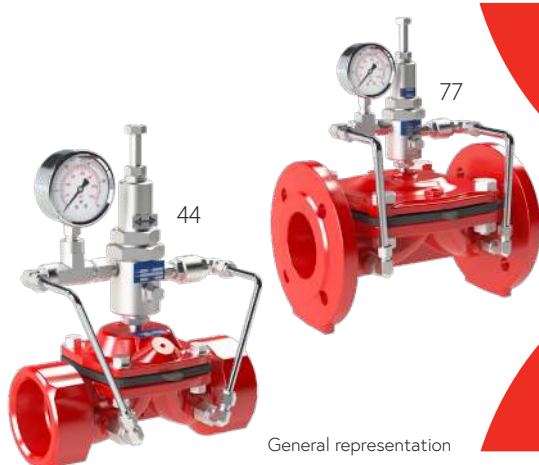




# Model 44, 68 & 77 PS\UL



## Pressure Reducing & Pressure Relief Valves



General representation



Fire  
Protection

## Pressure Relief Valve

### Description

An automatic, pilot controlled, pressure relief valve, actuated by the pipeline pressure. The valve modulates to maintain a steady, predetermined pressure in the network. Should the upstream pressure exceed the required set point, the valve opens, releasing the excessive pressure. When the pressure falls below the set value, the valve closes drip tight.

### Certification & Compliance

UL Listed under QXZQ category



ABS Type Approval



Lloyd's Register Approval



ANSI FCI 70-2 Class VI seat leakage class

Fire tested to EN ISO 6182-5:2006 (Model 68: 2"-6" only)

### Features & Benefits

- Simple field adjustable pressure setting, requiring no special tools or system downtime
- Superior design featuring exceptionally low pressure losses at high flow rates
- Maintains a steady preset system pressure, regardless of fluctuating supply
- Automatically relieves overpressure should upstream pressure exceed the required set point
- Low lifelong maintenance costs due to straightforward design
- Applicable for fresh or brackish water, seawater & foam
- Out of box fully assembled & tested valves
- Factory trimmed for vertical or horizontal installations without modification
- Extensive valve & trim materials selection and corrosion protection coating
- High flows and working pressures (up to PN25/375 psi)

### Typical Applications

Pump & Water Tanks

Fire Suppression Systems

Petrochemical, Oil & Gas Installations

Tunnels



Power Generation, Transformer & Transmission Plants

Onshore/Offshore

Mining



### Operation

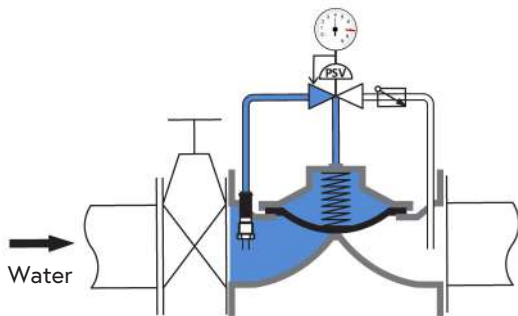
The OCV PS\UL is a pilot controlled, pressure relief valve, actuated by the pipeline pressure. The valve accurately maintains a set pipeline pressure regardless of pump start and stop conditions. The relief pressure can easily be set and modified by use of the adjustment bolt on the pressure relief pilot's cover.

When the pipeline pressure exceeds the required set point, the valve modulates to maintain a steady, predetermined pressure in the network. When pressure falls below the set value, the valve closes drip tight.

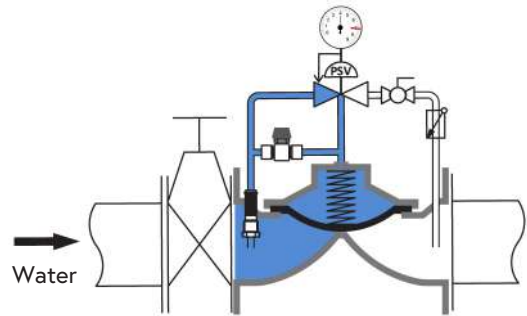
The OCV PS\UL's trim contains an integral and adjustable needle valve which enables high pilot accuracy and control of the valve's closing speed.

