

JSAV Over Pressure Shut Off Valve

- // Senses excess pressure downstream of pressure regulator
- // Broad adjusting range for the response pressure
- // Low pressure loss
- // Vent pipe may not be required
- // CE certified models available

VSBV Relief Valve

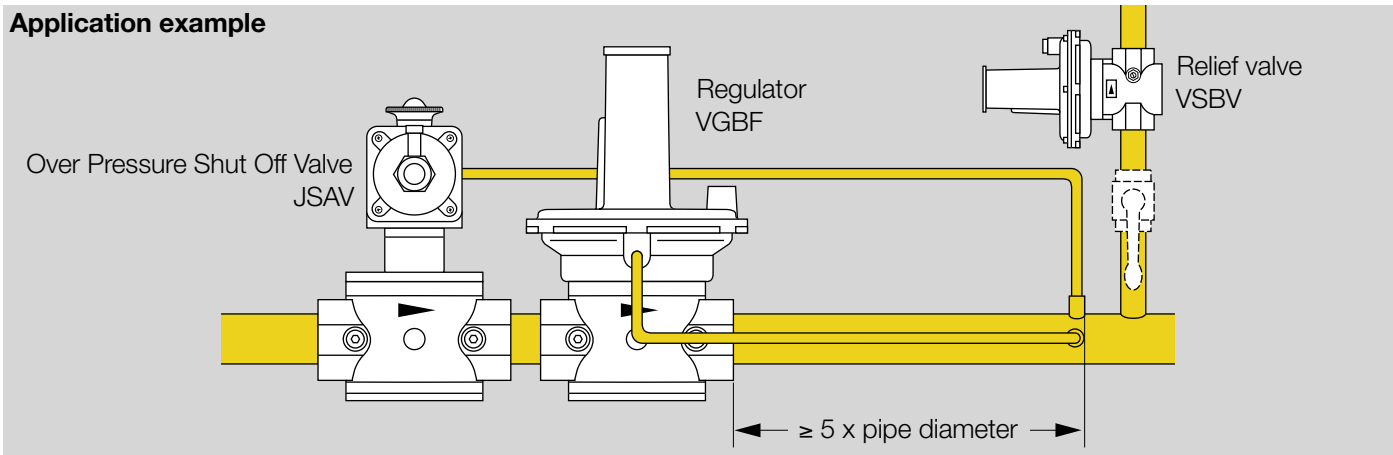
- // Inlet pressure range up to 60 psig (4 bar)
- // Opening pressure range adjustable 8" WC to 8.0 psig
- // Free of nonferrous metal
- // CE certified models available

Application

JSAV is used for the protection against high pressure for all valves connected downstream of a gas regulator. The gas supply is shut off if the downstream pressure exceeds spring set point of over pressure shut off valve.

VSBV is a safety relief valve designed to reduce temporary pressure surges downstream of the pressure reducing regulator caused by fluctuations in system operation.

Application example



Gas pressure regulating systems should be assembled with a safety over pressure slam shut off valve (JSAV) upstream of the regulator and safety relief valve (VSBV). These safety valves are not required if the highest possible operating pressure of the regulator does not exceed the maximum permissible operating pressure of all devices connected downstream of the regulator.

Specifications

Operating Limits

Ambient temperature range: 5° F to 140° F (-15° C to 60° C)
 Maximum inlet pressure: 60 psig (4 bar)
 JSAV response pressure: 8" WC to 8.0 psig
 (18 to 550 mbar)

JSAV factory setting: 1.7 psig (110 mbar)
 VSBV response pressure: 8" WC to 7.0 psig (20 to 500 mbar)
 VSBV factory setting: 1.43 psig (100 mbar)

The regulators are suitable for natural gas, clean coke oven gas and LPG.

Materials of construction

JSAV and VSBV regulators have pressure die-cast aluminium alloy bodies and diaphragm housings. Diaphragms are nitrile rubber, and valve discs have vulcanized nitrile rubber seals. Valve stems and valve discs are aluminum.

Installation/Assembly position

JSAV over pressure shut off valves shall be installed upstream of the gas pressure reducing regulator. Assemble vertically or horizontally into the pipe work.

The spring housing of the VSBV relief valve must be pointed up with opening pressure up to 1.45 psig (100 mbar). With opening pressure above 1.45 psig (100 mbar), the installation position is arbitrary.

