ARI-SAFE - Full lift- / Standard - safety valve

ARI-SAFE
Full lift safety valve D/G
Standard safety valve F

- Type-test approved acc. to TRD and AD2000-A2

Direct loaded with spring:

- TÜV · SV · . . -663 · D/G **Figure 901-912**
- TÜV · SV · . . -729 · F **Figure 901/911**
- Further approvals: see inside

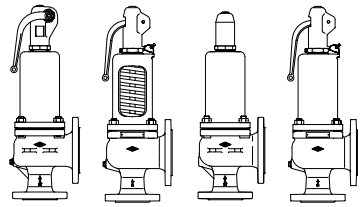


Fig. 901 902 911 912

Page 2

ARI-SAFE
Standard safety valve
for the heating technology

- Type-test approved acc. to TRD 721

Direct loaded with spring:

- TÜV · SV · . . -688 · D/G/H **Figure 903**
- TÜV · SV · . . -689 · D **Figure 904**

Direct loaded with weight:

- TÜV · SV · . . -757 · D **Figure 990**

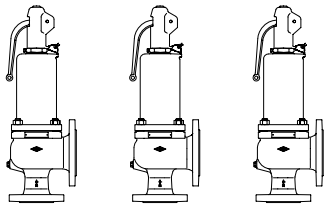


Fig. 903 904 990

Page 6

ARI-SAFE-P
Standard safety valve D/G/F

- Type-test approved acc. to TRD and AD2000-A2

Direct loaded with spring:

- TÜV · SV · . . -811 · D/G **Figure 921-924**
- TÜV · SV · . . -821 · F **Figure 921/923**

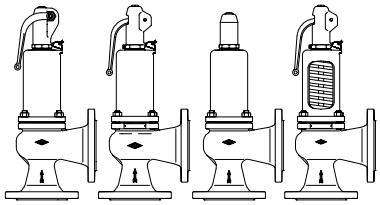


Fig. 921 922 923 924

Page 10

ARI-SAFE-TC
Full lift safety valve D/G
Standard safety valve F

- Type-test approved acc. to TRD and AD2000-A2

Direct loaded with spring:

- TÜV · SV · . . -995 · D/G **Figure 941-943**
- TÜV · SV · . . -1005 · F **Figure 941/943**

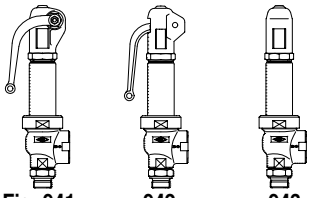


Fig. 941 942 943

Page 14

ARI-SAFE-TC
Standard safety valve
for the heating technology

- Type-test approved acc. to TRD 721

Direct loaded with spring:

- TÜV · SV · . . -997 · D/G/H **Figure 945**
- TÜV · SV · . . -997 · D **Figure 946**

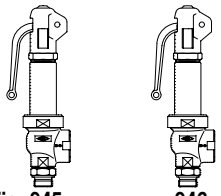


Fig. 945 946

Page 16

ARI-SAFE-TCP
Standard safety valve D/G/F

- Type-test approved acc. to AD2000-A2

Direct loaded with spring:

- TÜV · SV · . . -1041 · D/G/F **Figure 961-963**

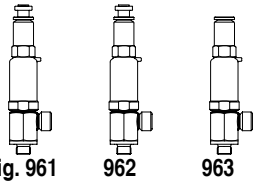


Fig. 961 962 963

Page 18

ARI-SAFE-TCS
Standard safety valve D/G/F

- Type-test approved acc. to AD2000-A2

Direct loaded with spring:

- TÜV · SV · . . -1041 · D/G/F **Figure 951-953**

FOR HORIZONTAL APPLICATION

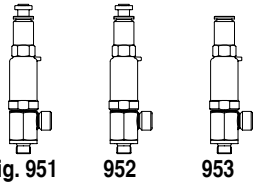


Fig. 951 952 953

Page 20



Fig. 900



Fig. 940



Fig. 920



Fig. 950 / 960

Features:

- Direct loaded with spring
- Direct loaded with weight (only Fig. 990)
- Wear resistant seat/disc
- Precision disc alignment and guide
- Possible with soft seal disc
- Possible with EPDM bellow
- Possible with stainless steel bellow
- All common thread types (SAFE-TC/TCP/TCS)

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銓宏企業
股份有限公司
TEL:2821-8337

ARI-SAFE - Full lift safety valve D/G
Standard safety valve F

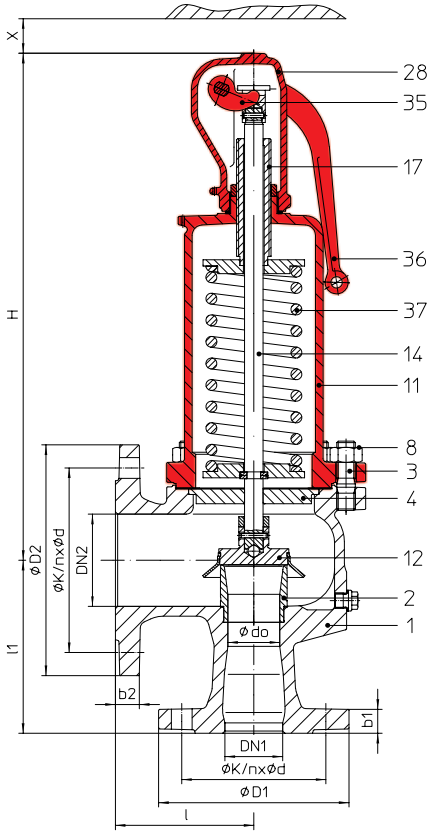


Fig. .. .901
closed lifting device
closed bonnet

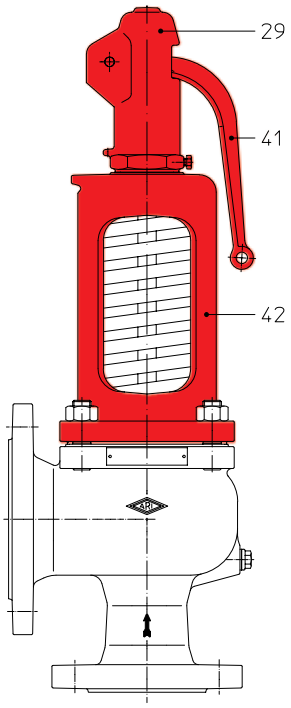


Fig. .. .902
open lifting device
open bonnet

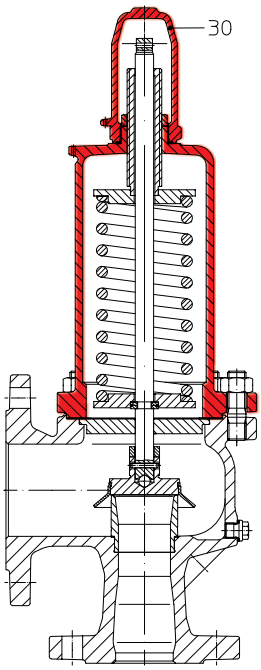


Fig. .. .911
gastight cap
closed bonnet

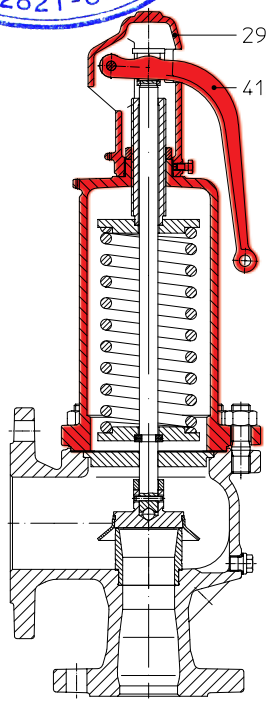


Fig. .. .912
open lifting device
closed bonnet

Figure	Nom. pressure	Material	Nominal diameter	Temperature range	Flanges	Flangeholes/-thickness tolerances
12.901 / 902 / 911 / 912	PN 16 / 16	GG-25	DN 20/32 up to DN 150/250	- 10°C up to +300°C	DIN EN 1092-2	DIN 2533 / 2533
25.901 / 902 / 911 / 912	PN 40 / 16	GGG-40.3	DN 20/32 up to DN 100/150	- 10°C up to +350°C	DIN EN 1092-2	DIN 28607 / 28605
35.901 / 902 / 911 / 912	PN 40 / 16	1.0619+N	DN 20/32 up to DN 150/250	- 10°C up to +450°C	DIN EN 1092-1	DIN 2545 / 2543
55.901 / 911	PN 40 / 16	1.4408	DN 20/32 up to DN 100/150	- 60°C up to +400°C	DIN EN 1092-1	DIN 2545 / 2543

Type-test approval	Full lift valve:	TÜV · SV · . . -663 · D/G	(Stand. valve 0,2-0,5 bar)	set gauge pressure see „Capacity“
	Standard valve:	TÜV · SV · . . -729 · F	DN 20-150	

Requirement	Acc. to EN ISO 4126-1, VdTÜV-leaflet 100, AD2000-A2, TRD 421, material selection observe TRB 801 No. 45!	
Application	GG-25; GGG-40.3; 1.0619+N	steam, neutral gases, vapours and liquids
	1.4408	steam, aggressive gases, vapours and liquids
Construction	Safety valve, spring loaded, direct loaded	
Sizing	For steam, air and water see capacity tables, calculation acc. to EN ISO 4126-1, TRD 421 and AD2000-A2, necessary information for valve layout:	
Medium gasform:	Mass flow (kg/h), molar mass (kg/kmol), temperature (°C), set gauge pressure (bar), back gauge pressure (bar)	
Medium liquid:	Mass flow (kg/h), density (kg/m3), viscosity, temperature (°C), Set gauge pressure (bar), back gauge pressure (bar)	
Order data:	ARI-SAFE-safety valve - Figure ....., DN ... / ..., PN .. / .., Material ....., set gauge pressure .... bar	

DN	20 / 32	25 / 40	32 / 50	40 / 65	50 / 80	65 / 100	80 / 125	100 / 150	125 / 200	150 / 250
Weight (kg)	8,5	10	14	20	28	40	53	80	125	165
Weight, bellow design (kg)	9,5	11,5	16	22,5	32	47	59	90	--	--

	without metal bellow	with metal bellow
static back pressure	no backpressure allowed	on request
dynamic back pressure	max. 10% from set pressure (gauge) (higher or request)	on request

ARMATUREN

Capacity saturated steam / air incl. 10% overpressure

Fig. 901 / 902 / 911 / 912

Set gauge-pressure	I Saturated steam in kg/h												II Air 0°C and 1.013 bar a in Nm³/h							
bar	DN 20		DN 25		DN 32		DN 40		DN 50		DN 65		DN 80		DN 100		DN 125		DN 150	
	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II
0,2	81	95	126	148	210	246	324	380	506	594	855	1003	1295	1520	2021	2375	2510	2945	3490	4100
0,4	120	143	185	223	307	370	473	570	739	891	1250	1505	1890	2280	2960	3565	3680	4380	5050	6090
0,5	132	161	207	252	344	419	529	646	827	1009	1400	1705	2120	2585	3310	4035	4070	4970	5660	6910
0,6	147	182	230	284	383	472	590	728	923	1135	1560	1920	2360	2910	3690	4545	4470	5520	6220	7675
0,8	174	218	272	341	453	567	698	873	1090	1365	1840	2305	2790	3490	4360	5460	5240	6555	7280	9115
1	203	255	317	398	526	661	811	1019	1270	1590	2140	2690	3245	4075	5070	6370	6030	7575	8385	10530
1,5	272	344	425	538	707	894	1090	1378	1700	2150	2875	3640	4355	5510	6800	8610	8050	10195	11200	14180
2	305	388	477	607	792	1008	1220	1550	1900	2425	3220	4100	4880	6210	7625	9700	10125	12890	14080	17920
2,5	366	468	572	731	950	1215	1460	1870	2285	2925	3865	4945	5855	7490	9145	11700	11990	15330	16660	21300
3	424	544	662	850	1100	1410	1695	2175	2645	3400	4475	5750	6775	8700	10600	13600	13880	17840	19300	24800
4	535	692	837	1080	1390	1800	2140	2770	3350	4330	5650	7310	8570	11080	13400	17300	17550	22725	24400	31600
5	640	834	1000	1300	1665	2160	2565	3330	4000	5210	6770	8800	10260	13340	16000	20840	21000	27350	29250	38000
6	745	975	1165	1520	1940	2530	2990	3900	4665	6090	7890	10300	11950	15600	18650	24370	24500	31900	34050	44400
7	850	1115	1330	1745	2210	2900	3400	4465	5320	6970	9000	11790	13600	17860	21300	27900	27900	36600	38800	50900
8	957	1255	1495	1965	2485	3260	3820	5030	5980	7860	10100	13280	15300	20100	23900	31430	31350	41200	43600	57300
9	1060	1395	1660	2185	2755	3630	4245	5590	6630	8740	11200	14770	16950	22370	26500	34960	34800	45800	48400	63800
10	1165	1540	1820	2400	3025	3990	4665	6150	7290	9610	12300	16250	18650	24600	29150	38500	38250	50500	53200	70200
11	1270	1680	1985	2625	3300	4360	5080	6720	7940	10500	13400	17750	20300	26900	31750	42000	41600	55100	58000	76600
12	1375	1820	2150	2845	3570	4730	5500	7290	8590	11380	14500	19240	22000	29150	34350	45500	45100	59700	62700	83100
13	1480	1960	2310	3070	3840	5090	5920	7850	9250	12270	15600	20730	23650	31400	37000	49000	48500	64400	67500	89500
14	1580	2100	2475	3290	4110	5460	6340	8400	9900	13150	16700	22200	25350	33650	39600	52600	52000	69000	72300	96000
15	1690	2245	2640	3500	4385	5830	6760	8980	10550	14030	17800	23700	27000	35900	42200	56100	55400	73600	77000	102400
16	1790	2385	2800	3725	4655	6190	7170	9540	11200	14900	18950	25200	28700	38200	44800	59600	58800	78200	81800	108800
17	1900	2530	2965	3950	4930	6560	7590	10100	11850	15800	20050	26700	30350	40400	47400	63100	62200	82900	86600	115300
18	2000	2670	3130	4170	5200	6920	8010	10670	12500	16650	21150	28100	32050	42700	50100	66700	65700	87500	91400	121700
19	2100	2800	3295	4390	5470	7300	8430	11240	13150	17550	22250	29600	33700	44900	52700	70200	69100	92100	96200	128100
20	2210	2950	3460	4610	5750	7660	8850	11800	13800	18400	23350	31150	35400	47200	55300	73700	72600	96800	101000	134600
21	2320	3090	3620	4830	6020	8020	9250	12370	14500	19300	24500	32650	37100	49400	57900	77300	76000	101400	105800	141000
22	2420	3230	3790	5050	6290	8390	9700	12930	15150	20200	25600	34150	38800	51700	60600	80800	79500	106000	110900	147500
24	2635	3515	4120	5490	6840	9120	10500	14060	16450	21970	27850	37100	42100	56200	65900	87900	86500	115300	120600	160400
25	2740	3655	4280	5710	7120	9490	10950	14620	17100	22850	28950	38600	43800	58500			90200	120000	125500	166900
26	2850	3800	4450	5930	7390	9850	11350	15190	17800	23730	30050	40100					93700	124600	130300	173300
28	3060	4080	4780	6370	7950	10600	12250	16320	19100	25500	32300	43100								
30	3270	4360	5120	6810	8500	11320	13100	17450	20450	27250										
32	3490	4640	5450	7250	9060	12050	13950	18570	21800	29000										
34		4925		7700		12790		19700		30800										
40		5770																		

max. set pressure stainless steel version

Stainless steel version max. 24 bar for saturated steam.

