



State of West Virginia
Agency Request for Quote

Proc Folder: 1279204			Reason for Modification:
Doc Description: Replacement of Hot Water Heaters Project			
Proc Type: Agency Purchase Order			
Date Issued	Solicitation Closes	Solicitation No	Version
2023-08-20	2023-09-15 10:30	ARFQ 0608 DCR2400000023	1

BID RECEIVING LOCATION	

VENDOR	
Vendor Customer Code: 000000001519 Vendor Name : POWELL Inc Address : 170 Stringtown Rd Street : City : Belington State : WV Country : USA Zip : 26250 Principal Contact : Carl Allen Vendor Contact Phone: 304-681-7494 Extension:	

FOR INFORMATION CONTACT THE BUYER Philip K Farley (304) 549-1050 philip.k.farley@wv.gov

Vendor Signature X	FEIN# 55-0490737	DATE 9/15/2023
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All offers subject to all terms and conditions contained in this solicitation




State of West Virginia
Agency Request for Quote

Proc Folder: 1279204		Reason for Modification:	
Doc Description: Replacement of Hot Water Heaters Project		Addendum No. 1:	
Proc Type: Agency Purchase Order			
Date Issued	Solicitation Closes	Solicitation No	Version
2023-09-10	2023-09-15 10:30	ARFQ 0608 DCR2400000023	2

BID RECEIVING LOCATION			

VENDOR			
Vendor Customer Code: 00000020569			
Vendor Name : Powell Inc			
Address : 170 Stringtown Rd			
Street :			
City : Belington			
State : WV		Country : USA	Zip : 26250
Principal Contact : Carl Allen			
Vendor Contact Phone: 304-621-7494		Extension:	

FOR INFORMATION CONTACT THE BUYER	
Philip K Farley (304) 549-1050 philip.k.farley@wv.gov	

Vendor Signature X 	FEIN# 55-0490737	DATE 9/15/2023
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All offers subject to all terms and conditions contained in this solicitation

DESIGNATED CONTACT: Vendor appoints the individual identified in this Section as the Contract Administrator and the initial point of contact for matters relating to this Contract.

Carl Allen President

(Name, Title)

Carl Allen President

(Printed Name and Title)

170 Stringtown Rd Belington WV 26250

(Address)

304-621-7494

(Phone Number) / (Fax Number)

powellinc@yahoo.com

(Email address)

CERTIFICATION AND SIGNATURE: By signing below, or submitting documentation through wvOASIS, I certify that: I have reviewed this Solicitation/Contract in its entirety; that I understand the requirements, terms and conditions, and other information contained herein; that this bid, offer or proposal constitutes an offer to the State that cannot be unilaterally withdrawn; that the product or service proposed meets the mandatory requirements contained in the Solicitation/Contract for that product or service, unless otherwise stated herein; that the Vendor accepts the terms and conditions contained in the Solicitation, unless otherwise stated herein; that I am submitting this bid, offer or proposal for review and consideration; that I am authorized by the vendor to execute and submit this bid, offer, or proposal, or any documents related thereto on vendor's behalf; that I am authorized to bind the vendor in a contractual relationship; and that to the best of my knowledge, the vendor has properly registered with any State agency that may require registration..

Powell Inc

(Company)

Carl Allen President

(Authorized Signature) (Representative Name, Title)

Carl Allen President

(Printed Name and Title of Authorized Representative) (Date)

9/15/2023

(Date)

304-621-7494

(Phone Number) (Fax Number)

powellinc@yahoo.com

(Email Address)

ADDENDUM ACKNOWLEDGEMENT FORM
SOLICITATION NO.:

Instructions: Please acknowledge receipt of all addenda issued with this solicitation by completing this addendum acknowledgment form. Check the box next to each addendum received and sign below. Failure to acknowledge addenda may result in bid disqualification.

Acknowledgment: I hereby acknowledge receipt of the following addenda and have made the necessary revisions to my proposal, plans and/or specification, etc.

Addendum Numbers Received:
(Check the box next to each addendum received)

- | | |
|--|--|
| <input checked="" type="checkbox"/> Addendum No. 1 | <input type="checkbox"/> Addendum No. 6 |
| <input checked="" type="checkbox"/> Addendum No. 2 | <input type="checkbox"/> Addendum No. 7 |
| <input type="checkbox"/> Addendum No. 3 | <input type="checkbox"/> Addendum No. 8 |
| <input type="checkbox"/> Addendum No. 4 | <input type="checkbox"/> Addendum No. 9 |
| <input type="checkbox"/> Addendum No. 5 | <input type="checkbox"/> Addendum No. 10 |

I understand that failure to confirm the receipt of addenda may be cause for rejection of this bid. I further understand that any verbal representation made or assumed to be made during any oral discussion held between Vendor's representatives and any state personnel is not binding. Only the information issued in writing and added to the specifications by an official addendum is binding.

POWELL INC
Company


Authorized Signature

9/15/2023
Date

NOTE: This addendum acknowledgement should be submitted with the bid to expedite document processing.

STATE OF WEST VIRGINIA
PURCHASING AFFIDAVIT

CONSTRUCTION CONTRACTS: Under W. Va. Code § 5-22-1(i), the contracting public entity shall not award a construction contract to any bidder that is known to be in default on any monetary obligation owed to the state or a political subdivision of the state, including, but not limited to, obligations related to payroll taxes, property taxes, sales and use taxes, fire service fees, or other fines or fees.

ALL CONTRACTS: Under W. Va. Code §15A-3-14, no contract or renewal of any contract may be awarded by the state or any of its political subdivisions to any vendor or prospective vendor when the vendor or prospective vendor or a related party to the vendor or prospective vendor is a debtor and: (1) the debt owed is an amount greater than one thousand dollars in the aggregate; or (2) the debtor is in employer default.

EXCEPTION: The prohibition listed above does not apply where a vendor has contested any tax administered pursuant to chapter eleven of the W. Va. Code, workers' compensation premium, permit fee or environmental fee or assessment and the matter has not become final or where the vendor has entered into a payment plan or agreement and the vendor is not in default of any of the provisions of such plan or agreement.

DEFINITIONS:

"Debt" means any assessment, premium, penalty, fine, tax or other amount of money owed to the state or any of its political subdivisions because of a judgment, fine, permit violation, license assessment, defaulted workers' compensation premium, penalty or other assessment presently delinquent or due and required to be paid to the state or any of its political subdivisions, including any interest or additional penalties accrued thereon.

"Employer default" means having an outstanding balance or liability to the old fund or to the uninsured employers' fund or being in policy default, as defined in W. Va. Code § 23-2c-2, failure to maintain mandatory workers' compensation coverage, or failure to fully meet its obligations as a workers' compensation self-insured employer. An employer is not in employer default if it has entered into a repayment agreement with the Insurance Commissioner and remains in compliance with the obligations under the repayment agreement.

"Related party" means a party, whether an individual, corporation, partnership, association, limited liability company or any other form or business association or other entity whatsoever, related to any vendor by blood, marriage, ownership or contract through which the party has a relationship of ownership or other interest with the vendor so that the party will actually or by effect receive or control a portion of the benefit, profit or other consideration from performance of a vendor contract with the party receiving an amount that meets or exceeds five percent of the total contract amount.

AFFIRMATION: By signing this form, the vendor's authorized signer affirms and acknowledges under penalty of law for false swearing (W. Va. Code §61-5-3) that: (1) for construction contracts, the vendor is not in default on any monetary obligation owed to the state or a political subdivision of the state, and (2) for all other contracts, that neither vendor nor any related party owe a debt as defined above and that neither vendor nor any related party are in employer default as defined above, unless the debt or employer default is permitted under the exception above.

WITNESS THE FOLLOWING SIGNATURE:

Vendor's Name: Powell Inc

Authorized Signature: [Signature] Date: 9/15/2023

State of WV

County of Barbour, to-wit:

Taken, subscribed, and sworn to before me this 15th day of September, 2023.

My Commission expires June 3, 2026.

AFFIX SEAL HERE

NOTARY PUBLIC Kristin Howell





**State of West Virginia
DRUG FREE WORKPLACE CONFORMANCE AFFIDAVIT
West Virginia Code §21-1D-5**

STATE OF WEST VIRGINIA,

COUNTY OF Barbour, TO-WIT:

I, Carl Allen, after being first duly sworn, depose and state as follows:

- I am an employee of Powell Inc; and,
(Company Name)
- I do hereby attest that Powell Inc
(Company Name)

maintains a written plan for a drug-free workplace policy and that such plan and policy are in compliance with **West Virginia Code §21-1D**.

The above statements are sworn to under the penalty of perjury.

Printed Name: Carl Allen

Signature: [Handwritten Signature]

Title: President

Company Name: Powell Inc

Date: 9/15/2023

Taken, subscribed and sworn to before me this 15th day of September, 2023.

By Commission expires June 3, 2026

(Seal)

Kristin Howell
(Notary Public)



ARFQ 0608 DCR2400000023
REQUEST FOR QUOTATION
REPLACEMENT OF HOT WATER HEATERS PROJECT
SOUTHERN REGIONAL JAIL AND CORRECTIONAL FACILITY

EXHIBIT E – PRICING PAGE

Vendor's Company Name: Powell Inc

Vendor's Address: 170 Stringtown Rd

Belington WV 26250

Phone Number: 304-621-7494

Fax Number: N/A

Email Address: powellinc@yahoo.com

WV Contractor's License Number: WV003726

We, the undersigned, hereby propose to furnish all materials, equipment, and labor to complete all work in a workmanlike manner, as described in the Bidding Documents.

TOTAL BID AMOUNT: Seven hundred an eighty thousand five hundred

seventy three dollars and twenty two cents

(\$ 780,573.22)

(Total bid amount to be written in words and numbers.)

ARFQ 0608 DCR240000023
REQUEST FOR QUOTATION
REPLACEMENT OF HOT WATER HEATERS PROJECT
SOUTHERN REGIONAL JAIL AND CORRECTIONAL FACILITY

2) Contractor must submit three (3) electronic formats in PDF format on CDs or USB drives.

b. As-Built Drawings

1) Contractor must submit two (2) full size hard copies.

1.09 MISCELLANEOUS

A. Contract Manager

1. During its performance of this Contract, Contractor must designate and maintain a primary contract manager responsible for overseeing Contractor's responsibilities under this Contract. The Contract manager must be available during normal business hours to address any customer service or other issues related to this Contract. Contractor should list its Contract manager and his or her contact information below.

Contract Manager: Carl Allen

Telephone Number: 304-621-7494

Fax Number: N/A

Email Address: powellinc@yahoo.com

END OF SPECIFICATIONS

THE AMERICAN INSTITUTE OF ARCHITECTS



AIA Document A310

Bid Bond

KNOW ALL MEN BY THESE PRESENTS, that we _____

Powell Inc, 170 Stringtown Road, Belington, WV 26250

(Here insert full name and address or legal title of Contractor)

as Principal, hereinafter called the Principal, and **RLI Insurance Company**

(Here insert full name and address or legal title of Surety)

9025 N. Lindbergh Dr. Peoria, IL 61615
P.O. Box 3967 Peoria, IL 61612-3967

a corporation duly organized under the laws of the State of Illinois

as Surety, hereinafter called the Surety, are held and firmly bound unto _____

WV Division of Corrections

(Here insert full name and address or legal title of Owner)

1409 Greenbrier Street, Charleston, WV 25311

as Obligee, hereinafter called the Obligee, in the sum of _____

Seven Hundred Eighty Thousand, Five Hundred Seventy Three and 22/100

Dollars (780,573.22), for the payment of which sum well and truly to be made, the said Principal and the said Surety, bind ourselves, our heirs, executors, administrators, successors and assigns, jointly and severally, firmly by these presents.

Replacement of Eight Natural Gas Fired Hot

WHEREAS, the Principal has submitted a bid for _____

(Here insert full name and address and description of project)

Water Heaters at the Southern Regional Jail at 1200 Airport Road, Beaver, WV 25813


NOW, THEREFORE, if the Obligee shall accept the bid of the Principal and the Principal shall enter into a Contract with the Obligee in accordance with the terms of such bid, and give such bond or bonds as may be specified in the bidding or Contract Documents with good and sufficient surety for the faithful performance of such Contract and for the prompt payment of labor and material furnished in the prosecution thereof, or in the event of the failure of the Principal to enter such Contract and give such bond or bonds, if the Principal shall pay to the Obligee the difference not to exceed the penalty hereof between the amount specified in said bid and such larger amount for which the Obligee may in good faith contact with another party to perform the Work covered by said bid, then this obligation shall be null and void; otherwise to remain in full force and effect.

