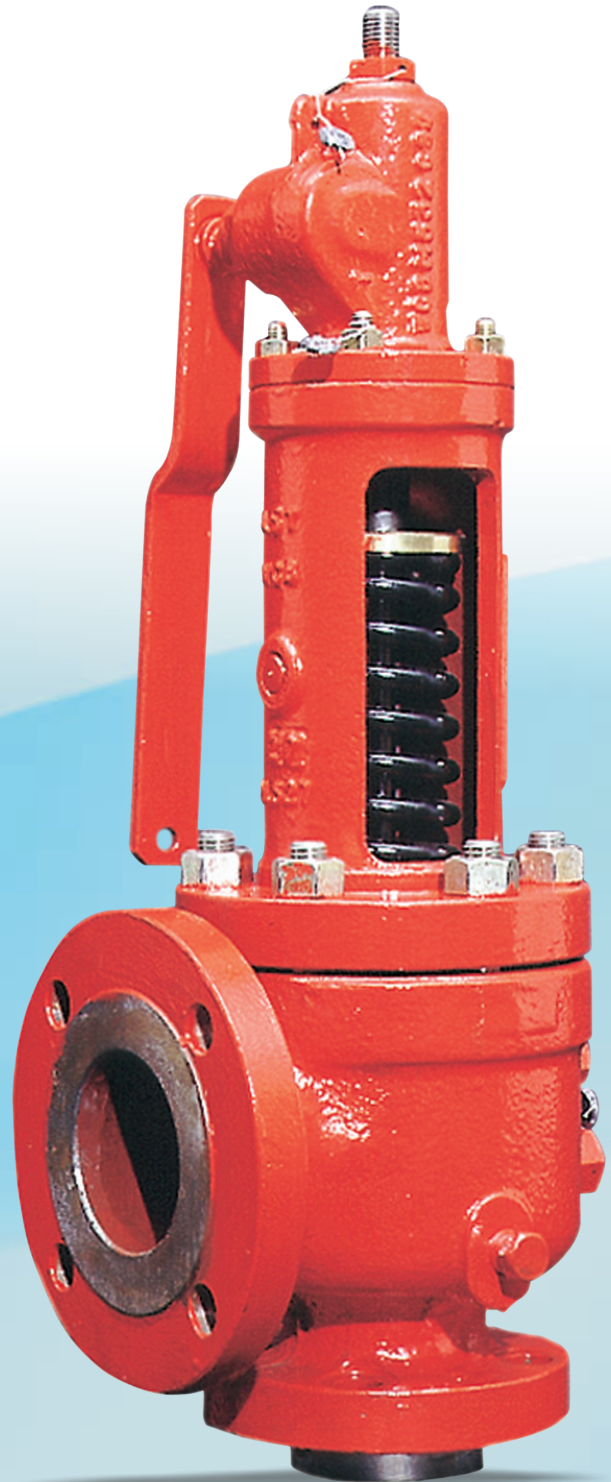


SAFETY VALVES SERIES SMS-7100



SAFETY VALVES FOR STEAM

SERVICE SERIES SMS-71000

Safety valves series SMS-7100 are especially designed for steam service and are to be used when the safety valve is requested to perform with very precise overpressure and blowdown. These safety valves have two rings for the best performance and control.

OVERPRESSURE AND BLOWDOWN

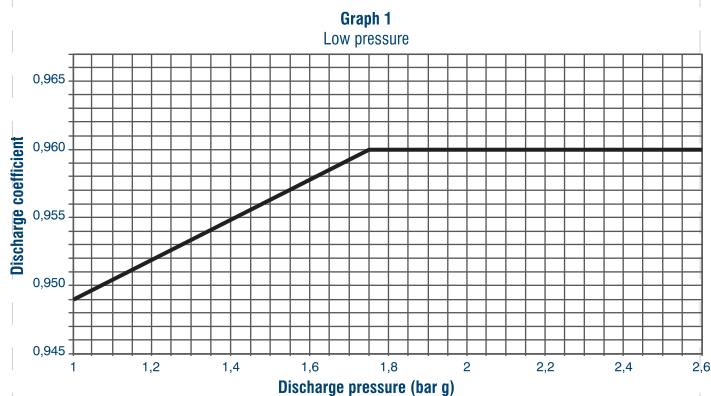
Performances of safety valves series SMS-7100 are within the ASME Section I limits, and full fills the directive 97/23/EC (P.E.D.).

Set pressure	Overpressure	Blowdown
Up to 4.66 bar	0.14 bar	0,28 bar
From 4.67 to 4.69 bar	3%	0,28 bar
Over 7 bar	3%	4%

COLD DIFFERENTIAL TEST PRESSURE ACCURACY

The tolerance on the cold differential test pressure are the following:

Set pressure	Accuracy	Notes
Up to 4.8 bar	± 0.14 bar	
From 4.8 to 23 bar	$\pm 3\%$	of cold differential test pressure
From 23 to 69 bar	± 0.69 bar	
Over 69 bar	$\pm 1\%$	of cold differential test pressure



COLD DIFFERENTIAL TEST PRESSURE (AT AMBIENT TEMPERATURE)

FOR VALVES WORKING AT HIGH TEMPERATURE

Safety valves are bench setted at ambient temperature. If the relieving temperatures is higher than 212°F an increase of the cold differential test pressure could be necessary. This correction must be evaluated each time depending also on the possibility to test the set pressure after installation;

