

Safety Valves

Type 06850, Type 06855



Safety Valves, angle type, stainless steel, type tested, TÜV-SV.1130. S/G/L

Full lift / standard safety valve (D₀ 10 standard, D₀ 14 and D₀ 18 full lift)

metal to metal seated, "cleaned and degreased for oxygen service"

closed bonnet, gastight cap or 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. 06850.X.000000M (P_{max} 20.0 bar)

Part No. 06850.X.000000H (P_{max} 250.0 bar) stellited version

with gastight cap

Part No. 06855.X.000000M (P_{max} 20.0 bar)

Part No. 06855.X.000000H (P_{max} 250.0 bar) stellited version

with lifting device

Available options - on request only:

· Flange-, NPT- or Tri-Clamp connection for in- and outlet

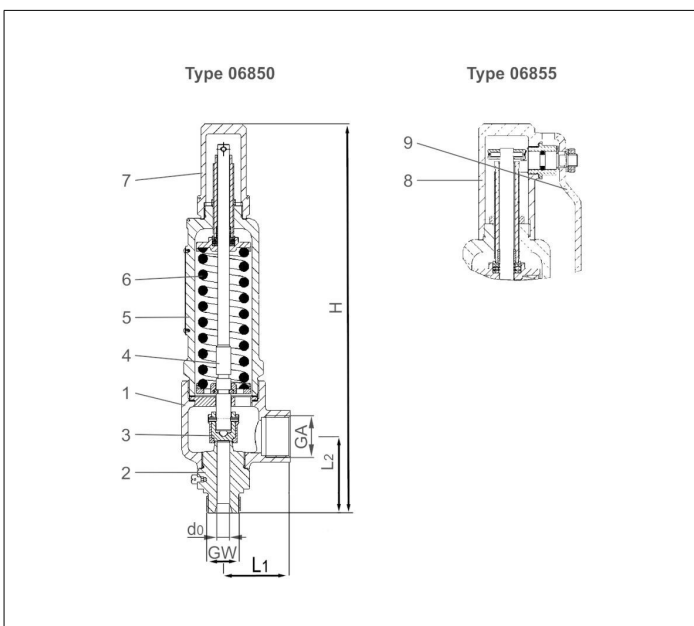


Applications:

Provided as safety device for protection against excessive pressure in gas cylinders and pressure vessels. Approved for gases, vapours and liquids. Working temperature: -270°C / -454°F (3K) up to +400°C / +752°F (673K)

Pressure-temperature must be observed, suitable for horizontal installation from 20 bar

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4408	A 351 CF8M
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	1.4408	A 351 CF8M
6 Spring	1.4571	A 313 Grade 316Ti
7 Cap	1.4408	A 351 CF8M
8 Lifting cap	1.4408	A 351 CF8M
9 Lever	1.4301	A 276 Grade 304



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



Type 06850, 06855	Technical data												
Orifice	[mm]	10			14								
Inlet	GW	1/2	3/4	1	1/2	1/2	1/2	3/4	3/4	3/4	1	1	1
Outlet	GW	1	1	1	1	1-1/4	1-1/2	1	1-1/4	1-1/2	1	1-1/4	1-1/2
Dimension code	.X.	1024	1034	1044	1424	1425	1426	1434	1435	1436	1444	1445	1446
Height	H1	305.0	307.0	309.0	308.5	308.5	308.5	310.5	310.5	310.5	312.5	312.5	312.5
Length	L1	53.0	53.0	53.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
Length	L2	44.5	44.5	44.5	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2	48.2
Weight 06850	ca. kg	3.2	3.2	3.2	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Weight 06855	ca. kg	3.4	3.4	3.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
coefficient of discharge	$\alpha_w D, G / F$	0.84 / 0.68	0.84 / 0.68	0.84 / 0.68	0.70 / *	0.70 / *	0.70 / *	0.70 / *	0.70 / *	0.70 / *	0.70 / *	0.70 / *	0.70 / *
Min. set pressure	bar-g	0.5	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Max. set pressure	bar-g	250.0	250.0	250.0	50.0	50.0	50.0	200.0	200.0	200.0	200.0	200.0	200.0
Min. temperature	°C	-270	-270	-270	-270	-270	-270	-270	-270	-270	-270	-270	-270
Max. temperature	°C	+400	+400	+400	+400	+400	+400	+400	+400	+400	+400	+400	+400

