

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.0040

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.2040

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.5040

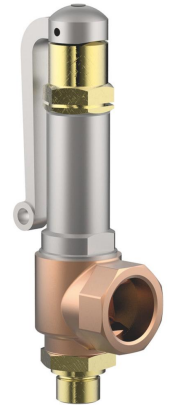
Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06418.X.6040

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:

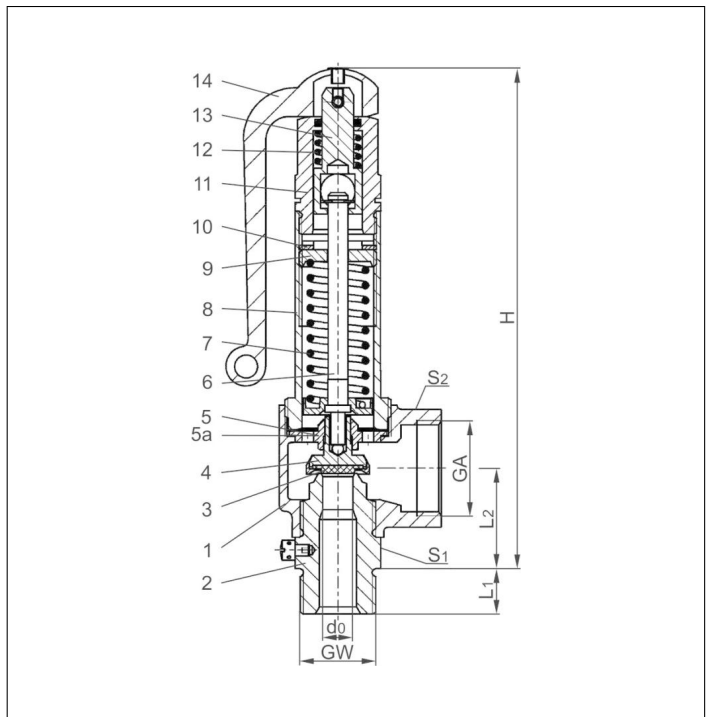
- external parts nickel plated · with installed elbow at the outlet



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	CW614N	B 455 UNS C38500
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	2	2	2
Nominal size	GW	1/2	3/4	1	1-1/4	1-1/2	2	2	2	2
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	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	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	α_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.

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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.

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	0.413	0.591	0.906
	A ₀ (mm ²)	38.48	86.59	176.71	415.48		A ₀ (in ²)	0.060	0.134	0.274	0.644
	Medium	Air in m ³ /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		