

Engineering Specification

Job Name Hard Rock
 Job Location Hard Rock
 Engineer _____
 Approval _____

Contractor _____
 Approval _____
 Contractor's P.O. No. _____
 Representative _____

LEAD FREE*

Series 957

Reduced Pressure Zone Assembly

2½" – 10"

Series 957 Reduced Pressure Zone assembly provides protection to the potable water system from contamination in accordance with national plumbing codes. The assemblies are normally used in health hazard applications for protection against backsiphonage or backpressure.

The series includes a flood sensor to detect excessive water discharges from the relief valve. The sensor is installed on the assembly exterior and does not alter assembly functions or certifications. The sensor relays a signal that triggers notification to facility personnel for corrective action, thus limiting flooding and costly damage.

NOTICE

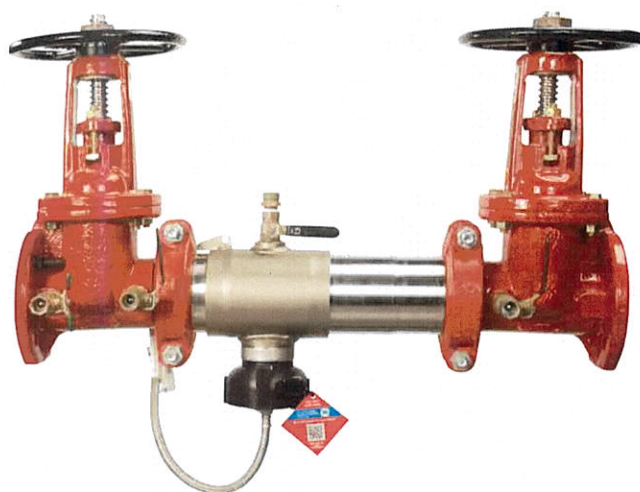
An add-on connection kit is required to activate the flood sensor. Without the connection kit, the sensor is a passive component that has no communication with any other device. (For more information download RP/IS-957/957DCDA.)

Features

- Sizes 2½", 3", and 4" available with quarter-turn ball valve shutoffs
- Replaceable check disc rubber
- Extremely compact design
- 70% Lighter than traditional designs
- 304 (Schedule 40) stainless steel housing and sleeve
- Groove fittings allow integral pipeline adjustment
- Patented torsion spring checks provide lowest pressure loss
- Unmatched ease of serviceability
- Bottom mounted cast stainless steel relief valve
- Available with grooved butterfly valve shutoffs
- Sensor on relief valve for flood detection
- Flood alerts feature activated with add-on sensor connection kit, compatible with BMS and cellular network communication

*The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.

957-NRS-FS 4"



957-OSY with Flood Sensor

NOTICE

Use of the flood sensor does not replace the need to comply with all required instructions, codes, and regulations related to installation, operation, and maintenance of this product, including the need to provide proper drainage in the event of a discharge.

Watts is not responsible for the failure of alerts due to connectivity issues, power outages, or improper installation.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

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.

WATTS®

Specification

The Reduced Pressure Zone assembly shall consist of two independent torsion spring check modules, a differential pressure relief valve located between and below the two modules, two drip tight shutoff valves, and required torsion spring check modules and relief valve shall be contained with a sleeve accessible single housing constructed from 304 (Schedule 40) stainless steel pipe with groove end connections. Torsion spring checks shall have replaceable elastomer discs and in operation produce drip tight closure against the reverse flow of liquid caused by backpressure or backsiphonage. The assembly shall be a Watts Series 957, and shall include a flood sensor on the relief valve for flood detection.

