

SSV 8500

Safety Shut-off Valve

Applications

The SSV 8500 safety shut-off valve is designed for commercial and industrial use: gas supply networks, district stations, industries and heating plants where ease of adjustment and fast response are required.

Description

The SSV 8500 is a direct-acting slam-shut safety shut-off device. It shuts off the gas flow automatically and completely when the monitored pressure exceeds the pre-set values (over-pressure and/or under-pressure). The closing plug of the SSV controller is used as a pulling tool to relatch the valve. A built-in bypass, for balancing pressure before relatching the safety shut-off valve, is operated by pulling the valve stem.

Technical Features

Inlet pressure range	up to 16 bar
Over-pressure shut-off range	25 mbar to 5.6 bar
Under-pressure shut-off range	9 mbar to 2.5 bar
Accuracy class	AG 1 to AG 30
Operating temperature	-20°C to +60°C
Ambient temperature	-30°C to +60°C (body material)
Acceptable gases	Natural gas, propane, butane, air, nitrogen and all non-corrosive gases.

Sizes & Connections

Sizes	DN 25, 40, 50 and 80
Body lengths	EN 14382 face-to-face recommended dimensions
Flanges	Steel PN16, PN20, PN25 Cast iron PN16, PN20, PN25

Materials

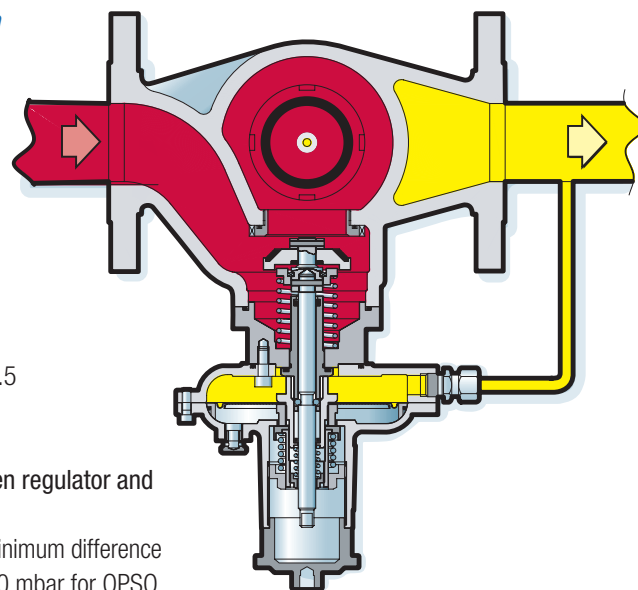
Body	Spheroidal graphite cast iron EN 1563 grade EN-GJS-400-18 Steel N 10213-3 grade G 20 Mn 5
Head	Pressed steel /UNI EN10025
Internal parts	Stainless steel and brass
Seals	Nitrile rubber.



- > Accurate operation
- > Low pressure loss
- > Built-in bypass
- > Compact design

Operational Diagram

- Inlet Pressure
- Outlet Pressure



Accuracy class (AG):

- > Low pressure: AG 10
- > Medium pressure: AG 2.5
- > High pressure: AG 1

Minimum difference between regulator and SSV settings (ΔP_w):

- > Standard: 15% with a minimum difference of 10 mbar for UPSO, 20 mbar for OPSO
- > High pressure: 20% with a minimum difference of 40 mbar for UPSO, 40 mbar for OPSO

Set Range

Over-Pressure Shut-off Springs (OPSO)

Spring Code	Spring Characteristic				Spring Range		
	d (mm)	De (mm)	Lo (mm)	Lt	8511/12 (Ø 150)	8521/22 (Ø 90)	8531/32 (Ø 90 TR)
20565225	2	35	50	6	25 - 49 mbar	0.13 - 0.24 bar	•
20565125	2.5	35	50	6	44 - 120 mbar	0.20 - 0.46 bar	•
20565126	3	35	50	6	95 - 200 mbar	0.42 - 0.90 bar	•
20565127	3.5	35	50	6	200 - 350 mbar	0.83 - 1.84 bar	1.25 - 3.00 bar
20565128	4	35	50	6	•	1.32 - 2.25 bar	2.30 - 4.20 bar
20565129	4.5	35	50	6	•	2.28 - 3.15 bar	3.60 - 5.60 bar

Under-Pressure Shut-off Springs (UPSO)

Spring Code	Spring Characteristic				Spring Range		
	d (mm)	De (mm)	Lo (mm)	Lt	8511/12 (Ø 150)	8521/22 (Ø 90)	8531/32 (Ø 90 TR)
20561022	1.2	15	35	7.75	9 - 19 mbar	0.06 - 0.10 bar	•
20560815	1.3	15	35	8	14 - 30 mbar	0.10 - 0.25 bar	0.15 - 0.40 bar
20561023	1.5	15	35	7.75	28 - 60 mbar	0.10 - 0.33 bar	0.30 - 0.60 bar
20561024	1.8	15	35	7.5	60 - 100 mbar	0.30 - 0.70 bar	0.58 - 1.25 bar
20561121	2	15	35	7.25	•	0.60 - 1.10 bar	1.20 - 1.70 bar
20561122	2.5	15	35	7.25	•	•	1.08 - 2.50 bar

Maximum Inlet Pressure

For higher inlet pressure, the SSV 8500 is fitted with a heavier closing spring which gives a positive lock-up even in case of high pressure differential across the valve. The following table indicates the maximum inlet pressure for both options.

DN	25	40	50	80
Standard	6 bar	6 bar	6 bar	6 bar
Heavy duty	16 bar	16 bar	16 bar	16 bar

Flow Coefficient

For a 0.6 specific gravity gas, the following equation relates the flow (Q) and the pressure loss (ΔP):

$$(\Delta P) = \left(\frac{Q}{C_v}\right)^2 \frac{1}{P_u}$$

DN	25	40	50	80	100
C_v	620	1140	1900	4700	7100

where:

Q = volumetric flow rate in m³/h at standard conditions
 P_u = absolute inlet pressure in bar

Overall Dimensions

DN	A (mm)	B (mm)	C (mm)	Additional weight (kg)
25	184	330	70	11
40	222	330	90	15
50	254	360	100	18
80	298	420	130	32

D : actuator diameter \varnothing 150 or \varnothing 90

Vent and Sensing Lines

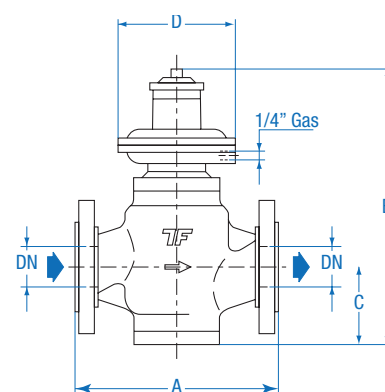
- > SSV sensing line:
Rp 1/4 with compression fitting DN 10
- > SSV 8500 vent line: Rp 1/8

Type Designation and Options

SSV 85	X	X	Versions
	1		\varnothing 120 or 150
	2		\varnothing 90
	3		\varnothing 90/TR
		1	OPSO
		2	OPSO + UPSO

Spring characteristics:

d : wire diameter
 De : external diameter
 Lo : height
 Lt : no. of spires



Information to be specified when ordering:

- Type designation
- Minimum and maximum inlet pressures
- Connection type
- Options
- OPSO setting*
- UPSO setting*
- * (if requested)

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