

# 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, orifice  $d_0=23\text{mm}$  with PCTFE 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

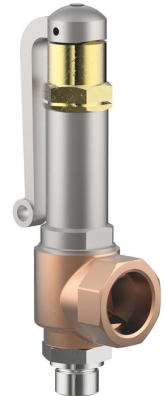
Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

#### 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:

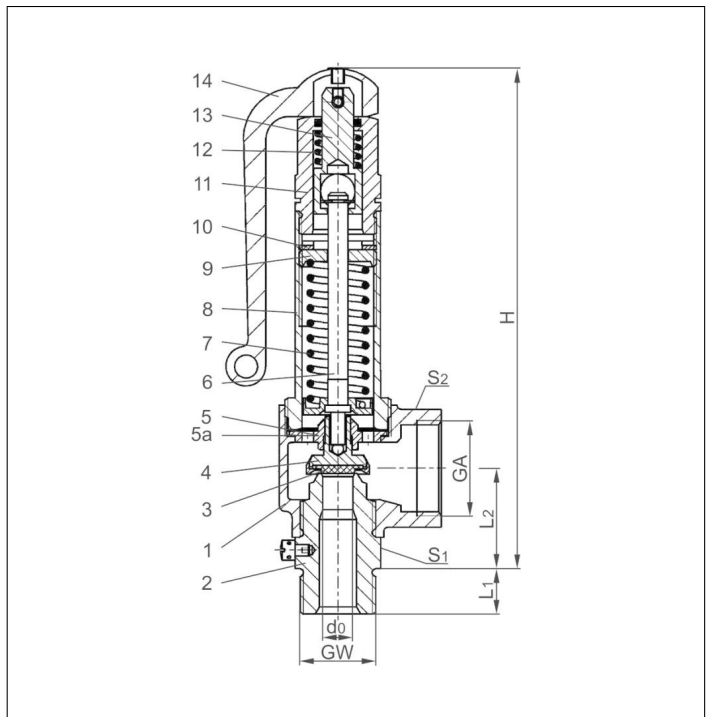
- external parts nickel plated · with installed elbow at the outlet



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

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	SA 479 Grade 304
3 Valve seal	PTFE / Carbon filled (25%) PCTFE ( $d_0=23$ )	
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	A 313 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	B 455 UNS C38500
10 Thread ring	CW614N	B 455 UNS C38500
11 Lifting cap	CW614N	B 455 UNS C38500
12 Lifting spring	1.4571	A 313 Grade 316Ti
13 Lifting stem	CW614N	B 455 UNS C38500
14 Lever	1.4408	A 351 CF8M



Type 06418	Technical data									
	GW	1/2	3/4	1	1-1/4	1-1/2	2			
Nominal size										
Orifice	$d_0$	7.0	7.0	10.5	10.5	15.0	23.0	23.0	23.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1510	2312	2314	2320	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	2.0-50.0
Outlet	GA	1	1	1	1	1-1/4	2	2	2	2
Height	H	175	175	175	175	194	270	270	270	268
Length	$L_1$	14	16	14	16	18	20	20	20	25
Length	$L_2$	36	36	36	36	42	56	56	56	54
Wrench size across flats	$S_1$	30	30	30	30	41	55	55	55	65
Wrench size across flats	$S_2$	41	41	41	41	50	70	70	70	70
Weight	ca. kg	1.00	1.02	0.98	1.01	1.52	3.80	3.85	3.85	4.28
Coefficient of discharge	$\alpha_w$	0.82	0.82	0.58	0.58	0.5	0.62	0.62	0.62	0.62
Coefficient of discharge	rated slope	0.862	0.862	1.517	1.517	2.769	7.55	7.55	7.55	7.55

Dimensions in mm.

# Safety Valves

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### Discharge capacities

Medium:

Air in m<sup>3</sup>/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.

d<sub>0</sub> - orifice

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

Calculation of discharge capacity acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1 resp. ASME Code Sec. VIII.

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 <sub>0</sub> (mm)	7.0	10.5	15.0	23.0		d <sub>0</sub> (inch)	0.276	0.413	0.591	0.906
	A <sub>0</sub> (mm <sup>2</sup> )	38.48	86.59	176.71	415.48		A <sub>0</sub> (in <sup>2</sup> )	0.060	0.134	0.274	0.644
	Medium	Air in m <sup>3</sup> /h					Medium	Air in SCFM			
2.0	-	-	-	-	564	30	-	-	-	-	360
2.9	-	139	244	738		40	-	-	-	-	443
3.0	-	143	251	758		50	60	106	193	526	
3.3	96	154	270	817		60	70	122	223	609	
4.0	112	179	314	952		70	79	139	254	692	
5.0	135	215	379	1148		80	89	156	284	775	
6.0	158	251	442	1342		90	98	172	315	858	
7.0	181	287	506	1535		100	107	189	345	941	
8.0	204	324	571	1735		110	117	206	376	1025	
9.0	227	361	634	1929		120	126	223	406	1108	
10.0	250	398	699	2128		130	136	239	437	1191	
12.0	295	470	827	2517		140	145	256	467	1274	
14.0	341	543	955	2907		150	155	273	498	1357	
16.0	387	615	1082	3297		175	179	314	574	1564	
18.0	432	688	1210	3686		200	202	356	650	1772	
20.0	482	767	1350	4115		225	226	398	726	1980	
22.0	528	841	1479	4508		250	250	439	802	2187	
24.0	574	914	1608	4902		275	273	481	878	2395	
26.0	620	987	1737	5295		300	297	523	954	2602	
28.0	666	1060	1865	5688		325	321	565	1031	2810	
30.0	719	1144	2013	6139		350	345	606	1107	3018	
32.0	765	1218	2143	6536		375	368	648	1183	3225	
34.0	812	1292	2273	6933		400	392	690	1259	3433	
36.0	858	1366	2403	7330		425	416	731	1335	3641	
38.0	905	1440	2533	7727		450	439	773	1411	3848	
40.0	959	1527	2686	8194		475	463	815	1488	4056	
42.0	1006	1601	2817	8595		500	487	857	1564	4263	
44.0	1053	1676	2948	8995		525	510	898	1640	4471	
46.0	1100	1750	3079	9396		550	534	940	1716	4679	
48.0	1147	1825	3210	9796		575	558	982	1792	4886	
50.0	1204	1915	3370	10283		600	582	1024	1868	5094	
						625	605	1065	1944	5302	
						650	629	1107	2021	5509	
						675	653	1149	2097	5717	
						700	676	1190	2173	5924	
						725	700	1232	2249	6132	