

# Pressure Control Valves

## Safety Valves SV 6, 60

Full Lift Safety Valve



### Technical Data

Connection DN	25/40 - 150/250
Nominal Pressure PN	16 - 40
Set Pressure	0.5 - 40 bar
Temperature	200 °C
Medium	liquids, gases, steam

### Description

Safety valves are the ultimate protection device for tanks and pipelines. They prevent pressure limits being exceeded once all automatic control and monitoring equipment has failed.

SV 6 and SV 60 are spring-loaded full-stroke safety valves with tested components provided with flanged connection. SV 6 features a closed spring cap, SV 60 is provided with an open spring cap for better cooling of the spring.

Full lift safety valves open instantly up to maximum lift within a pressure rise of 5 %. Because of their instant opening they are used where suddenly larger flow volumes or fast pressure rises may occur. They are mainly used for relieving pressure in vapours and gases.

Pressure rise:  
above 1 bar set pressure:.....5 % up to the max. valve lift;  
below 1 bar set pressure: .....0.1 bar.

### Options

» special version up to 300 °C

Operating instructions, know how and safety instructions must be observed. All the pressure has always been indicated as overpressure. We reserve the right to alter technical specifications without notice.



**Flow Rate see Sheet no. SV 6/2.1.121.2**

### Available Versions

H2	without lifting device, gastight cap
H3	with lifting device, not gastight
H4	with lifting device, gastight cap

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### Materials up to DN 150

1 Body	GG-25 / GS-C 25 / 1.4408	
5 Seat	1.4404	
7 Cone	1.4122 / 1.4404	
8 Guide	0.7040 / 1.0501 / 1.4104 / 1.4404	
9 Bonnet	0.7040 (0.7043 / 1.0619) / 1.4408 / 1.4571	
12 Spindle	1.4021 / 1.4404	
16 Spring Plate	1.0718 / 1.4404	
18 Adjusting Screw	1.4404 / 1.4104 with PTFE-bush	
54 Spring	up to 200 °C	1.1200 / 1.7102 / 1.8159 / 1.4310
	from 200 °C	1.7102 / 1.8159 / 1.4310

### Materials from DN 200

1 Body	GGG-40.3 / C22.8 / H11 / St 35.8 / 1.4571	
5 Seat	1.4404	DN 200 - 250: 1.0305 / 1.4571
		DN 300 - 400: 1.0460 / 1.4571
7 Cone	1.4122 / 1.4571	
8 Guide	1.0038 / 1.4571	
9 Bonnet	0.0743 / 1.4571	
12 Spindle	1.4021 / 1.4404	
16 Spring Plate	1.0570 / 1.4571	
18 Adjusting Screw	1.4404 with PTFE-bush	
54 Spring	up to 200 °C	1.7102 / 1.8159 / 1.4310
	from 200 °C	1.7102 / 1.8159 / 1.4310

### Dimensions [mm]

DN inlet	20	25	32	40	50	65	80	100	125	150	200	250	300
DN outlet	40	40	50	65	80	100	125	150	200	250	300	350	400
do	18	23	29	37	46	60	74	92	98	125	165	200	235
A <sub>1</sub>	95	100	110	115	120	140	160	180	200	225	300	325	394
B <sub>1</sub>	85	105	115	140	150	170	195	220	250	285	305	340	330
C (H2)*	217	232	315	356	403	481	558	615	615	735	1105	1115	1240
C (H3)*	218	233	325	366	413	526	603	660	660	735	1105	1115	1240
C (H4)*	219	234	331	372	419	529	606	663	663	735	1105	1115	1240
E	150	150	200	250	300	350	400	450	450	450	700	700	850

\*H2 = without lifting device, gastight cap

\*H3 = with lifting device, not gastight

\*H4 = with lifting device, gastight cap

Dimensions for stainless steel design on request.

### Weights [kg]

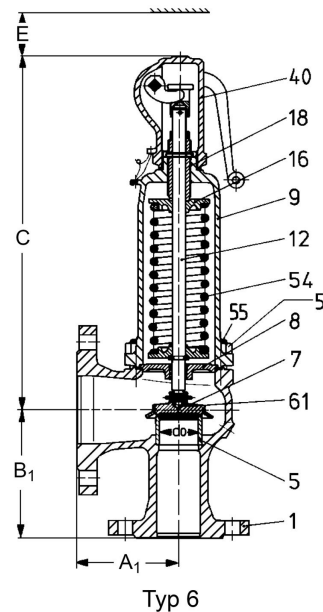
nominal diameter DN													
20	25	32	40	50	65	80	100	125	150	200	250	300	
9	9	12	16	22	32	56	75	85	131	285	335	384	

Special designs on request.

The pressure has always been indicated as overpressure.

Mankenberg reserves the right to alter or improve the designs or specifications of the products described herein without notice.

