



**PCO #084**

Ratcliff Constructors, LP  
 4200 Beltway Drive  
 Addison, Texas 75001  
 Phone: (972) 432-9969  
 Fax: (972) 432-9943

**Project:** 21-501 - Collin County Adult Detention Facility, Phase 1 Addition  
 4300 Community Avenue  
 McKinney, Texas 75071

**Prime Contract Potential Change Order #084: RFI #237 PRZ for Water Softener**

<b>TO:</b>	Collin County 4600 Community Avenue McKinney Texas, 75071	<b>FROM:</b>	Ratcliff Constructors, LP 4200 Beltway Drive Addison Texas, 75001
<b>PCO NUMBER/REVISION:</b>	084 / 0	<b>CONTRACT:</b>	1 - Collin County Adult Detention Facility, Phase 1 Addition Prime Contract
<b>REQUEST RECEIVED FROM:</b>		<b>CREATED BY:</b>	CJ Perry (Ratcliff Constructors, LP)
<b>STATUS:</b>	Pending - In Review	<b>CREATED DATE:</b>	1/23 /2024
<b>REFERENCE:</b>		<b>PRIME CONTRACT CHANGE ORDER:</b>	
<b>FIELD CHANGE:</b>	No		
<b>LOCATION:</b>		<b>ACCOUNTING METHOD:</b>	Amount Based
<b>SCHEDULE IMPACT:</b>		<b>PAID IN FULL:</b>	No
		<b>TOTAL AMOUNT:</b>	\$4,403.04

**POTENTIAL CHANGE ORDER TITLE:** RFI #237 PRZ for Water Softener

**CHANGE REASON:** Design Development

**POTENTIAL CHANGE ORDER DESCRIPTION:** *(The Contract Is Changed As Follows)*  
 RFI #237 PRZ for Water Softener

Provide for additional materials, equipment, and manpower required to add an RPZ (Watts LF009) to the water softener system as required per the city inspector and RFI #237. See backup.

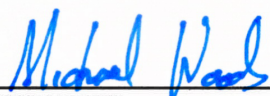
**ATTACHMENTS:**

#	Cost Code	Description	Type	Amount
1	22-101 - Plumbing Alt.	ADD RPZ	Subcontractor	\$ 3,953.36
2		Ratcliff Bonds (1.25%)		\$ 49.41
3		Ratcliff Fee (10.00%)		\$ 400.27
<b>Subtotal:</b>				\$4,403.04
<b>Grand Total:</b>				\$4,403.04

**Michael Woods (Brinkley Sargent  
 Wiginton Architects)**  
 5000 Quorum Drive, Suite 600  
 Dallas Texas 75254

**Collin County**  
 4600 Community Avenue  
 McKinney Texas 75071

**Ratcliff Constructors, LP**  
 4200 Beltway Drive  
 Addison Texas 75001

  
 \_\_\_\_\_  
 SIGNATURE DATE 1-23-2024

\_\_\_\_\_  
 SIGNATURE DATE

 1/23/24  
 \_\_\_\_\_  
 SIGNATURE DATE

Daum Plumbing Co. Inc

972-241-7000 Fax 972-241-7074

TSBPE 512-458-2145 S Daum#M14182

11695 Airway Blvd

Roanoke, TX 76262

# CHANGE ORDER

Date	Estimate #
12/20/2023	10347

Name / Address
Ratcliff Construction LP 14901 Quorum Drive #715 Dallas, TX 75254 972-432-9969 972-432-9943 Fax

Project
22121 - Ratcliff - Co...

