

Welker[®]

Check Valve

Model CV-1 & CV-1F



Installation, Operation, and Maintenance Manual

1.1 Product description

The Welker model CV-1 check valve is a ball-type valve designed to allow a liquid or gas to flow through it in only one direction. The ball is spring loaded to remain shut and will only operate once the upstream pressure exceeds the spring tension on the ball. This is referred to as the *cracking pressure*. There are a variety of cracking pressure spring ranges available. When the upstream or inlet pressure falls below the downstream or outlet pressure, the ball will seat on an O-ring and form a positive seal, thus stopping reverse flow.

Specifications	
Materials of Construction	316 SS, Viton [®] , and PTFE (others available)
Outlet Connection	1/4" MNPT (CV-1) 1/4" FNPT (CV-1F)
Inlet Connection	1/4" FNPT
Maximum Allowable Operating Pressure	5000 PSI @ -20° F to 100° F (344 bar @ -28° C to 37° C)
Cracking Pressure Spring Ranges	5 PSI, 50 PSI, 100 PSI & 200 PSI (.34 bar, 3.44 bar, 6.89 bar, 13.78 bar)

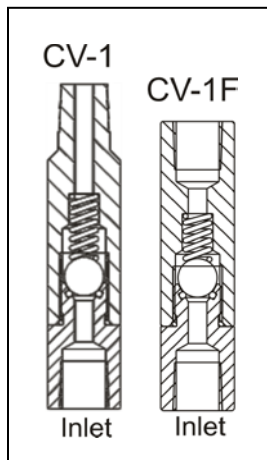


Figure 1

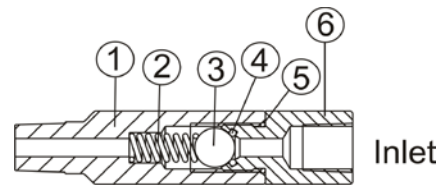
1.2 Installation

- 1.2.1 Install the check valve in the line that single direction flow is desired.
- 1.2.2 Install the inlet in the upstream direction.
- 1.2.3 Use Teflon tape or pipe sealant on the NPT connections.
- 1.2.4 The unit is now installed and ready for operations to begin.

N NOTE

When sealing fittings with PTFE tape, refer to the proper sealing instructions for the tape used.

1.3 Maintenance



- 1.3.1 Depressurize the line in which the valve is installed.
- 1.3.2 Disconnect the upstream and downstream connections.
- 1.3.3 Remove the upstream body (Part 6) from the downstream body (Part 1).
- 1.3.4 Remove the ball (Part 3) and spring (Part 2).
- 1.3.5 Replace the O-ring (Part 5) around the upstream body.

N NOTE

New seals supplied in spare parts kits are not lubricated. They should be lightly coated with lubrication grease (Dow Corning 111 [DC 111] grease or equivalent lubricant) before they are installed into the equipment.

- 1.3.6 Use a small pick to remove the O-ring in the groove of the upstream body (Part 4). Replace the O-ring.
- 1.3.7 Examine the ball and spring for scratches. If scratches are present, the part will have to be replaced.
- 1.3.8 Reinstall the spring in the downstream body.
- 1.3.9 Replace the ball on top of the spring.
- 1.3.10 Reconnect the upstream body to the downstream body.
- 1.3.11 Maintenance is now complete.



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