Quality People. Building Solutions.

Comfort Systems USA (Arkansas), Inc.
P.O. Box 16620
Little Rock, AR 72231
Phone 501-834-3320
Fax 501-834-5416

Date: 2/21/2024
Return Request: 3/28/2024
Project: Little Rock West High School
Supplier: Sanders Supply
Manufacturer: Various
Submittal: Plumbing (Domestic Water Piping Specialties)
Submittal Number: 22 01 00-07
Drawing # and Installation: Plumbing Drawings

ARCHITECT
Lewis Architects Engineers
11225 Huron Lane, Suite 104
Little Rock, AR 72211
501-223-9302

ENGINEER
Lewis Architects Engineers
11225 Huron Lane, Suite 104
Little Rock, AR 72211
501-223-9302

GENERAL CONTRACTOR
Baldwin & Shell
1000 W. Capitol Ave.
Little Rock, AR 72201
501-374-8677

MECHANICAL SUBCONTRACTOR
Comfort Systems USA (Arkansas), Inc.
9924 Landers Rd.
N. Little Rock, AR 72117
501-834-3320

Notes:

chowell@comfortar.com

RH-1

The Woodford, ASSE 1057 listed, SRH Sanitary Roof Hydrant is intended for irrigation purposes and to provide water, in any weather condition, on commercial building roofs. Applications include window washing, cleaning of condenser coils, cooling towers, green roofs and other types of roof top equipment. The SRH is backflow protected with a field testable ASSE 1052 double check backflow preventer.

The SRH does not require 1) a drain line from the valve body located inside the building or 2) the removal of vacuum breaker or use of a diverter to protect from freezing.

The SRH-MS *with* Mounting System allows for installation flexibility. It is not necessary to install hydrant when hydrant support is mounted to the roof. The hydrant support utilizes a 3" diameter opening that allows the hydrant to be installed or easily removed at a later time. All necessary mounting hardware for proper installation on a commercial roof is supplied, including a 2 degree shim for pitch adjustment.

Hydrant Features:

- ASSE 1057 Listed
- No Drain Line Required - *With the hose removed*, a venturi action draws water out of the internal reservoir and discharges out the backflow preventer.
- Superior reservoir evacuation times without removing the backflow preventer.
- Variable flow plunger for longer life is not easily damaged and assures proper shut-off.
- Large easy to open lift handle.
- Adjustable link for easy adjustment and positive lever lock tension.
- All hydrant repairs can be made from top without removing hydrant.

Specifications:

- Hose Connection Backflow Preventer:
  - Model 50H with 3/4" hose connection
  - ASSE 1052 Listed
  - Field Testable Dual Check holds against 125 psi backflow pressure
- ¾" NPT female inlet connection.
- 1 ½" U.S. made galvanized pipe.
- **Maximum Working Pressure:** 100 p.s.i.
- **Maximum Temperature:** 120° F

SRH WARNING	Supply PSI	Run Time
After each use, run hydrant without a hose to ensure proper evacuation.	60	5 seconds
	25	15 seconds

Mounting System: *(Can be ordered Separately)*

- Cast iron Hydrant Support
- Cast iron Under Deck Flange
  - 4 bolts draw tight against the roof decking and the hydrant support.
  - 3 clamp screws tighten against the hydrant pipe to secure the hydrant's vertical position through the roof.
- Well Seal seals tight between the hydrant support and hydrant pipe.
- EPDM Boot covers well seal and top of hydrant support.
- 2° Shim is supplied, if needed, for installation on pitched roofs.

Patent Informatioin: https://www.woodfordmfg.com/patents/

For Installation / Troubleshooting Instructions go to www.woodfordmfg.com or call 1-800-621-6032

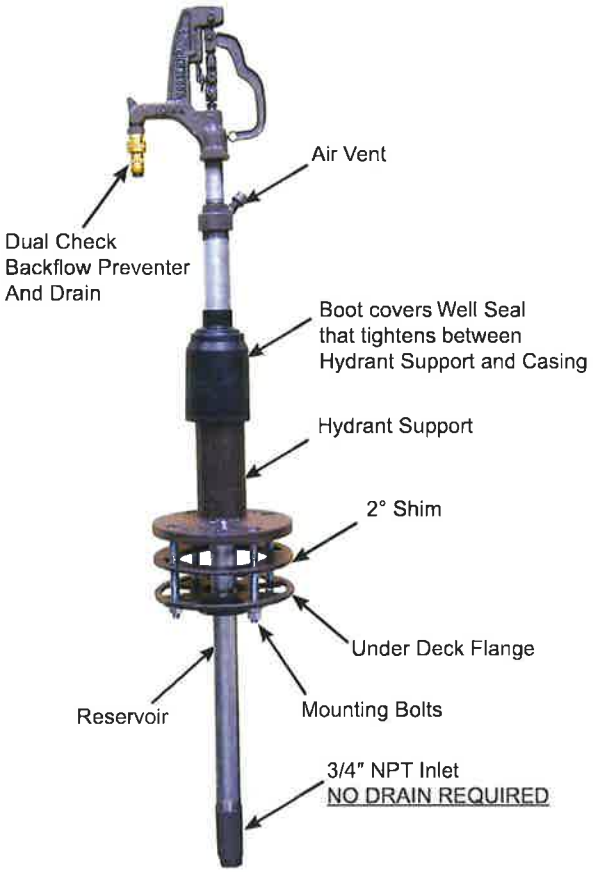
WOODFORD

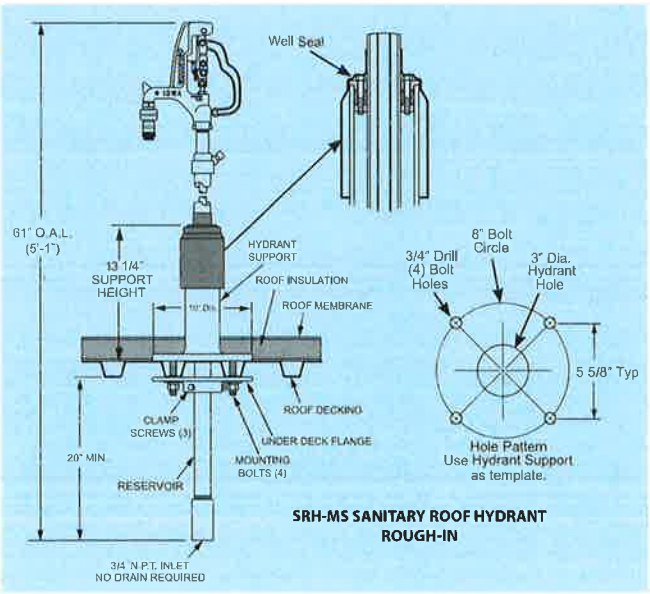
Freezeless Sanitary Roof Hydrant

No Drain Line Required!

Model SRH-MS

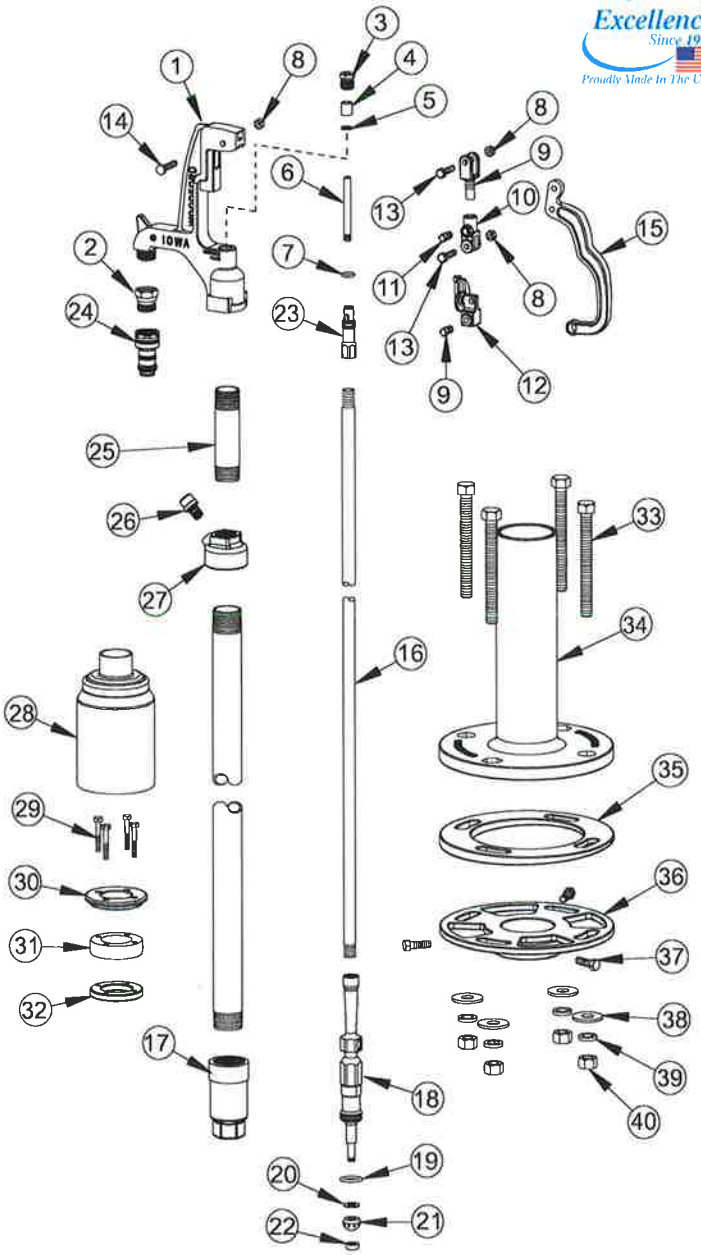
Can be ordered with or without Mounting System (MS).





MODEL SRH-MS PARTS LIST

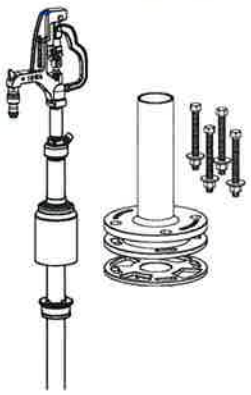
ITEM	PART#	DESCRIPTION
	15126	SRH Head Assembly (Includes Items 1-15, 23 & 24)
1	10632	SRH Head
2	10004	3/4" Brass Hose Nozzle
3	10100	Packing Nut
4	10101	Packing
5	10102	Packing Support Washer
6	15121	Brass Rod Stem
7	10117	O-Ring - 206
8	10206	Hex Nut (3)
9	10614	RH Upper Link
10	15242	RH Lower Link (Includes Item 11)
11	10019	Set Screw (2)
12	15243	RH Cam & Clevis Assembly
13	10020	Link Bolt (2)
14	10021	Lever Bolt
15	10613	RH Lever
16	10024	Operating Pipe
17	15122	Valve Body (3/4" NPT Inlet)
18	15123	Venturi Assembly
19	10118	Valve Body O-Ring
20	50027	Support Washer
21	51013	Ball Valve Rubber
22	50028	Round Brass Nut
23	10116	Sealing Head Coupling
24	50H-BR	50H Backflow Preventer
25	15120	Upper Pipe Assembly
26	15124	SRH Vent Assembly
27	15125	SRH Casing Cover
28	10608	RH Boot, EPDM
29	10625	Bolt, Allen Head 1/4-20 X 1 3/4" (4)
30	10626	Well Seal-1 1/2", Top
31	10119	Well Seal-1 1/2", EPDM
32	10627	Well Seal-1 1/2", Bottom
33	10584	Bolt, Hex Head 5/8-11 X 6" (4)
34	10579	Hydrant Support, Casting
35	10581	2° Shim, Casting
36	10580	Under Deck Flange
37	10607	Screw, Clamp 3/8-16 Hex Head X 1 3/4" (3)
38	10604	Washer, Plain 5/8 (4)
39	10605	Washer, Lock 5/8 (4)
40	10585	Nut, Hex 5/8-11 UNC (4)
	RK-SRH	Repair Kit (Includes items 3-7, 19-22)
	RK-RHL	Repair Kit (Includes items 8-15)



When ordering, specify SRH part number option listed below.

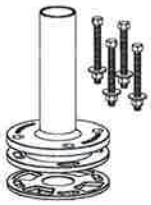
Part# SRH-MS Consists of the complete Roof Hydrant system:
Qty.1 **SRH** Hydrant shipped in 1 carton.
Qty. 1 **RH-MS** Mounting System shipped in 1 carton.

