

# Safety Valves

## Type 06800 with bellow seal



**Stainless steel bellow sealed Safety Valves, angle type, PN40, type tested TÜV-SV.1105. S/G/L orifice  $d_0 = 12.5$  mm TÜV-SV.1105. only S/G**

Standard safety valve,  
metal to metal seated, closed bonnet  
"cleaned and degreased for oxygen service"

**Part No. 06800.X.0000**

Inlet: female thread type G (BSPP) acc. to ISO 228/1,  
Outlet: female thread type G (BSPP) acc. to ISO 228/1

**Part No. 06800.X.5000**

Inlet: female NPT acc. to ANSI B 1.20.1,  
Outlet: female thread type G (BSPP) acc. to ISO 228/1

**Part No. 06800.X.6000**

Inlet: female thread NPT acc. to ANSI B 1.20.1,  
Outlet: female thread NPT acc. to ANSI B 1.20.1

**Applications:**

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for non-inflammable and inflammable vapours, gases and fluids.  
Working temperature:  $-270^{\circ}\text{C}$  /  $-454^{\circ}\text{F}$  (3K) up to  $+225^{\circ}\text{C}$  /  $+437^{\circ}\text{F}$  (498K)  
Maximum allowed back pressure: 15% of set pressure, pressure-temperature must be observed



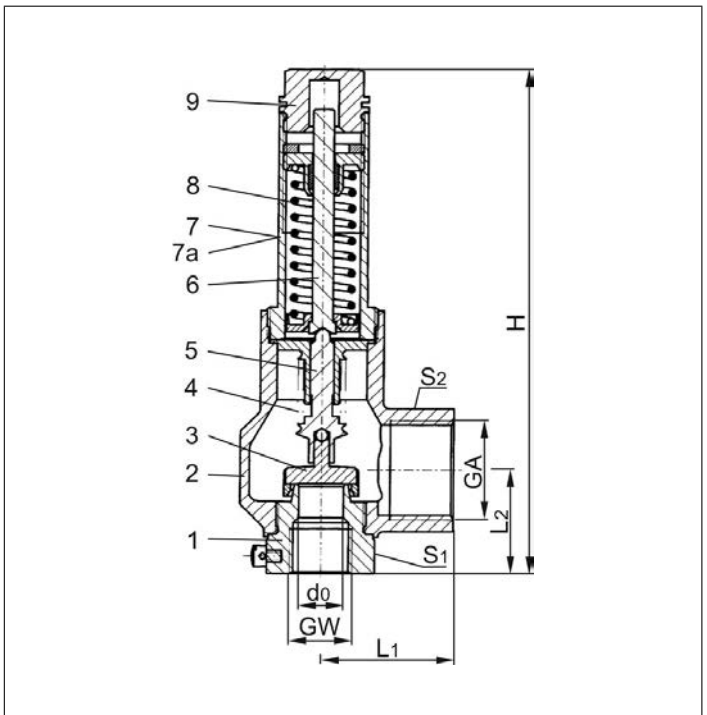
Materials	DIN EN	ASTM
1 Inlet body	1.4571	A 276 Grade 316Ti
2 Outlet body	1.4308	A 351 CF8
3 Disc	1.4541	A 276 Grade 321
4 Bellow	1.4571	A 276 Grade 316Ti
5 Bellow stem	1.4571	A 276 Grade 316Ti
6 Stem	CW453K	B 103 UNS C52100
7 Bonnet	1.4308	A 351 CF 8
7a Bonnet from GW 1	1.4301	A 276 Grade 304
8 Spring	1.4571	A 276 Grade 316Ti
9 Cap	1.4301	A 276 Grade 304

**Important:**

For nominal size GW 1/2,  $d_0 = 15.0$  mm the back pressure reduces the blow off performance of the safety valve (see diagram 06800-1/2,  $d_0 = 15.0$ ).

**Essential:** Valves are delivered at a set pressure, therefore when ordering please confirm set pressure, medium and temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).



Type 06800	Technical data				
Nominal size	GW	1/2	1/2	3/4	1
Orifice	$d_0$	12.5	15	20	23
Dimension code	.X.	1204	1504	2006	2310
Set pressure range	bar	3.0-25.0	3.0-25.0	3.0-25.0	3.0-25.0
Outlet	GA	G 1	G 1	G 1-1/4	G 1-1/2
Height	H	170	170	198	245
Length	$L_1$	44	44	51	56
Length	$L_2$	35	35	48	58
Wrench size across flats	$S_1$	36	36	41	50
Wrench size across flats	$S_2$	41	41	50	55
Weight	ca. kg	1.0	0.97	1.65	2.50
Coeff. of discharge vapours, gases	$\alpha_w$	0.60	0.50	0.60	0.66
Coeff. of discharge fluids	$\alpha_w$	-	0.39	0.45	0.48

Dimensions in mm.

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### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Water** in kg/h

**Saturated steam** in kg/h

**The capacity indicated below is for a fully opened valve.**

Maximum allowed back pressure: 15% of set pressure.

For nominal size GW 1/2, d<sub>0</sub> = 15.0 mm the back pressure reduces the blow off performance of the safety valve (see diagram 06800-1/2, d<sub>0</sub> = 15.0)

d<sub>0</sub> - orifice

A<sub>0</sub> - flow area

Set pressure in bar (g)	GW	1/2	1/2	3/4	1	1/2	1/2	3/4	1	1/2	3/4	1
	d <sub>0</sub> (mm)	12.5	15.0	20.0	23.0	12.5	15.0	20.0	23.0	15.0	20.0	23.0
	A <sub>0</sub> (mm <sup>2</sup> )	122.7	176.7	314.2	415.5	122.7	176.7	314.2	415.5	176.7	314.2	415.5
Medium	Air				Saturated steam				Water			
3.0		216	260	555	807	169	203	433	630	6374	13075	18445
4.0		272	326	696	1013	211	253	540	786	7360	15098	21298
5.0		328	393	839	1221	252	303	647	942	8229	16880	23812
6.0		383	460	981	1428	294	353	753	1096	9014	18491	26085
7.0		438	526	1123	1634	335	402	859	1249	9736	19973	28175
8.0		495	594	1269	1846	376	452	964	1403	10409	21352	30120
9.0		551	661	1411	2053	417	501	1069	1555	11040	22647	31947
10.0		608	729	1556	2265	458	550	1174	1708	11637	23872	33676
12.0		719	863	1842	2679	540	648	1384	2013	12748	26150	36890
14.0		830	997	2127	3094	622	746	1592	2317	13770	28246	39846
16.0		942	1130	2412	3509	703	844	1802	2621	14720	30196	42597
18.0		1053	1264	2697	3924	785	942	2010	2924	15613	32028	45181
20.0		1176	1411	3011	4380	866	1040	2219	3228	16458	33760	47625
22.0		1288	1546	3298	4799	948	1137	2427	3531	17261	35408	49949
25.0		1457	1748	3730	5427	1070	1284	2739	3985	18401	37745	53246

Diagram 06800-1/2, d<sub>0</sub>=15,0

