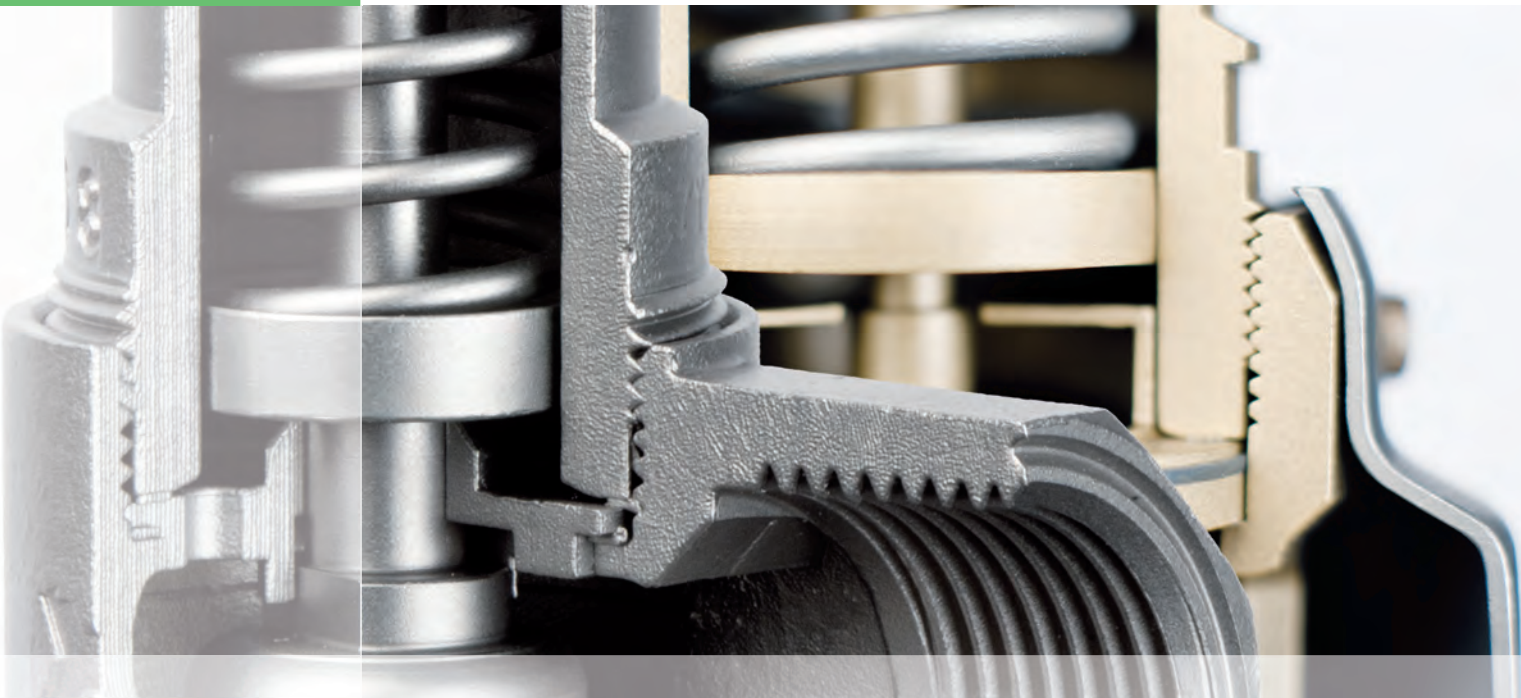


**INDUSTRY  
2013**

**Safety Valves for  
industrial applications**





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## Company

Throughout the world, HEROSE provides its customers with safety for handling technical gases, vapours and liquids in cryogenic applications and pressure vessels. With more than 135 years experience in the development, manufacture and sale of valves with a high level of innovation and modern production with certified quality management, HEROSE is one of the world's leading manufacturers of valves for industry and cryogenic applications. HEROSE employs around 200 employees and supplies to over 80 countries worldwide.



## Products

HEROSE offers a complete product range of globe, check and control valves as well as safety valves for cryogenic liquefied industrial gases like oxygen, nitrogen, hydrogen at temperatures down to  $-270^{\circ}\text{C}$  (3K) and for liquefied natural gas (LNG).

Additional HEROSE offers a large range of nonferrous safety valves for general industrial applications and DIN EN standard valves for engineering and plant construction industries.

## High Quality

No compromise on material selection, production and functional testing guarantee a hundred percent consistently high quality „Made in Germany“.





**CRYONICA**  
криогенные технологии



Headquarter in Bad Oldesloe – on 9200 m<sup>2</sup> production and office area nearly 400,000 valves are produced every year



Frequently HEROSE offers trainings with integrated test lab demonstrations



HEROSE-globe and safety valves for cryogenic gases (including LNG) are approved for offshore applications now



HEROSE-industrial safety valves are also used in the air supply unit of the breaking system for the high speed train Velaro RUS



HEROSE-valves for oil cooled transformers are proved to be used under the extreme climatic conditions for power generation at offshore sites



Material analysis and identification during the incoming goods check



100 % tightness test of the valves at design pressure



Continuous quality checks within the scope of the operator self check



**Abbreviations:** in column Medium - type tested for

**D** = vapours, **G** = gases, **F** = fluids

**K** = granular goods and **S** = powdery goods

### Threaded Safety Valves with discharge holes, spring loaded

Type	Inlet	Medium	Temperature	Set pressure range	Approval		Page
					TÜV-SV	ASME	
<b>06205</b>	Male thread 1/4" up to 1-1/4"	D/G	-20°C - +160°C 253K - 433K	0.2 - 35.0 bar 2.9 - 507.6 PSI	1090		12/13
<b>06216,</b> <b>06217</b>	Male thread 1/2" up to 2"	D/G	-40°C - +200°C 233K - 473K	0.2 - 30.0 bar 2.9 - 435.1 PSI	1090	✓	14/15
<b>06218</b>	Male thread 1/4" up to 3/4"	D/G	-60°C - +150°C 213K - 423K	3.0 - 17.0 bar 43.5 - 246.5 PSI	1090		16/17
<b>06219</b>	Male thread 1/4" up to 3/4"	D/G	-60°C - +150°C 213K - 423K	3.0 - 17.0 bar 43.5 - 246.5 PSI	1090		16/17
<b>06227</b>	Male thread 1-1/4"	D/G	-25°C - +200°C 248K - 473K	3.5 - 13.0 bar 50.8 - 188.5 PSI	1122		18/19
<b>06260</b>	Male thread 1-1/4" up to 2"	D/G	-10°C - +260°C 263K - 533K	1.0 - 11.0 bar 14.5 - 159.5 PSI	1090		20/21
<b>06265</b>	Male thread 1-1/4" up to 2"	D/G	-10°C - +260°C 263K - 533K	1.0 - 11.0 bar 14.5 - 159.5 PSI	1090		20/21
<b>06505</b>	Male thread 1" up to 2"	F/K/S	-40°C - +200°C 233K - 473K	0.5 - 4.5 bar 7.3 - 65.3 PSI	948		22/23
<b>06506</b>	Male thread 1" up to 1-1/2"	D/G	-40°C - +200°C 233K - 473K	0.5 - 6.0 bar 7.3 - 87.0 PSI	948		24/25

### Threaded Safety Valves, angle type, spring loaded

Type	Inlet	Medium	Temperature	Set pressure range	Approval		Page
					TÜV-SV	ASME	
<b>06310</b>	Male thread 3/4" up to 1"	D/G/F	-10°C - +300°C 263K - 573K	0.2 - 250.0 bar 2.9 - 3625.7 PSI	909	✓	56/57
<b>06311</b>	Male thread 3/4" up to 1"	D/G/F	-196°C - +300°C 77K - 573K	0.2 - 250.0 bar 2.9 - 3625.7 PSI	909	✓	58/59
<b>06315</b>	Male thread 1/2" up to 3/4"	D/G/F	-10°C - +220°C 263K - 493K	0.1 - 180.0 bar 1.5 - 2610.7 PSI	980	✓	60/61
<b>06316</b>	Male thread 1/2" up to 3/4"	D/G/F	-270°C - +280°C 3K - 553K	0.1 - 330.0 bar 1.5 - 4786.2 PSI	980	✓	62/63
<b>06317</b>	Male thread 3/8" up to 1-1/4"	D/G/F	-60°C - +280°C 213K - 553K	0.1 - 500.0 bar 1.5 - 7251.9 PSI	847/878		64/65
<b>06318</b>	Male thread 3/8" up to 1-1/4"	D/G/F	-10°C - +200°C 263K - 473K	0.1 - 200.0 bar 1.5 - 2900.6 PSI	847/878		66/67
<b>06319</b>	Male thread 3/8" up to 1-1/4"	D/G/F	-200°C - +280°C 73K - 553K	0.1 - 200.0 bar 1.5 - 2900.6 PSI	847/878		68/69
<b>06370</b>	Female thread 1-1/2" up to 2"	F	-10°C - +110°C 263K - 383K	1.0 - 16.0 bar 14.5 - 232.0 PSI	749		26/27
<b>06376</b>	Female thread 1/2" up to 1-1/4"	F	-10°C - +110°C 263K - 383K	1.0 - 16.0 bar 14.5 - 232.0 PSI	749		28/29
<b>06380</b>	Female thread 1/2" up to 2"	D/G	-10°C - +185°C 263K - 458K	0.2 - 20.0 bar 2.9 - 290.0 PSI	749		30/31
<b>06601</b>	Female thread 1/2"	D/G	-10°C - +185°C 263K - 458K	5.0 - 10.0 bar 72.5 - 145.0 PSI	1080		32/33



### Threaded Safety Valves, angle type, spring loaded

Type	Inlet	Medium	Temperature	Set pressure range	Approval		Page
					TÜV-SV	ASME	
<b>06602</b>	Female thread 1/2"	D/G	-10°C - +130°C 263K - 403K	1.2 - 1.3 bar 17.4 - 18.8 PSI	1080		34/35
<b>06603</b>	Female thread 1/2"	D/G	-10°C - +180°C 263K - 453K	0.2 - 5.0 bar 2.9 - 72.5 PSI	1080		36/37
<b>06604</b>	Female thread 1/2"	D/G	-50°C - +150°C 223K - 423K	14.0 - 30.0 bar 203.0 - 435.1 PSI	1080		38/39
<b>06605</b>	Male thread 1/2"	D/G	-50°C - +150°C 223K - 423K	14.0 - 30.0 bar 203.0 - 435.1 PSI	1080		40/41
<b>06395</b>	Female thread 1/2" up to 1-1/4"	D/G	-10°C - +225°C 263K - 498K	0.5 - 25.0 bar 7.2 - 362.6 PSI	910		42 - 45
<b>06395</b>	Male thread 1/2" up to 1-1/4"	D/G	-10°C - +225°C 263K - 498K	0.5 - 25.0 bar 7.2 - 362.6 PSI	910		46 - 49
<b>06850</b>	Male thread 3/4"	D/G/F	-270°C - +400°C 3K - 673K	0.5 - 250.0 bar 7.2 - 3625.7 PSI	1130		50/51
<b>06855</b>	Male thread 3/4"	D/G/F	-270°C - +400°C 3K - 673K	0.5 - 250.0 bar 7.2 - 3625.7 PSI	1130		50/51
<b>50051.0004</b>	Male thread 1/2"	D/G/F	-10°C - +160°C 263K - 403K	6.0 - 15.0 bar 87.0 - 217.5 PSI			52/53
<b>50051.0011</b>	Male thread 3/8"	D/G	-10°C - +160°C 263K - 403K	1.5 - 5.0 bar 21.8 - 72.5 PSI	1009		54/55

### Threaded Overflow Valves, angle type, spring loaded

Type	Inlet	Medium	Temperature	Set pressure range	Approval		Page
					TÜV-SV	ASME	
<b>06195</b>	Female thread 1/2" up to 2"	D/G/F	-10°C - +165°C 263K - 438K	0.2 - 25.0 bar 2.9 - 362.6 PSI			82/83
<b>06196</b>	Female thread 1/2" up to 2"	D/G/F	-10°C - +185°C 263K - 458K	0.2 - 25.0 bar 2.9 - 362.6 PSI			84/85
<b>06198</b>	Female thread 1/2" up to 2"	D/G	-10°C - +185°C 263K - 458K	2.0 - 25.0 bar 29.0 - 362.6 PSI			86/87
<b>06321</b>	Female thread 3/8" up to 1-1/2"	D/G/F	-10°C - +280°C 263K - 553K	0.1 - 200.0 bar 1.5 - 2900.6 PSI			90/91
<b>06322</b>	Female thread 3/8" up to 1-1/2"	D/G/F	-60°C - +280°C 213K - 553K	0.1 - 250.0 bar 1.5 - 3625.7 PSI			92/93
<b>06386</b>	Male thread 1/2" up to 3/4"	D/G	-196°C - +185°C 77K - 458K	0.5 - 35.0 bar 7.2 - 507.6 PSI			88/89



### Flanged Safety Valves, angle type, spring loaded

Type	Inlet	Medium	Temperature	Set pressure range	Approval		Page
					TÜV-SV	ASME	
<b>06120,</b> <b>06121</b>	DN15-DN100, PN16	D/G/F	-10°C - +200°C 263K - 473K	0.2 - 16.0 bar 2.9 - 232.0 PSI	577		70/71
<b>06125,</b> <b>06126</b>	DN15-DN125, PN40	D/G/F	-10°C - +350°C 263K - 623K	0.2 - 40.0 bar 2.9 - 580.0 PSI	577		72/73
<b>06127</b>	DN15-DN100, PN40	D/G/F	-196°C - +300°C 77K - 573K	0.2 - 40.0 bar 2.9 - 580.0 PSI	577		74/75
<b>06340,</b> <b>06341</b>	DN25-DN150, PN16	D/G/F	-10°C - +300°C 263K - 573K	0.2 - 16.0 bar 2.9 - 232.0 PSI	576		76/77
<b>06345,</b> <b>06346</b>	DN25-DN150, PN40	D/G/F	-10°C - +300°C 263K - 573K	0.2 - 40.0 bar 2.9 - 580.0 PSI	576	✓	78/79
<b>06347</b>	DN25-DN150, PN40	D/G/F	-196°C - +300°C 77K - 573K	0.2 - 40.0 bar 2.9 - 580.0 PSI	576	✓	80/81

### Threaded Safety Valves for cryogenic service, angle type, spring loaded

Type	Inlet	Medium	Temperature	Set pressure range	Approval		Page
					TÜV-SV	ASME	
<b>06001</b>	Male thread 1/4" up to 1/2"	D/G/F	-196°C - +65°C 77K - 338K	5.0 - 55.0 bar 72.5 - 797.7 PSI	1048		96/97
<b>06002</b>	Male thread 1/4" up to 1/2"	D/G	-196°C - +150°C 77K - 423K	1.0 - 55.0 bar 14.5 - 797.7 PSI	1048		98/99
<b>06006</b>	Male thread 1/4" up to 1/2"	D/G	-196°C - +150°C 77K - 423K	1.0 - 55.0 bar 14.5 - 797.7 PSI	1048		98/99
<b>06011</b>	Male thread 1/4" up to 1/2"	D/G/F	-196°C - +65°C 77K - 338K	5.0 - 55.0 bar 72.5 - 797.7 PSI	1048		100/101
<b>06012</b>	Male thread 1/4" up to 1/2"	D/G	-196°C - +150°C 77K - 423K	1.0 - 55.0 bar 14.5 - 797.7 PSI	1048		102/103
<b>06016</b>	Male thread 1/4" up to 1/2"	D/G	-196°C - +150°C 77K - 423K	1.0 - 55.0 bar 14.5 - 797.7 PSI	1048		102/103
<b>06383</b>	Male thread 1/2" up to 1-1/2"	D/G	-196°C - +185°C 77K - 458K	2.0 - 50.0 bar 29.0 - 725.1 PSI	780		108/109
<b>06386</b>	Male thread 1/2" up to 1"	D/G	-196°C - +185°C 77K - 458K	0.2 - 40.0 bar 2.9 - 580.1 PSI	780		112/113
<b>06388</b>	Male thread 1/2" up to 1-1/2"	D/G	-196°C - +185°C 77K - 458K	2.0 - 50.0 bar 29.0 - 725.1 PSI	780	✓	104/105
<b>06413</b>	Male thread 1/2" up to 1-1/2"	D/G	-196°C - +185°C 77K - 458K	2.0 - 50.0 bar 29.0 - 725.1 PSI	780		110/111
<b>06416</b>	Male thread 1/2" up to 1"	D/G	-196°C - +185°C 77K - 458K	0.2 - 40.0 bar 2.9 - 580.1 PSI	780		114/115
<b>06418</b>	Male thread 1/2" up to 1-1/2"	D/G	-196°C - +185°C 77K - 458K	2.0 - 50.0 bar 29.0 - 725.1 PSI	780	✓	106/107



### Threaded Safety Valves for cryogenic service, angle type, spring loaded

Type	Inlet	Medium	Temperature	Set pressure range	Approval		Page
					TÜV-SV	ASME	
<b>06420</b>	Male thread 1/2" up to 1-1/4"	D/G	-196°C - +185°C 77K - 458K	0.4 - 50.0 bar 5.8 - 725.1 PSI	1111		116/117
<b>06425</b>	Male thread 1/2" up to 1-1/4"	D/G	-196°C - +185°C 77K - 458K	0.4 - 50.0 bar 5.8 - 725.1 PSI	1111		118/119
<b>06472</b>	Male thread 1/4" up to 3/4"	D/G	-196°C - +150°C 77K - 423K	0.5 - 6.0 bar 7.3 - 87.0 PSI	836		120/121
<b>06474</b>	Male thread 1/4" up to 3/4"	D/G	-196°C - +150°C 77K - 423K	4.5 - 45.0 bar 65.3 - 652.6 PSI	836		124/125
<b>06477</b>	Male thread 1/4" up to 3/4"	D/G	-196°C - +150°C 77K - 423K	0.5 - 6.0 bar 7.3 - 87.0 PSI	836		122/123
<b>06478</b>	Male thread 1/4" up to 3/4"	D/G	-196°C - +150°C 77K - 423K	4.5 - 45.0 bar 65.3 - 652.6 PSI	836		126/127

### Threaded Bellow Sealed Safety Valves, angle type, spring loaded

Type	Inlet	Medium	Temperature	Set pressure range	Approval		Page
					TÜV-SV	ASME	
<b>06800</b>	Female thread 1/2" up to 1"	D/G/F d <sub>0</sub> =12,5 D/G	-270°C - +225°C 3K - 498K	3.0 - 25.0 bar 43.5 - 362.6 PSI	1105		128/129
<b>06801</b>	Male thread 1/2" up to 1"	D/G/F d <sub>0</sub> =12,5 D/G	-270°C - +225°C 3K - 498K	3.0 - 25.0 bar 43.5 - 362.6 PSI	1105		132/133
<b>06805</b>	Female thread 1/2" up to 1"	D/G/F d <sub>0</sub> =12,5 D/G	-270°C - +225°C 3K - 498K	3.0 - 25.0 bar 43.5 - 362.6 PSI	1105		130/131
<b>06806</b>	Male thread 1/2" up to 1"	D/G/F d <sub>0</sub> =12,5 D/G	-270°C - +225°C 3K - 498K	3.0 - 25.0 bar 43.5 - 362.6 PSI	1105		134/135





### Divertor Valves, bronze, for cryogenic service, for the installation of 2 Safety Valves

Type	Nominal size	Inlet	Outlet	Temperature	Working pressure	Page
06510	DN20	Female thread 1" up to 1-1/2"	Female thread 1/2" up to 1-1/2"	-196°C - +120°C 77K - 393K	up to PN 50	136 - 139
	DN32					
06512	DN20	Female thread 1"	Female thread 1/2" up to 3/4"	-196°C - +120°C 77K - 393K	up to PN 50	140
06520	DN20	Female thread 1"	Female thread 1/2" up to 3/4"	-196°C - +120°C 77K - 393K	up to PN 50	141
06530	DN20	Female thread 1"	Female thread 1/2" up to 3/4"	-196°C - +120°C 77K - 393K	up to PN 50	142

### Changeover Valves, brass, for cryogenic service, for the installation of 2 Safety Valves

Type	Nominal size	Inlet	Outlet	Temperature	Working pressure	Page
06405	DN15	Female thread 3/4" up to 1"	Female thread 1/2" up to 1"	-196°C - +185°C 77K - 458K	DN15: up to PN 40 DN25: up to PN 45	143
	DN25					

### Changeover Valves, stainless steel, for the installation of 2 Safety Valves

Type	Nominal size	Inlet	Outlet	Temperature	Working pressure	Page
06401	DN15	Locking sleeve Female thread	Locking sleeve Female thread Flanged	-196°C - +185°C 77K - 458K	PN 125	144
06401	DN15	Flanged	Locking sleeve Female thread Flanged	-196°C - +185°C 77K - 458K	PN 160 (up to PN 250)	145
06401	DN25	Locking sleeve Female thread	Locking sleeve Female thread Flanged	-196°C - +185°C 77K - 458K	PN 125	146
06401	DN25	Flanged	Locking sleeve Female thread Flanged	-196°C - +185°C 77K - 458K	PN 160 (up to PN 250)	147

### Bellow Sealed Changeover Valves, stainless steel, for the installation of 2 Safety Valves

Type	Nominal size	Inlet	Outlet	Temperature	Working pressure	Page
06401	DN15	Locking sleeve	Locking sleeve	-196°C - +185°C	PN 63	148
	DN25	Female thread	Female thread	77K - 458K	(up to PN 100)	
		Flanged	Flanged			



# General Industrial Use



Open discharge safety valve installed on a silo trailer application

# Safety Valves

## Type 06205

Safety Valves, brass,  
type tested TÜV-SV.1090 D/G

Standard safety valve  
with FPM valve seal, open bonnet,  
with discharge holes, with lifting device  
Inlet: male thread type G (BSPP) acc. to ISO 228/1

**Part No. 06205.X.0000**

Available options - on request only:  
· stainless steel spring - material 1.4571  
· external parts nickel plated

### Applications:

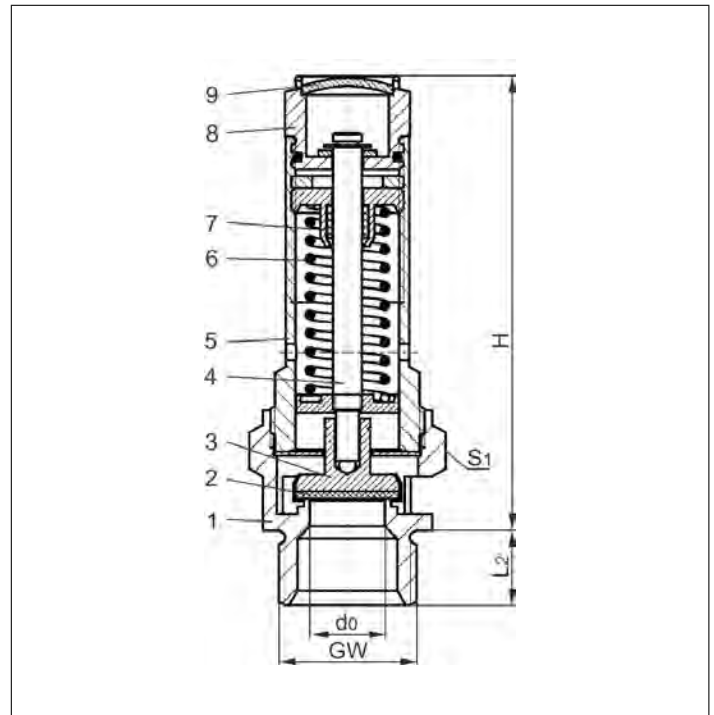
Provided as safety device for protection against excessive pressure in stationary and moveable pressure vessels. Approved for air and similar gases.

Working temperature: -20°C / -4°F (253K) up to +160°C / +320°F (433K)

Materials	DIN EN	ASTM
1 Body	CW614N	B 283 UNS C38500
2 Valve seal	FPM (Viton)	
3 Disc	CW614N	B 283 UNS C38500
4 Stem	CW614N	B 283 UNS C38500
5 Bonnet	CW614N	B 283 UNS C38500
6 Spring	1.1200	A 576 Grade 1045
7 Stem guide	PTFE	
8 Lifting device	CW614N	B 283 UNS C38500
9 Closing cap	CW507L	B 30 UNS C26800

**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/EG (PED).



Type 06205	Technical data							
Nominal size	GW	1/4	3/8	1/2	1/2	3/4	1	1-1/4
Orifice	d <sub>0</sub>	7	7	7	12	15	18	20
Dimension code	.X.	0200	0300	0704	0400	0600	1000	1200
Set pressure range	bar	0.4-35	0.4-35	0.4-35	0.2-22	0.2-16	0.2-18	0.2-16
Height	H	60	60	67	78	92	110	125
Length	L <sub>2</sub>	10	10	12	12	15	18	20
Wrench size across flats	S <sub>1</sub>	21	21	24	27	32	41	48
Weight	ca. kg	0.07	0.07	0.17	0.17	0.27	0.48	0.75
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.60	0.60	0.60	0.47	0.63	0.63	0.63

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06205



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/4	3/8	1/2	1/2	3/4	1	1-1/4
	d <sub>0</sub> (mm)	7.0	7.0	7.0	12.0	15.0	18.0	20.0
A <sub>0</sub> (mm <sup>2</sup> )	38.48	38.48	38.48	113.1	176.7	254.5	314.2	
Medium	<b>Air</b>							
<b>0.2</b>	-	-	-	30	60	86	106	
<b>0.4</b>	20	20	20	44	89	128	158	
<b>0.6</b>	23	23	23	52	105	151	186	
<b>0.8</b>	27	27	27	61	123	177	219	
<b>1.0</b>	30	30	30	70	142	205	253	
<b>2.0</b>	50	50	50	114	240	345	426	
<b>3.0</b>	68	68	68	156	327	471	581	
<b>4.0</b>	85	85	85	196	410	591	730	
<b>5.0</b>	102	102	102	236	494	711	878	
<b>6.0</b>	120	120	120	276	577	831	1026	
<b>7.0</b>	137	137	137	315	661	951	1175	
<b>8.0</b>	154	154	154	355	744	1071	1323	
<b>9.0</b>	172	172	172	395	827	1192	1471	
<b>10.0</b>	189	189	189	435	911	1312	1619	
<b>12.0</b>	223	223	223	515	1077	1552	1916	
<b>14.0</b>	258	258	258	594	1244	1792	2212	
<b>16.0</b>	293	293	293	674	1411	2032	2509	
<b>18.0</b>	327	327	327	753	-	2273	-	
<b>20.0</b>	362	362	362	833	-	-	-	
<b>22.0</b>	396	396	396	913	-	-	-	
<b>25.0</b>	448	448	448	-	-	-	-	
<b>27.0</b>	483	483	483	-	-	-	-	
<b>30.0</b>	535	535	535	-	-	-	-	
<b>32.0</b>	569	569	569					
<b>34.0</b>	604	604	604					
<b>35.0</b>	621	621	621					

# Safety Valves

## Type 06216, Type 06217



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, brass,  
type tested TÜV-SV.1090 D/G**

Standard safety valve  
with FPM valve seal, open bonnet, with discharge holes  
Inlet: male thread type G (BSPP) acc. to ISO 228/1

**Part No. 06216.X.0000**

**Part No. 06217.X.0000**

with lifting device

Available options - on request only:

- discharge holes with protection cap
- stainless steel spring - material 1.4571
- external parts nickel plated

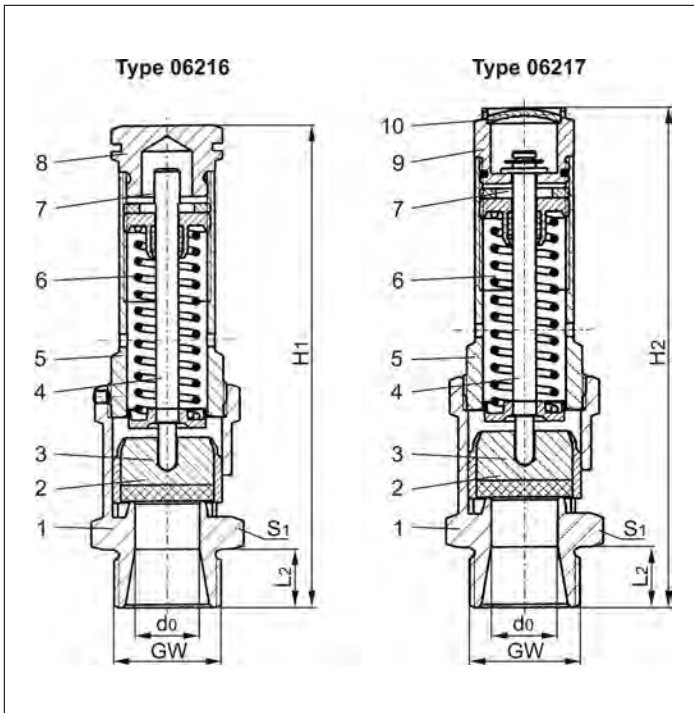


### Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable pressure vessels. Approved for air and similar gases.

Working temperature: -40°C / -40°F (233K) up to +200°C / +392°F (473K)

Materials	DIN EN	ASME Code Case 1750-20
1 Body	CW617N	EN 12165
2 Valve seal	FPM (Viton-GLT)	
3 Disc	CW614N	EN 12164
4 Stem	CW614N	EN 12164
5 Bonnet	CW614N	EN 12164
6 Spring	1.1200	A 576 Grade 1045
7 Stem guide	PTFE	
8 Cap	CW614N	EN 12164
9 Lifting device	CW614N	EN 12164
10 Closing cap	CW507L	B 30 UNS C26800



**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/EG (PED).



Marking acc. to ASME Code Section VIII will only be carried out by written notice on purchase order.



Seat tightness test shall be carried out at 95% of set pressure for a time of 10 seconds by audible discharge test method. No audible discharge shall be determined.

Type 06216, Type 06217	Technical data						
Nominal size	GW	1/2	3/4	1	1-1/4	1-1/2	2
Orifice	d <sub>0</sub>	12	15	20	25	32	40
Dimension code	.X.	0400	0600	1000	1200	1400	2000
Set pressure range	bar	0.2-25	0.2-30	0.2-30	0.2-22	0.2-16	0.2-12
Height	H	109	126	153	175	202	230
Length	L <sub>2</sub>	14	16	18	20	22	25
Wrench size across flats	S <sub>1</sub>	27	32	41	50	55	70
Weight	ca. kg	0.25	0.41	0.72	1.23	1.73	3.09
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.82	0.83	0.73	0.71	0.69	0.66

Dimensions in mm.

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Edition 2012-07

## Safety Valves

### Type 06216, Type 06217



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**HEROSE**



#### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/2	3/4	1	1-1/4	1-1/2	2
	d <sub>0</sub> (mm)	12.0	15.0	20.0	25.0	32.0	40.0
A <sub>0</sub> (mm <sup>2</sup> )	113.1	176.7	314.2	490.9	804.3	1256.6	
Medium	<b>Air</b>						
<b>0.2</b>		62	92	158	239	385	594
<b>0.5</b>		84	135	241	314	497	722
<b>1.0</b>		124	296	307	459	741	1058
<b>2.0</b>		200	317	495	752	1205	1746
<b>3.0</b>		276	431	674	1024	1630	2436
<b>4.0</b>		346	541	846	1285	2046	3057
<b>5.0</b>		416	650	1017	1546	2461	3678
<b>6.0</b>		487	760	1189	1807	2877	4300
<b>7.0</b>		557	870	1361	2068	3293	4921
<b>8.0</b>		627	980	1533	2329	3709	5542
<b>9.0</b>		698	1090	1705	2590	4124	6164
<b>10.0</b>		768	1200	1876	2851	4540	6785
<b>12.0</b>		909	1420	2220	3374	5372	8027
<b>14.0</b>		1049	1639	2564	3896	6203	-
<b>16.0</b>		1190	1859	2907	4418	7034	-
<b>18.0</b>		1331	2079	3251	4940	-	-
<b>20.0</b>		1471	2298	3595	5462	-	-
<b>22.0</b>		1612	2518	3938	5984	-	-
<b>24.0</b>		1752	2738	4282	-	-	-
<b>25.0</b>		1823	2848	4454	-	-	-
<b>26.0</b>		-	2958	4625	-	-	-
<b>28.0</b>		-	3177	4969	-	-	-
<b>30.0</b>		-	3397	5313	-	-	-

# Safety Valves

## Type 06218, Type 06219



**CRYONICA**  
криогенные технологии



**Safety Valves, brass,  
type tested TÜV-SV.1090. D/G**

Standard safety valve  
with PTFE O-Ring valve seal,  
open bonnet, with discharge holes  
Inlet: male thread type G (BSPP) acc. to ISO 228/1

**Part No. 06218.X.0000**

**Part No. 06219.X.0000**

with lifting device

Available options - on request only:

- external parts nickel plated

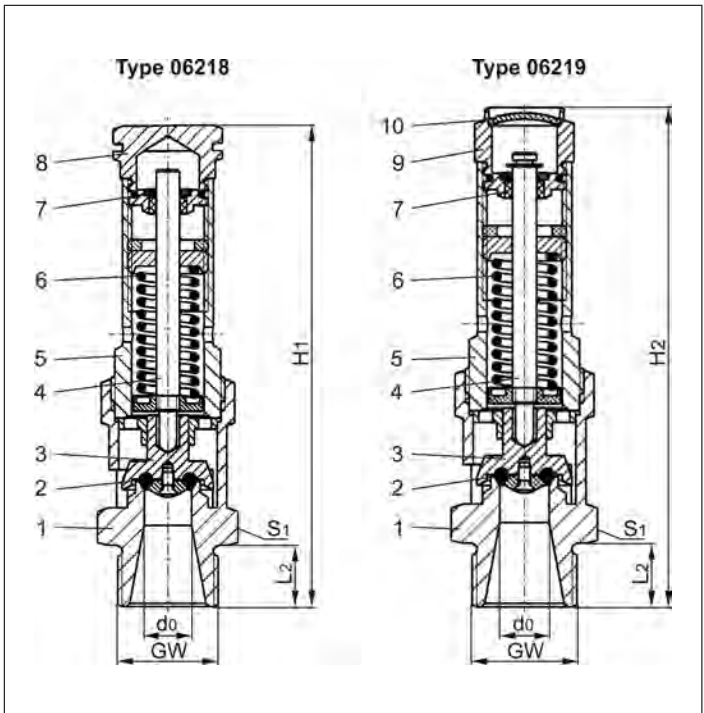
### Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable pressure vessels. Approved for air and similar gases.

Working temperature: -60°C / -76°F (213K) up to +150°C / +302°F (423K)



Materials	DIN EN	ASME Code Case 1750-20
1 Body	CW617N	EN 12165
2 Valve seal	PTFE O-Ring	
3 Disc	CW614N	EN 12164
4 Stem	CW614N	EN 12164
5 Bonnet	CW614N	EN 12164
6 Spring	1.4571	A 276 Grade 316Ti
7 Stem guide	PTFE	
8 Cap	CW614N	EN 12164
9 Lifting device	CW614N	EN 12164
10 Closing cap	CW507L	B 30 UNS C26800



**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/EG (PED).



Type 06218 & 06219	Technical data		
<b>Nominal size</b>	<b>GW</b>	<b>1/2</b>	<b>3/4</b>
Orifice	d <sub>0</sub>	12.5	12.5
Dimension code	.X.	0400	0600
Set pressure range	bar	3.0-16.0	3.5-17.0
Height	H <sub>1</sub>	102	121.5
Height	H <sub>2</sub>	106	126
Length	L <sub>2</sub>	14	16
Wrench size across flats	S <sub>1</sub>	27	32
Weight	ca. kg	0.25	0.40
Coeff. of discharge	α <sub>w</sub>	0.26	0.75

Dimensions in mm.

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# Safety Valves

## Type 06218, Type 06219



**CRYONICA**  
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**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/2	3/4
	d <sub>0</sub> (mm)	12.5	12.5
	A <sub>0</sub> (mm <sup>2</sup> )	122.7	122.7
	Medium	<b>Air</b>	
0.5	-	-	
1.0	-	-	
2.0	-	-	
3.0	90	-	
3.5	102	305	
4.0	113	339	
5.0	136	408	
6.0	159	477	
7.0	181	546	
8.0	204	615	
9.0	227	684	
10.0	250	753	
11.0	275	822	
12.0	300	891	
14.0	341	1029	
16.0	389	1167	
17.0	-	1236	
18.0	-	-	
20.0	-	-	
22.0	-	-	



# Safety Valves

## Type 06227

Safety Valves, brass,  
type tested TÜV-SV.1122. D/G

Full lift safety valve  
with FPM valve seal, open bonnet,  
with discharge holes, with lifting device  
Inlet: male thread type G (BSPP) acc. to ISO 228/1

**Part No. 06227.X.0000**

Available options - on request only:

- discharge holes with protection cap
- stainless steel spring - material 1.4571
- external parts nickel plated

### Applications:

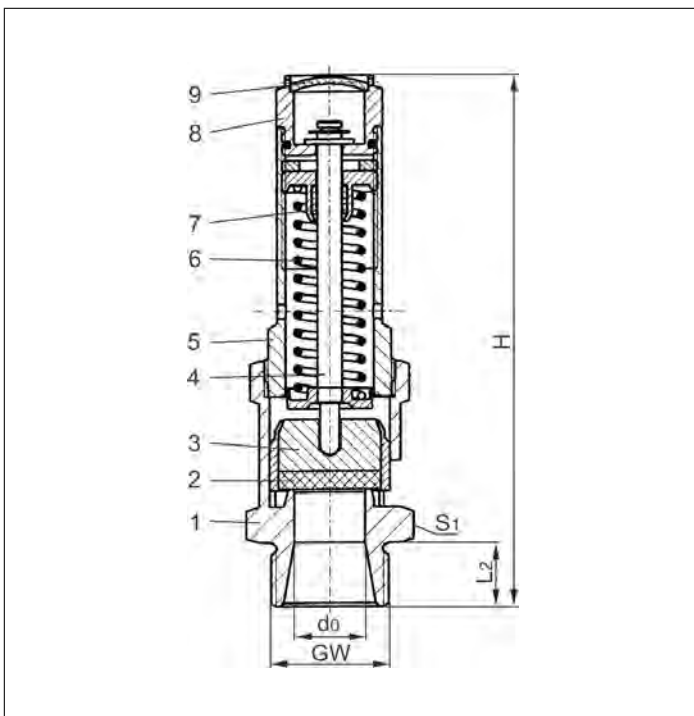
Provided as safety device for protection against excessive pressure in stationary and moveable pressure vessels. Approved for air and similar gases.

Working temperature: -25°C / -13°F (248K) up to +200°C / +392°F (473K)

Materials	DIN EN	ASME Code Case 1750-20
1 Body	CW617N	EN 12165
2 Valve seal	FPM (Viton)	
3 Disc	CW614N	EN 12164
4 Stem	CW614N	EN 12164
5 Bonnet	CW614N	EN 12164
6 Spring	1.1200	A 576 Grade 1045
7 Stem guide	PTFE	
8 Lifting device	CW614N	EN 12164
9 Closing cap	CW507L	B 30 UNS C26800

**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/EG (PED).



Type 06227	Technical data	
Nominal size	<b>GW</b>	<b>1/2</b>
Orifice	d <sub>0</sub>	12
Dimension code	.X.	0400
Set pressure range	bar	3.5-13
Height	H	107
Length	L <sub>2</sub>	14
Wrench size across flats	S <sub>1</sub>	27
Weight	ca. kg	0.25
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.48

Dimensions in mm.

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# Safety Valves

## Type 06227



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### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/2
	d <sub>0</sub> (mm)	12.0
	A <sub>0</sub> (mm <sup>2</sup> )	113.1
	Medium	<b>Air</b>
3.5		173
4.0		193
5.0		232
6.0		270
7.0		309
8.0		348
9.0		387
10.0		426
11.0		464
12.0		503
13.0		542

# Safety Valves

## Type 06260, Type 06265



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, brass, type tested TÜV-SV.1090. D/G**

Standard safety valve,  
Metal to metal seated, open bonnet, with discharge holes  
Inlet: male thread type G (BSPP) acc. to ISO 228/1

**Part No. 06260.X.0000**

**Part No. 06265.X.0000**

with lifting device

Available options - on request only:

- external parts nickel plated

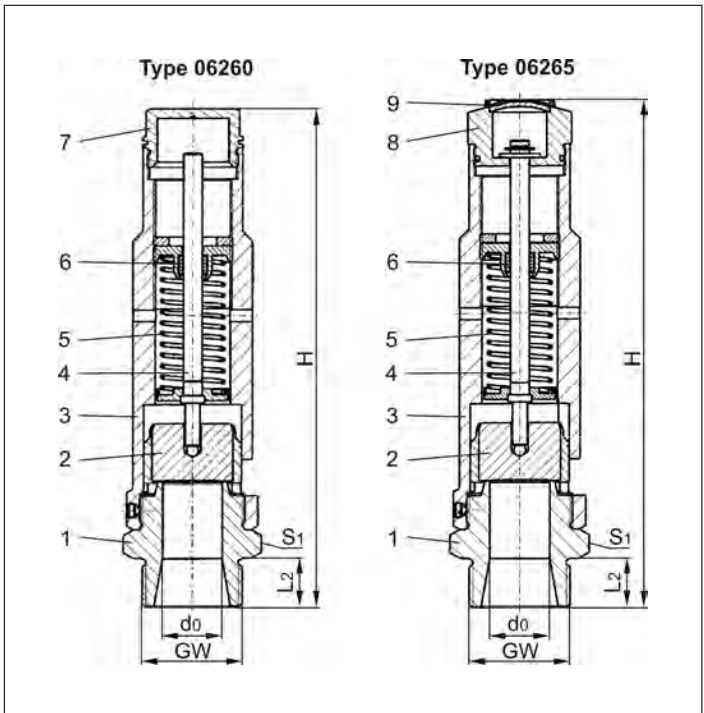


### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels and compressors. Approved for non-toxic gases and vapours.

Working temperature: -10°C / +14°F (263K) up to +260°C / +500°F (533K)

Materials	DIN EN	ASTM
1 Inlet body	1.4104	A 276 Grade 430F
2 Disc	1.4122	no reference
3 Body & Bonnet	CW509L	B 111 UNS C28000
4 Stem	CW453K	B 103 UNS C52100
5 Spring	1.4571	A 276 Grade 316Ti
6 Stem guide	PTFE	
7 Cap	CW614N	B 283 UNS C38500
8 Lifting device	CW614N	B 283 UNS C38500
9 Closing cap	CW507L	B 111 UNS C27000



**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/EG (PED).



Technical data	Type 06260				Type 06265			
	GW	1-1/4	1-1/2	2	1-1/4	1-1/2	2	
Nominal Size	d <sub>0</sub>	25	32	40	25	32	40	
Orifice	.X.	1200	1400	2000	1200	1400	2000	
Dimension code	bar	1.0-11.0	1.0-11.0	3.7 & 9.3	1.0-11.0	1.0-11.0	3.7 & 9.3	
Set pressure range	H	207	229	270	209	233	270	
Height	L <sub>2</sub>	20	22	25	20	22	25	
Length	S <sub>1</sub>	50	55	70	50	55	70	
Wrench size across flats	ca. kg	2.0	2.6	5.0	2.05	2.8	5.2	
Weight	α <sub>w</sub>	0.71	0.71	0.69	0.71	0.71	0.69	
Coeff. of discharge from 3.0 bar								

Dimensions in mm.

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## Safety Valves

### Type 06260, Type 06265



**CRYONICA**  
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**HEROSE**



#### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**The capacity indicated below is for a fully opened valve.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW	1-1/4	1-1/2	2
	$d_0$ (mm)	25.0	32.0	40.0
	$A_0$ (mm <sup>2</sup> )	490.9	804.3	1256.6
	Medium	Air		
1.0		466	764	-
2.0		752	1232	-
3.0		1024	1677	-
3.7		1206	1977	3001
4.0		1285	2105	-
5.0		1546	2533	-
6.0		1807	2961	-
7.0		2068	3388	-
8.0		2329	3816	-
9.0		2590	4244	-
9.3		2669	4372	6639
10.0		2851	4672	-
11.0		3112	5099	-

# Safety Valves

## Type 06505

Safety Valves, brass,  
type tested TÜV-SV.948 F/K/S

Standard safety valve  
with FPM valve seal, closed bonnet,  
with diaphragm for protection of the spring, with lifting device,  
discharge holes with protection cap  
Inlet: male thread type G (BSPP) acc. to ISO 228/1

**Part No. 06505.X.1000**

Available options - on request only:  
· external parts nickel plated

### Applications:

Provided as safety device for protection against excessive pressure in vehicle containers and pressure vessels. Approved for liquid, granular and powdery goods.

Working temperature: -40°C / -40°F (233K) up to +200°C / +392°F (473K)

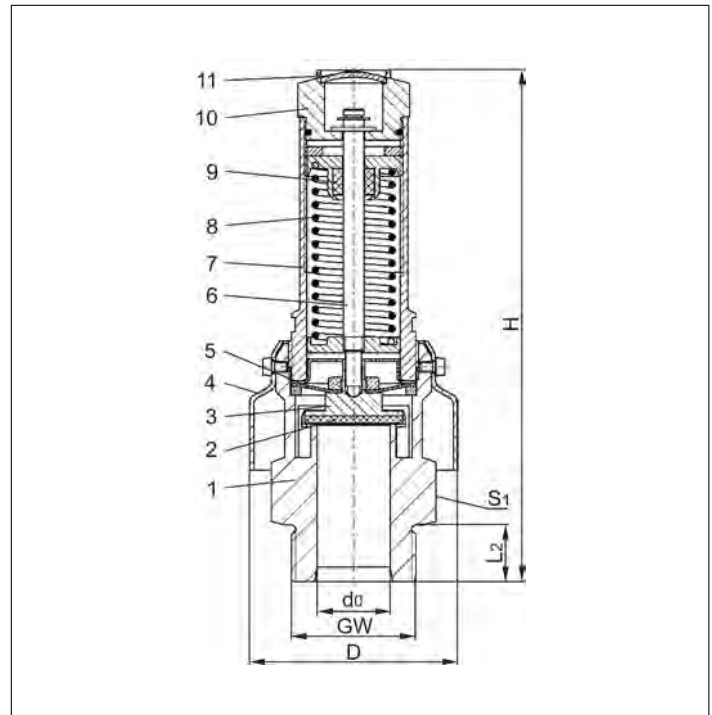
Materials	DIN EN	ASTM
1 Body	CW614N	B 283 UNS C38500
2 Valve seal	FPM (Viton-GLT)	
3 Disc	CW614N	B 283 UNS C38500
4 Protection cap	1.4301	A 276 Grade 304
5 Diaphragm	Silicon	
6 Stem	CW614N	B 283 UNS C38500
7 Bonnet	CW614N	B 283 UNS C38500
8 Spring	1.4571	A 276 Grade 316Ti
9 Stem guide	PTFE	
10 Lifting device	CW614N	B 283 UNS C38500
11 Closing cap	CW507L	B 30 UNS C26800

**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/EG (PED).



**CRYONICA**  
криогенные технологии



Type 06505	Technical data						
Nominal size	GW	1	1-1/4	1-1/2	1-1/4	1-1/2	2
Orifice	d <sub>0</sub>	24	28	28	31	31	48
Dimension code	.X.	1000	2812	2814	3112	3114	2000
Set pressure range	bar	0.5-4.5	0.5-4.5	0.5-4.5	0.5-3.5	0.5-3.5	0.5-3.5
Height	H	194	198	198	191	191	232
Length	L <sub>2</sub>	18	22	22	22	22	25
Protection cap diameter	D	80	80	80	80	80	115
Wrench size across flats	S <sub>1</sub>	55	55	55	55	55	85
Weight	ca. kg	1.75	1.85	1.90	2.00	2.30	4.5
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.62	0.58	0.58	0.68	0.68	0.52

Dimensions in mm.

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Edition 2012-07

# Safety Valves

## Type 06505



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**The capacity indicated below is for a fully opened valve.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW	1	1-1/4	1-1/2	1-1/4	1-1/2	2
	$d_0$ (mm)	24.0	28.0	28.0	31.0	31.0	48.0
	$A_0$ (mm <sup>2</sup> )	452.4	615.8	615.8	754.8	754.8	1810.0
	Medium	Air					
0.5		236	295	295	448	448	830
0.6		267	321	321	490	490	943
0.7		297	352	352	533	533	1056
0.8		327	390	390	577	577	1145
0.9		351	419	419	622	622	1232
1.0		369	449	449	669	669	1242
1.2		407	506	506	754	754	1372
1.4		454	575	575	841	841	1502
1.5		478	605	605	894	894	1582
1.6		502	637	637	931	931	1666
1.8		551	700	700	1024	1024	1836
2.0		601	765	765	1120	1120	2050
2.2		643	818	818	1197	1197	2191
2.4		684	870	870	1275	1275	2422
2.6		737	939	939	1353	1353	2542
2.8		779	992	992	1431	1431	2715
3.0		821	1046	1046	1508	1508	2755
3.2		863	1099	1099	1584	1584	2896
3.4		905	1153	1153	1661	1661	3037
3.5		926	1180	1180	1700	1700	3107
3.6		952	1214	1214	-	-	-
3.8		989	1260	1260	-	-	-
4.0		1031	1313	1313	-	-	-
4.2		1074	1367	1367	-	-	-
4.5		1137	1447	1447	-	-	-

# Safety Valves

## Type 06506

Safety Valves, stainless steel,  
type tested TÜV-SV.948. F/K/S

Standard safety valve  
with FPM valve seal, closed bonnet,  
with diaphragm for protection of the spring, with lifting device,  
discharge holes with protection cap  
Inlet: male thread type G (BSPP) acc. to ISO 228/1

**Part No. 06506.X.1000**



**CRYONICA**  
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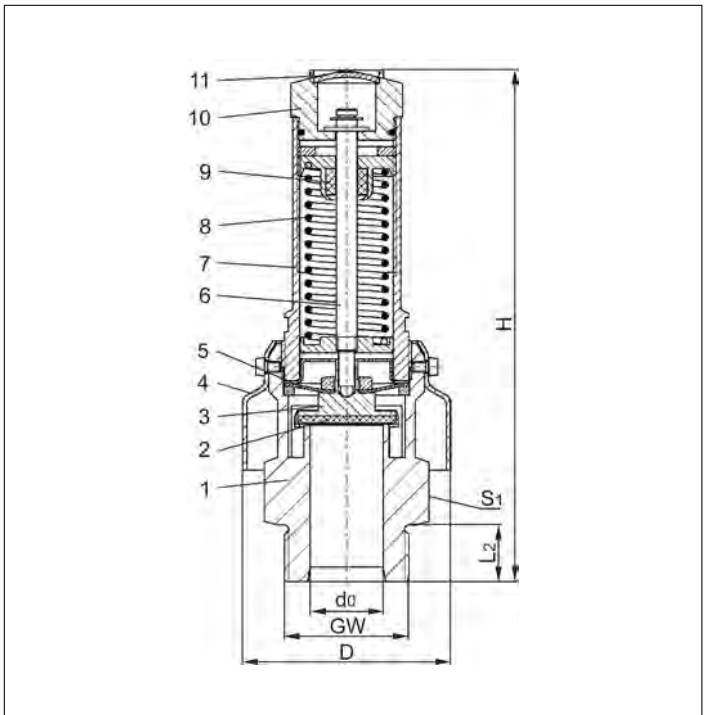


### Applications:

Provided as safety device for protection against excessive pressure in vehicle containers and pressure vessels. Approved for liquid, granular and powdery goods.

Working temperature: -40°C / -40°F (233K) up to +200°C / +392°F (473K)

Materials	DIN EN	ASME / ASTM
1 Body	1.4408	SA-351.CF 8M
2 Valve seal	FPM (Viton-GLT)	
3 Disc	1.4401	SA-479.316
4 Protection cap	1.4301	SA-479.304
5 Diaphragm	Silicon	
6 Stem	1.4401	SA-479.316
7 Bonnet	1.4401	SA-479.316
8 Spring	1.4571	SA-479.316Ti
9 Stem guide	PTFE	
10 Lifting device	1.4401	SA-479.316
11 Closing cap	1.4401	SA-479.316



**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/EG (PED).



Type 06506	Technical data (GW 2 in preparation)					
	Nominal size	GW	1	1-1/4	1-1/2	2
Orifice	d <sub>0</sub>	24	31	31	31	-
Dimension code	.X.	1000	3112	3114	3114	-
Set pressure range	bar	0.5-6.0	0.5-6.0	0.5-6.0	0.5-6.0	-
Height	H	194	191	191	191	-
Length	L <sub>2</sub>	18	22	22	22	-
Protection cap diameter	D	80	80	80	80	-
Wrench size across flats	S <sub>1</sub>	55	55	55	55	-
Weight	ca. kg	1.75	2.00	2.30	2.30	-
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.62	0.68	0.68	0.68	-
Coeff. of discharge from 3.5 bar	α <sub>w</sub>	-	0.65	0.65	0.65	-
Coeff. of discharge from 4.5 bar	α <sub>w</sub>	0.57	-	-	-	-

Dimensions in mm.

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# Safety Valves

## Type 06506



**CRYONICA**  
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**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1	1-1/4	1-1/2	2
	d <sub>0</sub> (mm)	24.0	31.0	31.0	-
A <sub>0</sub> (mm <sup>2</sup> )	452.4	754.8	754.8	-	-
Medium	<b>Air</b>				
0.5		236	448	448	-
0.6		267	490	490	-
0.7		297	533	533	-
0.8		327	577	577	-
0.9		351	622	622	-
1.0		369	669	669	-
1.2		407	754	754	-
1.4		454	841	841	-
1.5		478	894	894	-
1.6		502	931	931	-
1.8		551	1024	1024	-
2.0		601	1120	1120	-
2.2		643	1197	1197	-
2.4		684	1275	1275	-
2.6		737	1353	1353	-
2.8		779	1431	1431	-
3.0		821	1508	1508	-
3.2		863	1584	1584	-
3.4		905	1661	1661	-
3.5		926	1625	1625	-
3.6		952	1661	1661	-
3.8		989	1735	1735	-
4.0		1031	1808	1808	-
4.2		1074	1882	1882	-
4.4		1118	1955	1955	-
4.6		1066	2029	2029	-
4.8		1105	2102	2102	-
5.0		1144	2176	2176	-
5.2		1182	2249	2249	-
5.4		1221	2323	2323	-
5.6		1260	2396	2396	-
5.8		1298	2470	2470	-
6.0		1337	2543	2543	-



# Safety Valves

## Type 06370



**CRYONICA**  
криогенные технологии



**Safety Valves, angle type, bronze, type tested TÜV-SV.749. F**

Standard safety valve  
with soft valve seal for fluids, open bonnet,  
with diaphragm for protection of the spring, with lifting device  
In- and outlet: female thread type G (BSPP) acc. to ISO 228/1

**Part No. 06370.X.0000**

with NBR valve seal

**Part No. 06370.X.0700**

with FPM valve seal

Available options - on request only:

- stainless steel spring - material 1.4571
- external parts nickel plated



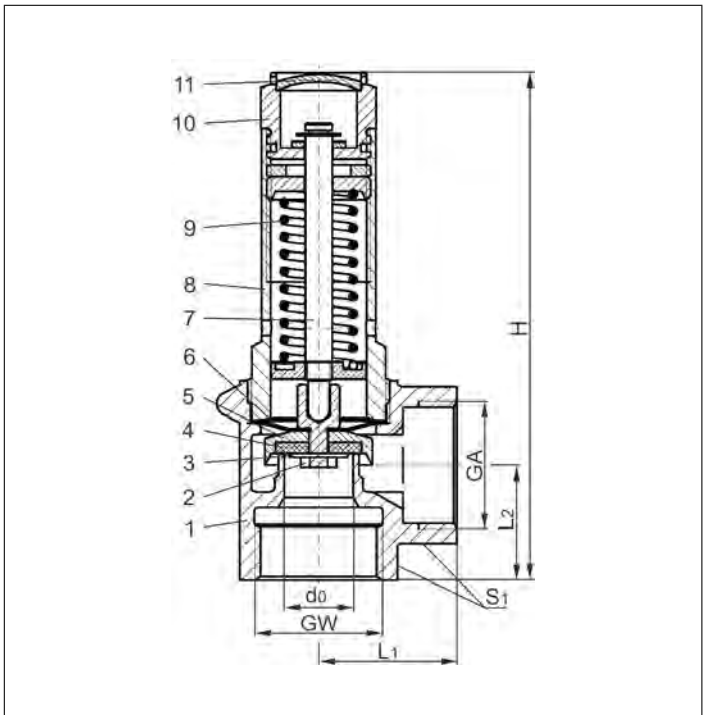
### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.