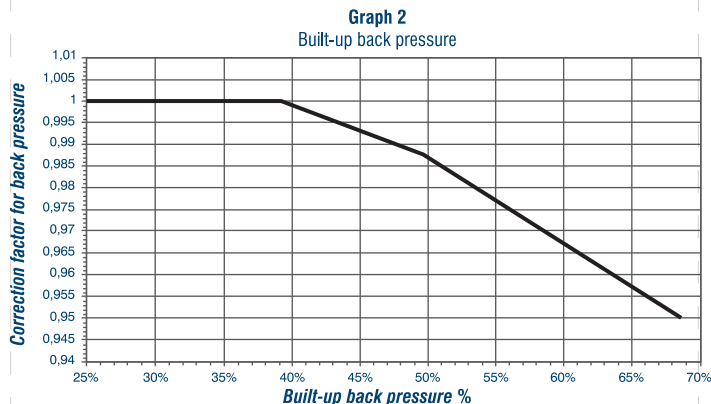
suggests to use the following table:

Reliving Temperature		Cold Differential Test Pressure increase %
°C	°F	
Up to 100	Up to 212	0 %
101 - 231	213 - 446	1,5%
232 - 480	447 - 896	3%
481 - 540	897 - 1000	3,5%

DISCHARGE COEFFICIENT

Safety valves series SMS-7100 have undergone a complete and severe test trial. This allowed to determine, not only the coefficients of discharge with atmospheric back-pressure, but also the discharge coefficients with low set pressure and high built-up back-pressure. All these information will allow a more accurate sizing of the valve and a better safety of the equipment to be protected. Discharge coefficients are therefore the following:

- 0.96 with discharge pressure higher than 2.6 bar and ratios between built-up back-pressure and discharge pressure (absolute values) lower than 25%.
- Graph 1: with discharge pressure lower than 2.6 bar and atmospheric back-pressure.
- Graph 2: with ratios between built-up back-pressure and discharge pressure (absolute values) higher than 25%.





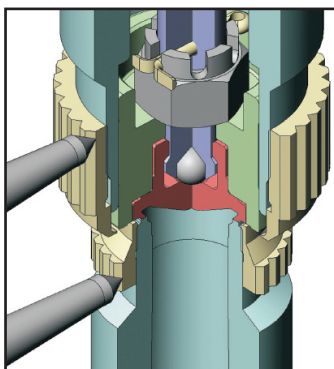
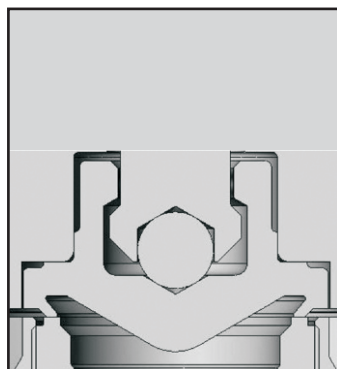
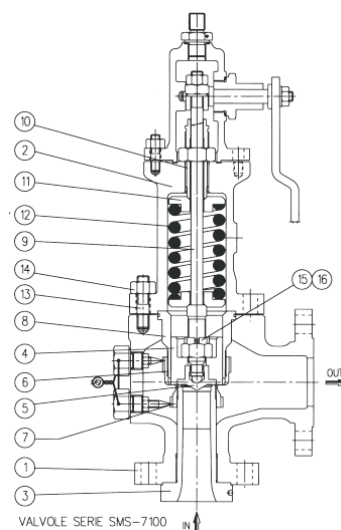
UNI KLINGER LIMITED
- Safety Valve & Control Valve Division

DISCHARGE WITH BUILT-UP BACK-PRESSURE : The shape of the internal parts, of the piston type, allows for the valve to work with high built-up back-pressure (up to 100%), without any instability of the lift.

With high built-up back-pressure the sizing of the valve is done. The reduction of the coefficient of discharge is due to a different ΔP during discharge and not to a reduction in valve lift.

MATERIALS : Table 2 shows materials used for standard construction can use a complete range of materials in order to satisfy any particular request.

SR. NO.	NAME	SMS	SMS-W	
		max 426 °C	max 530 °C	
1	Body	ASTM A 216 WCB	ASTM A 217 WC6	
2	Bonnet	ASTM A 216 WCB	ASTM A 216 WCB	
3	Nozzle	AISI 316 AISI 316+Stell	AISI 316 AISI 316+Stell 1	
4	Disc-holder	AISI 431 (1)	Monel	
5	Disc	AISI 431 (1)	AISI 616	1
6	Upper Adjustment ring	Stainless Steel	Stainless Steel	
7	Lower Adjustment ring	Stainless Steel	Stainless Steel	
8	Guide	AISI 420	Monel	
9	Stem	AISI 410	AISI 410	
10	Adjustment Screw	AISI 420	AISI 420	
11	Spring washer	Carbon Steel	Carbon Steel	1
12	Spring	Carbon Steel (2) Tungsten Steel	Alloy Steel	1
13	Body studs	ASTM A 193 B7	ASTM A 193 B16	
14	Body nuts	ASTM A 194 2H	ASTM A 194 4	
15	Stem lock nut	Stainless Steel	Stainless Steel	
16	Split pin	Stainless Steel	Stainless Steel	



- (1) Up to 400°C
 - (2) With open bonnet carbon steel spring can be used up to 400°C.
- 1) Recommended Spares 2) Insurance

DISC DESIGN : The special geometry of the disc's seal lip allows to minimize the thermal stresses, avoiding the distortions that cause leaks through the seats.

