



CLARK COOPER

SPECIALIZING IN ADVANCED APPLICATIONS

SOLENOID VALVE TROUBLESHOOTING GUIDE

Version 1.1

If a problem is encountered using a Clark Cooper solenoid valve, please review this checklist prior to contacting technical service or our Engineering department.

1. The valve must be mounted in a horizontal pipe run with the solenoid vertical and on top. (90° angle to the horizontal pipe) Although our valves may sometimes work in other positions, they are not initially designed to do so and will not work consistently and reliably if installed incorrectly without the proper modifications.
2. The valve must be mounted in the correct 'flow direction' as indicated by the arrow on the side of the valve body. The valve should be mounted with the high-pressure side piping at the back of the arrow (inlet) and the low-pressure side piping at the front of the arrow (outlet).
3. Are you getting backflow through the valve? Our valves will not act as a check valve, under a standard configuration. The Clark Cooper EH50 valve is the only "EH" Series valve that has the optional ability to be fitted with an Integrated Check Valve. In all other cases, an external check valve must be installed downstream.
4. Foreign matter such as particulates, Teflon tape, pipe dope, etc., can jam moving parts within a solenoid valve or clog very small orifices required for operation. The result can be a failure to open and/or close completely. We recommend 60 mesh (0.009" opening) filters for pipe sizes up to 1.0" and recommend 30 mesh (0.02" filter perforations) for 1 ¼" and higher valves.
5. Be sure your system pressure does not exceed the pressure rating on the valve's nameplate.
6. Verify that the power supplied to the solenoid matches the specifications that is displayed on the valve nameplate. Valves cannot be converted from DC to AC or AC to DC by simply changing the coil. Please contact Clark Cooper's Engineering department, for possible options to convert an original AC valve, to a DC valve.
7. Check the coil leads for continuity. If there is no continuity or no resistance at all, you will need to replace the coil. NOTE: A jammed or worn piston frequently causes coil burnout and replacing the coil may cure the symptom but not the actual cause. (See sheet: 'Possible causes of solenoid coil burnout - Version 1.1')
8. Has the valve been serviced recently? Note that if the bolts on flanged valves are over tightened, it may distort the valve bore and cause the piston to jam. Consult our Engineering department for bolt torque specification.
9. Is there a pressure regulator in the line? Regulators mounted upstream from the valve can cause problems. Regulators should be mounted downstream.
10. What is the fluid being controlled? Our valves are designed and tested for use with gases, water and fluids with viscosity similar to water. For fluids significantly more viscous than water, special modifications have to be made.
11. How old is the valve? Clark Cooper valves are guaranteed for 1 year or 500,000 open/close cycles, whichever comes first. Wear from high cycles adds excessive clearance on moving components and affects performance. A replacement cartridge assembly may be recommended for your valve to return to healthy working condition.
12. How often is the valve cycling? If chatter or buzzing is ever noticed, remove power and consult our Engineering department. This could indicate jammed components and could eventually burn out a coil or fatigue sealing surfaces.

Note: Factory repairs and replacement parts (coil, piston assembly, cartridge assembly, seal kit and gasket) are available.

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