

SUBMITTAL REVIEW



CLIENT NAME: Vails Gate Fire Department
PROJECT TITLE: Vails Gate FD - New Firehouse
SUBMITTAL No.: 221006-1 **H2M PROJECT No.:** VGFD2001
SUBMITTAL NAME: Plumbing Piping Specialties Phase 2 PD

SUBMITTAL REVIEW	
REVIEW IS FOR GENERAL COMPLIANCE WITH CONTRACT DOCUMENTS. NO RESPONSIBILITY IS ASSUMED FOR CORRECTNESS OF DIMENSIONS OR DETAILS	
☐ NO EXCEPTIONS TAKEN	☐ SUBMIT SPECIFIED ITEM
☒ MAKE CORRECTIONS NOTED (RESUBMISSION NOT REQUIRED)	☐ NO ACTION TAKEN (REVIEW IS THE RESPONSIBILITY OF ANOTHER PARTY)
☐ REVISE & RESUBMIT	☐ NO ACTION TAKEN (THIS SUBMITTAL IS NOT REQUIRED BY THE CONTRACT)
☐ REJECTED - SEE REMARKS	☐ RECEIVED FOR RECORD
Corrections or comments made on the shop drawings during this review do not relieve contractor from compliance with requirements of the drawings and specifications. This check is only for review of general conformance with the design concept of the project and general compliance with the information given in the contract documents. The contractor is responsible for: confirming and correlating all quantities and dimensions; selecting fabrication processes and techniques of construction; coordinating their work with that of all other trades; and performing the work in a safe and satisfactory manner. H2M architects + engineers Date: 04/10/2023 By: KJE Rev.: 2020-05-20	

Comments:

H2M - PLUMBING

1. SEE COMMENTS THROUGHOUT.

CONTRACTOR'S COMPANY NAME
ADDRESS

SUBMISSION TRANSMITTAL FORM
CLIENT NAME: Vails Gate Fire District
PROJECT TITLE: VGFD2001-New Firehouse

H2M PROJECT NO.: VGFD2001

Product, Item, or System Submitted:	Plumbing Piping Specialties Product Data (Phase 2)		
Submission Date:	04/04/23	Submission Log No.:	221006-1
Specification Section:	221006	Paragraph Reference:	1.04.B
Contract Drawing Reference(s):			
Manufacturer's Name:			
Manufacturer's Mailing Address:			
Manufacturer's Contact Information:	Name	() Tel. no.	Email
Supplier's Name:	Joseph Lombardo Plumbing & Heating		
Supplier's Mailing Address:			
Supplier's Contact Information:	Name	() Tel. no.	Email
This item is a substitution for the specified item:	☒ No	☐ Yes	
KEY CONSTRUCTION SERVICES, LLC Project No: VGFD2001 Reviewed for General Acceptance Only. This review does not relieve the Subcontractors or Suppliers of responsibility for making the work conform to the requirements of the contract. The Subcontractor and Suppliers are responsible for all dimensions, correct fabrication and accurate fit with the work of other trades. <u>SUBJECT TO ARCHITECT AND OR ENGINEER APPROVAL</u> Signed <i>Joseph Manfredi</i> (PM) Date: 4/4/2023 Contractor's Approval Stamp with Signature & Date		<u>Contractor's Brief Comments or Remarks</u> (attach separate letter as needed): By making this submission, we represent that we have determined and verified all field measurements and dimensions, field construction criteria, site and building constraints in terms of limitations in moving the item into the enclosed space, materials, catalog and model numbers and similar data and that we have checked and coordinated this submission with other work at or adjacent to the installed location in accordance with the requirements contained in the Contract Documents.	

END OF SECTION 013300

Joe Lombardo
Plumbing & Heating of Rockland, Inc.

321 Spook Rock Road
Suffern, NY 10901
Ph. 845-357-6537 Fx 845-357-8529
E: info@josephlombardo.com
Website: www.josephlombardo.com
Rockland Cty. Plumbing #1000 Rockland Cty. Cooling # 1468
Westchester Cty. Plumbing #460 New Jersey State Plumbing #12702

TO: Key Construction
4246 Albany Post Rd. Suite 1
Hyde Park, NY 12538

LETTER OF TRANSMITTAL

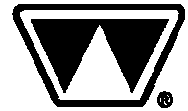
DATE: 4-3-23 JOB NO.
ATTENTION: Joe Manfredi
RE: Vails Gate Firehouse

WE ARE SENDING YOU [] Attached [] Under separate cover via the following items:
[] Shop Drawings [] Prints [] Plans [] Samples [] Specifications
[] Copy of letter [] Change order

Table with 4 columns: EMAIL, DATE, No., DESCRIPTION. Row 1: 1, 4-3-23, 224000, PLUMBING PIPING SPECIALTIES PHASE 2

THESE ARE TRANSMITTED as checked below:
[] For approval [] No Exceptions Taken [] Resubmit copies for review
[] For your use [] Make Corrections Noted [] Submit copies for distribution
[] As requested [] Rejected [] Return corrected prints
[] For review and comment
[] FOR BIDS DUE 20 PRINTS RETURNED AFTER LOAN TO US

COPY TO: Joe Manfredi SIGNED: Ronald J. Lombardo



The Model 24 and B24 are anti-siphon, vacuum breaker protected wall faucets designed for irrigation purposes in mild climate areas. The Model B24 is enclosed in a flush mounted wall box. Both models are designed to blend with modern architecture for installation on or in homes, service stations, churches, motels, drive-in restaurants, etc. The Model Y24 is designed to be used on a stand pipe in the lawn and garden, etc.

Anti-Siphon Wall Faucets Model 24/B24/Y24

SPECIFICATIONS:

VACUUM BREAKER - ANTI-SIPHON:

- NIDEL® Model 34HF with ¾ inch male hose thread
- ASSE Standard 1011 approved
- IAPMO® listed
- Canadian Standards Association

EPDM PACKING: Prevents leaking.

PACKING NUT: Adjustable brass nut with deep stem guard.

VALVE SEAT: Standard "O" size washer.

HANDLES: Furnished with polycarbonate wheel handle and loose tee key.

Optional: Metal wheel handle.

INLETS: Model 24 as shown below.
Model B24: 24P- ½ or 24P ¾ only.
Model Y24: ¾" FPT.

MAX PRESSURE: 125 p.s.i.

MAX TEMPERATURE: 120° F

SHIPPING WEIGHT: (per unit)

MODEL 24 & Y24: 1 lb

MODEL B24: 13 lbs (brass or chrome box)
6 lbs (aluminum box)

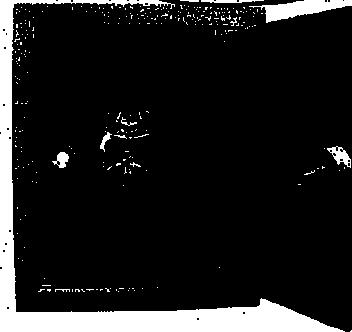


MODEL 24

Exterior Finish:

Standard - Chrome (CH)

Optional- Rough Brass (BR) or Polished Chrome (PC)



MODEL B24

Exterior Finish:

Standard - Chrome (CH)

Optional- Rough Brass (BR) or Polished Brass (PB)

Other Options: Anodized Aluminum Box (AL)



MODEL Y24

Exterior Finish:

Standard - Chrome (CH)

Optional- Rough Brass (BR) or Polished Chrome (PC)

Inlet Descriptions

MODEL 24/B24

½" Inlet

½" FPT

½" MPT

MODEL 24 ONLY

CP Inlet

COMBINATION

½" COPPER TUBE

½" MPT

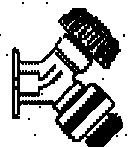
MODEL 24 ONLY

C Inlet

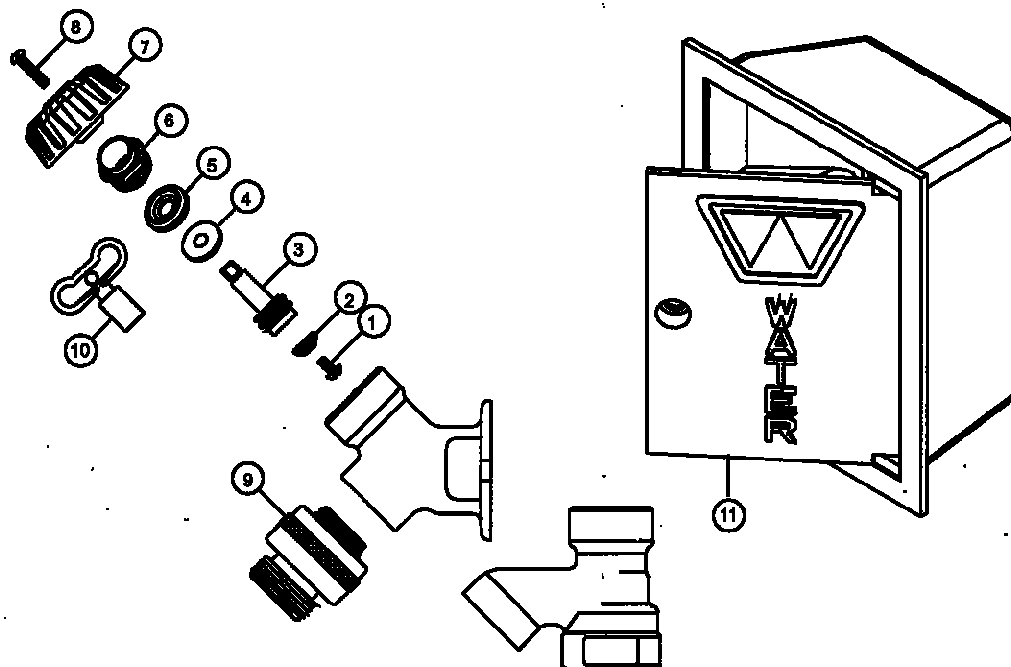
COMBINATION

½" COPPER TUBE

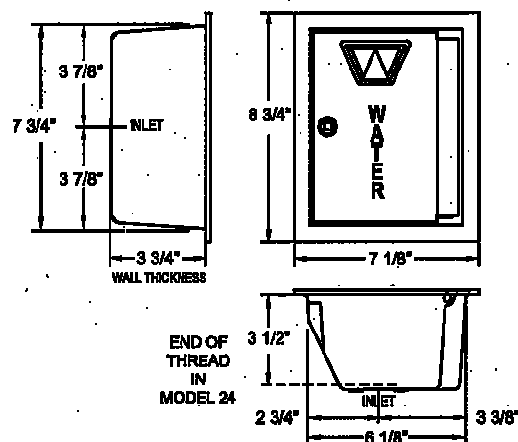
½" COPPER TUBE



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

WOODFORD**MODEL 24/B24/Y24 PARTS LIST**

ITEM	PART#	DESCRIPTION
1	30009	Washer Screw
2	30008	Washer
3	30104	Operating Stem
4	30105	Packing Support Washer
5	30247	EPDM Packing
6	30109	Packing Nut - Chrome
	30107	Packing Nut - Brass
7	30120	Wheel Handle - Clear
	30233	Wheel Handle - Tan
8	30121	Handle Screw - Nickel
	30002	Handle Screw - Brass
9	34HF-CH	34HF Vacuum Breaker - Chrome
	34HF-BR	34HF Vacuum Breaker - Brass
10	50009	Tee Key
11	B24BX	Box/Door Assembly - Chrome
	B24BX-BR	Box/Door Assembly - Brass
	B24BX-PB	Box/Door Assembly - Polished Brass
	B24BX-AL	Box/Door Assembly - Anodized Aluminum
	RK-24	Chrome Repair Kit (Includes Items 1-8)
	RK-H34	Brass Repair Kit (Includes Items 1-8)

**MODEL B24
Rough-In Dimensions**

Patent Information is available at <http://www.Woodfordmfg.com/Woodford/patents/>

For more information contact...

WOODFORD MANUFACTURING COMPANY

2121 Waynoka Road, Colorado Springs, Colorado 80915 • Phone: (800) 621-8032 • Fax: (800) 785-4115

To view our complete product line visit: www.woodfordmfg.com

email: sales@woodfordmfg.com POs: PO@woodfordmfg.com

A Division Of WCM Industries, Inc.

This unit offers anti-siphon protection and pressure relief valves.

The Freezeless Model 22 hot and cold faucet is designed and intended for year-round hot and cold irrigation and cleaning purposes regardless of outside temperature. Separate hot and cold inlet tubes allow for manually operated temperature control with cross contamination protection. This faucet contains patented pressure relief valves that prevents the faucet from bursting in freezing weather should a hose be accidentally left on. The Model 22 contains an integral backflow protection device and does not require an add-on vacuum breaker. This ASSE 1019 device is intended for irrigation use and outdoor watering and shall not be subjected to more than (12) hours of continuous water pressure.

Available in two models:

- Model 22 *Horizontal Mount* - Rough Brass
- Model V22 *Vertical Mount* - Rough Brass for end wall installation

SPECIFICATIONS:

- Manufactured under one or more of the following patents: <https://www.woodfordmfg.com/patents>
- ASSE 1019 Listed
- CSA, UPC, cUPC Approved



FEATURES:

- *Patented resetting pressure relief valve prevents the faucet tube from bursting in freezing conditions even if a hose is unintentionally left on.*



- Built-In Vent Float style Vacuum Breaker
- Faucet drains automatically when hose is removed
- EPDM packing to prevent leaking
- Oval, powder-coated, die cast aluminum handle
- Stainless steel seat - eliminates wire draw
- Standard "O" size seat washer
- Tee Key configuration - (extra charge)
- No-lead solder
- 3/4" male hose thread

MAX PRESSURE - 125 p.s.i.

MAX TEMPERATURE - 120° F

INSTALLATION REQUIREMENTS:

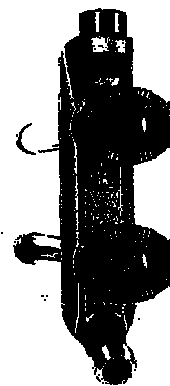
- The faucet length used is to be comparable to what would be used with standard freezeless faucets.
- The inlet connection must be located in a heated area.
- The gap between the house and faucet must be sealed to prevent air leaks.
- The faucet must be installed with a slight downward pitch toward the nozzle.
- Adequate insulation is required around the faucet, wall board and sill plate.

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

Freezeless Hot & Cold Wall Faucet Model 22 & V22

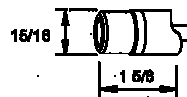


Model 22

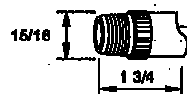


Model V22

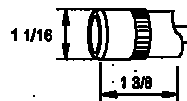
INLET OPTIONS



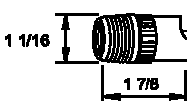
**C INLET
COMBINATION**
Copper Sweat Fitting
1/2" K, L or M Inside
3/4" M Only Outside



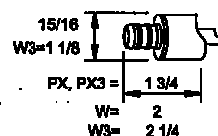
**CP INLET
COMBINATION**
1/2" Male Pipe Thread
1/2" Female Sweat



CS INLET
3/4" Female Sweat Fitting



**P INLET
COMBINATION**
1/2" Female Pipe Thread
3/4" Male Pipe Thread

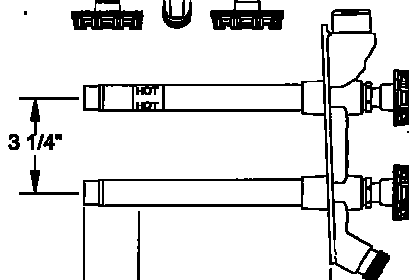
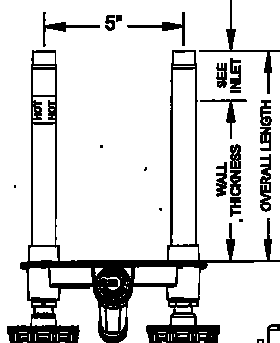


PX INLET
1/2" PEX Tube Fitting
PX3 INLET
3/4" PEX Tube Fitting
W INLET
1/2" Wirabo PEX Tube Fitting
W3 INLET
3/4" Wirabo PEX Tube Fitting

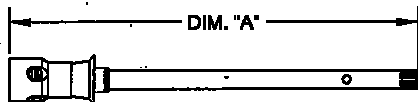
When ordering, specify model, inlet and wall thickness



Model 22 & V22 Rough-In Dimensions



Overall Length Dimension: Add wall thickness and Inlet option length shown in chart on reverse side.



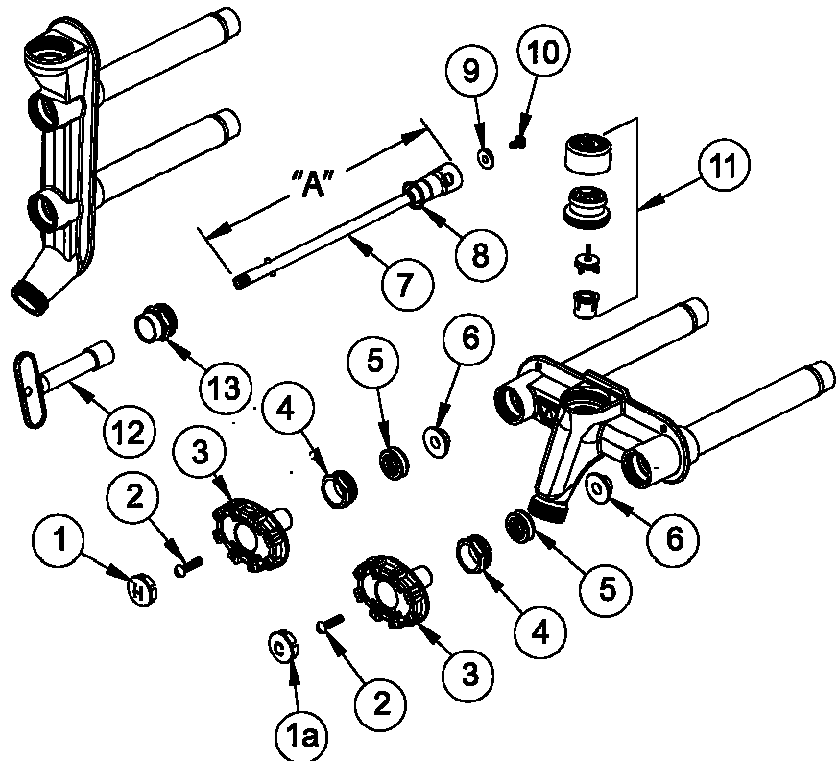
RK-PRV and Replacement Rod

Wall Thickness	RK-PRV*	Rod Only Part #**	Overall Length Dim "A"
4	RK-PRV-4	35092	5 7/8"
6	RK-PRV-6	35093	7 7/8"
8	RK-PRV-8	35094	9 7/8"
10	RK-PRV-10	35095	11 7/8"
12	RK-PRV-12	35096	13 7/8"
14	RK-PRV-14	35097	15 7/8"
16	RK-PRV-16	35098	17 7/8"
18	RK-PRV-18	35099	19 7/8"
20	RK-PRV-20	35100	21 7/8"
22	RK-PRV-22	35101	23 7/8"
24	RK-PRV-24	35102	25 7/8"

Single Rod

*RK-PRV Includes Items 2 - 5, 7 - 10

**Rod Includes Items 7 - 10



MODEL 22 & V22 PARTS LIST

ITEM	PART#	DESCRIPTION
1	30566	Plug Button-H-Red
1a	30565	Plug Button-C-Blue
2	30002	Handle Screw (2)
3	30559	Oval, Die Cast Alum. Handle (2)
4	30059	Packing Nut (2)
5	30560	EPDM Packing (2)
6	30421	Packing Support Washer (2)
7	RK-PRV**	Valve Stem Assembly
8	30459	Check Valve (2)
9	30008	Valve Seat Rubber (2)
10	30804	Retainer Screw (2)
11	RK-22VB	Vacuum Breaker Float Kit (Model 22)
12	50012	Tee Key
13	30512	Deep Packing Nut
	RK-22PRV	Repair Kit (metal handles) Includes 1 ea: Items 1, 1a, 11 2 ea: Items 2 - 6, 8 - 10

Note: Valve stems are interchangeable with Model 22 and V22 Head assemblies.

Model 22 & V22 Shipping Weight

Wall Thickness (Inches)	4	6	8	10	12	14	16	18	20	22	24
Shipping Wt. Ea. (lbs)	2.8	3.0	3.2	3.4	3.6	3.8	4.0	4.2	4.4	4.6	4.8



For more information contact...

WOODFORD MANUFACTURING COMPANY, LLC.

2121 Waynoka Road, Colorado Springs, Colorado 80915 • Phone: (800) 621-6032 • Fax: (800) 765-4115

To view our complete product line visit: www.woodfordmfg.com or email: sales@woodfordmfg.com

The Model 65, B65, RB65 are automatic draining, freezeless wall hydrants with single check hose connection anti-siphon vacuum breakers. Hydrants drain as handle is shut off, *even if hose is attached*. All models are designed for irrigation purposes to blend in with modern architecture for installation on restaurants, schools, office buildings, churches, apartments, motels, stores, shopping centers and industrial buildings.

SPECIFICATIONS:

MODEL 65/B65/RB65

- Approved under ASSE Standard 1019-B
- Listed by IAPMO®
- Meets Government Specification WW-P-541b

VACUUM BREAKER - ANTI SIPHON -

- NIDEL® Model 34HA with 3/4 inch male hose thread
- Approved under ASSE 1011
- Listed by IAPMO®

VALVE SEAT – Permanent type brass valve body with hemispherical seating surface.

VALVE – One piece valve plunger accurately controls both flow and drainage with a minimum number of turns and without need for adjustments.

DRAIN – Under nozzle away from hands of operator and with a lip to divert water away from building.

CASING – Copper tubes.

NO LEAD SOLDER - Al solder joints.

STEM – Hardened stainless steel stem resists damage.

TEE KEY – Loose key operates hydrant.

OPERATING ROD – 3/8" solid brass operating rod.

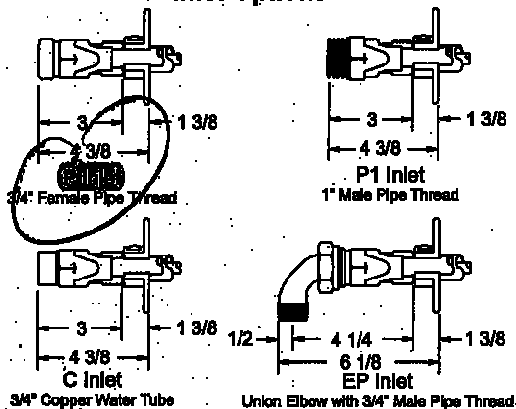
INLETS – As shown.

WALL CLAMP – Furnished on all 60 series except close coupled.

MAX PRESSURE – 125 p.s.i.

MAX TEMPERATURE – 120° F

Inlet Options



Specify as follows:

Wall hydrant shall be Woodford Model 65 (exposed type), B65, RB65 or MB65 (concealed box type), automatic draining with anti-siphon vacuum breaker. ASSE Standard 1019-B approved. 3/4" inlet and outlet (specify type of inlet). Hardened stainless steel operating stem and one-piece valve plunger to control both flow and drain functions. Exterior finish to be Chrome Plated (options: Polished Brass or Rough Brass). Loose tee key to be furnished with each hydrant. Wall thickness to be _____ inches.

When ordering, specify model, inlet and wall thickness

WOODFORD



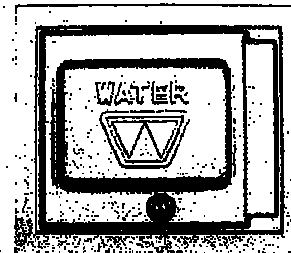
Anti-Siphon Freezeless Wall Hydrants

Model 65/B65/RB65



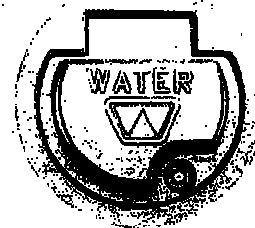
Model 65

Standard - Chrome (CH)
Optional - Brass (BR) Polished Brass (PB)
Fits one standard modular brick course.



Model B65

Exterior Finish: Box & Door
Standard - Chrome (CH)
Optional - Brass (BR) Polished Brass (PB)
Anodized Aluminum Box (AL)
Fits two std. modular brick course or one course of facing tile.



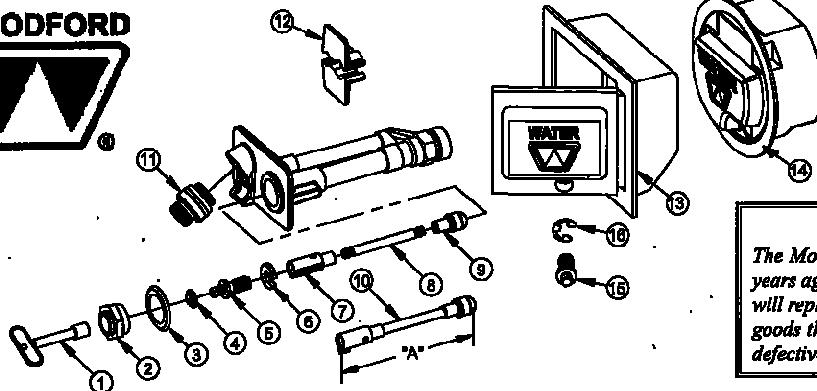
Model RB65

Exterior Finish: Box & Door - Chrome (CH) Only
Designed especially for tilt-up wall construction.
Install through 6" diameter hole.
Two 3/8"-16 tapped holes for all-thread anchors in back of box.
Lift and latch door stays open when hydrant is in use.

SEE WOODFORDMFG.COM FOR INSTRUCTIONS
AND DETAILS OF APPLICABLE PATENTS AND
PATENTS PENDING OR CALL 1-800-621-6032



Woodford
Excellence
Since 1929
Proudly Made in The U.S.A.

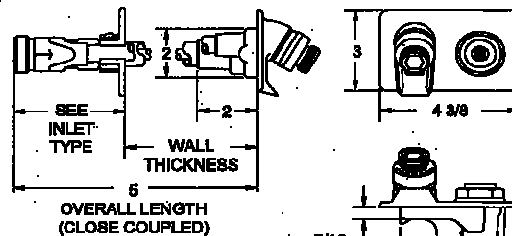


MODEL 65/B65/RB65 PARTS LIST

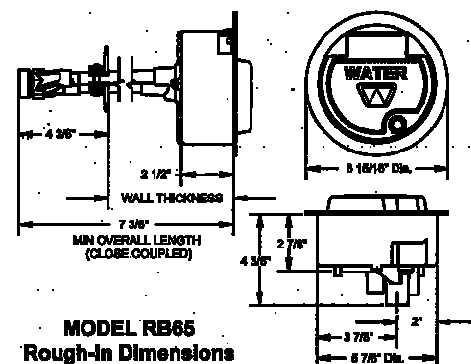
ITEM	PART #	DESCRIPTION
1	50009	Tee Key
	50010	Long Tee Key (Box Models)
2	50284	Head Nut - chrome
	50285	Head Nut - brass
3	50583	I.D. RING
4	50252	Stem Washer
5	55062	Stem Screw
6	50251	"C" washer
7	51014	Yoke Nut
8	Operating Rod (Sold With Item 10 Only)	
9	50250	Plunger
10	554XX	Operating Rod Assembly (Includes Items 7,8,9) (Select required assembled length from table below)
11	34HA-CH	34HA Vacuum Breaker - chrome
	34HA-BR	34HA Vacuum Breaker - brass
12	55083	Wall Clamp Assembly
13	67BX	Box/Door Assembly - Chrome
	66BXF	Box/Flat Door Assembly - chrome
	67BX-BR	Box/Door Assembly - Brass
	66BXF-BR	Box/Flat Door Assembly - Brass
	67BX-PB	Box/Door Assembly - Polished Brass
	66BXF-PB	Box/Flat Door Assembly - Polished Brass
	67BX-AL	Box/Door Assembly - Aluminum
14	RB67BX	Round Box/Door Assembly - Chrome
	RK-65	Chrome Repair Kit (Includes Items 1, 2, 4-7 & 9)
15	51117	Door Lock Screw - Chrome
	51116	Door Lock Screw - Brass
16	51120	E-Ring

LIMITED WARRANTY

The Model 65 is sold with a limited warranty for five years against defects in material and workmanship. We will replace or issue credit (at our option) for defective goods that are returned for inspection and found to be defective within five years of purchase from Woodford.