Approved for non-adhesive fluids, which are not vaporized during blow off.

Working temperature: -10°C / +14°F (263K) up to +110°C / +230°F (383K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Disc nut	CW614N	B 283 UNS C38500
3 Plate	CW507L	B 30 UNS C26800
4 Valve seal	NBR or FPM	
5 Disc	CW614N	B 283 UNS C38500
6 Diaphragm	NBR	
7 Stem	CW614N	B 283 UNS C38500
8 Bonnet	CW614N	B 283 UNS C38500
9 Spring	1.1200	A 576 Grade 1045
10 Lifting device	CW614N	B 283 UNS C38500
11 Closing cap	CW507L	B 30 UNS C26800



**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/EG (PED).



Type 06370	Technical data						
Nominal size	GW	1/2	3/4	1	1-1/4	1-1/2	2
Orifice	d <sub>0</sub>	12	15	18	20	24	28
Dimension code	.X.	0400	0600	1000	1200	1400	2000
Set pressure range	bar	1.0-16	1.0-16	1.0-16	1.0-16	1.0-16	1.0-16
Outlet	GA	1/2	3/4	1	1-1/4	1-1/2	2
Height	H	92	111	132	152	175	200
Length	L <sub>1</sub>	25	30	36	40	48	56
Length	L <sub>2</sub>	20	25	30	35	40	48
Wrench size across flats	S <sub>1</sub>	27	32	41	50	58	70
Weight	ca. kg	0.24	0.40	0.70	1.07	1.65	2.65
Coeff. of discharge	α <sub>w</sub>	0.20	0.25	0.31	0.39	0.42	0.38

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06370



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Water** in kg/h at 20°C

**The capacity indicated below is for a fully opened valve.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW	1/2	3/4	1	1-1/4	1-1/2	2
	$d_0$ (mm)	12.0	15.0	18.0	20.0	24.0	28.0
	$A_0$ (mm <sup>2</sup> )	113.1	176.7	254.5	314.2	452.4	615.8
	Medium	Water					
1.0		1207	2357	4213	6543	10146	12496
2.0		1706	3333	5958	9254	14349	17671
3.0		2090	4082	7297	11334	17574	21643
4.0		2413	4713	8426	13087	20293	24991
5.0		2698	5270	9420	14632	22688	27941
6.0		2956	5773	10320	16028	24853	30608
7.0		3193	6235	11146	17312	26845	33060
8.0		3413	6666	11916	18508	28698	35343
9.0		3620	7070	12639	19630	30439	37487
10.0		3816	7453	13322	20692	32085	39515
12.0		4180	8164	14594	22667	35148	43286
14.0		4515	8818	15763	24483	37964	46754
16.0		4827	9427	16852	26174	40585	49983

# Safety Valves

## Type 06376



**CRYONICA**  
криогенные технологии



**Safety Valves, angle type, bronze, type tested TÜV-SV.749. F**

Standard safety valve  
with soft valve seal for fluids, open bonnet,  
with diaphragm for protection of the spring, with lifting device  
In- and Outlet: female thread type G (BSPP) acc. to ISO 228/1

### Part No. 06376.X.0000

with NBR valve seal for following pressure range

**Nom. size 1/2":** 1.0 - 11.49 bar,    **Nom. size 3/4":** 1.0 - 12.49 bar  
**Nom. size 1":** 1.0 - 8.99 bar,    **Nom. size 1-1/4":** 1.0 - 10.49 bar

with FPM valve seal for following pressure range

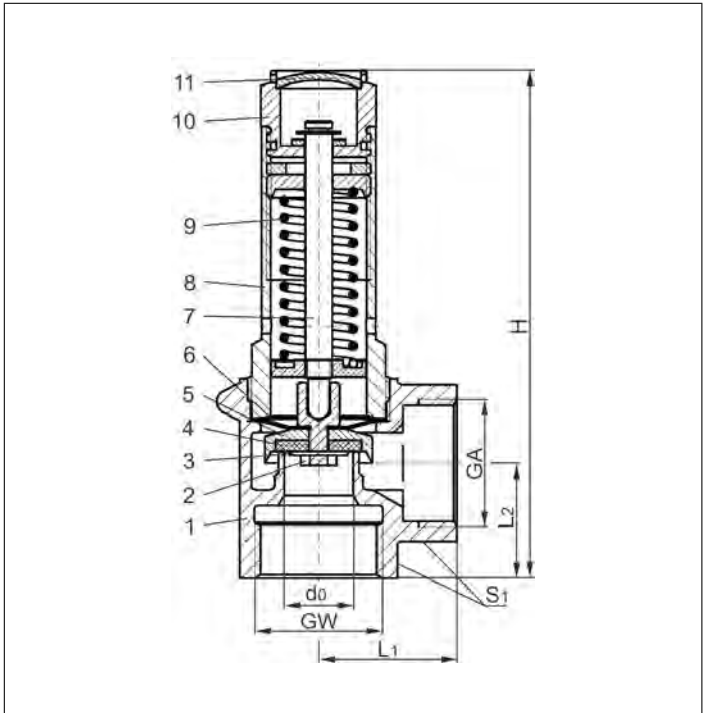
**Nom. size 1/2":** 11.5 - 16.0 bar,    **Nom. size 3/4":** 12.5 - 16.0 bar  
**Nom. size 1":** 9.0 - 16.0 bar,    **Nom. size 1-1/4":** 10.5 - 16.0 bar



### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.  
Approved for non-toxic, non-inflammable fluids - medium contact parts are seawater resistant.  
Working temperature: -10°C / +14°F (263K) up to +110°C / +230°F (383K)

Materials	DIN EN	ASTM
1 Body	CC480K	C90700
2 Disc nut	1.4571/A4	similar A 194
3 Plate	Copper	
4 Valve seal	NBR or FPM	
5 Disc	CW452K	B 103 UNS C51900
6 Diaphragm	NBR	
7 Stem	CW614N	B 283 UNS C38500
8 Bonnet	CW614N	B 283 UNS C38500
9 Spring	1.4571	A 276 Grade 316Ti
10 Lifting device	CW614N	B 283 UNS C38500
11 Closing cap	CW507L	B 30 UNS C26800



**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/EG (PED).



Type 06376	Technical data				
Nominal size	GW	1/2	3/4	1	1-1/4
Orifice	d <sub>0</sub>	12	15	18	20
Dimension code	.X.	0400	0600	1000	1200
Set pressure range	bar	1.0-16	1.0-16	1.0-16	1.0-16
Outlet	GA	1/2	3/4	1	1-1/4
Height	H	92	111	132	152
Length	L <sub>1</sub>	25	30	36	40
Length	L <sub>2</sub>	20	25	30	35
Wrench size across flats	S <sub>1</sub>	27	32	41	50
Weight	ca. kg	0.24	0.40	0.70	1.07
Coefficient of discharge	α <sub>w</sub>	0.20	0.25	0.31	0.39

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06376



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Water** in kg/h at 20°C

**The capacity indicated below is for a fully opened valve.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW	1/2	3/4	1	1-1/4
	$d_0$ (mm)	12.0	15.0	18.0	20.0
	$A_0$ (mm <sup>2</sup> )	113.1	176.7	254.5	314.2
	Medium	<b>Water</b>			
<b>1.0</b>		1207	2357	4213	6543
<b>2.0</b>		1706	3333	5958	9254
<b>3.0</b>		2090	4082	7297	11334
<b>4.0</b>		2413	4713	8426	13087
<b>5.0</b>		2698	5270	9420	14632
<b>6.0</b>		2956	5773	10320	16028
<b>7.0</b>		3193	6235	11146	17312
<b>8.0</b>		3413	6666	11916	18508
<b>9.0</b>		3620	7070	12639	19630
<b>10.0</b>		3816	7453	13322	20692
<b>12.0</b>		4180	8164	14594	22667
<b>14.0</b>		4515	8818	15763	24483
<b>16.0</b>		4827	9427	16852	26174

# Safety Valves

## Type 06380



**CRYONICA**  
криогенные технологии



### Safety Valves, angle type, bronze, type tested TÜV-SV.749. D/G

Standard safety valve

with soft valve seal, open bonnet, with lifting device

In- and outlet: female thread type G (BSPP) acc. to ISO 228/1

#### Part No. 06380.X.0000

with FPM valve seal for air and similar gases

Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

#### Part No. 06380.X.0300

with PTFE valve seal for air and similar gases

and saturated steam from 2.0 up to 10.0 bar.

Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

#### Part No. 06380.X.0600

with EPDM valve seal for air and similar gases

and saturated steam from 0.2 up to 3.5 bar.

Working temperature: -10°C / +14°F (263K) up to +150°C / +302°F (423K)

Available options - on request only:

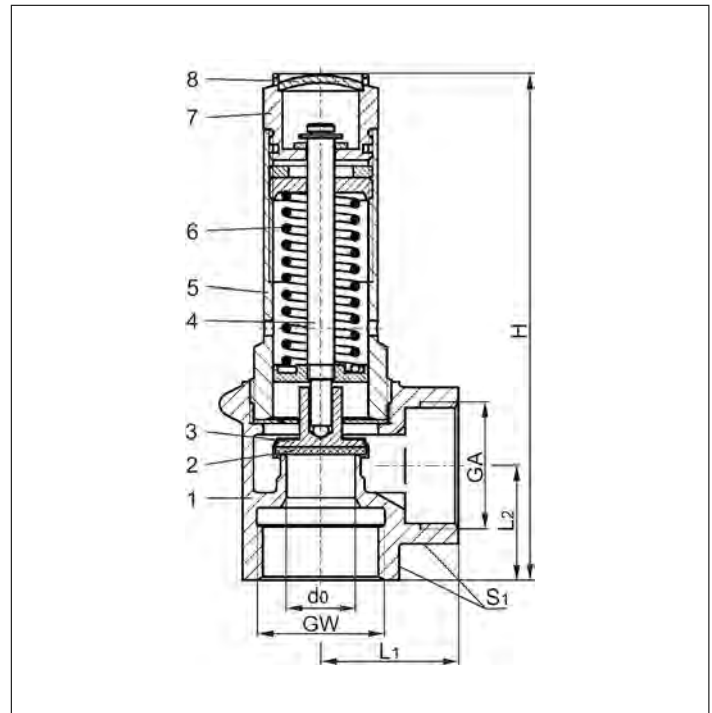
- stainless steel spring - material 1.4571, external parts nickel plated

#### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.



Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	FPM, PTFE or EPDM	
3 Disc	CW614N	B 283 UNS C38500
4 Stem	CW614N	B 283 UNS C38500
5 Bonnet	CW614N	B 283 UNS C38500
6 Spring	1.1200	A 576 Grade 1045
7 Lifting device	CW614N	B 283 UNS C38500
8 Closing cap	CW507L	B 30 UNS C26800



**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/EG (PED).



Type 06380	Technical data						
Nominal size	GW	1/2	3/4	1	1-1/4	1-1/2	2
Orifice	d <sub>0</sub>	12	15	18	20	24	28
Dimension code	.X.	0400	0600	1000	1200	1400	2000
Set pressure range FPM seal	bar	0.2-20	0.2-20	0.2-20	0.2-20	0.2-16	0.2-16
Set pressure range PTFE seal	bar	0.2-20	0.5-20	0.2-20	0.4-20	0.2-16	1.0-16
Set pressure range EPDM seal	bar	0.2-8	0.2-8	0.2-9	0.2-9	0.2-8	0.2-8
Outlet	GA	1/2	3/4	1	1-1/4	1-1/2	2
Height	H	92	111	132	152	175	200
Length	L <sub>1</sub>	25	30	36	40	48	56
Length	L <sub>2</sub>	20	25	30	35	40	48
Wrench size across flats	S <sub>1</sub>	27	32	41	50	58	70
Weight	ca. kg	0.24	0.40	0.70	1.07	1.65	2.65
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.47	0.37	0.52	0.57	0.52	0.50

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06380



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Saturated steam** in kg/h

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 (ü)	GW	1/2	3/4	1	1-1/4	1-1/2	2	1/2	3/4	1	1-1/4	1-1/2	2
	d <sub>0</sub> (mm)	12.0	15.0	18.0	20.0	24.0	28.0	12.0	15.0	18.0	20.0	24.0	28.0
	A <sub>0</sub> (mm <sup>2</sup> )	113.1	176.7	254.5	314.2	452.4	615.8	113.1	176.7	254.5	314.2	452.2	615.8
	Medium	Air						Saturated steam					
<b>0.2</b>		28	40	69	96	122	158	27	38	66	91	116	151
<b>0.4</b>		43	58	106	146	188	250	35	48	85	115	151	201
<b>0.5</b>		47	62	116	157	207	275	38	53	95	129	170	226
<b>1.0</b>		68	89	172	231	306	408	54	67	137	183	243	323
<b>2.0</b>		114	139	284	392	505	660	89	105	222	307	323	517
<b>3.0</b>		156	192	389	526	691	904	121	141	302	409	537	703
<b>4.0</b>		196	241	488	660	867	1135	151	176	376	509	669	875
<b>5.0</b>		236	290	587	794	1043	1366	181	210	450	609	801	1048
<b>6.0</b>		276	339	686	929	1220	1596	211	246	525	711	934	1222
<b>7.0</b>		315	388	785	1063	1396	1827	241	280	600	812	1067	1397
<b>8.0</b>		355	437	884	1197	1572	2058	270	314	672	910	1195	1564
<b>9.0</b>		395	486	984	1331	1748	2288	300	349	746	1009	1326	1735
<b>10.0</b>		435	535	1083	1465	1925	2519	329	382	821	1109	1457	1907
<b>12.0</b>		515	633	1281	1733	2277	2980	-	-	-	-	-	-
<b>14.0</b>		594	731	1479	2002	2629	3441	-	-	-	-	-	-
<b>16.0</b>		674	829	1677	2270	2982	3903	-	-	-	-	-	-
<b>18.0</b>		753	927	1876	-	-	-	-	-	-	-	-	-
<b>20.0</b>		833	1025	2074	-	-	-	-	-	-	-	-	-

# Safety Valves

## Type 06601



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, angle type, bronze, type tested TÜV-SV.1080. D/G**

Standard safety valve  
with O-ring valve seal,  
closed bonnet, with lifting device  
with enlarged outlet  
In- and outlet: female thread type G (BSPP) acc. to ISO 228/1

**Part No. 06601.1204.0000**

Available options - on request only:

- external parts nickel plated



### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.

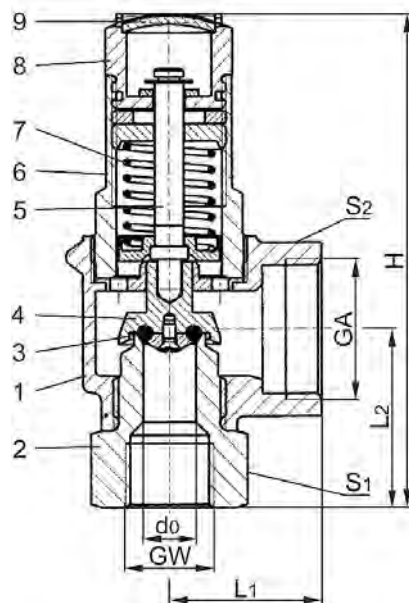
Approved for non-toxic gases and vapours.

Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Inlet body	CW509L	B 111 UNS C28000
3 O-ring	PTFE	
4 Disc	CW614N	B 283 UNS C38500
5 Stem	CW614N	B 283 UNS C38500
6 Bonnet	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Lifting device	CW614N	B 283 UNS C38500
9 Closing cap	CW507L	B 30 UNS C26800

**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/EG (PED).



Type 06601	Technical data	
<b>Nominal size</b>	<b>GW</b>	<b>1/2</b>
Orifice	d <sub>0</sub>	12.5
Set pressure range	bar	5.0-10
Outlet	GA	1
Height	H	117
Length	L <sub>1</sub>	36
Length	L <sub>2</sub>	42
Wrench size across flats	S <sub>1</sub>	32
Wrench size across flats	S <sub>2</sub>	41
Weight	ca. kg	0.65
Coefficient of discharge	α <sub>w</sub>	0.42

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06601



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/2
	d <sub>0</sub> (mm)	12.5
	A <sub>0</sub> (mm <sup>2</sup> )	122.7
	Medium	<b>Air</b>
5.0		229
5.5		248
6.0		267
6.5		286
7.0		306
7.5		325
8.0		344
8.5		364
9.0		383
9.5		402
10.0		422



# Safety Valves

## Type 06602



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, angle type, bronze, type tested TÜV-SV.1080. D/G**

Standard safety valve  
with O-ring valve seal,  
closed bonnet, with lifting device,  
with enlarged outlet  
In- and outlet: female thread type G (BSPP) acc. to ISO 228/1

**Part No. 06602.1204.0000**

Available options - on request only:

- external parts nickel plated

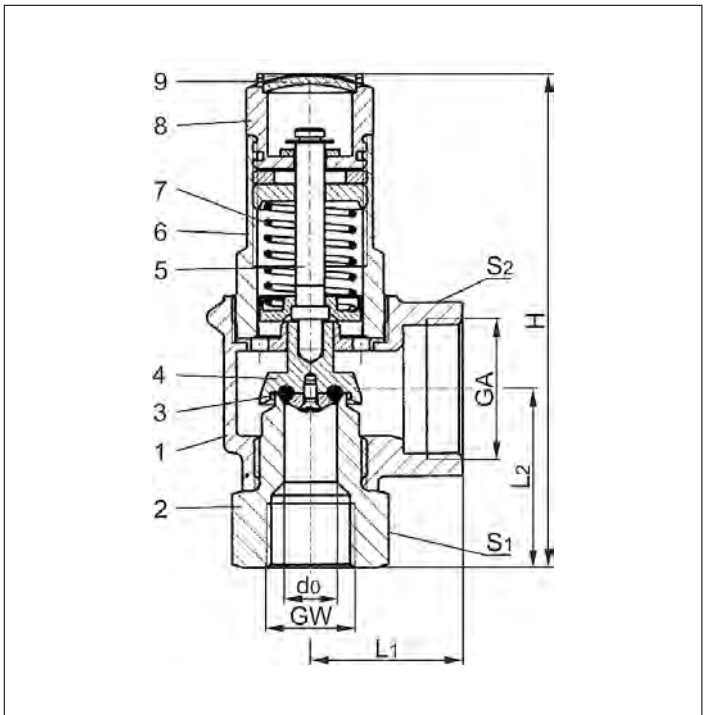


### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels and steam boilers. Approved for non-toxic gases, vapours and for saturated steam.

Working temperature: -10°C / +14°F (263K) up to +130°C / +266°F (403K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Inlet body	CW509L	B 111 UNS C28000
3 O-ring	EPDM	
4 Disc	CW614N	B 283 UNS C38500
5 Stem	CW614N	B 283 UNS C38500
6 Bonnet	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Lifting device	CW614N	B 283 UNS C38500
9 Closing cap	CW507L	B 30 UNS C26800



**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/EG (PED).



Type 06602	Technical data	
<b>Nominal size</b>	<b>GW</b>	<b>1/2</b>
Orifice	d <sub>0</sub>	12.5
Set pressure range	bar	1.2-1.3
Outlet	GA	1
Height	H	117
Length	L <sub>1</sub>	36
Length	L <sub>2</sub>	42
Wrench size across flats	S <sub>1</sub>	32
Wrench size across flats	S <sub>2</sub>	41
Weight	ca. kg	0.65
Coefficient of discharge	α <sub>w</sub>	0.82

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06602



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Saturated steam** in kg/h

**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 (ü)	GW	1/2	1/2
	d <sub>0</sub> (mm)	12.5	12.5
	A <sub>0</sub> (mm <sup>2</sup> )	122.7	122.7
	Medium	Air	Saturated steam
<b>1.2</b>		160	123
<b>1.3</b>		167	131

# Safety Valves

## Type 06603



**CRYONICA**  
криогенные технологии



**Safety Valves, angle type, bronze, type tested TÜV-SV.1080. D/G**

Standard safety valve  
with O-ring valve seal,  
closed bonnet, with lifting device,  
with enlarged outlet  
In- and outlet: female thread type G (BSPP) acc. to ISO 228/1

**Part No. 06603.1204.0000**

Available options - on request only:

- external parts nickel plated



### Applications:

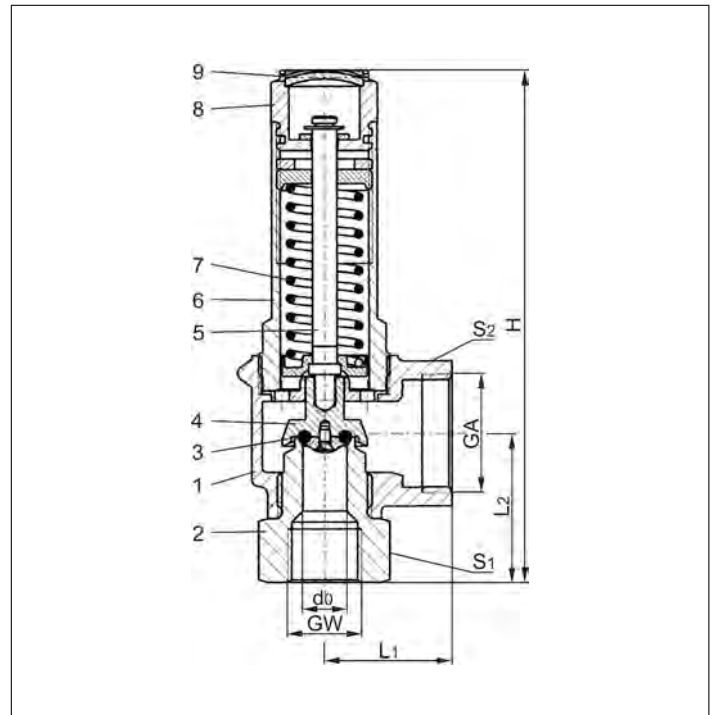
Provided as safety device for protection against excessive pressure in pressure vessels and steam boilers. Approved for non-toxic gases, vapours and for saturated steam.

Working temperature: -10°C / +14°F (263K) up to +180°C / +356°F (453K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Inlet body	CW509L	B 111 UNS C28000
3 O-ring	EPDM	
4 Disc	CW614N	B 283 UNS C38500
5 Stem	CW614N	B 283 UNS C38500
6 Bonnet	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Lifting device	CW614N	B 283 UNS C38500
9 Closing cap	CW507L	B 30 UNS C26800

**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/EG (PED).



Type 06603	Technical data	
<b>Nominal size</b>	<b>GW</b>	<b>1/2</b>
Orifice	d <sub>0</sub>	12.5
Set pressure range	bar	0.2-5
Outlet	GA	1
Height	H	145
Length	L <sub>1</sub>	36
Length	L <sub>2</sub>	42
Wrench size across flats	S <sub>1</sub>	32
Wrench size across flats	S <sub>2</sub>	41
Weight	ca. kg	0.7
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.74

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06603



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Saturated steam** in kg/h

**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 (ü)	GW	1/2	1/2
	d <sub>0</sub> (mm)	12.5	12.5
	A <sub>0</sub> (mm <sup>2</sup> )	122.7	122.7
	Medium	Air	Saturated steam
0.2		63	42
0.5		81	65
1.0		120	95
1.5		160	126
2.0		196	154
2.5		229	180
3.0		267	207
3.5		301	233
4.0		335	258
4.5		369	282
5.0		403	310

# Safety Valves

## Type 06604



**CRYONICA**  
криогенные технологии



**Safety Valves, angle type, bronze, type tested TÜV-SV.1080. D/G**

Standard safety valve  
with O-ring valve seal,  
closed bonnet, with lifting device,  
with enlarged outlet  
In- and outlet: female thread type G (BSPP) acc. to ISO 228/1

**Part No. 06604.1204.0000**

Available options - on request only:

- external parts nickel plated



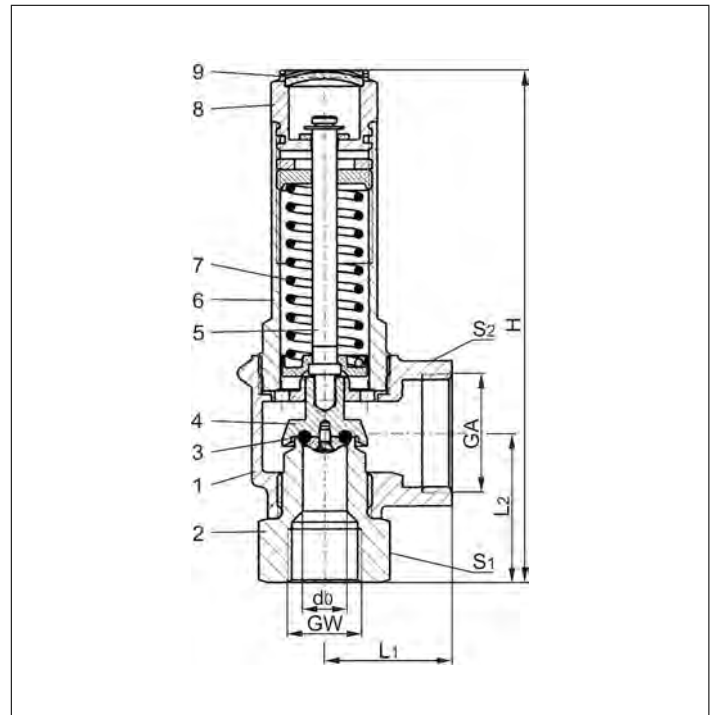
### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.  
Approved for gases and vapours, preferably for non-inflammable refrigerants acc. to EN 378-1.  
Working temperature: -50°C / -58°F (223K) up to +150°C / +316°F (423K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Inlet body	CW509L	B 111 UNS C28000
3 O-ring	PTFE	
4 Disc	CW614N	B 283 UNS C38500
5 Stem	CW614N	B 283 UNS C38500
6 Bonnet	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Lifting device	CW614N	B 283 UNS C38500
9 Closing cap	CW507L	B 30 UNS C26800

**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/EG (PED).



Type 06604	Technical data	
<b>Nominal size</b>	<b>GW</b>	<b>1/2</b>
Orifice	d <sub>0</sub>	12.5
Set pressure range	bar	14.0-30
Outlet	GA	1
Height	H	145
Length	L <sub>1</sub>	36
Length	L <sub>2</sub>	42
Wrench size across flats	S <sub>1</sub>	32
Wrench size across flats	S <sub>2</sub>	41
Weight	ca. kg	0.7
Coefficient of discharge	α <sub>w</sub>	0.7

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06604



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/2
	d <sub>0</sub> (mm)	12.5
	A <sub>0</sub> (mm <sup>2</sup> )	122.7
	Medium	<b>Air</b>
14.0		960
15.0		1024
16.0		1088
17.0		1153
18.0		1217
19.0		1281
20.0		1346
21.0		1410
22.0		1474
23.0		1538
24.0		1603
25.0		1667
26.0		1731
27.0		1796
28.0		1860
29.0		1924
30.0		1989

# Safety Valves

## Type 06605



**CRYONICA**  
криогенные технологии



**Safety Valves, angle type, bronze, type tested TÜV-SV.1080. D/G**

Standard safety valve  
with O-ring valve seal,  
closed bonnet, with lifting device,  
with enlarged outlet

Inlet: male thread NPT acc. to ANSI B 1.20.1

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

**Part No. 06605.1204.0000**

Available options - on request only:

- external parts nickel plated



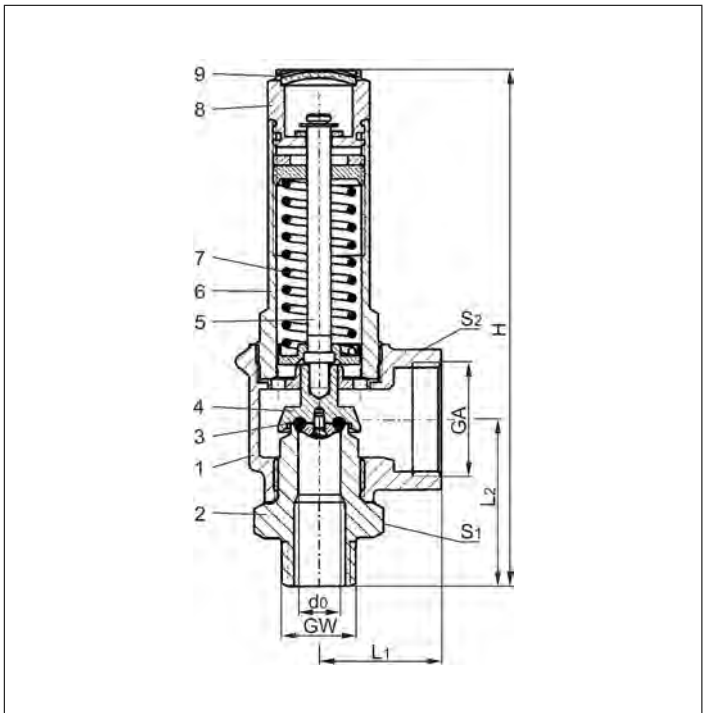
### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.

Approved for gases and vapours, preferably for non-inflammable refrigerants acc. to EN 378-1.

Working temperature: -50°C / -58°F (223K) up to +150°C / +316°F (423K)

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Inlet body	CW509L	B 111 UNS C28000
3 O-ring	PTFE	
4 Disc	CW614N	B 283 UNS C38500
5 Stem	CW614N	B 283 UNS C38500
6 Bonnet	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Lifting device	CW614N	B 283 UNS C38500
9 Closing cap	CW507L	B 30 UNS C26800



**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/EG (PED).



Type 06605	Technical data	
<b>Nominal size</b>	<b>GW</b>	<b>1/2</b>
Orifice	d <sub>0</sub>	12.5
Set pressure range	bar	14.0-30
Outlet	GA	1
Height	H	151
Length	L <sub>1</sub>	36
Length	L <sub>2</sub>	48
Wrench size across flats	S <sub>1</sub>	32
Wrench size across flats	S <sub>2</sub>	41
Weight	ca. kg	0.7
Coefficient of discharge	α <sub>w</sub>	0.7

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06605



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/2
	d <sub>0</sub> (mm)	12.5
	A <sub>0</sub> (mm <sup>2</sup> )	122.7
	Medium	<b>Air</b>
14.0		960
15.0		1024
16.0		1088
17.0		1153
18.0		1217
19.0		1281
20.0		1346
21.0		1410
22.0		1474
23.0		1538
24.0		1603
25.0		1667
26.0		1731
27.0		1796
28.0		1860
29.0		1924
30.0		1989



# Safety Valves

## Type 06395



**CRYONICA**  
криогенные технологии



### Safety Valves, angle type, bronze, type tested TÜV-SV.910. D/G

Standard safety valve

open bonnet, with lifting device and enlarged outlet

In- and outlet: female thread type G (BSPP) acc. to ISO 228/1

#### Part No. 06395.X.0000

metal to metal seated for saturated steam, air and similar gases

Working temperature: -10°C / +14°F (263K) up to +225°C / +437°F (498K)

#### Part No. 06395.X.0500

with PTFE/carbon filled valve seal for saturated steam, air and similar gases

Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

#### Part No. 06395.X.0600

with EPDM valve seal for saturated steam, air and similar gases

Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

Available options - on request only:

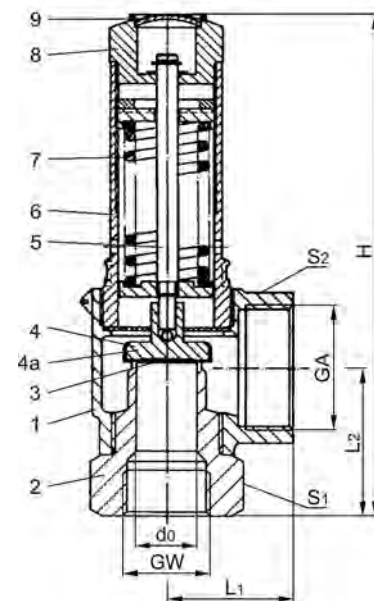
- stainless steel inlet body - material 1.4571
- external parts nickel plated

### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels and steam boilers.



Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Inlet body	CW509L	B 111 UNS C28000
3 Valve seal	PTFE/Carbon filled or EPDM	
4 Disc metal seated	1.4541	A 276 Grade 321
4a Disc soft seated	CW614N	B 283 UNS C38500
5 Stem	CW614N	B 283 UNS C38500
6 Bonnet	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Lifting device	CW614N	B 283 UNS C38500
9 Closing cap	CW507L	B 30 UNS C26800



**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/EG (PED).



Type 06395	Technical data				
Nominal size	GW	1/2	3/4	1	1-1/4
Orifice	d <sub>0</sub>	15	18	23	28
Dimension code	.X.	0400	0600	1000	1200
Set pressure range metal seated	bar	0.5-25	0.5-25	0.5-25	0.5-12
Set pressure range PTFE seal	bar	0.5-25	0.5-25	0.5-25	0.5-12
Set pressure range EPDM seal	bar	0.5-4	0.5-7	0.5-4.6	0.5-6
Outlet	GA	1	1-1/4	1-1/2	2
Height	H	144	166	195	222
Length	L <sub>1</sub>	36	50	48	58
Length	L <sub>2</sub>	41	48	58	68
Wrench size across flats	S <sub>1</sub>	32	41	50	55
Wrench size across flats	S <sub>2</sub>	41	50	58	70
Weight	ca. kg	0.75	1.25	1.85	3.0
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.64	0.58	0.57	0.66

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06395



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Saturated steam** in kg/h

**The capacity indicated below is for a fully opened valve.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW	1/2	3/4	1	1-1/4	1/2	3/4	1	1-1/4
	$d_0$ (mm)	15.0	18.0	23.0	28.0	15.0	18.0	23.0	28.0
	$A_0$ (mm <sup>2</sup> )	176.7	254.5	415.5	615.5	176.7	254.5	415.5	615.5
Medium	Air					Saturated steam			
<b>0.5</b>		92	130	204	334	77	109	170	279
<b>1.0</b>		142	197	315	552	113	157	251	415
<b>2.0</b>		235	316	507	859	185	248	398	675
<b>3.0</b>		331	432	694	1190	258	337	540	927
<b>4.0</b>		416	543	871	1495	321	420	673	1155
<b>5.0</b>		501	653	1048	1799	385	502	806	1383
<b>6.0</b>		585	764	1226	2104	449	586	940	1613
<b>7.0</b>		670	875	1403	2408	513	670	1074	1844
<b>8.0</b>		755	985	1581	2713	575	750	1203	2065
<b>9.0</b>		839	1096	1758	3017	637	832	1335	2291
<b>10.0</b>		924	1206	1935	3321	700	914	1466	2517
<b>12.0</b>		1094	1427	2290	3930	827	1079	1732	2972
<b>14.0</b>		1263	1649	2645	-	952	1243	1994	-
<b>16.0</b>		1432	1870	3000	-	1077	1406	2256	-
<b>18.0</b>		1602	2091	3355	-	1202	1569	2517	-
<b>20.0</b>		1771	2312	3710	-	1327	1732	2779	-
<b>22.0</b>		1941	2533	4064	-	1453	1896	3042	-
<b>24.0</b>		2110	2754	4419	-	1576	2057	3301	-
<b>25.0</b>		2195	2865	4597	-	1639	2139	3432	-

# Safety Valves

## Type 06395



**CRYONICA**  
криогенные технологии



### Safety Valves, angle type, bronze, type tested TÜV-SV.910. D/G

Standard safety valve

open bonnet, with lifting device and enlarged outlet

In- and outlet: female thread type G (BSPP) acc. to ISO 228/1

#### Part No. 06395.X.0080

metal to metal seated for saturated steam, air and similar gases

Working temperature: -10°C / +14°F (263K) up to +225°C / +437°F (498K)

#### Part No. 06395.X.0580

with PTFE/carbon filled valve seal for saturated steam, air and similar gases

Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

#### Part No. 06395.X.0680

with EPDM valve seal for saturated steam, air and similar gases

Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

Available options - on request only:

- stainless steel inlet body - material 1.4571
- external parts nickel plated

### Applications:

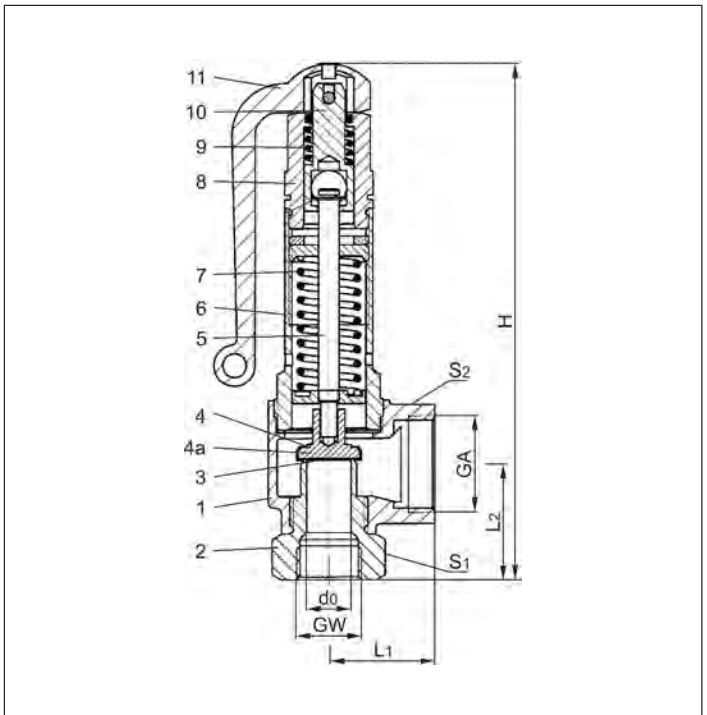
Provided as safety device for protection against excessive pressure in pressure vessels and steam boilers.



Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Inlet body	CW509L	B 111 UNS C28000
3 Valve seal	PTFE/Carbon filled or EPDM	
4 Disc metal seated	1.4541	A 276 Grade 321
4a Disc soft seated	CW614N	B 283 UNS C38500
5 Stem	CW614N	B 283 UNS C38500
6 Bonnet	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Lifting cap	CW614N	B 283 UNS C38500
9 Lifting spring	1.4571	A 276 Grade 316Ti
10 Lifting stem	CW614N	B 283 UNS C38500
11 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/EG (PED).



Type 06395	Technical data				
Nominal size	GW	1/2	3/4	1	1-1/4
Orifice	d <sub>0</sub>	15	18	23	28
Dimension code	.X.	0400	0600	1000	1200
Set pressure range metal seated	bar	0.5-25	0.5-25	0.5-25	0.5-12
Set pressure range PTFE seal	bar	0.5-25	0.5-25	0.5-25	0.5-12
Set pressure range EPDM seal	bar	0.5-4	0.5-7	0.5-4.6	0.5-6
Outlet	GA	1	1-1/4	1-1/2	2
Height	H	180	200	245	270
Length	L <sub>1</sub>	36	50	48	58
Length	L <sub>2</sub>	41	48	58	68
Wrench size across flats	S <sub>1</sub>	32	41	50	55
Wrench size across flats	S <sub>2</sub>	41	50	58	70
Weight	ca. kg	0.95	1.45	2.4	3.7
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.64	0.58	0.57	0.66

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06395



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Saturated steam** in kg/h

**The capacity indicated below is for a fully opened valve.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW	1/2	3/4	1	1-1/4	1/2	3/4	1	1-1/4
	$d_0$ (mm)	15.0	18.0	23.0	28.0	15.0	18.0	23.0	28.0
	$A_0$ (mm <sup>2</sup> )	176.7	254.5	415.5	615.5	176.7	254.5	415.5	615.5
Medium	Air					Saturated steam			
<b>0.5</b>		92	130	204	334	77	109	170	279
<b>1.0</b>		142	197	315	552	113	157	251	415
<b>2.0</b>		235	316	507	859	185	248	398	675
<b>3.0</b>		331	432	694	1190	258	337	540	927
<b>4.0</b>		416	543	871	1495	321	420	673	1155
<b>5.0</b>		501	653	1048	1799	385	502	806	1383
<b>6.0</b>		585	764	1226	2104	449	586	940	1613
<b>7.0</b>		670	875	1403	2408	513	670	1074	1844
<b>8.0</b>		755	985	1581	2713	575	750	1203	2065
<b>9.0</b>		839	1096	1758	3017	637	832	1335	2291
<b>10.0</b>		924	1206	1935	3321	700	914	1466	2517
<b>12.0</b>		1094	1427	2290	3930	827	1079	1732	2972
<b>14.0</b>		1263	1649	2645	-	952	1243	1994	-
<b>16.0</b>		1432	1870	3000	-	1077	1406	2256	-
<b>18.0</b>		1602	2091	3355	-	1202	1569	2517	-
<b>20.0</b>		1771	2312	3710	-	1327	1732	2779	-
<b>22.0</b>		1941	2533	4064	-	1453	1896	3042	-
<b>24.0</b>		2110	2754	4419	-	1576	2057	3301	-
<b>25.0</b>		2195	2865	4597	-	1639	2139	3432	-



**Safety Valves, angle type, bronze, type tested TÜV-SV.910. D/G**

Standard safety valve, open bonnet, with lifting device and enlarged outlet

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

**Part No. 06395.X.2000 (Inlet: male thread type G (BSPP) acc. to ISO 228/1)**

**Part No. 06395.X.3000 (Inlet: male thread type R (BSPT) acc. to ISO 7/1)**

metal to metal seated for saturated steam, air and similar gases

Working temperature: -10°C / +14°F (263K) up to +225°C / +437°F (498K)

**Part No. 06395.X.2500 (Inlet: male thread type G (BSPP) acc. to ISO 228/1)**

**Part No. 06395.X.3500 (Inlet: male thread type R (BSPT) acc. to ISO 7/1)**

with PTFE/carbon filled valve seal for saturated steam, air and similar gases

Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

**Part No. 06395.X.2600 (Inlet: male thread type G (BSPP) acc. to ISO 228/1)**

**Part No. 06395.X.3600 (Inlet: male thread type R (BSPT) acc. to ISO 7/1)**

with EPDM valve seal for saturated steam, air and similar gases

Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

Available options - on request only:

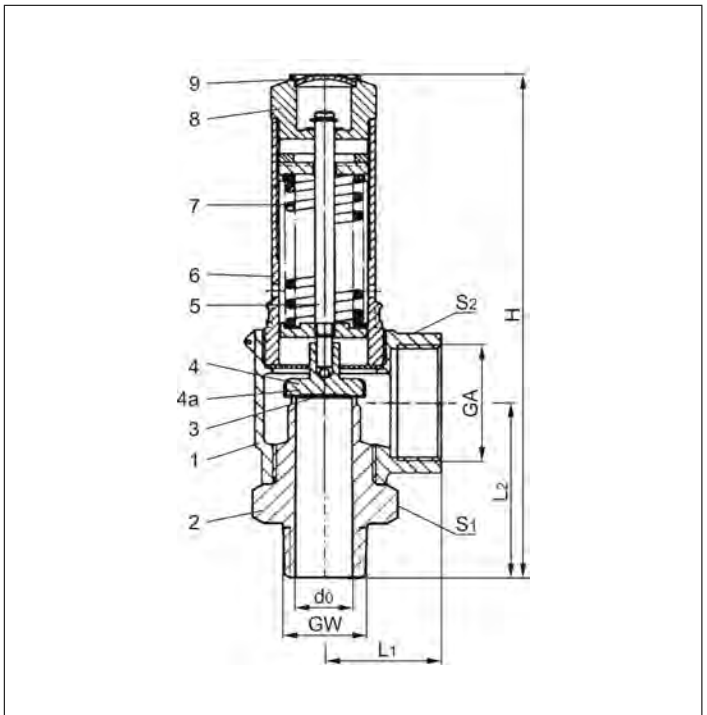
· stainless steel inlet body - material 1.4571 · external parts nickel plated

**Applications:**

Provided as safety device for protection against excessive pressure in pressure vessels and steam boilers.



Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Inlet body	CW509L	B 111 UNS C28000
3 Valve seal	PTFE/Carbon filled or EPDM	
4 Disc metal seated	1.4541	A 276 Grade 321
4a Disc soft seated	CW614N	B 283 UNS C38500
5 Stem	CW614N	B 283 UNS C38500
6 Bonnet	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Lifting device	CW614N	B 283 UNS C38500
9 Closing cap	CW507L	B 30 UNS C26800



**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/EG (PED).



Type 06395	Technical data				
Nominal size	GW	1/2	3/4	1	1-1/4
Orifice	d <sub>0</sub>	15	18	23	28
Dimension code	.X.	0400	0600	1000	1200
Set pressure range metal seated	bar	0.5-25	0.5-25	0.5-25	0.5-12
Set pressure range PTFE seal	bar	0.5-25	0.5-25	0.5-25	0.5-12
Set pressure range EPDM seal	bar	0.5-4	0.5-7	0.5-4.6	0.5-6
Outlet	GA	1	1-1/4	1-1/2	2
Height	H	151	177	206	236
Length	L <sub>1</sub>	36	50	48	58
Length	L <sub>2</sub>	48	59	69	82
Wrench size across flats	S <sub>1</sub>	32	41	50	55
Wrench size across flats	S <sub>2</sub>	41	50	58	70
Weight	ca. kg	0.755	1.3	1.95	3.15
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.64	0.58	0.57	0.66

Dimensions in mm.

# Safety Valves

## Type 06395



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Saturated steam** in kg/h

**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 (ü)	GW	1/2	3/4	1	1-1/4	1/2	3/4	1	1-1/4
	d <sub>0</sub> (mm)	15.0	18.0	23.0	28.0	15.0	18.0	23.0	28.0
	A <sub>0</sub> (mm <sup>2</sup> )	176.7	254.5	415.5	615.5	176.7	254.5	415.5	615.5
	Medium	Air				Saturated steam			
<b>0.5</b>		92	130	204	334	77	109	170	279
<b>1.0</b>		142	197	315	552	113	157	251	415
<b>2.0</b>		235	316	507	859	185	248	398	675
<b>3.0</b>		331	432	694	1190	258	337	540	927
<b>4.0</b>		416	543	871	1495	321	420	673	1155
<b>5.0</b>		501	653	1048	1799	385	502	806	1383
<b>6.0</b>		585	764	1226	2104	449	586	940	1613
<b>7.0</b>		670	875	1403	2408	513	670	1074	1844
<b>8.0</b>		755	985	1581	2713	575	750	1203	2065
<b>9.0</b>		839	1096	1758	3017	637	832	1335	2291
<b>10.0</b>		924	1206	1935	3321	700	914	1466	2517
<b>12.0</b>		1094	1427	2290	3930	827	1079	1732	2972
<b>14.0</b>		1263	1649	2645	-	952	1243	1994	-
<b>16.0</b>		1432	1870	3000	-	1077	1406	2256	-
<b>18.0</b>		1602	2091	3355	-	1202	1569	2517	-
<b>20.0</b>		1771	2312	3710	-	1327	1732	2779	-
<b>22.0</b>		1941	2533	4064	-	1453	1896	3042	-
<b>24.0</b>		2110	2754	4419	-	1576	2057	3301	-
<b>25.0</b>		2195	2865	4597	-	1639	2139	3432	-

# Safety Valves

## Type 06395



**CRYONICA**  
криогенные технологии

**HEROSE**



### Safety Valves, angle type, bronze, type tested TÜV-SV.910. D/G

Standard safety valve, open bonnet, with lifting device and enlarged outlet

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

**Part No. 06395.X.2080 (Inlet: male thread type G (BSPP) acc. to ISO 228/1)**

**Part No. 06395.X.3080 (Inlet: male thread type R (BSPT) acc. to ISO 7/1)**

metal to metal seated for air and similar gases

Working temperature: -10°C / +14°F (263K) up to +225°C / +437°F (498K)

**Part No. 06395.X.2580 (Inlet: male thread type G (BSPP) acc. to ISO 228/1)**

**Part No. 06395.X.3580 (Inlet: male thread type R (BSPT) acc. to ISO 7/1)**

with PTFE/carbon filled valve seal for air and similar gases

Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

**Part No. 06395.X.2680 (Inlet: male thread type G (BSPP) acc. to ISO 228/1)**

**Part No. 06395.X.3680 (Inlet: male thread type R (BSPT) acc. to ISO 7/1)**

with EPDM valve seal for saturated steam

Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

Available options - on request only:

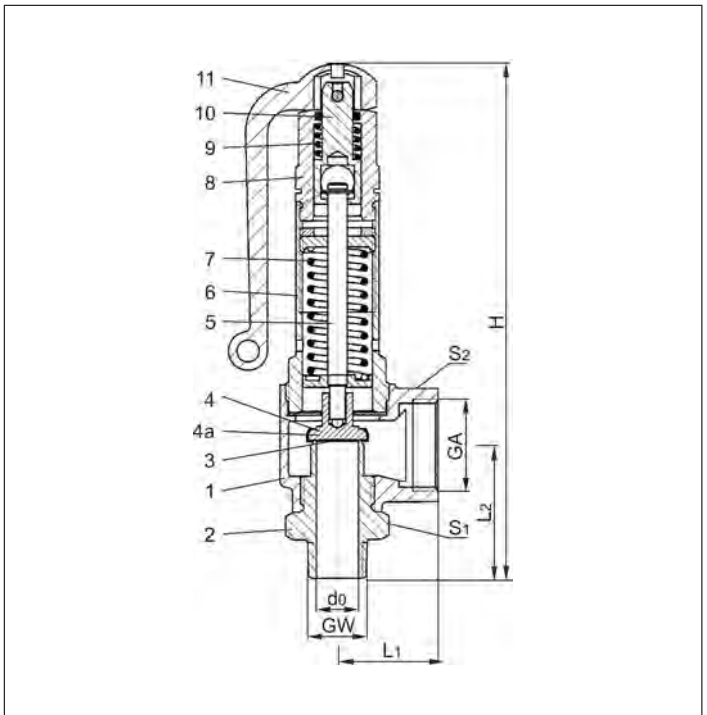
· stainless steel inlet body - material 1.4571 · external parts nickel plated

### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels and steam boilers.



Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Inlet body	CW509L	B 111 UNS C28000
3 Valve seal	PTFE/Carbon filled or EPDM	
4 Disc metal seated	1.4541	A 276 Grade 321
4a Disc soft seated	CW614N	B 283 UNS C38500
5 Stem	CW614N	B 283 UNS C38500
6 Bonnet	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Lifting cap	CW614N	B 283 UNS C38500
9 Lifting spring	1.4571	A 276 Grade 316Ti
10 Lifting stem	CW614N	B 283 UNS C38500
11 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/EG (PED).



Type 06395	Technical data				
Nominal size	GW	1/2	3/4	1	1-1/4
Orifice	d <sub>0</sub>	15	18	23	28
Dimension code	.X.	0400	0600	1000	1200
Set pressure range metal seated	bar	0.5-25	0.5-25	0.5-25	0.5-12
Set pressure range PTFE seal	bar	0.5-25	0.5-25	0.5-25	0.5-12
Set pressure range EPDM seal	bar	0.5-4	0.5-7	0.5-4.6	0.5-6
Outlet	GA	1	1-1/4	1-1/2	2
Height	H	187	209	256	284
Length	L <sub>1</sub>	36	50	48	58
Length	L <sub>2</sub>	48	59	69	82
Wrench size across flats	S <sub>1</sub>	32	41	50	55
Wrench size across flats	S <sub>2</sub>	41	50	58	70
Weight	ca. kg	0.955	1.5	2.5	3.85
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.64	0.58	0.57	0.66

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06395



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Saturated steam** in kg/h

**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 (ü)	GW	1/2	3/4	1	1-1/4	1/2	3/4	1	1-1/4
	d <sub>0</sub> (mm)	15.0	18.0	23.0	28.0	15.0	18.0	23.0	28.0
	A <sub>0</sub> (mm <sup>2</sup> )	176.7	254.5	415.5	615.5	176.7	254.5	415.5	615.5
	Medium	Air				Saturated steam			
<b>0.5</b>		92	130	204	334	77	109	170	279
<b>1.0</b>		142	197	315	552	113	157	251	415
<b>2.0</b>		235	316	507	859	185	248	398	675
<b>3.0</b>		331	432	694	1190	258	337	540	927
<b>4.0</b>		416	543	871	1495	321	420	673	1155
<b>5.0</b>		501	653	1048	1799	385	502	806	1383
<b>6.0</b>		585	764	1226	2104	449	586	940	1613
<b>7.0</b>		670	875	1403	2408	513	670	1074	1844
<b>8.0</b>		755	985	1581	2713	575	750	1203	2065
<b>9.0</b>		839	1096	1758	3017	637	832	1335	2291
<b>10.0</b>		924	1206	1935	3321	700	914	1466	2517
<b>12.0</b>		1094	1427	2290	3930	827	1079	1732	2972
<b>14.0</b>		1263	1649	2645	-	952	1243	1994	-
<b>16.0</b>		1432	1870	3000	-	1077	1406	2256	-
<b>18.0</b>		1602	2091	3355	-	1202	1569	2517	-
<b>20.0</b>		1771	2312	3710	-	1327	1732	2779	-
<b>22.0</b>		1941	2533	4064	-	1453	1896	3042	-
<b>24.0</b>		2110	2754	4419	-	1576	2057	3301	-
<b>25.0</b>		2195	2865	4597	-	1639	2139	3432	-



# Safety Valves

## Type 06850, Type 06855



**CRYONICA**  
криогенные технологии



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

Standard safety valve  
metal to metal seated,  
closed gastight bonnet

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

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

**Part No. 06850.X.0000**

with gastight cap

**Part No. 06855.X.0000**

with lifting device

Available options - on request only:

- Flange connection for in- and outlet
- Tri-Clamp connection for in- and outlet

### Applications:

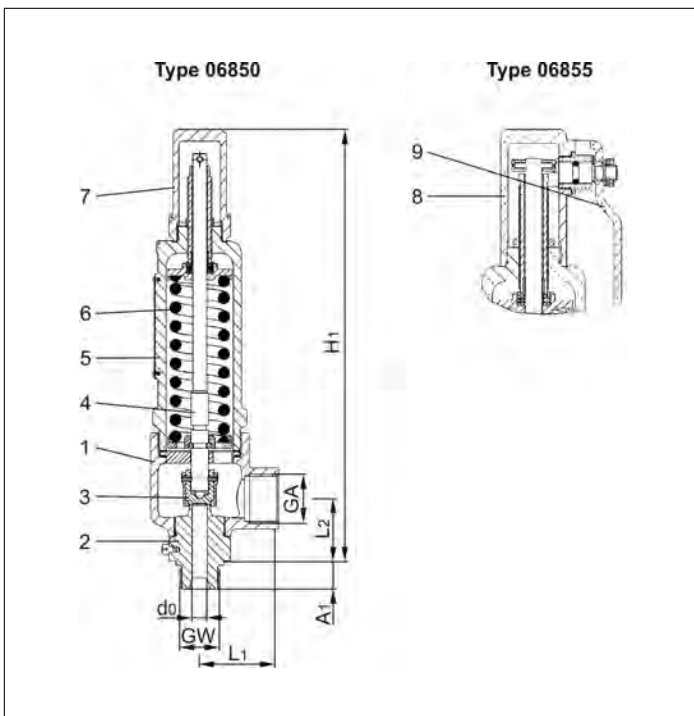
Provided as safety device for protection against excessive pressure in pressure vessels. Approved for gases, vapours and fluids.

