS |
| **BONNET** | Glass-Filled PPO |
| **CHECK VALVE CARTRIDGE** | Glass-Filled PPO |
| **SPRINGS** | Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant Silicone |
| **FLOAT** | Glass-Filled Polypropylene |
| **O-RINGS** | Chloramine-Resistant EPDM |
| **BALL VALVE HANDLES** | Stainless Steel |

Contact local water authorities for installation/service requirements.

### DIMENSIONS

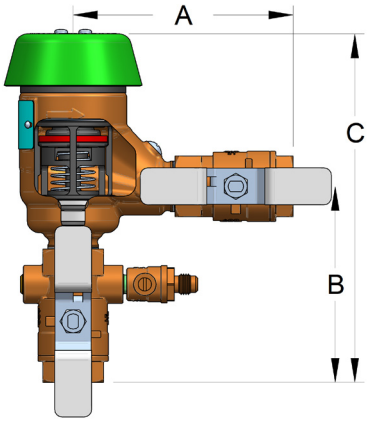
| PART NUMBER. | MODEL NUMBER | DIMENSIONS (IN.) (MM) | | | | WEIGHT | |
|---|---|---|---|---|---|---|---|
| | | SIZE | A | B | C | LB. | KG. |
| 4A-503-A2 | PVB4A12 | 1/2" (15) | 4-1/2 (114) | 3-3/4 (95) | 7-1/4 (184) | 2.9 | 1.3 |
| 4A-504-A2 | PVB4A34 | 3/4" (20) | 4-3/4 (121) | 4-1/8 (105) | 7-5/8 (194) | 3.0 | 1.4 |
| 4A-505-A2 | PVB4A1 | 1" (25) | 5-3/8 (135) | 4-5/8 (194) | 8-3/8 (211) | 4.2 | 1.9 |
| 4A-506-A2 | PVB4A114 | 1-1/4" (32) | 7 (178) | 5-1/4 (133) | 9-7/8 (250) | 4.4 | 2.0 |
| 4A-507-A2 | PVB4A112 | 1-1/2" (40) | 7-1/4 (184) | 5-5/8 (143) | 10-1/8 (257) | 7.3 | 3.3 |
| 4A-508-A2 | PVB4A2 | 2" (50) | 8-1/2 (216) | 6-3/8 (161) | 11-1/2 (292) | 8.9 | 4.0 |

### PART NUMBER MATRIX

| 4A [X] | 50 X | A X | X |
|---|---|---|---|
| | SIZE | SHUT-OFF VALVES | OPTIONS (CAN BE COMBINED) |
| 4A - Standard | 3 - 1/2" | 2 - w/ Ball Valves (Standard) | F - SAE Threaded Test Cocks (Standard 1/2", |
| 4ALF - Lead Free (3/4" - | 4 - 3/4" | 4 - w/ Union Ball Valves | LL - Locking Lever Handles (3/4" - 2") |
| | 5 - 1" | (3/4" and 1" Only) | |
| | 6 - 1-1/4" | | |
| | 7 - 1-1/2" | | |
| | 8 - 2" | | |
| EXAMPLE: 4ALF 505 A4 LL = 1" pressure vacuum breaker with union ball valves and locking levers | | | |

## SVB 4A / SVBLF 4A SERIES
SPILL RESISTANT VACUUM BREAKER BACKFLOW PREVENTER






The Apollo Series SVB 4A or SVBLF 4A Spill Resistant Vacuum Breaker is designed to prevent contamination of the potable water supply due to back-siphonage. The SVB is ideally suited for continuous pressure, indoor applications where water spillage is undesirable. The device has a straight through flow path for minimal head loss. All components are easily accessible for easy repair and maintenance. All components are made of corrosion resistant materials for years of reliable service. Should be installed 12" above all downstream piping.

### FEATURES
- Modular Captured Spring Check Valve
- Shut-Off Valves w/ Stainless Steel Handles and Nuts
- Threaded Testcock Protectors
- Designed For Easy Maintenance
- Lead-Free Options
- Low Head Loss
- Corrosion Resistant
- 5 Year Warranty
- Unique Canopy Detachment
- No Special Tools Required
- **Designed, Manufactured, Assembled and Tested in the USA**

### PERFORMANCE RATING
- Maximum Operating Pressure: 150 psi
- Temperature Range: 33° to 180°F

### APPROVALS
- ASSE 1056-2011
- NSF/ANSI 372 - Lead Free (4ALF only)

### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY** | Bronze C84400 or C89836 Lead |
| **BALL VALVES, TEST COCKS** | Bronze C84400 or C87800 Lead |
| **CANOPY** | UV-Resistant ABS |
| **BONNET** | Glass-Filled PPO |
| **CHECK VALVE CARTRIDGE** | Glass-Filled PPO |
| **SPRINGS** | Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant Silicone |
| **FLOAT** | Glass-Filled PPO |
| **O-RINGS** | Chloramine-Resistant EPDM |

**Flow Curves - Page 69**

### DIMENSIONS

| PART NUMBER | LEAD FREE PART NO. | MODEL NUMBER | LEAD FREE MODEL NO. | DIMENSIONS (IN.) (MM) | | | | WEIGHT | |
|---|---|---|---|---|---|---|---|---|---|
| | | | | SIZE | A | B | C | LB. | KG. |
| 4A-904-A2F | 4ALF-904-A2F | SVB4A34 | SVBLF4A34 | 3/4" (20) | 4-1/2 (121) | 4 (105) | 7-1/4 (194) | 3.0 | 1.4 |
| 4A-905-A2F | 4ALF-905-A2F | SVB4A1 | SVBLF4A1 | 1" (25) | 5-3/8 (135) | 4-3/4 (194) | 8-1/8 (211) | 4.2 | 1.9 |

### PART NUMBER MATRIX

| 4A [XX] | 90 X | XX | X |
|---|---|---|---|
| | SIZE | SHUT-OFF VALVES | |
| 4A - Non-Lead Free | 4 - 3/4" | A2 - w/ Ball Valves (Standard) | F - SAE Threaded Test Cocks |
| 4ALF - Lead Free* | 5 - 1" | A4 - w/ Union Ball Valves | LL - Locking Lever Handles |
| EXAMPLE: 4ALF 904 A4 LL = 3/4" spill resistant vacuum breaker with union ball valves and locking | | | |

"Apollo"® Valves

# large backflow preventers

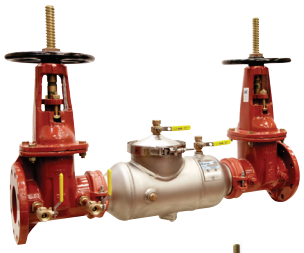


"Apollo" Valves

## DCLF 4A SERIES
DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY

LEADFREE CERTIFIED

**2-1/2" - 8" 304 STAINLESS STEEL BODY**



**10" - 12" FDA EPOXY COATED DUCTILE IRON BODY**



**TRIFORCE™ CHECK**



The Apollo Model DCLF 4A Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The TriForce™ center stem guided check valves feature replaceable and reversible silicone seat discs. The body is domestic stainless steel from 2-1/2"-8" and FDA epoxy coated ductile iron in the 10" and 12". Available with a wide variety of shutoff valve options.

## OPERATION
During normal flow conditions, the two check valves are held off their seats, supplying water downstream. Each check valve is designed to maintain a minimum of 1 psi across the valve during normal operation. Should the downstream pressure increase to within 1 psi of supply pressure, both check valves will close to prevent a backflow condition.

## 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 Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- Approved for Horizontal and Vertical Up Flow
- Chloramine-Resistant Elastomers
- Lead Free Standard
- US Patent Nos.: 6,443,184; 7,025,085; 7,533,699
- **Designed, Assembled and Tested in the USA**
- 5 Year Warranty

## PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F Intermittent

## APPROVALS
- ASSE 1015
- CSA B64.5
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 12")
- AWWA C-510 (2-1/2" - 12")
- IAPMO
- UL, ULC Classified
- FM Approved
- NSF/ANSI/CAN 61 - Water Quality
- NSF/ANSI 372 - Lead Free

## STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY (2-1/2" - 8")** | 304 Stainless Steel |
| **BODY (10" & 12")** | FDA Epoxy Coated Ductile |
| **COVERS (2-1/2" - 6")** | Glass Filled PPO/SS |
| **COVERS (8")** | 304 Stainless Steel |
| **COVERS (10" & 12")** | FDA Epoxy Coated Ductile |
| **CHECK VALVES** | Bronze/Glass-Filled PPO/SS |
| **SPRINGS** | Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant Silicone |

**Flow Curves - Page 60**

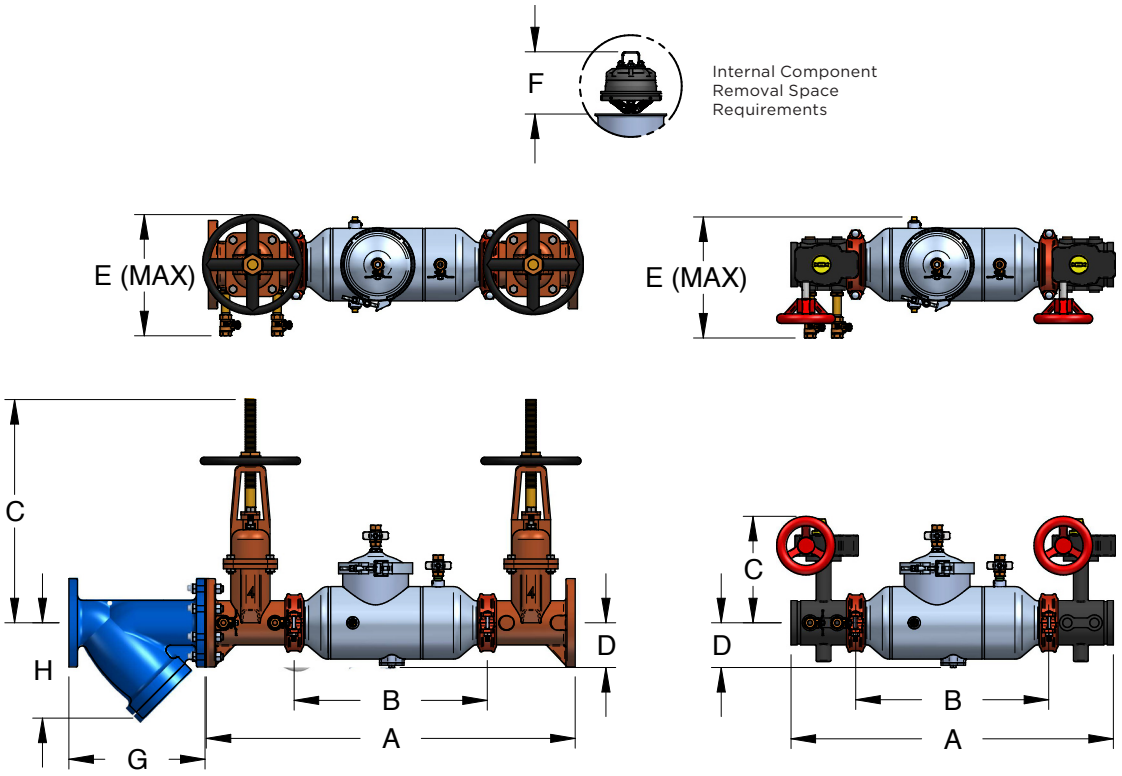
## PART NUMBER MATRIX

| 4ALF | 1 X | X | XX | XX |
|---|---|---|---|---|
| | Y-STRAINER | SIZE | SHUT-OFF VALVES (INLET x OUTLET) | OPTIONS |
| 4ALF - Lead Free Stan- | 0 - Standard | 9 - 2-1/2" | 02 - NRS Flange x NRS Flange | D - Domestic Assembly |
| | 1 - w/ Y-strainer | 0 - 3" | 03 - OS&Y Flange x OS&Y Flange | |
| | (shipped loose) | A - 4" | 04 - OS&Y Flange x Monitored (Mon.) Butterfly Valve Groove† | |
| | | C - 6" | 06 - OS&Y Flange x Post indicator Flange** | |
| | | E - 8" | 07 - OS&Y Flange x OS&Y Groove | |
| | | G - 10" | 08 - OS&Y Groove x OS&Y Groove | |
| | | H - 12" | 09 - Mon. Butterfly Valve Groove x Mon. Butterfly Valve | |
| | | | 10 - OS&Y Flange x Post Indicator Groove** | |
| | | | 11 - NRS Groove x NRS Groove | |
| | | | 12 - NRS Flange x NRS Groove | |
| | | | 13 - Post Indicator Flange x Mon. Butterfly Valve Groove† | |
| | | | 14 - Post Indicator Flange x Post Indicator Flange | |
| | | | 16 - Mon Butterfly Valve Groove x Post Indicator Flange† | |
| | | | 17 - Post Indicator Flange x OS&Y Groove | |
| | | | 18 - OS&Y Groove x Post Indicator Groove | |
| | | | 19 - Mon. Butterfly Valve Groove x Post Indicator Groove | |
| | | | 20 - Post Indicator Flange x OS&Y Flange | |
| | | | 21 - Post Indicator Groove x OS&Y Groove | |
| | | | 22 - Post Indicator Groove x Mon. Butterfly Valve Groove | |
| | | | 23 - Mon. Butterfly Valve Groove x OS&Y Flange | |

EXAMPLE: 4ALF 10A 03 = 4" size Lead Free Double Check Valve Assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off

† Butterfly valves not available in 12" size.

## DCLF 4A SERIES
DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY




DRAWING SHOWN DEPICTS 2-1/2" - 8" ASSEMBLIES.
SEE SUBMITTAL SS1271 FOR DETAILED DRAWINGS FOR EACH SIZE.

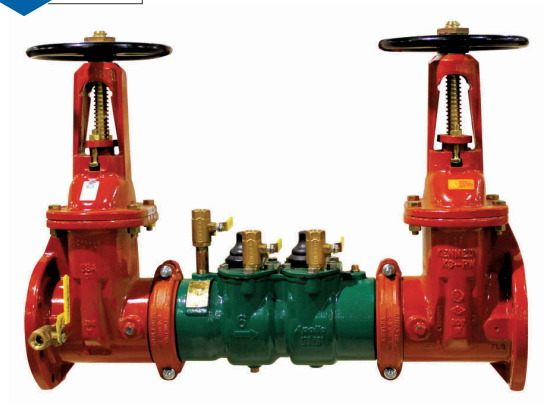
## DIMENSIONS
Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (± 1/8" (3 mm) per joint)

| SIZE | 2-1/2" | 65 MM | 3" | 80MM | 4" | 100MM | 6" | 150MM | 8" | 200MM | 10" | 250MM | 12" | 300MM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A (Butterfly Valves) | 28 | 711 | 28.5 | 724 | 33 | 838 | 38.5 | 978 | 46 | 1168 | 52 | 1321 | N/A | N/A |
| A (Gate Valves) | 31 | 787 | 32 | 813 | 37.6 | 955 | 45.5 | 1156 | 53.1 | 1349 | 62.3 | 1582 | 65.4 | 1661 |
| B (Less Shut-off Valves) | 16 | 406 | 16 | 406 | 19.8 | 503 | 24.5 | 622 | 30 | 762 | 36 | 914 | 37 | 940 |
| C (Butterfly Valves) | 8.6 | 218 | 9.6 | 244 | 10.9 | 277 | 13 | 330 | 16.5 | 419 | 19 | 483 | N/A | N/A |
| C (NRS/PI Gate Valves) | 11.8 | 300 | 13 | 330 | 14 | 356 | 17.8 | 452 | 21 | 533 | 24.5 | 622 | 30 | 762 |
| C (OS&Y Open) | 16.4 | 417 | 20.5 | 521 | 22.8 | 579 | 27.3 | 693 | 37.8 | 960 | 45.8 | 1163 | 53.1 | 1349 |
| D (Centerline to Bottom) | 3.9 | 99 | 3.9 | 99 | 4.6 | 117 | 5.9 | 150 | 8.3 | 211 | 11.1 | 282 | 11.4 | 290 |
| E (Max w/Gate or Butterfly | 11 | 279 | 11.3 | 287 | 12.4 | 315 | 14.5 | 368 | 19.3 | 490 | 21.9 | 556 | 21.9 | 556 |
| F (Check Removal Clearance) | 4.8 | 122 | 4.8 | 122 | 6.5 | 165 | 7.5 | 191 | 7.5 | 191 | 10 | 254 | 10 | 254 |
| G (Strainer Length) | 10.9 | 277 | 11.6 | 295 | 14 | 356 | 18.6 | 472 | 25.5 | 648 | 26.1 | 663 | 30.1 | 765 |
| H (Strainer Clearance) | 8 | 203 | 8.8 | 224 | 9.5 | 241 | 12.6 | 320 | 16.4 | 417 | 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 Valves) | 22 | 10 | 23 | 10 | 39 | 18 | 75 | 34 | 208 | 94 | 702 | 318 | 805 | 365 |
| Net Wt. (w/ Butterfly Valves) | 84 | 38 | 90 | 41 | 116 | 53 | 176 | 80 | 386 | 175 | 921 | 418 | N/A | N/A |
| Net Wt. (w/ NRS Gate Valves) | 76 | 34 | 94 | 43 | 137 | 62 | 258 | 117 | 525 | 238 | 1209 | 548 | 1665 | 755 |
| Net Wt. (w/ OS&Y Gate Valves) | 94 | 43 | 110 | 50 | 165 | 75 | 317 | 144 | 600 | 272 | 1324 | 601 | 1780 | 807 |

Internal body connections are grooved on 2-1/2" to 10" sizes.
Internal body connections are flanged on 12" size.
Strainer option only available for flanged-end shut-off options.

## DC 4SGLF / 4SG / 4S SERIES
DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY

LEADFREE OPTIONS



The Apollo DC 4SGLF /4SG / 4S Series Double Check Valve is designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are non-health hazards. The modular check valves have replaceable seats and reversible EPDM seat discs. Grooved connections on an epoxy-coated ductile iron body allow for easy connection to butterfly valves or gate valves (2-1/2" - 8"), flanged (10" only).

### FEATURES
- Lightweight
- Short Lay Length
- Low Pressure Loss
- Modular Check Valves
- Individual Access to Check Valves
- Reversible/Replaceable Seat Discs
- Approved for Vertical (Up) and Horizontal Installations
- Gate Valves Epoxy Coated (FDA)
- Lead-Free (2-1/2" - 6" only)
- Corrosion Resistant Epoxy-Coated Ductile Iron Body
- US Patents Nos.: 5,711,341 and 6,343,618
- 5 Year Warranty
- **Assembled and Tested in the USA**

### PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Temperature Range: 33°F – 140°F
- Hydrostatic Test Pressure: 350 psi

### APPROVALS
- ASSE 1015
- CSA
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
  (2-1/2"-6" Lead Free / 8" & 10" Non-Lead Free Only)
- AWWA C-510
- UL Classified
- FM Approved
- NSF/ANSI 372 - Lead Free (4SGLF only)

### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY** | FDA Epoxy Coated Ductile |
| **COVERS (2-1/2" - 6")** | FDA Epoxy Coated Steel |
| **COVERS (8" & 10")** | FDA Epoxy Coated Ductile |
| **CHECK VALVES (2-1/2" - 6")** | Glass-Filled PPO |
| **CHECK VALVES (8" & 10")** | Bronze (C84400/LF |
| **SPRINGS** | Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant EPDM |
| **TEST COCK HANDLES** | Stainless Steel |

**Flow Curves - Page 62**

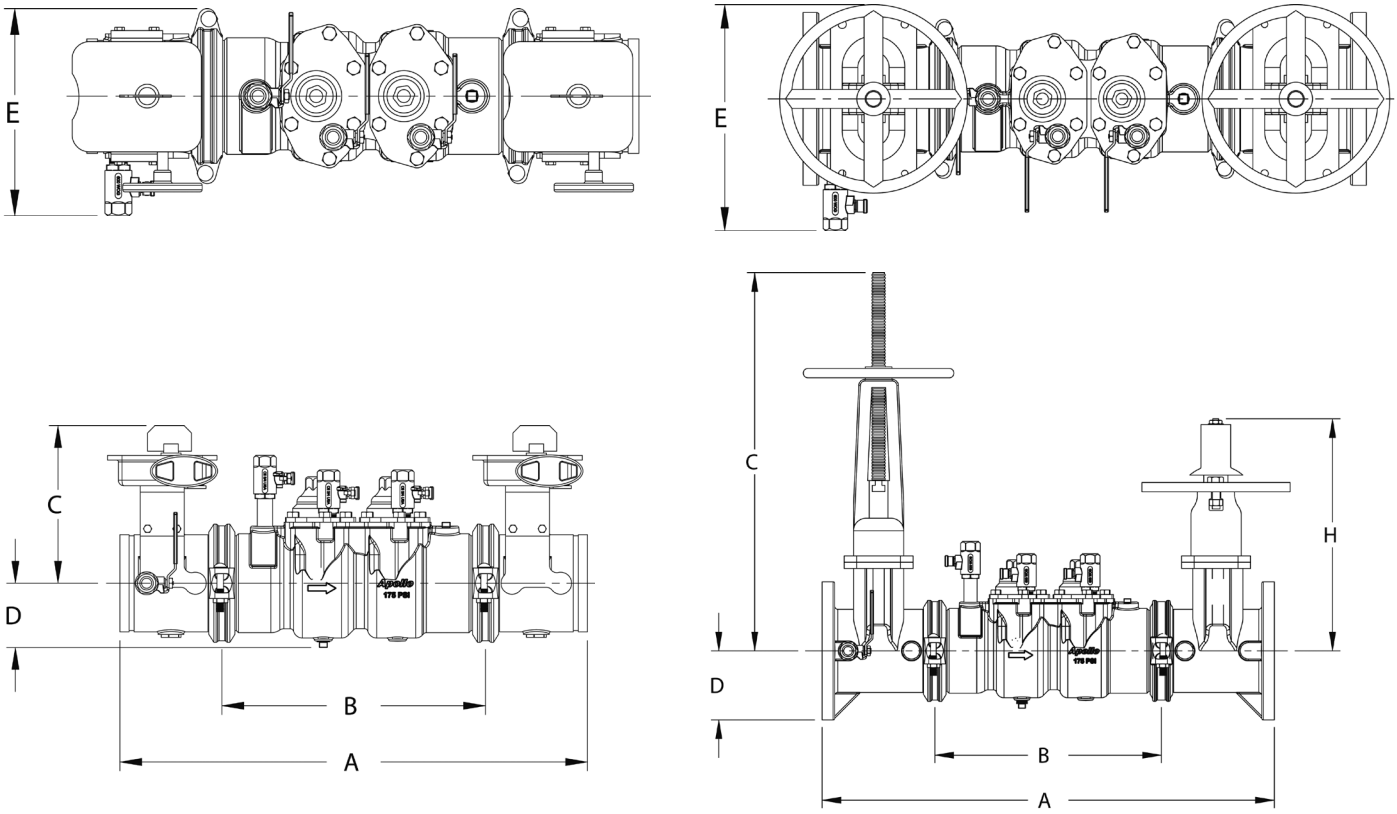
### PART NUMBER MATRIX

| 4S XXX | 1 X | X | XX | X |
|---|---|---|---|---|
| | Y-STRAINER | SIZE | SHUT-OFF VALVES (INLET x | OPTIONS |
| 4SG LF- Lead Free | 0 - None (Standard) | 9 - 2-1/2" | 02 - NRS Flange x NRS Flange | D - Domestic Assembly |
| (2-1/2"-6" Only) | 1 - With Y-Strainer | 0 - 3" | 03 - OS&Y Flange x OS&Y Flange | |
| 4SG - 8" Only | (Flanged Only, Shipped | A - 4" | 04 - OS&Y Flange x Monitored Butterfly Valve Groove | |
| 4S - 10" Only | | C - 6" | 06 - OS&Y Flange x Flange Post Indicator | |
| | | E - 8" | 07 - OS&Y Flange x OS&Y Groove | |
| | | G - 10"* | 08 - OS&Y Groove x OS&Y Groove | |
| | | | 09 - Mon. Butterfly Valve Groove x Mon. Butterfly Valve | |
| | | | 10 - OS&Y Flange x Groove Post Indicator | |

EXAMPLE: 4SGLF 10A 07 = 4" size lead free double check valve assembly with OS&Y flanged inlet x OS&Y grooved outlet

*10" body is flanged internal connections only (Model 4S)

## DC 4SGLF / 4SG / 4S SERIES
DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY




## DIMENSIONS

| MODEL NUMBER<br>PART NUMBER<br>SIZE | DC4SG212<br>4SG-109<br>2 1/2" | DC4SG212<br>4SG-109<br>65 MM | DC4SG3<br>4SG-100<br>3" | DC4SG3<br>4SG-100<br>80 MM | DC4SG4<br>4SG-10A<br>4" | DC4SG4<br>4SG-10A<br>100 MM | DC4SG6<br>4SG-10C<br>6" | DC4SG6<br>4SG-10C<br>150 MM | DC4SG8<br>4SG-10E<br>8" | DC4SG8<br>4SG-10E<br>200 MM | DC4S10<br>4S-10G<br>10" | DC4S10<br>4S-10G<br>250 MM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A (Butterfly Valves)* | 29 | 737 | 29-1/2 | 749 | 29-3/4 | 756 | 32-1/2 | 815 | 43 | 1092 | N/A | N/A |
| A (Gate Valves)* | 32 | 813 | 33 | 838 | 34-1/2 | 876 | 39 | 991 | 50-1/4 | 1276 | 55-3/4 | 1416 |
| B (Grooved End Body) | 17 | 432 | 17 | 432 | 16-1/2 | 419 | 18 | 457 | 27 | 686 | 29-1/2 | 750 |
| C (Butterfly Valves) | 8 | 200 | 8-1/2 | 216 | 9-1/4 | 235 | 10-1/4 | 260 | 12 | 300 | N/A | N/A |
| C (OS&Y Open) | 18.8 | 478 | 20.3 | 515 | 22.1 | 562 | 29.4 | 747 | 36.8 | 934 | 45.8 | 1147 |
| D (Butterfly Valves) | 4-1/2 | 114 | 4-1/2 | 114 | 4-1/2 | 114 | 4 -1/2 | 114 | 6-1/2 | 165 | N/A | N/A |
| D (Gate Valves) | 3-1/2 | 89 | 3-3/4 | 95 | 4-1/2 | 114 | 5-1/2 | 140 | 6-3/4 | 171 | 8.0 | 203 |
| E (Butterfly Valves) | 9 | 229 | 9 | 229 | 9-1/2 | 241 | 12 | 300 | 15 | 381 | N/A | N/A |
| E (Gate Valves) | 11.5 | 292 | 12 | 305 | 12.5 | 318 | 14.6 | 366 | 17.6 | 447 | 21 | 533 |
| H (Post Indicator Valve) | 14.75 | 375 | 14.80 | 376 | 14.80 | 376 | 18.75 | 476 | 23.42 | 595 | 26.5 | 673 |
| Test Cocks (NPT) | 1/2 | 13 | 1/2 | 13 | 1/2 | 13 | 3/4 | 20 | 3/4 | 20 | 3/4 | 20 |
| **WEIGHTS** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** |
| Net Wt. (Less Shutoff Valves) | 53 | 24 | 53 | 24 | 53 | 24 | 60 | 27 | 375 | 170 | 470 | N/A |
| Ship Wt. (Less Shutoff Valves) | 83 | 38 | 83 | 38 | 83 | 38 | 120 | 55 | 475 | 216 | 570 | N/A |
| Net Wt. (w/ Butterfly Valves) | 80 | 36 | 83 | 38 | 97 | 44 | 128 | 58 | 506 | 230 | N/A | N/A |
| Ship Wt. (w/ Butterfly Valves) | 164 | 75 | 168 | 76 | 185 | 84 | 216 | 98 | 654 | 297 | N/A | N/A |
| Net Wt. (w/ Post Indicator | 67 | 30 | 124 | 56 | 148 | 67 | 208 | 95 | 692 | 315 | 997 | 453 |
| Ship Wt. (w/ Post Indicator | 151 | 69 | 209 | 95 | 236 | 107 | 296 | 135 | 840 | 382 | 1167 | 530 |
| Net Wt. (w/ OS&Y Valves) | 125 | 57 | 140 | 64 | 179 | 81 | 303 | 138 | 767 | 349 | 1092 | 496 |
| Ship Wt. (w/ OS&Y Valves) | 209 | 95 | 225 | 102 | 264 | 120 | 391 | 178 | 915 | 416 | 1282 | 583 |

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (± 1/8" (3 mm) per joint)

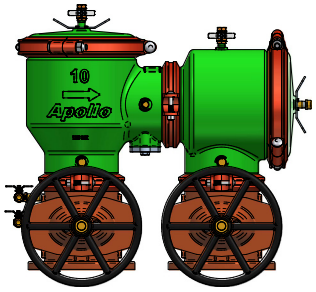
## DCLF 4An SERIES
n STYLE DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY

LEADFREE CERTIFIED

**n FLOW**
**2-1/2" - 8"**
**304 STAINLESS STEEL BODY**



**n FLOW**
**10" - 12"**
**FDA EPOXY COATED DUCTILE IRON BODY**




The Apollo Model DCLF 4An Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The TriForce™ center stem guided check valves feature replaceable and reversible silicone seat discs. The normally vertical up/vertical down oriented body incorporates an internal swivel connection providing the ability to pivot the second check. The n style flow body is domestic stainless steel from 2-1/2"-8" and FDA epoxy coated ductile iron in the 10" and 12". Available in a wide variety of shut-off valves.

## OPERATION
During normal flow conditions, the two check valves are held off their seats, supplying water downstream. Each check valve is designed to maintain a minimum of 1 psi across the valve during normal operation. Should the downstream pressure increase to within 1 psi of supply pressure, both check valves will close to prevent a backflow condition.

## FEATURES
- Domestic Stainless Steel Body: 2-1/2"-8"
- FDA Epoxy Coated Ductile Iron Body: 10" & 12"
- Easy Maintenance: No Special Tools Required
- Drop-In Check Retainers: 2-1/2"-6"
- Bolted-In Checks: 8"-12"
- Low Pressure Loss as Documented by an Independent Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- Lead-Free Standard
- Small Installation Space Required - Small Footprint
- Chloramine-Resistant Elastomers
- Optional Valve Setters Eliminate Need for Thrust Blocks
- US Patent Nos.: 6,443,184; 7,025,085; 7,533,699
- 5 year warranty
- **Designed, assembled and tested in the USA**

## PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F Intermittent

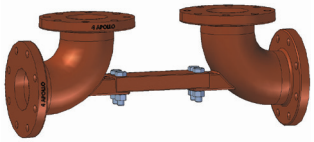
## APPROVALS
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" -12")
- ASSE 1015-2011
- AWWA C-510 (2-1/2" - 12")
- UL, ULC Classified
- FM Approved
- CSA B64.5
- NSF/ANSI/CAN - 61 Water Quality
- NSF/ANSI 372 - Lead Free

## STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY (2-1/2" - 8")** | 304 Stainless Steel |
| **BODY (10" & 12")** | FDA Epoxy Coated Ductile |
| **COVERS (2-1/2" - 6")** | Glass Filled PPO/SS |
| **COVERS (8")** | 304 Stainless Steel |
| **COVERS (10" & 12")** | FDA Epoxy Coated Ductile |
| **CHECK VALVES** | Bronze/Glass-Filled PPO/SS |
| **SPRINGS** | Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant |

**Flow Curves - Page 61**

**OPTIONAL VALVE SETTER**



**TRIFORCE™ CHECK**

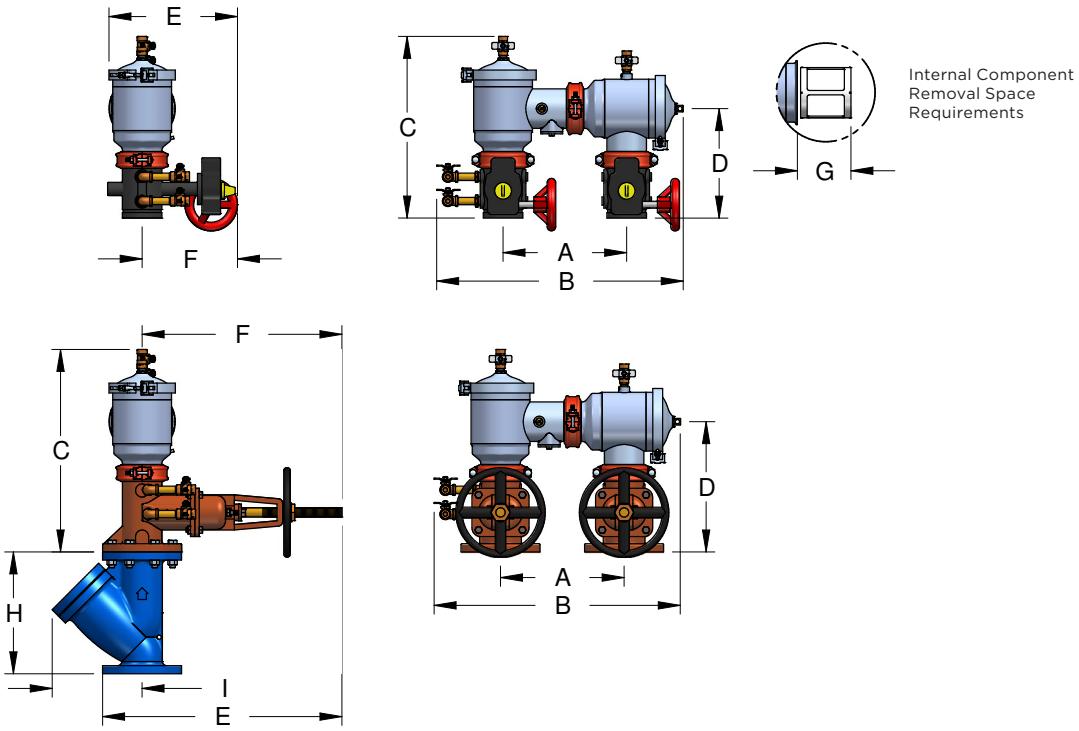


## PART NUMBER MATRIX

| 4ANLF | 1 X | X | XX | X |
|---|---|---|---|---|
| | Y-STRAINER | SIZE | SHUT-OFF VALVES (INLET x | OPTIONS |
| 4AnLF - Lead Free Standard | 0 - Standard | 9 - 2-1/2" | 02 - NRS Flange x NRS Flange | D - Domestic Assembly |
| | 1 - w/ Y-strainer | 0 - 3" | 03 - OS&Y Flange x OS&Y Flange | |
| | (Shipped Loose) | A - 4" | 04 - OS&Y Flange x Monitored (Mon.) Butterfly Valve Groove | |
| | | C - 6" | 06 - OS&Y Flange x Post indicator Flange | |
| | | E - 8" | 07 - OS&Y Flange x OS&Y Groove | |
| | | G - 10" | 08 - OS&Y Groove x OS&Y Groove | |
| | | H - 12" | 09 - Mon. Butterfly Valve Groove x Mon. Butterfly Valve | |
| | | | 10 - OS&Y Flange x Post Indicator Groove | |
| | | | 11 - NRS Groove x NRS Groove | |
| | | | 12 - NRS Flange x NRS Groove | |
| | | | 13 - Post Indicator Flange x Mon. Butterfly Valve Groove | |
| | | | 14 - Post Indicator Flange x Post Indicator Flange | |
| | | | 16 - Mon Butterfly Valve Groove x Post Indicator Flange | |
| | | | 17 - Post Indicator Flange x OS&Y Groove | |
| | | | 18 - OS&Y Groove x Post Indicator Groove | |
| | | | 19 - Mon. Butterfly Valve Groove x Post Indicator Groove | |
| | | | 20 - Post Indicator Flange x OS&Y Flange | |
| | | | 21 - Post Indicator Groove x OS&Y Groove | |
| | | | 22 - Post Indicator Groove x Mon. Butterfly Valve Groove | |
| | | | 23 - Mon. Butterfly Valve Groove x OS&Y Flange | |
| EXAMPLE: 4AnLF 10A 03 = 4" size lead free double check valve assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off valves | | | | |

†Butterfly valves not available in 12" size.