MODEL 65
Rough-In Dimensions

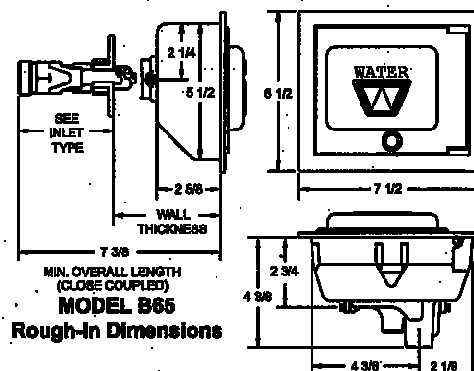


MODEL RB65
Rough-In Dimensions

Operating Rod Assy. "A"

Wall Thickness	Length	Part No.
65	3 1/2"	55401
CC	4 1/2"	55402
N/A	6 1/2"	55404
4	8 1/2"	55406
6	10 1/2"	55408
8	12 1/2"	55410
10	14 1/2"	55412
12	16 1/2"	55414
14	18 1/2"	55416
16	20 1/2"	55418
18	22 1/2"	55420
20	24 1/2"	55422
22	26 1/2"	55424
24	N/A	

Manufactured under one or more of the following patents:
U.S. Patents:
3,414,001
4,178,956
4,316,481
4,532,954
D216,790
D216,791
D277,365
D277,366
Canada Patents:
852,529
865,995
1,146,436



MODEL B65
Rough-In Dimensions

Wall Thickness (Inch)	CC	4	6	8	10	12	14	16	18	20	22	24
Overall Length - Hydrant	5	8	10	12	14	16	18	20	22	24	26	28
Overall Length - Box Models	7 3/8	8 3/8	10 3/8	12 3/8	14 3/8	16 3/8	18 3/8	20 3/8	22 3/8	24 3/8	26 3/8	28 3/8
Shipping Wt. (Lbs)**	3.8	4.4	4.8	5.2	5.6	6	6.4	6.8	7.2	7.6	8	8.4

** Add 8.3 Lbs. for brass box models.

** Add 2.5 Lbs. for aluminum box models.

NOTE: Close Coupled Models are not recommended for use in freezing climates and cannot use wall clamp.

For more information contact...

WOODFORD MANUFACTURING COMPANY

2121 Waynoka Road, Colorado Springs, Colorado 80915 • Phone: (800) 621-6032 • Fax: (800) 765-4115

To view our complete product line visit: www.woodfordmfg.com or email: sales@woodfordmfg.com

A Division Of WCM Industries, Inc.



Effective: June 10, 2015

Submittal Data Information

101-029

Model 007 Cartridge Circulator

Supersedes: March 25, 2013

Job: _____ Engineer: _____ Contractor: _____ Rep: _____

ITEM NO.	MODEL NO.	IMP. DIA.	G.P.M.	HEAD/FT.	H.P.	ELEC. CHAR.
ANY	007-SF5					

Features

- Standard High Capacity Output-Compact Design
- Quiet, Efficient Operation
- Direct Drive-Low Power Consumption
- Unique Replaceable Cartridge Design-Field Serviceable
- Self Lubricating
- No Mechanical Seal
- Unmatched Reliability-Maintenance Free
- Universal Flange to Flange Dimensions
- Cast Iron or Stainless Steel Construction

Application

The Taco 007 is a cartridge style, maintenance free, wet-rotor, in-line, single stage circulator pump. It is designed for quiet operation in Hydronic heating, Radiant heating, Hydro-Air fan coils, Indirect water heaters, Chilled fresh water, and Domestic Water Recirculation systems. Available in Cast Iron or Stainless Steel construction with universal flanged connections. The unique replaceable cartridge contains all of the moving parts and allows the circulator to be easily serviced instead of replacing the entire unit. Ideal for a wide range of applications.

Pump Dimensions & Weights

Models	Casing	Flange Type*	A		B		C		D		F		G		Ship Wt.	
			in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg
007-F5	Cast Iron	S	6-3/8	162	4-1/2	114	3-3/16	81	3-15/16	75	4-3/4	121	6-3/8	162	8.0	3.6
007-F5-S	Cast Iron	R	6-1/2	156	4-1/2	114	3-3/16	81	3-15/16	75	4-3/4	121	6-3/8	162	8.0	3.6
007-SF5	St. Steel	S	6-3/8	162	4-1/2	114	3-3/16	81	3-15/16	75	4-3/4	121	6-3/8	162	7.0	3.2

Materials of Construction

Casing (Volute):..... Cast Iron or Stainless Steel
 Stator Housing:..... Steel
 Cartridge:..... Stainless Steel
 Impeller:..... Non-Metallic
 Shaft:..... Ceramic
 Bearings:..... Carbon
 O-Ring & Gaskets:..... EPDM

Model Nomenclature

F - Cast Iron, Flanged
 SF - Stainless Steel, Flanged

Performance Data

Max. Flow: 23 GPM
 Max. Head: 10 Feet
 Min. Fluid Temperature: 40°F (4°C)
 Max. Fluid Temperature: 230°F (110°C)
 Max. Working Pressure: 125 psi
 Connection Sizes: 3/4", 1", 1-1/4", 1-1/2" Flanged

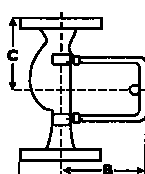
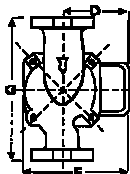
Certifications & Listings



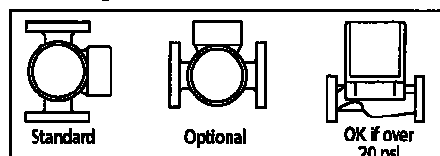
US LISTED FOR INDOOR USE ONLY



Low Lead Compliant



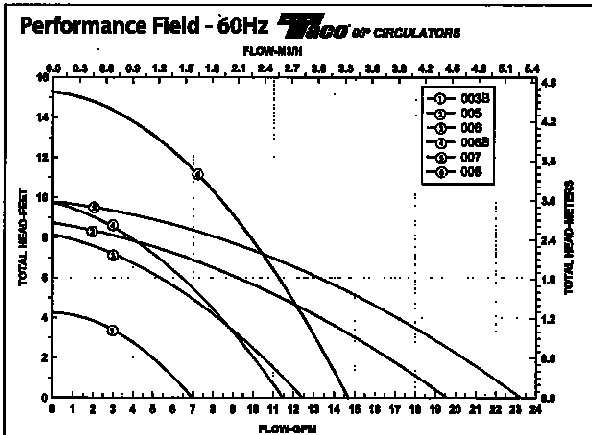
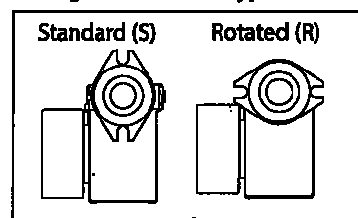
Mounting Positions



Electrical Data

Model	Volts	Hz	Ph	Amps	RPM	HP
Cast Iron	115	60	1	.74	3250	1/25
St. Steel	115	60	1	.76	3250	1/25
Motor Type	Permanent Split Capacitor Impedance Protected					
Motor Options	220/50/1, 220/60/1, 230/60/1, 100/110/50/60/1					

*Flange Orientation Type



Taco, Inc., 1160 Cranston Street, Cranston, RI 02920 | Tel: (401) 942-8000 | FAX: (401) 942-2360

Taco (Canada), Ltd., 8450 Lawson Road, Suite #3, Milton, Ontario L9T 0J8 | Tel: (905) 564-9422 | FAX: (905) 564-9436

Visit our web site: www.TacoComfort.com | Printed in USA | ©2015 Taco, Inc.

MAIN BLDG



Submittal Data Information

101-036

00® Timers/Aquastat

Effective: December 10, 2015

Supersedes: June 18, 2014

Job: _____ Engineer: _____ Contractor: _____ Rep: _____

ITEM NO.	MODEL NO.	
CP-1 & 2		

24 Hour Analog Clock Timer

Performance Data — #265-1

Electrical Characteristics: 115/60/1
 Timer Switch: 16A @115V
 Timer Interval: 15 Minutes
 Clock face: Hour and Minute Hands
 Manual Switch: I Permanently ON
 ⓐ Automatic Operation
 ⓑ Permanently OFF

7 Day Digital Timer

Performance Data — #265-3

Electrical Characteristics: 115/60/1
 Timer Switch: 16A @115V
 Timer Interval: 1 Minute (+) Adjustable
 Clock face: Digital with
 Circulator Programming
 Capacitor Backup: 2,500 hours

Temperature Aquastat — Snap

Action Temperature Switch — #563-2

Electrical Characteristics: 115/60/1
 Connections: 1/2" (Snap on circ. body)
 3/4" Copper pipe
 Temperature Setting: ON @ 95°F
 OFF @ 115°F
 Contacts: 7 amp SPDT Switch
 Wire Leads: 18" – Type 18-2,
 Round Premium Cable

Application

The Taco Clock Timers and Temperature Aquastat are designed to control the operation of Taco circulators on Domestic Hot Water Recirculation Systems for maximum comfort and energy efficiency. They are adaptable to any 00® Series circulator by attaching the enclosure or wiring to the electrical box.

24 Hour Analog Timer

Operates the circulator at the same pre-set times every day. Time intervals are in 15 minute increments. This user friendly clock has a raised minute hand for easy adjustments, quick-set trippers and an operation switch for Manual ON/OFF or Automatic modes.

7 Day Digital Programmable Timer

Digital Timer can be programmed to operate at different times on different days, weekdays or weekends, for maximum comfort and convenience to match family schedules. Easy circular programming clock face and LCD readout screen. Run time intervals as short as 1 minute provides maximum energy efficiency. A capacitor backup saves settings for up to 2,500 hours during power outages.

Temperature Aquastat

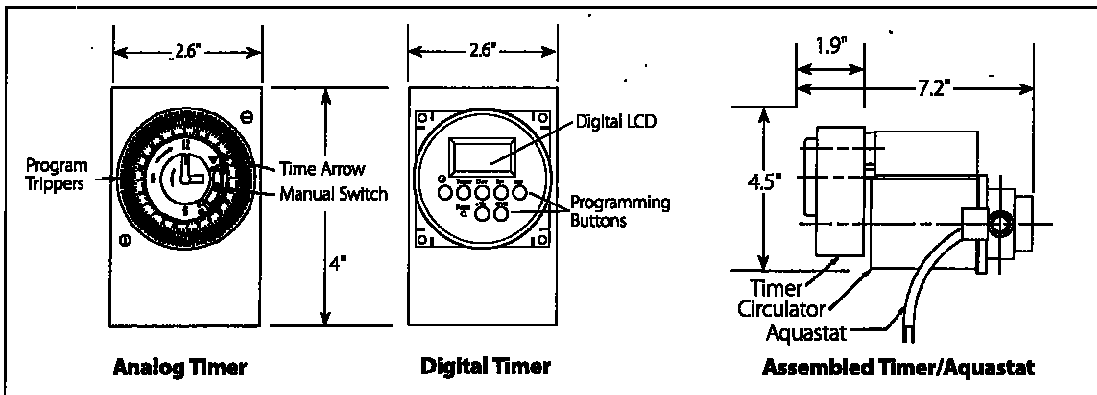
Controls pump operation to maintain system temperature between 95°F and 115°F. Easy clip-on Aquastat attaches directly to 3/4" pipe or a 1/2" sweat pump casing.

Shipping Weight

Model	Item	Lbs.	Kg
265-1	Analog Timer	.75	.35
265-3	Digital Timer	.75	.35
563-2	Aquastat	.25	.11



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 Taco (Canada) Ltd., 8450 Lawson Road, Unit #3, Milton, Ontario L9T 0J8 / (905) 564-9422 / Fax (905) 564-9436
www.TacoComfort.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

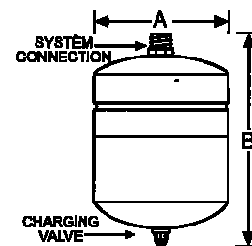
- For use in closed, potable hot water systems to control pressure buildup.
- Accepts expanded water as temperature rises to prevent relief valve discharge and system damage.
- Stand models designed for large residential and light commercial applications.
- Multiple units can be installed to accommodate 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

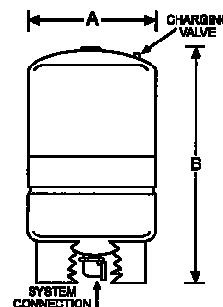
In-Line Models

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	¾"	5	2.3
ST-12	4.4	17	.73	11	279	15	381	¾"	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	¾"	23	10
ST-30V	14.0	53	0.81	15	381	24	610	¾"	25	11
ST-42V	20.0	76	0.57	15	381	32	813	¾"	33	15
ST-60V	34.0	129	1.00	22	559	30	762	1 ¼"	61	28
ST-80V	44.0	167	0.77	22	559	36	914	1 ¼"	69	31
ST-180V	62.0	235	0.55	22	559	47	1194	1 ¼"	92	42
ST-200V	81.0	307	0.44	22	559	56	1422	1 ¼"	103	47
ST-210V	88.0	326	0.54	28	680	47	1194	1 ¼"	123	58



All dimensions and weights are approximate.

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

Notes _____





Submittal Data Information

101-028

Model 006 Cartridge Circulator

Effective: March 20, 2017

Supersedes: April 4, 2013

Job: _____ Engineer: _____ Contractor: _____ Rep: _____

ITEM NO.	MODEL NO.	
CP-2	006-ST4	

Features

- Standard high capacity output
- Compact design
- Quiet, efficient operation
- Direct drive - Low power consumption
- Unique replaceable cartridge design
- Field serviceable
- Self lubricating
- No mechanical seal
- Unmatched reliability
- Maintenance free
- Low-lead Bronze sweat or Stainless Steel with threaded or union connections

Materials of Construction

Casing (Volute):.....Low-lead Bronze or Stainless Steel
 Stator housing:.....Steel
 Cartridge:.....Stainless Steel
 Impeller:.....Non-metallic
 Shaft:.....Ceramic
 Bearings:.....Carbon
 O-Ring & Gaskets:EPDM
Chlorine resistant

Model Nomenclature

B - Bronze, 3/4" sweat
 BC - Bronze, 1/2" sweat, panel mount tapings
 ST - Stainless Steel, 3/4" NPT
 SC - Stainless Steel, union, panel mount tapings

Performance Data

Flow Range: 0 - 11 GPM
 Head Range: 0 - 9.5 Feet
 Min. Fluid Temperature: 40°F (4°C)
 Max. Fluid Temperature: 220°F (104°C)
 Max. Working Pressure: 125 psi
 Connection sizes:
 1/2" swt, 3/4" swt, 3/4" NPT or union

Certifications & Listings



FOR INDOOR
USE ONLY



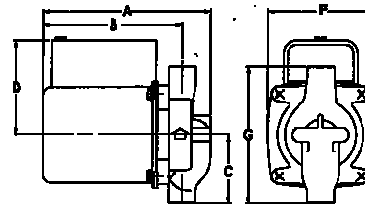
Low-Lead Compliant

Application

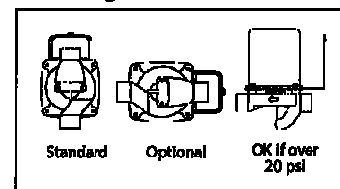
The Taco 006 is designed for circulating hot or chilled fresh water in open or closed loop applications. Typical uses include hydronic heating, domestic hot water recirculation, hydro-air heating/cooling, heat recovery units, water source heat pumps, drain down open loop Solar systems and potable water applications. The unique, replaceable cartridge contains all of the moving parts and allows for easy service instead of replacing the entire circulator. The compact, low power consumption design is ideal for high efficiency jobs.

Pump Dimensions & Weights

Models	Conn.	A		B		C		D		F		G		Ship Wt.	
		in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	Kg
006-BC4	1/2" Swt.	5-1/8	130	4-1/8	105	2-1/8	54	3-1/16	78	3-15/16	84	4-1/4	108	6.0	2.7
006-BC	3/4" Swt.	5-1/8	130	4-1/8	105	2-3/16	56	3-1/16	78	3-15/16	84	4-3/8	111	6.0	2.7
006-ST4	3/4" NPT	5-5/8	143	4-7/8	124	2	51	3-1/16	78	3-15/16	84	4	102	6.0	2.7
006-SC4	Union	5-5/32	131	4-11/32	110	2-31/32	76	3-1/16	78	3-15/16	84	5-15/16	151	6.0	2.7



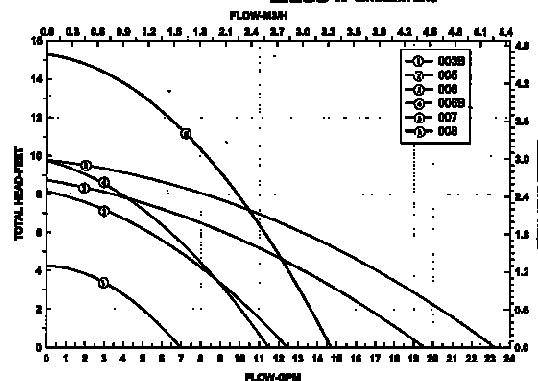
Mounting Positions



Electrical Data

Model	Volts	Hz	Ph	Amps	RPM	HP
All 006 Models	115	60	1	52	3250	1/40
Motor Type	Permanent Split Capacitor Impedance Protected					
Motor Options	220/50/1, 220/60/1, 230/60/1, 100/110/50/60/1					

Performance Field - 60Hz

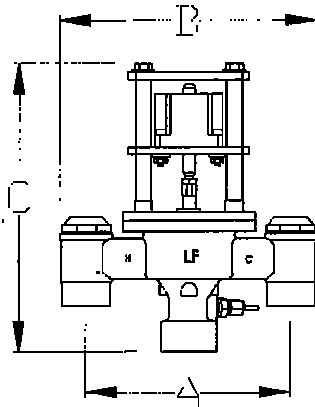


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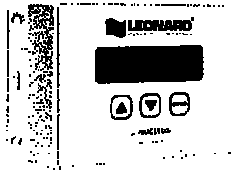
NUCLEUS PROTON

DIGITALLY CONTROLLED MIXING VALVE



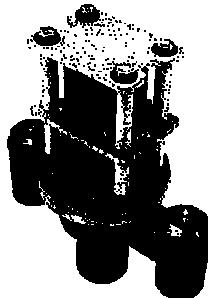
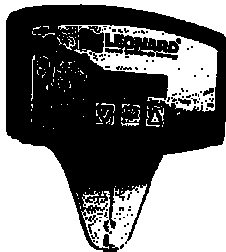
A = 6-3/4" ± 1/2" B = 8-1/2" ± 1/2"
C = 9" ± 1/2" Depth = 4-1/2" ± 1/2"

STANDARD CONTROL BOX



WARNING: This product can expose you to chemicals including lead, which is known to the State of California to cause cancer. For more information, go to www.P65.ca.gov

NEW "ENHANCED FEATURE SET" CONTROL BOX SEE SELECTABLE OPTIONS PAGE 2



This product meets Low Lead requirements of wetted surface area containing less than 0.25% lead by weight

Product is non-cancellable and non-returnable from date from order with factory. Signed submittal required with purchase order.

MAIN BLDG

MV-1

PNV-100-LF

Submittal Data Sheet S-PNV-100-LF
January, 2023

- Digital Mixing Valve with 3/4" inlet angled check stops, 1" Outlet and integral RTD Sensor
- 3/4" NPT inlets, 1" NPT outlet (19mm X 25mm)
- Valve controls at times of no use, 0.0 GPM**
- Maximum operating pressure: 200 PSIG (1379 KPA)
- Controls water temperature to +/- 2°F in accordance with ASSE 1017
- Controls water temperature to +/- 2°F during times of low / no system demand
- Self-Balancing, do not need to adjust or balance recirculation
- Self-Cleaning, daily shuttle sweep keeps shuttle free of debris
- Automatic Hot/ Cold Water shutoff upon cold/ hot water inlet supply failure
- Alerts user when unit requires maintenance
- User programmable set point range between 65°F and 180°F
- Simple/intuitive user commissioning and setup
- Displays outlet temperature
- UL Listed control box and 120V plug in power supply with 6' cord
 - Option for Backup Uninterruptable Power Supply in the event of primary power loss w/ approx. two hours run time
- Factory assembled and tested

****NOTE:** The valve will maintain temperature with 0.0 GPM flow from the domestic hot water loop when properly installed near the hot water source with a continuously operating recirculation pump at 2.5 GPM.

OPTIONS:

BPS – Back-up Power Supply, uninterruptable power supply with up to 2 hours run time in case of primary power loss

Valve is Pending ASSE 1017 Certified



Valve is Pending CSA Certified



Valve electronics are UL Certified



LEONARD
WATER TEMPERATURE CONTROLS

1360 Elmwood Avenue, Cranston, RI 02910 USA

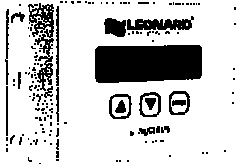
Phone: 401.461.1200 Fax: 401.941.5310

Email: info@leonardvalve.com

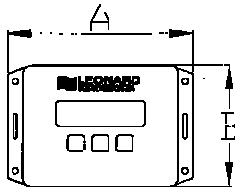
Web Site: <http://www.leonardvalve.com>

PNV-CONTROLLER OPTIONS

Standard Controller 1.0 Version



A = 6" B = 4"
Depth = 1-3/4"



STANDARD CONTROLLER:

_____ 1.0 – See PAGE 1 for info

ENHANCED CONTROLLER OPTIONS:

UL Listing Pending on 2.0, 2.5 and 3.0 controllers

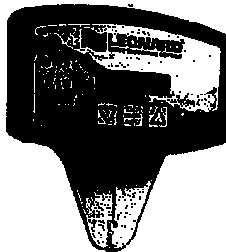
Note: Boxes not field upgradeable

_____ 2.0 – Enhanced Proton Controller with Programable
Disinfection Mode

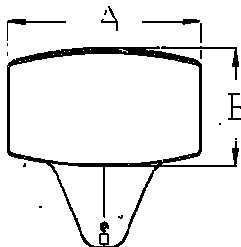
Options:

- _____ REL – 5 Relay Contacts that Switch during Alarm State
 - Helpful for Remote Alerts Within Building to Assist Maintenance and Service Personnel
 - 5 Unique States:
 - Loss of Power
 - Broken Temperature Probe
 - "Out of Range" Temperature ($\pm 10^{\circ}\text{F}$)
 - Motor Connectivity and Operation
 - Maintenance (Service Required) @ $<90\%$ Full travel

Enhanced Controller 2.0, 2.5, 3.0 Versions



A = 8" B = 4-3/4"
Depth = 1-1/4"



_____ 2.5 – Enhanced Proton Controller including all of 2.0 as
well as BACnet MS/TP Connection which provides
ability to serve up all data to BMS system

Options:

- _____ 3T – Three Additional Temperature Sensors for Monitoring of
Inlet Hot, Inlet Cold, and Return Temperatures
- _____ REL – 5 Relay Contacts that Switch during Alarm State
(as shown above)

_____ 3.0 – Enhanced Proton Controller including all of 2.5 as
well as all items below as standard,

- WiFi – Wifi enabled
- 3T - 3 Additional Temperature Sensors for Monitoring
of Inlet Hot, Inlet Cold and Return Temperatures
- REL - 5 Relay Contacts that Switch during Alarm State

**AVAILABLE $\approx$ 2nd Quarter 2023

Leonard Valve Company reserves the right of product, or
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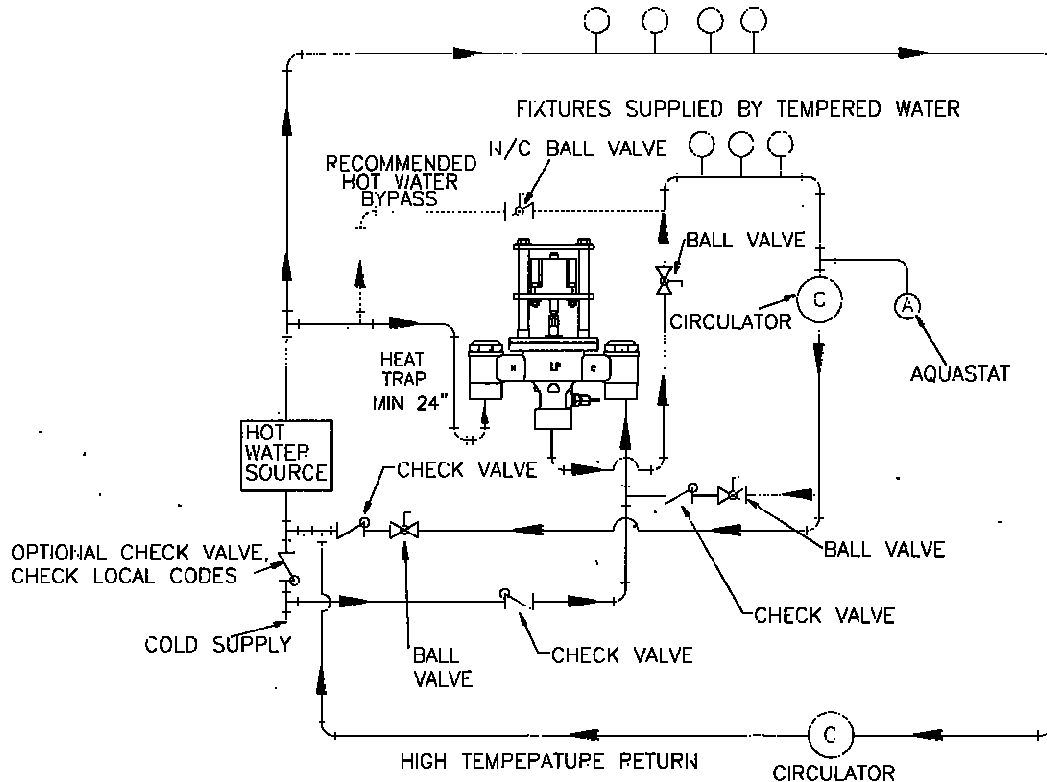
Phone: 401.461.1200 Fax: 401.941.5310

Email: sales@leonardvalve.com

Web Site: <http://www.leonardvalve.com>

PRESSURE DROP										
5	(10)	(15)	(20)	25	30	35	40	45	50	PSI
.3	.7	.97	1.4	1.7	2.1	2.4	2.8	3.1	3.4	BAR
17	25	28	32	36	39	43	45	48	51	GPM
64	95	106	121	136	148	163	170	182	193	l/min

HIGH TEMPERATURE FIXTURES (IF APPLICABLE)



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

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

Engineer's Approval

Job # _____

Arch/Eng. _____

Contractor _____

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

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



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Email: info@leonardvalve.com

Web Site: <http://www.leonardvalve.com>



The new degree of comfort.

Commercial Gas
Triton Water Heaters

TRITON® – The Most Intelligent, High-Efficiency Commercial Gas Water Heater in the Market

Ideal for Replacements and New Construction Applications

THE TRITON ADVANTAGE

- Most accurate, all-inclusive leak detection and prevention system in the market
- Eliminate downtime with the ability to detect and prevent water heater problems
- Triple pass heat exchanger constructed of porcelain coated ASME grade steel
- Universal retrofit features make it easy to replace any water heater

SS EXCLUSIVE FEATURES

- **LeakGuard™** – All inclusive leak detection and prevention system with auto shut off valve limits water leakage outside the tank
- **Integrated BMS Connectivity Via BACnet (MS/TP)** – Built-in BACnet port easily connects to building management systems (BMS)
- **Energy & Water Usage Reports** – Track usage trends and manage energy and water consumption through the Rheem EcoNet app
- **Warranty** – 5-Year limited tank*

SS AND SU FEATURES

Built-In Intelligence

- **LeakSense™** – Intelligent leak detection system detect leaks as small as a grain of sand and provides real-time notifications that warn you before it becomes an emergency
- **EcoNet® Smart Monitoring Technology with Integrated WIFI**** – Rheem Exclusive! Provides performance updates and alerts via both mobile device and full-color LCD display
- **Systematic Health Checks** – Ongoing self-monitoring of Triton's most vital components and alerts of potential issues
- **Preventive Maintenance Alerts** – Maintenance reminders help to extend life of the tank

Easy Retrofit/Installation

- **Multiple Connection Points** – Multiple water connections at the top, side and bottom of the unit simplify installation for replacement of any model
- **Variety of Flexible Venting Options Including InnoFlue® Flex Venting** – Polypropylene, PVC, CPVC, InnoFlue® Flex Vent and ABS materials; venting 2, 3, 4 and 6 inch diameters
- **Built-In Condensate Neutralizer** – Reduces water acidity for safe drainage

Built to Last

- **Triple Pass Heat Exchanger** – Constructed with premium porcelain coated **ASME-grade steel** to minimize rust and corrosion for extended tank life and maximum thermal efficiency
- **Advanced Power Anodes** – Self-adjusting, non-sacrificial power anodes provide systematic monitoring of anode health and remaining tank life

Energy Efficient

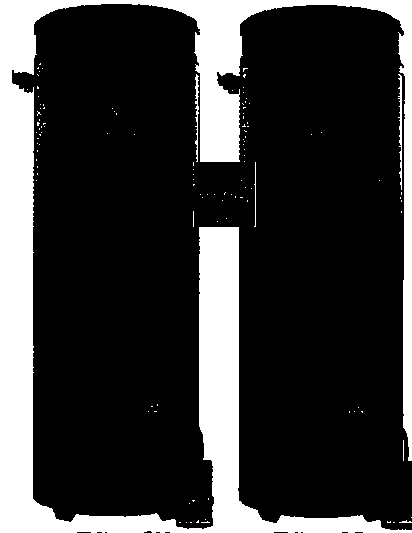
- **Full Modulation** – Maximizes energy savings by optimizing BTU input for specific water heating demand
- **Scheduling Capability** – Adjust to heat water only during peak operating hours when your business needs it most

Plus

- Altitude certified up to 8,999 feet above sea level
- ½-Inch gas connection
- CSA/ASME rated T&P valve
- Meets 14 ng/J NOx requirements
- SCAQMD Rule 1146.2 compliant
- ENERGY STAR® rated
- NSF Rated
- Meets Massachusetts specifications
- Maximum temperature setting 185°F
- **Warranty** – SU Model: 3-Year limited tank; SS Model: 5-Year limited tank*

*See Commercial Warranty Certificate for complete information.