The load is transferred from the stem to the disc through a ball; this feature, together with the low positioning of the centre of thrust, helps the homogeneous distribution of the forces on the sealing surface and minimizes the side shifting of the disc from the nozzle while opening and closing the valve. These structural features, together with a scrupulous lapping of the seats, contribute to obtain high tightness of these seats and set pressure reproducibility.

ADJUSTING RINGS : Safety valves series SMS-7100 have two adjusting rings, the lower one mounted on the nozzle and the upper one mounted on the guide. The position of the two adjusting rings modifies the performances of the valve as far as overpressure and blowdown are concerned; their position is settled and sealed at the factory in such a way to satisfy a variety of applications. If operation on site were not satisfactory (simmer or high blowdown), it is possible to modify the position of the adjusting rings. Lifting the lower ring will improve the pop-action effect, i.e., over pressure decreases; by lowering it the opposite effect will be obtained.

OTHER TECHNICAL FEATURES

Body: always from casting

Body thickness: according to ASME B16.34

Flanges: according to ASME B16.5 (DIN, EN and other constructions upon request).

Bonnet: may be closed (always kept at atmospheric pressure) or open.

Lifting lever: always supplied

Tightness test: done with more severe limits than API 527

Minimum set pressure: 1 bar

Max service temperature: 540 °C

Set pressure adjusting range without changing the spring:
±5% of factory setting.

PRESSURE AND TEMPERATURE LIMITS (standard construction)

cm ² sq.in	SIZE InxOut inch.	RATING InxOut ANSI	INLET MAX SET PRESSURE [bar g]					SIZE InxOut DN x DN	RATING PN x PN	INLET MAX SET PRESSURE [bar g]				
			Temperature [°C]							Temperature [°C]				
			-29/+38	+232	+426	+426	+540			-29/+38	+232	+426	+426	+540
D 0,785 0,122	1x1-1/2	150x150	19,7	12,8	5,5	-	-	25x40	16x16	16	14,4	8,9	-	-
	1x1-1/2	300x150	51	42,4	28,3	35,2	15,5	25x40	40x16	40	36	22,3	35,2	12
	1x1-1/2	600x150	56	56	56	56	30,7	25x40	100x16	56	56	55,8	56	29,6
	1x1-1/2	900x150	56	56	56	56	46,2	25x40	160x16	56	56	56	56	44,8
	1x1-1/2	900x300	56	56	56	56	46,2	25x40	160x40	56	56	56	56	44,8
	1x2	150x150	19,7	12,8	5,5	-	-	25x50	16x16	16	14,4	8,5	-	-
	1x2	300x150	51	42,4	28,3	35,2	15,5	25x50	40x16	40	36	22,3	35,2	12
	1x2	600x150	102	85,1	56,9	70	30,7	25x50	100x16	100	85,1	55,8	70	29,6
	1x2	900x150	153	127,2	85,1	105,1	46,2	25x50	160x16	153	127,2	85,1	105,1	44,8
	1x2	900x300	153	127,2	85,1	105,1	46,2	25x50	160x40	153	127,2	85,1	105,1	44,8
	1x2	1500x150	153	153	142	153	76,9	25x50	250x16	153	153	140	153	74,5
	1x2	1500x300	153	153	142	153	76,9	25x50	250x40	153	153	140	153	74,5
	1-1/2x2	900x300	153	127,2	85,1	105,1	46,2	40x50	160x40	153	127,2	85,1	105,1	44,8
	1-1/2x2	1500x300	153	153	142	153	76,9	40x50	250x40	153	153	140	153	74,5
E1 1,539 0,239	1x1-1/2	150x150	19,7	12,8	5,5	-	-	25x40	16x16	16	14,4	8,9	-	-
	1x1-1/2	300x150	51	42,4	28,3	35,2	15,5	25x40	40x16	40	36	22,3	35,2	12
	1x1-1/2	600x150	56	56	56	56	30,7	25x40	100x16	56	56	55,8	56	29,6
	1x1-1/2	900x150	56	56	56	56	46,2	25x40	160x16	56	56	56	56	44,8
	1x1-1/2	900x300	56	56	56	56	46,2	25x40	160x40	56	56	56	56	44,8