## DCLF 4An SERIES
n STYLE DOUBLE CHECK VALVE BACKFLOW PREVENTER ASSEMBLY




DRAWING SHOWN DEPICTS 2-1/2" - 8" ASSEMBLIES.
SEE SUBMITTAL SS1272 FOR DETAILED DRAWINGS FOR EACH SIZE.

## DIMENSIONS
Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (± 1/8" (3 mm) per joint)

| SIZE | 2-1/2" | 65 MM | 3" | 80MM | 4" | 100MM | 6" | 150MM | 8" | 200MM | 10" | 250MM | 12" | 300MM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A (Centerline to Centerline) | 12.5 | 318 | 12.5 | 318 | 14 | 356 | 16 | 406 | 18.5 | 470 | 21 | 533 | 26.8 | 681 |
| B (Lay Length Space - Butterfly Valves) | 25.5 | 648 | 25.6 | 651 | 28.1 | 714 | 33.3 | 845 | 38.1 | 968 | 46.0 | 1168 | N/A | N/A |
| B (Lay Length Space - Gate Valves) | 24.5 | 622 | 24.5 | 622 | 27 | 686 | 32 | 813 | 40.8 | 1036 | 49 | 1245 | 55.8 | 1417 |
| C (Butterfly Valves - Flange to Top) | 18.8 | 476 | 19.0 | 483 | 20.8 | 527 | 25.0 | 635 | 29.5 | 749 | 34.8 | 883 | N/A | N/A |
| C (Gate Valves - Flange to Top) | 19.6 | 498 | 20 | 508 | 22.5 | 572 | 27.8 | 706 | 32.1 | 815 | 40 | 1016 | 44 | 1118 |
| D (Centerline to Bottom - Butterfly Valves) | 11.5 | 292 | 11.8 | 298 | 12.5 | 318 | 14.6 | 371 | 17.9 | 454 | 19.8 | 502 | N/A | N/A |
| D (Centerline to Bottom - Gate Valves) | 13 | 330 | 13.5 | 343 | 14.9 | 378 | 18 | 457 | 21.4 | 544 | 24.8 | 630 | 28.8 | 732 |
| E (Maximum Width - Butterfly Valves) | 12.1 | 308 | 13.1 | 333 | 14.8 | 375 | 18.3 | 465 | 25.9 | 657 | 29.3 | 745 | N/A | N/A |
| E (Maximum Width - NRS/PI Gate Valves) | 15.6 | 396 | 16.9 | 429 | 18.6 | 472 | 23.8 | 605 | 29.1 | 739 | 36.3 | 922 | 40 | 1016 |
| E (Maximum Width - OS&Y Valves Open) | 22.3 | 575 | 24.2 | 614 | 26.6 | 679 | 34.4 | 875 | 44.9 | 1140 | 57.0 | 1447 | 61.9 | 1572 |
| F (Centerline to Width - Butterfly Valves) | 8.6 | 219 | 9.6 | 244 | 10.9 | 276 | 12.5 | 318 | 16.5 | 419 | 18.1 | 460 | N/A | N/A |
| F (Centerline to Width - NRS/PI Gate Valves) | 11.8 | 300 | 13 | 330 | 14 | 356 | 17.8 | 452 | 21 | 533 | 24.5 | 622 | 30 | 762 |
| F (Centerline to Width - OS&Y Valves Open) | 18.8 | 478 | 20.3 | 515 | 22.1 | 562 | 29.4 | 747 | 36.8 | 934 | 45.2 | 1147 | 52.2 | 1326 |
| G (Check Removal Clearance) | 6 | 152 | 6 | 152 | 6 | 152 | 8 | 203 | 8.5 | 216 | 12 | 305 | 12 | 305 |
| H ( Strainer Length) | 10.9 | 277 | 11.6 | 295 | 14 | 356 | 18.6 | 472 | 25.5 | 648 | 26.1 | 663 | 30.1 | 765 |
| I (Strainer Clearance) | 8 | 203 | 8.8 | 224 | 9.5 | 241 | 12.6 | 320 | 16.4 | 417 | 19 | 483 | 22 | 559 |
| Test Cocks (NPT) | 1/2" | 13 | 1/2" | 13 | 1/2" | 13 | 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 Shutoff Valves) | 30 | 14 | 30 | 14 | 39 | 18 | 74 | 34 | 305 | 139 | 785 | 357 | 910 | 413 |
| Ship Wt. (Less Shutoff Valves) | 60 | 27 | 60 | 27 | 79 | 36 | 134 | 61 | 405 | 184 | 975 | 443 | 1100 | 413 |
| Net Wt. (w/ Butterfly Valves) | 91.0 | 41 | 95.0 | 43 | 120.0 | 54 | 163.0 | 74 | 471.0 | 214 | 945.0 | 429 | N/A | N/A |
| Ship Wt. (w/ Butterfly Valves) | 152.0 | 69 | 156.0 | 71 | 181.0 | 82 | 243.0 | 110 | 606.0 | 275 | 1135.0 | 515 | N/A | N/A |
| Net Wt. (w/ NRS/Post Indicator Valves) | 84 | 38 | 101 | 46 | 134 | 61 | 257 | 117 | 757 | 344 | 1292 | 587 | 1770 | 805 |
| Ship Wt. (w/ NRS/Post Indicator Valves) | 145 | 66 | 162 | 74 | 192 | 87 | 337 | 153 | 892 | 405 | 1482 | 674 | 1960 | 891 |
| Net Wt. (w/ OS&Y Valves) | 102 | 46 | 117 | 53 | 165 | 75 | 316 | 144 | 697 | 317 | 1407 | 640 | 1885 | 857 |
| Ship Wt. (w/ OS&Y Valves) | 163 | 74 | 178 | 81 | 226 | 103 | 396 | 180 | 832 | 378 | 1597 | 726 | 2075 | 943 |

Internal body connections are grooved on 2-1/2" to 10" sizes.
Internal body connections are flanged on 12" size.

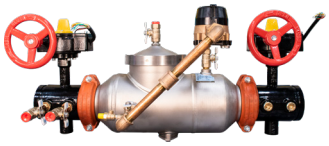
## DCDALF 4A / DCDA2LF 4A SERIES
DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY

LEADFREE CERTIFIED

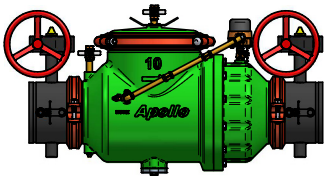
**TYPE 1 BYPASS 2-1/2" - 8" 304 STAINLESS STEEL BODY**



**TYPE 2 BYPASS 2-1/2" - 8" 304 STAINLESS STEEL BODY**



**TYPE 2 BYPASS 10" - 12" FDA EPOXY COATED DUCTILE IRON BODY**




The Apollo Model DCDALF 4A / DCDA2LF 4A Double Check Detector Assembly is designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The TriForce™ center stem guided check valves feature replaceable and reversible silicone seat discs. The bypass assembly serves to measure accurate water use of up to 2 GPM. Available in a wide variety of shut-off options.

Available in both Type 1 and Type 2 bypass configurations. The Type 2 bypass uses the first check of the mainline assembly as the first check of the bypass. The second check of the bypass is a single check valve with a model number and serial number for test recording. This arrangement complies with the National Backflow Standards. The arrangement provides the same level of protection as the Type 1 bypass and the testing procedure is the same.

### FEATURES
- Domestic Stainless Steel Body: 2-1/2"-8"
- FDA Epoxy Coated Ductile Iron Body: 10" & 12"
- Easy Maintenance: No Special Tools Required
- Drop-In Check Retainers: 2-1/2"-6"
- Bolted-In Checks: 8"-12"
- Low Pressure Loss as Documented by an Independent Approval Laboratory
- Center Stem Guided Triforce™ Check Valves
- Approved for Horizontal and Vertical Up Flow
- Chloramine-Resistant Elastomers
- Lead-Free Standard
- US Patent Nos.: 6,443,184; 7,025,085; 7,533,699
- **Designed, Assembled and Tested in the USA**
- 5 Year Warranty
- Optional Mounting of Bypass on Either Side for Ease of Installation

### PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F Intermittent

### APPROVALS
- ASSE 1048*, CSA B64.5, FM, UL*, cUL*
- NSF/ANSI/CAN - 61 Water Quality
- NSF/ANSI 372 - Lead Free
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 8" Type 1 & Type 2, 10" & 12" + type 2 bypass only)

*ASSE, UL, and cUL installations must include indicating-type shut-off valves

**TRIFORCE™ CHECK**



### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY (2-1/2" - 8")** | 304 Stainless Steel |
| **BODY (10" & 12")** | FDA Epoxy Coated Ductile |
| **COVERS (2-1/2" - 6")** | Glass Filled PPO/SS |
| **COVERS (8")** | 304 Stainless Steel |
| **COVERS (10" & 12")** | FDA Epoxy Coated Ductile |
| **CHECK VALVES** | Bronze/Glass-Filled PPO/ |
| **SPRINGS** | Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant |

**Flow Curves - Page 63**

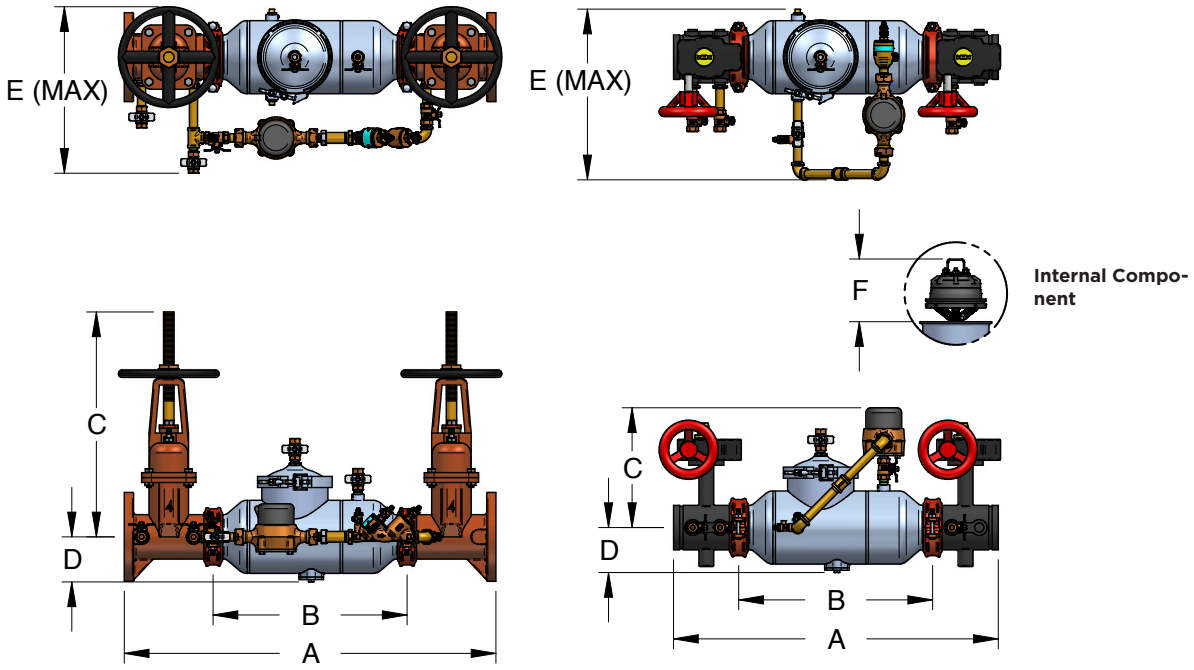
### PART NUMBER MATRIX

| 4ALF | 6 X | X | X | X X | X |
|---|---|---|---|---|---|
| | BYPASS SUB-ASSEMBLY OPTIONS | SIZE | METER OPTION | SHUT-OFF VALVES (INLET x OUTLET) | |
| 4ALF - Lead Free | 0 - Type 1 w/ 1/2" Double Check | 9 - 2-1/2" | C - Cubic ft/min | 03 - OS&Y Flange x OS&Y Flange | D - Domestic Assem- |
| | 2 - Type 2 w/ 1/2" Single Check | 0 - 3" | E - Gallons/min | 04 - OS&Y Flange x Monitored (Mon.) Butterfly Valve Groove† | |
| | 3 - Type 1 w/ Bypass on Left* | A - 4" | G - Less Meter | 06 - OS&Y Flange x Post indicator Flange | |
| | 4 - Type 2 w/ Bypass on Left* | C - 6" | | 07 - OS&Y Flange x OS&Y Groove | |
| | | E - 8" | | 08 - OS&Y Groove x OS&Y Groove | |
| | Type 2 & 4 only | G - 10" | | 09 - Mon. Butterfly Valve Groove x Mon. Butterfly Valve | |
| | Type 2 & 4 only | H - 12" | | 10 - OS&Y Flange x Post Indicator Groove | |
| | | | | 13 - Post Indicator Flange x Mon. Butterfly Valve Groove† | |
| | | | | 14 - Post Indicator Flange x Post Indicator Flange | |
| | | | | 16 - Mon Butterfly Valve Groove x Post Indicator Flange† | |
| | | | | 17 - Post Indicator Flange x OS&Y Groove | |
| | | | | 18 - OS&Y Groove x Post Indicator Groove | |
| | | | | 19 - Mon. Butterfly Valve Groove x Post Indicator Groove | |
| | | | | 20 - Post Indicator Flange x OS&Y Flange | |
| | | | | 21 - Post Indicator Groove x OS&Y Groove | |
| | | | | 22 - Post Indicator Groove x Mon. Butterfly Valve Groove† | |
| | | | | 23 - Mon. Butterfly Valve Groove x OS&Y Flange | |

EXAMPLE: 4ALF 60A E3 = 4" size lead free double check detector assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off valves w/ meter in

*Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side
†Butterfly valves not available in 12" size.

## DCDALF 4A / DCDA2LF 4A SERIES
DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY




**TYPE 1 BYPASS**
4" DCDALF4A W/ OS&Y GATES SHOWN

**TYPE 2 BYPASS**
4" DCDA2LF4A W/ BUTTERFLY VALVES SHOWN

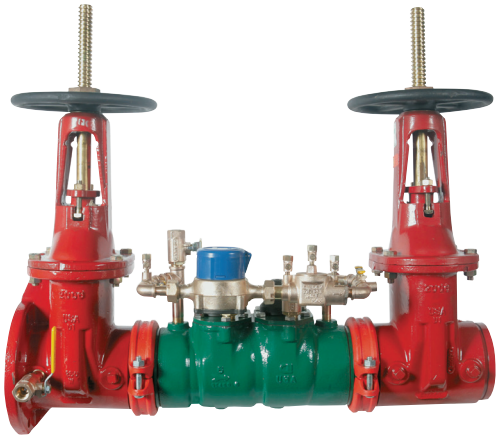
DRAWING SHOWN DEPICTS 2-1/2" - 8" ASSEMBLIES.
SEE SUBMITTAL SS1328 FOR DETAILED DRAWINGS FOR EACH SIZE.

## DIMENSIONS
Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (± 1/8" (3 mm) per joint)

| SIZE | 2 1/2" | 65 MM | 3" | 80MM | 4" | 100MM | 6" | 150MM | 8" | 200MM | 10" | 250MM | 12" | 300MM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A (Butterfly Valves) | 28 | 711 | 28.5 | 724 | 33 | 838 | 38.5 | 978 | 46 | 1168 | 52 | 1321 | N/A | N/A |
| A (Gate Valves) | 31 | 787 | 32 | 813 | 37.6 | 955 | 45.5 | 1156 | 53.1 | 1349 | 62.3 | 1582 | 65.4 | 1661 |
| B (Less Shut-off Valves) | 16 | 406 | 16 | 406 | 19.8 | 503 | 24.5 | 622 | 30 | 762 | 36 | 914 | 37 | 940 |
| C (Butterfly Valves - Type 1) | 8.6 | 218 | 9.6 | 244 | 10.9 | 277 | 13 | 330 | 16.5 | 419 | N/A | N/A | N/A | N/A |
| C (Butterfly Valves - Type 2) | 13.3 | 338 | 13.3 | 338 | 12.1 | 307 | 13.8 | 351 | 16.5 | 419 | 19 | 483 | N/A | N/A |
| C (NRS/PI Gate Valves - Type 1) | 11.8 | 300 | 13 | 330 | 14 | 356 | 17.8 | 452 | 21 | 533 | N/A | N/A | N/A | N/A |
| C (NRS/PI Gate Valves - Type 2) | 13.3 | 338 | 13.3 | 338 | 14 | 356 | 17.8 | 452 | 21 | 533 | 24.5 | 622 | 30 | 762 |
| C (OS&Y Open) | 16.4 | 417 | 20.5 | 521 | 22.8 | 579 | 27.3 | 693 | 37.8 | 960 | 45.8 | 1163 | 53.1 | 1349 |
| D (Centerline to Bottom) | 3.9 | 99 | 3.9 | 99 | 4.6 | 117 | 5.9 | 150 | 8.3 | 211 | 11.1 | 282 | 11.4 | 290 |
| E (Max w/Gate or Butterfly Valves | 15.5 | 394 | 15.5 | 394 | 16.6 | 422 | 19.4 | 493 | 22.4 | 569 | N/A | N/A | N/A | N/A |
| E (Max w/Gate or Butterfly Valves - | 14.1 | 358 | 14.1 | 358 | 17.4 | 442 | 18.4 | 467 | 22 | 559 | 24.9 | 632 | 25 | 635 |
| F (Check Removal Clearance) | 4.8 | 122 | 4.8 | 122 | 6.5 | 165 | 7.5 | 191 | 7.5 | 191 | 10 | 254 | 10 | 254 |
| 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 Valves) | 22 | 10 | 23 | 10 | 39 | 18 | 75 | 34 | 208 | 94 | 702 | 318 | 805 | 365 |
| Net Wt. (w/ Butterfly Valves)** | 96 | 44 | 102 | 46 | 128 | 58 | 189 | 86 | 399 | 181 | 985 | 447 | N/A | N/A |
| Net Wt. (w/ NRS Gate Valves)** | 94 | 43 | 109 | 49 | 149 | 68 | 273 | 124 | 540 | 245 | 1229 | 557 | 1685 | 764 |
| Net Wt. (w/ OS&Y Gate Valves)** | 109 | 49 | 125 | 57 | 180 | 82 | 333 | 151 | 615 | 279 | 1343 | 609 | 1800 | 816 |

Internal body connections are grooved on 2-1/2" to 10" sizes.
Internal body connections are flanged on 12" size.

## DCDA 4SG SERIES
DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY



The Apollo DCDA 4SG Series Double Check Detector Assembly is designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are non-health hazards. The device consists of a mainline double check valve with resilient seated shut-off valves. The by-pass serves to measure water use of up to 3 gpm. Grooved connections on an epoxy-coated ductile iron body allow for easy connection to butterfly valves or gate valves. (2-1/2" - 8")

### FEATURES
- Lightweight
- Short Lay Length
- Low Pressure Loss
- Modular Check Valves
- Individual Access to Check Calves
- Reversible/Replaceable Seat Discs
- Approved for Vertical and Horizontal Installations
- Gate Valves Epoxy Coated (FDA)
- Corrosion Resistant FDA Epoxy Coated Ductile Iron Body
- US Patents Nos.: 5,711,341 and 6,343,618
- 5 Year Warranty
- **Assembled and Tested in the USA**

### PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Temperature Range: 33°F – 140°F
- Hydrostatic Test Pressure: 350 psi

### APPROVALS
- UL Classified
- FM Approved
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 10" Non Lead Free Only)
- ASSE 1048 (with Meter)
- CSA

### STANDARD MATERIALS LIST

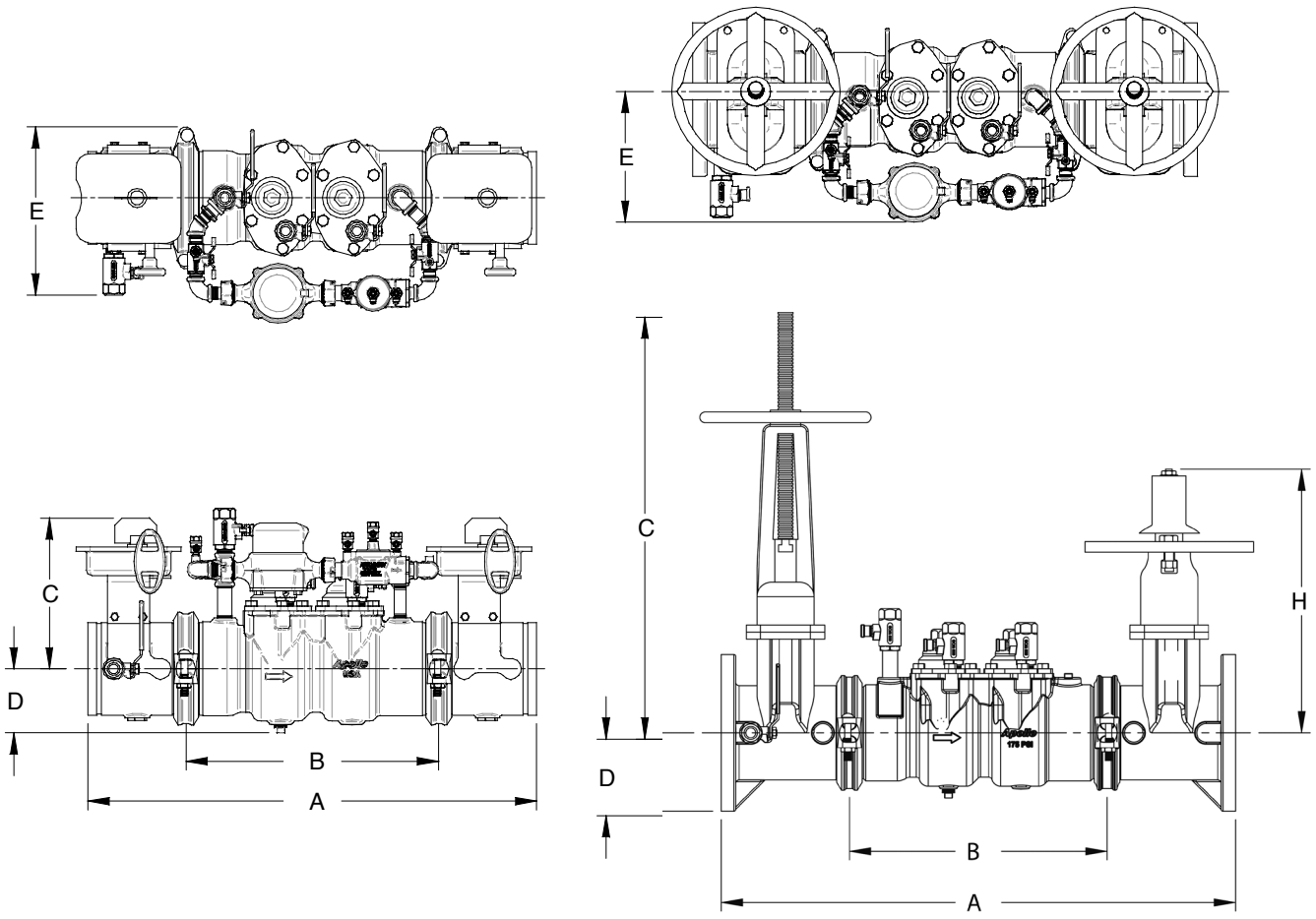
| | |
|---|---|
| **BODY (MAINLINE)** | FDA Epoxy Coated Ductile |
| **BYPASS DC** | Bronze (C84400/LF |
| **COVERS (2-1/2" - 6")** | FDA Epoxy Coated Steel |
| **COVERS (8")** | FDA Epoxy Coated Ductile |
| **CHECK VALVES (2-1/2" - 6")** | Glass-Filled PPO |
| **CHECK VALVES (8" - 10")** | Bronze (C8440) |
| **SPRINGS** | Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant EPDM |
| **TEST COCK HANDLES** | Stainless Steel |

**Flow Curves - Page 62**

### PART NUMBER MATRIX

| 4S X | 60 X | X | XX | X |
|---|---|---|---|---|
| | SIZE | METER OPTION | SHUT-OFF VALVES (INLET X OUTLET) | OPTION |
| 4SG - Standard (2-1/2" - 8" | 9 - 2-1/2" | C - Cubic ft/min | 03 - OS&Y Flange x OS&Y Flange | D - Domestic Assembly |
| 4S - 10" Only | 0 - 3" | E - Gallons/min | 04 - OS&Y Flange x Monitored Butterfly Valve Groove | |
| | A - 4" | G - Less Meter | 06 - OS&Y Flange x Flange Post Indicator | |
| | C - 6" | | 07 - OS&Y Flange x OS&Y Groove | |
| | E - 8" | | 08 - OS&Y Groove x OS&Y Groove | |
| | G - 10"* | | 09 - Mon. Butterfly Valve Groove x Mon. Butterfly Valve | |
| | | | 10 - OS&Y Flange x Groove Post Indicator | |

## DCDA 4SG SERIES
DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY




## DIMENSIONS

| MODEL NUMBER<br>PART NUMBER<br>SIZE | DC4SG212<br>4SG-109<br>2 1/2" | DC4SG212<br>4SG-109<br>65 MM | DC4SG3<br>4SG-100<br>3" | DC4SG3<br>4SG-100<br>80 MM | DC4SG4<br>4SG-10A<br>4" | DC4SG4<br>4SG-10A<br>100 MM | DC4SG6<br>4SG-10C<br>6" | DC4SG6<br>4SG-10C<br>150 MM | DC4SG8<br>4SG-10E<br>8" | DC4SG8<br>4SG-10E<br>200 MM | DC4S10<br>4S-10G<br>10" | DC4S10<br>4S-10G<br>250 MM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A (Butterfly Valves)* | 29 | 737 | 29-1/2 | 749 | 29-3/4 | 756 | 32-1/2 | 815 | 43 | 1092 | N/A | N/A |
| A (Gate Valves)* | 32 | 813 | 33 | 838 | 34-1/2 | 876 | 39 | 991 | 50-1/4 | 1276 | 55-3/4 | 1416 |
| B (Grooved End Body) | 17 | 432 | 17 | 432 | 16-1/2 | 419 | 18 | 457 | 27 | 686 | 29-1/2 | 750 |
| C (Butterfly Valves) | 8 | 200 | 8-1/2 | 216 | 9-1/4 | 235 | 10-1/4 | 260 | 12 | 300 | N/A | N/A |
| C (OS&Y Open) | 18.8 | 478 | 20.3 | 515 | 22.1 | 562 | 29.4 | 747 | 37.8 | 934 | 45.8 | 1147 |
| D (Butterfly Valves) | 4-1/2 | 114 | 4-1/2 | 114 | 4-1/2 | 114 | 4-1/2 | 114 | 6-1/2 | 165 | N/A | N/A |
| D (Gate Valves) | 3-1/2 | 89 | 3-3/4 | 95 | 4-1/2 | 114 | 5-1/2 | 140 | 6-3/4 | 171 | 8.0 | 203 |
| E | 9 | 229 | 9 | 229 | 9 | 229 | 9 | 229 | 10-3/4 | 273 | 13.0 | 330 |
| H (Post Indicator Valve) | 14.75 | 375 | 14.80 | 376 | 14.80 | 376 | 18.75 | 476 | 24.42 | 595 | 11-1/2 | 292 |
| Test Cocks (NPT) | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 1/2 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 | 3/4 |
| **WEIGHTS** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** | **LB.** | **KG.** |
| Net Wt. (w/ Butterfly Valves) | 92 | 42 | 95 | 43 | 109 | 50 | 140 | 64 | 523 | 238 | N/A | N/A |
| Ship Wt. (w/ Butterfly Valves) | 175 | 80 | 179 | 81 | 270 | 123 | 304 | 138 | 691 | 314 | N/A | N/A |
| Net Wt. (w/ Post Indicator | 119 | 54 | 136 | 62 | 160 | 73 | 255 | 116 | 712 | 324 | 997 | 453 |
| Ship Wt. (w/ Post Indicator | 203 | 92 | 220 | 100 | 245 | 111 | 343 | 156 | 860 | 391 | 1187 | 540 |
| Net Wt. (w/ OS&Y Valves) | 137 | 62 | 152 | 69 | 191 | 87 | 315 | 143 | 787 | 358 | 1112 | 505 |
| Ship Wt. (w/ OS&Y Valves) | 221 | 100 | 236 | 107 | 276 | 125 | 403 | 183 | 935 | 425 | 1302 | 592 |

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (± 1/8" (3 mm) per joint)

## DCDALF 4An / DCDA2LF 4An SERIES

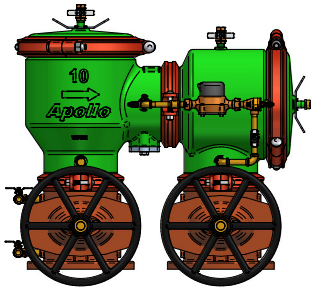
n STYLE DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY

LEAD FREE CERTIFIED

**n FLOW TYPE 2 BYPASS 2-1/2" - 8" 304 STAINLESS STEEL BODY**



**n FLOW TYPE 2 BYPASS 10" - 12" FDA EPOXY COATED DUCTILE IRON BODY**




The Apollo Model DCLF 4An Double Check Valves are designed to prevent contamination of the potable water supply due to back-siphonage or backpressure from substances that are objectionable, but non-health hazards. The TriForce™ center stem guided check valves feature replaceable and reversible silicone seat discs. The by-pass assembly serves to measure water use of up to 2 GPM. The normally vertical up/vertical down oriented body incorporates an internal swivel connection providing the ability to pivot the second check. The grooved connections on the bodies from 2-1/2" to 10" allow for easy connection to butterfly or gate shut-off valves. The 12" DCDA 4An has flanged connections for gate shut-off valves.

Available in both Type 1 and Type 2 bypass configurations. The Type 2 bypass uses the first check of the mainline assembly as the first check of the bypass. The second check of the bypass is a single check valve with a model number and serial number for test recording. This arrangement complies with the National Backflow Standards. The arrangement provides the same level of protection as the Type 1 bypass and the testing procedure is the same.