Signed and sealed this 12 day of September, 2023.

Powell Inc

(Principal)

(Seal)


Carl Allen

its President

RLI Insurance Company

(Surety)

(Seal)


Michael Cvechko

Attorney in Fact

POWER OF ATTORNEY

RLI Insurance Company Contractors Bonding and Insurance Company

9025 N. Lindbergh Dr. Peoria, IL 61615
Phone: 800-645-2402

Know All Men by These Presents:

That this Power of Attorney is not valid or in effect unless attached to the bond which it authorizes executed, but may be detached by the approving officer if desired.

That **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, each an Illinois corporation, (separately and together, the "Company") do hereby make, constitute and appoint:

Michael A. Cvechko, Deborah K. Keene, jointly or severally

in the City of Philippi, State of West Virginia its true and lawful Agent(s) and Attorney(s) in Fact, with full power and authority hereby conferred, to sign, execute, acknowledge and deliver for and on its behalf as Surety, in general, any and all bonds and undertakings in an amount not to exceed Twenty Five Million Dollars (\$25,000,000.00) for any single obligation.

The acknowledgment and execution of such bond by the said Attorney in Fact shall be as binding upon the Company as if such bond had been executed and acknowledged by the regularly elected officers of the Company.

RLI Insurance Company and/or **Contractors Bonding and Insurance Company**, as applicable, have each further certified that the following is a true and exact copy of a Resolution adopted by the Board of Directors of each such corporation, and is now in force, to-wit:

"All bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation shall be executed in the corporate name of the Company by the President, Secretary, any Assistant Secretary, Treasurer, or any Vice President, or by such other officers as the Board of Directors may authorize. The President, any Vice President, Secretary, any Assistant Secretary, or the Treasurer may appoint Attorneys in Fact or Agents who shall have authority to issue bonds, policies or undertakings in the name of the Company. The corporate seal is not necessary for the validity of any bonds, policies, undertakings, Powers of Attorney or other obligations of the corporation. The signature of any such officer and the corporate seal may be printed by facsimile."

IN WITNESS WHEREOF, the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, as applicable, have caused these presents to be executed by its respective Vice President with its corporate seal affixed this 24th day of August, 2021.

State of Illinois }
County of Peoria } SS



**RLI Insurance Company
Contractors Bonding and Insurance Company**

By: B. W. Davis
Barton W. Davis Vice President

CERTIFICATE

I, the undersigned officer of **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company**, do hereby certify that the attached Power of Attorney is in full force and effect and is irrevocable; and furthermore, that the Resolution of the Company as set forth in the Power of Attorney, is now in force. In testimony whereof, I have hereunto set my hand and the seal of the **RLI Insurance Company** and/or **Contractors Bonding and Insurance Company** this 12 day of September, 2023.

**RLI Insurance Company
Contractors Bonding and Insurance Company**

By: Jeffrey D. Fick
Jeffrey D. Fick Corporate Secretary

By: Catherine D. Glover
Catherine D. Glover Notary Public



West Virginia Offices of the Insurance Commissioner



Certificate of Authority

Whereas, **RLI INSURANCE COMPANY**, domiciled in the State of **Illinois**, has complied with all the requirements of the laws of this State so as to entitle it to transact its appropriate business in the State of West Virginia.

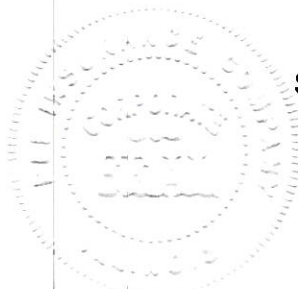
Therefore, I the undersigned, Insurance Commissioner of the State of West Virginia, pursuant to the authority vested in me by the laws of this State, do hereby authorize it to transact the business of insurance as defined in Chapter 33

Marine - Article 1, Section 10(d)
Surety - Article 1, Section 10(f)(1)
Accident & Sickness - Article 1, Section 10(b)
Fire - Article 1, Section 10(c)
Casualty - Article 1, Section 10(e)
Surety - Article 1, Section 10(f)(2)
Surety - Article 1, Section 10(f)(3)
Casualty - Article 1, Section 10(e)(14)

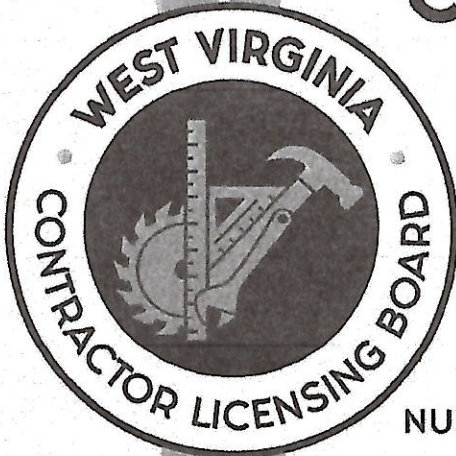
of the 1931 Code of West Virginia as amended, in the State of West Virginia in accordance with the laws thereof until midnight on the 31st day of May, 2022, unless this license be sooner revoked. Pursuant to W. Va. Code §33-3-2(c), the above authorization does not allow the insurer to transact a kind of insurance in this State unless duly authorized or qualified to transact such insurance in the state or country of its domicile.

In Testimony Whereof, I have hereunto set my hand and affixed my seal of office at the City of Charleston this 1st day of June, 2021.

James A. Dodrill
Insurance Commissioner



NAIC # 13056
SBS Company # 109404216



CONTRACTOR LICENSE

AUTHORIZED BY THE
West Virginia Contractor
Licensing Board

NUMBER: WV003726

CLASSIFICATION:

ELECTRICAL
HEATING, VENTILATING & COOLING
PLUMBING

POWELL INC
DBA POWELL INC
170 STRINGTOWN RD
BELINGTON, WV 26250

DATE ISSUED

OCTOBER 18, 2022

EXPIRATION DATE

OCTOBER 18, 2023

Authorized Signature

Chair, West Virginia Contractor
Licensing Board



A copy of this license must be readily available for inspection by the Board on every job site where contracting work is being performed. This license number must appear in all advertisements, on all bid submissions, and on all fully executed and binding contracts. This license is non-transferable. This license is being issued under the provisions of West Virginia Code, Chapter 30, Article 42.

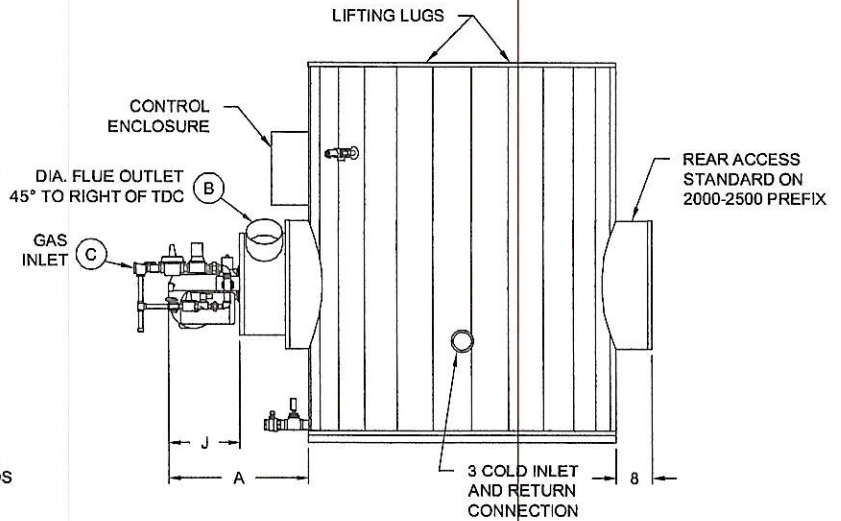
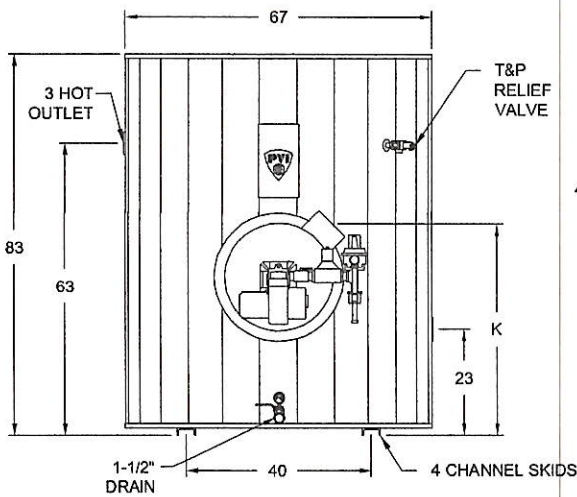
TURBOPOWER® GAS • PACKAGED WATER HEATER

AquaPLEX® STORAGE TANK (UNLINED DUPLEX ALLOY)

TANK SERIES 750 GALLONS

Model Number ③	Recovery gph ①		Input Btu/h	* Min. Inlet Flow Gas Pressure "W.C.	Dimensions (inches)					Blower Motor		Shipping Weight lbs
	40° - 120°F	40° - 140°F			A	B	C	J ②	K	HP	Volt/Ph/Amps	
250 L 750A-TPL	250	200	199,000	4.5	21	4	3/4	10-1/4	45-3/4	1/6	115/1Ø/3	2180
375 L 750A-TPL	375	300	300,000	4.5	21	4	3/4	10-1/4	45-3/4	1/6	115/1Ø/3	2190
500 L 750A-TPL	500	400	399,000	4.5	21	5	3/4	10-1/4	45-3/4	1/6	115/1Ø/3	2200
750 L 750A-TP	750	600	600,000	6.0	28-3/4	6	1	16	45-3/4	1/3	115/1Ø/8	2280
1000 L 750A-TP	1000	800	800,000	6.0	28-3/4	8	1-1/4	16	45-3/4	1/3	115/1Ø/8	2320
1250 L 750A-TP	1250	1000	1,000,000	6.0	28-3/4	8	2	16	45-3/4	1/2	115/1Ø/10	2590
1500 L 750A-TP	1500	1200	1,200,000	6.5	28-3/4	8	2	16	45-3/4	1/2	115/1Ø/10	2770
2000 L 750A-TP	2000	1600	1,600,000	9.0	48-3/4	10	2	27	45-3/4	1-1/2	115/1Ø/20	3035
2500 L 750A-TP	2500	2000	2,010,000	10.5	48-3/4	10	2-1/2	27	45-3/4	1-1/2	115/1Ø/20	3055

- ① Recoveries based on 83% thermal efficiency. ASHRAE 90.1 compliant for efficiency and standby loss.
- ② "J" dimension is for the burner housing only. Gas train may exceed this dimension.
- ③ Models with "TPL" suffix are less than 55 ppm NOx. SCAQMD models 2TPL (200MBH), 3TPL (300MBH) and 4TPL (400MBH).
- * The information presented is for Natural gas 0.6 S.G.— For operation with propane (LP gas), consult factory. Dimensions are in inches unless otherwise specified. For standard and optional equipment, see form PV 8050.



*** GAS PRESSURE REQUIREMENTS**

SEE TABLE ABOVE FOR MINIMUM PRESSURE BY MODEL NUMBER.
MAXIMUM STATIC INLET PRESSURE:
10.5" W.C. for 199,000 - 399,000 AND 14" W.C. for > 399,000.

VENTING REQUIREMENTS

-.02" TO -.06" W.C. (NEGATIVE PRESSURE)
CATEGORY I, TYPE B VENTING
ENTIRE VENT SYSTEM SHOULD NEVER BE SIZED BASED UPON THE
VENT CONNECTION DIAMETER EXCLUSIVELY.
FOR PROPER SIZING, CONSULT
THE NATIONAL FUEL GAS CODE UNDER "FAN-ASSISTED."

STANDARD ELECTRICAL REQUIREMENTS

CONTROL VOLTAGE: 120V, 1Ø, 60 HZ., 2 AMPS.
MOTOR VOLTAGE:
208V, 230V, AND 460V MOTORS ARE AVAILABLE BUT WILL REQUIRE A
SEPARATE 120V/2 amps CONTROL CIRCUIT OR AN OPTIONAL CONTROL
CIRCUIT TRANSFORMER.

PVI RESERVES THE RIGHT TO CHANGE THE DESIGN AND SPECIFICATION WITHOUT NOTICE.



