MEPNN Supplier Scouting Opportunity Synopsis

Section 1: General Information

Scouting Number	2025-165
Item to be Scouted	Backflow Preventer
Days to be scouted	15
Response Due By	05/23/2025
Description	221006 Plumbing Backflow Preventer DEW Construction (GC) and our trade partner (Thomas Mechanical, Inc.) need

Section 2: Technical Information

Type of supplier being sought	Manufacturer elbows / test cocks and wye-pattern lead free cast strainers are non-BABAA compliant.
Reason	BABA
Describe the manufacturing processes (elaborate to provide as much detail as possible)	Vermont May include but is not limited to material selection (bronze, stainless steel, or lead-free brass), precision casting or forging of valve bodies, machining of internal components, assembly of check valves and relief mechanisms, pressure testing for backflow prevention performance, and compliance verification.
Provide dimensions / size / tolerances / performance specifications for the item	See attached contract drawing "Backflow Preventer Schedule/P-001", contract specification section #221006, and engineer of record approved submittal "221006-002-0 Backflow Preventers PD_NET."
List required materials needed to make the product, including materials of product components	Cast bronze body and stainless-steel springs; two independently operating, spring loaded check valves; diaphragm type differential pressure relief valve located between check valves; third check valve that opens under back pressure in case of diaphragm failure, and non-threaded vent outlet.
Are there applicable certification requirements?	No
Are there applicable regulations?	No
Are there any other stndards, requirements, etc.?	Yes
Details	AWWA C-511-92, FCCCHR of USC Manual Section 10, IAPMO (UPC), SBCCI (standard Plumbing Code), Tested and Certified by NSF International, ASSE 1013, SA B64.4, UPC, NSF
Additional Technical Comments	See attached CSI Specification section #221006, item #2.05.A and B for Backflow Preventers technical requirements and Backflow Preventer Schedule on sheet P-001.

Section 4: Business Information

Estimated potential business volume	qty - 1, one-time purchase
Estimated target price / unit cost information (if unavailable explain)	Backflow Preventer #BFP-1 = $2,978.00, #BFP-2 = $1,727.00
When is it needed by?	Immediate
Describe packaging requirements	Packaging up to the manufacturer. Best available. Delivered undamaged. Specifics discussed in negotiation.
Where will this item be shipped?	South Burlington, VT 05495

Additional Comments

Is there other information you would like to include?	Funding Agency: Department of Commerce, National Institute of Standards and Technology. Attached for reference is the grant award letter provided to Burlington High School for this project. DEW Construction, BABA Contact: Michael Snyder, Cell: (802) 798-4976, Email: msnyder@dewconstruction.com.

SECTION 22 1006
PLUMBING PIPING SPECIALTIES

PART 1 GENERAL

1.01 SECTION INCLUDES

A. Drains.
B. Cleanouts.
C. Hose bibbs.
D. Backflow preventers.
E. Water hammer arrestors.
F. Sanitary waste interceptors.
G. Mixing valves.
H. Floor drain trap seals.

1.02 REFERENCE STANDARDS

A. ASME A112.6.3 - Floor and Trench Drains.
B. ASSE 1011 - Performance Requirements for Hose Connection Vacuum Breakers.
C. ASSE 1013 - Performance Requirements for Reduced Pressure Principle Backflow Preventers and Reduced Pressure Principle Fire Protection Backflow Preventers.
D. ASSE 1019 - Performance Requirements for Wall Hydrant with Backflow Protection and Freeze Resistance.
E. NSF 61 - Drinking Water System Components - Health Effects.
F. NSF 372 - Drinking Water System Components - Lead Content.
G. PDI-WH 201 - Water Hammer Arresters.

1.03 SUBMITTALS

A. See Section 01 3000 - Administrative Requirements, for submittal procedures.
B. Product Data: Provide component sizes, rough-in requirements, service sizes, and finishes.

1.04 QUALITY ASSURANCE

A. Manufacturer Qualifications: Company specializing in manufacturing the Products specified in this section with not less than three years documented experience.

1.05 DELIVERY, STORAGE, AND HANDLING

A. Accept specialties on site in original factory packaging. Inspect for damage.

PART 2 PRODUCTS

2.01 GENERAL REQUIREMENTS

A. Specialties in Potable Water Supply Systems: Provide products that comply with NSF 61 and NSF 372 for maximum lead content.

2.02 DRAINS

A. Floor Drain (FD-1):
   1. ASME A112.6.3; lacquered cast iron or stainless steel, two piece body with double drainage flange, weep holes, reversible clamping collar, and round, adjustable nickel-bronze strainer.

2.03 CLEANOUTS

A. Cleanouts at Interior Finished Floor Areas (FCO-1):
   1. Lacquered cast iron body with anchor flange, reversible clamping collar, threaded top assembly, and round gasketed scored cover in service areas and round gasketed depressed cover to accept floor finish in finished floor areas.

B. Cleanouts at Interior Finished Wall Areas (WCO-1):
   1. Line type with lacquered cast iron body and round epoxy coated gasketed cover, and round stainless steel access cover secured with machine screw.

C. Cleanouts at Interior Unfinished Accessible Areas (CO-1): Calked or threaded type. Provide bolted stack cleanouts on vertical rainwater leaders.

2.04 HOSE BIBBS

A. Interior Hose Bibbs:
   1. Bronze or brass with integral mounting flange, replaceable hexagonal disc, hose thread spout, chrome plated where exposed with handwheel, integral vacuum breaker in compliance with ASSE 1011.

B. Exterior Hose Bibbs:
   1. ASSE 1019, freeze resistant, self-draining, hose thread spout, and integral vacuum breaker.
      a. Installation: Lockable recessed box.
      b. Finish: Polished chrome.
      c. Operation: Operating key.

2.05 BACKFLOW PREVENTERS

A. Reduced Pressure Backflow Preventer Assembly (BFP-1):
   1. ASSE 1013; cast bronze body and stainless steel springs; two independently operating, spring loaded check valves; diaphragm type differential pressure relief valve located between check valves; third check valve that opens under back pressure in case of diaphragm failure, and non-threaded vent outlet.
   2. Size: 2 inch assembly with threaded full port ball valves.
   3. Maximum Working Parameters: 175 psi at 180 degrees F.
   4. Accessories: Provide air gap fitting, lead-free Y-strainer, and test cocks.

B. Reduced Pressure Backflow Preventer Assembly (BFP-2):
   1. ASSE 1013; cast bronze body and stainless steel springs; two independently operating, spring loaded check valves; diaphragm type differential pressure relief valve located between check valves; third check valve that opens under back pressure in case of diaphragm failure, and non-threaded vent outlet.
   2. Size: 1 inch assembly with threaded full port ball valves.
   3. Maximum Working Parameters: 175 psi at 180 degrees F.
   4. Accessories: Provide air gap fitting and test cocks.

2.06 WATER HAMMER ARRESTORS

A. Water Hammer Arrestors:
   1. Stainless steel construction, bellows type sized in accordance with PDI-WH 201, precharged suitable for operation in temperature range minus 100 to 300 degrees F and maximum 250 psi working pressure.

2.07 SANITARY WASTE INTERCEPTORS

A. Oil Interceptors:
   1. Construction:
      a. Material: Epoxy coated fabricated steel.
      b. Rough-in: On floor. Mounted in existing pit.
      c. Cover: Steel, epoxy coated, non-skid with gasket, securing handle, and enzyme injection port, recessed for floor finish.
   2. Unit Rating: 15 gpm flow.

2.08 MIXING VALVES

A. Packaged Thermostatic Mixing Valves and Circulator:
   1. Valve: Chrome plated cast brass body, stainless steel or copper alloy bellows, integral temperature adjustment.

2. Capacity: 7.5 gpm at 20 psi differential.
3. Mixed-Water Temperature Setting: 110 degrees F.
4. Finish: Rough bronze.
5. Accessories:
    a. Check valve on inlets.
    b. Volume control shut-off valve on outlet.
    c. Dial thermometer on outlet.
    d. Strainer stop checks on inlets.
6. Inline circulator.
    a. Casing: Bronze, rated for 125 psig working pressure, with stainless steel rotor assembly.
    b. Impeller: Bronze.
    c. Shaft: Alloy steel with integral thrust collar and two oil lubricated bronze sleeve bearings.
    d. Seal: Carbon rotating against a stationary ceramic seat.
    e. Drive: Flexible coupling.
    f. Performance: See schedule on drawings.
    g. Device to be provided with the packaged mixing valve system scheduled on drawings and shown in elevation on plans.
        1) Flow: 2.0 gpm, at 7 feet head.
        2) Electrical Characteristics:
            (a) 115 volts, single phase, 60 Hz, 1.5 minimum circuit ampacity.

2.09 FLOOR DRAIN TRAP SEALS

A. Description: Push-fit EPDM or silicone fitting with a one-way membrane.

PART 3 EXECUTION

3.01 INSTALLATION

A. Install in accordance with manufacturer's instructions.

B. Extend cleanouts to finished floor or wall surface. Lubricate threaded cleanout plugs with mixture of graphite and linseed oil. Ensure clearance at cleanout for rodding of drainage system.

C. Install floor cleanouts at elevation to accommodate finished floor.

D. Install water hammer arrestors on hot and cold water supply piping to quick-close fixtures.

END OF SECTION 22 1006

McFarland Johnson

Received By MJ on:

(Receipt Stamp)

SUBMITTAL COVER SHEET

PROJECT NAME: **BSD Aviation Technology Center**

SUBMITTAL NO.: 221006-2.0

CONTRACTOR: **DEW Construction Corp.**

DATE: 1/14/2025

FUNDING AGENCY NO.: **Burlington School District**

M-J PROJ. NO.: **18715.02**

TECH SPECIFICATION NO.: **221006**

NOTE: ONLY ONE TECH SPEC. PER SUBMITTAL PLEASE.

COMPONENT NO.	DESCRIPTION	M-J ACTION
	Plumbing Specialties - Backflow Preventers	NET

M-J ACTION: **NET** – NO EXCEPTION TAKEN
R&R – REVISE AND RESUBMIT
MCN – MAKE CORRECTIONS NOTED
REJ – REJECTED
SSI – SUBMIT SPECIFIED ITEM

REVIEW COMMENTS:

CONTRACTOR'S CERTIFICATION:

THE CONTRACTOR CERTIFIES THAT THEY HAVE REVIEWED THE ENCLOSED DOCUMENTS AND THEY ARE IN GENERAL CONFORMANCE WITH THE PROJECT DOCUMENTS.

