

Installation Instructions V1.1
Medical Gas Check Valve
with Extensions





Caution

It is the installers and/or system designers responsibility to ensure that these valves are installed in accordance with applicable and current NFPA/CSA Standards.

Maintenance

1. If a problem should arise, do not disassemble the valve while the line is under pressure.
2. Repair kits are available, should the check valve need replacing.

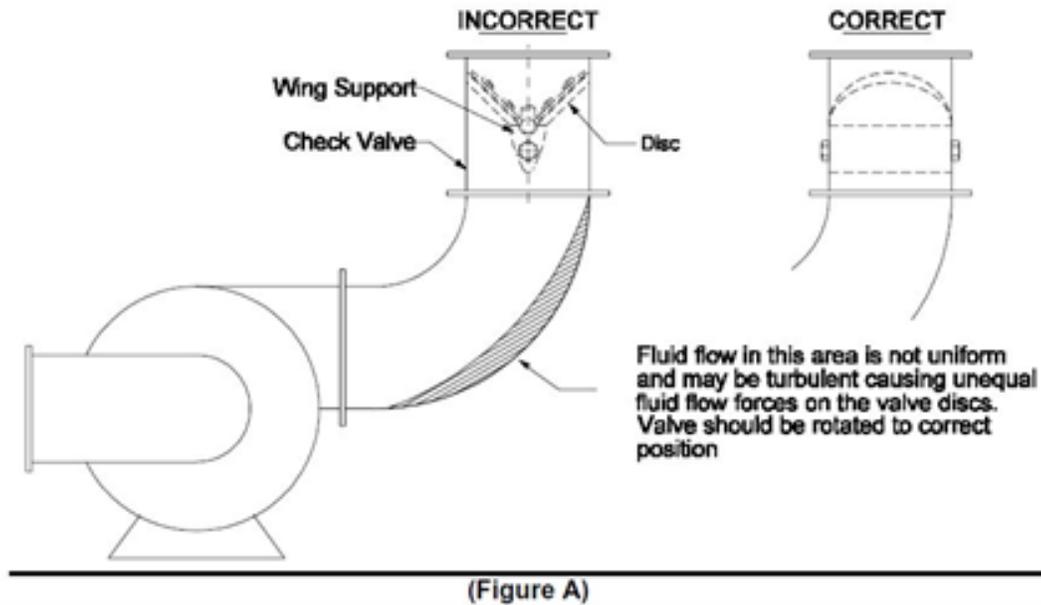
Operation

1. No manual operation is required, of the check valve, once it is in the pipe line.

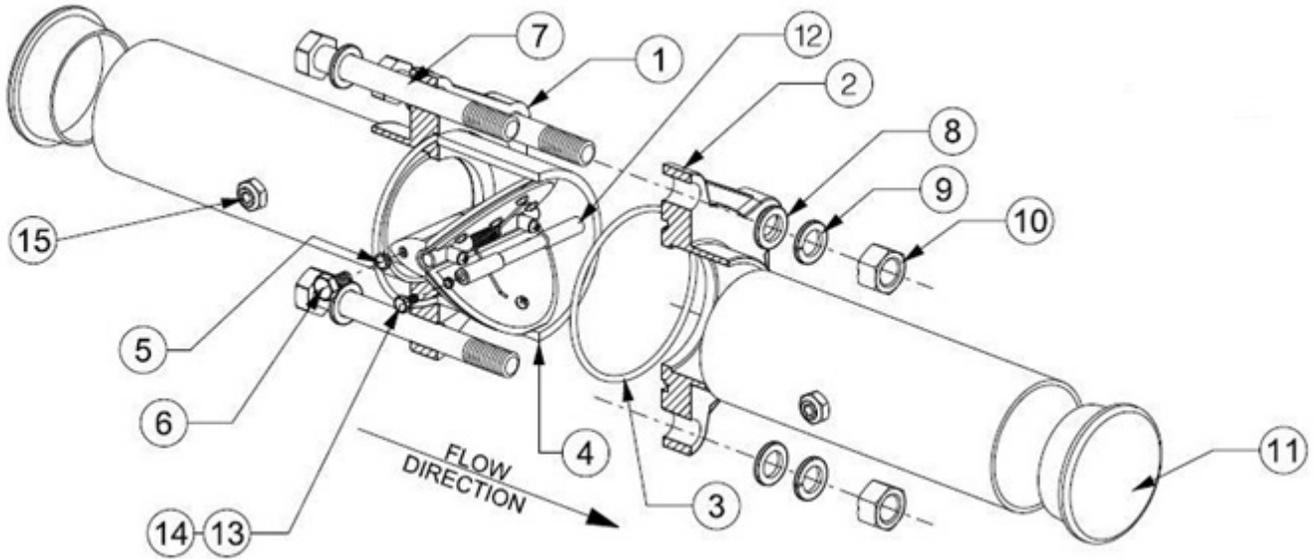
NOTE: Not recommended for use with reciprocating pumps and similar applications which may induce repetitious vibrations. Low flow rates, which do not fully open the valve, may result in undesirable noise and premature valve failure. Upstream flow disturbances, which create turbulence, may also result in rapid wear. Therefore it is recommended that a minimum of 10 diameters of straight pipe be provided between the check valve and any upstream flow disturbances such as pumps, control valves, elbows, etc.