**2.4 GHz WIFI broadband Internet connection required.

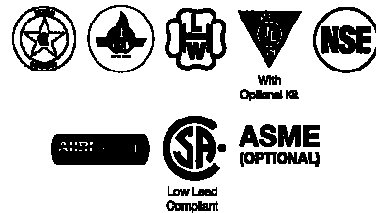


Triton SU

Triton SS

Rheem Triton

80 and 100-Gallon Capacities
130,000-399,900 BTU/h
Sealed Combustion System
Up to 98% Thermal Efficiency
Ultra Low NOx
Porcelain Coated Tank Lining
and Heat Exchanger
Natural and LP Gas

With
Optional KitASME
(OPTIONAL)Low Lead
Compliant

Triton Gas Water Heaters

BASE MODELS: SU = SMART UNIVERSAL	
80-GALLON	100-GALLON
GHE80SU-130(A)	GHE100SU-130(A)
GHE80SU-160(A)	GHE100SU-160(A)
GHE80SU-200(A)	GHE100SU-200(A)
GHE80SU-300(A)	GHE100SU-250(A)
	GHE100SU-300(A)
	GHE100SU-400(A)

PREMIUM MODELS: SS = SMART AUTO SHUTOFF VALVE	
80-GALLON	100-GALLON
GHE80SS-130(A)	GHE100SS-130(A)
GHE80SS-160(A)	GHE100SS-160(A)
GHE80SS-200(A)	GHE100SS-200(A)
GHE80SS-300(A)	GHE100SS-250(A)
	GHE100SS-300(A)
	GHE100SS-400(A)

A= ASME Option

Electrical Requirements: 110 Volt, 50 / 60 Hertz, 7.5 Max Breaker Amp Draw

RECOVERY CAPACITIES (Recovery in U.S. Gallons/Hr. (GPH) and Liters/Hr. (LPH) at various temperature rises)														
MODEL NUMBER	INPUT (BTU/H) NAT. & LP	THERMAL EFFICIENCY	UNITS	40°F (22°C)	60°F (28°C)	80°F (33°C)	70°F (39°C)	80°F (46°C)	90°F (50°C)	100°F (56°C)	110°F (61°C)	120°F (67°C)	130°F (75°C)	140°F (78°C)
GHE80SU/SS-130(A)	130,000	98%	GPH	982	906	255	218	191	170	153	139	127	118	109
			LPH	1448	1160	966	826	724	644	550	527	481	447	413
GHE80SU/SS-160(A)	160,000	97%	GPH	465	372	310	266	233	207	186	169	155	143	133
			LPH	1780	3305	1173	1007	882	784	704	640	587	541	503
GHE80SU/SS-200(A)	199,900	96%	GPH	578	481	384	329	288	256	230	209	192	177	165
			LPH	2180	1745	1454	1245	1090	886	871	791	727	670	625
GHE80SU/SS-300(A)	300,000	96%	GPH	855	684	570	488	427	380	342	311	285	263	244
			LPH	3237	2589	2158	1847	1616	1438	1295	1177	1079	996	924
GHE100SU/SS-130(A)	130,000	97%	GPH	382	306	255	218	191	170	153	139	127	118	109
			LPH	1446	1158	965	826	723	634	579	526	481	447	413
GHE100SU/SS-160(A)	160,000	97%	GPH	470	376	314	269	235	209	188	171	167	145	134
			LPH	1779	1423	1189	1018	890	791	712	647	594	549	507
GHE100SU/SS-200(A)	199,900	97%	GPH	582	465	388	332	291	258	233	212	194	179	166
			LPH	2203	1780	1489	1257	1102	980	882	803	746	678	628
GHE100SU/SS-250(A)	250,000	96%	GPH	727	582	485	416	364	323	291	264	242	224	208
			LPH	2752	2203	1836	1575	1378	1223	1102	999	916	848	787
GHE100SU/SS-300(A)	300,000	96%	GPH	873	696	582	499	438	388	349	317	291	269	249
			LPH	3305	2642	2203	1889	1650	1469	1321	1200	1102	1018	943
GHE100SU/SS-400(A)	399,900	95%	GPH	1139	912	760	651	570	506	456	414	380	351	326
			LPH	4312	3452	2877	2464	2158	1915	1726	1567	1438	1329	1234

MAXIMUM DELIVERY (In U.S. Gallons and Liters - Includes useable storage and recover for indicated times)															
MODEL NUMBER	INPUT (BTU/H) NAT. & LP	GAL.	LITERS	TEMP. RISE	UNITS	5 MIN.	10 MIN.	15 MIN.	20 MIN.	30 MIN.	45 MIN.	60 MIN.	120 MIN.	180 MIN.	MIN TO RECOVER CONTENTS
GHE80SU/SS-130(A)	130,000	80	303	100°F	GPH	69	81	94	107	132	171	209	362	515	31
				56°C	LPH	260	308	357	405	501	646	791	1369	1948	
GHE80SU/SS-160(A)	160,000	80	303	100°F	GPH	72	87	103	118	149	196	242	428	615	28
				56°C	LPH	271	329	388	447	564	741	917	1622	2326	
GHE80SU/SS-200(A)	199,900	80	303	100°F	GPH	75	94	114	133	171	229	286	517	747	21
				56°C	LPH	285	357	430	503	648	866	1084	1959	2827	
GHE80SU/SS-300(A)	300,000	80	303	100°F	GPH	84	113	141	170	227	312	398	740	1081	14
				56°C	LPH	320	428	535	643	859	1182	1508	2800	4084	
GHE100SU/SS-130(A)	130,000	100	379	100°F	GPH	83	95	108	121	146	185	223	376	529	39
				56°C	LPH	313	361	410	458	554	698	844	1422	2001	
GHE100SU/SS-160(A)	160,000	100	379	100°F	GPH	86	101	117	133	164	211	258	448	634	33
				56°C	LPH	324	384	443	502	621	799	977	1689	2401	
GHE100SU/SS-200(A)	199,900	100	379	100°F	GPH	89	108	128	148	186	245	303	535	788	26
				56°C	LPH	338	412	485	559	705	926	1146	2027	2908	
GHE100SU/SS-250(A)	250,000	100	379	100°F	GPH	94	118	143	167	215	288	361	652	943	21
				56°C	LPH	357	449	540	632	816	1091	1386	2467	3569	
GHE100SU/SS-300(A)	300,000	100	379	100°F	GPH	99	128	157	186	245	332	419	768	1117	18
				56°C	LPH	375	485	595	705	926	1256	1586	2908	4229	
GHE100SU/SS-400(A)	399,900	100	379	100°F	GPH	108	146	184	222	298	412	526	982	1437	13
				56°C	LPH	409	553	666	840	1128	1559	1990	3715	5441	

VENTING OPTIONS**POWER
DIRECT VENT**

MODEL NUMBER	MAX. VENT LENGTH (Eq. Ft.)							
	PIPE DIAMETER							
	2" (5 cm)		3" (8 cm)		4" (10 cm)		6" (15 cm)	
	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET
GHE80SU/SS-130(A)	20	35	60	75	120	135	X	X
GHE80SU/SS-160(A)	20	35	60	75	120	135	X	X
GHE80SU/SS-200(A)	X	X	60	75	120	135	X	X
GHE80SU/SS-300(A)	X	X	60	75	120	135	120	135
GHE100SU/SS-130(A)	20	35	60	75	120	135	X	X
GHE100SU/SS-160(A)	20	35	60	75	120	135	X	X
GHE100SU/SS-200(A)	X	X	60	75	120	135	X	X
GHE100SU/SS-250(A)	X	X	60	75	120	135	X	X
GHE100SU/SS-300(A)	X	X	60	75	120	135	120	135
GHE100SU/SS-400(A)	X	X	50	65	70	85	120	135

POWER VENT

MODEL NUMBER	MAX. VENT LENGTH (Eq. Ft.)							
	PIPE DIAMETER							
	2" (5 cm)		3" (8 cm)		4" (10 cm)		6" (15 cm)	
	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET	INLET	OUTLET
GHE80SU/SS-130(A)	-	35	-	135	-	185	-	X
GHE80SU/SS-160(A)	-	35	-	135	-	185	-	X
GHE80SU/SS-200(A)	-	X	-	135	-	185	-	X
GHE80SU/SS-300(A)	-	X	-	135	-	145	-	120
GHE100SU/SS-130(A)	-	35	-	135	-	185	-	X
GHE100SU/SS-160(A)	-	35	-	135	-	185	-	X
GHE100SU/SS-200(A)	-	X	-	135	-	185	-	X
GHE100SU/SS-250(A)	-	X	-	135	-	185	-	120
GHE100SU/SS-300(A)	-	X	-	135	-	185	-	120
GHE100SU/SS-400(A)	-	X	-	65	-	100	-	135

For each long radius sweep 90° elbow, reduce pipe length by five (5) feet.

For each standard sweep 90° elbow, reduce pipe by eight (8) feet.

For each 45° elbow, reduce pipe length by two and a half (2.5) feet.

Note: Vent pipe size should not be mixed for venting these units.

Use same diameter pipe for all venting of the unit.

3" Concentric = 60 ft. in, 75 ft. out

4" Concentric = 120 ft. in, 135 ft. out

See use and care manual for venting details.

Venting configurations are the same for SS Models. Vents with Polypropylene, ABS, CPVC or PVC.

NOTE: For Canadian installations, please use Polypropylene, ULC S636 PVC or CPVC.

Efficiency | All models tested according to ANSI test procedures, and meet or exceed the thermal efficiency and standby loss requirements of ASHRAE standard (EPact). Also exceeds energy efficiency codes of all states including California Energy Commission (CEC).

Safety and Construction | Design certified by CSA: For operation at 185 degrees; meets all safety and construction requirement of ANSI Z21.10.3; as an automatic storage or instantaneous water heater; as an automatic circulating tank water heater; and for operation on combustible floors and in alcove installations. **Certified for 150 PSI maximum working pressure (160 PSI for ASME models).**

Optional Construction | ASME construction is available on designated models. UL Sanitation (NSF5) compliant models are available when equipped with optional seal kit (Part No. AS42690).



The new degree of comfort



Commercial Gas
Triton Water Heaters

DIMENSIONAL INFORMATION (Shown in English and Metric)

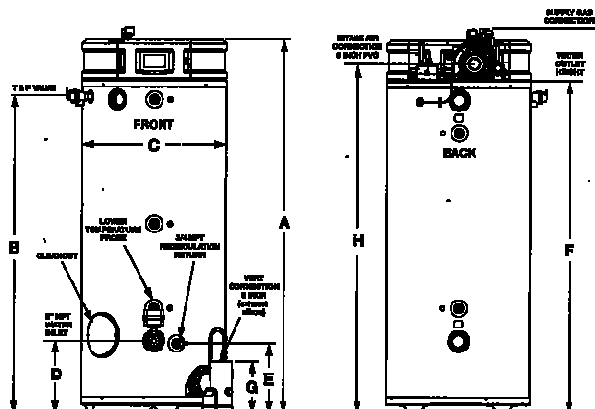
MODEL NUMBER	UNITS	A	B	C	D	E	F	G	H	I	VENT	SIDE WATER CONNECTION		TOP OUTLET	APPROX. SHIP WT. (LB)*
												INLET	OUTLET		
GHE80SU/SS-130(A)	Inches	67-7/8	57.43	28-3/8	13	12-1/2	60-1/2	10-5/8	63-5/8	70-1/16	2", 3", 4"	2" NPT	2" NPT	1.5" NPT	600
	MM	1724	1459	668	331	318	1537	270	1617	1780					
GHE80SU/SS-160(A)	Inches	67-7/8	57.43	28-3/8	13	12-1/2	60-1/2	10-5/8	63-5/8	70-1/16	2", 3", 4"	2" NPT	2" NPT	1.5" NPT	600
	MM	1724	1459	668	331	318	1537	270	1617	1780					
GHE80SU/SS-200(A)	Inches	67-7/8	57.43	28-3/8	13	12-1/2	60-1/2	10-5/8	63-5/8	70-1/16	2", 3", 4"	2" NPT	2" NPT	1.5" NPT	650
	MM	1724	1459	668	331	318	1537	270	1617	1780					
GHE80SU/SS-300(A)	Inches	67-7/8	57.43	28-3/8	13	12-1/2	60-1/2	10-5/8	63-5/8	70-1/16	3", 4", 6"	2" NPT	2" NPT	1.5" NPT	650
	MM	1724	1459	668	331	318	1537	270	1617	1780					
GHE100SU/SS-130(A)	Inches	77	66-3/4	28-3/8	13	12-1/2	69.80	10-5/8	72-3/4	77-1/2	2", 3", 4"	2" NPT	2" NPT	1.5" NPT	725
	MM	1956	1696	668	331	318	1773	270	1847	1969					
GHE100SU/SS-160(A)	Inches	77	66-3/4	28-3/8	13	12-1/2	69.80	10-5/8	72-3/4	77-1/2	2", 3", 4"	2" NPT	2" NPT	1.5" NPT	725
	MM	1956	1696	668	331	318	1773	270	1847	1969					
GHE100SU/SS-200(A)	Inches	77	66-3/4	28-3/8	13	12-1/2	69.80	10-5/8	72-3/4	77-1/2	2", 3", 4"	2" NPT	2" NPT	1.5" NPT	775
	MM	1956	1696	668	331	318	1773	270	1847	1969					
GHE100SU/SS-250(A)	Inches	77	66-3/4	28-3/8	13	12-1/2	69.80	10-5/8	72-3/4	77-1/2	3", 4", 6"	2" NPT	2" NPT	1.5" NPT	775
	MM	1956	1696	668	331	318	1773	270	1847	1969					
GHE100SU/SS-300(A)	Inches	77	66-3/4	28-3/8	13	12-1/2	69.80	10-5/8	72-3/4	77-1/2	3", 4", 6"	2" NPT	2" NPT	1.5" NPT	775
	MM	1956	1696	668	331	318	1773	270	1847	1969					
GHE100SU/SS-400(A)	Inches	77	66-3/4	28-3/8	13	12-1/2	69.80	10-5/8	72-3/4	77-1/2	3", 4", 6"	2" NPT	2" NPT	1.5" NPT	775
	MM	1956	1696	668	331	318	1773	270	1847	1969					

*Weights listed are for non-ASME. Add 35 lbs. for ASME models.

0" CLEARANCE TO ALL COMBUSTIBLE SURFACES ON SIDES AND BACK; 6" FOR TOP.
(FOR CANADIAN INSTALLATIONS, PLEASE USE POLYPROPYLENE, ULC S635 PVC OR CPVC.)

MODEL NUMBER	FLEX VENT LENGTHS POWER VENT ONLY AP10363 - 60' OF 3" PP FLEX PIPE AP10364 - 25' OF 3" PP FLEX PIPE	
	PIPE DIAMETER 3"	
GHE80SU/SS-130(A)	60	
GHE80SU/SS-160(A)	60	
GHE80SU/SS-200(A)	60	
GHE80SU/SS-300(A)	60	
GHE100SU/SS-130(A)	60	
GHE100SU/SS-160(A)	60	
GHE100SU/SS-200(A)	60	
GHE100SU/SS-250(A)	60	
GHE100SU/SS-300(A)	60	
GHE100SU/SS-400(A)	60	

NOTE: Equivalent 60 Ft. with rigid & flexible pipe.



Recommended Specifications (for trade reference only)

Water heater(s) shall be Triton Model _____ # or equal, manufactured by Rheem, having a gas input of _____ BTU/h and recovery rate of _____ GPH at a 100°F temperature rise and tested and certified at a Min. of 95% thermal efficiency, with a maximum hydrostatic working pressure of 150 psi and minimum Inlet Gas Pressure 3.5" in WC. Water heater(s) shall 1.) Include a modulating gas burner that automatically adjusts the input based on demand. 2.) Have Power anodes that are non-sacrificial and maintenance free. 3.) Have a factory installed CSA/ASME rated temperature and pressure relief valve, meet SCAQMD rule 1146.2 and include the CSA seal of certification 4.) Have a wet-base design and furnished with a heat exchange system with both sides coated in high temperature porcelain enamel. 5.) Have 2" NPT front and rear, (1) 1-1/2" NPT Top water connection. 6.) Have a 3 year (SU) or 5-year (SS) standard warranty.

The control shall be an integrated 4.3" Color touch screen with the ability to 1.) Provide user advanced notice of any issues with health alerts on tank and combustion system. 2.) Give users advanced notice of catastrophic failure with Integrated LeakSense™ leak detection. 3.) Automatically turn off water in the event of a failure with Integrated LeakGuard™ Auto Shut-Off Valve (SS model only). 4.) Report water & energy usage reports via app or control. (SS model only) 5.) Connect to a cloud, and control & remote monitor the system via the EcoNet® app through integrated WiFi. 6.) Connect to a Building Management System without the need of any accessories using an integrated BacNet MS/TP connection. (SS model only).

For Standard power vent, water heater shall be suited 2", 3", 4" or 6" _____ pipe for a total maximum venting of 185 ft. For Power Direct Vent water heater shall be suited for 2", 3", 4" or 6" _____ pipe for a total maximum vent length, intake 120 ft., exhaust 135 ft. Water heater(s) shall be able to vent with the following materials: Polypropylene, PVC, CPVC, ABS, & InnoFlue® flex venting.

In keeping with its policy of continuous progress and product improvement, Rheem reserves the right to make changes without notice.

Rheem Water Heating • 1115 Northmeadow Parkway, Suite 100
Roswell, Georgia 30076 • www.rheem.com

Rheem Canada Ltd./Ltée • 125 Edgeware Road, Unit 1
Brampton, Ontario L6Y 0P5 • www.rheem.com

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Concentric Vent

Product

Concentric Vent

Purpose

The Concentric Vent allows both the intake for combustion air and the exhaust vent to pass through a standard roof or sidewall. This is an alternative to the standard two pipe intake/vent shown in the basic Category IV appliance installation instructions.

Features

Three Concentric Vent products are available: CVENT-2 is for use with 2" intake/vent systems, CVENT-3 is for use with 3" intake/vent systems and CVENT-4 is for use with 4" intake/vent systems. Refer to the Category IV appliance installation instructions for intake/vent pipe sizing information.

NOTE: The Concentric Vent reduces the allowable intake/vent piping length by 5 feet from that listed in the basic Category IV appliance installation instructions.

WARNING

Do not use the Concentric Vent kit for anything other than a Category IV heating appliance. Failure to follow this warning could result in fire, personal injury or death.

WARNING

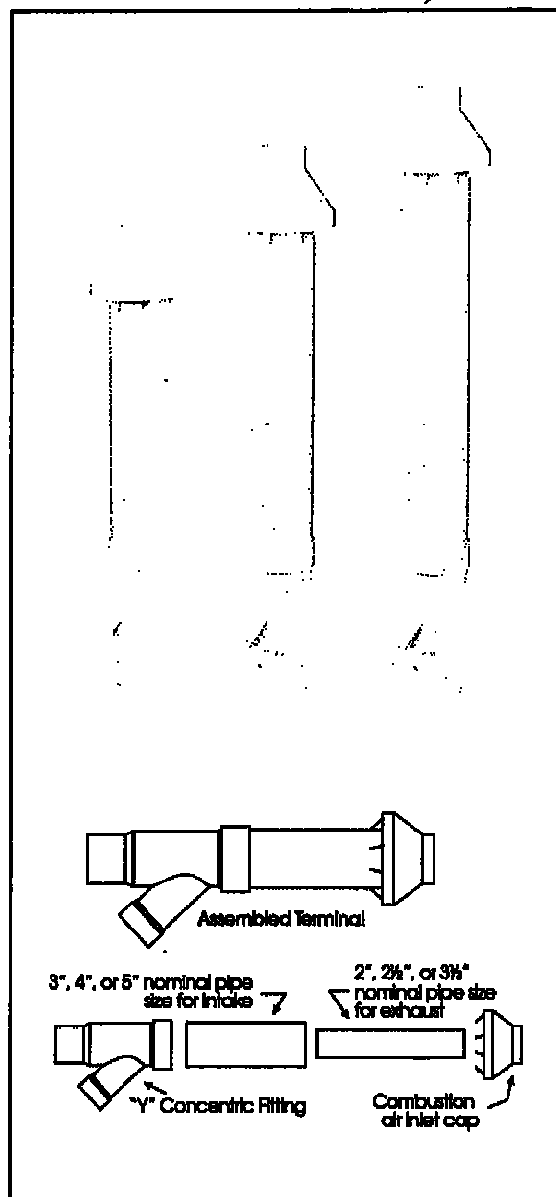
Do not operate the furnace until the installation and assembly of the Concentric Vent and all piping are completed. Failure to follow this warning could result in product damage or improper operation, personal injury or death.

General Specifications

Each concentric vent kit contains the following items:

- (1) Combustion Air Inlet Cap
- (1) Air Inlet Pipe
- (1) Vent Pipe
- (1) Intake/Vent Concentric "Y"
- (1) Installation Instructions on box

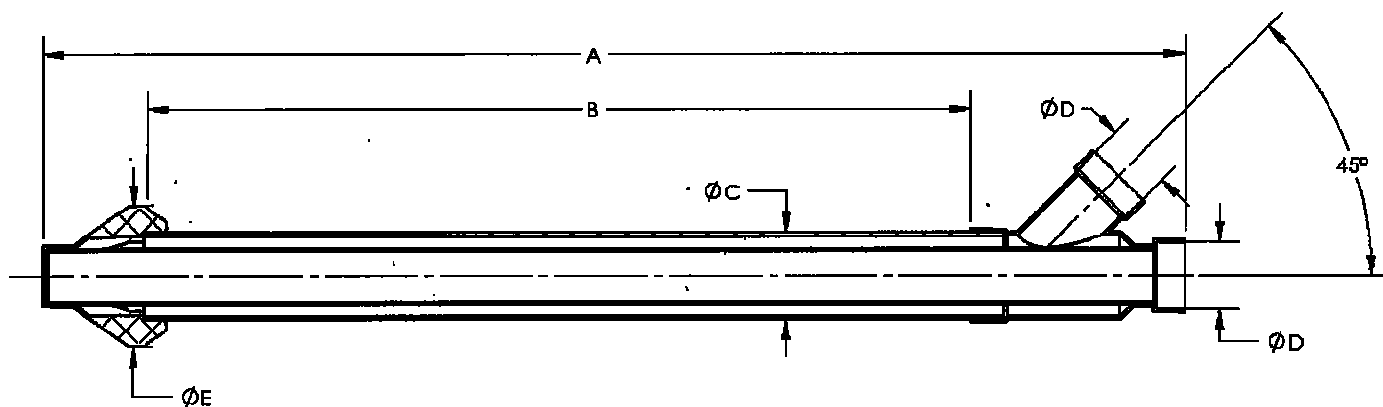
Pipe and fittings are required to complete installation (user supplied). The combustion air and vent pipe fittings must conform ANSI and ASTM standards D1785, F891, D2665, D2241, D2661, or F628. Pipe cement and primer must conform to ASTM standards D2564 or D2235. In Canada, construct all combustion air and vent pipes for this unit of CSA or ULC certified Schedule 40 PVC, PVC-DWV, or ABS-DWV pipe and pipe cement.



General Characteristics

Model	INTAKE/VENT NOM. PIPE SIZE	OVERALL ASSEM'D LENGTH 1	INTAKE PIPE OUTSIDE DIAMETER	AIR INLET PIPE LENGTH 2
CVENT-2	2"	34 3/4"	3 1/2"	19 1/2"
CVENT-3	3"	39 1/8"	4 1/2"	24"
CVENT-4	4"	57 1/4"	5 9/16"	41"

Concentric Vent Diagram



		Dimension (Inches)				
DT Item #	Material	A	B	C	Nominal Pipe Size	E
					D	
CVENT-2	SDR-26-PVC	34.8	18	3.5	2.0	6.4
CVENT-2-EXT	SDR-26-PVC	60	44	3.5	2.0	6.4
CVENT-3	SDR-26-PVC	39.1	22	4.5	3.0	7.3
CVENT-3-EXT	SDR-26-PVC	60	43	4.5	3.0	7.3
CVENT-4	SDR-26-PVC	57.3	39	5.6	4.0	8.1



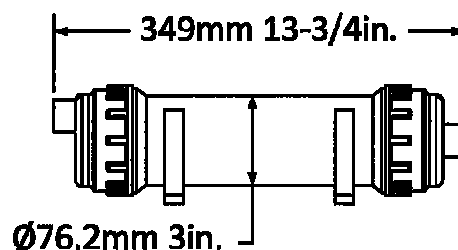
INDUSTRIES LIMITED

Specification:

AXIOM Industries Condensate Neutralization Kit:

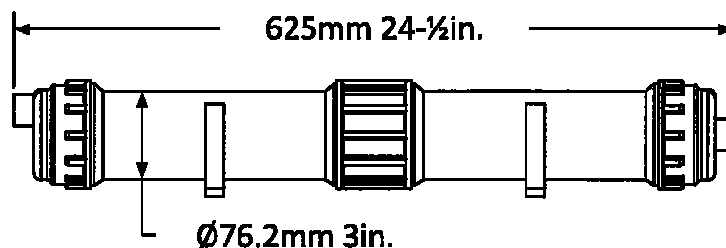
NC-1

The condensate neutralization capsule shall be AXIOM INDUSTRIES LTD. model NC-1. System shall include 1 litre (0.26 U.S. gallon) transparent capsule made from corrosion resistant materials with two 3" fill/access openings, 3" inlet and outlet screen, 3/4"-14NPT threaded inlet, 3/4"-14NPT threaded outlet, two 3/4" MNPT x 3/4" FNPT unions, three 3/4" NPT to 1/2" hose barb fittings, 1/2" barbed Y fitting, six hose clamps, 10 ft of 1/2" ID vinyl tubing, two base/wall mounting clamps.



NC-2

The condensate neutralization capsule shall be AXIOM INDUSTRIES LTD. model NC-2. System shall include 2 litre (0.53 U.S. gallon) transparent capsule made from of corrosion resistant materials with two 3" fill/access openings, 3" inlet and outlet screen, 3/4"-14NPT threaded inlet, 3/4"-14NPT threaded outlet, two 3/4" MNPT x 3/4" FNPT unions, three 3/4" NPT to 1/2" hose barb fittings, 1/2" barbed Y fitting, six hose clamps, 10 ft of 1/2" ID vinyl tubing, two base/wall mounting clamps.



OPTION

NM-1 – Replacement neutralization media.



Precision Plumbing Products

"Specify with Confidence - Install with Pride"

LEAD FREE

THREADED WATER HAMMER ARRESTORS

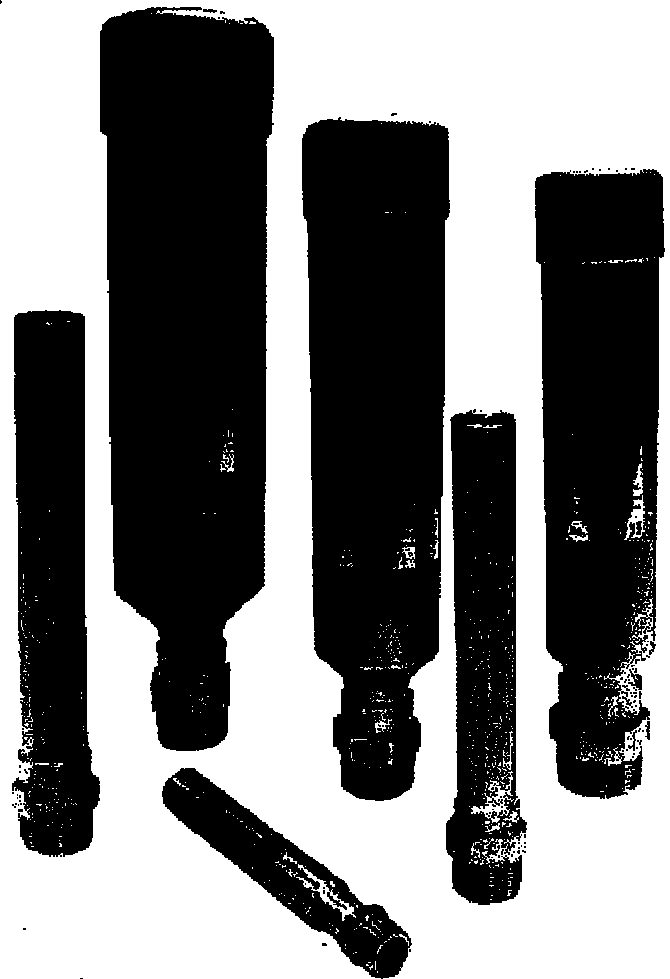
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ONLY ONE MOVING PART!

**WATER HAMMER ARRESTORS ARE
SPECIFIED FOR COMMERCIAL,
INDUSTRIAL AND RESIDENTIAL USES.**

**PPP WATER HAMMER ARRESTORS
SPECIFIED FOR MANY
INSTALLATIONS!**



A maintenance-free installation is assured when using this type of arrestor...the only moving part is the free-moving piston furnished with "O"ring seals which have been tested for reliability in excess of normal operating ranges.

NSF/ANSI 61 Certified.

SC-500A - SC-2000F

FLUID HAMMER IN FLUID TRANSMISSION LINES – a definition.

Fluid Hammer is a series of hydraulic shock waves generated within the confines of a piping system due to the sudden stopping of fluid flow. This condition is caused by fast closing of positive valves incorporated within the system. The effect of fluid hammer is damaging if allowed to exist for any length of time and will result in broken pipes and damage to other components in the system.

