

## Engineering Specification

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

Contractor \_\_\_\_\_

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

Approval \_\_\_\_\_

Engineer \_\_\_\_\_

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

Approval \_\_\_\_\_

Representative \_\_\_\_\_

# LEAD FREE\*

## Series LF009 Reduced Pressure Zone Assembly 1/4" – 3"

Series LF009 Reduced Pressure Zone assembly is designed to protect potable water supplies in accordance with national plumbing codes and water authority requirements. These series are used in a variety of installations, including the prevention of health hazard cross-connections in piping systems or for containment at the service line entrance. They are also used in irrigation systems, boiler feed, water lines, and other installations requiring maximum 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 series also features Lead Free\* construction to comply with Lead Free\* installation requirements.

The series features two in-line, independent check valves, captured springs, and replaceable check seats with an intermediate relief valve. Its compact modular design facilitates maintenance and assembly access. Sizes 1/4" to 1" shutoffs have tee handles.

Series LF009 assemblies of sizes 1/2" to 3" include 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 who can take corrective action, thus avoiding the possibility of ruinous flooding and costly damage.

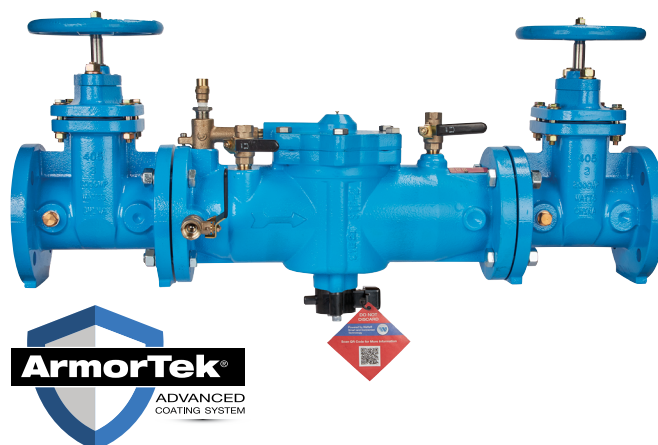
### NOTICE

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-009.)

### 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

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



LF009-NRS with flood sensor

- Lead Free\* cast copper silicon alloy body construction (1/4" – 2")
- ArmorTek coating technology to resist corrosion of internals (2 1/2" – 3")
- Ball valve test cocks — screwdriver slotted (1/4" – 2")
- Large body passages provides low pressure drop
- Compact, space saving design
- No special tools required for servicing
- Sensor on the relief valve for flood detection (1/2" – 3")
- Flood alerts feature activated with add-on sensor connection kit, compatible with BMS and cellular communication

### 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.

### 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.

## 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 and shutoffs 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 on sizes 1/2" to 3".

## Materials

### 1/4" – 2"

Lead Free\* cast copper silicon alloy body construction, silicone rubber disc material in the first and second check plus the relief valve. Replaceable polymer check seats for first and second checks. Removable relief valve seats. Stainless steel cover bolts.

Standardly furnished with NPT body connections. Model LF009QT furnished with quarter-turn, full port, resilient seated, Lead Free\* cast copper silicon alloy body ball valve shutoffs.

### 2 1/2" – 3"

- 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

### 1/4" – 2"

#### Prefix:

U – Union connections

#### Suffix:

FS – Flood detection sensor (1/2" – 2")

LF – Without shutoff valves

PC – Internal polymer coating

Press\*\* – Press inlet x press outlet (1/2" – 2")

QT – Quarter-turn ball valves

S – Strainer

### 2 1/2" – 3"

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

### 1/4" – 2"

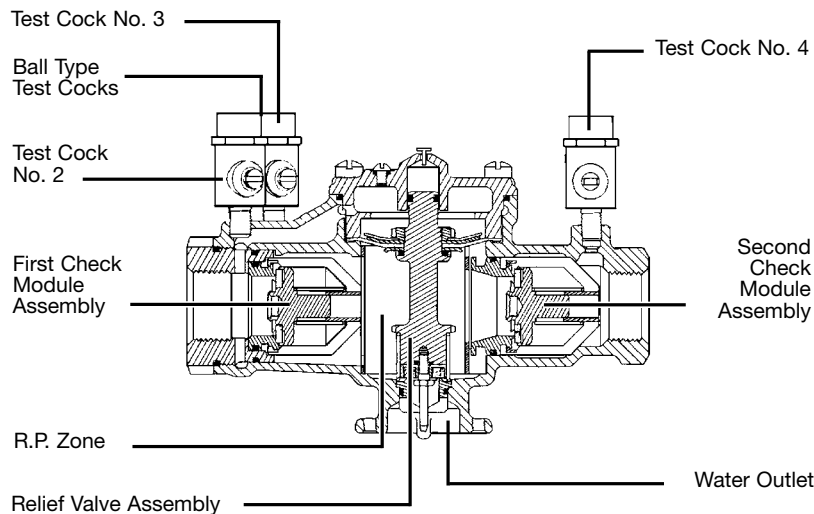
Suitable for supply pressure up to 175 psi (12.1 bar)

