

Engineering Specification

Job Name _____

Contractor _____

Job Location _____

Approval _____

Engineer _____

Contractor's P.O. No. _____

Approval _____

Representative _____

LEAD FREE*

Series LF009 Reduced Pressure Zone Assembly 2½" – 3"

Series LF009 Reduced Pressure Zone assembly is designed to protect potable water supplies in accordance with national plumbing codes and water authority requirements. It is suitable for a wide range of applications, including protection against health-hazard cross-connections in piping systems, containment at the service line entrance, and use in irrigation systems, boiler feed lines, water lines, and other installations requiring maximum backflow protection.

The iron components of the backflow preventer are coated with ArmorTek®, a patented three-part advanced epoxy system engineered to reduce microbial-induced corrosion (MIC) and protect exposed metal substrate. The assembly features Lead Free* construction to comply with Lead Free* installation requirements, along with two in-line, independent check valves, captured springs, and replaceable check seats with an intermediate relief valve. Its compact, modular, space-saving design allows straightforward maintenance and access to internal components. No special tools are required for servicing.

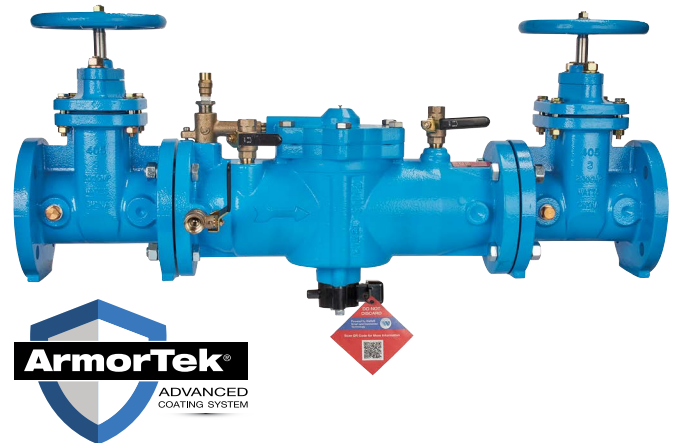
The series includes an external flood sensor designed to detect continuous discharge from the relief valve. The sensor does not alter assembly performance or certifications and activates a relay to signal potential flooding and associated property damage.

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-009.)

NOTICE

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



LF009-NRS with flood sensor

Features

- Single access cover and modular check construction for ease of maintenance
- Top entry to all internals for immediate accessibility
- Captured springs for safe maintenance
- Internal relief valve for reduced installation clearances
- Replaceable seats for economical repair
- Cast iron unibody construction
- ArmorTek coating technology to resist corrosion of internals
- Large body passages provides low pressure drop
- Sensor on the relief valve for flood detection
- Flood alerts feature activated with add-on sensor connection kit, compatible with BMS and cellular network communication

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 0.25% of lead by weight.

Specification

A Reduced Pressure Zone assembly shall be installed at each potential health hazard location to prevent backflow due to backsiphonage and/or backpressure. The assembly shall consist of an internal pressure differential relief valve located in a zone between two positive seating check modules with captured springs and silicone seat discs. Seats and seat discs shall be replaceable in both check modules and the relief valve. There shall be no threads or screws in the waterway exposed to line fluids. Service of all internal components shall be through a single access cover secured with stainless steel bolts. Body ball valve test cocks shall be constructed using Lead Free* cast copper silicon alloy materials. Lead Free* reduced pressure zone assembly shall comply with state codes and standards, where applicable, requiring reduced lead content.

The assembly shall also include two resilient seated isolation valves, four resilient seated test cocks, and an air gap drain fitting. Iron components of the backflow preventer shall incorporate ArmorTek coating technology, delivering integrated protection against electrochemical corrosion and microbial-induced corrosion. The assembly shall meet the requirements of USC; ASSE Std. 1013; AWWA Std. C511; CSA B64.4. Shall be a Watts Series LF009, and shall include a sensor on the relief valve for flood detection.