Date _____

By _____

Title _____

THIS REVIEW IS ONLY FOR GENERAL CONFORMANCE WITH THE DESIGN CONCEPT AND THE INFORMATION GIVEN IN THE CONSTRUCTION DOCUMENTS. CORRECTIONS OR COMMENTS MADE ON THE SHOP DRAWINGS DURING THIS REVIEW DO NOT RELIEVE THE CONTRACTOR FROM COMPLIANCE WITH THE REQUIREMENTS OF THE PLANS AND SPECIFICATIONS. APPROVAL OF A SPECIFIC ITEM SHALL NOT INCLUDE APPROVAL OF AN ASSEMBLY OF WHICH THE ITEM IS A COMPONENT. THE CONTRACTOR IS RESPONSIBLE FOR; DIMESIONS TO BE CONFIRMED AND CORRELATED AT THE JOBSITE: INFORMATION THAT PERTAINS SOLELY TO THE FABRICATION PROCESS OR TO THE MEANS, METHODS, TECHNIQUES, SEQUENCES AND PROCEDURES OF CONSTRUCTION; COORDINATION OF THE WORK WITH THAT OF ALL OTHER TRADES AND PERFORMING ALL WORK IN A SAFE AND SATISFACTORY MANNER

McFarland Johnson

Date 1/14/2025 By Michael A. Eckhardt

DEW Construction
277 Blair Park Road, Suite 130
Williston, Vermont 05495
P: (802) 872-0505

Project: 10424 Burlington Tech Center Aviation
200 DaVinci Drive
South Burlington, Vermont 05403

Submittal #221006-2.0 - Backflow Preventers - PD 221006 - Plumbing Piping Specialties

Revision	0	**Submittal Manager**	Becky St. George (DEW Construction)
Status	Open	**Date Created**	Jan 13, 2025
Issue Date	Jan 13, 2025	**Spec Section**	221006 - Plumbing Piping Specialties
Responsible Contractor	Thomas Mechanical, Inc.	**Received From**	Leslie Davis (Thomas Mechanical, Inc.)
Received Date	Jan 13, 2025	**Submit By**	
Final Due Date	Jan 27, 2025	**Lead Time**	
		Cost Code	
Location		**Type**	Product Information

Submittal Package

Approvers Michael Snyder (DEW Construction), Mike Eckhardt (McFarland Johnson)

Ball in Court Michael Snyder (DEW Construction)

Distribution Adam Frosino (McFarland Johnson), Becky St. George (DEW Construction), Deanna Utter (Sheet Metal Specialists), Leslie Davis (Thomas Mechanical, Inc.), Liza MacAuley (Thomas Mechanical, Inc.), Marty Spaulding (PCI - Capital Project Consulting), Mike Eckhardt (McFarland Johnson), Neil Valley (Thomas Mechanical, Inc.), Ron Snyder (PCI - Capital Project Consulting), Sara Bosworth (DEW Construction)

Description

2025-01-13: R0

Included in this submittal are:

1. BFP-1: Watts Backflow Preventer, #LF909M1-QT-S-FS - PD (**spec. manuf. & product**)
*Does not have BABAA certification.
2. BFP-2: Watts Backflow Preventer, #LF909-FS - PD (**spec. manuf. & product**)
*Does not have BABAA certification.

Submittal Workflow

Name	Sent Date	Due Date	Returned Date	Response	Attachments
General Information Attachments					
Michael Snyder		Jan 13, 2025			
Mike Eckhardt		Jan 27, 2025			

DEW CONSTRUCTION **SHOP DRAWING / SUBMITTAL REVIEW**

Checking is only for conformity to the design concept of the project and compliance with the information given in the contract documents and specifications. The Trade Partner is responsible for dimensions, to be confirmed and correlated at the project site, for information that pertains solely to the fabrication, the techniques of construction and for the coordination of their work with all trades.

Project #: 10424 – Burlington Tech Center Aviation @ BTV

Reviewed By: Michael Snyder, LEED AP BD+C **Date:** 2025-01-13

Thomas Mechanical Inc.
90 Ethan Allen Drive
South Burlington, VT 05403
Phone (802) 865-9119
Fax (802) 865-9501

Submittal Cover Sheet:

Project Name: **BSD Aviation Technical Center**

Date: **01/13/2025**

Architect: **Freeman French Freeman, Inc.**

Contractor: **DEW Construction**

Engineer: **MCFarland - Johnson**

Specification Section: **Mechanical 22/23**
Revision:
Submitted per Specification Section: **Plumbing Specialties**
Drawing #/Detail Reference:

Supplier: **Blodgett Supply**
Manufacturer: **WATTS**
Substitution:
Color Selection Required:
Lead Time Upon Approval:
IOM Included:

Items Submitted:

Plumbing Specialties – Reduced Pressure Zone Assemblies

Tagged: **BFP-1**
BFP-2

Engineering Specification

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

LEAD FREE*

Series LF909-FS Small

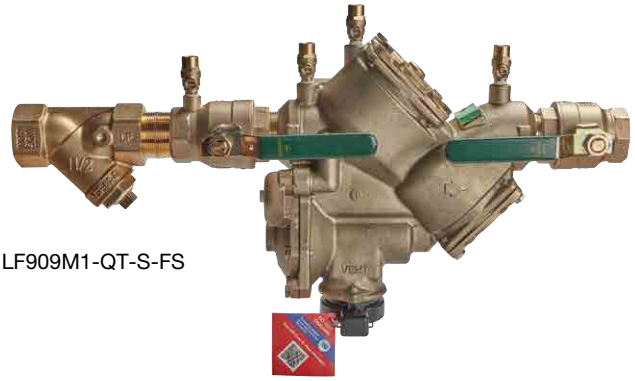
Reduced Pressure Zone Assemblies

LF909-FS

¾"–1"

LF909M1-FS

1¼"–2"



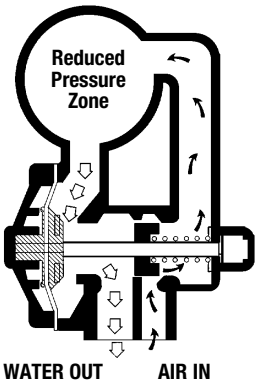
LF909M1-QT-S-FS

Series LF909-FS Reduced Pressure Zone Assemblies are designed to provide superior cross-connection control protection of the potable water supply in accordance with national plumbing codes and containment control for water authority requirements. This series can be utilized in a variety of installations, including health hazard cross-connections in plumbing systems or for containment at the service line entrance. The series features Lead Free* construction to comply with Lead Free* installation requirements. With its exclusive design incorporating the "air-in/water-out" principle, the series provides maximum relief valve discharge during the emergency conditions of combined backsiphonage and backpressure with both checks fouled. Model LF909-FS-QT is standardly furnished with full port, resilient-seated, and Lead Free* cast copper silicon alloy ball valve shutoffs. Sizes ¾" and 1" shutoffs have tee handles.

This series includes an integrated flood sensor to detect excessive water discharges from the relief valve. The sensor relays a signal that triggers notification to facility personnel, helping to avoid the possibility of ruinous flooding and costly damage.

How It Operates

The unique relief valve construction incorporates two channels: one for air, the other for water. When the relief valve opens the right channel admits air to the top of the reduced pressure zone, relieving the zone vacuum. The left channel then drains the zone to atmosphere. (See diagram to the right.) Therefore, if both check valves foul, and simultaneous negative supply and positive backpressure develop, the relief valve uses the air-in/water-out principle to stop potential backflow.



NOTICE

An add-on connection kit is required to activate the integrated flood sensor. Without the connection kit, the flood sensor is a passive component and will not communicate with any other device. (For more information, download RP-IS-LF909S-FS.)

Features

- Modular design
- Replaceable seats
- Compact for installation ease
- Horizontal or vertical (up or down) installation on limited sizes only
- No special tools required for servicing
- Integrated sensor for flood detection
- Flood alert feature activated with add-on sensor connection kit, compatible with BMS and cellular communication

NOTICE

Use of the integrated flood sensor does not replicate the need to comply with all required instructions, codes, and regulations related to installation, operation, and maintenance of this product, including the need to provide proper drainage in the event of a discharge.

Watts® is not responsible for the failure of alerts due to connectivity or power issues.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Inquire with governing authorities for local installation requirements.

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

WATTS®

HJC# 2421538

Specification

A Reduced Pressure Zone Assembly shall be installed at each cross-connection to prevent backsiphonage and backpressure of hazardous materials into the potable water supply. The assembly shall consist of a pressure differential relief valve located in a zone between two positive seating check valves. Backsiphonage protection shall include provision to admit air directly into the reduced pressure zone via a separate channel from the water discharge channel, or directly into the supply pipe via a separate vent. The assembly shall be constructed using Lead Free* cast copper silicon materials. The Lead Free* reduced pressure zone assembly shall comply with state codes and standards, where applicable, requiring reduced lead content. The assembly shall include two tightly closing shutoff valves before and after the assembly, test cocks and a protective strainer upstream of the No. 1 shutoff valve. The assembly (specify Model LF909 for temperatures up to 140°F (60°C)) shall meet the requirements of ASSE Standard 1013; AWWA Standard C-511-92 CSA B64.4; FCCCHR of USC Manual Section 10. Listed by IAPMO (UPC). SBCCI (Standard Plumbing code). The assembly shall be a Watts LF909QT, and shall include strainer (-S) and integrated sensor for flood detection (-FS).

Model/Option

FS	Integrated sensor for flood detection
QT	Quarter-turn ball valves
S	Bronze strainer

NOTICE

The installation of a drain line is recommended. When installing a drain line, an air gap is necessary.