	1x2	150x150	19,7	12,8	5,5	-	-	25x50	16x16	16	14,4	8,5	-	-
	1x2	300x150	51	42,4	28,3	35,2	15,5	25x50	40x16	40	36	22,3	35,2	12
	1x2	600x150	102	85,1	56,9	70	30,7	25x50	100x16	100	85,1	55,8	70	29,6
	1x2	900x150	153	127,2	85,1	105,1	46,2	25x50	160x16	153	127,2	85,1	105,1	44,8
	1x2	900x300	153	127,2	85,1	105,1	46,2	25x50	160x40	153	127,2	85,1	105,1	44,8
	1x2	1500x150	153	153	142	153	76,9	25x50	250x16	153	153	140	153	74,5
	1x2	1500x300	153	153	142	153	76,9	25x50	250x40	153	153	140	153	74,5
	1-1/2x2	900x300	153	127,2	85,1	105,1	46,2	40x50	160x40	153	127,2	85,1	105,1	44,8
	1-1/2x2	1500x300	153	153	142	153	76,9	40x50	250x40	153	153	140	153	74,5
F1 2,545 0,394	1x1-1/2	150x150	19,7	12,8	5,5	-	-	25x40	16x16	16	14,4	8,9	-	-
	1x1-1/2	300x150	51	42,4	28,3	35,2	15,5	25x40	40x16	40	36	22,3	35,2	12
	1x1-1/2	600x150	56	56	56	56	30,7	25x40	100x16	56	56	55,8	56	29,6
	1x1-1/2	900x150	56	56	56	56	46,2	25x40	160x16	56	56	56	56	44,8
	1x1-1/2	900x300	56	56	56	56	46,2	25x40	160x40	56	56	56	56	44,8
	1x2	600x150	102	85,1	56,9	70	30,7	25x50	100x16	100	85,1	55,8	70	29,6
	1x2	900x150	153	127,2	85,1	105,1	46,2	25x50	160x16	153	127,2	85,1	105,1	44,8
	1x2	900x300	153	127,2	85,1	105,1	46,2	25x50	180x40	153	105	85,1	105	44,8
	1x2	1500x150	153	153	142	15315	76,9	25x50	250x16	153	153	140	153	74,5
	1x2	1500x300	153	153	142	3	76,9	25x50	250x40	153	105	105	105	74,5
	1-1/2x2	150x150	19,7	12,8	5,5	-	-	25x50	16x16	16	14,4	8,9	-	-
	1-1/2x2	300x150	51	42,4	28,3	35,2	15,5	25x50	40x16	40	36	22,3	35,2	12
	1-1/2x2	600x150	102	85,1	56,9	70	30,7	40x50	100x16	100	85,1	55,8	70	29,6
	1-1/2x2	900x300	153	127,2	85,1	105,1	46,2	40x65	150x40	153	127,2	85,1	105,1	44,8
1-1/2x2	900x300	153	127,2	85,1	105,1	46,2	40x80	160x40	153	127,2	85,1	105	44,8	
1-1/2x2-1/2	1500x300	153	153	142	153	76,9	40x65	250x40	153	153	140	153	74,5	
1-1/2x3	1500x300	153	153	142	153	76,9	40x80	250x40	153	153	140	153	74,5	
G1 3,801 0,589	1-1/2x2	150x150	19,7	12,8	5,5	-	-	40x50	16x16	16	14,4	8,9	-	-
	1-1/2x2	300x150	51	42,4	28,3	35,2	15,5	40x50	40x16	40	36	22,3	35,2	12
	1-1/2x2	600x150	56	56	56	56	30,7	40x50	100x16	56	56	55,8	56	29,6
	1-1/2x2	900x150	56	56	56	56	46,2	40x50	160x16	56	56	56	56	44,8
	1-1/2x2	900x300	56	56	56	56	46,2	40x50	160x40	56	56	56	56	36,8
	1-1/2x3	600x150	102	85,1	56,9	70	30,7	40x80	100x16	100	85,1	55,8	70	29,6
	1-1/2x3	900x150	153	127,2	85,1	105,1	46,2	40x80	160x18	153	127,2	85,1	105,1	44,8
	1-1/2x3	900x300	153	105	85,1	105	46,2	40x80	180x40	153	127,2	85,1	105,1	36,8
	1-1/2x3	1500x150	153	153	142	153	76,9	40x80	250x16	153	153	140	153	74,5
	1-1/2x3	1500x300	153	153	142	153	76,9	40x80	250x40	153	153	140	153	74,5
	1-1/2x3	150x150	19,7	12,8	5,5	-	-	40x65	16x16	16	14,4	8,9	-	-
	1-1/2x3(2.1/2)	150x150	19,7	12,8	5,5	-	-	40x80	16x16	16	14,4	8,9	-	-
	1-1/2x3	300x150	51	42,4	28,3	35,2	15,5	40x65	40x16	40	36	22,3	35,2	12
	1-1/2x3(2.1/2)	300x150	51	42,4	28,3	35,2	15,5	40x80	40x16	40	36,7	22,4	27,7	12
	1-1/2x3(2.1/2)	600x150	102	85,1	56,9	70	30,7	40x65	100x16	100	85,1	55,8	70	29,6
	1-1/2x2-1/2)	900x300	153	127,2	85,1	105,1	46,2	40x65	1600x40	153	127,2	85,1	105,1	44,8
	2x3	1500x300	153	153	142	153	76,9	50x80	250x40	153	153	140	153	74,5
	Body and Bonnet		WC6				WC6		Body and Bonnet		WC6			
	Spring		Carbon steel				Tungsten steel		Spring		Carbon steel			

