# Model 350DA

Backflow Preventer - Ductile Iron Double Check Detector Assembly

TAG

## Application

Designed for installation on water lines in fire protection systems to protect against both backsiphonage and backpressure of polluted water into the potable water supply. Model 350DA shall provide protection where a potential health hazard does not exist. Incorporates metered by-pass to detect leaks and unauthorized water use. Utilizes a by-pass backflow assembly 3/4" Model 950XLD.

LEAD FREE

## Standards Compliance

(Sizes 2-1/2" - 10" Horiz. & Vert.) (12" Horizontal Only)

- ASSE® Listed 1048 (Sizes 2-1/2" thru 12")
- CSA® Certified B64.5 (Sizes 2-1/2" thru 8", & 12")
- AWWA Compliant C510 (Sizes 2-1/2" thru 12"), and C550
- UL® Classified (Sizes 2-1/2" thru 12")
- C-UL® Classified (Sizes 2-1/2" thru 12")
- FM® Approved (Sizes 2-1/2" thru 10")
- NYC MEA 147-99-M Vol 4 (2-1/2" - 10)
- Approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California (Sizes 2-1/2" thru 12")
- Meets the requirements of NSF/ANSI/CAN 61 and 372*

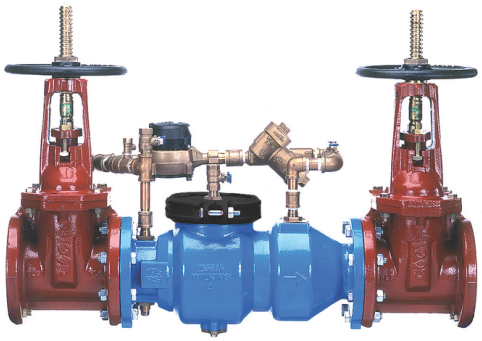
*(0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)

## Materials

| | |
|---|---|
| Main Valve Body | Ductile Iron ASTM A536 |
| Access Covers | Ductile Iron ASTM A536 |
| Coatings | Fusion Epoxy Finish (meets the requirements of NSF/ANSI/CAN 61) |
| Elastomers | Buna Nitrile (FDA approved)<br>EPDM (FDA approved) |
| Fasteners | 300 series Stainless Steel |
| Internals | 300 series Stainless Steel<br>NORYL™ |
| Polymers | NORYL™ |
| Springs | 300 series Stainless Steel |

## Features

| | |
|---|---|
| Sizes | 2-1/2", 3", 4", 6", 8", 10", 12" |
| Maximum working water pressure | 175 PSI |
| Maximum working water temperature | 140°F |
| Hydrostatic test pressure | 350 PSI |
| End connections (Grooved for steel) | AWWA C606 |
| End connections (Flanged bolt pattern) | ASME B16.42 Class 150 |



4" 350DA

## Options (Suffixes can be combined)

| | |
|---|---|
| | With flanged end OS&Y gate valves (standard) |
| | With gpm meter (standard) |
| **L** | Less shut-off valves (flanged body connections) |
| **LM** | Less water meter |
| **CFM** | With cu ft/min meter |
| **CMM** | With cu meter/min |
| **PI** | With post indicator gate valves |
| **BG** | With grooved end butterfly valves with integral supervisory switches (2-1/2" - 10") |
| **G** | With grooved end connections (2-1/2" - 10") |
| **GF** | With grooved inlet gate connection and flanged outlet gate connection (2-1/2" - 10") |
| **FG** | With flanged inlet connection and grooved outlet connection (2-1/2" - 10") |

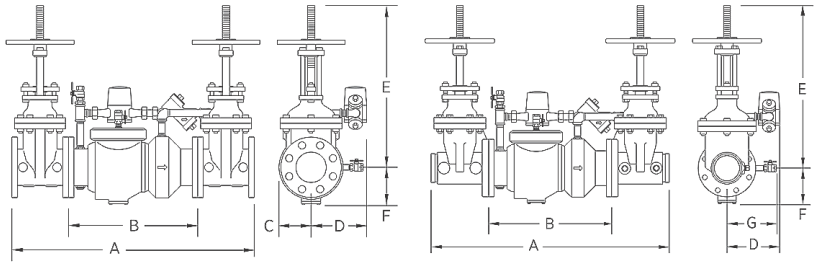
## Accessories

- Repair Kits (2-1/2" - 3")
- Repair Kits (4" - 12")
- Thermal Expansion Tank XT
- OSY Gate Valve Supervisory Switch OSY-40