MAXIM• PACKAGED GAS WATER HEATER

AquaPLEX® STORAGE TANK (UNLINED DUPLEX ALLOY)

TANK SERIES 250 GALLON

MODEL NUMBER	27L250A-MXS	40L250A-MXS	54L250A-MXG	72L250A-MXG	80L250A-MXG	100L250A-MXG	120L250A-MXG
GPH Recovery at 70° to 140°F ①	380	564	761	1015	1128	1409	1691
GPH Recovery at 40° to 140°F ②	266	395	534	710	789	987	1184
Input Btu/h	270,000	399,000	540,000	720,000	800,000	1,000,000	1,200,000
* Min.inlet flow gas pressure – " W.C.	4.5	4.5	4.5	4.5	4.5	4.5	6
* Max. static gas pressure – " W.C.	10.5	10.5	14	14	14	14	14
A Cold Inlet - NPT	2	2	2	2	2	2	2
B Hot Outlet - NPT	2	2	2	2	2	2	2
C Drain - NPT	1	1	1	1	1	1	1
D I - Beam Skids	3 X 45	3 X 45	3 X 45	3 X 45	3 X 45	3 X 45	3 X 45
E Overall Depth	56	56	63	63	63	63	63
F Overall Height	75	75	82	82	82	82	82
G Flue Outlet Diameter	6	7	8	10	10	10	12
H Gas Inlet - NPT	3/4	3/4	1	1-1/4	1-1/4	2	2
J Motor HP 120V, 1Ø, 60 Hz.	1/6	1/6	1/3	1/3	1/3	1/2	1/2
K Motor Amps	3	3	8	8	8	10	10
L Height to Outlet	65	65	73	73	73	73	73
M Height to Inlet	28	28	36	36	36	36	36
Approx. Shipping Weight - lbs	1335	1370	1440	1535	1610	1670	1760

① Recoveries derived from DOE 10 CFR 431 testing requirements (ANSI Z 21.10.3 @ 70° to 140°F)

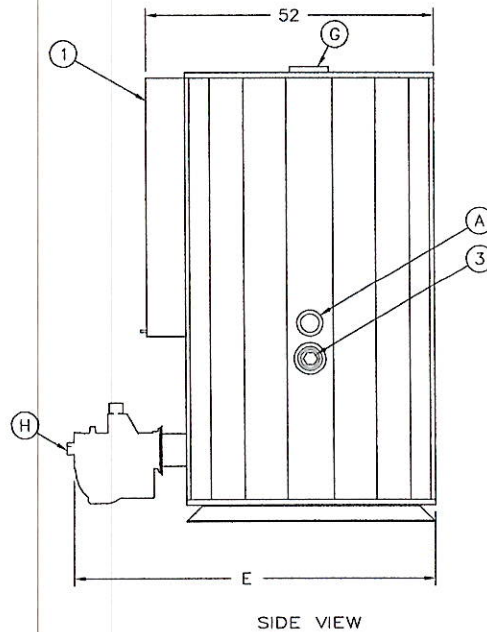
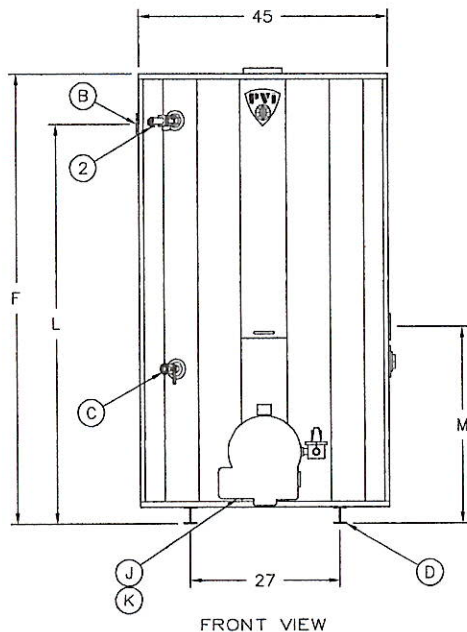
② Recoveries based upon 40°F entering water temperature

Models with suffix "MXS" are registered as low NOx water heaters in Texas.

* The information presented is for natural gas 0.6 S.G. – For operation with propane (LP gas), consult the factory.

* For gas pressures outside of this range, consult factory.

Dimensions are in inches unless otherwise specified. For standard and optional equipment, see form # PV 8127.



1. Control Enclosure
2. ASME Temperature & Pressure Relief Valve
3. 3" Handhole Cleanout

STANDARD ELECTRICAL REQUIREMENTS:
CONTROL VOLTAGE: 120V, 1Ø, 60 HZ., 2 AMPS
MOTOR VOLTAGE: 120V, 1Ø, 60 HZ
 SEE ABOVE CHART FOR BLOWER MOTOR AMPS

VENTING REQUIREMENTS:
 -.02" TO -.06" W.C. (NEGATIVE PRESSURE).
 TYPE B VENTING
THE ENTIRE VENT SYSTEM SHOULD NEVER BE SIZED BASED UPON THE VENT CONNECTION DIAMETER EXCLUSIVELY.
FOR PROPER VENT SIZING, CONSULT THE NATIONAL FUEL GAS CODE UNDER "FAN-ASSISTED".

PVI RESERVES THE RIGHT TO CHANGE THE DESIGN AND SPECIFICATION WITHOUT NOTIC



PVI Industries, LLC
 Fort Worth, TX • (800) 784-8326 • www.pvi.com



THERM-X-TROL®

Thermal Expansion Tanks: ST Series Non-ASME

150 PSIG Working Pressure

Construction

Shell	Steel
Diaphragm	Heavy Duty Butyl NSF/ANSI 61
Liner	Antimicrobial Polypropylene
System Connection	Stainless Steel
Finish	Urethane Topcoat
Water Circulator	Turbulator®
Air Valve	Projection Welded with InSight® Indicator Cap (In-Line Models Only)
Factory Precharge	In-line Models 50 PSIG (3.5 bar) Stand Models 40 PSIG (2.8 bar)

Application

- For use in closed, potable hot water systems to control pressure buildup.
- Accepts expanded water as temperature rises to prevent relief valve discharge and system damage.
- Stand models designed for large residential and light commercial applications.
- Multiple units can be installed to accommodate larger systems.
- In-line models feature patent-pending InSight® Indicator Cap that changes color to indicate tank service.

Performance

Maximum Operating Temperature	200°F (93°C)
Maximum Working Pressure	150 PSIG (10.3 bar)
Warranty	ST-5 through ST-12: 7-Year Limited ST-25V through ST-210V: 1-Year Limited

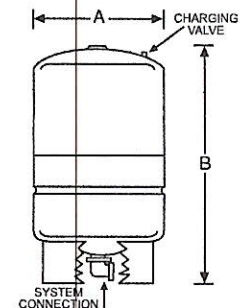
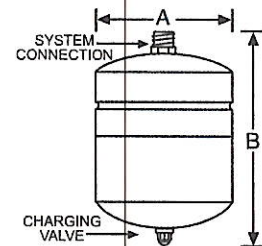
In-Line Models

Model Number	Tank Volume		Max. Acceptance Factor	A Tank Diameter		B Tank Height		System Connection (NPTM)	Shipping Weight	
	Gal	Lit		In	mm	In	mm		Lbs	Kg
ST-5	2.0	8	.45	8	203	13	330	3/4	5	2.3
ST-12	4.4	17	.73	11	279	15	381	3/4	9	4.1

Stand Models

Model Number	Tank Volume		Max. Acceptance Factor	A Tank Diameter		B Tank Height		System Connection (NPTF)	Shipping Weight	
	Gal	Lit		In	mm	In	mm		Lbs	Kg
ST-25V	10.3	39	1.00	15	381	19	483	3/4	23	10
ST-30V	14.0	53	0.81	15	381	24	610	3/4	25	11
ST-42V	20.0	76	0.57	15	381	32	813	3/4	33	15
ST-60V	34.0	129	1.00	22	559	30	762	1 1/4	61	28
ST-80V	44.0	167	0.77	22	559	36	914	1 1/4	69	31
ST-180V	62.0	235	0.55	22	559	47	1194	1 1/4	92	42
ST-200V	81.0	307	0.44	22	559	56	1422	1 1/4	103	47
ST-210V	86.0	326	0.54	26	660	47	1194	1 1/4	123	56

All dimensions and weights are approximate.



Job Name _____
 Engineer _____
 Contractor _____
 P.O. No. _____
 Sales Rep. _____
 Model No. _____

Notes _____



LEGIOMIX®

Electronic mixing valve, union connections



6000 series

Submission Data 03601 NA — Issue Date 08/2021

Application

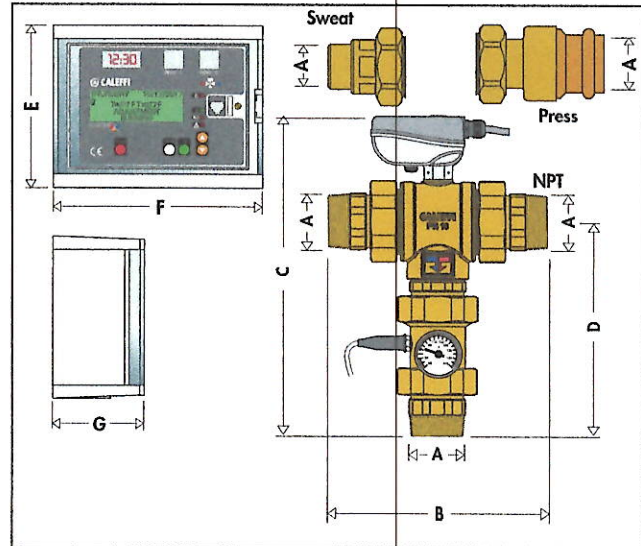
The electronic mixing valve is used in centralized systems that produce and distribute domestic hot water. It maintains the temperature of the domestic hot water delivered to the user when there are variations in the temperature and pressure of the hot and cold water at the inlet or in the draw-off flow rate. The LEGIOMIX® electronic mixing valve provides precise temperature control over very low and very high flow rate demand, minimal pressure drop with a ball valve control element, automatic self-cleaning to prevent scale formation and easy-to-use digital interface with data logging, alarming and status indication. The LEGIOMIX electronic mixing valve is furnished with a controller with LCD user interface that provides a set of programs for circuit thermal disinfection to kill Legionella. The controller is configurable via keypad, or local or remote computer. Depending on the type of system and habits of the user, temperature levels and operation times can be programmed as desired. In addition, it comes standard with monitoring and remote control connections.



Typical Specification

Furnish and install on the plans and described herein, a Caleffi 6000 series LEGIOMIX electronic mixing valve as manufactured by Caleffi. Each valve with controller must be designed with programmable thermal disinfection. The valve design must include a DZR low-lead brass body, chrome-plated ball and peroxide-cured EPDM hydraulic seals. The actuator must be 3-wire floating fail-in-place with integral position indicator, 24 VAC 50/60 Hz with self-extinguishing VO cover, protection class IP 65 (NEMA 4/4X). The controller must be 24 VAC 50/60 Hz with adjustment temperature range 70 - 185°F (20 - 85°C) and disinfection temperature range 100 - 185°F (40 - 85°C). Provided with two NTC element 10.000 ohm stainless steel temperature sensors for mixed outlet water temperature and return water temperature, strap-on style, for recirculation. Choice of 11 languages with set of programs for selectable automatic scheduling circuit thermal disinfection to kill Legionella, configurable via keypad, or local or remote controller; with additional functions of daily ball rotation cycle, flush valve relay output, data logging (40 day FIFO loop buffer), alarming, and status indication. Provide with optional stainless steel inlet port check valve assembly with a acetal plastic check valve insert and NBR o-ring, field installed, code NA10366 (1 inch and 1 ¼ inch), NA10367 (1 ½ inch and 2 inch). Provide with Modbus-to-BACnet gateway for BAS integration, code 755052. The valve must be ICC-ES certified to ASSE 1017, CSA B15.3, NSF 372, low lead laws and listed by ICC-ES; and meet codes IPC and UPC for use in accordance with the US and Canadian plumbing codes. Meets the requirement of CSA Z317.1 Special Requirement for Plumbing Installations in Health Care Facilities, certified by ICC-ES. Each valve shall be Caleffi model 6000 series or approved equal. (See product instructions for specific installation information.)