PRESSURE AND TEMPERATURE LIMITS (standard construction)

cm ² sq.in	SIZE InxOut inch.	RATING InxOut ANSI	INLET MAX SET PRESSURE [bar g]					SIZE InxOut	RATING InxOut	INLET MAX SET PRESSURE [bar g]				
			Temperature [°C]							Temperature [°C]				
			-29/+38	+232	+426	+426	+540			-29/+38	+232	+426	+426	+540
H1 6,158 0,954	1-1/2x2	150x150	19,7	12,8	5,5	-	-	40x50	16x16	16	14,4	8,9	-	-
	1-1/2x2	300x150	51	42,4	28,3	35,2	15,5	40x50	40x16	40	36	22,3	35,2	12
	1-1/2x2	600x150	56	56	56	56	30,7	40x50	100x16	56	56	55,8	56	29,6
	1-1/2x2	800x150	56	56	56	56	46,2	40x50	160x16	56	56	56	56	44,8
	1-1/2x3	150x150	19,7	12,8	5,5	-	-	40x50	16x16	16	14,4	8,9	-	-
	1-1/2x3	300x150	51	42,4	28,3	35,2	15,5	40x50	40x16	40	36	22,3	35,2	12
	1-1/2x3	600x150	102	85,1	56,9	70	30,7	40x50	100x16	100	85,1	55,8	70	29,6
	1-1/2x3	900x150	153	127,2	85,1	105,1	46,2	40x50	160x16	153	127,2	85,1	105,1	44,8
	2x3	300x150	51	42,4	28,3	35,2	15,5	50x80	40x16	40	36	22,3	35,2	12
	2x3	600x150	102	85,1	56,9	70	30,7	50x80	100x16	100	85,1	55,8	70	29,6
	2x3	900x150	153	127,2	85,1	105,1	46,2	50x80	160x16	153	127,2	85,1	105,1	44,8
	2x3	1500x150	153	153	142	153	76,9	50x80	250x16	153	153	140	153	74,5
2x3	1500x300	153	153	142	153	76,9	50x80	250x40	153	153	140	153	74,5	
J 9,079 1,407	2x3	150x150	19,7	12,8	5,5	-	-	50x80	16x16	16	14,4	8,9	-	-
	2x3	300x150	51	42,4	28,3	35,2	15,5	50x80	40x16	40	36	22,3	35,2	12
	2x3	600x150	56	56	56	56	30,7	50x80	100x16	56	56	55,8	56	29,6
	2x3	900x150	56	56	56	56	46,2	50x80	160x16	56	56	56	56	44,8
	2x4	600x150	102	85,1	56,9	70	30,7	50x100	100x16	100	85,1	55,8	70	29,6
	2x4	900x150	153	127,2	85,1	105,1	46,2	50x100	160x16	153	127,2	85,1	105,1	44,8
	2x4	1500x150	153	153	142	153	76,9	50x100	250x16	153	153	140	153	74,5
	2x4	1500x300	153	153	142	153	76,9	50x100	250x40	153	153	140	153	74,5
	2-1/2(3)x4	300x150	51	42,4	28,3	35,2	15,5	65(80)x100	40x16	40	36	22,3	35,2	12
	2-1/2(3)x4	600x150	102	85,1	56,9	70	30,7	65(80)x100	100x16	100	85,1	55,8	70	29,6
	2-1/2(3)x4	900x150	153	127,2	85,1	105,1	46,2	65(80)x100	160x16	153	127,2	85,1	105,1	44,8
	2-1/2(3)x4	1500x300	153	153	142	153	76,9	65(80)x100	250x16	153	153	140	153	57,5
K1 13,203 2,046	2x3	150x150	19,7	12,8	5,5	-	-	50x80	16x16	16	14,4	8,9	-	-
	2x3	300x150	51	42,4	28,3	35,2	15,5	50x80	40x16	40	36	22,3	35,2	12
	2x3	600x150	56	56	56	56	30,7	50x80	100x16	56	56	55,8	56	29,6
	2x3	900x150	56	56	56	56	46,2	50x80	160x16	56	56	56	56	44,8
	2-1/2(3)x4	150x150	19,7	12,8	5,5	-	-	60x100	16x16	16	14,4	8,9	-	-
	2-1/2(3)x4	300x150	51	42,4	28,3	35,2	15,5	80x100	40x16	40	36	22,3	35,2	12
	2-1/2(3)x4	600x150	102	85,1	56,9	70	30,7	65(80)x100	100x16	100	85,1	55,8	70	29,6
	2-1/2(3)x4	900x150	153	127,2	85,1	105,1	46,2	65(80)x100	160x16	153	127,2	85,1	105,1	44,8
	2-1/2(3)x6	900x150	153	127,2	85,1	105,1	46,2	65(80)x150	160x16	153	127,2	85,1	105,1	44,8
	2-1/2(3)x6	1500x150	153	153	142	153	76,9	65(80)x150	250x16	153	153	140	153	74,5
	2-1/2(3)x6	1500x300	153	153	142	153	76,9	65(80)x150	250x40	153	153	140	153	74,5
	K2 16,219 2,576	2-1/2(3)x4	150x150	19,7	12,8	5,5	-	-	65(80)x100	16x16	16	14,4	8,9	-
2-1/2(3)x4		300x150	51	42,4	28,3	35,2	15,5	65(80)x100	40x16	40	36	22,3	35,2	12
2-1/2(3)x4		600x150	56	56	56	56	30,7	65(80)x100	100x16	56	56	55,8	56	29,6
2-1/2(3)x4		900x150	56	56	56	56	46,2	65(80)x100	160x16	56	56	56	56	44,8
2-1/2(3)x6		900x300	102	85,1	56,9	70	30,7	65(80)x150	160x40	100	85,1	55,8	70	29,6
2-1/2(3)x6		600x150	153	127,2	85,1	105,1	46,2	65(80)x150	100x16	153	127,2	85,1	105,1	44,8
2-1/2(3)x6		1500x150	153	153	142	153	76,9	65(80)x150	160x18	153	153	140	153	74,5
2-1/2(3)x6		1500x300	153	153	142	153	76,9	65(80)x150	180x40	153	153	140	153	74,5
4x6		600x150	102	85,1	56,9	70	30,7	65(80)x150	250x16	100	85,1	55,8	70	29,6
4x6		900x300	153	127,2	85,1	105,1	46,2	65(80)x150	250x40	153	127,2	85,1	105,1	44,8
4x6		1500x150	153	153	142	153	76,9	65(80)x150	16x16	153	153	140	153	74,5
4x6		1500x300	153	153	142	153	76,9	65(80)x150	16x16	153	153	140	153	74,5
L1 21,237 3,292	3x4	150x150	19,7	12,8	5,5	-	-	80x100	16x16	16	14,4	8,9	-	-
	3x4	300x150	51	42,4	28,3	35,2	15,5	80x100	40x16	40	36	22,3	35,2	12
	3x4	600x150	56	56	56	56	30,7	80x100	100x16	56	56	55,8	56	29,6
	3x4	900x150	56	56	56	56	46,2	80x100	160x16	56	56	56	56	44,8
	3x6	600x150	102	85,1	56,9	70	30,7	80x150	100x16	100	85,1	55,8	70	29,6
	3x6	900x150	105	108	85,1	105	46,2	80x150	150x16	105	105	85,1	105	44,8
	4x6	300x150	51	42,4	28,3	35,2	15,5	100x150	40x16	40	36	22,3	35,2	12
	4x6	600x3 150	102	85,1	56,9	70	30,7	100x150	100x16	100	85,1	55,8	70	29,6
	4x6	900x150	105	105	85,1	105	46,2	100x150	160x16	105	105	85,1	105,1	44,8
	4x6	1500x150	105	105	105	105	76,9	100x150	250x16	105	105	105	105	74,5
	4x6	1500x300	105	105	105	105	76,9	100x150	250x40	105	105	105	105	74,5
	Body and Bonnet		WCB				WC6		Body and Bonnet		WCB		WC6	
Spring		Carbon steel				Tungsten steel		Spring		Carbon steel		Tungsten steel		