Description	Qty	Total
Change Order RFI 237 - RPZ for Water Softener	1	3,953.36
Supply and Install 1 - 2" RPZ and All associated Plumbing for		
Labor - 1 Man 4 Hours      380.00		
Materials                      3213.96		
RPZ		
Air gap		
Male Adapter		
Nipples/Unions/Strainers		
Stand Offs Anchors/ATR/Nuts/Washers		
DWV Fittings/Pipe for Air Gap/Drain		
POH                              359.40		
Collin County Detention Center Phase I Addition	<b>Total</b>	\$3,953.36 ✓

## Engineering Specification

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

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

### LEAD FREE\*

## Series LF009 and LF009-FS Reduced Pressure Zone Assemblies

Size: 1/4" – 3"

Series LF009 and LF009-FS Reduced Pressure Zone Assemblies are 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 body construction is fused with ArmorTek™ coating technology to resist corrosion due to microbial induced corrosion (MIC) or exposed metal substrate.\* The series also features Lead Free\* construction to comply with Lead Free\* installation requirements.

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

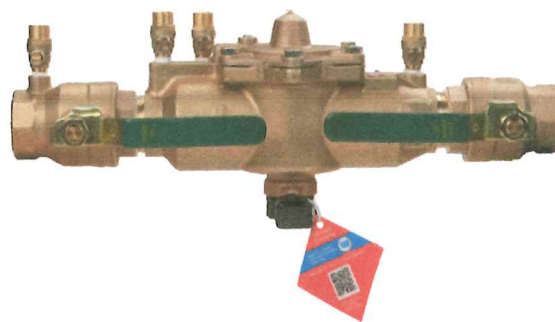
Series LF009-FS assemblies of sizes 1/2" to 2" include an integrated flood sensor to detect excessive water discharges from the relief valve. When activated through an add-on sensor connection kit, the flood sensor relays a signal that triggers notification to qualified service personnel who can take corrective action, thus avoiding the possibility of ruinous flooding and costly damage. 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 009-FS and LF009-FS.*)

### Features

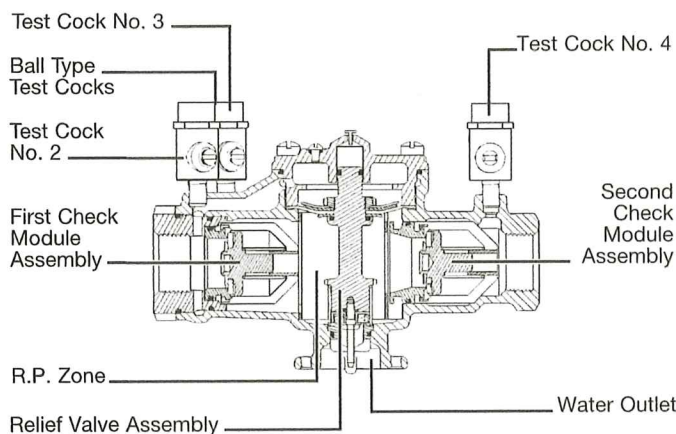
- Single access cover and modular check construction for ease of maintenance
- Top entry to all internals for immediate accessibility
- Captured springs for safe maintenance
- Internal relief valve for reduced installation clearances
- Replaceable seats for economical repair
- ArmorTek™ coating technology to resist internal corrosion†
- Lead Free\* cast copper silicon alloy body construction (1/4" – 2")
- Fused epoxy coated cast iron body (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
- Integrated sensor for flood detection (1/2" – 2")

### 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.



LF009M2-QT-FS



### 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. The valve body shall utilize a coating system with built-in electrochemical corrosion inhibitor and microbial inhibitor.† The assembly shall meet the requirements of USC; ASSE Std. 1013; AWWA Std. C511; CSA B64.4. Shall be a Watts Series LF009.

### NOTICE

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.

†Amortek coating applied to the 2 1/2" and 3" models only.

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.



## Available Models: 1/4" – 2"

### Prefix:

U– Union connections

### Suffix:

- LF – Without shutoff valves
- PC – Internal polymer coating
- Press\*\* – Press inlet x press outlet (1/2" – 2")
- QT – Quarter-turn ball valves
- S – Strainer

## Available Models: 2 1/2" – 3"

### Suffix:

- LF – Without shutoff valves
- NRS<sub>1</sub> – Non-rising stem resilient seated gate valves
- OSY – UL/FM 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.)