Materials

- Cast iron unibody construction with plastic seats
- ArmorTek powder coating, applied to internal and external surfaces
- Relief valve with stainless steel seat and trim
- Lead Free* cast copper silicon alloy body ball valve test cocks

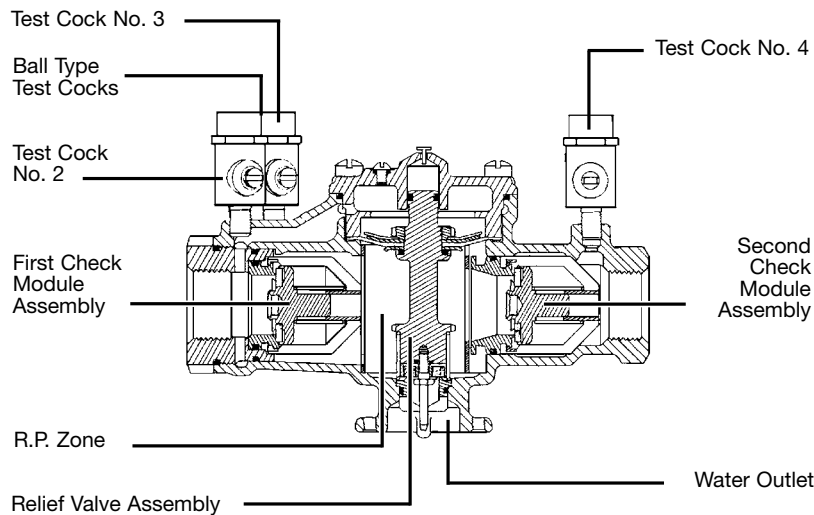
Model/Option

- FS – Flood detection sensor
- LF – Without shutoff valves
- NRS – Non-rising stem resilient seated gate valves
- OSY – UL Classified and FM Approved outside stem and yoke resilient seated gate valves
- S-FDA – FDA epoxy coated strainer

NOTE: The installation of a drain line is recommended. When installing a drain line, an air gap is necessary. (For more information download ES-AG/EL/TC at watts.com.)

Pressure – Temperature

Suitable for supply pressures up to 175 psi (12.1 bar)
Water temperature: 110°F (43°C) continuous; 140°F (60°C) intermittent



**Viega ProPress® connections are optional factory-installed fitting on each end of the approved/certified assembly.

Standards

USC

ASSE No. 1013

AWWA C511

CSA B64.4

IAPMO File No. 1563

Approvals



ASSE, AWWA, CSA, IAPMO

Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California Models NRS, OSY, PC, QT

UL Classified with OSY gate valves

Insulated Enclosure

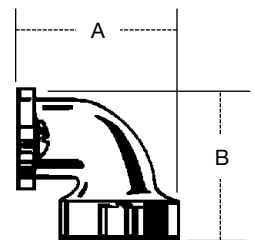
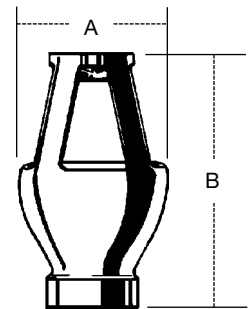
The WattsBox insulated enclosure is available for Series LF009. For more information download ES-WB at watts.com.