Model/Option

FS	Flood sensor on relief valve for flood detection
NRS	Non-rising stem, resilient seated gate valves
OSY	UL Classified and FM Approved outside stem and yoke resilient seated gate valves
N	N-pattern orientation
Z	Z-pattern orientation
BFG	UL Classified and FM Approved grooved gear operated butterfly valves with tamper switch
QT	2½" - 4" quarter-turn ball valves
OSY FxG**	Flanged inlet gate connection and grooved outlet gate connection
OSY GxF**	Grooved inlet gate connection and flanged outlet gate connection
OSY GxG**	Grooved inlet gate connection and grooved outlet gate connection

Materials

Housing & Sleeve	304 (Schedule 40) stainless steel
Elastomers	EPDM, silicone, and Buna-N
Torsion Spring Checks	Noryl®, stainless steel
Check Discs	Reversible silicone or EPDM
Test Cocks	Lead Free* bronze body
Pins & Fasteners	300 Series stainless steel
Springs	Stainless steel

Pressure — Temperature

Temperature Range	33°F – 140°F (0.5°C – 60°C)
Maximum Working Pressure	175 psi (12.1 bar)

Approvals

- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The University of Southern California (FCCCCHR-USC), excluding 10" N-pattern installation as well as 6" and 10" Z-pattern installations
- AWWA C511-97



For additional approval information, contact the factory or visit watts.com.

NOTICE

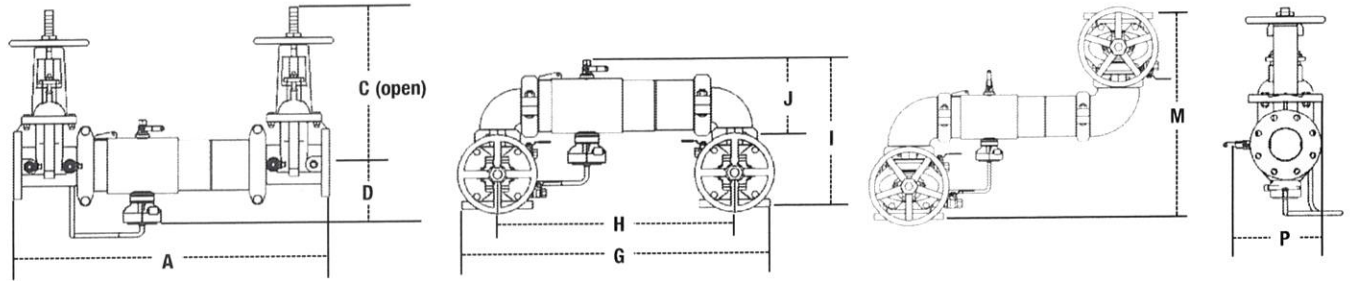
When installing a drain line on Series 957 backflow preventers, use 957AG air gaps. Attach the air gap brackets directly onto the flood sensor. For additional information, refer to ES-AG/EL/TC at watts.com

**Options for the gate valve:

- Consult factory for dimensions.
- Available with grooved NRS gate valves; consult factory.
- Post indicator plate and operating nut available; consult factory.

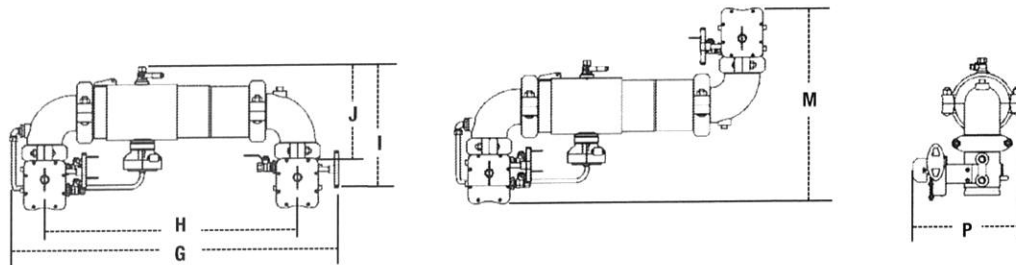
Noryl® is a registered trademark of SHPP Global Technologies B.V.