Materials

Body: Lead Free* Cast Copper Silicon Alloy

Check Seats: 909 Celcon®

Relief Valve Seats: Stainless Steel 909

Test Cocks: Lead Free* Cast Copper Silicon Alloy

Standards

AWWA C-511-92

FCCCHR of USC Manual Section 10

IAPMO (UPC), SBCCI (Standard Plumbing code)

Tested and Certified by NSF International

Approvals

1013 C B64.4 US

Listed by IAPMO

Listed by SBCCI

Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (QT and S models)

Vertical “flow-up” approval only on ¾" and 1" sizes (Model LF909QT)

Pressure — Temperature

Temperature Range: 33°F – 140°F (0.5°C – 60°C) continuous; 180°F (82°C) intermittent

Maximum Working Pressure: 175 psi (12.1 bar)

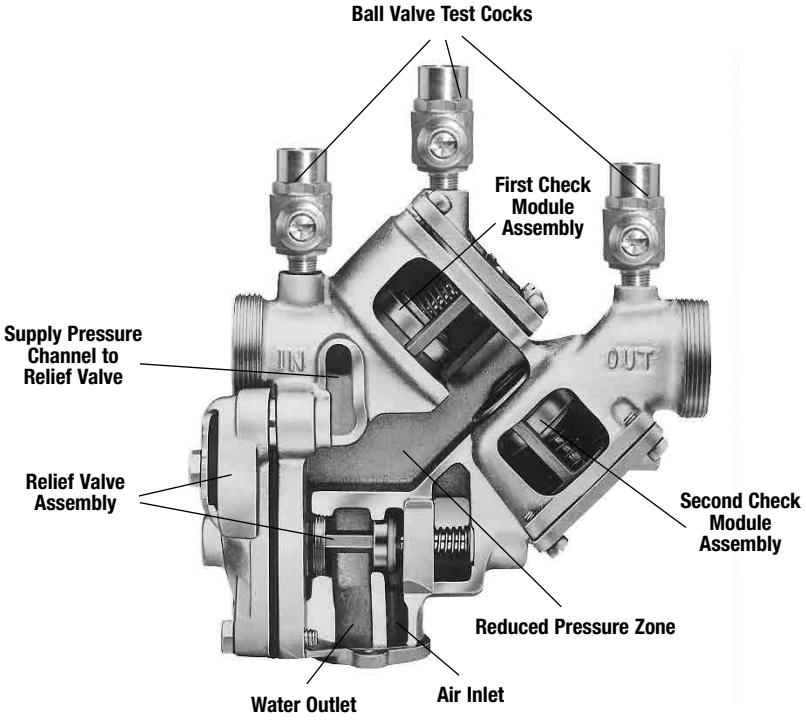
Connections

¾" – 1" 909-NPT Female threaded body connection

1¼" – 2" 909-M1-NPT Male threaded body connection

Insulated Enclosure

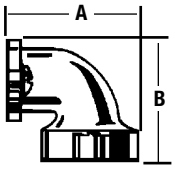
The WattsBox insulated enclosure is available for this series. For more information download ES-WB at watts.com.

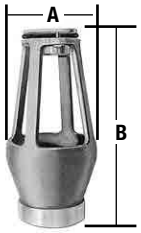


Celcon® is a registered trademark of Celanese, Limited

Dimensions — Weights

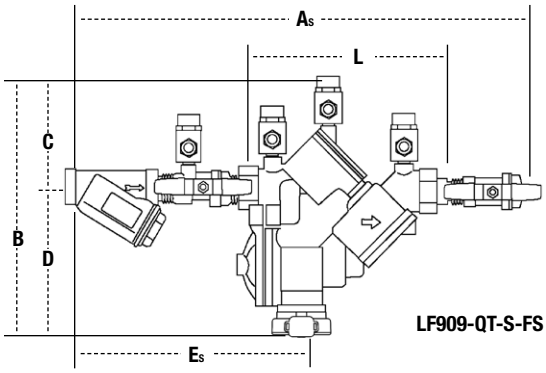
When installing a drain line, use Model 909AG air gaps on Series LF909 Small backflow preventers. Model 909EL elbows are for air gaps on backflow preventers in vertical installations.



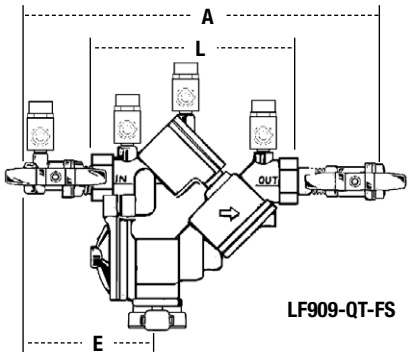


Model 909AG Air Gaps

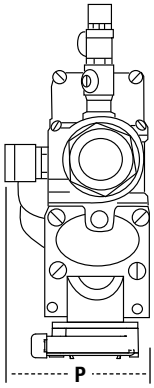
		909 DRAIN		OUTLET		DIMENSIONS				WEIGHT	
Iron Body		Size		Size		A		B			
No.	*Desc.*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lb*	*kg*
909AG-C	Air Gap	¾,1	19,25	1	25	3¼	83	4⅞	124	1½	.7
909EL-C	Elbow	¾,1	19,25	–	–	2⅜	60	2⅜	60	⅜	.2
909AG-F	Air Gap	1¼-2	32-50	2	50	4⅜	111	6¾	171	3¼	1.5
909EL-F	Elbow	1¼-2	32-50	–	–	3⅝	92	3⅝	92	2	.9



LF909-QT-S-FS



LF909-QT-FS



LF909, LF909M1

SIZE (DN)	DIMENSIONS																		WEIGHT			
	A		As		B		C		D		E		Es		L		P		QT		QT-S	
	in.	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lb*	*kg*	*lb*	*kg*
¾"	14⅜	365	18 1/16	459	9⅞	251	4	102	5⅞	149	6¾	171	10 3/16	259	7 5/16	186	3⅞	98	14	6.4	15.6	7.1
1"	15⅜	391	19⅝	498	9⅞	251	4	102	5⅞	149	7	178	11	279	7 5/16	186	3⅞	98	15	6.8	17.5	7.9
1¼"M1	18½	470	23 7/16	595	12¾	324	5½	140	7⅞	194	7½	191	12 3/16	310	10⅜	264	5¼	133	40	18.1	42.8	19.4
1½"M1	19	483	24⅜	619	12¾	324	5½	140	7⅞	194	7½	191	12⅝	321	10⅜	264	5¼	133	40	18.1	44.0	20.0
2"M1	19½	495	25 15/16	659	12¾	324	5½	140	7⅞	194	7¾	197	13 15/16	354	10⅜	264	5¼	133	40	18.1	47.4	21.5

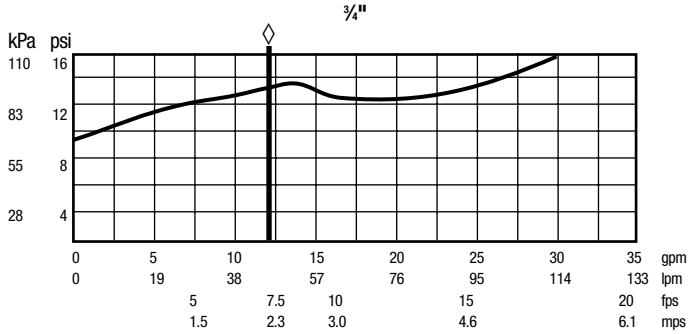
BFP-1

Capacity

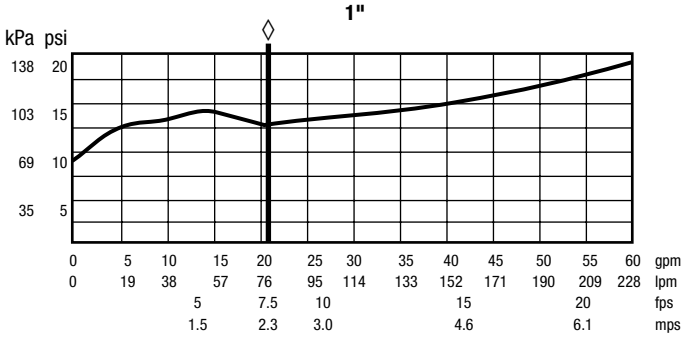
As compiled from documented Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California lab tests.

◊Typical maximum system flow rate (7.5 ft/s)

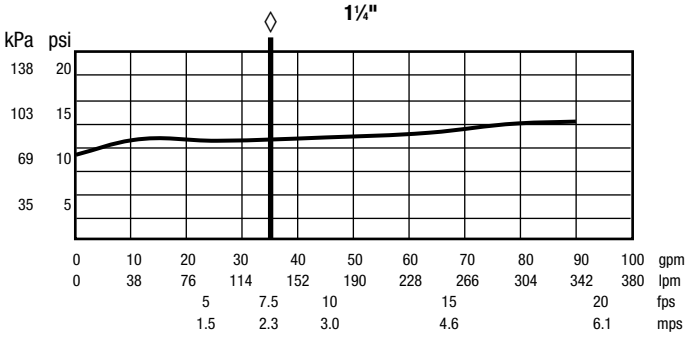
¾"



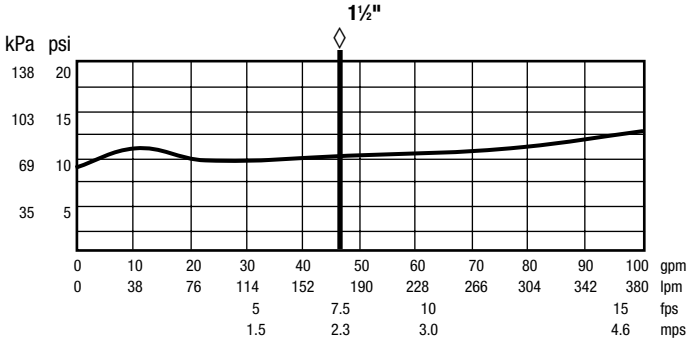
1"



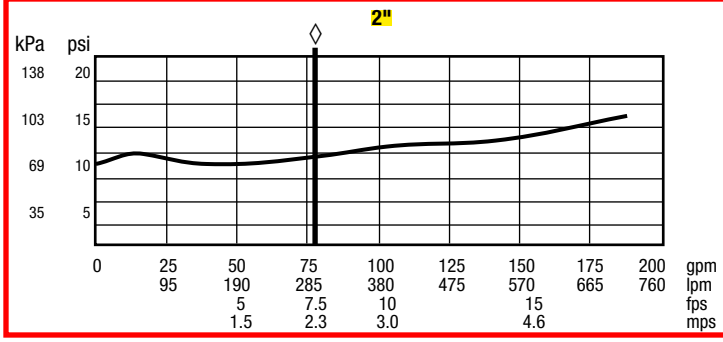
1¼"



1½"



2"



HJC# 2421538

USA: T: (978) 689-6066 • Watts.com
Canada: T: (888) 208-8927 • Watts.ca
Latin America: T: (52) 55-4122-0138 • Watts.com

Air Gaps, Elbows and Test Cocks

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

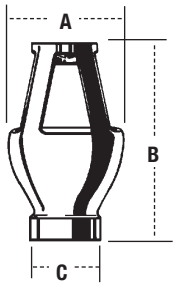
Air Gaps, Elbows and Test Cocks

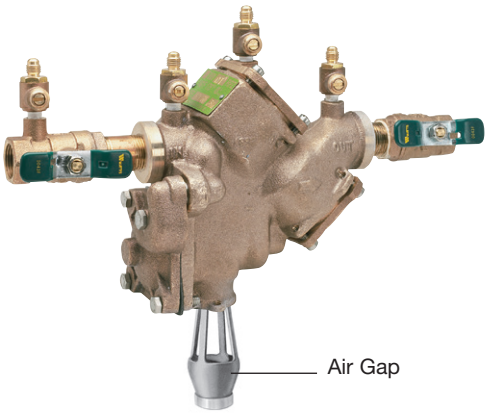
for Reduced Pressure Zone Assemblies

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.