Working temperature: -270°C / -454°F (3K) up to +400°C / +752°F (673K)

Pressure-temperature must be observed



Materials	DIN EN	ASTM
1 Outlet body	1.4408	A 351 CF 8M
2 Inlet body	1.4571	A 276 Grade 316Ti
3 Disc	1.4571	A 276 Grade 316Ti
4 Stem	1.4404	A 276 Grade 316L
5 Bonnet	1.4404	A 276 Grade 316L
6 Spring	1.4571	A 313 Grade 316Ti
7 Cap	1.4404	A 276 Grade 316L
8 Lifting cap	1.4404	A 276 Grade 316L
9 Lever	1.4408	A 351 CF 8M



**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06850, 06855	Technical data			
Nominal size	GW	1/2	3/4	1
Orifice	d <sub>0</sub>	10.0	10.0	10.0
Dimension code	.X.	1024	1034	1044
Set pressure range	bar	0.5-250	0.5-250	0.5-250
Outlet	GA	1	1	1
Height	H <sub>1</sub>	291	291	291
Length	L <sub>1</sub>	53	53	53
Length	L <sub>2</sub>	44.5	44.5	44.5
Length	A <sub>1</sub>	14	16	18
Weight 06850	ca. kg	3.2	3.2	3.2
Weight 06855	ca. kg	3.4	3.4	3.4
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.84	0.84	0.84
Coeff. of discharge fluids	α <sub>w</sub>	0.68	0.68	0.68

Abmessungen in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

## Safety Valves

### Type 06850, Type 06855



**CRYONICA**  
криогенные технологии



#### Discharge capacities

Calculation of mass flow 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

**The capacity indicated below is for a fully opened valve.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW	1/2, 3/4 & 1		
	$d_0$ (mm)	10.0		
	$A_0$ (mm <sup>2</sup> )	78.5		
	Medium	A	B	C
0.5		37	56	1987
1.0		69	88	2894
2.0		109	143	4152
3.0		146	194	5085
4.0		182	243	5872
5.0		218	293	6565
6.0		253	342	7191
7.0		288	391	7767
8.0		323	441	8304
9.0		375	490	8807
10.0		410	540	9284
20.0		775	1034	13129
30.0		1141	1528	16080
40.0		1507	2022	18567
50.0		1878	2517	20759
60.0		2252	3011	22740
70.0		2628	3505	24562
80.0		3027	3999	26258
90.0		3312	4493	27851
100.0		3774	4988	29358
120.0		4614	5976	32160
140.0		5513	6964	34737
160.0		6463	7953	37135
180.0		7616	8941	39388
200.0		9818	9930	41518
220.0		-	10918	43545
240.0		-	11906	45481
250.0		-	12401	46419

# Safety Valves

## Type 50051.0004



**CRYONICA**  
криогенные технологии



**Safety Valves, angle type, bronze**  
**Lloyds Register Approval LR-TA 92/20011**

Standard safety valve  
metal to metal seated,  
closed bonnet, with lifting device  
Inlet: male thread type G (BSPP) acc. to ISO 228/1  
Outlet: female thread type G (BSPP) acc. to ISO 228/1

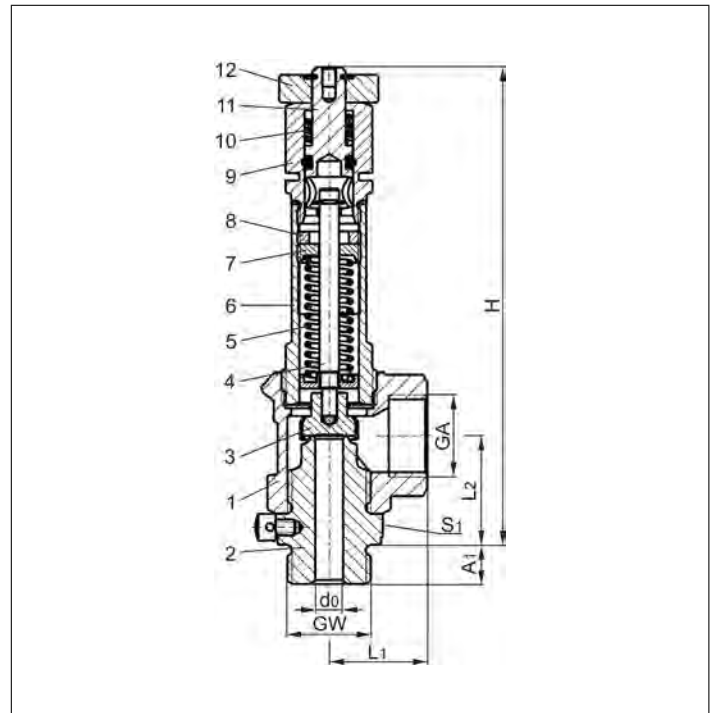
**Part No. 50051.0004.0000**

### Applications:

Provided as safety device for protection against thermal expansion in electric or steam fired heat exchangers for vapours, gases and fluids, specific for heavy oil and lubricants (especially for ships).  
Approved for fluids, vapours and gases.  
Working temperature: -10°C / +14°F (263K) up to +160°C / +320°F (403K)



Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
3 Disc	1.4541	A 276 Grade 321
4 Stem	CW614N	B 283 UNS C38500
5 Spring	1.4571	A 276 Grade 316Ti
6 Bonnet	CW614N	B 283 UNS C38500
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
9 Lifting cap	CW614N	B 283 UNS C38500
10 Lifting spring	1.4571	A 276 Grade 316Ti
11 Lifting stem	CW614N	B 283 UNS C38500
12 Lifting device	CW614N	B 283 UNS C38500



**Essential:** Valves are delivered at a set pressure, therefore when ordering please confirm set pressure, medium and temperature.

Type 50051.0004	Technical data	
<b>Nominal size</b>	<b>GW</b>	<b>1/2</b>
Orifice	$d_0$	7
Set pressure range	bar	6.0-15.0
Outlet	GA	1/2
Height	H	122
Length	$L_1$	25
Length	$L_2$	28
Length	$A_1$	10
Wrench size across flats	$S_1$	27
Weight	ca. kg	0.38
Coefficient of discharge	$\alpha_w$	0.68

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 50051.0004



**CRYONICA**  
криогенные технологии



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Water** in kg/h at 20°C

**The capacity indicated below is for a fully opened valve.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW	1/2	1/2
	$d_0$ (mm)	7.0	12.5
	$A_0$ (mm <sup>2</sup> )	38.48	38.48
	Medium	<b>Air</b>	<b>Water</b>
<b>6.0</b>		136	3424
<b>7.0</b>		155	3699
<b>8.0</b>		175	3954
<b>9.0</b>		194	4194
<b>10.0</b>		214	4421
<b>11.0</b>		234	4637
<b>12.0</b>		253	4843
<b>13.0</b>		273	5041
<b>14.0</b>		292	5231
<b>15.0</b>		312	5414

# Safety Valves

## Type 50051.0011



**CRYONICA**  
криогенные технологии



**Safety Valves, angle type, brass, type tested TÜV-SV.1009. D/G**

Standard safety valve  
with EPDM valve seal for vapours and gases  
open bonnet, with lifting device  
Outlet: female thread M15x1 with installed hose nozzle  
Inlet: male thread type G (BSPP) acc. to ISO 228/1

**Part No. 50051.0011.0000**

Available options - on request only:

- hose nozzle acc. to customer specification
- body material CW509L



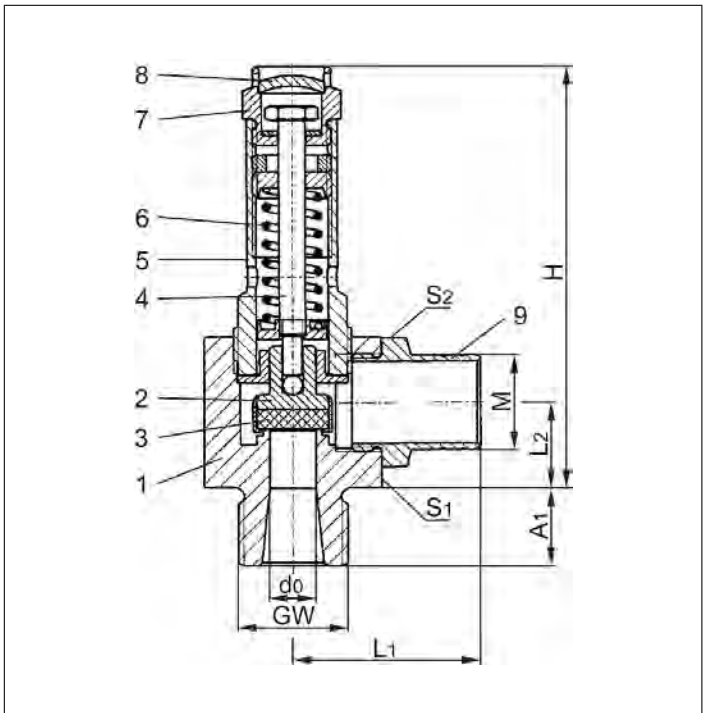
### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels, especially for coffee machines.

Approved for non-toxic gases and vapours.

Working temperature: -10°C / +14°F (263K) up to +160°C / +320°F (403K)

Materials	DIN EN	ASTM
1 Body	CW614N	B 283 UNS C38500
2 Disc	CW614N	B 283 UNS C38500
3 Valve seal	EPDM	
4 Stem	CW614N	B 283 UNS C38500
5 Bonnet	CW614N	B 283 UNS C38500
6 Spring	1.4571	A 276 Grade 316Ti
7 Lifting device	CW614N	B 283 UNS C38500
8 Closing cap	CC507L	B 30 UNS C26800
9 Hose nozzle	CW614N	B 283 UNS C38500



**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/EG (PED).



Type 50051.0011	Technical data	
<b>Nominal size</b>	<b>GW</b>	<b>3/8</b>
Orifice	d <sub>0</sub>	7
Set pressure range	bar	1.5-5.0
Hose nozzle-Ø	M	14.5
Height	H	64
Length	L <sub>1</sub>	28.5
Length	L <sub>2</sub>	13
Length	A <sub>1</sub>	12
Wrench size across flats	S <sub>1</sub>	27
Wrench size across flats	S <sub>2</sub>	17
Weight	ca. kg	0.16
Coeff. of discharge from 2.0 bar	α <sub>w</sub>	0.42

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597;

E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 50051.0011



**CRYONICA**  
криогенные технологии



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Saturated steam** in kg/h

**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 (ü)	GW	1/2	1/2
	d <sub>0</sub> (mm)	7.0	7.0
	A <sub>0</sub> (mm <sup>2</sup> )	38.48	38.48
	Medium	<b>Air</b>	<b>Saturated steam</b>
<b>1.5</b>		29	23
<b>2.0</b>		35	28
<b>2.5</b>		41	32
<b>3.0</b>		47	36
<b>3.5</b>		54	42
<b>4.0</b>		60	46
<b>4.5</b>		66	50
<b>5.0</b>		72	55

# Safety Valves

## Type 06310



**CRYONICA**  
криогенные технологии



**Safety Valves, angle type, ductile casting GGG-40.3, type tested, TÜV-SV.909. D/G/F**

Full lift safety valve  
Standard safety valve for fluids  
metal to metal seated,  
closed bonnet, with lifting device  
Inlet: male thread type G (BSPP) acc. to ISO 228/1  
Outlet: female thread type G (BSPP) acc. to ISO 228/1

**Part No. 06310.X.0000**

Available options - on request only:  
· Disc with soft sealing (NBR, CR, EPDM, FKM, FFKM, PCTFE, PTFE-FDA)



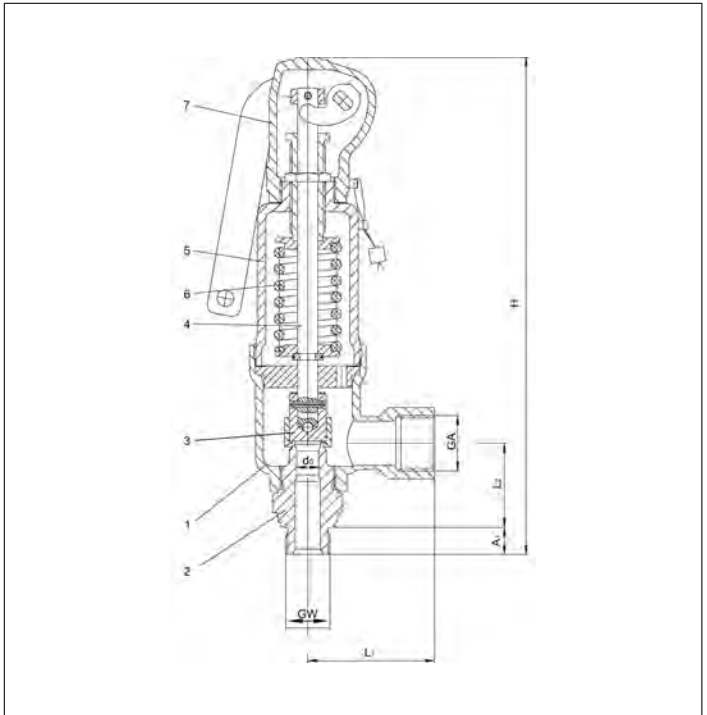
### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.

Approved for gases, vapours and fluids.

Working temperatures: -10°C / +14°F (263K) up to +300°C / +572°F (573K)

Materials	DIN EN	ASTM
1 Outlet body	0.7043	A 536-87 Gr. 60-40-18
2 Inlet body	1.4104	A 276 Grade 430F
3 Disc	1.4122	no reference
4 Stem	1.4021	A 276 Grade 420
5 Bonnet	0.7043	A 536-87 Gr. 60-40-18
6 Spring	1.4310	A 313 Grade 302
7 Lifting device	0.7040	A 536-87 Gr. 60-40-18



**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/EG (PED).



Marking acc. to ASME Code Section VIII will only be carried out by written notice on purchase order.



Type 06310	Technical data			
<b>Nominal size</b>	<b>GW</b>	<b>3/4</b>	<b>3/4</b>	<b>1</b>
Orifice	d <sub>0</sub>	9	13	17.5
Dimension code	.X.	0906	1306	1710
Set pressure saturated steam	bar	2.0-150	0.2-150	0.2-100
Set pressure air and fluids	bar	2.0-250	0.2-250	0.2-100
Outlet	GA	1	1	1-1/2
Height	H	280	280	281
Length	L <sub>1</sub>	50	50	54
Length	L <sub>2</sub>	75	75	75
Length	A <sub>1</sub>	16	16	18
Weight	ca. kg	2.6	2.6	3.0
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.83	0.81	0.79
Coeff. of discharge fluids	α <sub>w</sub>	0.61	0.53	0.52

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06310



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

The capacity indicated below is for a fully opened valve.

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW	3/4			3/4			1		
	$d_0$ (mm)	9			13			17.5		
	$A_0$ (mm <sup>2</sup> )	63.6			132.7			240.6		
	Medium	A	B	C	A	B	C	A	B	C
0.2	-	-	-	53	61	1960	85	98	3480	
0.5	-	-	-	84	98	2770	134	157	4930	
1.0	-	-	-	120	143	3750	200	238	6670	
2.0	93	113	2930	190	229	5310	331	400	9440	
3.0	127	155	3590	258	316	6500	456	558	11600	
4.0	158	195	4140	322	396	7510	569	700	13300	
5.0	189	234	4630	386	477	8390	681	842	14900	
6.0	220	274	5070	449	557	9190	793	985	16300	
8.0	282	353	5860	573	718	10600	1013	1269	18900	
10.0	343	432	6550	699	879	11900	1235	1554	21100	
15.0	496	629	8020	1009	1281	14500	1783	2264	25800	
20.0	650	827	9260	1323	1685	16800	2338	2977	29800	
25.0	802	1025	10400	1632	2087	18800	2885	3688	33400	
30.0	957	1223	11300	1949	2490	20600	3445	4401	36500	
40.0	1268	1618	13100	2582	3295	23700	4562	5824	42200	
50.0	1588	2014	14600	3234	4101	26500	5715	7247	47200	
60.0	1910	2409	16000	3889	4906	29100	6874	8671	51700	
80.0	2583	3201	18500	5259	6517	33600	9294	11518	59700	
100.0	3296	3992	20700	6711	8127	37500	11862	14364	66700	
150.0	5438	5969	25400	11072	12153	46000	-	-	-	
200.0	-	7947	29300	-	16181	53100	-	-	-	
250.0	-	9924	32700	-	20248	59500	-	-	-	



# Safety Valves

## Type 06311



**CRYONICA**  
криогенные технологии



**Safety Valves, angle type, stainless steel, type tested, TÜV-SV.909. D/G/F**

Full lift safety valve  
Standard safety valve for fluids  
metal to metal seated,  
closed bonnet, with lifting device  
Inlet: male thread type G (BSPP) acc. to ISO 228/1  
Outlet: female thread type G (BSPP) acc. to ISO 228/1

**Part No. 06311.X.0000**

Available options - on request only:  
· Disc with soft sealing (NBR, CR, EPDM, FKM, FFKM, PCTFE, PTFE-FDA)



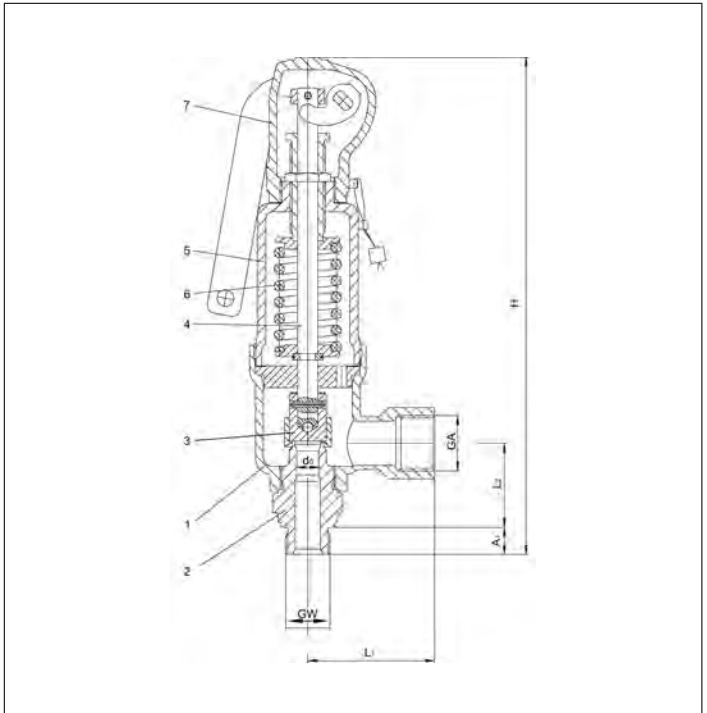
### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.

Approved for gases, vapours and fluids.

Working temperatures: -196°C / -321°F (77K) up to +300°C / +572°F (573K)

Materials	DIN EN	ASTM
1 Outlet body	1.4404	A 276 Grade 316L
2 Inlet body	1.4404	A 276 Grade 316L
3 Disc	1.4404	A 276 Grade 316L
4 Stem	1.4404	A 276 Grade 316L
5 Bonnet	1.4404	A 276 Grade 316L
6 Spring	1.4310	A 313 Grade 302
7 Lifting device	1.4408	A 351 CF 8M



**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/EG (PED).



Marking acc. to ASME Code Section VIII will only be carried out by written notice on purchase order.



Type 06311	Technical data			
<b>Nominal size</b>	<b>GW</b>	<b>3/4</b>	<b>3/4</b>	<b>1</b>
Orifice	d <sub>0</sub>	9	13	17.5
Dimension code	.X.	0906	1306	1710
Set pressure saturated steam	bar	2.0-150	0.2-150	0.2-100
Set pressure air and fluids	bar	2.0-250	0.2-250	0.2-100
Outlet	GA	1	1	1-1/2
Height	H	280	280	281
Length	L <sub>1</sub>	50	50	54
Length	L <sub>2</sub>	75	75	75
Length	A <sub>1</sub>	16	16	18
Weight	ca. kg	2.6	2.6	3.0
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.83	0.81	0.79
Coeff. of discharge fluids	α <sub>w</sub>	0.61	0.53	0.52

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06311



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

The capacity indicated below is for a fully opened valve.

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW	3/4			3/4			1		
	$d_0$ (mm)	9			13			17.5		
	$A_0$ (mm <sup>2</sup> )	63.6			132.7			240.6		
	Medium	A	B	C	A	B	C	A	B	C
0.2	-	-	-	53	61	1960	85	98	3480	
0.5	-	-	-	84	98	2770	134	157	4930	
1.0	-	-	-	120	143	3750	200	238	6670	
2.0	93	113	2930	190	229	5310	331	400	9440	
3.0	127	155	3590	258	316	6500	456	558	11600	
4.0	158	195	4140	322	396	7510	569	700	13300	
5.0	189	234	4630	386	477	8390	681	842	14900	
6.0	220	274	5070	449	557	9190	793	985	16300	
8.0	282	353	5860	573	718	10600	1013	1269	18900	
10.0	343	432	6550	699	879	11900	1235	1554	21100	
15.0	496	629	8020	1009	1281	14500	1783	2264	25800	
20.0	650	827	9260	1323	1685	16800	2338	2977	29800	
25.0	802	1025	10400	1632	2087	18800	2885	3688	33400	
30.0	957	1223	11300	1949	2490	20600	3445	4401	36500	
40.0	1268	1618	13100	2582	3295	23700	4562	5824	42200	
50.0	1588	2014	14600	3234	4101	26500	5715	7247	47200	
60.0	1910	2409	16000	3889	4906	29100	6874	8671	51700	
80.0	2583	3201	18500	5259	6517	33600	9294	11518	59700	
100.0	3296	3992	20700	6711	8127	37500	11862	14364	66700	
150.0	5438	5969	25400	11072	12153	46000	-	-	-	
200.0	-	7947	29300	-	16181	53100	-	-	-	
250.0	-	9924	32700	-	20248	59500	-	-	-	

# Safety Valves

## Type 06315



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, angle type, chromium steel, type tested, TÜV-SV.980. D/G/F**

Standard safety valve

metal to metal seated, closed bonnet

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

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

**Part No. 06315.X.N000 (0.1 - 93.0 bar)**

**Part No. 06315.X.L000 (93.0 - 180.0 bar)**

with lifting device - head A

**Part No. 06315.X.N020 (0.1 - 93.0 bar)**

**Part No. 06315.X.L020 (93.0 - 180.0 bar)**

with gastight cap - head C

Available options - on request only:

· Threads NPT acc. to ANSI B 1.20.1

· Disc with soft sealing (NBR, CR, EPDM, FKM, FFKM, PCTFE, PTFE-FDA)



### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels. Approved for gases, vapours and fluids.

Working temperature: -10°C / +14°F (263K) up to +220°C / +428°F (493K)

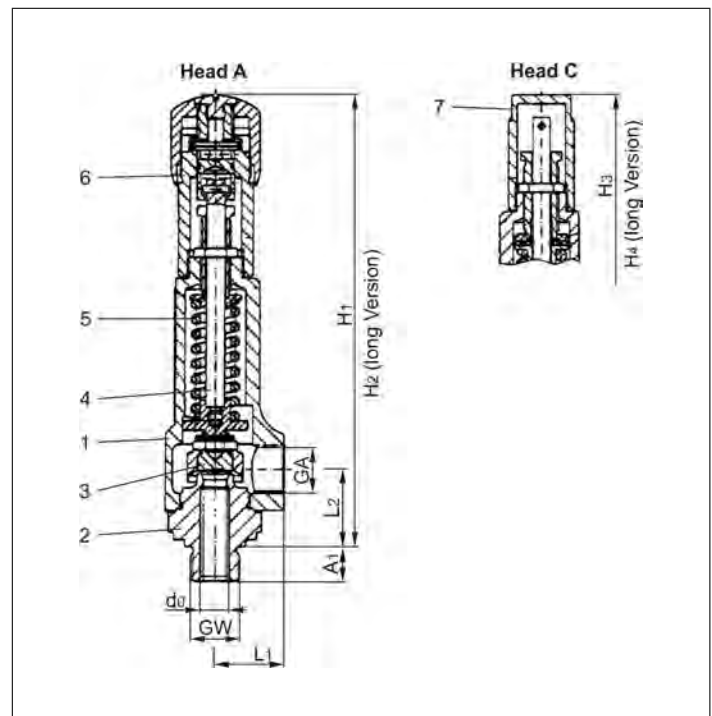
Materials	DIN EN	ASTM
1 Outlet body	1.4104	A 276 Grade 430F
2 Inlet body	1.4104	A 276 Grade 430F
3 Disc	1.4122	no reference
4 Stem	1.4021	A 276 Grade 420
5 Spring	1.4310	A 313 Grade 302
6 Lifting device	1.4104	A 276 Grade 430F
7 Cap	1.0718	A 108

**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/EG (PED).



Marking acc. to ASME Code Section VIII will only be carried out by written notice on purchase order.



Technical data	Type 06315.X.N000/N020		Type 06315.X.L000/L020		
	GW	1/2	3/4	1/2	3/4
Nominal size	GW	1/2	3/4	1/2	3/4
Orifice	d <sub>0</sub>	10	10	10	10
Dimension code	.X.	1004	1006	1004	1006
Set pressure range	bar	0.1-93	0.1-93	93-180	93-180
Outlet	GA	1/2	1/2	1/2	1/2
Height	H <sub>1</sub>	195	195	-	-
Height	H <sub>2</sub>	-	-	216	216
Height	H <sub>3</sub>	180	180	-	-
Height	H <sub>4</sub>	-	-	191	191
Length	L <sub>1</sub>	30	30	30	30
Length	L <sub>2</sub>	33	33	33	33
Length	A <sub>1</sub>	15	16	15	16
Weight	ca. kg	1.2	1.2	1.4	1.4
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.50	0.50	0.50	0.50
Coeff. of discharge fluids	α <sub>w</sub>	0.35	0.35	0.35	0.35

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06315



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

**The capacity indicated below is for a fully opened valve.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW	1/2 & 3/4		
	$d_0$ (mm)	10.0		
	$A_0$ (mm <sup>2</sup> )	78.5		
	Medium	A	B	C
0.1		12	14	630
0.5		29	34	1080
1.0		43	51	1470
2.0		70	84	2070
3.0		94	115	2540
4.0		118	145	2930
5.0		141	174	3280
6.0		164	204	3590
8.0		209	262	4150
10.0		255	321	4640
15.0		369	468	5680
20.0		483	615	6560
25.0		596	762	7330
30.0		712	909	8030
40.0		943	1204	9270
50.0		1181	1498	10400
60.0		1421	1792	11400
70.0		1670	2086	12300
80.0		1921	2380	13100
100.0		2451	2969	14700
150.0		4044	4439	18000
180.0		-	5322	19700

# Safety Valves

## Type 06316



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, angle type, stainless steel, type tested, TÜV-SV.980. D/G/F**

Standard safety valve

metal to metal seated, closed bonnet

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

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

**Part No. 06316.X.N000 (0.1 - 68.0 bar)**

**Part No. 06316.X.L000 (68.0 - 330.0 bar)**

with lifting device - head A

**Part No. 06316.X.N020 (0.1 - 68.0 bar)**

**Part No. 06316.X.L020 (68.0 - 330.0 bar)**

with gastight cap - head C

Available options - on request only:

· Threads NPT acc. to ANSI B 1.20.1

· Disc with soft sealing (NBR, CR, EPDM, FKM, FFKM, PCTFE, PTFE-FDA)

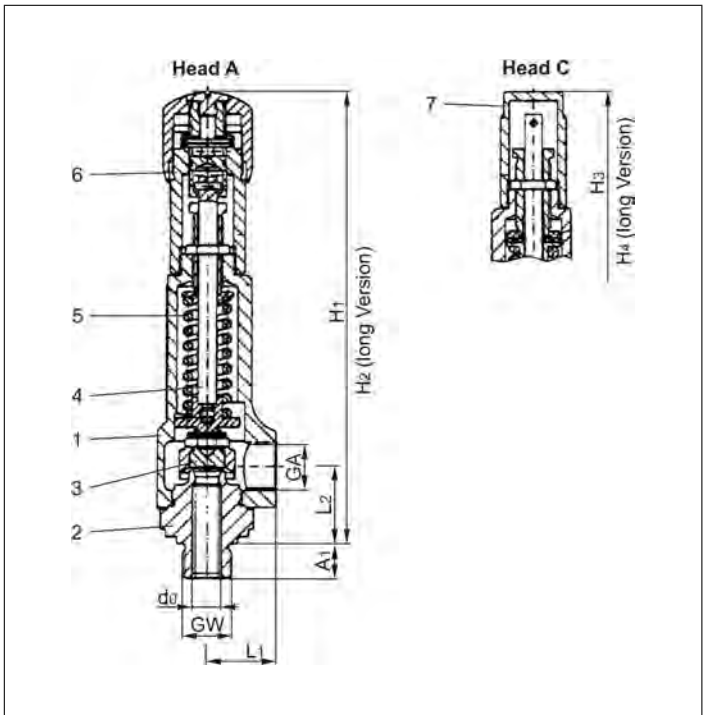


### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels. Approved for gases, vapours and fluids.

Working temperature (pay attention to AD-Merkblatt W10: Temperature-Pressure-Overview): -270°C / -454°F (6K) up to +280°C / +536°F (553K)

Materials	DIN EN	ASTM
1 Outlet body	1.4404	A 276 Grade 316L
2 Inlet body	1.4404	A 276 Grade 316L
3 Disc	1.4404	A 276 Grade 316L
4 Stem	1.4404	A 276 Grade 316L
5 Spring	1.4310	A 313 Grade 302
6 Lifting device	1.4404	A 276 Grade 316L
7 Cap	1.4404	A 276 Grade 316L



**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/EG (PED).



Marking acc. to ASME Code Section VIII will only be carried out by written notice on purchase order.



Technical data	Type 06316.X.N000/N020		Type 06316.X.L000/L020				
	GW	1/2	3/4	1/2	3/4	1/2	3/4
Nominal size	GW	1/2	3/4	1/2	3/4	1/2	3/4
Orifice	d <sub>0</sub>	10	10	6	6	10	10
Dimension code	.X.	1004	1006	0604	0606	1004	1006
Set pressure range	bar	0.1-68	0.1-68	180-330	180-330	68-180	68-180
Outlet	GA	1/2	1/2	1/2	1/2	1/2	1/2
Height	H <sub>1</sub>	195	195	-	-	-	-
Height	H <sub>2</sub>	-	-	201	201	216	216
Height	H <sub>3</sub>	180	180	-	-	-	-
Height	H <sub>4</sub>	-	-	191	191	191	191
Length	L <sub>1</sub>	30	30	30	30	30	30
Length	L <sub>2</sub>	33	33	33	33	33	33
Length	A <sub>1</sub>	15	16	15	16	15	16
Weight	ca. kg	1.2	1.2	1.4	1.4	1.4	1.4
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.50	0.50	0.72	0.72	0.50	0.50
Coeff. of discharge fluids	α <sub>w</sub>	0.35	0.35	-	-	0.35	0.35

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06316



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

**The capacity indicated below is for a fully opened valve.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW		1/2 & 3/4			
	$d_0$ (mm)	6	10			
	$A_0$ (mm <sup>2</sup> )	28.3	78.5			
	Medium	<b>B</b>	<b>A</b>	<b>B</b>	<b>C</b>	
0.1	-	-	12	14	630	
0.5	-	-	29	34	1080	
1.0	-	-	43	51	1470	
2.0	-	-	70	84	2070	
3.0	-	-	94	115	2540	
4.0	-	-	118	145	2930	
5.0	-	-	141	174	3280	
6.0	-	-	164	204	3590	
8.0	-	-	209	262	4150	
10.0	-	-	255	321	4640	
15.0	-	-	369	468	5680	
20.0	-	-	483	615	6560	
25.0	-	-	596	762	7330	
30.0	-	-	712	909	8030	
40.0	-	-	943	1204	9270	
50.0	-	-	1181	1498	10400	
60.0	-	-	1421	1792	11400	
70.0	-	-	1670	2086	12300	
80.0	-	-	1921	2380	13100	
100.0	-	-	2451	2969	14700	
150.0	-	-	4044	4439	18000	
180.0	2759	-	-	5322	19700	
200.0	3064	-	-	-	-	
250.0	3826	-	-	-	-	
300.0	4589	-	-	-	-	
330.0	5046	-	-	-	-	

# Safety Valves

## Type 06317



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, angle type, stainless steel,**  
**type tested, TÜV-SV.847. D/G/F (G 3/8 - G 1/2, d<sub>0</sub> = 6.0 only D/G)**  
**type tested, TÜV-SV.878. D/G/F (G 3/4 - G 1-1/4)**

metal to metal seated, closed bonnet

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

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

**Part No. 06317.X.0000**

with lifting device - head A

**Part No. 06317.X.0020**

with gastight cap - head C

Available options - on request only:

· Disc with soft sealing (EPDM, FKM, PTFE)

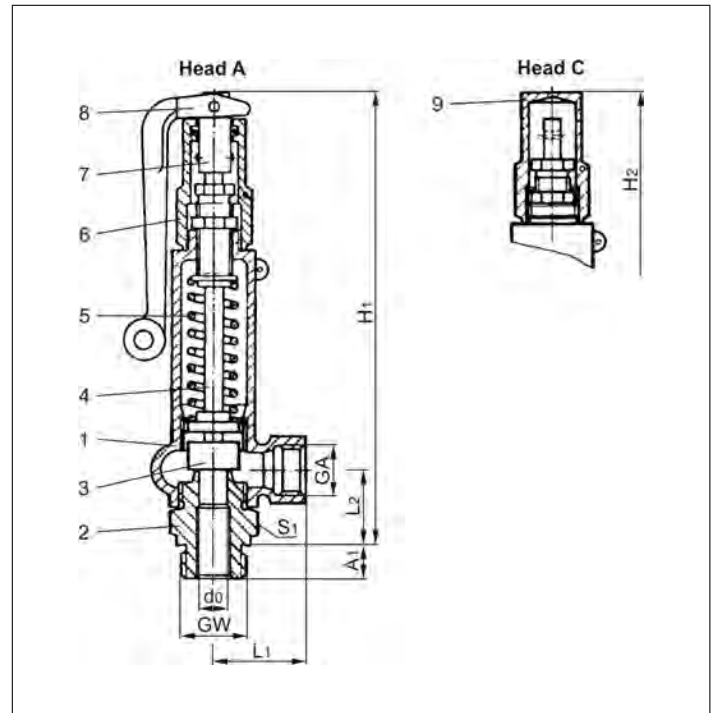


### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels. Approved for gases, vapours and fluids.

Working temperature: -60°C / -76°F (213K) up to +280°C / +536°F (553K)

Materials	DIN EN	ASTM
1 Body + bonnet	1.4581	A 351 CF 10MC
2 Inlet body	1.4571	A 276 Grade 316Ti
3 Disc	1.4571	A 276 Grade 316Ti
4 Stem	1.4571	A 276 Grade 316Ti
5 Spring	1.4310	A 313 Grade 302
6 Lifting cap	1.4581	A 351 CF 10MC
7 Lifting stem	1.4305	A 276 Grade 303
8 Lever	3.2581	no reference
9 Cap	1.4581	A 351 CF 10MC



**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/EG (PED).



Type 06317	Technical data											
Nominal size	GW	3/8	1/2	1/2	1/2	1/2	3/4	3/4	1	1	1-1/4	1-1/4
Orifice	d <sub>0</sub>	10	6	8	10	12.5	12.5	16	12.5	16	16	20
Dimension code	.X.	1003	0604	0804	1004	1204	1206	1606	1210	1610	1612	2012
Set pressure range	bar	0.1-140	120-500	20-200	0.1-140	0.1-70	32-70	0.1-32	32-70	0.1-32	0.1-32	0.1-20
Outlet	GA	1/2	3/4	1/2	1/2	1/2	1	1	1	1	1	1
Height	H <sub>1</sub>	200	200	200	200	200	230	230	230	230	230	230
Height	H <sub>2</sub>	185	185	185	185	185	215	215	215	215	215	215
Length	L <sub>1</sub>	40	40	40	40	40	50	50	50	50	50	50
Length	L <sub>2</sub>	34	34	34	34	34	40	40	40	40	40	40
Length	A <sub>1</sub>	12	14	12	14	14	16	16	18	18	20	20
Wrench size across flats	S <sub>1</sub>	32	32	32	32	32	41	41	41	41	50	50
Weight	ca. kg	1.0	1.0	1.0	1.0	1.0	1.6	1.6	1.6	1.6	1.8	1.8
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.38	0.42	0.42	0.38	0.27	0.37	0.29	0.37	0.29	0.29	0.11
Coeff. of discharge fluids	α <sub>w</sub>	0.30	-	0.30	0.30	0.20	0.29	0.23	0.29	0.23	0.23	0.08

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06317



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

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 (ü)	GW	1/2				3/8 & 1/2			1/2			3/4 & 1		
	d <sub>0</sub> (mm)	6				10			12.5			12.5		
	A <sub>0</sub> (mm <sup>2</sup> )	28.3				78.5			122.7			122.7		
	Medium	B	A	B	C	A	B	C	A	B	C	A	B	C
0.1	-	-	-	-	12	15	536	12	15	558	-	-	-	
0.4	-	-	-	-	17	24	847	19	26	883	-	-	-	
1.0	-	-	-	-	33	40	1257	36	44	1309	-	-	-	
2.0	-	-	-	-	51	64	1778	57	72	1852	-	-	-	
3.0	-	-	-	-	68	88	2177	76	97	2269	-	-	-	
4.0	-	-	-	-	85	110	2514	95	122	2619	-	-	-	
6.0	-	-	-	-	119	155	3079	132	172	3207	-	-	-	
8.0	-	-	-	-	152	200	3555	169	222	3703	-	-	-	
10.0	-	-	-	-	186	245	3975	207	272	4140	-	-	-	
20.0	-	249	333	3598	351	471	5621	390	523	5855	-	-	-	
30.0	-	366	494	4406	518	698	6884	575	775	7171	-	-	-	
35.0	-	425	575	4759	601	812	7436	667	902	7746	914	1236	11232	
40.0	-	484	656	5088	684	927	7949	759	1029	8280	1040	1410	12007	
50.0	-	602	819	5688	851	1157	8888	945	1285	9258	1295	1760	13424	
60.0	-	722	983	6231	1021	1389	9736	1133	1542	10141	1553	2113	14706	
70.0	-	843	1148	6730	1192	1622	10516	1324	1801	10954	1814	2469	15884	
80.0	-	968	1314	7195	1368	1858	11242	-	-	-	-	-	-	
90.0	-	1096	1482	7632	1549	2100	11924	-	-	-	-	-	-	
100.0	-	1225	1650	8044	1731	2479	12569	-	-	-	-	-	-	
120.0	1627	1486	1991	8812	2100	2100	13769	-	-	-	-	-	-	
140.0	1909	1754	2337	9518	2479	2479	14872	-	-	-	-	-	-	
160.0	2182	-	2725	10186	-	-	-	-	-	-	-	-	-	
180.0	2455	-	3065	10704	-	-	-	-	-	-	-	-	-	
200.0	2782	-	3406	11376	-	-	-	-	-	-	-	-	-	
250.0	3541	-	-	-	-	-	-	-	-	-	-	-	-	
300.0	4332	-	-	-	-	-	-	-	-	-	-	-	-	
350.0	5156	-	-	-	-	-	-	-	-	-	-	-	-	
400.0	6019	-	-	-	-	-	-	-	-	-	-	-	-	
450.0	6923	-	-	-	-	-	-	-	-	-	-	-	-	
500.0	7873	-	-	-	-	-	-	-	-	-	-	-	-	

Set pressure in bar (ü)	GW	3/4, 1 & 1-1/4			1-1/4		
	d <sub>0</sub> (mm)	16			20		
	A <sub>0</sub> (mm <sup>2</sup> )	201.1			314.2		
	Medium	A	B	C	A	B	C
0.1	23	29	1052	13	16	572	
0.4	36	50	1663	19	27	904	
1.0	67	81	2467	39	48	1341	
2.0	100	127	3489	59	75	1896	
3.0	134	171	4273	79	102	2322	
4.0	167	215	4934	99	128	2682	
6.0	232	303	6043	138	180	3284	
8.0	298	391	6978	177	232	3792	
10.0	363	479	7801	215	284	4240	
20.0	686	920	11033	407	545	5996	
30.0	1011	1364	13512	-	-	-	
35.0	1174	1587	14595	-	-	-	



# Safety Valves

## Type 06318



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, angle type, ductile casting GGG-40.3, type tested, TÜV-SV.847. D/G/F (G 3/8 - G 1/2) type tested, TÜV-SV.878. D/G/F (G 3/4 - G 1-1/4)**

metal to metal seated, closed bonnet

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

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

**Part No. 06318.X.0000**

with lifting device - head A

**Part No. 06318.X.0020**

with gastight cap - head C

Available options - on request only:

· Disc with soft sealing (EPDM, FKM, PTFE)



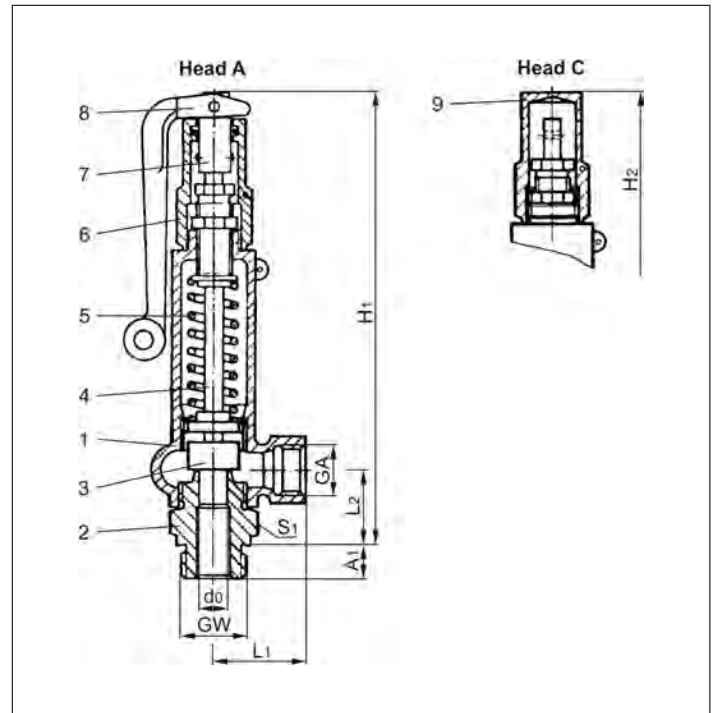
### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.

Approved for gases, vapours and fluids.

Working temperatures: -10°C / +14°F (263K) up to +200°C / +392°F (473K)

Materials	DIN EN	ASTM
1 Body + Bonnet	0.7043	A 395
2 Inlet body	1.4104	A 276 Grade 430F
3 Disc	1.4571	A 276 Grade 316Ti
4 Stem	1.4104	A 276 Grade 430F
5 Spring	1.4310	A 313 Grade 302
6 Lifting cap	1.4104	A 276 Grade 430F
7 Lifting stem	1.4305	A 276 Grade 303
8 Lever	3.2581	no reference
9 Cap	1.0718	A 108



**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/EG (PED).



Type 06318	Technical data										
Nominal size	GW	3/8	1/2	1/2	1/2	3/4	3/4	1	1	1-1/4	1-1/4
Orifice	d <sub>0</sub>	10	8	10	12.5	12.5	16	12.5	16	16	20
Dimension code	.X.	1003	0804	1004	1204	1206	1606	1210	1610	1612	2012
Set pressure range	bar	0.1-140	20-200	0.1-140	0.1-70	32-70	0.1-32	32-70	0.1-32	0.1-32	0.1-20
Outlet	GA	1/2	1/2	1/2	1/2	1	1	1	1	1	1
Height	H <sub>1</sub>	200	200	200	200	230	230	230	230	230	230
Height	H <sub>2</sub>	185	185	185	185	215	215	215	215	215	215
Length	L <sub>1</sub>	40	40	40	40	50	50	50	50	50	50
Length	L <sub>2</sub>	34	34	34	34	40	40	40	40	40	40
Length	A <sub>1</sub>	12	12	14	14	16	16	18	18	20	20
Wrench size across flats	S <sub>1</sub>	32	32	32	32	41	41	41	41	50	50
Weight	ca. kg	1.0	1.0	1.0	1.0	1.6	1.6	1.6	1.6	1.8	1.8
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.38	0.42	0.38	0.27	0.37	0.29	0.37	0.29	0.29	0.11
Coeff. of discharge fluids	α <sub>w</sub>	0.30	0.30	0.30	0.20	0.29	0.23	0.29	0.23	0.23	0.08

Dimensions in mm.

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Edition 2012-07

# Safety Valves

## Type 06318



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

**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 (ü)	GW	1/2			3/8 & 1/2			1/2			3/4 & 1		
	d <sub>0</sub> (mm)	8			10			12.5			12.5		
	A <sub>0</sub> (mm <sup>2</sup> )	50.3			78.5			122.7			122.7		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C
0.1	-	-	-	12	15	536	12	15	558	-	-	-	
0.4	-	-	-	17	24	847	19	26	883	-	-	-	
1.0	-	-	-	33	40	1257	36	44	1309	-	-	-	
2.0	-	-	-	51	64	1778	57	72	1852	-	-	-	
3.0	-	-	-	68	88	2177	76	97	2268	-	-	-	
4.0	-	-	-	85	110	2514	95	122	2619	-	-	-	
6.0	-	-	-	119	155	3079	132	172	3207	-	-	-	
8.0	-	-	-	152	200	3555	169	222	3703	-	-	-	
10.0	-	-	-	186	245	3975	207	272	4140	-	-	-	
20.0	249	333	3598	351	471	5621	390	523	5855	-	-	-	
30.0	366	494	4406	518	698	6884	575	775	7171	-	-	-	
35.0	425	575	4759	601	812	7436	667	902	7746	914	1236	11232	
40.0	484	656	5088	684	927	7949	759	1029	8280	1040	1410	12007	
50.0	602	819	5688	851	1157	8888	945	1285	9258	1295	1760	13424	
60.0	722	983	6231	1021	1389	9736	1133	1542	10141	1553	2113	14706	
70.0	843	1148	6730	1192	1622	10516	1324	1801	10954	1814	2469	15884	
80.0	968	1314	7195	1368	1858	11242	-	-	-	-	-	-	
90.0	1096	1482	7632	1549	1549	11924	-	-	-	-	-	-	
100.0	1225	1650	8044	1731	1731	12569	-	-	-	-	-	-	
120.0	1486	1991	8812	2100	2100	13769	-	-	-	-	-	-	
140.0	1754	2337	9518	2479	2479	14872	-	-	-	-	-	-	
160.0	-	2725	10186	-	-	-	-	-	-	-	-	-	
180.0	-	3065	10704	-	-	-	-	-	-	-	-	-	
200.0	-	3406	11376	-	-	-	-	-	-	-	-	-	

Set pressure in bar (ü)	GW	3/4, 1 & 1-1/4			1-1/4		
	d <sub>0</sub> (mm)	16			20		
	A <sub>0</sub> (mm <sup>2</sup> )	201.1			314.2		
	Medium	A	B	C	A	B	C
0.1	23	29	1052	13	16	572	
0.4	36	50	1663	19	27	904	
1.0	67	81	2467	39	48	1341	
2.0	100	127	3489	59	75	1896	
3.0	134	171	4273	79	102	2322	
4.0	167	215	4934	99	128	2682	
6.0	232	303	6043	138	180	3284	
8.0	298	391	6978	177	232	3792	
10.0	363	479	7801	215	284	4240	
20.0	686	920	11033	407	545	5996	
30.0	1011	1364	13512	-	-	-	
35.0	1174	1587	14595	-	-	-	

# Safety Valves

## Type 06319



**CRYONICA**  
криогенные технологии



**Safety Valves, angle type, stainless steel,  
type tested, TÜV-SV.847. D/G/F (G 3/8 - G 1/2)  
type tested, TÜV-SV.878. D/G/F (G 3/4 - G 1-1/4)**

metal to metal seated, closed bonnet

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

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

### Part No. 06319.X.0020

with gastight cap



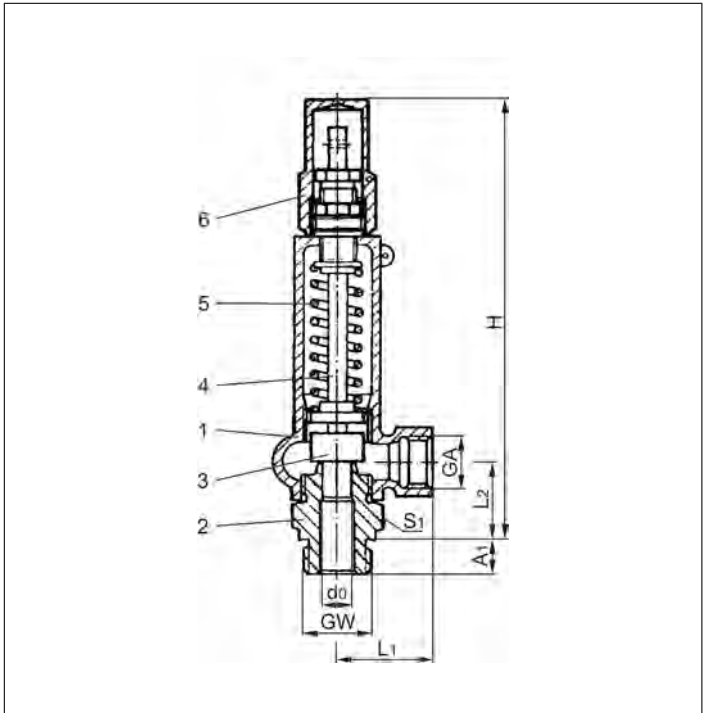
### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.

Approved for gases, vapours and fluids.

Working temperatures: -200°C / -328°F (73K) up to +280°C / +536°F (553K)

Materials	DIN EN	ASTM
1 Body + Bonnet	1.4308	A 351 CF8
2 Inlet body	1.4571	A 276 Grade 316Ti
3 Disc	1.4571	A 276 Grade 316Ti
4 Stem	1.4571	A 276 Grade 316Ti
5 Spring	1.4310	A 313 Grade 302
6 Cap	1.4571	A 276 Grade 316Ti



**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/EG (PED).



Type 06319	Technical data										
Nominal size	GW	3/8	1/2	1/2	1/2	3/4	3/4	1	1	1-1/4	1-1/4
Orifice	d <sub>0</sub>	10	8	10	12.5	12.5	16	12.5	16	16	20
Dimension code	.X.	1003	0804	1004	1204	1206	1606	1210	1610	1612	2012
Set pressure range	bar	0.1-140	20-200	0.1-140	0.1-70	32-70	0.1-32	32-70	0.1-32	0.1-32	0.1-20
Outlet	GA	1/2	1/2	1/2	1/2	1	1	1	1	1	1
Height	H	185	185	185	185	215	215	215	215	215	215
Length	L <sub>1</sub>	40	40	40	40	50	50	50	50	50	50
Length	L <sub>2</sub>	34	34	34	34	40	40	40	40	40	40
Length	A <sub>1</sub>	12	12	14	14	16	16	18	18	20	20
Wrench size across flats	S <sub>1</sub>	32	32	32	32	41	41	41	41	50	50
Weight	ca. kg	1.0	1.0	1.0	1.0	1.6	1.6	1.6	1.6	1.8	1.8
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.38	0.42	0.38	0.27	0.37	0.29	0.37	0.29	0.29	0.11
Coeff. of discharge fluids	α <sub>w</sub>	0.30	0.30	0.30	0.20	0.29	0.23	0.29	0.23	0.23	0.08

Dimensions in mm.

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WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06319



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

**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 (ü)	GW	1/2			3/8 & 1/2			1/2			3/4 & 1		
	d <sub>0</sub> (mm)	8			10			12.5			12.5		
	A <sub>0</sub> (mm <sup>2</sup> )	50.3			78.5			122.7			122.7		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C
0.1	-	-	-	12	15	536	12	15	558	-	-	-	
0.4	-	-	-	17	24	847	19	26	883	-	-	-	
1.0	-	-	-	33	40	1257	36	44	1309	-	-	-	
2.0	-	-	-	51	64	1778	57	72	1852	-	-	-	
3.0	-	-	-	68	88	2177	76	97	2268	-	-	-	
4.0	-	-	-	85	110	2514	95	122	2619	-	-	-	
6.0	-	-	-	119	155	3079	132	172	3207	-	-	-	
8.0	-	-	-	152	200	3555	169	222	3703	-	-	-	
10.0	-	-	-	186	245	3975	207	272	4140	-	-	-	
20.0	249	333	3598	351	471	5621	390	523	5855	-	-	-	
30.0	366	494	4406	518	698	6884	575	775	7171	-	-	-	
35.0	425	575	4759	601	812	7436	667	902	7746	914	1236	11232	
40.0	484	656	5088	684	927	7949	759	1029	8280	1040	1410	12007	
50.0	602	819	5688	851	1157	8888	945	1285	9258	1295	1760	13424	
60.0	722	983	6231	1021	1389	9736	1133	1542	10141	1553	2113	14706	
70.0	843	1148	6730	1192	1622	10516	1324	1801	10954	1814	2469	15884	
80.0	968	1314	7195	1368	1858	11242	-	-	-	-	-	-	
90.0	1096	1482	7632	1549	1549	11924	-	-	-	-	-	-	
100.0	1225	1650	8044	1731	1731	12569	-	-	-	-	-	-	
120.0	1486	1991	8812	2100	2100	13769	-	-	-	-	-	-	
140.0	1754	2337	9518	2479	2479	14872	-	-	-	-	-	-	
160.0	-	2725	10186	-	-	-	-	-	-	-	-	-	
180.0	-	3065	10704	-	-	-	-	-	-	-	-	-	
200.0	-	3406	11376	-	-	-	-	-	-	-	-	-	

Set pressure in bar (ü)	GW	3/4, 1 & 1-1/4			1-1/4		
	d <sub>0</sub> (mm)	16			20		
	A <sub>0</sub> (mm <sup>2</sup> )	201.1			314.2		
	Medium	A	B	C	A	B	C
0.1	23	29	1052	13	16	572	
0.4	36	50	1663	19	27	904	
1.0	67	81	2467	39	48	1341	
2.0	100	127	3489	59	75	1896	
3.0	134	171	4273	79	102	2322	
4.0	167	215	4934	99	128	2682	
6.0	232	303	6043	138	180	3284	
8.0	298	391	6978	177	232	3792	
10.0	363	479	7801	215	284	4240	
20.0	686	920	11033	407	545	5996	
30.0	1011	1364	13512	-	-	-	
35.0	1174	1587	14595	-	-	-	

# Safety Valves

## Type 06120, Type 06121



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, angle type, cast iron  
type tested, TÜV-SV.577. D/G/F**

Standard safety valve  
metal to metal seated, with lifting device  
Flanged connection acc. to DIN EN 1092-1 PN16

**Part No. 06120.X.0000**

open bonnet

**Part No. 06121.X.0000**

closed bonnet

Available options - on request only:

· Disc with soft sealing



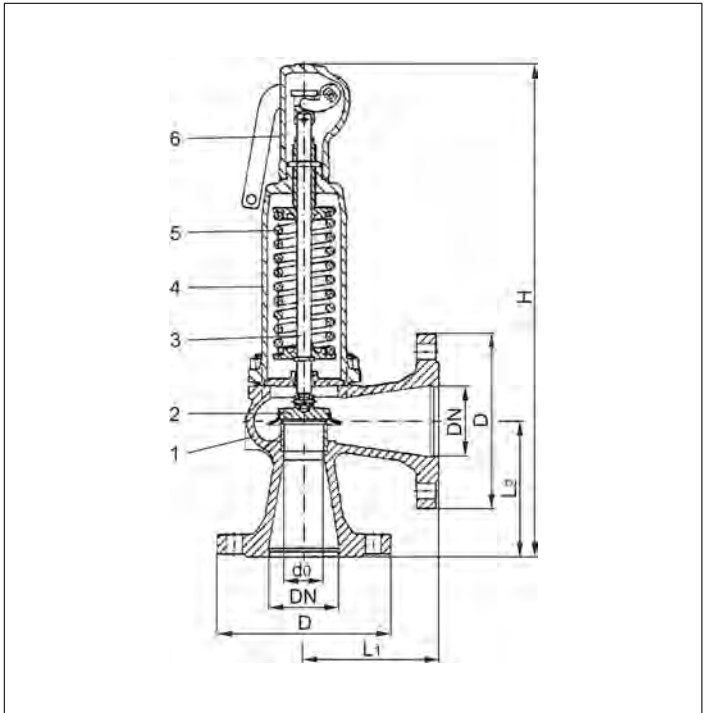
### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.