TÜV · SV · . . -663 · D/G

Calculation acc. to TRD 421 and AD2000-A2
DN125, DN150 higher pressures on request

Spring ranges in bar (gauge)

DN 20	DN 25 - 50	DN 65	DN 80	DN 100	DN 125	DN 150
0,2 - 0,5	0,2 - 0,5	0,2 - 0,5	0,2 - 0,5	0,2 - 0,5	0,2 - 0,4	0,2 - 0,5
0,52 - 1	0,52 - 1	0,52 - 1	0,52 - 1	0,52 - 1	0,42 - 0,75	0,52 - 1
1,05 - 1,5	1,05 - 1,5	1,05 - 1,5	1,05 - 1,5	1,05 - 1,5	0,77 - 1,1	1,05 - 1,5
1,55 - 2,5	1,55 - 2	1,55 - 2	1,55 - 2	1,55 - 2	1,15 - 1,5	1,55 - 1,9
2,55 - 4,5	2,05 - 2,7	2,05 - 2,7	2,05 - 2,7	2,05 - 2,5	1,55 - 1,9	1,95 - 2,3
4,6 - 8,5	2,75 - 3,6	2,75 - 3,6	2,75 - 3,6	2,55 - 3	1,95 - 2,5	2,35 - 2,7
8,6 - 19	3,7 - 5	3,7 - 5	3,7 - 5	3,05 - 3,6	2,55 - 2,95	2,75 - 3,3
19,1 - 28	5,1 - 9	5,1 - 9	5,1 - 9	3,7 - 5	3 - 4	3,35 - 4,1
28,1 - 35	9,1 - 16	9,1 - 16	9,1 - 14	5,1 - 9	4,1 - 5,7	4,2 - 5,5
35,1 - 40	16,1 - 22	16,1 - 22	14,1 - 19	9,1 - 14	5,8 - 8,2	5,6 - 7,4
	22,1 - 28	22,1 - 28	19,1 - 25	14,1 - 19	8,3 - 12	7,5 - 11
	28,1 - 34			19,1 - 24	12,1 - 17	11,1 - 16
					17,1 - 24	16,1 - 21
					24,1 - 27	21,1 - 26

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銓宏企業
股份有限公司
TEL:2821-8337

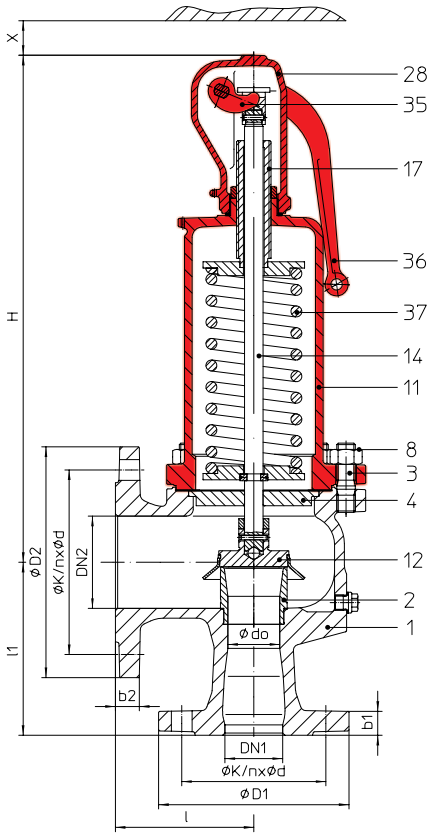


Fig. .. .901
closed lifting device
closed bonnet

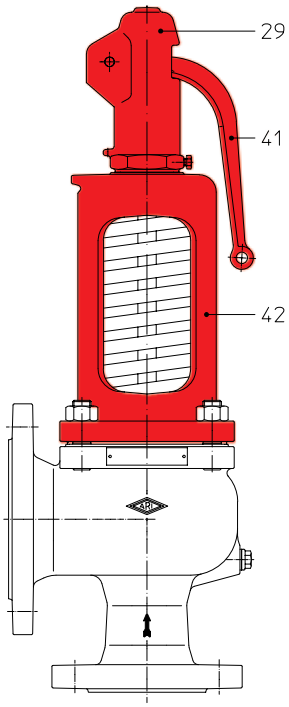


Fig. .. .902
open lifting device
open bonnet

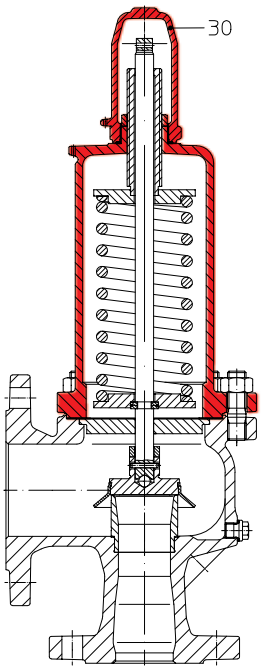


Fig. .. .911
gastight cap
closed bonnet

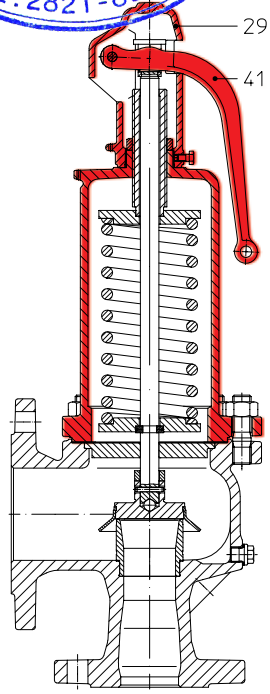


Fig. .. .912
open lifting device
closed bonnet

Capacity water incl. 10% overpressure

Fig. 901 / 911

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Gauge press.	Water 20°C in t/h									
bar	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
0,2	3,28	5,13	8,53	13,1	20,5	30,8	46,7	73,0	94,9	132,0
0,5	5,19	8,12	13,5	20,8	32,5	48,8	73,9	115,0	150,0	209,0
1	7,35	11,5	19,1	29,4	45,9	69,0	104,0	163,0	212,0	295,0
2	10,4	16,2	27,0	41,6	64,9	97,5	148,0	231,0	300,0	417,0
3	12,7	19,9	33,0	50,9	79,5	119,0	181,0	283,0	368,0	511,0
4	14,7	22,9	38,1	58,7	91,8	138,0	209,0	326,0	424,0	590,0
5	16,4	25,7	42,6	65,5	102,0	154,0	233,0	365,0	474,0	660,0
6	18,0	28,1	46,7	72,0	112,0	169,0	256,0	400,0	520,0	723,0
7	19,4	30,4	50,4	77,7	121,0	182,0	276,0	432,0	562,0	781,0
8	20,8	32,5	53,9	83,1	130,0	195,0	295,0	461,0	600,0	835,0
9	22,0	34,4	57,2	88,1	138,0	207,0	313,0	490,0	637,0	885,0
10	23,2	36,3	60,3	92,9	145,0	218,0	330,0	516,0	671,0	933,0
11	24,4	38,0	63,2	97,4	152,0	229,0	346,0	540,0	703,0	977,0
12	25,4	39,7	66,0	102,0	159,0	239,0	362,0	565,0	735,0	1022,0
13	26,5	41,4	68,7	106,0	165,0	249,0	376,0	587,0	764,0	1062,0
14	27,5	42,9	71,3	110,0	172,0	258,0	391,0	611,0	794,0	1104,0
16	29,4	45,9	76,3	117,0	184,0	276,0	418,0	653,0	849,0	1181,0
18	31,2	48,7	80,9	125,0	195,0	293,0	443,0	692,0	900,0	1252,0
19	32,0	49,9	82,9	128,0	200,0	300,0	454,0	710,0	923,0	1284,0
20	32,8	51,3	85,3	131,0	205,0	308,0	467,0	730,0	949,0	1320,0
21	33,7	52,6	87,4	135,0	210,0	316,0	479,0	748,0	973,0	1350,0
24	36,0	56,2	93,4	144,0	225,0	338,0	512,0	800,0	1040,0	1443,0
25	36,7	57,4	95,3	147,0	229,0	345,0	522,0		1059,0	1473,0
26	37,4	58,5	97,2	150,0	234,0	352,0			1080,0	1502,0
27	38,2	59,6	99,0	153,0	238,0	358,0			1100,0	
28	38,9	60,7	101,0	155,0	243,0	365,0				
30	40,2	62,9	104,0	161,0	251,0					
32	41,5	64,8	108,0	166,0	259,0					
34	42,8	66,9	111,0	171,0	268,0					
40	46,4									

max. set pressure stainless steel version

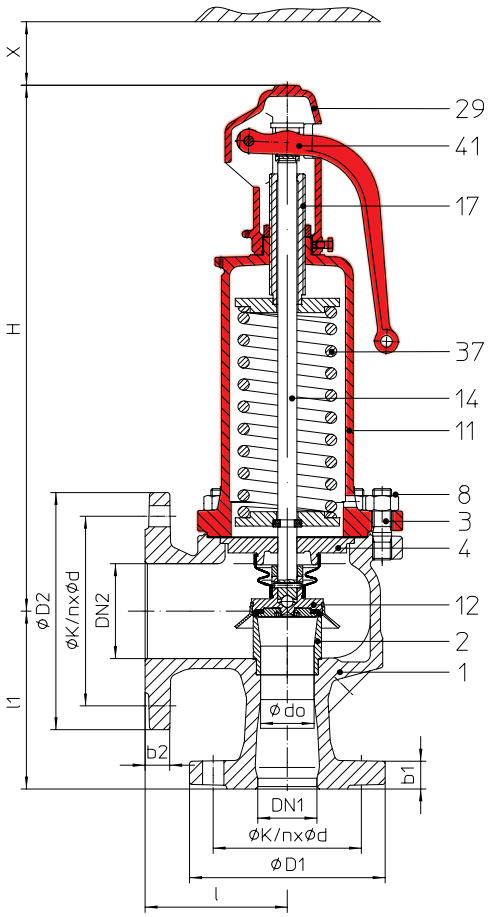
TÜV · SV · . . -729 · F

Stainless steel-bellow: Spring ranges in bar (gauge)							
DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
3,0 - 3,7	2,5 - 3,3	2,5 - 3,2	2,6 - 3,6	2,8 - 3,4	2,5 - 3,7	2,5 - 3,3	2,5 - 3,5
3,8 - 4,6	3,4 - 4,6	3,3 - 4,0	3,7 - 4,5	3,5 - 4,5	3,8 - 4,6	3,4 - 4,5	3,6 - 4,2
4,7 - 6,3	4,7 - 5,4	4,1 - 5,5	4,6 - 5,6	4,6 - 8,4	4,7 - 5,9	4,6 - 5,8	4,3 - 4,9
6,4 - 8,4	5,5 - 7,0	5,6 - 6,4	5,7 - 7,5	8,5 - 10,0	6,0 - 8,0	5,9 - 7,5	5,0 - 5,6
8,5 - 10,2	7,1 - 9,0	6,5 - 7,9	7,6 - 10,0	10,1 - 11,5	8,1 - 10,0	7,6 - 8,9	5,7 - 7,0
10,3 - 13,0	9,1 - 11,7	8,0 - 11,5	10,1 - 12,5	11,6 - 16,0	10,1 - 18,0	9,0 - 10,5	7,1 - 8,0
13,1 - 17,0	11,8 - 16,0	11,6 - 18,5	12,6 - 16,0	16,1 - 18,5		10,6 - 13,0	8,1 - 9,3
17,1 - 27,5	16,1 - 22,0	18,6 - 25,0	16,1 - 22,0	18,6 - 23,0		13,1 - 14,0	9,4 - 11,5
	22,1 - 30,0						11,6 - 13,0
Design with bellow as standard valve (only Fig. 901/911)							

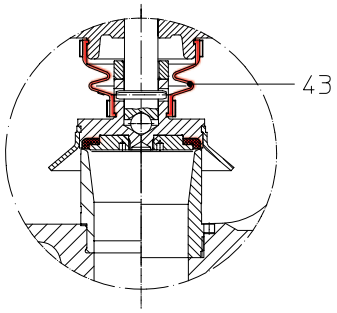
	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
d_o in mm	18	22,5	29	36	45	58,5	72	90	106	125
A_o in mm^2	254	398	661	1018	1590	2688	4072	6362	8825	12272

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ARI-SAFE - **Heating-safety valve - Figure 903**



EPDM-disc, soft seal insert;
EPDM-bellow



(Design DN 20 - 100) (Design DN 125 - 150)

Special version:
Drainhole with plug

Figure	**Nom. pressure**	**Material**	**Nominal diameter**	**Temperature range**	**Flanges**	Flangeholes/-thick-ness tolerances
12.903	PN 16 / 16	GG-25	DN 20/32 up to DN 150/250	- 10°C up to +120°C	DIN EN 1092-2	DIN 2533 / 2533
Type-test approval	**Figure 903**	spring loaded	TÜV · SV · . . -688 · D/G/H	**Heating-safety valve**	Set gauge pressure see „Capacity“	

Requirement	Acc. to TRD 721 Part 6, material selection observe TRD! (GG-25 max. 10 bar)*
Application	Acc. to DIN EN 12828 Heating systems in buidlings
Construction	Standard safety valve, spring loaded, direct loaded metal seat with EPDM insert, EPDM-bellow, closed spring bonnet with control hole, open lifting device, stainless steel seat and spindle
Sizing	Acc. to TRD Part 6.2.5, see capacity-tables Figure 903
Order data:	ARI-SAFE-safety valve - Figure ....., DN ... / ..., PN .. / .., Material ....., Set gauge pressure .... bar
The safety valves are available with pressure rates 0,5 bar.	