Dimensions in mm. * 0.20-11.50 bar=0.50 / 11.51-74.99 bar=0.49 / 75.00-200.00 bar=0.46

Safety Valves

Type 06850, Type 06855

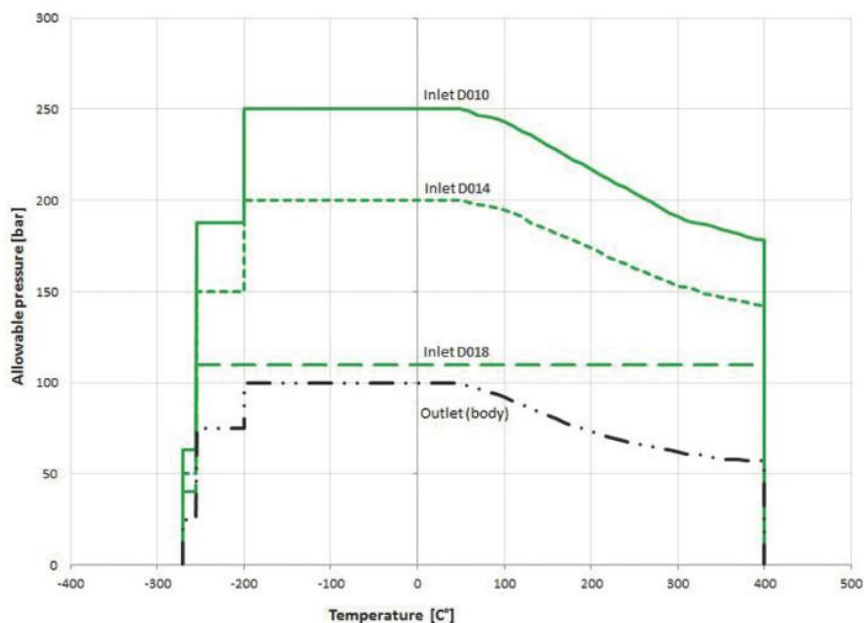


Type 06850, 06855		Technical data					
Orifice	[mm]	18					
Inlet	GW	1	1	1-1/4	1-1/4	1-1/2	1-1/2
Outlet	GW	1-1/2	2	1-1/2	2	1-1/2	2
Dimension code	.X.	1846	1847	1856	1857	1866	1867
Height	H1	306.0	306.0	306.0	306.0	306.0	306.0
Length	L1	60.0	63.0	60.0	63.0	60.0	63.0
Length	L2	49.0	53.0	49.0	53.0	49.0	53.0
Weight 06850	ca. kg	3.9	4.1	3.9	4.1	4.0	4.2
Weight 06855	ca. kg	4.1	4.3	4.1	4.3	4.2	4.4
coefficient of discharge	$\alpha_w D, G / F$	0.76 / 0.50	0.76 / 0.50	0.76 / 0.50	0.76 / 0.50	0.76 / 0.50	0.76 / 0.50
Min. set pressure	bar-g	0.5	0.5	0.5	0.5	0.5	0.5
Max. set pressure	bar-g	110.0	110.0	110.0	110.0	110.0	110.0
Min. temperature	°C	-270	-270	-270	-270	-270	-270
Max. temperature	°C	+400	+400	+400	+400	+400	+400

Abmessungen in mm.

Pressure-Temperature Rating

Maximum allowable set pressure safety valve Type 0685X



Safety Valves

Type 06850, Type 06855



Discharge capacities

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

Medium:

A = Saturated steam in kg/h

B = Air in m³/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.