### FEATURES

- Domestic Stainless Steel Body: 2-1/2"-8"
- FDA Epoxy Coated Ductile Iron Body: 10" & 12"
- Easy Maintenance: No Special Tools Required
- Drop-In Check Retainers: 2-1/2"-6"
- Bolted-In Checks: 8"-12"
- Low Pressure Loss as Documented by an Independent Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- 5 Year Warranty
- Small Installation Space Required - Small Footprint
- Chloramine-Resistant Elastomers
- Lead Free Standard
- Optional Valve Setters Eliminate Need for Thrust Blocks Below Grade
- US Patent Nos.: 6,443,184; 7,025,085; 7,533,699
- **Designed, Assembled and Tested in the USA**
- Optional Mounting of Bypass on either Side for Ease of Installation

### PERFORMANCE RATING

- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F intermittent

### APPROVALS

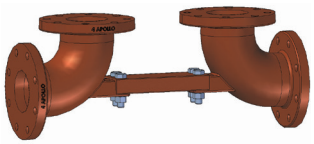
- ASSE 1048 (with Meter)
- UL, ULC Classified
- CSA B64.5
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 8" Type 1 Bypass, 10"-12" Type 2)
- FM Approved
- NSF/ANSI/CAN 61 - Water Quality
- NSF/ANSI 372 - Lead Free

### STANDARD MATERIALS LIST

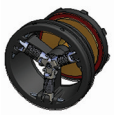
| | |
|---|---|
| **BODY (2-1/2" - 8")** | 304 Stainless Steel |
| **BODY (10" & 12")** | FDA Epoxy Coated Ductile |
| **COVERS (2-1/2" - 6")** | Glass Filled PPO/SS |
| **COVERS (8")** | 304 Stainless Steel |
| **COVERS (10" & 12")** | FDA Epoxy Coated Ductile |
| **CHECK VALVES** | Bronze/Glass-Filled PPO/ |
| **SPRINGS** | Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant |

**Flow Curves - Page 64**

**OPTIONAL VALVE SETTER**



**TRIFORCE™ CHECK**



### PART NUMBER MATRIX

| 4ANLF | 6 X | X | X | X [X] | X |
|---|---|---|---|---|---|
| | BYPASS SUB-ASSEMBLY OPTIONS | SIZE | METER OPTION | SHUT-OFF VALVES (INLET X OUTLET) | |
| 4AnLF - Lead Free | 0 - Type 1 w/ 1/2" Double Check | 9 - 2-1/2" | C - Cubic ft/min | 3 - OS&Y Flange x OS&Y Flange | D - Domestic |
| | 2 - Type 2 w/ 1/2" Single Check | 0 - 3" | E - Gallons/min | 4 - OS&Y Flange x Monitored (Mon.) Butterfly Valve Groove† | |
| | 3 - Type 1 w/ Bypass on Left* | A - 4" | G - Less Meter | 6 - OS&Y Flange x Post indicator Flange | |
| | 4 - Type 2 w/ Bypass on Left* | C - 6" | | 7 - OS&Y Flange x OS&Y Groove | |
| | | E - 8" | | 8 - OS&Y Groove x OS&Y Groove | |
| | Type 2 & 4 only | G - 10" | | 9 - Mon. Butterfly Valve Groove x Mon. Butterfly Valve | |
| | Type 2 & 4 only | H - 12" | | 10 - OS&Y Flange x Post Indicator Groove | |
| | | | | 13 - Post Indicator Flange x Mon. Butterfly Valve Groove† | |
| | | | | 14 - Post Indicator Flange x Post Indicator Flange | |
| | | | | 16 - Mon Butterfly Valve Groove x Post Indicator Flange† | |
| | | | | 17 - Post Indicator Flange x OS&Y Groove | |
| | | | | 18 - OS&Y Groove x Post Indicator Groove | |
| | | | | 19 - Mon. Butterfly Valve Groove x Post Indicator Groove | |
| | | | | 20 - Post Indicator Flange x OS&Y Flange | |
| | | | | 21 - Post Indicator Groove x OS&Y Groove | |
| | | | | 22 - Post Indicator Groove x Mon. Butterfly Valve Groove† | |
| | | | | 23 - Mon. Butterfly Valve Groove x OS&Y Flange | |

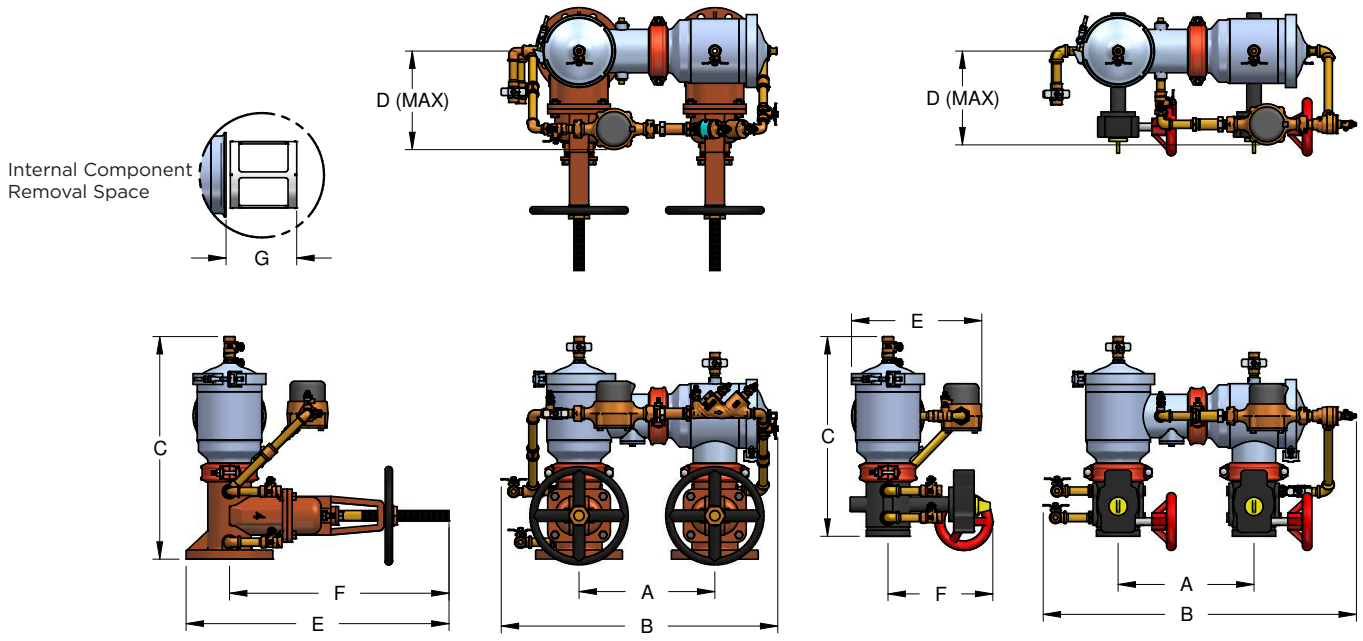
EXAMPLE: 4AnLF 62A E7 = 4" size Lead Free Double Check Detector Assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off valves with Type 2

*Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side

†Butterfly valves not available in 12" size.

## DCDALF 4An / DCDA2LF 4An SERIES

n STYLE DOUBLE CHECK DETECTOR BACKFLOW PREVENTER ASSEMBLY




**TYPE 1 BYPASS** **TYPE 2 BYPASS**

DRAWING SHOWN DEPICTS 2-1/2" - 8" ASSEMBLIES.
SEE SUBMITTAL SS1330 FOR DETAILED DRAWINGS FOR EACH SIZE.

## DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (± 1/8" (3 mm) per joint)

| DIMENSIONS | 2-1/2" | 60MM | 3" | 75MM | 4" | 100MM | 6" | 150MM | 8" | 200MM | 10" | 250MM | 12" | 300MM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A (Centerline to Centerline) | 12.5 | 318 | 12.5 | 318 | 14 | 356 | 16 | 406 | 18.5 | 470 | 21 | 533 | 26.8 | 681 |
| B (Lay Length Space - Butterfly Valves) | 27.8 | 705 | 30.0 | 762 | 31.0 | 787 | 34.3 | 870 | 38.0 | 965 | 45.8 | 1162 | N/A | N/A |
| B (Lay Length Space - Gate Valves) | 31 | 787 | 31 | 787 | 31.8 | 808 | 36.3 | 922 | 41.5 | 1054 | 49 | 1245 | 55.8 | 1417 |
| C (Butterfly Valves - Top to Flange) | 18.8 | 476 | 19.0 | 483 | 20.8 | 527 | 25.0 | 635 | 29.5 | 749 | 34.8 | 883 | N/A | N/A |
| C (Gate Valves - Flange to Top) | 19.6 | 498 | 20 | 508 | 22.5 | 572 | 27.8 | 706 | 32.1 | 815 | 40 | 1016 | 44 | 1118 |
| D (Centerline To Bottom - Butterfly Valves) | 11.5 | 292 | 11.8 | 298 | 12.5 | 318 | 14.6 | 371 | 17.9 | 454 | 19.8 | 502 | N/A | N/A |
| D (Centerline to Bottom - Gate Valves) | 13 | 330 | 13.5 | 343 | 14.9 | 378 | 18 | 457 | 21.4 | 544 | 24.8 | 630 | 28.8 | 732 |
| E (Maximum Width - Butterfly Valves) | 13.1 | 333 | 13.1 | 333 | 15.3 | 389 | 16.1 | 410 | 23.5 | 597 | 24.3 | 618 | 15.3 | 389 |
| F (Centerline Width - Butterfly Valves) | 8.6 | 219 | 9.6 | 244 | 10.9 | 276 | 12.5 | 318 | 16.5 | 419 | 18.1 | 460 | N/A | N/A |
| F (Maximum Width - NRS/PI Gate Valves) | 15.6 | 396 | 16.9 | 429 | 18.6 | 472 | 23.8 | 605 | 29.1 | 739 | 36.3 | 922 | 40 | 1016 |
| F (Maximum Width - OS&Y Valves Open) | 22.7 | 575 | 24.2 | 514 | 26.6 | 679 | 34.4 | 875 | 44.9 | 1140 | 57.9 | 1471 | 61.9 | 1572 |
| G (Centerline to Width - Butterfly Valves) | 8 | 203 | 8.4 | 213 | 9 | 229 | 10.9 | 277 | 12.9 | 328 | 13.5 | 343 | N/A | N/A |
| G (Centerline to Width - NRS/PI Gate Valves) | 11.8 | 300 | 13 | 330 | 14 | 356 | 17.8 | 452 | 21 | 533 | 24.5 | 622 | 30 | 762 |
| G (Centerline to Width - OS&Y Valves Open) | 18.8 | 478 | 20.3 | 515 | 22.1 | 562 | 29.4 | 747 | 36.8 | 934 | 45.2 | 1147 | 52.2 | 1326 |
| H (Check Removal Clearance) | 6 | 152 | 6 | 152 | 6 | 152 | 8 | 203 | 8.5 | 216 | 12 | 305 | 12 | 305 |
| Test Cocks (NPT) | 1/2" | 13 | 1/2" | 13 | 1/2" | 13 | 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. (w/Butterfly Valves) | 108.4 | 49 | 113.4 | 51 | 138.4 | 63 | 196.4 | 89 | 489.0 | 222 | 1013.0 | 459 | N/A | N/A |
| Ship Wt. (W/Butterfly Valves) | 169.4 | 77 | 174.4 | 79 | 199.4 | 90 | 276.4 | 125 | 624.0 | 283 | 1203.0 | 546 | N/A | N/A |
| Net Wt. (w/ Post Indicator Valves) | 84 | 38 | 101 | 46 | 134 | 61 | 257 | 117 | 622 | 283 | 1292 | 587 | 1770 | 805 |
| Ship Wt. (w/ Post Indicator Valves) | 145 | 66 | 161 | 73 | 195 | 89 | 337 | 153 | 757 | 344 | 1482 | 674 | 1960 | 891 |
| Net Wt. (w/ OS&Y Valves) | 102 | 46 | 117 | 53 | 165 | 75 | 316 | 144 | 697 | 317 | 1407 | 640 | 1885 | 857 |
| Ship Wt. (w/ OS&Y Valves) | 163 | 74 | 178 | 81 | 226 | 103 | 396 | 180 | 832 | 378 | 1597 | 726 | 2075 | 943 |

Internal body connections are grooved on 2-1/2" to 10" sizes.
Internal body connections are flanged on 12" size.

"Apollo" Valves

## RPLF 4A SERIES
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY

LEADFREE CERTIFIED

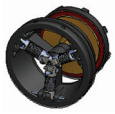
**2-1/2" - 8"**
**304 STAINLESS STEEL BODY**



**10" - 12"**
**FDA EPOXY COATED DUCTILE IRON BODY**



**TRIFORCE™ CHECK**



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"
- Modular Captured Spring Relief Valve
- Low Pressure Loss as Documented by an Independent Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- Chloramine-Resistant Elastomers
- **Designed, Assembled and Tested in the USA**
- Lead Free Standard
- Optional Air Gap Drains
- 5 Year Warranty
- US Patent N
- os.: 6,443,184; 7,025,085; 7,533,699

## PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F Intermittent

## APPROVALS
- AWWA C511 (2-1/2" - 12")
- ASSE 1013-2011, CSA B64.4, FM, IAPMO, UL*, cUL*
- NSF/ANSI/CAN 61 - Water Quality
- NSF/ANSI 372 - Lead Free
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 12")

***UL and cUL Installations Must Include Indicating-Type Shut-Off Valves**

## STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY (2-1/2" - 8")** | 304 Stainless Steel |
| **BODY (10" & 12")** | FDA Epoxy Coated Ductile |
| **COVERS (2-1/2" - 6")** | Glass Filled PPO/SS |
| **COVERS (8")** | 304 Stainless Steel |
| **COVERS (10" & 12")** | FDA Epoxy Coated Ductile |
| **RELIEF VALVE** | LF C89836 |
| **CHECK VALVES** | Bronze/Glass-filled PPO/SS |
| **SPRINGS** | Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant |

**Flow Curves - Page 65**

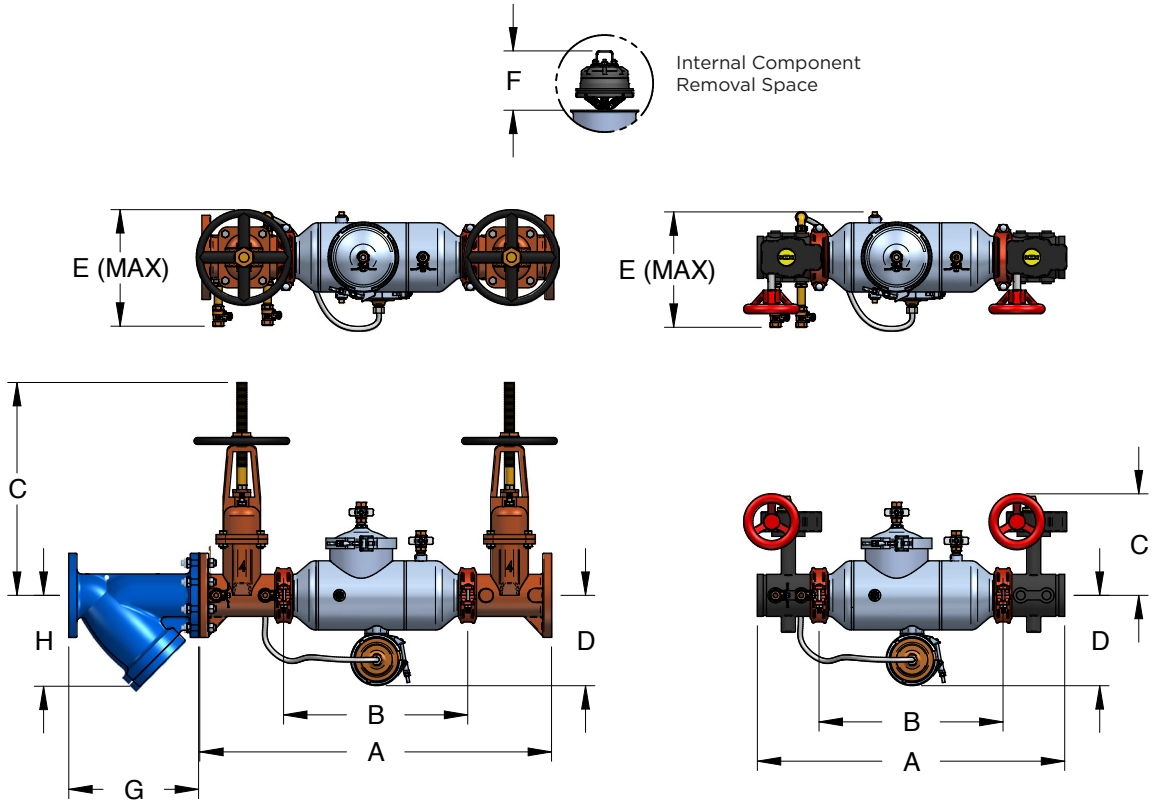
## PART NUMBER MATRIX

| 4ALF | 2 X | X | XX | XX |
|---|---|---|---|---|
| | Y-STRAINER | SIZE | SHUT-OFF VALVES (INLET x | OPTIONS |
| 4ALF - Lead Free (Stan- | 0 - Standard | 9 - 2-1/2" | 02 - NRS Flange x NRS Flange | D - Domestic Assembly |
| | 1 - w/ Y-Strainer | 0 - 3" | 03 - OS&Y Flange x OS&Y Flange | |
| | (Shipped Loose) | A - 4" | 04 - OS&Y Flange x Monitored (Mon.) Butterfly Valve Groove† | |
| | | C - 6" | 06 - OS&Y Flange x Post indicator Flange | |
| | | E - 8" | 07 - OS&Y Flange x OS&Y Groove | |
| | | G - 10" | 08 - OS&Y Groove x OS&Y Groove | |
| | | H - 12" | 09 - Mon. Butterfly Valve Groove x Mon. Butterfly Valve | |
| | | | 10 - OS&Y Flange x Post Indicator Groove | |
| | | | 11 - NRS Groove x NRS Groove | |
| | | | 12 - NRS Flange x NRS Groove | |
| | | | 13 - Post Indicator Flange x Mon. Butterfly Valve Groove† | |
| | | | 14 - Post Indicator Flange x Post Indicator Flange | |
| | | | 16 - Mon Butterfly Valve Groove x Post Indicator Flange† | |
| | | | 17 - Post Indicator Flange x OS&Y Groove | |
| | | | 18 - OS&Y Groove x Post Indicator Groove | |
| | | | 19 - Mon. Butterfly Valve Groove x Post Indicator Groove | |
| | | | 20 - Post Indicator Flange x OS&Y Flange | |
| | | | 21 - Post Indicator Groove x OS&Y Groove | |
| | | | 22 - Post Indicator Groove x Mon. Butterfly Valve Groove† | |
| | | | 23 - Mon. Butterfly Valve Groove x OS&Y Flange | |

EXAMPLE: 4ALF 20A 07 = 4" size lead free reduced pressure assembly with OS&Y flanged inlet x OS&Y grooved

† Butterfly valves not available in 12" size.

## RPLF 4A SERIES
REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY




DRAWING SHOWN DEPICTS 2-1/2" - 8" ASSEMBLIES.
SEE SUBMITTAL SS1273 FOR DETAILED DRAWINGS FOR EACH SIZE.

## DIMENSIONS

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (± 1/8" (3 mm) per joint)

| 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 | 28.5 | 724 | 33 | 838 | 38.5 | 978 | 46 | 1168 | N/A | N/A | N/A | N/A |
| A (Gate Valves) | 31 | 787 | 32 | 813 | 37.6 | 955 | 45.5 | 1156 | 53.1 | 1349 | 62.3 | 1582 | 65.4 | 1661 |
| B (Less Shut-Off Valves) | 16 | 406 | 16 | 406 | 19.8 | 503 | 24.5 | 622 | 30 | 762 | 36 | 914 | 37 | 940 |
| C (Butterfly Valves) | 8.6 | 218 | 9.6 | 244 | 10.9 | 277 | 13 | 330 | 16.5 | 419 | N/A | N/A | N/A | N/A |
| C (NRS/PI Gate Valves) | 11.8 | 300 | 13 | 330 | 14 | 356 | 17.8 | 452 | 21 | 533 | 24.5 | 622 | 30 | 762 |
| C (OS&Y Open) | 16.4 | 417 | 20.5 | 521 | 22.8 | 579 | 27.3 | 693 | 37.8 | 960 | 45.8 | 1163 | 53.1 | 1349 |
| D (Centerline to Bottom) | 9 | 229 | 9 | 229 | 9.8 | 249 | 11 | 279 | 15.8 | 401 | 21 | 533 | 21.1 | 536 |
| E (Max w/Gate or Butterfly | 11.9 | 302 | 12.5 | 318 | 13 | 330 | 15.4 | 391 | 19.4 | 493 | 21.5 | 546 | 21.8 | 554 |
| F (Check Removal Clearance) | 4.8 | 122 | 4.8 | 122 | 6.5 | 165 | 7.5 | 191 | 7.5 | 191 | 10 | 254 | 10 | 254 |
| G (Strainer Length) | 10.9 | 277 | 11.6 | 295 | 14 | 356 | 18.6 | 472 | 25.5 | 648 | 26.1 | 663 | 30.1 | 765 |
| H (Strainer Clearance) | 8 | 203 | 8.8 | 224 | 9.5 | 241 | 12.6 | 320 | 16.4 | 417 | 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 Valves) | 31 | 14 | 32 | 15 | 48 | 22 | 84 | 38 | 228 | 103 | 762 | 346 | 865 | 392 |
| Net Wt. (w/ Butterfly Valves) | 92.6 | 42 | 98.6 | 45 | 124.6 | 57 | 184.6 | 84 | 407 | 185 | N/A | N/A | N/A | N/A |
| Net Wt. (w/ NRS Gate Valves) | 85 | 39 | 103 | 47 | 143 | 65 | 267 | 121 | 545 | 247 | 1269 | 576 | 1725 | 782 |
| Net Wt. (w/ OS&Y Gate Valves) | 103 | 47 | 119 | 54 | 174 | 79 | 327 | 148 | 620 | 281 | 1384 | 628 | 1840 | 835 |

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (1/8" per joint).
Internal body connections are grooved on 2 ½" – 10" sizes.
Internal body connections are flanged on 12" size.
Strainer option only available for flanged-end shut-off options.

## RPLF 4An SERIES

n STYLE REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY

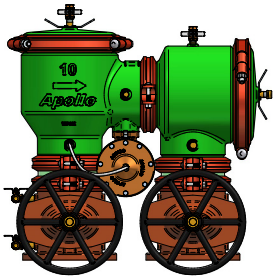
LEADFREE CERTIFIED



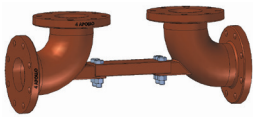
**n FLOW**
**2-1/2" - 8"**
**304 STAINLESS STEEL BODY**



**VERTICAL UP FLOW**
**2-1/2" - 8"**
**304 STAINLESS STEEL BODY**




**n FLOW**
**10" - 12"**
**FDA EPOXY COATED DUCTILE IRON BODY**



**OPTIONAL VALVE SETTER**



**TRIFORCE™ CHECK**

The Apollo RPLF 4An Reduced Pressure Principle Backflow Preventer consists 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 normally vertical up/vertical down oriented body incorporates an internal swivel connection providing the ability to pivot the second check 180° to a vertical up/vertical up flow. The durable domestic stainless steel units (2-1/2" to 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
- Drop-In Check Retainers: 2-1/2"-6"
- Bolted-In Checks: 8"-12"
- Low Pressure Loss as Documented by an Independent Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- Modular Captured Spring Relief Valve
- Optional Air Gap Drains
- Small Installation Space Required/Footprint
- Approved for n-Flow and Vertical Up Flow
- Chloramine-Resistant Elastomers
- Lead Free Standard
- Optional Valve Setters
- US Patent Nos.: 6,443,184; 7,025,085; 7,533,699
- **Designed, Assembled and Tested in the USA**
- 5 Year Warranty

## PERFORMANCE RATING

- Maximum Working Pressure; 175 psi
- Temperature Range; 33° to 140°F, 180°F Intermittent

## APPROVALS

- AWWA C511 (2-1/2" - 12")
- ASSE 1013-2011, CSA B64.4, FM, IAPMO, UL*, cUL*
- NSF/ANSI 61 Lead Free
- NSF/ANSI 372 Water Quality
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2" - 12")

***UL and cUL installations Must Include**

## STANDARD MATERIALS LIST

| | | | |
|---|---|---|---|
| **BODY (2-1/2" - 8")** | 304 Stainless Steel | **RELIEF VALVE** | Bronze (C84400/LF C89836) |
| **BODY (10" & 12")** | FDA Epoxy Coated Ductile | **CHECK VALVES** | Bronze/Glass-Filled PPO/SS |
| **COVERS (2-1/2" - 6")** | Glass Filled PPO/SS | **SPRINGS** | Stainless Steel |
| **COVERS (8")** | 304 Stainless Steel | **SEAT DISCS** | Chloramine-Resistant Silicone |
| **COVERS (10" & 12")** | FDA Epoxy Coated Ductile | | |

**Flow Curves - Page 66**

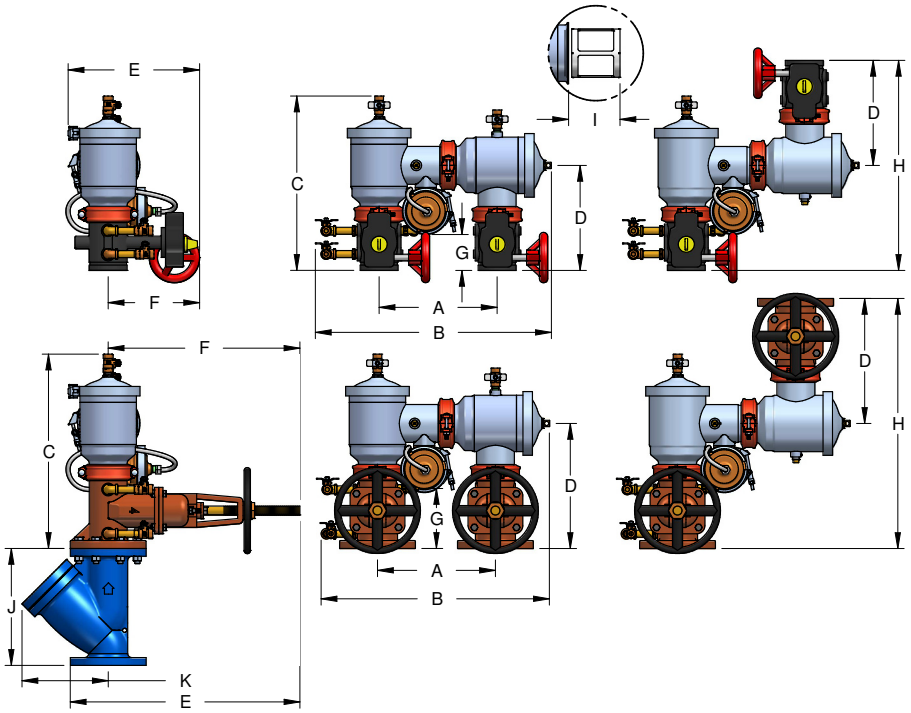
## PART NUMBER MATRIX

| 4ANLF | 2 X | X | XX | X |
|---|---|---|---|---|
| | Y-STRAINER | SIZE | SHUT-OFF VALVES (INLET x OUTLET) | OPTIONS |
| 4AnLF - Lead Free | 0 - Standard | 9 - 2-1/2" | 02 - NRS Flange x NRS Flange | D - Domestic Assembly |
| | 1 - w/ Y-Strainer (Shipped Loose) | 0 - 3" | 03 - OS&Y Flange x OS&Y Flange | |
| | | A - 4" | 04 - OS&Y Flange x Monitored (Mon.) Butterfly Valve Groove† | |
| | | C - 6" | 06 - OS&Y Flange x Post indicator Flange | |
| | | E - 8" | 07 - OS&Y Flange x OS&Y Groove | |
| | | G - 10" | 08 - OS&Y Groove x OS&Y Groove | |
| | | H - 12" | 09 - Mon. Butterfly Valve Groove x Mon. Butterfly Valve | |
| | | | 10 - OS&Y Flange x Post Indicator Groove | |
| | | | 11 - NRS Groove x NRS Groove | |
| | | | 12 - NRS Flange x NRS Groove | |
| | | | 13 - Post Indicator Flange x Mon. Butterfly Valve Groove† | |
| | | | 14 - Post Indicator Flange x Post Indicator Flange | |
| | | | 16 - Mon Butterfly Valve Groove x Post Indicator Flange† | |
| | | | 17 - Post Indicator Flange x OS&Y Groove | |
| | | | 18 - OS&Y Groove x Post Indicator Groove | |
| | | | 19 - Mon. Butterfly Valve Groove x Post Indicator Groove | |
| | | | 20 - Post Indicator Flange x OS&Y Flange | |
| | | | 21 - Post Indicator Groove x OS&Y Groove | |
| | | | 22 - Post Indicator Groove x Mon. Butterfly Valve Groove† | |
| | | | 23 - Mon. Butterfly Valve Groove x OS&Y Flange | |
| EXAMPLE: 4ALF 20A 07 = 4" size lead free reduced pressure assembly with OS&Y flanged inlet x OS&Y grooved outlet shut-off | | | | |

† Butterfly valves not available in 12" size.

**RPLF 4An SERIES**

n STYLE REDUCED PRESSURE PRINCIPLE BACKFLOW PREVENTER ASSEMBLY




DRAWING SHOWN DEPICTS 2-1/2" - 8" ASSEMBLIES.
SEE SUBMITTAL SS1274 FOR DETAILED DRAWINGS FOR EACH SIZE.

## DIMENSIONS

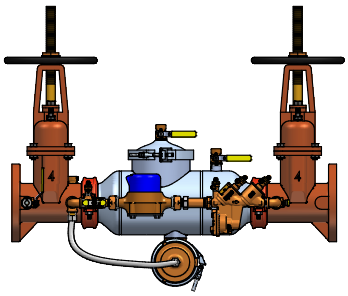
| DIMENSIONS | 2-1/2" | 65MM | 3" | 80MM | 4" | 100MM | 6" | 150MM | 8" | 200MM | 10" | 250MM | 12" | 300MM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A (Centerline to Centerline) | 12.5 | 318 | 12.5 | 318 | 14.0 | 356 | 16.0 | 406 | 18.5 | 470 | 21.0 | 533 | 26.8 | 679 |
| B (Butterfly Valves) | 25.5 | 648 | 25.6 | 651 | 28.1 | 714 | 33.3 | 845 | 38.1 | 968 | N/A | N/A | N/A | N/A |
| B (Gate Valves) | 24.5 | 622 | 24.5 | 622 | 27.0 | 686 | 32.0 | 813 | 40.8 | 1035 | 49.0 | 1245 | 55.8 | 1416 |
| C (Butterfly Valves) | 18.8 | 476 | 19.0 | 483 | 20.8 | 527 | 25.0 | 635 | 29.5 | 749 | 34.8 | 883 | N/A | N/A |
| C (Gate Valves) | 19.6 | 498 | 20.0 | 508 | 22.5 | 572 | 27.8 | 705 | 32.1 | 816 | 40.0 | 1016 | 44.0 | 1118 |
| D (Butterfly Valves) | 11.5 | 292 | 11.8 | 298 | 12.5 | 318 | 14.6 | 371 | 17.9 | 454 | N/A | N/A | N/A | N/A |
| D (Gate Valves) | 13.0 | 330 | 13.5 | 343 | 14.9 | 378 | 18.0 | 457 | 21.3 | 542 | 24.8 | 629 | 28.8 | 730 |
| E (Butterfly Valves) | 12.1 | 308 | 13.1 | 333 | 14.8 | 375 | 18.3 | 465 | 25.9 | 657 | N/A | N/A | N/A | N/A |
| E (OS&Y Open) | 21.9 | 556 | 23.9 | 606 | 25.6 | 651 | 35.5 | 902 | 45.1 | 1146 | 56.8 | 1441 | 62.8 | 1594 |
| E (NRS/PI) | 15.6 | 397 | 16.9 | 429 | 18.6 | 473 | 23.8 | 603 | 29.1 | 740 | 36.3 | 921 | 40.0 | 1016 |
| F (Butterfly Valves) | 8.6 | 219 | 9.6 | 244 | 10.9 | 276 | 12.5 | 318 | 16.5 | 419 | N/A | N/A | N/A | N/A |
| F (OS&Y Open) | 18.0 | 457 | 20.0 | 508 | 21.0 | 533 | 29.5 | 749 | 37.0 | 940 | 45.0 | 1143 | 53.1 | 1349 |
| F (NRS/PI) | 11.8 | 298 | 13.0 | 330 | 14.0 | 356 | 17.8 | 451 | 21.0 | 533 | 24.5 | 622 | 30.0 | 762 |
| G (Butterfly Valves) | 3.0 | 76 | 3.3 | 83 | 4.3 | 110 | 5.1 | 130 | 4.8 | 121 | N/A | N/A | N/A | N/A |
| G (Gate Valves) | 5.3 | 133 | 6.0 | 152 | 6.0 | 152 | 9.0 | 229 | 9.0 | 229 | 9.0 | 229 | 10.0 | 254 |
| H (Butterfly Valves) | 23.0 | 584 | 23.5 | 597 | 25.0 | 635 | 29.3 | 743 | 35.8 | 908 | N/A | N/A | N/A | N/A |
| H (Gate Valves) | 26.0 | 660 | 27.0 | 686 | 29.8 | 756 | 36.0 | 914 | 42.8 | 1086 | N/A | N/A | N/A | N/A |
| I (Check Removal Clearance) | 6.0 | 152 | 6.0 | 152 | 6.0 | 152 | 8.0 | 203 | 8.5 | 216 | 12.0 | 305 | 12.0 | 305 |
| J (Strainer Length) | 10.9 | 277 | 11.6 | 295 | 14.0 | 356 | 18.6 | 472 | 25.5 | 648 | 26.1 | 663 | 30.1 | 765 |
| K (Strainer Clearance) | 8.0 | 203 | 8.8 | 224 | 9.5 | 241 | 12.6 | 320 | 16.4 | 417 | 19.0 | 483 | 22.0 | 559 |
| Test Cocks (NPT) | 1/2" | 13 | 1/2" | 13 | 1/2" | 13 | 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. (w/ Butterfly Valves) | 100.0 | 45 | 104.0 | 47 | 129.0 | 59 | 172.0 | 78 | 492.0 | 223 | N/A | N/A | N/A | N/A |
| Ship Wt. (w/ Butterfly Valves) | 161.0 | 73 | 165.0 | 75 | 190.0 | 86 | 252.0 | 114 | 627.0 | 284 | N/A | N/A | N/A | N/A |
| Net Wt. (w/ NRS/Post Indicator | 125.0 | 57 | 150.0 | 68 | 197.0 | 89 | 322.0 | 146 | 788.0 | 357 | 1487.0 | 674 | 2103.0 | 954 |
| Ship Wt. (w/NRS/Post Indicator | 186.0 | 84 | 211.0 | 96 | 258.0 | 117 | 402.0 | 182 | 923.0 | 419 | 1677.0 | 761 | 2293.0 | 1040 |
| Net Wt. (w/ OS&Y Valves) | 135.0 | 61 | 160.0 | 73 | 203.0 | 92 | 332.0 | 151 | 802.0 | 364 | 1509.0 | 684 | 2157.0 | 978 |
| Ship Wt. (w/ OS&Y Valves) | 196.0 | 89 | 221.0 | 100 | 264.0 | 120 | 412.0 | 187 | 937.0 | 425 | 1699.0 | 771 | 2347.0 | 1065 |

Notes:
Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances.
Internal body connections are grooved on 2 ½" – 10" sizes.
Internal body connections are flanged on 12" size.
Strainer option only available for flanged-end shut-off options.