Dimensions - Weight



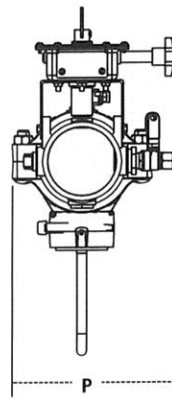
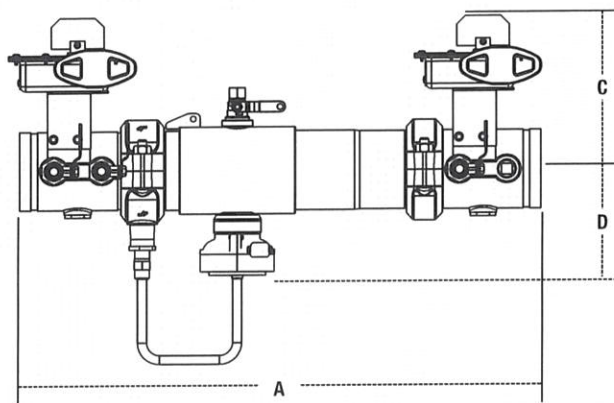
957, 957N, 957Z

SIZE		DIMENSIONS														WEIGHT													
		A		C (OSY)		C (NRS)		D		G		H		I		J		M		P		957NRS		957OSY		957N NRS		957N OSY	
in.		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lb	kg	lb	kg	lb	kg	lb	kg
2½		30¾	781	16⅝	416	9⅜	238	6½	165	29⅞	738	21½	546	15½	393	8⅜	223	21¼	540	9⅞	234	118	54	128	58	126	57	136	62
3		31¾	806	18⅝	479	10¼	260	6⅞	170	30¼	768	22¼	565	17⅝	435	9⅞	233	23	584	10½	267	134	61	148	67	147	67	161	73
4		33¾	857	22¼	578	12⅜	310	7	178	33	838	23½	597	18½	470	9⅞	252	26¼	667	11⅜	284	164	74	164	74	187	85	187	85
6		43½	1105	30⅝	765	16	406	8½	216	44¾	1137	33½	851	23⅜	589	13⅞	332	34¼	870	15	381	276	125	298	135	317	144	339	154
8		49¾	1264	37¾	959	19⅝	506	9⅞	246	54⅞	1375	40⅞	1019	27⅞	697	15⅞	399	36⅞	937	17⅜	437	441	200	483	219	516	234	558	253
10		57¾	1467	45¾	1162	23⅜	605	11⅜	285	66	1676	49½	1257	32½	826	17⅞	440	44½	1124	20	508	723	328	783	355	893	405	950	431



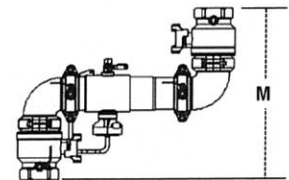
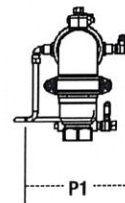
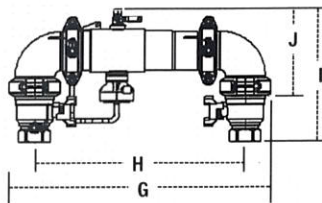
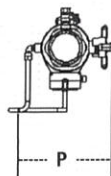
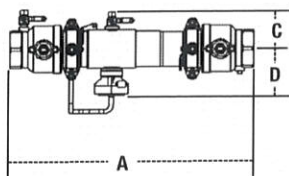
957NBFG, 957ZBFG

SIZE		DIMENSIONS										WEIGHT		
in.	G		H		I		J		M		P		957N/957Z	
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lb	kg
2½	32½	826	23	584	15½	394	9½	241	19¾	502	11⅜	300	67	30
3	34	864	24	610	16⅞	414	10⅞	256	21¼	540	12⅞	308	70	32
4	35⅞	905	25½	648	17⅜	437	10⅞	279	23½	597	12⅞	321	87	39
6	46½	1181	35¼	895	20½	521	13½	343	27¼	692	15	382	160	73



