Bell & Gossett
xylem

INSTRUCTION MANUAL
A07257 Rev E

EN

Isolation Flange

https://qr.xylemsales.com/5xf9ve

Installer

NOTICE:
PLEASE LEAVE THIS MANUAL FOR OWNER'S USE

SAFETY INSTRUCTIONS
This safety alert symbol will be used in this manual and on the unit safety instruction decals to draw attention to safety related instructions. When used, the safety alert symbol means ATTENTION! BECOME ALERT! YOUR SAFETY IS INVOLVED! FAILURE TO FOLLOW THESE INSTRUCTIONS MAY RESULT IN A SAFETY HAZARD.

1 Description

The Isolation Flange (IF) is a combination of an isolation valve and a companion flange for circulators. The isolation flange allows easy service or replacement of the circulator without the need to drain the system.

A warning label with the part number V56873 is located on the handle. If missing, it must be replaced.

WARNING:
Wetted surface contains not more than 0.25% of lead by weight.

WARNING:
This product can expose you to chemicals including Lead, which is known to the State of California to cause cancer and birth defects or other reproductive harm. For more information go to: www.P65Warnings.ca.gov.

Operational limits

Max Temperature	200°F (93°C)
Max Pressure (NPT & Sweat)	150 psig (1000 kPa)
Press Connections	200 psi (1380 kPa)

2 Installation instructions

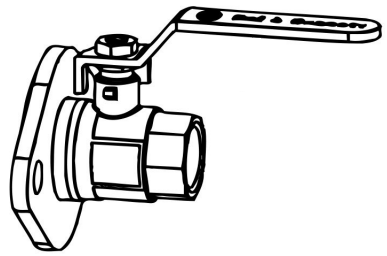
1. Install one IF on the suction side of the hydronic circulator and one on the discharge side.
2. See the following installation instructions and drawings for additional information.

WARNING:
System fluids under temperature or pressure can be hazardous. Be sure the pressure is relieved and system temperature is below 100°F (38°C). Failure to follow these instructions could result in property damage and/or personal injury.

3. Apply torque in even increments to both flange bolts. Refer to the pump manufacturers instruction manual for torque value. Both the suction and discharge flanges must be torqued in this manner.

WARNING:
To prevent leakage, make certain that the flange bolts have been adequately torqued. Failure to follow these instructions could result in personal injury and/or property damage.

For NPT connections:



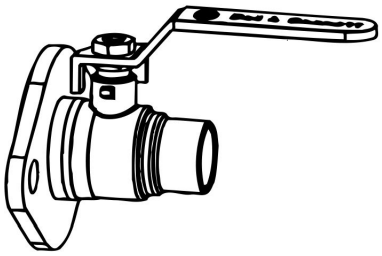
1. Apply pipe compound conservatively to the male connecting fittings only.
2. Upon completion of IF installation to piping, check connections for leaks.

CAUTION:
Overtightening and breakage can occur with the use of Teflon®* pipe joint compounds. Teflon provides lubricity so that care must be exercised not to over tighten joints. Failure to follow these instructions could result in property damage and/or moderate personal injury.

CAUTION:

Regularly inspect the valve for any signs of corrosion or leakage. If present replace the valve as corrosion and leakage could result in personal injury and/or property damage.

For Sweat Connections:

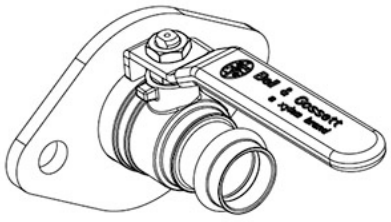


1. For soldering, use 95-5 (Tin-Antimony) solder and a good grade of flux. Solder end valves are suitable for soldering without disassembly. Refer to *Table 1* on page 3 for solder types and temperatures. Solder joint strength and working pressure varies with tube size, solder grade and temperature as defined in ASME B16.18 and B16.22. Do not exceed the limits stated in *Table 1* on page 3.
2. Cut the tube square and deburr both ID and OD. Do not deform the tube, otherwise it must be re-sized. Clean tube end and valve solder cup with abrasive cloth or wire brush until the surfaces are bright metal. Alternatively use an approved cleaning paste: in this case spread the paste evenly on the tube; insert the tube into the cup and turn to distribute the paste; finally remove the excess paste.
3. When sweating joints, first wrap the valve body with a cool wet rag, then direct the flame with care to avoid subjecting the valve to excessive heat. Allow the valve to cool before touching or operating. The valve must be in the fully closed position during soldering. Valve seats may be damaged if soldering is done in the open or partly open position.
4. While soldering, it is important to use a properly sized torch with a sharp pointed flame so that the solder end is heated fully and quickly. Apply heat so that the flame is directed on the cup area but away from the valve body. Although soft 50/50 solder is easier to use, these valves can also be successfully soldered with 95-5, however caution must be used to prevent damage (see *Table 1* on page 3). Cool the valve body before soldering the second end.
5. Check the soldered connections for leaks.

CAUTION:

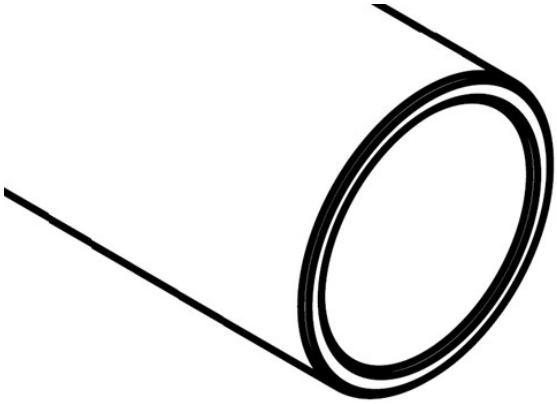
Heat associated with the use of silver solder may damage valve and void the warranty. Do not use silver solder. Failure to follow these instructions could result in property damage and/or moderate personal injury.

2.1 Install press connection



Press connections are designed to join isolation flange with ASTM B88 Type K, L, and M copper tubes.

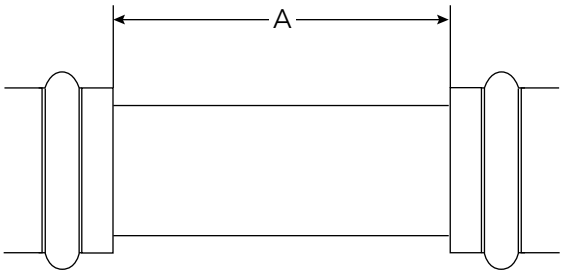
1. Using clean and undamaged copper tube, cut the tube to the desired length, keeping the ends square, at a right angle, using a dedicated displacement type tube or pipe cutting tool. Do not cut through any scratches, grooves, manufacturing marks, or identification etchings present on the tube, as this may cause it to deform. Perform a visual inspection to make sure that the copper tube has stayed within round.
2. Use dedicated pipe deburring tools to deburr the pipe inner and outer diameters. This will add a gentle chamfer to the tube that will facilitate tube insertion into the component. Burrs must also be removed to prevent damage to the press connection sealing element (O-ring) and to ensure uniform tube insertion. Further, clean tube ends thoroughly per good piping practices with a fine grade emery cloth or extra fine grit sandpaper. The tube end should be clean and free of all dirt and debris.



3. After cleaning, mark the tube with a pencil or magic marker to show the proper minimum tube insertion depth. Refer to the table below for the correct insertion depth.

