

# Southeast Morris County Municipal Utilities Authority

19 SADDLE ROAD • CEDAR KNOLLS, NEW JERSEY 07927 • TEL 973-326-6880 • FAX 973-326-9521

## BACKFLOW PREVENTER – DOUBLE CHECK VALVE (DCV)

### GENERAL

The Southeast Morris County Municipal Utilities Authority (referred to herein as the “Authority”) is subject to the standard terms and conditions set forth by the Authority’s Rules and Regulations, pursuant to N.J.S.A. 40:14B.

As a public water supply, the Authority is required to protect and provide safe drinking water to consumers in accordance with the N.J.A.C. 7:10 Safe Drinking Water Act Rules.

The Authority is committed to providing an efficient process for developers to achieve their project goals in accordance with the Authority’s Rules and Regulations.

Developers interested in conducting business with the Authority shall comply with the standard terms and conditions mandated by the Authority’s Rules and Regulations.

Developer shall mean applicant responsible for application, fees and contract agreement with the Authority.

### REFERENCE

ANSI/AWWA	American National Standards Institute/American Water Works Standards
C104/A21.4-13	Cement-Mortar Lining for Ductile-Iron Pipe and Fittings
C110/A21.10-12	Ductile-Iron and Gray-Iron Fittings
C111/A21.11-12	Rubber-Gasket Joints for Ductile-Iron Pressure Pipe and Fittings
C151/A21.51-09	Ductile-Iron Pipe, Centrifugally Cast
C502-05	Dry-Barrel Fire Hydrants
C509-09	Resilient-Seated Gate Valves for Water Supply Service
C511-07	Reduced-Pressure Principle Backflow Prevention Assembly
C651-05	Disinfecting Water Mains
C700-09	Cold-Water Meters – Displacement Type, Bronze Main Case
C702-10	Cold-Water Meters – Compound Type
C703-11	Cold-Water Meters -- Fire-Service Type
ASTM	American Society for Testing and Materials
ASTM B88	Standard Specification for Seamless Copper Water Tube
N.J.S.A. 40:14B	New Jersey Statutes -- Title 40 Municipal and County Utilities Authorities Law
N.J.A.C. 7:10	New Jersey Administrative Code – Title 7 Safe Drinking Water Act Rules
NSF	National Sanitation Foundation International Standard
NSF/ANSI 61	Drinking Water System Components – Health Effects
Rules and Regulations	The Southeast Morris County Municipal Utilities Authority’s Rules and Regulations

## REQUIREMENTS

1. Developers shall verify that all submittals conform to local, county and state ordinances.
2. Road opening permits on local and county roads shall be obtained by the developer. State road opening permits shall be obtained by the Authority at the developer's expense.
3. All excavation and backfill shall be the responsibility of the developer.
4. Only authorized personnel of the Authority will be permitted to make connections to the water mains of the Authority, access and operate curb stops, hydrants and valves as mandated by the Rules and Regulations.
5. All proposed materials shall be submitted for approval. Failure to submit information shall cause the Authority to reject work and deny water service.
6. All materials submitted for approval shall be of first-class high-grade quality, clean and sound and conform to the latest revisions of ANSI/AWWA Standards. No inferior or low-grade materials will be approved or accepted.
7. All materials shall be approved for NSF/ANSI 61 for potable drinking water.
8. All materials shall be manufactured in the United States of America.
9. As-built drawings shall be prepared and submitted to the Authority on a CD in PDF and CAD format, indicating the location of all facilities installed before water is turned on.

## SPECIFICATIONS FOR BACKFLOW PREVENTER - DCV:

1. A Double Check Valve assembly shall be installed above grade as required by SMCMUA.
2. The assembly shall consist of two positive seating check modules with captured springs and rubber seat discs, which should be replaceable.
3. Service of all internal components shall be through a single access bronze cover secured with stainless steel bolts.
4. The assembly shall also include two resilient seated isolation valves; four top mounted, resilient seated test cocks.
5. The assembly shall meet the requirements of ASSE Std. 1015 and AWWA Std. C510.
6. Example provided in **Appendix L**.

