OCV Model 129FC

Pressure Reducing & Pressure Relief Valves

Aquestia
Directing the Flow

General representation

Fire Protection

Pressure Reducing Valve

Description

An automatic, pilot controlled, pressure reducing valve, actuated by the pipeline pressure. The valve regulates to a steady, preset downstream pressure, regardless of upstream pressure or flow rate fluctuations. In case of excessive downstream pressure, the valve closes drip tight.

Certification & Compliance

UL Listed under VLMT category

ABS Type Approval

ANSI FCI 70-2 Class VI seat leakage class

Features & Benefits

- Maintains constant discharge pressure regardless of upstream pressure or flow rate fluctuations
- Easily cleaned, repaired & adjusted without removal from the line
- Easily adjusted for discharge pressures ranging from 50-165psi
- Applicable for water, seawater & foam
- Out of box fully assembled & tested valves
- Factory trimmed for vertical & horizontal installations without modification
- Extensive valve & trim materials selection and corrosion protection coating

Typical Applications

Pump & Water Tanks

Fire Suppression Systems

Petrochemical, Oil & Gas Installations

Tunnels

Power Generation, Transformer & Transmission Plants

Onshore/Offshore

Mining

Operation

The normally open, spring loaded pilot, sensing downstream pressure, responds 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.

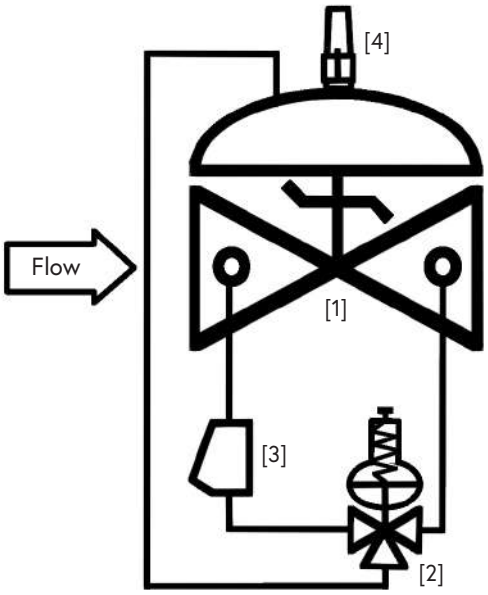
The OCV 129FC consists of the following components, arranged as shown on the schematic diagram:

[1] OCV 65 Basic Control Valve, a hydraulically operated, diaphragm actuated, globe or angle valve which closes with an elastomer-on-metal seal.

[2] OCV 1390 Pilot, a 3-way, normally-open pilot valve which senses downstream pressure under its diaphragm and balances it against an adjustable spring load. An increase in downstream pressure tends to make the pilot close.

[3] OCV 159 Y-Strainer, protects the pilot system from solid contaminants in the line fluid.

[4] OCV 155 Visual Indicator Assembly (optional), provides indication of the valve position at a glance.

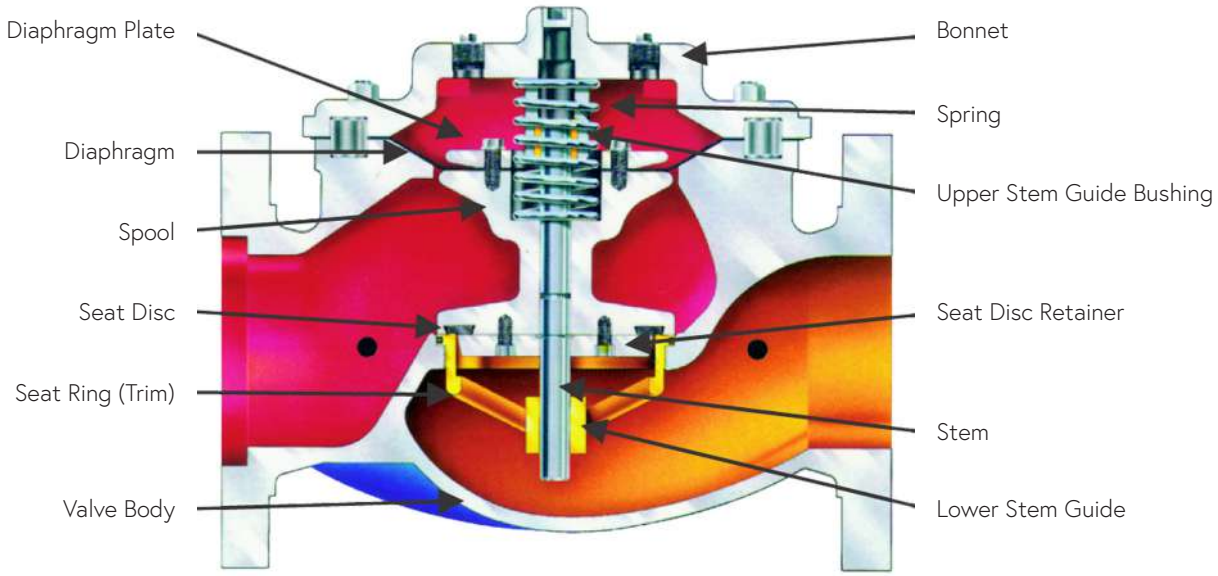


Resetting, maintenance, and periodic testing instructions must be followed as described in detail in the applicable OCV IOM (Installation, Operation & Maintenance) Manual.