Total Shipping Wt.
2 cartons: 50 lbs



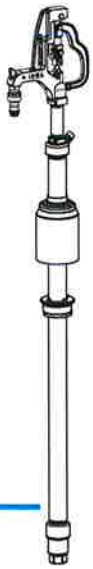
Part# RH-MS
Carton contents consists of:
Mounting System/ Rough-In Components (Parts 33-40 above)
- Hydrant Support
- 2° Shim,
- Under Deck Flange
- Mounting Bolts, Nuts, Washers.

Shipped in 1 Carton.
Shipping Wt. - 30 lbs



Part# SRH
Carton contents consists of:
- Hydrant Assembly (Parts 1-32 above)
- Well Seal (Parts 28-32 above)
- Boot (Part 28 above)

Shipped in 1 Carton.
Shipping Wt. - 20 lbs



For more information contact...

WOODFORD MANUFACTURING COMPANY, LLC

2121 Waynoka Road, Colorado Springs, Colorado 80915 • **Phone:** (800) 621-6032
To view our complete product line visit: ***www.woodfordmfg.com*** *or email:* ***sales@woodfordmfg.com***

HB-1

Engineering Specification

Job Name **LR West HS**

Job Location **LR**

Engineer **Ragsdale**

Approval

Tag **HB-1**

Contractor **Comfort Systems USA**

Approval

Contractor's P.O. No.

Representative **Sanders Supply**

HY-420

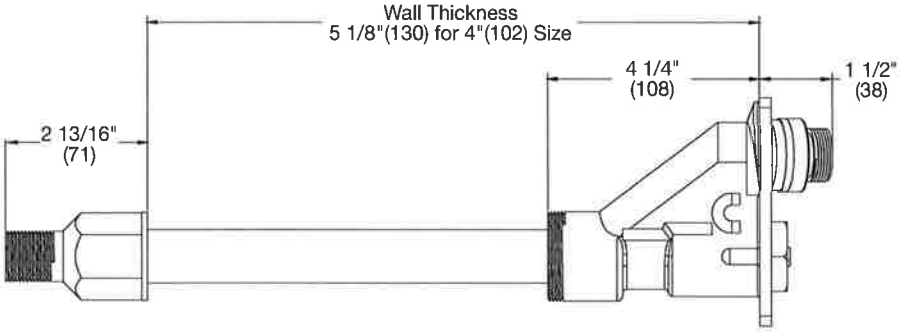
Non-Freeze Wall Hydrant with Chrome Face & Integral Vacuum Breaker

Specification:

Watts HY-420 non-freeze key operated wall hydrant with chrome plated face, integral vacuum breaker, 3/4"(19) hose connection, 3/4"(19) female x 1"(25) male pipe connection, all bronze head, seat casting and internal working parts, bronze wall casing, and loose key. Complies with ASME B1.20.7, and ASSE 1019-2004, UPC/IAPMO listed. Maximum operating pressure 125 psi.

Wall Thickness Suffix	Description	
4	4"(102) Thick	☐
6	6"(152) Thick	☐
8	8"(203) Thick	☐
10	10"(254) Thick	☐
12	12"(305) Thick	☑
14	14"(356) Thick	☐
16	16"(406) Thick	☐
18	18"(457) Thick	☐
20	20"(508) Thick	☐
22	22"(559) Thick	☐
24	24"(610) Thick	☐
Other	Specify	☐

Options Suffix	Description	
-88	Wall Clamp	☑
CM-	Complete Internal Assembly (Repair Kit)	☐



Recommended Wall Opening:
2"(51) x 4"(102)

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.

USA: T: (800) 338-2581 • F: (828) 248-3929 • Watts.com
Canada: T: (888) 208-8927 • F: (905) 481-2316 • Watts.ca
Latin America: T: (52) 55-4122-0138 • Watts.com

HB-2

Engineering Specification

Job Name **LR West HS**

Job Location **LR**

Engineer **Ragsdale**

Approval

Tag **HB-2**

Contractor **Comfort Systems USA**

Approval

Contractor's P.O. No.

Representative **Sanders Supply**

HY-330

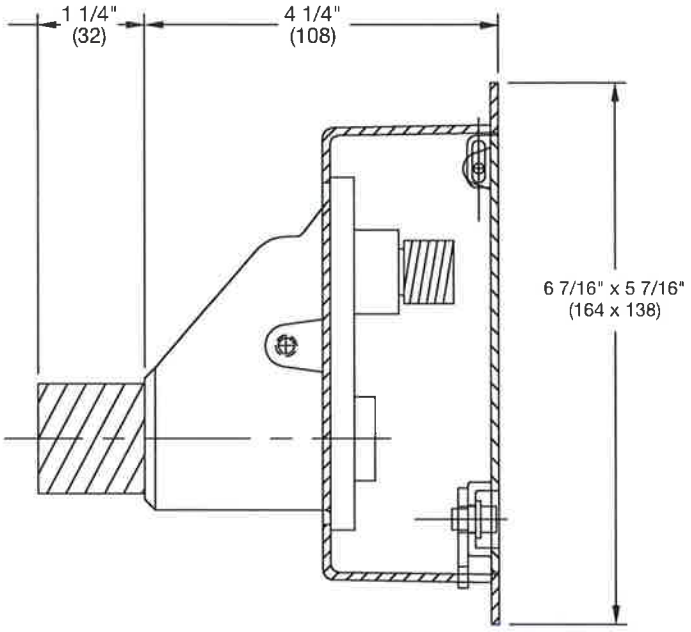
Moderate Climate Wall Hydrant with NB Box, Integral Vacuum Breaker

Specification:

Watts HY-330 concealed moderate climate key operated wall hydrant with nickel bronze box and door, chrome plated hydrant face, integral vacuum breaker, 3/4"(19) hose connection, 3/4"(19) female x 1"(25) male pipe connection, all bronze head, seat casting and internal working parts, and loose key. Complies with ASSE 1019-2004, UPC/IAMPO Listed. Max. operating pressure 125 psi.

Suffix	Depth of Bury Description	
-K	Cylinder Lock	☐
-3	Stainless Steel Box	☐
-CIA	Complete Internal Assembly (Repair Kit)	☐
-R	Round Stainless Steel Box	☐

Recommended Wall Opening: 5-1/4" x 6-1/4" (133 x 158)



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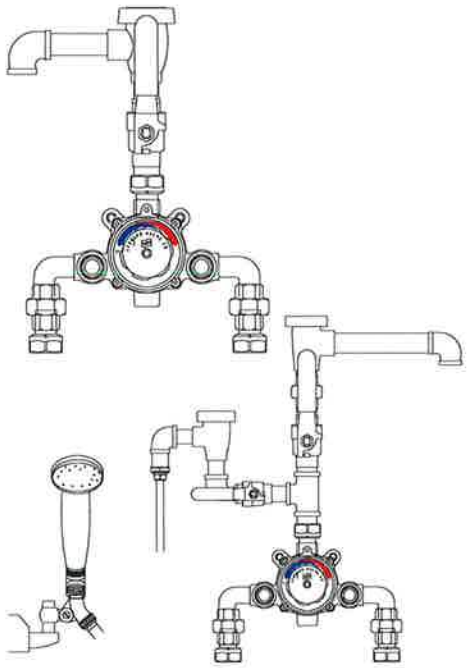
Latin America: T: (52) 55-4122-0138 • Watts.com

FF-1

Submittal Data Sheet S-1436
February, 2019

Thermostatic MIXING VALVES



Hydrotherapy Control Units

Whirlpool Bath
Arm-Leg-Hip-Lower Lumbar Bath

TM-356-___-LF

____TM-356-26-LF 3/4" inlets and outlet *

- Thermostatic water mixing valve
- Dura-trol® solid bimetal thermostat directly linked to valve porting to control the intake of hot and cold water and compensate for supply temperature or pressure fluctuations. Dura-trol® is highly responsive and cannot be damaged by extremes in temperature.
- Adjustable high temperature limit stop set for 110°F (43°C)
- Integral checkstops, unions, wall support, cast lever handle
- Outlet volume control / shutoff, vacuum breaker
- Locking Temperature Regulators
- Factory assembled and tested
- Select valve piping finish below
- See Flow Capacity Chart to select correct size

__TM-356-26-LF-W/HA

- Extra 1/2" hose attachment
- Ball valve shutoff
- Vacuum breaker
- 60" chrome hose, hand spray, wall hook
- Chrome plated finish only
- Factory assembled and tested

*** Valve is ASSE 1017 listed**

*** Valve is CUPC listed**

OPTIONS:

__SUFFIX RF - Rough bronze finish
__**SUFFIX CP - Chrome plated finish**
__SUFFIX DT – Dial thermometer

Engineer's Approval	Job # _____ Arch/Eng. _____ Contractor _____

CAUTION! All thermostatic water mixing valves have limitations. They will NOT provide the desired accuracy outside of their flow capacity range. Consult the Flow Capacity Chart and DO NOT OVERSIZE. Minimum flow must be no less than as indicated.

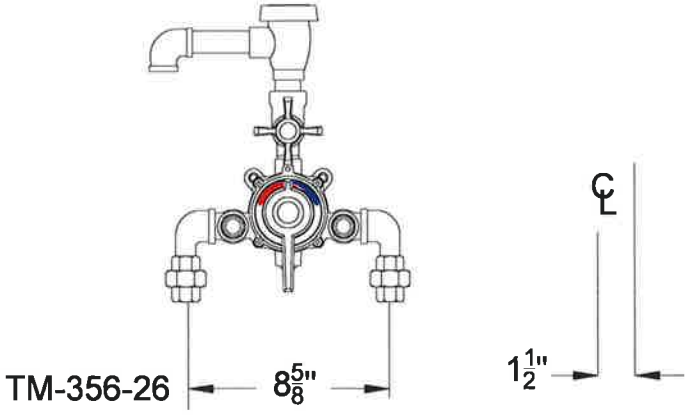
***NOTE:** A limit stop, set for 120°F (49°C), is simply a mechanical setting to prevent excessive handle rotation. If incoming water is hotter than 150°F (65.5°C), the temperature of the factory test, the valve when turned to full HOT may deliver water in excess of 120°F and the limit stop MUST BE RESET BY THE INSTALLER

WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to

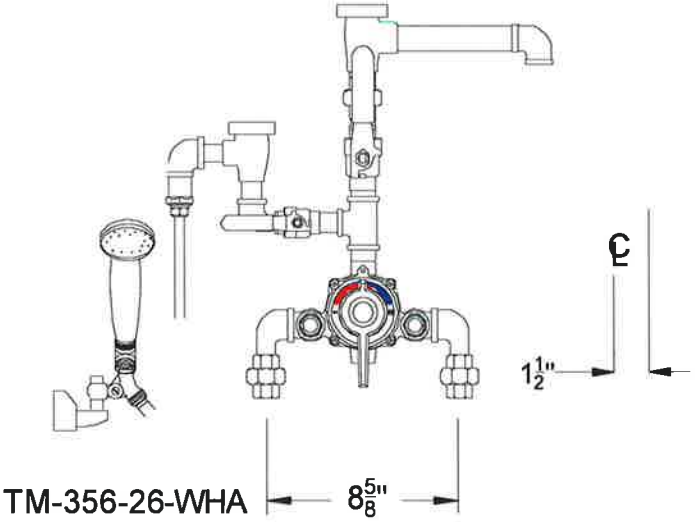
Note: Leonard Valve Company reserves the right of product, or design modifications without notice or obligation.

LEONARD®
WATER TEMPERATURE CONTROLS
1360 Elmwood Avenue, Cranston, RI 02910 USA
Phone: 401.461.1200 Fax: 401.941.5310
Email:
Web Site: http://www.leonardvalve.com

TM-356-15-20-26



TM-356-26 W/HA



MODEL	IN	OUT	MINIMUM FLOW (GPM) (l/min)	SYSTEM PRESSURE DROP (PSIG) 5	(10)	(15)	(20)	25	30	35	40	45	50	PSI
				,3	.7	.97	1.4	1.7	2.1	2.4	2.8	3.1	3.4	BAR
TM-356-26	3/4"	3/4"	1.0 (4.0)	7	10	13	15	17	19	21	23	25	26	GPM
				26	38	49	57	64	72	80	87	95	98	l/min

LEONARD®
WATER TEMPERATURE CONTROLS

1360 Elmwood Avenue, Cranston, RI 02910 USA
Phone: 401.461.1200 Fax: 401.941.5310
Email: [redacted]
Web Site: http://www.leonardvalve.com

RPZ-1

Job Name LR West HS
Job Location LR
Engineer Ragsdale
Approval

Contractor Comfort Systems USA
Approval
Contractor's P.O. No.
Representative Sanders Supply

LEAD FREE*

Series 957, 957N, 957Z

Reduced Pressure Zone Assemblies

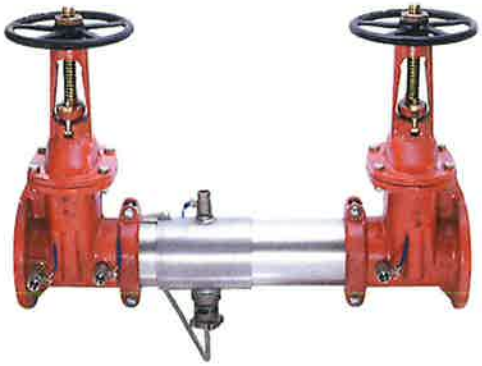
Sizes: 2½" – 10"

Series 957, 957N, 957Z Reduced Pressure Zone Assemblies provide protection to the potable water system from contamination in accordance with national plumbing codes. Series 957, 957N, 957Z are normally used in health hazard applications for protection against backsiphonage or backpressure.