\*\* Double Check Valve product specifications have been prepared with the assistance of the aforementioned specifications sheets provided by Watts

Wilkins is an additional approved Double Check Valve (DCV) manufacturer

## APPENDIX L

**For Non-Health Hazard Applications**

Job Name \_\_\_\_\_  
 Job Location \_\_\_\_\_  
 Engineer \_\_\_\_\_  
 Approval \_\_\_\_\_

Contractor \_\_\_\_\_  
 Approval \_\_\_\_\_  
 Contractor's P.O. No. \_\_\_\_\_  
 Representative \_\_\_\_\_

# Series 007

## Double Check Valve Assemblies

Sizes: 1/2" - 2"

Series 007 Double Check Valve Assemblies are designed to protect drinking water supplies from dangerous cross-connections in accordance with national plumbing codes and water authority requirements for non-potable service applications such as irrigation, fireline, or industrial processing. Only those cross-connections identified by local inspection authorities as non-health hazard shall be allowed the use of an approved double check valve assembly.

Check with local authority having jurisdiction regarding vertical orientation, frequency of testing or other installation requirements.

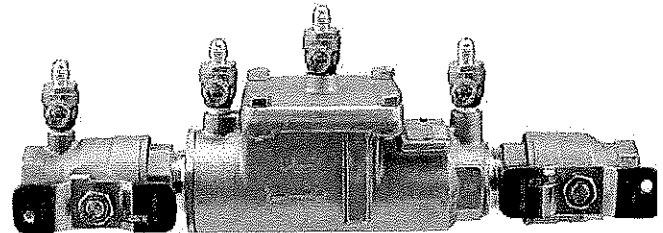
The valve shall meet the requirements of ASSE Std. 1015 and AWWA Std. C510. Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

### Features

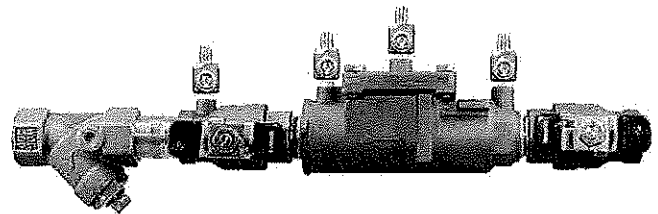
- Ease of maintenance — only one cover
- Top entry
- Replaceable seats and seat discs
- Modular construction
- Compact design
- Cast bronze body construction — 1/2" - 2"
- Top mounted ball valve test cocks
- Low pressure drop
- No special tools required for servicing
- 1/2" - 1" have tee handles

### Specifications

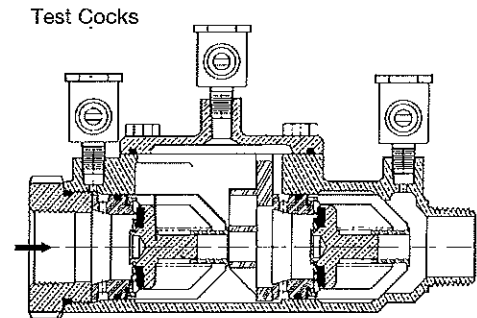
A Double Check Valve Assembly shall be installed at each noted location. The assembly shall consist of two positive seating check modules with captured springs and rubber seat discs. The check module seats and seat discs shall be replaceable. Service of all internal components shall be through a single bronze or stainless steel access cover secured with stainless steel bolts. The assembly shall also include two resilient seated isolation valves; four top mounted, resilient seated test cocks. The assembly shall meet the requirements of ASSE Std. 1015 and AWWA Std. C510. Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California. Assembly shall be a Watts Series 007.



1" 007M1QT



1" 007M1QT-S



First Check Module Assembly

Second Check Module Assembly

The 007 Series features a modular design concept which facilitates complete maintenance and assembly by retaining the spring load.

**Now Available**  
**WattsBox Insulated Enclosures.**  
 For more information, send for literature ES-WB.

**NOTICE**

Inquire with governing authorities for local installation requirements

Watts product specifications in U.S. customary units and metric are approximate and are provided for reference only. For precise measurements, please contact Watts Technical Service. Watts reserves the right to change or modify product design, construction, specifications, or materials without prior notice and without incurring any obligation to make such changes and modifications on Watts products previously or subsequently sold.



## Pressure — Temperature

½" — 2"

Temperature Range: 33°F — 180°F (0.5°C — 82°C).

Maximum Working Pressure: 175psi (12.1 bar).