Water temperature: 33°F – 180°F (0.5° – 82°C)

### 2 1/2" – 3"

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

Approval models NRS, OSY, PC, QT

UL Classified

2½" – 3" with OSY gate valves

¾" – 2" without shutoff valves (-LF), except LF009M3LF

## Insulated Enclosure

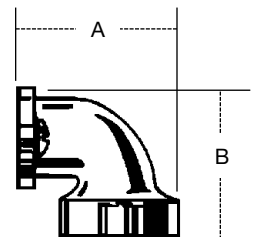
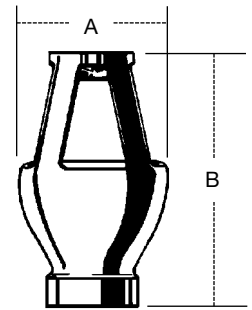
The WattsBox insulated enclosure is available for Series LF009. For more information download ES-WB at watts.com.

## Air Gaps and Elbows

Call customer service if you need assistance with technical details.

MODEL	DRAIN OUTLET	DIMENSIONS				WEIGHT			
		A		B		lb	kg		
	For 909, 009, and 993 sizes	in.	mm	in.	mm	in.	mm		
909AGA	¼"–½" 009, ¾" 009M2/M3	½	13	2¾	60	3⅞	79	0.63	0.28
909AGC	¾"–1" 009/909, 1"–1½" 009M2	1	25	3¼	83	4⅞	124	1.50	0.68
909AGF	1¼"–2" 009M1, 1¼"–3" 009/909, 2" 009M2, 4"–6" 993	2	51	4⅞	111	6¾	171	3.25	1.47
909AGK	4"–6" 909, 8"–10" 909M1	3	76	6⅞	162	9⅞	244	6.25	2.83
909AGM	8"–10" 909	4	102	7⅞	187	11¼	286	15.50	7.03
909ELA	¼"–½" 009, ¾" 009M2/M3	–	–	–	–	–	–	–	–
909ELC	¾"–1" 009/909	–	–	2¾	60	2¾	60	0.38	0.17
909ELF*	1¼"–2" 009M1, 1¼"–2" 009/909, 2" 009M2, 4"–6" 993	–	–	3⅞	92	3⅞	92	2.00	0.91
909ELH* Vertical	2½"–3" 009/909	–	–	–	–	–	–	–	–

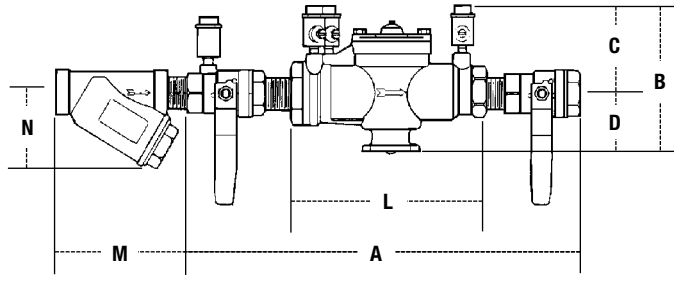
\*Epoxy coated



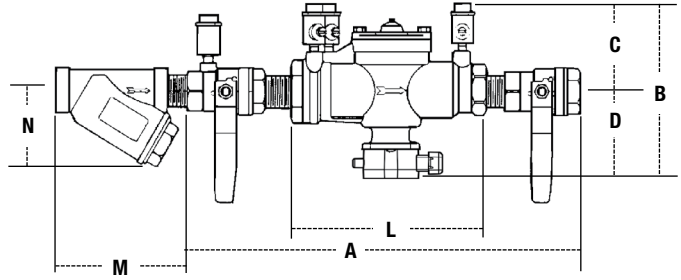
## Dimensions – Weight

Call customer service if you need assistance with technical details.