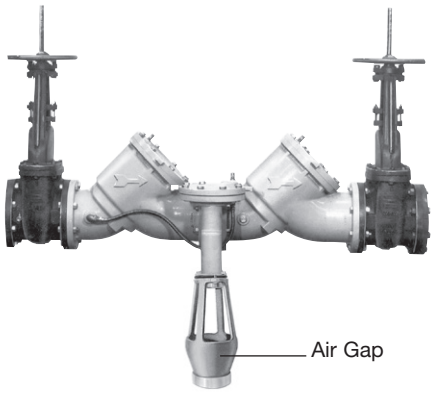
The installation of an air gap and drain line are recommended.



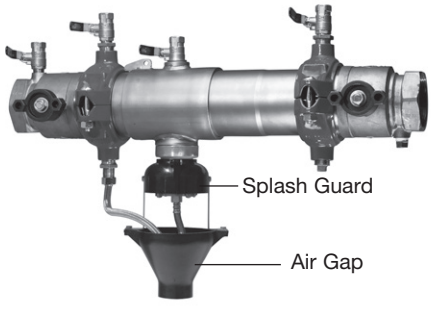


909 QT/LF909 QT

MODEL	ORDERING CODE	SERIES/ SIZES	DIMENSIONS A in.	A mm	B in.	B mm	C (NPT) in.	C (NPT) mm	WEIGHT lbs	WEIGHT kgs
909AGA	0881399	½" – ½" 009/LF009 ¾" 009/LF009M2/M3 ½" – 1" 995	2⅜	60	3⅛	79	½	13	.63	.28
909AGC	0881376	¾" – 1" 009/LF009, 909/LF909 1" – 1½" 009/LF009M2 1¼" – 2" 995	3¼	83	4⅞	124	1	25	1.50	.68
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
919 AGC	0881576	¾" – 1" 919/LF919	2⅜	60	3 ⅛	79	½	13	0.63	0.28
919 AGF	0881577	1¼" – 2" 919/LF919	4⅜	111	8 ½	216	2	51	3.5	1.6
957AG	0111764	2½" – 10" 957	7½	190	12	304	2	51	1.50	.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	–	–
957AG	0111815	2½" – 10" 957	4¾	119	2½	62	–	–	.4	0.18



909 OSY/ LF909 OSY



957 QT

NOTICE

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NOTICE

Inquire with governing authorities for local installation requirements

WATTS®

For Liquid and Steam Service

Job Name _____ Contractor _____

Job Location _____ Approval _____

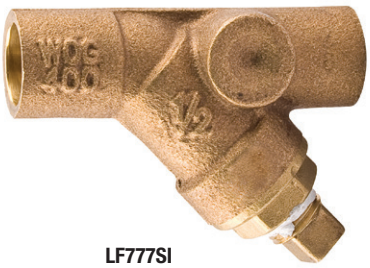
Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

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) @ 210ºF (99ºC); 125psi (8.6 bar) WSP @ 353ºF (178ºC) 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 @ 210ºF (99ºC)

125psi (8.6 bar) WSP @ 353ºF (178ºC)

2½"–3"

300psi (20.7 bar) WOG @ 210ºF (99ºC)

125psi (8.6 bar) WSP @ 353ºF (178ºC)

Approvals

NSF Certified to NSF/ANSI/CAN 61-G

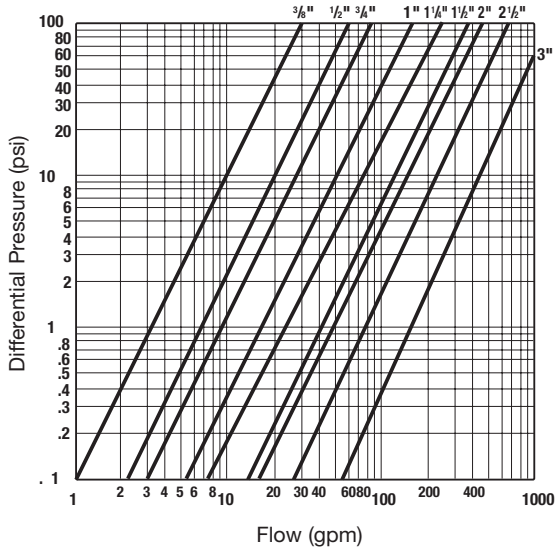
NOTICE

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

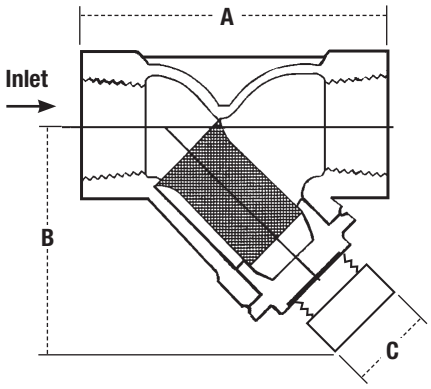


Flow curves show flows (gpm) and pressure drop (psig) through Watts Series 777SI, S777SI using standard 20 mesh screen.

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

Engineering Specification

Job Name _____ Contractor _____

Job Location _____ Approval _____

Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

LEAD FREE*

Series LF909-FS Small

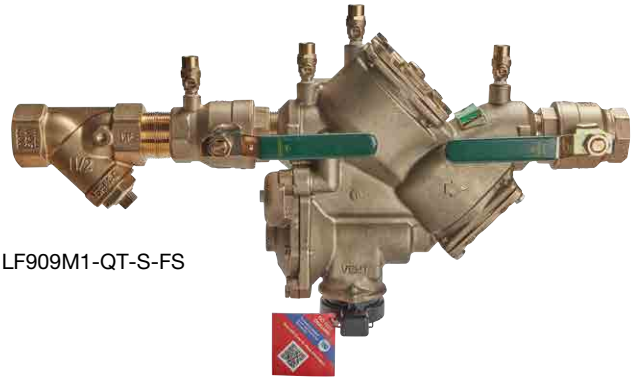
Reduced Pressure Zone Assemblies

LF909-FS

¾"–1"

LF909M1-FS

1¼"–2"



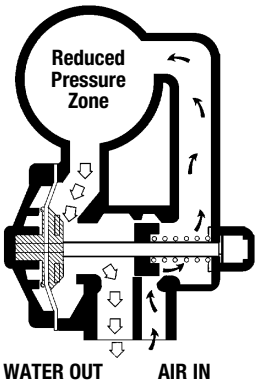
LF909M1-QT-S-FS

Series LF909-FS Reduced Pressure Zone Assemblies are designed to provide superior cross-connection control protection of the potable water supply in accordance with national plumbing codes and containment control for water authority requirements. This series can be utilized in a variety of installations, including health hazard cross-connections in plumbing systems or for containment at the service line entrance. The series features Lead Free* construction to comply with Lead Free* installation requirements. With its exclusive design incorporating the "air-in/water-out" principle, the series provides maximum relief valve discharge during the emergency conditions of combined backsiphonage and backpressure with both checks fouled. Model LF909-FS-QT is standardly furnished with full port, resilient-seated, and Lead Free* cast copper silicon alloy ball valve shutoffs. Sizes ¾" and 1" shutoffs have tee handles.

This series includes an integrated flood sensor to detect excessive water discharges from the relief valve. The sensor relays a signal that triggers notification to facility personnel, helping to avoid the possibility of ruinous flooding and costly damage.

How It Operates

The unique relief valve construction incorporates two channels: one for air, the other for water. When the relief valve opens the right channel admits air to the top of the reduced pressure zone, relieving the zone vacuum. The left channel then drains the zone to atmosphere. (See diagram to the right.) Therefore, if both check valves foul, and simultaneous negative supply and positive backpressure develop, the relief valve uses the air-in/water-out principle to stop potential backflow.



NOTICE

An add-on connection kit is required to activate the integrated flood sensor. Without the connection kit, the flood sensor is a passive component and will not communicate with any other device. (For more information, download RP-IS-LF909S-FS.)

Features

- Modular design
- Replaceable seats
- Compact for installation ease
- Horizontal or vertical (up or down) installation on limited sizes only
- No special tools required for servicing
- Integrated sensor for flood detection
- Flood alert feature activated with add-on sensor connection kit, compatible with BMS and cellular communication

NOTICE

Use of the integrated flood sensor does not replicate the need to comply with all required instructions, codes, and regulations related to installation, operation, and maintenance of this product, including the need to provide proper drainage in the event of a discharge.

Watts® is not responsible for the failure of alerts due to connectivity or power issues.

NOTICE

The information contained herein is not intended to replace the full product installation and safety information available or the experience of a trained product installer. You are required to thoroughly read all installation instructions and product safety information before beginning the installation of this product.

Inquire with governing authorities for local installation requirements.

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

WATTS®

Specification

A Reduced Pressure Zone Assembly shall be installed at each cross-connection to prevent backsiphonage and backpressure of hazardous materials into the potable water supply. The assembly shall consist of a pressure differential relief valve located in a zone between two positive seating check valves. Backsiphonage protection shall include provision to admit air directly into the reduced pressure zone via a separate channel from the water discharge channel, or directly into the supply pipe via a separate vent. The assembly shall be constructed using Lead Free* cast copper silicon materials. The Lead Free* reduced pressure zone assembly shall comply with state codes and standards, where applicable, requiring reduced lead content. The assembly shall include two tightly closing shutoff valves before and after the assembly, test cocks and a protective strainer upstream of the No. 1 shutoff valve. The assembly (specify Model LF909 for temperatures up to 140°F (60°C)) shall meet the requirements of ASSE Standard 1013; AWWA Standard C-511-92 CSA B64.4; FCCCHR of USC Manual Section 10. Listed by IAPMO (UPC). SBCCI (Standard Plumbing code). The assembly shall be a Watts LF909QT, and shall include strainer (-S) and integrated sensor for flood detection (-FS).

Model/Option

FS	Integrated sensor for flood detection
QT	Quarter-turn ball valves
S	Bronze strainer

NOTICE

The installation of a drain line is recommended. When installing a drain line, an air gap is necessary.

