



“VC-2”
VELOCITY CHECK VALVE
OPERATION MANUAL
OMP # 20V2- 8/05

1.0 PRINCIPLE OF OPERATION

The Ruelco VC-2 velocity check valve is a 2-way control valve. It is ideal for line brake or process upset detection when using pipeline process pressure to operate an actuated valve. The valve is designed to operate with liquid or gas process fluids with pressures ranging from 100 to 6,000 PSI. The valve incorporates a unique soft seal design to ensure zero leakage while also providing trip indication.

A red indication band on the shaft indicates that the valve is in the tripped position. With the valve in the tripped position, supply pressure is blocked from entering the “OUT” port.

The valve is manually reset by pushing down on the knob. The knob is held pressed in the down position until the pressure equalizes on both sides after which the shaft stays in that position. Pressure loss in the downstream side of the “OUT” port causes the valve to trip, thereby exposing a red indication band on the shaft.

2.0 INSTALLATION

The “VC-2” can be supported by piping from the sense port in either vertical or horizontal positions. If the valve is mounted horizontally, it is recommended that the small vent hole in the side of the body be oriented in a downward position.

This will prevent any debris from accumulating in the body bore.

Proper pipe thread sealant should be used on any pipe fittings threaded into the valve “OUT” port. If stainless steel fittings are used, a sealant that will prevent galling is required. The supply fluid flowing through the valve body should be filtered and free of large particles. When the valve is mounted using the ½” NPT base connection and the valve “OUT” port is not in the desired position after the base connection is adequately tightened, **DO NOT** loosen the base connection to re-position the port. Instead, remove the valve and remake the ½” NPT connection.

3.0 DISASSEMBLY (See Spec Sheet)

Tools and materials required for proper disassembly, repair and assembly are as follows:

1. 7/16” open end wrench.
2. Loctite
3. High quality silicone base lubricant.
4. An appropriate safety solvent.

3.1 FULL DISASSEMBLY

1. If the valve is installed in an operating instrument system, precautions should be taken to avoid any unwanted reactions. Make sure the valve is isolated from all pressure.
2. Place the 7/16" wrench on the lock nut (Item 2) and rotate it clockwise while holding the knob (Item 1) until the knob is loose. Rotate the knob counterclockwise and remove it from the shaft (Item 7). At this time also remove the lock nut.
3. Rotate the Cap (Item 3) counterclockwise and remove. Next, Place the knob back on the shaft and rotate until it stops. Now, pull the shaft out of the body.
4. The seals on the shaft may now be replaced
5. Next, with the 7/16" wrench, rotate the Retainer Screw (Item 13) Counterclockwise and remove it from the body. Make sure you do not lose the Push Rod (Item 10) or the ball (Item 12).
6. Remove the small o-ring (Item 11) in the body.
7. At this time place the Sleeve (Item 4) over the shaft. Next place the Knob onto the shaft. While applying pressure to the knob, hold the sleeve in place with your thumb and fore finger and push the shaft back into the body.
8. Remove the knob from the shaft and rotate the Cap onto the body in a clockwise direction. Then, place the lock nut and knob back onto the shaft.

9. The shaft should slide up and down easily.
10. Place the Ball Seal into the Body, making sure that the seal is flush with the bottom face.
11. Then put the rod into the hole followed by the ball and finally, thread the Retainer screw back in place. Lockite is recommended for the Retainer Screw threads.

4.0 RECOMMENDED MAINTENANCE

Operate Manually – Every thirty (30) days.

Disassemble, inspect and lubricate – Yearly or as required.

Replace all seals – Every two (2) years or as required.