957 BFG

SIZE		DIMENSIONS						WEIGHT	
	A		C		D		P		
in.	in.	mm	in.	mm	in.	mm	in.	mm	lb kg
4	29	737	7 $\frac{3}{4}$	197	6 $\frac{3}{8}$	162	9 $\frac{1}{2}$	241	66 30
6	36 $\frac{1}{2}$	927	9 $\frac{1}{16}$	246	7 $\frac{7}{16}$	189	14 $\frac{1}{4}$	362	122 55



957QT

SIZE		DIMENSIONS										WEIGHT			
	A	C	D	G	H	I	J	M	P	P1	QT	QTN			
<i>in.</i>	<i>in.</i> <i>mm</i>	<i>in.</i> <i>mm</i>	<i>in.</i> <i>mm</i>	<i>in.</i> <i>mm</i>	<i>in.</i> <i>mm</i>	<i>in.</i> <i>mm</i>	<i>in.</i> <i>mm</i>	<i>in.</i> <i>mm</i>	<i>in.</i> <i>mm</i>	<i>in.</i> <i>mm</i>	<i>lb</i> <i>kg</i>	<i>lb</i> <i>kg</i>			
2½	27½ 698	4⅞ 124	6⅞ 175	30¼ 768	21½ 546	16 ⅞ 407	11⅜ 289	19⅞ 505	11⅞ 287	11⅞ 287	46 21	57 26			
3	28 711	4⅞ 124	6⅞ 175	30¼ 768	22¼ 565	16⅞ 420	11⅜ 289	20⅞ 531	11⅞ 287	11⅞ 287	56 25	67 30			
4	28¾ 730	4⅞ 124	6⅞ 175	30¼ 768	23½ 597	18⅞ 465	11⅜ 289	24⅜ 619	11⅞ 287	11⅞ 287	76 34	87 39			

Capacity

Flow curves as tested by Underwriters Laboratories.