U.S. Patent No. 3,833,827

**Over 40 Years
of Outstanding Performance**



SPECIFICATIONS & INSTALLATIONS



A

INSTALLATION: May be installed in new or existing plumbing systems with a standard pipe tee.
MAINTENANCE: Maintenance free – the piston is the only moving part.
TEMPERATURE RANGE: 32° F to + 212° F (0° C to + 100° C)
CONSTRUCTION: Barrel-fabricated of type "L" hard drawn copper.
Cap: Copper or free turning brass.
Piston: Composite Material
Threaded Adapter: Machined of C69300 ECO Brass
Seals: "O"rings: EPDM.
Seal Lubricant: Dow-Corning Silicone Compound #111, FDA listed for use in potable water systems.
OPERATING PRESSURE: Designed to operate on all domestic and commercial systems. Max static pressure 250 PSI. Max spike pressure 400 PSI. System Pressures above 80 PSI consult factory.

B

PDI SIZING AND SELECTION TABLE

PIPE SIZE	FIXTURE UNITS	CROSS REF. PDI
1/2"	1-11	A
3/4"	12-32	B
1"	33-60	C
1 1/4"	61-113	D
1 1/2"	114-154	E
2"	155-330	F

Extract from: PDI WH201

PROJECT SUBMITTAL

Project: _____
 Contractor: _____
 Engineer: _____
 Date Submitted: _____
 Prepared By: _____

SIZING INFORMATION

For equipment and fixtures not listed below, size in accordance with load values (WSFU) assigned the same.

Extract from: PDI WH201-05

FIXTURE	TYPE OF SUPPLY CONTROL	WEIGHT IN FIXTURE UNITS			
		Public		Private	
		C.W.	H.W.	C.W.	H.W.
Water Closet	Flush Valve	8	-	6	-
Water Closet	Flush Tank	8	-	2.5	-
Pedestal Urinal	Flush Valve	4	-	-	-
Stall or Wall Urinal	Flush Valve	4	-	-	-
Lavatory	Faucet	1 1/2	1 1/2	1	1
Bathtub	Faucet	2	3	1 1/2	1 1/2
Shower Head	Mixing Valve	2	3	1	2
Bathroom Group	Flush Valve Closet	-	-	8	3
Bathroom Group	Flush Tank Closet	-	-	6	3
Separate Shower	Mixing Valve	-	-	1	2
Service Sink	Faucet	3	3	-	-
Laundry Tubs (1-3)	Faucet	-	-	3	3
Comb. Fixture	Faucet	-	-	3	3

**NO ACCESS PANEL REQUIRED
(CONSULT LOCAL CODES)**

DIMENSIONAL AND AIR LOADING DATA

PART NUMBER	A OAL	B NPT	NITROGEN PRELOAD PSI
SC-500A	6 1/4"	1/2" brass	60
SC-750B	7 1/4"	3/4" brass	60
SC-1000C	8 1/4"	1" brass	60
SC-1250D	9 1/2"	1" brass	60
SC-1500E	11 1/4"	1" brass	60
SC-2000F	12"	1" brass	60



Precision Plumbing Products
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 Portland, Oregon 97233

T (503) 256-4010
 F (503) 253-8165

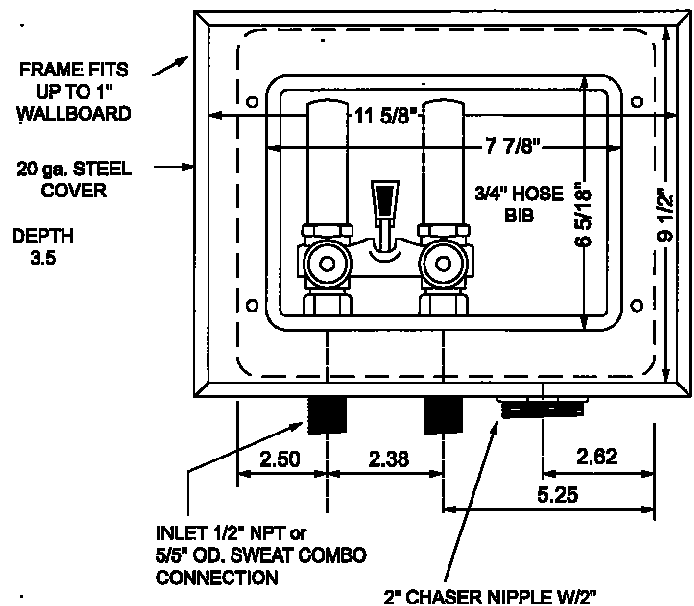
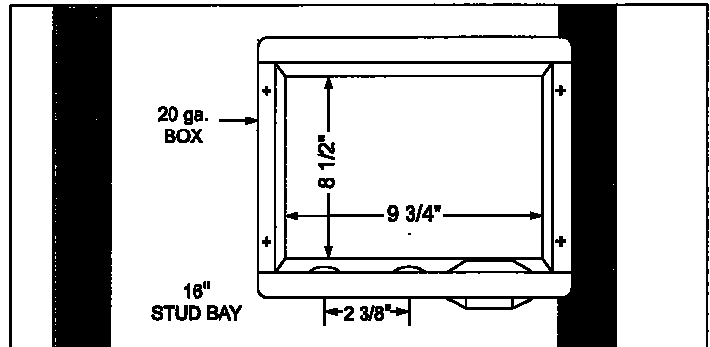
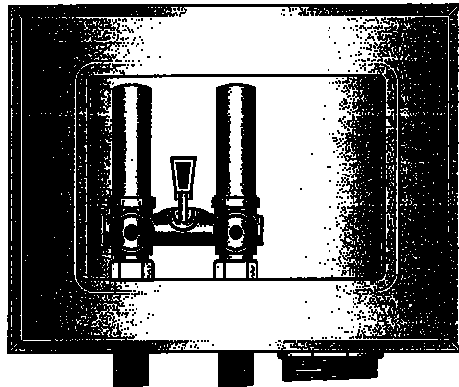
www.pppinc.net



Rev 03/20



Right Drain Galvanized WMOB with Single Lever Arrestor Valve



Specifications:

Furnish and install Guy Gray metal washing machine outlet box with integral hammer arrestor single lever valve. Unit shall be Guy Gray product code checked below as manufactured by IPS Corporation.

Box Material:

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

Valve & Drain Option:

Single Lever Arrestor Valve kit with 1/2" MIP/Sweat connection. 2" threaded drain. Valves comply with ASME A112.18.1. Hammer arresters comply with ASSE 1010.

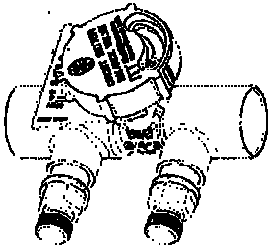
Item #	Product Description	Model #	Quantity	UPC
82048	Single Lever Valve w/Hammer Arresters, 2" Drain	WB200HA	6	012181820483
82049	Single Lever Valve w/Hammer Arresters, 2" Drain/Top Supply	WB200HATM	6	012181820490

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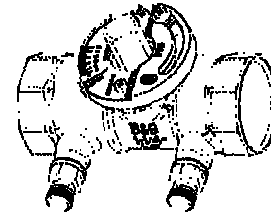
**SUBMITTAL****A-549LFP(C)**

JOB:		REPRESENTATIVE:
UNIT TAG:	ORDER NO.	DATE:
ENGINEER:	SUBMITTED BY:	DATE:
CONTRACTOR:	APPROVED BY:	DATE:



Circuit Setter® Plus

Calibrated Balance Valves
with NPT and Solder Connections
LEAD FREE*

**DESCRIPTION**

The Bell & Gossett CIRCUIT SETTER PLUS and CIRCUIT SETTER PLUS "RF" calibrated balance valves are a precision machined ball type triple purpose balancing instrument. They are precisely calibrated for use as a presettable balance valve, variable orifice flow meter and positive shut-off service valve.

Valves are furnished with a calibrated nameplate and memory stop indicator which permits a preset to a fixed open position and then closed for service without disturbing valve setting.

Valves are equipped with capped readout valves fitted with internal check valves and 1/4" NPT tapped and plugged drain port.

CONSTRUCTION

Body: Brass ASTM B283-C69300*

Ball: 304 Stainless Steel

Seat Rings: Glass and Carbon filled TFE

Readout Valves: Brass with EPT check valves

Stem "O" Ring: EPDM

MAXIMUM WORKING PRESSURE

NPT Models: 400 psig (2069 kPa)

Sweat Models: See table below

MAXIMUM OPERATING TEMPERATURE

-4°F(-20°C) to 250°F(121°C)

*Contains less than 0.25% lead content by weight on wetted surfaces.

CSA CERTIFIED: AB1953; Vermont S152.

Maryland House Bill 372 [statute 12-605].

ANSI/NSF-61 Annex G Compliant.

Type Solder	Maximum Pressure Limitations for 1/2"-1" With Solder Connections	
	Pressure PSI (KPa)	Temp °F (°C)
95-5 Tin-Antimony	300 (2069)	200 (93)
	250 (1724)	225 (107)
	200 (1379)	250 (121)



LEAD-FREE CIRCUIT SETTER PLUS Calibrated Balance Valves
SCHEDULE

A-549LFP(C)

MODEL NO.	PART NUMBER	TAGGING INFORMATION	QUANTITY
RF-1/2S LF	117410LF		
RF-3/4S LF	117411LF		
CB-1/2S LF	117412LF		
CB-3/4S LF	117413LF		
CB-1S LF	117401LF		
CB-1-1/4S LF	117402LF		
CB-1-1/2S LF	117403LF		
CB-2S LF	117404LF		
CB-1/2 LF	117414LF		
CB-3/4 LF	117415LF		
CB-1 LF	117416LF		
CB-1-1/4 LF	117103LF		
CB-1-1/2 LF	117104LF		
CB-2 LF	117105LF		
CB-2-1/2 LF	117106LF		
CB-3 LF	117107LF		

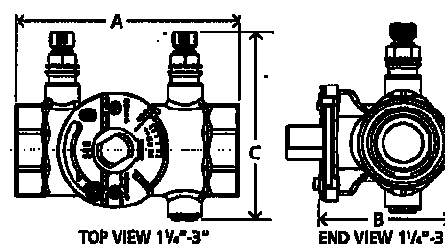
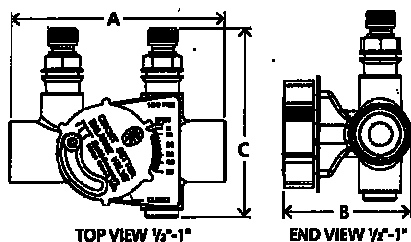
Xylem Inc.
8200 N. Austin Avenue
Morton Grove, IL 60053
Phone: (847)966-3700
Fax: (847)966-8379
www.xyleminc.com/brands/bellgossett

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Let's Solve Water

LEAD-FREE CIRCUIT SETTER PLUS Calibrated Balance Valves

A-549LFP(C)



DIMENSIONS AND WEIGHTS *

MODEL NUMBER A	SIZE	CONNECTION TYPE C	DIMENSIONS IN INCHES (MM)			WEIGHT IN
			LBS. (KG)			
RF-1/2S LF	1/2"	SWEAT	2.91 (73.9)	1.82 (46.2)	2.95 (72.4)	0.6 (0.27)
RF-3/4S LF	3/4"	SWEAT	3.51 (89.2)	2.05 (52.1)	3.10 (78.7)	0.75 (0.34)
CB-1/2S LF	1/2"	SWEAT	2.91 (73.9)	1.82 (46.2)	2.95 (72.4)	1 (0.8)
CB-3/4S LF	3/4"	SWEAT	3.51 (89.1)	2.05 (52.1)	3.10 (78.7)	1.25 (0.8)
CB-1S LF	1"	SWEAT	4.29 (109)	2.33 (59.2)	3.33 (84.6)	2 (0.8)
CB-1-1/4S LF	1-1/4"	SWEAT	4.91 (124.7)	3.08 (78.2)	3.99 (93.7)	3.5 (1.6)
CB-1-1/2S LF	1-1/2"	SWEAT	5.21 (132.2)	3.27 (83)	3.95 (100.2)	3.8 (1.7)
CB-2S LF	2"	SWEAT	6.31 (160.3)	3.83 (97.4)	4.44 (112.8)	6.2 (2.8)
CB-1/2 LF	1/2"	NPT	2.94 (74.6)	1.98 (50.3)	3.02 (76.7)	1.25 (0.6)
CB-3/4 LF	3/4"	NPT	3.08 (77.7)	2.17 (55.1)	3.12 (78.2)	1.5 (0.7)
CB-1 LF	1"	NPT	3.81 (96.8)	2.47 (62.7)	3.42 (86.9)	2 (0.9)
CB-1-1/4 LF	1-1/4"	NPT	4.41 (112)	3.19 (81)	3.69 (93.7)	3.8 (1.7)
CB-1-1/2 LF	1-1/2"	NPT	4.42 (112.1)	3.37 (85.7)	3.95 (100.2)	3.5 (1.6)
CB-2 LF	2"	NPT	5.13 (130.2)	3.98 (101.1)	4.44 (112.8)	6.2 (2.8)
CB-2-1/2 LF	2-1/2"	NPT	6.00 (152.4)	4.51 (114.7)	4.83 (122.6)	9 (4.1)
CB-3 LF	3"	NPT	6.50 (165.1)	5.12 (130.1)	5.44 (138.2)	12 (5.4)

*All dimensions +/-0.125 (3.2 mm) tolerance. Dimensions are subject to change. Not to be used for construction purposes unless certified.

TYPICAL SPECIFICATION

Furnish and install as shown on plans with manufacturer recommendations Model CB or "RF" calibrated balance valves.

PRE-SET BALANCE FEATURE

Valves to be designed to allow installing contractor to pre-set balance points for proportional system balance prior to system start-up in accordance with pre-set balance schedule.

VALVE DESIGN AND CONSTRUCTION

All valves 1/2" to 3" pipe size to consist of Lead Free Brass** body/SS ball construction with glass and carbon filled TFE seat rings. Valves to have differential pressure read-out ports across valve seat area. Read-out ports to be fitted with Internal EPT Inserts/check valves. Valve bodies to have 1/4" NPT tapped drain/purge port. Valves to have memory stop feature to allow valve to be closed for service and then reopened to set point without disturbing balance position. All valves to have calibrated nameplates to assure specific valve settings. Valves shall be designed for positive shut-off.

wetted surfaces.

CSA CERTIFIED: AB1953; Vermont S152; Maryland House Bill 372 [statute 12-605]. ANSI/NSF-61 Annex G Compliant.

DESIGN PRESSURE/TEMPERATURE

A. 1/2" - 3" NPT connections 400 psig (2069 kPa) at 250°F (121°C)

B. 1/2" - 2" Sweat connections (see table page1)

All balance valves to be ITT Bell & Gossett Model No. CB-_____ LF or Model No. RF-_____ LF (note sizes).

IMPORTANT:

When monitoring system flow, care must be exercised to avoid direct skin or eye contact with liquids that may escape. Liquids with temperatures in excess of 120°F (49°C) may cause burns.

Bell & Gossett Circuit Setter Balance Valves are not recommended for use with meter connections pointing downward.

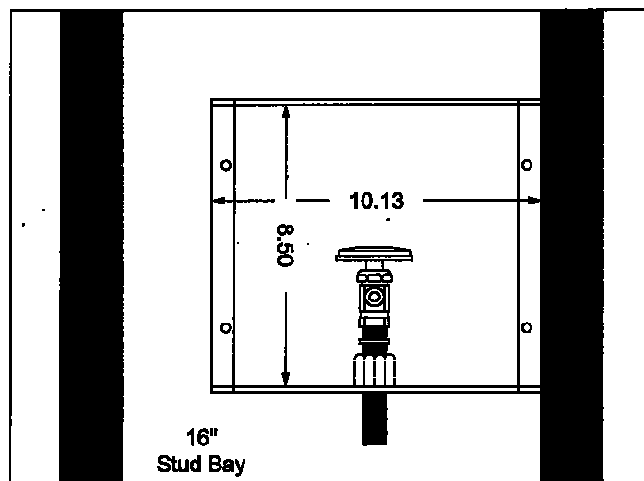
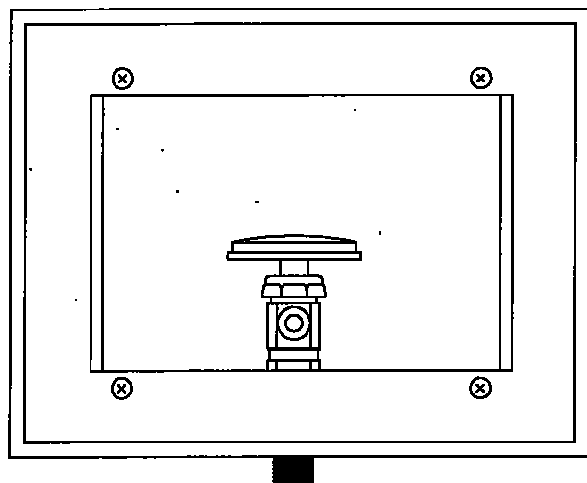
Xylem Inc.
8200 N. Austin Avenue
Morton Grove, IL 60053
Phone: (847)986-3700
Fax: (847)986-8379
www.xyleminc.com/brands/bellgossett

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Let's Solve Water



Galvanized Ice Maker Box with Lead Free Domestic Valve



Specifications:

Furnish and install Guy Gray recessed ice maker outlet box. Ice maker outlet box shall have an AB1953 compliant valve with a 1/2" copper sweat inlet and a 1/4" compression outlet. Unit shall be Guy Gray product code 88158 as manufactured by IPS Corporation in Collierville, TN.

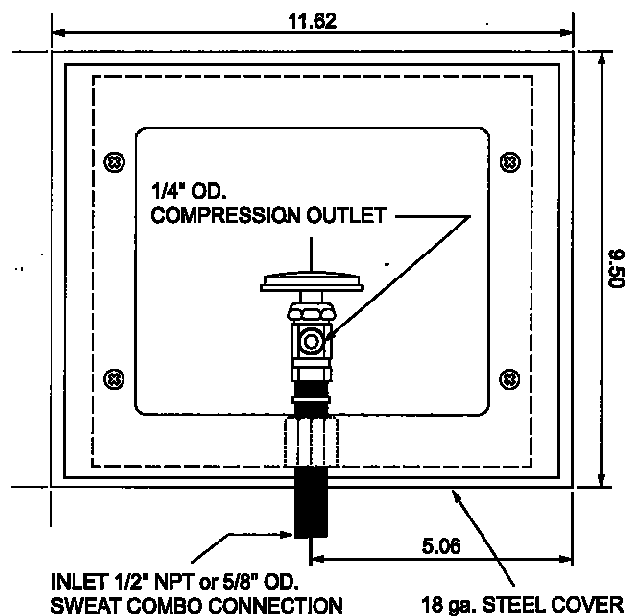
Box Material:

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

Valve & Drain Options:

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

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



Item #	Product Description	Model #	Quantity
88510	Qtr-turn Valve, 1/2" Sweat Connection	BIM875QTSAB	6
88158	Domestic Valve, 1/2" Sweat Connection	BIM875AB	6
88512	Qtr-turn Valve, 1/2" CPVC Connection	BIM876QTCAB	6
88514	Qtr-turn Valve, 1/2" F1807 Connection	BIM877QTPAB	6
96997	Tamper resistant cover for Models B, BB, WB, FB, & BIM	BTRC	6

*Frames packed separately from boxes and mounting flanges for protection and safe keeping until finishing stage.

IPS
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WATER HAMMER ARRESTERS**>> 660-GTR SERIES****MiniRestor™****SPECIFICATION**

Sloux Chief 660-GTR piston-type water hammer arresters shall be installed where required on supply valves. Water hammer arresters shall be specifically sized and have sufficient volume of air to dissipate the calculated kinetic energy generated by closing residential or commercial faucets or valves. Arresters shall be installed on both hot and cold lines on the supply stops where applicable. Arresters shall be approved for installation with no access panel required.

MATERIALS

Arrester body: 304 stainless steel

Piston: polypropylene with two EPDM o-rings

Tee body: nickel-plated no-lead machined brass

WORKING LIMITS

Max working temperature: 250°F

Max working pressure: 250 PSIG

Burst tested to: 1,500 PSIG

INSTALLATION

Install MiniRestor compression connections to supply stops and supply lines. Approved for installation with no access panels required.

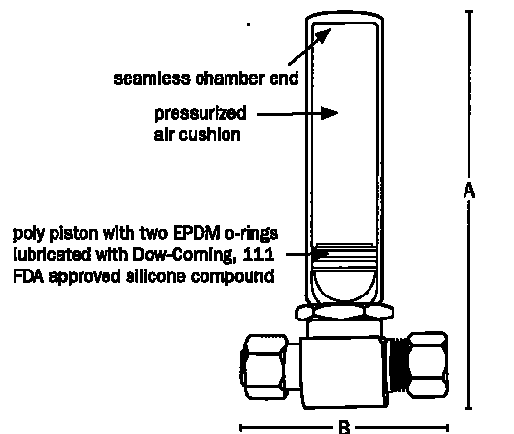
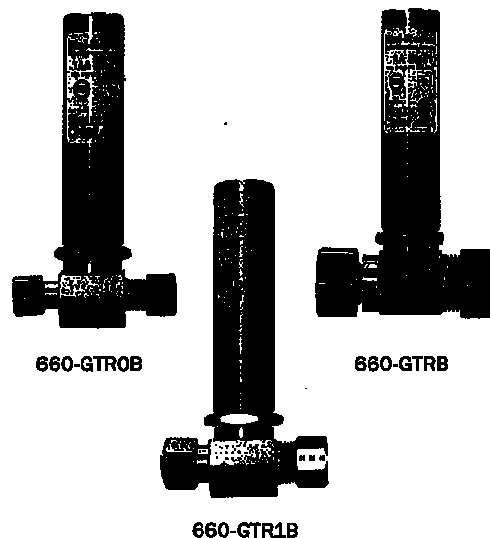
CERTIFICATIONS/APPROVALS

Certified by ASSE to the ANSI/ASSE 1010-2004 standard, AA size
cUPC listed to UPC and Canadian codes and standards

DIMENSIONS

	1/4" OD	3/8" OD	1/2" OD
Overall height	4"	4"	4 1/4"
Trunk width	2"	2"	2 1/2"

ITEM # SUBMITTED	_____
JOB NAME	_____
LOCATION	COFFEE MAKER
ENGINEER	_____
CONTRACTOR	_____
PO#	_____ TAG _____



Choose Item Number

- ☐ **660-GTROB** = 1/4" OD compression x female compression
- ☐ **660-GTR1B** = 3/8" OD compression x female compression
- ☐ **660-GTRB** = 1/2" OD compression x female compression



Gas Hoses

HG-4F-36K

MAIN BLDG

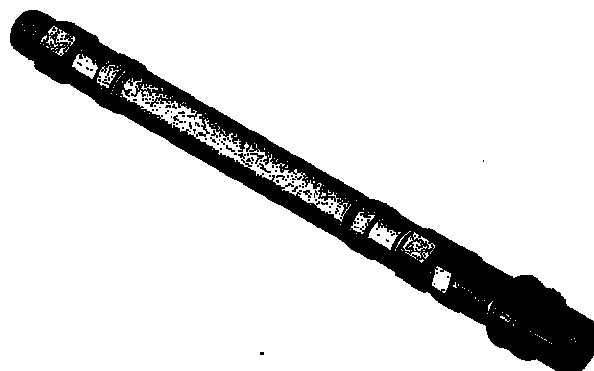
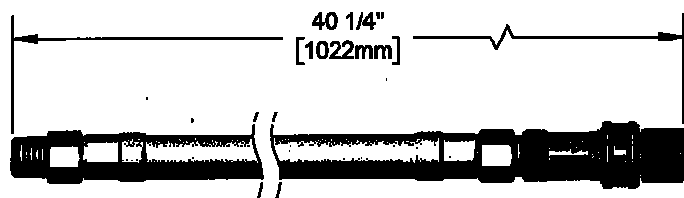
TAG: FP BACKFLOW

SAFELINK Gas Hose

Architect/Engineering Specifications:

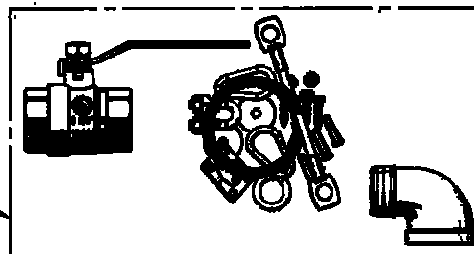
36" coated gas appliance connector hose with 1 1/4" NPT male connections and quick-disconnect. Certified to ANSI Z21.69/CSA 6.16 and NSF 2.

Job Name _____
 Model Specified _____ Quantity _____
 Variations Specified _____
 Date _____



Street Elbow

Installation Kit:



Features & Benefits:

- 36" coated gas appliance connector
- 1 1/4" NPT male freespun inlet
- 1 1/4" NPT male freespun outlet
- 1 1/4" NPT female quick-disconnect
- Street elbow included
- Installation kit
- 360° rotatable hex nut rotates completely and freely
- Optimum torsional relief improves safety, increases connector life
- Provides efficient, full gas flow
- Quick-disconnect socket acts as shut-off valve when the plug and socket are disconnected
- Material: Extruded coated stainless steel braids

Product Compliance:

- ANSI Z21.69 / CSA 6.16
- NSF 2
- NFPA 54



Warranty: Five Year (Limited)

Performance Data:

- Pressure: 1/2 psi max
- Temperature: 350° F max w/ Fusible Link Thermal Shut-off
- Capacity: 620,000 BTU / hr min



T&S BRASS AND BRONZE WORKS, INC.



• 2 Saddleback Cove • Travelers Rest, SC 29690
 • Ph 800-476-4103 • Fax 864-834-3518
 • Simi Valley, CA • Ph 800-423-0150 • www.tsbrass.com

Date: 11/17/20



Gas Hoses

HG-4E-36K

MAIN BLDG

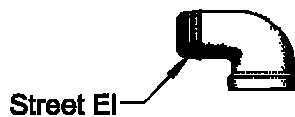
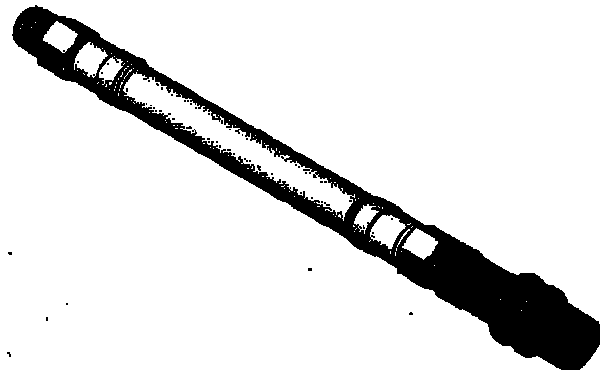
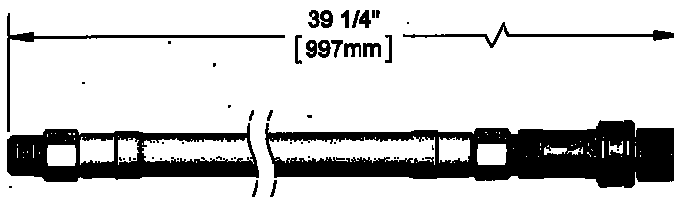
TAG: FP BACKFLO

SAFET-LINK Gas Hose

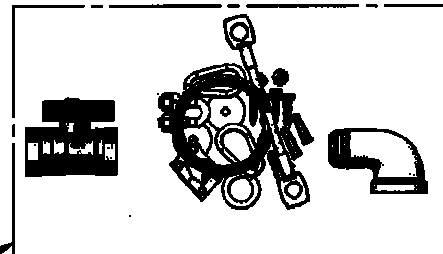
Architect/Engineering Specifications:

36" coated gas appliance connector hose with 1" NPT male connections and quick-disconnect. Certified to ANSI Z21.69/CSA 6.16 and NSF 2.

Job Name _____
Model Specified _____ Quantity _____
Variations Specified _____
Date _____



Street El



Installation Kit:

Features & Benefits:

- 36" coated gas appliance connector
- 1" NPT male freespun inlet
- 1" NPT male freespun outlet
- 1" NPT female quick-disconnect
- Street elbow included
- 360° rotatable hex nut rotates completely and freely
- Optimum torsional relief improves safety, increases connector life
- Provides efficient, full gas flow
- Quick-disconnect socket acts as shut-off valve when the plug and socket are disconnected
- Material: Extruded coated stainless steel braids

Product Compliance:

- ANSI Z21.69 / CSA 6.16
- NSF 2
- NFPA 54



Warranty: Five Year (Limited)

Performance Data:

- Pressure: 1/2 psi max
- Temperature: 350° F max w/ Fusible Link Thermal Shut-off
- Capacity: 380,000 BTU / hr min



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Date: 08/24/16



MAIN BLDG

WATER SERVICE

Model WBR

In Building Riser

Application

ZURN WILKINS Model WBR In Building Risers are designed for use to connect a water supply line from outside the building to the water system inside the building. May be used in potable water applications.

