300 Series

Automatic Hydraulic Control Valves

ELECTRONIC CONTROLLED VALVE

EC

30-6-EC

DOROT model “EC” is an automatic valve, controlled by the versatile “ConDor” Electronic Controller.

The electronic control is selected for:

- Very sensitive and accurate regulation
- A combination of various control functions
- The frequent automatic modification of the controlled value
- The remote control of a controlled value

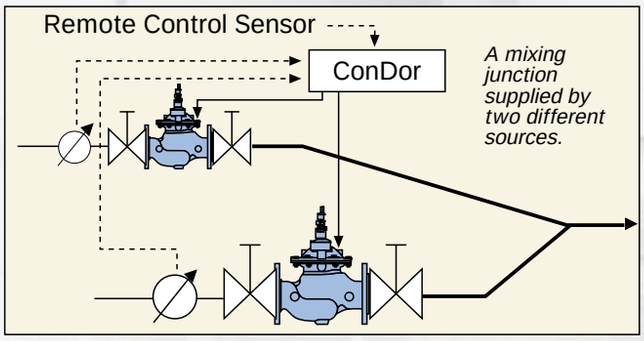
The control function (or combination of control functions) is initially programmed in the "ConDor" Controller, so that the operator can enter his operation parameter values (“set-points”), using plain English screens.

The main valve is equipped with two solenoid valves. The solenoids insert upstream pressure to the valve control chamber or drain it to the valve downstream, thus opening or closing the valve. External control media, such as compressed air, can be used if necessary.

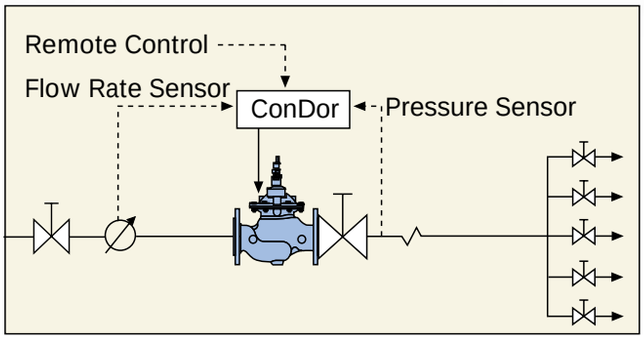
The "ConDor" Controller sends pulses (12VDC Current) to one solenoid to initiate the “open” command, and to the other to initiate the “close” command.

Manual activation of the solenoid valves is possible, allowing automatic control override.

Typical Application:



The "EC" Valves, controlled by the "ConDor" Controller, maintain the required mixing ratio, regardless of varying demand. (The mixing ratio can be modified by remote control).



The "EC" Valve, controlled by the "ConDor" Controller, automatically adjusts the outlet pressure, in response to flow rate change.

Examples of Control Applications

- A pressure reducing valve, providing high downstream pressure in high demand hours and lower pressure at low demand hours. A unique combination of hour/pressure is set for weekdays. The pressure is modified manually by remote control from a central control point.
- A metering valve, supplying a specific quantity of liquid at a specific flow rate. It will start the flow at a preset time and /or day in the week
- A tank level control valve is assembled on the inlet pipe. The flow rate is adjusted automatically according to water level, increasing the flow when the level is low, and reducing it when water level in the receiving tank is high.
- The mixing of fresh water and brackish water at a preset ratio, regardless of flow rate or pressure fluctuations. (Two valves are controlled simultaneously by the controller).
- Surge preventing opening and closing, using a sophisticated procedure, which automatically adjusts the opening or closing time, adhering to network characteristics.

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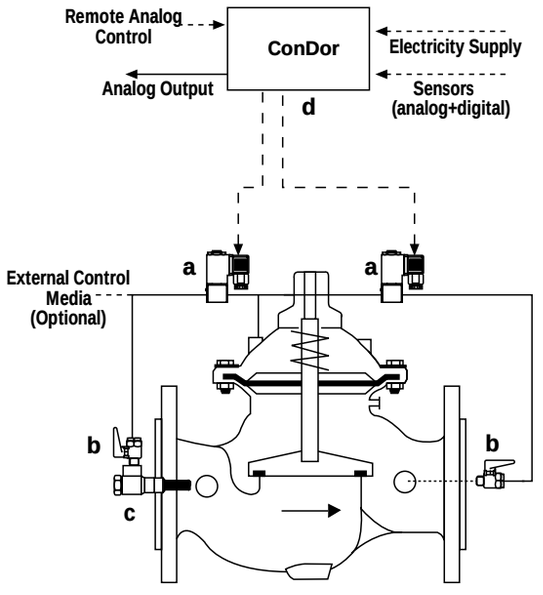
Schematic Control Diagram



a. 12VDC, 2/2 N.C. Solenoid

b. 1/2" Ball Valve Mod.34-1/2

c. 1/2" Self-Flushing Inline Filter

d. ConDor Electronic Controller

Main Features Of The "ConDor" Controller:

- Programming any control application(s), listed in the DOROT Design Manual.
- Modification of the set-point by analog remote control input.
- Start/stop of valve operation by way of an external signal.
- Automatic modification of set-points for different hours in the day and/or days in the week.
- Automatic modification of a set-point, following the fluctuation of another parameter.
- "Real time" control (the value of the controlled parameter is measured every 0.25 second). In case this value does not match the set-point (within a tolerant range, defined by the user) the controller sends correcting pulses to the relevant solenoid instantly.
- Adjustable pulse length and/or time intervals between pulses, to match the response of the valve to the hydraulic characteristics of the network.
- Remote reading of controlled parameter values, by way of analog input.

Design Considerations:

Suitable analog or digital sensors (pressure, flow, or any other parameter) should be provided.

Power supply from the general mains or solar panel is necessary.

Purchase Specifications

(Insert values)

- The valve will control *(define control functions)*.
- The activation of the valve will be done by an electronic controller operating on real time basis, allowing programming by an untrained operator.
- Two solenoid valves, assembled on the main valve, will activate the main valve following the electric signals of the controller.
- The main valve will be a hydraulically operated, diaphragm actuated, Globe Type.
- The main valve will consist of a removable SST seat, and resilient Rubber seal, fully supported by a seal disc.
- The stem will be guided at the top by a replaceable guide bearing in the valve bonnet, and at the bottom by a Bronze centering device connected to the seal disc and moving freely inside the seat.
- No bottom guide bearing is permitted.
- The diaphragm will be fully supported, top and bottom, by rigid discs and will be connected to the stem in a way that enables fast and easy replacement on site.
- No external packing gland and piston activation is permitted.
- Face-to-face length dimension meets ISO 5752(S-1) Standard.
- Flanges standard will be to *(network standard)*.

The control system will consist of:
- Solenoid Valves
- Self-Flushing, Removable, Internal Filter.

The valve shall be DOROT mod. 30 (*31*) - *(size)* - EC or equal in all aspects.

How To Order

Please specify the requested valve in the following sequence (see example below):

Model 30, 30A 31, 31A [D]	**Size** (Inch): 1 1/2" - 20"	**Connection Standard** ISO, ANSI, JIS etc.	**Control Function**	**Additional Features** Check Valve	**Special Instructions**
30 —	6 —	ISO PN16 —	EC /	CV —	Position Indicator