Approved for gases, vapours and fluids.

Working temperatures: -10°C / +14°F (263K) up to +200°C / +392°F (473K)

Materials	DIN EN	ASTM
1 Body	0.6025	A 48-83 Gr. 35B
2 Disc	1.4122	no reference
3 Stem	1.4021	A 276 Grade 420
4 Spring	1.1200	A 576 Grade 1045
5 Bonnet	0.7040	A 536-87 Gr. 60-40-18
6 Lifting device	0.7040	A 536-87 Gr. 60-40-18



**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/EG (PED).



Type 06120, 06121	Technical data									
Nominal size	DN	15	20	25	32	40	50	65	80	100
Orifice	d <sub>0</sub>	12	18	18	18	23	29	37	46	60
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000
Set pressure range	bar	0.2-16	0.2-16	0.2-16	0.2-16	0.2-16	0.2-16	0.2-16	0.2-16	0.2-16
Flange diameter	D	95	105	115	140	150	165	185	200	220
Height Type 06120	H	310	315	320	325	335	360	470	525	605
Height Type 06121	H	305	310	315	320	330	355	475	530	590
Length	L <sub>1</sub>	90	95	100	105	115	125	145	155	175
Length	L <sub>2</sub>	90	95	100	105	115	125	145	155	175
Weight	ca. kg	5.0	6.0	6.0	8.0	9.0	12.0	15.0	20.0	33.0
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.62	0.29	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Coeff. of discharge fluids	α <sub>w</sub>	0.48	0.19	0.25	0.25	0.25	0.25	0.25	0.25	0.25

Dimensions in mm.

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WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06120, Type 06121



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

The capacity indicated below is for a fully opened valve.

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar ( $\bar{u}$ )	DN	15			20			25 & 32			40		
	$d_0$ (mm)	12			18			18			23		
	$A_0$ (mm <sup>2</sup> )	113.1			254.5			254.5			415.5		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C
0.2	-	-	-	-	-	-	-	34	39	1770	55	63	2890
0.5	55	67	2140	30	35	1900	63	74	2510	102	120	4090	
1.0	78	93	2900	67	80	2580	101	121	3390	165	197	5540	
2.0	125	151	4100	129	156	3650	170	206	4800	278	336	7840	
3.0	168	206	5020	177	217	4470	232	284	5880	379	463	9600	
4.0	210	258	5790	221	272	5160	290	356	6790	473	582	11100	
5.0	251	311	6480	265	327	5770	347	429	7590	566	700	12400	
6.0	293	363	7090	308	382	6320	404	501	8310	659	818	13600	
7.0	333	416	7660	350	438	6820	459	574	8980	750	936	14700	
8.0	374	468	8190	394	493	7300	516	646	9600	842	1055	15700	
9.0	415	521	8690	437	548	7740	572	718	10200	934	1173	16600	
10.0	456	573	9160	480	604	8160	629	791	10700	1026	1291	17500	
12.0	538	679	10000	566	714	8930	741	936	11800	1210	1528	19200	
14.0	618	784	10800	650	825	9650	852	1081	12700	1391	1764	20700	
16.0	699	889	11600	736	935	10300	964	1225	13600	1574	2001	22200	

Set pressure in bar ( $\bar{u}$ )	DN	50			65			80			100		
	$d_0$ (mm)	29			37			46			60		
	$A_0$ (mm <sup>2</sup> )	660.6			1075.3			1662.1			2827.8		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C
0.2	88	101	4600	142	165	7500	220	255	11600	375	431	19700	
0.5	163	191	6510	265	311	10600	410	481	16400	697	819	27800	
1.0	263	313	8810	428	510	14300	661	788	22200	1125	1341	37700	
2.0	442	534	12500	720	870	20300	1113	1344	31300	1893	2287	53300	
3.0	603	737	15300	981	1199	24800	1517	1854	38400	2581	3153	65300	
4.0	752	925	17600	1224	1505	28700	1892	2327	44300	3218	3958	75400	
5.0	900	1113	19700	1465	1811	32100	2265	2800	49600	3853	4763	84300	
6.0	1048	1301	21600	1706	2117	35100	2636	3273	54300	4485	5568	92400	
7.0	1192	1489	23300	1940	2423	37900	2999	3746	58600	5102	6373	99800	
8.0	1339	1677	24900	2179	2729	40600	3368	4219	62700	5730	7177	107000	
9.0	1485	1865	26400	2418	3035	43000	3737	4692	66500	6358	7982	113000	
10.0	1632	2053	27900	2656	3342	45300	4105	5165	70100	6984	8787	119000	
12.0	1924	2429	30500	3132	3954	49700	4842	6111	76800	8237	10397	131000	
14.0	2211	2805	33000	3599	4566	53700	5563	7057	82900	9464	12006	141000	
16.0	2503	3181	35200	4074	5178	57400	6297	8003	88700	10714	13616	151000	

# Safety Valves

## Type 06125, Type 06126



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, angle type, cast steel  
type tested, TÜV-SV.577. D/G/F**

Standard safety valve  
metal to metal seated, with lifting device  
Flanged connection acc. to DIN EN 1092-1 PN40

**Part No. 06125.X.0000**

open bonnet

**Part No. 06126.X.0000**

closed bonnet

Available options - on request only:

· Disc with soft sealing



### Applications:

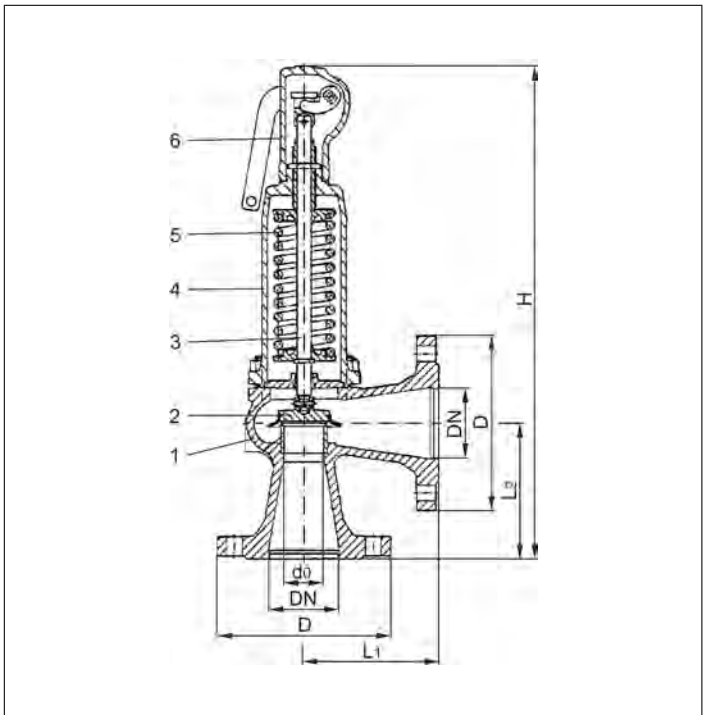
Provided as safety device for protection against excessive pressure in pressure vessels.

Approved for gases, vapours and fluids.

Working temperatures: -10°C / +14°F (263K) up to +200°C / +392°F (473K)

with spring in special steel up to +350°C / +662°F (623K)

Materials	DIN EN	ASTM
1 Body	1.0619	A 216 Grade WCB
2 Disc	1.4122	no reference
3 Stem	1.4021	A 276 Grade 420
4 Spring	1.1200	A 576 Grade 1045
5 Bonnet	1.0619	A 216 Grade WCB
6 Lifting device	0.7040	A 536-87 Gr. 60-40-18



**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/EG (PED).



Type 06125, 06126	Technical data										
Nominal size	DN	15	20	25	32	40	50	65	80	100	125
Orifice	d <sub>0</sub>	12	18	18	18	23	29	37	46	60	74
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000	1250
Set pressure saturated steam	bar	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-24
Set pressure air and fluids	bar	0.2-40	0.2-40	0.2-40	0.2-40	0.2-40	0.2-40	0.2-34	0.2-34	0.2-32	0.2-32
Flange diameter	D	95	105	115	140	150	165	185	200	235	270
Height Type 06125	H	310	315	320	325	335	360	470	525	605	740
Height Type 06126	H	305	310	315	320	330	355	475	530	590	745
Length	L <sub>1</sub>	90	95	100	105	115	125	145	155	175	200
Length	L <sub>2</sub>	90	95	100	105	115	125	145	155	175	200
Weight	ca. kg	5.0	6.0	6.0	8.0	9.0	12.0	15.0	20.0	33.0	48.0
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.62	0.29	0.38	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Coeff. of discharge fluids	α <sub>w</sub>	0.48	0.19	0.25	0.25	0.25	0.25	0.25	0.25	0.25	0.25

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

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Edition 2012-07

# Safety Valves

## Type 06125, Type 06126



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

**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 (ü)	DN	15			20			25 & 32			40			50		
	d <sub>0</sub> (mm)	12			18			18			23			29		
	A <sub>0</sub> (mm <sup>2</sup> )	113.1			254.5			254.5			415.5			660.6		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
0.2	-	-	-	-	-	-	34	39	1770	55	63	2890	88	101	4600	
0.5	55	67	2140	30	35	1900	63	74	2510	102	120	4090	163	191	6510	
1.0	78	93	2900	67	80	2580	101	121	3390	165	197	5540	263	313	8810	
2.0	125	151	4100	129	156	3650	170	206	4800	278	336	7840	442	534	12500	
3.0	168	206	5020	177	217	4470	232	284	5880	379	463	9600	603	737	15300	
4.0	210	258	5790	221	272	5160	290	356	6790	473	582	11100	752	925	17600	
5.0	251	311	6480	265	327	5770	347	429	7590	566	700	12400	900	1113	19700	
6.0	293	363	7090	308	382	6320	404	501	8310	659	818	13600	1048	1301	21600	
7.0	333	416	7660	350	438	6820	459	574	8980	750	936	14700	1192	1489	23300	
8.0	374	468	8190	394	493	7300	516	646	9600	842	1055	15700	1339	1677	24900	
9.0	415	521	8690	437	548	7740	572	718	10200	934	1173	16600	1485	1865	26400	
10.0	456	573	9160	480	604	8160	629	791	10700	1026	1291	17500	1632	2053	27900	
12.0	538	679	10000	566	714	8930	741	936	11800	1210	1528	19200	1924	2429	30500	
16.0	699	889	11600	736	935	10300	964	1225	13600	1574	2001	22200	2503	3181	35200	
20.0	863	1099	13000	908	1156	11500	1190	1515	15200	1942	2474	24800	3088	3933	39400	
24.0	1024	1309	14200	1078	1377	12600	1412	1805	16600	2306	2947	27100	3665	4685	43200	
28.0	1189	1519	15300	1251	1599	13600	1639	2095	18000	2676	3420	29300	4254	5437	46600	
32.0	1354	1729	16400	1425	1820	14600	1867	2384	19200	3049	3893	31300	4847	6189	49800	
36.0	-	1939	17400	-	2041	15500	-	2674	20400	-	4366	33200	-	6941	52900	
40.0	-	2149	18300	-	2262	16300	-	2964	21500	-	4839	35000	-	7693	55700	

Set pressure in bar (ü)	DN	65			80			100			125		
	d <sub>0</sub> (mm)	37			46			60			74		
	A <sub>0</sub> (mm <sup>2</sup> )	1075.3			1662.1			2827.8			4300.7		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C
0.2	142	165	7500	220	255	11600	375	431	19700	570	660	30000	
0.5	265	311	10600	410	481	16400	697	819	27800	1060	1245	42400	
1.0	428	510	14300	661	788	22200	1125	1341	37700	1711	2039	57400	
2.0	720	870	20300	1113	1344	31300	1893	2287	53300	2880	3478	81100	
3.0	981	1199	24800	1517	1854	38400	2581	3153	65300	3926	4797	99300	
4.0	1224	1505	28700	1892	2327	44300	3218	3958	75400	4895	6021	115000	
5.0	1465	1811	32100	2265	2800	49600	3853	4763	84300	5861	7245	128000	
6.0	1706	2117	35100	2636	3273	54300	4485	5568	92400	6823	8469	140000	
7.0	1940	2423	37900	2999	3746	58600	5102	6373	99800	7761	9694	152000	
8.0	2179	2729	40600	3368	4219	62700	5730	7177	107000	8717	10918	162000	
9.0	2418	3035	43000	3737	4692	66500	6358	7982	113000	9671	12142	172000	
10.0	2656	3342	45300	4105	5165	70100	6984	8787	119000	10624	13366	181000	
12.0	3132	3954	49700	4842	6111	76800	8237	10397	131000	12530	15815	199000	
16.0	4074	5178	57400	6297	8003	88700	10714	13616	151000	16296	20711	229000	
20.0	5027	6402	64100	7770	9895	99100	13218	16835	169000	20107	25608	257000	
24.0	5967	7626	70200	9222	11788	109000	15690	20055	185000	23866	30505	281000	
28.0	6925	8851	75900	10704	13680	117000	18211	23274	200000	-	35402	304000	
32.0	7890	10075	81100	12195	15572	125000	20748	-	-	-	40299	324000	
34.0	-	10687	83600	-	16518	129000	-	-	-	-	-	-	
36.0	-	11299	86000	-	-	-	-	-	-	-	-	-	
40.0	-	12523	90700	-	-	-	-	-	-	-	-	-	



# Safety Valves

## Type 06127

**Safety Valves, angle type, stainless steel type tested, TÜV-SV.577. D/G/F**

Standard safety valve  
metal to metal seated, with lifting device,  
closed bonnet  
Flanged connection acc. to DIN EN 1092-1 PN40

**Part No. 06127.X.0000**

Available options - on request only:

- Disc with soft sealing

### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.

Approved for gases, vapours and fluids.

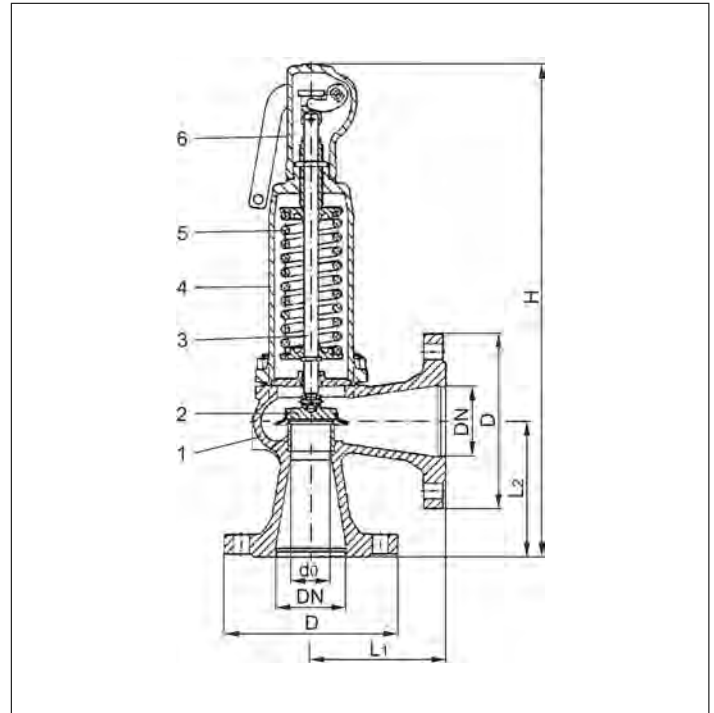
Working temperatures: -196°C / -321°F (77K) up to +300°C / +572°F (573K)

Materials	DIN EN	ASTM
1 Body	1.4408	A 351 CF 8M
2 Disc	1.4404	A 276 Grade 316L
3 Stem	1.4404	A 276 Grade 316L
4 Spring	1.4310	A 313 Grade 302
5 Bonnet	1.4408	A 351 CF 8M
6 Lifting device	1.4408	A 351 CF 8M



**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/EG (PED).



Type 06127	Technical data									
Nominal size	DN	15	20	25	32	40	50	65	80	100
Orifice	d <sub>0</sub>	12	18	18	18	23	29	37	46	60
Dimension code	.X.	0150	0200	0250	0320	0400	0500	0650	0800	1000
Set pressure saturated steam	bar	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32
Set pressure air and fluids	bar	0.2-40	0.2-40	0.2-40	0.2-40	0.2-40	0.2-40	0.2-34	0.2-34	0.2-32
Flange diameter	D	95	105	115	140	150	165	185	200	235
Height	H	305	310	315	320	330	355	466	521	581
Length	L <sub>1</sub>	90	95	100	105	115	125	145	155	175
Length	L <sub>2</sub>	90	95	100	105	115	125	145	155	175
Weight	ca. kg	5.0	6.0	6.0	8.0	9.0	12.0	15.0	20.0	33.0
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.62	0.29	0.38	0.38	0.38	0.38	0.38	0.38	0.38
Coeff. of discharge fluids	α <sub>w</sub>	0.48	0.19	0.25	0.25	0.25	0.25	0.25	0.25	0.25

Dimensions in mm.

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### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

**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 (ü)	DN	15			20			25 & 32			40		
	d <sub>0</sub> (mm)	12			18			18			23		
	A <sub>0</sub> (mm <sup>2</sup> )	113.1			254.5			254.5			415.5		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C
0.2		32	37	1510	-	-	1350	34	39	1770	55	63	2890
0.5		52	62	2140	28	23	1900	62	73	2510	102	120	4090
1.0		77	92	2900	67	80	2580	101	120	3390	165	196	5540
2.0		122	148	4100	124	150	3650	165	200	4800	270	326	7840
3.0		168	205	5020	171	209	4470	226	276	5880	368	450	9600
4.0		210	258	5790	213	262	5160	289	356	6790	472	581	11100
5.0		251	310	6480	255	315	5770	346	428	7590	565	699	12400
6.0		292	363	7090	297	369	6320	403	500	8310	658	817	13600
7.0		333	415	7660	338	422	6820	459	573	8980	749	935	14700
8.0		374	468	8190	380	476	7300	515	645	9600	841	1054	15700
9.0		415	520	8690	421	529	7740	572	718	10200	933	1172	16600
10.0		455	573	9160	463	582	8160	628	790	10700	1025	1290	17500
12.0		537	678	10000	546	689	8930	741	935	11800	1210	1527	19200
16.0		699	888	11600	710	902	10300	964	1225	13600	1573	2000	22200
20.0		862	1098	13000	876	1116	11500	1189	1515	15200	1942	2473	24800
24.0		1024	1308	14200	1040	1329	12600	1412	1804	16600	2305	2946	27100
28.0		1188	1518	15300	1207	1543	13600	1639	2094	18000	2675	3419	29300
32.0		1354	1729	16400	1376	1756	14600	1867	2384	19200	3048	3892	31300
36.0		-	1939	17400	-	1970	15500	-	2673	20400	-	4365	33200
40.0		-	2149	18300	-	2183	16300	-	2963	21500	-	4838	35000

Set pressure in bar (ü)	DN	50			65			80			100		
	d <sub>0</sub> (mm)	29			37			46			60		
	A <sub>0</sub> (mm <sup>2</sup> )	660.6			1075.3			1662.1			2827.8		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C
0.2		87	101	4600	142	164	7490	219	253	11600	372	431	19700
0.5		162	190	6510	264	310	10600	408	479	16400	693	814	27800
1.0		262	312	8810	426	507	14300	658	784	22200	1120	1334	37700
2.0		429	518	12500	698	843	20300	1080	1304	31300	1837	2218	53300
3.0		586	716	15300	953	1165	24800	1474	1801	38400	2507	3063	65300
4.0		750	923	17600	1222	1502	28700	1888	2322	44300	3213	3951	75400
5.0		899	1111	19700	1463	1809	32100	2261	2795	49600	3847	4756	84300
6.0		1046	1299	21600	1703	2115	35100	2633	3268	54300	4480	5561	92400
7.0		1191	1487	23300	1938	2421	37900	2996	3741	58600	5097	6365	99800
8.0		1337	1675	24900	2177	2727	40600	3365	4214	62700	5725	7170	107000
9.0		1484	1863	26400	2416	3033	43000	3734	4688	66500	6352	7975	113000
10.0		1630	2051	27900	2654	3339	45300	4102	5161	70100	6979	8780	119000
12.0		1923	2427	30500	3130	3951	49700	4838	6107	76800	8231	10389	131000
16.0		2501	3179	35200	4072	5175	57400	6294	7999	88700	10708	13609	151000
20.0		3087	3931	39400	5025	6399	64100	7766	9891	99100	13213	16828	169000
24.0		3664	4683	43200	5964	7624	70200	9219	11783	109000	15684	20047	185000
28.0		4253	5435	46600	6923	8848	75900	10701	13676	117000	18206	23266	200000
32.0		4846	6187	49800	7888	10072	81100	12192	15568	125000	20742	26486	213000
34.0		-	6563	51400	-	10684	83600	-	16514	129000	-	-	-
36.0		-	6939	52900	-	-	-	-	-	-	-	-	-
40.0		-	7691	55700	-	-	-	-	-	-	-	-	-

# Safety Valves

## Type 06340, Type 06341



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, angle type, cast iron, type tested, TÜV-SV.576. D/G/F**

Full lift safety valve  
Standard safety valve for fluids  
metal to metal seated, with lifting device,  
with enlarged outlet  
Flanged connection acc. to DIN EN 1092-1 PN16

**Part No. 06340.X.0000**

open bonnet

**Part No. 06341.X.0000**

closed bonnet

Available options - on request only:

· Disc with soft sealing



### Applications:

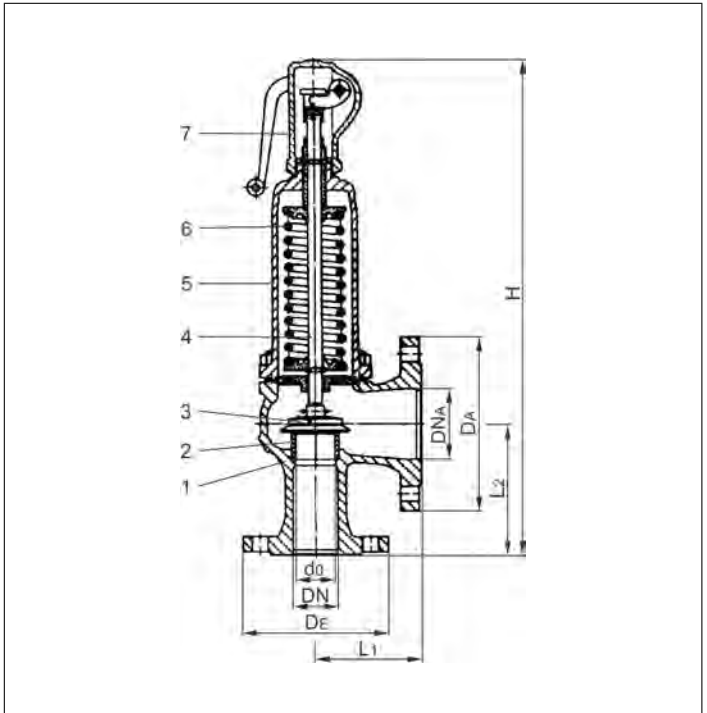
Provided as safety device for protection against excessive pressure in pressure vessels.

Approved for gases, vapours and fluids.

Working temperatures: -10°C / +14°F (263K) up to +200°C / +392°F (473K)

with spring in special steel up to +300°C / +572°F (573K)

Materials	DIN EN	ASTM
1 Body	0.6025	A 48-83 Gr. 35B
2 Seat	1.4404	A 276 Grade 316L
3 Disc	1.4122	no reference
4 Stem	1.4021	A 276 Grade 420
5 Spring	1.1200	A 576 Grade 1045
6 Bonnet	0.7040	A 536-87 Gr. 60-40-18
7 Lifting device	0.7040	A 536-87 Gr. 60-40-18



**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/EG (PED).



Type 06340, 06341	Technical data									
Nominal size	DN	25	32	40	50	65	80	100	125	150
Orifice	d <sub>0</sub>	23	29	37	46	60	74	92	98	125
Dimension code	.X.	0250	0320	0400	0500	0650	0800	1000	1250	1500
Set pressure range	bar	0.2-16	0.2-16	0.2-16	0.2-16	0.2-16	0.2-16	0.2-16	0.2-16	0.2-16
Flange diameter	D <sub>1</sub>	115	140	150	165	185	200	220	250	285
Flange diameter	D <sub>2</sub>	150	165	185	200	220	250	285	340	405
Height Type 06340	H	338	440	506	563	696	798	880	910	1020
Height Type 06341	H	339	446	512	569	702	801	883	913	1020
Length	L <sub>1</sub>	100	110	115	120	140	160	180	200	225
Length	L <sub>2</sub>	105	115	140	150	170	195	220	250	285
Weight	ca. kg	9.0	12.0	16.0	22.0	32.0	56.0	75.0	85.0	131.0
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Coeff. of discharge fluids	α <sub>w</sub>	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45

Dimensions in mm.

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### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

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 (ü)	DN	25			32			40			50			65		
	d <sub>0</sub> (mm)	23			29			37			46			60		
	A <sub>0</sub> (mm <sup>2</sup> )	415.5			660.6			1075.3			1662.1			2827.8		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
0.2	140	162	5210	223	258	8280	363	420	13500	561	649	20800	954	1105	35500	
0.5	224	263	7370	356	418	11700	579	680	19100	895	1051	29500	1523	1789	50100	
1.0	326	388	9970	518	617	15900	843	1004	25800	1302	1552	39900	2215	2641	67900	
2.0	519	627	14100	825	996	22400	1343	1622	36500	2075	2507	56400	3531	4265	96000	
3.0	699	854	17300	1111	1357	27500	1808	2209	44700	2794	3414	69100	4754	5809	118000	
4.0	871	1071	19900	1385	1703	31700	2254	2773	51600	3485	4286	79800	5928	7291	136000	
5.0	1043	1289	22300	1658	2050	35500	2699	3337	57700	4172	5157	89200	7097	8774	152000	
6.0	1214	1507	24400	1930	2396	38800	3142	3900	63200	4856	6029	97700	8262	10257	166000	
7.0	1381	1725	26400	2196	2742	42000	3574	4464	68300	5525	6900	106000	9399	11739	180000	
8.0	1551	1943	28200	2466	3089	44800	4014	5028	73000	6205	7771	113000	10556	13222	192000	
9.0	1721	2161	29900	2736	3435	47600	4454	5592	77400	6884	8643	120000	11712	14704	204000	
10.0	1891	2379	31500	3006	3781	50100	4893	6155	81600	7562	9514	126000	12866	16187	215000	
12.0	2230	2814	34600	3545	4474	54900	5770	7283	89400	8919	11257	138000	15174	19152	235000	
14.0	2562	3250	37300	4073	5167	59300	6629	8411	96600	10247	13000	149000	17433	22117	254000	
16.0	2900	3686	39900	4610	5859	63400	7505	9538	103000	11600	14743	160000	19735	25082	272000	

Set pressure in bar (ü)	DN	80			100			125			150		
	d <sub>0</sub> (mm)	74			92			98			125		
	A <sub>0</sub> (mm <sup>2</sup> )	4301.4			6648.5			7543.9			12273.4		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C
0.2	1451	1680	53900	2243	2597	83300	2545	2947	94600	4140	4794	154000	
0.5	2316	2721	76300	3580	4206	118000	4062	4772	134000	6609	7764	218000	
1.0	3370	4017	103000	5209	6209	160000	5910	7045	181000	9616	11461	295000	
2.0	5371	6487	146000	8302	10026	226000	9420	11377	256000	15326	18509	417000	
3.0	7232	8836	179000	11178	13657	276000	12683	15497	314000	20635	25212	510000	
4.0	9018	11091	206000	13938	17143	319000	15816	19462	362000	25731	31647	589000	
5.0	10796	13346	231000	16687	20629	357000	18934	23407	405000	30804	38082	659000	
6.0	12568	15601	253000	19426	24114	391000	22042	27362	444000	35861	44516	722000	
7.0	14297	17857	273000	22098	27600	422000	25074	31317	479000	40794	50951	779000	
8.0	16057	20112	292000	24818	31086	451000	28161	35273	512000	45816	57386	833000	
9.0	17815	22367	310000	27535	34571	479000	31244	39228	543000	50831	63821	884000	
10.0	19571	24622	326000	30250	38057	505000	34324	43183	573000	55842	70255	932000	
12.0	23081	29132	358000	35675	45028	553000	40480	51093	627000	65858	83125	1021000	
14.0	26518	33642	386000	40987	52000	597000	46507	59003	678000	75664	95994	1102000	
16.0	30020	38153	413000	46400	58971	638000	52650	66914	724000	85657	108863	1178000	

# Safety Valves

## Type 06345, Type 06346



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, angle type, cast steel, type tested, TÜV-SV.576. D/G/F**

Full lift safety valve

Standard safety valve for fluids

metal to metal seated, with lifting device,  
with enlarged outlet

Inlet: Flanged connection acc. to DIN EN 1092-1 PN40

Outlet: Flanged connection acc. to DIN EN 1092-1 PN16

**Part No. 06345.X.0000**

open bonnet

**Part No. 06346.X.0000**

closed bonnet

Available options - on request only:

- Disc with soft sealing

### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.

Approved for gases, vapours and fluids.

Working temperatures: -10°C / +14°F (263K) up to +200°C / +392°F (473K)

with spring in special steel up to +300°C / +572°F (573K)



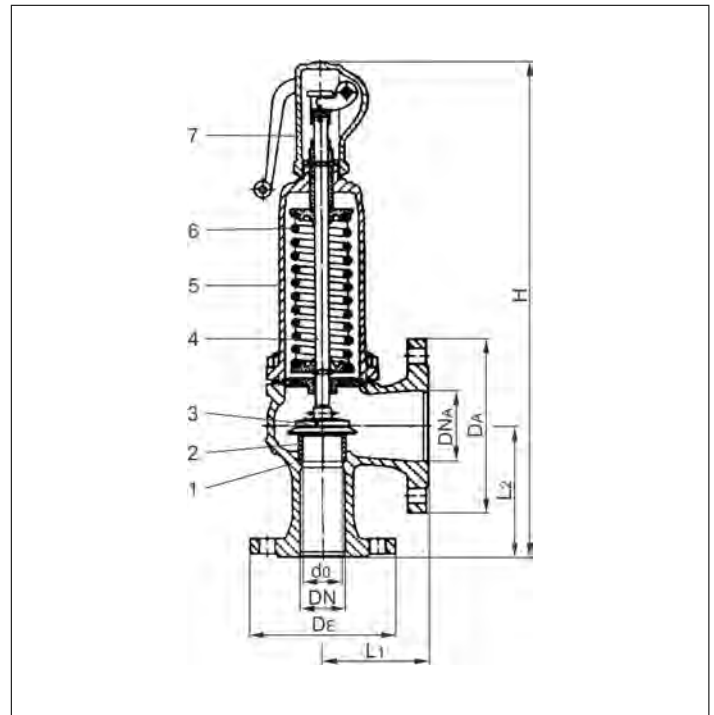
Materials	DIN EN	ASTM
1 Body	1.0619	A 216 Grade WCB
2 Seat	1.4404	A 276 Grade 316L
3 Disc	1.4122	no reference
4 Stem	1.4021	A 276 Grade 420
5 Spring	1.1200	A 576 Grade 1045
6 Bonnet	1.0619	A 216 Grade WCB
7 Lifting device	0.7040	A 536-87 Gr. 60-40-18

**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/EG (PED).



Marking acc. to ASME Code Section VIII will only be carried out by written notice on purchase order.



Type 06345. 06346	Technical data									
<b>Nominal size</b>	<b>DN</b>	<b>25</b>	<b>32</b>	<b>40</b>	<b>50</b>	<b>65</b>	<b>80</b>	<b>100</b>	<b>125</b>	<b>150</b>
Orifice	d <sub>0</sub>	23	29	37	46	60	74	92	98	125
Dimension code	.X.	0250	0320	0400	0500	0650	0800	1000	1250	1500
Set pressure saturated steam	bar	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-24	0.2-16
Set pressure air and fluids	bar	0.2-40	0.2-40	0.2-40	0.2-40	0.2-34	0.2-34	0.2-32	0.2-24	0.2-16
Flange diameter	D <sub>1</sub>	115	140	150	165	185	200	220	250	285
Flange diameter	D <sub>2</sub>	150	165	185	200	220	250	285	340	405
Height Type 06345	H	338	440	506	563	696	798	880	910	1020
Height Type 06346	H	339	446	512	569	702	801	883	913	1020
Length	L <sub>1</sub>	100	110	115	120	140	160	180	200	225
Length	L <sub>2</sub>	105	115	140	150	170	195	220	250	285
Weight	ca. kg	9.0	12.0	16.0	22.0	32.0	56.0	75.0	85.0	131.0
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Coeff. of discharge fluids	α <sub>w</sub>	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

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 (ü)	DN	25			32			40			50			65		
	d <sub>0</sub> (mm)	23			29			37			46			60		
	A <sub>0</sub> (mm <sup>2</sup> )	415.5			660.6			1075.3			1662.1			2827.8		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
0.2	140	162	5210	223	258	8280	363	420	13500	561	649	20800	954	1105	35500	
0.5	224	263	7370	356	418	11700	579	680	19100	895	1051	29500	1523	1789	50100	
1.0	326	388	9970	518	617	15900	843	1004	25800	1302	1552	39900	2215	2641	67900	
2.0	519	627	14100	825	996	22400	1343	1622	36500	2075	2507	56400	3531	4265	96000	
3.0	699	854	17300	1111	1357	27500	1808	2209	44700	2794	3414	69100	4754	5809	118000	
4.0	871	1071	19900	1385	1703	31700	2254	2773	51600	3485	4286	79800	5928	7291	136000	
5.0	1043	1289	22300	1658	2050	35500	2699	3337	57700	4172	5157	89200	7097	8774	152000	
6.0	1214	1507	24400	1930	2396	38800	3142	3900	63200	4856	6029	97700	8262	10257	166000	
7.0	1381	1725	26400	2196	2742	42000	3574	4464	68300	5525	6900	106000	9399	11739	180000	
8.0	1551	1943	28200	2466	3089	44800	4014	5028	73000	6205	7771	113000	10556	13222	192000	
9.0	1721	2161	29900	2736	3435	47600	4454	5592	77400	6884	8643	120000	11712	14704	204000	
10.0	1891	2379	31500	3006	3781	50100	4893	6155	81600	7562	9514	126000	12866	16187	215000	
12.0	2230	2814	34600	3545	4474	54900	5770	7283	89400	8919	11257	138000	15174	19152	235000	
16.0	2900	3686	39900	4610	5859	63400	7505	9538	103000	11600	14743	160000	19735	25082	272000	
20.0	3578	4557	44600	5688	7245	70900	9260	11793	115000	14312	18228	178000	24350	31012	304000	
24.0	4247	5429	48900	6752	8630	77700	10991	14048	126000	16988	21714	195000	28903	36943	333000	
28.0	4930	6300	52800	7837	10016	83900	12757	16304	137000	19718	25200	211000	33547	42873	359000	
32.0	5616	7171	56400	8929	11401	89700	14534	18559	146000	22465	28685	226000	38220	48803	384000	
34.0	5945	7607	58200	9451	12094	92500	15384	19686	151000	23779	30428	233000	40455	51768	396000	
36.0	6290	8043	59800	10000	12786	95100	16278	20814	155000	25160	32171	239000	42806	54733	407000	
40.0	6985	8914	63100	11104	14172	100000	18076	23059	163000	27939	35657	252000	47533	60663	429000	

Set pressure in bar (ü)	DN	80			100			125			150		
	d <sub>0</sub> (mm)	74			92			98			125		
	A <sub>0</sub> (mm <sup>2</sup> )	4301.4			6648.5			7543.9			12273.4		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C
0.2	1451	1680	53900	2243	2597	83300	2545	2947	94600	4140	4794	154000	
0.5	2316	2721	76300	3580	4206	118000	4062	4772	134000	6609	7764	218000	
1.0	3370	4017	103000	5209	6209	160000	5910	7045	181000	9616	11461	295000	
2.0	5371	6487	146000	8302	10026	226000	9420	11377	256000	15326	18509	417000	
3.0	7232	8836	179000	11178	13657	276000	12683	15497	314000	20635	25212	510000	
4.0	9018	11091	206000	13938	17143	319000	15816	19462	362000	25731	31647	589000	
5.0	10796	13346	231000	16687	20629	357000	18934	23407	405000	30804	38082	659000	
6.0	12568	15601	253000	19426	24114	391000	22042	27362	444000	35861	44516	722000	
7.0	14297	17857	273000	22098	27600	422000	25074	31317	479000	40794	50951	779000	
8.0	16057	20112	292000	24818	31086	451000	28161	35273	512000	45816	57386	833000	
9.0	17815	22367	310000	27535	34571	479000	31244	39228	543000	50831	63821	884000	
10.0	19571	24622	326000	30250	38057	505000	34324	43183	573000	55842	70255	932000	
12.0	23081	29132	358000	35675	45028	553000	40480	51093	627000	65858	83125	1021000	
16.0	30020	38153	413000	46400	58971	638000	52650	66914	724000	85657	108863	1178000	
20.0	37039	47173	462000	57249	72913	714000	64960	82734	810000	105685	134602	1317000	
24.0	43964	56194	506000	67953	86856	782000	77106	98555	887000	125445	160341	1443000	
28.0	51029	65214	546000	78873	100799	844000	89496	114375	958000	-	-	-	
32.0	58137	74235	584000	89860	114741	-	-	-	-	-	-	-	
34.0	61537	78745	602000	95115	121713	-	-	-	-	-	-	-	
36.0	65112	83255	619000	100641	128684	-	-	-	-	-	-	-	
40.0	72303	92276	653000	111756	142626	-	-	-	-	-	-	-	

# Safety Valves

## Type 06347



**CRYONICA**  
криогенные технологии

**HEROSE**



**Safety Valves, angle type, stainless steel type tested, TÜV-SV.576. D/G/F**

Full lift safety valve

Standard safety valve for fluids

metal to metal seated, with lifting device,

closed bonnet, with enlarged outlet

Inlet: Flanged connection acc. to DIN EN 1092-1 PN40

Outlet: Flanged connection acc. to DIN EN 1092-1 PN16

**Part No. 06347.X.0000**

Available options - on request only:

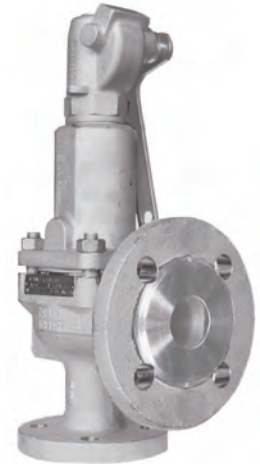
- Disc with soft sealing

### Applications:

Provided as safety device for protection against excessive pressure in pressure vessels.

Approved for gases, vapours and fluids.

Working temperatures: -196°C / -321°F (77K) up to +300°C / +572°F (573K)



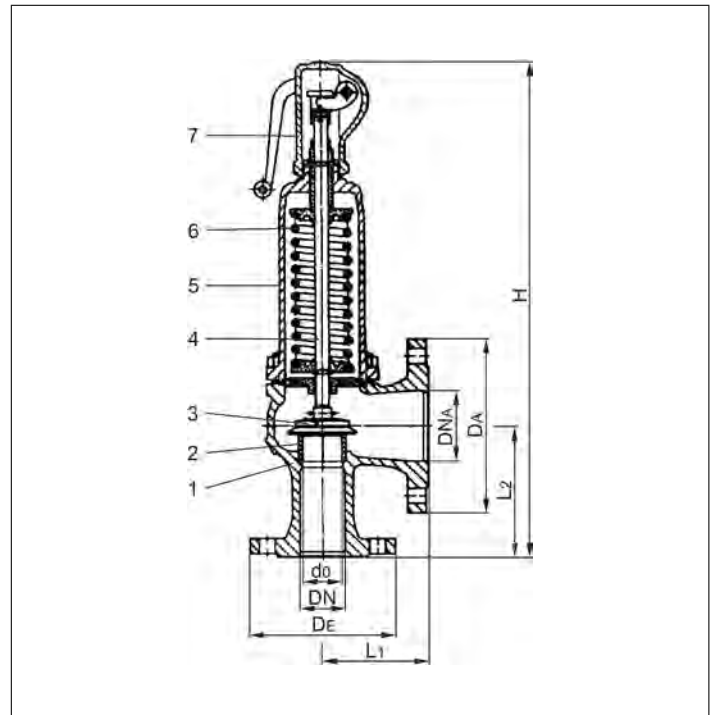
Materials	DIN EN	ASTM
1 Body	1.4408	A 351 CF 8M
2 Seat	1.4404	A 276 Grade 316L
3 Disc	1.4404	A 276 Grade 316L
4 Stem	1.4404	A 276 Grade 316L
5 Spring	1.4310	A 313 Grade 302
6 Bonnet	1.4408	A 351 CF 8M
7 Lifting device	1.4408	A 351 CF 8M

**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/EG (PED).



Marking acc. to ASME Code Section VIII will only be carried out by written notice on purchase order.



Type 06347	Technical data									
<b>Nominal size</b>	<b>DN</b>	<b>25</b>	<b>32</b>	<b>40</b>	<b>50</b>	<b>65</b>	<b>80</b>	<b>100</b>	<b>125</b>	<b>150</b>
Orifice	d <sub>0</sub>	23	29	37	46	60	74	92	98	125
Dimension code	.X.	0250	0320	0400	0500	0650	0800	1000	1250	1500
Set pressure saturated steam	bar	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-32	0.2-24	0.2-16
Set pressure air and fluids	bar	0.2-40	0.2-40	0.2-40	0.2-40	0.2-34	0.2-34	0.2-32	0.2-24	0.2-16
Flange diameter	D <sub>1</sub>	115	140	150	165	185	200	220	250	285
Flange diameter	D <sub>2</sub>	150	165	185	200	220	250	285	340	405
Height	H	339	446	512	569	702	801	883	913	1020
Length	L <sub>1</sub>	100	110	115	120	140	160	180	200	225
Length	L <sub>2</sub>	105	115	140	150	170	195	220	250	285
Weight	ca. kg	9.0	12.0	16.0	22.0	32.0	56.0	75.0	85.0	131.0
Coeff. of discharge gases, vapours	α <sub>w</sub>	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70	0.70
Coeff. of discharge fluids	α <sub>w</sub>	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45	0.45

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

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 (ü)	DN	25			32			40			50			65		
	d <sub>0</sub> (mm)	23			29			37			46			60		
	A <sub>0</sub> (mm <sup>2</sup> )	415.5			660.6			1075.3			1662.1			2827.8		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C	A	B	C
0.2	140	162	5210	223	258	8280	363	420	13500	561	649	20800	954	1105	35500	
0.5	224	263	7370	356	418	11700	579	680	19100	895	1051	29500	1523	1789	50100	
1.0	326	388	9970	518	617	15900	843	1004	25800	1302	1552	39900	2215	2641	67900	
2.0	519	627	14100	825	996	22400	1343	1622	36500	2075	2507	56400	3531	4265	96000	
3.0	699	854	17300	1111	1357	27500	1808	2209	44700	2794	3414	69100	4754	5809	118000	
4.0	871	1071	19900	1385	1703	31700	2254	2773	51600	3485	4286	79800	5928	7291	136000	
5.0	1043	1289	22300	1658	2050	35500	2699	3337	57700	4172	5157	89200	7097	8774	152000	
6.0	1214	1507	24400	1930	2396	38800	3142	3900	63200	4856	6029	97700	8262	10257	166000	
7.0	1381	1725	26400	2196	2742	42000	3574	4464	68300	5525	6900	106000	9399	11739	180000	
8.0	1551	1943	28200	2466	3089	44800	4014	5028	73000	6205	7771	113000	10556	13222	192000	
9.0	1721	2161	29900	2736	3435	47600	4454	5592	77400	6884	8643	120000	11712	14704	204000	
10.0	1891	2379	31500	3006	3781	50100	4893	6155	81600	7562	9514	126000	12866	16187	215000	
12.0	2230	2814	34600	3545	4474	54900	5770	7283	89400	8919	11257	138000	15174	19152	235000	
16.0	2900	3686	39900	4610	5859	63400	7505	9538	103000	11600	14743	160000	19735	25082	272000	
20.0	3578	4557	44600	5688	7245	70900	9260	11793	115000	14312	18228	178000	24350	31012	304000	
24.0	4247	5429	48900	6752	8630	77700	10991	14048	126000	16988	21714	195000	28903	36943	333000	
28.0	4930	6300	52800	7837	10016	83900	12757	16304	137000	19718	25200	211000	33547	42873	359000	
32.0	5616	7171	56400	8929	11401	89700	14534	18559	146000	22465	28685	226000	38220	48803	384000	
34.0	5945	7607	58200	9451	12094	92500	15384	19686	151000	23779	30428	233000	40455	51768	396000	
36.0	6290	8043	59800	10000	12786	95100	16278	20814	155000	25160	32171	239000	42806	54733	407000	
40.0	6985	8914	63100	11104	14172	100000	18076	23059	163000	27939	35657	252000	47533	60663	429000	

Set pressure in bar (ü)	DN	80			100			125			150		
	d <sub>0</sub> (mm)	74			92			98			125		
	A <sub>0</sub> (mm <sup>2</sup> )	4301.4			6648.5			7543.9			12273.4		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C
0.2	1451	1680	53900	2243	2597	83300	2545	2947	94600	4140	4794	154000	
0.5	2316	2721	76300	3580	4206	118000	4062	4772	134000	6609	7764	218000	
1.0	3370	4017	103000	5209	6209	160000	5910	7045	181000	9616	11461	295000	
2.0	5371	6487	146000	8302	10026	226000	9420	11377	256000	15326	18509	417000	
3.0	7232	8836	179000	11178	13657	276000	12683	15497	314000	20635	25212	510000	
4.0	9018	11091	206000	13938	17143	319000	15816	19462	362000	25731	31647	589000	
5.0	10796	13346	231000	16687	20629	357000	18934	23407	405000	30804	38082	659000	
6.0	12568	15601	253000	19426	24114	391000	22042	27362	444000	35861	44516	722000	
7.0	14297	17857	273000	22098	27600	422000	25074	31317	479000	40794	50951	779000	
8.0	16057	20112	292000	24818	31086	451000	28161	35273	512000	45816	57386	833000	
9.0	17815	22367	310000	27535	34571	479000	31244	39228	543000	50831	63821	884000	
10.0	19571	24622	326000	30250	38057	505000	34324	43183	573000	55842	70255	932000	
12.0	23081	29132	358000	35675	45028	553000	40480	51093	627000	65858	83125	1021000	
16.0	30020	38153	413000	46400	58971	638000	52650	66914	724000	85657	108863	1178000	
20.0	37039	47173	462000	57249	72913	714000	64960	82734	810000	105685	134602	1317000	
24.0	43964	56194	506000	67953	86856	782000	77106	98555	887000	125445	160341	1443000	
28.0	51029	65214	546000	78873	100799	844000	89496	114375	958000	-	-	-	
32.0	58137	74235	584000	89860	114741	-	-	-	-	-	-	-	
34.0	61537	78745	602000	95115	121713	-	-	-	-	-	-	-	
36.0	65112	83255	619000	100641	128684	-	-	-	-	-	-	-	
40.0	72303	92276	653000	111756	142626	-	-	-	-	-	-	-	



# Overflow Valves

## Type 06195



**CRYONICA**  
криогенные технологии



**Overflow Valve, angle type, bronze, not type tested**

with soft valve seal, closed bonnet,  
In- and Outlet: female thread type G (BSPP) acc. to ISO 228/1

**Part No. 06195.X.0000**

with NBR valve seal  
Working temperature: -10°C / +14°F (263K) up to +110°C / +230°F (383K)

**Part No. 06195.X.0700**

with FPM valve seal  
Working temperature: -10°C / +14°F (263K) up to +165°C / +329°F (438K)

Available options - on request only:

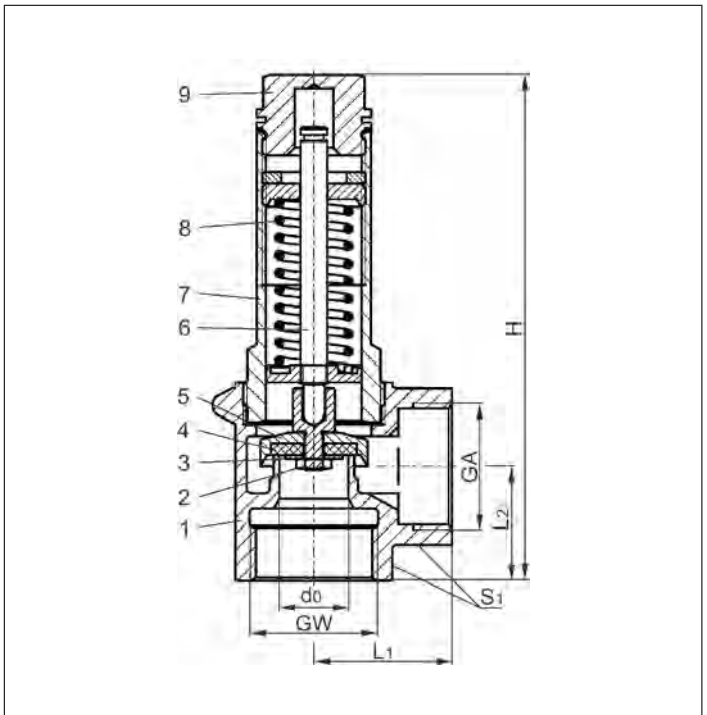
- stainless steel spring - material 1.4571
- external parts nickel plated



**Applications:**

Provided as overflow valve for protection against excessive pressure in pipe systems and pressure vessels, which are not subject to approval.  
Suitable for fluids, air and similar gases.

Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Disc nut	CW614N	B 283 UNS C38500
3 Plate	CW507L	B 30 UNS C26800
4 Valve seal	NBR or FPM	
5 Disc	CW614N	B 283 UNS C38500
6 Stem	CW614N	B 283 UNS C38500
7 Bonnet	CW614N	B 283 UNS C38500
8 Spring	1.1200	A 576 Grade 1045
9 Cap	CW614N	B 283 UNS C38500



**Essential:** Valves are delivered at a set pressure, therefore when ordering please confirm set pressure, medium and temperature.

Not to use as equipment with safety function acc. to Pressure Equipment Directive 97/23/EG (PED) (CE marking only from size 1-1/4).

Type 06195	Technical data						
Nominal size	GW	1/2	3/4	1	1-1/4	1-1/2	2
Orifice	d <sub>0</sub>	12	15	18	20	24	28
Dimension code	.X.	0400	0600	1000	1200	1400	2000
Set pressure range	bar	0.5-25	0.2-20	0.5-16	0.5-16	0.2-16	0.2-16
Outlet	GA	1/2	3/4	1	1-1/4	1-1/2	2
Height	H	90	110	130	150	170	195
Length	L <sub>1</sub>	25	30	36	40	48	56
Length	L <sub>2</sub>	20	25	30	35	40	48
Wrench size across flats	S <sub>1</sub>	27	32	41	50	58	70
Weight	ca. kg	0.21	0.36	0.65	0.95	1.5	2.25

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Overflow Valves

## Type 06195



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Water** 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 (ü)	GW	1/2	3/4	1	1-1/4	1-1/2	2	1/2	3/4	1	1-1/4	1-1/2	2
	d <sub>0</sub> (mm)	12.0	15.0	18.0	20.0	24.0	28.0	12.0	15.0	18.0	20.0	24.0	28.0
	A <sub>0</sub> (mm <sup>2</sup> )	113.1	176.7	254.5	314.2	452.4	615.8	113.1	176.7	254.5	314.2	452.4	615.8
Medium	Air						Water						
<b>0.2</b>	-	40	-	-	122	158	-	1330	-	-	5299	6526	
<b>0.5</b>	47	62	116	157	207	275	1026	1882	3111	4833	7494	9229	
<b>1.0</b>	68	89	172	231	306	408	1389	2548	4213	6543	10146	12496	
<b>2.0</b>	114	139	284	392	505	660	1964	3603	5958	9254	14349	17671	
<b>3.0</b>	156	192	389	526	691	904	2406	4413	7297	11334	17574	21643	
<b>4.0</b>	196	241	488	660	867	1135	2778	5095	8426	13087	20293	24991	
<b>5.0</b>	236	290	587	794	1043	1366	3106	5697	9420	14632	22688	27941	
<b>6.0</b>	276	339	686	929	1220	1596	3403	6240	10320	16028	24853	30608	
<b>7.0</b>	315	388	785	1063	1396	1827	3675	6740	11146	17312	26845	33060	
<b>8.0</b>	355	437	884	1197	1572	2058	3929	7206	11916	18508	28698	35343	
<b>9.0</b>	395	486	984	1331	1748	2288	4167	7643	12639	19630	30439	37487	
<b>10.0</b>	435	535	1083	1465	1925	2519	4393	8056	13322	20692	32085	39515	
<b>12.0</b>	515	633	1281	1733	2277	2980	4812	8825	14594	22667	35148	43286	
<b>14.0</b>	594	731	1479	2002	2629	3441	5197	9532	15763	24483	37964	46754	
<b>16.0</b>	674	829	1677	2270	2982	3903	5556	10190	16852	26174	40585	49983	
<b>18.0</b>	753	927	-	-	-	-	5893	10808	-	-	-	-	
<b>20.0</b>	833	1025	-	-	-	-	6212	11393	-	-	-	-	
<b>22.0</b>	913	-	-	-	-	-	6515	-	-	-	-	-	
<b>25.0</b>	1032	-	-	-	-	-	6945	-	-	-	-	-	

# Overflow Valves

## Type 06196

Overflow Valve, angle type, bronze,  
not type tested

with PTFE valve seal, closed bonnet,  
In- and outlet: female thread type G (BSPF) acc. to ISO 228/1

**Part No. 06196.X.0000**

Available options - on request only:

- stainless steel spring - material 1.4571
- external parts nickel plated

### Applications:

Provided as overflow valve for protection against excessive pressure in pipe systems and pressure vessels, which are not subject to approval.

Suitable for fluids, air and similar gases.

Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

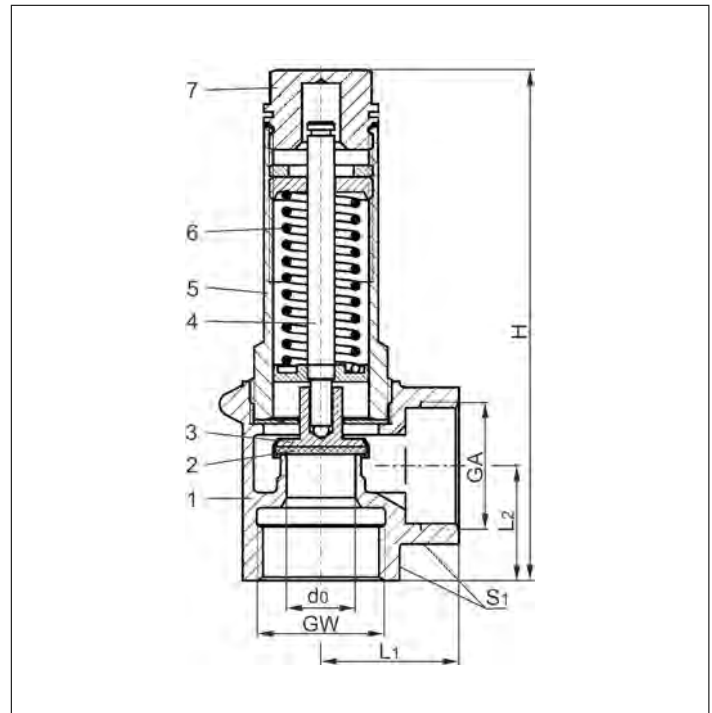
Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Valve seal	PTFE	
3 Disc	CW614N	B 283 UNS C38500
4 Stem	CW614N	B 283 UNS C38500
5 Bonnet	CW614N	B 283 UNS C38500
6 Spring	1.1200	A 576 Grade 1045
7 Cap	CW614N	B 283 UNS C38500

**Essential:** Valves are delivered at a set pressure, therefore when ordering please confirm set pressure, medium and temperature.