* > 10 bar 25.903 GGG-40.3 or 35.903 1.0619+N

DN	**20 / 32**	**25 / 40**	**32 / 50**	**40 / 65**	**50 / 80**	**65 / 100**	**80 / 125**	**100 / 150**	**125 / 200**	**150 / 250**
Weight (kg)	8,5	9,5	13,5	20	26	39	53	82	125	165

Capacity saturated steam incl. 10% overpressure

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Set gauge pressure in bar	Capacity	Saturated steam in kg/h / Heating capacity in kW									
		Inlet diameter									
		DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
1,0	kg/h	203	317	526	811	1270	2140	3245	4070	6803	8385
	kW	124	193	321	495	774	1310	1980	3095	3680	5120
1,5	kg/h	272	425	707	1090	1700	2875	4355	6800	8050	11200
	kW	164	257	427	658	1030	1740	2630	4110	4870	6770
2,0	kg/h	305	477	792	1220	1900	3220	4880	7625	10125	14080
	kW	183	285	474	731	1140	1930	2920	4570	6060	8430
2,5	kg/h	366	572	950	1460	2285	3865	5855	9145	11990	16660
	kW	217	340	565	870	1360	2300	3480	5440	7120	9900
3,0	kg/h	424	662	1100	1695	2645	4475	6775	10600	13880	19300
	kW	250	391	649	1000	1560	2640	4000	6250	8190	11400
3,5	kg/h	482	754	1250	1930	3015	5100	7720	12050	15600	21700
	kW	283	442	735	1130	1770	2990	4530	7070	9150	12700
4,0	kg/h	535	837	1390	2140	3350	5650	8570	13400	17550	24400
	kW	312	488	810	1250	1950	3300	5000	7800	10200	14200
4,5	kg/h	588	920	1530	2355	3680	6215	9410	14710	19300	26850
	kW	341	533	885	1360	2130	3600	5460	8520	11100	15600
5,0	kg/h	640	1000	1665	2565	4000	6770	10260	16000	21000	29250
	kW	370	578	960	1480	2310	3900	5910	9240	12100	16900
5,5	kg/h	694	1085	1800	2775	4340	7330	11100	17350	22770	31660
	kW	398	622	1030	1590	2490	4200	6370	9950	13000	18200
6,0	kg/h	745	1165	1940	2990	4665	7890	11950	18650	24500	34050
	kW	426	666	1100	1700	2660	4500	6820	10600	14000	19400
6,5	kg/h	800	1250	2075	3200	4995	8440	12790	20000	26220	36450
	kW	454	709	1180	1810	2840	4790	7260	11300	14900	20700
7,0	kg/h	850	1330	2210	3400	5320	9000	13600	21300	27900	38800
	kW	481	752	1250	1930	3000	5080	7700	12000	15800	22000
7,5	kg/h	904	1415	2345	3615	5650	9550	14470	22600	29660	41250
	kW	509	795	1320	2030	3180	5370	8140	12700	16700	23200
8,0	kg/h	957	1495	2485	3820	5980	10100	15300	23900	31350	43600
	kW	536	837	1390	2140	3350	5660	8580	13400	17600	24500
9,0	kg/h	1060	1660	2755	4245	6630	11200	16950	26500	34800	48400
	kW	590	921	1530	2360	3685	6230	9435	14740	19340	26900
10,0	kg/h	1165	1820	3025	4665	7290	12300	18650	29150	38250	53200
	kW	643	1000	1670	2570	4010	6790	10300	16000	21100	29300
11,0	kg/h	1270	1985	3300	5080	7940	13400	20300	31750	41600	58000
	kW	695	1085	1800	2780	4340	7340	11100	17400	22800	31700
12,0	kg/h	1375	2150	3570	5500	8590	14500	22000	34350	45100	62700
	kW	745	1165	1940	2990	4670	7890	12000	18700	24500	34000
13,0	kg/h	1480	2310	3840	5920	9250	15600	23650	37000	48500	67500
	kW	798	1250	2070	3190	4990	8430	12800	20000	26200	36400
14,0	kg/h	1580	2475	4110	6340	9900	16700	25350	39600	52000	72300
	kW	850	1325	2200	3390	5300	8970	13600	21200	27900	38700
15,0	kg/h	1690	2640	4385	6760	10550	17800	27000	42200	55400	77000
	kW	900	1405	2330	3590	5620	9500	14400	22500	29500	41000
16,0	kg/h	1790	2800	4655	7170	11200	18950	28700	44800	58800	81800
	kW	950	1480	2460	3790	5930	10000	15200	23700	31100	43300

Calculated acc. to TRD 721 Part 6 and AD2000-A2

Capacity - water in kg/h — **Sizing: 1 l/h ≙ 1 kW**

Set gauge pressure in bar	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DN 20	7300	10400	12700	14700	16400	18000	19400	21000	22000	23000	24500	25500	26500	27500	28000	29500
DN 25	11500	16000	20000	23000	25500	28000	30500	32500	34500	36500	38000	40000	41500	42500	44000	46000

Sizing safety valves for the volume flow of water expansion (DIN 4751 p2 - item 8.1)

Spring ranges in bar (gauge)

DN 20	DN 25 - 50	DN 65	DN 80	DN 100	DN 125	DN 150
0,2 - 0,5	0,2 - 0,5	0,2 - 0,5	0,2 - 0,5	0,2 - 0,5	0,2 - 0,4	0,2 - 0,5
0,52 - 1	0,52 - 1	0,52 - 1	0,52 - 1	0,52 - 1	0,42 - 0,75	0,52 - 1
1,05 - 1,5	1,05 - 1,5	1,05 - 1,5	1,05 - 1,5	1,05 - 1,5	0,77 - 1,1	1,05 - 1,5
1,55 - 2,5	1,55 - 2	1,55 - 2	1,55 - 2	1,55 - 2	1,15 - 1,5	1,55 - 1,9
2,55 - 4,5	2,05 - 2,7	2,05 - 2,7	2,05 - 2,7	2,05 - 2,5	1,55 - 1,9	1,95 - 2,3
4,6 - 8,5	2,75 - 3,6	2,75 - 3,6	2,75 - 3,6	2,55 - 3	1,95 - 2,5	2,35 - 2,7
8,6 - 16	3,7 - 5	3,7 - 5	3,7 - 5	3,05 - 3,6	2,55 - 2,95	2,75 - 3,3
	5,1 - 9	5,1 - 9	5,1 - 9	3,7 - 5	3 - 4	3,35 - 4,1
	9,1 - 16	9,1 - 16	9,1 - 14	5,1 - 9	4,1 - 5,7	4,2 - 5,5
			14,1 - 16	9,1 - 14	5,8 - 8,2	5,6 - 7,4
				14,1 - 16	8,3 - 12	7,5 - 11
					12,1 - 16	11,1 - 16

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ARI-SAFE - **Low pressure steam-safety valve - Figure 904 / 990**

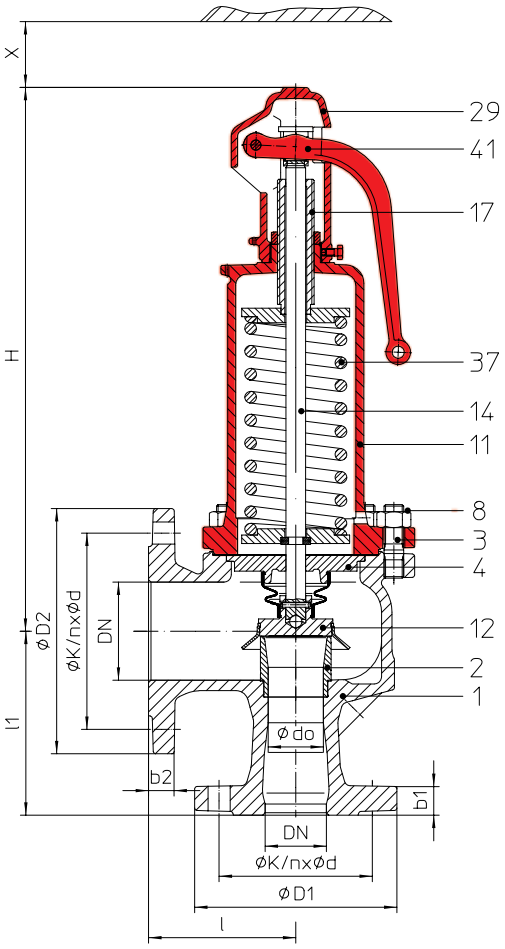
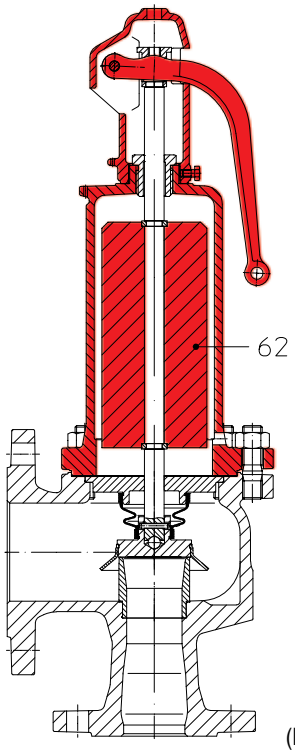
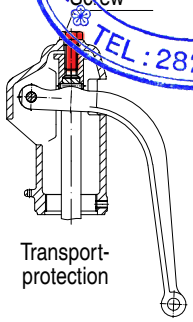


Fig. 904





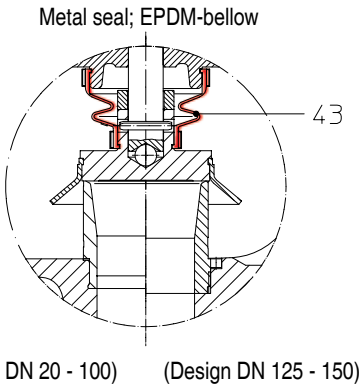


Fig. 990

Figure	Nom. pressure	Material	Nominal diameter	Temperature range	Flanges	Flangeholes/-thick-ness tolerances
12.904	PN 16 / 16	GG-25	DN 20/32 up to DN 150/250	- 10°C up to +120°C	DIN EN 1092-2	DIN 2533 / 2533
12.990	PN 16 / 16	GG-25	DN 25/40 up to DN 100/150	- 10°C up to +120°C	DIN EN 1092-2	DIN 2533 / 2533
Type-test approval	**Figure 904**	spring loaded	TÜV · SV · . . -689 · D	**Low pressure steam-safety valve**	Set gauge pressure see „Capacity“	
	Figure 990	weight loaded	TÜV · SV · . . -757 · D			

Requirement	Acc. toTRD 721 Part 5
Application	For low pressure steamgenerators up to 1 bar, DIN 4750 and DIN EN 12828 Heating systems in buidlings
Construction	Standard safety valve, spring/weight loaded, direct loaded, EPDM-bellow, closed bonnet with control hole, open lifting device, stain-less steel seat and spindle
Sizing	See capacity-tables Figure 904 / 990
Order data:	ARI-SAFE-safety valve - Figure ....., DN ... / ..., PN .. / .., Material ....., set gauge pressure .... bar

DN	20 / 32	25 / 40	32 / 50	40 / 65	50 / 80	65 / 100	80 / 125	100 / 150	125 / 200	150 / 250
Weight Fig. 904 (kg)	8,5	9,5	13,5	20	26	39	53	82	125	165
Weight Fig. 990 (kg)	--	11	18	25	36	55	77	120	--	--

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Set gauge-pressure	Capacity	Saturated steam in kg/h Heating capacity in kW						Figure 990
bar		DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
0,1	kg/h	90	150	230	355	600	910	1420
	Mcal/h	48	81	124	191	323	489	768
	kW	**56**	**94**	**144**	**222**	**375**	**569**	**888**
0,15	kg/h	105	175	270	425	715	1085	1690
	Mcal/h	56	94	145	228	384	582	907
	kW	**66**	**109**	**168**	**265**	**446**	**677**	**1055**
0,2	kg/h	130	215	330	515	870	1315	2055
	Mcal/h	70	115	177	276	466	704	1100
	kW	**81**	**134**	**205**	**321**	**542**	**819**	**1279**
0,25	kg/h	145	240	370	575	975	1475	2305
	Mcal/h	78	128	198	308	522	790	1234
	kW	**90**	**149**	**230**	**358**	**607**	**918**	**1435**
0,3	kg/h	160	270	415	650	1095	1660	2590
	Mcal/h	86	144	222	347	585	887	1385
	kW	**99**	**168**	**258**	**404**	**681**	**1032**	**1610**
0,35	kg/h	175	290	445	695	1175	1780	2780
	Mcal/h	93	155	238	371	627	951	1485
	kW	**109**	**180**	**276**	**432**	**730**	**1105**	**1726**
0,4	kg/h	190	315	485	755	1280	1940	3030
	Mcal/h	101	168	259	403	683	1034	1616
	kW	**118**	**195**	**301**	**468**	**794**	**1203**	**1879**
0,45	kg/h	205	335	520	810	1370	2075	3245
	Mcal/h	109	178	277	431	729	1105	1728
	kW	**127**	**207**	**322**	**502**	**848**	**1285**	**2009**
0,5	kg/h	225	420	600	990	1610	2440	3670
	Mcal/h	120	223	319	526	856	1298	1952
	kW	**139**	**260**	**371**	**612**	**996**	**1509**	**2270**

Set gauge-pressure	Capacity	Saturated steam in kg/h									Figure 904
bar		DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100	DN 125	DN 150
0,2	kg/h	72	113	187	289	451	763	1155	1805	2241	3116
0,3	kg/h	92	144	239	368	575	972	1472	2300	2867	3986
0,4	kg/h	110	172	286	440	688	1163	1762	2753	3380	4700
0,5	kg/h	125	196	325	501	783	1325	2006	3135	3858	5365
0,6	kg/h	142	223	370	569	889	1503	2277	3557	4317	6004
0,7	kg/h	158	248	412	634	990	1675	2537	3964	4748	6603
0,8	kg/h	173	271	450	693	1082	1830	2772	4331	5201	7233
0,9	kg/h	179	292	485	746	1166	1971	2986	4666	5616	7809
1,0	kg/h	203	317	526	811	1270	2140	3245	5070	6030	8385

Conversionrates: 1 kW = 860 kcal/h* = 0,86 Mcal/h* = 3,6 MJ/h * not lawful units

1 Mcal/h* = 1000 kcal/h* = 1,163 kW

ARI-SAFE- Figure 990 weight loaded, 0,1 - 0,5 bar set pressure.