## 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.

## Materials: 2 1/2" – 3"

- FDA-approved epoxy-coated cast iron unibody with plastic seats
- Relief valve with stainless steel seat and trim
- Lead Free\* cast copper silicon alloy body ball valve test cocks

## Air Gaps and Elbows

MODEL	DRAIN OUTLET	DIMENSIONS				WEIGHT			
		A		B		lb	kg		
	For 909, 009, and 993 sizes	in.	mm	in.	mm				
909AGA	1/4"-1/2" 009, 3/4" 009M2/M3	1/2	13	2 3/8	60	3 3/8	79	0.625	0.28
909AGC	3/4"-1" 009/909, 1"-1 1/2" 009M2	1	25	3 1/4	83	4 7/8	124	1.5	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 3/8	187	11 1/4	286	15.5	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 3/8	92	3 3/8	92	2	0.91
909ELH*	2 1/2"-3" 009/909	-	-	-	-	-	-	-	-
Vertical									

\*Epoxy coated

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

## Pressure / Temperature

### Sizes 1/4" – 2"

Suitable for supply pressure up to 175 psi (12.1 bar)  
Water temperature: 33°F – 180°F (0.5° – 82°C)

### Sizes 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

## 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

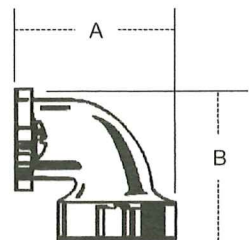
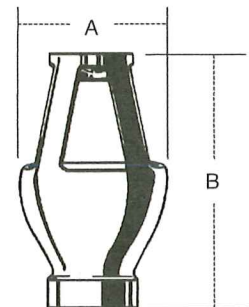
UL Classified

2 1/2" – 3" with OSY gate valves

3/4" – 2" without shutoff valves (-LF), except LF009M3LF

## Insulated Enclosure

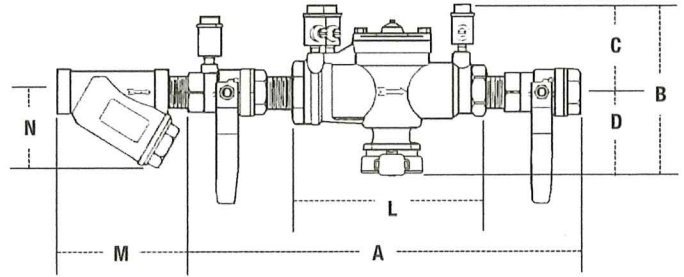
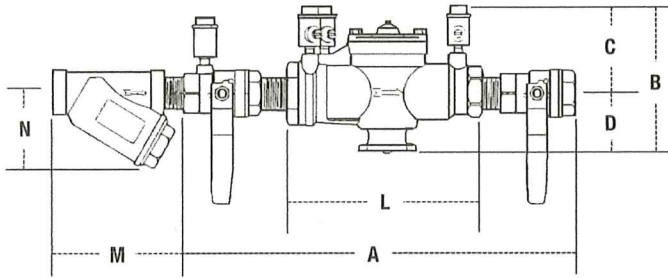
The WattsBox insulated enclosure is available for Series LF009/LF009-FS. For more information download ES-WB at watts.com.



## Dimensions – Weight

Size: 1/4" – 3/8"

