

# Safety Valves

## Type 06001 - gastight



**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, gastight  
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:

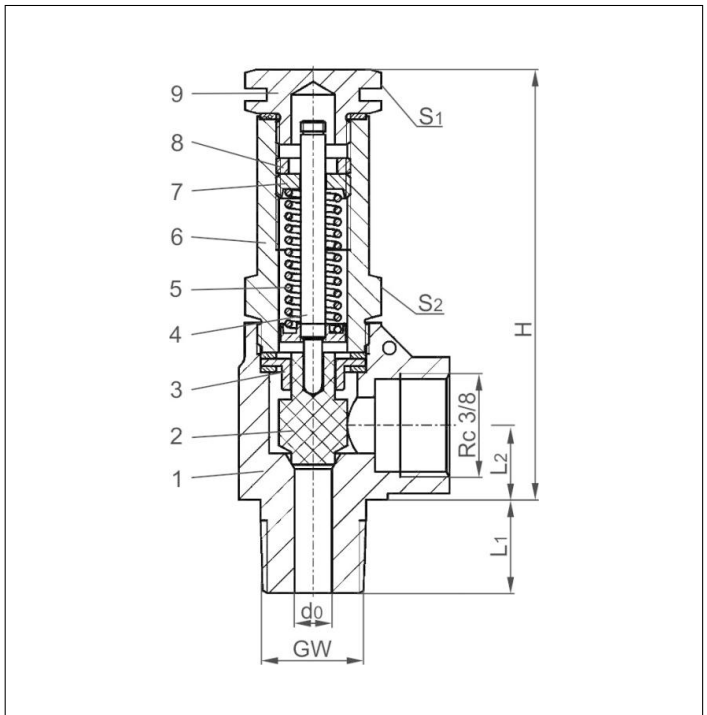
- with installed elbow at the outlet



**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), suitable for horizontal installation

Materials	DIN EN	ASME/ASTM
1 Body	CW610N	B 111 UNS C36500
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 313 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/EC (PED).



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.

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# Safety Valves

## Type 06002, Type 06006



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

Standard safety valve, with carbon filled PTFE valve seal

Outlet: female thread Rc 3/8 acc. to ISO 7/1, "cleaned and degreased for oxygen service"

**Type 06002:** Closed bonnet drainage hole in the locking screw

**Type 06006:** drainage hole in bonnet

**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.

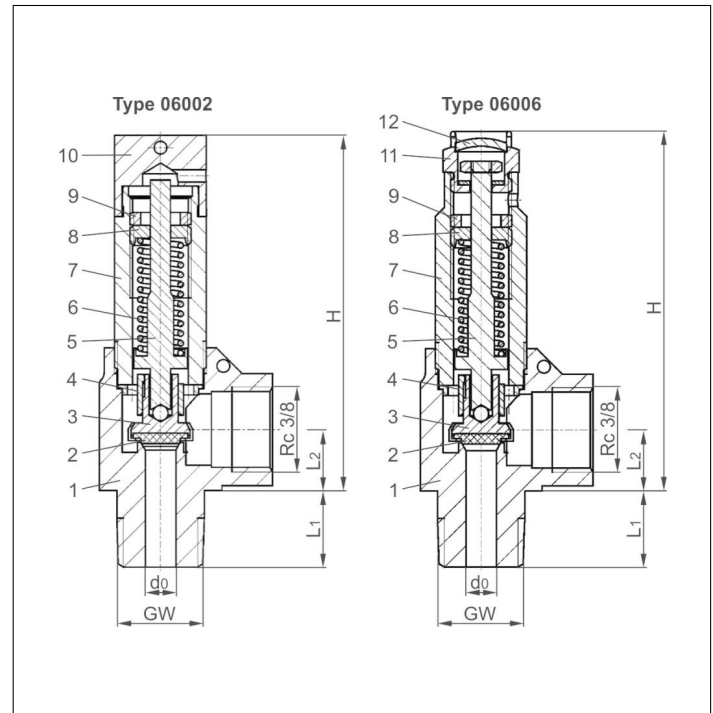
Approved for air gases, vapours and cryogenic liquefied gases incl. LNG.

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

Materials	DIN EN	ASME/ASTM
1 Body	CW617N	EN12165 CW617N Code Case 1750
2 Valve seal	PTFE / Carbon filled (25%)	
3 Disc	CW452K	B 103 UNS C51900
4 Guide plate	CC493K	SB 505 C93200
5 Stem	CW614N	EN12164 CW614N Code Case 1750
6 Spring	1.4571	A 313 Grade 316Ti
7 Bonnet	CW614N	EN12164 CW614N Code Case 1750
8 Spring clamp	CW614N	EN12164 CW614N Code Case 1750
9 Thread ring	CW614N	EN12164 CW614N Code Case 1750
10 Cap	CW614N	EN12164 CW614N Code Case 1750
11 Lifting device	CW614N	EN12164 CW614N Code Case 1750
12 Closing cap	CW507L	B 30 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/EC (PED).



Technical data	Type 06002				Type 06006			
	GW	1/4	3/8	1/2	1/4	3/8	1/2	
Nominal size								
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.