Dimensions



Code	A	B	C	D	E	F	G	Wt (lb)
600054A	¾" MNPT	5"	9 ³⁄₈"	5 ³⁄₈"	5 ½"	7"	4"	5.1
600059A	¾" sweat	4 ¾"	9 ¼"	5 ¼"				5.1
600056A	¾" press	5 ³⁄₈"	9 9⁄₁₆"	5 9⁄₁₆"				5.1
600064A 001*	1" MNPT	5 5⁄₁₆"	9 13⁄₁₆"	5 13⁄₁₆"				5.3
600069A 001*	1" sweat	4 7⁄₈"	9 9⁄₃₂"	5 9⁄₃₂"				5.3
600066A 001*	1" press	6 7⁄₈"	10 ¼"	6 ¼"				5.2
600064A	1" MNPT	6 ¼"	11"	6"				7.3
600069A	1" sweat	4 ¾"	10 ¼"	5 ¼"				7.3
600066A	1" press	7"	11 ³⁄₈"	6 ³⁄₈"				7.3
600074A	1 ¼" MNPT	7 ¼"	11 7⁄₈"	6 ¼"				8.2
600079A	1 ¼" sweat	5 ¾"	11 1⁄₈"	5 ½"				8.2
600076A	1 ¼" press	9 ¾"	13 1⁄₈"	7 ½"				8.2
600084A	1 ½" MNPT	9 1⁄₈"	14 3⁄₈"	9 ½"	21.0			
600089A	1 ½" sweat	7 7⁄₈"	13 1⁄₈"	8 ¼"	21.0			
600086A	1 ½" press	10 1⁄₈"	14 7⁄₈"	10"	21.0			
600094A	2" MNPT	9 ½"	14 ½"	7 5⁄₁₆"	22.0			
600099A	2" sweat	8"	13 1¹⁄₁₆"	6 ½"	22.0			
600096A	2" press	13 ¼"	16 5⁄₈"	9 1⁄₁₆"	22.0			

*These codes are ¾" bodies (Cv=9.7) with 1" end connections as listed.

For press models,

Lay lengths: size ¾" - 4 1⁄₁₆"; ¾" body with 1" press - 4 13⁄₁₆"; 1"-5 ½"; size 1 ¼" - 7 ¾"; size 1 ½" - 7 3⁄₈"; size 2" - 10 ¾".

Size	Recommended Flow Rates (gpm/lpm)				
	¾"(4)	1"	1¼"	1½"	2"
Minimum (1)	2.2 / 8.3	3.1 / 11.7	4.4 / 16.6	6.6 / 25	8.8 / 33.3
Design Flow (2)	27 / 102	58 / 220	66 / 250	93 / 352	131 / 495
Maximum (3)	43 / 172	94 / 356	107 / 405	152 / 575	215 / 814
Cv	9.7	21	24	34	47

- (1) To ensure stable operation and a $\pm 3^\circ\text{F}$ accurate temperature control Minimum flow rate is 0 gpm when recirculation flow rate is greater than or equal to the valve size minimum flow rating.
- (2) Suggested maximum flow rate for optimum modulating control (at 7.5 psid pressure drop).
- (3) Maximum recommended differential pressure is 20 psid to ensure stable operation and accurate temperature control.
- (4) Includes ¾ inch body models with 1" connections, Cv 9.7.

CONSULT TECHNICAL BROCHURE 1086 FOR COMPLETE GUIDANCE ON SIZING AND SELECTION.

Technical specifications

Valve body

Materials: - Body: DZR low-lead brass
 - Ball: low-lead brass, chrome-plated
 - Hydraulic seals: peroxide-cured EPDM
 - Ball seats: PTFE

Max. body pressure rating (static): 230 psi (16 bar) except press models
 200 psi (13 bar) max.

Max. operating pressure: 150 psi (10 bar)
 Max. inlet temperature: 212°F (100°C)
 Temperature gauge scale: 30 - 210°F
 Suitable fluids: water
 Max. water hardness: 10 grains

Main connections: -NPT male, sweat & press union: ¾", 1", 1¼", 1½" & 2"

Actuator, 3-wire floating fail-in-place

Electric supply: 24 VAC - 50/60 Hz
 Power consumption: 6 VA
 Protection cover: self-extinguishing VO
 Protection class: IP 65 (NEMA 4/4X)
 Ambient temperature range: 14 - 130°F (-10 - 55°C)
 Electric supply cable length: 31½" (0.8 m)
 Max. distance for control signal wire:
 500 ft (150 m) cable 2 conductor x AWG 18
 800 ft (250 m) cable 2 conductor x AWG 16

Controller, LCD user interface/display

Materials: - Housing: self-extinguishing ABS, color white RAL 1467
 - Cover: self-extinguishing SAN, smoked transparent
 Electric supply: 24 VAC (min 21.6, max 26.0 VAC)- 50/60 Hz
 (50 VA Class 2 24 VAC transformer is included)
 Power consumption: 6.5 VA
 Adjustment temperature range: 70 - 185°F (20 - 85°C)
 Disinfection temperature range: 100 - 185°F (40 - 85°C)

Ambient temperature range: 32 - 120°F (0 - 50°C)
 Protection class: IP 54 (wall mounting)
 (Class II appliance)
 DIN rail

Mounting bracket:
 Mixing valve actuator current draw: 1 A max / 24 V
 Alarm relay (R2): 5 A resistance (2 A inductance) / 24 V
 Contact rating (R1, R3, R4): 10 A resistance (2 A inductance) / 24 V
 (A 50 VA Class 2 120/24 VAC transformer is included)
 Fuses: 1 (main): 80 mA
 Fuses: 2 (mixing valve): 1 A
 Charge reserve: 15 days in the event of electric supply failure,
 with a 3 cell rechargeable 3.6 V 140 mAh buffer battery
 Battery recharging time: 72 hours
 Approvals: CE, FCC part 15

Temperature sensors

Body material: stainless steel
 Type of sensitive element: NTC
 Working temperature range: 14 - 260°F (-10 - 125°C)
 Resistance: 1000 Ohms at 77° F (25° C)
 Time constant: 2.5

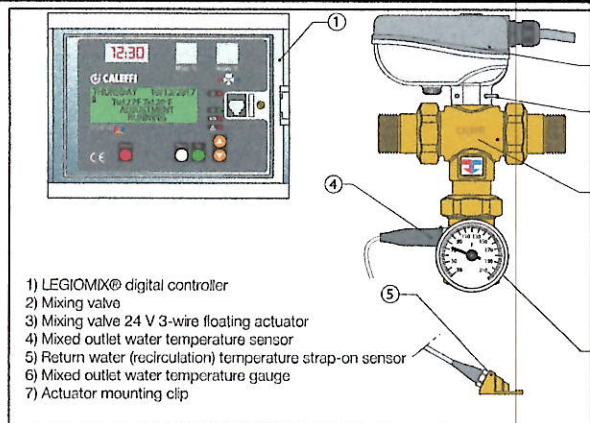
Max. distance for mixed outlet or return (recirculation) sensor:
 500 ft (150 m) cable 2 conductor x AWG 18
 800 ft (250 m) cable 2 conductor x AWG 16

Mixing valve performance

Accuracy: $\pm 3^\circ\text{F}$ ($\pm 2^\circ\text{C}$)
 Max. operating differential pressure (dynamic): 20 psi (1.4 bar)
 Max. ratio between inlet pressures (H/C or C/H): 2.1

Certifications

1. ASSE 1017/CSA B125.3, certified by ICC-ES, file PMG-1357.
2. Meets the requirement of CSA Z317.1 Special Requirement for Plumbing Installations in Health Care Facilities, certified by ICC-ES, file PMG-1357.
3. Complies with NSF/ANSI 372, Drinking Water System Components Lead Content Reduction of Lead in Drinking Water Act, California Health and Safety Code 116875S.3874, Reduction of Lead in Drinking Water Act, as certified by ICC-ES, file PMG-1360.



- 1) LEGIOMIX® digital controller
- 2) Mixing valve
- 3) Mixing valve 24 V 3-wire floating actuator
- 4) Mixed outlet water temperature sensor
- 5) Return water (recirculation) temperature strap-on sensor
- 6) Mixed outlet water temperature gauge
- 7) Actuator mounting clip

Package contents

- Digital controller, consisting of housing and base for electric connection
- DIN bar and mounting wall anchors
- Mixing valve with temperature gauge
- 24 VAC 3-wire floating Actuator
- Mixed outlet water temperature sensor
- Return water temperature strap-on sensor
- Spare fuses
- Installation and commissioning manual
- 24 VAC transformer

We reserve the right to change our products and their relevant technical data, contained in this publication, at any time and without prior notice. Contractors should request production drawings if prefabricating the system

Job name _____	Size _____
Job location _____	Quantity _____
Engineer _____	Approval _____
Mechanical contractor _____	Service _____
Contractor's P.O. No. _____	Tag No. _____
Representative _____	Notes _____

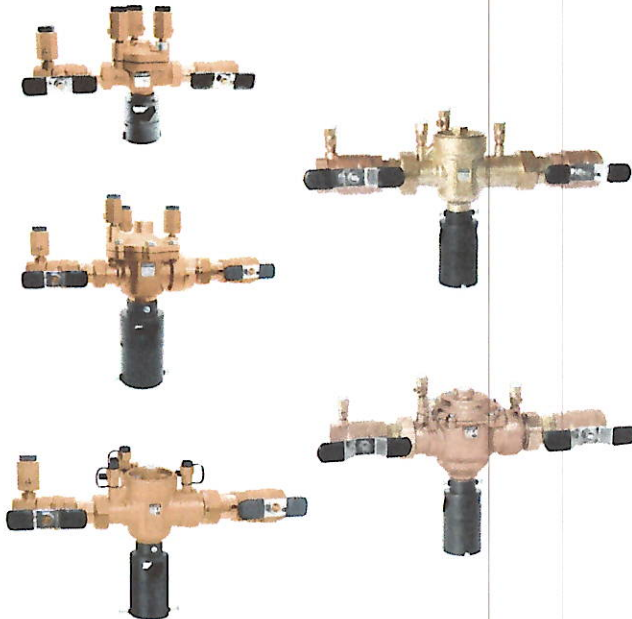
FlowShield™ RP testable reduced pressure zone backflow preventer

574 series



01022/23 NA

Replaces 01022/22.1 NA



Function

The backflow preventer can be used in all plumbing systems where there is danger of the potable water supply system being contaminated. It prevents an accidental reduction in the pressure in the distribution system from causing backflow from contaminated water in user installations.

The 574 series FlowShield™ RP backflow preventer is listed by ASSE to Standard 1013 and is ICC-ES certified to CSA B64.4, AWWA C511, NSF/ANSI/CAN 61 and NSF/ANSI/CAN 372 low lead laws. It meets codes IPC, IRC, NPC and UPC for use in accordance with the US and Canadian plumbing codes. The 574 comes complete with discharge air gap, all test ports are on top for easy access inspite of how the valve is mounted, union body connections make service and repair simple and fast, and a simple short list of parts is all that is required to do a rebuild. One rebuild kit code number includes all parts needed to rebuild the backflow preventer.

Also available in combination with AutoFill™ pre-adjustable automatic filling valves, 1/2", 3/4" and 1" sizes.



NSF/ANSI/CAN 61

Product Range

574 series FlowShield RP testable reduced pressure zone backflow preventer (ASSE 1013) with four pressure test ports and inlet/outlet isolation ball valvessizes 1/2", 3/4", 1-1/4", 1-1/2" and 2" NPT female, press connections

Technical specification

- Materials**
- Body: DZR low-lead brass, EN 1982 CB752S (1/2"-1 1/2") CB480K-DW (2")
 - Access cover: DZR low-lead brass, EN 12165 CW724R CB480K-DW (2")
 - Access cover bolts: stainless steel
 - Check valves: PSU-POM-CW724R
 - Springs: stainless steel
 - Diaphragms and seals: peroxide-cured EPDM

Isolation ball valves, inlet and outlet

- Body: C898333 low-lead bronze
- Ball: 304 stainless steel
- Handle and nut: steel
- Seat ring and packing gland: PTFE
- Gland nut: brass
- Stem: low-lead brass

Performance

Suitable fluids: Water
 Max working pressure: 150 psi (10 bar)
 Max working temperature: 150°F (65°C)

Certifications

1. Listed by ASSE to Standard 1013.
2. CSA B64.4, AWWA C511, and NSF/ANSI/CAN 61 certified by ICC-ES, file PMG-1433.
3. Complies with NSF/ANSI/CAN 372, Drinking Water System Components-Lead Content Reduction of Lead in Drinking Water Act, California Health and Safety Code 116875 S.3874, as certified by ICC-ES, file PMG-1360.