Components & Typical Materials

The OCV 129FC consists of the following components, arranged as shown on the schematic diagram below.

Part	Standard Material	Optional
Valve Body	Ductile Iron	Cast Steel, Stainless Steel 316, NAB, Duplex Stainless Steel
Seat Ring	Bronze	Stainless Steel, NAB
Stem	Stainless Steel	Monel
Spring	Stainless Steel	Elgiloy/MP35N
Diaphragm	Buna-N	EPDM
Seat Disc	Buna-N	EPDM
Pressure Reducing Pilot	Bronze	Stainless Steel, NAB, Duplex Stainless Steel
Tubing / Fittings	Copper, Bronze/Brass	Stainless Steel, Monel



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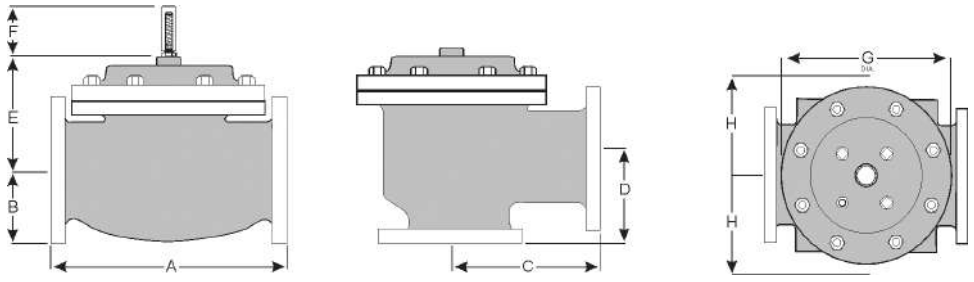
General Arrangement & Dimensions

Standard Sizes								
DIM	End Connections	1 1/2"	2"	2 1/2"	3"	4"	6"	8"
A	Threaded	8 3/4	9 7/8	10 1/2	13	--	--	--
	Grooved	8 3/4	9 7/8	10 1/2	13	15 1/4	20	--
	150# Flanged	8 1/2	9 3/8	10 1/2	12	15	17 3/4	25 3/8
	300# Flanged	8 3/4	9 7/8	11 1/8	12 3/4	15 5/8	18 5/8	26 3/8
B	Threaded	1 7/16	1 11/16	1 7/8	2 1/4	--	--	--
	Grooved	1*	1 3/16	1 7/16	1 3/4	2 1/4	--	--
	150# Flanged	2 5/16 - 2 1/2	3	3 1/2	3 3/4	4 1/2	5 1/2	6 3/4
	300# Flanged	2 5/8 - 3 1/16	3 1/4	3 3/4	4 1/8	5	6 1/4	7 1/2
C	Threaded	4 3/8	4 3/4	6	6 1/2	--	--	--
	Grooved	4 3/8*	4 3/4	6	6 1/2	7 5/8	--	--
	150# Flanged	4 1/4	4 3/4	6	6	7 1/2	10	12 11/16
	300# Flanged	4 3/8	5	6 3/8	6 3/8	7 13/16	10 1/2	13 3/16
D	Threaded	3 1/8	3 7/8	4	4 1/2	--	--	--
	Grooved	3 1/8*	3 7/8	4	4 1/2	5 5/8	--	--
	150# Flanged	3	3 7/8	4	4	5 1/2	6	8
	300# Flanged	3 1/8	4 1/8	4 3/8	4 3/8	5 13/16	6 1/2	8 1/2
E	All	6 3/4	6 3/4	7 7/8	7 3/4	9 3/4	11 1/2	14 1/2
F	All	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8	3 7/8	6 3/8
G	All	6	6 3/4	7 11/16	8 3/4	11 3/4	14	21
H	All	10	11	11	11	12	13	14

Approximate Dimensions. *Grooved end not available in 1/4"

Metric Sizes								
DIM	End Connections	DN40	DN50	DN65	DN80	DN100	DN150	DN200
A	Threaded	222	251	267	330	--	--	--
	Grooved	222	251	267	330	387	508	--
	150# Flanged	216	238	267	305	381	451	645
	300# Flanged	222	251	283	324	397	437	670
B	Threaded	37	43	48	57	--	--	--
	Grooved	25*	30	37	44	57	--	--
	150# Flanged	59-64	76	89	95	114	140	171
	300# Flanged	67-78	83	95	105	127	159	191
C	Threaded	111	121	152	165	--	--	--
	Grooved	111*	121	152	165	194	--	--
	150# Flanged	108	121	152	152	191	254	322
	300# Flanged	111	127	162	162	198	267	335
D	Threaded	79	98	114	114	--	--	--
	Grooved	79*	98	114	114	143	--	--
	150# Flanged	76	98	102	102	140	152	203
	300# Flanged	79	105	111	111	148	165	216
E	All	171	171	197	197	248	292	368
F	All	98	98	98	98	98	98	162
G	All	152	171	222	222	298	356	533
H	All	254	279	279	279	305	330	356