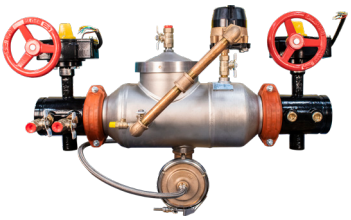
## RPDALF 4A / RPDA2LF SERIES
REDUCED PRESSURE DETECTOR BACKFLOW PREVENTER ASSEMBLY

LEADFREE CERTIFIED

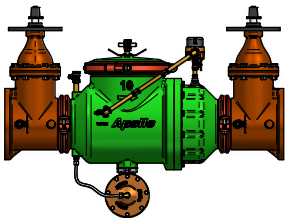
**TYPE 1 BYPASS 2-1/2" - 8" 304 STAINLESS STEEL BODY**



**TYPE 2 BYPASS 2-1/2" - 8" 304 STAINLESS STEEL BODY**



**TYPE 2 BYPASS 10" - 12" FDA EPOXY COATED DUCTILE IRON BODY**



**TRIFORCE™ CHECK**



**Flow Curves - Page 67**

The Apollo Model RPDALF 4A / RPDA2LF 4A Reduced Pressure Detector Assembly consists 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 and at the same time detect leakage or unauthorized use of water from fire or automatic sprinkler systems. The durable domestic stainless steel units (2-1/2" to 8") and the FDA epoxy coated ductile iron units (10" and 12") are easily maintained in line without any special tools. The TriForce™ check valves operate with a spring assist in the flowing condition to provide low flow rates which are documented by an independent laboratory.

Available in both Type 1 and Type 2 bypass configurations. The Type 2 bypass uses the first check of the mainline assembly as the first check of the bypass. The second check of the bypass is a single check valve with a model number and serial number for test recording. This arrangement complies with the National Backflow Standards. The arrangement provides the same level of protection as the Type 1 bypass and the testing procedure is the same.

### 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 Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- Modular Captured Spring Relief Valve
- Optional Air Gap Drain
- Lead-Free Standard
  US Patent Nos.: 6,443,184; 7,025,085;7,533,699
- **Designed, Assembled and Tested in the USA**
- 5 Year Warranty
- Optional Mounting of Bypass on Either Side for Ease of Installation

### PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F Intermittent

### APPROVALS
- ASSE 1047 (with Meter)
- CSA B64.4
- NSF/ANSI/CAN 61 - Water Quality
- NSF/ANSI 372 - Lead Free
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California
  (2-1/2" - 8" Types 1 & 2) 10" & 12" + type 2 bypass only
- UL, ULC Classified
- FM Approved

### STANDARD MATERIALS LIST

| | | | |
|---|---|---|---|
| **BODY (2-1/2"-8")** | 304 Stainless Steel | **COVERS (10" & 12")** | FDA Epoxy Coated Ductile |
| **BODY (10" & 12")** | FDA Epoxy Coated Ductile | **CHECK VALVES** | Bronze/Glass-Filled PPO/SS |
| **COVERS (2-1/2"-6")** | Glass Filled PPO/SS | **SPRINGS** | Stainless Steel |
| **COVERS (8")** | 304 Stainless Steel | **SEAT DISCS** | Chloramine-Resistant |

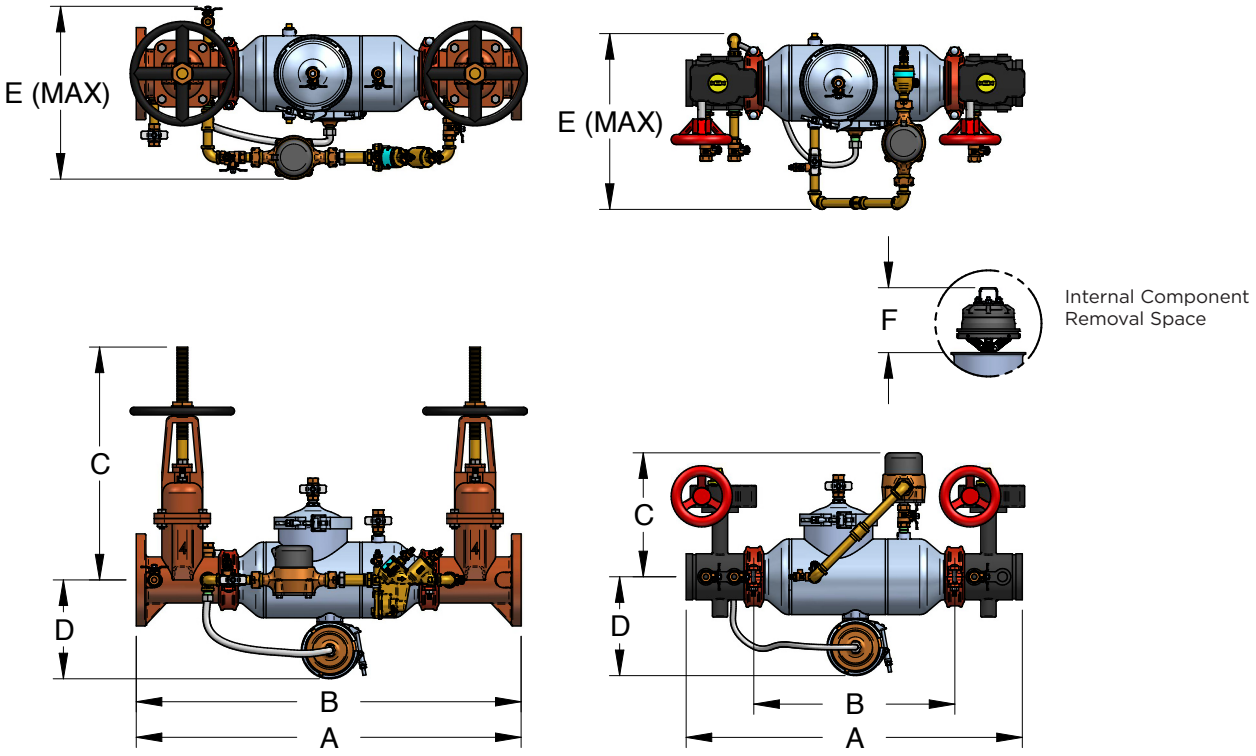
### PART NUMBER MATRIX

| 4ALF | 7 X | X | X | XX | XX |
|---|---|---|---|---|---|
| | BYPASS SUB-ASSEMBLY OPTIONS | SIZE | METER OPTION | SHUT-OFF VALVES (INLET x OUTLET) | OPTIONS |
| 4ALF - Lead Free (Stan- | 0 - Type 1 w/ 1/2" Reduced Pressure | 9 - 2-1/2" | C - Cubic ft/min | 03 - OS&Y FLANGE x OS&Y FLANGE | D - Domestic Assem- |
| | 2 - Type 2 w/1/2" Single Check | 0 - 3" | E - Gallons/min | 04 - OS&Y FLANGE x Monitored (Mon.) Butterfly VALVE | |
| | 3 - Type 1 w/ Bypass on Left* | A - 4" | G - Less Meter | 06 - OS&Y FLANGE x Post indicator FLANGE | |
| | 4 - Type 2 w/ Bypass on Left* | C - 6" | | 07 - OS&Y FLANGE x OS&Y Groove | |
| | | E - 8" | | 08 - OS&Y Groove x OS&Y Groove | |
| | Type 2 & 4 only | G - 10" | | 09 - Mon. Butterfly Valve Groove x Mon. Butterfly Valve | |
| | Type 2 & 4 only | H - 12" | | 10 - OS&Y FLANGE x Post Indicator Groove | |
| | | | | 13 - Post Indicator FLANGE x Mon. Butterfly Valve Groove† | |
| | | | | 14 - Post Indicator FLANGE x Post Indicator FLANGE | |
| | | | | 16 - Mon Butterfly VALVE Groove x Post Indicator FLANGE† | |
| | | | | 17 - Post Indicator FLANGE x OS&Y Groove | |
| | | | | 18 - OS&Y Groove x Post Indicator Groove | |
| | | | | 19 - Mon. Butterfly Valve Groove x Post Indicator Groove | |
| | | | | 20 - Post Indicator FLANGE x OS&Y FLANGE | |
| | | | | 21 - Post Indicator Groove x OS&Y Groove | |
| | | | | 22 - Post Indicator Groove x Mon. Butterfly Valve Groove† | |
| | | | | 23 - Mon. Butterfly Valve Groove x OS&Y FLANGE | |

EXAMPLE: 4ALF 72A E3 = 4" size lead free reduced pressure detector assembly with OS&Y flanged inlet x OS&Y flanged outlet shut-off valves Type 2

*Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side
†Butterfly valves not available in 12" size.

## RPDALF 4A / RPDA2LF SERIES
REDUCED PRESSURE DETECTOR BACKFLOW PREVENTER ASSEMBLY




**TYPE 1 BYPASS**
4" RPDALF4A W/ OS&Y GATES SHOWN

**TYPE 2 BYPASS**
4" RPDA2LF4A W/ BUTTERFLY VALVES SHOWN

DRAWING SHOWN DEPICTS 2-1/2" - 6" ASSEMBLIES.
SEE SUBMITTAL SS1329 FOR DETAILED DRAWINGS FOR EACH SIZE.

## DIMENSIONS

| DIMENSIONS | 2-1/2" | 60MM | 3" | 75MM | 4" | 100MM | 6" | 150MM | 8" | 200MM | 10" | 250MM | 12" | 300MM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A (Butterfly Valves) | 28 | 711 | 28.5 | 724 | 33 | 838 | 38.5 | 978 | 46 | 1168 | 52 | 1321 | N/A | N/A |
| A (Gate Valves) | 31 | 787 | 32 | 813 | 37.6 | 955 | 45.5 | 1156 | 53.1 | 1349 | 62.3 | 1582 | 65.4 | 1661 |
| B (Less Shut-off Valves) | 16 | 406 | 16 | 406 | 19.8 | 503 | 24.5 | 622 | 30 | 762 | 36 | 914 | 37 | 940 |
| C (Butterfly Valves - Type 1) | 8.6 | 218 | 9.6 | 244 | 10.9 | 277 | 13 | 330 | 16.5 | 419 | N/A | N/A | N/A | N/A |
| C (Butterfly Valves - Type 2) | 13.3 | 338 | 13.3 | 338 | 12.1 | 307 | 13.8 | 351 | 16.5 | 419 | N/A | N/A | N/A | N/A |
| C (NRS/PI Gate Valves - Type 1) | 11.8 | 300 | 13 | 330 | 14 | 356 | 17.8 | 452 | 21 | 533 | N/A | N/A | N/A | N/A |
| C (NRS/PI Gate Valves - Type 2) | 13.3 | 338 | 13.3 | 338 | 14 | 356 | 17.8 | 452 | 21 | 533 | 24.5 | 622 | 30 | 762 |
| C (OS&Y Open) | 16.4 | 417 | 20.5 | 521 | 22.8 | 579 | 27.3 | 693 | 37.8 | 960 | 45.8 | 1163 | 53.1 | 1349 |
| D (Centerline to Bottom) | 9 | 229 | 9 | 229 | 9.8 | 249 | 11 | 279 | 15.8 | 401 | 21 | 533 | 21.1 | 536 |
| E (Max w/Gate or Butterfly Valves - | 15.5 | 394 | 15.5 | 394 | 16.6 | 422 | 19.4 | 493 | 22.4 | 569 | N/A | N/A | N/A | N/A |
| E (Max w/Gate or Butterfly Valves - | 14.1 | 358 | 14.1 | 358 | 17.4 | 442 | 18.4 | 467 | 22 | 559 | 24.9 | 632 | 25 | 635 |
| F (Check Removal Clearance) | 4.8 | 122 | 4.8 | 122 | 6.5 | 165 | 7.5 | 191 | 7.5 | 191 | 10 | 254 | 10 | 254 |
| 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 Valves) | 31 | 14 | 32 | 15 | 48 | 22 | 84 | 38 | 228 | 103 | 762 | 346 | 865 | 392 |
| Net Wt. (w/ Butterfly Valves)** | 105 | 48 | 111 | 50 | 137 | 62 | 198 | 90 | 420 | 191 | N/A | N/A | N/A | N/A |
| Net Wt. (w/ NRS Gate Valves)** | 103 | 47 | 118 | 54 | 158 | 72 | 282 | 128 | 561 | 254 | 1299 | 589 | 1755 | 796 |
| Net Wt. (w/ OS&Y Gate Valves)** | 118 | 54 | 134 | 61 | 189 | 86 | 342 | 155 | 636 | 288 | 1413 | 641 | 1870 | 848 |

Notes:
Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances.
Internal body connections are grooved on 2-1/2" – 10" sizes.
Internal body connections are flanged on 12" size.

## RPDALF 4An SERIES
n STYLE REDUCED PRESSURE DETECTOR BACKFLOW PREVENTER ASSEMBLY

LEADFREE CERTIFIED

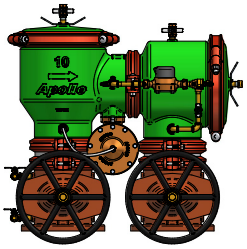
**n FLOW TYPE 2 BYPASS 2-1/2" - 8" 304 STAINLESS STEEL BODY**



**VERTICAL UP FLOW TYPE 2 BYPASS 2-1/2" - 8" 304 STAINLESS STEEL BODY**



**n FLOW TYPE 2 BYPASS 10" - 12" FDA EPOXY COATED DUCTILE IRON BODY**




The Apollo Model RPDALF 4An Reduced Pressure Detector Assembly consists 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 and at the same time detect leakage or unauthorized use of water from fire or automatic sprinkler systems. The normally vertical up/vertical down oriented body incorporates an internal swivel connection providing the ability to pivot the second check 180° to a vertical up/vertical up flow. The durable domestic stainless steel units (2-1/2" to 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 low flow rates which are documented by an independent laboratory.

Available in both Type 1 and Type 2 bypass configurations. The Type 2 bypass uses the first check of the mainline assembly as the first check of the bypass. The second check of the bypass is a single check valve with a model number and serial number for test recording. This arrangement complies with the National Backflow Standards. The arrangement provides the same level of protection as the Type 1 bypass and the testing procedure is the same.

### FEATURES
- Domestic Stainless Steel Body: 2-1/2"-8"
- FDA Epoxy Coated Ductile Iron Body: 10" & 12"
- Easy Maintenance: No Special Tools Required
- Drop-In Check Retainers: 2-1/2"-6"
- Bolted-In Checks: 8"-12"
- Low Pressure Loss as Documented by an Independent Approval Laboratory
- Center Stem Guided TriForce™ Check Valves
- Modular Captured Spring Relief Valve
- Optional Air Gap Drains
- Small Installation Space Required - Small Footprint
- Approved for n-Flow and Vertical Up Flow
- Chloramine-Resistant Elastomers
- **Designed, Assembled and Tested in the USA**
- Lead Free Standard
- Optional Valve Setters Eliminate Need for Thrust Blocks Below Grade
- US Patent Nos.: 6,443,184; 7,025,085;7,533,699
- 5 Year Warranty
- Optional Mounting of Bypass on Either Side for Ease of Installation

### PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Temperature Range: 33° to 140°F, 180°F intermittent

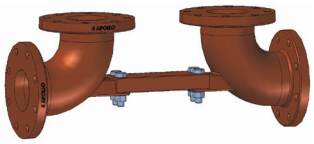
### APPROVALS
- CSA B64.4
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (2-1/2"-8" Type 1 Bypass, 10"-12" Type 2)
- ASSE 1047 (with Meter)
- UL, ULC Classified
- FM Approved
- NSF/ANSI/CAN 61 - Water Quality
- NSF/ANSI 372 - Lead Free

### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY (2-1/2"-8")** | 304 Stainless Steel |
| **BODY (10 & 12")** | FDA Epoxy Coated Ductile |
| **COVERS (2-1/2"-6")** | Glass Filled PPO/SS |
| **COVERS (8")** | 304 Stainless Steel |
| **COVERS (10" & 12")** | FDA Epoxy Coated Ductile |
| **RELIEF VALVE** | Bronze (LF C89836) |
| **CHECK VALVES** | Bronze/Glass-Filled PPO/SS |
| **SPRINGS** | Stainless Steel |
| **SEAT DISCS** | Chloramine-Resistant |

**Flow Curves - Page 64**

**OPTIONAL VALVE SETTER**



**TRIFORCE™ CHECK**



### PART NUMBER MATRIX

| 4ANLF | 7 X | X | X | X X | X |
|---|---|---|---|---|---|
| | BYPASS SUB-ASSEMBLY OPTIONS | SIZE | METER OPTION | SHUT-OFF VALVES (INLET x OUTLET) | OPTIONS |
| 4AnLF - Lead Free (Stan- | 0 - Type 1 w/ 1/2" Reduced Pressure | 9 - 2-1/2" | C - Cubic ft/ | 03- OS&Y Flange x OS&Y Flange | D - Domestic Assembly |
| | 2 - Type 2 w/1/2" Single Check | 0 - 3" | E - Gallons/ | 04- OS&Y Flange x Monitored (Mon.) Butterfly Valve | |
| | 3 - Type 1 w/ Bypass on Left* | A - 4" | G - Less Meter | 06- OS&Y Flange x Post indicator Flange | |
| | 4 - Type 2 w/ Bypass on Left* | C - 6" | | 07- OS&Y Flange x OS&Y Groove | |
| | | E - 8" | | 08- OS&Y Groove x OS&Y Groove | |
| | | G - 10" | | 09- Mon. Butterfly Valve Groove x Mon. Butterfly Valve | |
| | | H - 12" | | 10 - OS&Y Flange x Post Indicator Groove | |
| | | | | 13 - Post Indicator Flange x Mon. Butterfly Valve Groove† | |
| | | | | 14 - Post Indicator Flange x Post Indicator Flange | |
| | | | | 16 - Mon Butterfly Valve Groove x Post Indicator Flange† | |
| | | | | 17 - Post Indicator Flange x OS&Y Groove | |
| | | | | 18 - OS&Y Groove x Post Indicator Groove | |

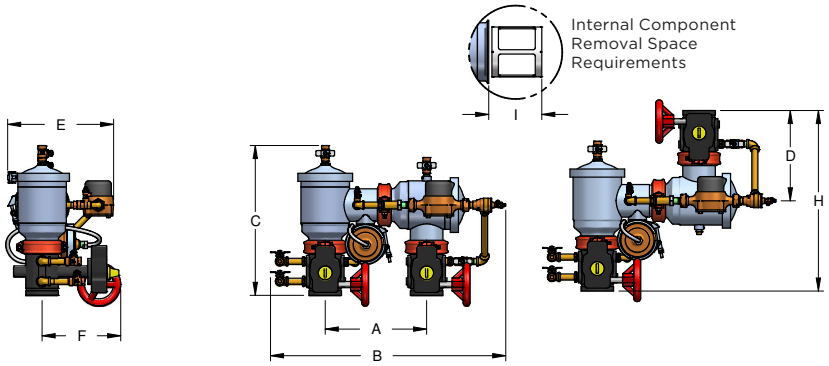
EXAMPLE: 4ANLF 70A E3 = 4" size lead free reduced pressure detector assembly with meter in GPM and OS&Y flanged inlet x OS&Y flanged outlet

*Orientation of bypass looking downstream. Standard is right hand side. Left hand is on opposite side
†Butterfly valves not available in 12" size.

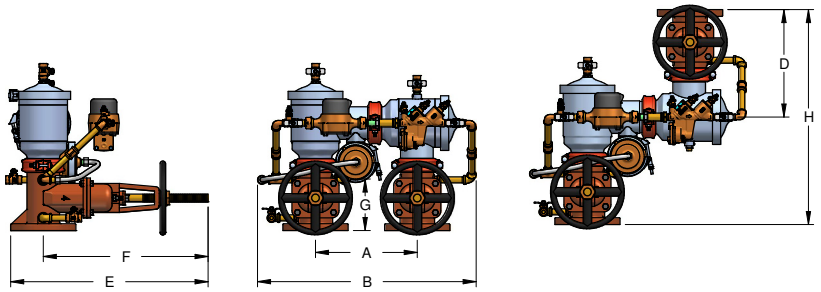
"Apollo" Valves

## RPDALF 4An SERIES
n STYLE REDUCED PRESSURE DETECTOR BACKFLOW PREVENTER ASSEMBLY

**TYPE 2 BYPASS**



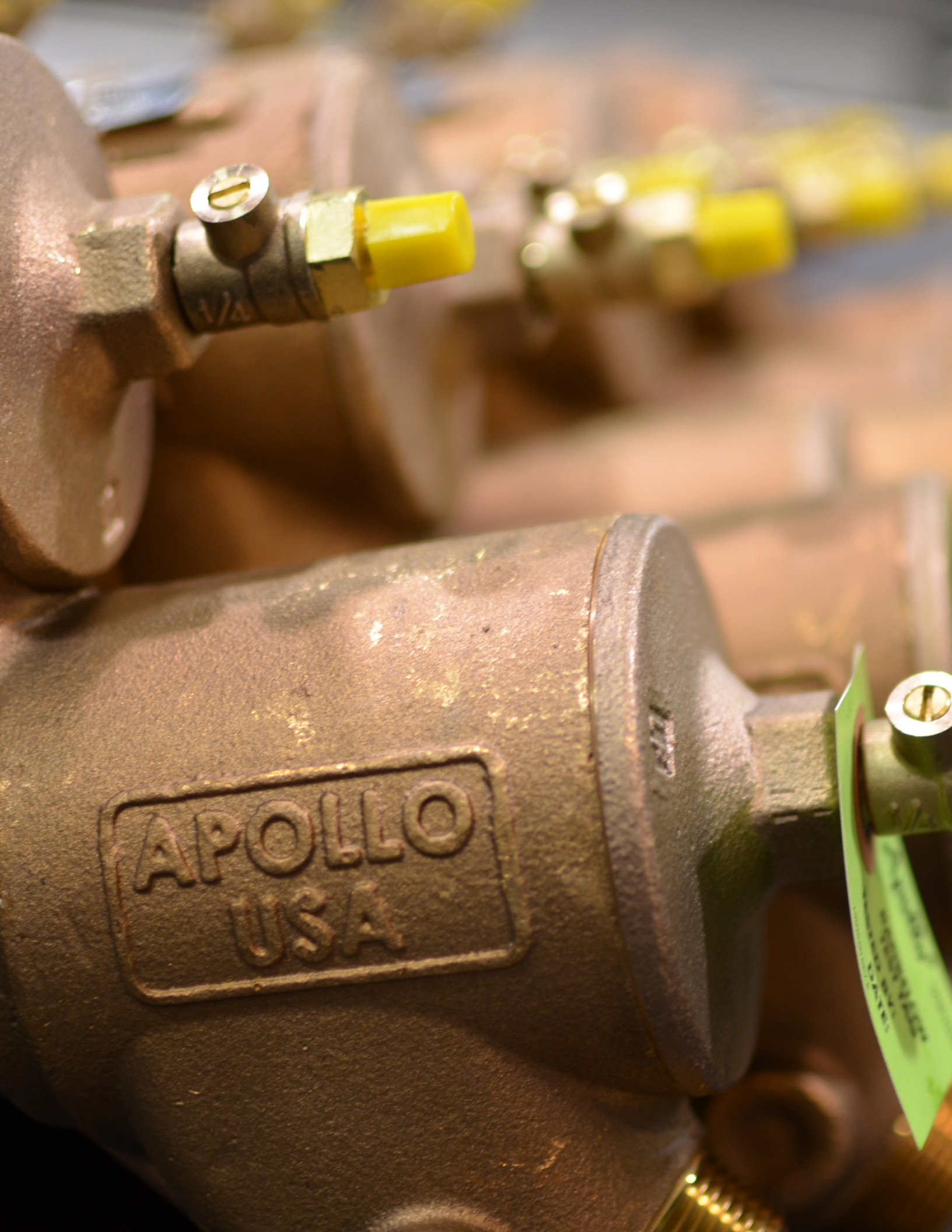

**TYPE 1 BYPASS**




## DIMENSIONS

| DIMENSIONS | 2-1/2" | 60MM | 3" | 75MM | 4" | 100MM | 6" | 150MM | 8" | 200MM | 10" | 250MM | 12" | 300MM |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| A (Centerline to Centerline) | 12.5 | 318 | 12.5 | 318 | 14 | 356 | 16 | 406 | 18.5 | 470 | 21 | 533 | 26.8 | 681 |
| B (Lay Length Space - Butterfly Valves) | 27.8 | 705 | 30.0 | 762 | 31.0 | 787 | 34.3 | 870 | 38.0 | 965 | N/A | 1162 | N/A | N/A |
| B (Lay Length Space - Gate Valves) | 31 | 787 | 31 | 787 | 31.8 | 808 | 36.8 | 935 | 41.5 | 1054 | 49 | 1245 | 55.8 | 1417 |
| C (Butterfly Valves - Flange to Top) | 18.8 | 476 | 19.0 | 483 | 20.8 | 527 | 25.0 | 635 | 29.5 | 749 | N/A | 883 | N/A | N/A |
| C (Gate Valves - Flange to Top) | 19.6 | 498 | 20 | 508 | 22.5 | 572 | 27.8 | 706 | 32.1 | 815 | 40 | 1016 | 44 | 1118 |
| D (Centerline to Bottom - Butterfly Valves) | 11.5 | 292 | 11.8 | 300 | 13.3 | 338 | 15.6 | 396 | 17.9 | 455 | N/A | 503 | N/A | N/A |
| D (Centerline to Bottom - Gate Valves) | 13 | 330 | 13.5 | 343 | 14.9 | 378 | 18 | 457 | 21.4 | 544 | 24.8 | 630 | 28.8 | 732 |
| E (Maximum Width - Butterfly Valves) | 13.1 | 333 | 13.1 | 333 | 15.3 | 389 | 16.1 | 410 | 23.5 | 597 | N/A | 618 | N/A | N/A |
| E (Maximum Width - NRS/PI Gate Valves) | 15.6 | 396 | 16.9 | 429 | 18.6 | 472 | 23.8 | 605 | 29.1 | 739 | 36.3 | 922 | 40 | 1016 |
| E (Maximum Width - OS&Y Valves Open) | 22.7 | 575 | 24.2 | 614 | 26.6 | 679 | 34.4 | 875 | 44.9 | 1140 | 57.9 | 1471 | 61.9 | 1572 |
| F (Centerline to Width - Butterfly Valves) | 8.6 | 219 | 9.6 | 244 | 10.9 | 276 | 12.5 | 318 | 16.5 | 419 | N/A | 460 | N/A | N/A |
| F (Centerline to Width - NRS/PI Gate Valves) | 11.8 | 300 | 13 | 330 | 14 | 356 | 17.8 | 452 | 21 | 533 | 24.5 | 622 | 30 | 762 |
| F (Centerline to Width - OS&Y Valves Open) | 18.8 | 478 | 20.3 | 515 | 22.1 | 562 | 29.4 | 747 | 36.8 | 934 | 45.2 | 1147 | 52.2 | 1326 |
| G (Relief Valve to SOV Flange - Butterfly | 3.0 | 76 | 3.3 | 83 | 4.3 | 110 | 5.1 | 130 | 4.8 | 121 | N/A | 156 | N/A | N/A |
| G (Relief Valve to SOV Flange - Gate Valves) | 5.5 | 140 | 6 | 152 | 6 | 152 | 9 | 229 | 9 | 229 | 9 | 229 | N/A | N/A |
| H (Flange to Flange Vertical Up Butterfly | 23.0 | 584 | 23.5 | 597 | 25.0 | 635 | 29.3 | 743 | 35.8 | 908 | N/A | 1003 | N/A | N/A |
| H (Flange to Flange Vertical Up Gate Valves) | 26 | 660 | 27 | 686 | 29.8 | 757 | 36 | 914 | 42.8 | 1087 | N/A | N/A | N/A | N/A |
| I (Check Removal Clearance) | 6 | 152 | 6 | 152 | 6 | 152 | 8 | 203 | 8.5 | 216 | 12 | 305 | 12 | 305 |
| Test Cocks (NPT) | 1/2" | 13 | 1/2" | 13 | 1/2" | 13 | 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. (w/ Butterfly Valves) | 117.0 | 53 | 122.0 | 55 | 147.0 | 67 | 205.0 | 93 | 510.0 | 231 | N/A | 491 | N/A | N/A |
| Ship Wt. (w/ Butterfly Valves) | 178.0 | 81 | 183.0 | 83 | 208.0 | 94 | 285.0 | 129 | 645.0 | 293 | N/A | 577 | N/A | N/A |
| Net Wt. (w/ NRS/Post Indicator Valves) | 112 | 51 | 129 | 59 | 155 | 70 | 266 | 121 | 642 | 292 | 1368 | 622 | 1847 | 840 |
| Ship Wt. (w/ NRS/Post Indicator Valves) | 173 | 79 | 190 | 86 | 216 | 98 | 346 | 157 | 777 | 353 | 1558 | 708 | 2137 | 971 |
| Net Wt. (w/ OS&Y Valves) | 130 | 59 | 142 | 65 | 186 | 85 | 326 | 148 | 717 | 326 | 1483 | 674 | 1962 | 892 |
| Ship Wt. (w/ OS&Y Valves) | 191 | 87 | 203 | 92 | 247 | 112 | 406 | 185 | 852 | 387 | 1673 | 760 | 2152 | 978 |

Nominal dimensions are shown. Allowances must be made for manufacturers' tolerances (± 1/8" (3 mm) per joint)
Internal body connections are grooved on 2-1/2" to 10" sizes.
Internal body connections are flanged on 12" size.


APOLLO
USA

"Apollo"® Valves

# backflow devices & accessories



## AVB1/AVB2 SERIES
ATMOSPHERIC TYPE VACUUM BREAKER BACKFLOW PREVENTER

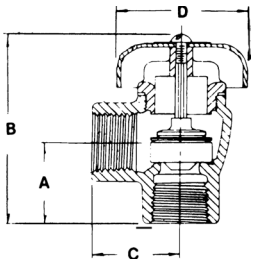
LEADFREE OPTIONS



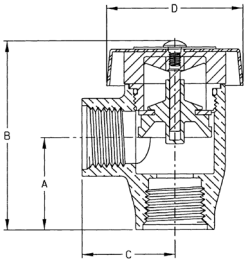
**38-100 SERIES**
**AVB1**



**38-200 SERIES**
**AVB2**
**SIZES 1/4", 3/8, 1/2", 3/4"**
**(OPTIONAL POLISHED CHROME FINISH SHOWN)**




**AVB1**
**38/38LF-10X**




**AVB2**
**38-20X**

**Flow Curves - Page 69**

The Apollo International™ Series Atmospheric Type Vacuum Breakers are designed to prevent back-siphonage of polluted water into a potable water system. They should only be installed in areas where spillage of water could not cause damage and where it can be accessible for periodic maintenance. These devices are not designed for continuous pressure application (maximum 12 hours in any 24 hour period). Should be installed a minimum of 6" above all downstream piping with no downstream shutoffs.

### OPERATION
During flow conditions, the flow of water lifts the float disc and seals the atmospheric vent at all rates of flow, preventing leakage. When a negative pressure is created at the supply line or when the water supply valve upstream of the device is closed, the float disc will fall, thus opening the atmospheric vent. This prevents back-siphonage and creation of vacuum at the discharge line.

### FEATURES
- Corrosion Resistant
- Bronze Body (AVB1)
- Forged Body (AVB2)
- Lead Free Option (100 Series)
- Heat Resistant Silicone Seat Disc
- Rough Brass, Rough Chrome or Polished Chrome Finish
- Easy to Maintain
- Compact and Lightweight
- Durable

### PERFORMANCE RATING
- Suitable for Hot or Cold Water Service:
  (up to 212°F at 125 psig) for up to 1"
  (up to 180°F at 125 psig) for 1-1/4" thru 2"

### APPROVALS
- ASSE 1001
- NSF/ANSI 372 - Lead Free (38LF only)

### STANDARD MATERIALS LIST

| | |
|---|---|
| **VALVE BODY (AVB1)** | Cast Bronze (LF |
| **VALVE BODY (AVB2)** | Forged Brass |
| **SEAT DISC** | Silicone |

| | |
|---|---|
| **FLOAT & GASKET** | Polypropylene |
| **CANOPY** | Powder Coated Steel |
| **SCREW** | Zinc-Plated Steel |

Contact local water authorities for installation/service

### PART NUMBER MATRIX

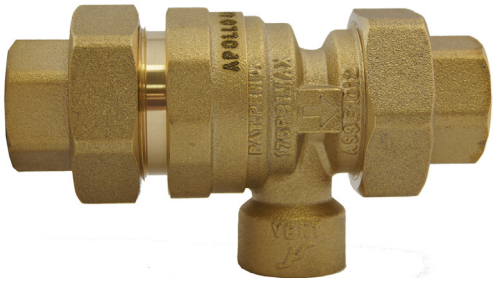
| 38(LF) X | 0X | 0X |
|---|---|---|
| | SIZE | FINISH |
| 1 - Bronze | 1 - 1/4" | 1 - Rough Brass |
| 2 - Forged Brass (Not Available in | 2 - 3/8" | 3 - Rough Chrome (1/4" - 1" |
| | 3 - 1/2" | 6 - Polished Chrome (AVB2 |
| | 4 - 3/4" | |
| | 5 - 1" | |
| | 6 - 1-1/4" | |
| | 7 - 1-1/2" | |
| | 8 - 2" | |

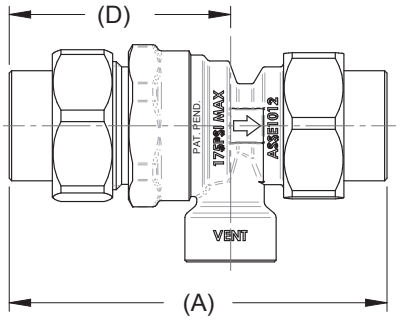
### DIMENSIONS

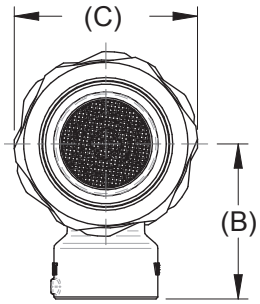
| PART NO. | MODEL NO. | SIZE (IN.) (MM) | DIMENSIONS (IN.) (MM) | | | | WEIGHT (LB.) (KG) |
|---|---|---|---|---|---|---|---|
| | | | A | B | C | D | |
| 38(LF)-101 | AVB114 | 1/4 (6) | 29/32 (23) | 2-3/8 (60) | 1-1/32 (26) | 1-13/16 (46) | 50.96 (23) |
| 38(LF)-102 | AVB138 | 3/8 (10) | 29/32 (23) | 2-3/8 (60) | 1-1/32 (26) | 1-13/16 (46) | 47.7 (22) |
| 38-103 | AVB112 | 1/2 (15) | 1-3/32 (28) | 2-1/2 (65) | 1-3/16(30) | 1-3/16 (46) | 54.7 (25) |
| 38-104 | AVB134 | 3/4 (20) | 1-5/16 (33) | 3-1/16 (78) | 1-15/32 (37) | 2-1/8 (54) | 79.7 (36) |
| 38-105 | AVB11 | 1 (25) | 1-3/4 (45) | 4-1/16 (103) | 1-7/8 (48) | 2-7/8 (73) | 174 (79) |
| 38-106 | AVB1114 | 1-1/4 (32) | 2 (50) | 4-3/8 (111) | 2 (50) | 3-3/4 (95) | 316 (143) |
| 38-107 | AVB1112 | 1-1/2 (40) | 2 (50) | 4-3/8 (111) | 2 (50) | 3-3/4 (95) | 289 (131) |
| 38-108 | AVB12 | 2 (50 | 2-1/8 (54) | 4-1/2 (114) | 2-1/4 (57) | 3-3/4 (95) | 369 (167) |
| 38-201 | AVB214 | 1/4 (6) | 1-3/32 (28) | 2-5/16 (59) | 1-1/32 (26) | 21/32 (17) | 50.6 (23) |
| 38-202 | AVB238 | 3/8 (10) | 1-3/32 (28) | 2-5/16 (59) | 1-1/32 (26) | 21/32 (17) | 47.7 (22) |
| 38-203 | AVB212 | 1/2 (15) | 1-9/32 (33) | 2-5/8 (67) | 1-9/32 (33) | 1-7/8 (48) | 54.7 (25) |
| 38-204 | AVB234 | 3/4 (20) | 1-15/32 (37) | 3 (80) | 1-15/32 (37) | 2 (50) | 63.1 (29) |

## DCAP SERIES
DUAL CHECK WITH ATMOSPHERIC PORT BACKFLOW PREVENTER

LEADFREE OPTIONS






**Flow Curves - Page 71**

The Apollo International™ DCAP Series Backflow Preventer is designed to protect residential and commercial water supply lines from back-siphonage or back-pressure of non-potable (non-hazardous) substances. It has an intermediate atmospheric vent to insure protection from backflow conditions. It consists of two independently acting and spring-loaded check valves in a corrosion resistant material.