Series 957 is also available with SentryPlus™ Alert technology to detect catastrophic relief valve discharge that could potentially cause flooding, and issue a multi-channel alert (call, email, text) to selected users so they can take action to avoid potentially costly flooding.

Features

- 2½", 3" and 4" sizes 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 & 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



957OSY

957ZBFG

957QT

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.**

NOTICE

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WATTS®

Specifications

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. Assembly shall be a Watts Regulator Company Series 957, 957N, 957Z.

NOTICE

When installing a drain line on Series 957 backflow preventers, use 957AG air gaps. See ES-AG/EL/TC for additional information.

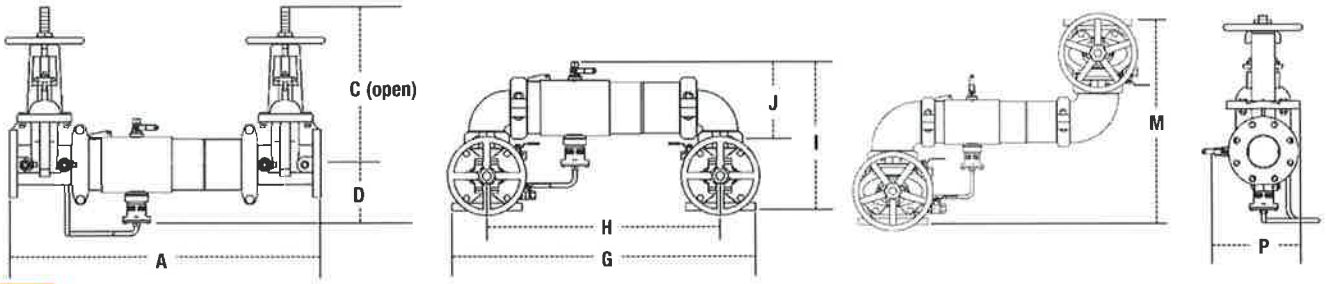
Available Models & Options

Suffix:

NRS –	non-rising stem, resilient seated gate valves
OSY –	UL/FM outside stem and yoke resilient seated gate valves
BFG –	UL/FM grooved gear operated butterfly valves with tamper switch
QT –	2½" - 4" (65 - 100mm) 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
****ALERT	with SentryPlus™ Alert flood detection system

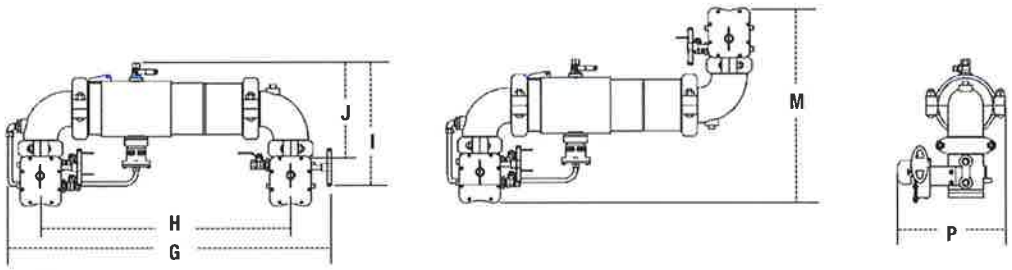
*Available with grooved NRS gate valves – consult factory
**Post indicator plate and operating nut available – consult factory
***Consult factory for dimensions

**** Not available with the 957N or 957Z



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	lbs.	kgs.	lbs.	kgs.	lbs.	kgs.	lbs.	kgs.
2½	30¾	781	16⅜	416	9⅜	238	6½	165	29 1/16	738	21½	546	15½	393	8 13/16	223	21¼	540	9 3/16	234	118	54	128	58	126	57	136	62
3	31¾	806	18⅞	479	10¼	260	6 11/16	170	30¼	768	22¼	565	17⅛	435	9⅜	233	23	584	10½	267	134	61	148	67	147	67	161	73
4	33¾	857	22¾	578	12 3/16	310	7	178	33	838	23½	597	18½	470	9 15/16	252	26¼	667	11 3/16	284	164	74	164	74	187	85	187	85
6	43½	1105	30⅛	765	16	406	8½	216	44¾	1137	33½	851	23 3/16	589	13 1/16	332	34¼	870	15	381	276	125	298	135	317	144	339	154
8	49¾	1264	37¾	959	19 15/16	506	9 11/16	246	54⅛	1375	40⅛	1019	27 7/16	697	15 11/16	399	36⅞	937	17 3/16	437	441	200	483	219	516	234	558	253
10	57¾	1467	45¾	1162	23 13/16	605	11 3/16	285	66	1676	49½	1257	32½	826	17 5/16	440	44½	1124	20	508	723	328	783	355	893	405	950	431



957NBFG, 957ZBFG

SIZE	DIMENSIONS												WEIGHT	
	G		H		I		J		M		P		957N/957Z	
in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
2½	32½	826	23	584	15½	394	9½	241	19¾	502	11 13/16	300	67	30
3	34	864	24	610	16 5/16	414	10 1/16	256	21¼	540	12⅛	308	70	32
4	35⅝	905	25½	648	17 3/16	437	10 15/16	279	23½	597	12⅝	321	87	39
6	46½	1181	35¼	895	20½	521	13½	343	27¼	692	15	382	160	73

Noryl® is a registered trademark of SABIC Innovative Plastics Holding BV.

Dimensions — Weight

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: 175psi (12.1 bar)

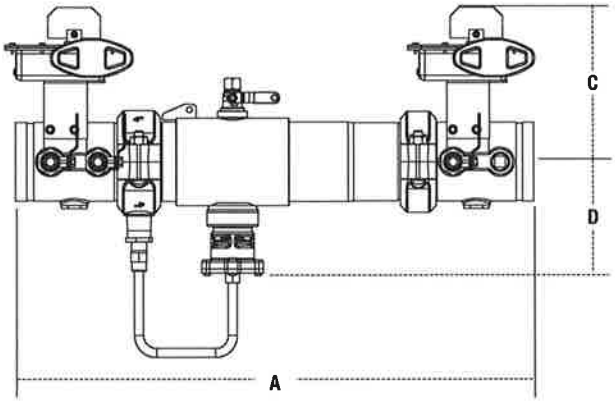
Approvals

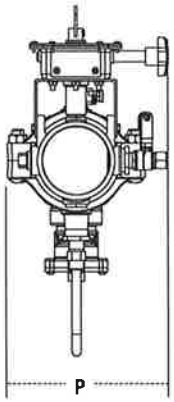
- Approved by the Foundation for Cross-Connection Control and Hydraulic Research at The University of Southern California (FCCCHR-USC)
  (Excluding 'N' Pattern – 10", 'Z' Pattern – 6" and 10")
- AWWA C511-97

1013 B64.4 (**BFG & OSY Only)

For additional approval information please contact the factory or visit our website at Watts.com

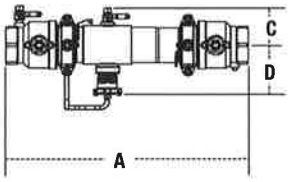
Dimensions — Weight continued

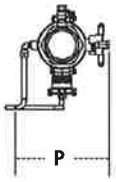


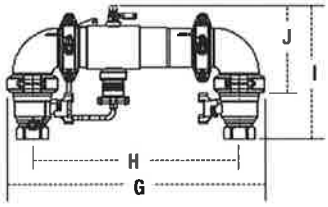


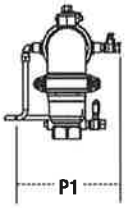
957 BFG

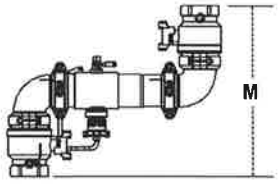
SIZE	DIMENSIONS								WEIGHT	
	A		C		D		P			
in.	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.
4	29	737	7¾	197	6⅜	162	9½	241	66	30
6	36½	927	9 11/16	246	7 1/16	189	14¼	362	122	55











957QT

SIZE	DIMENSIONS																		WEIGHT			
	A		C		D		G		H		I		J		M		P		P1		QT		QTN	
in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kgs.	lbs.	kgs.
2½	27½	698	4⅞	124	6⅞	175	30¼	768	21½	546	16 1/16	407	11⅜	289	19⅞	505	11 5/16	287	11 5/16	287	46	21	57	26
3	28	711	4⅞	124	6⅞	175	30¼	768	22¼	565	16 9/16	420	11⅜	289	20⅞	531	11 5/16	287	11 5/16	287	56	25	67	30
4	28¾	730	4⅞	124	6⅞	175	30¼	768	23½	597	18 5/16	465	11⅜	289	24⅜	619	11 5/16	287	11 5/16	287	76	34	87	39

Capacity

Series 957, 957N, 957Z flow curves as tested by Underwriters Laboratory.

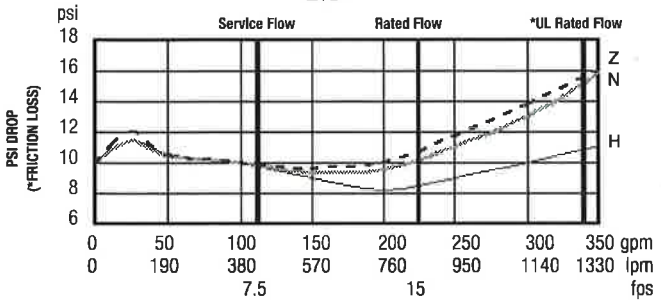
Flow characteristics collected using butterfly shutoff valves

——— Horizontal ——— N-Pattern - - - - - Z-Pattern

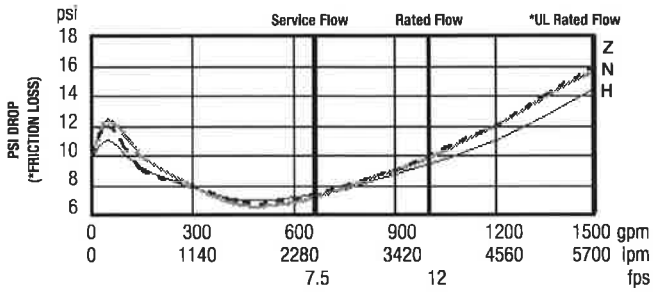
Flow capacity chart identifies valve performance based upon rated water velocity up to 25fps

- Service Flow is typically determined by a rated velocity of 7.5fps 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 10fps.