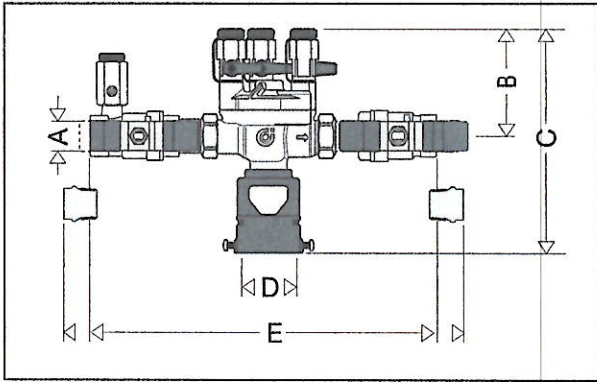
Connections

- NPT female: 1/2", 3/4", 1", 1-1/4", 1-1/2" and 2"
- Press: 1/2", 3/4", 1", 1-1/4", 1-1/2" and 2"
- Pressure test ports: 1/4" NPT upstream, intermediate, downstream

Engineering tools

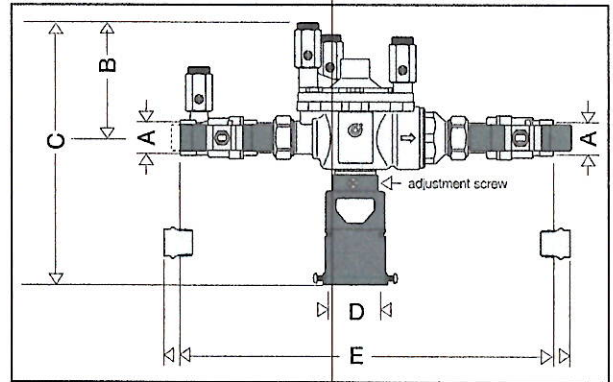
BIM Revit files www.caleffi.com
BIMObject.com
 Full length Product MasterSpec www.caleffi.com
<https://get.caleffi.info/specpoint>

Dimensions



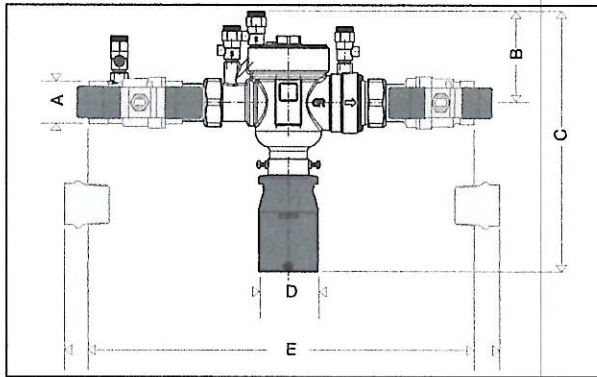
Code	A	B	C	D (mm)	E	Wt (lb)
574004A	1/2" FNPT	3 1/4"	6 1/4"	40 mm	9 3/4"	5.0
574064A	1/2" press*	3 1/4"	6 1/4"	40 mm	12 3/8"	5.1

*Lay length: 10 7/8"



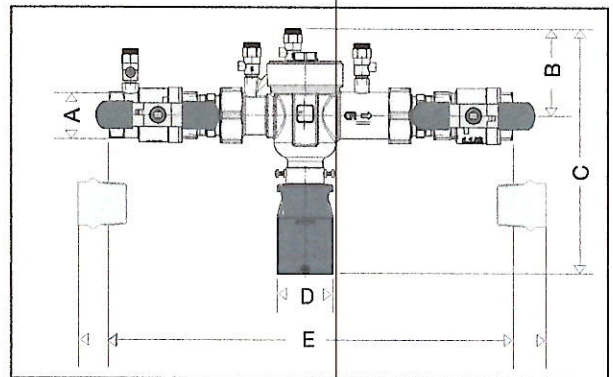
Code	A	B	C	D (mm)	E	Wt (lb)
574050A	3/4" FNPT	4"	10 1/2"	40-60 mm	13 1/4"	9.5
574056A	3/4" press*	4"	10 1/2"	40-60 mm	16 1/2"	9.6
574006A	1" FNPT	4"	10 1/2"	40-60 mm	14"	9.5
574606A	1" press*	4"	10 1/2"	40-60 mm	17 3/4"	9.6

*Lay length: size 3/4 inch: 14 1/2"; size 1 inch: 15 7/8"



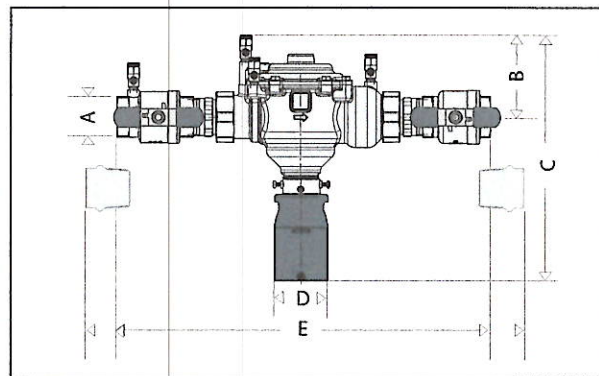
Code	A	B	C	D (mm)	E	Wt (lb)
574700A	1 1/4" FNPT	4"	11 1/2"	40-60	16 1/2"	13
574706A	1 1/4" press*	4"	11 1/2"	40-60	20 1/4"	13

*Lay length: 18 1/4"



Code	A	B	C	D (mm)	E	Wt (lb)
574801A	1 1/2" FNPT	4"	11 1/16"	40-60	18 3/4"	15
574806A	1 1/2" press*	4"	11 1/16"	40-60	23 3/8"	17

*Lay length: 20 3/8"



Code	A	B	C	D (mm)	E	Wt (lb)
574900A	2" FNPT	5 3/16"	14 1/2"	40-60	23 3/4"	25
574906A	2" press*	5 3/16"	14 1/2"	40-60	33 3/4"	27

*Lay length: 31 1/16"

Backflow:

Water flowing in the distribution piping of potable water mains systems can become polluted with undesirable and hazardous substances caused by contaminated fluid return coming back from systems directly connected to the mains supply. This condition termed "backflow" occurs when:

- the pressure in the mains supply is lower than the pressure in the downstream system (back siphon), such as residential domestic water, hydronic or irrigation systems. This occurs when pipes break or when demand is very heavy by other systems connected to the same supply network;
- the pressure in the downstream system rises (back pressure) due, for example, to water pumping from a well.

Protection can be provided by installing a backflow preventer at the inlet from the mains supply or in the internal distribution system. This will prevent contaminated water from flowing back into potable systems.

Principle of Operation

The reduced pressure zone backflow preventer is composed of a body with an inspection cover, an upstream check valve (1), a downstream check valve (2), and a discharge valve (3). The two check valves divide three different zones, each with a different pressure: an upstream or inlet zone (A); an intermediate zone, also known as the reduced pressure zone (B); and a downstream or outlet zone (C). Each of these has a test port for pressure measurement. A discharge valve (3) is located in the lower part of the intermediate zone. The valve plug of the discharge valve is connected to the valve stem (4) and diaphragm (5). This moving unit is pushed upwards by the spring (6). The diaphragm (5) is the limit of the operation chamber (D), which is connected to the upstream zone by the channel (7).

Normal flow conditions (1)

Under normal flow conditions, both check valves are open, while the pressure in the intermediate chamber (B) is always lower than the inlet pressure by at least 2 psi (14 kPa) due to the pressure loss caused by the check valve (1). In the operation chamber (D), however, the pressure is the same as in the inlet zone. In this situation, the moving unit consisting of the diaphragm (5), the valve stem (4) and the valve plug (3) is pushed down by the thrust created by the difference in pressure acting on the diaphragm which is greater than that of the spring (6) acting in the opposite direction. The discharge valve is therefore held in the closed position.

No flow conditions (2)

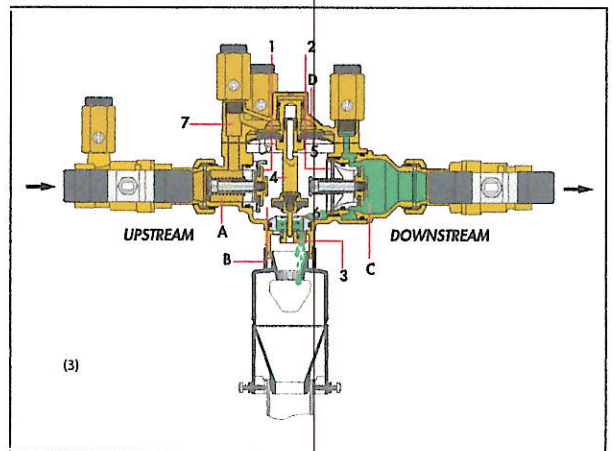
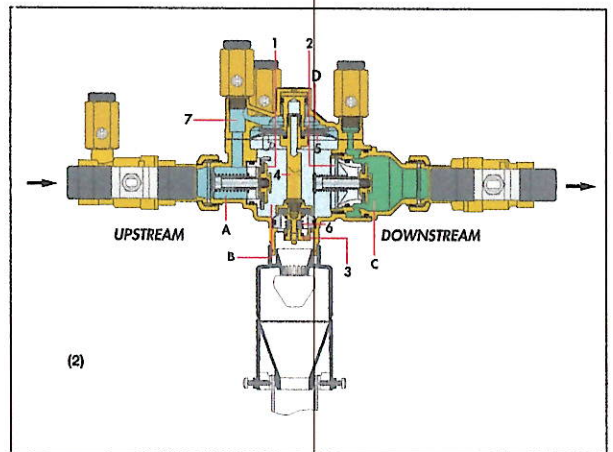
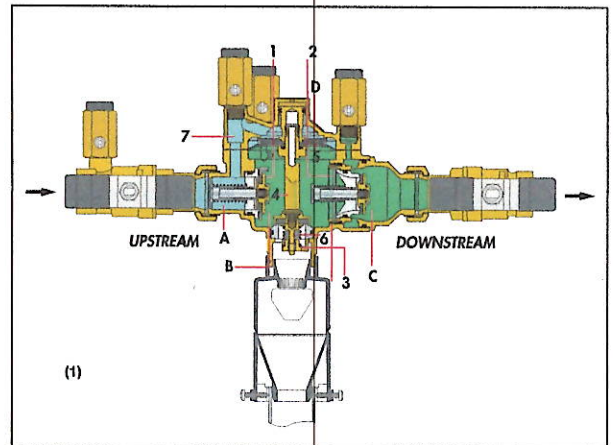
The check valves (1) and (2) are now closed. Since the pressure in the upstream zone, and in the operation chamber (D), is still at least 2 psi (14 kPa) higher than the pressure in the intermediate chamber (B), the discharge valve remains closed.

Upstream pressure loss (3)

Both check valves close as the pressure upstream drops. The discharge valve (3) opens when the difference in pressure Δp , between the upstream and the intermediate zones, falls reaching a value a little bit higher than 2 psi (14 kPa). Under these conditions the action exerted by the pressure difference Δp on the diaphragm (5) becomes weaker than that exerted by the spring (6) and the discharge valve (3) opens as a result. Discharge then occurs until the body of the backflow preventer is empty. When the situation returns to normal (pressure upstream greater than pressure downstream), the discharge valve closes and the backflow preventer is again ready to operate.

Downstream back pressure

If the pressure in the downstream zone increases until it is greater than the upstream pressure, the check valve (2) closes and therefore prevents water already delivered from returning back into the mains system. If the seal of the check valve (2) is slightly defective or there is any other defect in the backflow preventer, the device always interrupts (disconnects) the connection between the mains system and the user system. The backflow preventer has been designed and certified to properly function, providing safe operation under all conditions.



