

TYPE G SAFETY VALVES WITH CHANNELIZED EXHAUST

FEATURES

G-type safety valves are devices designed to protect installations against excess pressure. They operate automatically and close when pressure conditions return to normal. Spring-loaded, ducted exhaust valves with test knob, G valves are made of brass or stainless steel, rated to 40 bar.

It is supplied lead-sealed as standard, with an FPM seal. Type G valves have category IV approval and can be used on compatible gases and liquids. Connections are male gas inlet and outlet. Tare certificate and manufacturer's file, following the decree of November 20, 2017 on the operation of pressure vessels, on request.



AVAILABLE MODELS

G10: G 3/4" M - G 1" M (S Steel).

G14: G 3/4" M - G 1" M (Brass).

G14: G 1" M - G 1" M (Brass/ S Steel).

G20: G 1"1/4 M - G 1"1/4 M (Brass/ S Steel).

G25: G 1"1/2 M - G 1"1/2 M (Brass/ S Steel).

G32: G 2" M - G 1"1/2 M (Brass/ S Steel).



LIMITS OF USE

Type	G10	G14	G20	G25	G32
PS Fluid :	40 bar	60 bar	60 bar	60 bar	14 bar
Maximum material temperatures: to be interpreted taking into account operating pressure at operating temperature.					
Material	Brass			Stainless steel	
TS Fluid:	FPM port: -20°C / +200°C				
TS Fluid:	NBR port: -10°C / +100°C				
TS Fluid:	EPDM port: -50°C / +150°C				
TS Fluid:	Silicone port: -60°C / +200°C				
TS Fluid:	PTFE port: -196°C / +250°C				
TS Fluid:	KALREZ port: -20°C / +250°C (Brass) / -20°C / +275°C (S steel)				
TS Fluid:	Métal port: -195°C / +450°C (S steel only)				

Information given as an indication only, and subject to possible modifications

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HYDRAULIC CHARACTERISTICS

Type	G10	G14	G20	G25	G32
DN inlet-connection	G 3/4" M	G 3/4" M ou G 1" M	G 1"1/4 M	G 1"1/2 M	G 2" M
DN outlet-connection	G 1" M	G 1" M	G 1"1/4 M	G 1"1/2 M	G 1"1/2 M
port do (mm)	10	13,5	20	25	32
Surface (cm ²)	0,785	1,43	3,14	4,906	8,038
Lifted (mm)	5	6	6	6	9
Flow coefficient	0,85	0,81>3 bar 0,86	0,83	0,78	0,53
Flow coefficient ATEX Ex 2 G/D c	0,85	0,81>3 bar 0,86	0,83	0,78	0,53
Flow coefficient ASME VIII Div.1	0,629	0,629	0,629	0,629	0,629
Flow coefficient CRN	0,629	0,629	0,629	0,629	0,629
Min. setting pressure (bar)	0,3	0,3	0,3	0,3	0,3
Max. setting pressure (bar)	30	60	60	60	14
Maximum flow rate at OSP +10%					
Closing pressure at OSP -10%					
<u>OSP</u> : Opening start pressure					

DIRECTIVES AND MANUFACTURING STANDARDS

OBJET	Standard	N.B.
Pressure Equipment Directive 2014/68/EC	Category IV (module B+D)	CE 0036
ATEX Directive	Ex II 2 G/D c	CE 0036
EN construction standard	ISO 4126-1	
US construction standard	ASME VIII Division 1 (40 bar (G10-G25-G32) / 60 bar (G14-G20))	
Approval for Canada	CRN (40 bar (G10-G25-G32) / 60 bar (G14-G20))	
Approval for Russie	GOST-R (40 bar (G10-G25-G32) / 60 bar (G14-G20))	
Threaded connection	ISO 228	
CALIBRATION CERTIFICATE – MATERIAL CERTIFICATE		
Certificate to EN 10 204 2.2 of calibration and conformity as standard, with serial number engraved on valve.		