Approvals

- UL ® Listed
 - ULC ® Listed
 - FM® Approved
 - Certified to NSF/ANSI 372* by IAPMO R&T
- *(0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)

Materials

Main Body 304L Stainless Steel ASTM A 312
Gasket SBR - UL Listed
Test Plug Iron
Grooved Coupling Ductile Iron
Coupling Gasket EPDM

Options

- ☐ - with grooved outlet connection coupling and test plug with 1" NPT TAP (standard)
- ☐ F - with flanged outlet connection
- ☐ 6x8.5 - with extended 8.5 FT (102 IN) vertical leg (grooved outlet connection only)

Features

Sizes: 4", 6", 8", 10"
Maximum working water pressure 200 PSI
Maximum working water temperature 140°F
Designed to meet NFPA 13 & 24
Brackets on inlet side provide attachment points for pipe installation equipment. Loops provided for lifting and key-in to concrete thrust block

End Connections

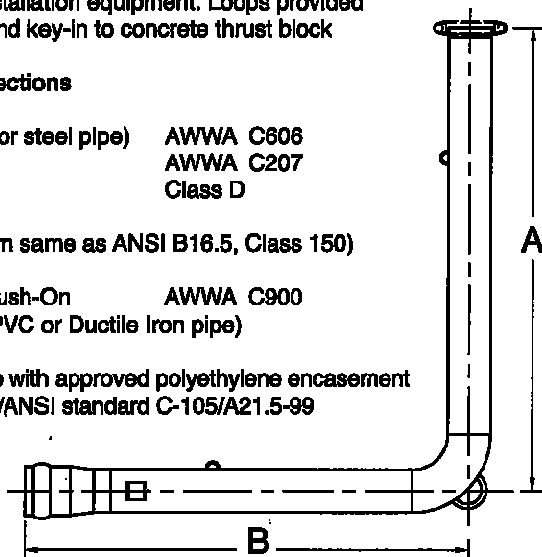
OUTLET

(Grooved for steel pipe) AWWA C606
(Flanged) AWWA C207
Class D

(Bolt pattern same as ANSI B16.5, Class 150)

INLET Push-On AWWA C900
(PVC or Ductile Iron pipe)

Note: Wrap with approved polyethylene encasement per AWWA/ANSI standard C-105/A21.5-99

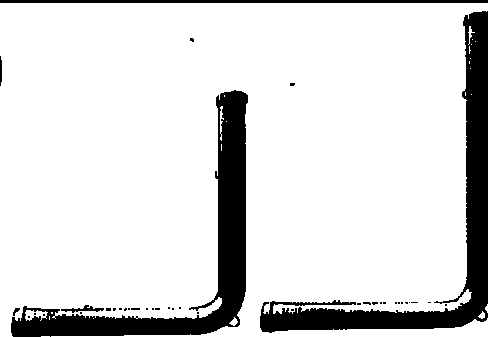


Dimensions & Weights (do not include pkg.)

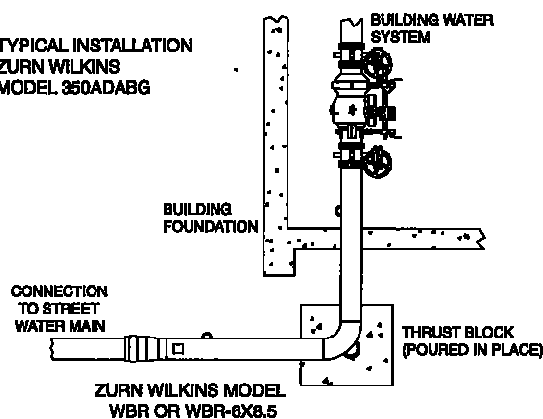
SIZE	DIMENSIONS (approximate)				WEIGHT				WBR MATERIAL	
	A		B		GROOVED		FLANGED		SCHEDULE	WALL THICKNESS
	in.	mm	in.	mm	lbs.	kg	lbs.	kg		
4	72	1829	72	1829	77	35	80	37	10	.120
6	72	1829	72	1829	123	56	123	56	10	.134
8	72	1829	72	1829	139	63	136	62	5	.109
10	72	1829	72	1829	199	91	197	90	5	.134
4	102	2590	72	1829	90	41	n/a	n/a	10	.120
6	102	2590	72	1829	143	65	n/a	n/a	10	.134
8	102	2590	72	1829	175	79	n/a	n/a	5	.109
10	102	2590	72	1829	268	122	n/a	n/a	5	.134



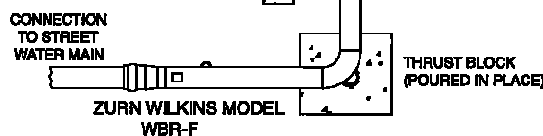
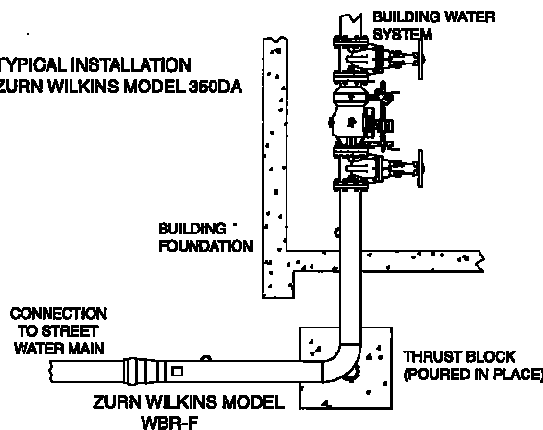
LEAD FREE



TYPICAL INSTALLATION
ZURN WILKINS
MODEL 350ADABG



TYPICAL INSTALLATION
ZURN WILKINS MODEL 350DA



Typical Installation

Local codes shall govern installation requirements. To be installed in accordance with the manufacturers' instructions and prevailing government and industry standards and codes.



MAIN BLDG

Model 350DA
Double Check Detector Assembly

FP BACKFLOW

Application

Designed for installation on water lines in fire protection systems to protect against both backsiphonage and backpressure of polluted water into the potable water supply. Model 350DA shall provide protection where a potential health hazard does not exist. Incorporates metered by-pass to detect leaks and unauthorized water use.

Standards Compliance

(Sizes 2 1/2" - 10" Horiz. & Vert.)

(12" Horizontal Only)

- ASSE® Listed 1048 (Sizes 2 1/2" thru 12")
- CSA® Certified B64.5 (Sizes 2 1/2" thru 8", & 12")
- AWWA Compliant C510 (Sizes 2 1/2" thru 12"), and C550
- UL® Classified (Sizes 2 1/2" thru 12")
- C-UL® Classified (Sizes 2 1/2" thru 12")
- FM® Approved (Sizes 2 1/2" thru 10")
- NYC MEA 147-99-M Vol 4 (2-1/2" - 10)
- Approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California (Sizes 2 1/2" thru 12")
- Meets the requirements of NSF/ANSI 61*

*(0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)

By-Pass Backflow Assembly 3/4" Model 950XLD**Materials**

Main valve body	Ductile Iron ASTM A 536
Access covers	Ductile Iron ASTM A 536
Coatings	NSF Approved fusion epoxy finish
Internals	Stainless steel, 300 Series NORYL™
Fasteners	Stainless Steel, 300 Series
Elastomers	EPDM (FDA approved) Buna Nitrile (FDA approved)
Polymers	NORYL™
Springs	Stainless Steel, 300 Series

Options

(Suffixes can be combined)

- ☒ - with OS & Y gate valves (standard)
- ☐ L - less shut-off valves (flanged body connections)
- ☐ LM - less water meter
- ☒ - with gallon meter (standard)
- ☐ CFM - with cu ft meter
- ☐ CMM - with cu meter meter
- ☐ G - with groove end gate valves
- ☐ FG - with flanged inlet connection and grooved outlet connection
- ☐ PI - with Post Indicator Gate Valve
- ☐ GF - with flanged inlet connection and grooved outlet connection
- ☐ BG - with grooved end butterfly valves with integral monitor switches (2 1/2" - 10"

Accessories

- ☐ Repair kit (rubber only)
- ☐ Thermal expansion tank (Model XT)
- ☐ OS & Y Gate valve tamper switch (OSY-40)

Attention:

Model 350DA (flange body) and Model 350ADA (grooved body) have different lay lengths.

Features

Sizes: 2 1/2", 3", 4", 6", 8", 10", 12"

Maximum working water pressure

Maximum working water temperature

Hydrostatic test pressure

End connections (Grooved for steel)
(Flanged bolt pattern)

175 PSI

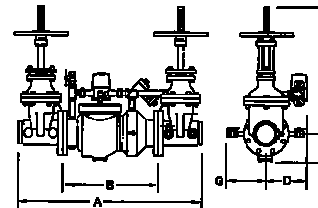
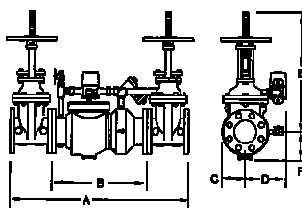
140°F

350 PSI

AWWA C606

ASME B16.42

Class 150



MODEL 350ADA SHOWN ABOVE

Dimensions & Weights (do not include pkg.)

MODEL 350DA SIZE	DIMENSION (approximate)																WEIGHT										
	A		A WITH BUTTERFLY VALVES		B LESS GATE VALVES		C		D		E OS&Y OPEN		E OS&Y CLOSED		E WITH BUTTERFLY VALVES		F		LESS SHUTOFF VALVES		OS&Y GATE VALVES FLANGED		OS&Y GATE VALVES GROOVED		BUTTERFLY VALVES GROOVED		
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	
2 1/2	85	31	787	28	711	15 7/8	403	3 3/4	95	9	229	17 3/4	451	15 3/8	391	13 3/4	349	3 1/2	89	66	31	178	81	160	73	140	64
3	80	32	813	28 1/2	724	16 7/8	408	3 3/4	95	9	229	20 1/4	514	17	432	13 3/4	349	3 1/2	89	68	31	198	90	160	68	120	54
4	100	37 5/8	956	32 5/8	835	18 1/2	495	4 1/2	114	9	229	22 1/2	572	18 1/4	484	17	432	6	162	106	48	296	134	282	128	180	88
6	150	44 5/8	1133	37 5/8	958	23 1/2	597	6	152	10 1/2	267	30 1/2	775	24 1/4	616	17 1/2	445	7	178	180	82	460	218	454	208	298	135
8	200	60 7/8	1546	63 7/8	1398	37 3/4	859	10	254	12	305	37	940	28 1/2	724	16 15/16	430	6 1/2	216	374	170	850	386	302	364	548	249
10	250	69 7/8	1622	67 7/8	1470	37 3/4	858	10	254	12	305	45 5/8	1159	34 3/4	883	16 15/16	430	8 1/2	216	404	183	1222	554	1168	524	792	359
12	300	66 3/16	1681	n/a	n/a	88	966	10	254	12	305	58	1348	40 1/2	1029	n/a	n/a	8 7/8	226	463	210	1623	736	n/a	n/a	n/a	n/a

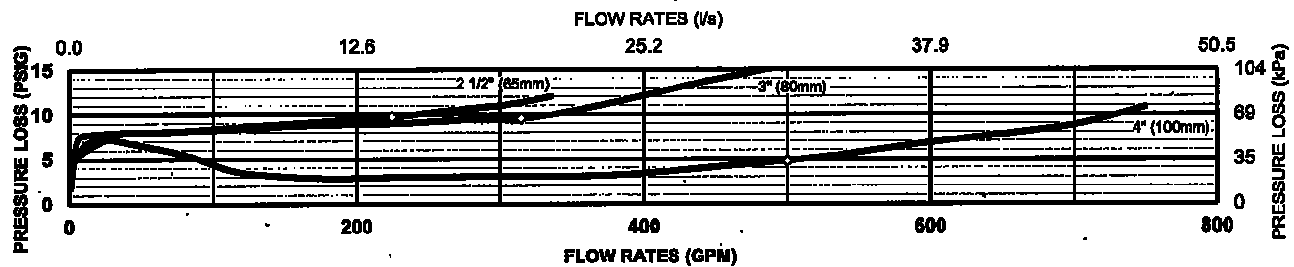
Zurn Industries, LLC | Wilkins
1747 Commerce Way, Paso Robles, CA U.S.A. 93448 Ph. 855-663-9876, Fax 805-238-5766
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Rev. M
Date: 3/20
Document No. BF-350DA
Patent No. 5, 913, 331
Product No. Model 350DA

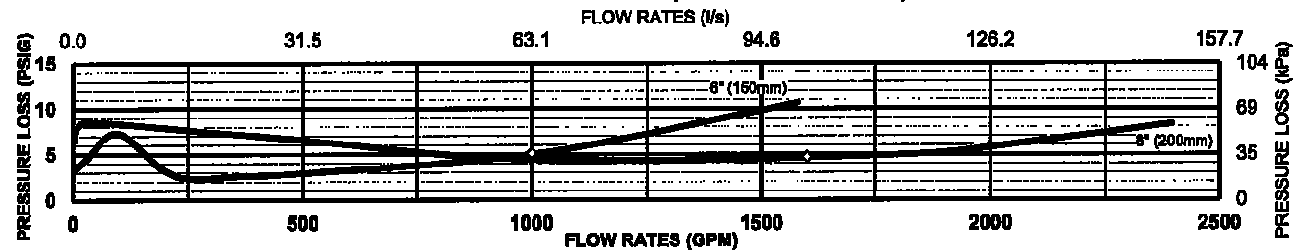
Flow Characteristics

ORated Flow (established by approval agencies)

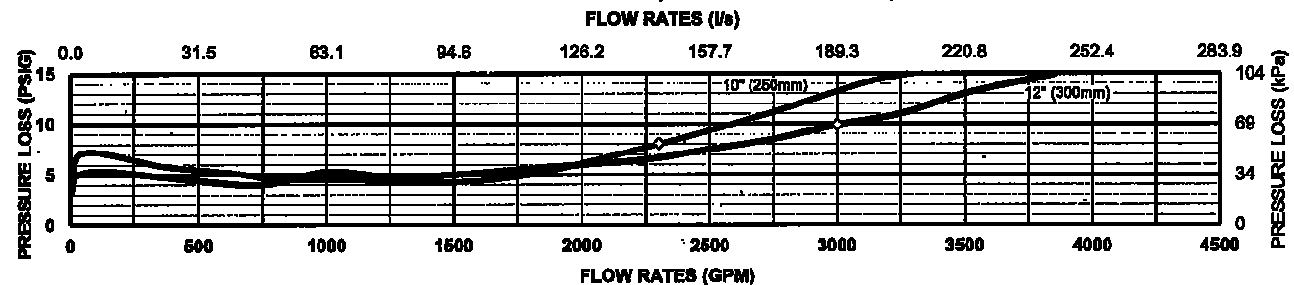
MODEL 350DA 2 1/2", 3" & 4" (STANDARD & METRIC)



MODEL 350DA 6" & 8" (STANDARD & METRIC)



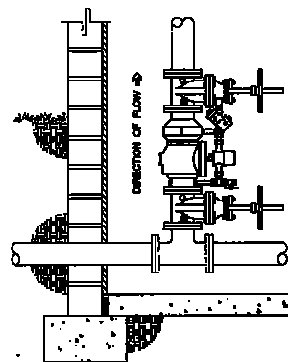
MODEL 350DA 10" & 12" (STANDARD & METRIC)



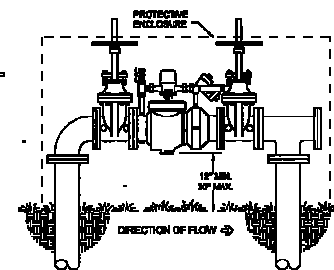
Typical Installation

Local codes shall govern installation requirements. Unless otherwise specified, the assembly shall be mounted at a minimum of 12" (305mm) and a maximum of 30" (762mm) above adequate drains with sufficient side clearance for testing and maintenance. The installation shall be made so that no part of the unit can be submerged.

Capacity thru Schedule 40 Pipe (GPM)				
Pipe size	5 ft/sec	7.5 ft/sec	10 ft/sec	15 ft/sec
2 1/2"	75	112	149	224
3"	115	173	230	346
4"	198	298	397	595
6"	450	675	900	1351
8"	780	1169	1559	2339
10"	1229	1843	2458	3687
12"	1763	2644	3525	5288



VERTICAL INSTALLATION



OUTDOOR INSTALLATION

Specifications

The Double Check Detector Backflow Prevention Assembly shall be certified to NSF/ANSI 61, ASSE® Listed 1048, and supplied with full port gate valves. The main body and access cover shall be epoxy coated ductile iron (ASTM A 536), the seat ring and check valve shall be Noryl™, the stem shall be stainless steel (ASTM A 276) and the seat disc elastomers shall be EPDM. The first and second check valves shall be accessible for maintenance without removing the device from the line. The Double Check Detector Backflow Prevention Assembly shall be a ZURN WILKINS Model 350DA.



Model 48

Resilient Wedge Gate Valve

MAIN BLDG

FP BACKFLOW

Application

Designed for installation on potable water lines, Irrigation systems, Waterworks connections, and Fire systems.

Standards Compliance

- AWWA Compliant C515, C-550
- UL® Listed
- C-UL® Listed
- FM® Approved
- Meets the requirements of NSF/ANSI 372

Materials

Main body	Ductile Iron ASTM A 536 65-45-12
& Handwheel	Ductile Iron ASTM A 536 65-45-12
Covers	Ductile Iron ASTM A 536 65-45-12
Wedge	Ductile Iron ASTM A 536 65-45-12 W/EPDM
Coatings	AWWA C550 Compliant fusion-bond epoxy finish (meets the requirements of NSF/ANSI/CAN 61)
Internals	Stainless steel ASTM A 276 UNS S41000/ S42000
Fasteners	Brass ASTM B 584 UNS C83600 Zinc plated steel Grade 8.8 Brass ASTM B 584 UNS C83600
Elastomers	EPDM (FDA approved)
Stem	Stainless steel ASTM A 276 UNS S43100

Features

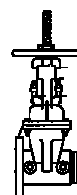
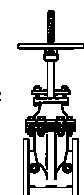
Sizes:	2 1/2", 3", 4", 6", 8", 10", 12"
Maximum working water pressure	250 PSI
Maximum working water temperature	140°F
Hydrostatic test pressure	500 PSI
End connections	
(Grooved for steel pipe)	ANSI/AWWA C606
(Flanged bolt pattern)	ANSI/ASME B16.42
	Class 150

NRS GATES



LEAD FREE

OS&Y GATES



LEAD-FREE

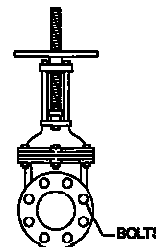
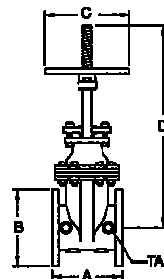
Options

- ☐ NRS with flanged end connections (standard)
- ☐ G NRS with grooved end connections
- ☐ GXF NRS with grooved x flanged end connections
- ☐ PI NRS with Post Indicator connecting flange (refer to specification sheet BF-PIWILKINS)
- ☐ OP NRS with square operating nut
- ☒ OSY OS&Y with flanged end connections
- ☐ OSYG OS&Y with grooved end connections
- ☐ OSYGXF OS&Y with grooved x flanged end connections

Accessories

- ☐ OS&Y gate valve tamper switch (OSY-40)

(OS&Y FxF SHOWN)



Dimensions & Weights (do not include pkg.)

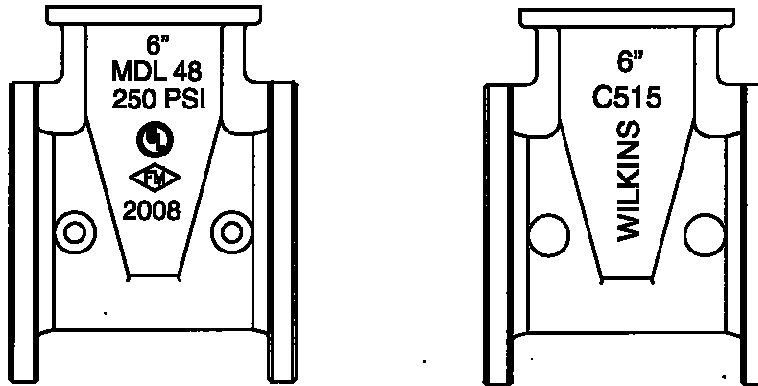
SIZE		DIMENSIONS (approximate)											
		A (all gates)		B (flanged)		C		D (NRS gates)		D (OS&Y open)		D (OS&Y closed)	
In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
2 1/2	65	7 1/2	191	7	178	7 7/8	200	11 1/2	292	17 3/4	451	16 3/8	391
3	80	8	203	7 1/2	191	10 1/4	260	12 3/4	324	20 1/4	514	17	432
4	100	9	229	9	229	10 1/4	260	14 1/2	368	22 1/2	572	18 1/4	464
6	150	10 1/2	267	11	279	12 1/2	318	18	457	30 1/2	775	24 1/4	616
8	200	11 1/2	292	13 1/2	343	14 3/4	375	21 1/8	537	37	940	28 1/2	724
10	250	13	330	16	406	16 3/8	416	24 3/4	629	45 5/8	1159	34 3/4	883
12	300	14	356	19	483	17 1/2	445	28	711	53	1346	40 1/2	1029

SIZE		TAP SIZE	BOLTS (flanged gates) # OF (per flange)		size		WEIGHT (approximate)									
							NRS (FxF)		NRS (GxF)		NRS (GXG)		OS&Y (FxF)		OS&Y (GxF)	
In.	mm						lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
2 1/2	65	1/2-14NPT	4	5/8	36	17	31	14	26	12	42	19	37	17	31	14
3	80	1/2-14NPT	4	5/8	48	22	43	20	37	17	62	28	56	25	50	23
4	100	1/2-14NPT	4	5/8	68	31	58	26	48	22	81	37	71	32	61	28
6	150	3/4-14NPT	8	3/4	111	50	99	45	87	40	127	57	115	52	103	47
8	200	3/4-14NPT	8	3/4	174	79	155	70	136	62	197	89	178	81	159	72
10	250	3/4-14NPT	12	7/8	286	121	239	108	212	96	309	140	282	128	255	116
12	300	3/4-14NPT	12	7/8	402	182	362	164	-	-	442	200	402	182	-	-

ZURN WILKINS Model 48 Resilient Wedge Gate Valve Maintenance Procedures

Valve Identification

The ZURN WILKINS Model 48 Resilient Wedge Gate Valve can be distinguished from other gate valve brands by observing the unique lettering on the valve body. One side designates the valve size, model, pressure rating, year of manufacture, and the UL/FM logos. The opposite side displays the valve size and "WILKINS" in vertical lettering. See pictures below.



Gate valves that do not contain the name WILKINS in raised cast letters on the valve body are not ZURN WILKINS brand.

Installation Instructions

CAUTION: Installation of ZURN WILKINS Model 48 Gate Valves must be performed by qualified, licensed personnel.

1. Cycle valve open and closed to ensure proper operation. Check that valve end connections are clean. Fully close valve prior to installation. NOTE: For OS&Y valves, a small amount of packing rubber may exit the valve via the stem during initial operations. This is normal and does not affect valve performance. If stem leakage occurs, lightly tighten bronze gland nuts evenly until leakage stops.
2. Install valve per proper methods according to end connection type.
3. If used in buried service, a valve box or vault should be provided for each valve.
4. Ensure all bolts are sufficiently tight prior to pressurization.
5. Once pressurized, open valve and thoroughly flush line to remove debris.
6. Inspect valve for external leaks. If a leak is detected, see TROUBLESHOOTING section.
7. Fully close valve and listen for leaks past the wedge. If a leak is detected, see TROUBLESHOOTING section.
8. Fully open valve. ZURN WILKINS Model 48 Gate Valve is now in service.

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov
ADVERTENCIA: Cáncer y daño reproductivo - www.P65Warnings.ca.gov
AVERTISSEMENT: Cancer et néfastes sur la reproduction - www.P65Warnings.ca.gov

Maintenance Instructions

All ZURN WILKINS Model 48 Gate Valves must be inspected and maintained by qualified, licensed personnel at least once a year or more frequently as specified by local codes. Replacement of worn or damaged parts must only be made with genuine "ZURN WILKINS" parts.

Servicing Wedge and Bonnet Seal:

1. Shut off main water supply. If servicing a gate valve attached to the downstream side of a backflow preventer, the upstream shut-off valve may be closed instead of the main water supply.
2. Relieve line pressure.
3. Remove bonnet nuts and bolts.
4. Slowly lift and remove bonnet assembly and wedge from valve body.
5. Clean all parts thoroughly after disassembly.
6. Carefully inspect bonnet seal and wedge for wear or damage. Replace if worn or damaged.
7. Carefully inspect body interior seating surface for coating damage and foreign debris. Clean seating surface or replace valve if necessary.
8. Reinstall wedge and bonnet assembly.
9. Tighten down bonnet nuts and bolts evenly. Do not over tighten.

Servicing Gland Stuffing Box (OS&Y):

1. Make sure gate valve is fully open.
2. Remove gland nuts.
3. Raise gland and gland bushing.
4. Remove packing rings from stuffing box using a small pick or similar device.
5. Replace worn or damaged packing rings.
6. Lower gland and gland bushing and lightly tighten gland nuts.
7. Cycle valve fully closed to fully open.
8. If there is stem leakage, tighten gland nuts until leakage stops.

Servicing Stem Seals (NRS):

1. Shut off main water supply and relieve line pressure.
2. Remove the bolt and washer retaining the operating nut/handwheel.
3. Remove operating nut/handwheel.
4. Remove gland flange bolts and gland flange.
5. Remove stem by turning stem clockwise.
6. Replace stem o-rings, gland flange o-ring, wiper ring, and thrust washers if necessary.
7. Reassemble in reverse order.