Construction details

Discharge air gap assembly

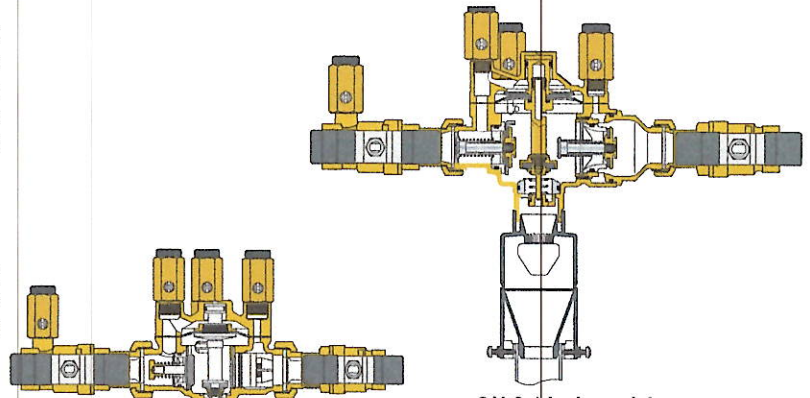
In compliance with ASSE 1013, proper location of the RPZ backflow preventer is to ensure that adequate drainage is provided to as not to cause damage to the surrounding area. The discharge is not to be piped directly to a drain without a proper air gap. The 574 series provides the PVC air gap discharge assembly for this purpose.

Corrosion resistant materials of construction

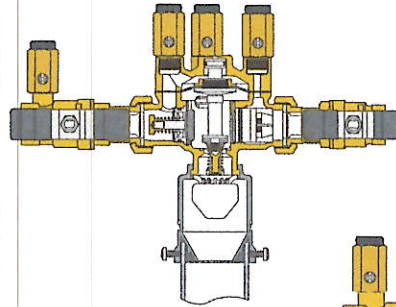
All components are resistant to corrosion from potable water. DZR low-lead brass, stainless steel and bronze materials provide that protection to ensure long-time high performance.

Easy maintenance

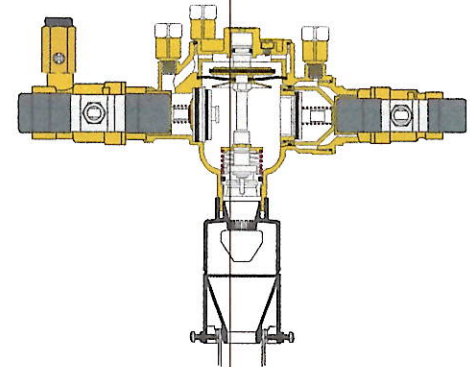
The backflow preventer must be periodically tested and inspected during normal operating life to ensure proper function. All internal components are accessible through a single access cover, secured with stainless steel bolts, for easy inspection, repair and replacement, including the discharge valve seats (except 1/2" model size), without removing from the pipeline. Replacement check valves, discharge valve assembly, discharge valve seat, inlet and outlet isolation ball valves and discharge air gaps are available separately. In addition, simplify maintenance with one rebuild kit code number for each product size that includes all parts needed to rebuild the backflow preventer: replacement check valves, discharge valve assembly and discharge valve seat. See tables on pages 7 - 10.



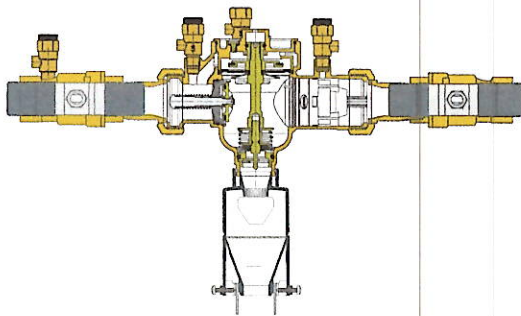
3/4 & 1 inch model



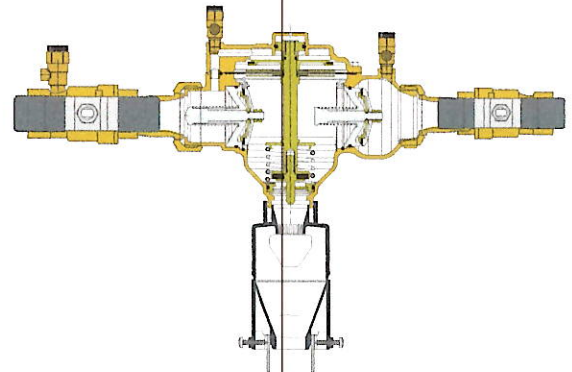
1/2 inch model



1 1/4 inch model

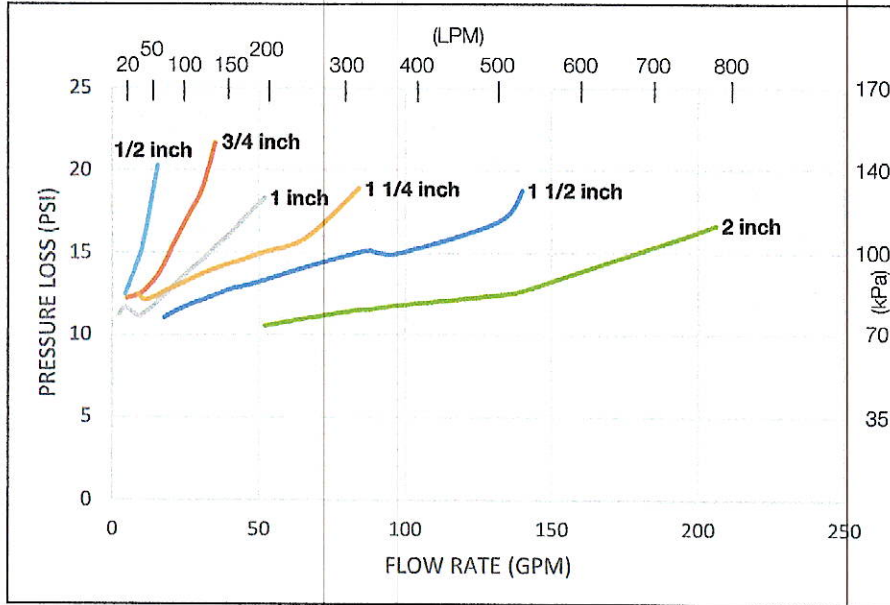


1 1/2 inch model



2 inch model

Flow capacity



Size	Max. Cv
1/2 inch	3.5
3/4 inch	8.0
1 inch	12.0
1 1/4 inch	19.5
1 1/2 inch	32.0
2 inch	51.0

Installation

The installation of the 574 series FlowShield RP backflow preventer should only be carried out by qualified personnel in accordance with applicable codes and regulations.

It includes an upstream and downstream shut-off valve, factory-assembled with union nut and nipple.

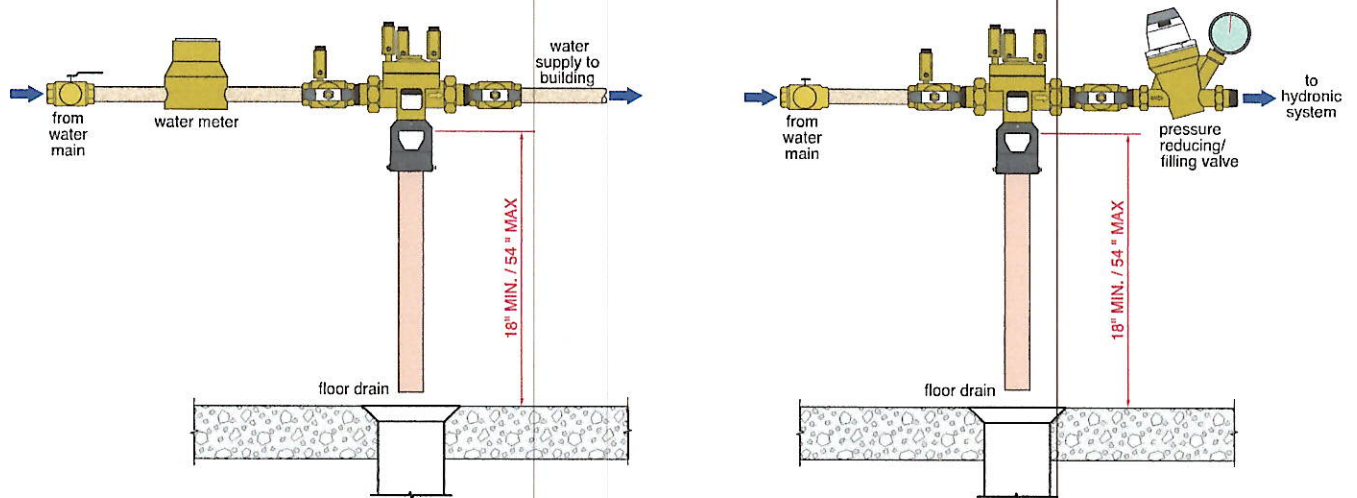
Install the unit in an accessible area which is not susceptible to accidental flooding. The equipment is to be installed horizontally only. The air gap, complying with the ASSE 1013 standard, must be connected in accordance with local codes.

Before installing the backflow preventer the pipe should be cleaned.

To protect the main public supply system install the backflow preventer after the water meter. In an internal distribution system protect the supply side by installing



Installation diagram

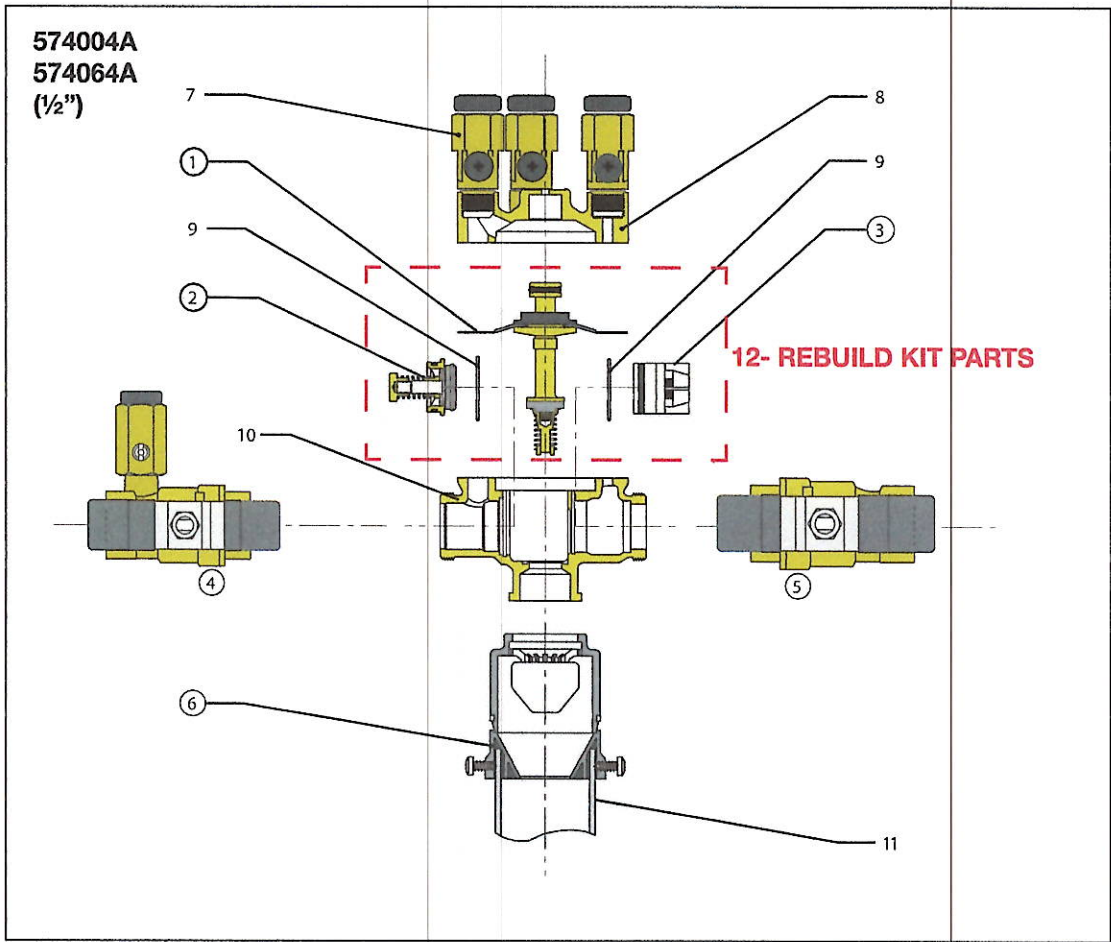


Inspection and maintenance

The backflow preventer is a safety device and requires periodic inspection. The first sign of poor functioning, generally caused by the presence of foreign particles (sand or other impurities) keeping the upstream check valve in open position, is seen with a constant leakage from the discharge port. This discharge is only a first alarm and does not mean in any way that the check valve is not safe but the backflow preventer and the upstream strainer require dismantling and cleaning. A quick method of inspection (requires less than 15 minutes) is described in a table in the instruction sheet, shipped with the backflow preventer or available online at www.caleffi.com.