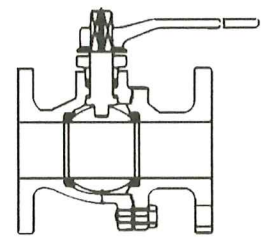
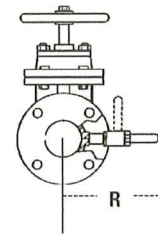
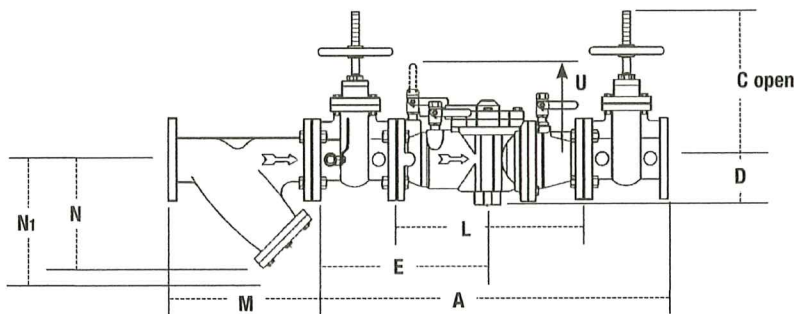
Size: 1/2" – 2"



SIZE	DIMENSIONS (APPROX.)										WEIGHT					
	A		B		C		D		L		M		N		lb	kg
in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm		
1/4	10	250	4 5/8	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 5/8	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 1/4	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 1/4	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 3/4	83	11 3/8	289	4 7/16	113	3 1/2	89	15	6
1 1/2	17 3/8	454	6 3/4	169	3 1/2	89	3 3/4	83	11 1/2	283	4 7/8	124	4	102	16	7
2	21 1/8	543	8 3/4	222	4 1/2	114	4 3/4	108	13 1/2	343	5 1/8	151	5	127	30	13

## Dimensions – Weight

Size: 2 1/2" – 3"



Watts G-4000 Series  
QT – Ball Valves

STRAINER SIZE		DIMENSIONS (APPROX.)					WEIGHT		
in.	mm	M		N		N1†		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