The valve's low friction design utilizes a preshaped reinforced diaphragm and provides exceptionally low pressure losses at high flows and an accurate, stable control from no flow to full flow conditions. The simple and reliable design allows easier assembly, improved longevity and reduces periodic inspections and maintenance. When required, maintenance is easily done onsite and in-line.

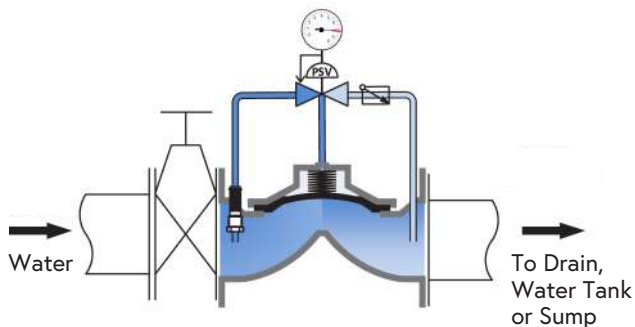
Closed Position: 2"- 3"



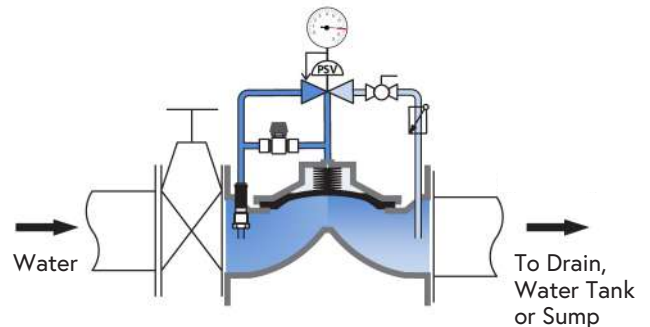
Closed Position: 4"- 8"



Pressure Relief: 2"- 3"



Pressure Relief: 4"- 8"



Resetting, maintenance, and periodic testing instructions must be followed as described in detail in the applicable OCV IOM (Installation, Operation & Maintenance) Manual.