In case of leakage from the discharge port, a strong flow of water is recommended for some minutes by turning on one or more taps. This operation is often sufficient to flush out the foreign debris and return everything to normal conditions.

If rebuild is needed, complete rebuild kits are available containing replacement check valves, discharge valve assembly and discharge valve seat. See tables on pages 7 - 10.



1*	Discharge valve assembly
2*	Upstream check valve
3*	Downstream check valve
4	Upstream ball valve**
5	Downstream ball valve
6	Discharge air gap
7	Pressure test port
8	Inspection cover
9	Seal ring
10	Body
11	Discharge pipe***
12	Rebuild Kit

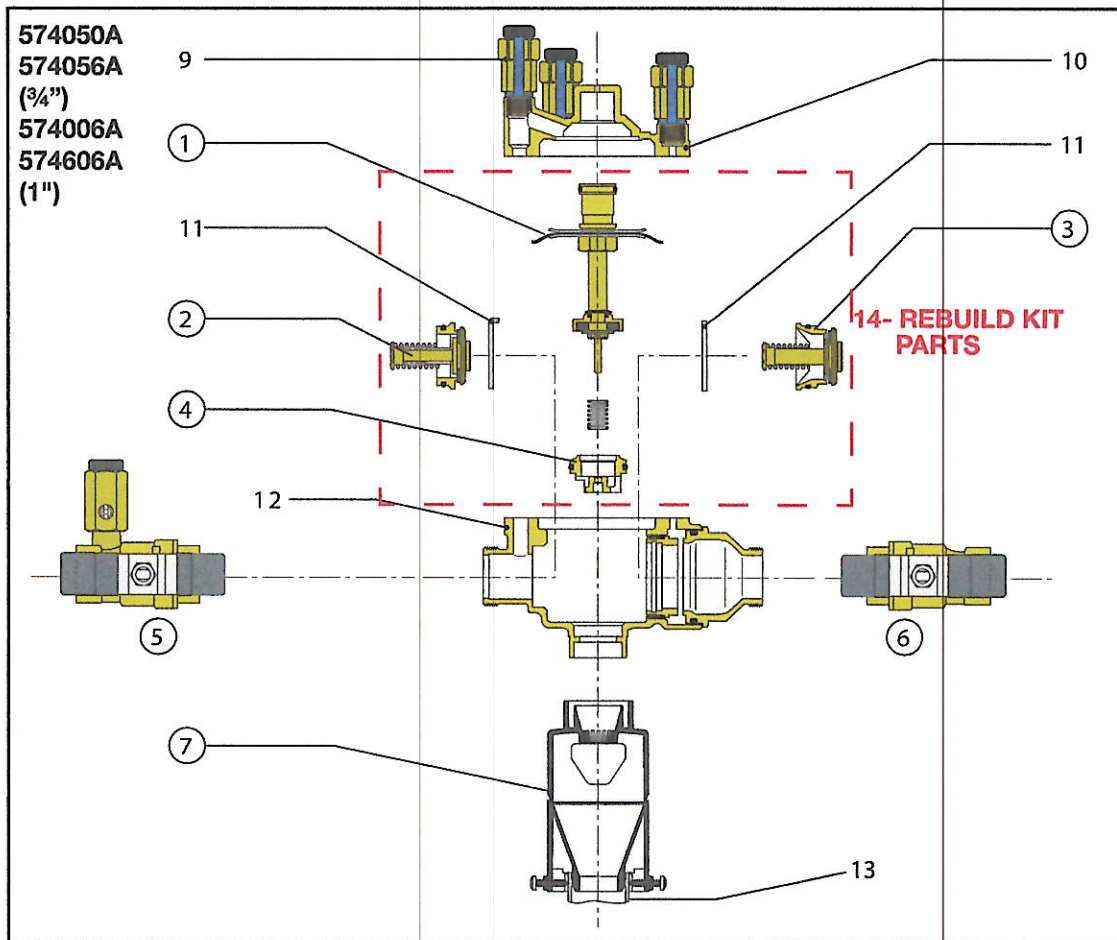
- * Included in rebuild kit NA11604.
 ** Comes complete with PT port.
 *** 1" PVC coupling plus 1" PVC pipe or 1/4" PE4710 polyethylene tubing (ASTM D-2239), separately sourced.

Reference #	574004A 574064A (1/2")
1	59978
2	59977
3	59979
4	F0001626
5	F0001624
6	59980
7	F0001006
12	NA11604

For press models, press fittings are NPT male x Press, not shown above and not available from Caleffi. Source for modifying the NPT model, or to replace on press models, from any supply house. Be sure to use Loctite® to secure the threaded connection.

Inspection equipment

- Equipment for annual inspection includes:
- upstream pressure gauge
 - downstream pressure gauge
 - differential pressure gauge
 - flexible hoses and fittings



1*	Discharge valve assembly
2*	Upstream check valve
3*	Downstream check valve
4*	Discharge valve seat
5	Upstream ball valve**
6	Downstream ball valve
7	Discharge air gap
9	Pressure test port
10	Inspection Cover
11	Split ring
12	Body
13	Discharge pipe***
14	Rebuild kit

* Included in rebuild kit.
 ** Comes complete with PT port.
 *** 2" PVC or 1 1/4" PE4710 polyethylene tubing (ASTM D-2239), separately sourced.

NOTE: Call out for part 8 does not apply to this size.

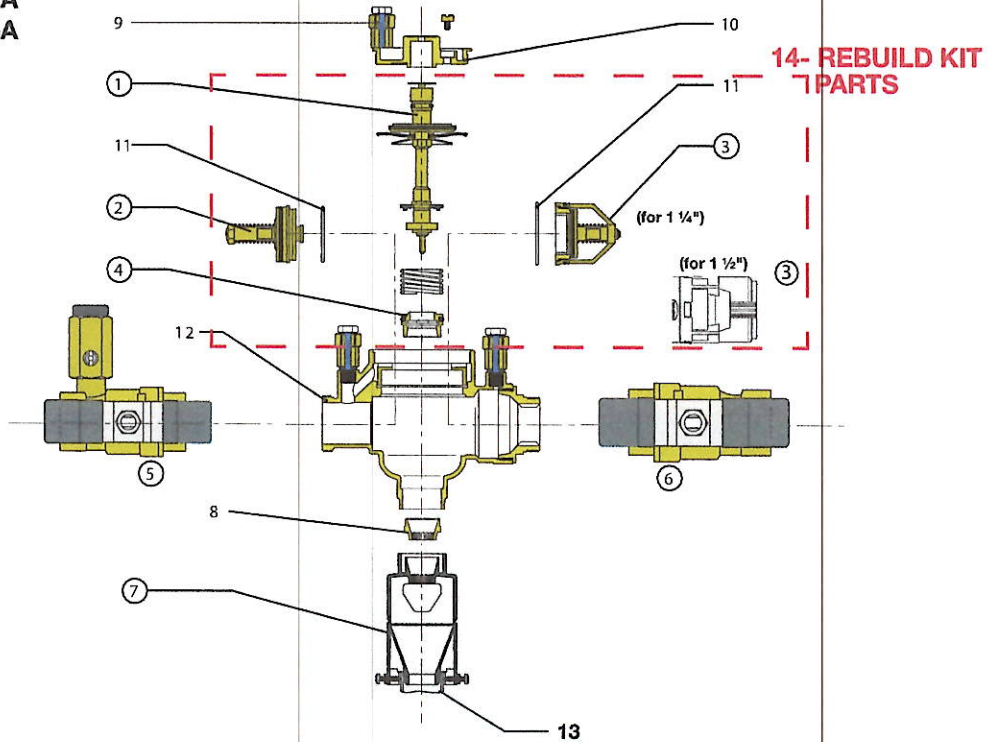
Reference #	574050A 574056A (3/4")	574006A 574606A (1")
1	59471	59471
2	59469	59455
3	59470	59456
4	59472	59472
5	F0001627	F0001628
6	F0001625	F0001629
7	39623	39623
9	F0001006	F0001006
14	NA11605	NA11606

For press models, press fittings are NPT male x Press, not shown above and not available from Caleffi. Source for modifying the NPT model, or to replace on press models, from any supply house. Be sure to use Loctite® to secure the threaded connection.

Inspection equipment

Equipment for annual inspection includes:
 -upstream pressure gauge
 -downstream pressure gauge
 -differential pressure gauge
 -flexible hoses and fittings

574700A
 574706A
 (1 1/4")
 574801A
 574806A
 (1 1/2")



1*	Discharge valve assembly
2*	Upstream check valve
3*	Downstream check valve
4*	Discharge valve seat
5	Upstream ball valve**
6	Downstream ball valve
7	Discharge air gap
8	Deflector
9	Pressure test port
10	Inspection Cover
11	Split ring
12	Body
13	Discharge pipe***
14	Rebuild kit

* Included in rebuild kit.
 ** Comes complete with PT port.
 *** 2" PVC, separately sourced.

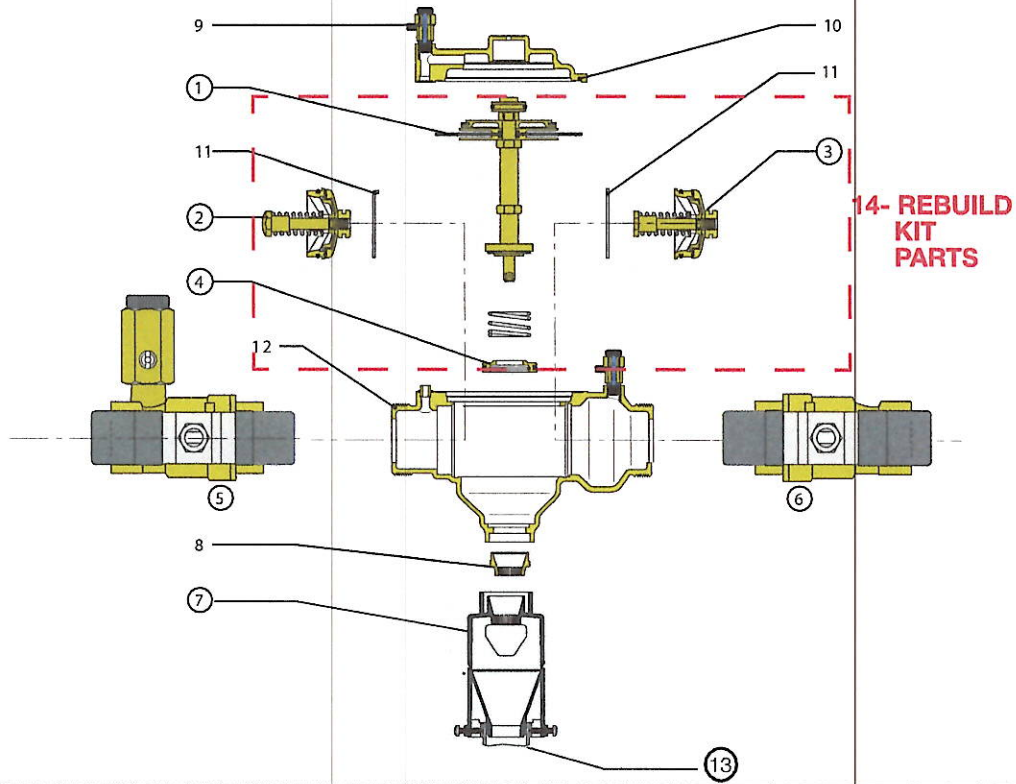
Reference #	574700A 574706A (1 1/4")	574801A 574806A (1 1/2")
1	59457	59457
2	59455	59455
3	59456	59456
4	59458	59458
5	F0001631	F0001633
6	F0001630	F0001632
7	39623	39623
9	F0001901	F0001901
14	NA11607	NA11608

For press models, press fittings are NPT male x Press, not shown above and not available from Caleffi. Source for modifying the NPT model, or to replace on press models, from any supply house. Be sure to use Loctite® to secure the threaded connection.