Not to use as equipment with safety function acc. to Pressure Equipment Directive 97/23/EG (PED) (CE marking only from size 1-1/4).



**CRYONICA**  
криогенные технологии



Type 06196	Technical data						
Nominal size	GW	1/2	3/4	1	1-1/4	1-1/2	2
Orifice	d <sub>0</sub>	12	15	18	20	24	28
Dimension code	.X.	0400	0600	1000	1200	1400	2000
Set pressure range	bar	0.2-25	0.2-20	0.2-20	0.4-16	0.2-23.5	0.2-16
Outlet	GA	1/2	3/4	1	1-1/4	1-1/2	2
Height	H	90	110	130	150	170	195
Length	L <sub>1</sub>	25	30	36	40	48	56
Length	L <sub>2</sub>	20	25	30	35	40	48
Wrench size across flats	S <sub>1</sub>	27	32	41	50	58	70
Weight	ca. kg	0.21	0.36	0.65	0.95	1.5	2.25

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Overflow Valves

## Type 06196



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Water** 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 (ü)	GW	1/2	3/4	1	1-1/4	1-1/2	2	1/2	3/4	1	1-1/4	1-1/2	2	
	d <sub>0</sub> (mm)	12.0	15.0	18.0	20.0	24.0	28.0	12.0	15.0	18.0	20.0	24.0	28.0	
	A <sub>0</sub> (mm <sup>2</sup> )	113.1	176.7	254.5	314.2	452.4	615.8	113.1	176.7	254.5	314.2	452.4	615.8	
Medium	Air							Water						
0.2		28	40	69	-	122	158	725	1330	2200	-	5299	6526	
0.4		43	58	106	146	188	250	999	1835	3035	4714	7310	9003	
0.5		47	62	116	157	207	275	1026	1882	3111	4833	7494	9229	
1.0		68	89	172	231	306	408	1389	2548	4213	6543	10146	12496	
2.0		114	139	284	392	505	660	1964	3603	5958	9254	14349	17671	
3.0		156	192	389	526	691	904	2406	4413	7297	11334	17574	21643	
4.0		196	241	488	660	867	1135	2778	5095	8426	13087	20293	24991	
5.0		236	290	587	794	1043	1366	3106	5697	9420	14632	22688	27941	
6.0		276	339	686	929	1220	1596	3403	6240	10320	16028	24853	30608	
7.0		315	388	785	1063	1396	1827	3675	6740	11146	17312	26845	33060	
8.0		355	437	884	1197	1572	2058	3929	7206	11916	18508	28698	35343	
9.0		395	486	984	1331	1748	2288	4167	7643	12639	19630	30439	37487	
10.0		435	535	1083	1465	1925	2519	4393	8056	13322	20692	32085	39515	
12.0		515	633	1281	1733	2277	2980	4812	8825	14594	22667	35148	43286	
14.0		594	731	1479	2002	2629	3441	5197	9532	15763	24483	37964	46754	
16.0		674	829	1677	2270	2982	3903	5556	10190	16852	26174	40585	49983	
18.0		753	927	1876	-	3334	-	5893	10808	17874	-	43047	-	
20.0		833	1025	2074	-	3687	-	6212	11393	18842	-	45377	-	
22.0		913	-	-	-	4039	-	6515	-	-	-	47590	-	
23.5		972	-	-	-	4304	-	6730	-	-	-	49160	-	
25.0		1032	-	-	-	-	-	6945	-	-	-	-	-	

# Overflow Valves

## Type 06198



**CRYONICA**  
криогенные технологии



**Overflow Valve, angle type, bronze, not type tested**

with adjusting device,  
with soft valve seal, closed bonnet,  
In- and outlet: female thread type G (BSP) acc. to ISO 228/1

**Part No. 06198.X.0000**

with PTFE valve seal  
Working temperature: -10°C / +14°F (263K) up to +185°C / +365°F (458K)

**Part No. 06198.X.0700**

with FPM valve seal  
Working temperature: -10°C / +14°F (263K) up to +165°C / +329°F (438K)

Available options - on request only:

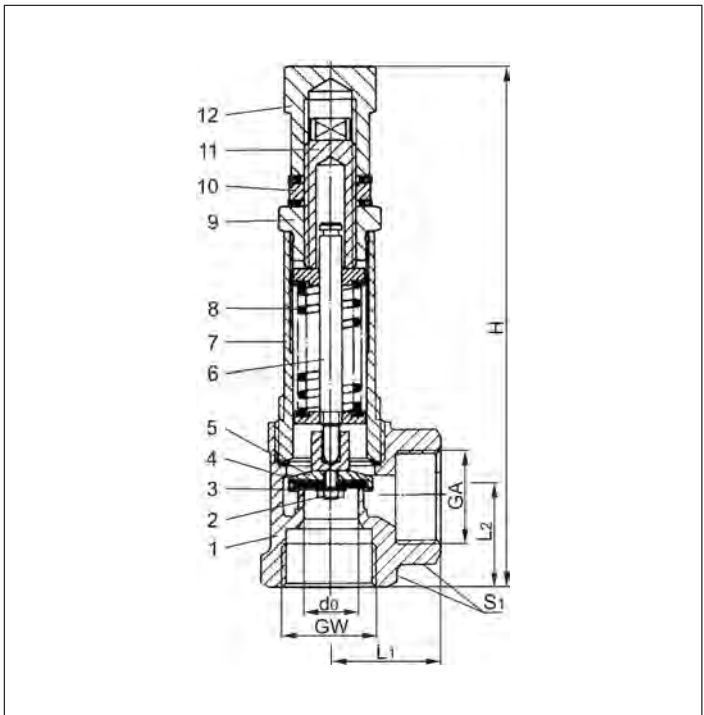
- other spring ranges acc. to customer specification
- stainless steel spring - material 1.4571
- external parts nickel plated

**Applications:**

Provided as overflow valve for protection against excessive pressure in pipe systems and pressure vessels, which are not subject to approval.  
Suitable for air and similar gases.



Materials	DIN EN	ASTM
1 Body	CC491K	B 62 UNS C83600
2 Disc nut	CW614N	B 283 UNS C38500
3 Plate	CW614N	B 283 UNS C38500
4 Valve seal	PTFE or FPM	
5 Disc	CW614N	B 283 UNS C38500
6 Stem	CW614N	B 283 UNS C38500
7 Bonnet	CW614N	B 283 UNS C38500
8 Spring	1.1200	A 576 Grade 1045
9 Cap	CW614N	B 283 UNS C38500
10 Nut	CW614N	B 283 UNS C38500
11 Adjusting screw	CW614N	B 283 UNS C38500
12 Closing cap	CW614N	B 283 UNS C38500



**Important:** Adjusting ranges of springs are marked with a label on the bonnet.

Not to use as equipment with safety function acc. to Pressure Equipment Directive 97/23/EG (PED) (No CE marking).

Type 06198	Technical data						
	(1-1/4, 1-1/2 & 2 in preparation)						
Nominal size	GW	1/2	3/4	1	1-1/4	1-1/2	2
Orifice	d <sub>0</sub>	12	15	18	20	24	28
Dimension code	.X.	0400	0600	1000	1200	1400	2000
Set pressure PTFE valve seal	bar	12.0-25	2.0-25	2.0-25	-	-	-
Set pressure FPM valve seal	bar	0.8-25	5.0-12	5.0-12	-	-	-
Outlet	GA	1/2	3/4	1	-	-	-
Height	H	113	145	165	-	-	-
Length	L <sub>1</sub>	25	30	36	-	-	-
Length	L <sub>2</sub>	20	25	30	-	-	-
Wrench size across flats	S <sub>1</sub>	27	32	41	-	-	-
Weight	ca. kg	0.30	0.55	0.85	-	-	-

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Overflow Valves

## Type 06198



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

Air in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/2	3/4	1	1-1/4	1-1/2	2
	d <sub>0</sub> (mm)	12.0	15.0	18.0	20.0	24.0	28.0
	A <sub>0</sub> (mm <sup>2</sup> )	113.1	176.7	254.5	314.2	452.4	615.8
Medium							
Air							
0.8		24	-	-	-	-	-
1.0		26	-	-	-	-	-
1.5		33	-	-	-	-	-
1.99		40	-	-	-	-	-
2.0		37	46	13	-	-	-
3.0		50	62	28	-	-	-
3.99		63	77	45	-	-	-
4.0		53	77	45	-	-	-
4.99		64	93	68	-	-	-
5.0		64	70	68	-	-	-
6.0		75	82	93	-	-	-
7.0		86	94	128	-	-	-
8.0		97	106	161	-	-	-
9.0		108	118	197	-	-	-
10.0		119	129	245	-	-	-
11.99		141	153	334	-	-	-
12.0		169	119	334	-	-	-
14.0		195	138	397	-	-	-
16.0		222	156	460	-	-	-
18.0		248	175	527	-	-	-
19.99		274	193	597	-	-	-
20.0		274	193	446	-	-	-
22.0		300	212	489	-	-	-
22.99		313	221	502	-	-	-
23.0		313	221	502	-	-	-
25.0		340	240	553	-	-	-

	GW	1/2	3/4	1	1-1/4	1-1/2	2
<b>Part No. spring</b>	<b>Pressure range of springs in bar</b>						
<b>Material 1.1200</b>							
55341.0091.2780	0.8-1.99	-	-	-	-	-	-
55341.0092.2780	2.0-3.99	-	-	-	-	-	-
55341.0152.1780	4.0-11.99	-	-	-	-	-	-
55341.0193.2780	12.0-25.0	-	-	-	-	-	-
55341.0194.1780	-	2.0-4.99	-	-	-	-	-
55341.0078.0780	-	5.0-11.99	-	-	-	-	-
55341.0104.1780	-	12.0-22.99	-	-	-	-	-
55341.0196.1780	-	23.0-25.0	-	-	-	-	-
55341.0217.0780	-	-	2.0-19.99	-	-	-	-
55341.0199.1780	-	-	20.0-25.0	-	-	-	-

	GW	1/2	3/4	1	1-1/4	1-1/2	2
<b>Part No. spring</b>	<b>Pressure range of springs in bar</b>						
<b>Material 1.4571</b>							
55345.0117.1767	-	-	2.0-3.99	-	-	-	-
55345.0119.1767	-	-	4.0-9.99	-	-	-	-
55345.0234.1767	-	-	10.0-15.99	-	-	-	-
55345.0236.1767	-	-	16.0-25.0	-	-	-	-

# Overflow Valves

## Type 06386



**CRYONICA**  
криогенные технологии



### Cryogenic Safety Valves, angle type, bronze, PN40, not type tested

with adjusting device, metal to metal seated, closed bonnet

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

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

"cleaned and degreased for oxygen service"

**Part No. 06386.X.9005 (0.5 up to 1.5 bar)**

**Part No. 06386.X.9003 (1.0 up to 4.0 bar)**

**Part No. 06386.X.9001 (3.0 up to 8.0 bar)**

**Part No. 06386.X.9002 (7.0 up to 17.0 bar)**

**Part No. 06386.X.9004 (16.0 up to 21.0 bar)**

**Part No. 06386.X.9006 (28.0 up to 35.0 bar)**

Available options - on request only:

· other spring ranges acc. to customer specification

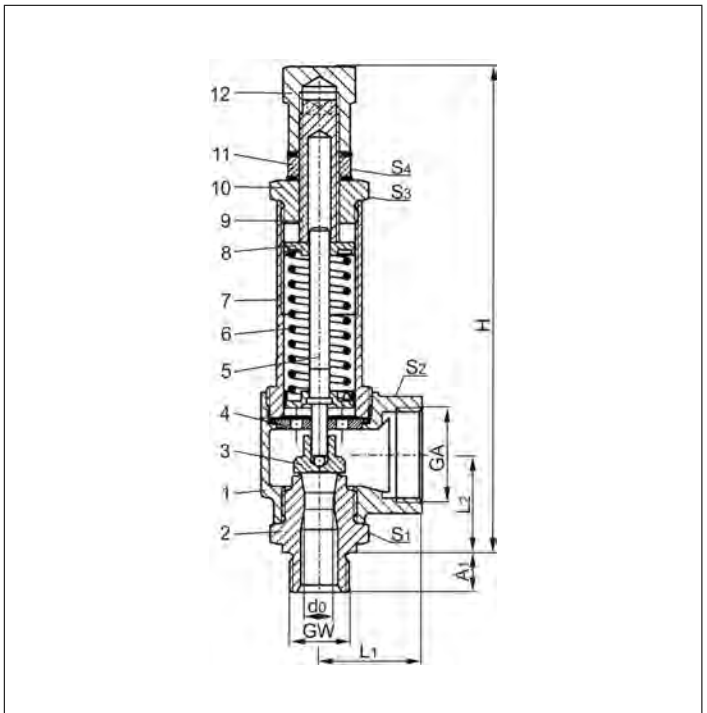
### Applications:

Provided as overflow valve for protection against excessive pressure in pipe systems and pressure vessels, which are not subject to approval. Suitable for air gases and cryogenic liquefied gases such as oxygen, nitrogen, krypton, carbon dioxide, argon, dinitrogen monoxide, trifluoromethan, carbon oxide, methane, ethane and ethylene.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)



Materials	DIN EN	ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
3 Disc	1.4541	A 276 Grade 321
4 Guide plate	CW453K	B 103 UNS C52100
5 Stem	CW453K	B 103 UNS C52100
6 Spring	1.4571	A 276 Grade 316Ti
7 Bonnet	1.4305	A 314 Grade 303
8 Spring clamp	CW614N	B 283 UNS C38500
9 Adjusting screw	CW614N	B 283 UNS C38500
10 Plug	CW614N	B 283 UNS C38500
11 Nut	CW614N	B 283 UNS C38500
12 Closing cap	CW614N	B 283 UNS C38500



**Important:** Adjusting ranges of springs are marked with a label on the bonnet.

Not to use as equipment with safety function acc. to Pressure Equipment Directive 97/23/EG (PED) (No CE marking).

Type 06386	Technical data		
<b>Nominal size</b>	<b>GW</b>	<b>1/2</b>	<b>3/4</b>
Orifice	d <sub>0</sub>	10.5	10.5
Dimension code	.X.	1004	1006
Outlet	GA	1	1
Height	H	159	159
Length	L <sub>1</sub>	36	36
Length	L <sub>2</sub>	34	34
Length	A <sub>1</sub>	14	16
Wrench size across flats	S <sub>1</sub>	30	30
Wrench size across flats	S <sub>2</sub>	41	41
Wrench size across flats	S <sub>3</sub>	30	30
Wrench size across flats	S <sub>4</sub>	22	22
Weight	ca. kg	0.78	0.81

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Overflow Valves

## Type 06386



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

Medium:

Air in m<sup>3</sup>/h at 0°C and 1013.25 mbar

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 (ü)	GW	1/2 & 3/4					
	d <sub>0</sub> (mm)	10.5					
	A <sub>0</sub> (mm <sup>2</sup> )	86.6					
	Medium	Air					
Pressure range in bar	0.5 - 1.5	1.0 - 4.0	3.0 - 8.0	7.0 - 17.0	16.0 - 21.0	28.0 - 35.0	
0.5	8	-	-	-	-	-	
1.0	11	6	-	-	-	-	
1.5	14	9	-	-	-	-	
2.0	-	12	-	-	-	-	
3.0	-	21	10	-	-	-	
4.0	-	32	25	-	-	-	
5.0	-	-	48	-	-	-	
6.0	-	-	76	-	-	-	
7.0	-	-	107	82	-	-	
8.0	-	-	144	104	-	-	
9.0	-	-	-	128	-	-	
10.0	-	-	-	155	-	-	
11.0	-	-	-	177	-	-	
12.0	-	-	-	217	-	-	
13.0	-	-	-	248	-	-	
14.0	-	-	-	280	-	-	
15.0	-	-	-	319	-	-	
16.0	-	-	-	361	186	-	
17.0	-	-	-	409	220	-	
18.0	-	-	-	-	263	-	
19.0	-	-	-	-	304	-	
20.0	-	-	-	-	339	-	
21.0	-	-	-	-	383	-	
22.0	-	-	-	-	-	-	
24.0	-	-	-	-	-	-	
25.0	-	-	-	-	-	-	
26.0	-	-	-	-	-	-	
28.0	-	-	-	-	-	431	
30.0	-	-	-	-	-	461	
32.0	-	-	-	-	-	491	
34.0	-	-	-	-	-	521	
35.0	-	-	-	-	-	536	

GW	1/2 & 3/4
<b>Part No. spring</b>	<b>Pressure range of springs in bar</b>
55345.0113.1767	0.5 - 1.5
55345.0116.2767	1.0 - 4.0
55345.0117.1767	3.0 - 8.0
55345.0118.1767	7.0 - 17.0
55345.0120.1767	16.0 - 21.0
55345.0237.0767	18.0 - 35.0



# Overflow Valves

## Type 06321



**CRYONICA**  
криогенные технологии

**HEROSE**



**Overflow Valve, angle type, ductile casting GGG-40.3, not type tested**

metal to metal seated, closed bonnet,

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

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

**Part No. 06321.X.0000**

with lifting device - head A

**Part No. 06321.X.0020**

with gastight cap - head C

Available options - on request only:

· Disc with soft sealing (EPDM, FKM, PTFE)



### Applications:

Provided as overflow valve for protection against excessive pressure in pipe systems and pressure vessels, which are not subject to approval.

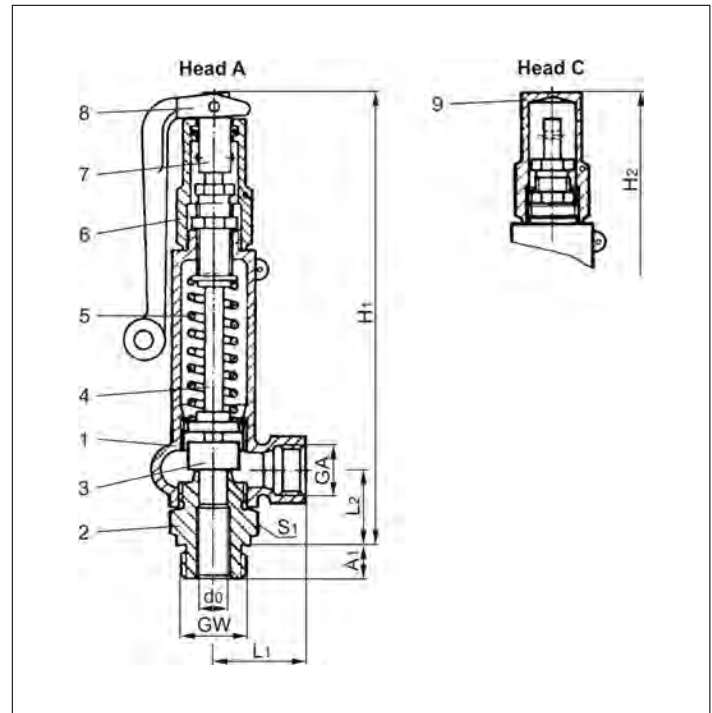
Suitable for gases, vapours and fluids.

Working temperatures: -10°C / +14°F (263K) up to +280°C / +536°F (553K)

Materials	DIN EN	ASTM
1 Body + Bonnet	0.7043	A 395
2 Inlet body	1.4104	A 276 Grade 430F
3 Disc	1.4571	A 276 Grade 316Ti
4 Stem	1.4104	A 276 Grade 430F
5 Spring	1.4310	A 313 Grade 302
6 Lifting cap	1.4104	A 276 Grade 430F
7 Lifting stem	1.4305	A 276 Grade 303
8 Lever	3.2581	no reference
9 Cap	1.0718	A 108

**Essential:** Valves are delivered at a set pressure, therefore when ordering please confirm set pressure, medium and temperature.

Not to use as equipment with safety function acc. to Pressure Equipment Directive 97/23/EG (PED) (No CE marking).



Type 06321	Technical data										
Nominal size	GW	3/8	1/2	3/4	3/4	3/4	1	1	1-1/4	1-1/2	
Orifice	d <sub>0</sub>	8	10	12.5	8	12.5	16	12.5	16	22	27
Dimension code	.X.	0803	1003	1204	0806	1206	1606	1210	1610	2212	2714
Set pressure range	bar	50-200	0.1-140	0.1-120	50-200	50-170	0.1-90	50-170	0.1-90	0.05-55	0.05-45
Outlet	GA	1/2	1/2	1/2	1	1	1	1	1	1	1
Height	H <sub>1</sub>	200	200	200	200	230	230	230	230	230	230
Height	H <sub>2</sub>	185	185	185	185	215	215	215	215	215	215
Length	L <sub>1</sub>	40	40	40	40	50	50	50	50	50	50
Length	L <sub>2</sub>	34	34	34	34	40	40	40	40	40	40
Length	A <sub>1</sub>	12	12	14	16	16	16	18	18	20	20
Wrench size across flats	S <sub>1</sub>	32	32	32	32	41	41	41	41	41	41
Weight	ca. kg	1.0	1.0	1.0	1.0	1.6	1.6	1.6	1.6	1.8	1.8

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Overflow Valves

## Type 06321



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

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 (ü)	GW	3/8 & 3/4			3/8			1/2, 3/4 & 1			3/4 & 1		
	d <sub>0</sub> (mm)	8			10			12.5			16		
	A <sub>0</sub> (mm <sup>2</sup> )	50.3			78.5			122.7			201.1		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C
0.1	-	-	-	-	1.8	63	-	2.9	99	-	4.6	161	
0.4	-	-	-	3.3	4.0	126	5.2	6.3	197	8.3	10.1	323	
1.0	-	-	-	5.6	7.1	200	8.9	11.2	312	14.1	17.9	511	
2.0	-	-	-	9.4	12.1	282	14.5	18.6	441	23.7	30.4	723	
3.0	-	-	-	13.3	17.2	346	20.7	26.9	540	34.0	44.0	885	
4.0	-	-	-	16.5	21.5	399	25.7	33.6	624	42.2	55.0	1020	
6.0	-	-	-	22.8	30.1	489	35.7	47.0	764	58.8	77.0	1250	
8.0	-	-	-	29.2	38.7	565	45.6	60.4	882	74.7	99.0	1440	
10.0	-	-	-	35.4	47.3	631	55.4	73.9	987	90.8	121	1610	
20.0	-	-	-	66.8	90.4	893	104	141	1390	171	231	2280	
30.0	-	-	-	114	134	1090	153	209	1710	251	342	2800	
40.0	-	-	-	130	177	1260	203	277	1970	332	453	3230	
50.0	103	141	904	162	221	1410	253	345	2200	414	565	3610	
60.0	124	169	990	194	264	1550	303	413	2420	497	676	3960	
70.0	147	197	1070	229	308	1670	358	481	2610	587	788	4280	
80.0	167	225	1140	261	351	1780	408	549	2790	668	899	4570	
90.0	189	252	1210	295	395	1890	462	617	2960	756	1010	4850	
100.0	212	280	1280	331	438	2000	517	684	3120	-	-	-	
120.0	259	335	1400	404	524	2190	632	819	3420	-	-	-	
140.0	309	390	1510	484	609	2360	756	951	3690	-	-	-	
160.0	367	443	1610	-	-	-	896	1080	3950	-	-	-	
180.0	434	496	1710	-	-	-	-	-	-	-	-	-	
200.0	517	547	1810	-	-	-	-	-	-	-	-	-	

Set pressure in bar (ü)	GW	1-1/4			1-1/2		
	d <sub>0</sub> (mm)	22			27		
	A <sub>0</sub> (mm <sup>2</sup> )	380.2			572.6		
	Medium	A	B	C	A	B	C
0.05	-	6.1	216	-	9.2	325	
0.1	-	8.8	305	-	13.3	460	
0.4	16.0	19.4	611	24.1	29.2	921	
1.0	27.3	34.6	966	41.1	52.1	1450	
2.0	45.6	58.5	1370	68.7	88.2	2060	
3.0	64.3	83.2	1670	96.8	125	2520	
4.0	79.8	104	1930	120	156	2910	
6.0	110	145	2370	166	219	3560	
8.0	141	187	2730	212	282	4120	
10.0	171	229	3050	258	344	4600	
20.0	323	437	4320	487	659	6510	
30.0	475	647	5290	716	975	7970	
40.0	628	857	6110	946	1290	9210	
45.0	705	963	6480	1060	1450	9770	
50.0	783	1070	6830	-	-	-	
55.0	861	1175	7160	-	-	-	

# Overflow Valves

## Type 06322



**CRYONICA**  
криогенные технологии

**HEROSE**



**Overflow Valve, angle type, stainless steel,  
not type tested**

metal to metal seated, closed bonnet,

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

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

**Part No. 06322.X.0000**

with lifting device - head A

**Part No. 06322.X.0020**

with gastight cap - head C



### Applications:

Provided as overflow valve for protection against excessive pressure in pipe systems and pressure vessels, which are not subject to approval.

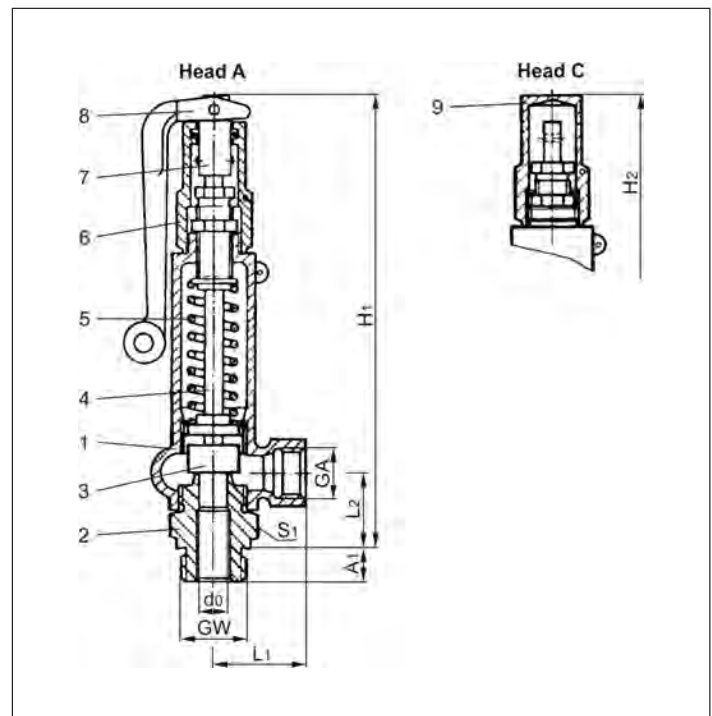
Suitable for gases, vapours and fluids.

Working temperatures: -60°C / -76°F (213K) up to +280°C / +536°F (553K)

Materials	DIN EN	ASTM
1 Body + Bonnet	1.4581	A 351 CF 10MC
2 Inlet body	1.4571	A 276 Grade 316Ti
3 Disc	1.4571	A 276 Grade 316Ti
4 Stem	1.4571	A 276 Grade 316Ti
5 Spring	1.4310	A 313 Grade 302
6 Lifting cap	1.4581	A 351 CF 10MC
7 Lifting stem	1.4305	A 276 Grade 303
8 Lever	3.2581	no reference
9 Cap	1.4581	A 351 CF 10MC

**Essential:** Valves are delivered at a set pressure, therefore when ordering please confirm set pressure, medium and temperature.

Not to use as equipment with safety function acc. to Pressure Equipment Directive 97/23/EG (PED) (No CE marking).



Type 06322	Technical data										
Nominal size	GW	3/8	1/2	3/4	3/4	3/4	1	1	1-1/4	1-1/2	
Orifice	d <sub>0</sub>	8	10	12.5	8	12.5	16	12.5	16	22	27
Dimension code	.X.	0803	1003	1204	0806	1206	1606	1210	1610	2212	2714
Set pressure range	bar	50-250	0.1-140	0.1-120	50-250	50-170	0.1-90	50-170	0.1-90	0.05-55	0.05-45
Outlet	GA	1/2	1/2	1/2	1	1	1	1	1	1	1
Height	H <sub>1</sub>	200	200	200	200	230	230	230	230	230	230
Height	H <sub>2</sub>	185	185	185	185	215	215	215	215	215	215
Length	L <sub>1</sub>	40	40	40	40	50	50	50	50	50	50
Length	L <sub>2</sub>	34	34	34	34	40	40	40	40	40	40
Length	A <sub>1</sub>	12	12	14	16	16	16	18	18	20	20
Wrench size across flats	S <sub>1</sub>	32	32	32	32	41	41	41	41	41	41
Weight	ca. kg	1.0	1.0	1.0	1.0	1.6	1.6	1.6	1.6	1.8	1.8

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Overflow Valves

## Type 06322



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2

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

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 (ü)	GW	3/8 & 3/4			3/8			1/2, 3/4 & 1			3/4 & 1		
	d <sub>0</sub> (mm)	8			10			12.5			16		
	A <sub>0</sub> (mm <sup>2</sup> )	50.3			78.5			122.7			201.1		
	Medium	A	B	C	A	B	C	A	B	C	A	B	C
0.1	-	-	-	-	1.8	63	-	2.9	99	-	4.6	161	
0.4	-	-	-	3.3	4.0	126	5.2	6.3	197	8.3	10.1	323	
1.0	-	-	-	5.6	7.1	200	8.9	11.2	312	14.1	17.9	511	
2.0	-	-	-	9.4	12.1	282	14.5	18.6	441	23.7	30.4	723	
3.0	-	-	-	13.3	17.2	346	20.7	26.9	540	34.0	44.0	885	
4.0	-	-	-	16.5	21.5	399	25.7	33.6	624	42.2	55.0	1020	
6.0	-	-	-	22.8	30.1	489	35.7	47.0	764	58.8	77.0	1250	
8.0	-	-	-	29.2	38.7	565	45.6	60.4	882	74.7	99.0	1440	
10.0	-	-	-	35.4	47.3	631	55.4	73.9	987	90.8	121	1610	
20.0	-	-	-	66.8	90.4	893	104	141	1390	171	231	2280	
30.0	-	-	-	114	134	1090	153	209	1710	251	342	2800	
40.0	-	-	-	130	177	1260	203	277	1970	332	453	3230	
50.0	103	141	904	162	221	1410	253	345	2200	414	565	3610	
60.0	124	169	990	194	264	1550	303	413	2420	497	676	3960	
70.0	147	197	1070	229	308	1670	358	481	2610	587	788	4280	
80.0	167	225	1140	261	351	1780	408	549	2790	668	899	4570	
90.0	189	252	1210	295	395	1890	462	617	2960	756	1010	4850	
100.0	212	280	1280	331	438	2000	517	684	3120	-	-	-	
120.0	259	335	1400	404	524	2190	632	819	3420	-	-	-	
140.0	309	390	1510	484	609	2360	756	951	3690	-	-	-	
160.0	367	443	1610	-	-	-	896	1080	3950	-	-	-	
180.0	434	496	1710	-	-	-	-	-	-	-	-	-	
200.0	517	547	1810	-	-	-	-	-	-	-	-	-	
220.0	-	598	1890	-	-	-	-	-	-	-	-	-	
240.0	-	648	1980	-	-	-	-	-	-	-	-	-	
250.0	-	672	2020	-	-	-	-	-	-	-	-	-	

Set pressure in bar (ü)	GW	1-1/4			1-1/2		
	d <sub>0</sub> (mm)	22			27		
	A <sub>0</sub> (mm <sup>2</sup> )	380.2			572.6		
	Medium	A	B	C	A	B	C
0.05	-	6.1	216	-	9.2	325	
0.1	-	8.8	305	-	13.3	460	
0.4	16.0	19.4	611	24.1	29.2	921	
1.0	27.3	34.6	966	41.1	52.1	1450	
2.0	45.6	58.5	1370	68.7	88.2	2060	
3.0	64.3	83.2	1670	96.8	125	2520	
4.0	79.8	104	1930	120	156	2910	
6.0	110	145	2370	166	219	3560	
8.0	141	187	2730	212	282	4120	
10.0	171	229	3050	258	344	4600	
20.0	323	437	4320	487	659	6510	
30.0	475	647	5290	716	975	7970	
40.0	628	857	6110	946	1290	9210	
45.0	705	963	6480	1060	1450	9770	
50.0	783	1070	6830	-	-	-	
55.0	861	1175	7160	-	-	-	



**CRYONICA**  
криогенные технологии

**HEROSE**





# Air Gases and Cryogenic Services



The LNG Terminal in Nynäshamn, Sweden.  
Equipped with HEROSE Valves for cryogenic applications

# Safety Valves

## Type 06001



**CRYONICA**  
криогенные технологии



**Cryogenic Safety Valves, angle type, brass, PN63, type tested TÜV-SV.1048. S/G/L**

Standard Safety Valve,  
complete with carbon filled PTFE valve seal, closed bonnet  
Outlet: female thread Rc 3/8 acc. to ISO 7/1  
"cleaned and degreased for oxygen service"

**Part No. 06001.X.0000**

Inlet: male thread type R (BSPT) acc. to ISO 7/1

**Part No. 06001.X.2000**

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

**Part No. 06001.X.5000**

Inlet: male thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

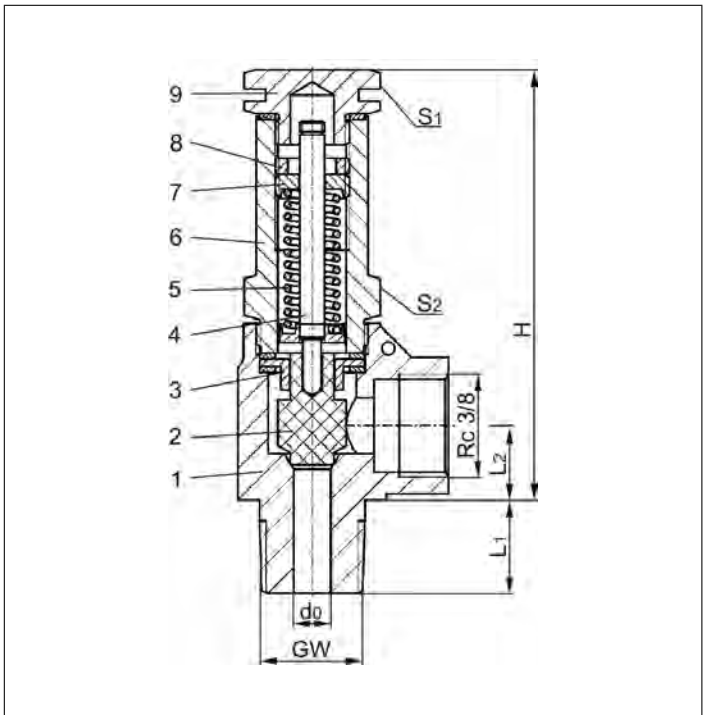
- with installed elbow at the outlet



**Applications:**

Provided as safety device for protection against thermal expansion in pipeworks and parts of facilities.  
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.  
Working temperature: -196°C / -321°F (77K) up to +65°C / +149°F (338K)

Materials	DIN EN	ASTM
1 Body	CW610N	B 111 UNS C28000
2 Disc	PTFE / Carbon filled (25%)	
3 Guide plate	CW614N	B 283 UNS C38500
4 Stem	CW614N	B 283 UNS C38500
5 Spring	1.4571	A 276 Grade 316Ti
6 Bonnet	CW614N	B 283 UNS C38500
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
9 Cap	CW614N	B 283 UNS C38500



**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06001	Technical data			
Nominal size	GW	1/4	3/8	1/2
Orifice	d <sub>0</sub>	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400
Set pressure range	bar	5.0-55.0	5.0-55.0	5.0-55.0
Height	H	70	70	70
Length	L <sub>1</sub>	13	15	17
Length	L <sub>2</sub>	13	13	13
Wrench size across flats	S <sub>1</sub>	19	19	19
Wrench size across flats	S <sub>2</sub>	19	19	19
Weight	ca. kg	0.18	0.195	0.21
Coefficient of discharge	α <sub>w</sub>	0.09	0.09	0.09

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06001



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Water** in kg/h

**The capacity indicated below is for a fully opened valve.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (ü)	GW	1/4	3/8	1/2	1/4	3/8	1/2
	$d_0$ (mm)	6.0	6.0	6.0	6.0	6.0	6.0
	$A_0$ (mm <sup>2</sup> )	28.3	28.3	28.3	28.3	28.3	28.3
	Medium	Air			Water		
5.0		11.3	11.3	11.3	304	304	304
6.0		13.2	13.2	13.2	333	333	333
7.0		15.1	15.1	15.1	359	359	359
8.0		17.0	17.0	17.0	384	384	384
9.0		18.9	18.9	18.9	407	407	407
10.0		20.8	20.8	20.8	429	429	429
12.0		24.6	24.6	24.6	470	470	470
14.0		28.4	28.4	28.4	508	508	508
16.0		32.2	32.2	32.2	543	543	543
18.0		36.0	36.0	36.0	576	576	576
20.0		39.9	39.9	39.9	607	607	607
22.0		43.7	43.7	43.7	637	637	637
24.0		47.5	47.5	47.5	665	665	665
26.0		51.3	51.3	51.3	692	692	692
28.0		55.1	55.1	55.1	718	718	718
30.0		58.9	58.9	58.9	744	744	744
32.0		62.7	62.7	62.7	768	768	768
34.0		66.5	66.5	66.5	792	792	792
36.0		70.3	70.3	70.3	814	814	814
38.0		74.2	74.2	74.2	837	837	837
40.0		78.0	78.0	78.0	859	859	859
42.0		81.8	81.8	81.8	880	880	880
44.0		85.6	85.6	85.6	900	900	900
46.0		89.4	89.4	89.4	921	921	921
48.0		93.2	93.2	93.2	940	940	940
50.0		97.0	97.0	97.0	960	960	960
52.0		100.8	100.8	100.8	979	979	979
54.0		104.6	104.6	104.6	998	998	998
55.0		106.5	106.5	106.5	1007	1007	1007



# Safety Valves

## Type 06002, Type 06006



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Safety Valves, angle type, brass, PN63, type tested TÜV-SV.1048. S/G

Standard safety valve,  
with carbon filled PTFE valve seal, open bonnet

Outlet: female thread Rc 3/8 acc. to ISO 7/1

"cleaned and degreased for oxygen service"

**Part No. 06002.X.0000**

**Part No. 06006.X.0000 (with lifting device)**

Inlet: male thread type R (BSPT) acc. to ISO 7/1

**Part No. 06002.X.2000**

**Part No. 06006.X.2000 (with lifting device)**

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

**Part No. 06002.X.5000**

**Part No. 06006.X.5000 (with lifting device)**

Inlet: male thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

- with installed elbow at the outlet



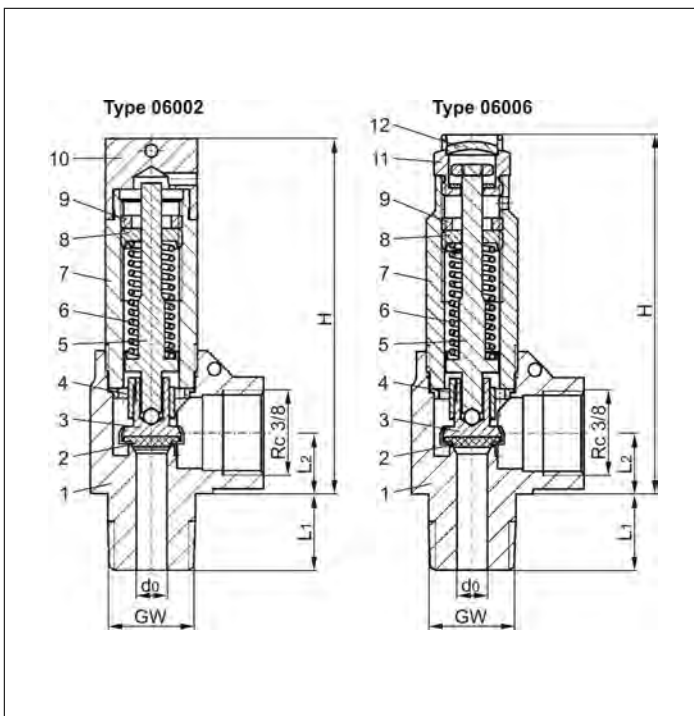
### Applications:

Provided as safety device for protection against thermal expansion in pipeworks and parts of facilities.

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +150°C / +302°F (423K)

Materials	DIN EN	ASTM
1 Body	CW610N	B 111 UNS C28000
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW452K	B 103 UNS C51900
4 Guide plate	CC493K	B 505 UNS C93200
5 Stem	CW614N	B 283 UNS C38500
6 Spring	1.4571	A 276 Grade 316Ti
7 Bonnet	CW614N	B 283 UNS C38500
8 Spring clamp	CW614N	B 283 UNS C38500
9 Thread ring	CW614N	B 283 UNS C38500
10 Cap	CW614N	B 283 UNS C38500
11 Lifting device	CW614N	B 283 UNS C38500
12 Closing cap	CW507L	B 30 UNS C26800



**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Technical data	Type 06002			Type 06006			
	GW	1/4	3/8	1/2	1/4	3/8	1/2
Nominal size	d <sub>0</sub>	6.0	6.0	6.0	6.0	6.0	6.0
Orifice	d <sub>0</sub>	6.0	6.0	6.0	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400	0200	0300	0400
Set pressure range	bar	1.0-55.0	1.0-55.0	1.0-55.0	1.0-55.0	1.0-55.0	1.0-55.0
Height	H	70	70	70	72	72	72
Length	L <sub>1</sub>	13	15	17	13	15	17
Length	L <sub>2</sub>	13	13	13	13	13	13
Weight	ca. kg	0.185	0.20	0.22	0.18	0.195	0.21
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.42	0.42	0.42	0.42	0.42	0.42

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

## Safety Valves

### Type 06002, Type 06006



**CRYONICA**  
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**HEROSE**



#### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/4	3/8	1/2
	d <sub>0</sub> (mm)	6.0	6.0	6.0
	A <sub>0</sub> (mm <sup>2</sup> )	28.3	28.3	28.3
Medium		<b>Air</b>		
1.0		15.5	15.5	15.5
2.0		26.0	26.0	26.0
3.0		34.9	34.9	34.9
4.0		43.8	43.8	43.8
5.0		52.6	52.6	52.6
6.0		61.5	61.5	61.5
7.0		70.4	70.4	70.4
8.0		79.3	79.3	79.3
9.0		88.2	88.2	88.2
10.0		97.1	97.1	97.1
12.0		114.9	114.9	114.9
14.0		132.7	132.7	132.7
16.0		150.4	150.4	150.4
18.0		168.2	168.2	168.2
20.0		186.0	186.0	186.0
22.0		203.8	203.8	203.8
24.0		221.6	221.6	221.6
26.0		239.4	239.4	239.4
28.0		257.1	257.1	257.1
30.0		274.9	274.9	274.9
32.0		292.7	292.7	292.7
34.0		310.5	310.5	310.5
36.0		328.3	328.3	328.3
38.0		346.1	346.1	346.1
40.0		363.8	363.8	363.8
42.0		381.6	381.6	381.6
44.0		399.4	399.4	399.4
46.0		417.2	417.2	417.2
48.0		435.0	435.0	435.0
50.0		452.7	452.7	452.7
52.0		470.5	470.5	470.5
54.0		488.3	488.3	488.3
55.0		497.2	497.2	497.2

# Safety Valves

## Type 06011



**Cryogenic Safety Valves, angle type, stainless steel, PN63, type tested TÜV-SV.1048. S/G/L**

Standard safety valve,  
complete with carbon filled PTFE valve seal, closed bonnet  
Outlet: female thread Rc 3/8 acc. to ISO 7/1  
"cleaned and degreased for oxygen service"

**Part No. 06011.X.0000**

Inlet: male thread type R (BSPT) acc. to ISO 7/1

**Part No. 06011.X.2000**

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

**Part No. 06011.X.5000**

Inlet: male thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

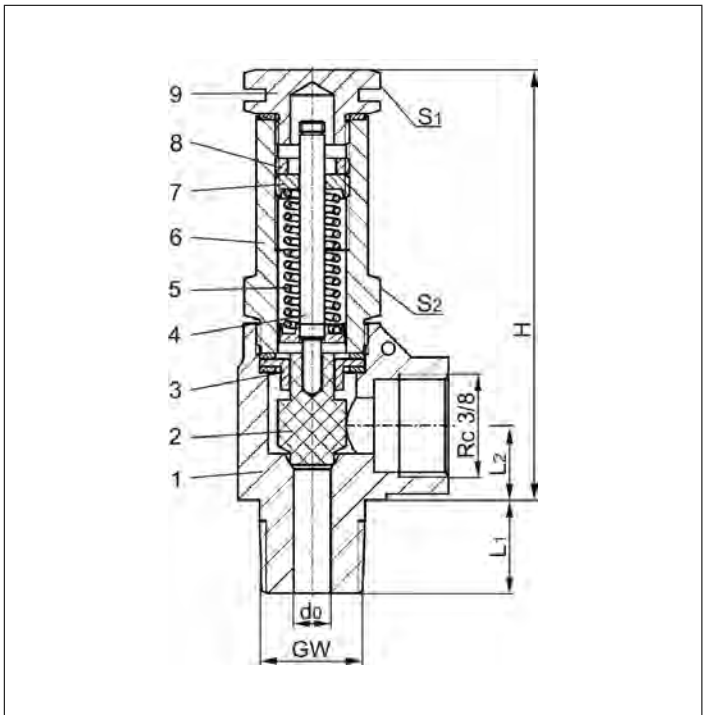
- with installed elbow at the outlet



**Applications:**

Provided as safety device for protection against thermal expansion in pipeworks and parts of facilities.  
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.  
Working temperature: -196°C / -321°F (77K) up to +65°C / +149°F (338K)

Materials	DIN EN	ASTM
1 Body	1.4408	A 351 CF8M
2 Disc	PTFE / Carbon filled (25%)	
3 Guide plate	1.4301	A 276 Grade 304
4 Stem	1.4301	A 276 Grade 304
5 Spring	1.4571	A 276 Grade 316Ti
6 Bonnet	1.4301	A 276 Grade 304
7 Spring clamp	1.4305	A 276 Grade 303
8 Thread ring	1.4305	A 276 Grade 303
9 Cap	1.4301	A 276 Grade 304



**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06011	Technical data			
<b>Nominal size</b>	<b>GW</b>	<b>1/4</b>	<b>3/8</b>	<b>1/2</b>
Orifice	d <sub>0</sub>	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400
Set pressure range	bar	5.0-55.0	5.0-55.0	5.0-55.0
Height	H	70	70	70
Length	L <sub>1</sub>	13	15	17
Length	L <sub>2</sub>	13	13	13
Wrench size across flats	S <sub>1</sub>	19	19	19
Wrench size across flats	S <sub>2</sub>	19	19	19
Weight	ca. kg	0.18	0.195	0.21
Coefficient of discharge	α <sub>w</sub>	0.09	0.09	0.09

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06011



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Water** in kg/h

**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 (ü)	GW	1/4. 3/8 & 1/2	1/4. 3/8 & 1/2
	d <sub>0</sub> (mm)	6.0	6.0
	A <sub>0</sub> (mm <sup>2</sup> )	28.3	28.3
	Medium	<b>Air</b>	<b>Water</b>
5.0		11.3	304
6.0		13.2	333
7.0		15.1	359
8.0		17.0	384
9.0		18.9	407
10.0		20.8	429
12.0		24.6	470
14.0		28.4	508
16.0		32.2	543
18.0		36.0	576
20.0		39.9	607
22.0		43.7	637
24.0		47.5	665
26.0		51.3	692
28.0		55.1	718
30.0		58.9	744
32.0		62.7	768
34.0		66.5	792
36.0		70.3	814
38.0		74.2	837
40.0		78.0	859
42.0		81.8	880
44.0		85.6	900
46.0		89.4	921
48.0		93.2	940
50.0		97.0	960
52.0		100.8	979
54.0		104.6	998
55.0		106.5	1007

# Safety Valves

## Type 06012, Type 06016



**CRYONICA**  
криогенные технологии

**HEROSE**



**Cryogenic Safety Valves, angle type, stainless steel, PN63, type tested TÜV-SV.1048. S/G**

Standard safety valve,

with carbon filled PTFE valve seal, open bonnet

Outlet: female thread Rc 3/8 acc. to ISO 7/1

"cleaned and degreased for oxygen service"

**Part No. 06012.X.0000**

**Part No. 06016.X.0000 (with lifting device)**

Inlet: male thread type R (BSPT) acc. to ISO 7/1

**Part No. 06012.X.2000**

**Part No. 06016.X.2000 (with lifting device)**

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

**Part No. 06012.X.5000**

**Part No. 06016.X.5000 (with lifting device)**

Inlet: male thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

· with installed elbow at the outlet



### Applications:

Provided as safety device for protection against thermal expansion in pipeworks and parts of facilities.

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +150°C / +302°F (423K)

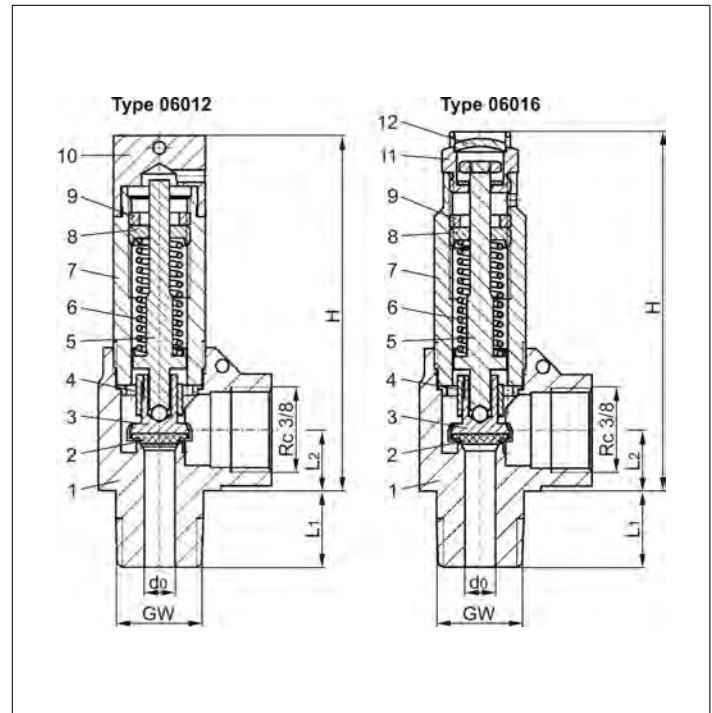
Materials	DIN EN	ASTM
1 Body	1.4408	A 351 CF8M
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	1.4301	A 276 Grade 304
4 Guide plate	1.4301	A 276 Grade 304
5 Stem	1.4301	A 276 Grade 304
6 Spring	1.4571	A 276 Grade 316Ti
7 Bonnet	1.4301	A 276 Grade 304
8 Spring clamp	1.4305	A 276 Grade 303
9 Thread ring	1.4305	A 276 Grade 303
10 Cap	1.4301	A 276 Grade 304
11 Lifting device	1.4305	A 276 Grade 303
12 Closing cap	1.4305	A 276 Grade 303

**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Technical data	Type 06012				Type 06016			
	GW	1/4	3/8	1/2	1/4	3/8	1/2	
Nominal size	d <sub>0</sub>	6.0	6.0	6.0	6.0	6.0	6.0	
Orifice	.X.	0200	0300	0400	0200	0300	0400	
Dimension code	bar	1.0-55.0	1.0-55.0	1.0-55.0	1.0-55.0	1.0-55.0	1.0-55.0	
Set pressure range	H	70	70	70	72	72	72	
Height	L <sub>1</sub>	13	15	17	13	15	17	
Length	L <sub>2</sub>	13	13	13	13	13	13	
Length	ca. kg	0.185	0.20	0.22	0.18	0.195	0.21	
Weight	α <sub>w</sub>	0.42	0.42	0.42	0.42	0.42	0.42	
Coeff. of discharge from 3.0 bar								

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06012, Type 06016



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/4. 3/8 & 1/2
	d <sub>0</sub> (mm)	6.0
	A <sub>0</sub> (mm <sup>2</sup> )	28.3
	Medium	<b>Air</b>
1.0		15.5
2.0		26.0
3.0		34.9
4.0		43.8
5.0		52.6
6.0		61.5
7.0		70.4
8.0		79.3
9.0		88.2
10.0		97.1
12.0		114.9
14.0		132.7
16.0		150.4
18.0		168.2
20.0		186.0
22.0		203.8
24.0		221.6
26.0		239.4
28.0		257.1
30.0		274.9
32.0		292.7
34.0		310.5
36.0		328.3
38.0		346.1
40.0		363.8
42.0		381.6
44.0		399.4
46.0		417.2
48.0		435.0
50.0		452.7
52.0		470.5
54.0		488.3
55.0		497.2

# Safety Valves

## Type 06388



**CRYONICA**  
криогенные технологии

**HEROSE**



### 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  
"cleaned and degreased for oxygen service"

#### Part No. 06388.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. 06388.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. 06388.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. 06388.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:

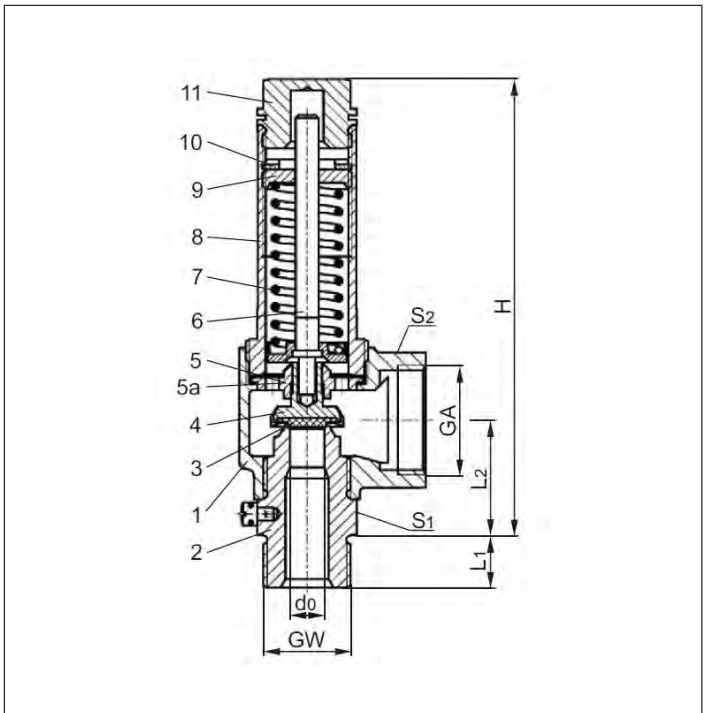
Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders.

Approved for air gases, vapours and cryogenic liquefied gases e.g. oxygen ( $O_2$ ), nitrogen ( $N_2$ ), argon (Ar), hydrogen ( $H_2$ ), helium (He), carbon dioxide ( $CO_2$ ), carbon monoxide (CO), methane ( $CH_4$ ), ethane ( $C_2H_6$ ), ethylene ( $C_2H_4$ ), incl. LPG and LNG.

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



Materials	DIN EN	ASTM
1 Outlet body	CC491K	B 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	CC453K	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 Cap	CW614N	EN 12164 R400



**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/EG (PED) and ASME Code Section VIII.



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.