## Dimensions & Weights (do not include pkg.)

| MODEL 350ADA SIZE | | WEIGHT | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|
| | | LESS SHUT - OFF VALVES | | OS&Y GATE VALVES FLANGED | | OS&Y GATE VALVES GROOVED | | BUTTERFLY VALVES GROOVED | |
| in. | mm | lbs. | kg | lbs. | kg | lbs. | kg | lbs. | kg |
| 2 1/2 | 65 | 68 | 31 | 178 | 81 | 160 | 73 | 140 | 64 |
| 3 | 80 | 68 | 31 | 198 | 90 | 150 | 68 | 120 | 54 |
| 4 | 100 | 106 | 48 | 296 | 134 | 282 | 128 | 190 | 86 |
| 6 | 150 | 180 | 82 | 480 | 218 | 454 | 206 | 298 | 135 |
| 8 | 200 | 374 | 170 | 850 | 386 | 802 | 364 | 548 | 249 |
| 10 | 250 | 404 | 183 | 1222 | 554 | 1156 | 524 | 792 | 359 |
| 12 | 300 | 463 | 210 | 1623 | 736 | n/a | n/a | n/a | n/a |

**Attention:**
Model 350DA (flange body) and Model 350DAG (grooved body) have different lay lengths.



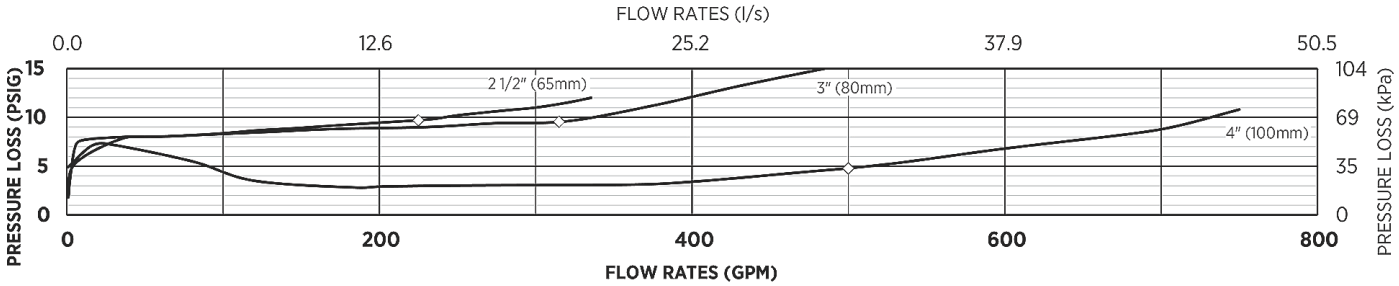

MODEL 350DAG SHOWN ABOVE

| MODEL 350DA SIZE | | DIMENSION (approximate) | | | | | | | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| | | A | | A WITH BUTTERFLY VALVES | | B LESS GATE VALVES | | C | | D | | E OS&Y OPEN | | E OS&Y CLOSED | | E WITH BUTTERFLY VALVES | | F | | G | |
| in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm | in. | mm |
| 2 1/2 | 65 | 31 | 787 | 28 | 711 | 15 7/8 | 403 | 3 3/4 | 95 | 9 | 229 | 17 3/4 | 451 | 15 3/8 | 391 | 13 3/4 | 349 | 3 1/2 | 89 | 7 1/4 | 184 |
| 3 | 80 | 32 | 813 | 28 1/2 | 724 | 15 7/8 | 403 | 3 3/4 | 95 | 9 | 229 | 20 1/4 | 514 | 17 | 432 | 13 3/4 | 349 | 3 1/2 | 89 | 7 1/4 | 184 |
| 4 | 100 | 37 5/8 | 956 | 32 8/9 | 835 | 19 1/2 | 495 | 4 1/2 | 114 | 9 | 229 | 22 1/2 | 572 | 18 1/4 | 464 | 17 | 432 | 6 | 152 | 8 | 203 |
| 6 | 150 | 44 5/8 | 1133 | 37 5/8 | 956 | 23 1/2 | 597 | 6 | 152 | 10 1/2 | 267 | 30 1/2 | 775 | 24 1/4 | 616 | 17 1/2 | 445 | 7 | 178 | 10 | 254 |
| 8 | 200 | 60 7/8 | 1546 | 53 7/8 | 1369 | 37 3/4 | 959 | 10 | 254 | 12 | 305 | 37 | 940 | 28 1/2 | 724 | 16 15/16 | 430 | 8 1/2 | 216 | 11 | 279 |
| 10 | 250 | 63 7/8 | 1622 | 57 7/8 | 1470 | 37 3/4 | 959 | 10 | 254 | 12 | 305 | 45 5/8 | 1159 | 34 3/4 | 883 | 16 15/16 | 430 | 8 1/2 | 216 | 12 | 305 |
| 12 | 300 | 66 3/16 | 1681 | n/a | n/a | 38 | 965 | 10 | 254 | 12 | 305 | 53 | 1346 | 40 1/2 | 1029 | n/a | n/a | 8 7/8 | 226 | 16 3/4 | 425 |