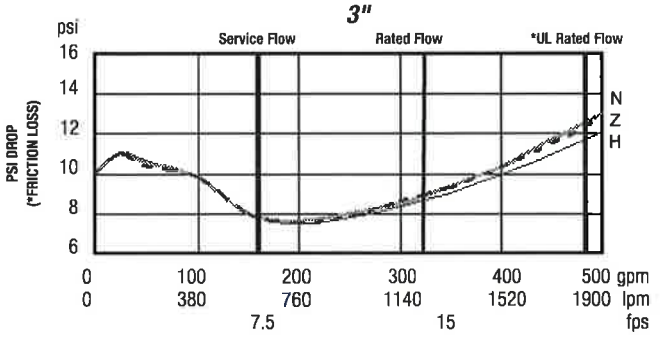
2½"



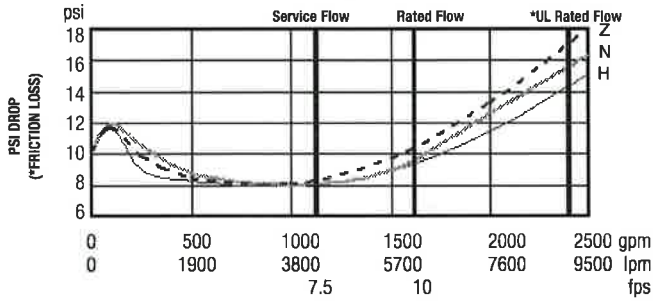
6"



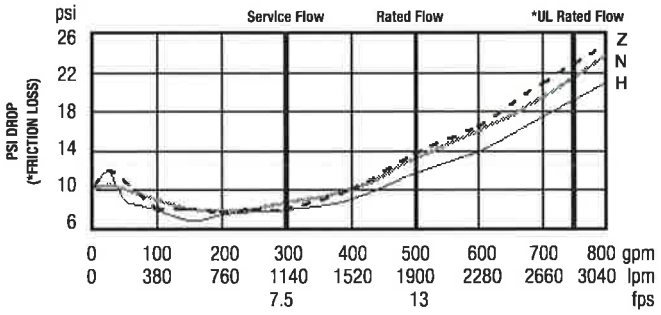
3"



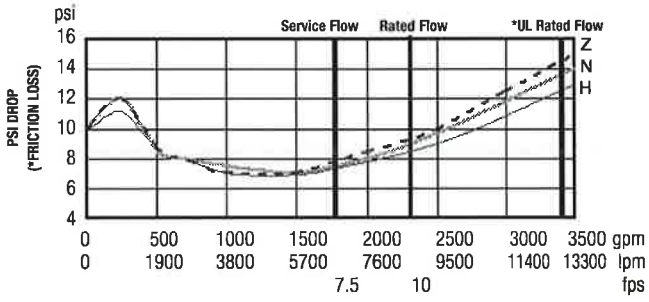
8"



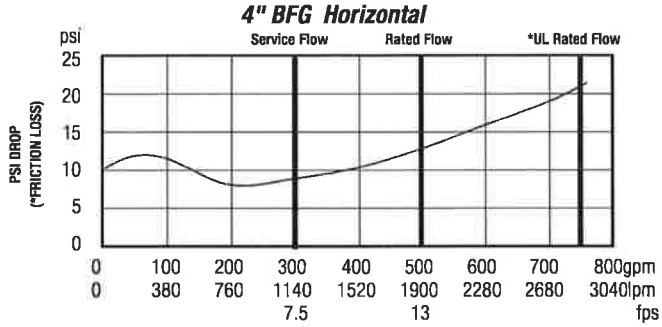
4"



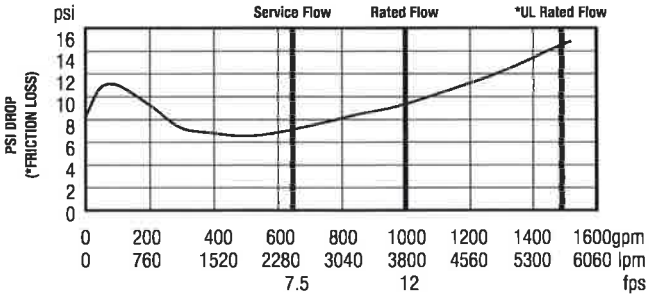
10"



4" BFG Horizontal



6" BFG Horizontal



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Engineering Specification

Job Name LR West HS
Job Location LR
Engineer Ragsdale
Approval

Contractor Comfort Systems USA
Approval
Contractor's P.O. No.
Representative Sanders Supply

LEAD FREE*

Series 77F-DI-125, 77F-DI-FDA-125

Flanged, Wye Pattern, Cast Iron Strainers

Sizes: 2" – 12"

77F-DI-FDA-125

Series 77F-DI-125, 77F-DI-FDA-125 Flanged, Wye Pattern, Cast Iron Strainers feature 304 stainless steel perforated screens, a cast iron flanged retainer cap and a drain/blowoff connection furnished with a closure plug. Series 77F-DI-FDA-125 also features a double coated, heat fused epoxy coating on the interior and exterior for FDA approved sanitary applications.

Features

- Flanges conform to American National Standards Institute, Class 125 (ANSI B16.1) and WW-S-2739 Type 2
- Lead Free* cast iron body
- 304 Stainless steel perforated screens
- Cast iron flanged retainer cap with gasket tapped for closure plug
- Drain/Blowoff connection furnished with closure plug
- Series 77F-DI-FDA-125 comes with heat fused FDA approved epoxy coating (interior and exterior)

Models

77F-DI-125 — 2" – 12" with flanged connections for water and steam service

77F-DI-FDA-125 — 2" – 12" with flanged connections and double coated, heat fused FDA approved epoxy coating (interior and exterior) for water service only

Specifications (77F-DI-125)

A flanged, wye pattern, cast iron strainer to be installed as indicated on the plans. The strainer must have flanges that conform to American National Standards Institute, Class 125, 304 stainless steel perforated screens and a drain/blowoff connection furnished with a closure plug. Pressure rating no less than 200psi (13.8 bar) WOG non-shock and 125psi (8.6 bar) WSP. Strainer shall be a Watts Series 77F-DI-125.

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

Pressure – Temperature

Maximum Operating Pressure:
200psi (13.8 bar) WOG, non-shock, @ 210°F (99°C)
125psi (8.6 bar) WSP @ 353°F (178°C)

Standard Screens

2" – 5": 1/16" perforation
6" – 8": 1/8" perforation
10" – 12": 3/16" perforation

Screen Options

Wire Mesh Liners: 304 stainless steel (#20, #40, #60, #80, #100)
Perforated Screens: 304 stainless steel (3/64", 1/16", 1/8", 3/16")

Specifications (77F-DI-FDA-125)

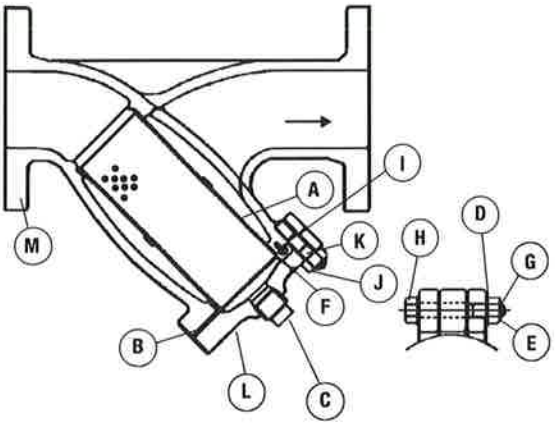
A flanged, wye pattern, cast iron strainer with a double coated, heat fused, FDA approved epoxy coating on the interior and exterior surfaces for FDA sanitary applications. Flanges to conform to ANSI B16.1 Class 125, 304 stainless steel perforated screens, and a drain/blowoff connection furnished with a closure plug. Pressure rating 200psi (13.8 bar) WOG. Strainer shall be a Watts Series 77F-DI-FDA-125.

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.

WATTS®

Materials



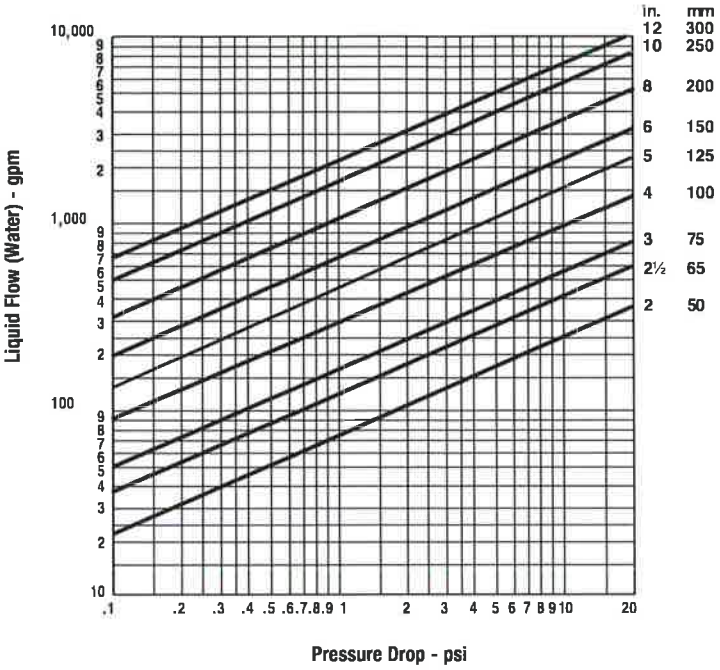
A.	Screen	AISI 304SS
B.	Cover Gasket	Graphite
C.	Plug	*ASTM A47
D.	Washer	ASTM A6
E.	Cotter Pin	ASTM A112
F.	Plate	*ASTM A6
G.	Bolt Nut	ASTM A6
H.	Bolt	ASTM A6
I.	Set Screw	ASTM B16
J.	Cover Bolt Nut	ASTM A6
K.	Cover Bolt	ASTM A6
L.	Cover	*ASTM A-126 Class B
M.	Body	*ASTM A-126 Class B

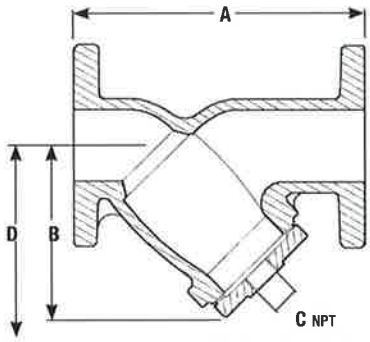
Note:* 77F-DI-FDA-125 component parts epoxy coated internally and externally.

Standards

Tested and Certified by NSF International

Flow/Pressure Drop Chart





Dimensions – Weights

SIZE	DIMENSIONS									WEIGHT	
	A		B		C(NPT)		D*		Screen Area		
in.	in.	mm	in.	mm	in.	mm	in.	mm	sq.in.	lbs.	kgs.
2	7⅞	200	5¼	133	½	13	7	178	36	18	8
2½	10	254	6½	165	1	25	9¾	248	56	28	13
3	10⅛	257	7	178	1	25	10	254	75	34	15
4	12⅛	308	8¼	210	1½	38	12	305	121	60	27
5	15⅝	397	11¼	286	2	51	17	432	210	95	43
6	18½	470	13½	343	2	51	20	508	278	133	60
8	21⅝	551	15½	394	2	51	22¾	578	387	247	112
10	26	660	18½	470	2	51	28	711	577	370	168
12	29⅞	759	21¾	552	2	51	30	762	795	579	262

* D dimension is minimum clearance for screen removal.

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Latin America: T: (52) 55-4122-0138 • Watts.com

Engineering Specification

Job Name LR West HS
Job Location LR
Engineer Ragsdale
Approval

Contractor Comfort Systems USA
Approval
Contractor's P.O. No.
Representative Sanders Supply

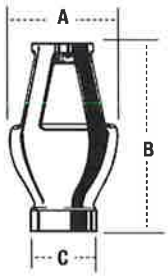
Air Gaps, Elbows, and Test Cocks

For Reduced Pressure Zone Assemblies

Air Gaps

An air gap provides the unobstructed, physical separation between the discharge end of a potable water supply line and an open receiving vessel.

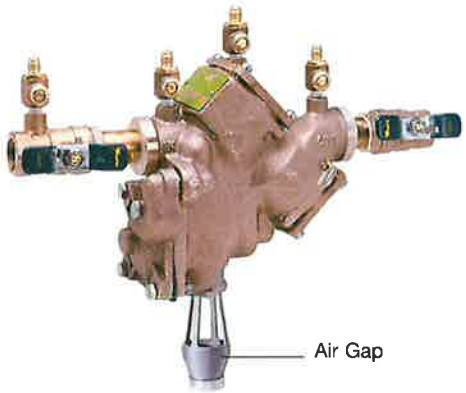
The installation of an air gap and drain line are recommended.