d₀ - orifice

A₀ - flow area

Set pressure in bar (g)	GW	1/2, 3/4 & 1			1/2, 3/4 & 1			1, 1-1/4 & 1-1/2		
	d ₀ (mm)	10.0			14.0			18.0		
	A ₀ (mm ²)	78.5			153.9			254.0		
	Medium	A	B	C	A	B	C	A	B	C
0.2		-	-	-	53	56	2146	-	-	-
0.5		46	56	2075	80	96	3035	127	152	5017
1.0		69	88	2851	112	142	4110	186	236	6794
2.0		112	142	4033	179	228	5812	309	393	9608
3.0		151	194	4939	239	306	7118	428	549	11767
4.0		189	243	5703	297	383	8220	534	688	13588
5.0		226	293	6377	356	461	9190	639	828	15192
6.0		264	343	6985	414	539	10067	743	967	16642
7.0		300	393	7545	471	616	10874	846	1106	17975
8.0		337	444	8066	529	696	11625	949	1249	19216
9.0		374	494	8555	586	773	12330	1052	1388	20382
10.0		411	544	9018	643	853	12997	1154	1530	21485
15.0		592	794	11045	926	1242	15599	1663	2229	26313
20.0		774	1053	12754	1209	1646	18013	2170	2955	30384
30.0		1139	1572	15620	1779	2454	22061	3193	4405	37213
40.0		1509	2098	18036	2356	3275	25474	4228	5878	42970
50.0		1882	2633	20165	2937	4109	28481	5271	7375	48042
60.0		2256	3175	22090	3519	4953	31199	6317	8891	52627
70.0		2630	3723	23860	4103	5808	33699	7365	10424	56844
80.0		3008	4276	25508	4693	6671	33820	8423	11973	60769
90.0		3393	4835	27055	5293	7542	35872	9501	13536	64455
100.0		3790	5396	28518	5912	8417	37812	10611	15107	67942
110.0		4202	5931	29910	6554	9251	39658	11763	16603	71258
120.0		4629	6512	31240	7220	10157	41421	-	-	-
140.0		5519	7642	33744	8608	11918	44740	-	-	-
160.0		6447	8758	36073	-	13658	47829	-	-	-
180.0		7575	9846	38262	-	15356	50731	-	-	-
200.0		-	10898	40331	-	16995	53475	-	-	-
220.0		-	11930	42300	-	-	-	-	-	-
240.0		-	12982	44181	-	-	-	-	-	-
250.0		-	13521	45092	-	-	-	-	-	-

Safety Valves

Type 06850, Type 06855



Safety Valves, angle type, stainless steel, type tested, TÜV-SV.1130. S/G/L

standard safety valve

with soft valve seal, "cleaned and degreased"

closed bonnet, gastight cap or 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. 06850.X.000001L (Pmax 150.0 bar)

with gastight cap

Part No. 06855.X.000001L (Pmax 150.0 bar)

with lifting device

Available options - on request only:

· Flange-, NPT- or Tri-Clamp connection for in- and outlet

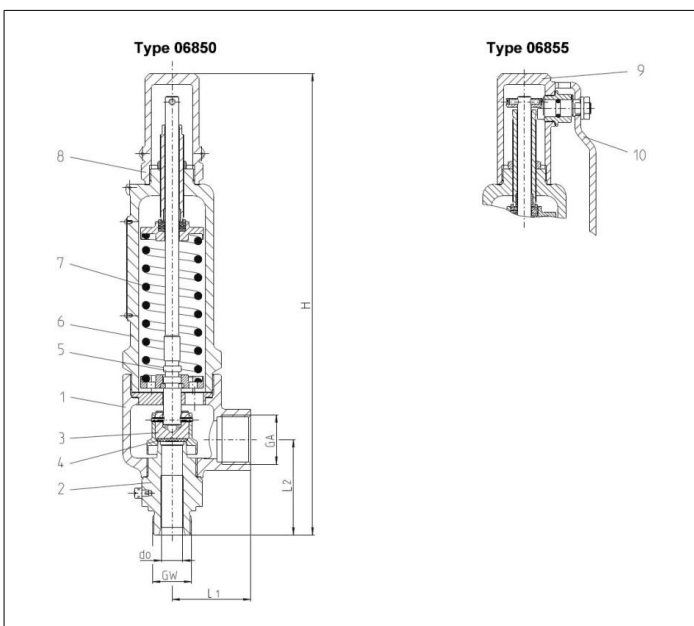


Applications:

Provided as safety device for protection against excessive pressure in gas cylinders and pressure vessels. Approved for gases, vapours and liquids. Working temperature: -270°C / -454°F (3K) up to +300°C / +572°F (573K)

Pressure-temperature must be observed, suitable for horizontal installation from 20 bar