Minimum Tube Insertion Depth						
Nominal Pipe Size	½"	¾"	1"	1¼"	1½"	2"
Insertion Depth (inch)	0.89	0.91	1.03	1.03	1.41	1.66
Insertion Depth (mm)	22.6	23.0	26.0	26.1	35.9	42.3

4. Crimping or mechanical pressing of the component-tube connection causes some deformity of the tubing. To prevent leaks, maintain minimum distance between connections as indicated below:



Minimum Distance Between Press Connections						
Nominal Pipe Size	½"	¾"	1"	1¼"	1½"	2"
Minimum Tube Length (A)	1"	1½"	2"	2½"	3"	4"

5. Check the press connection of the Isolation Flange to make sure that the sealing element (O-ring) is seated in place and clean and free from all dirt and debris. Lubricate the seal and the inside of the press connection with water.

WARNING:

Never lubricate the press connection sealing element (O-ring) with anything other than water. Petroleum-based or mineral-based lubricants and oils, dirt or debris may damage the sealing element. Failure to follow these instructions could result in serious personal injury or death and property damage.

To make sure the press connection sealing element (O-ring) is not damaged, all sweat, soldered, or brazed connections must be completed prior to pressing or crimping any press connection components to the tube.

6. Lubricate the outside of the tube with water. Carefully insert the tube into the press connection of the component with a gentle twisting motion until the tube firmly stops. Make sure the tube is fully inserted into the Isolation Flange to the proper depth. Failure to fully insert the tube into the press connection may result in an improper seal.
7. Follow press tool manufacturer's instructions for proper use, maintenance, and service of the press tool.Using the appropriately sized crimp tool with the correct jaws for the desired pipe size, place the open jaws around the press connection of the component and ensure that the contour of the jaw is properly aligned with the contour of the press connection on the component. Make sure that the crimp tool is perpendicular to the tube and perform the press crimping action to join the component to the tube.

CAUTION:

Use appropriate Personal Protective Equipment (PPE) and avoid handling sharp edges that may have formed on the component during the crimping operation.

8. Inspect the crimped fitting to ensure proper crimp and check the connection to make sure none of the following problems exist:
   - Tube not in line with the Isolation Flange
   - The tube is not fully inserted into the Isolation Flange
   - Crimp tool not aligned with press feature on Isolation Flange
9. Check all connections for leaks.
10. If any problems are found at this time, a new section of tubing and a new Isolation Flange will need to be prepared, installed, and crimped into place.

3 Operating instructions

To isolate the circulator from the system, turn the handle of both isolation valves clockwise 90° to close the valve. Remove circulator for repair/replacement.

IMPORTANT: Relieve pressure from the circulator by slowly loosening the bolts allowing the water to slowly drain from the pump body. Refer to the circulator instruction manual when reinstalling a circulator. After a pump is reinstalled, turn the handle of both isolation valves counterclockwise 90° to open the valves for normal operation.

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4 Service instructions

There is no service required for the automatic air vent.

CAUTION:

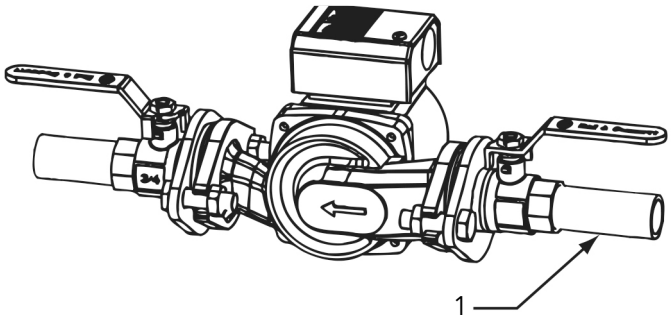
Corrosion or leakage of vents can cause damage or injury. Periodically inspect the air vents for signs of leakage or corrosion. If noted, the vent must be replaced. Failure to follow these instructions could result in property damage and/or moderate personal injury.