ARI-SAFE- Figure 904 spring loaded, 0,2 - 1 bar set pressure.

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ARI-SAFE-P - **Standard safety valve D/G/F**

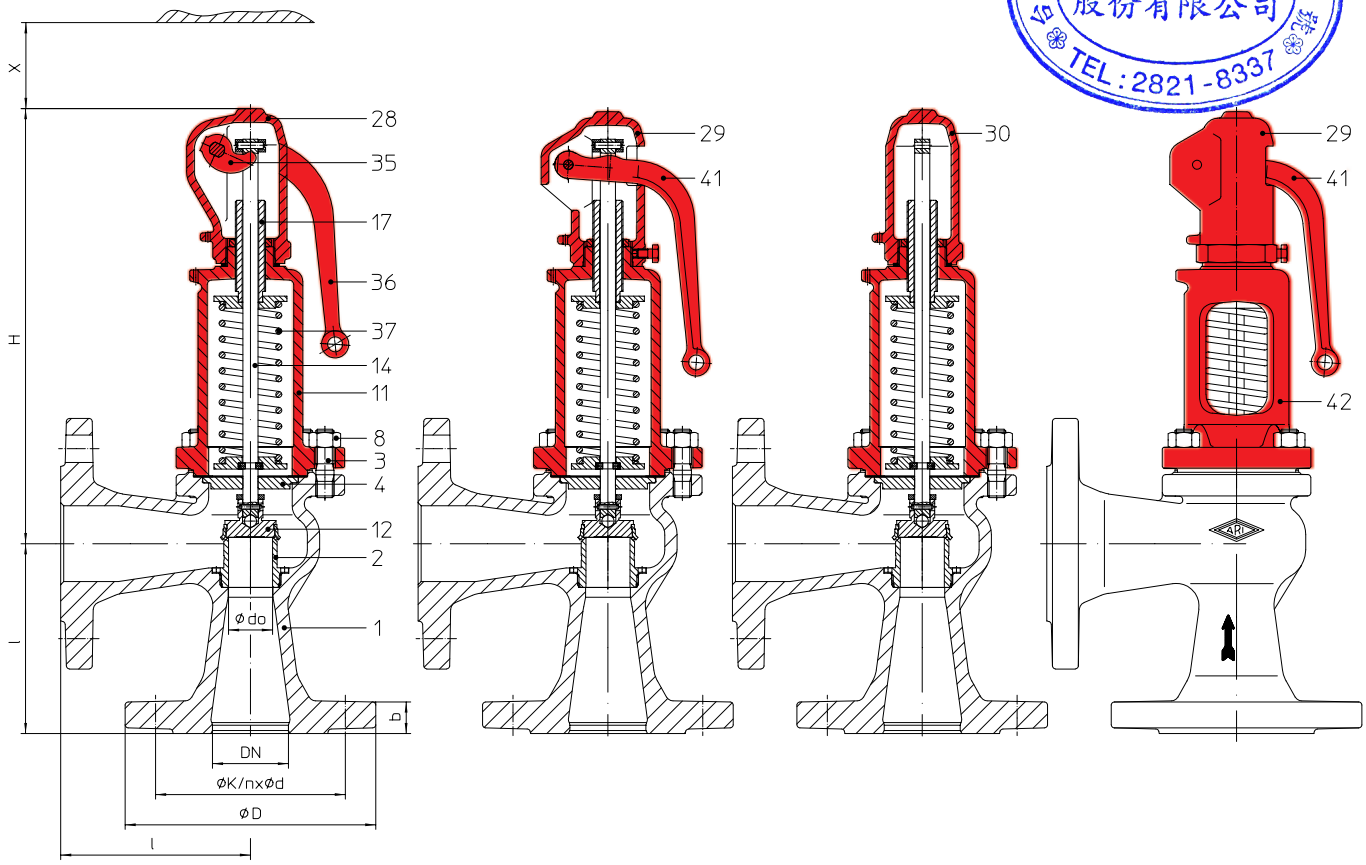


Fig. .. .921
closed lifting device
closed bonnet

Fig. .. .922
open lifting device
closed bonnet

Fig. .. .923
gastight cap
closed bonnet

Fig. .. .924
open lifting device
open bonnet

Figure	Nom. pressure	Material	Nominal diameter	Temperature range	Flanges	Flangeholes/-thick-ness tolerances
12.921 / 922 / 923/ 924	PN 16	GG-25	DN 20 up to DN 100	- 10°C up to +300°C	DIN EN 1092-2	DIN 2533
35.921 / 922 / 923 / 924	PN 40	1.0619+N	DN 20 up to DN 100	- 10°C up to +450°C	DIN EN 1092-1	DIN 2545
55.921 / 923	PN 40	1.4408	DN 20 up to DN 100	- 60°C up to +400°C	DIN EN 1092-1	DIN 2545
Type-test approval	Standard valve:	TÜV · SV · . . -811 · D/G	**Figure 921 - 924**		Set gauge pressure see „Capacity“	
	Standard valve:	TÜV · SV · . . -821 · F	**Figure 921 / 923**			

Requirement	Acc. to EN ISO 4126-1, VdTÜV-leaflet 100, AD2000-A2, TRD 421, material selection observe TRB No.45!	
Application	GG-25; 1.0619+N	steam, neutral gases, vapours and liquids
	1.4408	steam, aggressive gases, vapours and liquids
Construction	Safety valve, spring loaded, direct loaded	
Sizing	For steam, air and water see capacity tables, calculation acc. to EN ISO 4126-1, TRD 421 and AD2000-A2, necessary information for valve layout:	
Medium gasform:	Mass flow (kg/h), molar mass (kg/kmol), temperature (°C), set gauge pressure (bar), back gauge pressure (bar)	
Medium liquid:	Mass flow (kg/h), density (kg/m3), viscosity, temperature (°C), set gauge pressure (bar), back gauge pressure (bar)	
Order data:	ARI-SAFE-P-safety valve - Figure ....., DN ...., PN ...., Material ....., set gauge pressure .... bar	

DN	20	25	32	40	50	65	80	100
Weight (kg)	5	5,5	8	9,5	11,5	15,5	20,5	33
Weight, bellow design (kg)	5,4	6	9	10,5	12,8	17,5	23	37

	without metal bellow	with metal bellow
static back pressure	no backpressure allowed	on request
dynamic back pressure	max. 10% from set pressure (gauge) (higher on request)	on request

Capacity saturated steam / air incl. 10% overpressure

Fig. 921 / 922 / 923 / 924

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Set gauge-pressure	I Saturated steam in kg/h												II Air at C and 1.013 bara in Nm³/h			
bar	DN 20		DN 25		DN 32		DN 40		DN 50		DN 65		DN 80		DN 100	
	I	II	I	II	I	II	I	II	I	II	I	II	I	II	I	II
0,2 [1]	20	24	23	27	33	38	44	51	85	100	142	167	195	229	305	358
0,4	23	28	34	41	48	58	65	78	126	152	209	252	290	349	450	546
0,5	27	32	39	47	55	68	74	90	144	176	239	292	332	405	520	632
0,6	30	37	43	53	62	77	82	102	162	199	267	330	372	459	580	717
0,8	36	45	51	63	73	91	100	125	189	237	323	404	435	545	680	852
1	41	52	58	73	84	106	114	144	218	274	370	466	500	631	785	986
2	68	86	97	123	139	178	188	240	362	461	610	777	830	1061	1300	1657
3	95	123	137	176	197	253	265	340	510	658	860	1103	1180	1514	1840	2365
4	119	154	171	221	246	318	330	428	640	826	1070	1385	1470	1902	2300	2970
5	142	185	205	266	295	383	396	515	765	995	1280	1665	1760	2290	2750	3580
6	166	217	238	311	343	448	460	602	890	1165	1495	1950	2050	2680	3200	4180
7	189	248	272	356	391	513	525	689	1015	1330	1700	2230	2340	3065	3650	4790
8	213	279	305	401	440	577	590	776	1140	1500	1910	2515	2630	3450	4100	5390
9	236	311	340	446	490	642	655	863	1265	1670	2120	2800	2910	3840	4550	6000
10	259	342	370	491	535	707	720	950	1390	1835	2330	3080	3200	4225	5000	6600
12	306	405	440	581	630	837	850	1125	1640	2170	2750	3645	3780	5000	5900	7800
14	352	468	505	671	730	967	980	1300	1890	2510	3170	4200	4350	5780	6800	9000
16	400	530	570	761	825	1096	1105	1475	2140	2845	3590	4770	4920	6550	7700	10200
18	445	593	640	851	920	1226	1235	1645	2390	3180	4000	5340	5500	7320	8600	11450
20	490	656	705	941	1020	1356	1365	1820	2640	3520	4430	5900	6080	8100	9500	12650
22	540	718	770	1031	1110	1485	1495	1995	2890	3855	4850	6465	6660	8870	10400	13850
24	585	781	840	1121	1210	1615	1630	2170	3140	4190	5270	7030	7240	9650	11300	15100
25	609	812	875	1167	1260	1680	1690	2250	3270	4360	5480	7310	7530	10040	11760	15680
26	630	844	910	1211	1310	1745	1760	2340	3400	4530	5700	7595	7820	10400	12200	16300
28	680	907	975	1302	1405	1875	1890	2520	3650	4860	6120	8160	8400	11200	13100	17500
30	730	969	1045	1390	1505	2000	2020	2690	3900	5200	6550	8720	8990	12000	14000	18700
32	775	1032	1110	1480	1600	2130	2150	2870	4160	5540	6980	9290	9580	12750	15000	19900
35		1126		1620		2330		3130		6040		10130		13900		21700
36,4		1170		1685		2410		3250		6290		10540		14450		22600
40		1283		1840		2650		3560		6880		11500		15850		24700

max. set pressure stainless steel version

[1] DN 20 - 0,3bar

Stainless steel version max. 24 bar for saturated steam

Spring ranges in bar (gauge)							
DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
0,3 - 0,5	0,2 - 0,6	0,2 - 0,55	0,2 - 0,4	0,2 - 0,4	0,2 - 0,5	0,2 - 0,6	0,2 - 0,5
0,52 - 1,0	0,62 - 1,1	0,57 - 0,8	0,42 - 0,6	0,42 - 0,6	0,52 - 1,2	0,62 - 1,2	0,52 - 1,1
1,05 - 1,4	1,15 - 2,0	0,82 - 1,2	0,62 - 1,1	0,62 - 1,2	1,25 - 2,0	1,25 - 2,1	1,15 - 1,7
1,45 - 1,9	2,05 - 2,7	1,25 - 2,0	1,15 - 1,8	1,25 - 1,8	2,05 - 2,7	2,15 - 2,6	1,75 - 2,4
1,95 - 2,5	2,75 - 3,7	2,05 - 3,3	1,85 - 2,7	1,85 - 2,5	2,75 - 3,4	2,65 - 3,2	2,45 - 3,1
2,55 - 3,5	3,8 - 5,0	3,35 - 5,2	2,75 - 4,3	2,55 - 3,2	3,45 - 4,5	3,25 - 4,2	3,15 - 4,0
3,55 - 4,0	5,1 - 8,0	5,3 - 8,0	4,4 - 6,0	3,25 - 4,5	4,6 - 5,5	4,3 - 5,5	4,1 - 5,0
4,1 - 5,5	8,1 - 10,5	8,1 - 11,5	6,1 - 9,0	4,6 - 8,5	5,6 - 6,8	5,6 - 6,5	5,1 - 8,0
5,6 - 7,0	10,6 - 15,0	11,6 - 16,5	9,1 - 12,0	8,6 - 13,0	6,9 - 8,5	6,6 - 9,0	8,1 - 11,0
7,1 - 10,5	15,1 - 23,0	16,6 - 22,0	12,1 - 17,0	13,1 - 17,0	8,6 - 14,0	9,1 - 12,0	11,1 - 17,5
10,6 - 17,0	23,1 - 35,0	22,1 - 30,0	17,1 - 30,0	17,1 - 23,0	14,1 - 23,0	12,1 - 16,5	17,6 - 27,5
17,1 - 25,0	35,1 - 40,0	30,1 - 40,0	30,1 - 40,0	23,1 - 34,0	23,1 - 34,0	16,6 - 20,0	27,6 - 40,0
25,1 - 37,0				34,1 - 40,0	34,1 - 40,0	20,1 - 33,0	
37,1 - 40,0						33,1 - 40,0	

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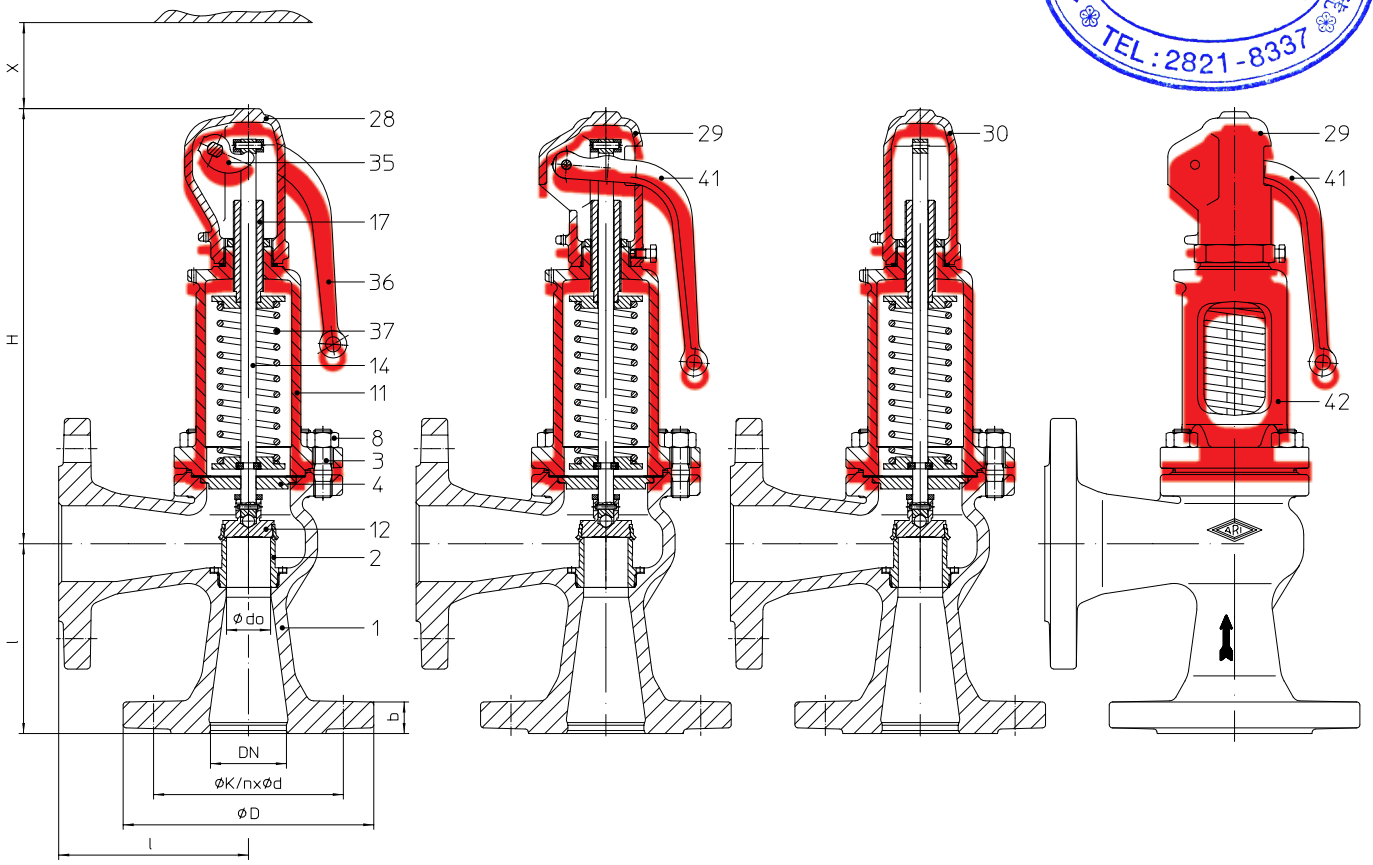


