

▲ Model 127-80

The Model 127-80 has a wide range of applications: anywhere pressure must be reduced to a manageable level, combined with a need for an on/off electrical operation.

Typical examples include:

- ▶ Pump systems
- ▶ Process pressure control
- ▶ Truck loading terminals

## SERIES FEATURES

- ▶ Reduces a higher inlet pressure to a lower outlet pressure
- ▶ Constant outlet pressure over wide flow range
- ▶ Electrically operated solenoid allows valve to open (reduce pressure) or shut-off (close)
- ▶ Pilot-operated main valve not subject to pressure fall off
- ▶ Outlet pressure is adjustable with single screw
- ▶ Can be maintained without removal from the line
- ▶ Adjustable opening/response speed
- ▶ Factory tested and can be pre-set to your requirements

## OPERATION

A two-way solenoid acts as an override and when closed, causes the main valve to close. Opening the solenoid allows the spring loaded, normally open pilot, sensing downstream pressure to respond to changes in pressure and causes the main valve to do the same. The net result is a constant modulating action of the pilot and main valve to hold the downstream pressure constant. The pilot system is equipped with an opening speed control that fine tunes the valve's response to the system variables.

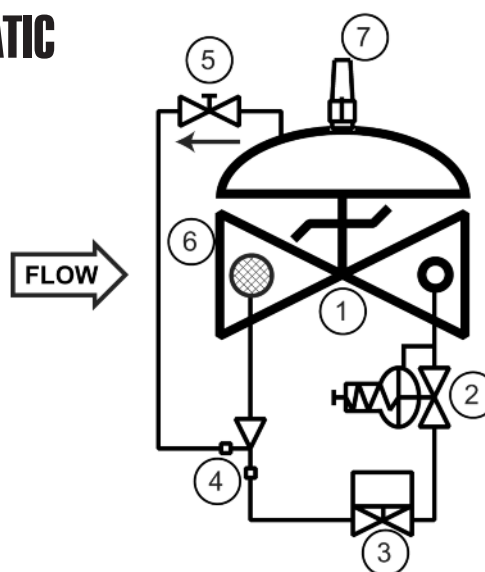
The solenoid can be supplied normally closed (energize to enable) or normally open (energize to close).

## COMPONENTS

The Model 127-80 consists of the following components, arranged as shown on the schematic diagram:

- 1.) Model 65 Basic Control Valve (Fail Closed)
- 2.) Model 1340 Pressure Reducing Pilot
- 3.) Model 451 Two-Way Solenoid Pilot
- 4.) Model 126 Ejector
- 5.) Model 141-3\* Flow Control Valve (Opening Speed Control)  
\*NOTE: Model 141-2 Needle Valve used on sizes 1-1/4"-3"
- 6.) Model 123 Inline Strainer
- 7.) Model 155L Visual Indicator

## SCHEMATIC



## RECOMMENDED INSTALLATION

- ▶ Install the valve with adequate space above and around the valve to facilitate servicing. Refer to the Dimension Table.
- ▶ Valve should be installed with the bonnet (cover) at the top, particularly 8" (DN200) and larger valves, and any valve with a limit switch.
- ▶ Shut-off valves should be installed upstream and downstream of the control valve. These are used to isolate the valve during start-up and maintenance.
- ▶ Install a pressure gauge downstream of the valve to enable adjustment to the required pressure setting. This gauge may be installed in the downstream side port of the valve body.
- ▶ Following main valve installation, the solenoid must be wired into the user's control system. This is a simple two-wire (plus ground) connection.

## SIZING

Sizing is a critical issue in the selection of pressure reducing valves. Definitive sizing information can be found in the Series 127 section of the OCV Catalog and Engineering section Performance Charts. Consult the factory for assistance.