Materials

Body: Lead Free* Cast Copper Silicon Alloy

Check Seats: 909 Celcon®

Relief Valve Seats: Stainless Steel 909

Test Cocks: Lead Free* Cast Copper Silicon Alloy

Standards

AWWA C-511-92

FCCCHR of USC Manual Section 10

IAPMO (UPC), SBCCI (Standard Plumbing code)

Tested and Certified by NSF International

Approvals

1013 C B64.4 US

Listed by IAPMO

Listed by SBCCI

Approved by the Foundation for Cross-Connection Control and Hydraulic Research at the University of Southern California (QT and S models)

Vertical “flow-up” approval only on ¾" and 1" sizes (Model LF909QT)

Pressure — Temperature

Temperature Range: 33°F – 140°F (0.5°C – 60°C) continuous; 180°F (82°C) intermittent

Maximum Working Pressure: 175 psi (12.1 bar)

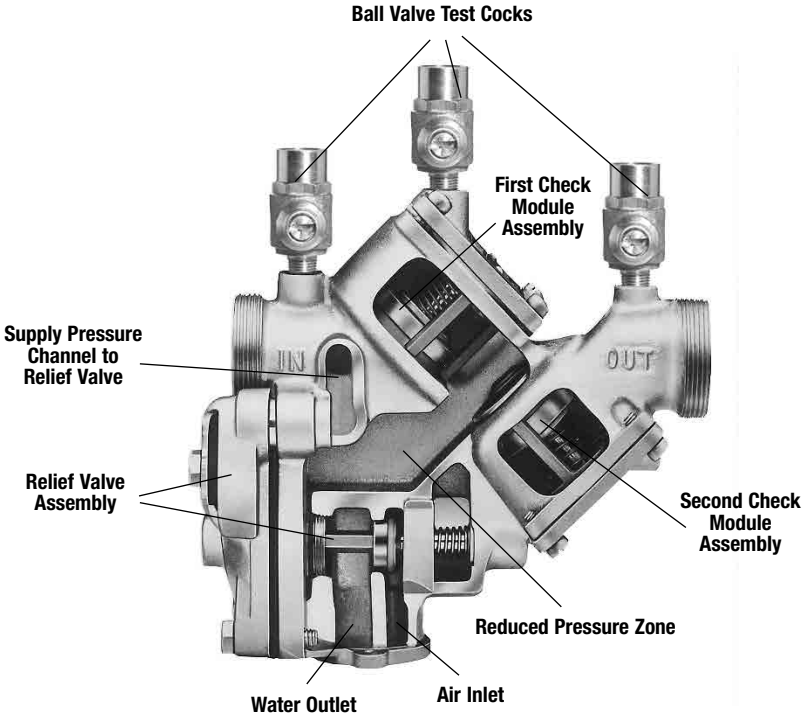
Connections

¾" – 1" 909-NPT Female threaded body connection

1¼" – 2" 909-M1-NPT Male threaded body connection

Insulated Enclosure

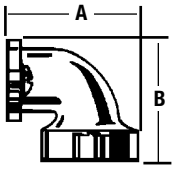
The WattsBox insulated enclosure is available for this series. For more information download ES-WB at watts.com.

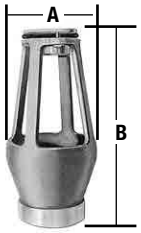


Celcon® is a registered trademark of Celanese, Limited

Dimensions — Weights

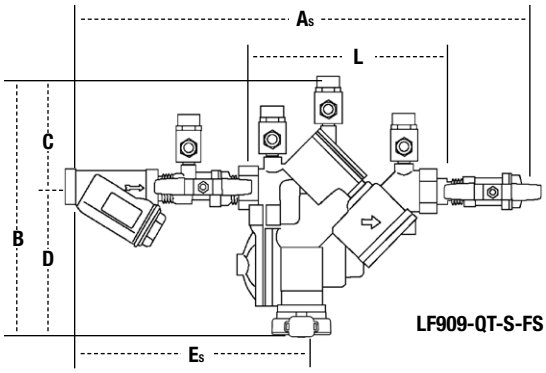
When installing a drain line, use Model 909AG air gaps on Series LF909 Small backflow preventers. Model 909EL elbows are for air gaps on backflow preventers in vertical installations.



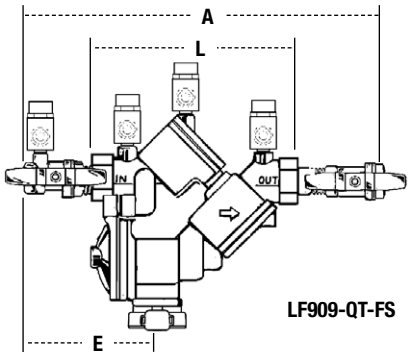


Model 909AG Air Gaps

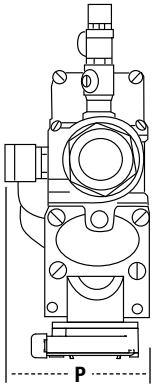
		909 DRAIN		OUTLET		DIMENSIONS				WEIGHT	
Iron Body		Size		Size		A		B			
No.	*Desc.*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lb*	*kg*
909AG-C	Air Gap	¾,1	19,25	1	25	3¼	83	4⅞	124	1½	.7
909EL-C	Elbow	¾,1	19,25	–	–	2⅜	60	2⅜	60	⅜	.2
909AG-F	Air Gap	1¼-2	32-50	2	50	4⅜	111	6¾	171	3¼	1.5
909EL-F	Elbow	1¼-2	32-50	–	–	3⅝	92	3⅝	92	2	.9



LF909-QT-S-FS



LF909-QT-FS



LF909, LF909M1

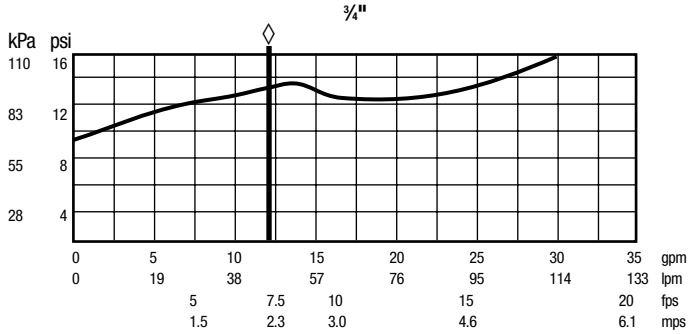
SIZE (DN)	DIMENSIONS																		WEIGHT			
	A		As		B		C		D		E		Es		L		P		QT		QT-S	
	in.	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*in.*	*mm*	*lb*	*kg*	*lb*	*kg*
¾"	14⅜	365	18 1/16	459	9⅞	251	4	102	5⅞	149	6¾	171	10 3/16	259	7 5/16	186	3⅞	98	14	6.4	15.6	7.1
1"	15⅜	391	19⅝	498	9⅞	251	4	102	5⅞	149	7	178	11	279	7 5/16	186	3⅞	98	15	6.8	17.5	7.9
1¼"M1	18½	470	23 7/16	595	12¾	324	5½	140	7⅝	194	7½	191	12 3/16	310	10⅜	264	5¼	133	40	18.1	42.8	19.4
1½"M1	19	483	24⅜	619	12¾	324	5½	140	7⅝	194	7½	191	12⅝	321	10⅜	264	5¼	133	40	18.1	44.0	20.0
2"M1	19½	495	25 15/16	659	12¾	324	5½	140	7⅝	194	7¾	197	13 15/16	354	10⅜	264	5¼	133	40	18.1	47.4	21.5

Capacity

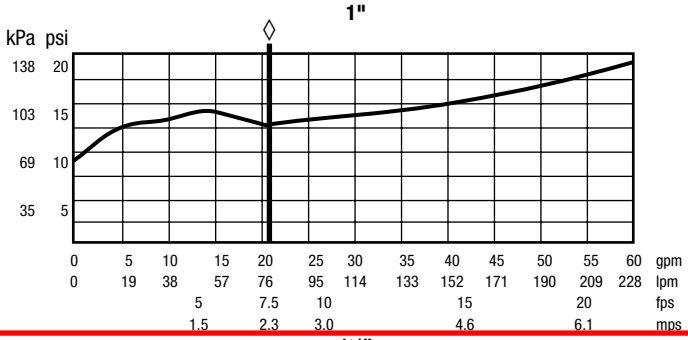
As compiled from documented Foundation for Cross-Connection Control and Hydraulic Research of the University of Southern California lab tests.

◊Typical maximum system flow rate (7.5 ft/s)

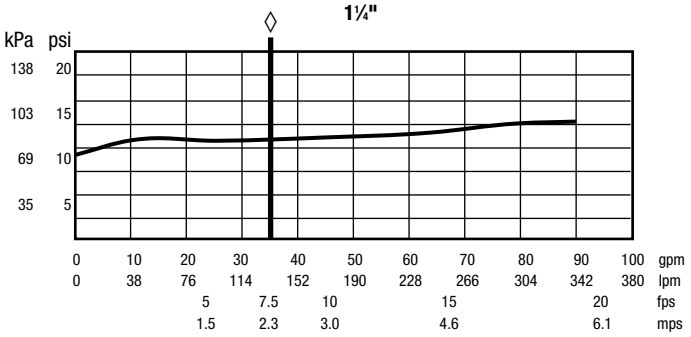
¾"



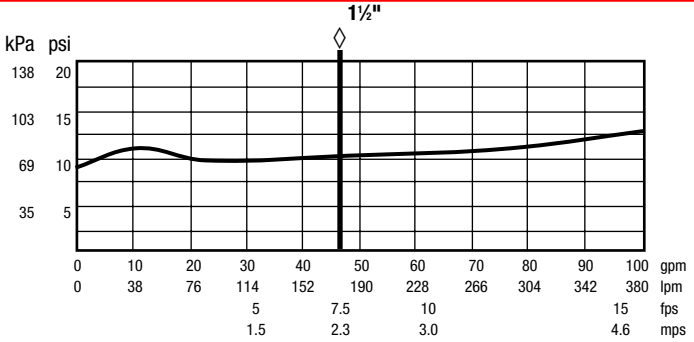
1"



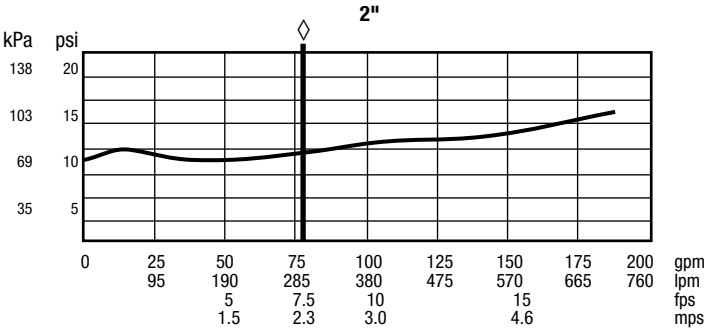
1¼"



1½"



2"



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For Liquid and Steam Service

Job Name _____ Contractor _____

Job Location _____ Approval _____

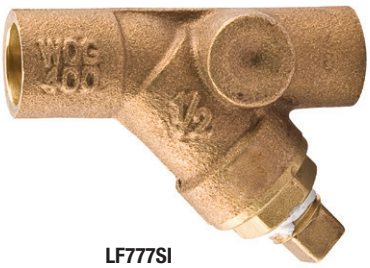
Engineer _____ Contractor's P.O. No. _____

Approval _____ Representative _____

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) @ 210ºF (99ºC); 125psi (8.6 bar) WSP @ 353ºF (178ºC) 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 @ 210ºF (99ºC)

125psi (8.6 bar) WSP @ 353ºF (178ºC)

2½"–3"

300psi (20.7 bar) WOG @ 210ºF (99ºC)