Materials	DIN EN	ASME/ASTM
1 Outlet body	1.4408	A 351 CF8M
2 Inlet body	1.4571	A 276 Grade 316Ti
3 Disc	1.4571	A 276 Grade 316Ti
4 Seal	VESPEL	
5 Stem	1.4404	A 276 Grade 316L
6 Bonnet	1.4408	A 351 CF8M
7 Spring	1.4571	A 313 Grade 316Ti
8 Cap	1.4408	A 351 CF8M
9 Lifting cap	1.4408	A 351 CF8M
10 Lever	1.4301	A 276 Grade 304



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



Typ 06850, 06855	Technical data												
Orifice	[mm]	10			14								
Inlet	GW	1/2	3/4	1	1/2	1/2	1/2	3/4	3/4	3/4	1	1	1
Outlet	GW	1	1	1	1	1-1/4	1-1/2	1	1-1/4	1-1/2	1	1-1/4	1-1/2
Dimension code	.X.	1024	1034	1044	1424	1425	1426	1434	1435	1436	1444	1445	1446
Height	H1	305.0	307.0	309.0	308.5	308.5	308.5	310.5	310.5	310.5	312.5	312.5	312.5
Length	L1	53.0	53.0	53.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0	55.0
Length	L2	58.5	60.5	62.5	62.2	62.2	62.2	64.2	64.2	64.2	66.2	66.2	66.2
Weight 06850	ca. kg	3.2	3.2	3.2	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4	3.4
Weight 06855	ca. kg	3.4	3.4	3.4	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6	3.6
Coefficient of discharge	$\alpha_{wD,G} / F$	0.84 / 0.68	0.84 / 0.68	0.84 / 0.68	0.70 / *	0.70 / *	0.70 / *	0.70 / *	0.70 / *	0.70 / *	0.70 / *	0.70 / *	0.70 / *
Min. set pressure	bar-g	0.5	0.5	0.5	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2	0.2
Max. set pressure	bar-g	150.0	150.0	150.0	50.0	50.0	50.0	120.0	120.0	120.0	120.0	120.0	120.0
Min. temperature	°C	-270	-270	-270	-270	-270	-270	-270	-270	-270	-270	-270	-270
Max. temperature	°C	+300	+300	+300	+300	+300	+300	+300	+300	+300	+300	+300	+300

Dimensions in mm. * 0.20-11.50 bar=0.50 / 11.51-74.99 bar=0.49 / 75.00-120.00 bar=0.46