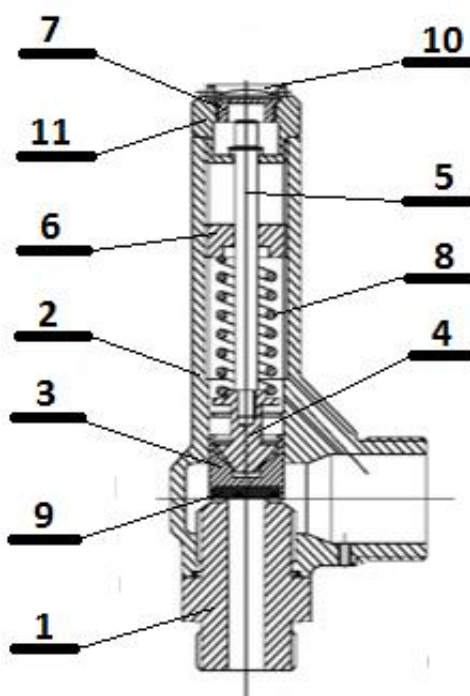
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CONSTRUCTION

Rep	Name	Brass version	Stainless steel version
1	Body	Brass CW 614 N	Forged stainless steel 1.4401
2	Bonnet	Brass CW 614 N	Forged stainless steel 1.4401
3	Disc	Brass CW 614 N	Forged stainless steel 1.4401
4	Needle	Brass CW 614 N	Forged stainless steel 1.4401
5	Stem	Brass CW 614 N	Forged stainless steel 1.4401
6	Adjusting screw	Brass CW 614 N	Forged stainless steel 1.4401
7	Cap	Brass CW 614 N	Forged stainless steel 1.4401
8	Spring	C 72 UNI 3823	Forged stainless steel AISI 302
9	Port	FPM/NBR/EPDM/Silicone/PTFE/KALREZ/METAL	
10	Plate	Brass CW 614 N	Forged stainless steel 1.4401
11	Test wheel	Brass CW 614 N	Forged stainless steel 1.4401



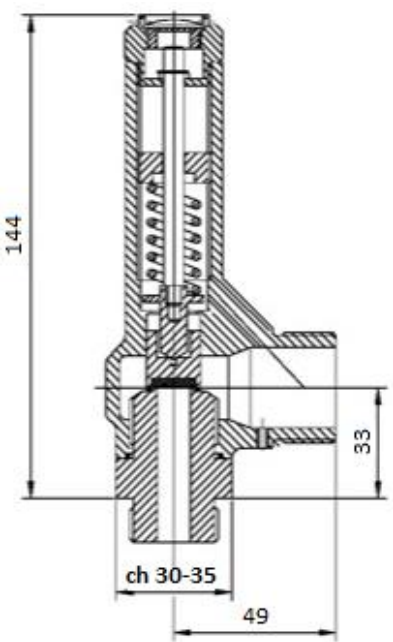
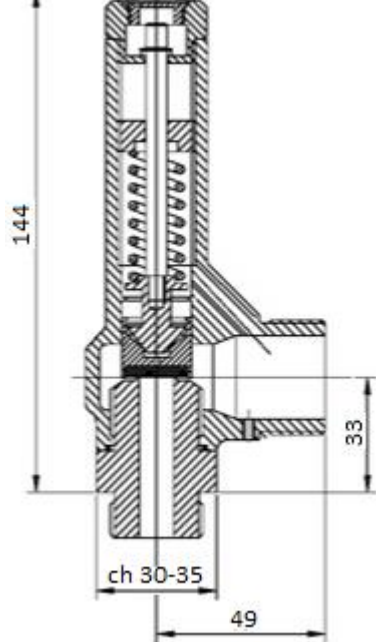
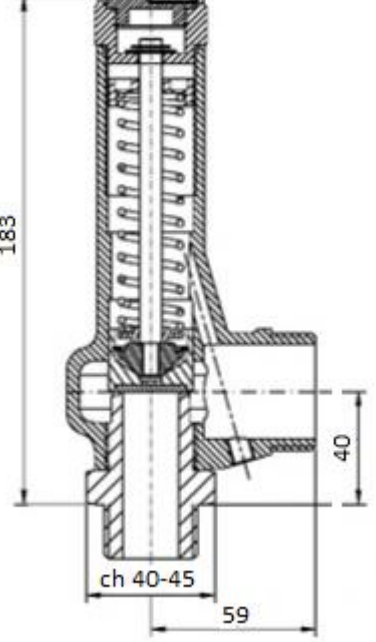
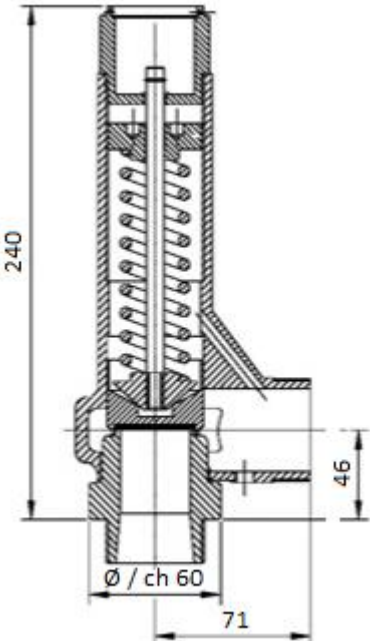
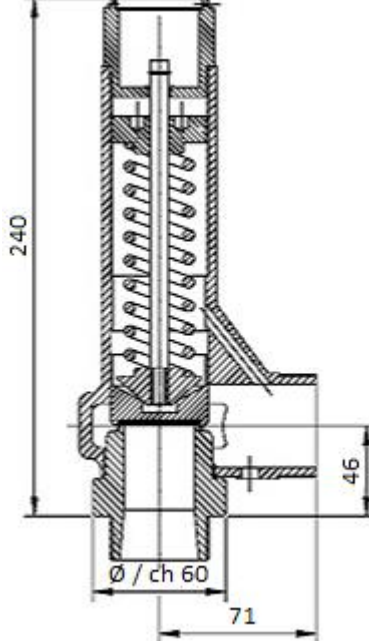
Name	Brass version (Kg)	Stainless steel version (Kg)
G10	0,8	0,8
G14	0,8	0,8
G20	1,6	3,1
G25	3,0	3,4
G32	3,0	6,0