125psi (8.6 bar) WSP @ 353ºF (178ºC)

Approvals

NSF Certified to NSF/ANSI/CAN 61-G

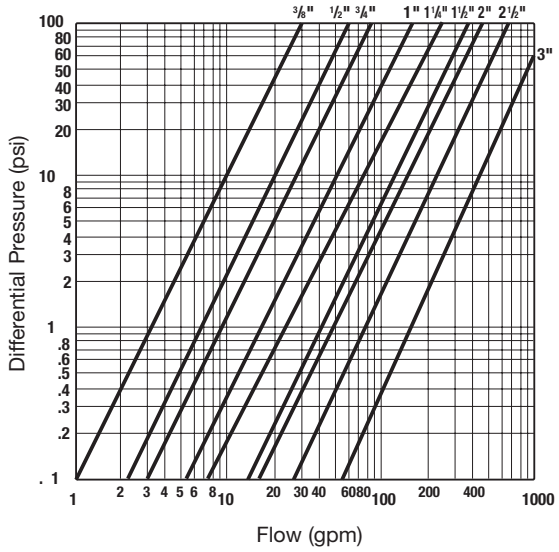
NOTICE

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

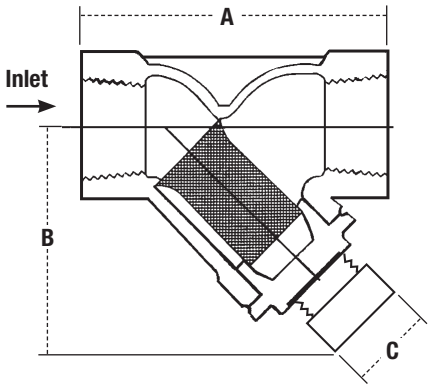


Flow curves show flows (gpm) and pressure drop (psig) through Watts Series 777SI, S777SI using standard 20 mesh screen.

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

USA: T: (978) 689-6066 • F: (978) 975-8350 • Watts.com
Canada: T: (905) 332-4090 • F: (905) 332-7068 • Watts.ca
Latin America: T: (52) 55-4122-0138 • Watts.com

FORM CD-450 (REV. 10/18)	U.S. DEPARTMENT OF COMMERCE	X GRANT	COOPERATIVE AGREEMENT
FINANCIAL ASSISTANCE AWARD		**FEDERAL AWARD ID NUMBER** 60NANB23D159	
RECIPIENT NAME Burlington School District		**PERIOD OF PERFORMANCE** 09/01/2023 - 08/31/2026	
STREET ADDRESS 150 Colchester Ave		**FEDERAL SHARE OF COST** $9,900,000.00	
CITY, STATE ZIP Burlington, VT 05401-1422		**RECIPIENT SHARE OF COST** $0.00	
AUTHORITY Consolidated Appropriations Act, 2022		**TOTAL ESTIMATED COST** $9,900,000.00	
CFDA NO. AND NAME 11.617 Congressionally-Identified Projects			
PROJECT TITLE: Burlington Aviation Technology Center Facility			

This Award Document (Form CD-450) signed by the Grants Officer constitutes an obligation of Federal funding. By signing this Form CD-450, the Recipient agrees to comply with the Award provisions checked below and attached. Upon acceptance by the Recipient, the Form CD-450 must be signed by an authorized representative of the Recipient and returned to the Grants Officer. If not signed and returned without modifications by the Recipient within 30 days of receipt, the Grants Officer may unilaterally withdraw this Award offer and de-obligate the funds.

X DEPARTMENT OF COMMERCE FINANCIAL ASSISTANCE STANDARD TERMS AND CONDITIONS

R & D AWARD

FEDERAL-WIDE RESEARCH TERMS AND CONDITIONS, AS ADOPTED BY THE DEPT. OF COMMERCE

X SPECIFIC AWARD CONDITIONS

X LINE ITEM BUDGET

X 2 CFR PART 200, UNIFORM ADMINISTRATIVE REQUIREMENTS, COST PRINCIPLES, AND AUDIT REQUIREMENTS, AS ADOPTED PURSUANT TO 2 CFR § 1327.101

48 CFR PART 31, CONTRACT COST PRINCIPLES AND PROCEDURES

MULTI-YEAR AWARD. PLEASE SEE THE MULTI-YEAR SPECIFIC AWARD CONDITION.

X OTHER(S): U.S. DEPARTMENT OF COMMERCE, NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY STANDARD TERMS AND CONDITIONS FOR EXTRAMURAL CONSTRUCTION PROJECTS, MAY 11, 2023

SIGNATURE OF DEPARTMENT OF COMMERCE GRANTS OFFICER	DATE
Shiou Liu SHIOU YUN LIU Digitally signed by SHIOU YUN LIU Date: 2023.09.15 08:23:32 -04'00'	
PRINTED NAME, PRINTED TITLE, AND SIGNATURE OF AUTHORIZED RECIPIENT OFFICIAL Tom Flanagan, Superintendent	DATE 9/18/23

Award Number: 60NANB23D159, Amendment Number 0

Federal Program Officer: Robert Slocum

Requisition Number: 195161

Employer Identification Number: 471351664

UEI Number: VCCSKXGSMEJ5

Recipient ID: 1155128

Requestor ID: 1155128

Award ACCS Information

Bureau	FCFY	Project-Task	Organization	Object Class	Obligation Amount
57	2023	1959000-000	10-19-0195-00-00-00-00	41-98-00-00	$9,900,000.00

Award Contact Information

Contact Type	Contact Name	Email	Phone
Administrative	Mr. Barry Gruessner	bgruessn@bsdvt.org	8028648462

NIST Grants Officer:

Shiou Liu
100 Bureau Drive, MS 1650
Gaithersburg, MD 20899-1650
(301) 975-8245

NIST Grants Specialist:

LaShae Green
100 Bureau Drive, MS 1650
Gaithersburg, MD 20899-1650
(301) 975-3070

NIST Financial Assistance Award Number: 60NANB23D159
Amendment: NEW
Recipient: Burlington School District

NATIONAL INSTITUTE OF STANDARDS AND TECHNOLOGY
2022 CONGRESSIONALLY IDENTIFIED CONSTRUCTION GRANT PROGRAM
FINANCIAL ASSISTANCE
SPECIFIC AWARD CONDITIONS

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1. Description of Work:

The National Institute of Standards and Technology (NIST) hereby enters into this grant number 60NANB23D159 with Burlington School District to support the work described in the proposal entitled "Burlington Aviation Technology Center Facility" dated November 17, 2022, and any revisions received during the application review, which are hereby incorporated into this award by reference.

The scope of work for this project is anticipated to provide a total building space in the range of 30,000 to 45,000 gross SF to include classrooms, offices, shops/tech areas, storage, hangar space and general building facilities with the intent to educate up to 150 high school students and adults each year with the technical center housing aviation for 11th and 12th graders as well as adult programs that finishes the airframe and powerplant training.

Work will be completed in accordance with the schedule submitted by Burlington School District in the Project Management and Schedule dated November 17, 2022.

The Burlington School District shall diligently pursue the development of the project to ensure completion within this time schedule and shall promptly notify NIST in writing of any event that could substantially delay meeting any of the prescribed time limits for the project as set forth above. The Burlington School District further acknowledges that failure to meet the development time schedule may result in NIST taking action to suspend or terminate the Award in accordance with the regulations set forth at 2 CFR § 200.339.

Where the terms of this award and the proposal differ, the terms of this award shall prevail.

2. Recipient Contact Information:

Administrative:
Barry Gruessner
Grants Director
Burlington School District
150 Colchester Avenue
Burlington, VT 05401-1422
Telephone: 802-864-8462
Email: bgruessn@bsdvt.org

Authorized Representative:
Tom Flanagan
Superintendent
Burlington School District
150 Colchester Avenue
Burlington, VT 05401-1422
Telephone: 802-865-5332
Email: tflanagan@bsdvt.org

3. NIST Award Contact Information:

Grants Officer:
Michelle Shiouyun Liu
National Institute of Standards and Technology
100 Bureau Drive, Mail Stop 1650
Gaithersburg, MD 20899-1650
Telephone: 301-975-8245
Email: shiouyun.liu@nist.gov

Grants Specialist:
LaShae Green
National Institute of Standards and Technology
100 Bureau Drive, Mail Stop 1650
Gaithersburg, MD 20899-1650
Telephone: 301-975-3070
Email: lashae.green@nist.gov

Federal Program Officer:
Robert Slocum
National Institute of Standards and Technology
100 Bureau Drive
Gaithersburg, MD 20899
Email: robert.slocum@nist.gov

4. Award Payments:

This award is hereby funded through advanced payments using the Department of Treasury's Automated Standard Application for Payments (ASAP) system. Payments will be issued in accordance with 2 CFR § 200.305 and the Department of Commerce Financial Assistance Standard Terms and Conditions, B.02, dated November 12, 2020.

Payments for allowable costs may be drawn down as needed by the Recipient enrolled in ASAP. Funds may be requested through ASAP by the authorized *Payment Requestor* who is the individual designated by the Recipient to access Federal funds.

This award has the following control or withdrawal limits set in ASAP:

_____ None
_____ Agency Review required for all withdrawals (see explanation below)
_____ Agency Review required for all withdrawal requests over
$_____ (see explanation below)
__X__ Maximum Draw Amount controls (see explanation below)
$_____ each month
$_____ each quarter
$0.00_____ Max drawdown amount

Explanation:

Environmental & Historic Compliance Requirements
A total of $9,900,000.00 in Federal funding is hereby withheld until the requirements identified in Specific Award Condition (SAC) #17 Environmental and Historic Review is satisfied. A Six-Month Expenditure Plan may be submitted to request funding for expenditures limited to Environmental and Historic Requirement compliance as identified in SAC #17.

In addition, the final site selection for the Burlington Aviation Technology Center Facility must be provided to NIST and approved by NIST prior to advertisement of construction. All federal funding is hereby withheld until this requirement is satisfied, as identified in SAC #19 Final Site Selection, below.

5. Return Payments for Funds Withdrawn through ASAP:

Funds that have been withdrawn through ASAP may be returned to ASAP via the Automated Clearing House (ACH) or via FEDWIRE. The ACH or FEDWIRE transaction may only be completed by the Recipient's financial institution. Full or partial amounts of payments received by a Payment Requestor/Recipient Organization may be returned to ASAP. All funds returned to the ASAP system will be credited to the ASAP Suspense Account. The Suspense Account allows the Regional Financial Center to monitor returned items and ensure that funds are properly credited to the correct ASAP account. Returned funds that cannot be identified and classified to an ASAP account will be dishonored and returned to the originating depositary financial institution (ODFI). The Payment Requestor/Recipient Organization should notify the NIST Grants Office and provide a reason whenever return payments are made.