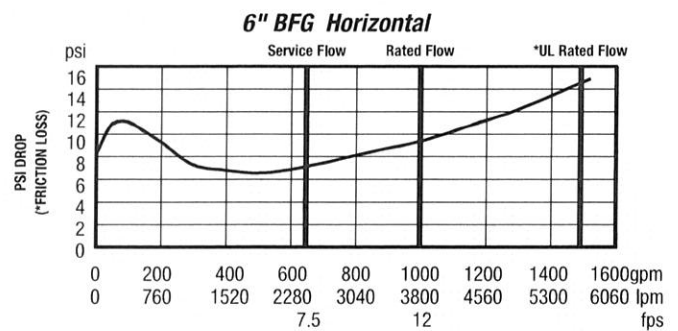
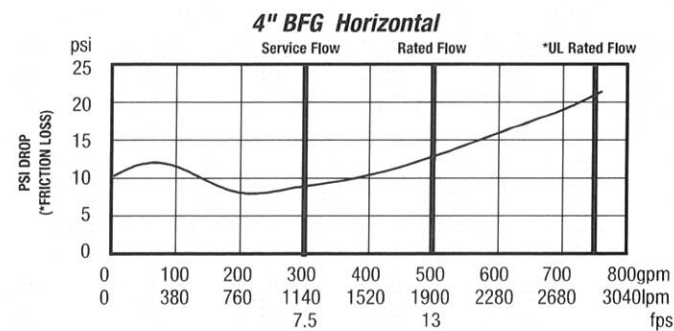
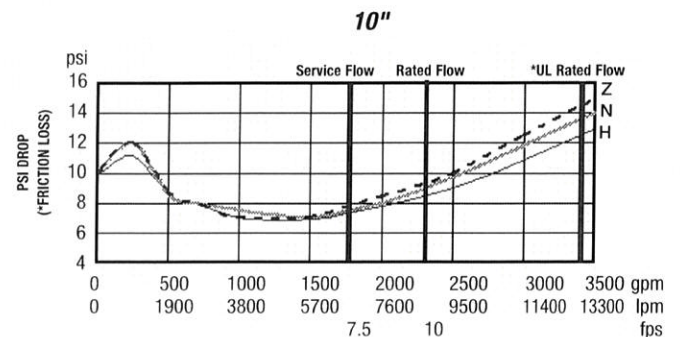
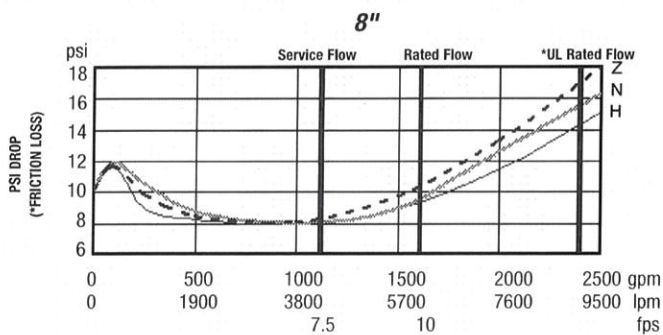
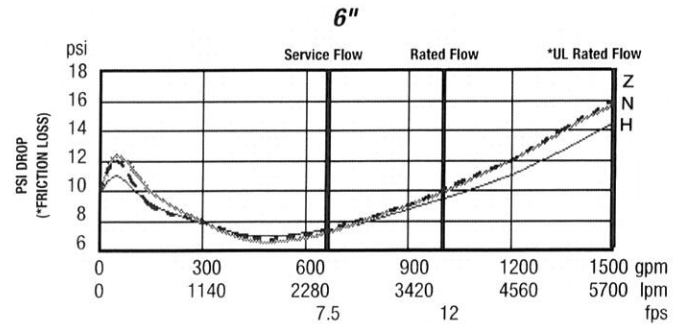
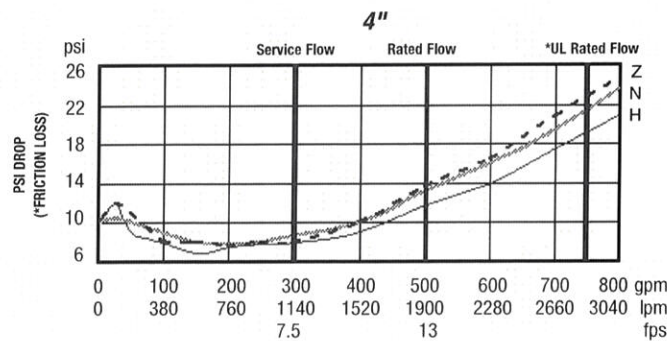
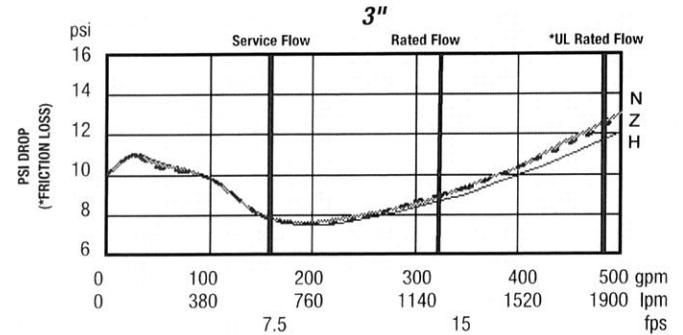
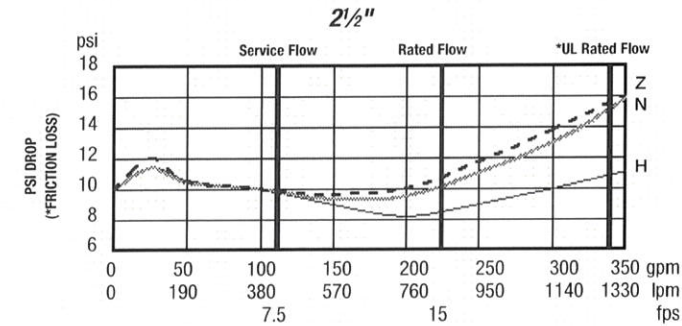
Flow capacity chart identifies valve performance based upon rated water velocity up to 25 fps.