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DIMENSIONS (mm)

G10	G14	G20
 <p>Technical drawing of a G10 safety valve showing a total height of 144 mm, a base width of 49 mm, and a mounting flange height of 33 mm. The channelized exhaust diameter is labeled as ch 30-35.</p>	 <p>Technical drawing of a G14 safety valve showing a total height of 144 mm, a base width of 49 mm, and a mounting flange height of 33 mm. The channelized exhaust diameter is labeled as ch 30-35.</p>	 <p>Technical drawing of a G20 safety valve showing a total height of 183 mm, a base width of 59 mm, and a mounting flange height of 40 mm. The channelized exhaust diameter is labeled as ch 40-45.</p>
G25		G32
 <p>Technical drawing of a G25 safety valve showing a total height of 240 mm, a base width of 71 mm, and a mounting flange height of 46 mm. The channelized exhaust diameter is labeled as Ø / ch 60.</p>		 <p>Technical drawing of a G32 safety valve showing a total height of 240 mm, a base width of 71 mm, and a mounting flange height of 46 mm. The channelized exhaust diameter is labeled as Ø / ch 60.</p>

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INSTALLATION

The valve must be positioned as close as possible to the capacity to be protected. It must always be installed in a vertical position. No valve should be installed between the capacity to be protected and the valve. No foreign objects should block the valve's discharge orifice. Exhaust must be channeled to a discharge area that is safe for personnel and the environment. Valve installation and maintenance must be carried out in accordance with good engineering practice and the instructions supplied with the unit.


OPTION

- Valve with test lever type G/M.
- Valve construction nickel-plated brass.
- Brass valve with stainless steel body and plug.
- BSPT, NPT connection.
- Flange connection, DIN, clamp,.....

