

Safety Valves

Type 06418



Cryogenic Safety Valve, angle type, bronze, PN50, type tested TÜV-SV.780. S/G

Full lift safety valve, orifice $d_0=23\text{mm}$ standard safety valve,
with carbon filled PTFE valve seal, closed bonnet, with lifting device
"cleaned and degreased for oxygen service"

Part No. 06418.X.0000

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

Part No. 06418.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06418.X.5000

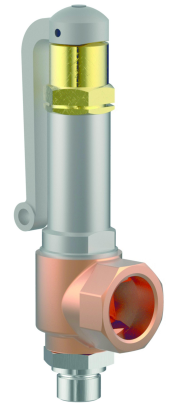
Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06418.X.6000

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

Available options - on request only:

- external parts nickel plated · with installed elbow at the outlet



Applications:

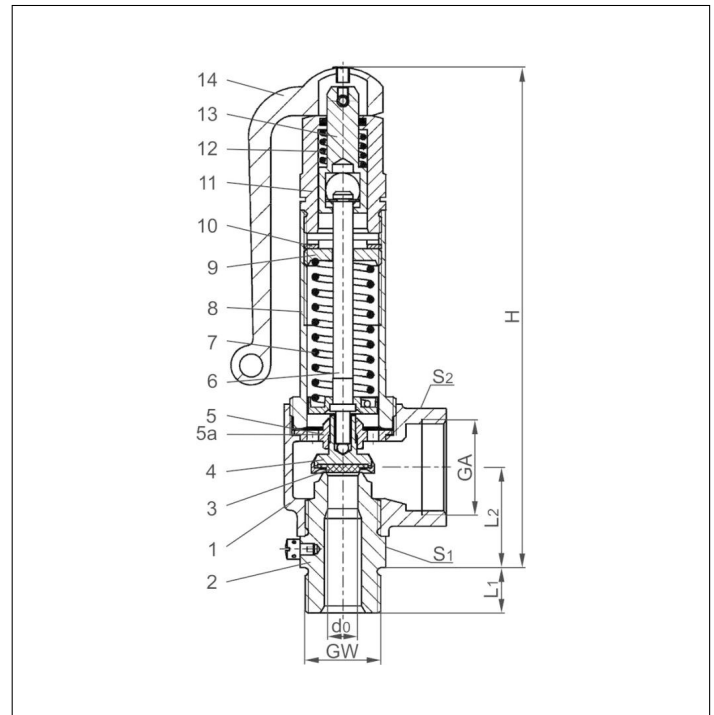
Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: $-196^\circ\text{C} / -321^\circ\text{F} (77\text{K})$ up to $+185^\circ\text{C} / +365^\circ\text{F} (458\text{K})$, suitable for horizontal installation

Materials	DIN EN	ASTM
1 Outlet body	CC491K	SB 62 UNS C83600
2 Inlet body	1.4301	SA-479.304
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CC493K	SB 505 UNS C93200
5 Guide plate	CC493K	SB 505 UNS C93200
5a Guide plate from GW 1	CW453K	SB 103 UNS C52100
6 Stem	CW453K	SB 103 UNS C52100
7 Spring	1.4571	SA-479.316
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	EN 12164 R400
10 Thread ring	CW614N	EN 12164 R400
11 Lifting cap	CW614N	EN 12164 R400
12 Lifting spring	1.4571	SA-479.316
13 Lifting stem	CW614N	EN 12164 R400
14 Lever	1.4408	A 351 CF8M

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) and ASME Code Section VIII.



Type 06418	Technical data								
	GW	1/2	3/4	1/2	3/4	1	1-1/4	1-1/2	2
Nominal size	d_0	7.0	7.0	10.5	10.5	15.0	23.0	23.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1510	2312	2314	2320
Set pressure range	bar	3.3-50.0	3.3-50.0	2.9-50.0	2.9-50.0	2.9-50.0	2.0-50.0	2.0-50.0	2.0-50.0
Outlet	GA	1	1	1	1	1-1/4	2	2	2
Height	H	175	175	175	175	194	270	270	268
Length	L_1	14	16	14	16	18	20	20	25
Length	L_2	36	36	36	36	42	56	56	54
Wrench size across flats	S_1	30	30	30	30	41	55	55	65
Wrench size across flats	S_2	41	41	41	41	50	70	70	70
Weight	ca. kg	1.00	1.02	0.98	1.01	1.52	3.80	3.85	4.28
Coefficient of discharge	α_w	0.82	0.82	0.58	0.58	0.5	0.62	0.62	0.62

Dimensions in mm.

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Discharge capacities

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Air in SCFM at 60°F (15.6°C) and 14.7 psia (1013.25 mbar)

The capacity indicated below is for a fully opened valve.

d₀ - orifice

A₀ - flow area

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.
The safety valve is marked with the lower capacity of both calculations.

Set pressure in bar (g)	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2	Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4, 1-1/2 & 2
	d ₀ (mm)	7.0	10.5	15.0	23.0		d ₀ (inch)	0.276	0.414	0.591	0.907
	A ₀ (mm ²)	38.48	86.6	176.63	415.27		rated slope	0.862	1.517	2.769	7.55
Medium	Air in m ³ /h					Medium	Air in SCFM				
2.0	-	-	-	-	564	50	60	102	180	524	
2.9	-	144	253	737	60	70	118	208	607		
3.0	-	148	260	757	70	79	134	236	690		
3.3	94	159	279	815	80	89	150	265	772		
4.0	109	185	326	950	90	98	167	294	855		
5.0	132	223	392	1143	100	107	183	322	938		
6.0	153	260	458	1336	110	117	199	350	1021		
7.0	176	298	524	1529	120	126	215	379	1104		
8.0	197	336	590	1721	130	136	231	407	1187		
9.0	220	373	657	1914	140	145	248	435	1269		
10.0	241	411	723	2107	150	155	264	464	1352		
12.0	286	486	855	2493	175	179	304	535	1559		
14.0	330	561	988	2879	200	202	345	606	1766		
16.0	374	637	1120	3265	225	226	384	677	1973		
18.0	418	712	1252	3651	250	250	425	748	2180		
20.0	463	787	1385	4037	275	273	465	818	2386		
22.0	507	862	1517	4423	300	297	506	889	2593		
24.0	551	938	1650	4809	325	321	546	961	2800		
26.0	595	1013	1782	5195	350	345	586	1032	3007		
28.0	639	1088	1914	5581	375	368	627	1103	3214		
30.0	684	1163	2047	5967	400	392	667	1174	3421		
32.0	728	1239	2179	6353	425	416	707	1244	3628		
34.0	772	1314	2311	6739	450	439	748	1315	3835		
36.0	816	1389	2444	7125	475	463	788	1386	4042		
38.0	860	1464	2576	7511	500	487	828	1457	4249		
40.0	905	1540	2709	7897	525	510	869	1529	4456		
42.0	949	1615	2841	8282	550	534	909	1600	4662		
44.0	993	1690	2973	8668	575	558	950	1670	4869		
46.0	1037	1765	3106	9054	625	605	1030	1812	5283		
48.0	1082	1841	3238	9440	675	653	1111	1954	5697		
50.0	1126	1916	3370	9826	725	700	1192	2096	6111		