Spring table VSBV and JSAV

Type	Connection	Size	Opening pressure range		Color	Part #
VSBV 25TN40	NPT	1"	8-16" WC	20-40 mbar	red	75441805
			14-20" WC	35-50 mbar	yellow	75441806
			18-30" WC	45-75 mbar	green	75441807
			1.0-2.5 psi*	70-170 mbar*	blue	75441808
			2.5-4.8 psi	165-330 mbar	black	75441809
			4.7-7.2 psi	320-500 mbar	white	75441810
JSAV	NPT	1"-11/2"	7.5-24" WC	18-60 mbar	black	03089068
			20-32" WC	50-80 mbar	orange	03089069
			0.9-1.6 psi*	60-110 mbar*	red	03089070
			1.5-3.0 psi	100-210 mbar	dark green	03089071
			2.9-5.1 psi	200-350 mbar	yellow	03089072
			4.1-7.3 psi	280-500 mbar	white	03089073
			JSAV	ANSI	2"-4"	0.5-1 psi
0.9-2.5 psi*	60-170 mbar*	red/brown				03089064
1.7-3.2 psi	120-220 mbar	purple				03089065
2.8-5.8 psi	190-400 mbar	orange/yellow				03089066
4.4-8.0 psi	300-550 mbar	orange/green				03089067

* Standard spring

Sizing

Type	Size	Flow rate natural gas at pressure drop Δp through regulator							
		1" WC SCFH	2.5 mbar m ³ /h	2" WC SCFH	5 mbar m ³ /h	10" WC SCFH	25 mbar m ³ /h	20" WC SCFH	50 mbar m ³ /h
JSAV 25T	1"	565	16	848	24	1,942	55	2,825	80
JSAV 40T	1½"	1,589	45	2,118	60	4,944	140	6,533	185
JSAV 50T	2"	8,828	250	12,360	350	26,486	750	35,667	1,010
JSAV 80T	3"	17,657	500	24,720	700	49,440	1,400	67,097	1,900
JSAV 100T	4"	24,720	700	32,136	910	60,034	1,700	77,692	2,200

Flows in the table above based on natural gas at sea level altitude, 1 psig (69 mbar) line pressure and 60° F (16° C). Mass flows will decrease at higher temperatures, line pressure and altitudes. To estimate flows at other pressure drops through the regulator, divide figures in the above table by these factors.

Flow Correction Factors Tables

Specific Gravity	Factor
Air (1.0 s. g.)	1.27
Propane (1.56 s. g.)	1.61
Butane (2.00 s. g.)	1.83
Propane/Air (1.29 s. g.)	1.47
Coke Oven (0.45 s. g.)	0.87

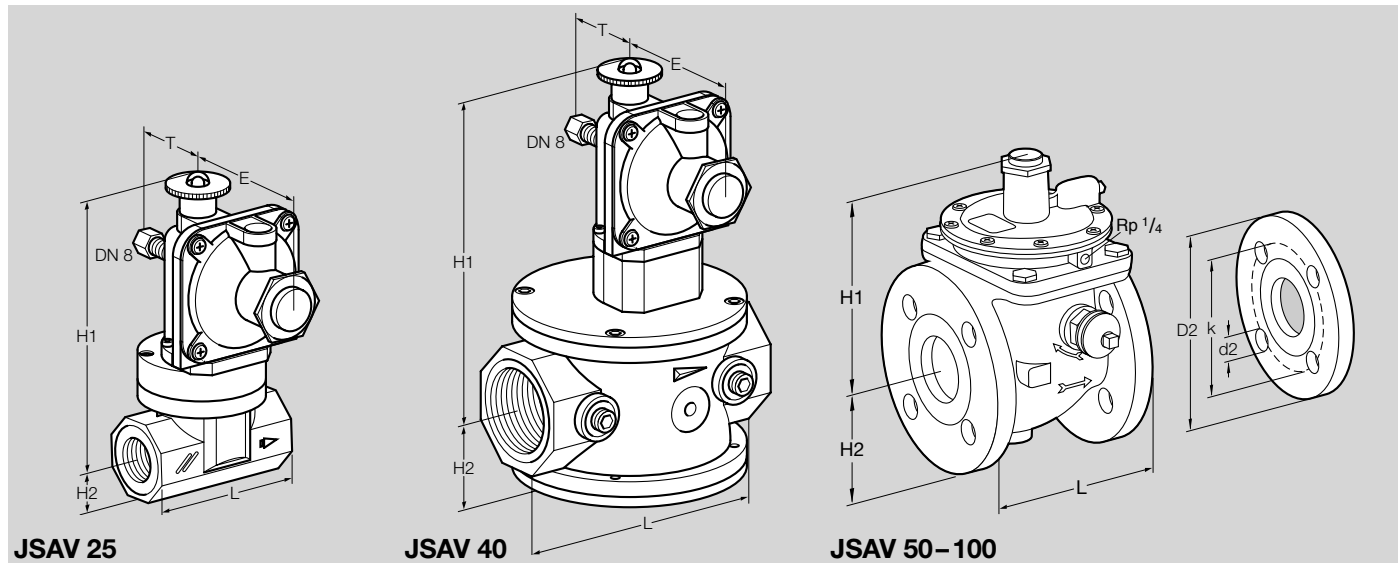
Temperature	Factor
60°F (16°C)	1.0
100°F (38°C)	0.96
120°F (46°C)	0.95