FLOW RATE FOR LIQUIDS

Use the following formula :		
$Q \text{ (kg/h)} = 0,9 \times K1 \times \text{Square root } ((P1-P2) \cdot Y \cdot 1000) \times A \times 100/0,621$		
P1	Flow coefficient for 10% over pressure	0,38
P2	Calculation pressure	Bar
A	Hole surface	cm ²
Y	Specific weight of liquid at P1	Kg/dm ³

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AIR FLOW in Nm³/h AT 0°C

According to ISO 4126-1

Type	G10	G14	Type	G10	G14	Type	G10	G14
P (bar)	Nm ³ /h		P (bar)	Nm ³ /h		P (bar)	Nm ³ /h	
0,5	70	122	20,5	1069	1973	40,5	-	3816
1	95	166	21	1094	2019	41	-	3862
1,5	120	217	21,5	1119	2065	41,5	-	3909
2	145	262	22	1144	2111	42	-	3955
2,5	170	314	22,5	1169	2157	42,5	-	4001
3	195	360	23	1194	2204	43	-	4047
3,5	220	406	23,5	1219	2250	43,5	-	4093
4	245	452	24	1244	2296	44	-	4139
4,5	270	499	24,5	1269	2342	44,5	-	4185
5	295	545	25	1294	2388	45	-	4231
5,5	320	591	25,5	1319	2434	45,5	-	4277
6	345	637	26	1344	2480	46	-	4323
6,5	370	683	26,5	1369	2526	46,5	-	4369
7	395	729	27	1394	2572	47	-	4415
7,5	420	775	27,5	1419	2618	47,5	-	4462
8	445	821	28	1444	2664	48	-	4508
8,5	470	867	28,5	1469	2710	48,5	-	4554
9	495	913	29	1494	2757	49	-	4600
9,5	520	959	29,5	1518	2803	49,5	-	4646
10	545	1005	30	1543	2849	50	-	4692
10,5	570	1052	30,5	-	2895	50,5	-	4738
11	595	1098	31	-	2941	51	-	4784
11,5	620	1144	31,5	-	2987	51,5	-	4830
12	645	1190	32	-	3033	52	-	4876
12,5	670	1236	32,5	-	3079	52,5	-	4922
13	695	1282	33	-	3125	53	-	4968
13,5	720	1328	33,5	-	3171	53,5	-	5015
14	744	1374	34	-	3217	54	-	5061
14,5	769	1420	34,5	-	3263	54,5	-	5107
15	794	1466	35	-	3310	55	-	5153
15,5	819	1512	35,5	-	3356	55,5	-	5199
16	844	1558	36	-	3402	56	-	5245
16,5	869	1604	36,5	-	3448	56,5	-	5291
17	894	1651	37	-	3494	57	-	5337
17,5	919	1697	37,5	-	3540	57,5	-	5383
18	944	1743	38	-	3586	58	-	5429
18,5	969	1789	38,5	-	3632	58,5	-	5475
19	994	1835	39	-	3678	59	-	5521
19,5	1019	1881	39,5	-	3724	59,5	-	5568
20	1044	1927	40	-	3770	60	-	5614