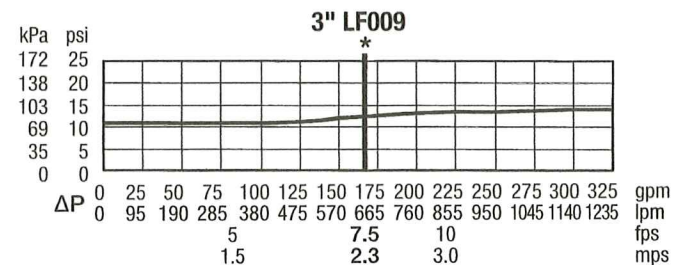
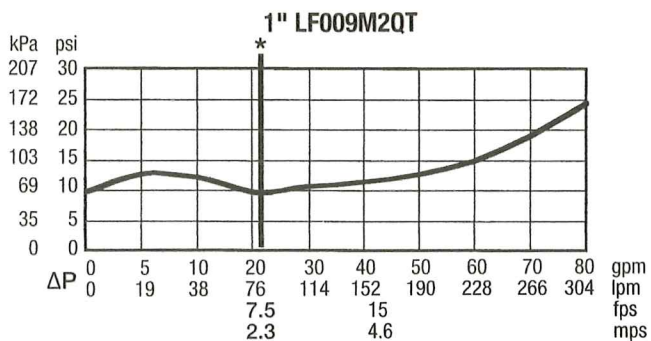
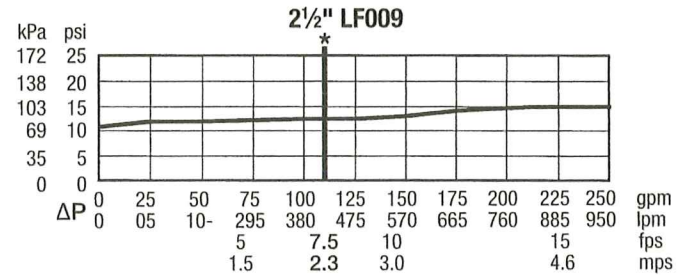
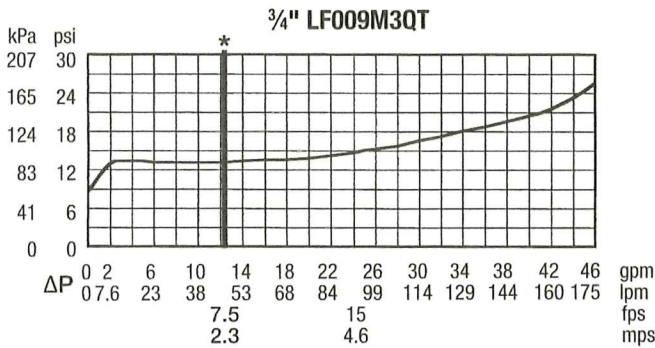
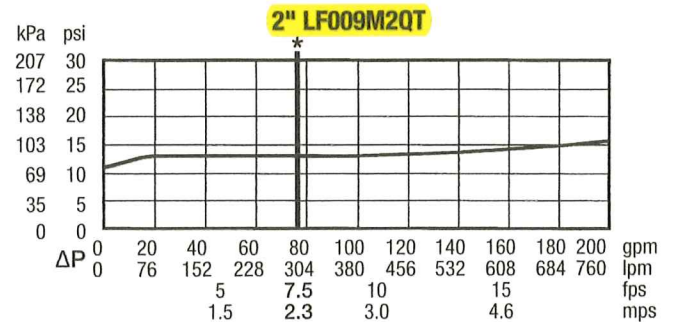
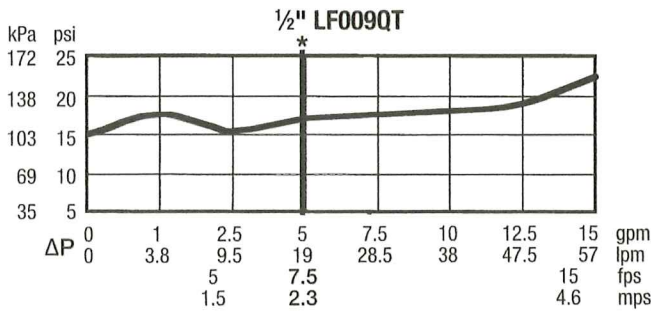
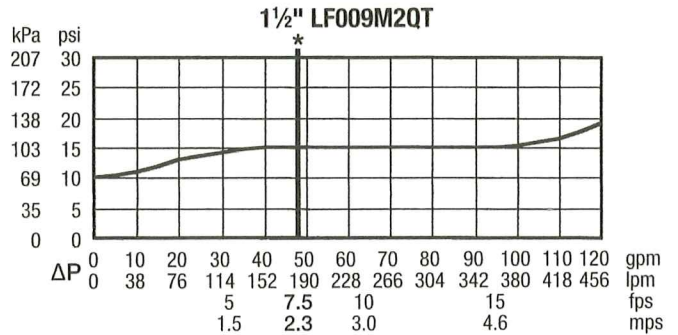
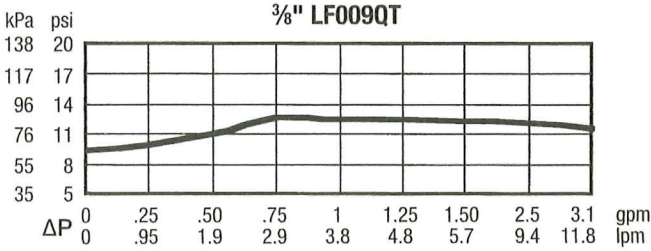
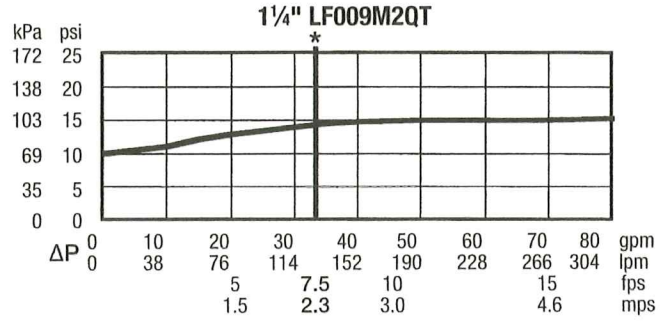
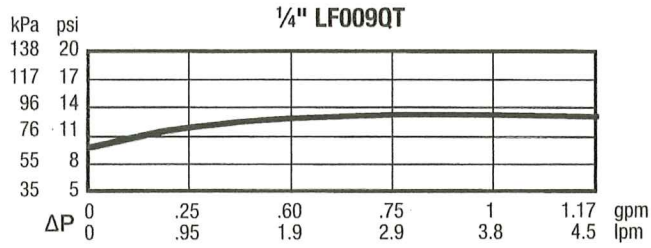
†Clearance for servicing

