



JORDAN VALVE

3170 Wasson Road • Cincinnati, OH 45209 USA
Phone 513-533-5600 • Fax 513-871-0105
info@richardsind.com • www.jordanvalve.com

I & M Mark 58G Series

Installation & Maintenance Instructions for Mark 58G Back Pressure Regulating Valve

Warning: Jordan Valve back pressure regulators must only be used, installed and repaired in accordance with these Installation & Maintenance Instructions. Observe all applicable public and company codes and regulations. In the event of leakage or other malfunction, call a qualified service person; continued operation may cause system failure or a general hazard. Before servicing any valve, disconnect, shut off, or bypass all pressurized fluid. Before disassembling a valve, be sure to release all spring tension.

Please read these instructions carefully!

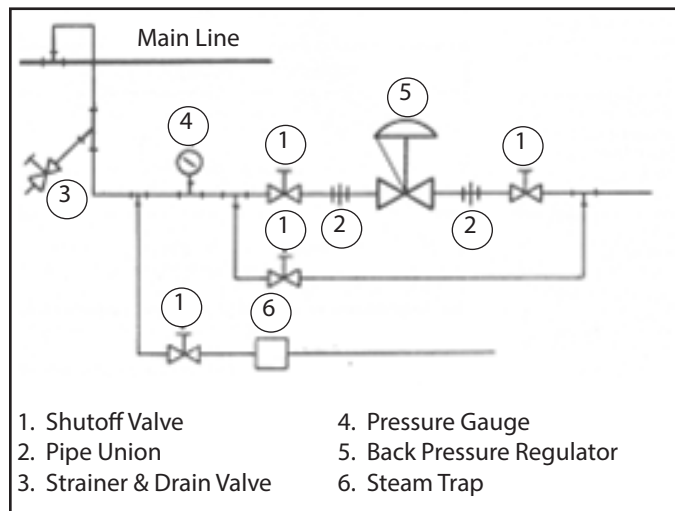
Your Jordan Valve product will provide you with long, trouble-free service if it is correctly installed and maintained. Spending a few minutes now reading these instructions can save hours of trouble and downtime later. When making repairs, use only genuine Jordan Valve parts, available for immediate shipment from the factory.

4. For best control, 3'0" straight sections of pipe should be installed on either side of the valve.
5. Install the regulators in the highest horizontal line of piping to provide drainage for inlet and outlet piping, to prevent water hammer, and to obtain faster regulation.
6. In hot vapor lines, upstream and downstream piping near the regulator should be insulated to minimize condensation.
7. Expand the outlet piping at least one pipe size if the outlet pressure (downstream) is 25% of the inlet pressure or less. As standard tapered expander connected to the outlet of the regulator is recommended. Minimizing bypass piping length and number of elbows will improve valve performance by reducing pressure buildup.
8. Where surges are severe, a piping accumulator is recommended.

Ideal Installation

1. To protect the valve from grit, scale, thread chips, and other foreign matter, all pipe lines and piping components should be blown out and thoroughly cleaned before the valve is installed.
2. Shutoff valves, pressure gauges, and bypass piping should be installed as indicated in the diagram to provide easier adjustment, operation, and testing.
3. A line strainer should be installed on the inlet side of the regulator to protect it from grit, scale and other foreign matter. A 0.033 perforated screen is usually suitable. Line strainers are available from Jordan Valve.

Ideal Installation



Start-up Procedure

With the inlet and outlet shut-off valves closed:

1. Throttle the manual bypass valve so that the pressure to be controlled is maintained near the set point.
2. Slowly open the inlet shut-off valve.
3. Open the outlet shut-off valve.
4. Slowly close the bypass valve, but do not close it fully until you are certain that the regulator has control of the system.
5. To change the controlled pressure, turn the adjusting screw clockwise to increase pressure, counterclockwise to decrease pressure.

WARNING:

6. Never substitute a longer length adjusting screw. Personal injury and/or damage to the valve may result.

Troubleshooting

Erratic Control:

1. Oversizing causes cycling and hunting and reduces the rangeability of the valve. Make certain that your sizing is correct.
2. Steam traps downstream may need attention.
3. Safety valve may be jammed open.
4. Excessive foreign matter on seats (11) or plug (14). Clean them. Inspect seating surface on plug for deterioration.
5. Valve plug may not be moving freely. Check plug guide (12).
6. Surges in piping system.
7. Check accumulator.

Will not operate:

1. Diaphragm ruptured. Replace.
2. Adjusting spring broken. Replace.
3. Improper spring setting. Reset.

Maintenance

Warning:

Be sure that there is no pressure in the valve before loosening any fittings or joints. The following steps are recommended.

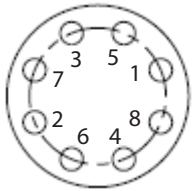
1. Close the inlet shut-off valve.
2. Back off adjusting screw to allow inlet pressure to open seats.
3. Allow pressure to bleed off through downstream piping.
4. When inlet pressure gauge indicates no pressure in the line, close the outlet shut-off valve.
5. Valve may now be removed or serviced.

* Refer to the drawings for the proper orientation of the parts and for proper nomenclature.