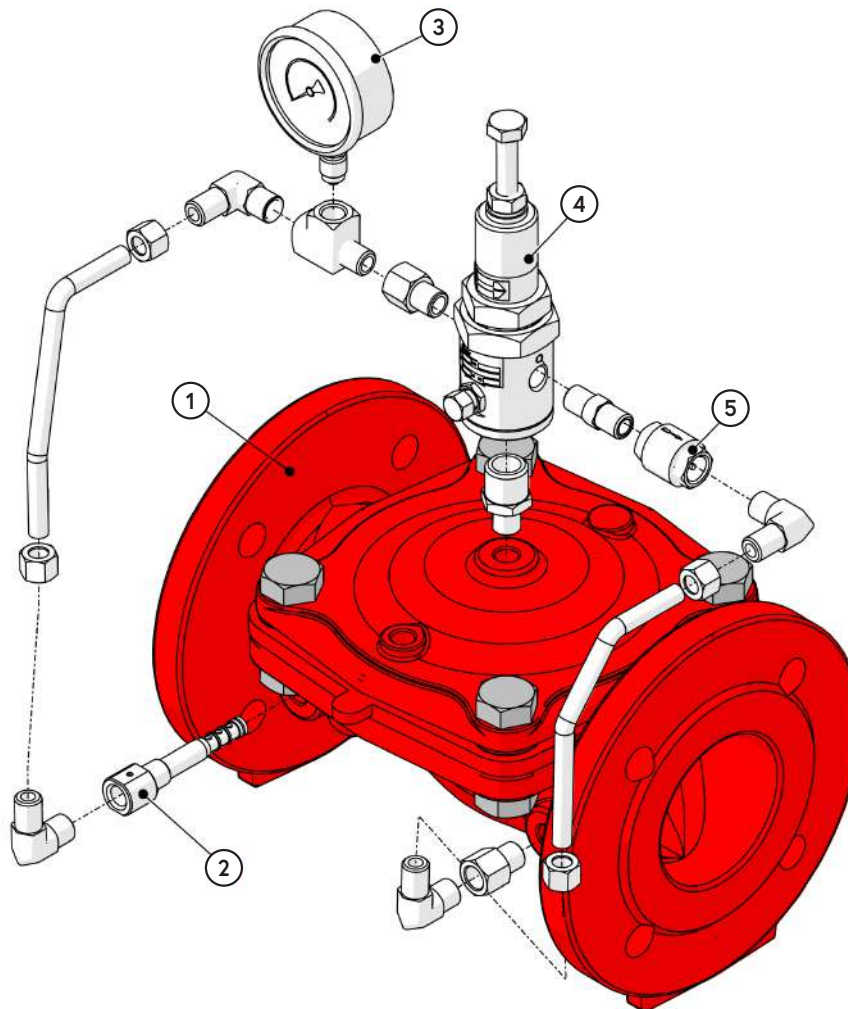
### Components & Typical Materials

The OCV 44, 68 & 77 PS\UL consists of the following components, arranged as shown on the schematic diagram below.

ID	Part	Standard Material	POG (1) Applications
1	Valve Body	See OCV S100 Engineering Data (2)	
2	Inline Strainer	Brass, Stainless Steel Screen	Stainless Steel 316
3	Pressure Gauge	Brass Case, Stainless Steel Connection	Stainless Steel 316
4	Pressure Relief Pilot	Brass	Stainless Steel 316
5	Check Valve	Brass	Stainless Steel 316

(1) Petrochemical, Oil & Gas

(2) Refer to materials selection guidelines, Engineering Data - Materials: Ductile Iron A-536 65-45-12; Cast Steel A-216 WCB; Cast Steel A-352 LCB; Austenitic Stainless Steel A-351/CF8M; Super Duplex 2507; Nickel-Aluminum-Bronze B-148 UNS C95800



OCV 77 PS\UL: 3"

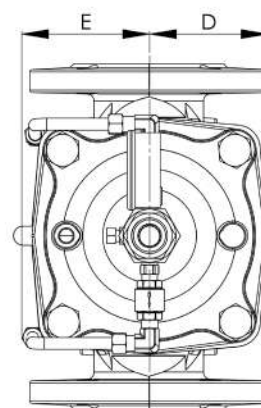
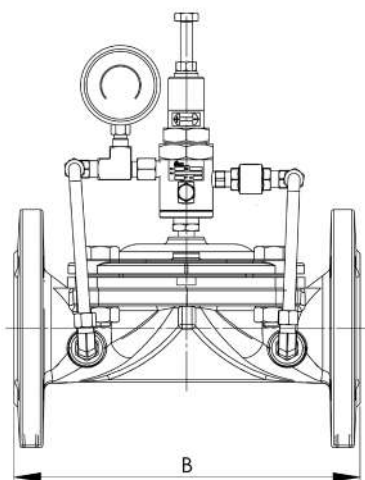
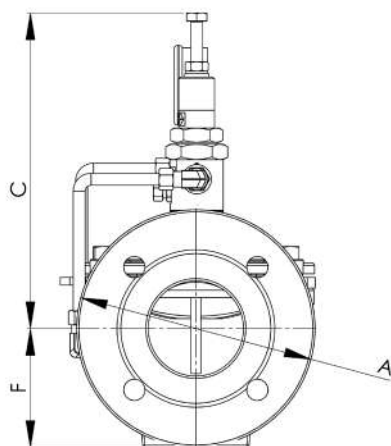
### General Arrangement & Dimensions

Standard Sizes					
DIM	2"	3"	4"	6"	8"
A	6 1/2	7 13/16	9 1/8	11	13 1/2
B	8 1/8	11 3/8	12 1/8	15 1/2	18 5/16
C	10 3/16	10 3/8	12 3/8	14 1/8	15 1/2
D	4 1/8	4 1/8	4 1/2	5 1/2	7 5/16
E	3 3/16	4 1/8	4 1/2	5 13/16	7 1/2
F	3 3/16	3 7/8	4 1/2	5 1/2	6 11/16

Approximate dimensions for OCV 77 PS\UL.