### OPERATION
During normal flow operation, the vent valve is closed, and the two check valves are open allowing flow of water through the unit. Each check valve is designed to hold at least 1 psi in the direction of flow. When a back-siphonage condition occurs, both check valves close and the atmospheric vent opens to permit air to enter the intermediate zone. In the event of back-pressure and if the second check valve is prevented from closing tightly, leakage will be vented to the atmosphere through the vent port.

### FEATURES
- Corrosion Resistant
- Low Head Loss
- Independently Acting Check Valves
- Ease of Repair and Installation
- Economical
- Suitable for Hot or Cold Water Service
- Durable
- Lead-Free Option

### PERFORMANCE RATING
- Maximum Working Pressure: 175 psig
- Inlet Temperature Range: 33° to 210°F
- Maximum Backflow Temperature: 250°F

### APPROVALS
- ASSE 1012
- CSA B64.3
- NSF/ANSI 372 - Lead Free (4ALF only)

### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY** | Forged Brass C87800 |
| **UNION NUT & TAILPIECES** | Forged Brass C87800 |
| **SEAT DISCS** | EPDM (FDA/NSF 61) |
| **SEAT STEM & RETAINER** | Forged Brass C46500 |
| **SPRINGS** | Stainless Steel |

### DIMENSIONS

| PART NUMBER | DIMENSIONS (IN.) | | | | WT. (LB.) |
|---|---|---|---|---|---|
| | A | B | C | D | |
| 4ALF4A33A, 4ALF4A33AC | 4.1 | 1.6 | 1.9 | 2.4 | 1.31 |
| 4ALF4H33H, 4ALF4H33HC | 3.9 | 1.6 | 1.9 | 2.3 | 1.24 |
| 4ALF4A44A, 4ALF4A44AC | 4.3 | 1.6 | 1.9 | 2.5 | 1.32 |
| 4ALF4H44H, 4ALF4A44HC | 4.4 | 1.6 | 1.9 | 2.6 | 1.29 |

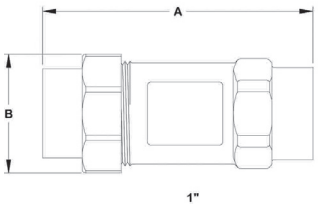
### PART NUMBER MATRIX

## DUCLF 4A SERIES
DUAL CHECK VALVE BACKFLOW PREVENTER

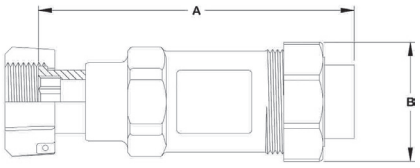



The Apollo International™ DUCLF 4A Series Dual Check Valve Backflow Preventer is designed to prevent cross-connections of non-potable water (non-hazardous) into safe drinking water systems. It is a compact and economical device that consists of two independently-acting, spring-loaded check valves in a corrosion-resistant material.

### OPERATION
Each of the two spring-loaded check valves is designed to open at 1 psi differential in the direction of flow. The check valves will remain tightly closed until there is a demand for water downstream. If the downstream pressure of the device increases above the supply pressure or there is a reverse direction of flow, the check valves will close to prevent backflow. If the second check valve is prevented from closing tightly, the first check will close to provide protection from a backflow condition.




**UNION X NPT**




**METER SWIVEL X NPT**

**Flow Curves - Page 71**

### FEATURES
- Low Head Loss
- Independently-Acting Captured Spring Check Valves
- Compact and Lightweight
- Corrosion Resistant
- Replaceable Check Modules
- Industry Lay Lengths
- Available in Standard and Swivel Types

### PERFORMANCE RATING
- Maximum Working Pressure: 175 psi
- Operating Temperature Range: 33° to 180°F

### APPROVALS
- ASSE 1024
- CSA B64.6
- NSF/ANSI 372 - Lead Free (4ALF only)

### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY** | Lead Free Bronze C87800 |
| **TAILPIECE** | Lead Free Brass C46500 |
| **UNION NUT** | Brass C36000 |
| **CHECK MODULES** | Acetal (3/4"-1") |
| **SPRINGS** | Stainless Steel |
| **SEAT DISCS** | Buna-N (3/4"-1") |

Contact local water authorities for installation/service requirements.

### DIMENSIONS

| SIZE (IN.) | DIMENSIONS (IN.) | | WT. (LB.) |
|---|---|---|---|
| | A | B | |
| 1/2" | 4.38 | 2.00 | 1.40 |
| 3/4" | 4.38 | 2.00 | 1.40 |
| 3/4" Meter Swivel | 4.75 | 2.00 | 1.60 |
| 1" | 4.38 | 2.00 | 1.40 |
| 1" Meter Swivel | 4.75 | 2.00 | 1.75 |

### METER THREAD SIZING

| | |
|---|---|
| **5/8" METER** | 3/4" |
| **3/4" METER** | 1" |
| **1" METER** | 1-1/4" |

### PART NUMBER MATRIX

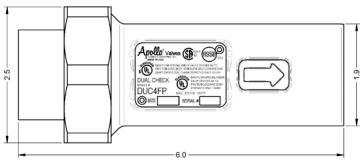
| 4ALF [X] | 3 X | X X | X | X |
|---|---|---|---|---|
| | UNION INLET CONNECTION[1,2] | INLET AND OUTLET SIZE | OUTLET CONNECTION[1,2] | FINISH |
| 4ALF - Lead Free | A - FNPT | 3 - 1/2" | A - FNPT | Blank - Satin Brass |
| | B - MNPT | 4 - 3/4" | B - MNPT | |
| | C - Female Meter Thread | 5 - 1" | | |
| | S - Female Meter Swivel | 6 - 1-1/4" (Meter Thread sizing for 1" meter swivel) | | |
| | | | | |

EXAMPLE: 4ALF 3S54A = Lead Free Dual Check with Female Swivel 1" Inlet (for 3/4" meter connection x 3/4" FNPT outlet)

[1] For meter threads, order one size larger than meter size. (i.e.- 4ALF3S54A = 1" Female Meter Swivel Inlet (for connection to 3/4" meter) x 3/4" FNPT outlet

## DUC 4FP SERIES
DUAL CHECK VALVE BACKFLOW PREVENTER





The Apollo DUC 4FP Series Dual Check Backflow Preventer for Residential Fire Sprinkler Systems prevents backflow by either backpressure or backsiphonage from a cross-connection between potable water lines and substances that are objectionable, but not health-hazards.

### FEATURES
- Low Pressure Loss
- Corrosion Resistant
- Replaceable Check Modules
- Pressure Drop at 30 gpm is Less than 6 psi
- Complies With NFPA Standard 13D
- 5 Year Warranty
- **Made in the USA**

### PERFORMANCE RATING
- Maximum Operating Pressure: 175 psi
- Temperature Range: 33° to 180°F

### APPROVALS
- ASSE 1024
- UL Classified
- CSA B64.6
- NSF/ANSI 372 - Lead Free (4FPLF only)

**Flow Curves - Page 72**

### STANDARD MATERIALS LIST

| | | | |
|---|---|---|---|
| **BODY** | Bronze (C84400) | **SPACER** | Glass-Filled Noryl® |
| **UNION NUT & TAILPIECES** | Brass | **O-RING** | Stainless Steel |
| **CHECK MODULES** | Acetal/Nitrile/Stainless | | |

Contact local water authorities for installation/service requirements.

### PART NUMBER MATRIX

| 4FP [XX] | 3 X | X | X | X |
|---|---|---|---|---|
| | INLET | INLET SIZE | OUTLET SIZE | OUTLET |
| 4FP - Standard | A - FNPT | 5 - 1" | 5 - 1" | A - FNPT |
| 4FPLF - Lead Free | C - Female Meter Thread | 6 - 1-1/4" | 6 - 1-1/4" | B - MNPT |
| | | (Meter Thread Sizing for 1" Meter) | (Meter Thread Sizing for 1" Meter) | E - Male Meter Thread |
| EXAMPLE: 4FP3A55A = 1" Dual Check FNPT Inlet x 1" FNPT outlet | | | | |

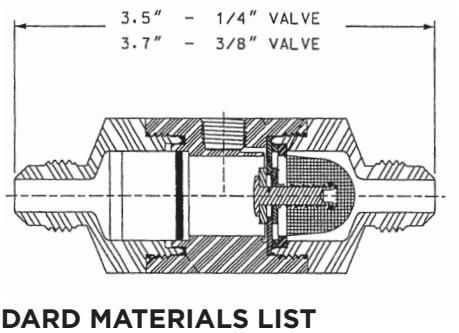
[1] Not all inlet and outlet combinations are available. Please contact Customer Service for availability.

"Apollo" Valves

New!

## CBBP-A SERIES
CARBONATED BEVERAGE BACKFLOW PREVENTER






The Apollo CBBP-A Series Carbonated Beverage Backflow Preventer (CBBP) is designed to help prevent the contamination of the potable water supply due to backflow when installed on water distribution lines serving beverage dispensing equipment. The device consists of two independently acting check valves biased to a normally closed position. A normally open atmospheric port is located between the check valves. During backflow conditions, the port vents gases and/or liquids. Additionally, the CBBP-A is equipped with a 100 mesh integral strainer screen at the inlet. All wetted areas of the device are non-toxic, corrosion resistant, and approved for use with potable water. The CBBP-A is suitable for supply pressures up to 200 psig and water temperatures from 33˚ to 130˚ F.

## OPERATION
Under static (non-flowing) conditions, the check valves remain in the closed position. When a valve is opened downstream (i.e. a beverage is delivered from the beverage dispensing unit), the check valves open and permit the flow of water. Under backflow conditions, the diaphragm seat on the first check lifts and permits flow through the atmospheric port located between the two check valves. The strainer ensures debris does not enter the backflow preventer.

## FEATURES
- Compact Design
- Lowest Head Loss
- Atmospheric Vent Provides Indication of Problems
- Integral Strainer for Equipment Protection
- Lead Free
- 5 Year Warranty
- Available in SAE & NPT Connections
- Repairable Check Assemblies
- Non-Metallic Body for Corrosion Resistance

## APPROVALS
- CSA
- NSF/ANSI/CAN 61 - Water Quality
- ASSE 1022
- IAPMO® Listed

## STANDARD MATERIALS LIST

| | |
|---|---|
| **END CAP** | Noryl/GFN2 |
| **STRAINER** | PVC/Stainless Steel |
| **O-RING** | EPDM |
| **UPSTREAM CHECK** | EPDM/Stainless Steel |
| **DOWNSTREAM CHECK** | EPDM/Stainless Steel, Acetal |
| **VALVE BODY** | Noryl/GFN2 |
| **VENT TUBE** | Polypropylene |

Contact local water authorities for installation/service

**Flow Curves - Page 72**

## PART NUMBER MATRIX

| 4C10 | XX A |
|---|---|
| SIZE | INLET AND OUTLET |
| 1 - 1/4" | 01 - Flare |
| 2 - 3/8" | 02 - MNPT (3/8" only) |

## DIMENSIONS

| SIZE | CONNECTION SIZING | | WT./EA |
|---|---|---|---|
| 1/4" | 7/16"-20 UNF | SAE Flare | .19 |
| 3/8" | 5/8"-18 UNF | SAE Flare | .19 |
| 3/8" | 3/8" NPT | Male NPT | .19 |

## HBV SERIES
3/4” HOSE CONNECTION VACUUM BREAKER BACKFLOW PREVENTER




**3/4”**
**(OPTIONAL SATIN CHROME FINISH SHOWN)**

The Apollo International™ HBV Hose Connection Vacuum Breakers are designed to prevent cross-connection caused by back-siphonage. They consist of a single check valve with atmospheric vacuum breaker vent. They feature a break-away set-screw for tamper-proof protection. They are not suitable for continuous pressure applications.

### OPERATION
At no flow situations, the check disc seats against the diaphragm with the atmospheric vent open. This prevents back-siphonage or backflow of water. At flow conditions, the spring-loaded check disc opens, thus allowing flow of water through the device and at the same time the diaphragm seals the atmospheric vent.

### INSTALLATION
It should only be installed in areas where spillage of water could not cause damage. For permanent installation, screw device directly into faucet, firmly hand tighten and turn set-screw in until head breaks off.

### PERFORMANCE RATING
- Maximum Working Pressure: 125 psig
- Maximum Temperature: 180° F

### APPROVALS
- ASSE 1011
- CSA B64.2
- IAPMO

### DIMENSIONS

| PART NUMBER | MODEL NUMBER | FINISH | WT./EA |
|---|---|---|---|
| 38LF314AS | HBVLF234 | Satin Brass | .17 |
| 38LF314CS | HBVLFC234 | Satin Chrome | .17 |

38LF-314 shipped in 12 pcs./box

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## HBVB SERIES
3/4” FREEZE RESISTANT HOSE CONNECTION VACUUM BREAKER




**3/4”**

The Apollo International™ Series HBVB Freeze Resistant Hose Connection Vacuum Breaker is especially designed to prevent back-siphonage on wall and yard hydrants. It features a break-away set-screw for tamper-proof protection and automatic drain for protection against freezing conditions when hose is removed. It is not suitable for continuous pressure applications.

### OPERATION
The principle of operation is similar to the HCVB Series except it has an automatic draining feature. When the hose is removed, the internal mechanism opens to drain water from the unit and the hose bibb to help prevent water from freezing inside the unit.

### INSTALLATION
It should only be installed in areas where spillage of water could not cause damage. For permanent installation, screw device directly into faucet, firmly hand tighten and turn set-screw in until head breaks off.

### PERFORMANCE RATING
- Maximum Working Pressure: 125 psig
- Maximum Temperature: 180° F

### APPROVALS
- ASSE 1011

### DIMENSIONS

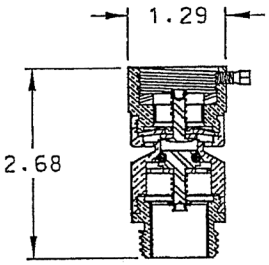
| PART NUMBER | MODEL NUMBER | FINISH | WT./EA |
|---|---|---|---|
| 38LF414AS | HBVBLF2 | Satin Brass | .37 |

## HBDUC SERIES
3/4” HOSE CONNECTION/LAB FAUCET DUAL CHECK BACKFLOW PREVENTER

LEADFREE OPTIONS



38-304-02
3/4”




Flow Curves - Page 73

The Apollo International™ Series HBDUC is designed to provide an in-line testable hose connection that will prevent backflow due to back-siphonage or low head back-pressure. Each device consists of two independent checks, forced loaded in the closed position with an atmospheric vent between the checks. The device is threaded for hose connection at both the inlet and outlet with a break-away set screw on the inlet for tamper proof installations. These devices are not suitable for continuous pressure applications.

### OPERATION
During initial pressurization, the inlet check shuttles forward to close the atmospheric vent. As flow is established, both the inlet and outlet check open to allow flow through the device. If a backflow condition is present, then both checks will close and the atmospheric vent opens to introduce air and break the siphon.

### FEATURES
- Corrosion Resistant Body and Checks
- Low Head Loss
- Easy to Install With Break-Away Set Screw
- Protects Against Back Siphonage and Low Head Back Pressure

### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY** | Brass |
| **SEATS** | EPDM |
| **CHECK COMPONENTS** | Stainless Steel |
| **CHECK GUIDE** | Acetal |

Contact local water authorities for installation/service requirements.

### DIMENSIONS

| PART NUMBER | MODEL NUMBER | WT./EA |
|---|---|---|
| 3830402 | HBDUC34 | .46 |
| 38LF30402 | HBDUCLF34 | .46 |

"Apollo" Valves

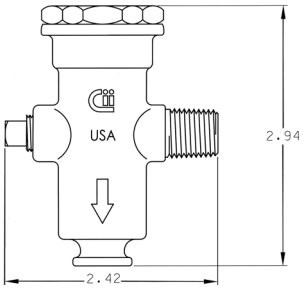
## FPV SERIES
FREEZE PROTECTION VALVE

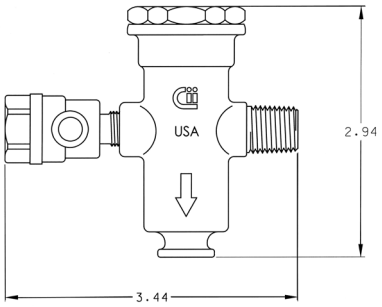
LEADFREE OPTIONS










The Apollo Series FPV Freeze Protection Valve protects backflow preventers from freezing when installed in accordance with manufacturer's instructions. All internal parts of the Freeze Protection Valve are replaceable.

### OPERATION
During flow conditions, the Freeze Protection Valve shall be drip-tight during above-freezing normal operating conditions. The Freeze Protection Valve shall be suitable for normal operating pressures of 20 to 175 psig.

### FEATURES
- Installs Easily on All Backflow Preventers
- Ease of Repair with Available Repair Kit
- Corrosion Resistant
- 1/4" Male Pipe Thread Inlet Port
- Available With 1/8"M x 1/4"F Testcock
- Discharge Port Accommodates 5/8" I.D. Hose
- Lead-Free Option
- Mechanical Operating Principle
- Compact Design
- IAPMO Listed
- US Patent #6,374,849
- 5 Year Warranty

### PERFORMANCE RATING
- Nominal Start to Open Temperature of 35°F
- Maximum Operating Pressure: 175 psig
- Maximum Temperature of 180°F

### APPROVALS
- NSF/ANSI 372 - Lead Free (40LF only)

### STANDARD MATERIALS LIST

| | |
|---|---|
| **BODY** | Bronze (C84400/LF |
| **CAP** | Brass |
| **SPRING GUIDE** | Brass |
| **SPRING** | Stainless Steel |
| **CAP O-RING** | Buna-N |
| **GUIDE O-RING** | Buna-N |
| **THERMAL ELEMENT** | Copper/Stainless Steel/ |

Contact local water authorities for installation/service requirements.

### WEIGHTS

| PART NUMBER | NET WEIGHT (LB.) |
|---|---|
| 40-000-FPV1 | .70 |
| 40-000-FPV2 | .77 |

### PART NUMBER MATRIX

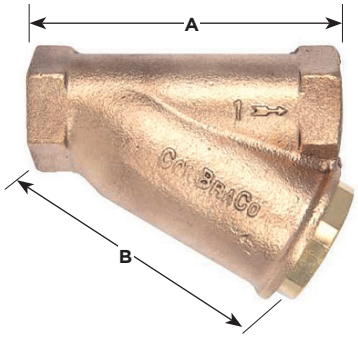
| 40 [X] 000 | FPV X |
|---|---|
| | OPTIONS |
| 40 - Standard | 1 - w/ 1/8" NPT plug |
| 40LF - Lead Free | 2 - w/ 1/8" Male x 1/4" Female Test Cock |
| | 2F - SAE Test Cock |
| | R - Repair Kit* for FPV1 and FPV2 |

* Repair kit includes: Thermal element, spring, spring guide, two o-rings (all internal parts)

"Apollo" Valves

## YB SERIES
WYE STRAINERS

LEADFREE OPTIONS




Heavy pattern design with large area screens ensures excellent protection against foreign particles in your fluid system. Corrosion-resistant bronze body and stainless steel screens provide years of service.

### FEATURES
- Blow-Off Ball Valve Option (3/4" - 2")
- Replaceable Self-Aligning Screen
- Large Net Flow Area for Longer Maintenance Intervals
- 59-400 Series is Female x Male NPT (3/4" & 1" Only)
- Several Screen and Cap Options
- **Made in USA, ARRA Compliant**

### PERFORMANCE RATING
- Working Pressure:
  CWP: 400 psi (up to 3")
  SWP: 125 psi
- Maximum Temperature: 350º F

### APPROVALS
- NSF/ANSI 372 - Lead Free (59LF)
- CRN-0E 8959.5

### DIMENSIONS

| PART NUMBER | MODEL NUMBER | SIZE IN. | DIMENSIONS | | | | CAP TAPPING SUFFIX -02 | WEIGHT | |
|---|---|---|---|---|---|---|---|---|---|
| | | | A (IN.) | A (MM.) | B (IN.) | B (MM.) | | LB. | KG. |
| 5900101 | YB14 | 1/4 NPT | 2 | 50 | 1-1/4 | 32 | 1/8 NPT | .42 | .19 |
| 5900201 | YB38 | 3/8 NPT | 2-11/16 | 68 | 2 | 50 | 1/4 NPT | .79 | .36 |
| 5900301 | YB12 | 1/2 NPT | 2-11/16 | 68 | 2 | 50 | 1/4 NPT | .75 | .34 |
| 5900401 | YB34 | 3/4 NPT | 3-7/8 | 98 | 3-1/4 | 83 | 1/2 NPT | 1.85 | .84 |
| 5900501 | YB1 | 1 NPT | 4-3/4 | 121 | 4 | 100 | 3/4 NPT | 2.76 | 1.25 |
| 5900601 | YB114 | 1-1/4 NPT | 5-1/8 | 130 | 4-1/4 | 108 | 3/4 NPT | 3.58 | 1.62 |
| 5900701 | YB112 | 1-1/2 NPT | 5-3/4 | 146 | 5 | 127 | 1 NPT | 5.41 | 2.45 |
| 5900801 | YB2 | 2 NPT | 6-3/4 | 171 | 6 | 150 | 1-1/4 NPT | 7.47 | 3.39 |
| 5940401 | YBM34 | 3/4 F x MNPT | 5-3/8 | 136 | 3-1/4 | 83 | 1/2 NPT | 2.0 | .9 |
| 5940501 | YBM1 | 1 F x MNPT | 5-3/4 | 146 | 4 | 100 | 3/4 NPT | 2.95 | 1.3 |
| 59LF00101 | YB14LF | 1/4 NPT | 2 | 50 | 1-1/4 | 32 | 1/8 NPT | .42 | .19 |
| 59LF00201 | YB38LF | 3/8 NPT | 2-11/16 | 68 | 2 | 50 | 1/4 NPT | .79 | .36 |
| 59LF00301 | YB12LF | 1/2 NPT | 2-11/16 | 68 | 2 | 50 | 1/4 NPT | .75 | .34 |
| 59LF00401 | YB34LF | 3/4 NPT | 3-7/8 | 98 | 3-1/4 | 83 | 1/2 NPT | 1.85 | .84 |
| 59LF00501 | YB1LF | 1 NPT | 1-3/4 | 121 | 4 | 100 | 3/4 NPT | 2.76 | 1.25 |
| 59LF00601 | YB114LF | 1-1/4 NPT | 5-1/8 | 130 | 4-1/4 | 108 | 3/4 NPT | 3.58 | 1.62 |
| 59LF00701 | YB112LF | 1-1/2 NPT | 5-3/4 | 146 | 5 | 127 | 1 NPT | 5.41 | 2.45 |
| 59LF00801 | YB2LF | 2 NPT | 6-3/4 | 171 | 6 | 150 | 1-1/4 NPT | 7.47 | 3.39 |
| 59LF40401 | YBM34LF | 3/4 NPT x | 5-3/8 | 136 | 3-1/4 | 83 | 1/2 NPT | 2.0 | .9 |
| 59LF40501 | YBM1LF | 1 NPT x MNPT | 5-3/4 | 146 | 4 | 100 | 3/4 NPT | 2.95 | 1.3 |

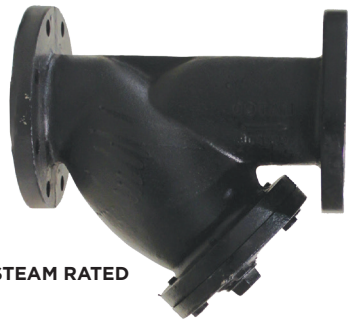
"Apollo" Valves

## YCF SERIES
CLASS 125 CAST IRON WYE STRAINER

LEADFREE OPTIONS



LEAD FREE



STEAM RATED

The Apollo International™ YCF Strainers are designed to protect piping systems and process equipment from unwanted foreign particles with minimum pressure loss.

### FEATURES
- Iron Strainer with Flat Face Flanges Conforms to ASME/ANSI 16.1 Class 125
- One Piece Cast Body Meets ASME Standard
- Epoxy Coating Models conform to FDA CFR21, Section 175.300 and NSF/ANSI 372 Lead Free
- Equipped with Bolted Cover Employing Flat Gasket Seal
- Upper and Lower Machined Seats for Screen for Self-Aligning Screen Design
- 304 SS Perforated Screens are Standard (P045 STD 2"-3", P125 STD 4"-12")
- Tapped Blow Off Connection with Plug
- 100% Factory Pressure Tested

### PERFORMANCE RATING (LEAD FREE)
- Working Pressure:
  CWP: 200 psi @ 150° F

***not for steam service.**

### PERFORMANCE RATING (STEAM RATED)
- Working Pressure:
  CWP 200 PSIG
  SWP 125 PSIG @ 352°F

### STANDARD MATERIALS LIST

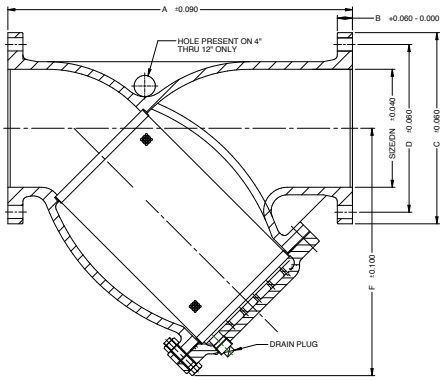
| | |
|---|---|
| **BODY** | Cast Iron, ASTM A126-B |
| **CAP/COVER** | Cast Iron, ASTM A126-B |
| **PLUG** | Carbon Steel, ASTM A307 |
| **BOLT/STUD/NUT** | Carbon Steel, ASTM A307 |
| **SCREEN** | 304 Stainless Steel |
| **GASKET** | Graphite |
| **COATING (LEAD FREE ONLY)** | Epoxy, FDA Approved |

### DIMENSIONS

| PART NUMBER STEAM RATED | PART NUMBER LEAD FREE | SIZE/DN | | A | | B | | C | | D | | E | | F | | DRAIN PLUG | | WEIGHT | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | IN | MM | IN | MM | IN | MM | IN | MM | IN | MM | IN | MM | IN | MM | IN | MM | LB. | KG. |
| YCF02P045 | YCF02P045E | 2" | 50 | 8.86 | 255 | 0.63 | 16 | 5.98 | 152 | 4.75 | 121 | 0.75 | 19 | 6.30 | 160 | 1/2" | 4 | 23 | 11 |
| YCF25P045 | YCF25P045E | 2-1/2" | 65 | 10.75 | 273 | 0.69 | 18 | 7.01 | 178 | 5.50 | 140 | 0.75 | 19 | 7.64 | 194 | 1" | 4 | 34 | 15 |
| YCF03P045 | YCF03P045E | 3" | 80 | 11.50 | 292 | 0.75 | 19 | 7.48 | 190 | 6.00 | 153 | 0.75 | 19 | 8.86 | 225 | 1" | 4 | 47 | 21 |
| YCF04P125 | YCF04P125E | 4" | 100 | 13.86 | 352 | 0.94 | 24 | 8.98 | 228 | 7.50 | 191 | 0.75 | 19 | 10.63 | 270 | 1-1/4" | 8 | 72 | 33 |
| YCF05P125 | YCF05P125E | 5" | 125 | 16.38 | 416 | 0.94 | 24 | 10.00 | 254 | 8.50 | 216 | 0.88 | 22 | 12.60 | 320 | 1-1/4" | 8 | 111 | 50 |
| YCF06P125 | YCF06P125E | 6" | 150 | 18.50 | 470 | 1.00 | 25 | 10.98 | 279 | 9.50 | 242 | 0.88 | 22 | 14.69 | 373 | 1-1/2" | 8 | 150 | 68 |
| YCF08P125 | YCF08P125E | 8" | 200 | 21.38 | 543 | 1.12 | 29 | 13.46 | 342 | 11.75 | 299 | 0.88 | 22 | 17.72 | 450 | 1-1/2" | 8 | 235 | 107 |
| YCF10P125 | YCF10P125E | 10" | 250 | 25.98 | 660 | 1.18 | 30 | 15.98 | 406 | 14.25 | 362 | 1.00 | 25 | 20.67 | 525 | 2" | 12 | 369 | 168 |
| YCF12P125 | YCF12P125E | 12" | 300 | 30.00 | 762 | 1.25 | 32 | 19.02 | 483 | 17.00 | 432 | 1.00 | 25 | 23.94 | 608 | 2" | 12 | 552 | 250 |

### PART NUMBER MATRIX

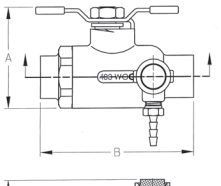
| YCF | XXX | XXX[X] | X |
|---|---|---|---|
| | CONNECTION | SCREEN | OPTION |
| YCF (Flat Face) | F02 - Flanged 2" | M20 - 20 Mesh | E - Epoxy Coating, FDA Approved |
| | F25 - Flanged 2.5" | M40 - 40 Mesh | LEAD FREE ONLY, NOT FOR |
| | F03 - Flanged 3" | M80 - 80 Mesh | |
| | F04 - Flanged 4" | M100 - 100 Mesh | |
| | F05 - Flanged 5" | P045 - .045" PERF | |
| | F06 - Flanged 6" | P125 - .125" PERF | |
| | F08 - Flanged 8" | | |
| | F10 - Flanged 10" | | |
| | F12 - Flanged 12" | | |

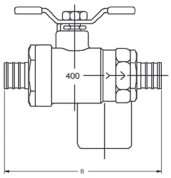


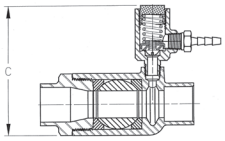

*All mesh screens include liner:
.045" Perf on 3" and smaller
.125" Perf on 4" and larger
**All screens not available for all sizes.
***Limited screen options available for non-lead free steam rated version.

## 78RV SERIES
THERMAL EXPANSION RELIEF VALVE









Relief valve shown rotated 90°. Valve should be assembled w/ hose barb pointed down.

The Apollo 78RV combines thermal expansion protection and water heater shut-off in a single, simple installation. They're space saving and a less costly alternative to large expansion tanks. Made in the USA, featuring lead free dezincification resistant brass materials.

### FEATURES
- 3/4" Solder, NPT, and PEX Ball Valve Connections
- Corrosion Resistant, Heavy Pattern, Forged Brass, Materials
- Chrome-Plated Ball
- Thermal Relief Valve is Factory Preset and Sealed
- Relief Valve Features Soft Seat and Stainless Steel Spring
- Relief Valve Available with Hose Barb, 1/2" PEX, 3/8" Compression or 1/2" Combination Solder/Thread Fitting
- Multiple Relief Pressure Kit Options
- Easily Identifiable White Handle Grip and Blue "Lead Free" Hang Tag
- EZ-Solder™ Lead Free Brass

### PERFORMANCE RATING
- Maximum Temperature: 210°F

### APPROVALS
- IAPMO IGC 128-2008
- City of Los Angeles Registered
- CSA B125.1 & B125.3

### DIMENSIONS

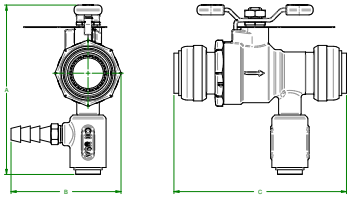
| PART NUMBER | SIZE (IN.) | DIMENSIONS (IN.) | | | WT. (LB.) |
|---|---|---|---|---|---|
| | | A | B | C | |
| 78LF300 | 3/4" Solder | 4.0 | 3.9 | 3.3 | .687 |
| 78LF400 | 3/4" FNPT | 3.9 | 2.8 | 3.3 | .750 |
| 78LF700 | 3/4" PEX | 3.9 | 3.8 | 3.3 | .750 |

### PART NUMBER MATRIX

| 78LF X | X | X RV |
|---|---|---|
| PRESSURE | SIZE | RELIEF VALVE |
| 0 - 125 psig | 3 - 3/4" Solder | 4 - Hose Barb |
| 1 - 100 psig | 4 - 3/4" NPT | 5 - PEX |
| 2 - 80 psi | 7 - 3/4" PEX | 6 - Compression Fitting |
| | | 7 - 1/2" NPT/SWT Fitting |

**PUSH OPTION**





### DIMENSIONS - PUSH OPTION

| PART NUMBER | SIZE (IN.) | DIMENSIONS (IN.) | | | PORT DIA. (IN.) | PRESSURE |
|---|---|---|---|---|---|---|
| | | A | B | C | | |
| 78RV88P80 | 3/4" Push | 3.9 | 4.2 | 1.6 | .750 | 80 |
| 78RV88P100 | 3/4" Push | 3.9 | 4.2 | 1.6 | .750 | 100 |
| 78RV88P125 | 3/4" Push | 3.9 | 4.2 | 1.6 | .750 | 125 |

## EXPT SERIES
EXPANSION TANKS FOR POTABLE SYSTEMS



Apollo Model EXPT expansion tanks are designed for use in domestic systems installations for sanitary hot water applications to absorb pressure increases from the heating process.

