The Model 120-1 has a wide range of applications: anywhere the flow rate must be controlled or limited, combined with a need for an on/off electrical operation. Typical examples include:
- Pump systems
- Zone flow control in municipal and industrial water
- Filter backwash control
- Metering systems

**SERIES FEATURES**
- Controls or limits flow to a predetermined rate
- Electrically operated solenoid allows valve to open (control flow) or shut-off (close)
- Built-in orifice plate for sensing flow rate
- Extra-sensitive differential pilot
- Flow rate is adjustable with single screw
- Adjustable response speed
- Can be maintained without removal from the line
- Factory tested and can be pre-set to your requirements

**OPERATION**
When closed, a two-way solenoid causes the main valve to close. Opening the solenoid opens the valve and allows the normally open, spring loaded pilot to sense the differential across the integral orifice plate, located in the valve inlet flange, and respond to changes in differential, causing the main valve to do the same. Increased differential (flow rate) works to close the pilot and main valve, whereas decreased differential works to open them. The net result is a constant modulating action of the pilot and main valve to hold the differential, hence the flow rate, constant. The pilot system is equipped with a needle valve that fine tunes the valve response to the system variables. The solenoid can be supplied normally closed (energize to enable) or normally open (energize to close).

**COMPONENTS**
The Model 120-1 consists of the following components, arranged as shown on the schematic diagram:
1.) Model 65 Basic Control Valve
2.) Orifice Plate
3.) Model 2450 Rate of Flow Control Pilot
4.) Model 451 Two-way Solenoid Pilot, N.C.
5.) Model 126 Ejector
6.) Model 141-2 Needle Valve
7.) Model 159 Y-Strainer
8.) Model 141-4 Isolation Ball Valves
9.) Model 155 Visual Indicator (Optional)

**MAX. PRESSURE**
The pressures listed here are maximum pressures at 100°F.

**SIZING**
The following chart states the minimum and maximum flow rate with standard bore orifice plate. This means the valve can be adjusted to control within the ranges shown. Lower flow ranges are possible through the use of smaller orifice plate bores. All ranges are adjustable within a 4:1 ratio (high to low flow).
Consult the factory for assistance and a copy of the OCV ValveMaster Sizing program.
SIZES
GLOBE/ANGLE
Flanged Ends - 1 1/4" - 24" (globe);
1 1/4" - 16" (angle)

FLUID OPERATING TEMPERATURE RANGE
(Valve Elastomers)
EPDM 32°F - 230°F*

MATERIALS - Consult factory for others.
Body/Bonnet: Ductile Iron (epoxy coated),
Carbon Steel (epoxy coated),
Stainless Steel, low-lead Bronze, Others
available (consult factory)
Seat Ring: low-lead Bronze, Stainless Steel
Stem: Stainless Steel, Monel
Spring: Stainless Steel
Diaphragm: EPDM*
Seat Disc: EPDM*
Pilot: low-lead Bronze, Stainless Steel
Other pilot system components: low-
lead Bronze, Brass, All Stainless Steel
Tubing & Fittings: Copper/Brass,
Stainless Steel

OPERATING CONDITIONS
The rate of flow/solenoid shut-off valve shall be suitable for controlling the flow rate over a range of <X to X (limited to 4:1)> gpm at pressures ranging from <X to X> psi.

ACCEPTABLE PRODUCTS
The rate of flow control valve shall be a <size> Model 120-1, <globe pattern, angle pattern>, with <150# flanged, 300# flanged> end connections, as manufactured by OCV Control Valves, Tulsa, Oklahoma, USA.

**Others available upon request.
*Valves 1-1/4" through 24" are certified to NSF/ANSI 372. Valves 4" through 24" are also certified to NSF/ANSI 61G.

U.S. DIMENSIONS - INCHES

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For maximum efficiency, the OCV control valve should be mounted in a pipingsystem so that the valve bonnet (cover) is in the top position. Other positions are acceptable but may not allow the valve to function to its fullest and safest potential. In particular, please consult the factory before installing 8" and larger valves, or any valves with a limit switch, in positions other than described. Space should be taken into consideration when mounting valves and their pilot systems.

A routine inspection & maintenance program should be established and conducted yearly by a qualified technician. Consult our factory @ 1-888-628-8258 for parts and service.

How to order your Model 120-1 valve
When Ordering please provide:
Fluid to be controlled - Model Number - Size
Globe or Angle - End Connection - Body
Material - Trim Options - Flow
Rate Setting or Range - Solenoid enclosure
Weatherproof or Explosion Proof - Special
Requirements / Installation Requirements

TOLL FREE 1.888.628.8258  phone: (918)627.1942  fax: (918)622.8916  7400 East 42nd Place, Tulsa, Oklahoma 74145
email: sales@controlvalves.com  website: www.controlvalves.com