Metric Sizes					
DIM	DN50	DN80	DN100	DN150	DN200
A	166	200	230	280	342
B	206	290	309	393	466
C	260	265	315	360	393
D	104	104	115	141	185
E	83	104	115	148 1/2	192
F	83	100	115	140	171

Approximate dimensions for OCV 77 PS\UL.



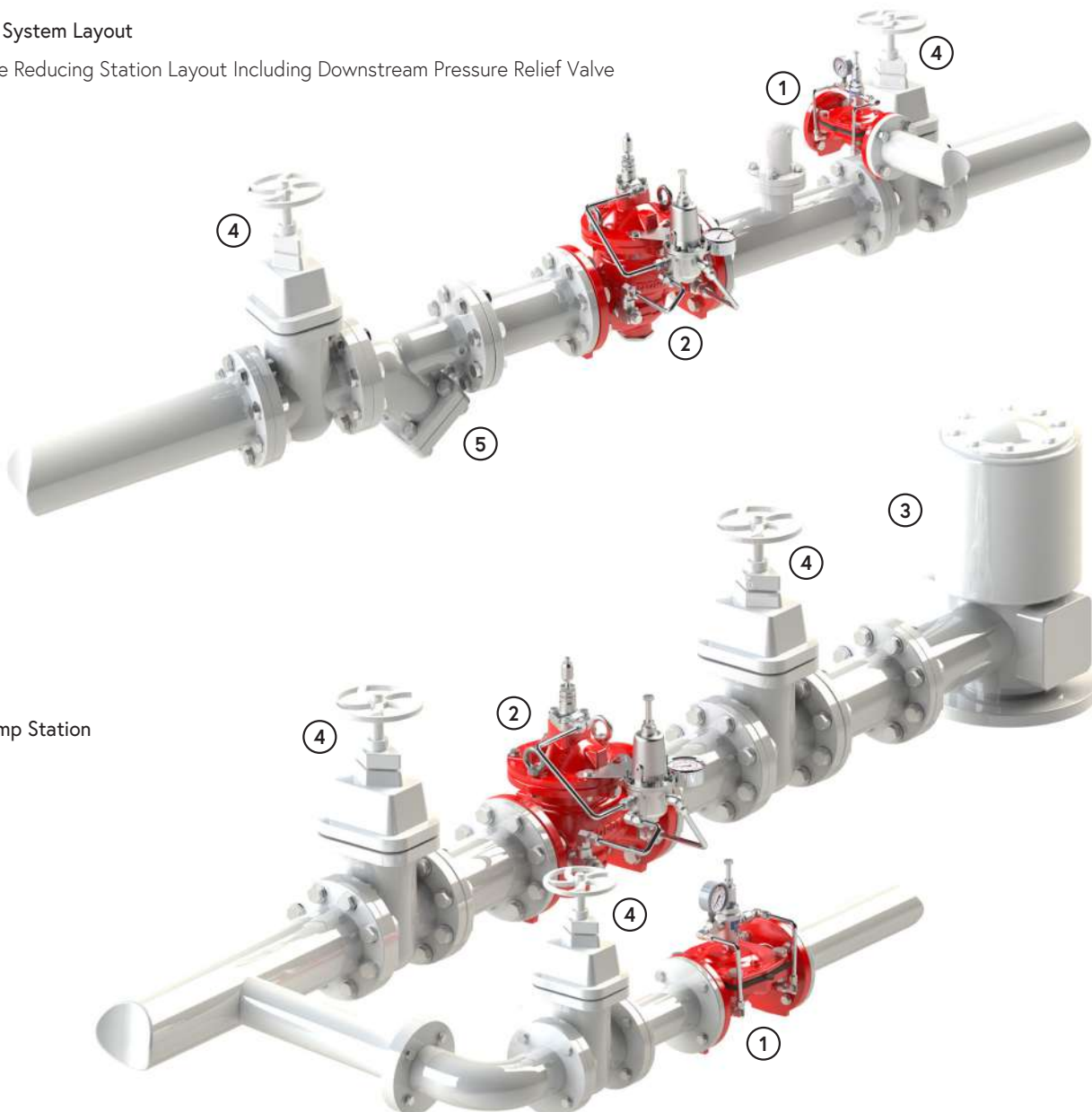
### Typical Installation

The typical installation of the OCV 44, 68 & 77 PS\UL is as shown:

- 1 OCV 77 PS\UL Pressure Relief Valve
- 2 Pressure Reducing Valve (OCV 30 PR\UL or OCV 129FC)
- 3 Pump
- 4 Isolation Valve
- 5 Strainer

### Typical System Layout

Pressure Reducing Station Layout Including Downstream Pressure Relief Valve



Fire Pump Station

General representation.  
Not all items pictured reflect products sold by OCV.

### Technical Data

Temperature (Elastomers)	
Media	up to 85°C = 185°F
Elastomers	suitable for extreme climates (available upon request)
Sizes	
UL Listed	Model 77 (Flanged): 3" - 8"
	Model 44 (Threaded): 2" - 3"
Lloyd's type approved	Model 68: 2" - 10"
	Model 77: 2" - 24"
	Model 44 (Threaded): 1" - 3"
Pressure Rating (ANSI at 100°F)	
Models 44 & 77: up to 16 bar / 230psi	
Model 68: up to 25 bar / 375psi	
UL Listed Pressure Relief Setting Range	
2" - 8" up to 175psi	

End Connections	
Flanged	ISO-PN16 & ISO-PN25
	ANSI B16.42 & B16.5 Class 150# & 300#
	Additional options available upon request
Grooved	Sizes: 2" - 8"
Threaded	Sizes: 1" - 3"
Body & Cover Material	
Ductile Iron	Stainless Steel
Cast Steel	NAB
Trim Material	
Bronze/Brass - Copper	
Stainless Steel	
Optional Components	
Pressure Switch	
Limit/Proximity Switch	
Items to Specify	
Control trim material other than standard	
Required standards, certifications and approvals	