Type 06388	Technical data							
	GW	1/2	3/4	1/2	3/4	1	1-1/4	1-1/2
Nominal size	$d_0$	7.0	7.0	10.5	10.5	15.0	23.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1510	2312	2314
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
Outlet	GA	1	1	1	1	1-1/4	2	2
Height	H	140	140	140	140	157	218	218
Length	$L_1$	14	16	14	16	18	20	20
Length	$L_2$	36	36	36	36	42	56	56
Wrench size across flats	$S_1$	30	30	30	30	41	55	55
Wrench size across flats	$S_2$	41	41	41	41	50	70	70
Weight	ca. kg	0.78	0.80	0.76	0.79	1.27	3.05	3.10
Coefficient of discharge	$\alpha_w$	0.82	0.82	0.58	0.58	0.5	0.62	0.62

Dimensions in mm.

CRYONICA:

Tel: +7 (3412) 320 597;

E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06388



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Medium:

Air in m<sup>3</sup>/h at 0°C and 1013.25 mbar

Air in SCFM at 0°C and 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.  
The safety valve is marked with the lower capacity of both calculations.

Set pressure in bar (ü)	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4 & 1-1/2	Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4 & 1-1/2
	d <sub>0</sub> (mm)	7.0	10.5	15.0	23.0		d <sub>0</sub> (inch)	0.276	0.414	0.591	0.907
	A <sub>0</sub> (mm <sup>2</sup> )	38.48	86.6	176.63	415.27		rated slope	0.862	1.517	2.769	7.55
Medium	Air in m <sup>3</sup> /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		



# Safety Valves

## Type 06418



**CRYONICA**  
криогенные технологии

**HEROSE**



### 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.

Approved for air gases, vapours and cryogenic liquefied gases e.g. oxygen ( $O_2$ ), nitrogen ( $N_2$ ), argon (Ar), hydrogen ( $H_2$ ), helium (He), carbon dioxide ( $CO_2$ ), carbon monoxide (CO), methane ( $CH_4$ ), ethane ( $C_2H_6$ ), ethylene ( $C_2H_4$ ), incl. LPG and LNG.

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



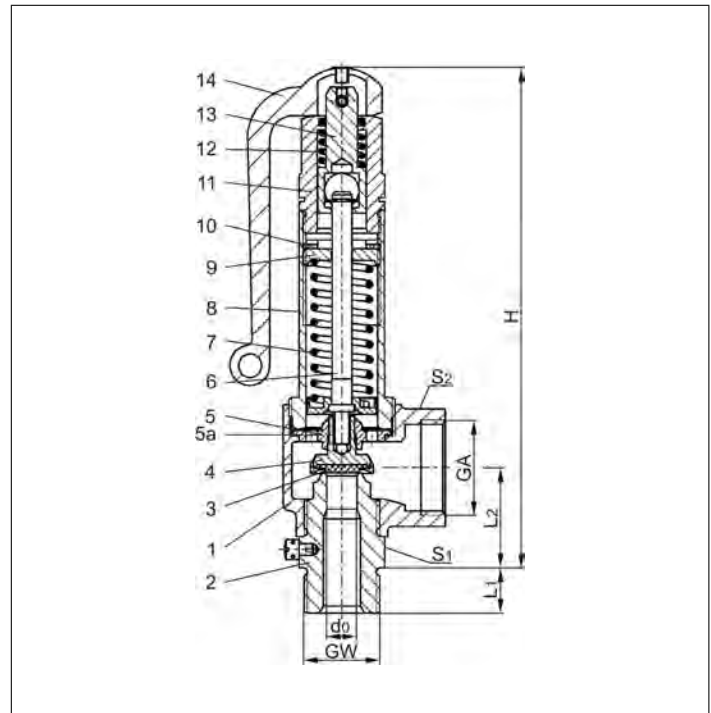
Materials	DIN EN	ASTM
1 Outlet body	CC491K	SB 62 UNS C83600
2 Inlet body	1.4301	SA-479.304
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CC493K	SB 505 UNS C93200
5 Guide plate	CC493K	SB 505 UNS C93200
5a Guide plate from GW 1	CW453K	SB 103 UNS C52100
6 Stem	CW453K	SB 103 UNS C52100
7 Spring	1.4571	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/EG (PED) and ASME Code Section VIII.



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



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

Dimensions in mm.

CRYONICA:

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Edition 2012-07

# Safety Valves

## Type 06418



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

Medium:

Air in m<sup>3</sup>/h at 0°C and 1013.25 mbar

Air in SCFM at 0°C and 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.  
The safety valve is marked with the lower capacity of both calculations.

Set pressure in bar (ü)	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4 & 1-1/2	Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4 & 1-1/2
	d <sub>0</sub> (mm)	7.0	10.5	15.0	23.0		d <sub>0</sub> (inch)	0.276	0.414	0.591	0.907
Medium	A <sub>0</sub> (mm <sup>2</sup> )	38.48	86.6	176.63	415.27	Medium	rated slope	0.862	1.517	2.769	7.55
	Air in m <sup>3</sup> /h						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

# Safety Valves

## Type 06383



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Safety Valves, angle type, stainless steel, 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 "cleaned and degreased for oxygen service"

#### Part No. 06383.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. 06383.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. 06383.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. 06383.X.6000

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



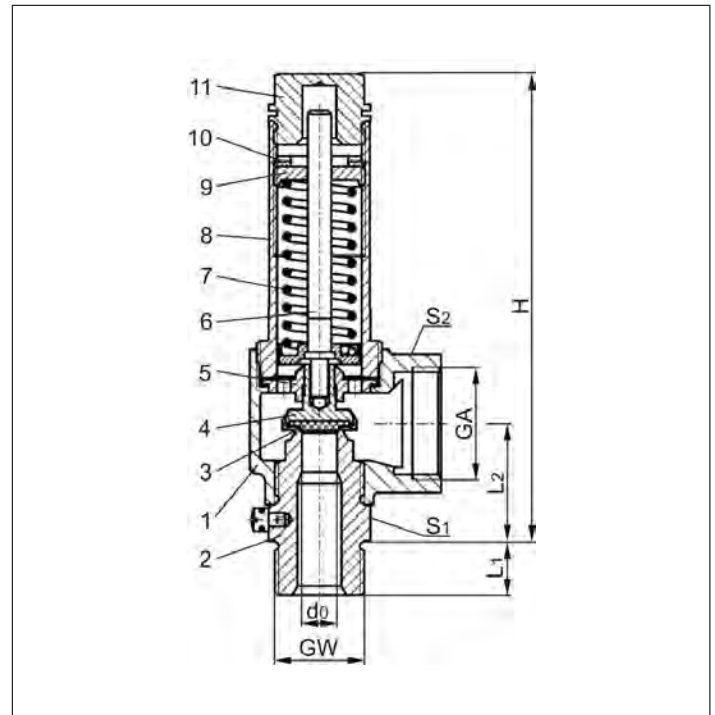
### Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders.

Approved for air gases, vapours and cryogenic liquefied gases e.g. oxygen ( $O_2$ ), nitrogen ( $N_2$ ), argon (Ar), hydrogen ( $H_2$ ), helium (He), carbon dioxide ( $CO_2$ ), carbon monoxide (CO), methane ( $CH_4$ ), ethane ( $C_2H_6$ ), ethylene ( $C_2H_4$ ), incl. LPG and LNG.

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

Materials	DIN EN	ASME / ASTM
1 Outlet body	1.4308	SA-351.CF 8
2 Inlet body	1.4301	SA-479.304
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	1.4301	SA-479.304
5 Guide plate	1.4301	SA-479.304
6 Stem	1.4301	SA-479.304
7 Spring	1.4571	SA-479.316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	1.4301	SA-479.304
10 Thread ring	1.4301	SA-479.304
11 Cap	1.4301	SA-479.304



**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06383	Technical data								
	Nominal size	GW	1/2	3/4	1/2	3/4	1	1-1/4	1-1/2
Orifice	$d_0$	7.0	7.0	10.5	10.5	15.0	23.0	23.0	
Dimension code	.X.	0704	0706	1004	1006	1510	2312	2314	
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	
Outlet	GA	1	1	1	1	1-1/4	2	2	
Height	H	140	140	140	140	157	218	218	
Length	$L_1$	14	16	14	16	18	20	20	
Length	$L_2$	36	36	36	36	42	56	56	
Wrench size across flats	$S_1$	30	30	30	30	41	55	55	
Wrench size across flats	$S_2$	41	41	41	41	50	70	70	
Weight	ca. kg	0.78	0.80	0.76	0.79	1.27	3.05	3.10	
Coefficient of discharge	$\alpha_w$	0.82	0.82	0.58	0.58	0.5	0.62	0.62	

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

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Edition 2012-07

# Safety Valves

## Type 06383



**CRYONICA**  
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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 0°C and 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.

The safety valve is marked with the lower capacity of both calculations.

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

# Safety Valves

## Type 06413



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Safety Valves, angle type, stainless steel, 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. 06413.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. 06413.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. 06413.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. 06413.X.6000

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



### Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders.  
Approved for air gases, vapours and cryogenic liquefied gases e.g. oxygen ( $O_2$ ), nitrogen ( $N_2$ ), argon (Ar),  
hydrogen ( $H_2$ ), helium (He), carbon dioxide ( $CO_2$ ), carbon monoxide (CO), methane ( $CH_4$ ), ethane ( $C_2H_6$ ),  
ethylene ( $C_2H_4$ ), incl. LPG and LNG.

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

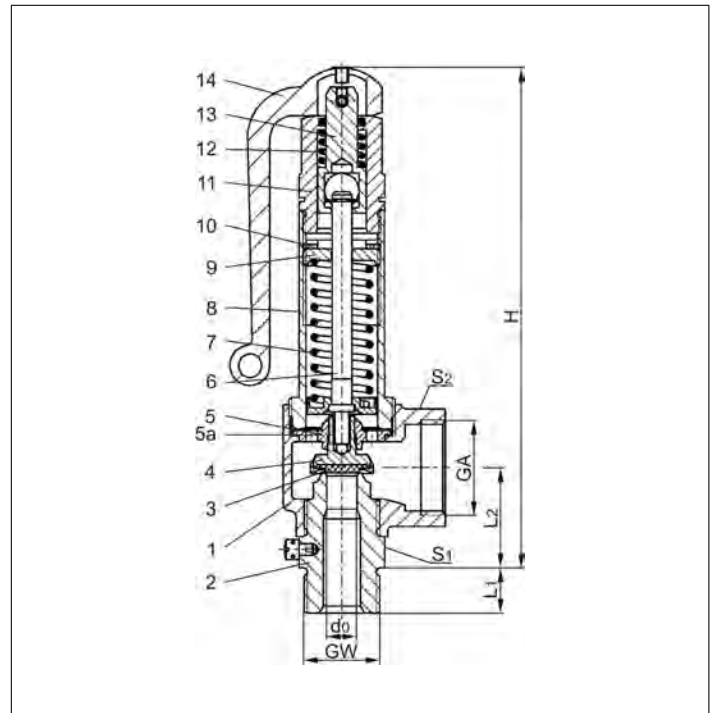
Materials	DIN EN	ASME / ASTM
1 Outlet body	1.4308	SA-351.CF 8
2 Inlet body	1.4301	SA-479.304
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	1.4301	SA-479.304
5 Guide plate	1.4301	SA-479.304
5a Guide plate from GW 1	1.4301	SA-479.304
6 Stem	1.4571	SA-479.316Ti
7 Spring	1.4571	SA-479.316
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	1.4301	SA-479.304
10 Thread ring	1.4301	SA-479.304
11 Lifting cap	1.4301	SA-479.304
12 Lifting spring	1.4571	SA-479.316
13 Lifting stem	1.4301	SA-479.304
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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only  
be carried out by written notice on purchase order.



Type 06413	Technical data								
	Nominal size	GW	1/2	3/4	1/2	3/4	1	1-1/4	1-1/2
Orifice	$d_0$	7.0	7.0	10.5	10.5	15.0	23.0	23.0	
Dimension code	.X.	0704	0706	1004	1006	1510	2312	2314	
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	
Outlet	GA	1	1	1	1	1-1/4	2	2	
Height	H	175	175	175	175	194	270	270	
Length	$L_1$	14	16	14	16	18	20	20	
Length	$L_2$	36	36	36	36	42	56	56	
Wrench size across flats	$S_1$	30	30	30	30	41	55	55	
Wrench size across flats	$S_2$	41	41	41	41	50	70	70	
Weight	ca. kg	1.00	1.02	0.98	1.01	1.52	3.80	3.85	
Coefficient of discharge	$\alpha_w$	0.82	0.82	0.58	0.58	0.5	0.62	0.62	

Dimensions in mm.

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Edition 2012-07

# Safety Valves

## Type 06413

### Discharge capacities

Medium:

Air in m<sup>3</sup>/h at 0°C and 1013.25 mbar

Air in SCFM at 0°C and 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.

The safety valve is marked with the lower capacity of both calculations.

Set pressure in bar (ü)	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4 & 1-1/2	Set pressure in psig	GW	1/2 & 3/4	1/2 & 3/4	1	1-1/4 & 1-1/2
	d <sub>0</sub> (mm)	7.0	10.5	15.0	23.0		d <sub>0</sub> (inch)	0.276	0.414	0.591	0.907
	A <sub>0</sub> (mm <sup>2</sup> )	38.48	86.6	176.63	415.27		rated slope	0.862	1.517	2.769	7.55
Medium	Air in m <sup>3</sup> /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		

# Safety Valves

## Type 06386



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Safety Valves, angle type, bronze, PN40, type tested TÜV-SV.780. S/G

Standard safety valve (0.2 - 25.0/40.0 bar)

Metal to metal seated, closed bonnet

"cleaned and degreased for oxygen service"

#### Part No. 06386.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. 06386.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. 06386.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. 06386.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.

Approved for air gases, vapours and cryogenic liquefied gases e.g. oxygen (O<sub>2</sub>), nitrogen (N<sub>2</sub>), argon (Ar), hydrogen (H<sub>2</sub>), helium (He), carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), methane (CH<sub>4</sub>), ethane (C<sub>2</sub>H<sub>6</sub>), ethylene (C<sub>2</sub>H<sub>4</sub>), incl. LPG and LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)



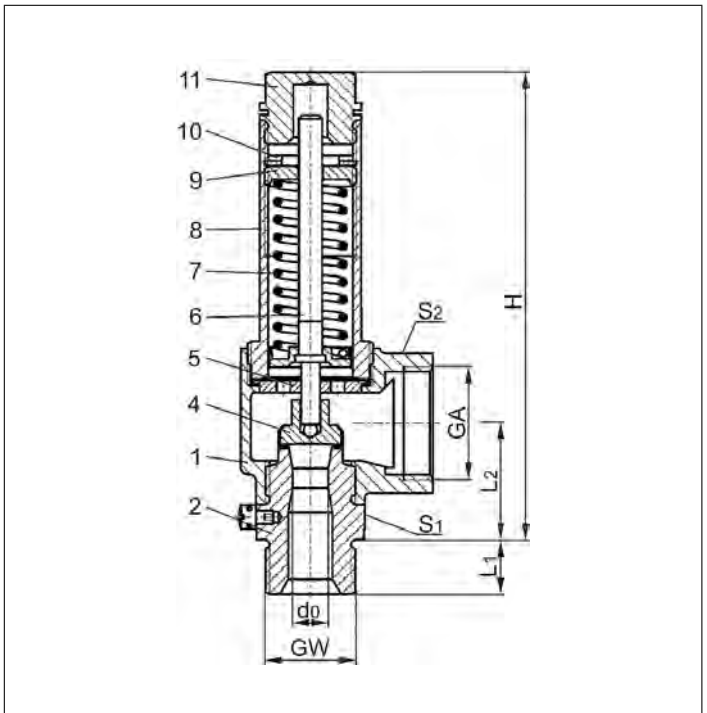
Materials	DIN EN	ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
4 Disc	1.4541	A 276 Grade 321
5 Guide plate	CW453K	B 103 UNS C52100
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 276 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Cap	CW614N	B 283 UNS C38500

**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06386	Technical data				
	Nominal size	GW	1/2	3/4	1
Orifice	d <sub>0</sub>		10.5	10.5	14.0
Dimension code	.X.		1004	1006	1410
Set pressure range	bar		0.2-25.0	0.2-25.0	0.2-40.0
Outlet	GA		1	1	1-1/4
Height	H		140	140	157
Length	L <sub>1</sub>		14	16	18
Length	L <sub>2</sub>		36	36	42
Wrench size across flats	S <sub>1</sub>		30	30	41
Wrench size across flats	S <sub>2</sub>		41	41	50
Weight	ca. kg		0.75	0.78	1.24
Coeff. of discharge from 3.0 bar	α <sub>w</sub>		0.67	0.67	0.67

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06386



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/2	3/4	1
	d <sub>0</sub> (mm)	10.5	10.5	14.0
	A <sub>0</sub> (mm <sup>2</sup> )	86.6	86.6	153.9
	Medium	Air		
0.2		31	31	61
0.5		49	49	88
1.0		75	75	133
1.5		99	99	176
2.0		123	123	216
3.0		170	170	303
4.0		214	214	380
5.0		257	257	457
6.0		301	301	535
7.0		344	344	612
8.0		387	387	689
9.0		431	431	766
10.0		474	474	844
12.0		561	561	998
14.0		648	648	1153
16.0		735	735	1307
18.0		822	822	1461
20.0		909	909	1616
22.0		996	996	1770
24.0		1082	1082	1925
25.0		1126	1126	2002
26.0		-	-	2079
28.0		-	-	2234
30.0		-	-	2388
32.0		-	-	2543
34.0		-	-	2697
36.0		-	-	2852
38.0		-	-	3006
40.0		-	-	3161



# Safety Valves

## Type 06416



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Safety Valve, angle type, bronze, PN40, type tested TÜV-SV.780. S/G

Standard safety valve (0.2 - 25.0/40.0 bar)

Metal to metal seated, closed bonnet, with lifting device

"cleaned and degreased for oxygen service"

#### Part No. 06416.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. 06416.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. 06416.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. 06416.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.

Approved for air gases, vapours and cryogenic liquefied gases e.g. oxygen (O<sub>2</sub>), nitrogen (N<sub>2</sub>), argon (Ar), hydrogen (H<sub>2</sub>), helium (He), carbon dioxide (CO<sub>2</sub>), carbon monoxide (CO), methane (CH<sub>4</sub>), ethane (C<sub>2</sub>H<sub>6</sub>), ethylene (C<sub>2</sub>H<sub>4</sub>), incl. LPG and LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)



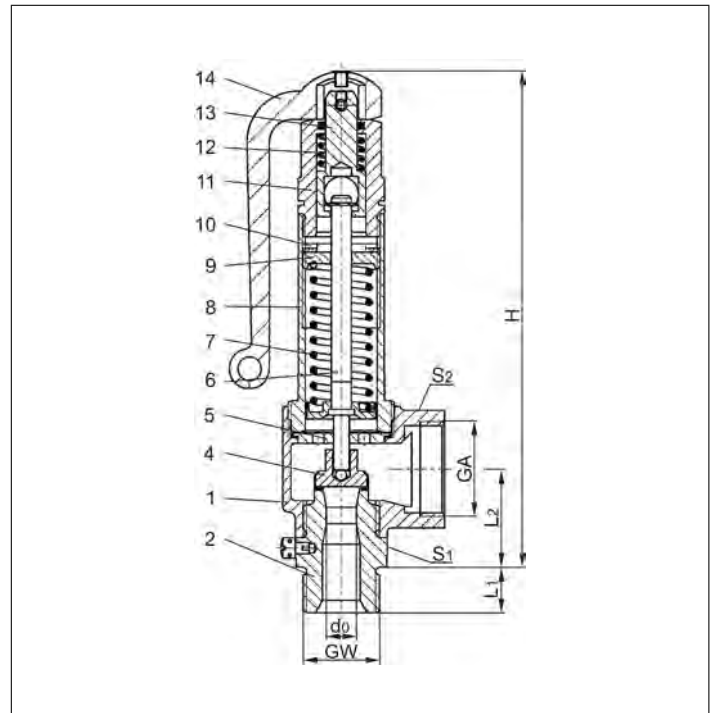
Materials	DIN EN	ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
4 Disc	1.4541	A 276 Grade 321
5 Guide plate	CW453K	B 103 UNS C52100
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 276 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Lifting cap	CW614N	B 283 UNS C38500
12 Lifting spring	1.4571	A 276 Grade 316Ti
13 Lifting stem	CW614N	B 283 UNS C38500
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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06416	Technical data				
	Nominal size	GW	1/2	3/4	1
Orifice	d <sub>0</sub>	10.5	10.5	14.0	
Dimension code	.X.	1004	1006	1410	
Set pressure range	bar	0.2-25.0	0.2-25.0	0.2-40.0	
Outlet	GA	1	1	1-1/4	
Height	H	175	175	194	
Length	L <sub>1</sub>	14	16	18	
Length	L <sub>2</sub>	36	36	42	
Wrench size across flats	S <sub>1</sub>	30	30	41	
Wrench size across flats	S <sub>2</sub>	41	41	50	
Weight	ca. kg	1.96	1.00	1.50	
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.67	0.67	0.67	

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06416



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/2	3/4	1
	d <sub>0</sub> (mm)	10.5	10.5	14.0
	A <sub>0</sub> (mm <sup>2</sup> )	86.6	86.6	153.9
Medium		Air		
0.2		31	31	61
0.5		49	49	88
1.0		75	75	133
1.5		99	99	176
2.0		123	123	216
3.0		170	170	303
4.0		214	214	380
5.0		257	257	457
6.0		301	301	535
7.0		344	344	612
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12.0		561	561	998
14.0		648	648	1153
16.0		735	735	1307
18.0		822	822	1461
20.0		909	909	1616
22.0		996	996	1770
24.0		1082	1082	1925
25.0		1126	1126	2002
26.0		-	-	2079
28.0		-	-	2234
30.0		-	-	2388
32.0		-	-	2543
34.0		-	-	2697
36.0		-	-	2852
38.0		-	-	3006
40.0		-	-	3161

# Safety Valves

## Type 06420



**CRYONICA**  
криогенные технологии

**HEROSE**



**Cryogenic Safety Valve, angle type, bronze, PN40**

$d_0=7.0$  &  $10.5\text{mm}$  up to PN50

type tested TÜV-SV.1111. S/G

Standard safety valve,

with PCTFE valve seal, closed bonnet

"cleaned and degreased for oxygen service"

**Part No. 06420.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. 06420.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. 06420.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. 06420.X.6000**

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



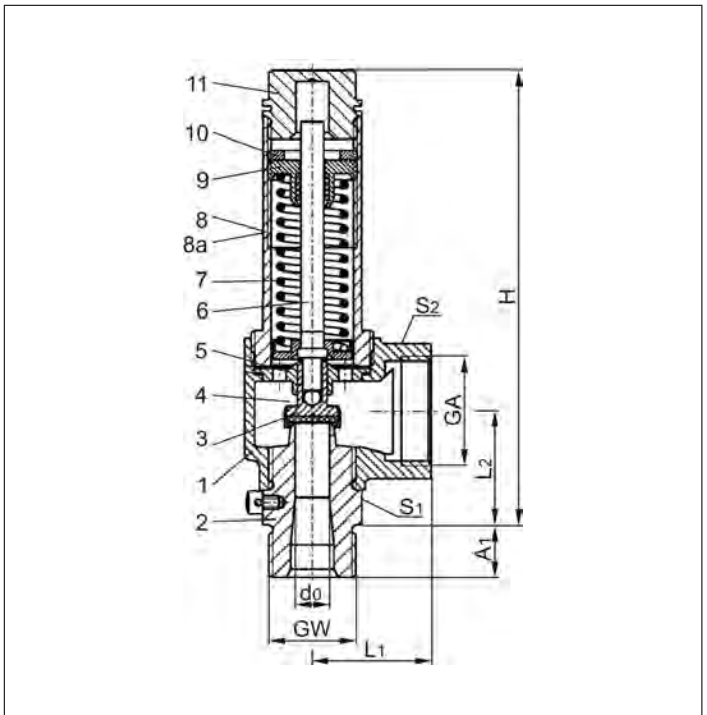
### Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders.

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)

Materials	DIN EN	ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
3 Valve seal	PCTFE	
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 276 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
8a Bonnet from GW 1-1/4	1.4305	A 314 Grade 303
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Cap	CW614N	B 283 UNS C38500



**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06420	Technical data									
Nominal size	GW	1/2	3/4	1/2	3/4	3/4	1	1	1-1/4	1-1/4
Orifice	$d_0$	7.0	7.0	10.5	10.5	14.0	14.0	18.0	18.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1406	1410	1810	1812	2312
Set pressure range	bar	0.4-50.0	0.4-50.0	0.4-50.0	0.4-50.0	0.4-40.0	0.4-40.0	0.4-40.0	0.4-40.0	0.4-10.0
Outlet	GA	1	1	1	1	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2
Height	H	140	140	140	140	159	159	186	187	187
Length	$A_1$	14	16	14	16	16	18	18	20	20
Length	$L_1$	36	36	36	36	50	50	48	48	48
Length	$L_2$	36.5	36.5	36.5	34.5	44	44	50.5	51.5	52
Wrench size across flats	$S_1$	30	30	30	30	41	41	50	50	50
Wrench size across flats	$S_2$	41	41	41	41	50	50	58	58	58
Weight	ca. kg	0.78	0.80	0.76	0.79	1.25	1.31	1.87	1.99	1.90
Coeff. of disch. from 3.0 bar	$\alpha_w$	0.78	0.78	0.69	0.69	0.66	0.66	0.66	0.66	0.54

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06420



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

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

Medium:

Air in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/2 & 3/4	1/2 & 3/4	3/4 & 1	1 & 1-1/4	1-1/4
	d <sub>0</sub> (mm)	7.0	10.5	14.0	18.0	23.0
	A <sub>0</sub> (mm <sup>2</sup> )	38.48	86.6	153.9	254.5	415.3
	Medium	Air				
0.4		25	45	81	128	164
0.5		28	50	88	141	181
1.0		41	77	131	212	287
1.5		54	100	179	286	384
2.0		66	127	219	356	472
3.0		88	175	298	493	646
4.0		111	220	374	619	811
5.0		133	265	451	745	976
6.0		156	310	527	871	1141
7.0		178	354	603	997	1306
8.0		201	399	679	1122	1471
9.0		223	444	755	1248	1636
10.0		246	489	831	1374	1801
12.0		291	578	983	1626	-
14.0		335	667	1135	1877	-
16.0		380	757	1287	2129	-
18.0		425	846	1440	2381	-
20.0		470	936	1592	2632	-
22.0		515	1025	1744	2884	-
24.0		560	1115	1896	3136	-
25.0		583	1159	1972	3262	-
26.0		605	1204	2048	3387	-
28.0		650	1294	2201	3639	-
30.0		695	1383	2353	3891	-
32.0		740	1474	2505	4142	-
34.0		785	1563	2657	4394	-
36.0		830	1653	2809	4646	-
38.0		875	1742	2961	4897	-
40.0		920	1832	3114	5149	-
42.0		965	1921	-	-	-
44.0		1010	2011	-	-	-
46.0		1055	2100	-	-	-
48.0		1100	2190	-	-	-
50.0		1145	2279	-	-	-

# Safety Valves

## Type 06425



**CRYONICA**  
криогенные технологии

**HEROSE**



**Cryogenic Safety Valve, angle type, bronze, PN40**

**d<sub>0</sub>=7.0 & 10.5mm up to PN50**

**type tested TÜV-SV.1111. S/G**

Standard safety valve,

with PCTFE valve seal, closed bonnet, with lifting device

"cleaned and degreased for oxygen service"

**Part No. 06425.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. 06425.X.2000**

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

**Part No. 06425.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. 06425.X.6000**

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



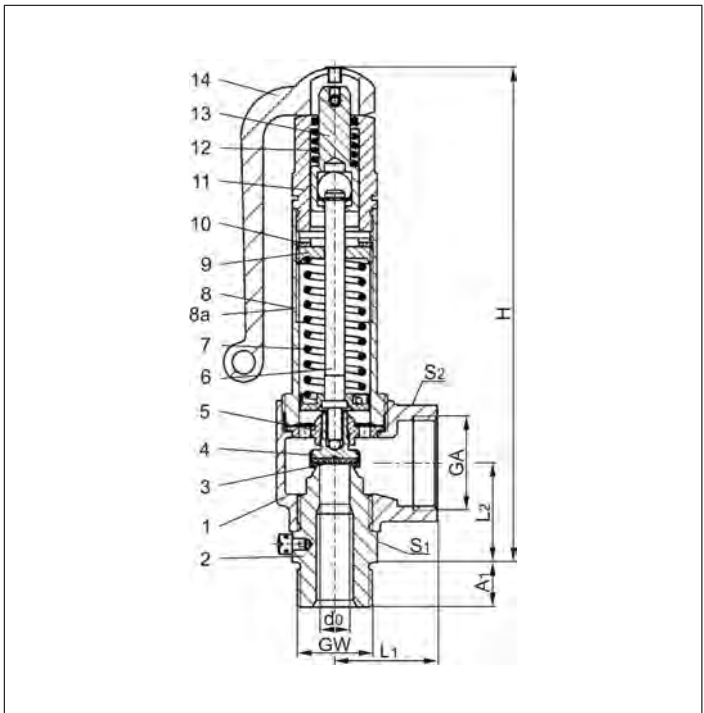
**Applications:**

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders.

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
3 Valve seal	PCTFE	
4 Disc	CC493K	B 505 UNS C93200
5 Guide plate	CC493K	B 505 UNS C93200
6 Stem	CW453K	B 103 UNS C52100
7 Spring	1.4571	A 276 Grade 316Ti
8 Bonnet	1.4308	A 351 CF 8
8a Bonnet from GW 1-1/4	1.4305	A 314 Grade 303
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Lifting cap	CW614N	B 283 UNS C38500
12 Lifting spring	1.4571	A 276 Grade 316Ti
13 Lifting stem	CW614N	B 283 UNS C38500
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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06425	Technical data									
	GW	1/2	3/4	1/2	3/4	3/4	1	1	1-1/4	1-1/4
Nominal size	d <sub>0</sub>	7.0	7.0	10.5	10.5	14.0	14.0	18.0	18.0	23.0
Dimension code	.X.	0704	0706	1004	1006	1406	1410	1810	1812	2312
Set pressure range	bar	0.4-50.0	0.4-50.0	0.4-50.0	0.4-50.0	0.4-40.0	0.4-40.0	0.4-40.0	0.4-40.0	0.4-10.0
Outlet	GA	1	1	1	1	1-1/4	1-1/4	1-1/2	1-1/2	1-1/2
Height	H	176	176	176	176	196	196	239	240	239
Length	A <sub>1</sub>	14	16	14	16	16	18	18	20	20
Length	L <sub>1</sub>	36	36	36	36	50	50	48	48	48
Length	L <sub>2</sub>	36.5	36.5	36.5	34.5	44	44	50.5	51.5	52
Wrench size across flats	S <sub>1</sub>	30	30	30	30	41	41	50	50	50
Wrench size across flats	S <sub>2</sub>	41	41	41	41	50	50	58	58	58
Weight	ca. kg	1.00	1.02	0.98	1.01	1.50	1.56	2.51	2.63	2.52
Coeff. of disch. from 3.0 bar	α <sub>w</sub>	0.78	0.78	0.69	0.69	0.66	0.66	0.66	0.66	0.54

Dimensions in mm

CRYONICA:

Tel: +7 (3412) 320 597;

E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06425



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/2 & 3/4	1/2 & 3/4	3/4 & 1	1 & 1-1/4	1-1/4
	d <sub>0</sub> (mm)	7.0	10.5	14.0	18.0	23.0
	A <sub>0</sub> (mm <sup>2</sup> )	38.48	86.6	153.9	254.5	415.3
	Medium	Air				
0.4		25	45	81	128	164
0.5		28	50	88	141	181
1.0		41	77	131	212	287
1.5		54	100	179	286	384
2.0		66	127	219	356	472
3.0		88	175	298	493	646
4.0		111	220	374	619	811
5.0		133	265	451	745	976
6.0		156	310	527	871	1141
7.0		178	354	603	997	1306
8.0		201	399	679	1122	1471
9.0		223	444	755	1248	1636
10.0		246	489	831	1374	1801
12.0		291	578	983	1626	-
14.0		335	667	1135	1877	-
16.0		380	757	1287	2129	-
18.0		425	846	1440	2381	-
20.0		470	936	1592	2632	-
22.0		515	1025	1744	2884	-
24.0		560	1115	1896	3136	-
25.0		583	1159	1972	3262	-
26.0		605	1204	2048	3387	-
28.0		650	1294	2201	3639	-
30.0		695	1383	2353	3891	-
32.0		740	1474	2505	4142	-
34.0		785	1563	2657	4394	-
36.0		830	1653	2809	4646	-
38.0		875	1742	2961	4897	-
40.0		920	1832	3114	5149	-
42.0		965	1921	-	-	-
44.0		1010	2011	-	-	-
46.0		1055	2100	-	-	-
48.0		1100	2190	-	-	-
50.0		1145	2279	-	-	-

# Safety Valves

## Type 06472



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Safety Valves, angle type, bronze, PN40, type tested TÜV-SV.836. S/G

Standard safety valve,  
metal to metal seated, closed bonnet  
Outlet: female thread type G 1/2 acc. to ISO 228/1  
"cleaned and degreased for oxygen service"

#### Part No. 06472.X.0000

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

#### Part No. 06472.X.5000

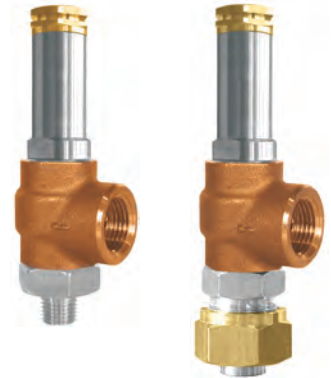
Inlet: male thread NPT acc. to ANSI B 1.20.1

#### Part No. 06472.0600.0000

Inlet: union type braze fitting for pipe outside diameter 12 mm

Available options - on request only:

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



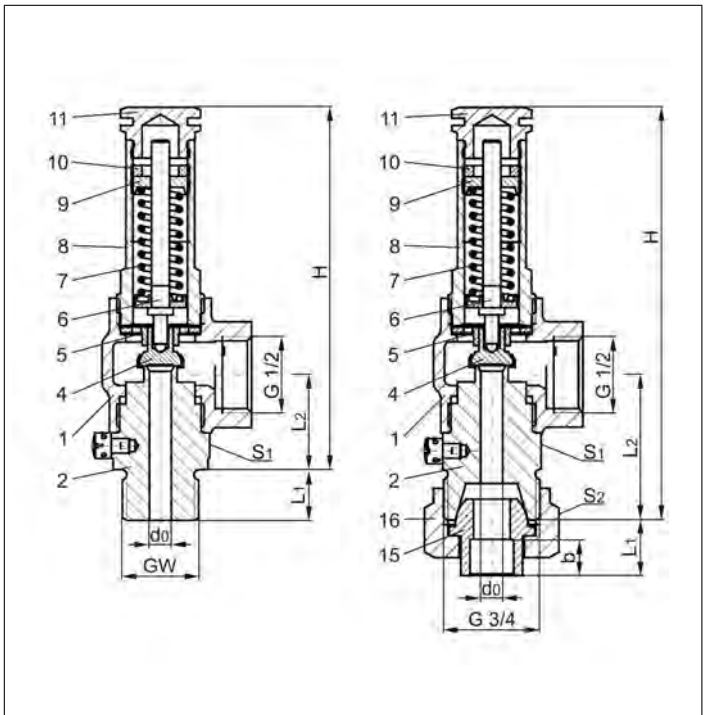
### Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders.

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +150°C / +302°F (423K)

Materials	DIN EN	ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
4 Disc	1.4541	A 276 Grade 321
5 Guide plate	CW453K	B 103 UNS C52100
6 Stem	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Bonnet	1.4305	A 314 Grade 303
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Cap	CW614N	B 283 UNS C38500
15 Braze fitting	1.4301	A 276 Grade 304
16 Union nut	CW614N	B 283 UNS C38500



**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06472	Technical data					
	Nominal size	GW	1/4	3/8	1/2	3/4
Orifice	d <sub>0</sub>	6.0	6.0	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400	0600.9000	
Set pressure range	bar	0.5-6.0	0.5-6.0	0.5-6.0	0.5-6.0	
Height	H	100	100	100	114	
Length	L <sub>1</sub>	12	13	14	14	
Length	L <sub>2</sub>	26	26	26	40	
Socket depth	b	-	-	-	8	
Wrench size across flats	S <sub>1</sub>	27	27	27	27	
Wrench size across flats	S <sub>2</sub>	-	-	-	32	
Weight	ca. kg	0.34	0.36	0.38	0.47	
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.55	0.55	0.55	0.55	

Dimensions in mm.

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WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06472



**CRYONICA**  
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**HEROSE**



### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/4	3/8	1/2	3/4
	d <sub>0</sub> (mm)	6.0	6.0	6.0	6.0
	A <sub>0</sub> (mm <sup>2</sup> )	28.3	28.3	28.3	28.3
	Medium	<b>Air</b>			
<b>0.5</b>		14	14	14	14
<b>0.6</b>		15	15	15	15
<b>0.7</b>		17	17	17	17
<b>0.8</b>		19	19	19	19
<b>0.9</b>		20	20	20	20
<b>1.0</b>		21	21	21	21
<b>1.2</b>		23	23	23	23
<b>1.4</b>		26	26	26	26
<b>1.6</b>		29	29	29	29
<b>1.8</b>		31	31	31	31
<b>2.0</b>		33	33	33	33
<b>2.2</b>		36	36	36	36
<b>2.4</b>		38	38	38	38
<b>2.6</b>		40	40	40	40
<b>2.8</b>		43	43	43	43
<b>3.0</b>		46	46	46	46
<b>3.2</b>		48	48	48	48
<b>3.4</b>		50	50	50	50
<b>3.6</b>		53	53	53	53
<b>3.8</b>		55	55	55	55
<b>4.0</b>		57	57	57	57
<b>4.2</b>		60	60	60	60
<b>4.4</b>		62	62	62	62
<b>4.6</b>		64	64	64	64
<b>4.8</b>		67	67	67	67
<b>5.0</b>		69	69	69	69
<b>5.2</b>		71	71	71	71
<b>5.4</b>		74	74	74	74
<b>5.6</b>		76	76	76	76
<b>5.8</b>		78	78	78	78
<b>6.0</b>		81	81	81	81



# Safety Valves

## Type 06477



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Safety Valves, angle type, bronze, PN40, type tested TÜV-SV.836. S/G

Standard safety valve,  
metal to metal seated, closed bonnet, with lifting device  
Outlet: female thread G 1/2 acc. to ISO 228/1  
"cleaned and degreased for oxygen service"

#### Part No. 06477.X.0000

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

#### Part No. 06477.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1

#### Part No. 06477.0600.0000

Inlet: union type braze fitting for pipe outside diameter 12 mm

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.

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +150°C / +302°F (423K)

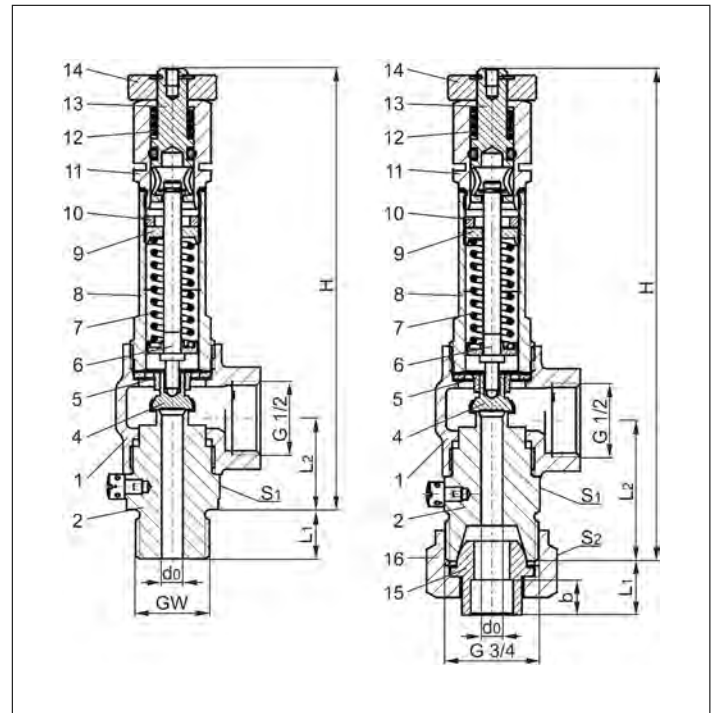
Materials	DIN EN	ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
4 Disc	1.4541	A 276 Grade 321
5 Guide plate	CW453K	B 103 UNS C52100
6 Stem	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Bonnet	1.4305	A 314 Grade 303
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Lifting cap	CW614N	B 283 UNS C38500
12 Lifting spring	1.4571	A 276 Grade 316Ti
13 Lifting stem	CW614N	B 283 UNS C38500
14 Lifting device	CW614N	B 283 UNS C38500
15 Braze fitting	1.4301	A 276 Grade 304
16 Union nut	CW614N	B 283 UNS C38500

**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06477	Technical data				
Nominal size	GW	1/4	3/8	1/2	3/4
Orifice	d <sub>0</sub>	6.0	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400	0600.9000
Set pressure range	bar	0.5-6.0	0.5-6.0	0.5-6.0	0.5-6.0
Height	H	126	126	126	140
Length	L <sub>1</sub>	12	13	14	14
Length	L <sub>2</sub>	26	26	26	40
Socket depth	b	-	-	-	8
Wrench size across flats	S <sub>1</sub>	27	27	27	27
Wrench size across flats	S <sub>2</sub>	-	-	-	32
Weight	ca. kg	0.40	0.42	0.44	0.53
Coeff. of discharge from 3.0 bar	α <sub>w</sub>	0.55	0.55	0.55	0.55

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06477



**CRYONICA**  
криогенные технологии

**HEROSE**



### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/4	3/8	1/2	3/4
	d <sub>0</sub> (mm)	6.0	6.0	6.0	6.0
	A <sub>0</sub> (mm <sup>2</sup> )	28.3	28.3	28.3	28.3
	Medium	<b>Air</b>			
<b>0.5</b>		14	14	14	14
<b>0.6</b>		15	15	15	15
<b>0.7</b>		17	17	17	17
<b>0.8</b>		19	19	19	19
<b>0.9</b>		20	20	20	20
<b>1.0</b>		21	21	21	21
<b>1.2</b>		23	23	23	23
<b>1.4</b>		26	26	26	26
<b>1.6</b>		29	29	29	29
<b>1.8</b>		31	31	31	31
<b>2.0</b>		33	33	33	33
<b>2.2</b>		36	36	36	36
<b>2.4</b>		38	38	38	38
<b>2.6</b>		40	40	40	40
<b>2.8</b>		43	43	43	43
<b>3.0</b>		46	46	46	46
<b>3.2</b>		48	48	48	48
<b>3.4</b>		50	50	50	50
<b>3.6</b>		53	53	53	53
<b>3.8</b>		55	55	55	55
<b>4.0</b>		57	57	57	57
<b>4.2</b>		60	60	60	60
<b>4.4</b>		62	62	62	62
<b>4.6</b>		64	64	64	64
<b>4.8</b>		67	67	67	67
<b>5.0</b>		69	69	69	69
<b>5.2</b>		71	71	71	71
<b>5.4</b>		74	74	74	74
<b>5.6</b>		76	76	76	76
<b>5.8</b>		78	78	78	78
<b>6.0</b>		81	81	81	81

# Safety Valves

## Type 06474



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Safety Valves, angle type, bronze, PN63, type tested TÜV-SV.836. S/G

Standard safety valve,  
with carbon filled PTFE valve seal, closed bonnet  
Outlet: female thread G 1/2 acc. to ISO 228/1  
"cleaned and degreased for oxygen service"

#### Part No. 06474.X.0000

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

#### Part No. 06474.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1

#### Part No. 06474.0600.0000

Inlet: union type braze fitting for pipe outside diameter 12 mm

Available options - on request only:

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



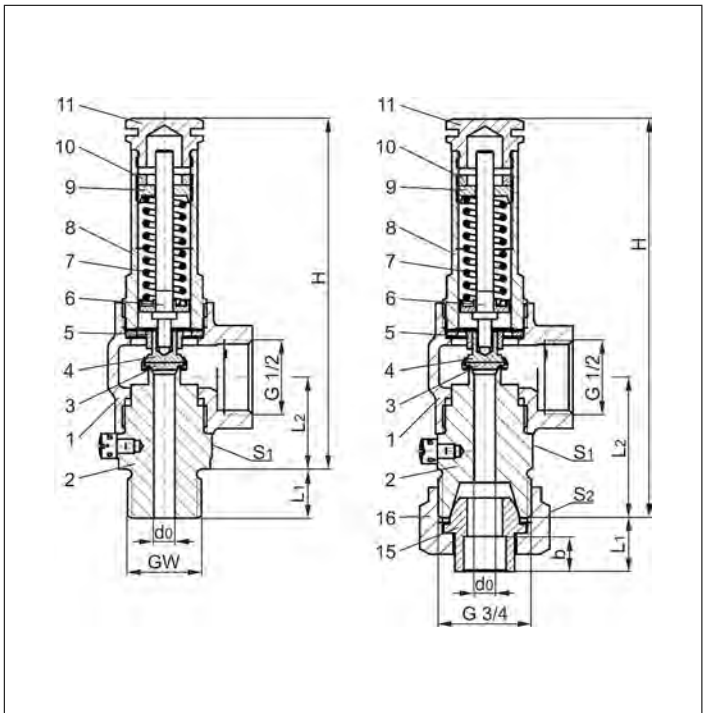
### Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders.

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +150°C / +302°F (423K)

Materials	DIN EN	ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CW452K	B 103 UNS C51900
5 Guide plate	CC493K	B 505 UNS C93200
6 Stem	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Bonnet	1.4305	A 314 Grade 303
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Cap	CW614N	B 283 UNS C38500
15 Braze fitting	1.4301	A 276 Grade 304
16 Union nut	CW614N	B 283 UNS C38500



**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06474	Technical data				
Nominal size	GW	1/4	3/8	1/2	3/4
Orifice	d <sub>0</sub>	6.0	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400	0600.9000
Set pressure range	bar	4.5-45.0	4.5-45.0	4.5-45.0	4.5-45.0
Height	H	100	100	100	114
Length	L <sub>1</sub>	12	13	14	14
Length	L <sub>2</sub>	26	26	26	40
Socket depth	b	-	-	-	8
Wrench size across flats	S <sub>1</sub>	27	27	27	27
Wrench size across flats	S <sub>2</sub>	-	-	-	32
Weight	ca. kg	0.34	0.36	0.38	0.47
Coefficient of discharge	α <sub>w</sub>	0.66	0.66	0.66	0.66

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

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Edition 2012-07

# Safety Valves

## Type 06474



**CRYONICA**  
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### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/4	3/8	1/2	3/4
	d <sub>0</sub> (mm)	6.0	6.0	6.0	6.0
A <sub>0</sub> (mm <sup>2</sup> )	28.3	28.3	28.3	28.3	28.3
Medium	<b>Air</b>				
4.5		76	76	76	76
5.0		83	83	83	83
6.0		97	97	97	97
7.0		111	111	111	111
8.0		125	125	125	125
9.0		139	139	139	139
10.0		153	153	153	153
12.0		181	181	181	181
14.0		209	209	209	209
16.0		237	237	237	237
18.0		265	265	265	265
20.0		293	293	293	293
22.0		321	321	321	321
24.0		349	349	349	349
26.0		377	377	377	377
28.0		404	404	404	404
30.0		432	432	432	432
32.0		460	460	460	460
34.0		488	488	488	488
36.0		516	516	516	516
38.0		544	544	544	544
40.0		572	572	572	572
42.0		600	600	600	600
44.0		628	628	628	628
45.0		642	642	642	642

# Safety Valves

## Type 06478



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Safety Valves, angle type, bronze, PN63, type tested TÜV-SV.836. S/G

Standard safety valve,  
with carbon filled PTFE valve seal, closed bonnet, with lifting device  
Outlet: female thread G 1/2 acc. to ISO 228/1  
"cleaned and degreased for oxygen service"

#### Part No. 06478.X.0000

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

#### Part No. 06478.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1

#### Part No. 06478.0600.0000

Inlet: union type braze fitting for pipe outside diameter 12 mm

Available options - on request only:

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



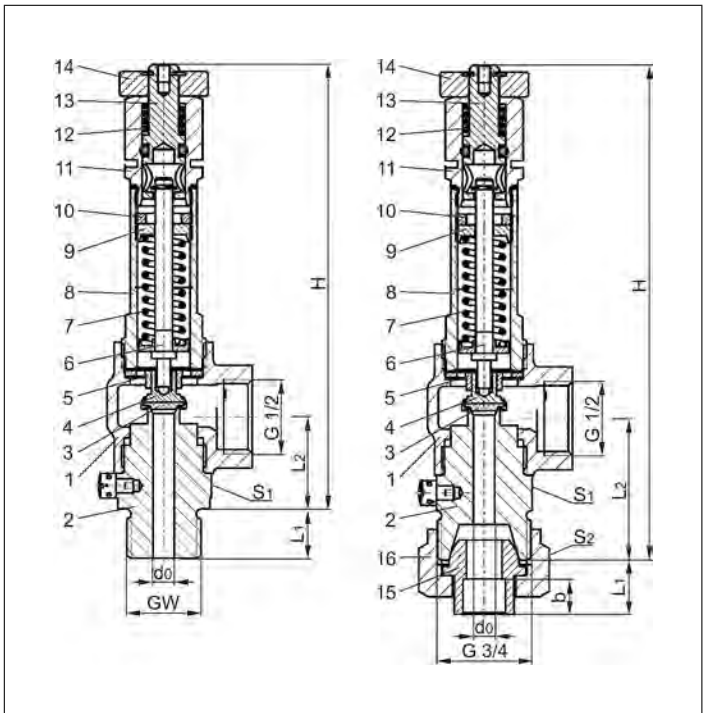
### Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders.

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +150°C / +302°F (423K)

Materials	DIN EN	ASTM
1 Outlet body	CC491K	B 62 UNS C83600
2 Inlet body	1.4301	A 276 Grade 304
3 Valve seal	PTFE / Carbon filled (25%)	
4 Disc	CW452K	B 103 UNS C51900
5 Guide plate	CC493K	B 505 UNS C93200
6 Stem	CW614N	B 283 UNS C38500
7 Spring	1.4571	A 276 Grade 316Ti
8 Bonnet	1.4305	A 314 Grade 303
9 Spring clamp	CW614N	B 283 UNS C38500
10 Thread ring	CW614N	B 283 UNS C38500
11 Lifting cap	CW614N	B 283 UNS C38500
12 Lifting spring	1.4571	A 276 Grade 316Ti
13 Lifting stem	CW614N	B 283 UNS C38500
14 Lifting device	CW614N	B 283 UNS C38500
15 Braze fitting	1.4301	A 276 Grade 304
16 Union nut	CW614N	B 283 UNS C38500



**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06478	Technical data				
Nominal size	GW	1/4	3/8	1/2	3/4
Orifice	d <sub>0</sub>	6.0	6.0	6.0	6.0
Dimension code	.X.	0200	0300	0400	0600.9000
Set pressure range	bar	4.5-45.0	4.5-45.0	4.5-45.0	4.5-45.0
Height	H	126	126	126	140
Length	L <sub>1</sub>	12	13	14	14
Length	L <sub>2</sub>	26	26	26	40
Socket depth	b	-	-	-	8
Wrench size across flats	S <sub>1</sub>	27	27	27	27
Wrench size across flats	S <sub>2</sub>	-	-	-	32
Weight	ca. kg	0.40	0.42	0.44	0.53
Coefficient of discharge	α <sub>w</sub>	0.66	0.66	0.66	0.66

Dimensions in mm.

CRYONICA: Tel: +7 (3412) 320 597; E mail: info@predklapan.ru ;

WWW: predklapan.ru  
Edition 2012-07

# Safety Valves

## Type 06478



**CRYONICA**  
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**HEROSE**



### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**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 (ü)	GW	1/4	3/8	1/2	3/4
	d <sub>0</sub> (mm)	6.0	6.0	6.0	6.0
	A <sub>0</sub> (mm <sup>2</sup> )	28.3	28.3	28.3	28.3
	Medium	<b>Air</b>			
<b>4.5</b>		76	76	76	76
<b>5.0</b>		83	83	83	83
<b>6.0</b>		97	97	97	97
<b>7.0</b>		111	111	111	111
<b>8.0</b>		125	125	125	125
<b>9.0</b>		139	139	139	139
<b>10.0</b>		153	153	153	153
<b>12.0</b>		181	181	181	181
<b>14.0</b>		209	209	209	209
<b>16.0</b>		237	237	237	237
<b>18.0</b>		265	265	265	265
<b>20.0</b>		293	293	293	293
<b>22.0</b>		321	321	321	321
<b>24.0</b>		349	349	349	349
<b>26.0</b>		377	377	377	377
<b>28.0</b>		404	404	404	404
<b>30.0</b>		432	432	432	432
<b>32.0</b>		460	460	460	460
<b>34.0</b>		488	488	488	488
<b>36.0</b>		516	516	516	516
<b>38.0</b>		544	544	544	544
<b>40.0</b>		572	572	572	572
<b>42.0</b>		600	600	600	600
<b>44.0</b>		628	628	628	628
<b>45.0</b>		642	642	642	642

# Safety Valves

## Type 06800 with bellow seal



**Stainless steel bellow sealed Safety Valves, angle type, PN40, type tested TÜV-SV.1105. S/G/L orifice  $d_0 = 12.5$  mm TÜV-SV.1105. S/G**

Standard safety valve,  
metal to metal seated, closed bonnet  
"cleaned and degreased for oxygen service"

**Part No. 06800.X.0000**

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

**Part No. 06800.X.5000**

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

**Part No. 06800.X.6000**

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



**Applications:**

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders. Approved for non-inflammable and inflammable vapours, gases and fluids.  
Working temperature:  $-270^{\circ}\text{C} / -454^{\circ}\text{F}$  (3K) up to  $+225^{\circ}\text{C} / +437^{\circ}\text{F}$  (498K)  
Maximum allowed back pressure: 15% of set pressure

Materials	DIN EN	ASTM
1 Inlet body	1.4571	A 276 Grade 316Ti
2 Outlet body	1.4308	A 351 CF8
3 Disc	1.4541	A 276 Grade 321
4 Bellow	1.4571	A 276 Grade 316Ti
5 Bellow stem	1.4571	A 276 Grade 316Ti
6 Stem	CW453K	B 103 UNS C52100
7 Bonnet	1.4308	A 351 CF 8
7a Bonnet from GW 1	1.4305	A 276 Grade 303
8 Spring	1.4571	A 276 Grade 316Ti
9 Cap	1.4301	A 276 Grade 304

**Important:**

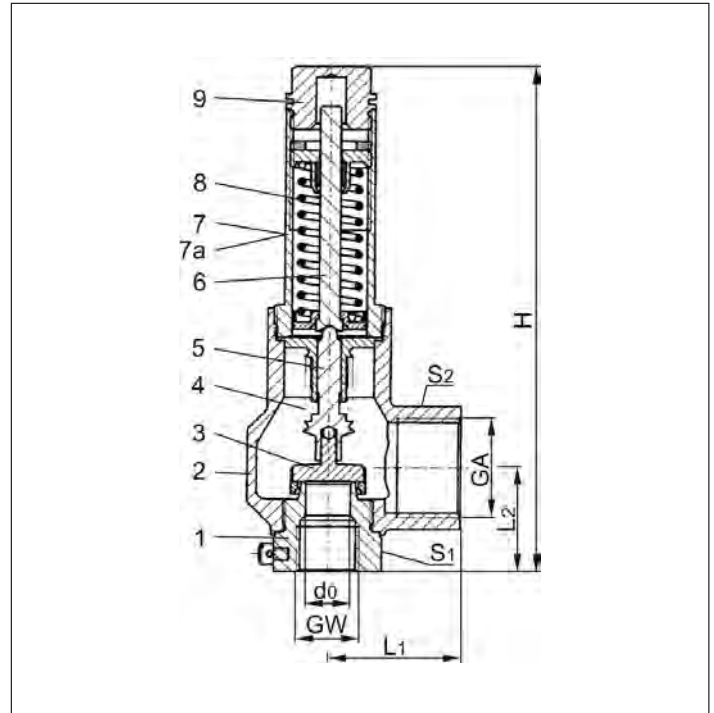
For nominal size GW 1/2,  $d_0 = 15.0$ mm the back pressure reduces the blow off performance of the safety valve (see diagram 06800-1/2,  $d_0 = 15.0$ ).

