

## Engineering Specification

Job Name \_\_\_\_\_

Contractor \_\_\_\_\_

Job Location \_\_\_\_\_

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

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

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# LEAD FREE\*

## Series 994-FS Reduced Pressure Zone Assemblies

### 2½" – 10"

Series 994 Reduced Pressure Zone Assemblies are designed to provide protection of the potable water supply in accordance with national codes. This series can be used where approved by the local authority having jurisdiction on health hazard cross-connections. Series 994 features a short lay length, lightweight stainless steel body, corrosion resistant stainless steel relief valve, and patented torsion spring check valves.

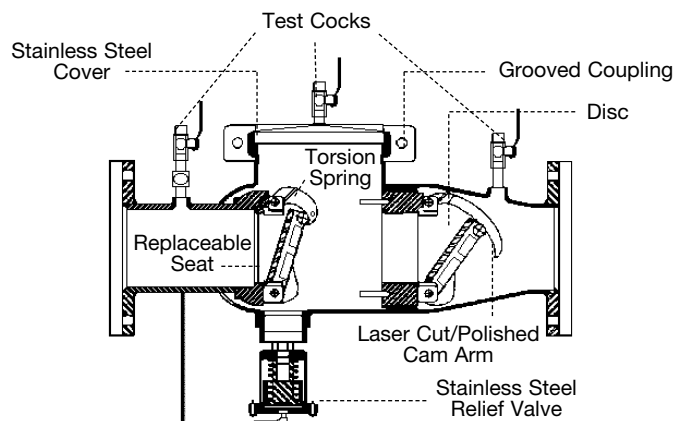
The series includes an integrated flood sensor to detect excessive water discharges from the relief valve. When activated through an add-on sensor connection kit, the flood sensor relays a signal that triggers a multichannel alert (call, email, text) to notify personnel about potential flooding. The add-on sensor connection kit is available for both building management systems, or BMS, and cellular communication. (For more information, refer to *Installation, Maintenance, and Repair Manual, Series 994-FS and 994RPDA-FS.*)

### Features

- Stainless steel construction provides long term corrosion resistance and maximum strength
- Stainless steel body is half the weight of competitive designs reducing installation and shipping costs
- Short end-to-end dimensions makes retrofit easy
- Bottom mounted relief valve reduces clearance requirements when installed against an outside wall
- Torsion spring check valves provides maximum flow at low pressure drop
- Thermoplastic and stainless steel check valves for trouble-free operation
- No special tools required for servicing
- Compact construction allows for smaller enclosures
- Stainless steel relief valve features a balanced rolling diaphragm to eliminate sliding seals and lower maintenance costs
- Integrated sensor for flood detection, activated by an add-on connection kit



994-FS-0SY



### NOTICE

Use of the integrated flood sensor does not replicate 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 or power issues.

### 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.

\*The wetted surface of this product contacted by consumable water contains less than one quarter of one percent (0.25%) of lead by weight.

## Specification

A Reduced Pressure Zone Assembly shall be installed at each cross-connection to prevent backsiphonage and backpressure of hazardous materials into the potable water supply. The assembly shall consist of a pressure differential relief valve located in a zone between two positive seating check valves. The main valve body shall be manufactured from 300 Series stainless steel for corrosion resistance. The check valves shall be of thermoplastic construction with stainless steel hinge pins, cam arm, and cam bearing. The check valve shall utilize a single torsion spring design to minimize pressure drop through the assembly. The check valves shall be modular and shall seal to the main valve body by the use of an O-ring. There shall be no brass or bronze parts used within the check assembly or relief valve. The use of seat screws to retain the check valve seat is prohibited. All internal parts shall be accessible through a single cover on the valve assembly securely held in place by a two-bolt grooved coupling. The differential relief valve shall be of stainless steel construction and shall utilize a rolling diaphragm and no sliding seals. The relief valve shall be bottom mounted and supplied with a steel reinforced sensing hose. The assembly shall include two resilient seated shutoff valves and four ball-type test cocks. The assembly shall be a Watts Series 994.

## Model Suffix

FS	Integrated sensor for flood detection
NRS	Non-rising stem resilient seated gate valves
OSY	UL Classified and FM Approved outside stem & yoke resilient seated gate 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
LF	Without shutoff valves
S	Cast iron strainer

### **NOTICE**

Watts recommends installing a drain line and the required 994AGK-P air gap for the drain line installation. When installing an air gap, attach the air gap brackets directly onto the flood sensor. For more information, download the ES-AG/EL/TC specification at [watts.com](http://watts.com).

## Standards

AWWA C511-92, CSA B64.5, UL Classified

## Approvals



Approved by the Foundation for Cross Connection Control & Hydraulic Research at the University of Southern California, sizes 2½" to 6"

\*\*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.

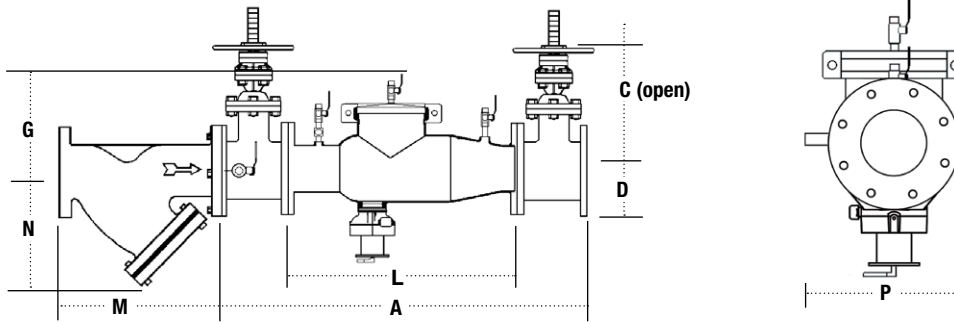
## Materials

All internal metal parts      300 Series stainless steel  
 Main valve body                300 Series stainless steel  
 Check assembly                Noryl®  
 Flange dimension in accordance with AWWA Class D

## Pressure – Temperature

Temperature Range                33°F–110°F (0.5°C – 43°C)  
 continuous  
 Maximum Working Pressure      175 psi (12.1 bar)

## Dimensions – Weights



SIZE	DIMENSIONS										WEIGHT													
	A		C (OSY)		C (NRS)		D		G		L		M		N		P		w/Gates		w/o Gates			
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
2½	37	940	16¾	416	9¾	238	10½	267	10	254	22	559	10	254	6½	165	7	178	148	67	60	27		
3	38	965	18¾	479	10¼	260	10½	267	10	254	22	559	10⅞	257	7	178	7½	191	226	103	62	28		
4	40	1016	22¾	578	12¾	310	10½	267	10	250	22	559	12⅞	308	8¼	210	9	229	235	107	65	30		
6	48½	1232	30⅞	765	16	406	11½	292	15	381	27½	699	18½	470	13½	343	11	279	380	172	110	50		
8	52½	1334	37¾	959	19½	506	12½	318	15	381	29½	749	21⅞	549	15½	394	13½	343	571	259	179	81		
10	55¾	1416	45¾	1162	23¾	605	12½	318	15	381	29½	749	26	660	18½	470	16	406	773	351	189	86		

# Capacity

Performance as established by Underwriters Laboratories.

\*Typical maximum flow rate (7.5 ft/sec)

\*\*UL rated below