Table 1: Pressure — Temperature Ratings

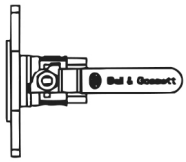
Joining Material	Melting Range Degrees		Working Temperature Degrees		Maximum Working Gauge Pressure					
					Size 1/8" – 1"		Size 1¼" – 2"		Size 2½" – 2"	
	°F	°C	°F	°C	psi	kPa	psi	kPa	psi	kPa
95-tin-antimony solder ASTM B32 alloy grade 95TA	450/464	230/240	0/+100	-18/+38	500*	3500*	400*	2800*	300*	2100*
			0/+150	-18/+66	400*	2800*	350*	2400*	275*	2000*
			0/+200	-18/+93	300*	2100*	250*	1700*	200	1400
			0/+250	-18/+121	200	1400	175	1200	150	1050

Note: Above stated limits are not imposed by the valve, but by the strength of the soldering joint according to ASME B16.22.

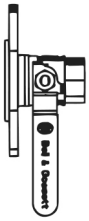
*Soldered copper tube joints have been tested at 230 psi (1600 kPa) in accordance with ISO 2016.



1. Standard piping



Valve open normal operation



Valve closed for servicing

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1 Warranty

1.1 Commercial warranty

Warranty. For goods sold to commercial buyers, Seller warrants the goods sold to Buyer hereunder (with the exception of membranes, seals, gaskets, elastomer materials, coatings and other "wear parts" or consumables all of which are not warranted except as otherwise provided in the quotation or sales form) will be (i) be built in accordance with the specifications referred to in the quotation or sales form, if such specifications are expressly made a part of this Agreement, and (ii) free from defects in material and workmanship for a period of one (1) year from the date of installation or two (2) years from the date of manufacture, whichever shall occur first, unless a longer period is specified in the product documentation (the "Warranty").

Except as otherwise required by law, Seller shall, at its option and at no cost to Buyer, either repair or replace any product which fails to conform with the Warranty provided Buyer gives written notice to Seller of any defects in material or workmanship within ten (10) days of the date when any defects or non-conformance are first manifest. Under either repair or replacement option, Seller shall not be obligated to remove or pay for the removal of the defective product or install or pay for the installation of the replaced or repaired product and Buyer shall be responsible for all other costs, including, but not limited to, service costs, shipping fees and expenses. Seller shall have sole discretion as to the method or means of repair or replacement. Buyer's failure to comply with Seller's repair or replacement directions shall terminate Seller's obligations under this Warranty and render the Warranty void. Any parts repaired or replaced under the Warranty are warranted only for the balance of the warranty period on the parts that were repaired or replaced. Seller shall have no warranty obligations to Buyer with respect to any product or parts of a product that have been: (a) repaired by third parties other than Seller or without Seller's written approval; (b) subject to misuse, misapplication, neglect, alteration, accident, or physical damage; (c) used in a manner contrary to Seller's instructions for installation, operation and maintenance; (d) damaged from ordinary wear and tear, corrosion, or chemical attack; (e) damaged due to abnormal conditions, vibration, failure to properly prime, or operation without flow; (f) damaged due to a defective power supply or improper electrical protection; or (g) damaged resulting from the use of accessory equipment not sold or approved by Seller. In any case of products not manufactured by Seller, there is no warranty from Seller; however, Seller will extend to Buyer any warranty received from Seller's supplier of such products.

THE FOREGOING WARRANTY IS EXCLUSIVE AND IN LIEU OF ANY AND ALL OTHER EXPRESS OR IMPLIED WARRANTIES, GUARANTEES, CONDITIONS OR TERMS OF WHATEVER NATURE RELATING TO THE GOODS PROVIDED HEREUNDER, INCLUDING WITHOUT LIMITATION ANY IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, WHICH ARE HEREBY EXPRESSLY DISCLAIMED AND EXCLUDED. EXCEPT AS OTHERWISE REQUIRED BY LAW, BUYER'S EXCLUSIVE REMEDY AND SELLER'S AGGREGATE LIABILITY FOR BREACH OF ANY OF THE FOREGOING WARRANTIES ARE LIMITED TO REPAIRING OR REPLACING THE PRODUCT AND SHALL IN ALL CASES BE LIMITED TO THE AMOUNT PAID BY THE BUYER FOR THE DEFECTIVE PRODUCT. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY OTHER FORM OF DAMAGES, WHETHER DIRECT, INDIRECT, LIQUIDATED, INCIDENTAL, CONSEQUENTIAL, PUNITIVE, EXEMPLARY OR SPECIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF PROFIT, LOSS OF ANTICIPATED SAVINGS OR REVENUE, LOSS OF INCOME, LOSS OF BUSINESS, LOSS OF PRODUCTION, LOSS OF OPPORTUNITY OR LOSS OF REPUTATION.