Fig. .. .921
closed lifting device
closed bonnet

Fig. .. .922
open lifting device
closed bonnet

Fig. .. .923
gastight cap
closed bonnet

Fig. .. .924
open lifting device
open bonnet

Capacity water incl. 10% overpressure

Fig. 921 / 923

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Gauge press.	Water 20°C in t/h							
bar	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
0,2[1]	0,86	0,97	1,4	1,95	3,63	6,3	8,26	13,06
0,5	1,11	1,54	2,21	3,09	5,74	9,0	13,22	20,6
1	1,57	2,17	3,13	4,37	8,12	14,15	18,6	29,2
2	2,22	3,07	4,42	6,17	11,48	20,0	26,4	41,3
3	2,72	3,76	5,42	7,56	14,07	24,5	32,4	50,6
4	3,14	4,35	6,26	8,73	16,24	28,3	37,4	58,4
5	3,51	4,86	7,0	9,76	18,16	31,6	41,8	65,3
6	3,85	5,32	7,66	10,69	19,89	34,6	45,8	71,6
7	4,16	5,75	8,28	11,55	21,5	37,4	49,5	77,3
8	4,45	6,14	8,85	12,35	23,0	40,0	52,9	82,6
9	4,72	6,52	9,39	13,1	24,4	42,4	56,1	87,6
10	4,97	6,87	9,89	13,81	25,7	44,7	59,1	92,4
12	5,44	7,53	10,84	15,12	28,1	49,0	64,8	100,2
14	5,88	8,13	11,71	16,34	30,4	52,9	69,9	109,3
16	6,29	8,69	12,51	17,46	32,5	56,6	74,8	116,8
18	6,67	9,22	13,27	18,52	34,4	60,0	79,3	123,9
20	7,03	9,72	14,0	19,53	36,3	63,3	83,6	130,6
22	7,37	10,19	14,7	20,5	38,1	66,3	87,7	137,0
24	7,7	10,64	15,33	21,4	39,8	69,3	91,6	143,1
25	7,86	10,86	15,64	21,8	40,6	70,7	93,3	146,0
26	8,0	11,06	15,92	22,2	41,3	72,0	95,1	148,6
28	8,3	11,47	16,52	23,1	42,9	74,7	98,7	154,2
30	8,6	11,88	17,1	23,9	44,4	77,3	102,2	159,7
35	9,28	12,83	18,47	25,8	47,9	83,5	110,4	172,5
36,4	9,46	13,10	18,80	26,3	48,9	85,2	112,3	175,9
40	9,92	13,71	19,75	27,6	51,3	89,3	118,0	184,4

max. set pressure stainless steel version

[1] DN20 - 0,3 bar

Stainless steel-bellow: Spring ranges in bar (gauge)							
DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
3,0 - 5,5	3,0 - 4,8	3,0 - 4,5	3,0 - 4,5	3,0 - 3,5	3,0 - 3,5	3,0 - 3,5	3,0 - 4,5
5,6 - 8,0	4,9 - 6,0	4,6 - 8,0	4,6 - 5,7	3,6 - 5,0	3,6 - 4,3	3,6 - 4,9	4,6 - 6,5
8,1 - 12,0	6,1 - 8,0	8,1 - 11,0	5,8 - 10,0	5,1 - 7,0	4,4 - 5,9	5,0 - 7,0	6,6 - 10,0
12,1 - 21,0	8,1 - 12,5	11,1 - 14,5	10,1 - 16,0	7,1 - 10,5	6,0 - 7,5	7,1 - 9,0	10,1 - 18,0
21,1 - 27,5	12,6 - 16,0	14,6 - 21,0	16,1 - 22,0	10,6 - 15,5	7,6 - 8,8	9,1 - 11,0	18,1 - 35,0
27,6 - 40,0	16,1 - 20,5	21,1 - 40,0	22,1 - 31,0	15,6 - 20,0	8,9 - 14,0	11,1 - 14,7	
	20,6 - 30,0		31,1 - 40,0	20,1 - 40,0	14,1 - 21,0	14,8 - 18,8	
	30,1 - 40,0				21,1 - 30,0	18,9 - 35,0	
					30,1 - 40,0		
Design with bellow as standard valve (only Fig. 921/923)							

	DN 20	DN 25	DN 32	DN 40	DN 50	DN 65	DN 80	DN 100
d_o in mm	12	15	18	20	29	36	44	55
A_o in mm^2	113	177	254	314	661	1018	1520	2376

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ARI-SAFE-TC - Full lift safety valve D/G
Standard safety valve F

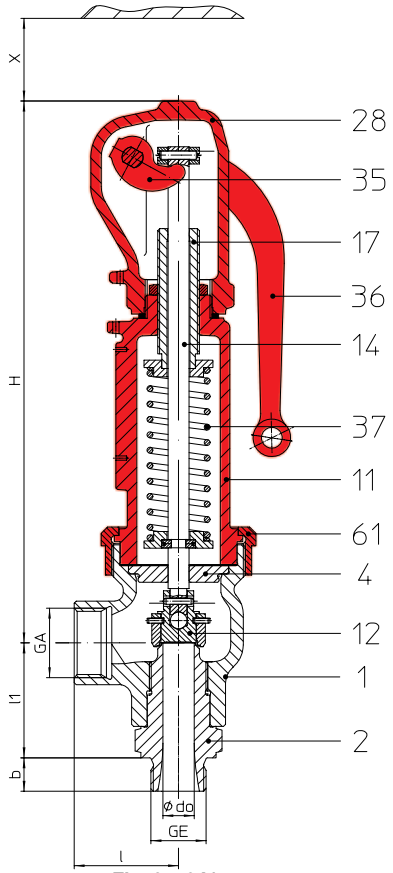


Fig. 25 .941
closed lifting device

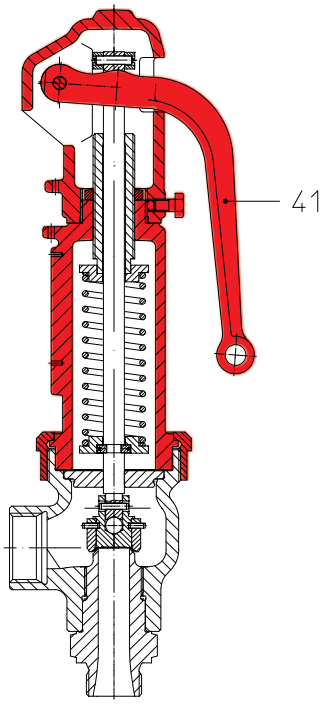


Fig. 25 .942
open lifting device

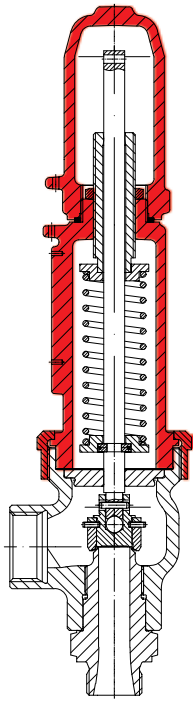


Fig. 25 .943
gastight cap

Figure	Nom. pressure	Material	Nominal diameter	Temperature range	Thread
25.941 / 942 / 943	PN 40	GGG-40.3	DN 15 up to DN 25	- 10°C up to +350°C	DIN ISO 228 Part 1
55.941 / 943	PN 40	1.4408	DN 15 up to DN 25	- 60°C up to +400°C	DIN ISO 228 Part 1

Type-test approval	Full lift valve:	TÜV · SV · . . -995 · D/G	**Figure 941 - 943**	Set gauge pressure see „Capacity“
	Standard valve:	TÜV · SV · . . -1005 · F	**Figure 941 / 943**	

Requirement	Acc. to EN ISO 4126-1, VdTÜV-leaflet 100, AD2000-A2, TRD 421	
Application	GGG-40.3	steam, neutral gases, vapours and liquids
	1.4408	steam, aggressive gases, vapours and liquids
Construction	Safety valve, spring loaded, direct loaded	
Sizing	for steam, air and water see capacity tables, calculation acc. to EN ISO 4126-1, TRD 421 and AD2000-A2 necessary information for valve layout:	
Medium gasform:	Mass flow (kg/h), molar mass (kg/kmol), temperature (°C), set gauge pressure (bar), back gauge pressure (bar)	
Medium liquid:	Mass flow (kg/h), density (kg/m3), viscosity, temperature (°C), set gauge pressure (bar), back gauge pressure (bar)	
Order data:	ARI-SAFE-TC-safety valve - Figure ....., DN ... , PN .. , Material ....., set gauge pressure .... bar	

DN	15	20	25
Weight (kg)	3,5	3,5	3,8
Weight, bellow design (kg)	4,4	4,4	4,7

	without metal bellow	with metal bellow
static back pressure	no backpressure allowed	on request
dynamic back pressure	max. 10% from set pressure (gauge) (higher on request)	on request

Capacity saturated steam / air / water incl. 10% overpressure

Fig. 941 / 942 / 943

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Set gauge pressure	I Saturated steam in kg/h			II Air 0°C and 1.013 bara in Nm^3/h			III Water 20°C in t/h					
bar	DN 15			DN 20			DN 25			DN 25		
	Inlet Male	G1/2“		G3/4“			G1“			G1“		
	Outlet Female	G3/4“		G1“			G1 1/4“			G1 1/2“		
	do mm	12		15			18			18		
	I	II	III	I	II	III	I	II	III	I	II	III
0,2							75	88	3,22	75	88	3,22
0,3	35	41	1,49	47	56	2,17	94	112	3,94	94	112	3,94
0,5	46	57	1,92	65	79	2,80	124	151	5,10	124	151	5,10
1	72	91	2,72	103	129	3,96	188	237	7,19	188	237	7,19
2	120	153	3,85	172	219	5,60	320	405	10,17	320	405	10,17
3	162	209	4,71	238	305	6,86	430	552	12,46	430	552	12,46
4	206	266	5,44	300	390	7,92	545	702	14,39	545	702	14,39
5	246	320	6,08	360	469	8,85	650	845	16,10	650	845	16,10
6	285	375	6,66	420	549	9,70	755	988	17,62	755	988	17,62
7	325	429	7,20	480	628	10,47	860	1130	19,04	860	1130	19,04
8	370	483	7,69	540	708	11,20	970	1275	20,30	970	1275	20,30
9	410	537	8,16	600	787	11,88	1075	1415	21,60	1075	1415	21,60
10	450	592	8,60	655	867	12,52	1180	1560	22,70	1180	1560	22,70
11	490	646	9,02	715	946	13,13	1290	1705	23,80	1290	1705	23,80
12	530	700	9,42	775	1026	13,72	1395	1845	24,90	1395	1845	24,90
13	570	754	9,81	835	1105	14,27	1500	1990	25,90	1500	1990	25,90
14	610	809	10,18	890	1185	14,81	1605	2130	26,90	1605	2130	26,90
15	650	863	10,54	950	1265	15,33	1710	2275	27,90	1710	2275	27,90
16	690	917	10,88	1010	1345	15,84	1820	2420	28,80	1820	2420	28,80
17	730	971	11,22	1070	1420	16,32	1925	2560	29,70	1925	2560	29,70
18	770	1025	11,54	1130	1500	16,80	2030	2705	30,50	2030	2705	30,50
19	810	1080	11,86	1190	1580	17,26	2135	2850	31,40	2135	2850	31,40
20	850	1135	12,17	1245	1660	17,71	2245	2990	32,20	2245	2990	32,20
22	930	1240	12,76	1365	1820	18,57	2455	3275	33,70	2455	3275	33,70
24	1015	1350	13,33	1485	1980	19,40	2670	3560	35,20	2670	3560	35,20
26	1095	1460	13,87	1600	2140	20,20	2885	3850	36,70	2885	3850	36,70
28	1175	1570	14,40	1725	2300	20,90	3100	4135	38,10	3100	4135	38,10
30	1260	1675	14,90	1845	2455	21,70	3320	4420	39,40	3320	4420	39,40
32	1340	1785	15,39	1965	2615	22,40	3535	4705	40,70	3535	4705	40,70
34		1895	15,86		2775	23,10		4990	41,90		4990	41,90
36,4		2025	16,37		2970	23,90		5330	43,30		5330	43,30
40		2220	17,21		3250	25,00		5850	45,50		5850	45,50

max. set pressure stainless steel version

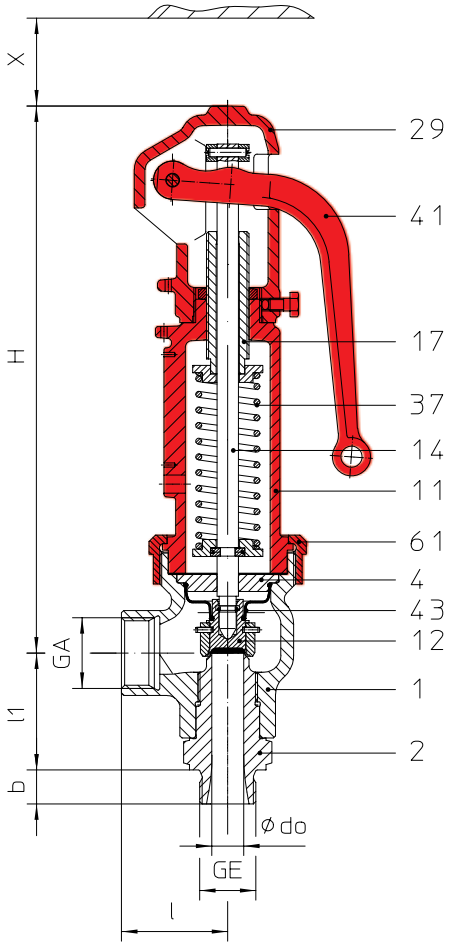
Stainless steel version max. 24 bar for saturated steam.