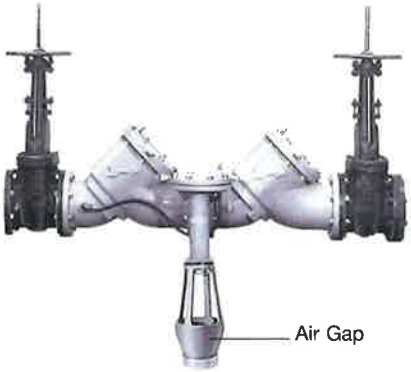
Approvals

ANSI/ASME A112.1.2

MODEL	ORDERING CODE	SIZE/SERIES	DIMENSIONS A in.	A mm	B in.	B mm	C (NPT) in.	C (NPT) mm	WEIGHT lb	WEIGHT kg
909AGA	0881399	½" – ½" 009/LF009 ¾" 009/LF009M2/M3 ½" – 1" 995	2⅜	60	3⅛	79	½	13	0.63	0.28
909AGC	0881376	¾" – 1" 009/LF009, 909/LF909 1" – 1½" 009/LF009M2 1¼" – 2" 995	3¼	83	4⅞	124	1	25	1.50	0.68
909AGC-B	0881377	¾" – 1" 909 1" – 1½" 009M2 1½" – 2" 995	3¼	88	3¾	95	1	25	1.90	0.86
909AGF	0881378	1¼" – 3" 009/LF009, 909/LF909 1¼" – 2" 009/LF009M1 2" 009/LF009M2	4⅜	111	6¾	171	2	51	3.25	1.47
909AGK	0881385	4" – 6" 909/LF909 4" – 10" 909RPDA 8" – 10" 909/LF909M1	6⅝	162	9⅝	244	3	76	6.25	2.83
909AGM	0881387	8" – 10" 909/LF909	7⅜	187	11¼	286	4	102	15.50	7.03
919AGC	0881576	¾" – 1" 919/LF919	2⅜	60	3⅛	79	½	13	0.63	0.28
919AGF	0881577	1¼" – 2" 919/LF919	4⅜	111	8½	216	2	51	3.5	1.6
957-AG	0111764	2½" – 10" 957	7½	190	12	304	2	51	1.50	0.68
Splash Guard										
994AGK-P	0881397	2½" – 10" 994	8	203	11¼	286	2	51	1.50	0.68
995-AG	0439190	3" – 6" 995	5	127	8	203	2	51	–	–
957-AG SG	0111815	2½" – 10" 957	4¾	119	2½	62	–	–	0.4	0.18



909 QT/LF909 QT



909 OSY/LF909 OSY

957 QT

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®

RPZ-2,RPZ-3

Engineering Specification

Job Name LR West HS
Job Location LR
Engineer Ragsdale
Approval

Contractor Comfort Systems USA
Approval
Contractor's P.O. No.
Representative Sanders Supply

LEAD FREE*

Series LF009

Reduced Pressure Zone Assemblies

¼" – 3"

Series LF009 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.

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 ¼" to 1" shutoffs have tee handles.

Series LF009 assemblies of sizes ½" 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
- ArmorTek™ coating technology to resist internal corrosion†

LF009M2-QT-FS

- Lead Free* cast copper silicon alloy body construction (¼" – 2")
- Fused epoxy coated cast iron body (2½" – 3")
- Ball valve test cocks — screwdriver slotted (¼" – 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 (½" – 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 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 0.25% of lead by weight.

†Amortek coating applied to the 2½" and 3" models only.

WATTS®

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, and shall include a sensor on the relief valve for flood detection on sizes ½" to 3".

Materials

¼" – 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.

2½" – 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

Model/Option

¼" – 2"

Prefix:

U – Union connections

Suffix:

FS – Flood detection sensor (½" – 2")

LF – Without shutoff valves

PC – Internal polymer coating

Press** – Press inlet x press outlet (½" – 2")

QT – Quarter-turn ball valves

S – Strainer

2½" – 3"

Suffix:

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.)

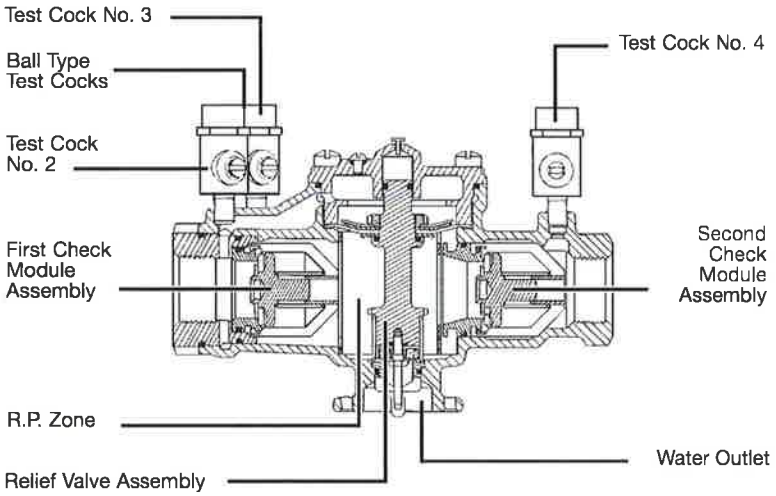
Pressure – Temperature

¼" – 2"

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

2½" – 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

USC-FCCCHR

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

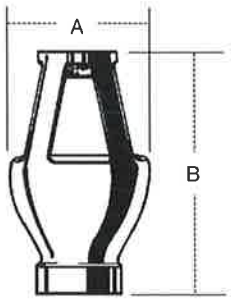
The WattsBox insulated enclosure is available for Series LF009. For more information download ES-WB at watts.com.

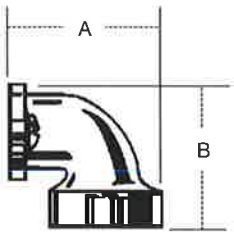
Air Gaps and Elbows

Call customer service if you need assistance with technical details.

MODEL		DRAIN OUTLET		DIMENSIONS				WEIGHT	
				A		B			
	For 909, 009, and 993 sizes	in.	mm	in.	mm	in.	mm	lb	kg
909AGA	¼"–½" 009, ¾" 009M2/M3	½	13	2⅜	60	3⅛	79	0.625	0.28
909AGC	¾"–1" 009/909, 1"–1½" 009M2	1	25	3¼	83	4⅞	124	1.5	0.68
909AGF	1¼"–2" 009M1, 1¼"–3" 009/909, 2" 009M2, 4"–6" 993	2	51	4⅜	111	6¾	171	3.25	1.47
909AGK	4"–6" 909, 8"–10" 909M1	3	76	6⅜	162	9⅝	244	6.25	2.83
909AGM	8"–10" 909	4	102	7⅜	187	11¼	286	15.5	7.03
909ELA	¼"–½" 009, ¾" 009M2/M3	–	–	–	–	–	–	–	–
909ELC	¾"–1" 009/909	–	–	2⅜	60	2⅜	60	0.38	0.17
909ELF*	1¼"-2" 009M1, 1¼"–2" 009/909, 2" 009M2, 4"–6" 993	–	–	3⅝	92	3⅝	92	2	0.91
909ELH* Vertical	2½"–3" 009/909	–	–	–	–	–	–	–	–

*Epoxy coated

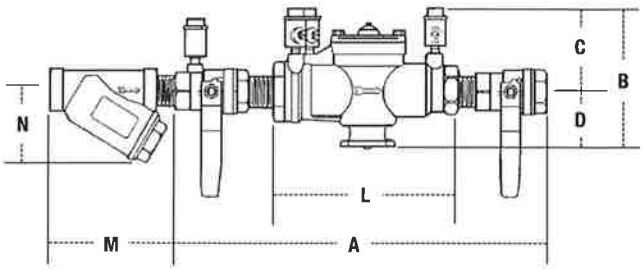




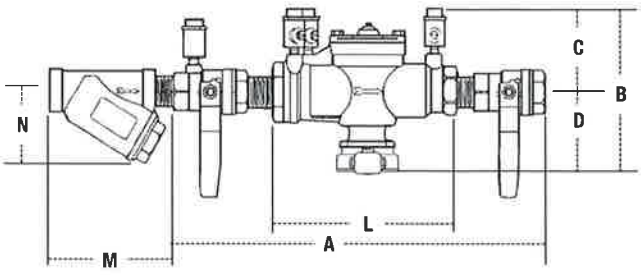
Dimensions – Weight

Call customer service if you need assistance with technical details.

¼" – ⅜"

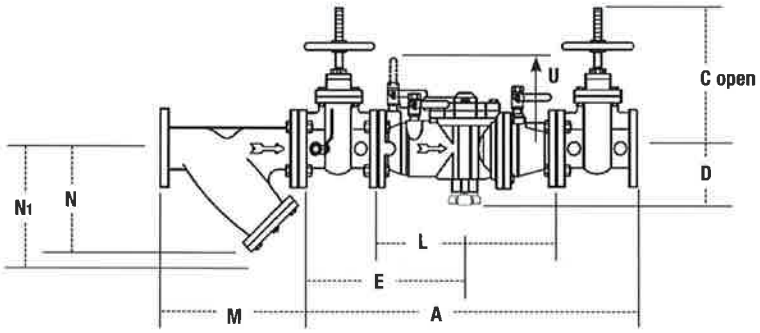


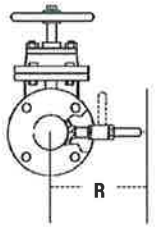
½" – 2"

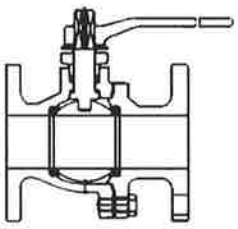


SIZE	DIMENSIONS (APPROX.)														WEIGHT	
	A		B		C		D		L		M		N			
in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in	mm	in	mm	lb	kg
¼	10	250	4⅝	117	3⅜	86	1¼	32	5½	140	2⅜	60	2½	64	5	2
⅜	10	250	4⅝	117	3⅜	86	1¼	32	5½	140	2⅜	60	2½	64	5	2
½	10	250	5⅞	149	3⅜	86	2½	64	5½	140	2¾	70	2¼	57	5	2
¾	10¾	273	6¼	159	3½	89	2¾	70	6¾	171	3 3/16	81	2¾	70	6	3
1	14½	368	6¼	159	3	76	3¼	83	9½	241	3¾	95	3	76	12	5
1¼	17⅜	441	6¾	169	3½	89	3¼	83	11⅜	289	4 7/16	113	3½	89	15	6
1½	17⅞	454	6¾	169	3½	89	3¼	83	11⅛	283	4⅞	124	4	102	16	7
2	21⅜	543	8¾	222	4½	114	4¼	108	13½	343	5 5/16	151	5	127	30	13

2½" – 3"







Watts G-4000 Series
QT – Ball Valves

STRAINER SIZE		DIMENSIONS (APPROX.)						WEIGHT	
		M		N		N1†			
in.	mm	in.	mm	in.	mm	in.	mm	lb	kg
2½	65	10	254	6½	165	9¾	248	28	12.7
3	80	10⅛	257	7	178	10	254	34	15.4

†Clearance for servicing

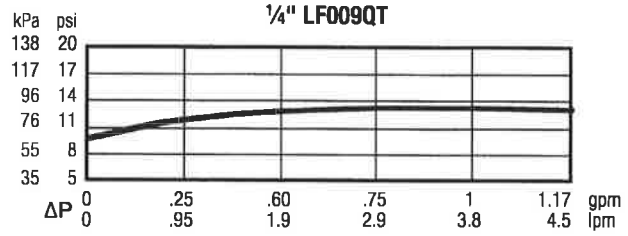
MODEL	SIZE	DIMENSIONS (APPROX.)														WEIGHT	
		A		C		D		E		L		R		U			
	in.	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lb	kg
LF009LF	2½	—	—	—	—	5⅝	143	—	—	18⅛	460	—	—	10⅝	270	76	34.5
LF0090SY	2½	33¼	845	15⅞	403	5⅝	143	16⅜	416	18⅛	460	7¾	197	10⅝	270	166	75.3
LF009NRS	2½	33¼	845	11⅜	289	5⅝	143	16⅜	416	18⅛	460	7¾	197	10⅝	270	161	73.0
LF009LF	3	—	—	—	—	5⅝	143	—	—	18⅛	460	—	—	10⅝	270	76	34.5
LF0090SY	3	34¼	870	18½	470	5⅝	143	16⅝	422	18⅛	460	8¾	222	10⅝	270	198	89.8
LF009NRS	3	34¼	870	12¾	324	5⅝	143	16⅝	422	18⅛	460	8¾	222	10⅝	270	191	86.6

Capacity

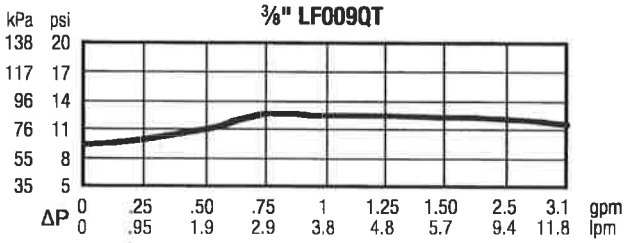
Performance as established by an independent testing laboratory.