Altitude	Line Pressure [psig]		
	1	2	3
Sea Level	1.00	1.03	1.06
1000' (305 m)	0.98	1.01	1.05
2000' (610 m)	0.97	1.00	1.03
3000' (915 m)	0.95	0.98	1.01
4000' (1220 m)	0.93	0.97	1.00
5000' (1525 m)	0.92	0.95	0.98
6000' (1830 m)	0.90	0.94	0.97
7000' (2135 m)	0.88	0.92	0.95

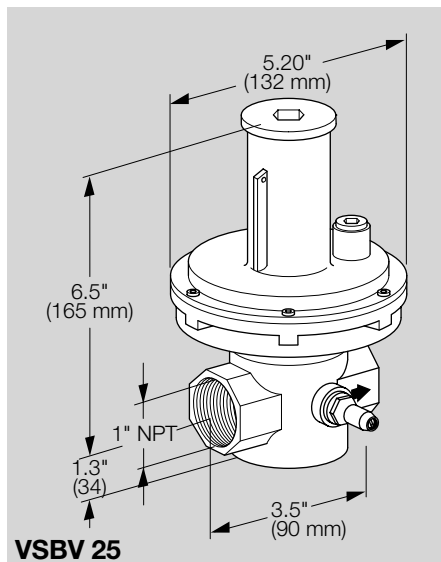
1. Adjust the desired outlet pressure for the gas regulator (VGBF/GDJ)
2. Find in sizing table below the response pressure for the VSBV and JSAV regulator
3. Important: Check the spring rates of VSBV and JSAV in spring table
 Factory setting VSBV = 1.43 psig (100 mbar)
 Factory setting JSAV = 1.7 psig (110 mbar)
4. If you need a different spring range, one may be ordered.

Outlet pressure regulator	Pressure [psig]									
	0.5	1	1.5	2	2.5	3	3.5	4	4.5	5
Response pressure VSBV	1.43	1.43	2.05	2.75	3.50	4.05	4.65	5.35	5.95	6.55
Response pressure JSAV	1.75	1.90	2.45	3.20	3.85	4.65	5.35	5.95	6.60	7.25

Dimensions and Weights



Type	Connection	Dimensions										Flange				Drilling		Weight	
		L	H1	H2	T	E	D2	k	d2	No. holes	LBS	kg							
JSAV 25T	NPT 1"	3.58	6.56	0.91	1.69	43	87	-	-	-	-	-	-	-	-	-	-	2.2	1
JSAV 40T	NPT 1 1/2"	5.91	8.11	2.01	1.69	43	87	-	-	-	-	-	-	-	-	-	-	5.07	2.3
JSAV 50T	Ansi 2"	7.09	7.28	185	3.27	83	-	-	-	6.49	165	4.92	125	0.71	18	4	26.5	12	
JSAV 80T	Ansi 3"	8.66	7.68	195	3.94	100	-	-	-	7.87	200	7.87	160	0.71	18	8	35.3	16	
JSAV 100T	Ansi 4"	10.6	8.86	225	4.33	110	-	-	-	8.66	220	8.66	180	0.71	18	8	48.5	22	



Order Information

Over Pressure shut off valve JSAV

JSAV	over pressure shut off valve
1" to 4" (DN 25 to 100)	nominal diameter
T	T-product
N	NPT-internal thread
A	ANSI flange
40	max inlet pressure 60 psig (4 bar)
-0	without pressure test point
-3	screw at inlet and outlet

Relief valve VSBV

VSBV	relief valve
1"	nominal diameter
T	T-product
N	NPT-internal thread
40	max inlet pressure 60 psig (4 bar)
-0	without pressure test point

Warning:

Situations dangerous to personnel and property can result from the misapplication and incorrect operation of combustion equipment. Kromschroder advises compliance with the National Fire Protection Association standards that apply for related equipment and Insurance Underwriters recommendation, and care of operation.

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