



APPLICATION

Safety relief valve SVOP-K is used for relieving pressure of system in which is being installed. It's simplicity and reliability makes it perfect safety valve for almost every system or fluid.

Accuracy and valve performance stays permanent even on heavy duty demands. Due to simple design makes it easy to perform service and calibration.

DESIGN FEATURES

Safety relief valve SVOP-K is angled type of valve, with thread end connection for exhaust pipeline. It automatically opens and relief limited volume of gas, and automatically closes when pressure normalizes in the system it secures.

Safety valve acts directly according to the developed force, as a result of gas pressure on the plate the set force of the spring is resisted. With the adequate increase of pressure, the seat is lifted up to max. 1/4 seat diameter and with this the exiting conduit is opened.

ON REQUEST:

- special "PP" design for back pressure applications
- connections specified by customer
- every part can be produce to meet customer specification requirements
- special modification for aggressive media

TESTING & CALIBRATION

EN ISO/IEC 17025 certified laboratory

APPLIED STANDARDS, CODES & DIRECTIVE

EN ISO 4126-1 "Safety devices for protection against excessive pressure. Safety valves"

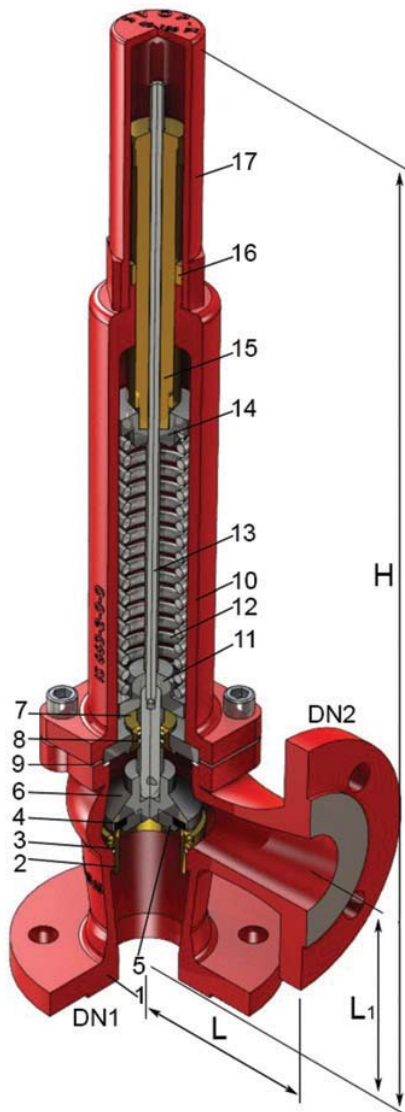
EN 12516-3 "Valves-Shell design strenght. Experimental method"

EN 13463-1 "Non-electrical equipment for use in potentially explosive atmospheres. Basic method and requirements"

EN 13463-5 "Non-electrical equipment for use in potentially explosive atmospheres. Protection by constructional safety 'c'"

94/9 EC (ATEX) "Equipment and protective systems intended for use in potentially explosive atmospheres"

97/23 EC (PED) "Pressure equipment directive"

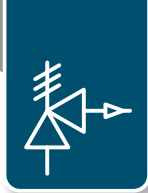


Pos.	Part name	Material	Standard
1	Lower housing	GJS-400-15	EN1563
2	Seat	CW614N	EN12164
3	"O" ring	FKM, NBR	
4	Gasket	FKM, NBR	
5	Plate	S355	EN10277-2
6	Plate holder	1.4301	EN10088-3
7	Mid-plate	CW614N	EN12164
8	"O" ring	FKM, NBR	
9	Gasket	tesnit	
10	Upper housing	GJS-400-15	EN1563
11	Spring plate	S355	EN10277-2
12	Spring	SH	EN10270-1
13	Spindle	1.4301	EN10088-3
14	Spring plate	S355	EN10277-2
15	Adjusting screw	CW614N	EN12164
16	Nut	CW614N	EN12164
17	Bonnet	GJS-400-15	EN1563