Safety Valves

Type 06850, Type 06855

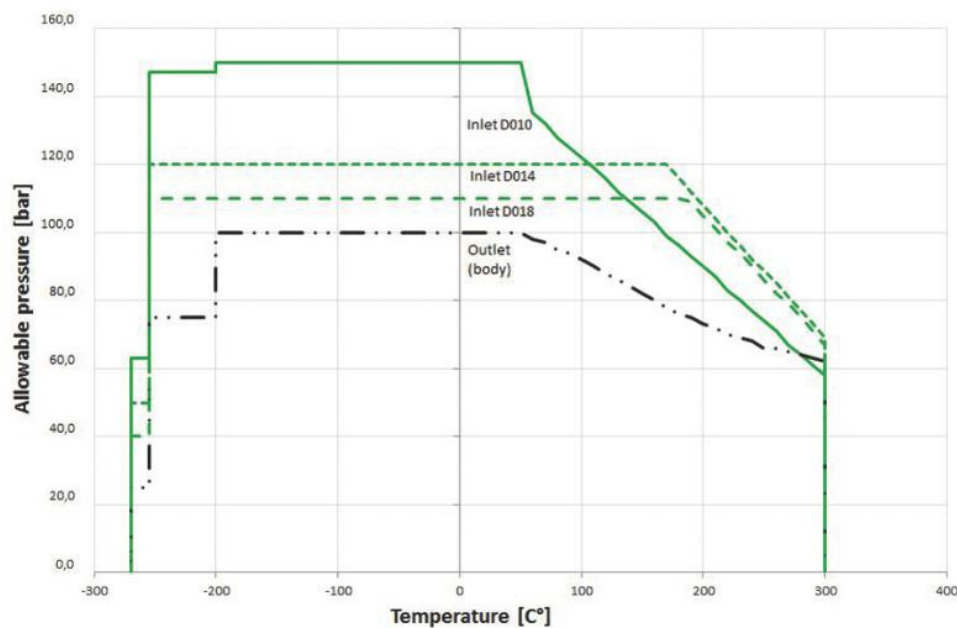


Type 06850, 06855		Technical data					
Orifice	[mm]	18					
Inlet	GW	1	1	1-1/4	1-1/4	1-1/2	1-1/2
Outlet	GW	1-1/2	2	1-1/2	2	1-1/2	2
Dimension code	.X.	1846	1847	1856	1857	1866	1867
Height	H1	306.0	306.0	306.0	306.0	306.0	306.0
Length	L1	60.0	63.0	60.0	63.0	60.0	63.0
Length	L2	49.0	53.0	49.0	53.0	49.0	53.0
Weight 06850	ca. kg	3.9	4.1	3.9	4.1	4.0	4.2
Weight 06855	ca. kg	4.1	4.3	4.1	4.3	4.2	4.4
Coefficient of discharge	$\alpha_w D, G / F$	0.76 / 0.50	0.76 / 0.50	0.76 / 0.50	0.76 / 0.50	0.76 / 0.50	0.76 / 0.50
Min. set pressure	bar-g	0.5	0.5	0.5	0.5	0.5	0.5
Max. set pressure	bar-g	110.0	110.0	110.0	110.0	110.0	110.0
Min. temperature	°C	-270	-270	-270	-270	-270	-270
Max. temperature	°C	+300	+300	+300	+300	+300	+300

Abmessungen in mm.

Pressure-Temperature Rating

Maximum allowable set pressure safety valve Type 0685X



Safety Valves

Type 06850, Type 06855



Discharge capacities

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

Medium:

A = Saturated steam in kg/h

B = Air in m³/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.

d₀ - orifice

A₀ - flow area

Set pressure in bar (g)	GW	1/2, 3/4 & 1			1/2, 3/4 & 1			1, 1-1/4 & 1-1/2		
	d ₀ (mm)	10.0			14.0			18.0		
	A ₀ (mm ²)	78.5			153.94			254.0		
	Medium	A	B	C	A	B	C	A	B	C
0.2	-	-	-	-	-	56	2146	-	-	-
0.5	-	56	2075	-	96	3035	-	152	5017	-
1.0	-	88	2851	-	146	4110	-	241	6794	-
2.0	-	142	4033	-	235	5812	-	406	9608	-
3.0	-	194	4939	-	317	7118	-	569	11767	-
4.0	-	243	5703	-	398	8220	-	714	13588	-
5.0	-	293	6377	-	480	9190	-	861	15192	-
6.0	-	343	6985	-	561	10067	-	1007	16642	-
7.0	-	393	7545	-	642	10874	-	1152	17975	-
8.0	-	444	8066	-	725	11625	-	1302	19216	-
9.0	-	494	8555	-	806	12330	-	1448	20382	-
10.0	-	544	9018	-	890	12997	-	1597	21485	-
15.0	-	794	11045	-	1297	15590	-	2328	26298	-
20.0	-	1053	12754	-	1721	18013	-	3089	30384	-
30.0	-	1572	15620	-	2568	22061	-	4609	37213	-
40.0	-	2098	18036	-	3427	25747	-	6152	42970	-
45.0	-	2355	19131	-	3846	27019	-	6903	45577	-
50.0	-	2633	20165	-	4301	28481	-	7720	-	-
60.0	-	3175	22090	-	5186	-	-	9307	-	-
65.0	-	3435	22992	-	5611	-	-	10071	-	-
70.0	-	3723	-	-	6081	-	-	10913	-	-
80.0	-	4276	-	-	6985	-	-	12536	-	-
90.0	-	4835	-	-	7897	-	-	14174	-	-
100.0	-	5396	-	-	8814	-	-	15819	-	-
110.0	-	5931	-	-	9687	-	-	17387	-	-
120.0	-	6512	-	-	10637	-	-	-	-	-
140.0	-	7642	-	-	-	-	-	-	-	-
150.0	-	8184	-	-	-	-	-	-	-	-

*not suitable for water steam!