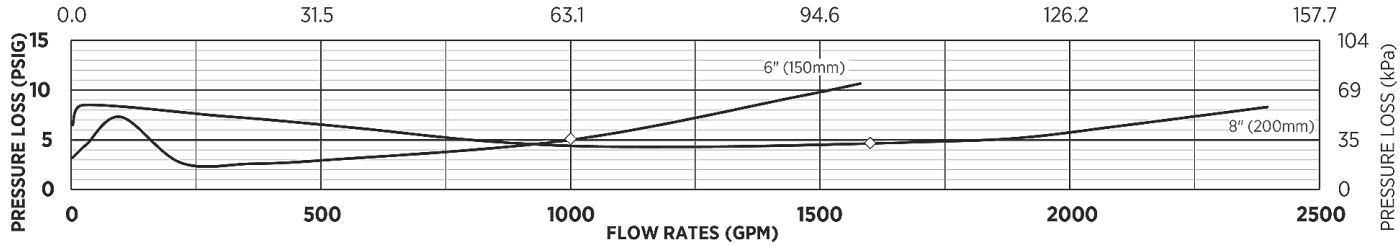
## Flow Characteristics

◊Rated Flow (established by approval agencies)

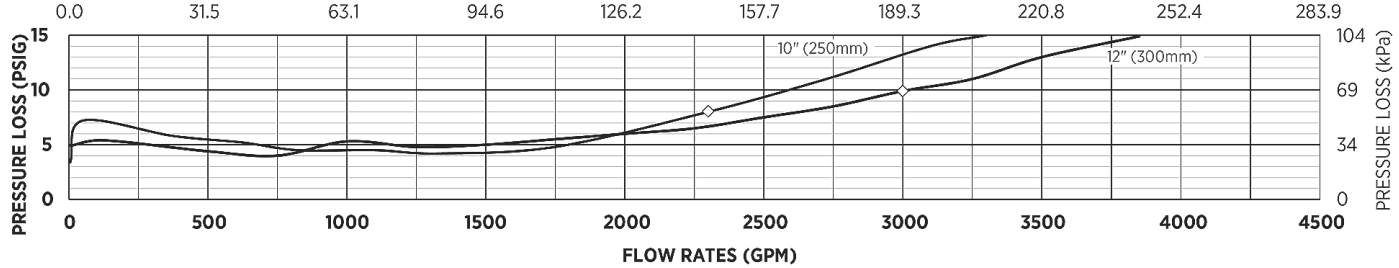
### MODEL 350DA 2 1/2", 3" & 4" (STANDARD & METRIC)




### MODEL 350DA 6" & 8" (STANDARD & METRIC)



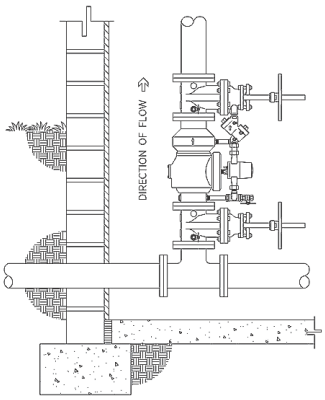

### MODEL 350DA 10" & 12" (STANDARD & METRIC)



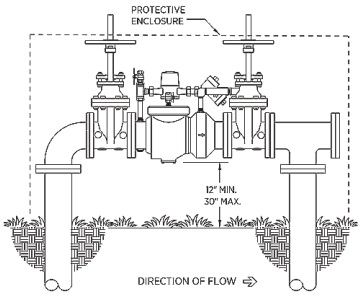
## Typical Installation

Local codes shall govern installation requirements. Unless otherwise specified, the assembly shall be mounted at a minimum of 12" (305mm) and a maximum of 30" (762mm) above adequate drains with sufficient side clearance for testing and maintenance. The installation shall be made so that no part of the unit can be submerged.

| Capacity thru Schedule 40 Pipe (GPM) | | | | |
|---|---|---|---|---|
| **Pipe size** | **5 ft/sec** | **7.5 ft/sec** | **10 ft/sec** | **15 ft/sec** |
| 2 1/2" | 75 | 112 | 149 | 224 |
| 3" | 115 | 173 | 230 | 346 |
| 4" | 198 | 298 | 397 | 595 |
| 6" | 450 | 675 | 900 | 1351 |
| 8" | 780 | 1169 | 1559 | 2339 |
| 10" | 1229 | 1843 | 2458 | 3687 |
| 12" | 1763 | 2644 | 3525 | 5288 |




VERTICAL INSTALLATION




OUTDOOR INSTALLATION

Installation and Maintenance Instructions 2-1/2" - 6" Model 350DA

Installation and Maintenance Instructions 8" and 10" Model 350DA

## Specifications

The Double Check Detector Backflow Prevention Assembly shall be certified to NSF/ANSI/CAN 61 and 372, ASSE® Listed 1048, and supplied with full port gate valves. The main body and access cover shall be epoxy coated ductile iron (ASTM A 536), the seat ring and check valve shall be NORYL™, the stem shall be stainless steel (ASTM A 276) and the seat disc elastomers shall be EPDM. The first and second check valves shall be accessible for maintenance without removing the device from the line. The Double Check Detector Backflow Prevention Assembly shall be a WILKINS Model 350DA.