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

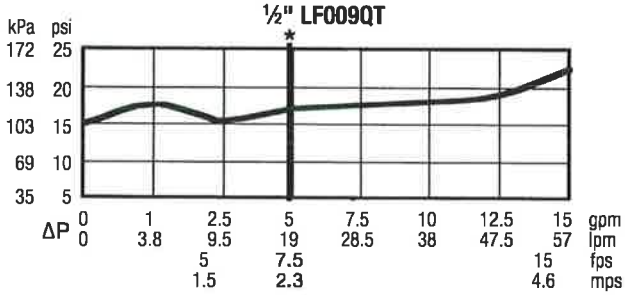
¼" LF009QT



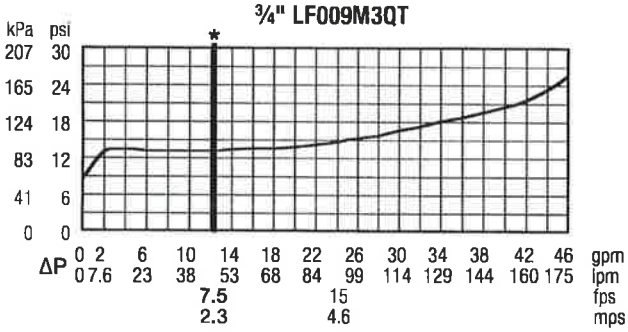
⅜" LF009QT



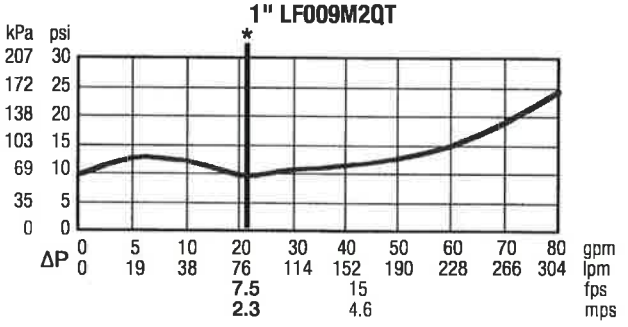
½" LF009QT



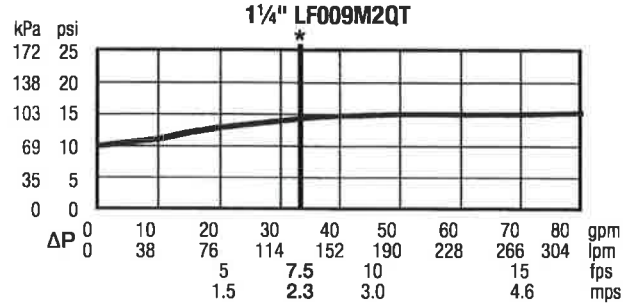
¾" LF009M3QT



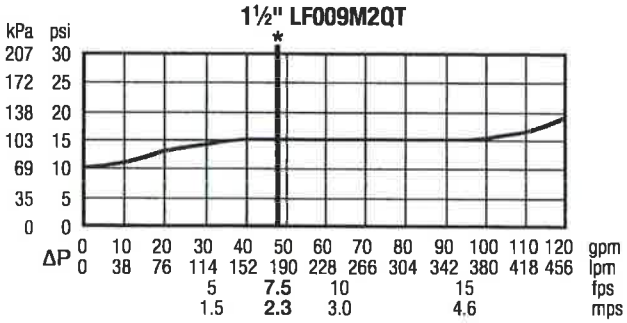
1" LF009M2QT



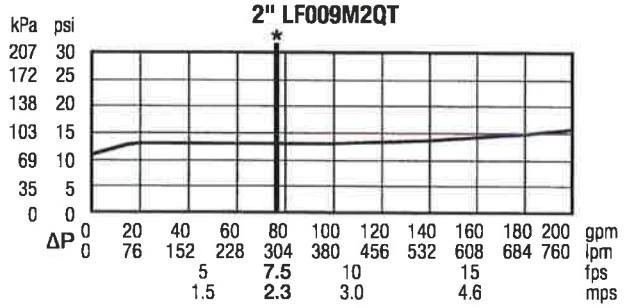
1¼" LF009M2QT



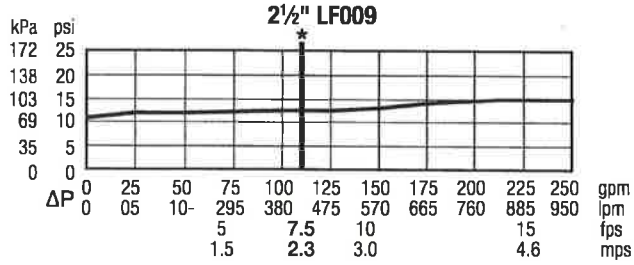
1½" LF009M2QT



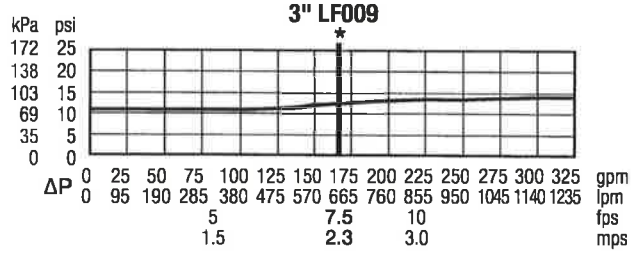
2" LF009M2QT



2½" LF009



3" LF009



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For Liquid and Steam Service

Job Name LR West HS
Job Location LR
Engineer Ragsdale
Approval

Contractor Comfort Systems USA
Approval
Contractor's P.O. No.
Representative Sanders Supply

LEAD FREE*

Series LF777SI, LFS777SI

Wye-Pattern, Lead Free Cast Strainers

LF777SI

Sizes: ⅜" – 3"

Series LF777SI, LFS777SI Wye-Pattern, Lead Free* cast strainers are designed to protect plumbing system components from dirt, rust and other damaging debris. The Series LF777SI and LFS777SI feature Lead Free* construction to comply with Lead Free* installation requirements.

Features

- Lead Free* cast copper silicon alloy body and cap
- Wye-pattern
- Tapped retainer cap
- Closure plug
- Special flared screen opening on upstream end to provide unrestricted flow through the strainer

Models

LF777SI – ⅜" – 3" threaded connections
LFS777SI – ½" – 2" solder connections

Specifications

A wye-pattern, Lead Free* cast strainer to be installed as indicated on the plans. The strainer must have a tapped retainer cap and closure plug. Strainer shall be rated to 400psi (27.6 bar) WOG; 125psi (8.6 bar) WSP for sizes ⅜"-2" and 300psi (20.7 bar) @ 210°F (99°C); 125psi (8.6 bar) WSP @ 353°F (178°C) for sizes 2½"-3". The strainer shall be constructed using Lead Free* cast copper silicon alloy. Lead Free* strainers shall comply with state codes and standards, where applicable, requiring reduced lead content. Strainer shall be a Watts Series LF777SI (threaded ends) or LFS777SI (solder ends).

Materials

Body:	Lead Free* cast copper silicon alloy
Retainer Cap:	Lead Free* cast copper silicon alloy
Plug	Lead Free* brass
Gasket:	EPDM
Standard Screen:	#20 mesh, 304 stainless steel

Pressure – Temperature

Maximum Working Pressure:

⅜"–2"

400psi (27.6 bar) WOG @ 210°F (99°C)

125psi (8.6 bar) WSP @ 353°F (178°C)

2½"–3"

300psi (20.7 bar) WOG @ 210°F (99°C)

125psi (8.6 bar) WSP @ 353°F (178°C)

Approvals

NSF

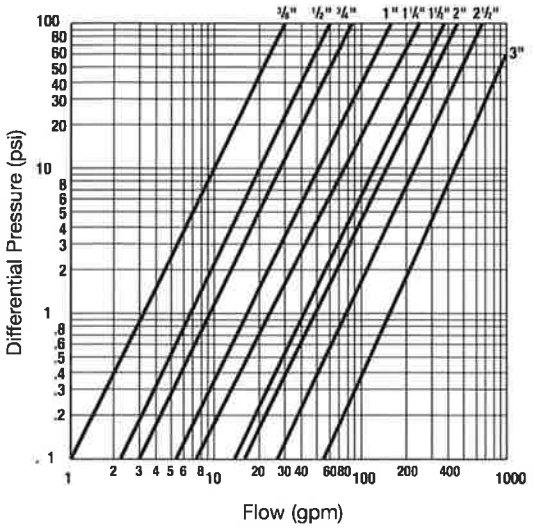
NOTICE

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.

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

WATTS®

Performance Data

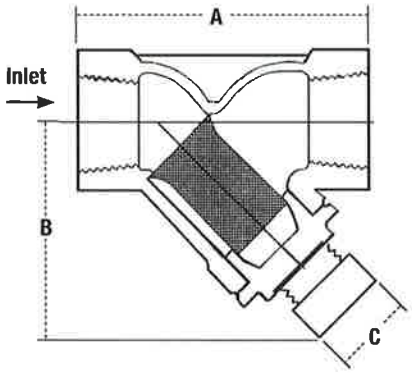


Flow curves show flows (gpm) and pressure drop (psig) through Watts Series 777SI, S777SI using standard 20 mesh screen.

Dimensions — Weights

LF777SI

SIZE	DIMENSIONS						WEIGHT	
	A		B		C			
in.	in.	mm	in.	mm	in.	mm	lbs.	kgs.
3/8	2 3/8	60	15/16	33	1/4	6	0.4	0.18
1/2	2 3/4	70	1 3/8	35	1/4	6	0.5	0.23
3/4	3 3/16	81	1 5/8	42	1/4	6	0.6	0.27
1	3 3/4	95	2 1/8	54	1/2	13	1.1	0.50
1 1/4	4 7/16	113	2 1/2	64	1/2	13	1.9	0.86
1 1/2	4 7/8	124	3	76	3/4	19	2.4	1.09
2	5 15/16	151	3 9/16	91	1	25	4.4	2.00
2 1/2	9 1/16	230	5 7/8	149	1/2	13	9.8	4.44
3	10 3/16	259	6 1/4	159	1/2	13	13.2	5.99



LFS777SI

SIZE	DIMENSIONS						WEIGHT	
	A		B		C			
in.	in.	mm	in.	mm	in.	mm	lbs.	kgs.
1/2	2 3/4	70	1 3/8	35	1/4	6	0.4	0.18
3/4	3 3/8	86	1 5/8	42	1/4	6	0.6	0.27
1	3 3/4	95	2 1/8	54	1/2	13	0.9	0.41
1 1/4	4 9/16	116	2 1/2	64	1/2	13	1.5	0.68
1 1/2	5 5/16	135	3	76	3/4	19	1.9	0.86
2	6 1/8	156	3 9/16	91	1	25	3.3	1.50

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Canada: T: (905) 332-4090 • F: (905) 332-7068 • Watts.ca
Latin America: T: (52) 55-4122-0138 • Watts.com

Engineering Specification

Job Name LR West HS
Job Location LR
Engineer Ragsdale
Approval

Contractor Comfort Systems USA
Approval
Contractor's P.O. No.
Representative Sanders Supply

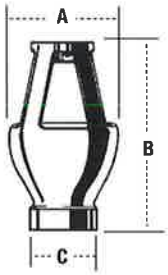
Air Gaps, Elbows, and Test Cocks

For Reduced Pressure Zone Assemblies

Air Gaps

An air gap provides the unobstructed, physical separation between the discharge end of a potable water supply line and an open receiving vessel.

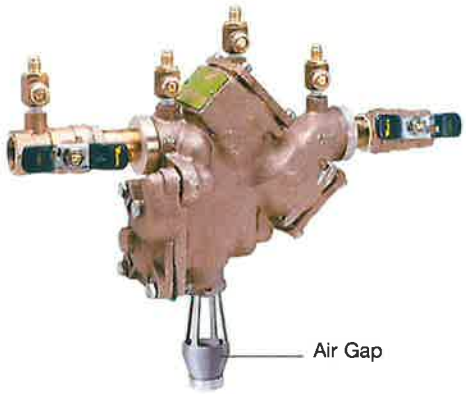
The installation of an air gap and drain line are recommended.