Troubleshooting

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
1. Body Leakage	1. Loose bonnet bolts 2. Dirty or damaged bonnet seal	1. Tighten bolts 2. Inspect bonnet seal. Clean or replace if necessary
2. Seat Leakage	1. Foreign debris between seat and wedge 2. Dirty/corroded seat 3. Damaged seat or wedge	1. Cycle valve and flush line 2. Flush line or disassemble and clean 3. Repair or replace valve
3. Stem Leakage	1. Packing nuts loose 2. Stem o-rings worn (NRS) 3. Packing rings worn (OS&Y)	1. Tighten nuts 2. Replace stem o-rings 3. Replace packing rings

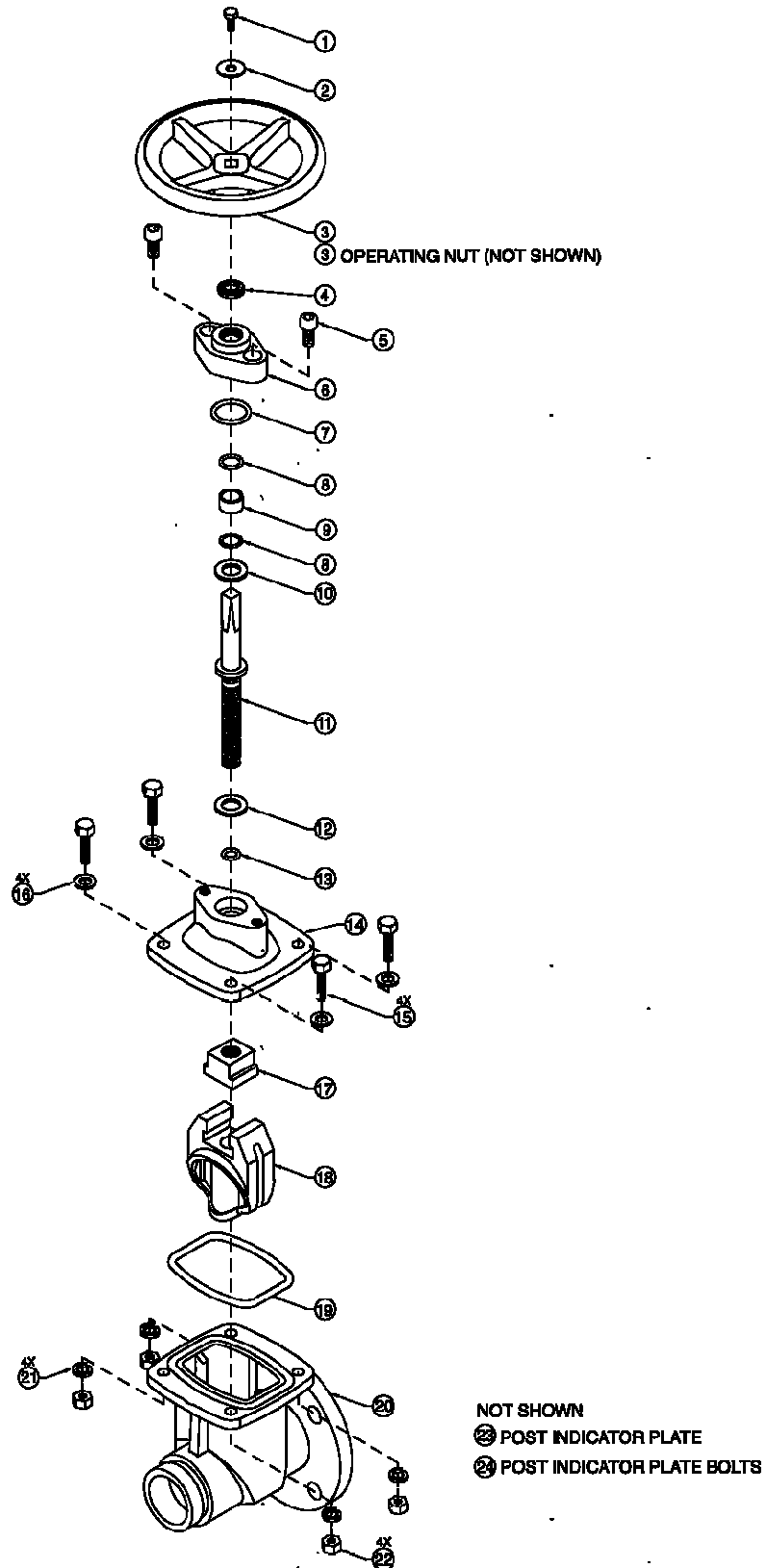
Replacement Parts

ZURN WILKINS 2 1/2" - 12" NRS ASSEMBLY MODEL 48

ITEM	REPLACEMENT PARTS	PART NUMBER BY VALVE SIZE						
	DESCRIPTION	2 1/2"	3"	4"	6"	8"	10"	12"
1	HOLD DOWN BOLT	487A-11	489A-11	489A-11	489A-11	489A-11	489A-11	489A-11
2	HOLD DOWN WASHER	487C-14	489C-14	489C-14	489C-14	489C-14	489C-14	489C-14
3	HANDWHEEL	487NRS-8	489NRS-8	489NRS-8	4810NRS-8	4811NRS-8	4812NRS-8	4813NRS-8
3	OP NUT (NOT SHOWN)	487OP-8	489OP-8	489OP-8	4810OP-8	4810OP-8	4812OP-8	4813OP-8
4	STEM RING WIPER	487-13	488-13	489-13	4810-13	4811-13	4812-13	4813-13
5	GLAND FLANGE BOLT	489C-11	489C-11	489C-11	4810C-11	4810C-11	4810C-11	4810C-11
6	GLAND FLANGE	487-8	488-8	489-8	4810-8	4811-8	4812-8	4813-8
7	GLAND FLANGE O-RING	487C-22	489C-22	489C-22	4810C-22	4810C-22	4812C-22	4813C-22
8	STEM SEAL O-RING	487A-22	489A-22	489A-22	4810A-22	4811A-22	4812A-22	4813A-22
9	STEM SEAL BUSHING	487-4	489-4	489-4	4810-4	4811-4	4812-4	4813-4
10	UPPER THRUST WASHER	487A-14	489A-14	489A-14	4810A-14	4811A-14	4812A-14	4813A-14
11	STEM	487-5	488-5	489-5	4810-5	4811-5	4812-5	4813-5
12	LOWER THRUST WASHER	487B-14	489B-14	489B-14	4810B-14	4811B-14	4812B-14	4813B-14
13	STEM O-RING	487B-22	489B-22	489B-22	4810B-22	4811B-22	4812B-22	4813B-22
14	BONNET	487-20	488-20	489-20	4810-20	4811-20	4812-20	4813-20
15	BONNET BOLT	489B-11	489B-11	489B-11	4810B-11	4811B-11	4811B-11	4811B-11
16	BONNET WASHER	489D-14	489D-14	489D-14	4810D-14	4810D-14	4810D-14	4810D-14
17	STEM NUT	487A-9	488A-9	489A-9	4810A-9	4811A-9	4812A-9	4813A-9
18	WEDGE	487-18	488-18	489-18	4810-18	4811-18	4812-18	4813-18
19	BONNET SEAL	487D-22	488D-22	489D-22	4810D-22	4811D-22	4812D-22	4813D-22
20	BODY - FLG X FLG	487-1-010F	488-1-010F	489-1-010F	4810-1-010F	4811-1-010F	4812-1-010F	4813-1-010F
20	BODY - GRV X FLG	487-1GXF-010F	488-1GXF-010F	489-1GXF-010F	4810-1GXF-010F	4811-1GXF-010F	4812-1GXF-010F	4813-1GXF-010F
20	BODY - GRV X GRV	487-1G-010F	488-1G-010F	489-1G-010F	4810-1G-010F	4811-1G-010F	4812-1G-010F	N/A
21	BONNET LOCK WASHER	489E-14	489E-14	489E-14	4810E-14	4810E-14	4810E-14	4810E-14
22	BONNET NUT	489B-9	489B-9	489B-9	4810B-9	4810B-9	4810B-9	4810B-9
23	PI PLATE (NOT SHOWN)	487-17	488-17	489-17	489-17	489-17	4812-17	4813-17
24	PI PLATE BOLT (NO SHOWN)	489C-11	489C-11	489D-11	489D-11	489D-11	489D-11	489D-11

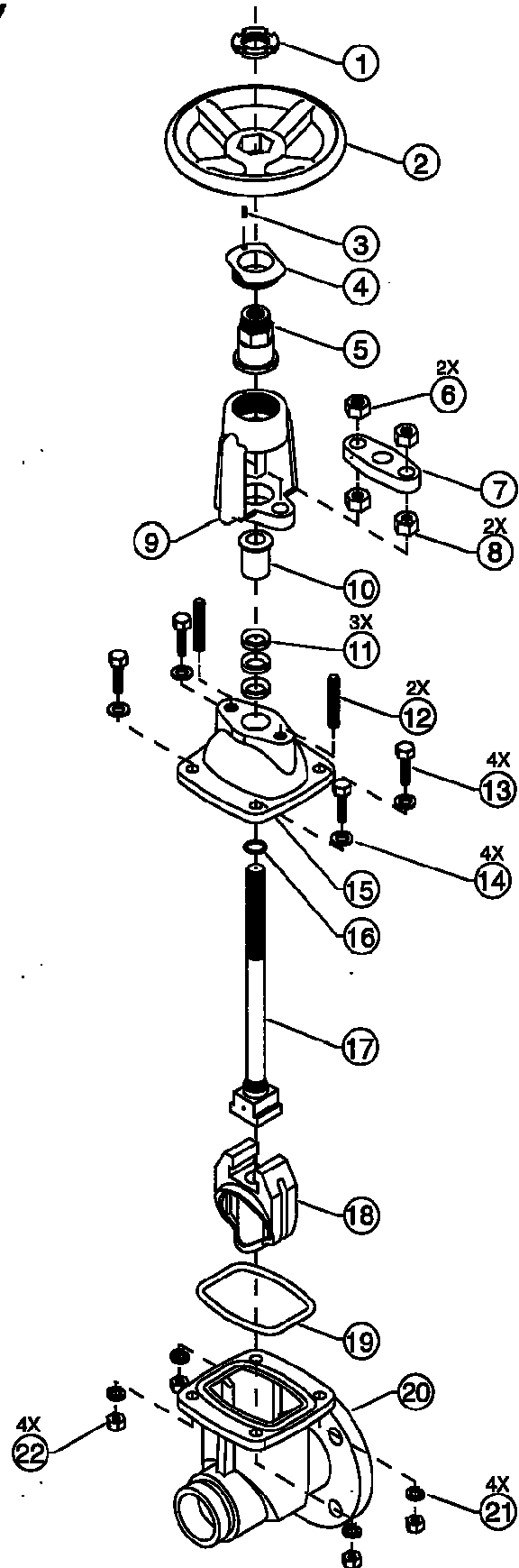
EXPLODED ISOMETRIC VIEW ON NEXT PAGE

ZURN WILKINS 2 1/2" - 12" NRS ASSEMBLY MODEL 48



ZURN WILKINS 2 1/2" OS&Y ASSEMBLY MODEL 48

REPLACEMENT PARTS		PART NUMBERS BY VALVE SIZE
ITEM	DESCRIPTION	2 1/2"
1	HANDWHEEL NUT	487OSYD-9
2	HANDWHEEL (NOT SHOWN)	487OSY-6
3	SET SCREW	487OSYA-11
4	RETAINER	487OSY-3
5	YOKE BUSHING	487OSYA-4
6	GLAND NUT	487OSYA-9
7	GLAND FOLLOWER	487OSY-8
8	YOKE NUT	487OSYB-9
9	YOKE	487OSYB-20
10	GLAND BUSHING	487OSYB-4
11	PACKING RING	487OSYC-22
12	GLAND BOLT	487OSYC-11
13	BONNET BOLT	489B-11
14	BONNET WASHER	489D-14
15	BONNET	487OSYA-20
16	STEM O-RING	487OSYB-22
17	STEM	487OSY-5
18	WEDGE	487-18
19	BONNET SEAL	487D-22
20	BODY - FLG X FLG	487-1-010F
20	BODY - GRV X FLG	487-1GXF-010F
20	BODY - GRV X GRV	487-1G-010F
21	BONNET LOCK WASHER	489E-14
22	BONNET NUT	489B-9

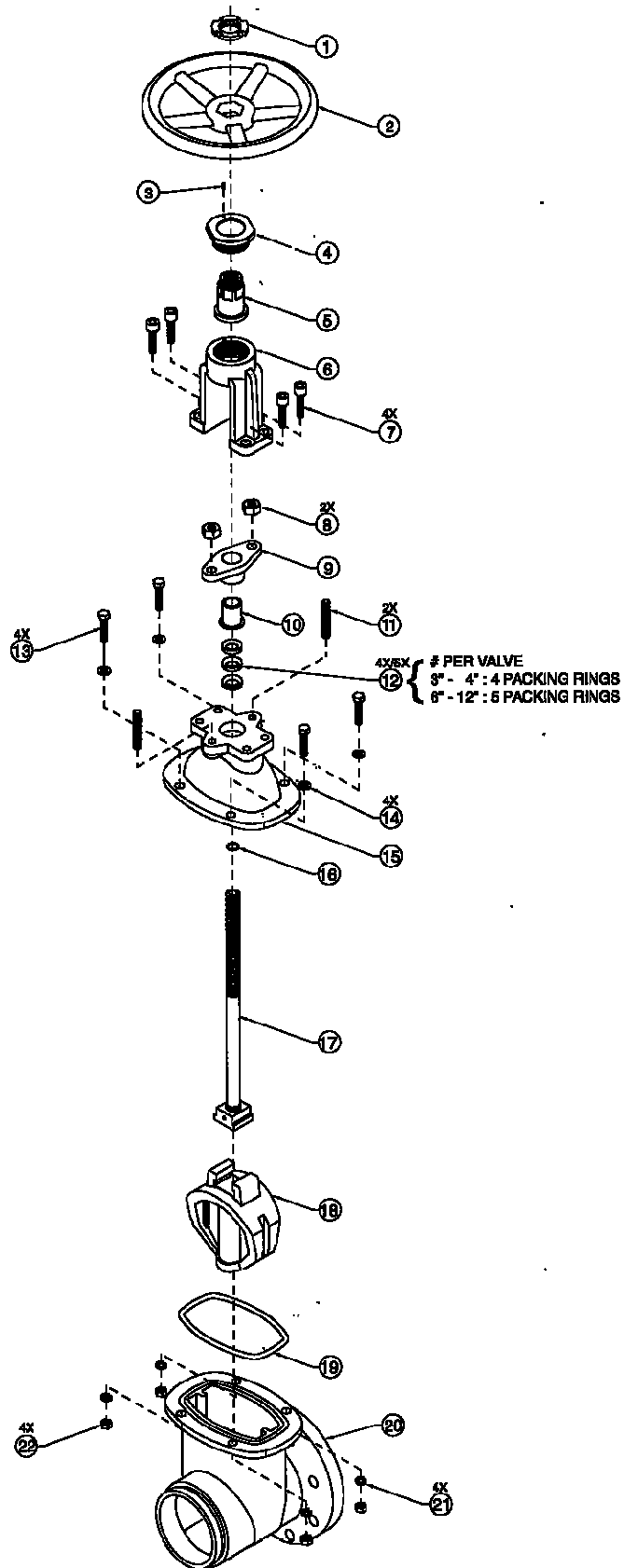


ZURN WILKINS 3" - 12" OS&Y ASSEMBLY MODEL 48

ITEM	REPLACEMENT PARTS	PART NUMBER BY VALVE SIZE					
		3"	4"	6"	8"	10"	12"
1	HANDWHEEL NUT	489OSYC-9	489OSYC-9	4810OSYC-9	4811OSYC-9	4811OSYC-9	4813OSYC-9
2	HANDWHEEL	489OSY-6	489OSY-6	4810OSY-6	4811OSY-6	4812OSY-6	4813OSY-6
3	SET SCREW	487OSYA-11	487OSYA-11	487OSYA-11	487OSYA-11	487OSYA-11	487OSYA-11
4	RETAINER	489OSY-3	489OSY-3	4810OSY-3	4811OSY-3	4812OSY-3	4813OSY-3
5	YOKE BUSHING	489OSYA-4	489OSYA-4	4810OSYA-4	4811OSYA-4	4812OSYA-4	4813OSYA-4
6	YOKE	489OSYB-20	489OSYB-20	4810OSYB-20	4811OSYB-20	4812OSYB-20	4813OSYB-20
7	YOKE BOLT	489OSYD-11	489OSYD-11	4810OSYD-11	4810OSYD-11	4810OSYD-11	4810OSYD-11
8	GLAND NUT	489OSYA-9	489OSYA-9	4810OSYA-9	4810OSYA-9	4810OSYA-9	4810OSYA-9
9	GLAND FOLLOWER	489OSY-8	489OSY-8	4810OSY-8	4811OSY-8	4812OSY-8	4813OSY-8
10	GLAND BUSHING	489OSYB-4	489OSYB-4	4810OSYB-4	4811OSYB-4	4812OSYB-4	4813OSYB-4
11	GLAND BOLT	489OSYC-11	489OSYC-11	4810OSYC-11	4811OSYC-11	4811OSYC-11	4811OSYC-11
12	PACKING RING	489OSYC-22	489OSYC-22	4810OSYC-22	4811OSYC-22	4812OSYC-22	4813OSYC-22
13	BONNET BOLT	489B-11	489B-11	4810B-11	4811B-11	4811B-11	4811B-11
14	BONNET WASHER	489D-14	489D-14	4810D-14	4810D-14	4810D-14	4810D-14
16	BONNET	488OSYA-20	489OSYA-20	4810OSYA-20	4811OSYA-20	4812OSYA-20	4813OSYA-20
16	STEM O-RING	489OSYB-22	489OSYB-22	4810OSYB-22	4811OSYB-22	4812OSYB-22	4813OSYB-22
17	STEM	488OSY-5	489OSY-5	4810OSY-5	4811OSY-5	4812OSY-5	4813OSY-5
18	WEDGE	488-18	489-18	4810-18	4811-18	4812-18	4813-18
19	BONNET SEAL	488D-22	489D-22	4810D-22	4811D-22	4812D-22	4813D-22
20	BODY - FLG X FLG	488-1-010F	489-1-010F	4810-1-010F	4811-1-010F	4812-1-010F	4813-1-010F
20	BODY - GRV X FLG	488-1GXF-010F	489-1GXF-010F	4810-1GXF-010F	4811-1GXF-010F	4812-1GXF-010F	4813-1GXF-010F
20	BODY - GRV X GRV	488-1G-010F	489-1G-010F	4810-1G-010F	4811-1G-010F	4812-1G-010F	N/A
21	BONNET LOCK WASHER	489E-14	489E-14	4810E-14	4810E-14	4810E-14	4810E-14
22	BONNET NUT	489B-9	489B-9	4810B-9	4810B-9	4810B-9	4810B-9

EXPLODED ISOMETRIC VIEW ON NEXT PAGE

ZURN WILKINS 3" - 12" OS&Y ASSEMBLY MODEL 48

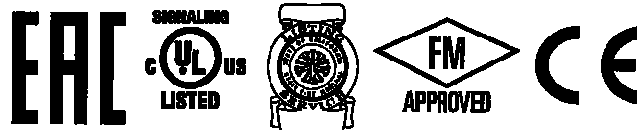
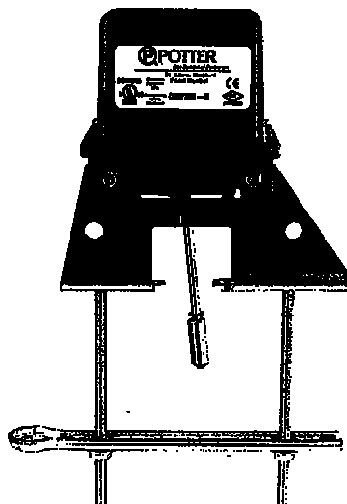


Features

- NEMA 4X* (IP 65) and 6P (IP 67)
- **Enclosure is 4X. For additional corrosion protection of mounting hardware, use model OSYSU-2 CRH*
- -40° to 140° (-40°C to 60°C) operating temperature range
- Visual switch indicators
- Two conduit entrances
- Adjustable length trip rod
- Accommodates up to 12AWG wire
- Three position switch detects tampering and valve closure
- Knurled mounting bracket prevents slipping
- Fine adjustment feature for fast, easy installation
- RoHS compliant
- One or two SPDT contact models (-1,-2)

NOTICE

Before any work is done on the fire sprinkler or fire alarm system, the building owner or their authorized representative shall be notified. Before opening any closed valve, ensure that opening the valve will not cause any damage from water flow due to open or missing sprinklers, piping, etc.



Important: This document contains important information on the installation and operation of OS&Y valve supervisory switches. Please read all instructions carefully before beginning installation. A copy of this document is required by NFPA 72 to be maintained on site.

Description

The OSYSU is used to monitor the open position of an OS&Y (outside screw and yoke) type gate valve. This device is available in two models; the OSYSU-1, containing one set of SPDT (Form C) contacts and the OSYSU-2, containing two sets of SPDT (Form C) contacts. These switches mount conveniently to most OS&Y valves ranging in size from 2" to 12" (50mm to 300mm). They will mount on some valves as small as ½" (12,5mm).

The cover is held in place by two tamper resistant screws that require a special tool to remove. The tool is furnished with each device.

Testing

The operation of the OSYSU and its associated protective monitoring system shall be inspected, tested, and maintained in accordance with all applicable local and national codes and standards and/or the Authority Having Jurisdiction (manufacturer recommends quarterly or more frequently). A minimum test shall consist of turning the valve wheel towards the closed position. The OSYSU shall operate within the first two revolutions of the wheel. Fully close the valve and ensure that the OSYSU does not restore. Fully open the valve and ensure that the OSYSU restores to normal only when the valve is fully opened.

CAUTION

Close the valve fully to determine that the stem threads do not activate the switch. The switch being activated by the stem threads could result in a *false valve open* indication.

Technical Specifications

Dimensions	See Fig 8
Weight	1.6 lbs (0,73 kg)
Enclosure	Cover: Die Cast Finish: Red Powder Coat Base: Die Cast Finish: Black Powder Coat All parts have corrosion resistant finishes
Cover Tamper	Tamper Resistant Screws Optional Cover Tamper Switch Available
Contact Ratings	OSYSU-1: One Set of SPDT (Form C) OSYSU-2: Two Sets of SPDT (Form C) 10.0 Amps at 125/250 VAC 2.0 Amps at 30VDC Resistive 10 mAmps minimum at 24 VDC
Environmental Limitations	-40° F to 140°F (-40°C to 60°C) NEMA 4X (IP 65) and NEMA 6P (IP 67) Enclosure (Use suitably rated conduit and connector) Indoor or Outdoor Use (See OSYSU-EX Bulletin 5400705 for Hazardous locations)
Conduit Entrances	Two Knockouts for 1/2" conduit provided (See Notice on Page 6 and Fig. 9 on Page 5)
Service Use	NFPA 13, 13D, 13R, 72

Specifications subject to change without notice

Theory of Operation

The OSYSU is a 3 position switch. The center position is the normal installation position. Normal is when the switch is installed on the OS&Y valve, the valve is fully open and the trip rod of the OSYSU is in the groove of the valve stem. Closing the valve causes the trip rod to ride up out of the groove and activates the switches. Removing the OSYSU from the valve causes the spring to pull the trip rod in the other direction and activates the switches.

Visual Switch Status Indication

There are 3 visual indicators to determine the status of the switches.

Fig 1; the actuator button of the micro switches are on the raised section of the switch actuator.

Fig 2; the trip rod is perpendicular to the base and lined up with the alignment mark on the mounting bracket.

Fig 3; the white visual indicator is visible through the window on the back of the switch actuator.

A final test is to meter the contacts marked COM and N.O. to ensure they are an open circuit when the valve is open and that they close and have continuity within 2 revolutions of turning the valve handwheel towards the closed position and the contacts remain closed as the valve is completely closed and until the valve is completely opened when the trip rod drops back into the groove in the valve stem.

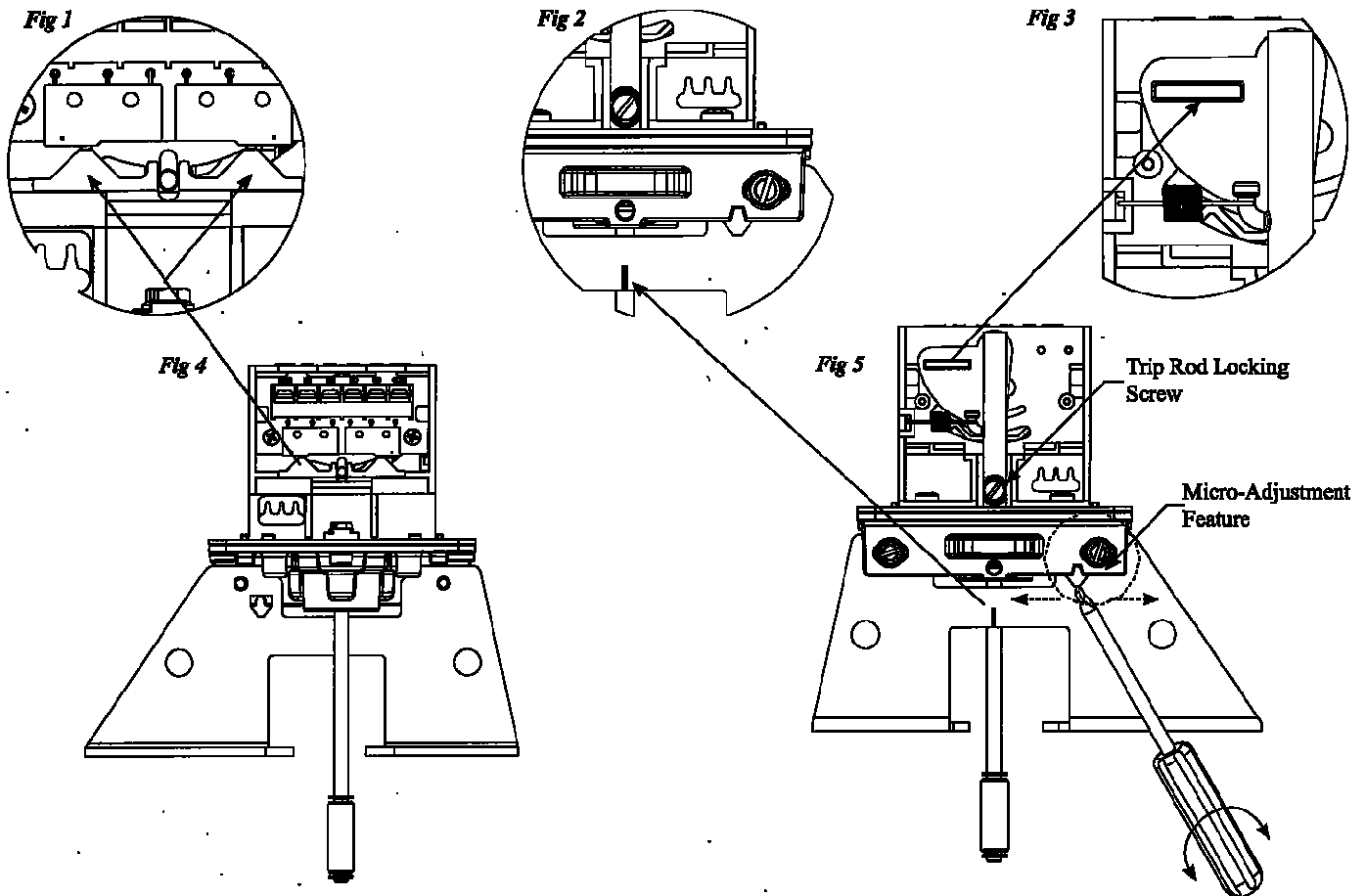
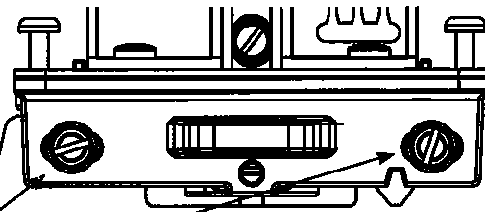
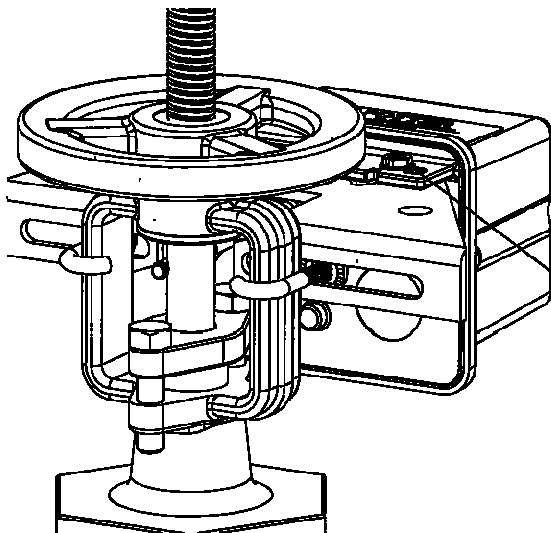


Fig 6

Small Valve Installation - 1/2" Through 2 1/2" Sizes



Slotted mounting holes and micro-adjustment feature may be used for fine adjustment of switch assembly to mounting bracket.
Re-tighten screws to 20 in-lbs minimum.

Small Valve Installation

NOTE: If the valve stem is pre-grooved at 1/8" minimum depth; proceed to step 7.

1. Remove and discard "E" ring and roller from the trip rod.
2. With the valve in the **FULL OPEN** position, locate the OSYSU across the valve yoke as far as possible from the valve gland so that the spring loaded trip rod of the OSYSU is pulled against the non threaded portion of the valve stem. Position the OSYSU with the bracket near the handwheel as shown in Fig. 6 if possible to avoid creating a pinch point between the wheel and the OSYSU.

3. Loosen the locking screw that holds the trip rod in place and adjust the rod length (see Fig. 5). When adjusted properly, the rod should extend past the valve screw, but not so far that it contacts the clamp bar. Tighten the locking screw to 5 in-lbs minimum to hold the trip rod in place and properly seal the enclosure.

NOTE: If trip rod length is excessive, loosen the locking screw and remove the trip rod from the trip lever. Using pliers, break off the one (1) inch long notched section (see Fig. 10). Reinstall trip rod and repeat Step 3 procedure.

4. Mount the OSYSU loosely with the carriage bolts and clamp bar supplied. On valves with limited clearance use J-hooks supplied instead of the carriage bolts and clamp bar to mount the OSYSU.
5. Mark the valve stem at the center of the trip rod.
6. Remove the OSYSU. Utilizing a 3/16" or 1/4" diameter straight file, file a 1/8" minimum depth groove centered on the mark on the valve stem. Deburr and smooth the edges of the groove to prevent damage to the valve packing and to allow the trip rod to move easily in and out of the groove as the valve is operated.

NOTE: A groove depth of up to approximately 3/16" can

make it easier to install the OSYSU so that it does not restore as it rolls over by the threads of the valve stem.

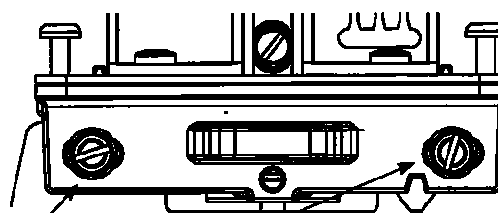
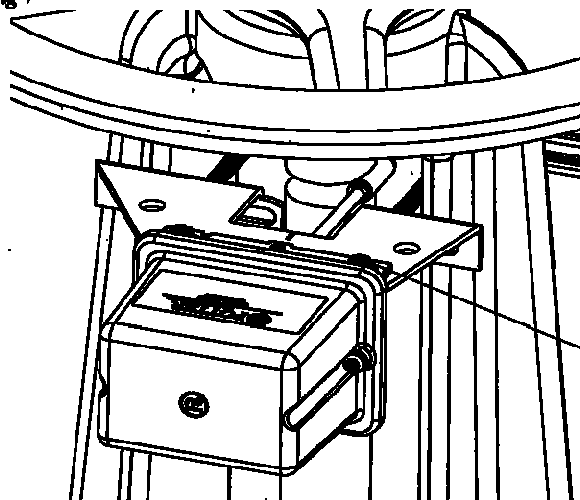
7. Mount the OSYSU on the valve yoke with the spring loaded trip rod of the OSYSU pulled against the valve stem and centered in the groove of the stem. If possible, position the OSYSU with the flat side of the bracket toward the hand wheel, as shown in Fig. 6, to help avoid creating a pinch point between the wheel and OSYSU. When in this preferred mounting position, it is usually best to use the white indicator visible through the window, as illustrated in Fig. 3, to aid in initially locating the OSYSU in the correct position on the yoke. If the unit must be installed inverted with the white indicator no longer easily visible, use the visual indicators of the actuator buttons on the micro-switches, as illustrated in Fig. 1, or the trip rod alignment mark on the bracket, as illustrated in Fig. 2, to aid in initially locating the OSYSU.
8. Final adjustment can be made by slightly loosening the two screws on the bracket and using the fine adjustment feature (see Fig. 5). The adjustment is correct when the plungers on the switches are depressed by the actuator and there is no continuity between the COM and NO terminals on the switches.
9. Tighten the adjustment screws and all mounting hardware securely (20 in-lbs minimum). Check to insure that the rod moves out of the groove easily and that the switches activate within two turns when the valve is operated from the **FULL OPEN** towards the **CLOSED** position.
10. Reinstall the cover and tighten the cover screws to 15 in-lbs minimum to properly seal the enclosure.