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TYPE G SAFETY VALVES WITH CHANNELIZED EXHAUST

AIR FLOW in Nm³/h AT 0°C

According to ISO 4126-1

Type	G20	G25	G32	Type	G20	G25	G32	Type	G20	G25	G32
P (bar)	Nm ³ /h			P (bar)	Nm ³ /h			P (bar)	Nm ³ /h		
0,5	275	404	449	20,5	4176	6131	-	40,5	8076	11859	-
1	372	547	609	21	4273	6274	-	41	8174	12002	-
1,5	470	690	768	21,5	4371	6417	-	41,5	8272	12145	-
2	567	833	927	22	4468	6561	-	42	8369	12288	-
2,5	665	976	1087	22,5	4566	6704	-	42,5	8467	12431	-
3	762	1119	1246	23	4663	6847	-	43	8564	12575	-
3,5	860	1263	1406	23,5	4761	6990	-	43,5	8662	12718	-
4	957	1406	1565	24	4858	7133	-	44	8759	12861	-
4,5	1055	1549	1725	24,5	4956	7277	-	44,5	8857	13004	-
5	1153	1692	1884	25	5053	7420	-	45	8954	13147	-
5,5	1250	1835	2043	25,5	5151	7563	-	45,5	9052	13291	-
6	1348	1979	2203	26	5248	7706	-	46	9149	13434	-
6,5	1445	2122	2362	26,5	5346	7849	-	46,5	9247	13577	-
7	1543	2265	2522	27	5443	7993	-	47	9344	13720	-
7,5	1640	2408	2681	27,5	5541	8136	-	47,5	9442	13863	-
8	1738	2551	2840	28	5638	8279	-	48	9539	14007	-
8,5	1835	2695	3000	28,5	5736	8422	-	48,5	9637	14150	-
9	1933	2838	3159	29	5833	8565	-	49	9734	14293	-
9,5	2030	2981	3319	29,5	5931	8709	-	49,5	9832	14436	-
10	2128	3124	3478	30	6029	8852	-	50	9929	14579	-
10,5	2225	3267	3637	30,5	6126	8995	-	50,5	10027	14722	-
11	2323	3411	3797	31	6224	9138	-	51	10124	14866	-
11,5	2420	3554	3956	31,5	6321	9281	-	51,5	10222	15009	-
12	2518	3697	4116	32	6419	9424	-	52	10319	15152	-
12,5	2615	3840	4275	32,5	6516	9568	-	52,5	10417	15295	-
13	2713	3983	4434	33	6614	9711	-	53	10514	15438	-
13,5	2810	4126	4594	33,5	6711	9854	-	53,5	10612	15582	-
14	2908	4270	4753	34	6809	9997	-	54	10710	15725	-
14,5	3005	4413	-	34,5	6906	10140	-	54,5	10807	15868	-
15	3103	4556	-	35	7004	10284	-	55	10905	16011	-
15,5	3200	4699	-	35,5	7101	10427	-	55,5	11002	16154	-
16	3298	4842	-	36	7199	10570	-	56	11100	16298	-
16,5	3395	4986	-	36,5	7296	10713	-	56,5	11197	16441	-
17	3493	5129	-	37	7394	10856	-	57	11295	16584	-
17,5	3591	5272	-	37,5	7491	11000	-	57,5	11392	16727	-
18	3688	5415	-	38	7589	11143	-	58	11490	16870	-
18,5	3786	5558	-	38,5	7686	11286	-	58,5	11587	17013	-
19	3883	5702	-	39	7784	11429	-	59	11685	17157	-
19,5	3981	5845	-	39,5	7881	11572	-	59,5	11782	17300	-
20	4078	5988	-	40	7979	11715	-	60	11880	17443	-

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AIR FLOW in l/min AT 0°C

According to ISO 4126-1

Type	G10	G14	Type	G10	G14	Type	G10	G14
P (bar)	l/min		P (bar)	l/min		P (bar)	l/min	
0,5	1173	2039	20,5	17818	32886	40,5	-	63607
1	1589	2762	21	18234	33654	41	-	64375
1,5	2005	3614	21,5	18650	34422	41,5	-	65143
2	2421	4365	22	19066	35190	42	-	65911
2,5	2837	5237	22,5	19482	35958	42,5	-	66679
3	3253	6005	23	19898	36726	43	-	67447
3,5	3669	6773	23,5	20315	37494	43,5	-	68215
4	4086	7541	24	20731	38262	44	-	68983
4,5	4502	8309	24,5	21147	39030	44,5	-	69751
5	4918	9077	25	21563	39798	45	-	70519
5,5	5334	9845	25,5	21979	40566	45,5	-	71287
6	5750	10613	26	22395	41334	46	-	72055
6,5	6166	11381	26,5	22811	42102	46,5	-	72823
7	6582	12149	27	23227	42870	47	-	73591
7,5	6998	12917	27,5	23644	43638	47,5	-	74359
8	7415	13685	28	24060	44406	48	-	75127
8,5	7831	14453	28,5	24476	45174	48,5	-	75895
9	8247	15221	29	24892	45942	49	-	76663
9,5	8663	15989	29,5	25308	46710	49,5	-	77431
10	9079	16757	30	25724	47478	50	-	78199
10,5	9495	17525	30,5	-	48246	50,5	-	78967
11	9911	18293	31	-	49014	51	-	79735
11,5	10328	19061	31,5	-	49782	51,5	-	80504
12	10744	19829	32	-	50550	52	-	81272
12,5	11160	20597	32,5	-	51318	52,5	-	82040
13	11576	21365	33	-	52086	53	-	82808
13,5	11992	22133	33,5	-	52854	53,5	-	83576
14	12408	22901	34	-	53622	54	-	84344
14,5	12824	23669	34,5	-	54390	54,5	-	85112
15	13240	24437	35	-	55159	55	-	85880
15,5	13657	25205	35,5	-	55927	55,5	-	86648
16	14073	25973	36	-	56695	56	-	87416
16,5	14489	26741	36,5	-	57463	56,5	-	88184
17	14905	27509	37	-	58231	57	-	88952
17,5	15321	28277	37,5	-	58999	57,5	-	89720
18	15737	29046	38	-	59767	58	-	90488
18,5	16153	29814	38,5	-	60535	58,5	-	91256
19	16569	30582	39	-	61303	59	-	92024
19,5	16986	31350	39,5	-	62071	59,5	-	92792
20	17402	32118	40	-	62839	60	-	93560