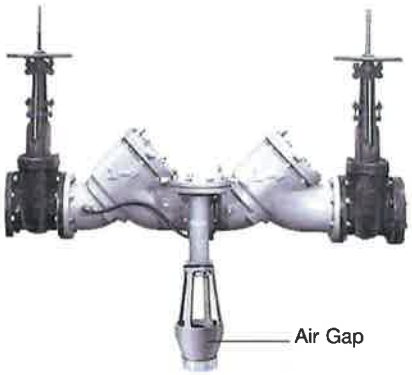
Approvals

ANSI/ASME A112.1.2

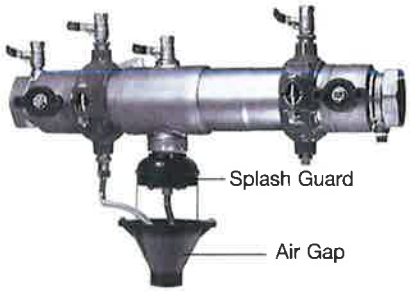
MODEL	ORDERING CODE	SIZE/SERIES	DIMENSIONS A in.	A mm	B in.	B mm	C (NPT) in.	C (NPT) mm	WEIGHT lb	WEIGHT kg
909AGA	0881399	½" – ½" 009/LF009 ¾" 009/LF009M2/M3 ½" – 1" 995	2⅜	60	3⅛	79	½	13	0.63	0.28
909AGC	0881376	¾" – 1" 009/LF009, 909/LF909 1" – 1½" 009/LF009M2 1¼" – 2" 995	3¼	83	4⅞	124	1	25	1.50	0.68
909AGC-B	0881377	¾" – 1" 909 1" – 1½" 009M2 1½" – 2" 995	3¼	88	3¾	95	1	25	1.90	0.86
909AGF	0881378	1¼" – 3" 009/LF009, 909/LF909 1¼" – 2" 009/LF009M1 2" 009/LF009M2	4⅜	111	6¾	171	2	51	3.25	1.47
909AGK	0881385	4" – 6" 909/LF909 4" – 10" 909RPDA 8" – 10" 909/LF909M1	6⅜	162	9⅝	244	3	76	6.25	2.83
909AGM	0881387	8" – 10" 909/LF909	7⅜	187	11¼	286	4	102	15.50	7.03
919AGC	0881576	¾" – 1" 919/LF919	2⅜	60	3⅛	79	½	13	0.63	0.28
919AGF	0881577	1¼" – 2" 919/LF919	4⅜	111	8½	216	2	51	3.5	1.6
957-AG	0111764	2½" – 10" 957	7½	190	12	304	2	51	1.50	0.68
Splash Guard										
994AGK-P	0881397	2½" – 10" 994	8	203	11¼	286	2	51	1.50	0.68
995-AG	0439190	3" – 6" 995	5	127	8	203	2	51	–	–
957-AG SG	0111815	2½" – 10" 957	4¾	119	2½	62	–	–	0.4	0.18



909 QT/LF909 QT



909 OSY/LF909 OSY



957 QT

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®

PRV-1

2-1/2" and 3"

PRESSURE REDUCING VALVE

01/05

Classic Series

LF F115 (Globe)
F1115 (Angle)

Specifications

The Pressure Reducing Control Valve shall be a pilot operated diaphragm valve designed to automatically reduce a fluctuating higher upstream pressure to a constant lower downstream pressure regardless of varying flow rates.

The main valve shall be a hydraulically operated, single diaphragm actuated, globe or angle pattern valve. Y-pattern valves shall not be permitted. The valve shall contain a disc and diaphragm assembly that forms a sealed chamber below the valve cover, separating operating pressure from line pressure. The diaphragm shall be constructed of nylon reinforced Buna-N, and shall not seal directly against the valve seat and shall be fully supported by the valve body and cover. Rolling diaphragm construction will not be allowed and there shall be no pistons operating the main valve or any pilot controls.

The main valve shall be a hydraulically operated, single diaphragm actuated, globe or angle pattern valve. Y-pattern valves shall not be permitted. The valve shall contain a disc and diaphragm assembly that forms a sealed chamber below the valve cover, separating operating pressure from line pressure. The diaphragm shall be constructed of nylon reinforced Buna-N, and shall not seal directly against the valve seat and shall be fully supported by the valve body and cover. Rolling diaphragm construction will not be allowed and there shall be no pistons operating the main valve or any pilot controls.

The main valve body and cover shall be Ductile Iron ASTM A536, and all internal cast components shall be Ductile Iron or CF8M (316) Stainless Steel. All Ductile Iron components, including the body and cover, shall be lined and coated with an NSF 61 Certified Epoxy Coating applied by the electrostatic heat fusion process. All main valve throttling components (valve seat and disc guide) shall be Stainless Steel. The valve body and cover must be machined with a 360-degree locating lip to assure proper alignment.

The disc and diaphragm assembly shall contain a Buna-N synthetic rubber "Quad Seal" that is securely retained on 3-1/2 sides by a disc retainer and disc guide. Diaphragm assemblies utilizing bolts or cap screws for component retention will not be permitted.

The exposed portion of the Quad Seal shall contact the valve seat and seal drip-tight. The disc and diaphragm assembly must be guided by two separate bearings, one installed in the valve cover and one concentrically located within the valve seat, to avoid deflection and assure positive disc-to-seat contact. Center guided valves will not be permitted. All necessary repairs shall be made from the top of the valve while the body remains in line.

Pilot control systems for valves 3" and smaller shall contain a Flow Clean Strainer, Fixed Orifice Closing Speed, Adjustable Opening Speed Control and Pressure Reducing Pilot. Pilot control systems for valves 4" and larger shall contain an external Y-Strainer, Fixed Orifice Closing Speed, Pressure Reducing Pilot and Isolation Ball Valves on all body connections. All pilot control systems shall utilize copper tubing and brass fittings regardless of valve size. The adjustment range of the pressure reducing pilot shall be 30-300 psi.

The valve shall be Watts ACV Model F115 or (globe) or F1115 (angle) pattern Pressure Reducing Control Valve.

2-1/2" and 3"

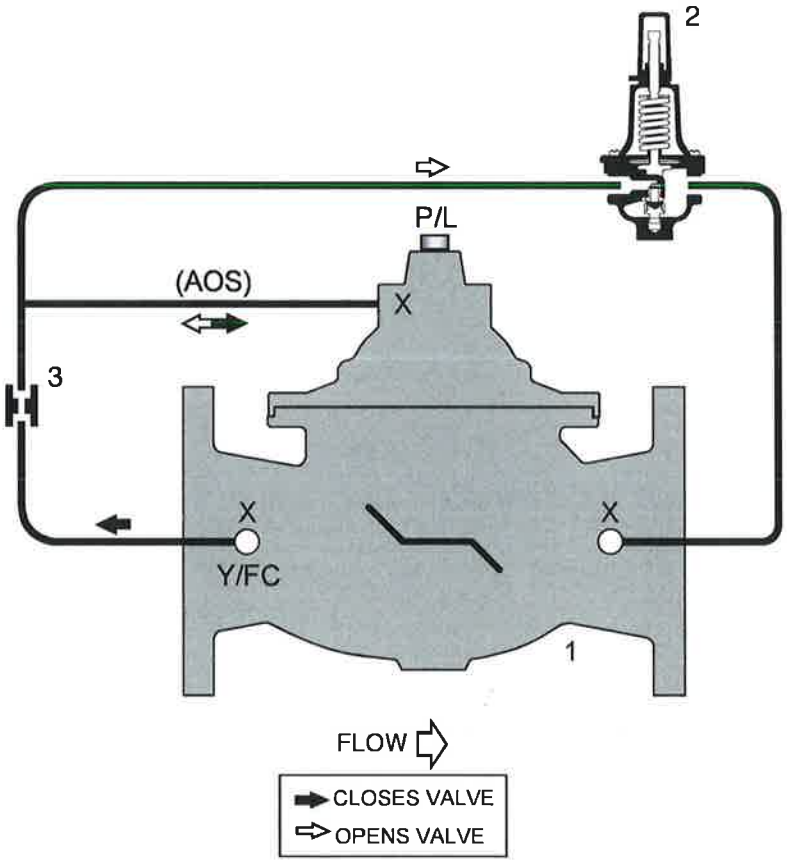
PRESSURE REDUCING VALVE

01/05

Classic Series

LFF115 (Globe)
F1115 (Angle)

- Throttles to reduce high upstream pressure to constant lower downstream pressure
- Reducing setpoint is adjustable



STANDARD COMPONENTS

1 - Main Valve (Single Chamber)
2 - Pressure Reducing Control
3 - Fixed Orifice

OPTIONS and ACCESSORIES

- O X - Isolation Cocks
- O FC - Flo-Clean Strainer
- O Y - Y-Strainer (Replaces Flo-Clean)
- O ACS - Adjustable Closing Speed (Replaces Fixed Orifice)
- O AOS - Adjustable Opening Speed
- O P – Position Indicator
- O L – Limit Switch

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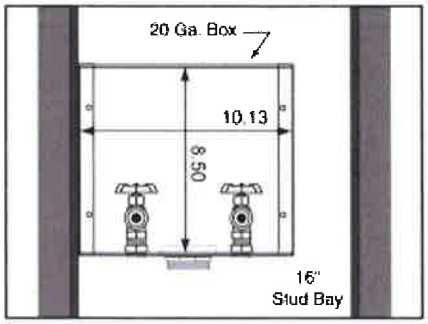
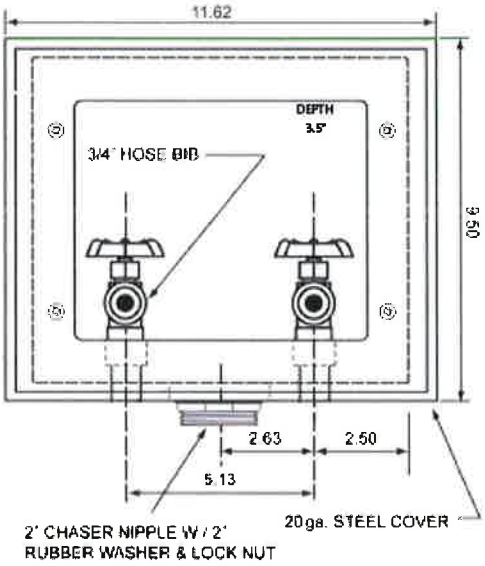
WB-1

SPECIFICATION SUBMITTAL SHEET

GUY GRAY
IPS CORPORATION

Center Drain Galvanized WMOB with Domestic Valves





Specifications:

Furnish and install galvanized center drain washing machine outlet box. Unit shall be Guy Gray product code as manufacture by IPS Corporation.

Box Material:

G90 Hot Dipped Galvanized Steel (unpainted)
20 gauge box with 20 gauge faceplate

Valve & Drain Options:

Domestic Valve with 1/2" MIP/Sweat, PEX or CPVC connection furnished. 1-1/2" or 2" Threaded Drain. Valves comply with ASME A112.18.1.

	Product Code #	Product Description	Model Number	Units/ Case
	82026	Domestic Valve w/1/2" MIP/Sweat Conx. Valve, 1-1/2" Threaded Drain Fitting	B150	6
	82032	Domestic Valve w/1/2" MIP/Sweat Conx. Valve, 2" Threaded Drain Fitting	B200	6
	82036	Top Mount 1/2" MIP/Sweat Conx. Valves, 2" Threaded Drain Fitting	BB200TS	6
	81974	Domestic Valve w/1/2" Pex Conx., 2" Threaded Drain	B200X	6
	81975	Domestic Valve w/1/2" CPVC Conx., 2" Threaded Drain	B200C	6
	81957	Outlet Box, less valves, valve holes already punched	B200LV	6
	96997	Tamper resistant cover for Models B, BB, WB, FB & BIM	BTRC	6

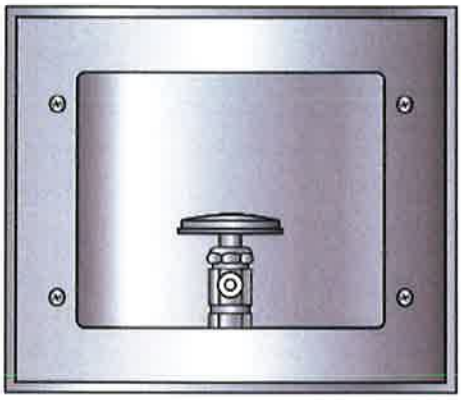
IPS CORPORATION
500 Distribution Parkway, Collierville, TN 38017 ■ 800-888-8312 ■ Fax: 901-853-5008 ■ www.ipscorp.com

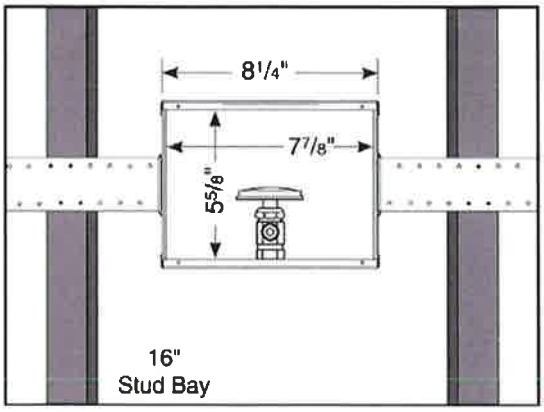
IB-1

SPECIFICATION SUBMITTAL SHEET

GUY GRAY
IPS CORPORATION

GALVANIZED ICE MAKER OUTLET BOX
with Lead Free Domestic Valve



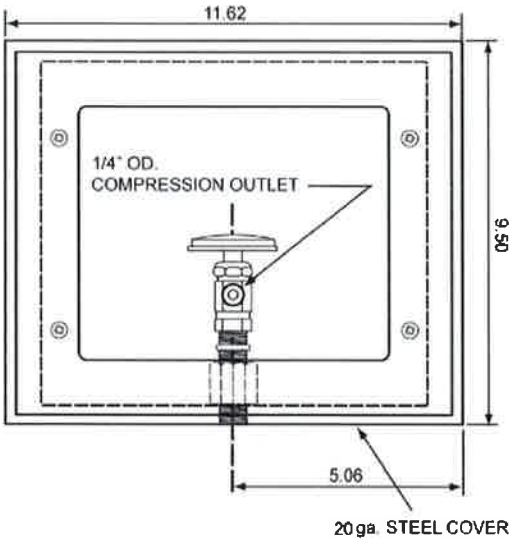


Specifications:
Furnish and install galvanized ice maker box. Unit shall be Guy Gray product code checked below as manufactured by IPS Corporation.