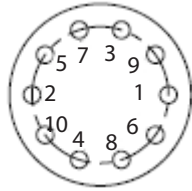
Plug Removal & Diaphragm Replacement

1. Remove all pressure from the line as outlined under Warning.
2. Remove the compression of the range spring (4) by rotating the adjusting screw (5) counterclockwise.
3. Remove the spring housing (8). Remove spring (4).
4. Remove the diaphragm assembly. The diaphragm assembly consists of the upper diaphragm plate (1), diaphragm washer (15), stem (13) and plug (14). The plug is attached loosely to the stem. DO NOT DROP.
5. Secure the upper diaphragm plate in a vise. Use a wrench on the stem and turn counter-clockwise to remove.
6. Remove the diaphragm, clean the parts and install the new diaphragm in reverse order. The radius edge of the upper diaphragm plate goes against the diaphragm. Clean and degrease the stem threads and apply one drop of #290 Loctite to them before threading the stem into the diaphragm plate. When an elastomer diaphragm is used, thread the parts together hand tight and then tighten 1/4 turn. When a metal diaphragm is used, pull the parts up together tight.
7. Clean the diaphragm seating surfaces on the spring housing (8) and on the body (10).
8. Remove the plug guide (12). Remove the seat (11).
9. Coat the threads of the new seat (11) with anti-sieze. Install and tighten to:
 - a. for 1/4" to 1/2", tighten to 30 ft. lbs.
 - b. for 3/4" to 1", tighten to 40 ft. lbs.
 - c. for 1 1/2" to 2", tighten to 70 ft. lbs.
10. Coat the threads of the plug guide (12) with anti-sieze. Install and tighten to:
 - a. for 1/4" to 1/2", tighten to 40 ft. lbs.
 - b. for 3/4" to 1", tighten to 50 ft. lbs.
 - c. for 1 1/2" to 2", tighten to 75 ft. lbs.
11. Slide the new plug (14) onto the "t-head" of the stem (13).
12. Carefully place the diaphragm plug assembly into the body, making sure the plug (14) slides into the plug guide (12).
13. Place the range spring (4) onto the upper diaphragm plate (1). Place the spring seat (3) onto the spring (4).
14. Line up the holes in the diaphragm (9) with the holes in the body (10).
15. Place the spring housing (8) onto the diaphragm (9), lining up the bolt holes in each part.
16. Insert HHCS (7) and washers (6) into the body (10).

Torque Procedure



8-bolt Pattern
or Multiples



10-bolt Pattern

1. Install all bolts hand-tight.
2. Torque the bolts in order shown on the bolt pattern to a value equal to 1/4 of the recommended torque valve.
3. Retorque each bolt to recommend value using the same bolt pattern as shown.

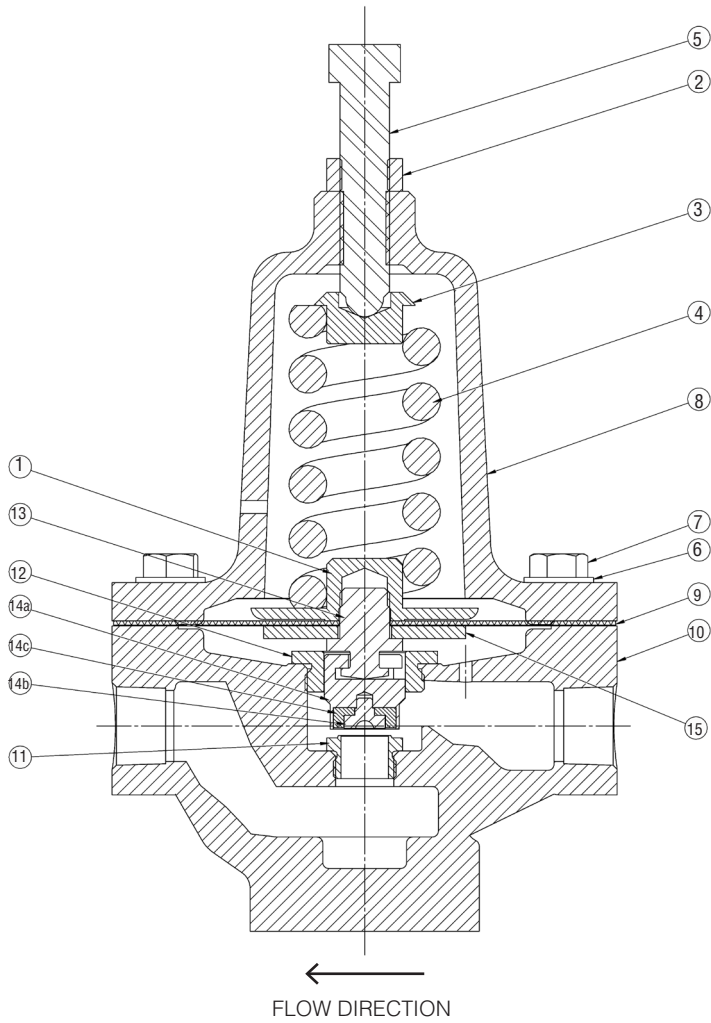
Valve Size	Bolt Size	Bolt Qty.	Bolt Torque CS or SS Body
1/2"	5/16-18 x 1	8	200 in-lb
3/4" & 1"	5/16-18 x 1	10	200 in-lb
1 1/2" & 2"	3/18-16 x 2	16	200 in-lb

Ordering Spare Parts

When ordering spare parts, first make a note of the following information on the valve's nameplate:

- Serial Number
- Model and Size
- Body Material and End Connections
- Range

Cross Section View



Item	Description	Qty.
1	Upper Diaphragm Plate	1
2	Jam Nut 1/2-13UNC	1
3	Spring Seat	1
4	Range Spring	1
5	Adjusting Screw	1
6	Washer, Spring Housing	8
7	HHCS 5/16-18 x 1", Spr. Hsg.	8
8	Spring Housing	1
9	Diaphragm	1
10	Body	1
11	Seat	1
12	Plug Guide	1
13	Stem	1
14	Plug Assy	1
14a	Plug f/ soft seat	1
14b	Seat Retainer f/ Soft Seat	1
14c	Soft Seat	1
15	Washer 2.00 x 0.53 x 0.12, Diaph.	1

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