DN	40 - 100
PN	16, 25, 40
ANSI	150lb, 300lb
P	1 - 25 bar
t	-20°C / +90°C
acceptable media	oil, petrol, natural gas, water, LPG
connections	EN1092, DIN2633-2635, ANSI B 16.5

CODE	DN	L (mm)	L1 (mm)	H (mm)	WEIGHT(kg)
030603	40 (1 1/2")	115	115	601	12
030604	50 (2")	125	125	611	13
030605	65 (2.5")	145	145	642	20
030607	80 (3")	155	155	705	31
030608	100 (4")	175	175	737	35

Safety relief valve type SVOP-K



SVOP-K

Nominal Diameter, Valve size	DN	-	25	25	32	40	50	50	65	65	80	80	100	100
Nominal Diameter, Outlet	DN	-	25	32	32	40	50	65	65	80	80	100	100	150
Pressure rating Inlet	PN	-	16, 25, 40											
Pressure rating Outlet	PN	-	16, 25, 40											
Max. Set pressure	p ₀	bar	22											
Max. allowable pressure	PS	bar	25											
Flow diameter	d ₀	mm	20	20	25	40	50	50	50	50	50	50	75	90
Flow area	A ₀	mm ²	315	315	491	1257	1964	1964	1964	1964	1964	4418	4418	6362
Certified derated coefficient of discharge	k _{DM}	G/L	0.52 / 0.48		0.61 / 0.55	0.52 / 0.40		0.49 / 0.39		0.51 / 0.40		0.52 / 0.39		0.47 / 0.39

Symbols and their descriptions:

Mass flow rate for air at 15°C and 1,01325bar at critical flow:

$$Q_{m2} = p_0 \cdot C \cdot A \cdot K_{dr} \sqrt{\frac{M}{ZT_0}} \quad [m^3/h]$$

Capacities for air at 15°C and 1,01325bar, calculated in accordance with EN ISO 4126-1:2004 at 10% overpressure

p ₀ (bar)	Q _m (m ³ /h)													
1	318	318	437	1300	1750	1750	1750	1750	1750	1750	1750	4075	6370	
2	503	503	667	1980	2670	2670	2670	2670	2670	2670	2670	6210	9700	
3	704	704	935	2780	3740	3740	3740	3740	3740	3740	3740	8700	13600	
4	890	890	1180	3550	4760	4760	4760	4760	4760	4760	4760	11080	17300	
5	1070	1070	1430	4270	5730	5730	5730	5730	5730	5730	5730	13340	20840	
6	1250	1250	1670	4990	6700	6700	6700	6700	6700	6700	6700	15600	24370	
7	1436	1436	1920	5710	7670	7670	7670	7670	7670	7670	7670	17860	27900	
8	1620	1620	2160	6440	8650	8650	8650	8650	8650	8650	8650	20100	31430	
9	1800	1800	2400	7160	9610	9610	9610	9610	9610	9610	9610	22370	34960	
10	1980	1980	2640	7880	10580	10580	10580	10580	10580	10580	10580	24600	38500	
11	2160	2160	2885	8610	11550	11550	11550	11550	11550	11550	11550	26900	42000	
12	2340	2340	3130	9330	12520	12520	12520	12520	12520	12520	12520	29150	45500	
13	2520	2520	3370	10060	13500	13500	13500	13500	13500	13500	13500	31400	49000	
14	2700	2700	3610	10770	14470	14470	14470	14470	14470	14470	14470	33650	52600	
15	2880	2880	3850	11500	15450	15450	15450	15450	15450	15450	15450	35900	56100	
16	3065	3065	4100	12220	16400	16400	16400	16400	16400	16400	16400	38200	59600	
17	3250	3250	4340	12950	17400	17400	17400	17400	17400	17400	17400	40400	63100	
18	3430	3430	4585	13660	18300	18300	18300	18300	18300	18300	18300	42700	66700	
19	3610	3610	4830	14390	19300	19300	19300	19300	19300	19300	19300	44900	70200	
20	3790	3790	5070	15100	20250	20250	20250	20250	20250	20250	20250	47200	73700	
21	3970	3970	5310	15830	21250	21250	21250	21250	21250	21250	21250	49400	77300	
22	4155	4155	5550	16560	22220	22220	22220	22220	22220	22220	22220	51700	80800	
23	4335	4335	5800	17290	23200	23200	23200	23200	23200	23200	23200	53900	84300	
24	4518	4518	6040	18000	24200	24200	24200	24200	24200	24200	24200	56200	87900	
25	4710	4710	6280	18730	25150	25150	25150	25150	25150	25150	25150	58500	91000	

