Flow Control Valve with Solenoid Control
(Sizes 1½-14"; DN40-350)

Description
The Model 770-55-U Flow Control Valve with Solenoid Control is a hydraulically operated, diaphragm actuated, control valve that maintains pre-set maximum flow, regardless of fluctuating demand or varying system pressure. The valve opens and shuts-off in response to an electric signal.

Installation
1. Ensure enough space around the valve assembly for future maintenance and adjustments.
2. Prior to valve installation, flush the pipeline to insure flow of clean fluid through the valve.
3. For future maintenance, install Isolation gate valves upstream and downstream from Bermad control valve.
4. Install the valve in the pipeline with the valve flow direction arrow in the actual flow direction. Use the lifting ring provided on the main valve cover for installing the valve.
5. The orifice assembly should be attached to the valve inlet flange, with a resilient gasket between them. Determine tightening bolts length according to flanges, gaskets and orifice assembly thickness.
6. Ensure that cock valves [1], [2], [3], [1H] & [1L] are open (handle parallel to cock-valve body).
7. Allow the flow to open by using the solenoid manual override or by: Energizing the solenoid for a Normally Closed Valve, De-Energizing it for a Normally Open Valve & Latching it for a Last Position Valve.
8. Open fully the upstream isolating valve and partially the downstream isolating valve, to fill-up, in a slow and controlled manner, the consumers line downstream from the 770-55-U.
9. Vent air from the valve's control loop by loosening cover tube fitting & pilot sensing chambers at the highest point, all vents to bleed. Retighten the tube fitting eyebolt.
10. Needle valve (5) is factory set to 1-1.5 turn open.
**Trouble-Shooting**

1. **Valve fails to open:** Check for sufficient inlet pressure, create demand/flow, confirm pilot setting, check cock & needle valves status, confirm power supply to solenoid & confirm solenoid coil is not burned (N.C. valves).

2. **Valve fails to Close:** Check for sufficient inlet pressure, create demand/flow, confirm pilot setting, check needle & cock valves status, clean control filter & detect for clogged ports or fittings, confirm power supply to solenoid & confirm solenoid coil is not burned (N.O. valves), check if any debris trapped in the main valve, confirm diaphragm is not leaking.

3. **Valve fails to Regulate:** Check needle valves setting, detect for clogged ports or fittings (particularly orifice sensing ports), release air trapped in the control chamber & the pilot sensing chambers.

**Preventative Maintenance**

1. System operating conditions effects on the valve should be checked periodically to determent the required preventative maintenance schedule.

2. Maintenance instructions:
   2.1. Tools required:
       2.1.1. Metric and imperial wrenches
       2.1.2. Anti seize grease
   2.2. Visual inspection to locate leaks and external damages
   2.3. Functional inspection including: closing, opening and regulation.
   2.4. Close upstream and downstream isolating valves (and external operating pressure when used).
   2.5. Once the valve is fully isolated vent pressure by loosening a plug or a fitting.
   2.6. Open the stud nuts and remove the actuator as one unit from the valve body. Disassemble necessary control tubs.
   2.7. It is highly recommended to stock a reserve actuator assembly for each size. This allows minimum system field work and system down time.
   2.8. Disassemble the actuator and examine its parts carefully for signs of wear, corrosion, or any other abnormal conditions.
   2.9. Replace worn parts and all the Elastomers. Lubricate the bolts and studs threads with Anti seize grease.

**Spare parts**

Bermad has a convenient and easy to use ordering guide for valve spare-parts and control system components. For solenoid valves refer to model and S/N on solenoid tags.