

MERIDIAN BACK PRESSURE VALVE/ CHECK/ VACUUM BREAKER MAINTENANCE PROCEDURES





DESCRIPTION

- (1&2) ADJ SCREW & LOCK NUT
- GUARD CAGE ASSEMBLY
- SPRING 316SS FOR A 1" BPV RANGE 2 TO 15 psi
- SPRING 316SS FOR A 1" BPV RANGE 9 TO 45 psi
- (5) 316 DISC
- BASIC CHECK VALVE, 1", 1 1/2" & 2"
 316 STAINLESS STEEL, OPTIONAL
 MITRED SOFT SEAT

CAUTION: The Restrictor Check spring can be under high compression. Use caution when the units are disassembled.

DISASSEMBLY:

- 1) Back off spring pressure by undoing locking nut 2 and adjustment nut. 1
- Draw together the ends of the retaining ring 6 with pliers (keep fingers out of the way if pliers slip).
- 3) Lift the guard cage 3 off the seat ensuring the correct assembly order of: thrust washer, spring, valve disc (note: the side of the disc that is down).
- 4) Seating surfaces may be cleaned using a soft cloth, relapping may be carried out if appropriate. Avoid scratching the seating surfaces.

RE-ASSEMBLY:

- 1) Place retaining ring in groove of seat
- 2) Assemble thrust washer first into guard cage followed by spring 4 A or B range.
- 3) Position disc over and between the four guard legs, ensuring seating surface of disc is down.
- 4) While holding the disc and spring in the guard with one hand, compress the retaining ring with suitable pliers, then position the disc/spring/thrust washer/guard over the seat, so that the notches in the guard legs are aligned with the retaining ring, release the retaining ring, locking the guard cage onto the seat.
- 5) Lift the disc to work the valve a couple of times to check for free disc movement.
- 6) The valve is now ready to be reinstalled.

Do not allow pipe thread sealants or tape to be forced into the valve operating area or to become lodged on the valve-seating surface. Protect the valves from excessive heat from welding or brazing, which may distort the soft seat or damage the spring.





INSTALLATION, OPERATION, & MAINTENANCE PROCEDURES

MERIDIAN BACK PRESSURE VALVE

Meridian Back Pressure valves can be installed in any orientation. The operation of the meridian Back Pressure valve is not affected by the position of the valve itself. The only requirement is that the flow of the inlet is noted as the smaller female threaded connection.

The operation of the Meridian Back Pressure valve is not affected by its proximity to elbows, tees,

control valves etc. However, installing Meridian Back Pressure valves directly to the outlet of such devices can result in decreased life due to the fluid turbulence caused by the fitting. Meridian recommends that all Meridian Back Pressure valves be installed a minimum of five pipe diameters downstream of any fitting that could cause turbulence.

Check Valve Trouble Shooting Guide

SYMPTOM	CAUSE	SOLUTIONS
Water hammer, loud noise, Vibration, ruptured piping, equipment damage	Over Sized Valve or positioned close to reciprocating equipment	Lift limiting stop or positioned further downstream after a volume tank
Disc wear Obvious wear of guard cage legs	Low flow, pulsating flow, improper sizing	Custom sizing of the check valve internals may be required.
Excessive seat leakage (Greater than MSS-SP61)	Possible dirt or foreign objects trapped in the valve seat.	Clean out the valve. Install strainers if it is a recurring problem. Install a soft seat if bubble tight shut off is required.
Noise, clicking, tapping sound	Low flow, pulsating flow, improper sizing	Custom sizing of the check valve internals may be required.
Large reverse flow taking place Loss of back pressure	Possible Broken Spring	Replace Spring
Component breakage, valve failure	Close coupled to reciprocating pump and compressor	Not recommended for reciprocating liquid or gas mediums.
Missing internals	Valve has violent, pulsing flow	Custom sizing of the check valve internals or consider other type of valve (Pulse Damped Check)