## MAX. PRESSURE

(The pressures listed here are maximum working pressures at 37.78°C)

END CONNECTIONS	DUCTILE IRON	STEEL WCB	STEEL LCB	Stn. STEEL	ALUMINUM
Threaded	44.1 bar	44.1 bar	44.1 bar	44.1 bar	19.7 bar
Grooved	20.7 bar	20.7 bar	20.7 bar	20.7 bar	13.8 bar
150# Flanged	17.2 bar	19.7 bar	18.4 bar	19.0 bar	19.7 bar
300# Flanged	44.1 bar	51.0 bar	48.0 bar	49.6 bar	----

# Model 127-80 (Fueling Service) METRIC



## SIZES

Screwed Ends - 1 1/4" - 3" (DN32 thru DN80)  
Grooved Ends - 1 1/2" - 6" (globe) (DN40 thru DN150)  
1-1/2" - 6" (angle) (DN40 thru DN150)  
Flanged Ends - 1 1/4" - 24" (globe) (DN32 thru DN600)  
1 1/4" - 16" (angle) (DN32 thru DN400)

## FLUID OPERATING TEMPERATURE RANGE

(Valve Elastomers)  
Buna-N -28.89°C to 82.22°C  
Viton -6.67°C to 110°C  
Fluorosilicone -40°C to 65.56°C  
EPDM -17.78°C to 110°C

## SPRING RANGES (outlet setting)

0.3-2.1 bar; 1.4-5.5 bar; 1.38-13.79 bar; 6.9-20.7 bar

## MATERIALS

Consult factory for others.

**Body/Bonnet:** Ductile Iron (epoxy coated), Carbon Steel (epoxy coated), Stainless Steel, Aluminum

**Seat Ring:** Stainless Steel, Bronze

**Stem:** Stainless Steel, Monel

**Spring:** Stainless Steel

**Diaphragm:** Buna-N, Viton, (Nylon reinforced)

**Seat Disc:** Buna-N, Viton

**Pilot:** Stainless Steel, Bronze

**Other pilot system components:**

Stainless Steel, Bronze/Brass

**Tubing & Fittings:** Stainless Steel, Copper/Brass

## SOLENOID

**Enclosure:** Explosion Proof NEMA 4X, 6P, 7, 9

**Body:** Stainless Steel, Brass

**Voltages:** 24, 120, 240, 480 VAC

12, 24 VDC

Note: Working pressures of solenoids vary greatly, consult factory on application of OCV Model 127-80 valves.

## SPECIFICATIONS (Typical Fuel Application)

The pressure reducing/solenoid shut-off valve shall function to reduce a higher upstream pressure to a constant, lower downstream pressure regardless of fluctuations in supply or demand. The valve shall be equipped with a two-way solenoid valve that will allow the valve to open when <energized, de-energized>.

## DESIGN

The pressure reducing/solenoid shut-off valve shall be a single-seated, line pressure operated, diaphragm actuated, pilot controlled globe valve. The valve shall seal by means of a corrosion-resistant seat and a resilient, rectangular seat disc. These, and other parts, shall be replaceable without removing the valve from the line. The stem of the main valve shall be guided top and bottom by integral bushings. Alignment of the body, bonnet and diaphragm assembly shall be by precision dowel pins. The diaphragm shall not be used as a seating surface, nor shall the pistons be used as an operating means. The pilot system shall be furnished complete and installed on the main valve. It shall include an opening speed control, an inline strainer and a solenoid valve. The pressure reducing/solenoid shut-off valve shall be operationally and hydrostatically tested prior to shipment.

## MATERIALS OF CONSTRUCTION

The main valve body and bonnet shall be ductile iron. All ferrous surfaces shall be coated with 4 mils of epoxy. The main valve seat ring shall be stainless steel. Elastomers (diaphragms, resilient seats and O-rings) shall be Buna-N. The control pilot shall be stainless steel. The opening speed control and control line tubing shall be stainless steel. The solenoid shall have an explosion-proof enclosure and be suitable for operation on <voltage>.