MODEL	SIZE	DIMENSIONS (APPROX.)									WEIGHT						
	in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lb	kg		
LF009LF	2 1/2	—	—	—	—	4 1/2	114	—	—	18 1/8	460	—	—	10 5/8	270	76	34.5
LF009OSY	2 1/2	33 1/4	845	15 5/8	403	4 1/2	114	16 3/8	416	18 1/8	460	7 3/4	197	10 5/8	270	166	75.3
LF009NRS	2 1/2	33 1/4	845	11 3/8	289	4 1/2	114	16 3/8	416	18 1/8	460	7 3/4	197	10 5/8	270	161	73.0
LF009LF	3	—	—	—	—	4 1/2	114	—	—	18 1/8	460	—	—	10 5/8	270	76	34.5
LF009OSY	3	34 1/4	870	18 1/2	470	4 1/2	114	16 3/8	422	18 1/8	460	8 3/4	222	10 5/8	270	198	89.8
LF009NRS	3	34 1/4	870	12 3/4	324	4 1/2	114	16 3/8	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/sec, 2.3 m/sec).





**Ratcliff Constructors, LP**  
 4200 Beltway Drive  
 Addison, Texas 75001  
 P: (972) 432-9969  
 F: (972) 432-9943

**Project: 21-501 Collin County Adult Detention Facility, Phase 1 Addition**  
 4300 Community Avenue  
 McKinney, Texas 75071

## RFI #237: RPZ for Water Softener

<b>Status</b>	Open		
<b>To</b>	Michael Woods (Brinkley Sargent Wiginton Architects) Jason Mansur (MD Engineering, LLP - MEP Engineer) <i>(Response Required)</i>	<b>From</b>	Zach Reynolds (Ratcliff Constructors, LP) 4200 Beltway Drive Addison, Texas 75001
<b>Date Initiated</b>	Dec 12, 2023	<b>Due Date</b>	Dec 19, 2023
<b>Location</b>		<b>Project Stage</b>	
<b>Cost Impact</b>		<b>Schedule Impact</b>	
<b>Spec Section</b>		<b>Cost Code</b>	
<b>Drawing Number</b>		<b>Reference</b>	
<b>Linked Drawings</b>			
<b>Received From</b>	Miranda Longoria (Daum Plumbing Co., Inc.)		
<b>Copies To</b>	Brian Odom (Ratcliff Constructors, LP), CJ Perry (Ratcliff Constructors, LP), Shane Worley (Ratcliff Constructors, LP)		

### Activity

<b>Question</b>	<p><b>Question from Zach Reynolds Ratcliff Constructors, LP on Tuesday, Dec 12, 2023 at 08:56 AM CST</b></p> <p>The inspector has told the plumber to add a RPZ water softener system, but the plans/specs do not call for any such system. Please confirm if the water softener system is required.</p> <p style="text-align: center;"><i>Awaiting an Official Response</i></p>
<b>All Replies</b>	<p><b>Response from Jason Mansur MD Engineering, LLP - MEP Engineer on Tuesday, Jan 16, 2024 at 02:32 PM CST</b></p> <p>If the inspector is requiring a RPZ on the hot water system that is connected to the water softener, then one should be added.</p> <p>Utilize Watts LF009</p>