1.2 Limited consumer warranty

Warranty. For goods sold for personal, family or household purposes, Seller warrants the goods purchased hereunder (with the exception of membranes, seals, gaskets, elastomer materials, coatings and other "wear parts" or consumables all of which are not warranted except as otherwise provided in the quotation or sales form) will be free from defects in material and workmanship for a period of one (1) year from the date of installation or two (2) years from the product date code, whichever shall occur first, unless a longer period is provided by law or is specified in the product documentation (the "Warranty").

Except as otherwise required by law, Seller shall, at its option and at no cost to Buyer, either repair or replace any product which fails to conform with the Warranty provided Buyer gives written notice to Seller of any defects in material or workmanship within ten (10) days of the date when any defects or non-conformance are first manifest. Under either repair or replacement option, Seller shall not be obligated to remove or pay for the removal of the defective product or install or pay for the installation of the replaced or repaired product and Buyer shall be responsible for all other costs, including, but not limited to, service costs, shipping fees and expenses. Seller shall have sole discretion as to the method or means of repair or replacement. Buyer's failure to comply with Seller's repair or replacement directions shall terminate Seller's obligations under this Warranty and render this Warranty void. Any parts repaired or replaced under the Warranty are warranted only for the balance of the warranty period on the parts that were repaired or replaced.

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THE FOREGOING WARRANTY IS PROVIDED IN PLACE OF ALL OTHER EXPRESS WARRANTIES. ALL IMPLIED WARRANTIES, INCLUDING BUT NOT LIMITED TO THE IMPLIED WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE, ARE LIMITED TO ONE(1) YEAR FROM THE DATE OF INSTALLATION OR TWO (2) YEARS FROM THE PRODUCT DATE CODE, WHICHEVER SHALL OCCUR FIRST. EXCEPT AS OTHERWISE REQUIRED BY LAW, BUYER'S EXCLUSIVE REMEDY AND SELLER'S AGGREGATE LIABILITY FOR BREACH OF ANY OF THE FOREGOING WARRANTIES ARE LIMITED TO REPAIRING OR REPLACING THE PRODUCT AND SHALL IN ALL CASES BE LIMITED TO THE AMOUNT PAID BY THE BUYER FOR THE DEFECTIVE PRODUCT. IN NO EVENT SHALL SELLER BE LIABLE FOR ANY OTHER FORM OF DAMAGES, WHETHER DIRECT, INDIRECT, LIQUIDATED, INCIDENTAL, CONSEQUENTIAL, PUNITIVE, EXEMPLARY OR SPECIAL DAMAGES, INCLUDING BUT NOT LIMITED TO LOSS OF PROFIT, LOSS OF ANTICIPATED SAVINGS OR REVENUE, LOSS OF INCOME, LOSS OF BUSINESS, LOSS OF PRODUCTION, LOSS OF OPPORTUNITY OR LOSS OF REPUTATION.

Some states do not allow limitations on how long an implied warranty lasts, so the above limitation may not apply to you. Some states do not allow the exclusion or limitation of incidental or consequential damages, so the above exclusions may not apply to you. This warranty gives you specific legal rights, and you may also have other rights which may vary from state to state.

To make a warranty claim, check first with the dealer from whom you purchased the product or call +1-847-966-3700 for the name and location of the nearest dealer providing warranty service.

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