### Engineering Specifications

The pressure relief valve shall be hydraulically operated, direct elastomeric diaphragm-seal, single chamber weir type. The valve shall consist of three major components: the body, the cover and the diaphragm assembly. The diaphragm assembly shall be the only moving part. The diaphragm forms a sealed control chamber in the upper portion of the valve, separating operating pressure from line pressure. Packing glands, stuffing boxes and dynamic o-ring seals are not permitted and there shall not be shafts, discs, bearings or pistons operating the main valve. No hourglass shaped disc retainers shall be permitted, and no V-type, U-type or other slotted type disc guides shall be used. The valve shall contain a nylon reinforced rubber diaphragm, elastic & resilient through its entire surface without vulcanized radial seals and/or reinforcements. The diaphragm assembly shall not be guided by any shafts or bearings and shall not be in close contact with other valve parts except for

its sealing surface. Maintenance, disassembly and reassembly of all the valve's components shall be made possible onsite and in-line, without the need to remove the valve from the line. The valve shall be fully trimmed, hydrostatically and operationally tested at the factory and set to a fixed relief pressure. Change of factory preset pressure setting can always be performed in-line following simple IOM instructions, without special tools or system downtime. Standard material valves such as ductile iron and cast steel should be coated with high-built fusion-bonded epoxy (FBE). Naval quality/very high corrosivity protection grade conforming to EN12944 C5M is available upon request. Additional coatings and special materials are available upon request. The pressure relief valve shall be an OCV 44 or 77 PS\UL, UL Listed under QXZQ category, as manufactured by OCV, an Aquestia Ltd. brand, Tulsa, OK, USA.