Approximate Dimensions. *Grooved end not available in 1/4"



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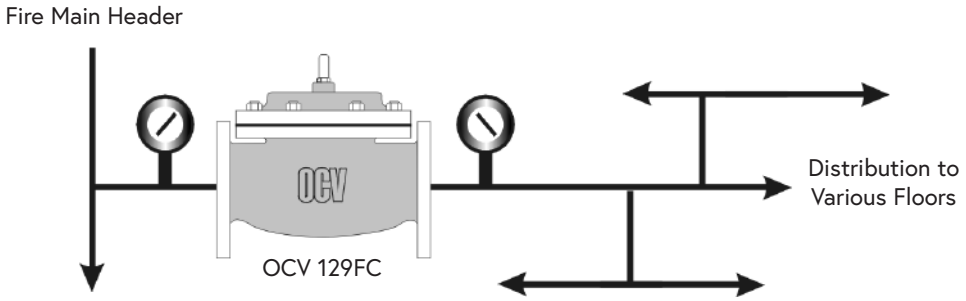
Directing the Flow

Typical Installation

The typical installation of the OCV 129FC is as shown:



Flow Characteristics

The OCV 129FC may experience a wide range of flow rates. The flow rate is minimal when the system is not used or when flow is required by a single sprinkler. At the full system demand, flow rate is at its highest. Therefore, proper sizing is important. Choose the smallest available valve size that is consistent with the maximum flow demand listed in the chart.

For more detailed sizing information, refer to the OCV "PRV Sizing Guide" or the Performance Charts in the OCV catalog.

Standard	
Valve Size	Maximum Flow, GPM
1 1/2"	115
2"	210
2 1/2"	300
3"	460
4"	800
6"	1800
8"	3100

Metric	
Valve Size	Maximum Flow, M3/HR
DN40	26
DN50	48
DN65	68
DN80	105
DN100	182
DN150	409
DN200	704

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Technical Data

Temperature (Elastomers)	
Buna-N	0°C to 82.22°C (32°F to 180°F)
EPDM	0°C to 110°C (32°F to 230°F)
Sizes	
Globe or Angle	1 1/2", 2", 2.5", 3", 4", 6", 8"
Reduced Port	3"x2", 4"x3", 6"x4", 8"x6", 10"x8"
Pressure Rating (Ductile Iron at 100°F)	
Threaded End: 300psi	1 1/2" - 3"
Grooved End: 300psi	1 1/2" - 6"
ANSI #150: 250psi	1 1/2" - 8"
ANSI #300: 300psi	1 1/2" - 8"
End Connections	
Flanged	ISO-PN16 & ISO-PN25
	ANSI B16.42 & B16.5 Class 150# & 300#: 1 1/2" - 8"
	Additional options available upon request
Threaded	Sizes: 1 1/2" - 3"
Grooved	Sizes: 1 1/2" - 6"

Body & Cover Material	
Ductile Iron	Stainless Steel
Cast Steel	NAB
Duplex Stainless Steel	
Trim Material	
Brass - Copper	Monel
Stainless Steel	
Optional Components	
Pressure Switch	Pressure Gauge
Visual Indicator	
Items to Specify	
Electrical features other than standard (24VDC, IP65/NEMA4)	
If explosion proof accessories are required such as solenoids, pressure switches, etc., please define classification	
Control trim material other than standard	
Required standards, certifications and approvals	

Engineering Specifications

The pressure control valve shall be a single-seated, line pressure operated, diaphragm actuated, pilot-controlled globe or angle valve. The valve shall seal by means of a corrosion resistant seat and resilient, rectangular seat disc. Maintenance, disassembly and reassembly of all the valve's components shall be made possible on-site and in-line, without the need to remove 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 pistons be used as an operating means. The valve shall be fully trimmed, hydrostatically and operationally tested at the factory and set to a fixed pressure. Change of factory preset pressure setting can always be performed in-line following simple IOM instructions, without special tools or system downtime. The main valve body and bonnet shall be ductile iron (other materials available upon request). All internal ferrous surfaces shall be coated with epoxy. External surfaces shall be coated with epoxy and fire red paint. The main valve seat ring shall be bronze (other materials available upon request). Elastomers (diaphragms, resilient seats, and o-rings) shall be Buna-N or EPDM. Control pilot shall be bronze or stainless steel (other materials available upon request). The control line tubing shall be copper (other materials available upon request). Additional coatings and special materials are available upon request. The pressure control valve shall be an OCV 129FC, UL Listed under VLMT category, as manufactured by OCV, an Aquestia Ltd. brand, Tulsa, OK, USA.