DN	Spring ranges in bar (gauge)													
15	0,3 - 0,6	0,62 - 0,9	0,92 - 1,35	1,4 - 2,2	2,25 - 3,3	3,35 - 4,5	4,6 - 5,5	5,6 - 6,7	6,8 - 8,2	8,3 - 11	11,1 - 13	13,1 - 18,5	18,6 - 32,4	32,5 - 40
20	0,3 - 0,48	0,5 - 0,68	0,7 - 1,35	1,4 - 2,1	2,15 - 3	3,05 - 4	4,1 - 5,5	5,6 - 7,7	7,8 - 11,4	11,5 - 15	15,1 - 20	20,1 - 28	28,1 - 35	35,1 - 40
25	0,2 - 0,4	0,42 - 0,88	0,9 - 1,5	1,55 - 2,1	2,15 - 2,6	2,65 - 3,2	3,25 - 4,2	4,3 - 6,2	6,3 - 8	8,1 - 10	10,1 - 15,5	15,6 - 18	18,1 - 29,9	30 - 40

DN	stainless steel-bellow: Spring ranges in bar (gauge)								
15	5,7 - 6,5	6,6 - 8	8,1 - 9,3	9,4 - 11	11,1 - 15	15,1 - 19	19,1 - 29	29,1 - 40	
20	4 - 5,7	5,8 - 7	7,1 - 9,9	10 - 14	14,1 - 21	21,1 - 28,9	29 - 40		
25	4 - 5,4	5,5 - 6,4	6,5 - 7,4	7,5 - 8,4	8,5 - 10,4	10,5 - 13,4	13,5 - 16,4	16,5 - 20,4	20,5 - 28
Design with bellow as standard valve (only -Fig. 941/943)									

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ARI-SAFE-TC - Heating-safety valve - Figure 945
Low pressure steam-safety valve - Figure 946



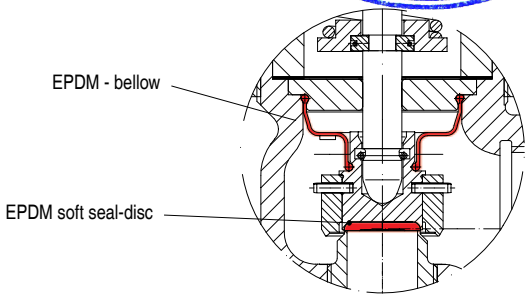


Fig. 945

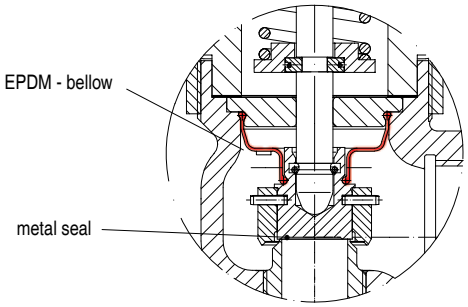


Fig. 946

Figure	Nom. pressure	Material	Nominal diameter	Temperature range	Thread
25.945	PN 40	GGG-40.3	DN 15 up to DN 25	- 10°C up to +120°C	DIN ISO 228 Part 1
Type-test approval	**Figure 945**	spring loaded	TÜV · SV · . . -997 · D/G/H	**Heating-safety valve**	Set gauge pressure see „Capacity“

Requirement	Acc. to TRD 721 Part 6
Application	Acc. to DIN EN 12828 Heating systems in buidlings
Construction	Standard safety valve, spring loaded, direct loaded disc with EPDM insert, EPDM-bellow, closed bonnet with control hole, open lifting device, stainless steel seat and spindle
Sizing	Acc. to TRD 721 Part 6.2.5, see capacity-tables Figure 945
Order data:	ARI-SAFE-safety valve - Figure ....., DN ... , PN .. , material ....., set gauge pressure .... bar

Figure	Nom. pressure	Material	Nominal diameter	Temperature range	Thread
25.946	PN 40	GGG-40.3	DN 15 up to DN 25	- 10°C up to +120°C	DIN ISO 228 Part 1
Type-test approval	**Figure 946**	spring loaded	TÜV · SV · . . -997 · D	**Low pressure steam-safety valve**	Set gauge pressure see „Capacity“

Requirement	Acc .to TRD 721 Part 5
Application	For low pressure steamgenerators up to 1 bar, DIN 4750 and DIN EN 12828 Heating systems in buidlings
Construction	Standard safety valve, spring-/weight loaded, direct loaded with EPDM-bellow, closed bonnet with control hole, open lifting device, stainless steel seat and spindle
Sizing	See capacity-tables Figure 946
Order data:	ARI-SAFE-safety valve - Figure ....., DN ... , PN .. , material ....., Set gauge pressure .... bar

DN	15	20	25
Weight (kg)	3,5	3,5	3,8

Capacity saturated steam / water incl. 10% overpressure

Fig. 945 / 946

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Set gauge pressure in bar	Capacity	Figure 945 Inlet diameter		
		DN 15	DN 20	DN 25
1,0	kg/h	72	103	188
	kW	44	63	115
1,5	kg/h	97	136	254
	kW	58	82	154
2,0	kg/h	120	172	320
	kW	72	103	191
2,5	kg/h	142	205	376
	kW	85	122	224
3,0	kg/h	162	238	430
	kW	96	140	253
3,5	kg/h	185	272	489
	kW	109	159	287
4,0	kg/h	206	300	545
	kW	120	176	316
4,5	kg/h	226	331	596
	kW	131	192	346
5,0	kg/h	246	360	650
	kW	142	208	375
5,5	kg/h	267	391	703
	kW	153	224	403
6,0	kg/h	285	420	755
	kW	164	240	432
6,5	kg/h	307	450	810
	kW	174	256	460
7,0	kg/h	325	480	860
	kW	185	271	488
7,5	kg/h	348	509	917
	kW	195	286	516
8,0	kg/h	370	540	970
	kW	206	302	543
9,0	kg/h	410	600	1075
	kW	227	332	598
10,0	kg/h	450	655	1180
	kW	247	362	651
11,0	kg/h	490	715	1290
	kW	267	391	705
12,0	kg/h	530	775	1395
	kW	287	421	757
13,0	kg/h	570	835	1500
	kW	307	449	809
14,0	kg/h	610	890	1605
	kW	326	478	860
15,0	kg/h	650	950	1710
	kW	346	506	911
16,0	kg/h	690	1010	1820
	kW	365	534	962

Calculated acc. to TRD 721 Part 6 and AD2000-A2

Saturated steam in kg/h
Heating capacity in kW

		Figure 946 Inlet diameter		
		DN 15	DN 20	DN 25
0,2	kg/h	-	-	67
0,3	kg/h	32	43	86
0,4	kg/h	38	53	103
0,5	kg/h	44	62	117
0,6	kg/h	50	71	133
0,7	kg/h	56	78	146
0,8	kg/h	62	86	163
0,9	kg/h	67	95	175
1,0	kg/h	72	103	188

Capacity - water in kg/h — **Sizing: 1 l/h ≙ 1 kW**

Set gauge pressure in bar	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
DN 15	2700	3800	4700	5400	6000	6600	7200	7600	8100	8600	9000	9400	9800	10000	10500	10800
DN 20	3900	5600	6800	7900	8800	9700	10400	11200	11800	12500	13000	13700	14200	14800	15300	15800
DN 25	7000	10000	12400	14300	16000	17600	19000	20300	21600	22700	23800	24900	25900	26900	27900	28800

Sizing of the safety valves for the volume flow of the expansion water (DIN 4751 p2 - item 8.1)

Spring ranges in bar (gauge)

DN 15	0,3 - 0,6	0,62 - 0,9	0,92 - 1,35	1,4 - 2,2	2,25 - 3,3	3,35 - 4,5	4,6 - 5,5	5,6 - 6,7	6,8 - 8,2	8,3 - 11	11,1 - 13	13,1 - 16
DN 20	0,3 - 0,48	0,5 - 0,68	0,7 - 1,35	1,4 - 2,1	2,15 - 3	3,05 - 4	4,1 - 5,5	5,6 - 7,7	7,8 - 11,4	11,5 - 15	15,1 - 16	
DN 25	0,2 - 0,4	0,42 - 0,88	0,9 - 1,5	1,55 - 2,1	2,15 - 2,6	2,65 - 3,2	3,25 - 4,2	4,3 - 6,2	6,3 - 8	8,1 - 10	10,1 - 15,5	15,6 - 16

	DN 15	DN 20	DN 25	DN 25
G_E	1/2“	3/4“	1“	1“
G_A	3/4“	1“	1 1/4“	1 1/2“
d_o in mm	12	15	18	18
A_o in mm^2	113	177	254	254

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ARI-SAFE-TCP - **Standard safety valve D/G/F**

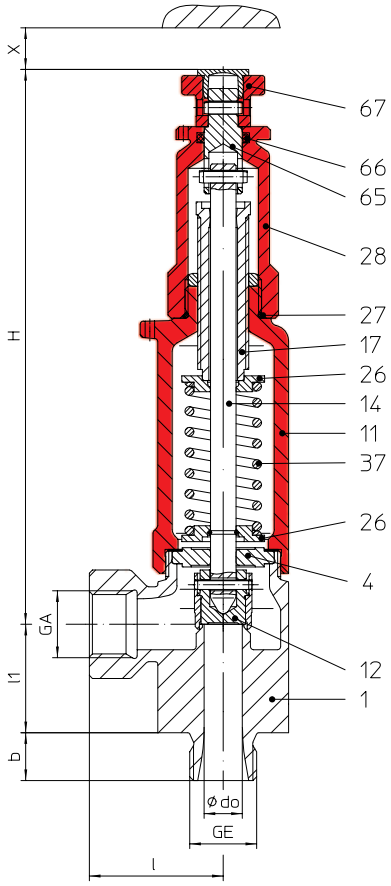


Fig. 67 .961
closed lifting device

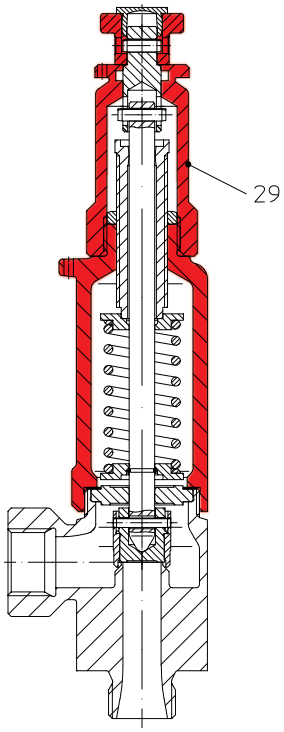


Fig. 67 .962
open lifting device

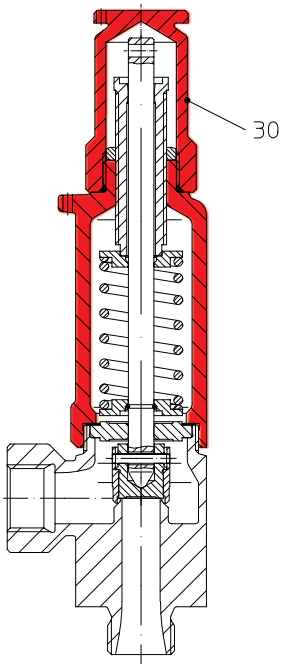


Fig. 67 .963
gastight cap

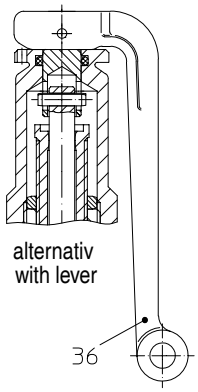


Figure	Nom. pressure	Material	Nominal diameter	Temperature range	Thread
67.961 / 962 / 963	PN 100	1.4581/GGG-40.3	DN 15 up to DN 25	- 10°C up to +300°C	DIN ISO 228 Part 1
57.961 / 963	PN 100	1.4581	DN 15 up to DN 25	- 60°C up to +300°C	DIN ISO 228 Part 1
Type-test approval	Standard valve:	TÜV · SV · . . -1041 · D/G/F		**Figure 961 - 963**	Set gauge pressure see „Capacity“
Requirement	Acc. to EN ISO 4126-1, VdTÜV-leaflet 100, AD2000-A2				
Application	1.4581/GGG-40.3	steam, neutral gases, vapours and liquids			
	1.4581	steam, aggressive gases, vapours and liquids			
Construction	Safety valve, spring loaded, direct loaded				
Sizing	for steam, air and water see capacity tables, calculation acc. to EN ISO 4126-1 and AD2000-A2 necessary information for valve layout:				
Medium gasform:	Mass flow (kg/h), molar mass (kg/kmol), temperature (°C), set gauge pressure (bar), back gauge pressure (bar)				
Medium liquid:	Mass flow (kg/h), density (kg/m3), viscosity, temperature (°C), set gauge pressure (bar), back gauge pressure (bar)				
Order data:	ARI-SAFE-TCP-safety valve - Figure ....., DN ... , PN .. , Material ....., set gauge pressure .... bar				

DN	15	20	25
Weights (kg)	1,2	1,2	1,2

	without metal bellow
static back pressure	no backpressure allowed
dynamic back pressure	max. 10% from set pressure (gauge) (higher on request)