## Standards

ASSE Std. 1015, AWWA Std. C510

IAPMO PS31, CSA B64.5

## Approvals



† ASSE, AWWA, IAPMO, CSA, UPC

▲ Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California.

• Models LF and S are not listed.

◆ UL Classified (LF models only) ¾" — 2"  
(except 007M3LF)

\* Horizontal and vertical "flow up" approval on all sizes

Suffix:

S - bronze strainer

LF - without shutoff valves

SH - stainless steel ball valve handles

HC - 2½" inlet/outlet fire hydrant fittings (2" valve)

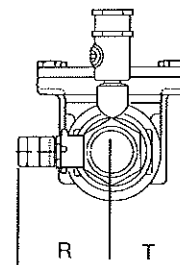
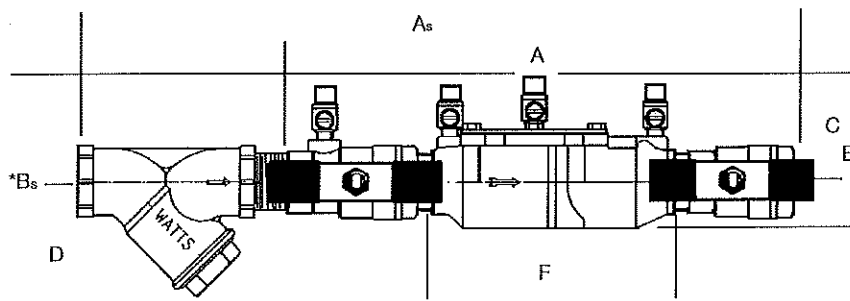
Prefix:

U - Union connections

## Dimensions — Weights

## Models

Sizes: ½" — 2"



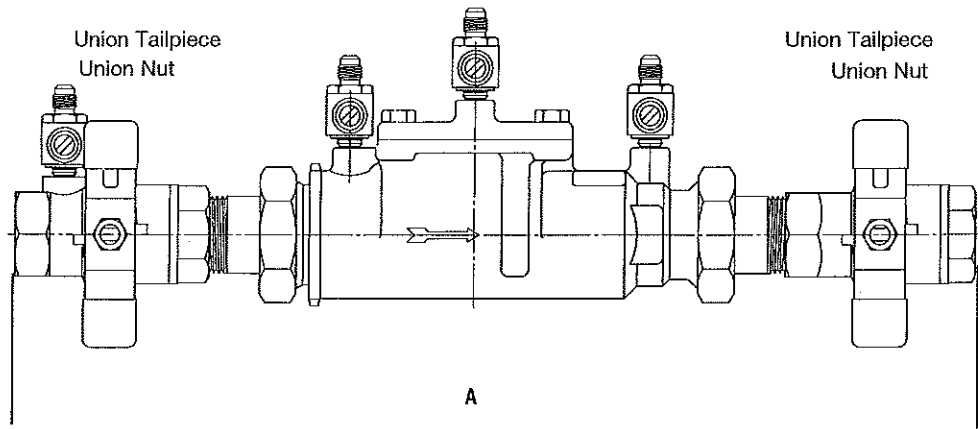
\*Suffix 'S' = strainer model

MODEL	SIZE	DIMENSIONS										WEIGHT							
		A		B		C		D		F		G		R		T		lbs.	kgs.
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
†▲ 007QT	½	10	254	4⅞	117	2⅞	62	—	—	5	127	3⅞	85	2⅞	59	2⅞	52	4.5	2
†▲ 007M3QT	¾	11⅞	282	4	102	3⅞	79	—	—	6⅞	157	3⅞	87	2⅞	54	1⅞	33	5	2.3
†▲ 007M1QT	1	13¼	337	5⅞	130	4	102	—	—	7½	191	3⅞	85	1⅞	43	1⅞	43	12	5.4
†▲ 007M2QT	1¼	16⅞	416	5	127	3⅞	84	—	—	9½	241	5	127	3	76	2	50	15	6.8
†▲ 007M2QT	1½	16⅞	425	4⅞	124	3½	89	—	—	9¾	248	5⅞	148	3¼	79	2⅞	68	15.9	7.2
†▲ 007M1QT	2	19½	495	6¼	159	4	102	—	—	13⅞	340	6⅞	156	3⅞	87	2⅞	68	25.7	11.7
• 007QT-S	½	13	330	6	152	2⅞	62	3	76	5	127	3⅞	85	2⅞	59	2⅞	52	5.5	2.5
• 007M3QT-S	¾	14½	368	6⅞	156	3⅞	79	3	76	6⅞	157	3⅞	87	2⅞	54	1⅞	33	6.7	3.1
• 007M1QT-S	1	17⅞	457	7¼	197	4	102	3¼	83	7½	191	3⅞	85	1⅞	43	1⅞	43	14	6.4
• 007M2QT-S	1¼	21½	546	7⅞	179	3⅞	84	3½	83	9½	241	5	127	3	76	2	50	19	8.6
• 007M2QT-S	1½	25⅞	637	7⅞	179	3½	89	3¼	95	9¾	248	5⅞	148	3¼	79	2⅞	68	19.6	8.9
• 007M1QT-S	2	27¼	692	8¾	222	4	102	4	102	13⅞	340	6⅞	156	3⅞	87	2⅞	68	33.5	15.2