PRESSURE AND TEMPERATURE LIMITS (standard construction)

ORIF.	SIZE	RATING	INLET					SIZE	RATING	INLET					
			MAX SET PRESSURE [bar g]							MAX SET PRESSURE [bar g]					
			Temperature [°C]							Temperature [°C]					
cm² sg.in	InxOut inch.	InxOut ANSI	-29/+38	+232	+426	+426	+540	DN x DN	PN x PN	-29/+38	+232	+426	+426	+540	
M1 25,518 3,955	3x4	150x150	19,7	12,8	5,5	-	-	80x100	16x16	16	14,4	8,9	-	-	
	3x4	300x150	51	42,4	28,3	35,2	15,5	80x100	40x16	40	36	22,3	35,2	12	
	3x4	600x150	56	56	56	56	30,7	80x100	100x16	56	56	55,8	56	29,6	
	3x4	900x150	56	56	56	56	46,2	80x100	160x16	56	56	56	56	44,8	
	3x6	600x150	102	85,1	56,9	70	30,7	80x150	100x16	100	85,1	55,8	70	29,6	
	3x6	900x150	105	105	85,1	105	46,2	80x150	160x16	105	105	85,1	105	44,8	
	4x6	150x150	19,7	12,8	5,5	-	-	100x150	16x16	16	14,4	8,8	-	-	
	4x6	300x150	51	42,4	28,3	35,2	15,5	100x150	40x16	40	36	22,3	35,2	12	
	4x6	600x150	102	85,1	56,9	70	30,7	100x150	100x16	100	85,1	55,8	70	29,6	
	4x6	900x150	105	105	85,1	105	46,2	100x150	160x16	105	105	85,1	105,1	44,8	
	4x6	150x150	105	105	105	105	76,9	100x150	250x16	105	105	105	105	74,5	
	4x6	1500x300	105	105	105	105	76,9	100x150	250x16	105	105	105	105	74,5	
N1 31,172 4831	4x6	150x150	19,7	12,8	5,5	-	-	100x150	16x16	16	14,4	8,9	-	-	
	4x6	300x150	51	42,4	28,3	35,2	15,5	100x150	40x16	40	36	22,3	35,2	12	
	4x6	600x150	83	83	56,9	70	30,7	100x150	100x16	83	83	55,8	70	29,6	
	4x6	900x150	83	83	83	83	46,2	100x150	160x16	83	83	83	83	44,8	
	4x6	900x300	83	83	83	83	46,2	100x150	160x40	(83)	83	83	83	44,8	
P1 45,365 7,031	4x6	150x150	19,7	12,8	5,5	-	-	100x150	16x16	16	14,4	8,9	-	-	
	4x6	300x150	51	42,4	28,3	35,2	15,5	100x150	40x16	40	36	22,3	35,2	12	
	4x6	600x150	69	69	56,9	69	30,7	100x150	100x16	69	69	55,9	69	29,6	
	4x6	900x150	69	69	69	69	46,2	100x150	160x16	69	69	69	69	44,8	
	4x6	900x300	(69)	69	69	69	46,2	100x150	160x40	(69)	69	69	69	44,8	
P2 63,617 9,860	6x8	150x150	19,7	12,8	5,5	-	-	150x200	16x16	16	14,4	8,9	-	-	
	6x8	300x150	51	42,4	28,3	35,2	15,5	150x200	40x16	40	36	22,4	35,2	12	
	6x8	600x150	56	56	56	56	30,7	150x200	100x16	56	56	55,9	56	29,6	
	6x8	900x150	56	56	56	56	46,2	150x200	160x16	56	56	56	56	44,8	
	6x8	900x300	(56)	56	56	56	46,2	150x200	160x40	(56)	56	56	56	44,8	
Q1 78,54 12,173	6x8	150x150	19,7	12,8	5,5	-	-	150x200	16x16	16	14,4	8,9	-	-	
	6x8	300x150	51	42,4	28,3	35,2	15,5	150x200	40x16	40	36	22,3	35,2	12	
	6x8	600x150	56	56	56	56	30,7	150x200	100x16	56	56	55,9	56	29,6	
	6x8	900x150	56	56	56	56	46,2	150x200	160x16	56	56	56	56	44,8	
	6x8	900x300	56	56	56	56	46,2	150x200	160x40	56	56	56	56	44,8	
Q2 95,379 14,783	6x8	150x150	19,7	12,8	5,5	-	-	150x200	16x16	16	14,4	8,9	-	-	
	6x8	300x150	50	42,4	28,3	35,2	15,5	150x200	40x16	40	36	22,3	35,2	12	
	6x8	600x150	50	50	50	50	30,7	150x200	100x16	50	50	50	50	29,6	
	6x8	900x150	50	50	50	50	46,2	150x200	160x16	50	50	50	50	44,8	
	6x8	900x300	50	50	50	50	46,2	150x200	160x40	50	50	50	50	44,8	
R1 113,097 17,529	6x10	150x150	19,7	12,8	5,5	-	-	150x250	16x16	16	14,4	8,9	-	-	
	6x10	300x150	45	42,4	28,3	35,2	15,5	150x250	40x16	40	36	22,3	35,2	12	
	6x10	600x150	45	45	45	45	30,7	150x250	100x16	45	45	45	45	29,6	
	6x10	900x150	45	45	45	45	45	150x250	160x16	45	45	45	45	44,8	
	6x10	900x300	45	45	45	45	45	150x250	160x40	(45)	45	45	45	44,8	
R2 148,058 22,948	8x10	150x150	19,7	12,8	5,5	-	-	200x250	16x16	16	14,4	8,9	-	-	
	8x10	300x150	27	27	27	27	15,5	200x250	40x16	27	27	22,3	27	12	
	8x10	600x150	27	27	27	27	27	200x250	100x16	27	27	27	27	27	
T 183,374 28,421	8x12	150x150	19,7	12,8	5,5	-	-	200x300	16x16	16	14,4	8,9	-	-	
	8x12	300x150	21	21	21	21	15,5	200x300	40x16	21	21	21	21	12	
	8x12	600x150	21	21	21	21	21	200x300	100x16	21	21	21	21	21	
	Body and Bonnet		WCB				WC6		Body and Bonnet		WCB			WC6	
	Spring		Carbon steel				Tunasten steel		Spring		Carbon steel			Tunasten steel	