Air Gaps and Elbows

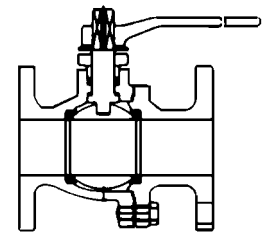
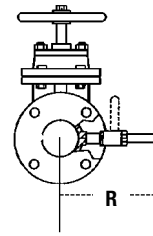
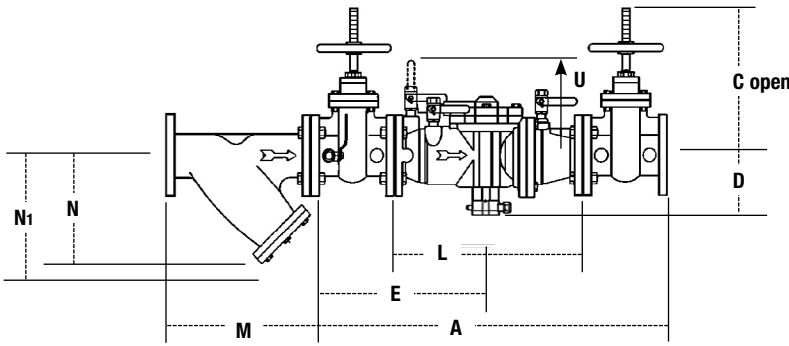
Call customer service if you need assistance with technical details.

AIR GAP MODEL	BACKFLOW PREVENTER SIZE-MODEL	DRAIN OUTLET		DIMENSIONS				WEIGHT	
				A		B		lb	kg
	For 909, 009, and 993 sizes	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>	<i>in.</i>	<i>mm</i>		
AIRGAP-P-1	1/4"-1/2" 009, 3/4" 009M2/M3	1/2	13	2 3/8	60	3 1/8	79	0.63	0.28
AIRGAP-P-2	3/4"-1" 009/909, 1"-1 1/2" 009M2	1	25	3 1/4	83	4 7/8	124	1.50	0.68
909AGF	1 1/4"-2" 009M1, 1 1/4"-3" 009/909, 2" 009M2, 4"-6" 993	2	51	4 3/8	111	6 3/4	171	3.25	1.47
909AGK	4"-6" 909, 8"-10" 909M1	3	76	6 3/8	162	9 5/8	244	6.25	2.83
909AGM	8"-10" 909	4	102	7 7/8	187	11 1/4	286	15.50	7.03
909ELA	1/4"-1/2" 009, 3/4" 009M2/M3	-	-	-	-	-	-	-	-
909ELC	3/4"-1" 009/909	-	-	2 3/8	60	2 3/8	60	0.38	0.17
909ELF*	1 1/4"-2" 009M1, 1 1/4"-2" 009/909, 2" 009M2, 4"-6" 993	-	-	3 5/8	92	3 5/8	92	2.00	0.91
909ELH* Vertical	2 1/2"-3" 009/909	-	-	-	-	-	-	-	-

*Epoxy coated



Dimensions – Weight



Watts G-4000 Series
QT – Ball Valves

STRAINER SIZE		DIMENSIONS (APPROX.)						WEIGHT	
		M		N		N ₁ †			
in.	mm	in.	mm	in.	mm	in.	mm	lb	kg
2½	65	10	254	6½	165	9¼	248	28	12.7
3	80	10½	257	7	178	10	254	34	15.4

†Clearance for servicing

MODEL	SIZE	DIMENSIONS (APPROX.)										WEIGHT					
		A		C		D		E		L		R		U			
	in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lb	kg
LF009LF	2½	—	—	—	—	5½	143	—	—	18½	460	—	—	10½	270	76	34.5
LF009OSY	2½	3¾	845	15½	403	5½	143	16¾	416	18½	460	7¾	197	10½	270	166	75.3
LF009NRS	2½	3¾	845	11¾	289	5½	143	16¾	416	18½	460	7¾	197	10½	270	161	73.0
LF009LF	3	—	—	—	—	5½	143	—	—	18½	460	—	—	10½	270	76	34.5
LF009OSY	3	3¾	870	18½	470	5½	143	16¾	422	18½	460	8¾	222	10½	270	198	89.8
LF009NRS	3	3¾	870	12¾	324	5½	143	16¾	422	18½	460	8¾	222	10½	270	191	86.6

Capacity

Performance as established by an independent testing laboratory.

The asterisk (*) indicates the typical maximum system flow rate (7.5 ft/s, 2.3 m/s).