Suffix HC — Fire Hydrant Fittings dimension "A" = 23½" (594mm)

## Dimensions – Weights

1" U007M1QT



Sizes: 1/2" – 2"

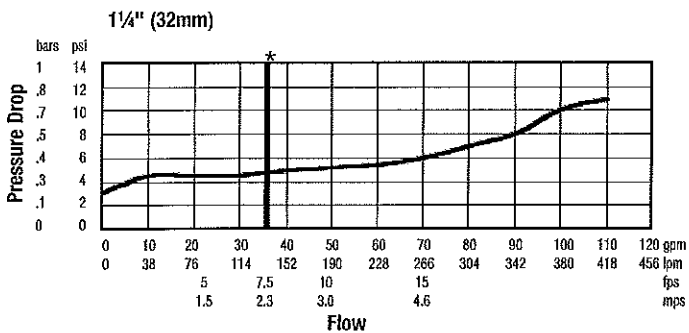
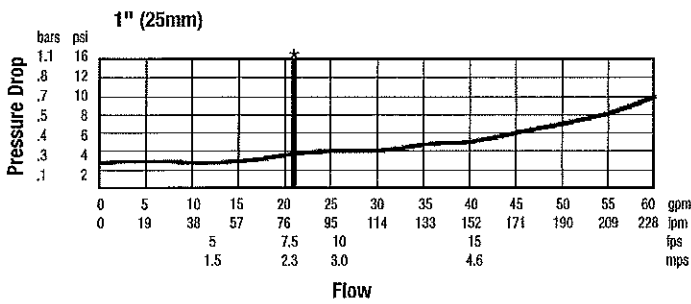
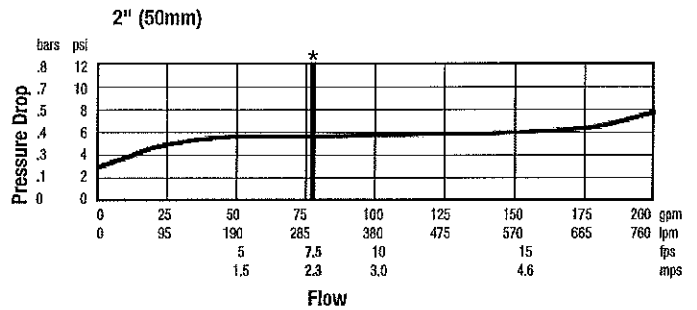
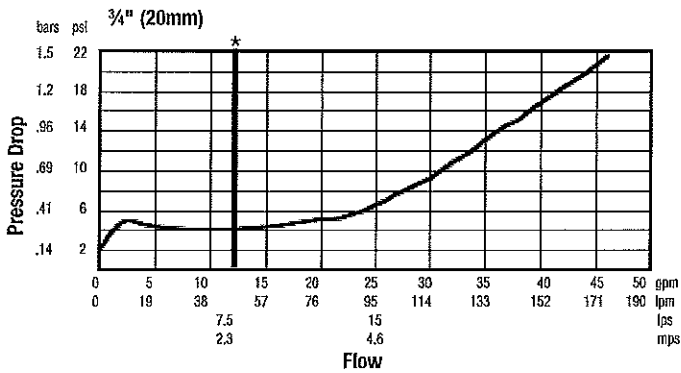
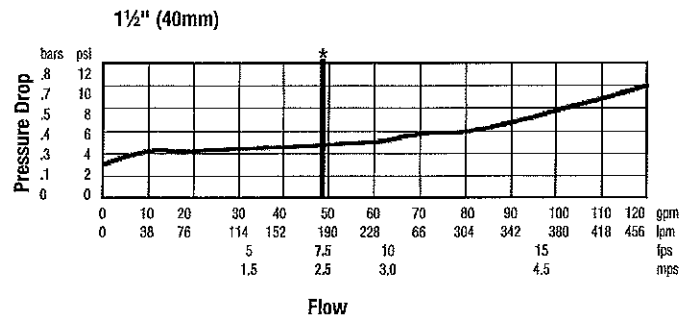
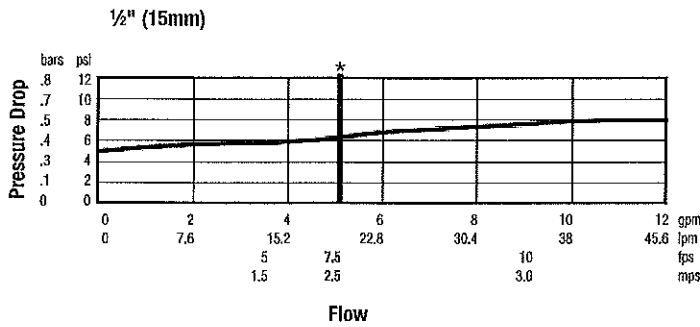
MODEL	SIZE	DIMENSIONS	
		A	
	<i>in.</i>	<i>in.</i>	<i>mm</i>
U007QT	1/2	12 <sup>13</sup> / <sub>16</sub>	326
U007M2QT	3/4	13 <sup>13</sup> / <sub>16</sub>	350
U007M2QT	1	16 <sup>5</sup> / <sub>8</sub>	422
U007M2QT	1 1/4	20 <sup>3</sup> / <sub>4</sub>	527
U007M2QT	1 1/2	21 <sup>1</sup> / <sub>2</sub>	546
U007M1QT	2	24 <sup>1</sup> / <sub>2</sub>	622

