

# Safety Valves

## Type 06820



**Safety Valves, angle type, stainless steel, type tested, TÜV-SV.1130. S/G/L**

Standard safety valve

Metallic or PEEK seal, "cleaned and degreased for oxygen service"

closed bonnet, gastight cap

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

**Pmax 550.0 bar (S/G/L): metallic seal, max. Temp. -270°C (3K) up to +400°C (673K)**

**Part No. 06820.X.000000M**

**Part No. 06820.X.000000H (Pmax 550.0 bar) stellited version**

**Pmax 1200.0 bar (S/G): PEEK seal, max. Temp. -60°C (213K) up to +85°C (358K)**

**Part No. 06820.X.000001W**

**Part No. 06820.0423.503001W with inlet 13/16"-16 UN**



Available options - on request only:

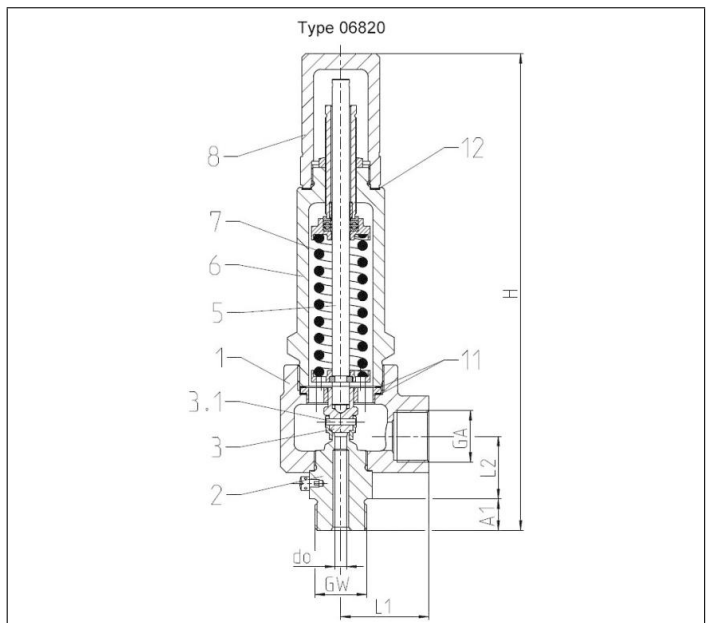
- Flange- or NPT- connection for in- and outlet
- Inlet: Cone & thread connection for d0 6mm - 9M 13/16"-16 UN or 12M 3/4" - 14NPS
- Special materials such as Duplex for medium wetted parts.

### Applications:

Provided as safety device for protection against excessive pressure in gas cylinders and pressure vessels. Approved for gases, vapours and liquids. Working temperature: -270°C / -454°F (3K) up to +400°C / +752°F (673K)

Pressure-temperature must be observed, suitable for horizontal installation up to 300 bar

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4404	A 276 Grade 316L
2 Inlet body	1.4404	A 276 Grade 316L
3 Disc	1.4571 / PEEK	A 276 Grade 316Ti
5 Stem	1.4404	A 276 Grade 316L
6 Bonnet	1.4404	A 276 Grade 316L
7 Spring	1.4571	A 313 Grade 316Ti
8 Cap	1.4404	A 276 Grade 316L
<b>Spare Parts</b>		
2 Inlet body	1.4404	A 276 Grade 316L
3 Disc	1.4571 / PEEK	316Ti
3.1 Split pin	1.4310	301
11 Gasket	Graphite	
12 Gasket	Graphite	



Type 06820	Technical data					
Nominal size	GW	1/2	3/4	1/2	3/4	13/16" - 16 UN
Orifice	d <sub>0</sub>	6.0	6.0	4.0	4.0	4.0
Dimension code	.X.	0623	0633	0423	0433	0423
Set pressure range	bar	30-400	30-550	260-400	260-1200	260-1200
Outlet	GA	3/4	3/4	3/4	3/4	3/4
Height	H <sub>1</sub>	247	247	247	247	247
Length	L <sub>1</sub>	45	45	45	45	45
Length	L <sub>2</sub>	29	29	29	29	29
Length	A <sub>1</sub>	16	16	16	16	16
Weight 06820	ca. kg	2.9	2.9	2.9	2.9	2.9
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.52	0.52	0.66	0.66	0.66
Coeff. of discharge fluids	α <sub>w</sub>	0.42	0.42	-	-	-

Dimensions in mm.

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### Discharge capacities

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

Medium:

**A = Saturated steam** in kg/h

**B = Air** in m<sup>3</sup>/h at 0°C and 1013,25 mbar

**C = Water** in kg/h at 20°C

**D = Flow Hydrogen** in m<sup>3</sup>/h at 20°C

**E = Flow Hydrogen** in kg/h at 20°C

The capacity indicated below is for a fully opened valve.

d<sub>0</sub> - orifice

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

Set pressure in bar (g)	GW	1/2, 3/4, 13/16"		
	d <sub>0</sub> (mm)	6.0		
	A <sub>0</sub> (mm <sup>2</sup> )	28.27		
	Medium	A	B	C
30.0		254	350	3473
40.0		336	468	4011
60.0		503	708	4912
80.0		670	953	5672
100.0		845	1203	6341
120.0		1032	1451	6947
140.0		1230	1703	7503
160.0		1437	1952	8021
180.0		1688	2194	8508
200.0		2215	2429	8968
220.0		-	2659	9406
240.0		-	2893	9824
260.0		-	3133	10225
280.0		-	3374	10611
300.0		-	3614	10983
320.0		-	3854	11344
340.0		-	4094	11693
360.0		-	4334	12032
380.0		-	4575	12361
400.0		-	4815	12683
420.0		-	5055	12996
440.0		-	5295	13302
460.0		-	5535	13601
480.0		-	5776	13893
500.0		-	6016	14180
520.0		-	6256	14460
550.0		-	6616	14872

Set pressure in bar (g)	GW	1/2, 3/4, 13/16"		
	d <sub>0</sub> (mm)	4.0		
	A <sub>0</sub> (mm <sup>2</sup> )	12.56		
	Medium	B	D	E
260		1865	6044	543
300		2157	6941	624
400		2847	9142	822
500		3481	11281	1014
600		4065	13360	1201
700		4609	15379	1382
800		5119	17342	1559
900		5600	19251	1730
1000		6058	21108	1897
1100		6495	22917	2060
1200		6914	24682	2218

### Pressure-Temperature Rating

Maximum allowable set pressure safety valve type 06820