Capacity saturated steam / air / water incl. 10% overpressure

Fig. 961 / 962 / 963

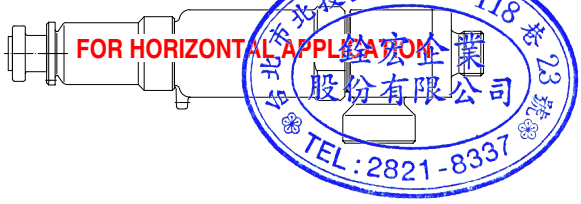
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Set gauge pressure	I Saturated steam in kg/h			II Air 0°C and 1.013 bara in Nm^3/h			III Water 20°C in l/h		
bar	DN 15			DN 20			DN 25		
	G1/2“ x G 1/2“			G3/4“ x G 1/2“			G1“ x G		
	G1/2“ x G 3/4“			G3/4“ x G 3/4“					
				G3/4“ x G 1“					
	do mm			12					
	I	II	III	I	II	III	I	II	III
0,2	14	16	0,62	14	16	0,62	14	16	0,62
0,5	24	29	0,98	24	29	0,98	24	29	0,98
1	35	44	1,39	35	44	1,39	35	44	1,39
2	56	71	1,97	56	71	1,97	56	71	1,97
3	75	96	2,41	75	96	2,41	75	96	2,41
4	96	125	2,78	96	125	2,78	96	125	2,78
5	116	150	3,11	116	150	3,11	116	150	3,11
6	135	176	3,41	135	176	3,41	135	176	3,41
7	153	201	3,68	153	201	3,68	153	201	3,68
8	172	227	3,93	172	227	3,93	172	227	3,93
9	191	252	4,17	191	252	4,17	191	252	4,17
10	210	277	4,40	210	277	4,40	210	277	4,40
11	229	303	4,61	229	303	4,61	229	303	4,61
12	248	328	4,82	248	328	4,82	248	328	4,82
13	267	354	5,01	267	354	5,01	267	354	5,01
14	286	379	5,20	286	379	5,20	286	379	5,20
15	304	405	5,39	304	405	5,39	304	405	5,39
16	323	430	5,56	323	430	5,56	323	430	5,56
17	342	455	5,73	342	455	5,73	342	455	5,73
18	361	481	5,90	361	481	5,90	361	481	5,90
19	380	506	6,06	380	506	6,06	380	506	6,06
20	399	532	6,22	399	532	6,22	399	532	6,22
25	494	659	6,95	494	659	6,95	494	659	6,95
30	590	786	7,62	590	786	7,62	590	786	7,62
35	686	913	8,23	686	913	8,23	686	913	8,23
40	784	1040	8,79	784	1040	8,79	784	1040	8,79
45	883	1165	9,33	883	1165	9,33	883	1165	9,33
50	983	1295	9,83	983	1295	9,83	983	1295	9,83
55	1085	1420	10,31	1085	1420	10,31	1085	1420	10,31
60	1185	1550	10,77	1185	1550	10,77	1185	1550	10,77
65	1290	1675	11,21	1290	1675	11,21	1290	1675	11,21
70		1800	11,63		1800	11,63		1800	11,63
75		1930	12,04		1930	12,04		1930	12,04
80		2055	12,44		2055	12,44		2055	12,44
85		2185	12,82		2185	12,82		2185	12,82
90		2310	13,19		2310	13,19		2310	13,19
93		2385	13,40		2385	13,40		2385	13,40

max. set pressure stainless steel version

DN	Spring ranges in bar (gauge)												
15-25	0,2-0,25	0,26-0,5	0,52-1	1,05-1,4	1,45-2,95	3-4,9	5-12	12,1-20	20,1-27	27,1-35	35,1-45	45,1-59	59,1-93

ARI-SAFE-TCS - **Standard safety valve D/G/F**



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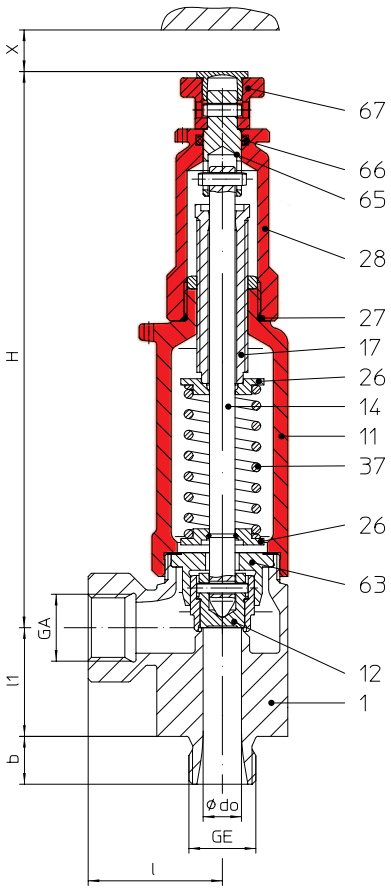


Fig. 67 .951
closed lifting device

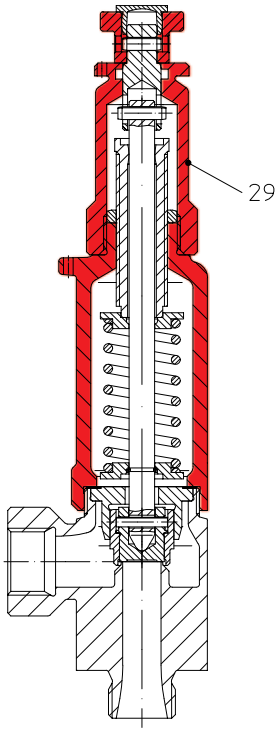


Fig. 67 .952
open lifing device

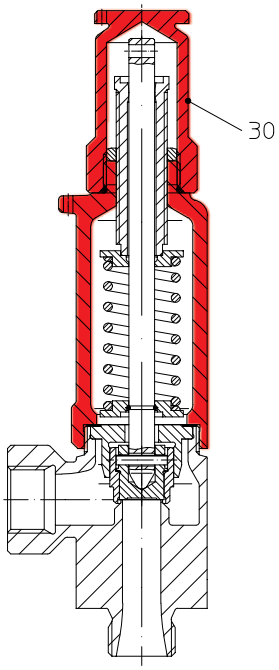


Fig. 67 .953
gastight cap

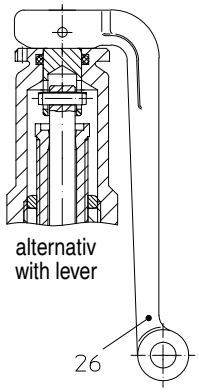


Figure	Nom. pressure	Material	Nominal diameter	Temperature range	Thread
67.951 / 952 / 953	PN 100	1.4581/GGG-40.3	DN 15 up to DN 25	- 10°C up to +300°C	DIN ISO 228 Part 1
57.951 / 953	PN 100	1.4581	DN 15 up to DN 25	- 60°C up to +300°C	DIN ISO 228 Part 1
Type-test approval	Standard valve:	TÜV · SV · . . -1041 · D/G/F		**Figure 951 - 953**	Set gauge pressure see „Capacity“
Requirement	Acc. to EN ISO 4126-1, VdTÜV-leaflet 100, AD2000-A2				
Application	1.4581/GGG-40.3	steam, neutral gases, vapours and liquids			
	1.4581	steam, aggressive gases, vapours and liquids			
Construction	Safety valve, spring loaded, direct loaded				
Sizing	for steam, air and water see capacity tables, calculation acc. to EN ISO 4126-1 and AD2000-A2 necessary information for valve layout:				
Medium gasform:	Mass flow (kg/h), molar mass (kg/kmol), temperature (°C), set gauge pressure (bar), back gauge pressure (bar)				
Medium liquid:	Mass flow (kg/h), density (kg/m3), viscosity, temperature (°C), set gauge pressure (bar), back gauge pressure (bar)				
Order data:	ARI-SAFE-TCS-safety valve - Figure ....., DN ... , PN .. , Material ....., set gauge pressure .... bar				

DN	15	20	25
Weights (kg)	1,2	1,2	1,2

Capacity saturated steam / air / water incl. 10% overpressure

Fig. 951 / 952 / 953

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Set gauge pressure	I Saturated steam in kg/h			II Air 0°C and 1.013 bara in Nm^3/h			III Water 20°C in t/h		
bar	DN 15			DN 20			DN 25		
	G1/2“ x G 1/2“			G3/4“ x G 1/2“			G1“ x G 1“		
	G1/2“ x G 3/4“			G3/4“ x G 3/4“					
				G3/4“ x G 1“					
	do mm			12					
	I	II	III	I	II	III	I	II	III
0,5	*20*	*24*	*0,81*	*20*	*24*	*0,81*	*20*	*24*	*0,81*
1	*30*	*37*	*1,15*	*30*	*37*	*1,15*	*30*	*37*	*1,15*
2	*48*	*62*	*1,62*	*48*	*62*	*1,62*	*48*	*62*	*1,62*
3	*68*	*86*	*1,99*	*68*	*86*	*1,99*	*68*	*86*	*1,99*
4	*84*	*108*	*2,30*	*84*	*108*	*2,30*	*84*	*108*	*2,30*
5	100	130	2,57	100	130	2,57	100	130	2,57
6	117	152	2,81	117	152	2,81	117	152	2,81
7	133	174	3,04	133	174	3,04	133	174	3,04
8	149	196	3,25	149	196	3,25	149	196	3,25
9	166	218	3,45	166	218	3,45	166	218	3,45
10	182	240	3,63	182	240	3,63	182	240	3,63
11	198	262	3,81	198	262	3,81	198	262	3,81
12	215	284	3,98	215	284	3,98	215	284	3,98
13	231	306	4,14	231	306	4,14	231	306	4,14
14	247	328	4,3	247	328	4,3	247	328	4,3
15	264	351	4,45	264	351	4,45	264	351	4,45
16	280	373	4,59	280	373	4,59	280	373	4,59
17	297	395	4,74	297	395	4,74	297	395	4,74
18	313	417	4,87	313	417	4,87	313	417	4,87
19	329	439	5,01	329	439	5,01	329	439	5,01
20	346	461	5,14	346	461	5,14	346	461	5,14
25	428	571	5,74	428	571	5,74	428	571	5,74
30	512	681	6,29	512	681	6,29	512	681	6,29
35	595	791	6,80	595	791	6,80	595	791	6,80
40	680	901	7,26	680	901	7,26	680	901	7,26
45	765	1010	7,71	765	1010	7,71	765	1010	7,71
50	852	1120	8,12	852	1120	8,12	852	1120	8,12
55	940	1230	8,52	940	1230	8,52	940	1230	8,52
60	1030	1340	8,90	1030	1340	8,90	1030	1340	8,90
65	1120	1450	9,26	1120	1450	9,26	1120	1450	9,26
70		1560	9,61		1560	9,61		1560	9,61
75		1675	9,95		1675	9,95		1675	9,95
80		1785	10,27		1785	10,27		1785	10,27
85		1895	10,59		1895	10,59		1895	10,59
90		2005	10,90		2005	10,90		2005	10,90
93		2070	11,10		2070	11,10		2070	11,10

max. set pressure stainless steel version

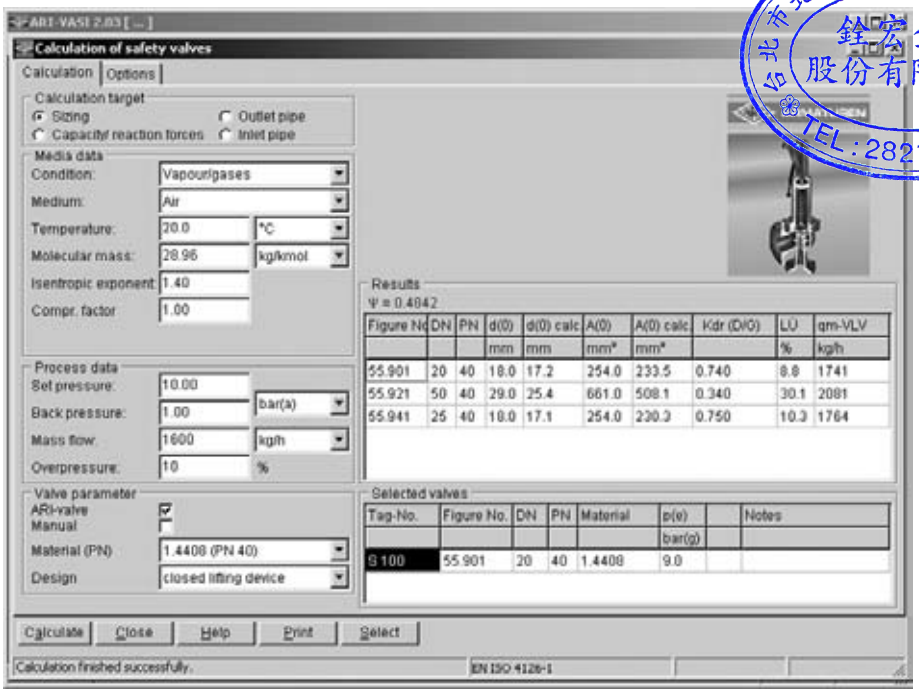
From 0,5 - 4,9 bar, adjustment - horizontal.

DN	Spring ranges in bar (gauge)											
15-25	0,5	0,52-1	1,05-1,4	1,45-2,95	3-4,9	5-12	12,1-20	20,1-27	27,1-35	35,1-45	45,1-59	59,1-93

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Safety valve-approvals	SAFE BR 900				SAFE-P BR 920	SAFE-C BR 940			SAFE-TCS / TCP BR 950 / 960
	Fig. 901-912	Fig. 903	Fig. 904	Fig. 990	Fig. 921-924	Fig. 941-943	Fig. 945	Fig. 946	Fig. 951-953 Fig. 961-963
Arbejdstilsynet Dänischer Arbeitsschutz / Danmark	X								
ABS American Bureau of Shipping	X				X	X			
AIB Vincotte Belgien	X				X	X			
BV Bureau Veritas	X				X	X			
DNV Det Norske Veritas	X				X	X	X	X	
GL Germanischer Lloyd	X				X	X	X	X	X
GOST-R GUS-Länder	X	X	X	X	X	X	X	X	
IBR Indien Boiler Regulations	X				X	X			
ISPESL Italien / Italy	X					X			
ITI Tschechien / Czech Republic	X	X	X	X	X	X	X	X	
KRS Korean Register of Shipping	X								
LRS Lloyds Register of Shipping	X				X	X			
RINA Italien / Italy	X				X	X			
RS Register of Shipping	X	X	X	X	X	X	X	X	X
SQLAO China	X	X	X		X	X	X	X	
Stoomwezen Niederlande / Netherlands	X	X	X		X	X	X	X	X
SVTI Schweiz / Switzerland	X	X	X	X	X	X	X	X	X
SZU Tschechien / Czech Republic	X	X	X	X	X	X	X	X	
TMB Staatliche Aufsicht Ungarn / Hungary	X	X	X	X	X	X	X	X	
TÜV Österreich / Austria	X	X	X	X	X	X	X	X	X
UDT Polen / Poland	X	X	X	X	X	X	X	X	
VdTÜV Deutschland / Germany	X	X	X	X	X	X	X	X	X
Canada UV-stamp	X								
ISCIR Rumänien / Rumania	X	X	X	X	X	X	X	X	X

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股份有限公司
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Contents of „ARI-VASI ®“ (Program part „Safety valves“)

- Sizing
  Calculation of valve-size with given capacity.
- Capacity / reaction forces
  Capacity and reaction forces calculation with given valve.
- Back pressure in the outlet pipe
  Complete back pressure calculation in the outlet pipe.
- Pressure drop in the inlet pipe
  Allowable resistance coefficient and max. inlet pipe dimension calculation.