It is essential that the Payment Requestor/Recipient Organization provide its financial institution with ASAP account information (ALC, Recipient ID and Account ID) to which the return is to be credited. Additional detailed information is accessible at: https://www.fiscal.treasury.gov/asap/.

6. Period of Performance and Funding Limitations:

The period of performance and budget incorporated into this award cover a 3-year period of performance and provide for a maximum total amount of $9,900,000.00 in Federal funding. This award is being fully funded via this award action.

The maximum amount of NIST funding in support of this award will not exceed the amount specified in the award documents, unless otherwise amended in writing by the NIST Grants Officer. The Department of Commerce is not liable for any obligations, expenditures, or commitments which involve any amount in excess of the Federal funds being made available pursuant to this award.

7. Request for Application - 2022 Congressionally Identified Construction Grant Program:

The Department of Commerce, National Institute of Standards and Technology Request for Application (RFA) No. 2022-NIST-RFA-CICGP-01, dated October 18, 2022, is incorporated by reference into this award. It is accessible at: https://www.grants.gov/web/grants/view-opportunity.html?oppId=344108

8. Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements:

The Department of Commerce Pre-Award Notification Requirements for Grants and Cooperative Agreements as published in the *Federal Register* on December 30, 2014 (79 FR 78390) is incorporated by reference into this award. It is accessible at: http://www.gpo.gov/fdsys/pkg/FR-2014-12-30/pdf/2014-30297.pdf.

9. Uniform Administrative Requirements, Cost Principles and Audit Requirements

Through 2 C.F.R. § 1327.101, the Department of Commerce adopted Uniform Administrative Requirements, Cost Principles, and Audit Requirements for Federal Awards at 2 C.F.R. Part 200, which apply to awards in this program. Refer to http://go.usa.gov/SBYh and http://go.usa.gov/SBg4. Awards issued pursuant to this program may be subject to specific award conditions as authorized by 2 C.F.R. § 200.208.

10. Deviation to the Department of Commerce Financial Assistance Standard Terms and Conditions, Section A.01 "Reporting Requirements":

The Recipient must submit a Federal Financial Report (SF-425) and Performance Progress Report on a quarterly basis for the periods ending March 31, June 30, September 30, and December 31, or any portion thereof.

Reports are due no later than 30 calendar days following the end of each reporting period. A final SF-425 and Performance Progress Report must be submitted within 120 days after the expiration of the period of performance.

All SF-425 and Performance Progress Reports must be submitted to: GReports@nist.gov, within the prescribed timeframes identified in the terms and conditions of the award.

The Recipient organization name, NIST award number, and reporting period must be included in the email subject line. The Recipient contact information should be included in the body of the message. To the greatest extent possible, SF-425 and Performance Progress Reports should be submitted together in the same email.

SF-425 and Performance Progress Reports must not be sent directly to NIST personnel (e.g. Grants Specialist, Grants Officer, Administrative Assistant, GMD Division Chief, Federal Program Officer, etc.).

Any SF-425 or Performance Progress Reports sent directly to NIST personnel will be returned to the sender with instructions on how to submit through the GReports@nist.gov mailbox.

No other correspondence may be sent through this mailbox; timely responses to any other inquiries received in this mailbox are not guaranteed. The mailbox will not be used for any other purpose ***except*** for purposes identified above.

11. Department of Commerce Financial Assistance Standard Terms and Conditions:

As indicated on the Form CD-450 for this award, the Department of Commerce Financial Assistance Standard Terms and Conditions (ST&C) issued November 12, 2020, are incorporated by reference into this award. The Department's ST&C, as well as a link to 2 CFR Part 200, are accessible at: https://www.commerce.gov/oam/policy/financial-assistance-policy.

12. NIST Standard Terms and Conditions for Extramural Construction Projects:

As indicated on the Form CD-450 for this award, the National Institute of Standards and Technology Standard Terms and Conditions for Extramural Construction Projects (Construction ST&Cs) dated May 11, 2023 are incorporated by reference into this award. The Construction ST&Cs are accessible at NIST Standard Terms and Conditions for Extramural Construction Projects | NIST.

13. Unfunded Grant Actions Mailbox (UGAM):

Requests for unfunded award actions, which include, but are not limited to, requests for no-cost extension, change in key personnel, change in scope of work, and budget revisions must be submitted to: UGAM@nist.gov, within the prescribed timeframes identified in the terms and conditions of the award.

Unfunded award action requests and related correspondence, including justification to support the request, sent to the mailbox ***must*** contain the following information in the email subject line: (1) Recipient name; (2) NIST award number; (3) Principal Investigator/Project Director; and (4) Action being requested (e.g. no cost extension, change in key personnel, etc.).
Unfunded award action requests must not be sent directly to NIST personnel (e.g. Grants Specialist, Grants Officer, Administrative Assistant, GMD Director, Federal Program Officer, etc.).

Any requests sent directly to NIST personnel will be returned to the sender with instructions on how to submit through the UGAM@nist.gov mailbox.

No other correspondence may be sent through this mailbox; timely responses to any other inquiries received in this mailbox are not guaranteed. The mailbox will not be used for any other purpose ***except*** for purposes identified above.

Requests that are processed will be authorized via a Form CD-451 Amendment to the Financial Assistance Award or a Non-Funded Administrative Change Letter.

14. Supervision of the Recipient's Staff and Associates and Compliance with NIST Policies on Use of Federal Facilities and Equipment:

Consistent with Department of Commerce Financial Assistance Standard Terms and Conditions, Section A.05, nothing in this award will be construed as authorizing the Recipient or its employees, agents, or assigns to act as an agent or assign of NIST, and the Recipient must exercise all diligence to ensure that no third party construes the Recipient as an actual, ostensible, or apparent agent of NIST. For purposes of this award, the use of the term "personnel" herein includes all third parties, such as contractors, subrecipients, students, fellows, or others participating under the direction of the Recipient's programs. The Recipient acknowledges that it is independent of NIST in the performance of the approved projects, and that the Recipient assumes full and sole responsibility for all benefits and protections of the Recipient's personnel and agents whose services are utilized by the Recipient in the execution of this award.

Accordingly, the Recipient must control the means and manner of its personnel's activities on the project, including those conducted on a NIST campus, on Recipient property, and at other locations for the project. The Recipient must directly provide a salary, stipend, or other funding to the personnel, and must establish the work schedule and tenure for the personnel. The Recipient is the supervisor of record for the personnel and will coordinate with NIST as needed to ensure that the research remains consistent with NIST program objectives.

15. Estimated Useful Life:

The estimated useful life of the building renovation portion of this project is 15 years from when the date on which the Certificate of Occupancy for the renovations is issued.

16. Property Trust Relationship and Public Notice Filings for Grant-Acquired Property:

In accordance with 2 CFR § 200.316 (Property trust relationship), real property, equipment, and intangible property, that are acquired or improved with a Federal award must be held in trust by the non-Federal entity (*i.e.*, Recipient or Subrecipient) as trustee for the beneficiaries of the project or program under which the property was acquired or improved. This trust relationship exists throughout the duration of the property's estimated useful life, as determined by the Grants Officer in consultation with the Program Office, during which time the Federal Government retains an undivided, equitable reversionary interest in the property (Federal Interest). The non-Federal entity must comply with all use and disposition requirements and restrictions as set forth in 2 C.F.R. §§ 200.310 (Insurance coverage) through 200.316 (Property trust relationship), as applicable, and in the terms and conditions of the Federal award.

The Grants Officer may require a non-Federal entity (*i.e.*, a Recipient or Subrecipient) to execute and to record (as applicable) a statement of interest, financing statement (Form UCC-1), lien, mortgage or other public notice of record to indicate that real or personal property acquired or improved in whole or in part pursuant to this award is subject to the Federal Interest, and that certain use and disposition requirements apply to the property. The statement of interest, financing statement (Form UCC-1), lien, mortgage or other public notice must be acceptable in form and substance to the NIST Grants Officer and must be placed on record in accordance with applicable State and local law, with continuances re-filed as appropriate. In such cases, the NIST Grants Officer may further require the non-Federal entity to provide a written statement from a licensed attorney in the jurisdiction where the property is located, certifying that the Federal Interest has been protected, as required under the award and in accordance with applicable State and local law. The attorney's statement, along with a copy of the instrument reflecting the recordation of the Federal Interest, must be promptly returned to the Grants Officer.

Without releasing or excusing the non-Federal entity from these obligations, the non-Federal entity, by execution of the financial assistance award or by expending Federal financial assistance funds (in the case of a subrecipient), authorizes the NIST Grants Officer to file such notices and continuations as it determines to be necessary or convenient to disclose and protect the Federal Interest in the property. The NIST Grants Officer may elect not to release any or a portion of the Federal award funds until the non-Federal entity has complied with this provision and any other applicable award terms or conditions, unless other arrangements satisfactory to the NIST Grants Officer are made.

17. Environmental and Historic Review:

The Recipient must comply with all applicable requirements, environmental and historic preservation laws, Executive Orders, regulations, standards, and guidance, and identify to NIST any impact a project may have on the environment or historic resources.

Project implementation may not begin prior to the completion of a review of potential environmental impacts, per the National Environmental Policy Act of 1969 (42 U.S.C. 4321, et. seq.) (NEPA) and Section 106 of the National Historic Preservation Act of 1966 (16 U.S.C. § 470, et. seq.).

The completion of NEPA compliance activities will result in one of the following: a Categorical Exclusion, an Environmental Assessment/Finding of No Significant Impact (EA/FONSI), or an Environmental Impact Statement. A decision document will not be issued until all required consultations, including, Section 7 of the Endangered Species Act (16 U.S.C. §1531, et. seq.), and any other required consultations are complete. The Recipient must also address compliance with all other applicable federal, state, and local environmental laws and regulations.

Under Section 106 of the NHPA, federal agencies, and by extension recipients of federal grant funds, must evaluate the potential effects of any proposed projects ("undertakings") on properties listed on, or eligible for listing on, the National Register of Historic Places. Grant recipients are encouraged to initiate Section 106 consultation with relevant State Historic Preservation Offices (SHPOs) or, in the case of institutions located on tribal lands, the proper Tribal Historic Preservation Office (THPO) as directed by NIST. NIST will remain involved in resolution in the event of an adverse effect determination.

A Environmental and Historic Review, to include any required consultations under NEPA and Section 106 of the NHPA, must be completed no later than six months after the award start date; unless a formal request for extension is submitted and approved by the Grants Officer. The Recipient must comply with all conditions placed on the project as the result of the consultation processes. The Recipient may not expend any federal grant funds, except as authorized by the Grants Officer pursuant to approval of the 6-month expenditure plan (discussed below).

