

Purchase Specification

Model No. 136GE-07/38KCOS / NG1E136-07/38KCOS

ELECTRONIC CONTROL VALVE

Sizes

Screwed: 1 ¼", 1 ½", 2", 3" - Flanged: DN40 – DN1000

Function

The 136GE-07/38 / NG1E136-07/38 hydraulic control valve pilot system shall consist of dual solenoids which alternately apply or relieve pressure to the diaphragm chamber to position the main valve. They shall be normally closed (energized to open), 24, 110, 230 volt AC or 24 volt D.C. All solenoids to have IP67 protection with a manual operator.

The Electronic Control Valve shall control flow, pressure, tank level or valve position.

The optional 131VC Electronic Controller enables remote computer control over valve operations.

Main Valve

The valve shall be hydraulically operated, single diaphragm-actuated, globe or angle pattern. The valve shall consist of three major components: the body, cover and the diaphragm assembly. The diaphragm assembly shall be the only moving part and shall form a sealed chamber in the upper portion of the valve, separating operating pressure from line pressure.

Packing glands and/or stuffing boxes are not permitted and there shall be no pistons operating the main valve or pilot controls. No hourglass-shaped disc retainers shall be permitted and no V-type or slotted type disc guides shall be used. The valve shall contain a resilient, synthetic rubber disc, with a rectangular cross-section contained on three and one-half sides by a disc retainer and forming a tight seal against a single removable stainless steel seat insert.

The diaphragm assembly containing a non-magnetic 303 stainless steel stem shall be fully guided at both ends by a Stainless steel bearing in the valve cover and an integral bearing in the valve seat. No centre guides shall be permitted.

Optional Electronic Valve Controller

The Model 131VC controller shall provide the interface between a remote computer system and the hydraulic control valve. It shall have remote communication capability in both analogue or digital format.

Local manual set-point and emergency manual control shall also be provided. The controller shall accept an analogue 4-20 ma feed-back signal.

Upon receiving the remote set-point command from the computer system or local command from the operator, the controller will provide proper signals to modulate and maintain the valve at the desired set-point value. A fluorescent display of current feedback status and set-point in scaleable engineering units shall be provided as an integral part of the controller. When the feedback signal deviates from the set-point, the appropriate opening or closing solenoid on the valve will pulse. As the feedback signal approaches the set-point, this on/off pulse time will gradually lessen to smoothly modulate the valve to the set-point. The total cycle time between each pulse shall be programmable between 1 and 60 seconds. A programmable time proportional output feature shall also function to aid in tuning valve response. When the feedback signal is within a programmable dead band zone, the opening and closing solenoids will not activate and the valve will maintain position. The operator keypad shall consist of two rows of alphanumeric characters to display numeric values and units. Colour-coded alarm, status and mode indicators will display operating conditions. Security key codes shall protect against unauthorised changes to the controller. All programming shall include key words and prompts to aid in set-up and timing the controller. The controller shall be solid-state construction with an internal chassis capable of being removed for inspection and repair. All program memory including set-point and timing parameters shall be protected by an internal lithium battery rated for 10 year life. When optional remote digital communications are provided, the controller shall be capable of direct linkage to a computer or other instrumentation which has RS232C or RS422 communications. When RS422 data highway communications is specified, up to 64 controllers may be addressed from a single computer port and shall operate up to 5000' from the computer. RS232C shall operate up to 50' distance between the computer or RTU and the valve controller. All set-point, tuning, and auto-manual operation shall be adjustable remotely from the computer. All commands shall consist of ASCII mnemonic commands sent from the computer. Each transmission shall include the individual controller address.

Communication baud rates shall be 300, 1200, or 2400 baud.

Controller Specifications

Control Input: 4-20 mA full scale (others optional)

Control Parameters:

Proportional Bands: 1-200% adjustable in 1% increments independently for opening and closing.

Deadband: Adjustable 0.00 to 25.5% of span.

Cycle Time: 1 to 60 seconds in 1 sec. increments.

Environmental Parameters:

Temperature: 5 C to 55 C (40 F to 130 F)

Humidity: 90% RH, non-condensing.

Power Input: 13.5 watts max. at 117 VAC, 50/60 Hz.

Memory Protection: 10 yr. type. life lithium battery

Housing: Flame retardant UL rated ABS plastic.

Fits 1/4 DIN cutout.

A direct factory representative shall be made available for start-up service, inspection and necessary adjustments.