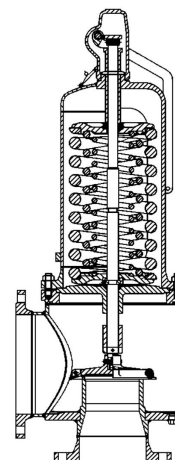
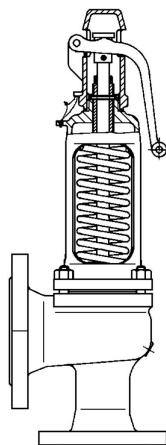
### Dimensional Drawing



Typ 6

SV 60

from DN 200 welded design



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Flow Rate											
type	medium	set pressure	flange connection - nominal diameter DN								
			25/40	32/50	40/65	50/80	65/100	80/125	100/150	125/200	150/250
6 60	saturated steam [kg/h]	0.5	212	337	549	849	1440	2190	3390	3850	6260
		1	308	490	798	1230	2090	3190	4930	5590	9100
		2	493	783	1270	1970	3350	5100	7880	8940	14500
		3	663	1050	1710	2650	4510	6860	10600	12000	19500
		4	827	1310	2140	3300	5620	8560	13200	15000	24400
		5	990	1570	2560	3960	6740	10200	15800	17900	29200
		6	1150	1830	2980	4610	7840	11900	18400	20900	34000
		7	1310	2090	3400	5260	8950	13600	21000	23800	38800
		8	1470	2340	3820	5910	10000	15200	23600	26800	43600
		9	1630	2600	4240	6550	11100	16900	26200	29700	48400
		10	1800	2860	4660	7200	12200	18600	28800	32600	53100
		12	2120	3370	5490	8490	14400	21900	33900	38500	62700
		14	2440	3890	6330	9780	16600	25300	39100	44400	72200
		16	2770	4400	7170	11000	18800	28600	44300	50300	81800
		18	3090	4910	8000	12300	21000	32000	49500	56100	91400
		24	4070	6470	10500	16200	27700	42100	65100	73900	120000
		28	4720	7510	12200	18900	32100	48900	75600	-	-
		32	5380	8560	13900	21500	36600	55700	86200	-	-
	air [Nm³/h]	0.5	260	414	673	1040	1770	2690	4160	4720	7680
		1	387	616	1000	1540	2630	4000	6190	7030	11400
		2	627	997	1620	2500	4260	6490	10000	11300	18500
		3	852	1350	2200	3400	5790	8810	13600	15400	25100
		4	1060	1700	2760	4270	7270	11000	17100	19400	31500
		5	1280	2040	3330	5140	8760	13300	20500	23300	38000
		6	1500	2390	3890	6020	10200	15500	24000	27300	44400
		7	1720	2730	4450	6890	11700	17800	27500	31200	50800
		8	1940	3080	5020	7760	13200	20000	31000	35200	57300
		9	2150	3430	5580	8630	14600	22300	34500	39100	63700
		10	2370	3770	6150	9500	16100	24600	38000	43100	70100
		12	2810	4470	7270	11200	19100	29100	44900	51000	83000
		14	3240	5160	8400	12900	22100	33600	51900	58900	95900
		16	3680	5850	9530	14700	25000	38100	58900	66800	108000
18	4110	6540	10600	16400	28000	42600	65900	74700	121000		
22	4990	7930	12900	19900	33900	51600	79800	90600	149000		
24	5420	8620	14000	21700	36900	56100	86800	99800	162000		
32	7160	11300	18500	28600	48700	74200	116000	-	-		
36	8040	12700	20800	32100	55400	84300	-	-	-		
40	8910	14100	23000	35600	61400	93500	-	-	-		
6	water [m³/h]	0.5	7.37	11.7	19.1	29.5	50.1	76.3	118	134	218
		1	9.97	15.	25.8	39.9	67.9	103	160	181	295
		2	14.1	22.4	36.5	56.4	96,0	146	226	256	417
		3	17.3	27.5	44.7	69.1	118	179	276	314	510
		4	19.9	31.7	51.6	79.8	136	206	319	362	589
		5	22.3	35.5	57.7	89.2	152	231	357	405	659
		6	24.4	38.8	63.2	97.7	166	253	391	444	722
		7	26.4	42.0	68.3	106	180	273	422	479	779
		8	28.2	44.8	73.0	113	192	292	451	512	833
		9	29.9	47.6	77.4	120	204	310	479	543	884
		10	31.5	50.1	81.6	126	215	326	505	573	932
		12	34.6	54.9	89.4	138	235	358	553	627	1020
		14	37.3	59.3	96.6	149	254	386	597	678	1100
		16	39.9	63.4	103	160	271	413	638	724	1170
		22	46.8	74.4	121	187	318	484	748	849	1380
		28	52.8	83.9	137	211	359	546	844	-	-
		32	56.4	89.7	146	226	384	584	903	-	-
		36	59.8	95.1	155	239	407	619	-	-	-
40	63.1	100	163	252	429	653	-	-	-		