### FEATURES
- Food quality chlorobutyl diaphragm
- Drawn Steel Construction
- Durable Triple Coated Almond Epoxy Finish
- Field Adjustable Pressure Setting
- Corrosion Resistant Liner Connection
- Lead Free Certified

### PERFORMANCE RATING
- Maximum Pressure: 150 psi
- Maximum Temperature: 200°F
- Pre-Charge Pressure: 35 psig

### APPROVALS
- NSF/ANSI/CAN 61 - Water Quality
- IAPMO

| MODEL NUMBER | PART NUMBER | CAPACITY (GAL.) | EXP. VOLUME (GAL.) | CONNECTION SIZE (NPT) | DIAMETER (IN.) | HEIGHT (IN.) | WEIGHT (LB.) |
|---|---|---|---|---|---|---|---|
| EXTP2 | 40XT1-04 | 2.10 | 0.9 | 3/4 | 8.0 | 12.5 | 4.7 |
| EXTP5 | 40XT3-04 | 4.5 | 2.5 | 3/4 | 11.0 | 15.0 | 8 |
| EXTP10 | 40XT5-04 | 10 | 5.2 | 3/4 | 11.5 | 20 | 13.5 |

Maximum expansion volume is based on 35 psi.

## TK SERIES
DIFFERENTIAL PRESSURE GAUGE TEST KITS



The Apollo Backflow Preventer Test Kits are compact, lightweight and portable testing devices. They come equipped with a gauge, hoses (with integral filters) and all required adapter fittings. Also included is a flexible or adjustable strap for hanging the gauge, laminated test procedures and a molded plastic carrying case with foam inserts.

### TK3
These are three-valve test kits used for testing all DCV, RPZ, PVB & SVB backflow preventers. Differential pressure type with a dual scale of 0-15 psid/0-100kPa differential pressure range with a ± 0.2 psig (Descending) accuracy. Maximum working pressure 200 psig.

### TK5
This is a five-valve test kit used for testing all DCV, RPZ, PVB & SVB backflow preventers. The five valve test kit is similar to the three valve kit except it has two additional valves that make it possible to bleed lines without disconnecting hoses.

| PART NO. | MODEL NO. | APPLICATION | WT./EA (LB.) | WT./CASE (LB.) |
|---|---|---|---|---|
| 40200TKU | TK3 | ALL DCV, RPZ, PVB & SVB | 6.1 | 9.5 |
| 40200TK5U | TK5 | ALL DCV, RPZ, PVB & SVB | 6.1 | 9.5 |



### TEST KIT ADAPTER FITTINGS
Brass fitting which installs onto backflow preventer testcocks by hand to provide quicker testing. Sets of three fittings with o-rings for 1/4" SAE connections to the test kits. Packaged in a resealable plastic bag.

| PART NO. | MODEL NO. | SIZE | BACKFLOW APPLICATION |
|---|---|---|---|
| 40000TFK | TFK14 | 1/4" SAE x 1/4" NPT | 1/4" - 2" |
| 40001TFK | TFK12 | 1/4" SAE x 1/2" NPT | 2-1/2" - 6" |
| 40002TFK | TFK34 | 1/4" SAE x 3/4" NPT | 8" - 12" |
| 40003TFK | TFKSET | Set of All 3 Sizes | 1/4" - 12" |

## 4A, 4AN AND RPS 40 SERIES
AIR GAP DRAIN



For installation with all 4A, 4An and RPS 40 Series Reduced Pressure Principle backflow preventers.

The Apollo Air Gap Drain (AGD) is designed to funnel minor relief valve discharges, due to line pressure fluctuations and /or minor check valve fouling, into the drainage system. Drain piping is easily attached to the drain's threaded bottom.

Note: The AGD is designed to collect expected minor discharges due to fouled checks or pressure fluctuations but not the full discharge capacity of the relief valve.

### AGD4A1 / AGD4A112 / AGD4A2 / AGD4A6 (1/2" - 6")

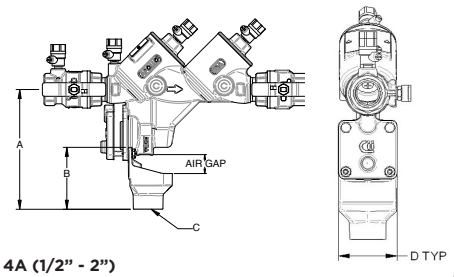
| RP SIZE | AIR GAP PART NUMBER | DIMENSIONS (IN.) | | | | OUTLET CONNECTION (FNPT) | WT. (LB.) |
|---|---|---|---|---|---|---|---|
| | | A | B | C | D | | |
| 1/2" | AGD4A1 | 6-1/2 | 3-3/8 | 1" FNPT | 2-5/8 | 1-1/4" | 0.1 |
| 3/4" | AGD4A1 | 6-1/2 | 3-3/8 | 1" FNPT | 2-5/8 | 1-1/4" | 0.1 |
| 1" | AGD4A1 | 6-5/8 | 3-3/8 | 1" FNPT | 2-5/8 | 1-1/4" | 0.1 |
| 1-1/4" & 1-1/2" | AGD4A112 | 8-1/2 | 4-1/8 | 1-1/2" FNPT | 3-1/2 | 2" | 0.2 |
| 2" | AGD4A2 | 10 | 5-3/8 | 2" FNPT | 4-1/4 | 2-1/2" | 0.35 |
| RP4A | | | | | | | |
| 2-1/2" | AGD4A6 | 11.28 | - | 2.63 | 3.13 | 2" | 0.7 |
| 3" | AGD4A6 | 11.28 | - | 2.63 | 3.13 | 2" | 0.7 |
| 4" | AGD4A6 | 12.02 | - | 2.63 | 3.13 | 2" | 0.7 |
| 6" | AGD4A6 | 13.32 | - | 2.63 | 3.13 | 2" | 0.7 |
| RP4AN | | | | | | | |
| 2-1/2" | AGD4A6 | - | 10.87 | 2.63 | 3.13 | 2" | 0.7 |
| 3" | AGD4A6 | - | 10.87 | 2.63 | 3.13 | 2" | 0.7 |
| 4" | AGD4A6 | - | 10.51 | 2.63 | 3.13 | 2" | 0.7 |
| 6" | AGD4A6 | - | 11.76 | 2.63 | 3.13 | 2" | 0.7 |

### AGD4A8 & AGDA12IN (8" & 12")

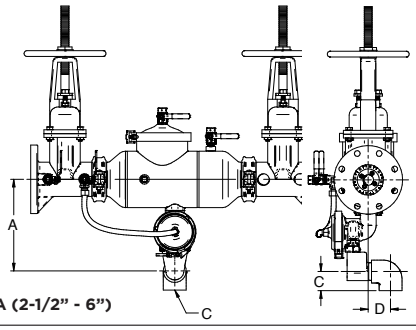
| RP STYLE | AIR GAP PART NUMBER | DIMENSIONS (IN.) | | OUTLET PIPE SIZE | OUTLET CONNECTION (FNPT) | WT. (LB.) |
|---|---|---|---|---|---|---|
| | | A | B | C | | |
| RPLF4A | AGD4A8 | 21.3 | 9.1 | 3" | 2-1/2" | 1.5 |
| RPLF4AN | AGD4A8 | 19.8 | 9.1 | 3" | 2-1/2" | 1.5 |
| RPLF4A | AGD4A12IN | 26.3 | 7.7 | 4" | 3" | 5 |
| RPLF4AN | AGD4A12IN | 23.4 | 7.7 | 4" | 3" | 5 |

### AGD4A012 / AGD4A01 (3/8" - 1")

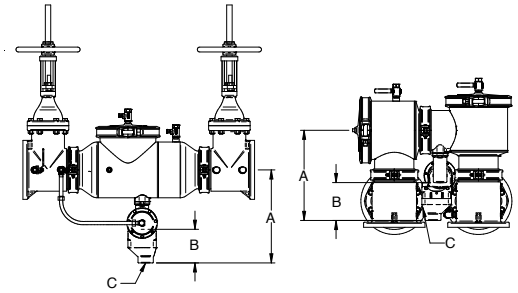
| RPS SIZE | AIR GAP PART NUMBER | DIMENSIONS (IN.) | | | | OUTLET CONNECTION (FNPT) | WT. (LB.) |
|---|---|---|---|---|---|---|---|
| | | A | B | C | D | | |
| 3/8", 1/2" | AGD4012 | 6-1/2 | 3-3/8 | 1" FNPT | 2-5/8 | 1-1/4" | 0.1 |
| 3/4" & 1" | AGD401 | 8-1/4 | 4 -1/8 | 1-1/2" FNPT | 3-1/2 | 2" | 0.2 |



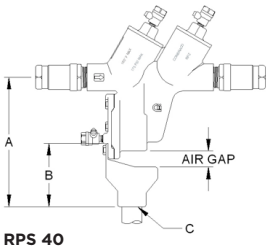
4A (1/2" - 2")



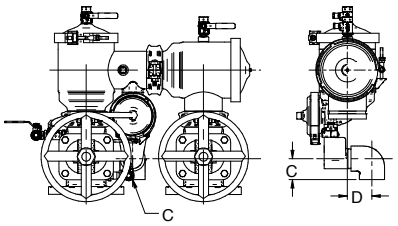
4A (2-1/2" - 6")



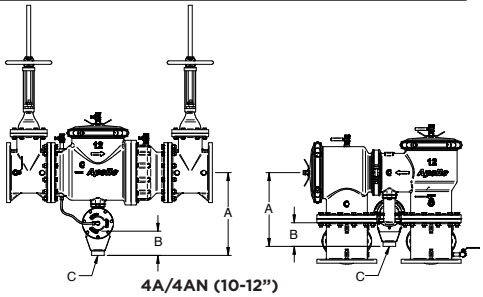
4A/4AN (8")



RPS 40



4AN (2-1/2" - 6")



4A/4AN (10-12")

"Apollo" Valves

## SHUT-OFF VALVES



FLANGE X GROOVE

### NON-RISING STEM (NRS)

| SIZE | FLANGE X GROOVE | GROOVE X GROOVE | FLANGE X FLANGE |
|---|---|---|---|
| 2-1/2" | W286800 | W287400 | - |
| 3" | W286900 | W287500 | - |
| 4" | W287000 | W287600 | - |
| 6" | W287100 | W287700 | - |
| 8" | W287200 | W287800 | - |
| 10" | W287300 | W287900 | W-2866-00 |
| 12" | - | - | W-2867-00 |

AWWA



FLANGE X GROOVE

### OUTSIDE STEM & YOKE (OS&Y)

| SIZE | FLANGE X GROOVE | GROOVE X GROOVE | FLANGE X FLANGE |
|---|---|---|---|
| 2-1/2" | W288700 | W289300 | - |
| 3" | W288800 | W289400 | - |
| 4" | W288900 | W289500 | - |
| 6" | W289000 | W289600 | - |
| 8" | W289100 | W289700 | - |
| 10" | W289200 | W289800 | W-2885-00 |
| 12" | - | - | W-2886-00 |

AWWA, UL Listed, ULC Listed, FM Approved



FLANGE X GROOVE

### POST INDICATOR (PI)

| SIZE | FLANGE X GROOVE | GROOVE X GROOVE |
|---|---|---|
| 3" | W912500 | W923600 |
| 4" | W912600 | W923700 |
| 6" | W912700 | W923800 |
| 8" | W912800 | W923900 |
| 10" | W912900 | - |

UL Listed, ULC Listed, FM Approved



### MONITORED BUTTERFLY (BG)

| SIZE | GROOVE X GROOVE |
|---|---|
| 2-1/2" | W524400 |
| 3" | W524500 |
| 4" | W524600 |
| 6" | W524700 |
| 8" | W524800 |
| 10" | W524900 |

UL Listed, ULC Listed, FM Approved



FNPT X FNPT

### 91 SERIES BRONZE BALL VALVE (BV)

| SIZE | INLET F X F NPT | OUTLET F X F NPT | INLET F X F NPT | OUTLET F X F NPT |
|---|---|---|---|---|
| | 4A A SERIES | | 4ALF A SERIES | |
| 1/2" | 91B10385 | 91C10385 | 91BLF10385 | 91CLF10385 |
| 3/4" | 91B10483 | 91C10483 | 91BLF10483 | 91CLF10483 |
| 1" | 91B10583 | 91C10583 | 91BLF10583 | 91CLF10583 |
| 1-1/4" | 91B10684 | 91C10684 | 91BLF10684 | 91CLF10684 |
| 1-1/2" | 91B10784 | 91C10784 | 91BLF10784 | 91CLF10784 |
| 2" | 91B10884 | 91C10884 | 91BLF10884 | 91CLF10884 |

| SIZE | INLET F X F NPT | OUTLET F X F NPT | INLET F X F NPT | OUTLET F X F NPT |
|---|---|---|---|---|
| | 4A A SERIES UNION BALL VALVES | | 4ALF A SERIES UNION BALL VALVES | |
| - | - | - | - | - |
| 3/4" | 91B30483 | 91C30483 | 91BLF30483 | 91CLF30483 |
| 1" | 91B30583 | 91C30583 | 91BLF30583 | 91CLF30583 |
| 1-1/4" | 91B30684 | 91C30684 | 91BLF30684 | 91CLF30684 |
| 1-1/2" | 91B30784 | 91C30784 | 91BLF30784 | 91CLF30784 |
| 2" | 91B30884 | 91C30884 | 91BLF30884 | 91CLF30884 |

## TESTCOCKS



### TESTCOCKS
FOR SMALL BACKFLOW

| MALE X FNPT | LEAD FREE - MALE X FNPT |
|---|---|
| 1/8" x 1/4"* | 1/8" x 1/4" |
| 78 290 01 | 78LF 290 01 |
| 1/4" x 1/4"** | 1/4" x 1/4" |
| 78 291 01 | 78LF 291 01 |



| MALE X SAE FLARE | LEAD FREE - MALE X SAE FLARE |
|---|---|
| 1/8" x Flare* | 1/8" x Flare |
| 78 292 01 | 78LF 292 01 |
| 1/4" x Flare** | 1/4" x Flare |
| 78 293 01 | 78LF 293 01 |

* 1/8" -1/4" devices
** 1-1/4" - 2" devices

LEADFREE OPTIONS

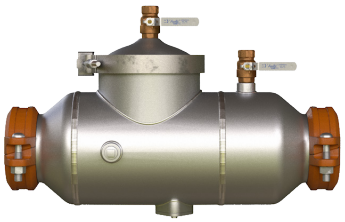


### LEAD FREE TESTCOCKS
FOR LARGE BACKFLOW

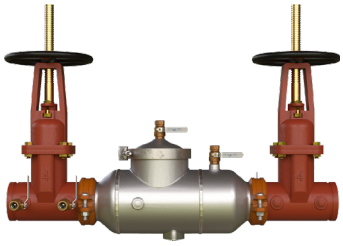
| 2-1/2" TO 4" SS ASSEMBLIES | |
|---|---|
| SS Cover Testcock | 77CLF803A0 |
| SS Body Testcock | 77CLF80310 |
| Shutoff Valves T/C | 77CLF10310 |
| **6" SS ASSEMBLIES** | |
| SS Cover Testcock | 77CLF804A0 |
| SS Body Testcock | 77CLF80410 |
| Shutoff Valves T/C | 77CLF10410 |
| **8" SS ASSEMBLIES** | |
| Cover & Body T/C | 77CLF80410 |
| Shutoff Valves T/C | 77CLF10410 |
| **10" AND 12" ASSEMBLIES** | |
| All Testcocks | 77CLF10410 |

# SHUT-OFF VALVE OPTIONS

| PART# OPTION | MODEL# OPTION |
|---|---|
| -01 | -LS |
| LESS SHUTOFF VALVES | |



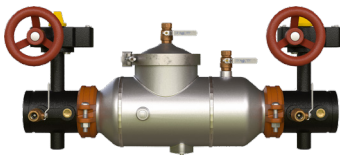
| PART# OPTION | MODEL# OPTION |
|---|---|
| -08 | -OG |
| OS&Y (GROOVED) x OS&Y (GROOVED) | |



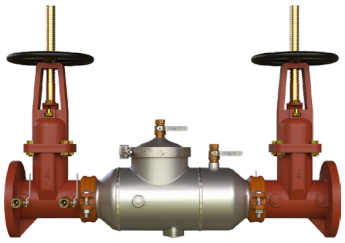
| PART# OPTION | MODEL# OPTION |
|---|---|
| -02 | -NF |
| NRS (FLANGED) x NRS (FLANGED) | |



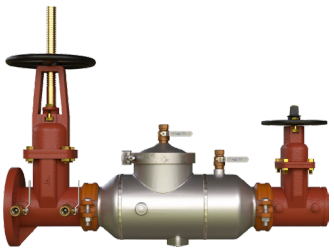
| PART# OPTION | MODEL# OPTION |
|---|---|
| -09 | -BG |
| MONITORED BUTTERFLY (GROOVED) x MONITORED BUTTERFLY | |



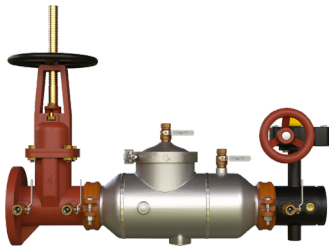
| PART# OPTION | MODEL# OPTION |
|---|---|
| -02 | -NF |
| OS&Y (FLANGED) x OS&Y (FLANGED) | |



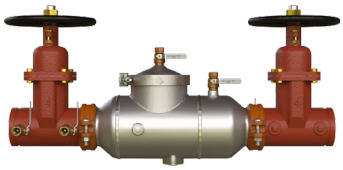
| PART# OPTION | MODEL# OPTION |
|---|---|
| -010 | -OFPIG |
| OS&Y (FLANGED) x POST INDICATOR (GROOVED) | |



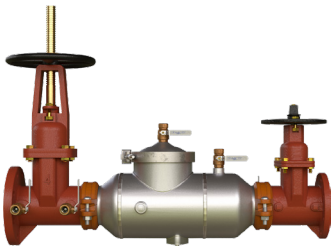
| PART# OPTION | MODEL# OPTION |
|---|---|
| -04 | -OFBG |
| OS&Y (FLANGED) x MONITORED BUTTERFLY (GROOVED) | |



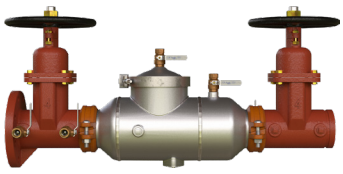
| PART# OPTION | MODEL# OPTION |
|---|---|
| -011 | -NG |
| NRS (GROOVED) x NRS (GROOVED) | |



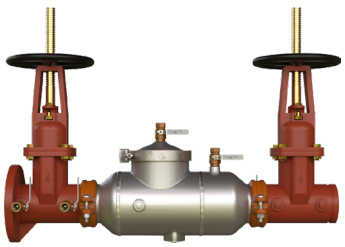
| PART# OPTION | MODEL# OPTION |
|---|---|
| -06 | -OFPIF |
| OS&Y (FLANGED) x POST INDICATOR (FLANGED) | |



| PART# OPTION | MODEL# OPTION |
|---|---|
| -012 | -NFG |
| NRS (FLANGED) x NRS (GROOVED) | |



| PART# OPTION | MODEL# OPTION |
|---|---|
| -07 | -OFG |
| OS&Y (FLANGED) x OS&Y (GROOVED) | |



# SHUT-OFF VALVE OPTIONS

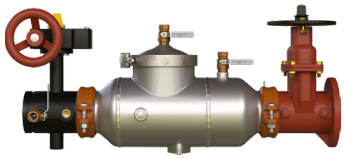
| PART# OPTION | MODEL# OPTION |
|---|---|
| -013 | -PIFBVG |
| POST INDICATOR (FLANGED) x MONITORED BUTTERFLY (GROOVED) | |



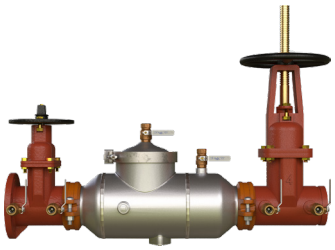
| PART# OPTION | MODEL# OPTION |
|---|---|
| -014 | -PIF |
| POST INDICATOR (FLANGED) x POST INDICATOR (FLANGED) | |



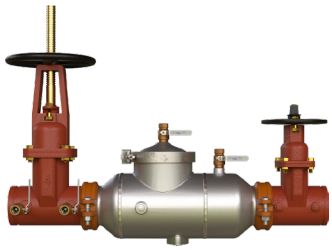
| PART# OPTION | MODEL# OPTION |
|---|---|
| -016 | -BVGPIF |
| MONITORED BUTTERFLY (GROOVED) x | |



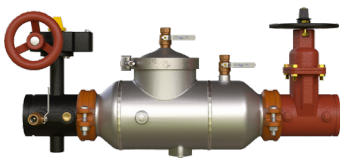
| PART# OPTION | MODEL# OPTION |
|---|---|
| -017 | -FPIOG |
| POST INDICATOR (FLANGED) x OS&Y (GROOVED) | |



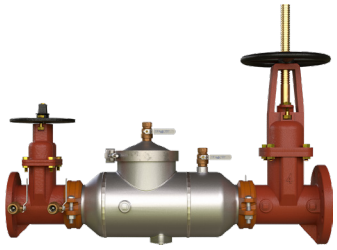
| PART# OPTION | MODEL# OPTION |
|---|---|
| -018 | -OGPIG |
| OS&Y (GROOVED) x POST INDICATOR (GROOVED) | |



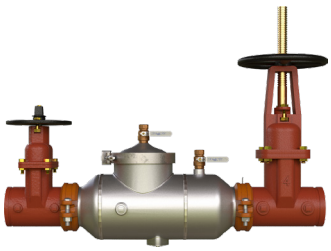
| PART# OPTION | MODEL# OPTION |
|---|---|
| -019 | -BVGPIG |
| MONITORED BUTTERFLY (GROOVED) x | |



| PART# OPTION | MODEL# OPTION |
|---|---|
| -020 | -PIFOF |
| POST INDICATOR (FLANGED) x OS&Y (FLANGED) | |



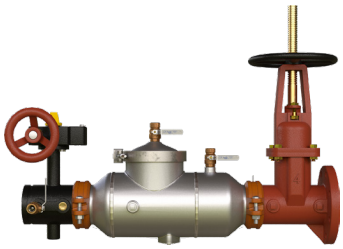
| PART# OPTION | MODEL# OPTION |
|---|---|
| -021 | -PIGOG |
| POST INDICATOR (GROOVED) x OS&Y (GROOVED) | |



| PART# OPTION | MODEL# OPTION |
|---|---|
| -022 | -PIGBVG |
| POST INDICATOR (GROOVED) x MONITORED BUTTERFLY (GROOVED) | |

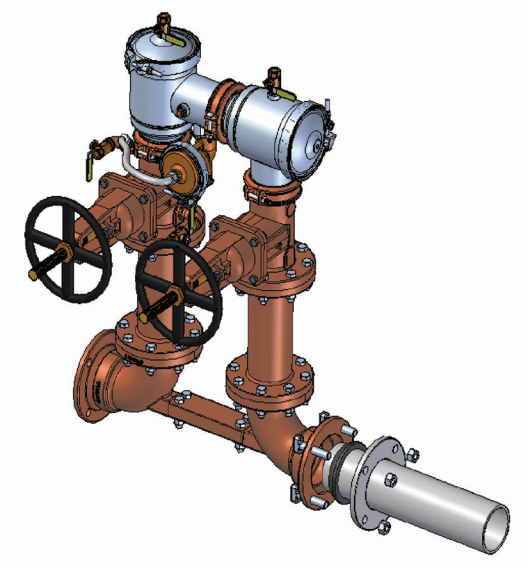


| PART# OPTION | MODEL# OPTION |
|---|---|
| -023 | -BVGoF |
| MONITORED BUTTERFLY (GROOVED) x | |



## 4AN SERIES
VALVE SETTERS





Apollo 4An Setters are specifically designed to match the mounting dimensions of the 4An products. The three-piece configuration simplifies installation and eliminates the need for thrust blocks between the elbows. All hardware is stainless steel and the entire unit is FDA Epoxy coated inside and out. The mechanical joint connections are to AWWA C153 and the flanges are to ANSI B16.1 Class 125.

The Apollo 4An Valve Setter is shown in a typical installation. It is shipped in three separate pieces along with four nuts and four bolts (for center brace). Mechanical Joint accessories such as those shown are for reference only and are not included with the 4An Valve Setter.

### PART NUMBER MATRIX

| 4AN 00 | X |
|---|---|
| SIZE | TYPE |
| 9 - 2-1/2" | F - Flange x Flange |
| 0 - 3" | MJF - Mechanical Joint x Flange |
| A - 4" | MJ - Mechanical Joint x Mechanical Joint |
| C - 6" | |
| E - 8" | |
| G - 10"* | |
| H - 12"* | |

* Flange x Flange only

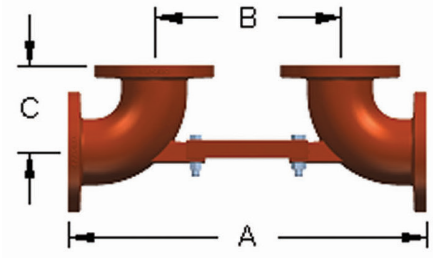
### DIMENSIONS

| SIZE | MODEL | DIMENSIONS (IN.) | | | WT./EA (LB.) |
|---|---|---|---|---|---|
| | | A | B | C | |
| 2-1/2" | F | 23-1/2 | 12-1/2 | 5-1/2 | 43.7 |
| 3" | F | 23-1/2 | 12-1/2 | 5-1/2 | 50.4 |
| | MJF | 21-1/2 | 12-1/2 | 5-1/2 | 50.4 |
| | MJ | 21-1/2 | 12-1/2 | 7 | 50.7 |
| 4" | F | 27 | 14 | 6-1/2 | 87.1 |
| | MJF | 24 | 14 | 6-1/2 | 71.1 |
| | MJ | 24 | 14 | 7-1/2 | 65.1 |
| 6" | F | 32 | 16 | 8 | 147.5 |
| | MJF | 29 | 16 | 8 | 115.3 |
| | MJ | 29 | 16 | 9 | 107.1 |
| 8" | F | 36-1/2 | 18-1/2 | 9 | 236.30 |
| | MJF | 33-1/2 | 18-1/2 | 9 | 216.40 |
| | MJ | 33-1/2 | 18-1/2 | 10 | 193.20 |
| 10" | F | 43.0 | 21 | 11.0 | 388 |
| 12" | F | 50-3/4 | 26-3/4 | 12 | 547 |

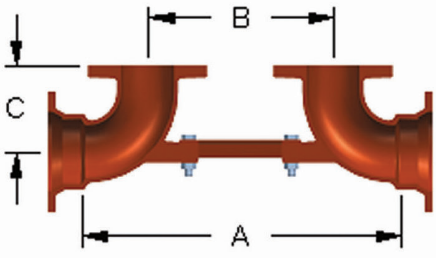
### STANDARD MATERIALS LIST

| | |
|---|---|
| **SETTER BODY** | Ductile Iron (ASTM A536) |
| **SETTER CENTER BRACE** | Hot Rolled Steel (ASTM A36) |
| **SETTER BOLTS/NUTS** | Stainless Steel |
| **COATING** | Fusion-Bonded FDA Grade Epoxy Internal & External |

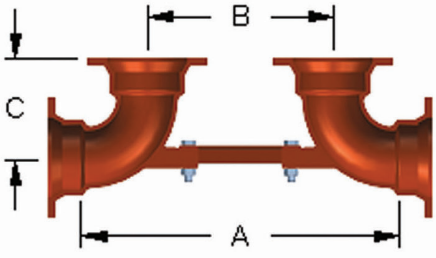
Contact local water authorities for installation/service




**FLANGE X FLANGE (F)**




**MECHANICAL JOINT X FLANGE (MJF)**




**MECHANICAL JOINT X MECHANICAL JOINT (MJ)**

# PRESSURE DROP Calculator

Apollo Backflow Preventers are designed to provide positive protection against backflow while also producing the lowest possible pressure drop at all flow rates.

Find accurate, 3rd party verified, pressure loss quickly & easily using the Apollo Backflow Pressure Drop Calculator.

## PDC.APOLLOVALVES.COM

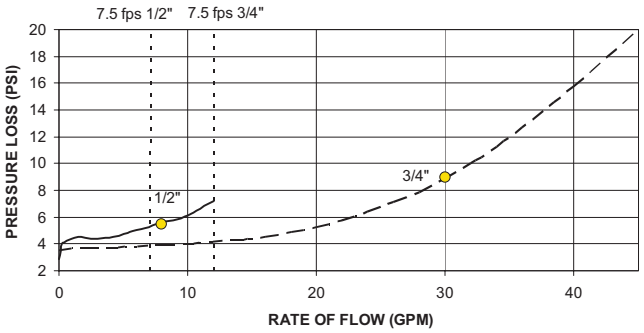
**PRESSURE LOSS CURVE NOTES:**
Flow curves directly reflect data collected by independent approval laboratories.
All data points are based on increasing flow data, from zero GPM to rated flow (opening curve.
For higher flow rates/pressure loss information - contact factory.

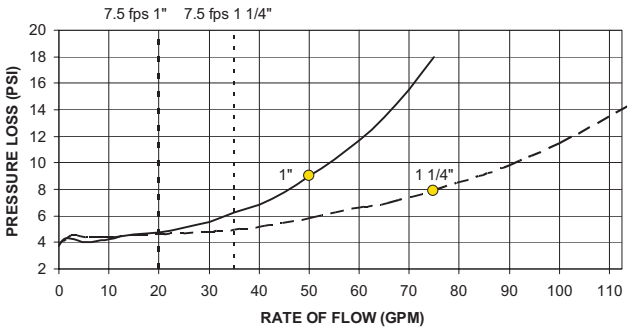
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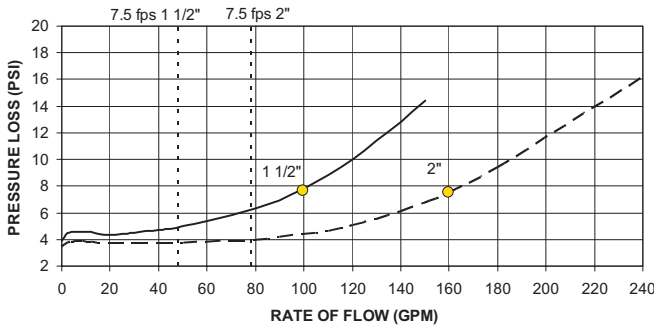
### DC 4A / DCLF 4A & DC 4AST / DCLF 4AST (1-1/2" - 2")
FLOW CURVES

Pressure loss versus flow data as determined by independent approval agencies.





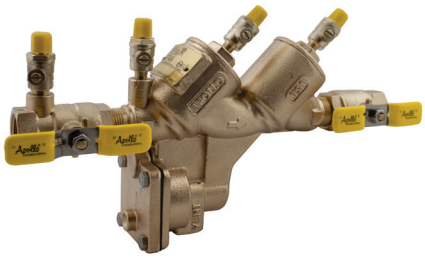



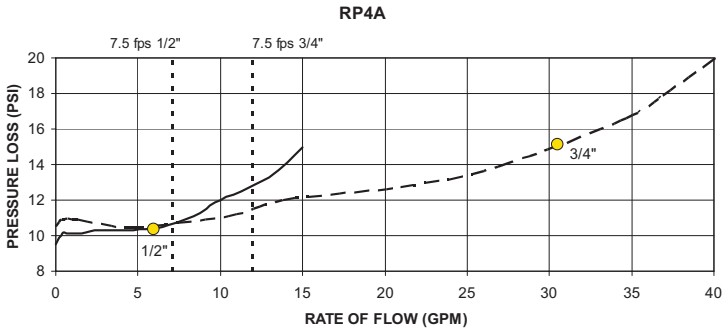



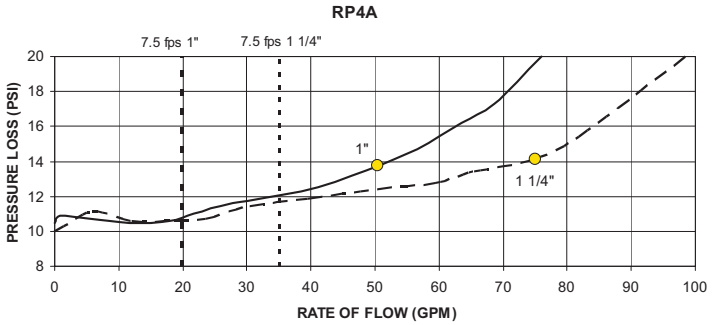

● **METER RATED FLOW**

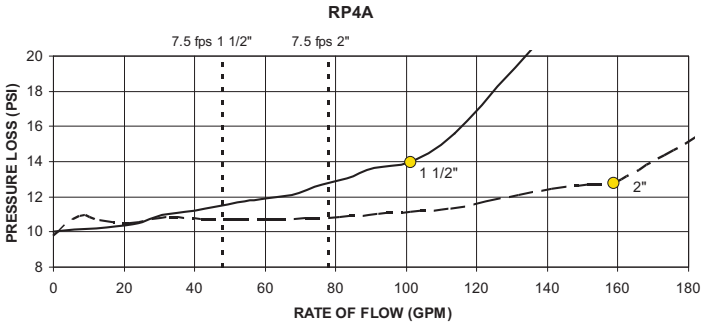
## RP 4A / RPLF 4A & RP 4AST / RPLF 4AST (1-1/2” - 2”)

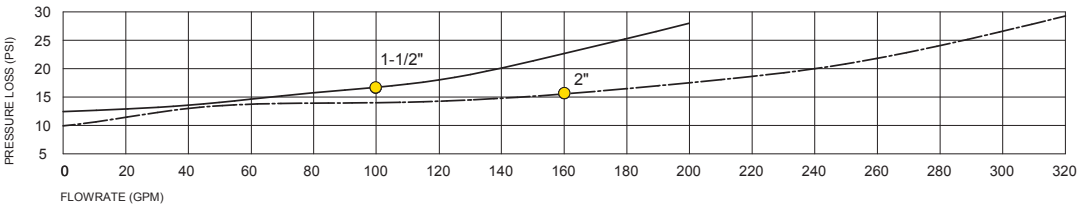
FLOW CURVES





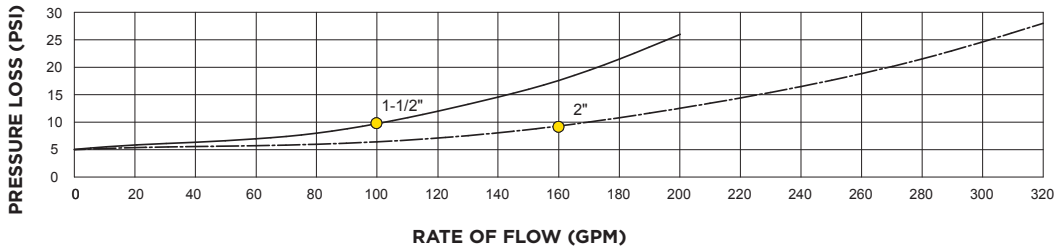




### METER RATED FLOW

Pressure loss versus flow data as determined by independent approval agencies.