CAUTION

Close the valve fully to determine that the stem threads do not activate the switch. The switch being activated by the stem threads could result in a **false valve open** indication.

Large Valve Installation - 3" Through 12" Sizes

Fig 7



Slotted mounting holes and micro-adjustment feature may be used for fine adjustment of switch assembly to mounting bracket. Re-tighten screws to 20 in-lbs minimum.

Large Valve Installation

NOTE: If the valve stem is pre-grooved at 1/8" minimum depth; proceed to step 6.

1. With the valve in the FULL OPEN position, locate the OSYSU across the valve yoke as far from the valve gland as possible so that the spring loaded trip rod of the OSYSU is pulled against the non threaded portion of the valve stem. Position the OSYSU with the bracket near the handwheel as shown in Fig. 7 if possible to avoid creating a pinch point between the wheel and the OSYSU.

2. Mount the OSYSU loosely with the carriage bolts and clamp bar supplied.

3. Loosen the locking screw that holds the trip rod in place and adjust the rod length (see Fig. 5). When adjusted properly, the rod should extend past the valve screw, but not so far that it contacts the clamp bar. Tighten the locking screw to 5 in-lbs minimum to hold the trip rod in place and properly seal the enclosure.

NOTE: If trip rod length is excessive, loosen the locking screw and remove the trip rod from the trip lever. Using pliers, break off the one (1) inch long notched section (see Fig. 10). Reinstall trip rod and repeat Step 3 procedure.

4. Mark the valve stem at the center of the trip rod.
5. Remove the OSYSU. Utilizing a 3/8" or 1/2" diameter straight file, file a 1/8" minimum depth groove centered on the mark on the valve stem. Deburr and smooth the edges of the groove to prevent damage to the valve packing and to allow the trip rod to move easily in and out of the groove as the valve is operated.

NOTE: A groove depth of up to approximately 3/16" can make it easier to install the OSYSU so that it does not restore

as it rolls over by the threads of the valve stem.

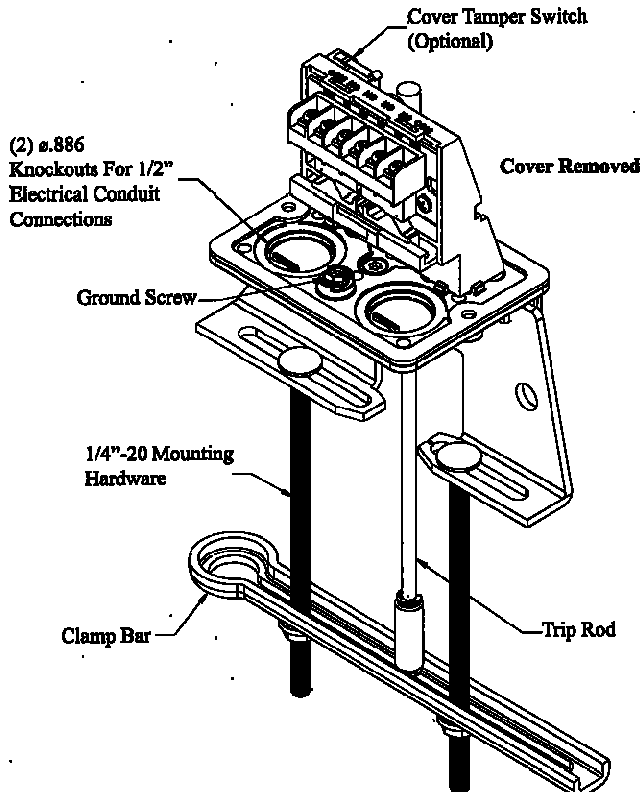
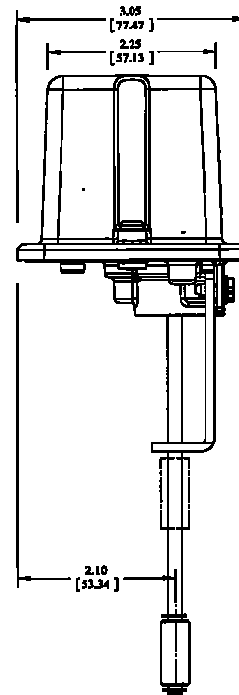
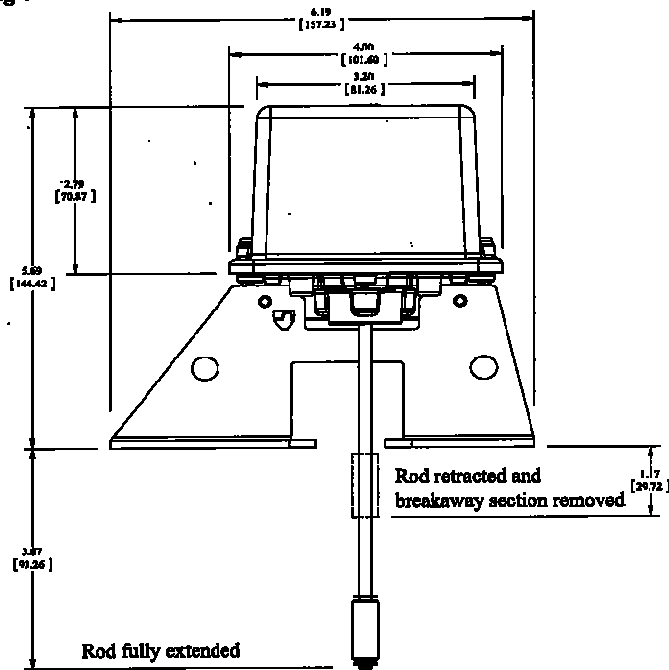
6. Mount the OSYSU on the valve yoke with the spring loaded trip rod of the OSYSU pulled against the valve stem and centered in the groove of the stem. If possible, position the OSYSU with the flat side of the bracket toward the hand wheel, as shown in Fig. 7, to help avoid creating a pinch point between the wheel and OSYSU. When in this preferred mounting position, it is usually best to use the white indicator visible through the window, as illustrated in Fig. 3, to aid in initially locating the OSYSU in the correct position on the yoke. If the unit must be installed inverted with the white indicator no longer easily visible, use the visual indicators of the actuator buttons on the micro-switches, as illustrated in Fig. 1, or the trip rod alignment mark on the bracket, as illustrated in Fig. 2, to aid in initially locating the OSYSU.
7. Final adjustment can be made by slightly loosening the two screws on the bracket and using the fine adjustment feature (see Fig. 5). The adjustment is correct when the plungers on the switches are depressed by the actuator and there is no continuity between the COM and NO terminals on the switches.
8. Tighten the adjustment screws and mounting hardware securely (minimum 20 in-lbs). Check to insure that the rod moves out of the groove easily and that the switches activate within two turns when the valve is operated from the FULL OPEN towards the CLOSED position.
9. Reinstall the cover and tighten the cover screws to 15 in-lbs minimum to properly seal the enclosure.

CAUTION

Close the valve fully to determine that the stem threads do not activate the switch. The switch being activated by the stem threads could result in a **false valve open** indication.

Dimensions

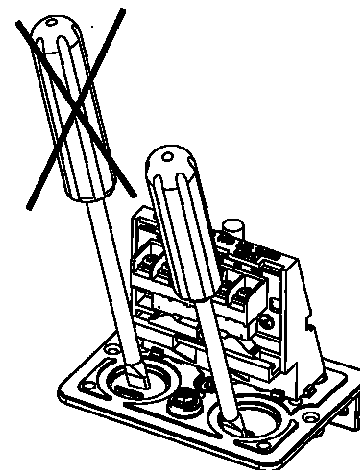
Fig 8



Knockout Removal

Fig 9

To remove knockouts: Place screwdriver at inside edge of knockouts, not in the center.



NOTE: Do not drill into the base as this creates metal shavings which can create electrical hazards and damage the device. Drilling voids the warranty.

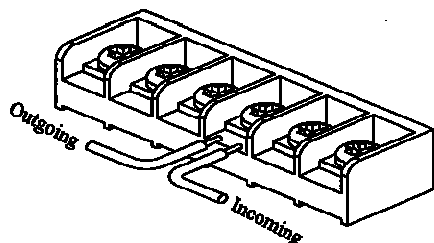
Breaking Excessive Rod Length

Fig 10



Switch Terminal Connections Clamping Plate Terminal

Fig 11



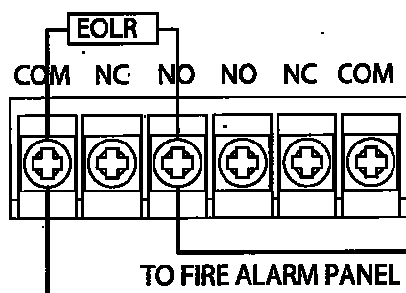
An uninsulated section of a single conductor should not be looped around the terminal and serve as two separate connections. The wire must be severed, thereby providing supervision of the connection in the event that the wire become dislodged from under the terminal. Failure to sever the wire may render the device inoperable risking severe property damage and loss of life. Do not strip wire beyond 3/8" of length or expose an uninsulated conductor beyond the edge of the terminal block. When using stranded wire, capture all strands under the clamping plate.

NOTICE

All conduit and connectors selected for the installation of this product shall be suitable for the environment for which it is to be used and shall be installed to the manufacturer's installation instructions. For NEMA 4, 4X, 6, 6P installations, the cover screws are recommended to be tightened to 15 in-lbs minimum and the trip rod locking screw tightened to 5 in-lbs minimum to properly seal the enclosure.

Typical Electrical Connections

Fig 12



Ordering Information

Model	Description	Stock No.
OSYSU-1	Outside Screw & Yoke Supervisory Switch (Single switch)	1010102
OSYSU-2	Outside Screw & Yoke Supervisory Switch (Double switch)	1010202
OSYSU-2 CRH	Outside Screw & Yoke Supervisory Switch (Double Switch). Corrosion resistant hardware of 316 stainless steel	1010210
	Cover Screw	5490424
	Hex Key for Cover Screws and Installation Adjustments	5250062
	Optional Cover Tamper Switch Kit	0090200

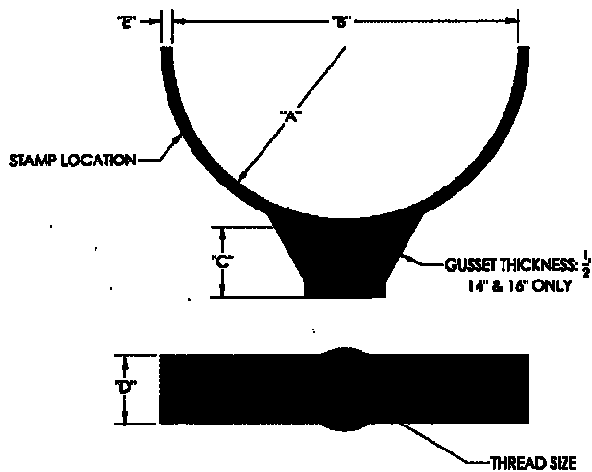
Engineering Specifications: OS&Y Valves

UL, CUL Listed / FM Approved and CE Marked valve supervisory switches shall be furnished and installed on all OS&Y type valves that can be used to shut off the flow of water to any portion of the fire sprinkler system, where indicated on the drawings and plans and as required by applicable local and national codes and standards. The supervisory switch shall be NEMA 4X and 6P rated and capable of being mounted in any position indoors or out and be completely submerged without allowing water to enter the enclosure. The enclosure shall be held captive by tamper resistant screws. The device shall contain two 1/2" conduit entrances and one or two Single Pole Double Throw (SPDT) switches. There shall be a visual indicator to display the status of the switches. To aid in installation, it shall be possible to make fine adjustments to the position of the switch on the valve without loosening the mounting bracket from the valve. The device shall contain an adjustable length trip rod and roller, the trip rod shall be held captive by a set screw accessible upon removal of the cover. The switch contacts shall be rated at 10A, 125/250VAC and 2A, 30VDC. OS&Y Valve supervisory switch shall be model OSYSU-1 for the single switch model and OSYSU-2 for the two switch model manufactured by Potter Electric Signal Company LLC

NOTICE

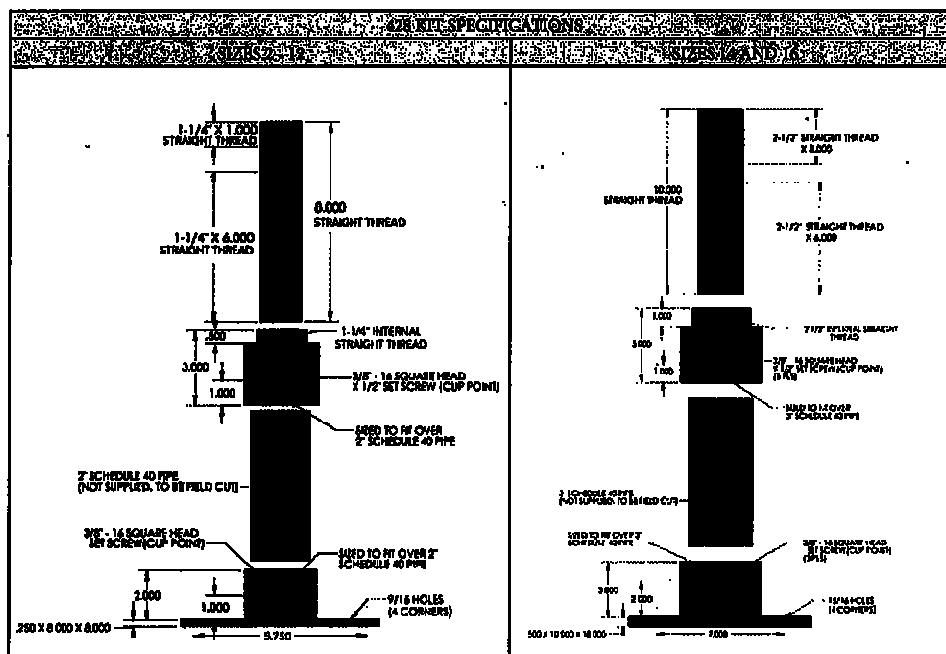
Supervisory switches have a normal service life of 10-15 years. However, the service life may be significantly reduced by local environmental conditions.

FIG. 428KT adjustable pipe saddle support, kit



Materials/Finishes:	Hot-Dip Galvanized (428KTHDG) ☒
	T-304 Stainless Steel: 2"-12" (428KTSS) ☐
	T-316 Stainless Steel (428KTSX) ☐
Service:	Designed to support pipe horizontally. Straight cut pipe thread on nipple provides up to 4-1/2 inches of vertical adjustability.
Approvals:	Complies with Manufacturers' Standardization Society MSS SP-58 (Type# 38)
Ordering:	Specify figure number, finish and pipe size.
Notes:	Saddles accommodate ductile iron pipe and IPS. Support requires 2" schedule 40 (3" schedule 40 for sizes 14" and 16") extension pipe (not supplied) to be cut in the field.

PIPE SIZE (INCHES)	W1	W2	W3	W4	W5	W6
2	1.750	3.500	1.500	2.000	0.375	1-1/4 - 7
3	2.030	4.060	1.500	2.000	0.375	1-1/4 - 7
4	2.450	4.900	1.500	2.000	0.375	1-1/4 - 7
6	3.500	7.000	1.500	2.000	0.500	1-1/4 - 7
8	4.580	9.160	1.500	2.000	0.500	1-1/4 - 7
10	5.600	11.200	1.500	2.000	0.500	1-1/4 - 7
12	6.650	13.300	1.500	2.000	0.500	1-1/4 - 7
14	7.750	15.500	3.000	3.000	0.500	2-1/2 - 4
16	8.800	17.600	3.000	3.000	0.500	2-1/2 - 4



PROJECT INFORMATION		APPROVAL STAMP	
Project:		Notes:	
Address:			
Contractor:			
Engineer:			
Date:			
Approved ☐ Approved as Noted ☐ Not Approved ☐			



Model 375A

Reduced Pressure Principle Assembly

Domestic

Application

Designed for installation on potable water lines to protect against both backsiphonage and backpressure of contaminated water into the potable water supply. The Model 375A provides protection where a potential health hazard exists. Ideal for use where Lead-Free* valves are required.

Standards Compliance

- ASSE® Listed 1013
- AWWA Compliant C511 (with gates only), and C550
- cUPC® Listed
- CSA® Certified B64.4
- UL® Classified
- C-UL® Classified
- FM® Approved
- Approved by the Foundation for Cross Connection Control and Hydraulic Research at the University of Southern California.
- NYC MEA 484-04-M
- Meets the requirements of NSF/ANSI/CAN 61*
*(0.25% MAX. WEIGHTED AVERAGE LEAD CONTENT)

Materials

Main valve body Ductile Iron ASTM A 536
Access covers Ductile Iron ASTM A 536
Coatings NSF Approved electrostatic epoxy
finish Internals Stainless Steel, 300 Series
NORYL™

Fasteners & Springs

Seal rings Stainless Steel, 300 Series
O-rings EPDM (FDA approved)
Sensing line Buna Nitrile (FDA approved)
Stainless Steel, braided hose

Features

Sizes: 2 1/2", 3", 4", 6", 8", 10"
Maximum working water pressure 175 PSI
Maximum working water temperature 140°F
Hydrostatic test pressure 350 PSI
End connections (Grooved for steel pipe) AWWA C606
(Flanged) ANSI B16.42
Class 150

*2 1/2" & 3" sizes use 4" body & reducer couplings

Dimensions & Weights (do not include pkg.)

MODEL 375A SIZE	WEIGHT													
	WITHOUT GATES		WITH NRS GATES (GXF)		WITH OS&Y GATES (GXG)		WITH NRS GATES (GXG)		WITH OS&Y GATES (GXG)		WITH BUTTERFLY VALVES (GXG)		WITH BUTTERFLY VALVES (GXF)	
2 1/2	66	97	44	191	87	199	90	183	83	191	87	139	63	149
3	80	96	43.5	211	88	217	98	201	91	207	94	141	64	164
4	100	83	38	227	103	237	108	201	91	211	86	131	59	153
6	160	138	62	356	162	372	169	326	148	342	155	210	95	240
8	200	305	139	757	344	781	355	757	344	767	344	449	204	485
10	260	358	162	885	447	1043	473	883	391	921	418	574	280	632

MODEL 375A SIZE	DIMENSION (approximate)																								
	A		A WITH BUTTERFLY VALVES		B LESS GATE VALVES		C		D		E OS&Y OPEN		E OS&Y CLOSED		E NRS GATE		E WITH BUTTERFLY VALVES		F		G		H		
	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	in.	mm	
2 1/2	65	35 1/8	892	32 1/8	816	20 1/8	511	4 1/2	114	7 1/4	184	16 3/8	416	13 7/8	352	11 3/8	289	8 1/4	210	11	279	45 1/4	1150	9 5/8	247
3	80	36 1/8	918	33	838	20 1/8	511	4 1/2	114	7 1/4	184	18 7/8	479	15 5/8	397	12 3/8	314	8 1/2	218	11	279	46 7/8	1191	9 5/8	247
4	100	38 1/4	972	33 1/4	845	19 7/8	505	4 1/2	114	8	203	22 3/4	578	18 1/4	484	14 3/4	375	9	229	11	279	53 3/8	1358	9 5/8	247
6	160	47 1/4	1200	40 1/4	1022	25 7/8	657	5 1/2	140	10	254	30 1/8	785	23 3/4	603	19	483	10 1/4	280	12 3/8	314	65 3/8	1661	13	330
8	200	82	1575	66	1397	38 1/2	978	10	254	11	279	37 3/4	969	29 1/4	743	22 1/2	672	12	305	16 3/8	391	86 3/8	2194	17 5/16	440
10	250	84 5/8	1841	66	1489	38 1/2	978	10	254	12	305	45 3/4	1162	35 3/8	869	28 1/2	673	13	330	16 3/8	391	94 3/8	2398	17 1/8	435



Options (Suffixes can be combined)

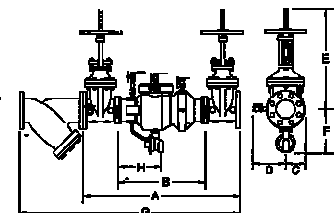
- ☒ FSC - with flanged end NRS gate valves (standard)
- ☐ G - with epoxy coated wye type strainer (flanged only)
- ☐ GF - with grooved end NRS gate valves
- ☐ FG - with grooved inlet gate connection and flanged outlet gate connection
- ☐ L - with flanged inlet gate connection and grooved outlet gate connection
- ☐ OSY - less shut-off valves (grooved body connections)
- ☐ OSYG - with flanged end OS&Y gate valves
- ☐ PI - with grooved end OS&Y gate valves
- ☐ BG - with Post Indicator gate valve
- ☐ BG - with grooved end butterfly valves with integral supervisory switches
- ☐ BF - with flanged end butterfly valves with integral supervisory switches

*New Connected Products. Search ZCSM-PF on Zurn.com for details.

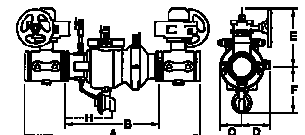
Accessories

- ☐ Connected Pressure Monitor (Model ZCSM-PF)*
- ☐ Connected Flow Meter Option (Model ZCSM-BTM must be ordered with Model ZCSM-PF)*
- ☐ Repair kit (rubber only)
- ☒ Thermal expansion tank (Model XT)
- ☒ OS & Y Gate valve tamper switch (OSY-40)
- ☒ Air gap (Model AG)
- ☐ QT-SET Quick Test Fitting Set
- ☐ Wireless Monitor Retrofit Kit for conversion of existing model 375 (212-6-RFK-375W1, 8-10-RFK-375W1)

MODEL
375A with OSY
& FSC option



MODEL
375A with
BG option

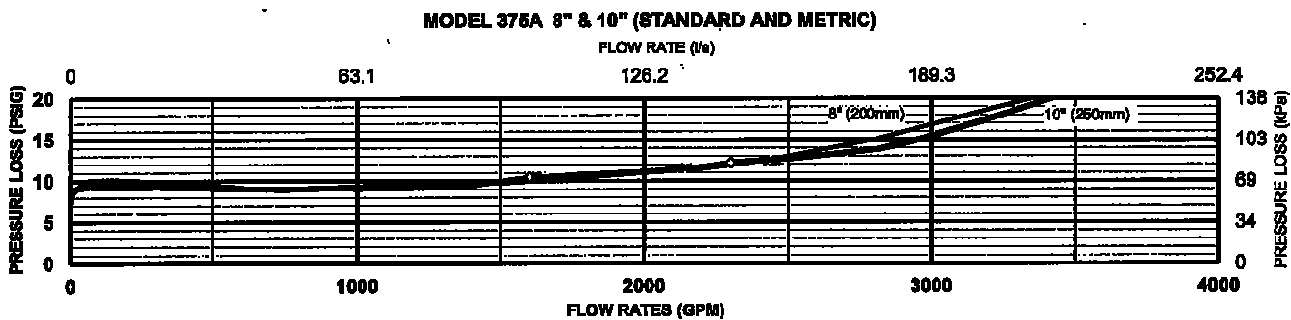
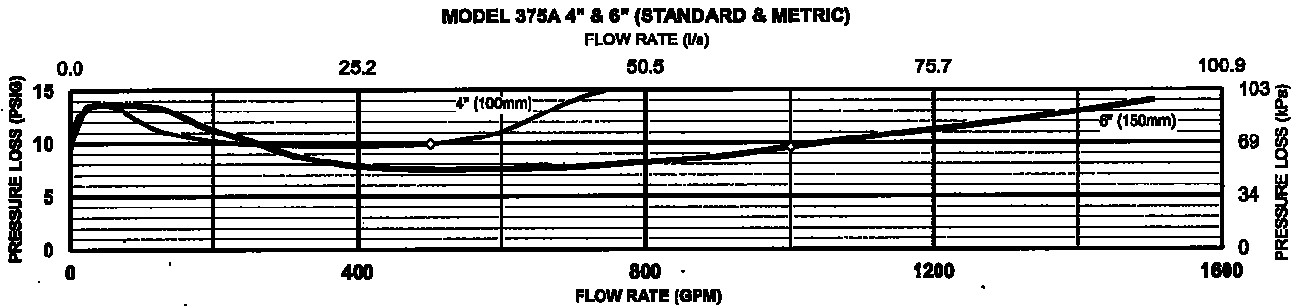
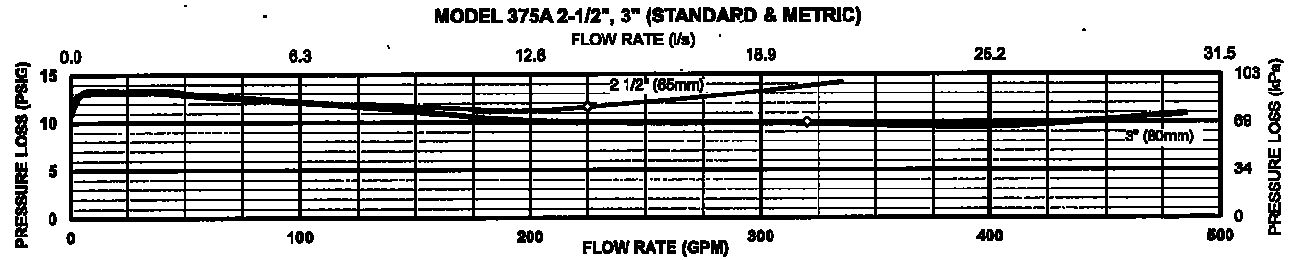


Relief Valve
discharge port:
2 1/2" - 8" - 2.75 sq. in.
8" - 10" - 3.69 sq. in.

Attention: Model 375A (grooved
body) and Model 375 (flange body)
have different key lengths.

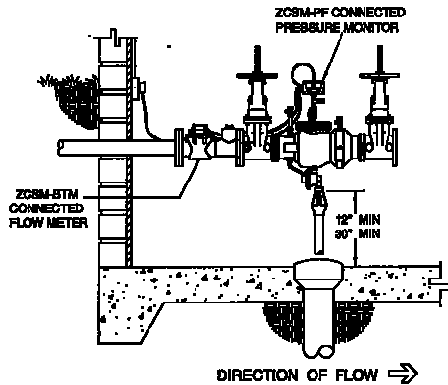
Flow Characteristics

◇ Rated Flow (established by approval agencies)



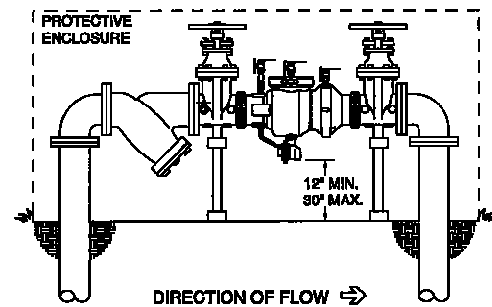
Typical Installation

Local codes shall govern installation requirements. Unless otherwise specified, the assembly shall be mounted at a minimum of 12" (305mm) and a maximum of 30" (762mm) above adequate drains with sufficient side clearance for testing and maintenance. The installation shall be made so that no part of the unit can be submerged.



INDOOR INSTALLATION
(375AOSY with ZCSM-PF Connected Pressure Monitor and ZCSM-BTM Connected Flow Meter accessories)

Capacity thru Schedule 40 Pipe (GPM)				
Pipe size	5 ft/sec	7.5 ft/sec	10 ft/sec	15 ft/sec
2 1/2"	75	112	149	224
3"	116	173	230	346
4"	198	298	397	595
6"	450	675	900	1351
8"	780	1169	1559	2339
10"	1229	1843	2458	3687
12"	1783	2644	3525	5288



OUTDOOR INSTALLATION (375A with FSC option)

Specifications

The Reduced Pressure Principle Backflow Prevention Assembly shall be certified to NSF/ANSI/CAN 61, ASSE® Listed 1013, and supplied with full port gate valves. The main body and access cover shall be epoxy coated ductile iron (ASTM A 536), the seat ring and check valve shall be NORYL™, the stem shall be stainless steel (ASTM A 276) and the seat disc elastomers shall be EPDM. The checks and the relief valve shall be accessible for maintenance without removing the device from the line. The Reduced Pressure Principle Backflow Prevention Assembly shall be a ZURN WILKINS Model 375A.

MAIN BLDG WATER SERVICE



Model 48 Resilient Wedge Gate Valve

Application

Designed for installation on potable water lines, Irrigation systems, Waterworks connections, and Fire systems.