1/4" – 3/8"

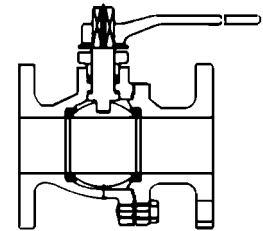
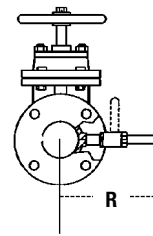
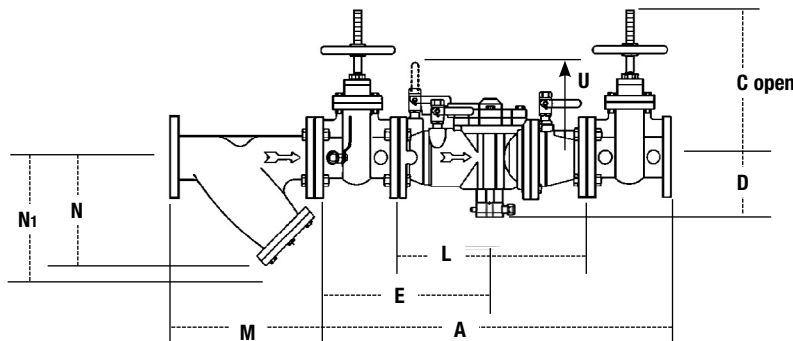


1/2" – 2"



SIZE		DIMENSIONS (APPROX.)										WEIGHT					
in.		A		B		C		D		L		M		N		lb	kg
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
1/4		10	250	4 7/8	117	3 3/8	86	1 1/4	32	5 1/2	140	2 3/8	60	2 1/2	64	5	2
3/8		10	250	4 7/8	117	3 3/8	86	1 1/4	32	5 1/2	140	2 3/8	60	2 1/2	64	5	2
1/2		10	250	5 7/8	149	3 3/8	86	2 1/2	64	5 1/2	140	2 3/4	70	2 1/4	57	5	2
3/4		10 3/4	273	6 1/4	159	3 1/2	89	2 3/4	70	6 3/4	171	3 3/16	81	2 3/4	70	6	3
1		14 1/2	368	6 1/4	159	3	76	3 1/4	83	9 1/2	241	3 3/4	95	3	76	12	5
1 1/4		17 3/8	441	6 3/4	169	3 1/2	89	3 1/4	83	11 3/8	289	4 7/16	113	3 1/2	89	15	6
1 1/2		17 7/8	454	6 3/4	169	3 1/2	89	3 1/4	83	11 1/8	283	4 7/8	124	4	102	16	7
2		21 3/8	543	8 3/4	222	4 1/2	114	4 1/4	108	13 1/2	343	5 5/16	151	5	127	30	13

2 1/2" – 3"



Watts G-4000 Series  
QT – Ball Valves

STRAINER SIZE		DIMENSIONS (APPROX.)						WEIGHT	
in.	mm	M		N		N <sub>1</sub> †		lb	kg
		in.	mm	in.	mm	in.	mm		
2 1/2	65	10	254	6 1/2	165	9 3/4	248	28	12.7
3	80	10 1/8	257	7	178	10	254	34	15.4

†Clearance for servicing

MODEL	SIZE	DIMENSIONS (APPROX.)										WEIGHT							
		A		C		D		E		L		R		U		lb	kg		
	in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
LF009LF	2 1/2	—	—	—	—	5 5/8	143	—	—	18 1/8	460	—	—	10 5/8	270	76	34.5		
LF0090SY	2 1/2	33 3/4	845	15 7/8	403	5 5/8	143	16 3/8	416	18 1/8	460	7 3/4	197	10 5/8	270	166	75.3		
LF009NRS	2 1/2	33 3/4	845	11 3/8	289	5 5/8	143	16 3/8	416	18 1/8	460	7 3/4	197	10 5/8	270	161	73.0		
LF009LF	3	—	—	—	—	5 5/8	143	—	—	18 1/8	460	—	—	10 5/8	270	76	34.5		
LF0090SY	3	34 3/4	870	18 1/2	470	5 5/8	143	16 5/8	422	18 1/8	460	8 3/4	222	10 5/8	270	198	89.8		
LF009NRS	3	34 3/4	870	12 3/4	324	5 5/8	143	16 5/8	422	18 1/8	460	8 3/4	222	10 5/8	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).