Inspection equipment

Equipment for annual inspection includes:
 -upstream pressure gauge
 -downstream pressure gauge
 -differential pressure gauge
 -flexible hoses and fittings

**574900A
574906A
(2")**



1*	Discharge valve assembly
2*	Upstream check valve
3*	Downstream check valve
4*	Discharge valve seat
5	Upstream ball valve**
6	Downstream ball valve
7	Discharge air gap
8	Deflector
9	Pressure test port
10	Inspection Cover
11	Split ring
12	Body
13	Discharge pipe***
14	Rebuild kit

Reference #	574900A 574906A (2")
1	59461
2	59459
3	59460
4	59462
5	F0001635
6	F0001634
7	39623
9	F0001901
14	NA11609

* Included in rebuild kit.
** Comes complete with PT port.
*** 2" PVC, separately sourced.

For press models, press fittings are NPT male x Press, not shown above and not available from Caleffi. Source for modifying the NPT model, or to replace on press models, from any supply house. Be sure to use Loctite® to secure the threaded connection.

Inspection equipment

- Equipment for annual inspection includes:
- upstream pressure gauge
 - downstream pressure gauge
 - differential pressure gauge
 - flexible hoses and fittings

Filling combinations

574 Autofill™ Combo



Pre-adjustable automatic filling valve, 553 series Autofill, with 574 series FlowShield RP testable reduced pressure zone backflow preventer.

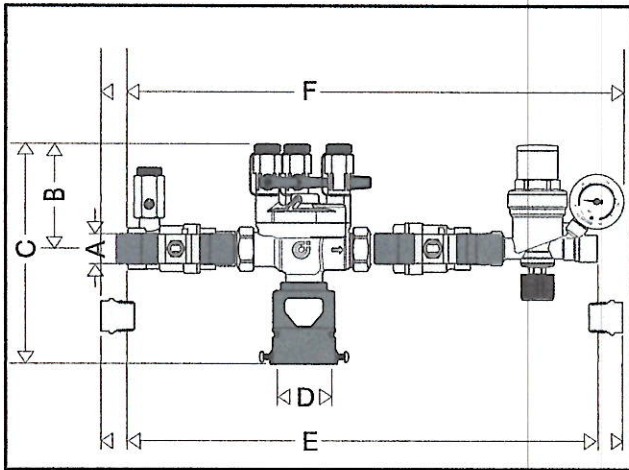
Brass body.

Max. working pressure: 150 psi (10 bar).

Max. working temperature: 150°F (65°C).

Setting pressure range: 3 - 60 psi.

Preset outlet pressure: 15 psi.



Code	A	B	C	D	E	F	Wt (lb)
574002A	½" FNPT	¾"	6¼"	40 mm	15"	--	9.4
574112A	½" FNPT, gauge	¾"	6¼"	40 mm	15"	16"	9.4
574206A	½" press	¾"	6¼"	40 mm	17 ⁵ / ₈ "	--	9.4
574216A	½" press, gauge	¾"	6¼"	40 mm	17 ⁵ / ₈ "	18 ⁵ / ₈ "	9.5
574207A	½" press in x FNPT out	¾"	6¼"	40 mm	16 ⁵ / ₁₆ "	--	9.5
574217A	½" press in x FNPT out	¾"	6¼"	40 mm	16 ⁵ / ₁₆ "	17 ⁵ / ₁₆ "	9.5

Lay length: 574206A & 216A...16-1/8"; 574207A & 217A...15-9/16".

574 Autofill™ Combo



Pre-adjustable automatic filling valve, 5350 series AutoFill, with 574 series FlowShield RP testable reduced pressure zone backflow preventer.

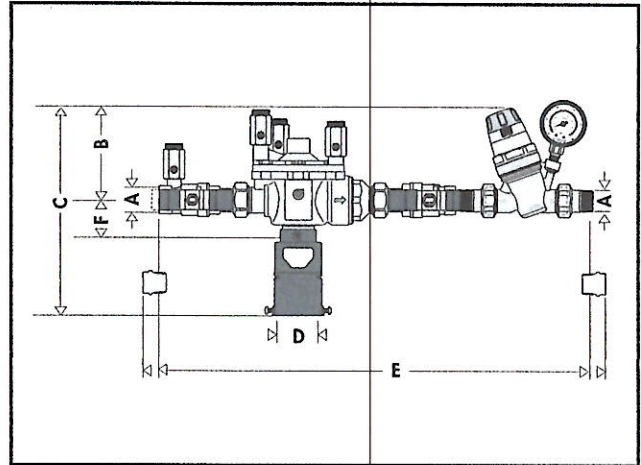
Brass body.

Max. working pressure: 150 psi (10 bar).

Max. working temperature: 140°F (60°C).

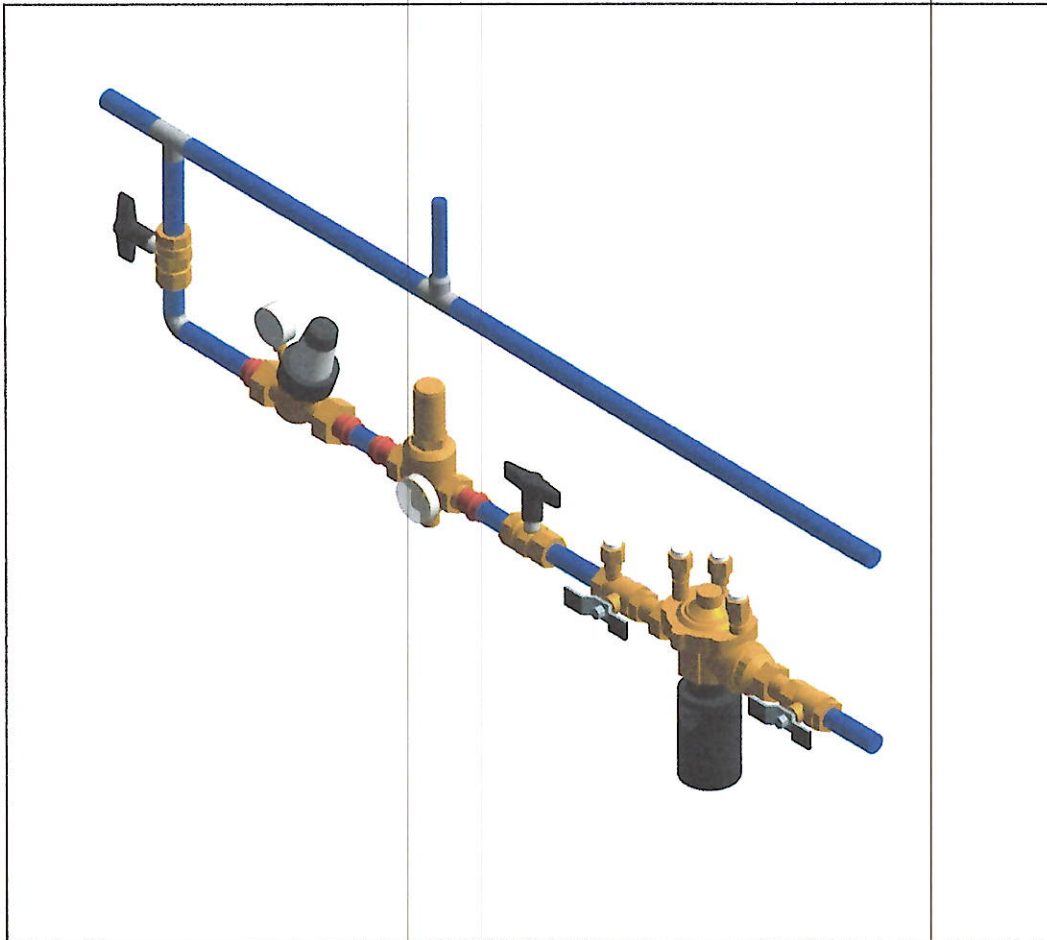
Setting pressure range: 6 - 90 psi.

Preset outlet pressure: 15 psi.



Code	A	B	C	D	E	F	Wt (lb)
574151A	¾" FNPT x MNPT	4 ⁷ / ₁₆ "	10 ¹¹ / ₁₆ "	40-60mm	18 ³ / ₈ "	1¾"	9.4
574156A	¾" press	4 ⁷ / ₁₆ "	10 ¹¹ / ₁₆ "	40-60mm	19 ¹ / ₈ "	1¾"	9.4
574157A	¾" press x MNPT	4 ⁷ / ₁₆ "	10 ¹¹ / ₁₆ "	40-60mm	18¾"	1¾"	9.4
574161A	1" FNPT x MNPT	4 ⁷ / ₁₆ "	10 ¹¹ / ₁₆ "	40-60mm	18¾"	1¾"	9.5
574166A	1" press	4 ⁷ / ₁₆ "	10 ¹¹ / ₁₆ "	40-60mm	19¼"	1¾"	9.5
574167A	1" press x MNPT	4 ⁷ / ₁₆ "	10 ¹¹ / ₁₆ "	40-60mm	19 ³ / ₁₆ "	1¾"	9.5

Lay length: 574156A 17-5/8"; 574157A 18"; 574166A 18½"; 574167A 18-13/16".



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SPECIFICATION SUMMARIES

574 series FlowShield RP

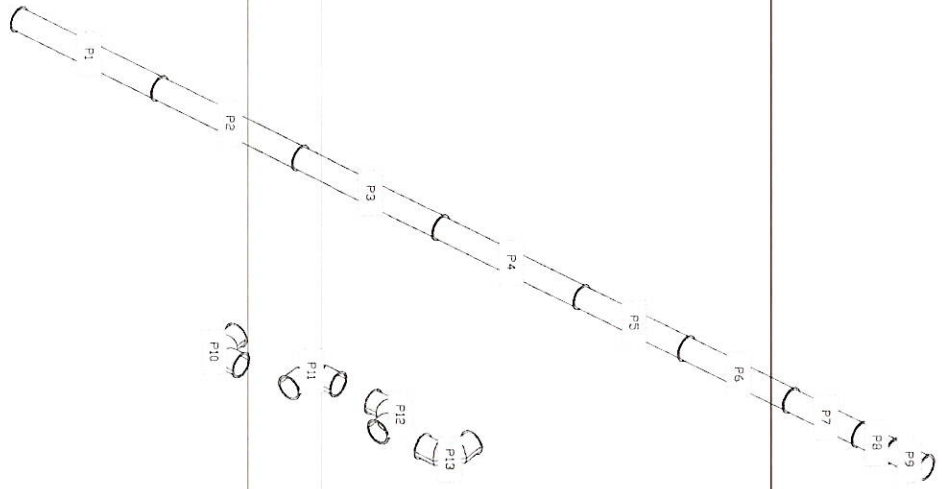
Testable reduced pressure zone backflow preventer. Listed by ASSE to Standard 1013. CSA B64.4, AWWA C511 and NSF/ANSI/CAN 61 certified by ICC-ES. Threaded NPT female or press connections from 1/2" to 2". DZR low-lead brass body (EN 1982 CB752S 1/2" to 1 1/2", CB480K-DW 2") and access cover (EN 12165 CW724R 1/2" to 1 1/2", CB480K-DW 2") (<0.25% lead content), meets requirements of IPC, IRC, UPC, NPC and NSF/ANSI/CAN 372-2011 certified by ICC-ES. PSU-POM check valves, stainless steel springs, stainless steel access cover bolts and peroxide-cured EPDM diaphragm and seals. Maximum working pressure 150 psi (10 bar). Maximum working temperature 150°F (65°C). Provided with inlet and outlet isolation ball valves, bronze body, 304 stainless steel ball, steel handle and nut, PTFE seat ring and packing gland, brass gland nut and low-lead brass stem. Complete with upstream, intermediate and downstream pressure zone top-mounted test ports and PVC discharge air gap assembly with collar fitting to discharge pipe. Provide factory-assembled with Caleffi AutoFill™ pre-adjustable automatic filling valves, 553 series 1/2 inch sweat or NPT female connections; 5350 series 3/4 or 1 inch press or NPT female connections.

We reserve the right to make changes and improvements to the products and related data in this publication, at any time and without prior notice. The technical brochure on www.caleffi.com always has the most up-to-date version of the document, which should be used for technical verification.



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DUCTWORK #1 SE VIEW
6"



Boiler Flue
125 Platinum Drive,
BRIDGEPORT, WV, 26330



PO Box 67, 1259 Elizabeth Pike, Mineral Wells, WV, 26150 PHONE: (412) 225-4814 EMAIL: log@captivair.com

DATE	DESCRIPTION

DATE: 9/6/2023
 DRAWN BY: [Signature]
 CHECKED BY: [Signature]
 SCALE: 3/4" = 1'-0"
 SHEET NO. 2

DUCTWORK #2 SE VIEW
8'