**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06800	Technical data				
Nominal size	GW	1/2	1/2	3/4	1
Orifice	$d_0$	12.5	15	20	23
Dimension code	.X.	1204	1504	2006	2310
Set pressure range	bar	3.0-25.0	3.0-25.0	3.0-25.0	3.0-25.0
Outlet	GA	G 1	G 1	G 1-1/4	G 1-1/2
Height	H	170	170	198	245
Length	$L_1$	44	44	51	56
Length	$L_2$	35	35	48	58
Wrench size across flats	$S_1$	36	36	41	50
Wrench size across flats	$S_2$	41	41	50	55
Weight	ca. kg	1.0	0.97	1.65	2.50
Coeff. of discharge vapours, gases	$\alpha_w$	0.60	0.50	0.60	0.66
Coeff. of discharge fluids	$\alpha_w$	-	0.39	0.45	0.48

Dimensions in mm.

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Edition 2012-07

# Safety Valves

## Type 06800 with bellow seal



### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Water** in kg/h

**The capacity indicated below is for a fully opened valve.**

Maximum allowed back pressure: 15% of set pressure.

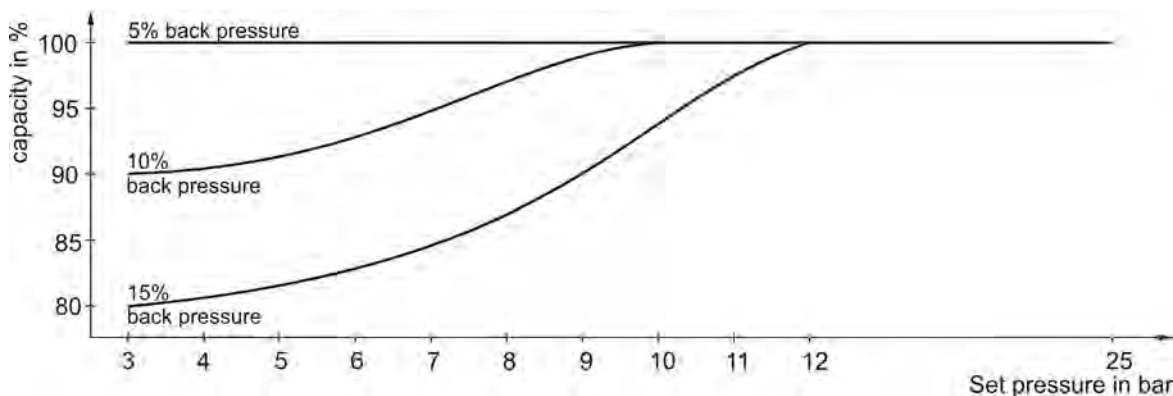
For nominal size GW 1/2, d<sub>0</sub> = 15.0 mm the back pressure reduces the blow off performance of the safety valve (see diagram 06800-1/2, d<sub>0</sub> = 15.0)

d<sub>0</sub> - orifice

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

Set pressure in bar (ü)	GW	1/2	1/2	3/4	1	1/2	1/2	3/4	1
	d <sub>0</sub> (mm)	12.5	15.0	20.0	23.0	-	15.0	20.0	23.0
	A <sub>0</sub> (mm <sup>2</sup> )	122.7	176.7	314.2	415.5	-	176.7	314.2	415.5
	Medium	Air				Water			
3.0		216	259	554	805	-	6369	13067	18431
4.0		271	326	695	1011	-	7354	15088	21283
5.0		327	392	836	1216	-	8222	16869	23795
6.0		382	458	977	1422	-	9007	18479	26066
7.0		437	524	1119	1627	-	9728	19960	28155
8.0		492	590	1260	1833	-	10400	21338	30098
9.0		547	657	1401	2038	-	11031	22632	31924
10.0		602	723	1542	2243	-	11628	23856	33651
12.0		713	855	1825	2654	-	12737	26133	36863
14.0		823	988	2107	3065	-	13758	28227	39817
16.0		933	1120	2390	3476	-	14708	30176	42566
18.0		1043	1252	2672	3887	-	15600	32007	45148
20.0		1154	1385	2954	4298	-	16444	33738	47590
22.0		1264	1517	3237	4709	-	17246	35385	49913
25.0		1430	1716	3661	5325	-	18385	37720	53207

Diagram 06800-1/2, d<sub>0</sub>=15,0





# Safety Valves

## Type 06805 with bellow seal



**Stainless steel bellow sealed Safety Valves, angle type, PN40, type tested TÜV-SV.1105. S/G/L orifice  $d_0 = 12.5$  mm TÜV-SV.1105. S/G**

Standard safety valve,  
metal to metal seated, closed bonnet, with lifting device  
"cleaned and degreased for oxygen service"

### Part No. 06805.X.0000

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

### Part No. 06805.X.5000

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

### Part No. 06805.X.6000

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



### Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders. Approved for non-inflammable and inflammable vapours, gases and fluids.

Working temperature:  $-270^{\circ}\text{C} / -454^{\circ}\text{F}$  (3K) up to  $+225^{\circ}\text{C} / +437^{\circ}\text{F}$  (498K)

Maximum allowed back pressure: 15% of set pressure

Materials	DIN EN	ASTM
1 Inlet body	1.4571	A 276 Grade 316Ti
2 Outlet body	1.4308	A 351 CF8
3 Disc	1.4541	A 276 Grade 321
4 Bellow	1.4571	A 276 Grade 316Ti
5 Bellow stem	1.4571	A 276 Grade 316Ti
6 Stem	CW453K	B 103 UNS C52100
7 Bonnet	1.4308	A 351 CF 8
7a Bonnet from GW 1	1.4305	A 314 Grade 303
8 Spring	1.4571	A 276 Grade 316Ti
9 Lifting cap	1.4301	A 276 Grade 304
10 Lever	1.4408	A 351 CF8M

### Important:

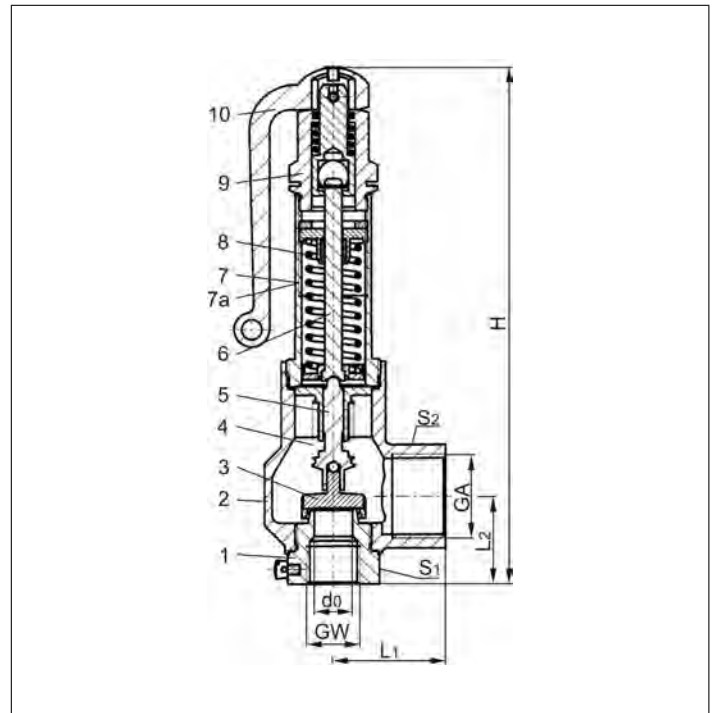
For nominal size GW 1/2,  $d_0 = 15.0$ mm the back pressure reduces the blow off performance of the safety valve (see diagram 06805-1/2,  $d_0 = 15.0$ ).

**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 6805	Technical data					
	Nominal size	GW	1/2	1/2	3/4	1
Orifice	$d_0$	12.5	15	20	23	
Dimension code	.X.	1204	1504	2006	2310	
Set pressure range	bar	3.0-25.0	3.0-25.0	3.0-25.0	3.0-25.0	
Outlet	GA	G 1	G 1	G 1-1/4	G 1-1/2	
Height	H	205	205	243	295	
Length	$L_1$	44	44	51	56	
Length	$L_2$	35	35	48	58	
Wrench size across flats	$S_1$	36	36	41	50	
Wrench size across flats	$S_2$	41	41	50	55	
Weight	ca. kg	1.24	1.21	1.88	3.15	
Coeff. of discharge vapours, gases	$\alpha_w$	0.60	0.50	0.60	0.66	
Coeff. of discharge fluids	$\alpha_w$	-	0.39	0.45	0.48	

Dimensions in mm.

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# Safety Valves

## Type 06805 with bellow seal



### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Water** in kg/h

**The capacity indicated below is for a fully opened valve.**

Maximum allowed back pressure: 15% of set pressure.

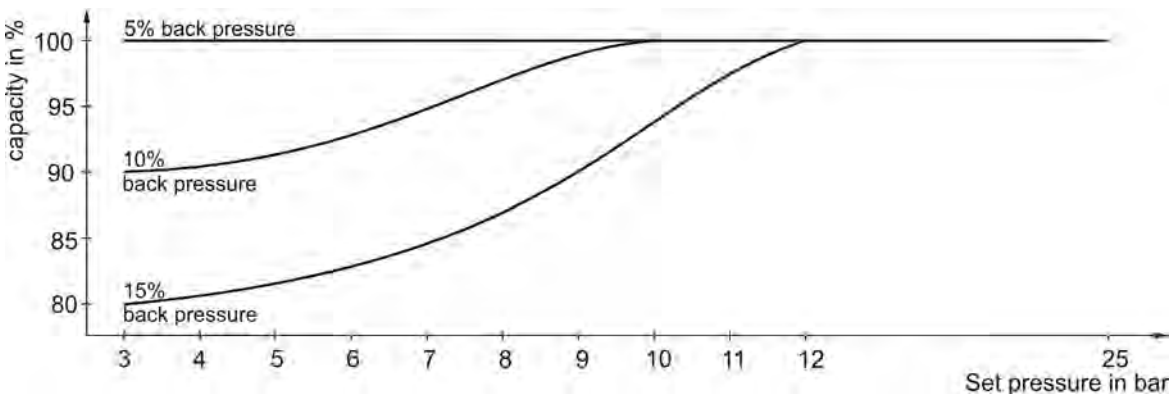
For nominal size GW 1/2, d<sub>0</sub> = 15.0 mm the back pressure reduces the blow off performance of the safety valve (see diagram 06805-1/2, d<sub>0</sub> = 15.0).

d<sub>0</sub> - orifice

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

Set pressure in bar (ü)	GW	1/2	1/2	3/4	1	1/2	1/2	3/4	1
	d <sub>0</sub> (mm)	12.5	15.0	20.0	23.0	-	15.0	20.0	23.0
	A <sub>0</sub> (mm <sup>2</sup> )	122.7	176.7	314.2	415.5	-	176.7	314.2	415.5
	Medium	Air				Water			
3.0		216	259	554	805	-	6369	13067	18431
4.0		271	326	695	1011	-	7354	15088	21283
5.0		327	392	836	1216	-	8222	16869	23795
6.0		382	458	977	1422	-	9007	18479	26066
7.0		437	524	1119	1627	-	9728	19960	28155
8.0		492	590	1260	1833	-	10400	21338	30098
9.0		547	657	1401	2038	-	11031	22632	31924
10.0		602	723	1542	2243	-	11628	23856	33651
12.0		713	855	1825	2654	-	12737	26133	36863
14.0		823	988	2107	3065	-	13758	28227	39817
16.0		933	1120	2390	3476	-	14708	30176	42566
18.0		1043	1252	2672	3887	-	15600	32007	45148
20.0		1154	1385	2954	4298	-	16444	33738	47590
22.0		1264	1517	3237	4709	-	17246	35385	49913
25.0		1430	1716	3661	5325	-	18385	37720	53207

Diagram 06805-1/2, d<sub>0</sub>=15,0



# Safety Valves

## Type 06801 with bellow seal



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**Stainless steel bellow sealed Safety Valves, angle type, PN40, type tested TÜV-SV.1105. S/G/L orifice  $d_0 = 12.5$  mm TÜV-SV.1105. S/G**

Standard safety valve,  
metal to metal seated, closed bonnet  
"cleaned and degreased for oxygen service"

**Part No. 06801.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. 06801.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. 06801.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. 06801.X.6000**

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



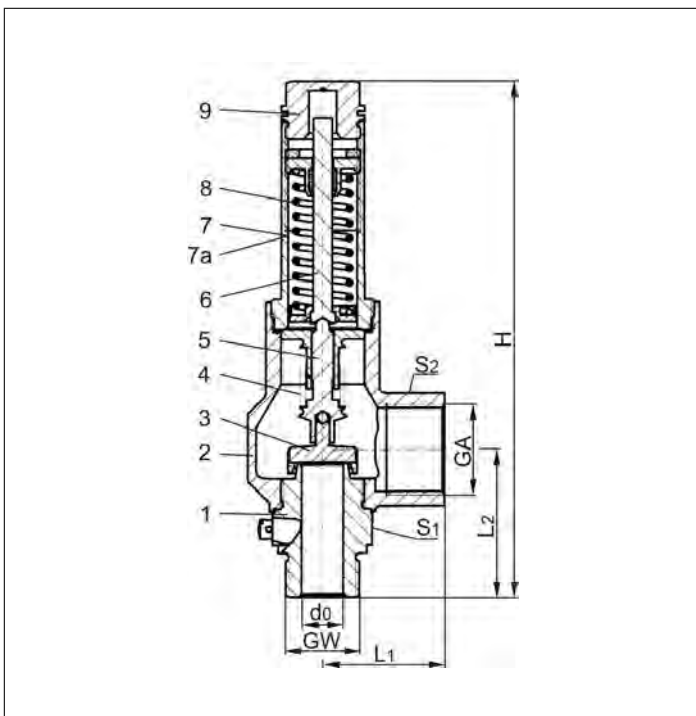
**Applications:**

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders. Approved for non-inflammable and inflammable vapours, gases and fluids.

Working temperature:  $-270^{\circ}\text{C} / -454^{\circ}\text{F}$  (3K) up to  $+225^{\circ}\text{C} / +437^{\circ}\text{F}$  (498K)

Maximum allowed back pressure: 15% of set pressure

Materials	DIN EN	ASTM
1 Inlet body	1.4571	A 276 Grade 316Ti
2 Outlet body	1.4308	A 351 CF8
3 Disc	1.4541	A 276 Grade 321
4 Bellow	1.4571	A 276 Grade 316Ti
5 Bellow stem	1.4571	A 276 Grade 316Ti
6 Stem	CW453K	B 103 UNS C52100
7 Bonnet	1.4308	A 351 CF 8
7a Bonnet from GW 1	1.4305	A 276 Grade 303
8 Spring	1.4571	A 276 Grade 316Ti
9 Cap	1.4301	A 276 Grade 304



**Important:**

For nominal size GW 3/4 the back pressure reduces the blow off performance of the safety valve (see diagram 06801-3/4).

**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06801	Technical data				
Nominal size	GW	1/2	3/4	1	1
Orifice	$d_0$	12.5	15	20	23
Dimension code	.X.	1204	1506	2010	2310
Set pressure range	bar	3.0-25.0	3.0-25.0	3.0-25.0	3.0-25.0
Outlet	GA	G 1	G 1	G 1-1/4	G 1-1/2
Height	H	186	190	205	255
Length	$L_1$	44	44	51	56
Length	$L_2$	52	54	63	65
Wrench size across flats	$S_1$	36	36	41	50
Wrench size across flats	$S_2$	41	41	50	55
Weight	ca. kg	1.03	1.05	1.70	2.45
Coeff. of discharge vapours, gases	$\alpha_w$	0.60	0.50	0.60	0.66
Coeff. of discharge fluids	$\alpha_w$	-	0.39	0.45	0.48

Dimensions in mm.

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# Safety Valves

## Type 06801 with bellow seal



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### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Water** in kg/h

**The capacity indicated below is for a fully opened valve.**

Maximum allowed back pressure: 15% of set pressure.

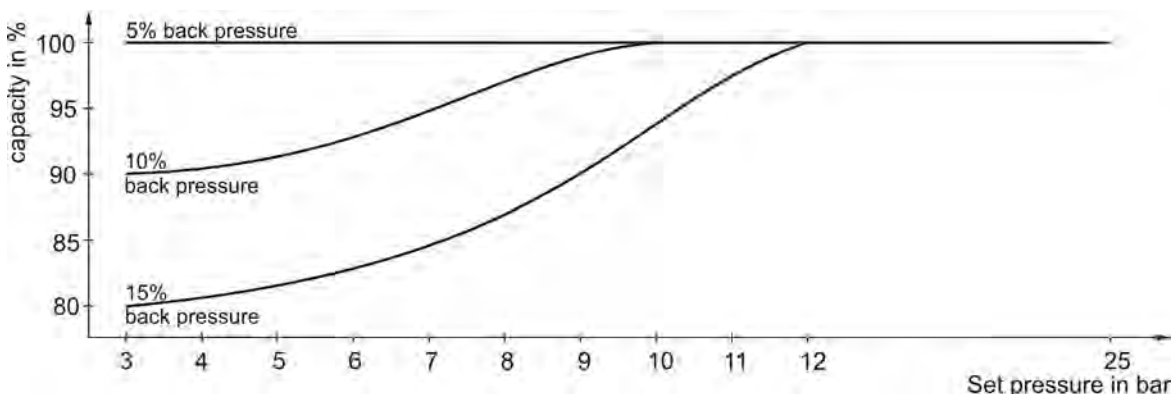
For nominal size GW 3/4 the back pressure reduces the blow off performance of the safety valve (see diagram 06801-3/4).

d<sub>0</sub> - orifice

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

Set pressure in bar (ü)	GW	1/2	3/4	1	1	1/2	3/4	1	1
	d <sub>0</sub> (mm)	12.5	15.0	20.0	23.0	-	15.0	20.0	23.0
	A <sub>0</sub> (mm <sup>2</sup> )	122.7	176.7	314.2	415.5	-	176.7	314.2	415.5
	Medium	Air				Water			
3.0		216	259	554	805	-	6369	13067	18431
4.0		271	326	695	1011	-	7354	15088	21283
5.0		327	392	836	1216	-	8222	16869	23795
6.0		382	458	977	1422	-	9007	18479	26066
7.0		437	524	1119	1627	-	9728	19960	28155
8.0		492	590	1260	1833	-	10400	21338	30098
9.0		547	657	1401	2038	-	11031	22632	31924
10.0		602	723	1542	2243	-	11628	23856	33651
12.0		713	855	1825	2654	-	12737	26133	36863
14.0		823	988	2107	3065	-	13758	28227	39817
16.0		933	1120	2390	3476	-	14708	30176	42566
18.0		1043	1252	2672	3887	-	15600	32007	45148
20.0		1154	1385	2954	4298	-	16444	33738	47590
22.0		1264	1517	3237	4709	-	17246	35385	49913
25.0		1430	1716	3661	5325	-	18385	37720	53207

Diagram 06801-3/4



# Safety Valves

## Type 06806 with bellow seal



**Stainless steel bellow sealed Safety Valves, angle type, PN40, type tested TÜV-SV.1105. S/G/L orifice  $d_0 = 12.5$  mm TÜV-SV.1105. S/G**

Standard safety valve,  
metal to metal seated, closed bonnet, with lifting device  
"cleaned and degreased for oxygen service"

**Part No. 06806.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. 06806.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. 06806.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. 06806.X.6000**

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



**Applications:**

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders. Approved for non-inflammable and inflammable vapours, gases and fluids.

Working temperature:  $-270^{\circ}\text{C} / -454^{\circ}\text{F}$  (3K) up to  $+225^{\circ}\text{C} / +437^{\circ}\text{F}$  (498K)

Maximum allowed back pressure: 15% of set pressure

Materials	DIN EN	ASTM
1 Inlet body	1.4571	A 276 Grade 316Ti
2 Outlet body	1.4308	A 351 CF8
3 Disc	1.4541	A 276 Grade 321
4 Bellow	1.4571	A 276 Grade 316Ti
5 Bellow stem	1.4571	A 276 Grade 316Ti
6 Stem	CW453K	B 103 UNS C52100
7 Bonnet	1.4308	A 351 CF 8
7a Bonnet from GW 1	1.4305	A 314 Grade 303
8 Spring	1.4571	A 276 Grade 316Ti
9 Lifting cap	1.4301	A 276 Grade 304
10 Lever	1.4408	A 351 CF8M

**Important:**

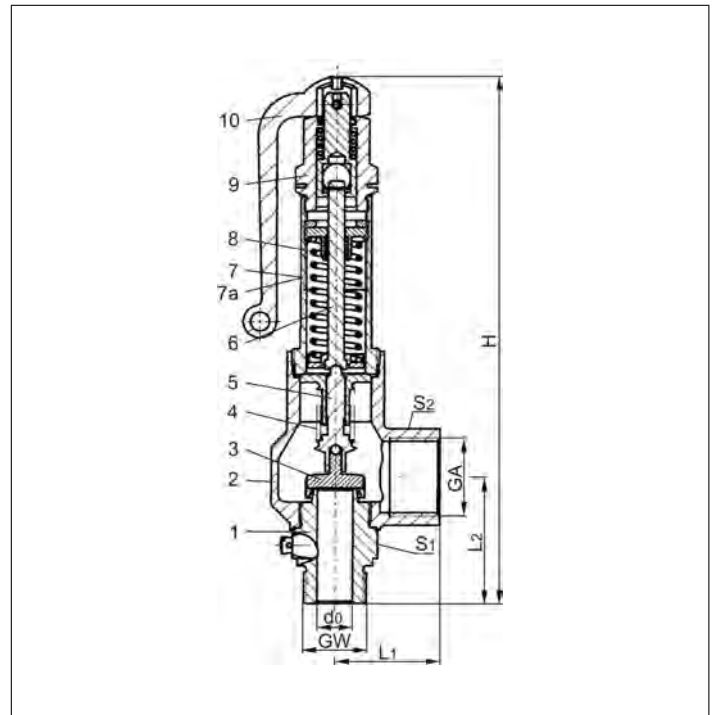
For nominal size GW 3/4 the back pressure reduces the blow off performance of the safety valve (see diagram 06806-3/4).

**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/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06806	Technical data				
Nominal size	GW	1/2	3/4	1	1
Orifice	$d_0$	12.5	15	20	23
Dimension code	.X.	1204	1506	2010	2310
Set pressure range	bar	3.0-25.0	3.0-25.0	3.0-25.0	3.0-25.0
Outlet	GA	G 1	G 1	G 1-1/4	G 1-1/2
Height	H	221	225	250	305
Length	$L_1$	44	44	51	56
Length	$L_2$	52	54	63	65
Wrench size across flats	$S_1$	36	36	41	50
Wrench size across flats	$S_2$	41	41	50	55
Weight	ca. kg	1.23	1.25	1.95	3.10
Coeff. of discharge vapours, gases	$\alpha_w$	0.60	0.50	0.60	0.66
Coeff. of discharge fluids	$\alpha_w$	-	0.39	0.45	0.48

Dimensions in mm.

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Edition 2012-07

# Safety Valves

## Type 06806 with bellow seal



### Discharge capacities

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

Medium:

**Air** in m<sup>3</sup>/h at 0°C and 1013.25 mbar

**Water** in kg/h

**The capacity indicated below is for a fully opened valve.**

Maximum allowed back pressure: 15% of set pressure.

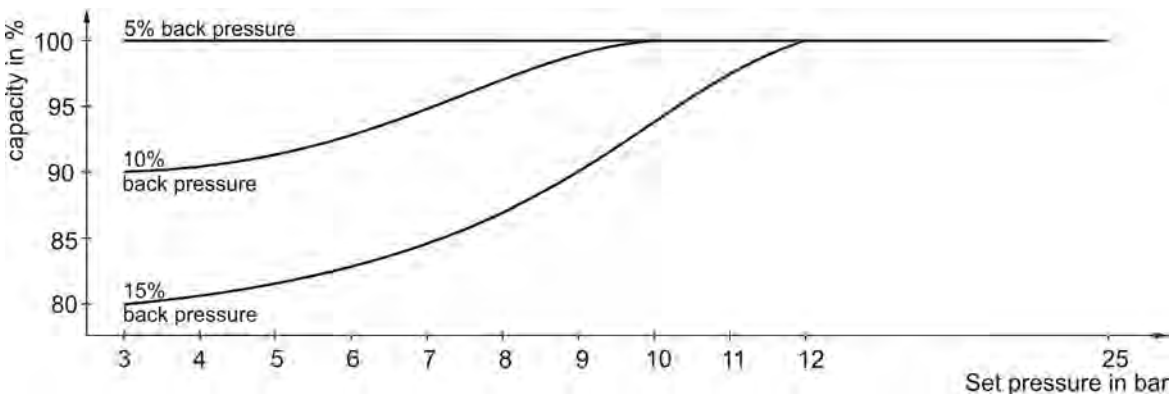
For nominal size GW 3/4 the back pressure reduces the blow off performance of the safety valve (see diagram 06806-3/4).

d<sub>0</sub> - orifice

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

Set pressure in bar (ü)	GW	1/2	3/4	1	1	1/2	3/4	1	1	
	d <sub>0</sub> (mm)	12.5	15.0	20.0	23.0	-	15.0	20.0	23.0	
	A <sub>0</sub> (mm <sup>2</sup> )	122.7	176.7	314.2	415.5	-	176.7	314.2	415.5	
Medium	Air					Water				
3.0		216	259	554	805	-	6369	13067	18431	
4.0		271	326	695	1011	-	7354	15088	21283	
5.0		327	392	836	1216	-	8222	16869	23795	
6.0		382	458	977	1422	-	9007	18479	26066	
7.0		437	524	1119	1627	-	9728	19960	28155	
8.0		492	590	1260	1833	-	10400	21338	30098	
9.0		547	657	1401	2038	-	11031	22632	31924	
10.0		602	723	1542	2243	-	11628	23856	33651	
12.0		713	855	1825	2654	-	12737	26133	36863	
14.0		823	988	2107	3065	-	13758	28227	39817	
16.0		933	1120	2390	3476	-	14708	30176	42566	
18.0		1043	1252	2672	3887	-	15600	32007	45148	
20.0		1154	1385	2954	4298	-	16444	33738	47590	
22.0		1264	1517	3237	4709	-	17246	35385	49913	
25.0		1430	1716	3661	5325	-	18385	37720	53207	

Diagram 06806-3/4



# Divertor and Changeover Valves

## Type 06510 - Divertor Valve



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**HEROSE**



### Cryogenic Divertor Valves, bronze, PN50

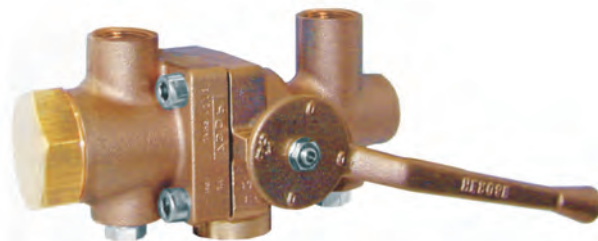
for the installation of two safety valves,  
provided for bursting disc connections,  
"cleaned and degreased for oxygen service"

### Part No. 06510.X.0000

Female thread connection (G) acc. to ISO 228/1

### Part No. 06510.X.6\*\*\*

Female thread connection NPT acc. to ANSI B 1.20.1



Available Options - on request only:

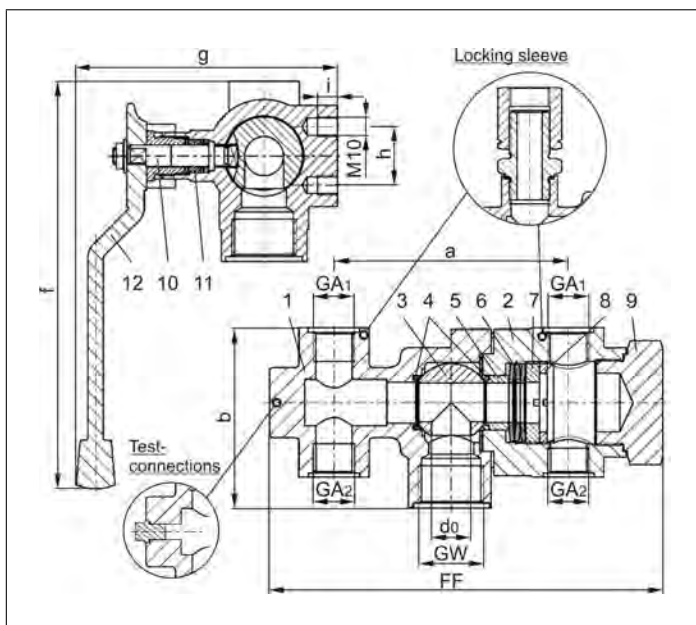
- two extra test connections 1/4" edgeways
- Inlet: female thread (GW) 3/4"
- Outlet GA<sub>1</sub> with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA<sub>1</sub> - GA<sub>2</sub>

### Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body I	CC491K	B 62 UNS C83600
2 Body II	CC491K	B 62 UNS C83600
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	CW614N	B 283 UNS C38500
6 Spring plates	1.4571	A 276 Grade 316Ti
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
9 Plug	CW614N	B 283 UNS C38500
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphite / PTFE	
12 Lever	CC491K	B 62 UNS C83600



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06510 - Standard design	Technical Data		
Nominal Size	DN	20	20
Dimension code	.X.	2004	2006
Flow diameter	d <sub>0</sub>	20	20
Inlet	GW	1	1
Outlet	GA <sub>1</sub>	1/2	3/4
Outlet	GA <sub>2</sub>	1/2	1/2
Face-to-face dimension	FF	201	201
Length	a	120	120
Height	b	92	92
Length	f	208	208
Length	g	134	134
Length	h	30	30
Thread depth	i	10	10
Weight	ca. kg	4.8	4.7
Kvs - Value, one side open	m <sup>3</sup> /h	7.7	7.7
Cv - Value, one side open	gal /min	9.2	9.2

Dimensions in mm

CRYONICA:

Tel: +7 (3412) 320 597;

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Edition 2012-07

# Divertor and Changeover Valves

## Type 06510 - Divertor Valve



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Divertor Valves, bronze, PN50

for the installation of two safety valves,  
provided for bursting disc connections,  
"cleaned and degreased for oxygen service"

#### Artikel-Nr. 06510.X.0008

Inlet: union type braze fitting for pipe outside diameter 26.9mm

Outlet: female thread connection (G) acc. to ISO 228/1

#### Artikel-Nr. 06510.X.000\*

Inlet: union type butt weld fitting, when order please indicate pipe diameter

Outlet: female thread connection (G) acc. to ISO 228/1

#### Artikel-Nr. 06510.X.6026

Inlet: union type butt weld fitting for pipe 33.4mm S10

Outlet: female thread connection NPT acc. to ANSI B 1.20.1

Available options - on request only:

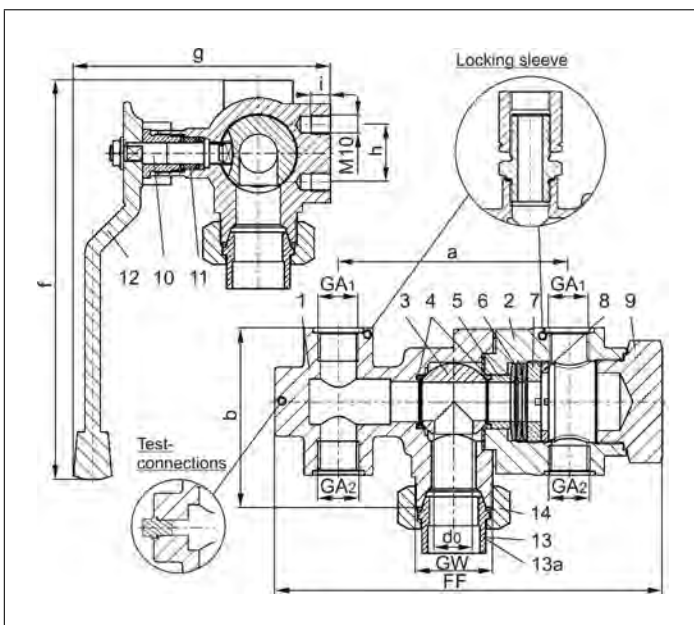
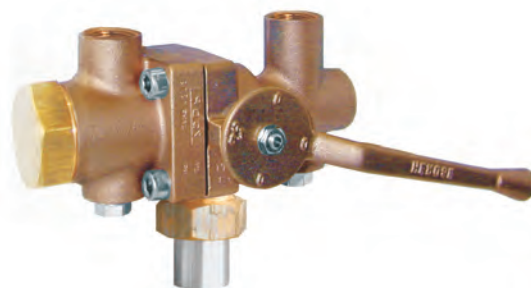
- two extra test connections 1/4" edgeways
- Inlet: union type braze or butt weld fitting for other pipe diameter
- Outlet GA<sub>1</sub> with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA<sub>1</sub> - GA<sub>2</sub>

### Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body I	CC491K	B 62 UNS C83600
2 Body II	CC491K	B 62 UNS C83600
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	CW614N	B 283 UNS C38500
6 Spring plates	1.4571	A 276 Grade 316Ti
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
9 Plug	CW614N	B 283 UNS C38500
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphit / PTFE	
12 Lever	CC491K	B 62 UNS C83600
13 Braze fitting	CC493K	B 505 UNS C93200
13a Weld fitting	1.4301	A 276 Grade 304
14 Union nut	CC493K	B 505 UNS C93200



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06510 - Standard design	Technical data		
<b>Nominal size</b>	<b>DN</b>	<b>20</b>	<b>20</b>
Dimension code	.X.	2040	2060
Flow diameter	d <sub>0</sub>	20	20
Inlet	GW	M40x2	M40x2
Outlet	GA <sub>1</sub>	1/2	3/4
Outlet	GA <sub>2</sub>	1/2	1/2
Face-to-face dimension	FF	201	201
Length	a	120	120
Height	b	92	92
Length	f	208	208
Length	g	134	134
Length	h	30	30
Thread depth	i	10	10
Wrench size across flats	S <sub>1</sub>	50	50
Weight	ca. kg	5.1	5.0
Kvs - Value, one side open	m <sup>3</sup> /h	7.7	7.7
Cv - Value, one side open	gal /min	9.2	9.2

### Important:

The valves must be fixed at the provided threads M10.



# Divertor and Changeover Valves

## Type 06510 - Divertor Valve



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Divertor Valves, bronze, PN50

for the installation of two safety valves,  
provided for bursting disc connections,  
"cleaned and degreased for oxygen service"

#### Artikel-Nr. 06510.X.0120

Female thread connection (G) acc. to ISO 228/1

#### Artikel-Nr. 06510.X.6000

Female thread connection NPTF acc. to ANSI B 1.20.1



Available Options - on request only:

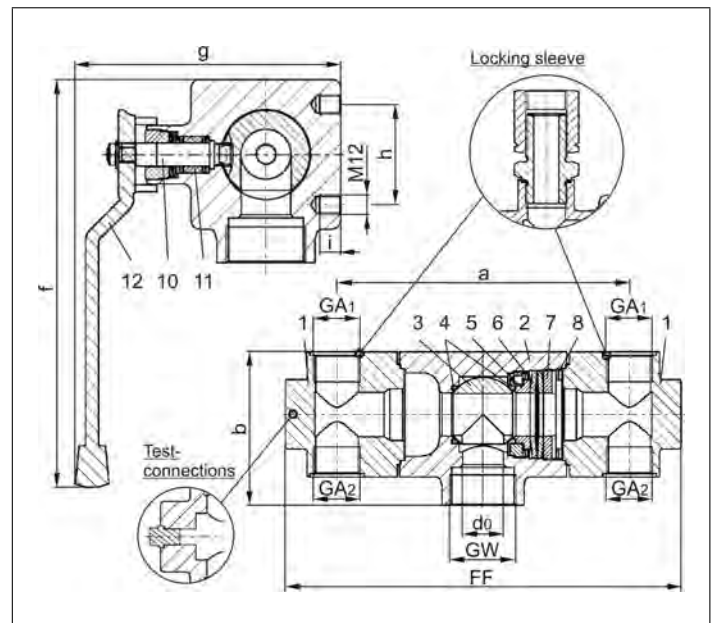
- Inlet with union type braze or butt weld fitting
- two extra test connections 1/4" edgeways
- Outlet GA<sub>1</sub> with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA<sub>1</sub> - GA<sub>2</sub>

### Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body I	CC491K	B 62 UNS C83600
2 Body II	CC491K	B 62 UNS C83600
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	CW614N	B 283 UNS C38500
6 Spring plates	1.4571	A 276 Grade 316Ti
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphit / PTFE	
12 Lever	CC491K	B 62 UNS C83600



### Important:

The valves must be fixed at the provided threads M12.

Standard marking acc. to Pressure Equipment Directive 97/23/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06510 - Standard design	Technical data	
Nominal size	DN	32
Dimension code	.X.	3210
Flow diameter	d <sub>0</sub>	23
Inlet	GW	1-1/2
Outlet	GA <sub>1</sub>	1
Outlet	GA <sub>2</sub>	1
Face-to-face dimension	FF	300
Length	a	210
Height	b	110
Length	f	245
Length	g	160
Length	h	60
Thread depth	i	12.5
Weight	ca. kg	12.2
Kvs - Value, one side open	m <sup>3</sup> /h	16.7
Cv - Value, one side open	gal /min	19.4

Dimensions in mm

CRYONICA:

Tel: +7 (3412) 320 597;

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Edition 2012-07

# Divertor and Changeover Valves

## Type 06510 - Divertor Valve



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Divertor Valves, bronze, PN50

for the installation of two safety valves,  
provided for bursting disc connections,  
"cleaned and degreased for oxygen service"

#### Artikel-Nr. 06510.X.0120

Female thread connection (G) acc. to ISO 228/1

#### Artikel-Nr. 06510.X.6000

Female thread connection NPTF acc. to ANSI B 1.20.1



Available Options - on request only:

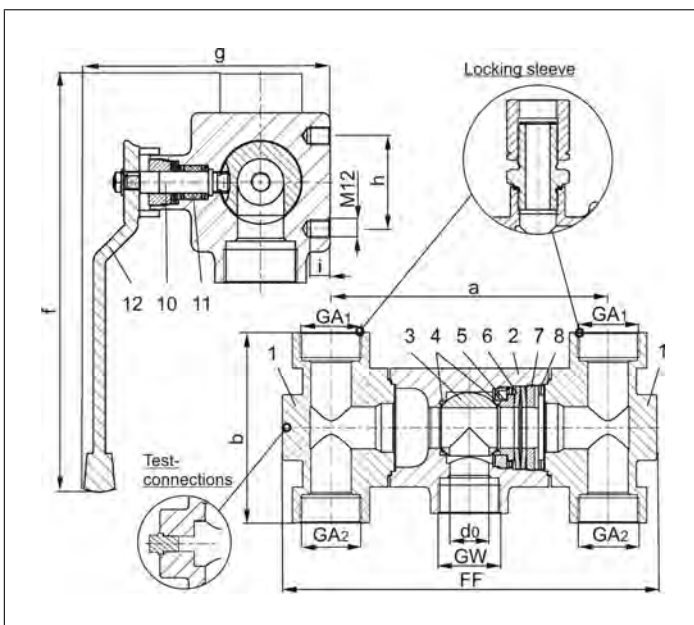
- Inlet with union type braze or butt weld fitting
- two extra test connections 1/4" edgeways
- Outlet GA<sub>1</sub> with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA<sub>1</sub> - GA<sub>2</sub>

### Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body I	CC491K	B 62 UNS C83600
2 Body II	CC491K	B 62 UNS C83600
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	CW614N	B 283 UNS C38500
6 Spring plates	1.4571	A 276 Grade 316Ti
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphit / PTFE	
12 Lever	CC491K	B 62 UNS C83600



Standard marking acc. to Pressure Equipment Directive 97/23/EG (PED).



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06510 - Standard design	Technical data		
Nominal size	DN	32	32
Dimension code	.X.	3210	3214
Flow diameter	d <sub>0</sub>	23	23
Inlet	GW	1-1/2	1-1/2
Outlet	GA <sub>1</sub>	1-1/4	1-1/2
Outlet	GA <sub>2</sub>	1-1/4	1-1/2
Face-to-face dimension	FF	284	284
Length	a	210	210
Height	b	145	145
Length	f	245	245
Length	g	160	160
Length	h	60	60
Thread depth	i	12.5	12.5
Weight	ca. kg	13.5	13.5
Kvs - Value, one side open	m <sup>3</sup> /h	16.7	16.7
Cv - Value, one side open	gal /min	19.4	19.4

### Important:

The valves must be fixed at the provided threads M12.

Dimensions in mm  
Edition 2012-07

CRYONICA:

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# Divertor and Changeover Valves

## Type 06512 - Divertor Valve



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Divertor Valves, bronze, PN50

for the installation of four safety valves,  
provided for bursting disc connections,  
"cleaned and degreased for oxygen service"

#### Artikel-Nr. 06512.X.0000

Female thread connection (G) acc. to ISO 228/1

#### Artikel-Nr. 06512.X.6000

Female thread connection NPTF acc. to ANSI B 1.20.1

Available Options - on request only:

- Inlet with union type braze or butt weld fitting
- two extra test connections 1/4" edgeways
- Inlet: female thread (GW) 1/2" or 3/4"
- Outlet GA<sub>1</sub> with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA<sub>1</sub> - GA<sub>2</sub>

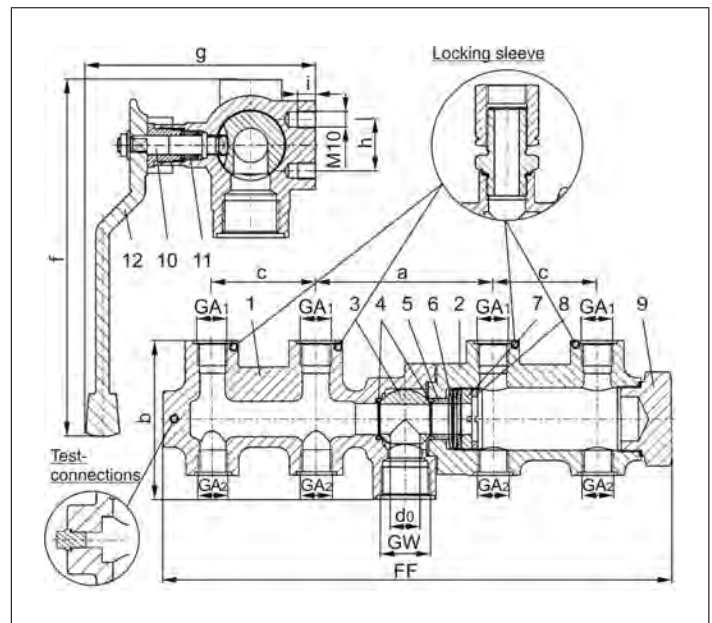


### Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body I	CC491K	B 62 UNS C83600
2 Body II	CC491K	B 62 UNS C83600
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	CW614N	B 283 UNS C38500
6 Spring plates	1.4571	A 276 Grade 316Ti
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
9 Plug	CW614N	B 283 UNS C38500
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphit / PTFE	
12 Lever	CC491K	B 62 UNS C83600



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06512 - Standard design	Technical data		
Nominal size	DN	20	20
Dimension code	.X.	2004	2006
Flow diameter	d <sub>0</sub>	20	20
Inlet	GW	1	1
Outlet	GA <sub>1</sub>	1/2	3/4
Outlet	GA <sub>2</sub>	1/2	1/2
Face-to-face dimension	FF	345	345
Length	a	120	120
Height	b	107	107
Length	c	70	70
Length	f	223	223
Length	g	134	134
Length	h	30	30
Thread depth	i	10	10
Weight	ca. kg	7.2	7.1
Kvs - Value, one side open	m <sup>3</sup> /h	7.7	7.7
Cv - Value, one side open	gal /min	9.2	9.2

### Important:

The valves must be fixed at the provided threads M10.

Dimensions in mm

CRYONICA:

Tel: +7 (3412) 320 597;

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WWW: predklapan.ru  
Edition 2012-07

# Divertor and Changeover Valves

## Type 06520 - Divertor Valve



**CRYONICA**  
криогенные технологии

**HEROSE**



**Cryogenic Divertor Valves, stainless steel, inner parts made of brass, PN50**

for the installation of two safety valves,  
provided for bursting disc connections,  
"cleaned and degreased for oxygen service"

**Part No. 06520.X.0000**

Female thread connection (G) acc. to ISO 228/1

**Part No. 06520.X.6\*\*\***

Female thread connection NPT acc. to ANSI B 1.20.1



Available Options - on request only:

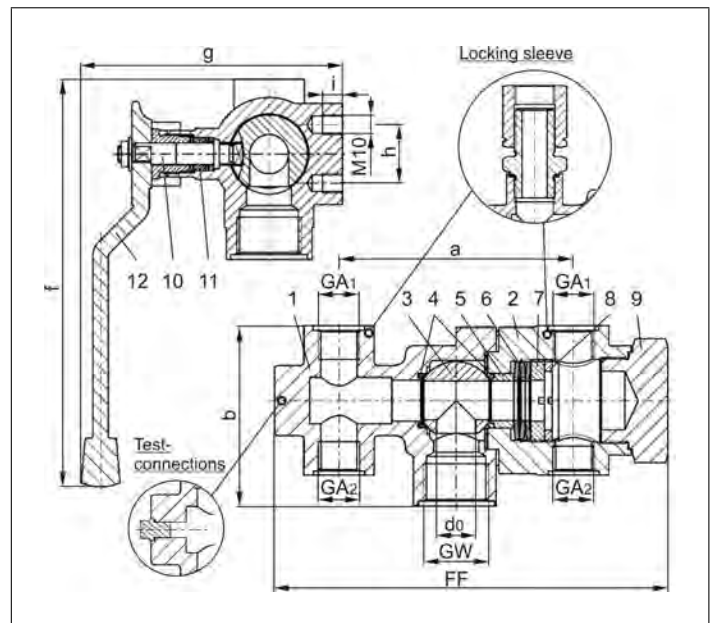
- two extra test connections 1/4" edgeways
- Inlet: female thread (GW) 3/4"
- Outlet GA<sub>1</sub> with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA<sub>1</sub> - GA<sub>2</sub>

**Applications:**

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body I	1.4308	A 351 CF8
2 Body II	1.4308	A 351 CF8
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	CW614N	B 283 UNS C38500
6 Spring plates	1.4571	A 276 Grade 316Ti
7 Spring clamp	CW614N	B 283 UNS C38500
8 Thread ring	CW614N	B 283 UNS C38500
9 Plug	1.4408	A 351 CF8M
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphite / PTFE	
12 Lever	1.4308	A 351 CF8



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06520 - Standard design	Technical Data		
<b>Nominal Size</b>	<b>DN</b>	<b>20</b>	<b>20</b>
Dimension code	.X.	2004	2006
Flow diameter	d <sub>0</sub>	20	20
Inlet	GW	1	1
Outlet	GA <sub>1</sub>	1/2	3/4
Outlet	GA <sub>2</sub>	1/2	1/2
Face-to-face dimension	FF	201	201
Length	a	120	120
Height	b	92	92
Length	f	208	208
Length	g	134	134
Length	h	30	30
Thread depth	i	10	10
Weight	ca. kg	4.8	4.7
Kvs - Value, one side open	m <sup>3</sup> /h	7.7	7.7
Cv - Value, one side open	gal /min	9.2	9.2

**Important:**

The valves must be fixed at the provided threads M10.

Dimensions in mm  
Edition 2012-07

CRYONICA:

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# Divertor and Changeover Valves

## Type 06530 - Divertor Valve



**CRYONICA**  
криогенные технологии

**HEROSE**



### Cryogenic Divertor Valves, stainless steel, PN50

for the installation of two safety valves,  
provided for bursting disc connections,  
"cleaned and degreased for oxygen service"

#### Part No. 06530.X.0000

Female thread connection (G) acc. to ISO 228/1

#### Part No. 06530.X.6\*\*\*

Female thread connection NPT acc. to ANSI B 1.20.1



Available Options - on request only:

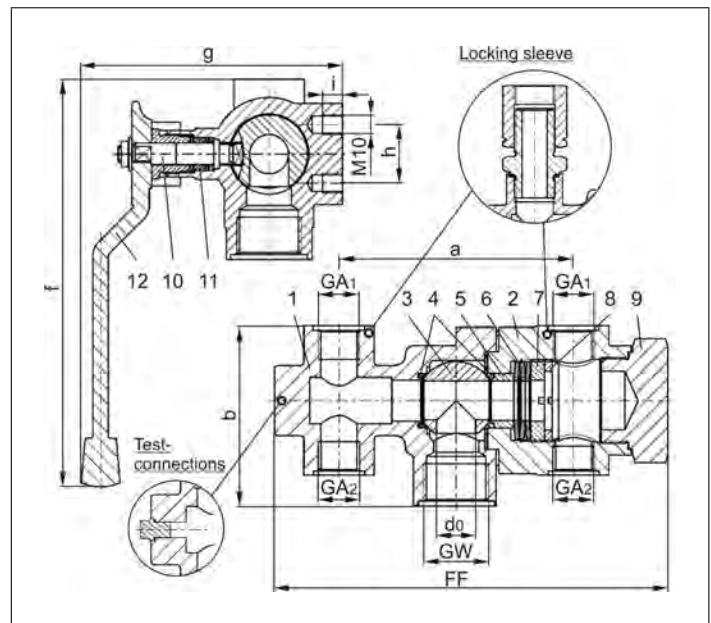
- two extra test connections 1/4" edgeways
- Inlet: female thread (GW) 3/4"
- Outlet GA<sub>1</sub> with installed locking sleeve for easy positioning of safety valves
- Combination of different outlet threads GA<sub>1</sub> - GA<sub>2</sub>

### Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +120°C / +248°F (393K)

Materials	DIN EN	ASTM
1 Body I	1.4308	A 351 CF8
2 Body II	1.4308	A 351 CF8
3 Ball	1.4571	A 276 Grade 316Ti
4 Seat rings	PCTFE	
5 Bush	1.4301	A 276 Grade 304
6 Spring plates	1.4571	A 276 Grade 316Ti
7 Spring clamp	1.4571	A 276 Grade 316Ti
8 Thread ring	1.4571	A 276 Grade 316Ti
9 Plug	1.4408	A 351 CF8M
10 Stem	1.4301	A 276 Grade 304
11 Gland packing	Graphite / PTFE	
12 Lever	1.4308	A 351 CF8



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06530 - Standard design	Technical Data		
Nominal Size	DN	20	20
Dimension code	.X.	2004	2006
Flow diameter	d <sub>0</sub>	20	20
Inlet	GW	1	1
Outlet	GA <sub>1</sub>	1/2	3/4
Outlet	GA <sub>2</sub>	1/2	1/2
Face-to-face dimension	FF	201	201
Length	a	120	120
Height	b	92	92
Length	f	208	208
Length	g	134	134
Length	h	30	30
Thread depth	i	10	10
Weight	ca. kg	4.8	4.7
Kvs - Value, one side open	m <sup>3</sup> /h	7.7	7.7
Cv - Value, one side open	gal /min	9.2	9.2

Dimensions in mm

### Important:

The valves must be fixed at the provided threads M10.

# Divertor and Changeover Valves

## Type 06405 - Changeover Valve



**CRYONICA**  
криогенные технологии



### Cryogenic Changeover Valves, brass

for the installation of two safety valves,  
with indicator and two test connections G 1/4,  
"cleaned and degreased for oxygen service"

#### Part No. 06405.0150.0000, DN15, PN40, metal to metal seated

Female thread connection (G) acc. to ISO 228/1

#### Part No. 06405.0150.6000, DN15, PN40, metal to metal seated

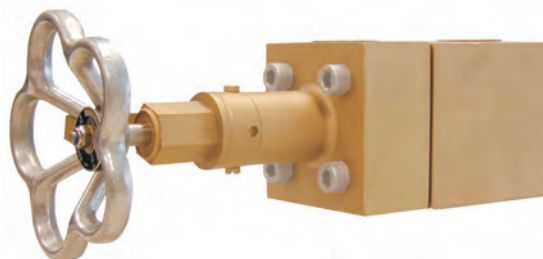
Female thread connection NPTF acc. to ANSI B 1.20.1

#### Part No. 06405.0250.0000, DN25, PN45, PTFE valve seal

Female thread connection (G) acc. to ISO 228/1

#### Part No. 06405.0250.6000, DN25, PN45, PTFE valve seal

Female thread connection NPTF acc. to ANSI B 1.20.1



Available options - on request only:

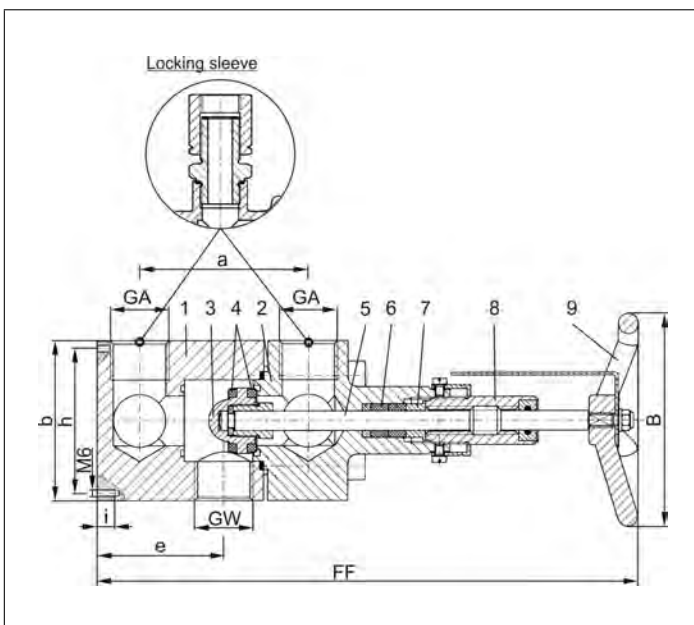
- Valve with bursting disc connections
- Outlet: GA with installed locking sleeve for easy positioning of safety valves
- Outlet: GA with thread 3/4"

### Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body I	CW509L	B 111 UNS C28000
2 Body II	CW509L	B 111 UNS C28000
3 Disc	1.4301	A 276 Grade 304
4 Valve seal DN25	PTFE	
5 Stem	1.4301	A 276 Grade 304
6 Gland packing	Graphite / PTFE	
7 Top ring	CW614N	B 283 UNS C38500
8 Gland nut DN15	CW710R	no reference
8 Gland nut DN25	CW614N	B 283 UNS C38500
9 Handwheel	Aluminium alloy	



Marking acc. to Directive 99/36/EG (TPED) will only be carried out by written notice on purchase order.



Type 06405 - Standard design	Technical data		
Nominal size	DN	15	25
Dimension code	.X.	0150	0250
Inlet	GW	3/4	1
Outlet	GA	1/2	1
Face-to-face dimension	FF	240	310
Length	a	80	96
Length	b	65	90
Length	e	50	72
Length	h	55	80
Thread depth	i	12	12
Handwheel-Ø	B	100	120
Weight	ca. kg	4.1	9.5
Kvs - Value, one side open	m <sup>3</sup> /h	6.0	14.0
Cv - Value, one side open	gal /min	6.9	16.1
Kvs - Value, central position	m <sup>3</sup> /h	13.0	25.0
Cv - Value, central position	gal /min	15.0	28.9

### Important:

The valves must be fixed at the provided threads M6.