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# Safety Valves

## Type 06002, Type 06006



### Discharge capacities

Calculation of flow rate 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.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (g)	GW	1/4, 3/8 & 1/2
	$d_0$ (mm)	6.0
	$A_0$ (mm <sup>2</sup> )	28.3
	Medium	<b>Air</b>
1.0		15.5
2.0		26.0
3.0		35.0
4.0		43.9
5.0		52.9
6.0		61.8
7.0		70.8
8.0		80.0
9.0		88.9
10.0		98.1
12.0		116.1
14.0		134.0
16.0		152.0
18.0		169.9
20.0		189.7
22.0		207.8
24.0		226.0
26.0		244.1
28.0		262.2
30.0		283.0
32.0		301.3
34.0		319.6
36.0		337.9
38.0		356.2
40.0		377.8
42.0		396.2
44.0		414.7
46.0		433.2
48.0		451.6
50.0		474.1
52.0		492.7
54.0		511.3
55.0		520.6

# Safety Valves

## Type 06002 - gastight



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

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

**Part No. 06002.X.0020**

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

**Part No. 06002.X.2020**

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

**Part No. 06002.X.5020**

Inlet: male thread NPT acc. to ANSI B 1.20.1

Available options - on request only:

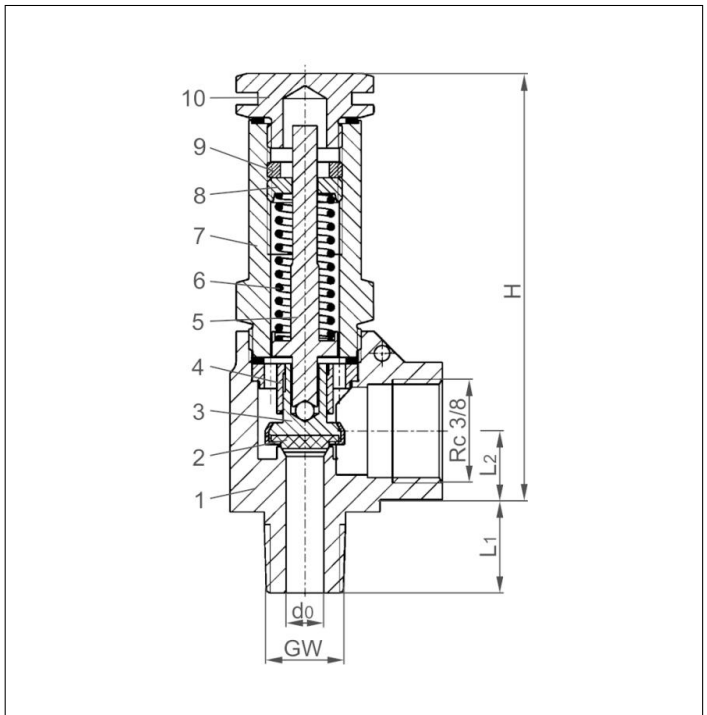
- with installed elbow at the outlet



**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), suitable for horizontal installation

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3 Disc	CW452K	B 103 UNS C51900
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5 Stem	CW614N	EN12164 CW614N Code Case 1750
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7 Bonnet	CW614N	EN12164 CW614N Code Case 1750
8 Spring clamp	CW614N	EN12164 CW614N Code Case 1750
9 Thread ring	CW614N	EN12164 CW614N Code Case 1750
10 Cap	CW614N	EN12164 CW614N Code Case 1750



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Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).



Type 06002	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	1.0-55.0	1.0-55.0	1.0-55.0
Height	H	70	70	70
Length	L <sub>1</sub>	13	15	17
Length	L <sub>2</sub>	13	13	13
Weight	ca. kg	0.18	0.20	0.22
Coefficient of discharge	α <sub>w</sub>	0.34	0.34	0.34

Dimensions in mm.

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# Safety Valves

## Type 06002 - gastight



### Discharge capacities

Calculation of flow rate 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.**

$d_0$  - orifice

$A_0$  - flow area

Set pressure in bar (g)	GW	1/4, 3/8 & 1/2
	$d_0$ (mm)	6.0
	$A_0$ (mm <sup>2</sup> )	28.3
	Medium	<b>Air</b>
1.0		12.0
2.0		20.0
3.0		28.0
4.0		35.0
5.0		42.0
6.0		50.0
7.0		57.0
8.0		64.0
9.0		71.0
10.0		79.0
12.0		93.0
14.0		108.0
16.0		123.0
18.0		137.0
20.0		153.0
22.0		168.0
24.0		182.0
26.0		197.0
28.0		212.0
30.0		229.0
32.0		243.0
34.0		258.0
36.0		273.0
38.0		288.0
40.0		305.0
42.0		320.0
44.0		335.0
46.0		350.0
48.0		365.0
50.0		383.0
52.0		398.0
54.0		413.0
55.0		421.0

# Safety Valves

## Type 06001 - gastight



### Discharge capacities

Calculation of flow rate 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 (g)	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	303	
6.0	13.3	332	
7.0	15.2	359	
8.0	17.1	384	
9.0	19.1	407	
10.0	21.0	429	
12.0	24.9	470	
14.0	28.7	508	
16.0	32.6	543	
18.0	36.4	576	
20.0	40.7	607	
22.0	44.5	637	
24.0	48.4	665	
26.0	52.3	692	
28.0	56.2	719	
30.0	60.6	744	
32.0	64.6	768	
34.0	68.5	792	
36.0	72.4	815	
38.0	76.3	837	
40.0	80.9	859	
42.0	84.9	880	
44.0	88.9	901	
46.0	92.8	921	
48.0	96.8	941	
50.0	101.6	960	
52.0	105.6	979	
54.0	109.6	998	
55.0	111.6	1007	