The Recipient is required to provide the following information that will enable NIST to make a preliminary determination regarding the potential impact of the proposed project on environmental and historic resources:

1. A thorough description of all proposed project activities, particularly buildings and other capital improvement activities that will be conducted. Include: (i) the area and extent of earthwork (drilling, excavation, fill, blasting, dredging, etc.), (ii) environmental communication, documentation, or permitting (planned, pending, or in place), (iii) any determination upon the project by any department of environment or other agency or office, (iv) floodplain mapping on the site itself or any adjacent or contiguous property, (v) any special interest in the project or the site, (vi) any public meetings planned or held regarding the on the site itself or adjacent or contiguous property, (vii) any threatened or

endangered species or any migratory birds or bald or golden eagles on the site itself or adjacent or contiguous property, or (viii) any essential fish habitat or any portion of the National Wild and Scenic River System or Coastal Barrier System or navigable waters on the site itself or adjacent or contiguous property, (ix) any waters of any stream or other body of water "proposed or authorized, permitted or licensed to be impounded, diverted, or otherwise controlled or modified", (x) any identified or potential wetland on the site itself or any adjacent or contiguous property, (xi) any hazardous or regulated substances or Superfund activity on the site itself or adjacent or contiguous property, and/or (xii) any invasive species on the site itself or adjacent or contiguous property.

2. Maps of the project area and ground-level and aerial photographs with installation/renovation locations clearly marked on the buildings impacted. Free online resources, such as Google maps or similar images, are acceptable.

3. For the list of buildings, referenced in Item #1, state the year those buildings were first constructed as well as the dates of any subsequent major renovations. For buildings that are 45 years old or older, provide photos of installation sites, as well as exterior and interior photos of the building. Provide any property relevant to this application which is (i) within the viewshed of a registered historic property or (ii) within a historic district or (iii) registered as historic itself or (iv) noted to be historically or architecturally significant in any study or article of public interest. Provide any communication, documentation, or permitting under the project, e.g., determination upon the project by a SHPO and/or THPO.

NOTE: The Recipient must submit a draft Environmental and Historic Review with all initial required project information listed above in Items #1 – #3 to NIST via UGAM@nist.gov no later than 60 calendar days after award start date, unless an extension has been requested in writing by the Recipient and approved by the Grants Officer.

Follow-on information may be required for NIST to determine the level of impacts of the project on environmental and historic resources. If consultation is required, grantees are encouraged to initiate consultation as referenced above and must provide NIST with relevant documentation of the consultation process. Once appropriate and applicable consultations have been completed, and environmental review documentation has been completed, NIST will review all documentation and determine whether the review sufficiently addresses all resource areas and whether the project may qualify for an approval decision.

Once the above information is provided, NIST will review and provide guidance on the next steps that the recipient should take regarding required consultations and/or environmental and historic preservation documentation required to make environmental determinations. Next steps may include, but are not limited to, the submittal and completion of the following:

1. The completion of any required consultations as described above where applicable and directed by NIST, to include consultations with the SHPO and/or THPO and the appropriate federally-recognized Native American tribes (if applicable), under Section 106 of the NHPA, and/or consultations with the USFWS under Section 7 of the ESA;

2. The completion of environmental review and issuance by NIST of a decision document, as described above, that meets the requirements of NEPA; and

3. Compliance with all other applicable federal, state, and local environmental laws and regulations.

The Recipient is required to provide any information requested by NIST in a timely and effective manner to ensure both initial and ongoing compliance with environmental and historic preservation laws, regulations, and best practices. All such information must be sent to the FPO.

The Recipient shall notify NIST within 24 hours upon receipt of any notices of foreclosure; notices for continuing consultation received from the SHPO, THPO or other consulting party; or notices of noncompliance received from consulting authorities or regulatory agencies. These notices shall be sent to the FPO. Projects which, after consultation with appropriate agencies, are determined to be ineligible for a CE will require the development of an EA/FONSI. The Recipient may wish to coordinate with NIST to rescope or descope the proposed project to avoid or minimize impacts to environmental and historic resources.

Any change to the approved project scope, resulting from consultations or for other reasons, that have the potential for altering the nature or extent of environmental or cultural resources impacts must immediately be brought to the attention of NIST and will be re-evaluated for compliance with applicable regulatory requirements.

For all ground disturbing activities in the vicinity of known archaeological sites or suspected or known burials, the Recipient must ensure that an archaeologist who meets the Secretary of the Interior's Professional Qualification Standards monitors ground disturbance, and if any potential archeological resources or buried human remains are discovered, then the Recipient must immediately cease construction in that area and notify NIST and the interested SHPO, THPO, and tribes. Such construction activities may then only continue with the written approval of NIST.

6-Month Expenditure Plan

While this SAC is in effect, the Recipient shall submit, in advance of any program fund drawdowns from ASAP.gov, a 6-month expenditure plan that presents the proposed expenditure of award funds prior to the completion of the environmental review process, including any preliminary procurement activities. The NEPA Coordinator and the Federal

Preservation Officer will review the plan and provide recommendations to the Federal Program Officer and the Grants Officer for final approval to ensure that the proposed activities and expenditures are reasonable and necessary in the context of environmental and historical compliance. Approval of the Grants Officer is required prior to fund drawdowns of the 6-Month Expenditure Plan through ASAP.gov.

The allowable use of funds for preliminary expenditures prior to beginning project implementation includes, but is not limited to, the initiation of activities necessary to meet the project completion requirements as specified in the award including environmental and historic preservation requirements:

1. Required environmental and historic preservation consultation activities;
2. Purchase or lease of equipment, or entering into binding contracts to do so; and
3. Purchase of applicable or conditional insurance.

The allowable use of preliminary expenditure funds is limited; must not result in an irrevocable commitment of resources; and is only allowed after inclusion in and approval of a 6-month expenditure plan.

18. Signage and Public Acknowledgement Requirements:

a. Signs - The Recipient is encouraged to include project signage, satisfactory in form and content to NIST, that identifies the nature of the project and indicates that "the project is funded by the Consolidated Appropriations Act, 2022." In addition, guidelines for project signage, including an emblem and corresponding logomark, is available in the Official Investing in America Emblem Style Guide: https://www.whitehouse.gov/wp-content/uploads/2023/02/Investing-in-America-Brand-Guide.pdf. Costs associated with signage must be reasonable and limited. The Recipient is encouraged to use recycled or recovered materials when procuring signs. Signs should not be produced or displayed if doing so results in unreasonable cost, expense, or recipient burden. Any construction site sign should be displayed throughout the construction phase of the project in an easily visible location directly linked to the work taking place. The Recipient is responsible to maintain the sign in good condition throughout the construction period.

b. Plaque - Any plaque installed at the discretion of the Recipient, citing the origins or history of the project, should identify the project as a "project funded by Consolidated Appropriations Act, 2022."

c. Communications - Any banner or other message intended for public display on the project site should remain within the spirit of transparency and public information provided herein.

19. Final Site Selection:

Within 60 calendar days of the award start date, the Recipient must provide to the Federal Program Officer and Grants Specialist identified in this award, a final site selection for the Burlington Aviation Technology Center Facility. The site selection must be approved by NIST prior to advertisement of construction. All grant funding will be withheld until this Specific Award Condition is deemed satisfied in writing by the NIST Grants Officer.

End of Specific Award Conditions

OMB Number: 4040-0008
Expiration Date: 02/28/2025

BUDGET INFORMATION - Construction Programs

NOTE: Certain Federal assistance programs require additional computations to arrive at the Federal share of project costs eligible for participation. If such is the case, you will be notified.

COST CLASSIFICATION	a. Total Cost	b. Costs Not Allowable for Participation	c. Total Allowable Costs (Columns a-b)
1. Administrative and legal expenses	$	$	$
2. Land, structures, rights-of-way, appraisals, etc.	$	$	$
3. Relocation expenses and payments	$	$	$
4. Architectural and engineering fees	$ 947,427.00	$ 547,427.00	$ 400,000.00
5. Other architectural and engineering fees	$ 50,000.00	$	$ 50,000.00
6. Project inspection fees	$ 600,000.00	$	$ 600,000.00
7. Site work	$ 7,050,000.00	$	$ 7,050,000.00
8. Demolition and removal	$	$	$
9. Construction	$	$	$
10. Equipment	$	$	$
11. Miscellaneous	$	$	$
12. SUBTOTAL *(sum of lines 1-11)*	$ 8,647,427.00	$ 547,427.00	$ 8,100,000.00
13. Contingencies	$ 1,800,000.00	$	$ 1,800,000.00
14. SUBTOTAL	$ 10,447,427.00	$ 547,427.00	$ 9,900,000.00
15. Project (program) income	$	$	$
16. TOTAL PROJECT COSTS *(subtract #15 from #14)*	$ 10,447,427.00	$ 547,427.00	$ 9,900,000.00

FEDERAL FUNDING

17. Federal assistance requested, calculate as follows: (Consult Federal agency for Federal percentage share.) Enter the resulting Federal share.	Enter eligible costs from line 16c Multiply X 100 %	$ 9,900,000.00

BACKFLOW PREVENTER SCHEDULE

GENERAL				UNIT INFORMATION				ACCESSORIES	NOTES
LABEL	LOCATION	TYPE	SERVICE	SIZE (IN)	MAX. PRESSURE RATING (PSI)	MANUFACTURER	MODEL NUMBER		
BFP-1	WATER SERVICE ROOM	REDUCED PRESSURE ZONE ASSEMBLY	DOMESTIC WATER SERVICE	2	175	WATTS	LF909M1-QT-S	994 AKG-P AIR GAP	
BFP-2	MECHANICAL MEZZANINE	REDUCED PRESSURE ZONE ASSEMBLY	HEATING SYSTEM MAKEUP	1"	175	WATTS	LF909-QT	909-EL-C AIR GAP	
NOTES:	1.								

McFARLAND JOHNSON
426 INDUSTRIAL AVENUE, SUITE 146
WILLISTON, VT 05495
P: (802)862-9381
WWW.MJINC.COM

freeman | french | freeman
81 Maple Street • Burlington VT 05401
802•864•6844 • www.fffinc.com
Architecture • Planning • Interiors

PROJECT MILESTONE
CONSTRUCTION PLANS

NO.	DATE	DESCRIPTION
2	3/4/25	RFI #49 Response

CLIENT:
BURLINGTON SCHOOL DISTRICT
BURLINGTON, VERMONT

PROJECT:
BURLINGTON AVIATION TECHNICAL CENTER
200 DAVINCI DRIVE, SOUTH BURLINGTON, VT 05403

DRAWN MAE
DESIGNED MAE
CHECKED PP
SCALE NOT TO SCALE
DATE 8/23/2024
PROJECT T-18715.02

Job # 10424
Cost # 90-0012
RFI #49
Received 3/5/2025
DEW CONSTRUCTION

DRAWING TITLE
PLUMBING SCHEDULES

DRAWING NUMBER
P-001