# Divertor and Changeover Valves

## Type 06401 - Changeover Valve DN15



**CRYONICA**HEROSE

криогенные технологии



### Cryogenic Changeover Valves, stainless steel, PN125

for the installation of two safety valves,  
with two test connections G 1/4,  
"cleaned and degreased for oxygen service"

#### Part No. 06401.0150.0000

In- and Outlet: locking sleeve G 3/4

#### Part No. 06401.0150.9\*\*\*

\*\*\* Changeover valves with other threads for  
vessel or safety valve connection on request



Available options - on request only:

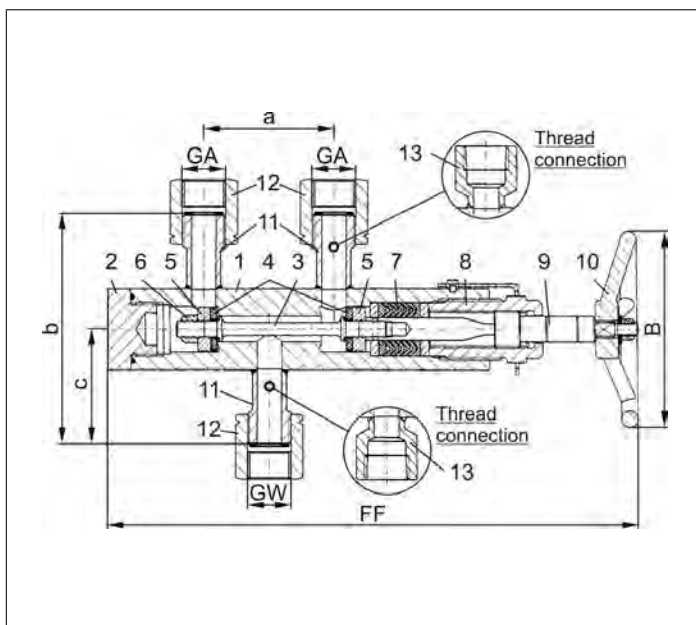
- Changeover valves with pneumatic or electric actuator
- Inlet GW and/or outlet GA with female thread (G) acc. to ISO 228/1
- Inlet GW and/or outlet GA with female thread NPT acc. to ANSI B 1.20.1
- Combination of different thread connections GW - GA

### Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body	1.4571	A 276 Grade 316Ti
2 Plug	1.4571	A 276 Grade 316Ti
3 Disc stem	1.4571	A 276 Grade 316Ti
4 Valve seal	PTFE / Carbon filled (25%)	
5 Disc	1.4571	A 276 Grade 316Ti
6 Disc nut	1.4301/A2	A 194 B8
7 Gland packing	PTFE / Carbon filled (25%)	
8 Head piece	CW452K nickel plated	B 103 UNS C51900 nickel plated
9 Stem	1.4571	A 276 Grade 316Ti
10 Handwheel	Aluminium alloy	
11 Welding piece	1.4571	A 276 Grade 316Ti
12 Locking sleeve	1.4571	A 276 Grade 316Ti
13 Thread connection	1.4571	A 276 Grade 316Ti



Typ 06401 - Standard design	Technical data	
Nominal size	DN	15
Inlet	GW	G 3/4 LH
Outlet	GA	G 3/4 LH
Face-to-face dimension	FF	325
Handwheel-Ø	B	120
Length	a	80
Height	b	140
Length	c	70
Weight	ca. kg	5.0
Kvs - Value, one side open	m <sup>3</sup> /h	4.0
Cv - Value, one side open	gal /min	4.6
Kvs - Value, central position	m <sup>3</sup> /h	5.8
Cv - Value, central position	gal /min	6.7

Dimensions in mm.

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Edition 2012-07

# Divertor and Changeover Valves

## Type 06401 - Changeover Valve DN15



### Cryogenic Changeover Valves, stainless steel, PN160

for the installation of two safety valves,  
with two test connections G 1/4,  
"cleaned and degreased for oxygen service"

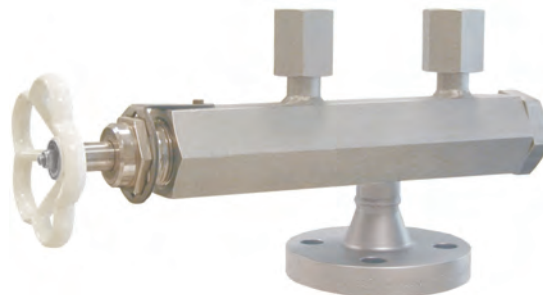
#### Part No. 06401.0150.9029

Inlet: Flange, DN15, PN 160

Outlet: locking sleeve G 3/4

#### Part No. 06401.0150.9\*\*\*

\*\*\* Changeover valves with other flanges for vessel connection  
and threaded connection for safety valves on request



Available options - on request only:

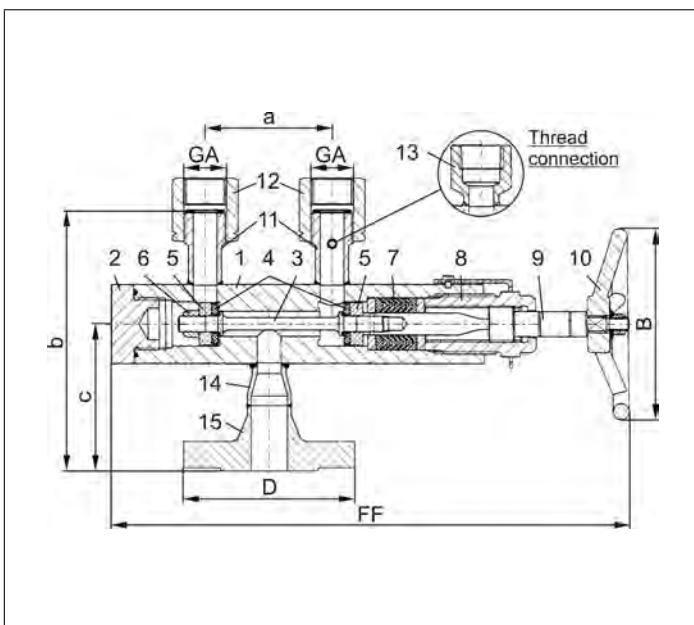
- Changeover valves with pneumatic or electric actuator
- Outlet GA with female thread (G) acc. to ISO 228/1
- Outlet GA with female thread NPT acc. to ANSI B 1.20.1
- Outlet GA with flanged connections

### Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body	1.4571	A 276 Grade 316Ti
2 Plug	1.4571	A 276 Grade 316Ti
3 Disc stem	1.4571	A 276 Grade 316Ti
4 Valve seal	PTFE / Carbon filled (25%)	
5 Disc	1.4571	A 276 Grade 316Ti
6 Disc nut	1.4301/A2	A 194 B8
7 Gland packing	PTFE / Carbon filled (25%)	
8 Head piece	CW452K nickel plated	B 103 UNS C51900 nickel plated
9 Stem	1.4571	A 276 Grade 316Ti
10 Handwheel	Aluminium alloy	
11 Welding piece	1.4571	A 276 Grade 316Ti
12 Locking sleeve	1.4571	A 276 Grade 316Ti
13 Thread connection	1.4571	A 276 Grade 316Ti
14 Adapter	1.4571	A 276 Grade 316Ti
15 Flange	1.4571	A 276 Grade 316Ti



Type 06401 - Standard design	Technical data	
<b>Nominal size</b>	<b>DN</b>	<b>15</b>
Flange diameter	D	105
Outlet	GA	G 3/4 LH
Face-to-face dimension	FF	325
Handwheel-Ø	B	120
Length	a	80
Height	b	170
Length	c	100
Weight	ca. kg	6.0
Kvs - Value, one side open	m <sup>3</sup> /h	4.0
Cv - Value, one side open	gal /min	4.6
Kvs - Valve, central position	m <sup>3</sup> /h	5.8
Cv - Valve, central position	gal /min	6.7

Dimensions in mm.

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# Divertor and Changeover Valves

## Type 06401 - Changeover Valve DN25



### Cryogenic Changeover Valves, stainless steel, PN125

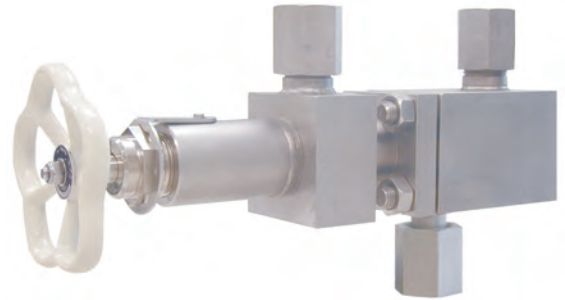
for the installation of two safety valves,  
with two test connections G 1/4,  
"cleaned and degreased for oxygen service"

#### Part No. 06401.0250.9045

In- and Outlet: locking sleeve G 1

#### Part No. 06401.0250.9\*\*\*

\*\*\* Changeover valves with other threads for  
vessel or safety valve connection on request



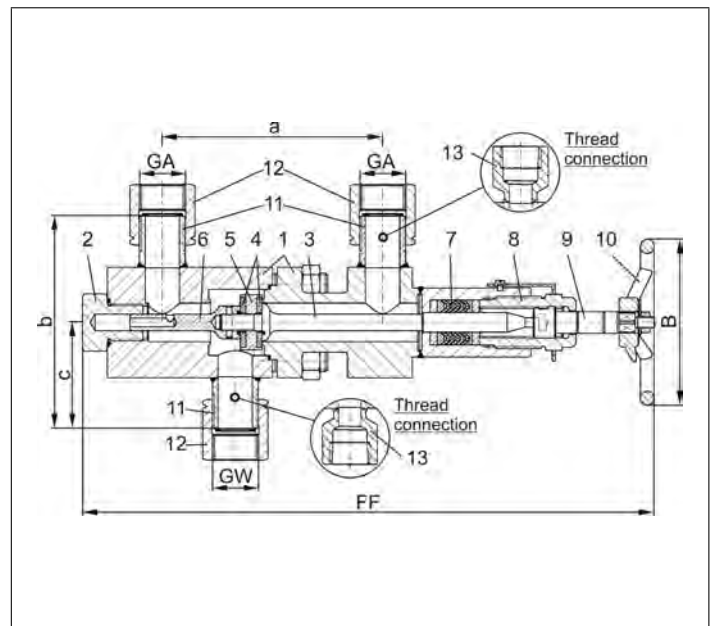
Available options - on request only:

- Changeover valves with pneumatic or electric actuator
- Inlet GW and/or outlet GA with female thread (G) acc. to ISO 228/1
- Inlet GW and/or outlet GA with female thread NPT acc. to ANSI B 1.20.1
- Combination of different thread connections GW - GA

### Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.  
Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body	1.4571	A 276 Grade 316Ti
2 Plug	1.4571	A 276 Grade 316Ti
3 Disc stem	1.4571	A 276 Grade 316Ti
4 Valve seal	PCTFE	
5 Disc	1.4571	A 276 Grade 316Ti
6 Disc stem	1.4571	A 276 Grade 316Ti
7 Gland packing	PTFE / Carbon filled (25%)	
8 Head piece	CW452K nickel plated	B 103 UNS C51900 nickel plated
9 Stem	1.4571	A 276 Grade 316Ti
10 Handwheel	Aluminium alloy	
11 Welding piece	1.4571	A 276 Grade 316Ti
12 Locking sleeve	1.4571	A 276 Grade 316Ti
13 Thread connection	1.4571	A 276 Grade 316Ti



Typ 06401 - Standard design	Technical data	
Nominal size	DN	25
Inlet	GW	G 1 LH
Outlet	GA	G 1 LH
Face-to-face dimension	FF	415
Handwheel-Ø	B	120
Length	a	160
Height	b	160
Length	c	80
Weight	ca. kg	11.7
Kvs - Value, one side open	m <sup>3</sup> /h	13.0
Cv - Value, one side open	gal /min	15.0
Kvs - Value, central position	m <sup>3</sup> /h	15.5
Cv - Value, central position	gal /min	17.9

Dimensions in mm.

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WWW: predklapan.ru  
Edition 2012-07

# Divertor and Changeover Valves

## Type 06401 - Changeover Valve DN25



### Cryogenic Changeover Valves, stainless steel, PN160

for the installation of two safety valves,  
with two test connections G 1/4,  
"cleaned and degreased for oxygen service"

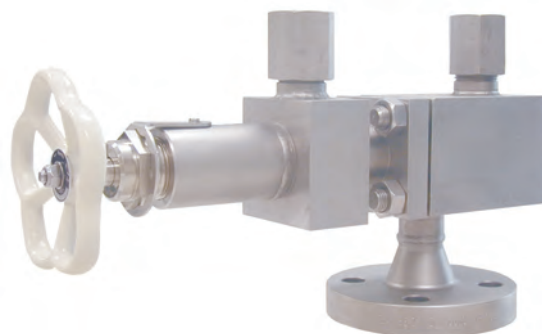
#### Part No. 06401.0250.9018

Inlet Flange, DN 25, PN 160

Outlet: locking sleeve G1

#### Part No. 06401.0250.9\*\*\*

\*\*\* Changeover valves with other flanges for vessel connection  
and connection for safety valves on request



Available options - on request only:

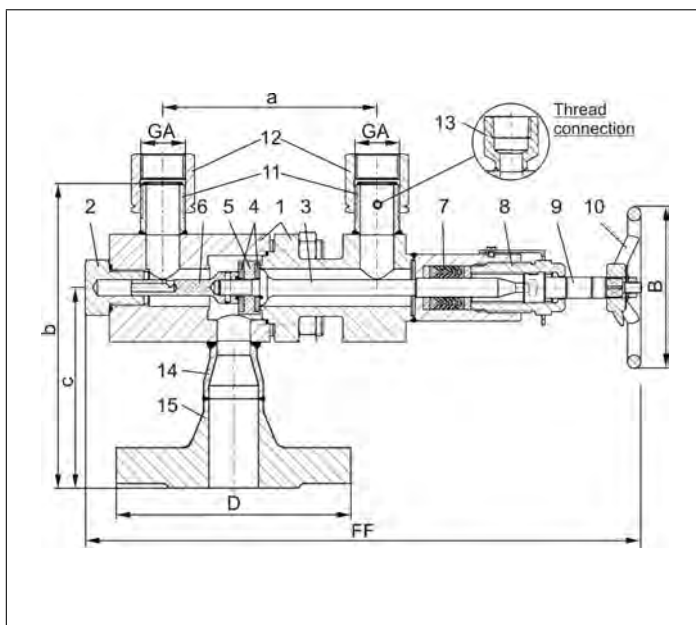
- Changeover valves with pneumatic or electric actuator
- Outlet GA with female thread (G) acc. to ISO 228/1
- Outlet GA with female thread NPT acc. to ANSI B 1.20.1
- Outlet GA with flanged connections

### Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body	1.4571	A 276 Grade 316Ti
2 Plug	1.4571	A 276 Grade 316Ti
3 Disc stem	1.4571	A 276 Grade 316Ti
4 Valve seal	PCTFE	
5 Disc	1.4571	A 276 Grade 316Ti
6 Disc stem	1.4571	A 276 Grade 316Ti
7 Gland packing	PTFE / Carbon filled (25%)	
8 Head piece	CW452K nickel plated	B 103 UNS C51900 nickel plated
9 Stem	1.4571	A 276 Grade 316Ti
10 Handwheel	Aluminium alloy	
11 Welding piece	1.4571	A 276 Grade 316Ti
12 Locking sleeve	1.4571	A 276 Grade 316Ti
13 Thread connection	1.4571	A 276 Grade 316Ti
14 Adapter	1.4571	A 276 Grade 316Ti
15 Flange	1.4571	A 276 Grade 316Ti



Type 06401 - Standard design	Technical data	
Nominal size	DN	25
Flange diameter	D	140
Outlet	GA	G 1 LH
Face-to-face dimension	FF	415
Handwheel-Ø	B	120
Length	a	160
Height	b	200
Length	c	125
Weight	ca. kg	14.1
Kvs - Value, one side open	m <sup>3</sup> /h	13.0
Cv - Value, one side open	gal /min	15.0
Kvs - Valve, central position	m <sup>3</sup> /h	15.5
Cv - Valve, central position	gal /min	17.9

Dimensions in mm.

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Edition 2012-07

# Divertor and Changeover Valves

## Type 06401 - Bellow Sealed Changeover



**CRYONICA HEROSE**  
криогенные технологии



### Cryogenic Bellow Sealed Changeover Valves, stainless steel, PN63

for the installation of two safety valves,  
with indicator and two test connections G 1/4,  
"cleaned and degreased for oxygen service"

#### Part No. 06401.0150.9\*\*\*

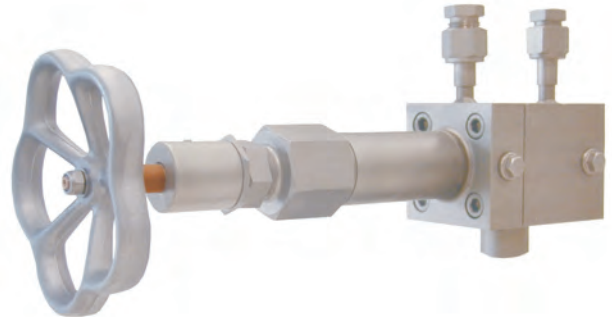
\*\*\* In- and outlet connections with locking sleeve, female thread or flanges on request, working pressure up to PN100

#### Part No. 06401.0250.9\*\*\*

\*\*\* In- and outlet connections with locking sleeve, female thread or flanges on request, working pressure up to PN63

Available options - on request only:

- Changeover valves with pneumatic or electric actuator

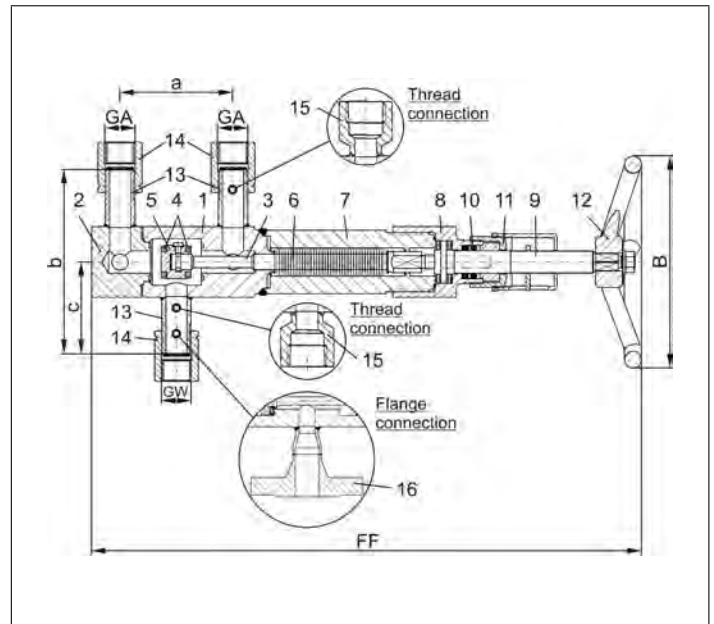


### Applications:

Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

Working temperature: -196°C / -321°F (77K) up to +185°C / +365°F (458K)

Materials	DIN EN	ASTM
1 Body I	1.4571	A 276 Grade 316Ti
2 Body II	1.4571	A 276 Grade 316Ti
3 Bellow stem	1.4571	A 276 Grade 316Ti
4 Valve seal	PCTEF	
5 Disc	1.4571	A 276 Grade 316Ti
6 Bellow	1.4571	A 276 Grade 316Ti
7 Upper part I	1.4571	A 276 Grade 316Ti
8 Upper part II	1.4571	A 276 Grade 316Ti
9 Stem	CW452K	B 103 UNS C51900
10 O-Rings	FPM (VITON)	
11 Top ring	1.4571	A 276 Grade 316Ti
12 Handwheel	Aluminium alloy	
13 Welding piece	1.4571	A 276 Grade 316Ti
14 Locking sleeve	1.4571	A 276 Grade 316Ti
15 Thread connection	1.4571	A 276 Grade 316Ti
16 Flange	1.4571	A 276 Grade 316Ti



Typ 06401 - Standard design		Technical data	
<b>Nominal size</b>	<b>DN</b>	<b>15</b>	<b>25</b>
Dimension code	.X.	0150	0250
Inlet	GW	G 3/4 LH	G 1 LH
Outlet	GA	G 3/4 LH	G1 LH
Face-to-face dimension	FF	390	390
Handwheel-Ø	B	150	150
Length	a	80	80
Height	b	130	160
Length	c	65	80
Weight	ca. kg	8.0	9.9
Kvs - Value, one side open	m <sup>3</sup> /h	9.5	13.0
Cv - Value, one side open	gal /min	11.0	15.0
Kvs - Value, central position	m <sup>3</sup> /h	13.5	15.5
Cv - Value, central position	gal /min	15.6	17.9

Dimensions in mm.

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## Nonferrous materials

DIN EN new		DIN old		ASTM
CC490K	CuSn3Zn8Pb5-C	RG2	2.1098	-
CC491K	CuSn5Zn5Pb5-C	RG5	2.1096.01	B 62 UNS C83600
CC493K	CuSn7Zn4Pb7-C	RG7	2.1090	B 505 UNS C93200
CW450K	CuSn4	CUSN4	2.1016	B 103 UNS C51100
CW452K	CuSn6	CUSN6	2.1020	B 103 UNS C51900
CW453K	CuSn8	CUSN8	2.1030	B 103 UNS C52100
CW507L	CuZn36	CUZN36	2.0335	B 111 UNS C27000
CW508L	CuZn37	CUZN37	2.0321	B 111 UNS C27200
CW509L	CuZn40	CUZN40	2.0360	B 111 UNS C28000
CW610N	CuZn39Pb0,5	CUZN39PB	2.0372	B 111 UNS C28000
CW612N	CuZn39Pb2	MS58	2.0380.10	B 283 UNS C37770
CW614N	CuZn39Pb3	MS58	2.0401.08	B 283 UNS C38500
CW617N	CuZn40Pb2	MS58	2.0402.20	B 283 UNS C38000
CW710R	CuZn35Ni3Mn2AlPb	CUZN35NI	2.0540	-
CW713R	CuZn37Mn3Al2PbSi	CUZN40AL	2.0552	-
CW718R	CuZn39Mn1AlPbSi	CUZN40AL	2.0561	-
CW720R	CuZn40Mn1Pb1	CUZN40MN	2.0580	-
CW723R	CuZn40Mn2Fe1	CUZN40MN	2.0572	-

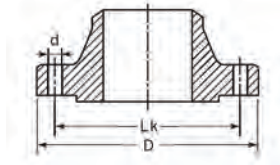
## Ferrous materials

DIN EN new		DIN old	ASTM
1.1200	Spring steel	Carbon steel	A 576 Grade 1045
1.4021	C20Cr13	1.4021	A 276 Grade 420
1.4034	X45Cr13	1.4034	A 276 Grade 420
1.4057	X17CrNi16-2	1.4057	A 276 Grade 431
1.4104	X14CrMoS17	1.4104	A 276 Grade 430F
1.4112	X90CrMoV18	1.4112	A 276 Grade 440B
1.4122	X39CrMo17-1	1.4122	-
1.4300	X12CrNi18-8	1.4300	A 276 Grade 302
1.4301	X5CrNi18-10	1.4301	A 276 Grade 304
1.4305	X8CrNiS18-9	1.4305	A 276 Grade 303
1.4306	X2CrNi19-11	1.4306	A 312 TP 304L
1.4308	G-X6CrNi18-9	1.4308	A 351 CF8
1.4310	X10CrNi18-8	1.4310	A 313 Grade 302
1.4401	X5CrNiMo17-12-2	1.4401	A 276 Grade 316
1.4404	X2CrNiMo17-12-2	1.4404	A 276 Grade 316L
1.4408	GX5CrNiMo19-11-2	1.4408	A 351 CF 8M
1.4409	G-X2NiCrMo28-20-2	1.4409	A 351 CF 3M
1.4541	X6CrNiTi18-10	1.4541	A 276 Grade 321
1.4568	X7CrNiAl17-7	1.4568	A 313 Grade 631
1.4571	X6CrNiMoTi17-12-2	1.4571	A 276 Grade 316Ti
1.4552	G-X7CrNiNb18-9	1.4552	A 351 CF 8C
1.4923	X22CrMoV12-1	1.4923	A 193 Grade B6
1.4980	X5CrNiTi26-15	1.4980	A 286 Grade 660
1.5415	16Mo3	-	A 182 Grade F1
1.7225	42CrMo4	1.7225	A 194 Grade 7
1.7258	24CrMo5	1.7258	A 194 Grade B7
1.7335	13CrMo4-5	1.7335	A 182 Grade F12
1.7380	10CrMo9-10	1.7380	A 182 Grade F22
1.7709	21CrMoV5-7	1.7709	-

# Valves for Cryogenic Service

## Dimensions of DIN flanges

**DN** = Nominal diameter  
**D** = Diameter of flange  
**Lk** = Diameter of bolt circle  
**n** = Number of holes  
**d** = Diameter of holes



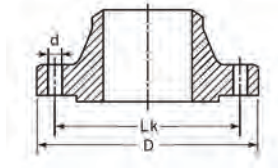
DN		PN 6				PN 10				PN 16				PN 25				PN 40			
		D	Lk	n	d	D	Lk	n	d	D	Lk	n	d	D	Lk	n	d	D	Lk	n	d
10	3/8"	75	50	4	11	90	60	4	14	90	60	4	14	90	60	4	14	90	60	4	14
15	1/2"	80	55	4	11	95	65	4	14	95	65	4	14	95	65	4	14	95	65	4	14
20	3/4"	90	65	4	11	105	75	4	14	105	75	4	14	105	75	4	14	105	75	4	14
25	1"	100	75	4	11	115	85	4	14	115	85	4	14	115	85	4	14	115	85	4	14
32	1-1/4"	120	90	4	14	140	100	4	18	140	100	4	18	140	100	4	18	140	100	4	18
40	1-1/2"	130	100	4	14	150	110	4	18	150	110	4	18	150	110	4	18	150	110	4	18
50	2"	140	110	4	14	165	125	4	18	165	125	4	18	165	125	4	18	165	125	4	18
65	2-1/2"	160	130	4	14	185	145	4	18	185	145	4	18	185	145	8	18	185	145	8	18
80	3"	190	150	4	18	200	160	8	18	200	160	8	18	200	160	8	18	200	160	8	18
100	4"	210	170	4	18	220	180	8	18	220	180	8	18	235	190	8	22	235	190	8	22
125	5"	240	200	8	18	250	210	8	18	250	210	8	18	270	220	8	26	270	220	8	26
150	6"	265	225	8	18	285	240	8	22	285	240	8	22	300	250	8	26	300	250	8	26
200	8"	320	280	8	18	340	295	8	22	340	295	8	22	360	310	12	26	375	320	12	30

DN		PN 63				PN 100				PN 160				PN 250				PN 320			
		D	Lk	n	d	D	Lk	n	d	D	Lk	n	d	D	Lk	n	d	D	Lk	n	d
10	3/8"	100	70	4	14	100	70	4	14	100	70	4	14	125	85	4	18	125	85	4	18
15	1/2"	105	75	4	14	105	75	4	14	105	75	4	14	130	90	4	18	130	90	4	18
20	3/4"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
25	1"	140	100	4	18	140	100	4	18	140	100	4	18	150	105	4	22	160	115	4	22
32	1-1/4"	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
40	1-1/2"	170	125	4	22	170	125	4	22	170	125	4	22	185	125	4	26	195	145	4	26
50	2"	180	135	4	22	195	145	4	26	195	145	4	26	200	150	8	26	210	160	8	26
65	2-1/2"	205	160	4	22	220	170	8	26	220	170	8	26	230	180	8	26	255	200	8	30
80	3"	215	170	4	22	230	180	8	26	230	180	8	26	255	200	8	30	275	220	8	30
100	4"	250	200	4	22	265	210	8	30	265	210	8	30	300	235	8	30	300	265	8	36

# Valves for Cryogenic Service

## Dimensions of ANSI flanges

DN = Nominal diameter  
 D = Diameter of flange  
 Lk = Diameter of bolt circle  
 n = Number of holes  
 d = Diameter of holes



		Class 150				Class 300				Class 600			
DN		D	Lk	n	d	D	Lk	n	d	D	Lk	n	d
15	1/2"	88.9	60.3	4	15.9	95.2	66.7	4	15.9	95.2	66.7	4	15.9
20	3/4"	98.4	69.8	4	15.9	117.5	82.5	4	19	117.5	82.5	4	19
25	1"	107.9	79.4	4	15.9	123.8	88.9	4	19	123.8	88.9	4	19
32	1-1/4"	117.5	88.9	4	15.9	133.3	98.4	4	19	133.3	98.4	4	19
40	1-1/2"	127	98.4	4	15.9	155.6	114.3	4	22.2	155.6	114.3	4	22.2
50	2"	152.4	120.6	4	19	165.1	127	8	19	165.1	127	8	19
65	2-1/2"	177.8	139.7	4	19	190.5	149.2	8	22.2	190.5	149.2	8	22.2
80	3"	190.5	152.4	4	19	209.5	168.3	8	22.2	209.5	168.3	8	22.2
100	4"	228.6	190.5	8	19	254	200	8	22.2	273	215.9	8	25.4
125	5"	254	215.9	8	22.2	279.4	234.9	8	22.2	330.2	266.7	8	28.6
150	6"	279.4	241.3	8	22.2	317.5	269.9	12	25.4	355.6	292.1	12	28.6
200	8"	342.9	298.4	8	22.2	381	330.2	12	22	-	-	-	-

		Class 900				Class 1500			
DN		D	Lk	n	d	D	Lk	n	d
15	1/2"	120.6	82.5	4	22.2	120.6	82.5	4	22.2
20	3/4"	130.2	88.9	4	22.2	130.2	88.9	4	22.2
25	1"	149.2	101.6	4	25.4	149.2	101.6	4	25.4
32	1-1/4"	158.7	111.1	4	25.4	158.7	111.1	4	25.4
40	1-1/2"	177.8	123.8	4	28.6	177.8	123.8	4	28.6
50	2"	215.9	165.1	8	25.4	215.9	165.1	8	25.4
65	2-1/2"	244.5	190.5	8	28.6	244.5	190.5	8	28.6
80	3"	241.3	190.5	8	25.4	266.7	203.2	8	31.7
100	4"	292.1	234.9	8	31.7	311.1	241.3	8	34.9

# EG-Konformitätserklärung

/ EC-Declaration of Conformity / EC-Déclaration de Conformité

nach Druckgeräterichtlinie 97/23/EG (CE-Kennzeichen) & 2010/35/EU\*\* (Pi-Kennzeichen)

/ in acc. to the pressure equipment directive 97/23/EC (CE-mark) & 2010/35/EU\*\* (Pi-mark)

/ selon la directive des équipements sous pression 97/23/EC (CE-Marquage) & 2010/35/EU\*\* (Pi-Marquage)



**HEROSE GMBH**

Elly-Heuss-Knapp-Str. 12

**ARMATUREN UND METALLE**

D-23843 Bad Oldesloe / Germany

Name und Anschrift des Herstellers / name and address of the manufacturer / Nom et adresse du constructeur

Sicherheitsventil - Typ Safety Valve Type Type de Soup. de sûreté	Nennweite Nominal size Diam. Nom.	TÜV-SV-Bauteilkennzeichen* TÜV-SV-type-test approval mark No.* Marquage du test d'approbation TÜV-SV*	EG-Bauteilprüfnummer EC-type examination No. N° de contrôle
06386, 06387, 06416, 06417	G1/2 - G1	780**	07 202 0111 Z 0002/0/0001
06388, 06418, 06430, 06435, 06383, 06413	G1/2 - G2	780**	07 202 0111 Z 0002/0/0002
06389, 06419	G1/2 - G3/4	780**	07 202 0111 Z 0002/0/0003
06472, 06477	G1/4 - G3/4	836**	07 202 0111 Z 0002/0/0004
06474, 06478	G1/4 - G3/4	836**	07 202 0111 Z 0002/0/0005
06001, 06011	G1/4 - G1/2	1048**	07 202 0111 Z 0002/0/0006
06002, 06006, 06012, 06016	G1/4 - G1/2	1048**	07 202 0111 Z 0002/0/0007
06205	G1/4 - G1 1/4	1090	07 202 0111 Z 0002/0/0008
06505, 06506	G1 - G2	948	07 202 0111 Z 0002/0/0010
06380	G1/2 - G2	749	07 202 0111 Z 0002/0/0012
06370, 06376	G1/2 - G2	749	07 202 0111 Z 0002/0/0013
06395	G1/2 - G1 1/4	910	07 202 0111 Z 0002/0/0014
50051.0011	G3/8	1009	07 202 0111 Z 0002/0/0015
06500	G1 1/4 - G1 1/2	870	07 202 0111 Z 0002/0/0016
06602	G1/2	1080	07 202 0111 Z 0002/2/0021
06603	G1/2	1080	07 202 0111 Z 0002/2/0022
06260, 06265	G1 1/4 - G2	1090	07 202 1837 Z 0003/2/0023
06216, 06217, 06218, 06219	G1/2 - G2	1090	07 202 1837 Z 0003/2/0024
06604, 06605	G1/2	1080	07 202 1837 Z 0012/3/0041
06601	G1/2	1080	07 202 1837 Z 0012/3/0042
06800, 06801, 06805, 06806	G1/2 - G1	1105**	07 202 1837 Z 0013/4/0043
06420, 06421, 06425, 06426	G1/2 - G1 1/4	1111**	07 202 1837 Z 0001/5/0044
06226, 06227	G1/2	1122	07 202 1837 Z 0003/2/0024

Beschreibung des Druckgerätes / description of the pressure equipment / description des équipements sous pression

\* siehe Federhaube / see bonnet / voir dôme de ressort

**Kategorie / categorie / catégorie IV-97/23/EG**

angewandte Kategorie nach Artikel 3 Anhang II / applied category in acc. to article 3 annex II / catégorie appliquée selon l'Article 3, Annexe II

Modul Module Module	Konformitätsbewertungsverfahren Conformity assessment procedures Procédures de Conformité	Bescheinigungsnummer certificate number N° de certificat
B	EG-Baumusterprüfung / EC type-examination / Type d'examen EC	siehe Tabelle / see table / voir tableau
D	Qualitätssicherung Produktion / quality control production / Production contrôle qualité	07 202 1321 Z 0017/1/01 07 202 1321 Z 0017/1/02
	Betriebseigener Prüfdienst (IS) / In-house inspection service (IS)	07 202 1321 Z 0002/1/08

angewandte Konformitätsbewertungsverfahren nach Artikel 10 / conformity assessment procedures in acc. to article 10 / Procédures de conformité selon l'Article 10

TÜV CERT - Zertifizierungsstelle für Druckgeräte der TÜV NORD Systems GmbH & Co. KG

Große Bahnstrasse 31, D-22525 Hamburg / Germany

Identifikations-Nr. / identification number / N° identification: **0045**

Name und Anschrift der benannten Stelle / name and address of the notified body / Nom et adresse du bureau concerné

Der unterzeichnende Hersteller bescheinigt, dass Konstruktion, Herstellung und Prüfung dieses Druckgerätes den Anforderungen der Druckgeräterichtlinie entspricht.

The signing manufacturer confirms, that the design, manufacturing and inspection of this pressure equipment meet the requirements of the pressure equipment directive.

Le constructeur soussigné confirme, que la conception, fabrication et inspection des équipements sous pression est conforme aux exigences de la directive des équipements sous pression.

Angewandte harmonisierte Normen / applied harmonized standards / Normes standard d'harmonisation

DIN EN ISO 4126-1, DIN EN 13648-1

andere angewandte Normen oder technische Spezifikationen / other applied standards or technical rules / autres règles techniques ou standards appliqués

TRG 254, AD 2000 - Merkblatt A2, VdTÜV SV 100, DIN3320

31.01.2012

Datum / date / date

T. Cordes - Leiter Qualitätsmanagement /  
T. Cordes - Quality control manager /  
T. Cordes - Directeur de l'assurance de la qualité

**HEROSE GMBH**  
ARMATUREN UND METALLE  
Elly-Heuss-Knapp-Straße 12  
23843 Bad Oldesloe

Stempel des Herstellers /  
stamp of the manufacturer /  
Tampon du fabricant

Anmerkung: Etwaige Änderungen an dem oben beschriebenen Erzeugnis lassen die Gültigkeit dieser Erklärung erlöschen.

Remarks: The validation of this declaration expires in the case of any modifications at the above mentioned product.

Remarques: La validité de cette déclaration est nulle, dans le cas d'une quelconque modification de ce qui est mentionné plus haut.

# CERTIFICATE **TÜV NORD**

Management system as per  
**DIN EN ISO 9001 : 2008**

In accordance with TÜV NORD CERT procedures, it is hereby certified that

**HEROSE GMBH  
ARMATUREN UND METALLE  
Elly-Heuss-Knapp-Str. 12  
23843 Bad Oldesloe  
Germany**



with the site **HEROSE Valves Co., Ltd., Building 18, JinGang Industry Park,  
Dalian Economy & Technology Development Park No. 49, Dalian 116600, China**

applies a management system in line with the above standard for the following scope

**Development, Manufacture and Sales of  
Industrial Valves and Pressure Safety Valves**

Certificate Registration No. 78 100 023710  
Audit Report No. 3509 4191

Valid until 2014-08-14  
Initial certification 2002-08-15

*G. Bräutigam*

Certification Body  
at TÜV NORD CERT GmbH

Essen, 2011-12-20

This certification was conducted in accordance with the TÜV NORD CERT auditing and certification procedures and is subject to regular surveillance audits.

TÜV NORD CERT GmbH

Langemarckstrasse 20

45141 Essen

[www.tuev-nord-cert.com](http://www.tuev-nord-cert.com)



TGA-ZM-07-06-00





# Approval-Overview

Approval  
 in preparation

	CE	π	Gost-R (Russia)	Gost-T (Russia)	Gost-UA (Ukraine)	UV-Stamp (ASME VIII)	TSSA (Canada)*	AQSIQ (China)	Lloyds Register	Russian Maritime Register
06401**	Approval									Approval
06405**			Approval	Approval						
06413			Approval	Approval		In preparation	In preparation			
06416			Approval	Approval				Approval		
06417			Approval	Approval				Approval		
06418			Approval	Approval		Approval		Approval		
06419			Approval	Approval				Approval		
06420			Approval	Approval				Approval		
06421			Approval	Approval				Approval		
06425			Approval	Approval				Approval		
06426			Approval	Approval				Approval		
06430			Approval	Approval				Approval		
06435			Approval	Approval				Approval		
06472			Approval	Approval				Approval		
06474			Approval	Approval				Approval		
06477			Approval	Approval				Approval		
06478			Approval	Approval				Approval		
06500	Approval									
06505	Approval		Approval	Approval						
06506	Approval		Approval	Approval			In preparation			
06510**	Approval	Approval	Approval	Approval		Approval				Approval
06511**	Approval	Approval	Approval	Approval						
06512**	Approval	Approval	Approval	Approval						
06513**	Approval	Approval	Approval	Approval						
06601	Approval						Approval			
06602	Approval						Approval			
06603	Approval						Approval			
06604	Approval						Approval			
06605	Approval						Approval			
06800	Approval	Approval	Approval	Approval			Approval			
06801	Approval	Approval	Approval	Approval			Approval			Approval
06805	Approval	Approval	Approval	Approval			Approval			
06806	Approval	Approval	Approval	Approval			Approval			
06850	Approval									
06855	Approval									
50051.0004								Approval		
50051.0011	Approval						Approval			

# Overview ASME Approvals

## Safety Valves



HEROSE Type	Inlet	D <sub>0</sub>	Certificate No.	Media
06216/06217	1/2"	12 mm	91178	Vapours and Gases
06216/06217	3/4"	15 mm	91112	Vapours and Gases
06216/06217	1"	20 mm	91123	Vapours and Gases
06216/06217	1-1/4"	25 mm	91134	Vapours and Gases
06216/06217	1-1/2"	32 mm	91145	Vapours and Gases
06216/06217	2"	40 mm	91156	Vapours and Gases
06310/06311	3/4" up to 1"	9/13/17.5 mm	37112	Vapours and Gases
06310/06311	3/4" up to 1"	9/13/17.5 mm	37101	Fluids
06315/06316	1/2" up to 3/4"	10 mm	37213	Vapours and Gases
06315/06316	1/2" up to 3/4"	10 mm	37189	Fluids
06345/06346/06347	DN25 up to DN150	23 bis 125 mm	37044	Vapours and Gases
06345/06346/06347	DN25 up to DN150	23 bis 125 mm	37055	Fluids
06388/06418	1/2" up to 3/4"	7 mm	91011	Vapours and Gases
06388/06418	1/2" up to 3/4"	10.5 mm	91088	Vapours and Gases
06388/06418	1"	15 mm	91077	Vapours and Gases
06388/06418	1-1/4" up to 1-1/2"	23 mm	91101	Vapours and Gases

### General notes on application, types and identification of safety valves

**Application:** A safety valve is a valve which opens automatically to prevent a predetermined gauge pressure being exceeded and which recloses after decrease in pressure.

**Definitions:** DIN EN ISO 4126-1 und AD 2000 Merkblatt A2 specifies different types and terms for safety valves. Please see below an extract of this standard.

**Standard safety valve:** A standard safety valve is a valve which, following opening, reaches the degree of lift necessary for the mass flow to be discharged within a pressure rise of not more than 10%. No further requirements are made for the opening characteristics.

**Full lift safety valve:** A full lift safety valve is a valve which, after commencement of lift, opens rapidly within a 5% pressure rise up to the full lift as limited by the design. The amount of lift up to the rapid opening (proportional range) shall not be more than 20% of the total lift.

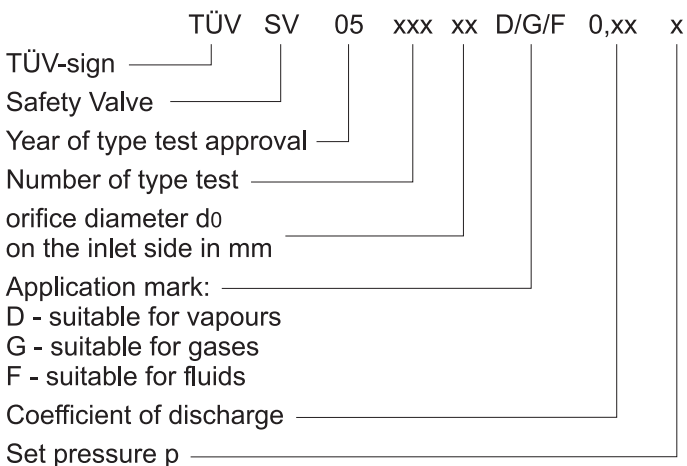
**Set pressure:** The set pressure is the gauge pressure at which under operating conditions direct loaded safety valves commence to lift.

**Test pressure:** The test pressure is the gauge pressure at which under test stand conditions (atmospheric back pressure) direct loaded safety valve commence to lift.

**Opening pressure:** The opening pressure is the gauge pressure at which the lift is sufficient to discharge the predetermined flowing capacity; it is equal to the set pressure plus opening pressure difference.

**Reseating pressure:** The reseating pressure is the gauge pressure at which the direct loaded safety valve is reclosed.

### Identification of type tested safety valves



### Advice for installing of safety valves

Special care is necessary when installing the safety valves in order to ensure the proper functioning of the valve.

#### Please note the following instructions carefully:

1. Safety valves should not be handled roughly during the transport, storage or assembly, e.g. using unsuitable tools.
2. Care should be taken that foreign bodies do not enter the valve. For this reason the plastic caps covering the connection openings should be removed directly before assembly.
3. Spring loaded safety valves are to be connected in such a way that the spring cap is placed standing vertically upwards.
4. The connecting piping must be free from dirt, rust, welding slag and other foreign bodies.
5. In the case of safety valves with female thread the connection pipes or fittings should not be screwed too deeply into the housing. No sealing material is allowed to enter the valve.
6. The blow-off pipes must be set at a descending gradient in order that the collection of the substance flowing through is avoided, and no condensation or sweating accumulation takes places in the body of the valve.
7. The lifting device should only be set in operation when operating pressure is switched on.
8. Adjustments to the test pressure of the valves, subject to governmental regulations, should only be done in our works or under the supervision of the responsible control authorities.

# Safety Valves

## Advice for ordering



### Advice for ordering of safety valves

Ordering safety valves please declare additional to Part No. and dimension the following informations:

- type of the medium
- temperature of medium
- set pressure

All orders are subject to our conditions of Sale 2010.

### Design and materials

All rights are reserved for design changes, e.g. upon entering force of new regulations, and for the use of other, equivalent materials.

Illustrations, weights and measures are without obligation.



All sales contracts, contracts for work and materials and our offers made to our business partners (referred to hereinafter as "Purchaser") are subject to the following provisions. Deviations from these terms and conditions are only binding for us if confirmed by us in writing. General conditions of purchase of the purchaser shall not apply.

## 1. Offer and Conclusion of Contracts

Our offers are not binding with regard to price, quantity, delivery date and possibility to deliver up to the receipt of our written order confirmation. Ancillary agreements are only valid if confirmed by us in writing.

## 2. Scope of Delivery

Our written confirmation is relevant for the contents of the contract. The delivery of a volume of 10 % more or less is allowed for goods not listed and described in our catalogues.

## 3. Delivery and Delivery time

The delivery time starts when all details of the order are clarified but not earlier than the purchaser has fulfilled all its contractual obligations to be performed up to then. The delivery time has been met if the delivery item has been dispatched by expiration thereof or, if delivery should be delayed for reasons to do with the Purchaser, upon notification of readiness for dispatch within the agreed delivery term.

The right to obtain the goods duly and promptly shall be reserved.

Timely instalment deliveries of the agreed quantities shall be permissible and may be invoiced separately.

If discharge of the obligation to deliver is prevented by force majeure, strike or lock-out or the consequences thereof or any other events beyond our control -irrespective of, whether occurred at us or at our sub-suppliers - the delivery terms shall be extended for the duration of the obstruction.

If we or the purchaser cannot reasonably be expected to honour the contract due to the delay in delivery, both parties shall be entitled to withdraw therefrom. In the event of delay or impossibility for which we are responsible, the purchaser shall be entitled to cancel the contract subject to the relevant legal provisions. Proven damage due to culpable delay in delivery will be compensated by 0.5 % for each complete week of delay but to an absolute maximum of 5 % of the value of that part of the whole delivery which cannot be used or taken into operation in time or according to the contract due to the delay.

If the purchaser wishes to delay the dispatch we are entitled to impose to him the costs for the storing of the goods but at least 1 % of the invoice amount for each month, beginning with the month after the receipt of the notification of the readiness for dispatch.

## 4. Prices

Our prices are to be understood ex warehouse Bad Oldesloe excluding value added tax. The prices at the day of delivery shall apply. Packing, loading charges customs duty etc. are for purchaser's account.

## 5. Forwarding

Forwarding and transportation of the goods occur on purchaser's account and risk.

## 6. Passing of risk

The risk shall pass to the purchaser when the goods leave our warehouse. If the delivery time has been overrun, caused by the purchaser then the risk passes to the purchaser when it is notified that the goods are ready for dispatch.

## 7. Terms of payment

Unless agreed otherwise, payment is to be effected within 10 days from invoice date with 2 % discount from the net price of the goods or net cash within 30 days from invoice date. Agreed discounts may not be deducted if prior bills payable have not yet been settled in full by the purchaser.

For times of delay in payment or for times of respite of due claims, the legal interest rate has to be paid, irrespective of the compensation of possible further damages. If it should transpire after the conclusion of the contract that our claims are endangered because of lack in the financial ability of the purchaser all its debts shall fall due immediately. We shall then be entitled to effect outstanding deliveries only against the provision of security or cash in advance. Claims for any further default damages shall not be affected hereby.

Only counterclaims recognized by non-appealable declaratory judgment or undisputed may be set off. Furthermore, the Purchaser may only exercise a right of retention if its counterclaim arises under the same contract.

## 8. Reservation of title

Goods delivered shall remain our property until all claims and debts arising from the business relationship including interests and ancillary costs have been settled and any cheques and bills of exchange have been cashed. Under current account, the reserved property shall be deemed security for our balance claim.

If our goods are compounded or confused with all goods that do not belong to us, we shall be entitled to ownership of the new property or confused stock in the proportion of the invoiced value of the reserved goods to the value of the other compounded or confused goods. If the purchaser acquires sole ownership of the new property, he herewith undertakes to transfer to us co-ownership of the new property in the proportion of our invoiced value of our reserved goods to the value of the other compounded or confused items at the time of compounding or confusion and shall hold the same in safe custody for us according to the principles of sound stewardship.

Resale of goods supplied, regardless of whether compounded or confused, shall be permitted only to retailers in the ordinary course of business and only if the account receivable from resale passes to us before we are paid for the goods concerned. The purchaser shall be forbidden to pledge or mortgage the reserved goods or agree to any prohibition of assignment. If the purchaser intends to assign accounts receivable from resale by way of factoring, he must notify us in advance. Assignment by way of factoring shall be permitted only with our express consent in writing. If third parties seize goods being subject to this reservation of title the purchaser shall be obliged to inform us immediately.

The purchaser herewith assigns to us in advance and with all accessory rights all his present and future accounts receivable from resale, or claims founded on any other legal basis, in respect of the goods supplied by us. In the event of resale of our goods after compounding or confusion, or resale of the new property created by confusion, the account receivable from the purchaser's customer shall be assigned to us in the amount of the value of the reserved goods. The value of the reserved goods shall be our amount invoiced plus a 10 % safeguarding fee, which, however, shall not be charged if in conflict with third-party rights. If we are joint owners of the goods sold, the assignment of accounts receivable shall only cover the amount corresponding to our share of co-ownership.

Should the value of the securities given to us exceed our claims by more than 10 %, we undertake, at the request of the purchaser, to relinquish securities of our choice. Upon settlement of all our outstanding debts and claims arising from the business relationship, ownership of the retained goods as well as title to the assigned claims shall pass to the purchaser.

The purchaser shall be entitled to collect the accounts receivable. The right to resale, process the goods and to collect payment shall cease upon our withdrawal of this right, above all in the event the purchaser does not orderly fulfill its payment commitments to us.

## 9. Delay/Default:

We shall be entitled to resell the purchased goods and take action for damages due to non-performance, after having fixed a reasonable deadline, if the purchaser delays in taking delivery of purchased goods and/or payment

## 10. Guarantee

The purchaser must inspect the goods immediately upon receipt and notify in writing any patent or apparent defects or wrong shipments without undue delay, but within 10 days after receipt at the latest.

Additional or minor weights of the goods -under production conditions inevitable- do not entitle the purchaser to objections.

If defects become apparent later which were not recognizable upon the first check then they are to be notified in writing without undue delay. In case defects proven by it, the purchaser has the following rights: All products suffering from defects at the time of delivery shall be remedied by us or replaced at our choice without charge. Replaced parts become our property. The purchaser has to grant us reasonable time and opportunity to remedy or to replace defective goods. If through our fault we fail to meet a reasonable extended deadline set for replacement or rework, if we finally refuse replacement or rework, if replacement or rework should prove finally abortive or if replacement or rework is impossible or unacceptable for the purchaser, the purchaser shall be entitled to rescind the contract or reduce the purchase price. If the defect is only insignificant and the Purchaser can utilize/dispose of the goods without suffering any disadvantages, the Purchaser shall only have the right to claim a reduction in price. The limitation period for claims out of guarantee according to § 437 German Code Civil (BGB) is 12 months after delivery. No warranty is given for second-hand products. The limitation period in the case of delivery recourse under Section 478 and 479 of the German Civil code (BGB) shall not be affected by the two foregoing sentences. Nor shall the foregoing provisions limit claims for damages due to death, physical injury or damage to health caused by defects or liability under the Product Liability Act nor any other claim for damages under warranty in the case of gross negligence, intent or a breach of fundamental contractual obligations (these being defined in clause 14)

## 11. Return of goods

The return of goods is only permitted upon our prior express consent unless we are obliged by law to accept the return. The goods have to be returned freight paid. We reserve the right to invoice 20 % of the net price of the goods returned for compensation of the costs caused by the return of the goods.

## 12. Catalogue

All drawings in our catalogues and prospectus are not binding for the performance of the order. We reserve the right to amend the construction of the goods as far as this is opportune under technical points of view and as far as it does not reduce the suitability of the product. Deviations from given measurements and weights are permitted if the contract purpose and the quality are not endangered.

## 13. Copyright

All catalogues, drawings, samples and other documents remain our property and are under our copyright. Those items shall not be disclosed to third parties and shall immediately be returned at our request. If drawings or samples sent to us for the performance of the order violate patent rights or other industrial property rights of third parties the purchaser is responsible and liable for all damages including loss of profit occurring thereof and shall keep us harmless from against all claims of third parties.

## 14. General liability

Notwithstanding the provisions under section 3. second last paragraph above, any claims for damage and loss against us, particularly for damages not inflicted on the delivery item itself, e.g. due to non performance because of default or impossibility or other breach of contractual obligations, miscounselling, culpa en contrahendo, tort, or for other reasons whatsoever, including loss of profit or standstill of the production shall be excluded. The liability only applies in case of gross negligence of our general management or our vicarious agents were such agents are managerial staff, in case of wilful misconduct, by violation of health or other personal injury, in case of defects which we have maliciously concealed, or in case of defects of the goods, as far as the product liability law for damage to property privately used and for personal injury applies, or in case of warranted quality.

In case of culpable violation of material contractual obligations, we are liable also for gross negligence with regard to vicarious agents who are not managerial staff and in case of normal negligence of our general management and our vicarious agents were such agents are managerial staff, in the latter case the liability shall be limited to compensation for the typical speculative damage.

Fundamental contractual obligations are obligations which must be fulfilled if the contract is to make any sense at all and where the other contracting Party relies on and has a right to rely on such obligations being performed.

## 15. Place of performance, jurisdiction, applicable law

The place of performance for all claims under this contract shall be our principal place of business.

Place of jurisdiction for disputes with business men or persons, which do not have a place of general jurisdiction in Germany, even for actions on a bill of exchange or cheque, shall be our principal place of business. We may also sue the purchaser at the court having jurisdiction over his residence, if we so choose. German law shall apply. The provisions of the UN Sales Convention (CISG) shall be excluded. The Incoterms 2000 shall apply as most recently amended.

**CRYOGENIC**



**Globe valves, control valves, check valves and fillsystems for Cryogenic Service**

Media: liquefied gases such as oxygen, nitrogen, argon, krypton and LNG  
 Sizes: DN10 (3/8") to DN50 (2") (gunmetal/brass)  
 DN10 (3/8") to DN150 (6") (stainless steel)  
 Temperature: -255°C (-427°F) to +120°C (+280°F)  
 Pressure: up to 50 bar (725 psi)



**Safety valves for Cryogenic Service**

Media: liquefied gases such as oxygen, nitrogen, argon, carbon dioxide and LNG  
 Sizes: DN6 (1/4") to DN40 (1,1/2")  
 Temperature: -270°C (-454°F) to +225°C (+437°F)  
 Pressure: 0.2 bar (3 psi) to 55 bar (797.71 psi)

**INDUSTRY**



**Safety valves for gases, vapours and fluids**

Media: Gases, vapours, fluids, liquefied gases, refrigerants and dusty media  
 Sizes: DN6 (1/4") to DN50 (2")  
 Temperature: -270°C (-454°F) to +260°C (+500°F)  
 Pressure: 0.2 bar (3 psi) to 55 bar (797.71 psi)



**DIN EN valves made of gunmetal/brass**

Media: non-flammable and non-toxic fluids, gases and vapours  
 Sizes: DN6 (1/4") to DN150 (6")  
 Temperature: -10°C (+14°F) to +200°C (+392°F)  
 Pressure: up to 16 bar (232 psi)

**ENERGY**



**Drain valves, three-way valves and gate valves for oil-cooled transformers**

Media: Transformer oil  
 Sizes: DN15 (1/2") to DN250 (10")  
 Temperature: -50°C (-58°F) to +120°C (+248°F)  
 Pressure: up to 16 bar (232 psi)





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