Mass flow rate for water at 15°C:

$$Q_{m3} = 1,61 \cdot K_{dr} \cdot A \sqrt{\frac{p_0 - p_b}{v}} \quad [10^3 kg/h]$$

Capacities for water at 15°C calculated in accordance with EN ISO 4126-1:2004 at 10% overpressure

p ₀ (bar)	Q _m (10 ³ kg/h)													
1	9,1	9,1	12,6	37,6	50,5	50,5	50,5	50,5	50,5	50,5	50,5	104	163	
2	12,8	12,8	17,8	53,2	71,4	71,4	71,4	71,4	71,4	71,4	71,4	148	231	
3	15,7	15,7	21,9	65,2	87,5	87,5	87,5	87,5	87,5	87,5	87,5	181	283	
4	18,1	18,1	25,1	75,2	101,0	101,0	101,0	101,0	101,0	101,0	101,0	209	326	
5	20,3	20,3	28,2	83,7	112,2	112,2	112,2	112,2	112,2	112,2	112,2	233	365	
6	22,2	22,2	30,9	92,0	123,2	123,2	123,2	123,2	123,2	123,2	123,2	256	400	
7	24,0	24,0	33,4	99,3	133,0	133,0	133,0	133,0	133,0	133,0	133,0	276	432	
8	25,7	25,7	35,7	106,5	143,0	143,0	143,0	143,0	143,0	143,0	143,0	295	461	
9	27,2	27,2	37,8	113,0	152,0	152,0	152,0	152,0	152,0	152,0	152,0	313	490	
10	28,7	28,7	39,9	118,9	160,0	160,0	160,0	160,0	160,0	160,0	160,0	330	516	
11	30,0	30,0	41,8	124,7	167,2	167,2	167,2	167,2	167,2	167,2	167,2	346	540	
12	31,4	31,4	43,6	130,5	175,0	175,0	175,0	175,0	175,0	175,0	175,0	362	565	
13	32,7	32,7	45,5	135,5	181,5	181,5	181,5	181,5	181,5	181,5	181,5	376	587	
14	33,9	33,9	47,1	141,0	189,2	189,2	189,2	189,2	189,2	189,2	189,2	391	611	
15	35,1	35,1	48,8	145,7	195,8	195,8	195,8	195,8	195,8	195,8	195,8	405	632	
16	36,3	36,3	50,5	150,5	202,5	202,5	202,5	202,5	202,5	202,5	202,5	418	653	
17	37,4	37,4	52,0	155,2	208,5	208,5	208,5	208,5	208,5	208,5	208,5	430	672	
18	38,5	38,5	53,5	160,0	214,5	214,5	214,5	214,5	214,5	214,5	214,5	443	692	
19	39,4	39,4	55,0	164,0	220,0	220,0	220,0	220,0	220,0	220,0	220,0	454	710	
20	40,5	40,5	56,4	168,0	225,5	225,5	225,5	225,5	225,5	225,5	225,5	467	730	
21	41,5	41,5	57,8	172,5	231,0	231,0	231,0	231,0	231,0	231,0	231,0	479	748	
22	42,5	42,5	59,1	176,3	236,5	236,5	236,5	236,5	236,5	236,5	236,5	485	763	
23	43,5	43,5	60,6	180,4	242,5	242,5	242,5	242,5	242,5	242,5	242,5	502	781	
24	44,4	44,4	61,8	184,5	247,5	247,5	247,5	247,5	247,5	247,5	247,5	512	800	
25	45,3	45,3	63,1	188,0	252,0	252,0	252,0	252,0	252,0	252,0	252,0	522	835	