Valve Installation

1. Remove check valve from packaging and inspect for any shipping damage or loose fasteners. All fasteners have been set with Loctite®. If damaged in shipping, save original box and box contents.
2. If check valve is to be painted or insulated, record the valve data on the valve identification tag.
3. If valves are being stored, they should be in a weather-protected area, preferably indoors.
4. Open and close the discs of your valve a few times by hand to assure freedom of movement.
5. The flow arrow on your valve indicates the direction of flow upon installation.
6. Use only a strap type wrench for installation to prevent distortion of the valve body.
7. If this valve is installed in a horizontal line, make sure the screws protruding through the top and bottom of the valve body are in the vertical position. Maintain at least 6 pipe diameters of straight length of piping between the check valve and any other line restriction, i.e. elbows, tees, valves, etc.
8. If the valve installation is in a vertical line with upward flow, the position of the wing support is not important. There should be at least 6 pipe diameters of straight unrestricted piping upstream and downstream of the check valve. If space conditions do not allow for this, the valve must be installed so that the flow is equally distributed across the two valve discs **(see figure A)**.
9. Before brazing, make sure that all brazing surfaces are free of dirt, oil and grease. Apply and wrap wet rags around the tube extensions next to the check valve. In addition to wet ragging, Amico recommends to use a heat sink (such as cool blue oxygen compatible) during the brazing process. Applying the heat sink will prevent possible damage to the check valve seal and spring.
10. Connect copper tubing to the check valve extensions using brazing materials and methods in accordance with NFPA 99 or CSA Standards.
11. Once the check valve extensions are cool, remove the rags.



12. Test the system (**per appropriate standards**) to ensure that the intended gas service is connected to the appropriate line.
13. Test the system for leaks (**per appropriate standards**).
14. If no leaks are found, gauges (**purchased separately**) can be installed, if required. Pipe sealants should comply with requirements of NFPA 99 or CSA Z7396.1. Use care to exclude pipe sealants from the check valve cavity and from interior tube surfaces exposed to medical gas flow service. Properly applied Teflon tape is an alternative to pipe sealants.



Valve Repair Kit	
SIZE	PART NUMBER
1/2"	V-X-CHK-RK-05
3/4"	V-X-CHK-RK-07
1"	V-X-CHK-RK-10
1-1/4"	V-X-CHK-RK-12
1-1/2"	V-X-CHK-RK-15
2"	V-X-CHK-RK-20
2-1/2"	V-X-CHK-RK-25
3"	V-X-CHK-RK-30
4"	V-X-CHK-RK-40