# Capacity

As compiled from documented Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California lab tests.

\* Typical maximum system flow rate (7.5 feet/sec., 2.3 meters/sec.)

\*\* UL rated flow



A Watts Water Technologies Company



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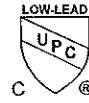
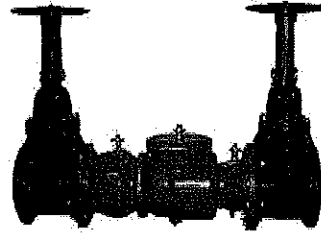
Canada: Tel: (905) 332-4090 • Fax: (905) 332-7068 • www.watts.ca



# Model 350 Double Check Valve Assembly

## Application

Designed for installation on potable water lines to protect against both backsiphonage and backpressure of polluted water into the potable water supply. The Model 350 shall provide protection where a potential health hazard does not exist. Ideal for use where lead-free\* valves are required.



**Standards Compliance :** (Sizes 2 1/2"-10" Horiz. & Vert.)  
(Size 12" horizontal)

- ASSE® Listed 1015
- CSA® Certified
- IAPMO® Listed
- Certified to NSF/ANSI 372\* by IAPMO R&T
- AWWA Compliant C510, and C550
- UL® Classified
- C-UL® Classified
- FM® Approved (2 1/2" - 10")
- Approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California
- NYC MEA 50-01-M (2 1/2" - 3")
- NYC MEA 297-98-M (4" - 6")
- NYC MEA 316-01-M (8" - 10")
- NSF® Listed-Standard 61, Annex G\*

\*(0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)

## Options

(Suffixes can be combined)

- with NRS shut-off valves (standard)
- FS - with cast iron wye type strainer (flanged only 2-1/2"-10")
- FSC - with epoxy coated wye type strainer (flanged only 2-1/2"-10")
- G - with groove end gate valves (2-1/2" - 10")
- GF - with grooved inlet gate connection and flanged outlet gate connection (2-1/2" - 10")
- FG - with flanged inlet gate connection and grooved outlet gate connection (2-1/2" - 10")
- L - less shut-off valves (flanged body connections)
- OSY - with OS & Y gate valves
- PI - Post Indicator gate Valve (3"-12")
- DOM - with Clow gate valves, 51% Buy American Act Compliant