DIMENSIONS AND WEIGHTS

cm ² sq.in	SIZE	RATING	SIZE	RATING	DIMENSIONS				WEIGHT
	InxOutlet inch.	InxOutlet ANSI	InxOut DN x DN	InxOut PN x PN	A	B	H	S	
	mm							kg	
D 0,785 0,122	1x1-1/2	150x150	25x40	16x16	106	100	390	31	10
	1x1-1/2	300x150	25x40	40x16	106	100	390	31	10
	1x1-1/2	600x150	25x40	100x16	106	100	390	31	10
	1x1-1/2	900x150	25x40	160x16	106	100	390	31	10
	1x2	600x150	25x50	100x16	105	114	489	35	22
	1x2	900x150	25x50	160x16	124	124	508	40	24
	1x2	1500x150	25x50	250x40	124	124	508	40	24
E1 1,539 0,239	1x1-1/2	150x150	25x40	16x16	106	100	390	31	10
	1x1-1/2	300x150	25x40	40x16	106	100	390	31	10
	1x1-1/2	600x150	25x40	100x16	106	100	390	31	10
	1x1-1/2	900x150	25x40	160x16	106	100	390	31	10
	1x2	600x150	25x50	100x16	105	114	489	35	22
	1x2	900x150	25x50	160x16	124	121	508	40	24
	1x2	1500x150	25x50	250x40	124	121	508	40	24
F1 2,545 0,394	1x1-1/2	150x150	25x40	16x16	106	100	390	31	10
	1x1-1/2	300x150	25x40	40x16	106	100	390	31	10
	1x1-1/2	600x150	25x40	100x16	106	100	390	31	10
	1x1-1/2	900x150	25x40	160x16	106	100	390	31	10
	1x2	600x150	25x50	100x16	105	114	489	35	22
	1x2	900x150	25x50	160x16	124	121	508	40	24
	1x2	1500x150	25x50	250x40	124	121	508	40	24
G1 3,801 0,589	1-1/2x2	150x150	40x50	16x16	124	121	508	40	24
	1-1/2x2	300x150	40x50	40x16	124	121	508	40	24
	1-1/2x2	600x150	40x50	100x16	124	121	508	40	24
	1-1/2x2	900x150	40x50	160x16	105	140	557	47	37
	1-1/2x3	600x150	40x80	100x16	124	121	508	40	24
	1-1/2x3	900x150	40x80	160x16	124	165	576	47	48
	1-1/2x3	1500x150	40x80	250x40	124	165	576	47	48
H1 6,158 0,954	1-1/2x2	150x150	40x50	16x16	124	121	508	40	24
	1-1/2x2	300x150	40x50	40x16	124	121	508	40	24
	1-1/2x2	600x150	40x50	100x16	124	121	508	40	24
	1-1/2x2	900x150	40x50	160x16	105	140	557	47	37
	1-1/2x3	600x150	40x80	100x16	124	121	508	40	24
	1-1/2x3	900x150	40x80	160x16	124	165	576	47	48
	2x3	1500x150	50x80	250x40	124	165	576	47	48
J 9,079 1,407	2x3	150x150	50x80	16x16	137	124	589	42	37
	2x3	300x150	50x80	40x16	137	124	589	42	37
	2x3	600x150	50x80	100x16	154	162	662	56	51
	2x3	900x150	50x80	160x16	154	162	662	56	51
	2x4	600x150	50x100	100x16	184	181	747	56	77
	2x4	900x150	50x100	160x16	184	181	747	56	77
	2x4	1500x150	50x100	250x40	184	181	747	56	77
K1 13,203 2,046	2x3	150x150	50x80	16x16	137	124	589	42	37
	2x3	300x150	50x80	40x16	137	124	589	42	37
	2x3	600x150	50x80	100x16	154	162	662	56	51
	2x3	900x150	50x80	160x16	154	162	662	56	51
	2-1/2(3)x4	600x150	65(80)x100	100x16	180	181	747	56	77
	2-1/2(3)x4	900x150	65(80)x100	160x16	184	181	747	56	77
	2-1/2(3)x6	1500x150	65(80)x150	250x40	197	216	942	65	133
K2 16,619 2,576	2-1/2(3)x4	150x150	65(80)x150	16x16	156	165	717	47	67
	2-1/2(3)x4	300x150	65(80)x100	40x16	156	165	717	48	67
	2-1/2(3)x4	600x150	65(80)x100	100x16	184	181	747	56	77
	2-1/2(3)x4	900x150	65(80)x100	160x16	184	181	747	56	77
	2-1/2(3)x6	600x150	65(80)x150	100x16	197	216	942	65	133
	2-1/2(3)x6	900x150	65(80)x150	160x16	197	216	942	65	133
	2-1/2(3)x6	1500x150	65(80)x150	250x40	197	216	942	65	133
L1 21,237 3,2952	3x4	80x100	80x100	16x16	156	165	717	48	67
	3x4	80x100	80x100	40x16	156	165	717	48	67
	3x4	80x100	80x100	100x16	184	181	747	56	77
	3x4	80x100	80x100	160x16	184	181	747	56	77
	3x6	80x150	80x150	100x16	197	216	942	65	133
	3x6	80x150	80x150	160x16	197	216	942	65	133
	4x6	1500x150	100x150	250x40	225	154	1067	74	189