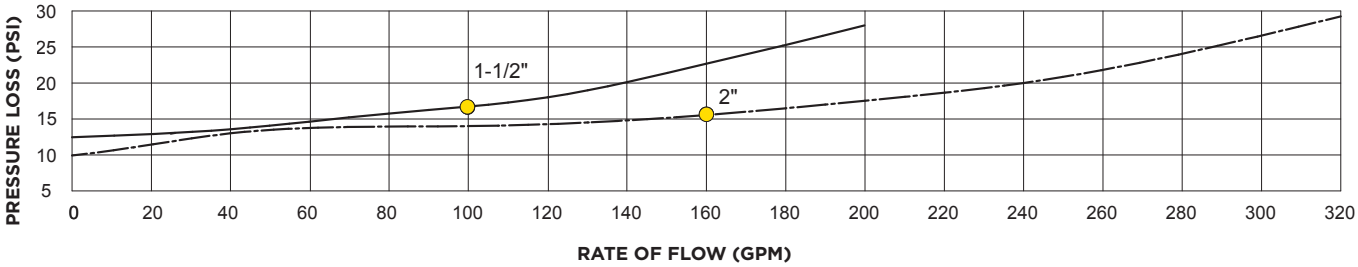
## DCDA2 4A / DCDA2LF 4A
FLOW CURVES



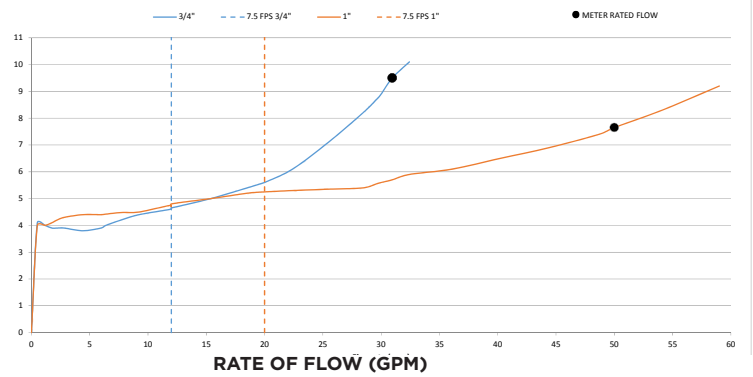



## RPDA2/RPDA2LF 4A SERIES
FLOW CURVES





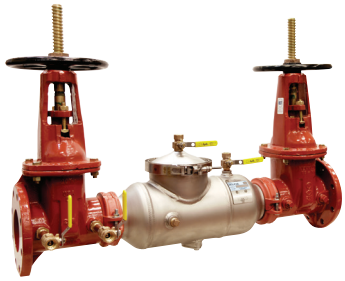

## DC 4AY / DCLF 4AY
FLOW CURVES

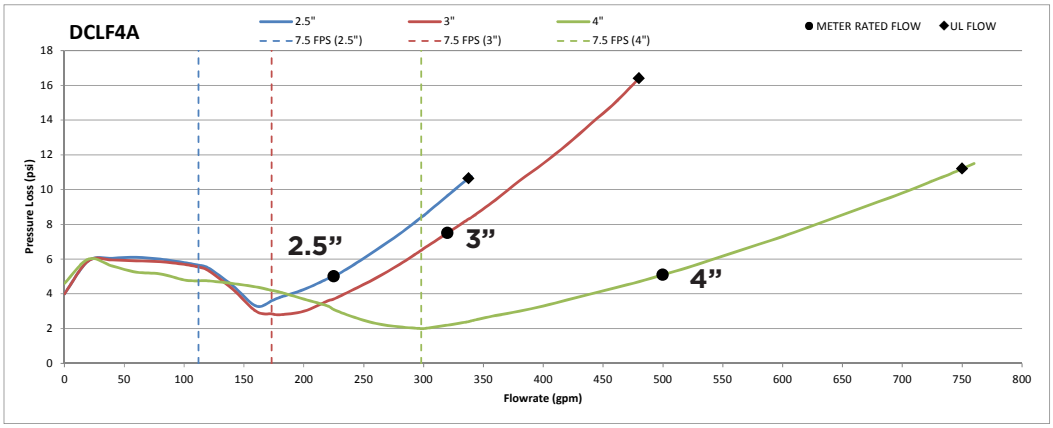


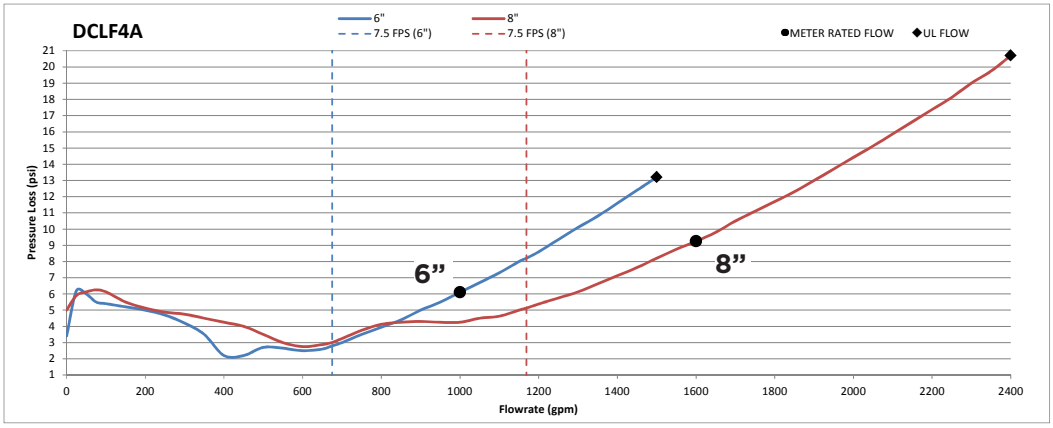


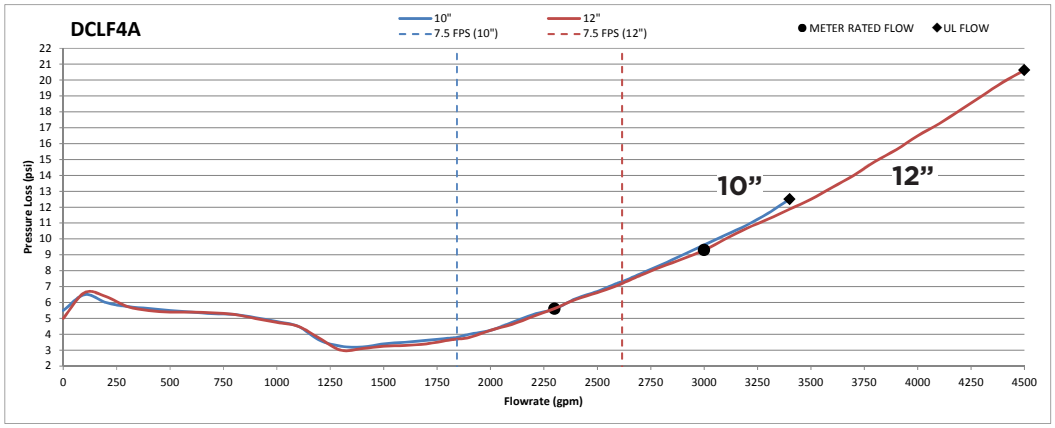

**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

## DCLF 4A
FLOW CURVES





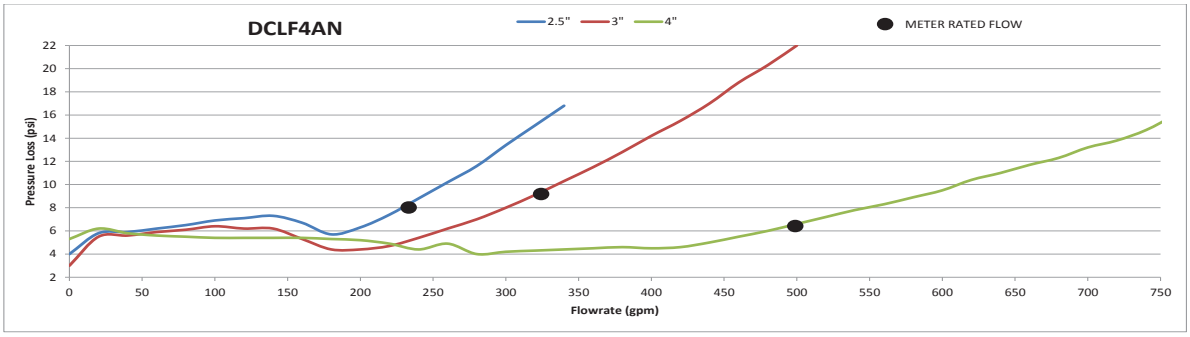



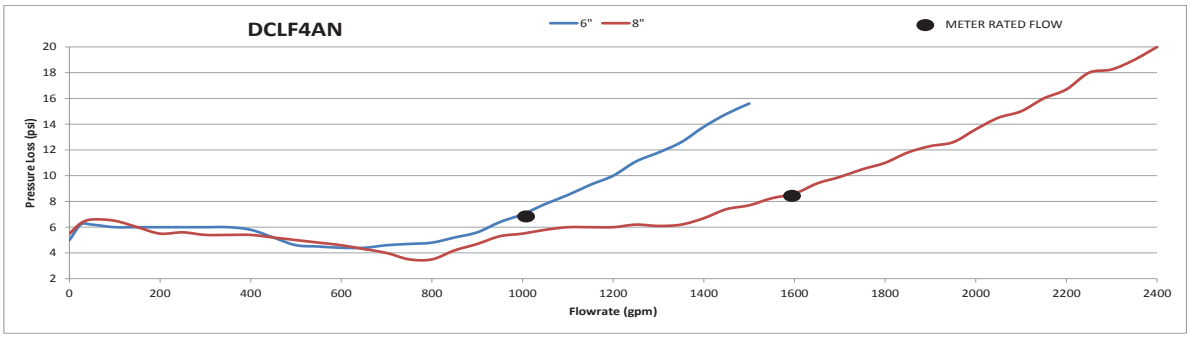



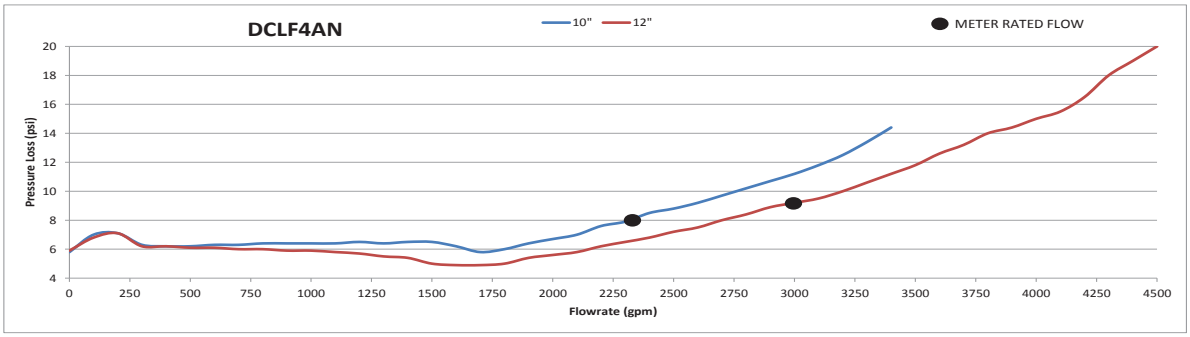

**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

## DCLF 4AN
FLOW CURVES



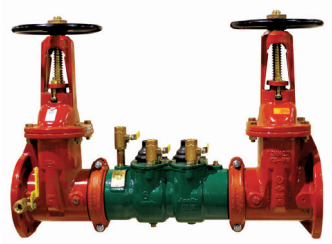


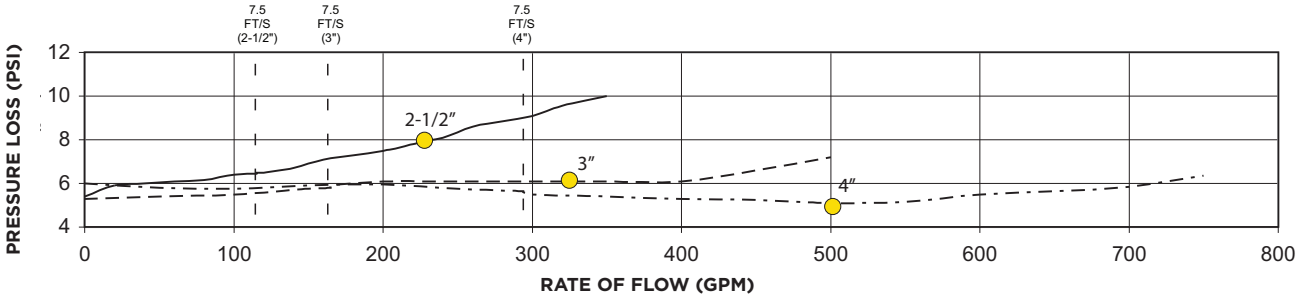



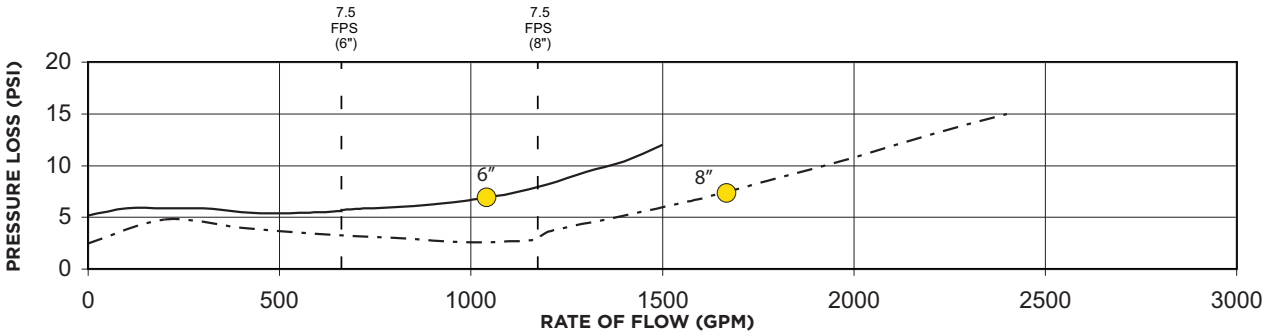




**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

## DC 4SGLF / DCDA 4SG
FLOW CURVES

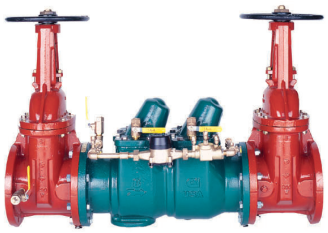


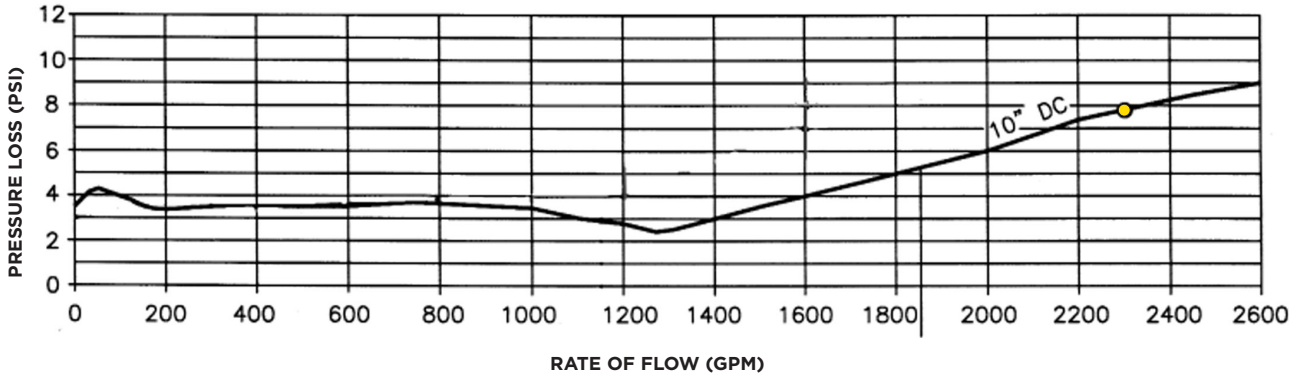



## DC 4S / DCDA 4S
FLOW CURVES

(DC 4S 10"- Flanged Internal Connections Only)

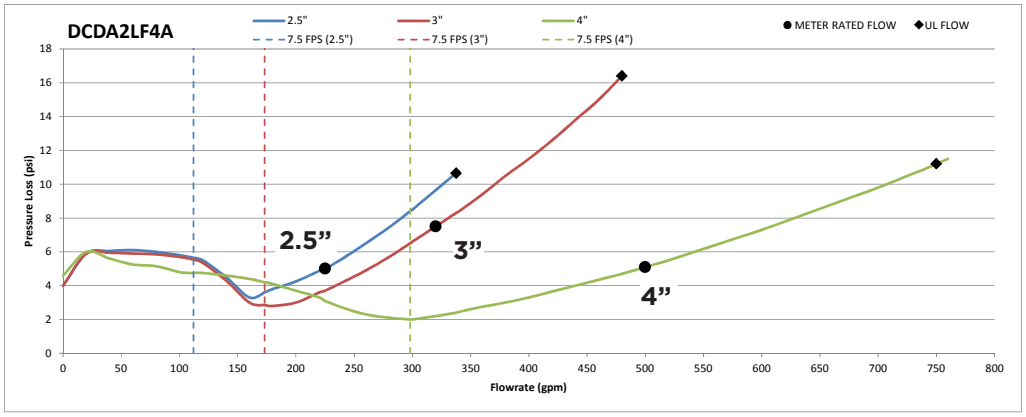


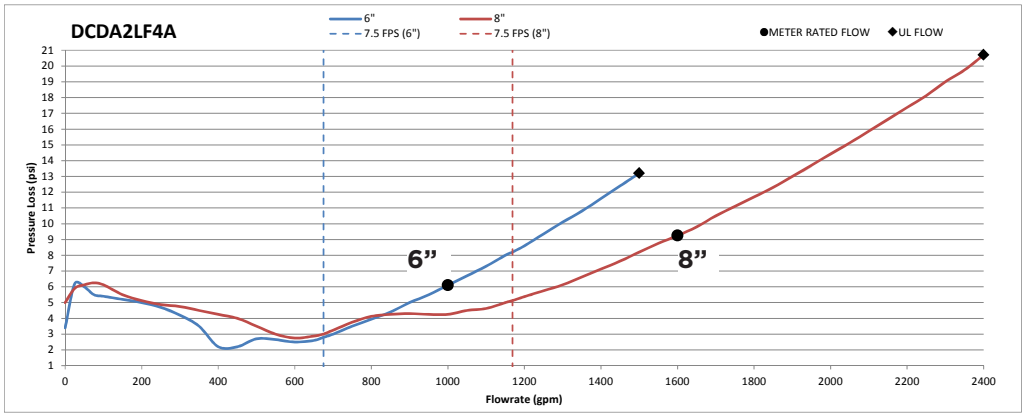


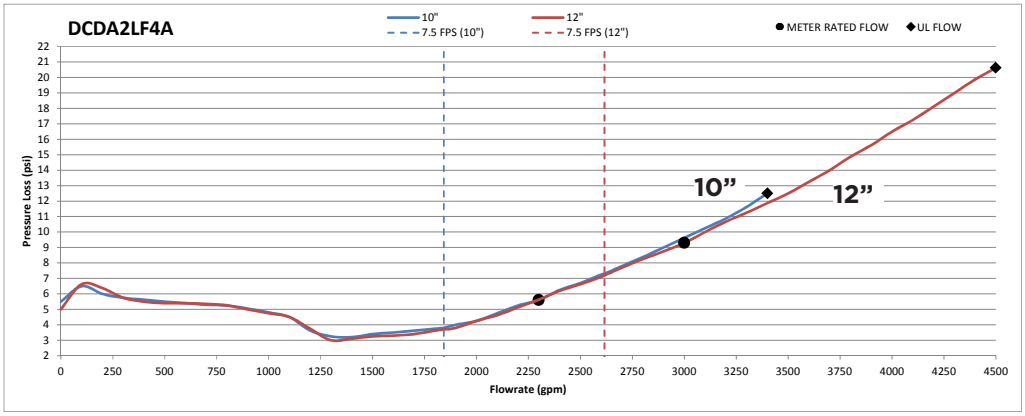

**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

## DCDALF 4A / DCDA2LF 4A
FLOW CURVES





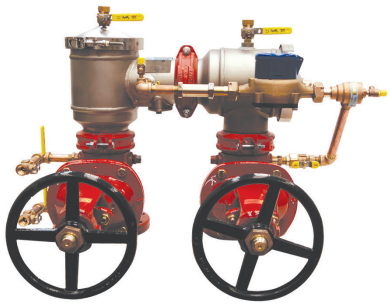



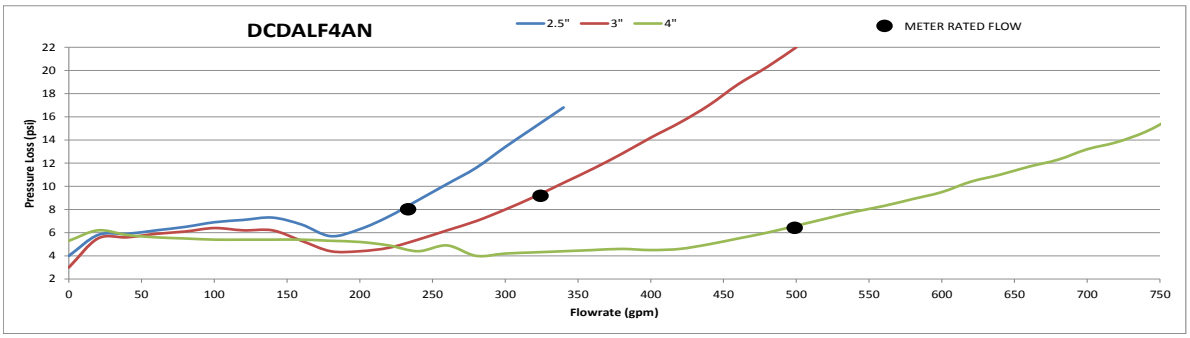



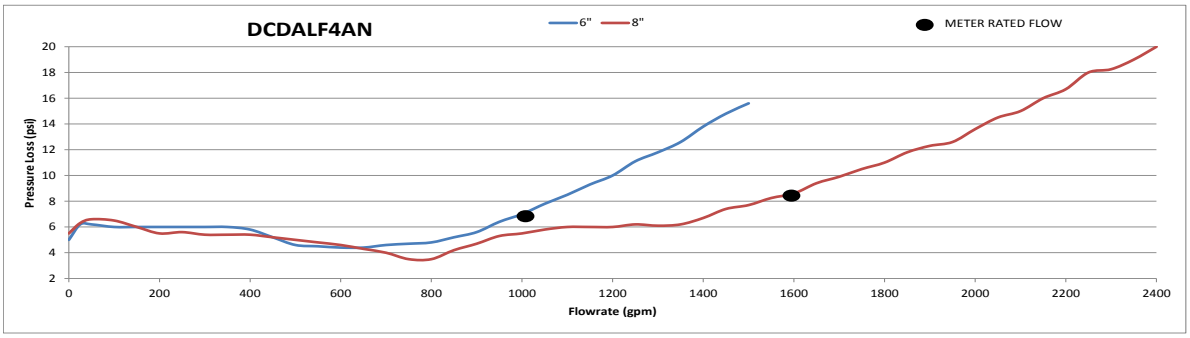

**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

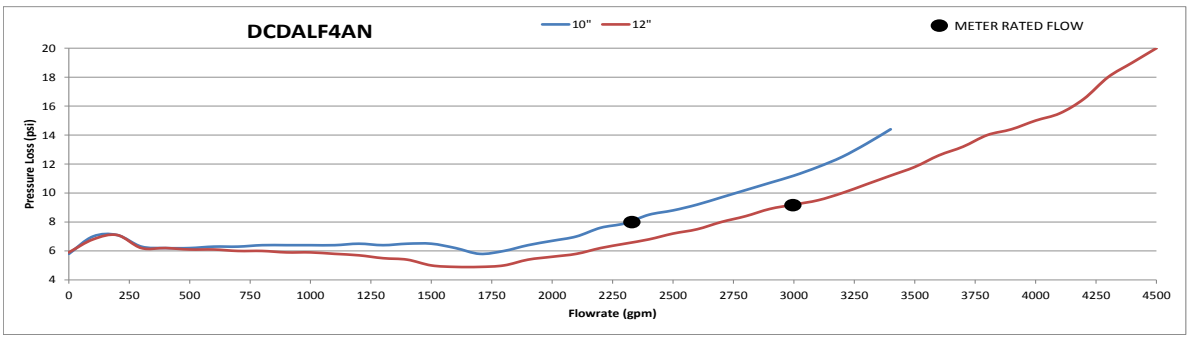
## DCDALF 4AN / DCDA2LF 4AN
FLOW CURVES

Pressure loss versus flow data as determined by independent approval agencies.





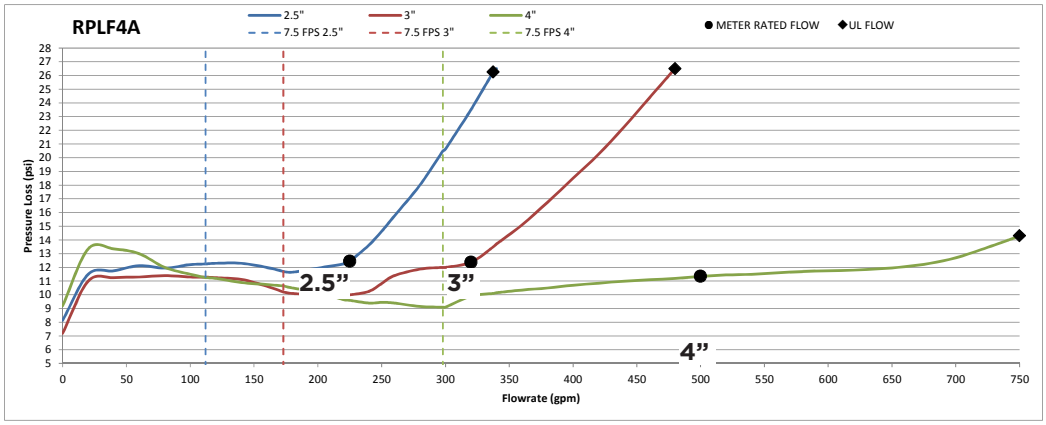



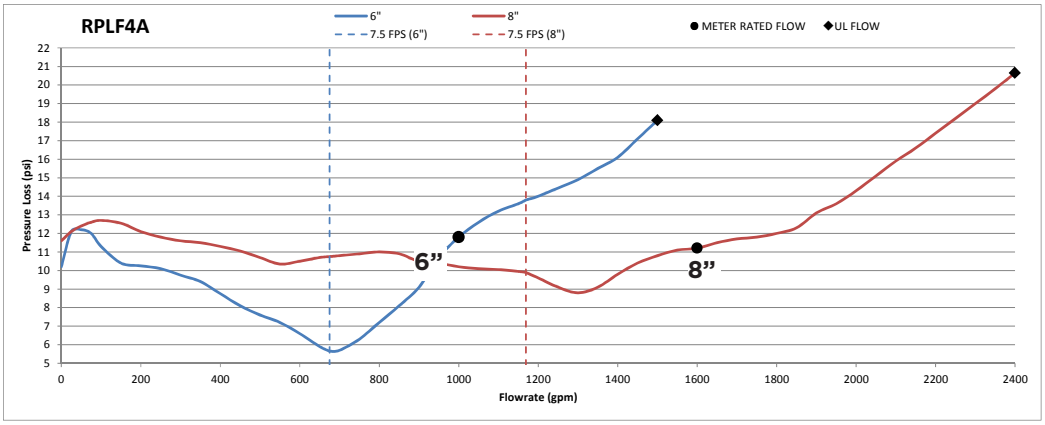

**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

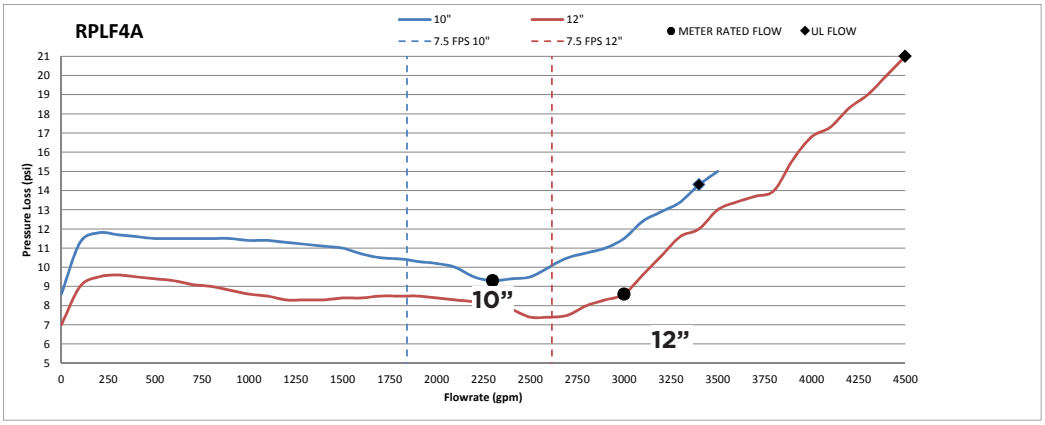
## RPLF 4A
FLOW CURVES

Pressure loss versus flow data as determined by independent approval agencies.





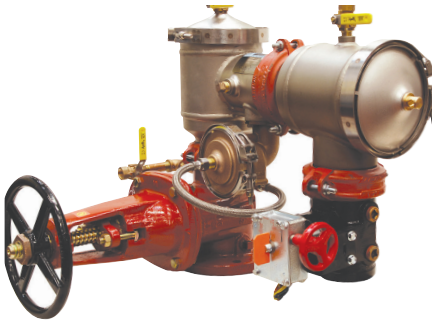



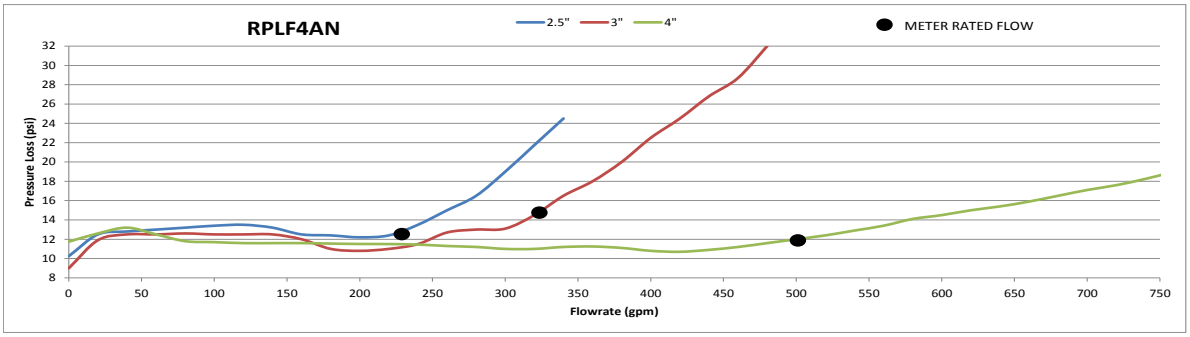



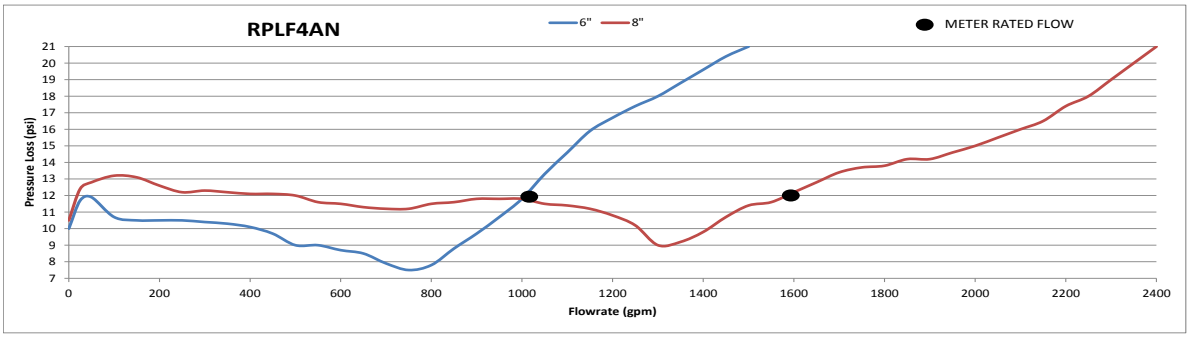

**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

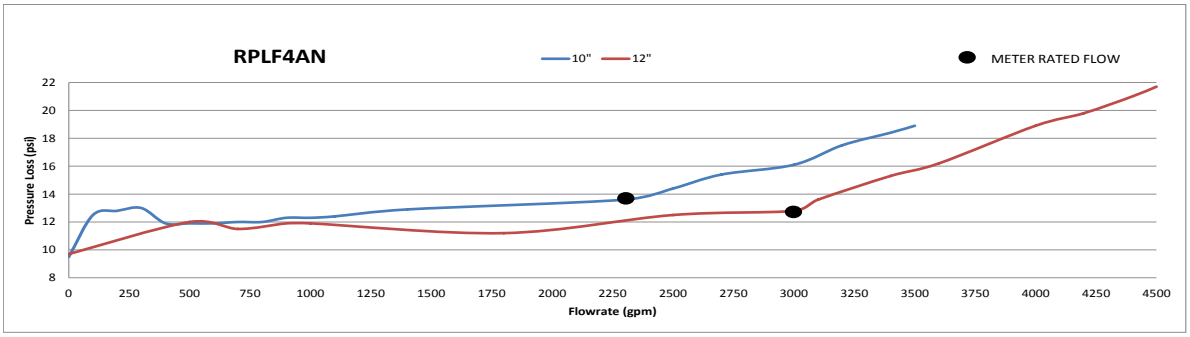
## RPFL 4AN
FLOW CURVES

Pressure loss versus flow data as determined by independent approval agencies.