Valve Repair Kit			
ITEM	DESCRIPTION	QTY	KIT
1	Flange And Tube Assy (Left)		
2	Flange And Tube Assy (Right)		
3	O-Ring Seal (Silicone) - High Temp	2	X
4	Check Valve Body and Internals	1	X
5	Sealing Washer		
6	Bolt (Wing Support)		
7	Flange Bolt		
8	Plain Washer		
9	Lock Washer		
10	Flange Nut		
11	End Cap		
12	Wing Assy Limiter (4" Only)		
13	Limiter Bolts (4" Only)		
14	Limiter Sealing Washer (4" Only)		
15	Hex Plug		

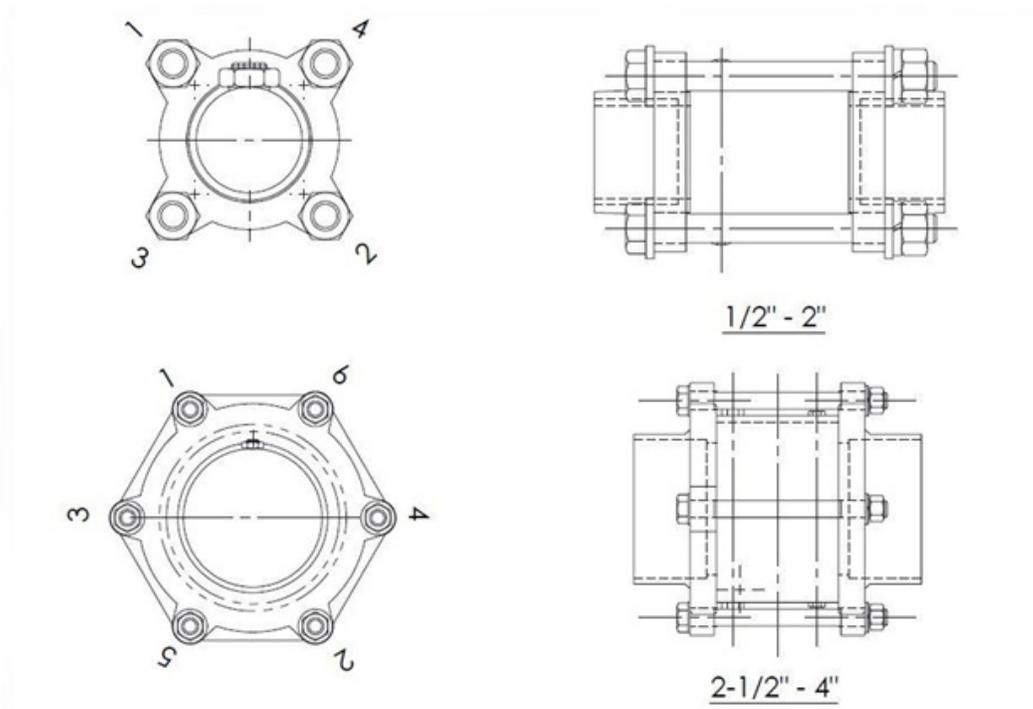
X items included in the kits

COMPLETE REPLACEMENT OF VALVE BODY:

1. Make sure when you order complete body replacement assemblies that the new assemblies are identical to the original. Always reference your check valve's part number when ordering replacements.
2. Remove nuts and bolts using the correct size wrench (**caution, using incorrect size wrench may damage the bolts**)
3. Carefully remove valve body and O-ring seals from flanges.
4. Install new O-rings and valve body.
NOTE: Insure the arrow indicated on valve body follows gas flow.
5. Install nuts and bolts as shown in **(Figure B)**.
6. Tighten nuts and bolts following the torque chart provided below.

VALVE SIZE	BOLT SIZE	kgf-cm	In-lbs	N-m
1/2"	5/16-18 x 2-3/4"	90	78	9
3/4"	5/16-18 x 2-3/4"	90	78	9
1"	5/16-18 x 3"	90	78	9
1-1/4"	3/8-16 x 3-1/2"	120	104	12
1-1/2"	3/8-16 x 3-3/4"	120	104	12
2"	1/2-13 x 4-1/2"	120	104	12
2-1/2"	1/2-13 x 4-1/2"	120	104	12
3"	1/2-13 x 6"	120	104	12
4"	1/2-13 x 6-1/2"	120	104	12

Tighten Bolts in the numbered sequence listed below



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