Box Material:
G90 Hot Dipped Galvanized Steel (unpainted)
20 gauge box with 20 gauge faceplate

Valve & Drain Options:
Lead free Domestic Valve with 1/2" MIP/Sweat, CPVC or PEX connection. Valves comply with ASME A112.18.1.

Valves comply with the requirements of NSF 61-G and the "Reduction of Lead in Drinking Water Act" (Federal Public Law 111-380)



Item #	Product Description	Model #	Quantity
88158	Lead Free Domestic Valve - 1/2" Sweat Conx.	BIM875AB	5
96997	Tamper resistant cover for Models B, BB, WB, FB, & BIM	BTRC	6

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WHA

Engineering Specification

Job Name LR West HS
Job Location LR
Engineer Ragsdale
Approval

Contractor Comfort Systems USA
Approval
Contractor's P.O. No.
Representative Sanders Supply

LF15M2-DR Series
Water Hammer Arrestor

Specification

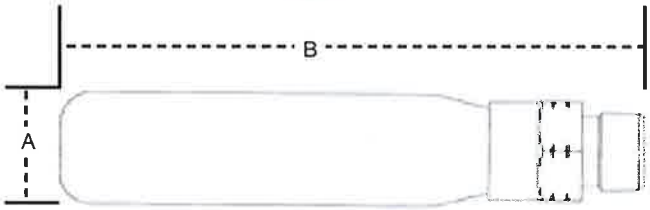
Watts LF15M2-DR Series lead free* pre-charged copper water hammer arrestor with polypropylene piston, EPDM o-ring seal, and brass NPT threaded connection.

Operating Pressure

Designed to operate on all domestic and commercial lines up to 150 psi (10.6 bar) working pressure.

Temperature Range

33°F to 180°F (0.5°C to 82°C)



Call customer service if you need assistance with technical details.

Size	Connection	Dimensions				PDI Size	Fixture Units
		A		B			
	Threaded	in.	mm	in.	mm.		
LF15M2-A-DR	1/2"	1 1/8	28.5	5 15/16	150.9	A	1-11
LF15M2-B-DR	3/4"	1 3/8	34.9	8 9/16	218.0	B	12-32
LF15M2-C-DR	1"	1 5/8	41.3	8 13/16	223.5	C	33-60
LF15M2-D-DR	1"	2 1/8	54.0	9 15/16	252.5	D	61-113
LF15M2-E-DR	1"	2 1/8	54.0	12 11/16	322.5	E	114-154
LF15M2-F-DR	1"	2 5/8	66.7	11 5/32	283.5	F	155-330

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.

USA: T: (800) 338-2581 • Watts.com
Canada: T: (888) 208-8927 • Watts.ca
Latin America: T: (52) 55-4122-0138 • Watts.com

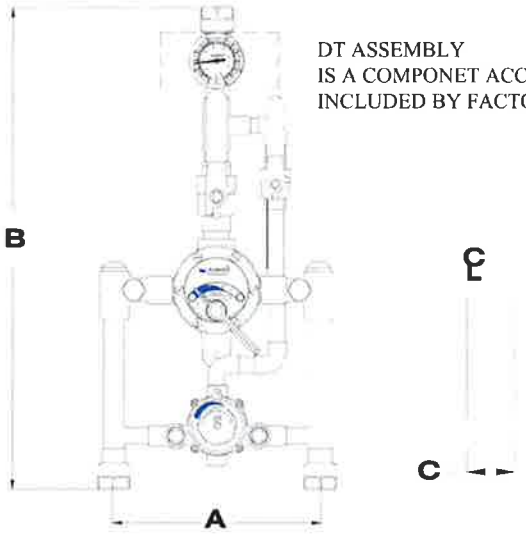
TV-1

NEXT GENERATION HIGH LOW SYSTEM

ECO-MIX ™

Submittal Data Sheet S-1233G-LF
August, 2018

TM-920B-LF-DT-_____



DT ASSEMBLY
IS A COMPONET ACCESORY
INCLUDED BY FACTORY

- Large Type TM Thermostatic water mixing valve, adjustable high temperature limit stop*, inlet checkstops, wall support, outlet ball valve
- Small Type TM Thermostatic water mixing valve, adjustable high temperature limit stop*, inlet checkstops, outlet ball valve
- 1 ¼" inlets, 1 ¼" outlet (32mm X 32mm)
- 1 GPM (3.7 l/min) minimum flow capacity
- Maximum operating pressure: 125 PSI (860 KPA)
- Color-coded dial thermometer (0 to 140°F, -10 to 60°C)
- Inlet manifold piping
- Locking temperature regulators
- Factory assembled and tested

This product is certified to meet Low Lead requirements of wetted surface area containing less than 0.25% lead by weight. All other component accessories, the sum total of which comprise the wetted surface of the product, contain less than one quarter of one percent lead by weight.

OPTIONS:

____**SUFFIX CP** – Chrome plated (Material finish may vary)
____**SUFFIX IT** – Inlet Thermometers (shipped loose)
____**SUFFIX TC** – Test connection (shipped loose)
____**SUFFIX HT** – High temperature thermometer (20 to 240°F, -6 to 115°C)

A=10 ½" +/- 1/2" **B**=23 ½" **C**=2 5/8"

Valve assembly is ASSE 1017 Certified

Valve assembly is CSA Certified

MINIMUM FLOW (GPM)	SYSTEM PRESSURE DROP (PSIG)										
	5	10	15	20	25	30	35	40	45	50	PSI
(l/min)	,3	,7	,97	1.4	1.7	2.1	2.4	2.8	3.1	3.4	BAR
1.0	33	47	56	63	68	82	85	92	103	115	GPM
(3.7)	98	151	212	220	238	257	280	299	318	337	l/min

+NOTE: The valve will maintain temperature with 0.5GPM flow from the domestic hot water loop when properly installed near the hot water source with a continuously operating recirculation pump.

NOTE: Flowrates will vary depending on existing field conditions. Leonard Valve Company always recommends using CASPAK® sizing software for proper valve sizing and model number applications.

Note: Leonard Valve Company reserves the right of product, or design modifications without notice or obligation.

CAUTION! All thermostatic water mixing valves have limitations. They will NOT provide the desired accuracy outside of their flow capacity range. Consult the Flow Capacity Chart and DO NOT OVERSIZE. Minimum flow must be no less than as indicated.

***NOTE:** A limit stop, set for 120°F (49°C), is simply a mechanical setting to prevent excessive handle rotation. If incoming water is hotter than 150°F (65.5°C), the temperature of the factory test, the valve when turned to full HOT may deliver water in excess of 120°F and the limit stop MUST BE RESET BY THE INSTALLER

Engineer's Approval

Job # _____

Arch/Eng. _____

Contractor _____

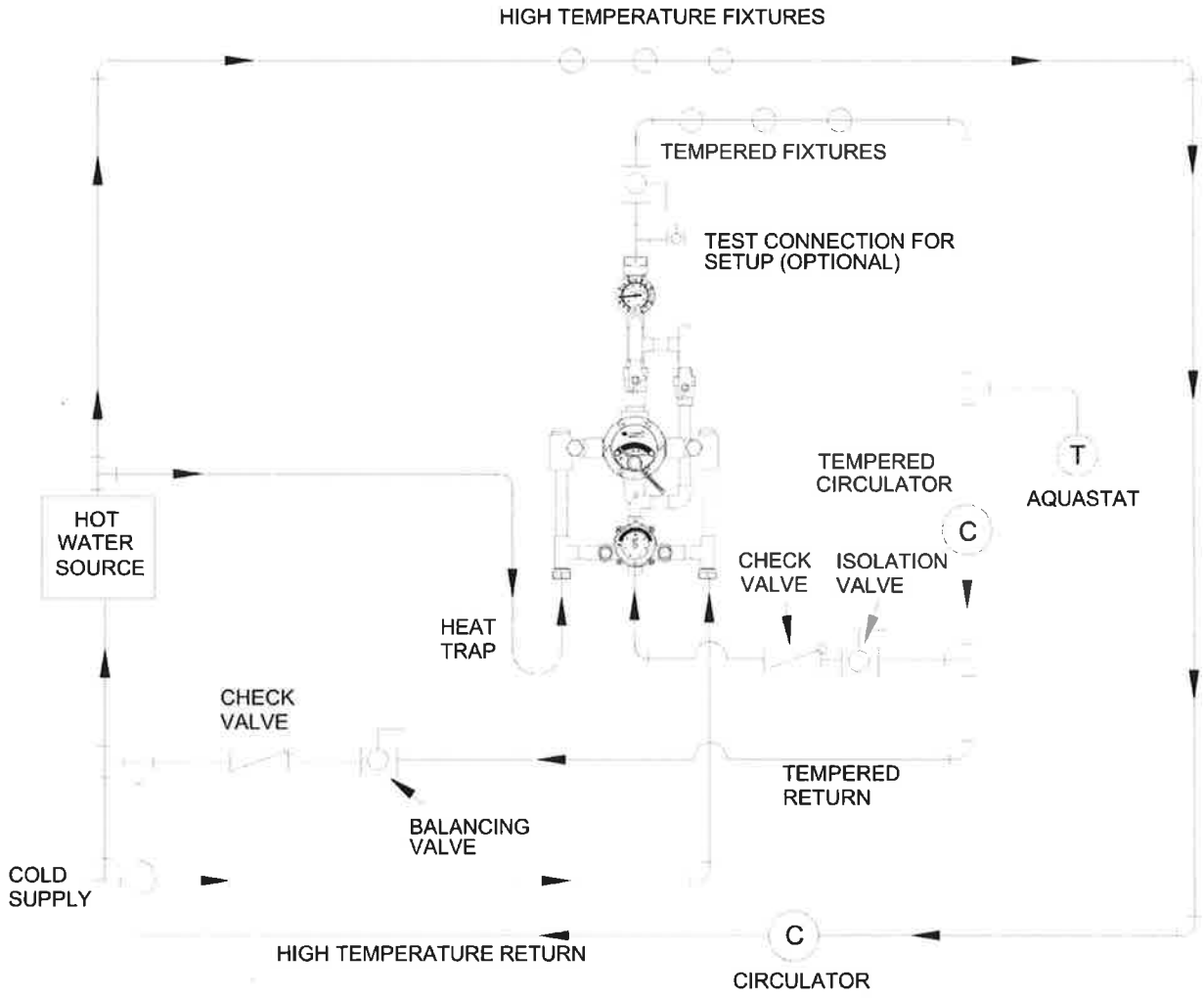
Note: The models shown represent Leonard Products which are believed to be equivalent in type and function to items specified. Leonard Valve Company is not responsible for errors or omissions due to differences in interpretations of information provided.

WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to

LEONARD®
WATER TEMPERATURE CONTROLS

1360 Elmwood Avenue, Cranston, RI 02910 USA
Phone: 401.461.1200 Fax: 401.941.5310
Email:
Web Site: http://www.leonardvalve.com

PIPING METHOD #2, only for systems circulating 8 GPM or less. See Method #5 for circulated flow rates above 8 GPM.



(OPTIONAL) TEST CONNECTION

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