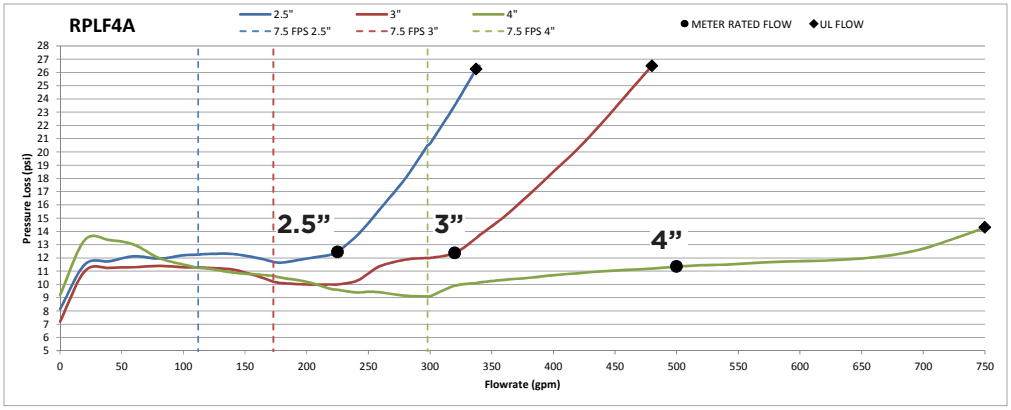



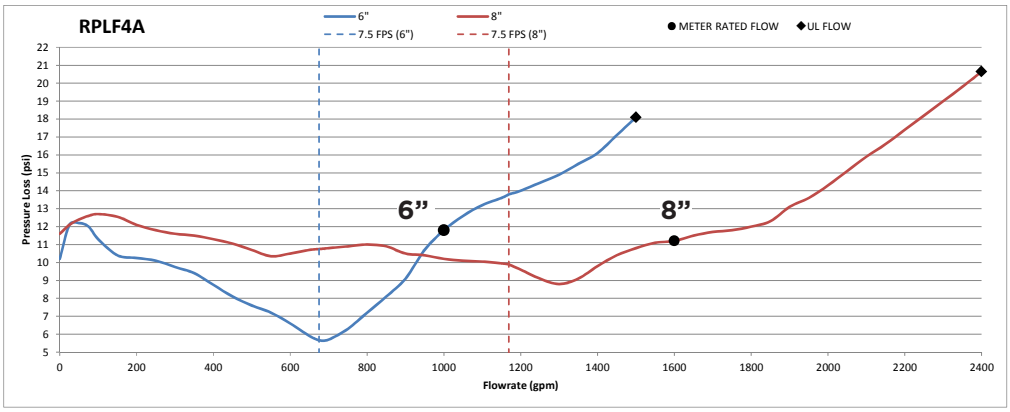

**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

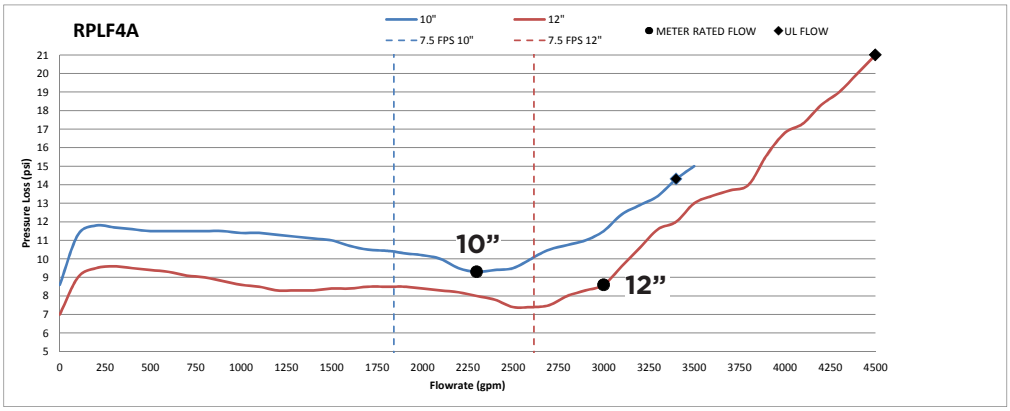
## RPDALF 4A / RPDA2LF 4A
FLOW CURVES

Pressure loss versus flow data as determined by independent approval agencies.





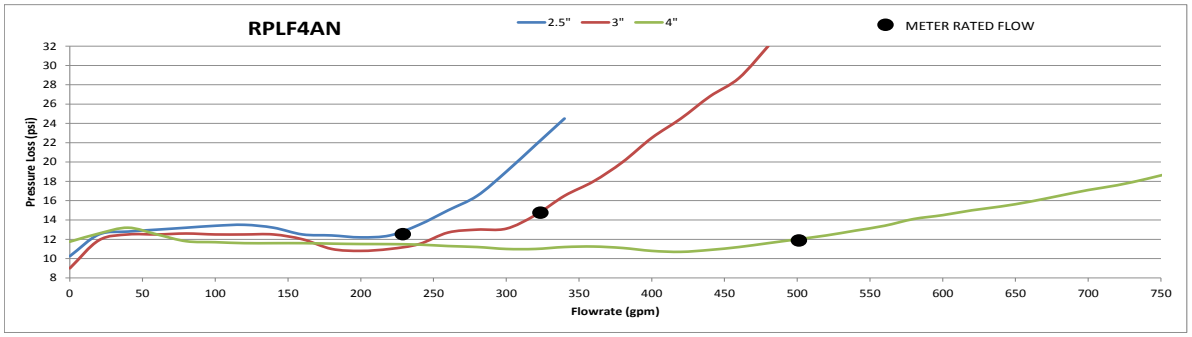



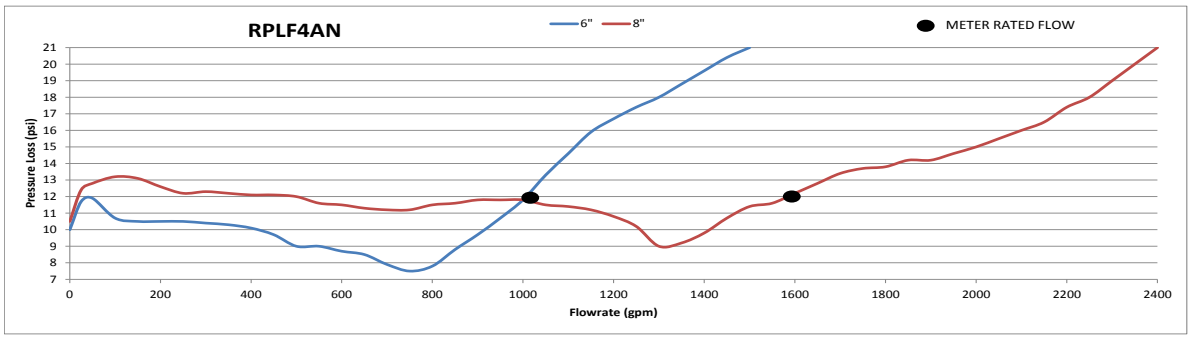



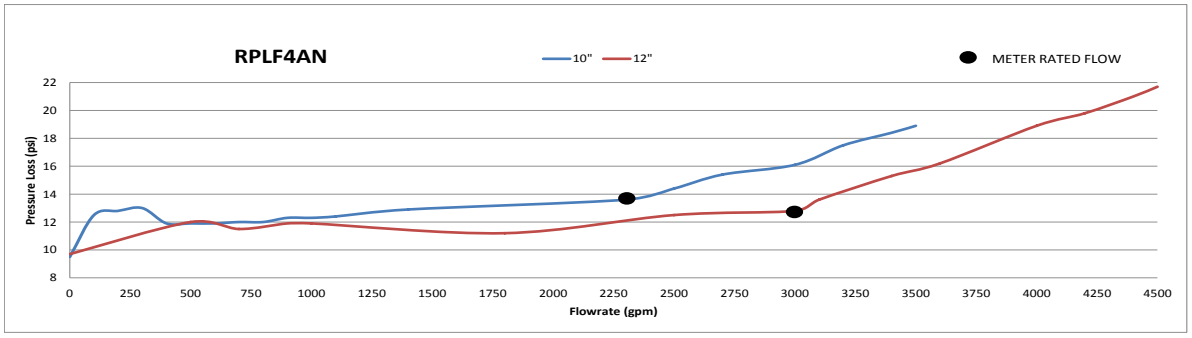

**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

## RPDALF 4AN / RPDA2LF 4AN
FLOW CURVES





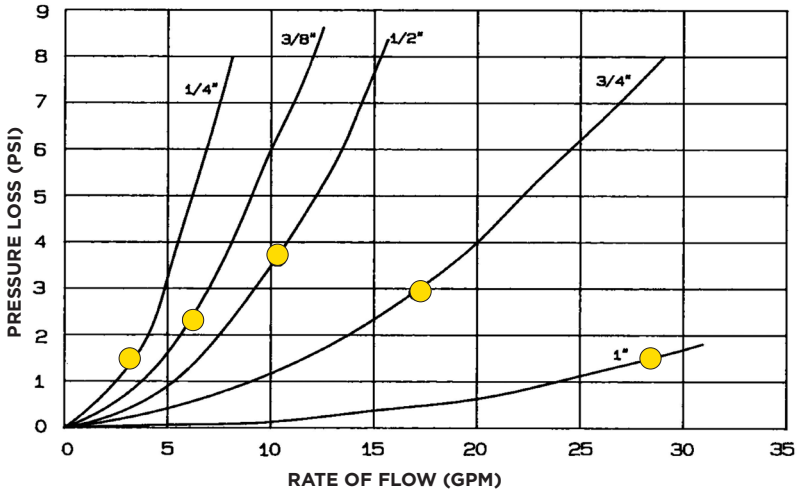




**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

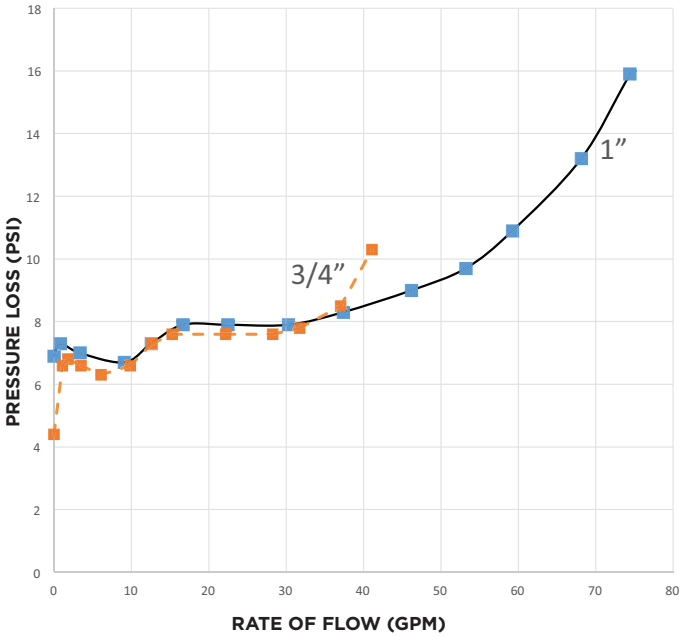
## AVB1/ABV2/AVB1LF
FLOW CURVES






## SVB 4A / SVBLF 4A
FLOW CURVES

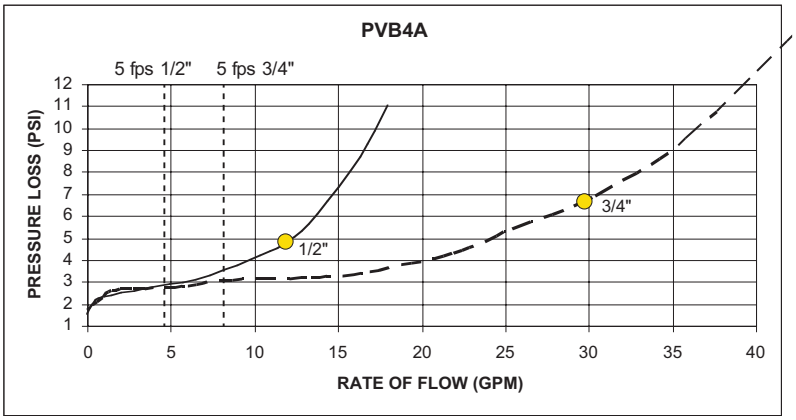


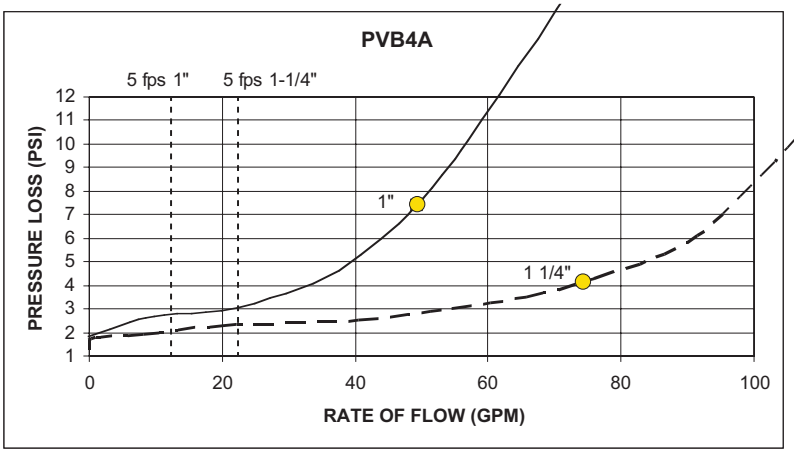


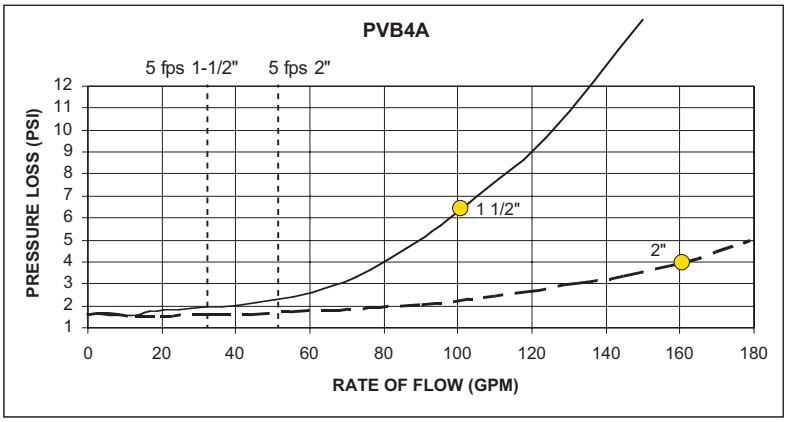

**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

## PVB 4A / PVBLF 4A
FLOW CURVES





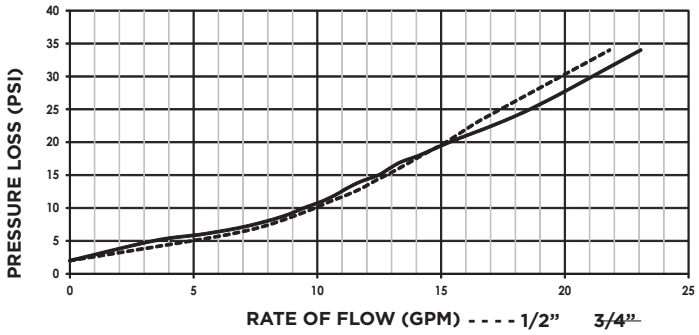




Note: 5 feet per second is the normal flow rate for irrigation systems (where majority of PVBs are used)

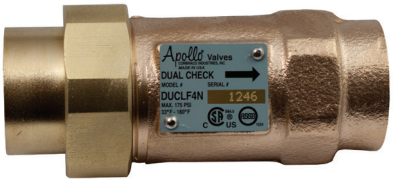
**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

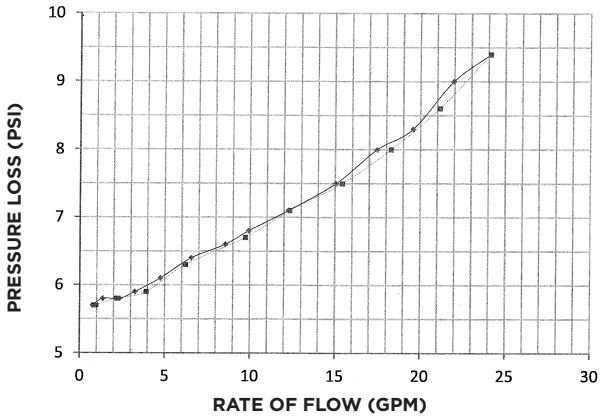
## DCAP / DCAP LF
FLOW CURVES





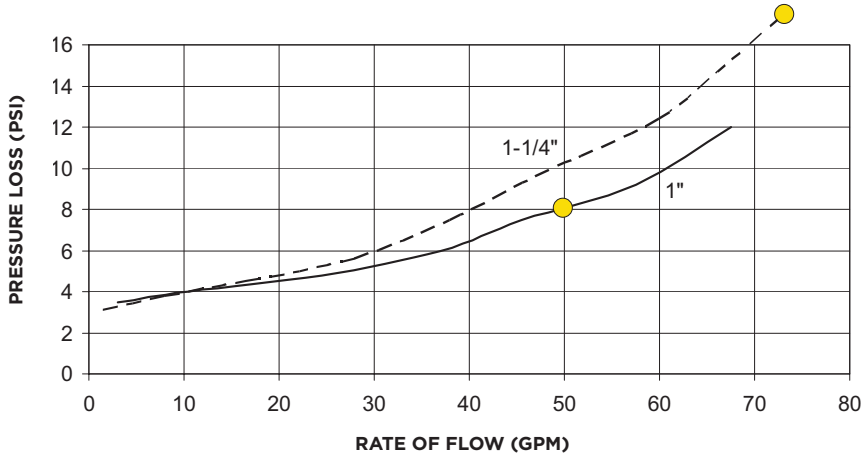

## DUC 4A / DUCLF 4A
FLOW CURVES



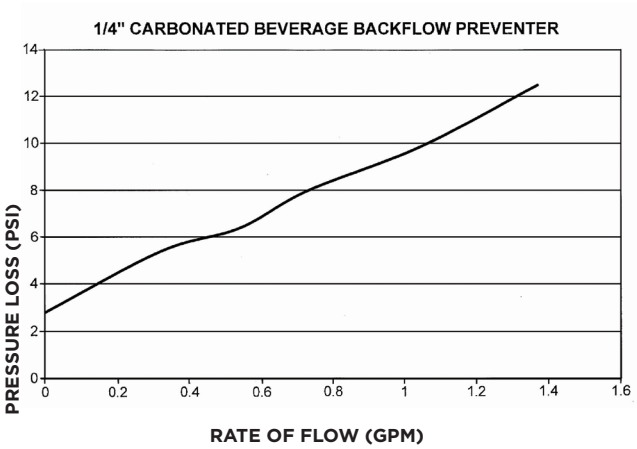
## DUC 4FP
FLOW CURVES

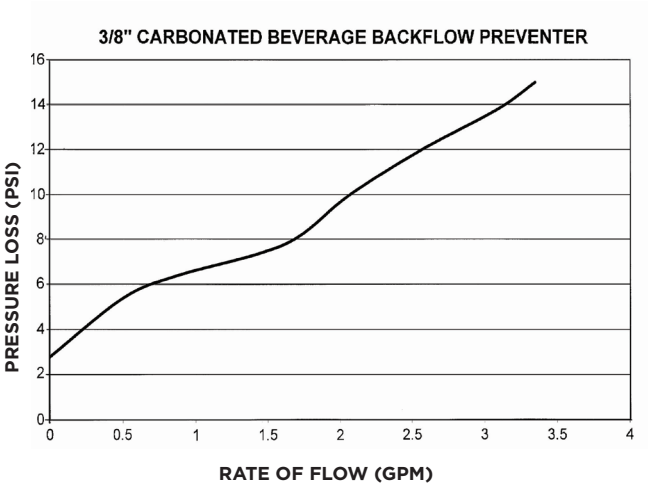





## CBBP-A
FLOW CURVES

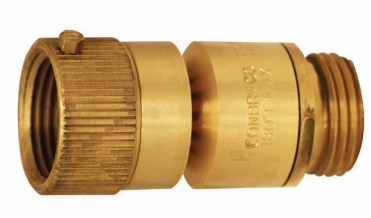


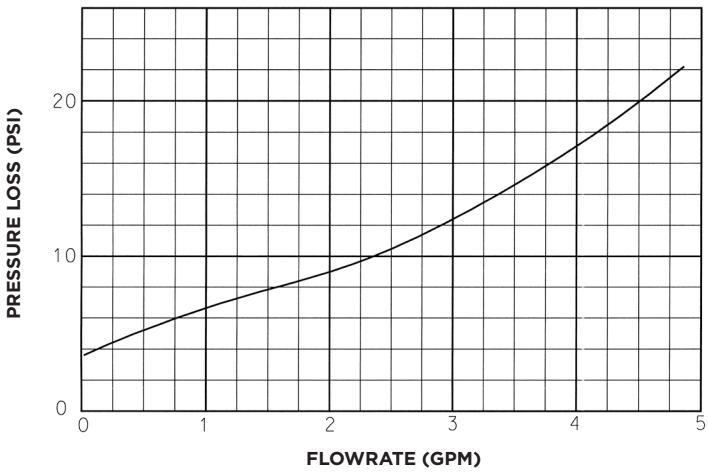



**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

**HBDUC**
FLOW CURVES

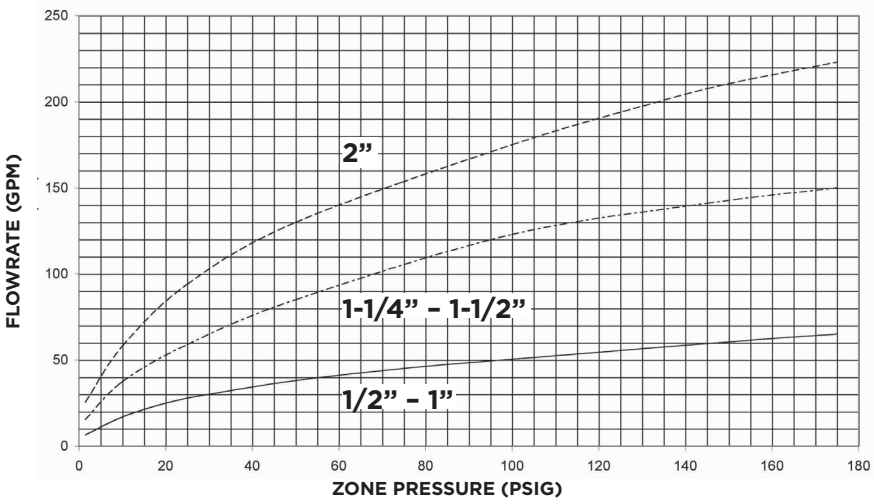





**METER RATED FLOW**
Pressure loss versus flow data as determined by independent approval agencies.

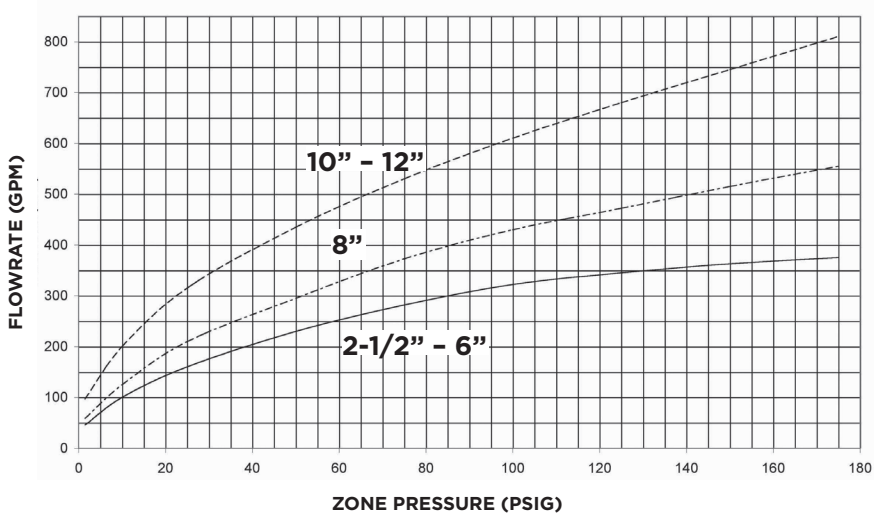
## RELIEF VALVE
DISCHARGE RATES

### RV DISCHARGE RATES RP4A 1/2” TO 2”

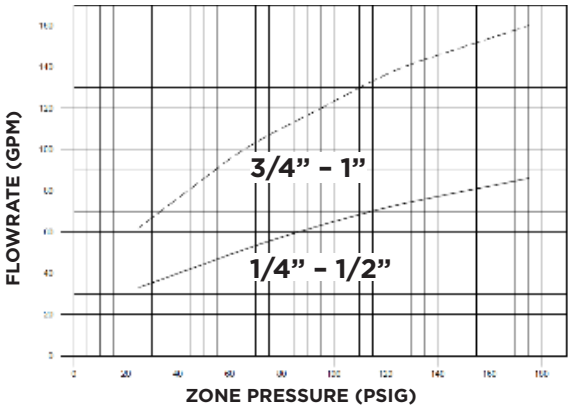





### RV DISCHARGE RATES RP4A 2-1/2” TO 12”




### RV DISCHARGE RATES RPS40



# WARRANTY &
# TERMS AND CONDITIONS OF SALE

Aalberts integrated piping systems warrants, to its initial purchaser only, that its products which are delivered to this initial purchaser will be of the kind described in the order or price list and will be free of defects in workmanship or material for a period of FIVE years from the date of delivery to you, our initial purchaser. This warranty applies to Apollo brand product with "Made in the USA" markings only.

Should any failure to conform to this warranty appear within FIVE years after the date of the initial delivery to our initial purchaser, Aalberts integrated piping systems will, upon written notification thereof and substantiation that the goods have been stored, installed, maintained and operated in accordance with Aalberts integrated piping systems' recommendations and standard industry practice, correct such defects by suitable repair or replacement at Aalberts integrated piping systems' own expense.

APOLLO INTERNATIONAL PRODUCTS: Aalberts integrated piping systems warrants its International products, to its initial purchaser only, that its international products which are delivered to this initial purchaser will be of the kind described in the order or price list and will be free of defects in workmanship or material for a period of TWO years from the date of delivery to you, our initial purchaser.

THIS WARRANTY IS EXCLUSIVE AND IS IN LIEU OF ANY IMPLIED WARRANTY OF MERCHANTABILITY, FITNESS FOR A PARTICULAR PURPOSE OR OTHER WARRANTY OF QUALITY, WHETHER EXPRESSED OR IMPLIED, EXCEPT THE WARRANTY OF TITLE AND AGAINST PATENT INFRINGEMENT. Correction of non-conformities, in the manner and for the period of time provided above, shall constitute fulfillment of all liabilities of Aalberts integrated piping systems to our initial purchaser, with respect to the goods, whether based on contract, negligence, strict tort or otherwise. It is the intention of Aalberts integrated piping systems that no warranty of any kind, whether expressed or implied shall pass through our initial purchaser to any other person or corporation.

LIMITATION OF LIABILITY: AALBERTS INTEGRATED PIPING SYSTEMS SHALL NOT UNDER ANY CIRCUMSTANCES BE LIABLE FOR SPECIAL OR CONSEQUENTIAL DAMAGES SUCH AS, BUT NOT LIMITED TO, DAMAGES OR TO LOSS OF OTHER PROPERTY OR EQUIPMENT, LOSS OF PROFITS OR REVENUE, COST OF CAPITAL, COST OF PURCHASED OR REPLACEMENT GOODS, OR CLAIMS OF CUSTOMERS OF OUR INITIAL PURCHASER. THE REMEDIES OF OUR INITIAL PURCHASER, AND ALL OTHERS, SET FORTH HEREIN, ARE EXCLUSIVE, AND THE LIABILITY OF AALBERTS INTEGRATED PIPING SYSTEMS WITH RESPECT TO SAME SHALL NOT, EXCEPT AS EXPRESSLY PROVIDED HEREIN, EXCEED THE PRICE OF THE GOODS UPON WHICH SUCH LIABILITY IS BASED.

* It is the end user's responsibility to confirm that items intended for use satisfy local codes and standards.

## TERMS AND CONDITIONS OF SALE

- Payment: Net 30 days.
- All prices F.O.B. shipping point with freight allowed on shipments of $6,000 net minimum to all shipping points within the United States excluding Alaska and Hawaii. No freight allowed on Air Freight or Parcel Post shipments. Claims for shortages must be made within 10 days of receipt of material. Our responsibility ends when a receipt is furnished us by the carrier.
- No Invoice Rendered For Less Than $50.00.
- No freight will be allowed on Air Freight, Air Express, Parcel Post or U.P.S. shipments.
- All Aalberts integrated piping systems products may be combined to make sufficient weight for full freight allowance.
- Phone order quoted prices are subject to correction. Prices and designs are subject to change without notice.
- Orders for material or special design or specification are made to customer's order and are not subject to cancellation or return.
- All goods returned to us will not be accepted unless a full explanation has been made and our written authorized permission obtained in advance. All goods returned – if accepted – will be credited at invoice price, less 30% for service and rehandling charges, plus shipping expenses.
- We reserve the right to adjust orders to box quantities.

THROUGHOUT THIS CATALOG, PRODUCTS THAT ARE CERTIFIED **LEAD FREE*** OR HAVE A **LEAD FREE*** OPTION WILL BE IDENTIFIED WITH THESE LOGOS.

*LEAD FREE: The wetted surfaces of this product shall contain no more than 0.25% lead by weighted average. Complies with Federal Public Law 111-380. ANSI 3rd party approved and listed.

Aalberts integrated piping systems offers a wide range of Apollo products for potable and non-potable applications. When the use of lead free valves is required by code, specification or legislation, it is the sole responsibility of our customers to ensure that only lead free Apollo products are installed in systems intended for potable water service. Further information related to our product offering and the U.S. Safe Drinking Water Act (SDWA) is available at www.apollovalves.com/lead_free or by contacting Aalberts integrated piping systems Customer Service.

** Any imported products will be clearly identified as "Apollo International™" or "Aalberts integrated piping systems™ International".

# NOTES

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"Apollo" Valves

Authorized Distributor
**MONILEK OILFIELD**

MONILEK
OILFIELD

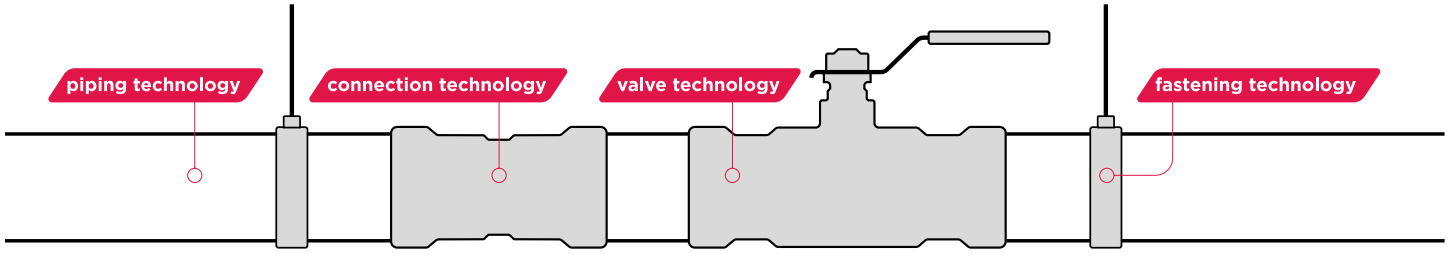
E: sales@monilek.com
W: www.monilekgroup.com

Since the inception in 1975, Aalberts is where technology matters and real progress can be made - humanly, financially and environmentally. At Aalberts, we create mission-critical products surrounding valve and connection technology supporting our brand, “Apollo”.

The manufacturing of Consolidated Brass Company (later called Conbraco) began in 1928, in Detroit, Michigan with a focus on ball cocks, air cocks and similar products. In 1955, the manufacturing operation moved to the Carolinas spanning North and South Carolina with 3 facilities. In 2010, Aalberts, a global Dutch company, purchased Conbraco. Today the “Apollo” brand is manufactured under the company name, Aalberts integrated piping systems, in 3 locations throughout South Carolina. Over the last 90 years the product portfolio has continued to grow to encompass ball valves, butterfly valves, safety relief valves, control valves, mixing valves and backflow preventors.

These systems are applicable for key verticals such as residential, commercial, industrial, and utility. Our products are designed and developed by our team of innovators and engineers. Our design services team can assist in helping you determine the best techniques for your application with our products. We are the only company that truly offers customers a complete solution every time that is made and sourced from the same organization.

**Don’t just buy products, buy solutions.**




BFCA9000 11/23 1,500

**Aalberts integrated piping systems**
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