UNI KLINGER LIMITED
- Safety Valve & Control Valve Division

DIMENSIONS AND WEIGHTS

cm ² sq.in	SIZE	RATING	SIZE	RATING	DIMENSIONS				WEIGHT
	InxOutlet inch.	InxOutlet ANSI	InxOut DN x DN	InxOut PN x PN	A	B	H	S	
	mm								
M1 25,518 3,955	3x4	150x150	80x100	16x16	156	165	717	48	67
	3x4	300x150	80x100	40x16	156	165	717	48	67
	3x4	600x150	80x100	100x16	184	181	747	56	77
	3x4	900x150	80x100	160x16	184	181	747	56	77
	3x6	600x150	80x150	100x16	197	216	942	65	133
	3x6	900x150	80x15	160x16	197	216	942	65	133
	4x6	1500x150	100x150	250x40	225	254	1067	74	189
N1 31,172 4,83,	4x6	150x150	100x150	16x16	197	210	939	54	134
	4x6	300x150	100x150	40x16	197	210	939	54	134
	4x6	600x150	100x150	100x16	225	254	1067	74	189
	4x6	900x150	100x150	160x16	225	254	1067	74	189
P1 45,365 7,031	4x6	150x150	100x150	16x16	181	229	923	46	128
	4x6	300x150	100x150	40x16	181	229	923	54	133
	4x6	600x150	100x150	100x16	225	254	1067	74	189
	4x6	900x150	100x150	160x16	225	254	1067	74	189
P2 63,617 9,860	6x8	150x150	150x200	16x16	240	241	1112	57	224
	6x8	300x150	150x200	40x16	240	241	1112	57	224
	6x8	600x150	150x200	100x16	240	241	1112	68	235
	6x8	900x150	150x200	160x16	240	241	1112	68	235
Q1 78,54 12,173	6x8	150x150	150x200	16x16	240	241	1112	57	224
	6x8	300x150	150x200	40x16	240	241	1112	57	224
	6x8	600x150	150x200	100x16	240	241	1112	68	235
	6x8	900x150	150x200	160x16	240	241	1112	68	235
Q2 95,379 14,783	6x8	150x150	150x200	16x16	240	241	1112	57	224
	6x8	300x150	150x200	40x16	240	241	1112	57	224
	6x8	600x150	150x200	100x16	240	241	1112	68	235
	6x8	900x150	150x200	160x16	240	241	1112	68	235
R1 113,097 17,529	6x8	150x150	150x200	16x16	240	241	1112	57	224
	6x8	300x150	150x200	40x16	240	241	1112	57	224
	6x8	600x150	150x200	100x16	240	241	1112	68	235
	6x8	900x150	150x200	160x16	240	241	1112	68	235
R2 148,05 22,948	8x10	150x150	200x250	16x16	275	279	1292	61	357
	8x10	300x150	200x250	40x16	275	279	1292	61	357
	8x10	600x150	200x250	100x16	275	279	1292	61	357
T 183,374 28,421	8x10	150x150	200x250	16x16	275	279	1292	61	357
	8x10	300x150	200x250	40x16	275	279	1292	61	357
	8x10	600x150	200x250	100x16	275	279	1292	61	357

Dimensions and weights are approximate and subject to change without notice.

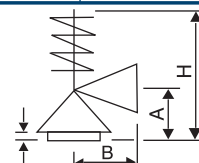
UKL AST will not assume any liability for differences between actual dimensions and weights and those shown in this table.



Safety & Control Valves
Manufactured under AST S.p.A. licence - (SV-100, SV-200, SV-300).



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Manufactured by:

In view of technical progress designs and dimensions are subject to change without notice.

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