## Materials

Main valve body	Ductile Iron ASTM A 536 Grade 4
Access covers	Ductile Iron ASTM A 536 Grade 4
Coatings	FDA Approved fusion epoxy finish
Internals	Stainless steel, 300 Series NORYL™, NSF Listed
Fasteners	Stainless Steel, 300 Series
Seal ring	EPDM (FDA approved)
O-ring	Buna Nitrile (FDA approved)
Springs	Stainless Steel, 300 Series

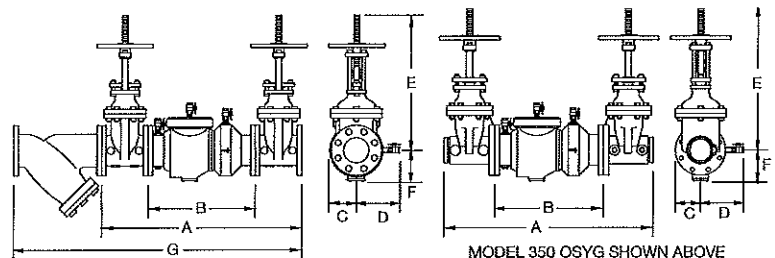
## Accessories

- Repair kit (rubber only)
- Thermal expansion tank (Model XT)
- OS & Y Gate valve tamper switch (OSY-40)

Attention: Model 350 (flange body) and 350A (grooved body) have different lay lengths.

## 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 pipe)	AWWA C606
(Flanged)	ANSI B16.1 Class 125

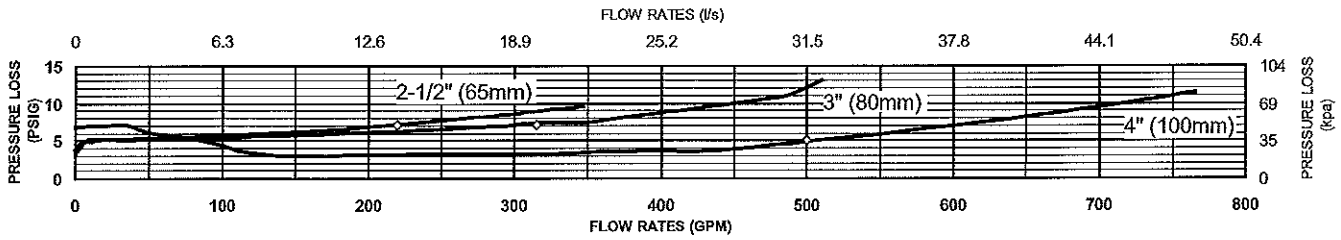


## Dimensions & Weights (do not include pkg.)

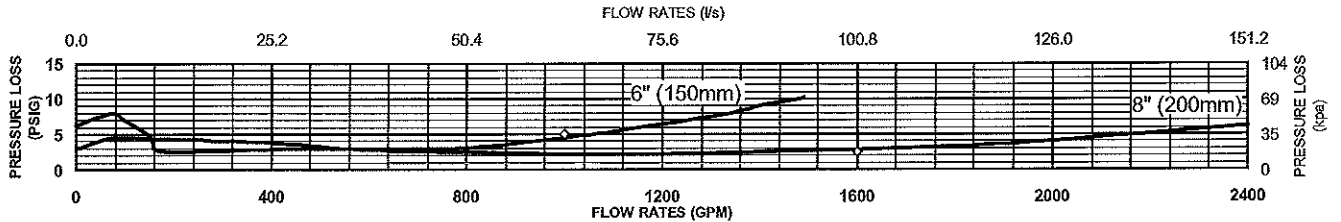
SIZE	DIMENSION (approximate)																WEIGHT								
	A		B LESS GATE VALVES		C		D		E OS&Y OPEN		E OS&Y CLOSED		E NRS GATE		F		G		WITHOUT GATES VALVES		WITH NRS GATE VALVES		WITH OS&Y GATE VALVES		
in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg	lbs.	kg	lbs.	kg
2 1/2	65	31	791	15 7/8	403	3 3/4	95	7 1/4	184	16 3/8	416	13 7/8	352	11 3/8	289	3 1/2	89	41 1/4	1048	53	24.1	155	70.4	163	74
3	80	32	816	15 7/8	403	3 3/4	95	7 1/4	184	18 7/8	479	15 5/8	397	12 3/8	314	3 1/2	89	42 3/4	1086	53	24.1	177	80.4	183	83
4	100	37 5/8	956	19 1/2	485	4 1/2	114	8	203	22 3/4	578	18 1/4	464	14 3/4	375	6	152	52 3/4	1340	91	41.3	271	123	281	127.6
6	150	44 3/4	1137	23 1/2	597	6	152	10	254	30 1/8	765	23 3/4	603	19	483	7	178	62 3/4	1594	165	74.9	449	203.8	465	211
8	200	60 3/4	1543	37 3/4	959	10	254	11	279	37 3/4	959	29 1/4	743	22 1/2	572	8 1/2	216	85	2159	358	162.5	810	367.7	834	378.6
10	250	63 3/4	1619	37 3/4	959	10	254	11	279	45 3/4	1162	35 3/8	899	26 1/2	673	8 1/2	216	93 1/4	2369	388	176.2	1148	521.2	1206	547.5
12	300	66 1/4	1663	38	965	10	254	12	305	53 1/8	1349	40 5/8	1032	30	762	9	229	n/a	n/a	447	202.8	1493	677.2	1607	729