- Service Flow is typically determined by a rated velocity of 7.5 fps based upon schedule 40 pipe.
- Rated Flow identifies maximum continuous duty performance determined by AWWA.

- UL Flow Rate is 150% of Rated Flow and is not recommended for continuous duty.
- AWWA Manual M22 (Appendix C) recommends that the maximum water velocity in services be not more than 10 fps.

Flow characteristics collected using butterfly shutoff valves.

— Horizontal — N-pattern - - - - Z-pattern



USA: T: (978) 689-6066 • Watts.ca
Canada: T: (888) 208-8927 • Watts.ca
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ACV Schematic

LEAD FREE*

LFF115 (Globe)

Pressure Reducing Control Valve

Features

- Throttles to reduce high upstream pressure to constant lower downstream pressure
- Reducing setpoint is adjustable
- **Utilizes advanced ArmorTek® coating technology to resist corrosion of internals**

Standard Components

- 1—Main Valve (Single Chamber)
 2—Pressure Reducing Control
 3—Fixed Orifice
 X—Isolation Cocks with pre-installed Gage Ports

Options and Accessories

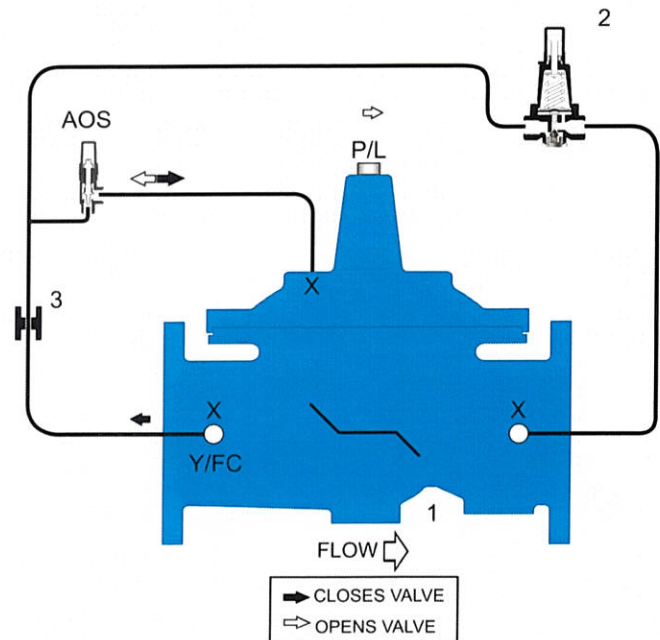
- FC Flo-Clean Strainer (Standard 1¼" – 4")
 ○ Y Y-Strainer (Replaces Flo-Clean)
 ○ ACS Adjustable Closing Speed (Replaces Fixed Orifice)
 ○ AOS Adjustable Opening Speed (Standard 1¼" – 4")
 ○ P Position Indicator
 ○ L Limit Switch
 ○ G Inlet/ Outlet Pressure Gauge (0-300psi)

Operation

The ACV Pressure Reducing Control Valve is designed to automatically reduce a fluctuating higher upstream pressure to a constant lower downstream pressure regardless of varying flow rates. It is controlled by a normally open, pressure reducing pilot designed to:

- 1) Open (allowing fluid out of the main valve cover chamber) when downstream pressure is below the adjustable setpoint, and
- 2) Close (allowing fluid to fill the main valve cover chamber) when downstream pressure is above the adjustable setpoint. A decrease in downstream pressure causes the valve to modulate toward an open position, raising downstream pressure. An increase in downstream pressure causes the valve to modulate toward a closed position, lowering downstream pressure.

LFF115 150 4"



NOTICE

ArmorTek does not contain PFOA or PFAS substances as an intentionally added ingredient based on current product formulations and information provided by our suppliers on their raw materials.

***The wetted surface of this product contacted by consumable water contains less than 0.25% of lead by weight.**

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SCH-ACV-LFF115 2334

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