## OPERATING CONDITIONS

The pressure reducing/ solenoid shut-off valve shall be suitable for reducing inlet pressures of <X to X> bar to a constant outlet pressure of <X> bar at flow rates ranging from <X to X> m<sup>3</sup>/hr.

## ACCEPTABLE PRODUCTS

The pressure reducing/ solenoid shut-off valve shall be a <size> Model 127-80, <globe pattern, angle pattern>, with <150# flanged, 300# flanged, threaded, grooved> end connections, as manufactured by OCV Control Valves, Tulsa, Oklahoma, USA.

## METRIC DIMENSIONS - M.M.

DIM	END CONN.	DN32-DN40	DN50	DN65	DN80	DN100	DN150	DN200	DN250	DN300	DN350	DN400	DN600
A	SCREWED	222	251	267	330	---	---	---	---	---	---	---	---
	GROOVED	222	251	267	330	387	508	---	---	---	---	---	---
	150# FLGD	216	238	267	305	381	451	645	756	864	991	1026	1575
	300# FLGD	222	251	283	324	397	473	670	791	902	1029	1067	1619
C	SCREWED	111	121	152	165	---	---	---	---	---	---	---	---
	GROOVED	111*	121	152	165	194	---	---	---	---	---	---	---
	150# FLGD	108	121	152	152	191	254	322	378	432	---	529	---
	300# FLGD	111	127	162	162	198	267	335	395	451	---	549	---
D	SCREWED	79	98	102	114	---	---	---	---	---	---	---	---
	GROOVED	79*	98	102	114	143	---	---	---	---	---	---	---
	150# FLGD	76	98	102	102	140	152	203	289	279	---	398	---
	300# FLGD	79	105	111	111	148	165	216	306	298	---	419	---
E	ALL	152	152	178	165	203	254	302	391	432	457	483	686
F	ALL	98	98	98	98	98	98	162	162	162	162	162	203
H	ALL	254	279	279	279	305	330	356	432	457	508	508	724

\*GROOVED END NOT AVAILABLE IN DN32

## CE Markings

Applies to fuel valves installed in the European Union in accordance with the Pressure Equipment Directive, 97/23/EC

CE-marked valves are available in LCB steel and CF8M stainless steel only

OCV is registered to the PED through Det Norske Veritas

The following valves will be CE-marked:

- 6" (DN150) and larger valves, 150# and 300# class, liquid fuel only
- 2" (DN50) thru 4" (DN100) valves, 300# class, liquid fuel
- 1 1/4" (DN32) thru 4" (DN100) valves, 300# class, LPG or Butane service
- 4" (DN100) and smaller valves in Class 150# (liquids) are furnished under SEP with no CE-mark

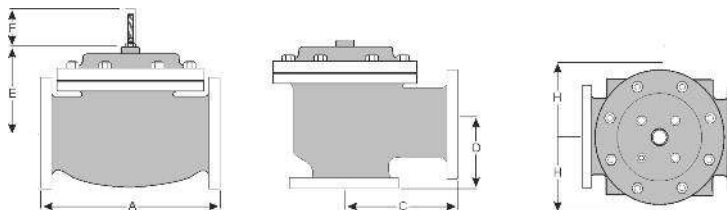
For maximum efficiency, the OCV control valve should be mounted in a piping system so that the valve bonnet (cover) is in the top position. Other positions are acceptable but may not allow the valve to function to its fullest and safest potential. In particular, please consult the factory before installing 8" (DN200) 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 @ 1-918-627-1942 for parts and service.

## How to order your Model 127-80 valve

When ordering please provide:

Fluid to be controlled - Model Number - Size - Globe or Angle - End Connection - Body Material - Trim Material - Pilot Options - Pressure Setting or Spring Range - Solenoid Voltage - Energize to Open or Close Valve - Special Requirements / Installation Requirements



QUALITY SYSTEM  
REGISTERED TO  
ISO 9001

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