Standards Compliance

- AWWA Compliant C515, C-550
- UL® Listed
- C-UL® Listed
- FM® Approved
- Meets the requirements of NSF/ANSI 372

Materials

Main body	Ductile Iron ASTM A 536 65-45-12
& Handwheel	Ductile Iron ASTM A 536 65-45-12
Covers	Ductile Iron ASTM A 536 65-45-12
Wedge	Ductile Iron ASTM A 536 65-45-12 W/EPDM
Coatings	AWWA C550 Compliant fusion-bond epoxy finish (meets the requirements of NSF/ANSI/CAN 61)
Internals	Stainless steel ASTM A 276 UNS S41000/ S42000
	Brass ASTM B 584 UNS C83600
Fasteners	Zinc plated steel Grade 8.8
	Brass ASTM B 584 UNS C83600
Elastomers	EPDM (FDA approved)
Stem	Stainless steel ASTM A 276 UNS S43100

Features

Sizes: 2 1/2", 3", 4", 6", 8", 10", 12"	
Maximum working water pressure	250 PSI
Maximum working water temperature	140°F
Hydrostatic test pressure	500 PSI
End connections	
(Grooved for steel pipe)	ANSI/AWWA C606
(Flanged bolt pattern)	ANSI/ASME B16.42
	Class 150

NRS GATES



FxF



GxF



GxG



LEAD FREE

OS&Y GATES



LEAD-FREE

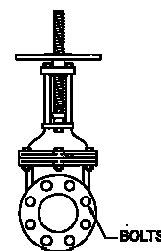
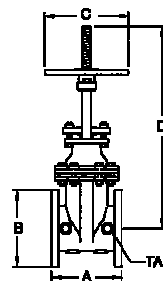
Options

- ☐ - NRS with flanged end connections (standard)
- ☐ G - NRS with grooved end connections
- ☐ GXF - NRS with grooved x flanged end connections
- ☐ PI - NRS with Post Indicator connecting flange (refer to specification sheet BF-PIWILKINS)
- ☐ OP - NRS with square operating nut
- ☐ OSY - OS&Y with flanged end connections
- ☐ OSYG - OS&Y with grooved end connections
- ☐ OSYGXF - OS&Y with grooved x flanged end connections

Accessories

- ☐ OS&Y gate valve tamper switch (OSY-40)

(OS&Y FxF SHOWN)



Dimensions & Weights (do not include pkg.)

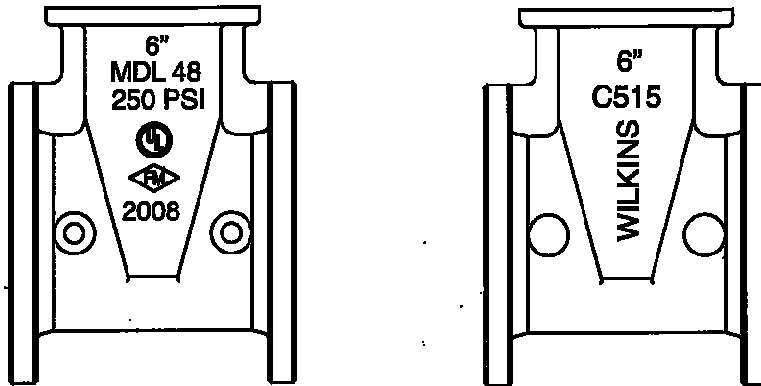
SIZE		DIMENSIONS (approximate)											
		A (all gates)		B (flanged)		C		D (NRS gates)		D (OS&Y open)		D (OS&Y closed)	
In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm	In.	mm
2 1/2	65	7 1/2	191	7	178	7 7/8	200	11 1/2	292	17 3/4	451	15 3/8	391
3	80	8	203	7 1/2	191	10 1/4	260	12 3/4	324	20 1/4	514	17	432
4	100	9	229	9	229	10 1/4	260	14 1/2	368	22 1/2	572	18 1/4	464
6	150	10 1/2	267	11	279	12 1/2	318	18	457	30 1/2	775	24 1/4	616
8	200	11 1/2	292	13 1/2	343	14 3/4	375	21 1/8	537	37	940	28 1/2	724
10	250	13	330	16	406	16 3/8	418	24 3/4	629	45 5/8	1159	34 3/4	883
12	300	14	356	18	483	17 1/2	445	28	711	53	1346	40 1/2	1029

SIZE		TAP SIZE	BOLTS (flanged gates) # OF (per flange) size		WEIGHT (approximate)											
					NRS (FxF)		NRS (GxF)		NRS (GxG)		OS&Y (FxF)		OS&Y (GxF)		OS&Y (GxG)	
In.	mm				lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg	lbs.	kg
2 1/2	65	1/2-14NPT	4	5/8	36	17	31	14	26	12	42	19	37	17	31	14
3	80	1/2-14NPT	4	5/8	49	22	43	20	37	17	62	28	56	25	50	23
4	100	1/2-14NPT	8	5/8	68	31	58	26	48	22	81	37	71	32	81	28
6	150	3/4-14NPT	8	3/4	111	50	99	45	87	40	127	57	115	52	103	47
8	200	3/4-14NPT	8	3/4	174	79	155	70	136	62	197	89	178	81	159	72
10	250	3/4-14NPT	12	7/8	288	121	239	108	212	96	309	140	282	128	255	116
12	300	3/4-14NPT	12	7/8	402	182	362	164	-	-	442	200	402	182	-	-

ZURN WILKINS Model 48 Resilient Wedge Gate Valve Maintenance Procedures

Valve Identification

The ZURN WILKINS Model 48 Resilient Wedge Gate Valve can be distinguished from other gate valve brands by observing the unique lettering on the valve body. One side designates the valve size, model, pressure rating, year of manufacture, and the UL/FM logos. The opposite side displays the valve size and "WILKINS" in vertical lettering. See pictures below.



Gate valves that do not contain the name WILKINS in raised cast letters on the valve body are not ZURN WILKINS brand.

Installation Instructions

CAUTION: Installation of ZURN WILKINS Model 48 Gate Valves must be performed by qualified, licensed personnel.

1. Cycle valve open and closed to ensure proper operation. Check that valve end connections are clean. Fully close valve prior to installation. NOTE: For OS&Y valves, a small amount of packing rubber may exit the valve via the stem during initial operations. This is normal and does not affect valve performance. If stem leakage occurs, lightly tighten bronze gland nuts evenly until leakage stops.
2. Install valve per proper methods according to end connection type.
3. If used in buried service, a valve box or vault should be provided for each valve.
4. Ensure all bolts are sufficiently tight prior to pressurization.
5. Once pressurized, open valve and thoroughly flush line to remove debris.
6. Inspect valve for external leaks. If a leak is detected, see TROUBLESHOOTING section.
7. Fully close valve and listen for leaks past the wedge. If a leak is detected, see TROUBLESHOOTING section.
8. Fully open valve. ZURN WILKINS Model 48 Gate Valve is now in service.

WARNING: Cancer and Reproductive Harm - www.P65Warnings.ca.gov
ADVERTENCIA: Cáncer y daño reproductivo - www.P65Warnings.ca.gov
AVERTISSEMENT: Cancer et néfastes sur la reproduction - www.P65Warnings.ca.gov

Maintenance Instructions

All ZURN WILKINS Model 48 Gate Valves must be inspected and maintained by qualified, licensed personnel at least once a year or more frequently as specified by local codes. Replacement of worn or damaged parts must only be made with genuine "ZURN WILKINS" parts.

Servicing Wedge and Bonnet Seal:

1. Shut off main water supply. If servicing a gate valve attached to the downstream side of a backflow preventer, the upstream shut-off valve may be closed instead of the main water supply.
2. Relieve line pressure.
3. Remove bonnet nuts and bolts.
4. Slowly lift and remove bonnet assembly and wedge from valve body.
5. Clean all parts thoroughly after disassembly.
6. Carefully inspect bonnet seal and wedge for wear or damage. Replace if worn or damaged.
7. Carefully inspect body interior seating surface for coating damage and foreign debris. Clean seating surface or replace valve if necessary.
8. Reinstall wedge and bonnet assembly.
9. Tighten down bonnet nuts and bolts evenly. Do not over tighten.

Servicing Gland Stuffing Box (OS&Y):

1. Make sure gate valve is fully open.
2. Remove gland nuts.
3. Raise gland and gland bushing.
4. Remove packing rings from stuffing box using a small pick or similar device.
5. Replace worn or damaged packing rings.
6. Lower gland and gland bushing and lightly tighten gland nuts.
7. Cycle valve fully closed to fully open.
8. If there is stem leakage, tighten gland nuts until leakage stops.

Servicing Stem Seals (NRS):

1. Shut off main water supply and relieve line pressure.
2. Remove the bolt and washer retaining the operating nut/handwheel.
3. Remove operating nut/handwheel.
4. Remove gland flange bolts and gland flange.
5. Remove stem by turning stem clockwise.
6. Replace stem o-rings, gland flange o-ring, wiper ring, and thrust washers if necessary.
7. Reassemble in reverse order.

Troubleshooting

PROBLEM	POSSIBLE CAUSES	CORRECTIVE ACTION
1. Body Leakage	1. Loose bonnet bolts 2. Dirty or damaged bonnet seal	1. Tighten bolts 2. Inspect bonnet seal. Clean or replace if necessary
2. Seat Leakage	1. Foreign debris between seat and wedge 2. Dirty/corroded seat 3. Damaged seat or wedge	1. Cycle valve and flush line 2. Flush line or disassemble and clean 3. Repair or replace valve
3. Stem Leakage	1. Packing nuts loose 2. Stem o-rings worn (NRS) 3. Packing rings worn (OS&Y)	1. Tighten nuts 2. Replace stem o-rings 3. Replace packing rings

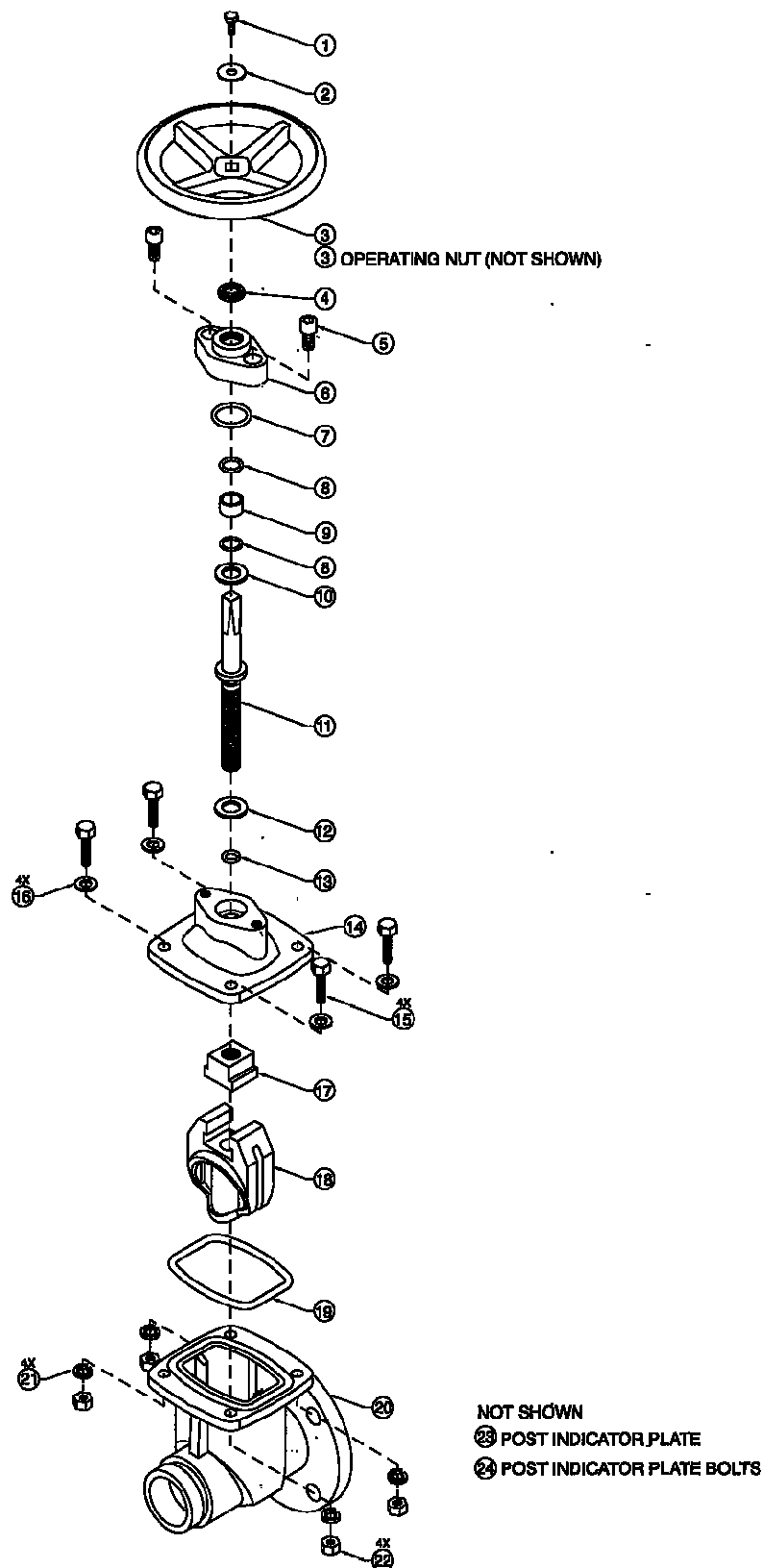
Replacement Parts

ZURN WILKINS 2 1/2" - 12" NRS ASSEMBLY MODEL 48

ITEM	REPLACEMENT PARTS	PART NUMBER BY VALVE SIZE						
		2 1/2"	3"	4"	6"	8"	10"	12"
1	HOLD DOWN BOLT	487A-11	488A-11	489A-11	489A-11	489A-11	489A-11	489A-11
2	HOLD DOWN WASHER	487C-14	488C-14	489C-14	489C-14	489C-14	489C-14	489C-14
3	HANDWHEEL	487NRS-6	488NRS-6	489NRS-6	4810NRS-6	4811NRS-6	4812NRS-6	4813NRS-6
3	OP NUT (NOT SHOWN)	487OP-6	488OP-6	489OP-6	4810OP-6	4810OP-6	4812OP-6	4813OP-6
4	STEM RING WIPER	487-13	488-13	489-13	4810-13	4811-13	4812-13	4813-13
5	GLAND FLANGE BOLT	489C-11	489C-11	489C-11	4810C-11	4810C-11	4810C-11	4810C-11
6	GLAND FLANGE	487-8	488-8	489-8	4810-8	4811-8	4812-8	4813-8
7	GLAND FLANGE O-RING	487C-22	489C-22	489C-22	4810C-22	4810C-22	4812C-22	4813C-22
8	STEM SEAL O-RING	487A-22	489A-22	489A-22	4810A-22	4811A-22	4812A-22	4813A-22
9	STEM SEAL BUSHING	487-4	489-4	489-4	4810-4	4811-4	4812-4	4813-4
10	UPPER THRUST WASHER	487A-14	489A-14	489A-14	4810A-14	4811A-14	4812A-14	4813A-14
11	STEM	487-5	488-5	489-5	4810-5	4811-5	4812-5	4813-5
12	LOWER THRUST WASHER	487B-14	489B-14	489B-14	4810B-14	4811B-14	4812B-14	4813B-14
13	STEM O-RING	487B-22	489B-22	489B-22	4810B-22	4811B-22	4812B-22	4813B-22
14	BONNET	487-20	488-20	489-20	4810-20	4811-20	4812-20	4813-20
15	BONNET BOLT	489B-11	489B-11	489B-11	4810B-11	4811B-11	4811B-11	4811B-11
16	BONNET WASHER	489D-14	489D-14	489D-14	4810D-14	4810D-14	4810D-14	4810D-14
17	STEM NUT	487A-9	488A-9	489A-9	4810A-9	4811A-9	4812A-9	4813A-9
18	WEDGE	487-18	488-18	489-18	4810-18	4811-18	4812-18	4813-18
19	BONNET SEAL	487D-22	488D-22	489D-22	4810D-22	4811D-22	4812D-22	4813D-22
20	BODY - FLG X FLG	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	BODY - GRV X FLG	N/A	N/A	N/A	N/A	N/A	N/A	N/A
20	BODY - GRV X GRV	N/A	N/A	N/A	N/A	N/A	N/A	N/A
21	BONNET LOCK WASHER	489E-14	489E-14	489E-14	4810E-14	4810E-14	4810E-14	4810E-14
22	BONNET NUT	489B-9	489B-9	489B-9	4810B-9	4810B-9	4810B-9	4810B-9
23	PI PLATE (NOT SHOWN)	487-17	488-17	489-17	489-17	489-17	4812-17	4813-17
24	PI PLATE BOLT (NO SHOWN)	489C-11	489C-11	489D-11	489D-11	489D-11	489D-11	489D-11

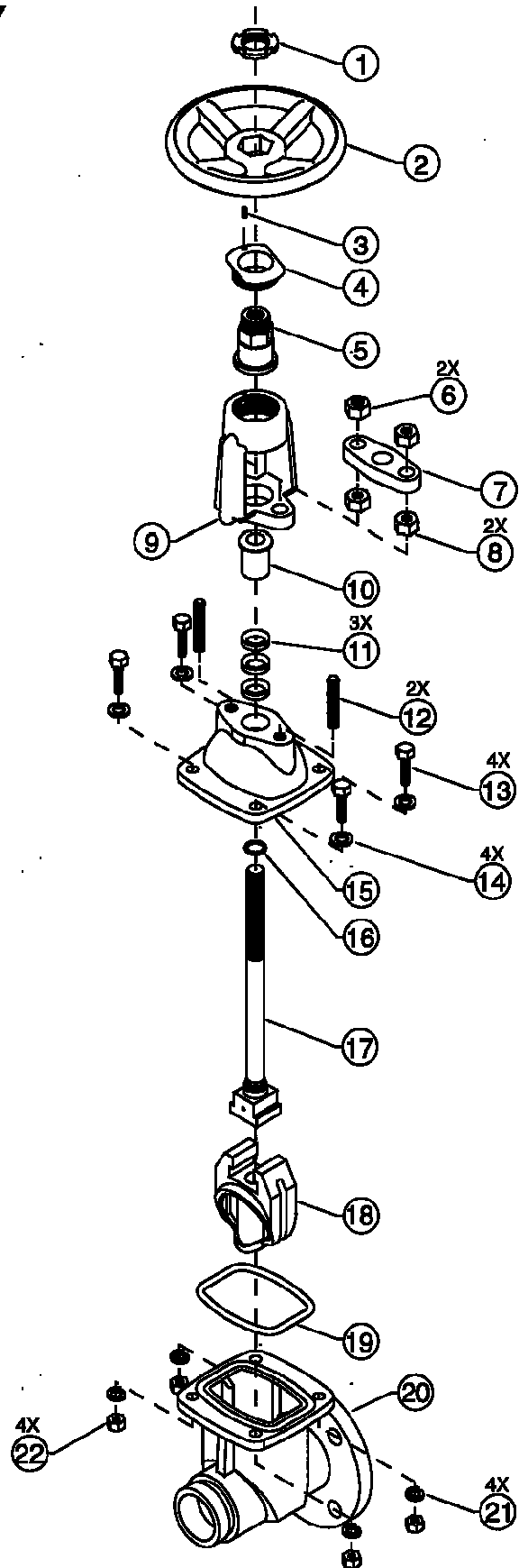
EXPLODED ISOMETRIC VIEW ON NEXT PAGE

ZURN WILKINS 2 1/2" - 12" NRS ASSEMBLY MODEL 48



ZURN WILKINS 2 1/2" OS&Y ASSEMBLY MODEL 48

REPLACEMENT PARTS		PART NUMBERS BY VALVE SIZE
ITEM	DESCRIPTION	2 1/2"
1	HANDWHEEL NUT	487OSYD-9
2	HANDWHEEL (NOT SHOWN)	487OSY-6
3	SET SCREW	487OSYA-11
4	RETAINER	487OSY-3
5	YOKE BUSHING	487OSYA-4
6	GLAND NUT	487OSYA-9
7	GLAND FOLLOWER	487OSY-8
8	YOKE NUT	487OSYB-9
9	YOKE	487OSYB-20
10	GLAND BUSHING	487OSYB-4
11	PACKING RING	487OSYC-22
12	GLAND BOLT	487OSYC-11
13	BONNET BOLT	489B-11
14	BONNET WASHER	489D-14
15	BONNET	487OSYA-20
16	STEM O-RING	487OSYB-22
17	STEM	487OSY-5
18	WEDGE	487-18
19	BONNET SEAL	487D-22
20	BODY - FLG X FLG	N/A
20	BODY - GRV X FLG	N/A
20	BODY - GRV X GRV	N/A
21	BONNET LOCK WASHER	489E-14
22	BONNET NUT	489B-9

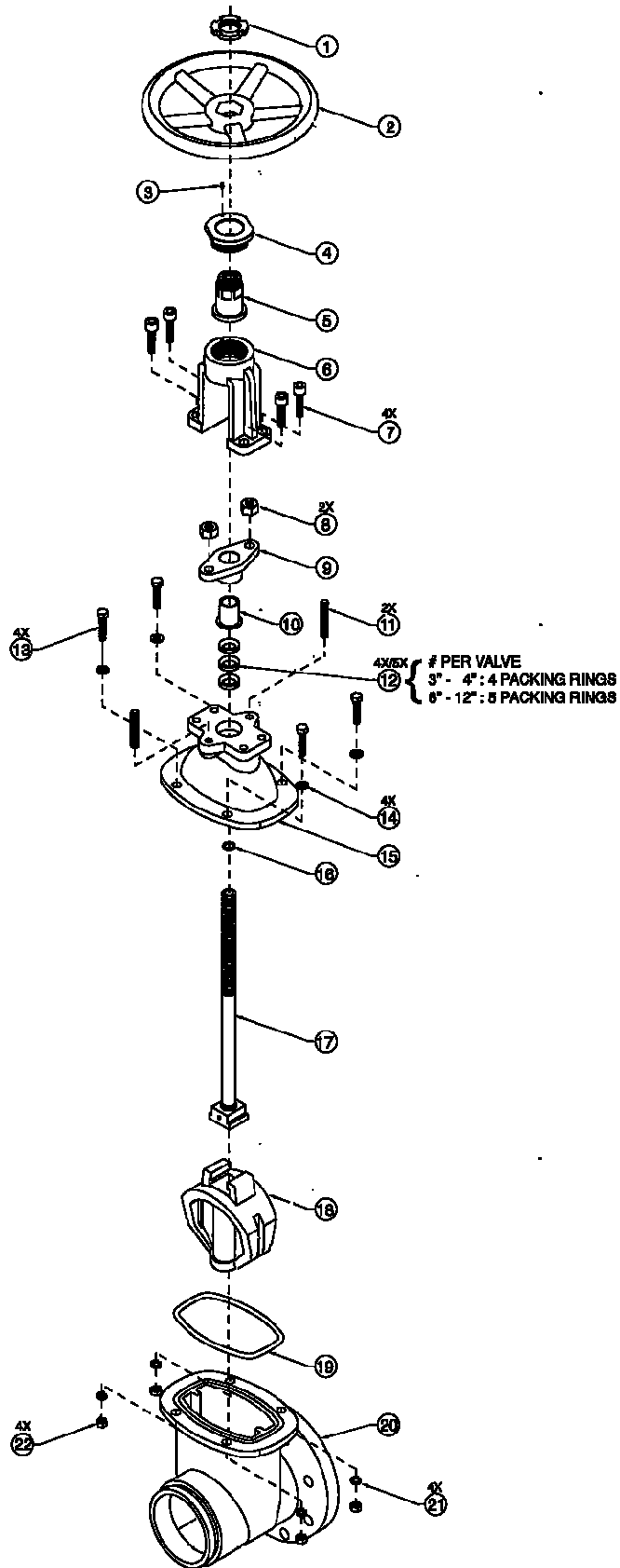


ZURN WILKINS 3" - 12" OS&Y ASSEMBLY MODEL 48

ITEM	REPLACEMENT PARTS	PART NUMBER BY VALVE SIZE					
	DESCRIPTION	3"	4"	6"	8"	10"	12"
1	HANDWHEEL NUT	4890SYC-9	4890SYC-9	48100SYC-9	48110SYC-9	48110SYC-9	48130SYC-9
2	HANDWHEEL	4890SY-6	4890SY-6	48100SY-6	48110SY-6	48120SY-6	48130SY-6
3	SET SCREW	4870SYA-11	4870SYA-11	4870SYA-11	4870SYA-11	4870SYA-11	4870SYA-11
4	RETAINER	4890SY-3	4890SY-3	48100SY-3	48110SY-3	48120SY-3	48130SY-3
5	YOKE BUSHING	4890SYA-4	4890SYA-4	48100SYA-4	48110SYA-4	48120SYA-4	48130SYA-4
6	YOKE	4890SYB-20	4890SYB-20	48100SYB-20	48110SYB-20	48120SYB-20	48130SYB-20
7	YOKE BOLT	4890SYD-11	4890SYD-11	48100SYD-11	48100SYD-11	48100SYD-11	48100SYD-11
8	GLAND NUT	4890SYA-9	4890SYA-9	48100SYA-9	48100SYA-9	48100SYA-9	48100SYA-9
9	GLAND FOLLOWER	4890SY-8	4890SY-8	48100SY-8	48110SY-8	48120SY-8	48130SY-8
10	GLAND BUSHING	4890SYB-4	4890SYB-4	48100SYB-4	48110SYB-4	48120SYB-4	48130SYB-4
11	GLAND BOLT	4890SYC-11	4890SYC-11	48100SYC-11	48110SYC-11	48110SYC-11	48110SYC-11
12	PACKING RING	4890SYC-22	4890SYC-22	48100SYC-22	48110SYC-22	48120SYC-22	48130SYC-22
13	BONNET BOLT	489B-11	489B-11	4810B-11	4811B-11	4811B-11	4811B-11
14	BONNET WASHER	489D-14	489D-14	4810D-14	4810D-14	4810D-14	4810D-14
15	BONNET	4880SYA-20	4890SYA-20	48100SYA-20	48110SYA-20	48120SYA-20	48130SYA-20
16	STEM O-RING	4890SYB-22	4890SYB-22	48100SYB-22	48110SYB-22	48120SYB-22	48130SYB-22
17	STEM	4880SY-5	4890SY-5	48100SY-5	48110SY-5	48120SY-5	48130SY-5
18	WEDGE	488-18	489-18	4810-18	4811-18	4812-18	4813-18
19	BONNET SEAL	488D-22	489D-22	4810D-22	4811D-22	4812D-22	4813D-22
20	BODY - FLG X FLG	N/A	N/A	N/A	N/A	N/A	N/A
20	BODY - GRV X FLG	N/A	N/A	N/A	N/A	N/A	N/A
20	BODY - GRV X GRV	N/A	N/A	N/A	N/A	N/A	N/A
21	BONNET LOCK WASHER	489E-14	489E-14	4810E-14	4810E-14	4810E-14	4810E-14
22	BONNET NUT	489B-9	489B-9	4810B-9	4810B-9	4810B-9	4810B-9

EXPLODED ISOMETRIC VIEW ON NEXT PAGE

ZURN WILKINS 3" - 12" OS&Y ASSEMBLY MODEL 48





Model FSC

Ductile Iron "Y" Type Strainer

MAIN BLDG ✓

Application

Zurn Wilkins model FSC is designed for installation on water lines to protect downstream equipment from malfunction or premature failure due to build-up of sediment or debris.

Standards Compliance

- MIL-S 16293F Type 2
- Meets the requirements of NSF/ANSI 372

Materials

Main valve body Ductile Iron ASTM A536
Access cover Ductile Iron ASTM A536
Coatings Fusion-Epoxy Finish
(Meets requirements of NSF/ANSI/CAN 61)
Screens Perforated Stainless Steel, 300 Series

Features

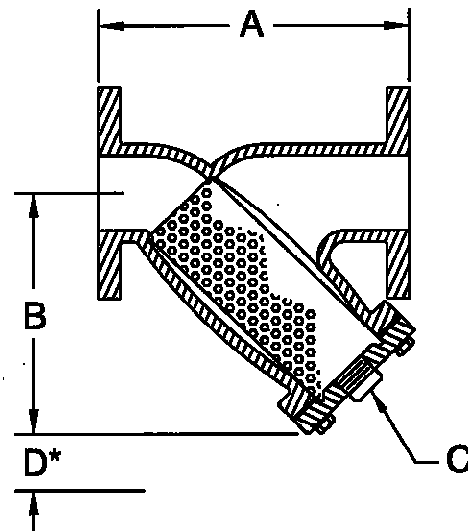
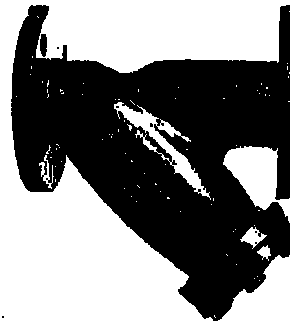
Sizes: 2 1/2", 3", 4", 6", 8", 10", 12"

Pressure/temperature: 200 psi @ 150°F WOG
125 psi @ 450°F Steam

End connections: ASME B16.42 Class 150

Screen

SIZE Inch	OPENINGS (dia.)	MATERIAL THICKNESS	HOLES PER sq(in)
2 1/2	0.045	0.020	225
3	0.045	0.020	225
4	0.062	0.020	98
6	0.062	0.020	98
8	0.125	0.020	29
10	0.125	0.032	29
12	0.125	0.025	35



SIZE		DIMENSIONS (approximate)							WEIGHT	
		A		B		C	D*			
in	mm	in	mm	in	mm		in	mm	lbs.	kg.
2 1/2	65	10	254	8 1/4	210	1 1/4 NPT	6	152	35	16
3	80	10 1/2	267	9 1/4	235	1 1/4 NPT	6	152	45	20.5
4	100	15	381	12 1/2	318	2 NPT	9	229	61	27.5
6	150	18	457	14	356	2 NPT	10	254	165	75
8	200	24 1/4	616	17 3/4	451	2 NPT	11	279	239	108.5
10	250	29 1/2	749	21 1/4	540	2 NPT	14	356	394	178.5
12	300	33 3/4	857	24	610	2 NPT	17	432	500	227

*Vertical clearance for screen removal