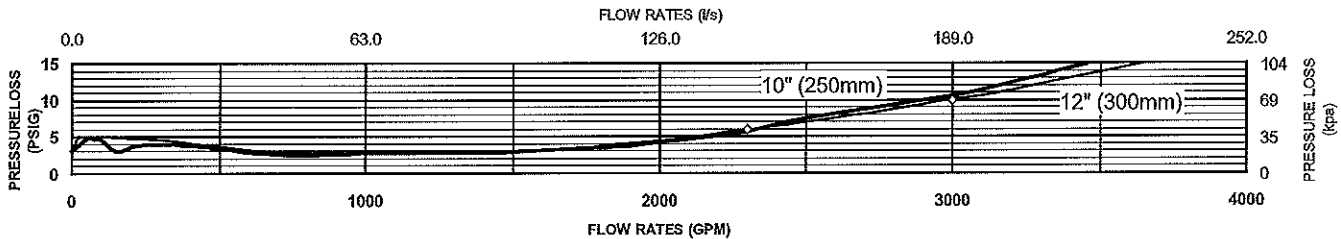
MODEL 350 2 1/2", 3" & 4" (STANDARD & METRIC)



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

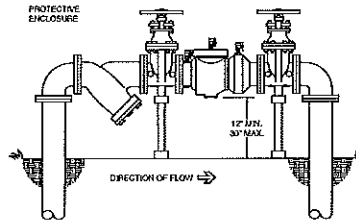


MODEL 350 10" & 12" (STANDARD & METRIC)

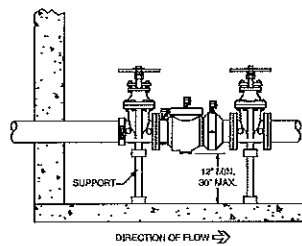


Typical Installation

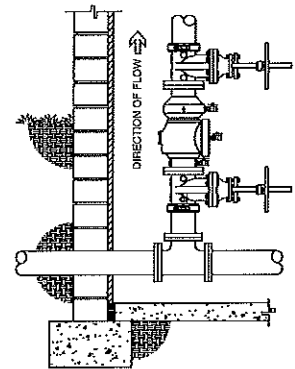
Local codes shall govern installation requirements. Unless otherwise specified, the assembly shall be mounted at a minimum of 12" (305mm) and a maximum of 30" (762mm) above adequate drains with sufficient side clearance for testing and maintenance. The installation shall be made so that no part of the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



OUTDOOR INSTALLATION



INDOOR INSTALLATION (350GF)



VERTICAL INSTALLATION (350G)

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

Specifications

The Double Check Backflow Prevention Assembly shall be certified to NSF/ANSI 372, ASSE® Listed 1015, and supplied with full port gate valves. The main body and access cover shall be epoxy coated ductile iron (ASTM A 536 Grade 4), 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 checks shall be accessible for maintenance without removing the device from the line. The Double Check Backflow Prevention Assembly shall be a ZURN WILKINS Model 350.