

Safety Valves

Type 06421

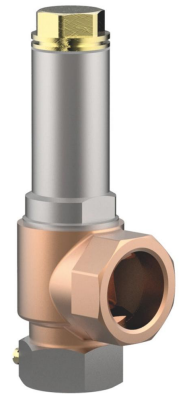


Cryogenic Safety Valves, angle type, bronze, PN40
 $d_0=7,0$ & $10,5$ mm up to PN50,
 type tested TÜV-SV.1111. S/G

Standard safety valve,
 with PCTFE valve seal (except $d_0=7$, which is metal to metal seated only: in this case
 the **Part No.** changes from **06421.X.X000** to **06421.070X.X100**), closed bonnet
 "cleaned and degreased for oxygen service"

Part No. 06421.X.0000

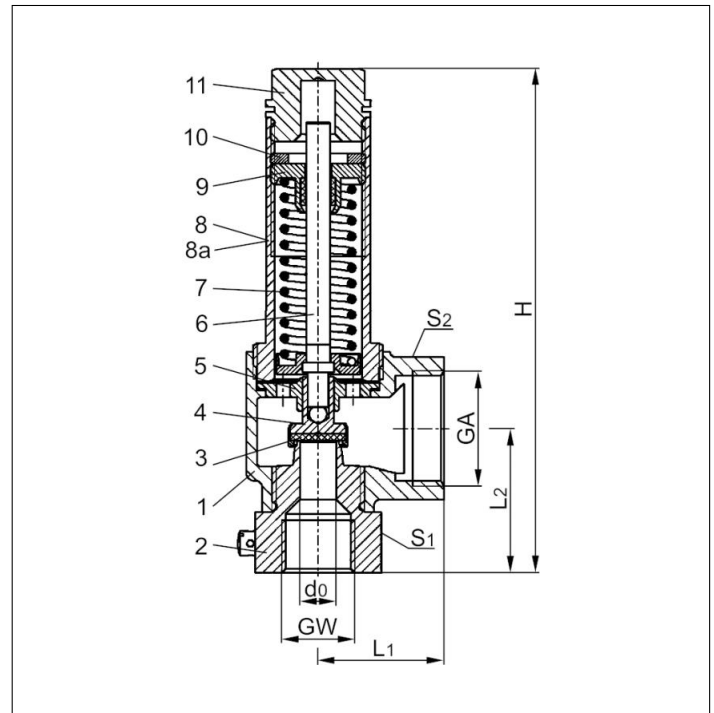
Inlet: female thread type G (BSPP) acc. to ISO 228/1
 Outlet: female thread type G (BSPP) acc. to ISO 228/1



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°C / -321°F (77K) up to $+185^{\circ}\text{C}$ / $+365^{\circ}\text{F}$ (458K), with PCTFE-seal up to $+150^{\circ}\text{C}$ / 302°F (423K), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Outlet body	CC491K	SB 62 UNS C83600
2 Inlet body	1.4301	SA 479 Grade 304
3 Valve seal	PCTFE 1.4571 1.4541	A 313 Grade 316Ti ($d_0=7$) A 276 Grade 321 ($d_0=10.5$)
4 Disc	CC493K	B 505 UNS C93200
5 Guide plate	CW493K	B 505 UNS C93200
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 313 Grade 316Ti
8 Bonnet	1.4301	A 276 Grade 304
9 Spring clamp	CW614N	B 455 UNS C38500
10 Thread ring	CW614N	B 455 UNS C38500
11 Cap	CW614N	B 455 UNS C38500



Type 06421	Technical data					
Nominal size	GW	1/2	1/2	3/4	1	1-1/4
Orifice	d_0	7.0	10.5	14.0	18.0	23.0
Dimension Code	.X.	0704	1004	1406	1810	2312
Set pressure range	bar	0.4-50.0	0.4-50.0	0.4-40.0	0.4-40.0	0.4-10.0
Outlet	GA	1	1	1-1/4	1-1/2	1-1/2
Height	H	145	145	164	195	200
Length	L_1	36	36	50	48	48
Length	L_2	41.5	41.5	49	59.5	65
Wrench size across flats	S_1	36	36	41	50	50
Wrench size across flats	S_2	41	41	50	58	58
Weight	ca. kg	0.80	0.795	1.25	1.87	1.79
Coeff. of discharge from 3.0 bar	α_w	0.78	0.69	0.66	0.66	0.54

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	1/2	3/4	1	1-1/4	Set pressure in psig	GW	1/2	1/2	3/4	1	1-1/4
	d ₀ (mm)	7.0	10.5	14.0	18.0	23.0		d ₀ (inch)	0.276	0.413	0.551	0.709	0.906
	A ₀ (mm ²)	38.48	86.59	153.94	254.47	415.48		A ₀ (in ²)	0.060	0.134	0.239	0.394	0.644
Medium		Air in m ³ /h					Medium		Air in SCFM				
0.4		24	43	77	123	157	15		-	-	92	-	-
0.5		27	49	87	141	179	28		-	-	129	-	298
1.0		41	77	131	216	287	29		42	-	-	-	304
1.5		54	101	179	291	376	35		47	90	154	-	346
2.0		66	126	219	362	473	40		52	100	169	280	382
3.0		88	176	299	495	661	50		62	118	201	333	454
4.0		111	221	375	621	829	60		72	137	233	385	525
5.0		134	266	453	748	1000	70		82	156	265	438	597
6.0		156	311	529	875	1169	80		92	174	296	490	669
7.0		179	356	606	1001	1337	90		101	193	328	543	740
8.0		202	402	684	1131	1511	100		111	212	360	595	812
9.0		225	447	761	1258	1680	120		131	249	424	700	955
10.0		248	494	839	1387	1853	145		155	296	503	831	1134
12.0		293	584	993	1641	-	160		170	324	551	910	-
14.0		339	674	1147	1895	-	180		190	361	614	1015	-
16.0		384	765	1300	2149	-	220		229	436	741	1225	-
18.0		430	855	1454	2403	-	240		249	473	805	1330	-
20.0		480	954	1623	2683	-	250		258	492	836	1383	-
22.0		525	1046	1778	2939	-	260		268	511	868	1435	-
24.0		571	1137	1933	3196	-	280		288	548	932	1540	-
26.0		617	1228	2088	3452	-	300		307	585	995	1645	-
28.0		663	1319	2244	3709	-	325		332	632	1075	1777	-
30.0		715	1424	2421	4003	-	350		357	679	1154	1908	-
32.0		762	1516	2578	4262	-	375		381	725	1233	2039	-
34.0		808	1608	2735	4520	-	400		406	772	1313	2170	-
36.0		854	1700	2891	4779	-	425		430	819	1392	2302	-
38.0		900	1792	3048	5038	-	450		455	865	1472	2433	-
40.0		955	1901	3232	5343	-	475		479	912	1551	2564	-
42.0		1002	1994	-	-	-	500		504	959	1630	2695	-
44.0		1048	2086	-	-	-	525		528	1006	1710	2827	-
46.0		1095	2179	-	-	-	550		553	1052	1789	2958	-
48.0		1142	2272	-	-	-	575		577	1099	1868	3089	-
50.0		1198	2385	-	-	-	600		602	1146	-	-	-
							625		626	1192	-	-	-
							650		651	1239	-	-	-
							675		675	1286	-	-	-
							700		700	1332	-	-	-
							725		724	1379	-	-	-