Media:

- Integrated media-databank (over 160 Media) with conditions:
- Vapours / gases
- Steam (saturated and superheated)
- Liquids
- Hot water
- Thermal expansion



Special features:

- Project administration for the choosen safety valves together with control valves, pressure reducing valves, stop valves and butterfly valves.
- SI- and ANSI-units with direct conversion to another databank.
- All ARI safety valves are integrated in a databank.
- Resistance coefficients of elbows and T-fittings integrated.
- Direct switch over of languages (German / English) seperated to the screen and print.

System Requirements:

WINDOWS 95 / 98 / NT / 2000 or XP

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Pos.	Description	Material, Material-No.				
1	Body	GG-25, 0.6025	GGG-40.3, 0.7043	1.0619+N (1.0619.01)	1.4408	1.4581
2	Seat	1.4571 (Fig. 903: 1.4021+QT)				--
2	Screwed seat SAFE-TC	--	1.4571	--	1.4571	
3	Stud	1.7218			A4-70	--
4	Spindle guide	1.4021+QT			1.4571	1.4571
8	Hexagon nut	1.1181			A4	--
11	Bonnet, closed	GG-25, 0.6025	GGG-40.3, 0.7043		1.4408	1.4571 / GGG-40.3
12	Disc unit	1.4122+QT			1.4571	1.4571
14	Spindle	1.4021+QT			1.4571	1.4571
17	Adjusting screw	1.4021+QT			1.4571	1.4571
27	O-Ring	--	--	--	--	FPM
28	Cap, closed	GG-25, 0.6025	GGG-40.3, 0.7043		1.4408	1.4571
29	Cap, open	GG-25, 0.6025	GGG-40.3, 0.7043		1.4408	1.4571
30	Cap, gastight	GG-25, 0.6025	GGG-40.3, 0.7043		1.4408	1.4571
35	Lift fork	GGG-40.3, 0.7043			1.4408	--
35	Lifting lever SAFE-TC	GGG-40.3, 0.7043			1.4571	--
36	Lifting lever, closed	GGG-40.3, 0.7043			1.4571	EN AC-44200 (Al)
37	Spring	51CrV4, FDSiCr			1.4310	1.4310 / FDSiCr
41	Lever, open	GGG-40.3, 0.7043			--	--
42	Bonnet, open	GG-25, 0.6025	GGG-40.3, 0.7043		--	--
43	Bellow	EPDM				--
55	Bellow unit	1.4571			1.4571	--
61	Coupling SAFE-TC	--	1.4571	--	1.4571	--
62	Weight	Pb / St	--	--	--	--
63	Guide bushing SAFE TCS	--	--	--	--	1.4571
65	Coupling SAFE TCP / TCS	--	--	--	--	1.4571
66	O-Ring	--	--	--	--	FPM
67	Lift button SAFE TCP / TCS	--	--	--	--	1.4571
70	Balanced piston	1.4571				--

Pressure-temperature-ratings acc.to DIN EN 1092-1 / -2

Flangeholes/-thickness tolerances acc. to DIN

Material	PN	Temperature										
		-60°C up to <-10°C*	-10°C	20°C	120°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C
GG-25	16		16 bar	16 bar	16 bar	14,4 bar	12,8 bar	11,2 bar	9,6 bar	---	---	---
GGG-40.3	40	---	40 bar	40 bar	40 bar	38,8 bar	36,8 bar	34,8 bar	32 bar	28 bar	---	---
Material	**PN**	**Temperature**										
		-60°C up to <-10°C*	-10°C	20°C	100°C	150°C	200°C	250°C	300°C	350°C	400°C	450°C
1.0619+N	40	20 bar	40 bar	40 bar	37,3 bar	34,7 bar	30,2 bar	28,4 bar	25,8 bar	24 bar	23,1 bar	22,2 bar

Intermediate values for max. permissible operational pressures can be determined by linear interpolation of the given temperature / pressure chart only from 120°C / 100°C upwards.

Material	PN	Temperature									
		-60°C up to <-10°C	-10°C	20°C	100°C	150°C	200°C	250°C	300°C	350°C	400°C
1.4408	40	18,2 bar	36,4 bar	36,4 bar	31,1 bar	28,1 bar	25,8 bar	24 bar	22,6 bar	21,3 bar	20,4 bar
1.4581	100	46,6 bar	93,3 bar	93,3 bar	84,4 bar	78,2 bar	73,3 bar	68,9 bar	64,4 bar	62,2 bar	60 bar

Intermediate values for max. permissible operational pressures can be determined by linear interpolation of the given temperature / pressure chart only from 20°C upwards.

* Studs and hexagon nuts out of A4-70

Information / Restrictions of technical rules to be observed!
The engineer, designing a system or a plant, is responsible for the selection of the correct valve.

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SAFE Figure 901, 903, 904, 990

DN1 / DN2		20 / 32	25 / 40	32 / 50	40 / 65	50 / 80	65 / 100	80 / 125	100 / 150	125 / 200	150 / 250
do (mm)		18	22,5	29	36	45	58,3	72	90	106	125
D1	PN 16 DIN 2533	105	115	140	150	165	185	200	220	250	285
	PN 40 DIN 28607								235	270	300
	PN 40 DIN 2545										
D2	PN 16 DIN 2533	140	150	165	185	200	220	250	285	340	405
	PN 16 DIN 28605										
	PN 16 DIN 2543										
b1	GG-25	16	16	18	18	20	20	22	24	26	26
	GGG-40.3	18	18	18	19	20	22	24	24	--	--
	1.0619+N	20	20	20	21	22	24	26	28	31	34
	1.4408	16	16	18	19	20	22	22	23	--	--
b2	GG-25	18	18	20	20	22	24	26	26	30	32
	GGG-40.3	19	19	20	20	20	20	22	22	--	--
	1.0619+N	19	19	20	20	20	20	22	22	27	29
	1.4408	15	16	17	17	17	17	19	19	--	--
l		85	100	110	115	120	140	160	180	200	225
l1		95	105	115	140	150	170	195	220	250	285
H		270	280	330	390	435	545	610	690	845	890
H, bellow design		310	335	390	445	500	620	690	770	920	940
X		150	150	200	250	300	350	400	500	500	500
Drainage hole with plug*		G 1/4“					G 3/8“				
		Flanges acc. to DIN EN 1092-1 / -2, Flangeholes/-thickness tolerances acc. to DIN, raised face, facing acc. to DIN 2526 form C									

* Fig. 903, 904, 990 and stainless steel as special design

SAFE-P Figure 921-924

DN		20	25	32	40	50	65	80	100
do (mm)		12	15	18	20	29	36	44	55
D	PN 16 DIN 2533 PN 40 DIN 2545	105	115	140	150	165	185	200	220 235
b	GG-25	16	16	18	18	20	20	22	24
	1.0619+N / 1.4408	18	18	18	18	20	22	24	24
l		95	100	105	115	125	145	155	175
H		260	270	285	290	290	340	400	450
H, bellow design		285	300	325	330	345	400	455	515
X		130	130	150	150	150	200	250	300
		Flanges acc. to DIN EN 1092-1 / -2, Flangeholes/-thickness tolerances acc. to DIN, raised face, facing acc. to DIN 2526 form C							

Flangedimension

DN			20	25	32	40	50	65	80	100	125	150	200	250
PN 16	∅ K	(mm)	75	85	100	110	125	145	160	180	210	240	295	355
	n x ∅ d	(mm)	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	4 x 18	8 x 18	8 x 18	8 x 18	8 x 22	12 x 22	12 x 26
PN 40	∅ K	(mm)	75	85	100	110	125	145	160	190	220	250	--	--
	n x ∅ d	(mm)	4 x 14	4 x 14	4 x 18	4 x 18	4 x 18	8 x 18	8 x 18	8 x 22	8 x 26	8 x 26	--	--

SAFE-TC Figure 941-946

DN	15	20	25	25
G	1/2“ x 3/4“	3/4“ x 1“	1“ x 1 1/4“	1“ x 1 1/2“
do (mm)	12	15	18	18
GE	1/2“	3/4“	1“	1“
GA	3/4“	1“	1 1/4“	1 1/2“
b	15	16	18	18
l	50	50	50	50
l1	53	55	58	58
H	260	260	260	260
H, bellow design	295	295	300	300
X	120	120	120	120

SAFE-TCP Figure 961-963
SAFE-TCS Figure 951-953

DN	15		20			25
G [2]	1/2“ x 1/2“	1/2“ x 3/4“	3/4 x 1/2“	3/4 x 3/4“	3/4 x 1“	1“ x 1“
do (mm)	12	12	12	12	12	12
GE	1/2“	1/2“	3/4“	3/4“	3/4“	1“
GA	1/2“	3/4“	1/2“	3/4“	1“	1“
b	15	15	16	16	16	18
l	42	47	42	47	50	50
l1	34	34	34	34	34	34
H max.	187	187	187	187	187	187
X	100	100	100	100	100	100

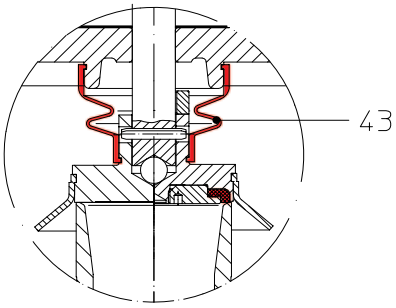
[2] Further connections on request.

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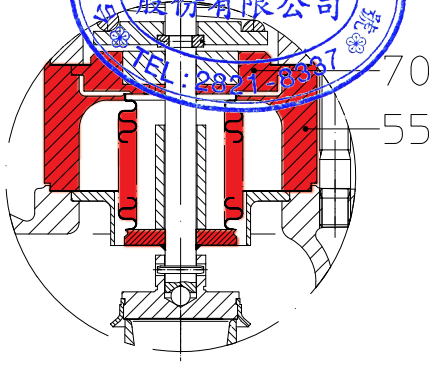
Soft sealing disc: WEDI

EPDM	-35 °C	up to +150 °C	Abbreviation **E**
Viton (FPM)	-25 °C	up to +180 °C	Abbreviation **V**
Neoprene (CR)	-30 °C	up to +125 °C	Abbreviation **N**

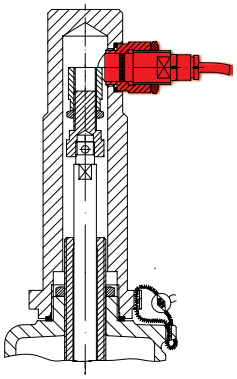
Bellow EPDM (max. +120 °C)
Disc: Metal sealing
or soft sealing



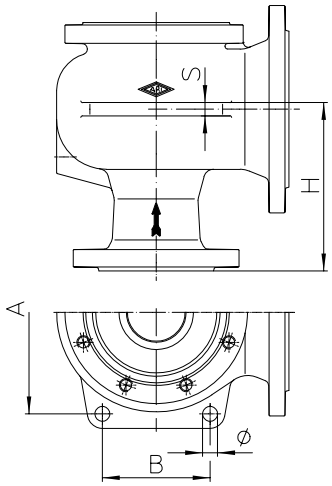
Bellow - stainless steel



Balanced stainless steel-bellow with balanced piston
(Only for closed version!)

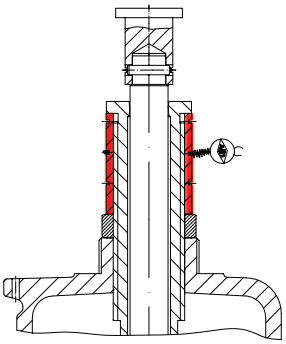


Proximity switch

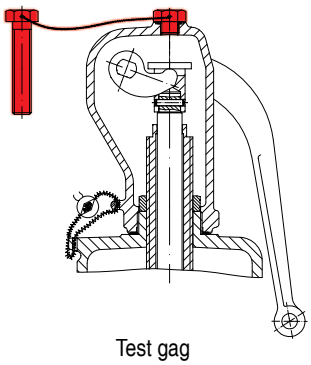


Body-Material	DN1 x DN2	A	B	∅	S	H
1.0619+N 1.4408	50 x 80	176	70	14	12	155
	65 x 100	212	90			175
GG-25 GGG-40.3 1.0619+N 1.4408	80 x 125	245	130	18	16	205
	100 x 150	295	165			230
GG-25 1.0619+N	125 x 200	318	183	22	20	260
	150 x 250	360	200		22	295

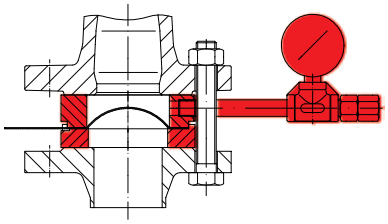
Support tongues



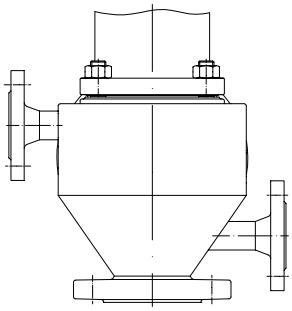
Lock bushing



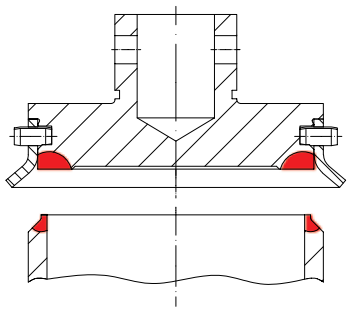
Test gag



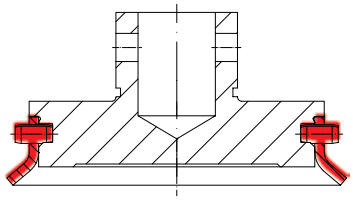
Rupture disc



Heating jacket



Seat 1.4571 / Stellite No. 21
Disc 1.4571 / Stellite No. 6
and removable lifting aid



Removable lifting aid
Chemical-version 1.4571