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AIR FLOW in l/min AT 0°C

According to ISO 4126-1

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P (bar)	l/min			P (bar)	l/min			P (bar)	l/min		
0,5	4581	6726	7487	20,5	69594	102185	-	40,5	134608	197644	-
1	6206	9112	10144	21	71219	104571	-	41	136233	200031	-
1,5	7831	11499	12801	21,5	72845	106958	-	41,5	137858	202417	-
2	9457	13885	15458	22	74470	109344	-	42	139484	204804	-
2,5	11082	16271	18115	22,5	76096	111731	-	42,5	141109	207190	-
3	12707	18658	20771	23	77721	114117	-	43	142735	209577	-
3,5	14333	21044	23428	23,5	79346	116504	-	43,5	144360	211963	-
4	15958	23431	26085	24	80972	118890	-	44	145985	214350	-
4,5	17583	25817	28742	24,5	82597	121277	-	44,5	147611	216736	-
5	19209	28204	31399	25	84222	123663	-	45	149236	219123	-
5,5	20834	30590	34055	25,5	85848	12605	-	45,5	150861	221509	-
6	22459	32977	36712	26	87473	128436	-	46	152487	223896	-
6,5	24085	35363	39369	26,5	89098	130823	-	46,5	154112	226282	-
7	25710	37750	42026	27	90724	133209	-	47	155737	228669	-
7,5	27335	40136	44683	27,5	92349	135596	-	47,5	157363	231055	-
8	28961	42523	47340	28	93974	137982	-	48	158988	233442	-
8,5	30586	44909	49996	28,5	95600	140369	-	48,5	160613	235828	-
9	32211	47296	52653	29	97225	142755	-	49	162239	238215	-
9,5	33837	49682	55310	29,5	98850	145142	-	49,5	163864	240601	-
10	35462	52069	57967	30	100476	147528	-	50	165489	242988	-
10,5	37087	54455	60624	30,5	102101	149915	-	50,5	167115	245374	-
11	38713	56842	63280	31	103726	152301	-	51	168740	247761	-
11,5	40338	59228	65937	31,5	105352	154688	-	51,5	170365	250147	-
12	41963	61615	68594	32	106977	157074	-	52	171991	252534	-
12,5	43589	64001	71251	32,5	108602	159461	-	52,5	173616	254920	-
13	45214	66388	73908	33	110228	161847	-	53	175241	257307	-
13,5	46839	68774	76564	33,5	111853	164234	-	53,5	176867	259693	-
14	48465	71161	79221	34	113478	166620	-	54	178492	262080	-
14,5	50090	73547	-	34,5	115104	169007	-	54,5	180117	264466	-
15	51715	75934	-	35	116729	171393	-	55	181743	266853	-
15,5	53341	78320	-	35,5	118354	173780	-	55,5	183368	269239	-
16	54966	80707	-	36	119980	176166	-	56	184993	271626	-
16,5	56591	83093	-	36,5	121605	178553	-	56,5	186619	274012	-
17	58217	85480	-	37	123230	180939	-	57	188244	276398	-
17,5	59842	87866	-	37,5	124856	183326	-	57,5	189869	278785	-
18	61467	90253	-	38	126481	185712	-	58	191495	281171	-
18,5	63093	92639	-	38,5	128106	188099	-	58,5	193120	283558	-
19	64718	95026	-	39	129732	190485	-	59	194745	285944	-
19,5	66343	97412	-	39,5	131357	192871	-	59,5	196371	288331	-
20	67969	99799	-	40	132982	195258	-	60	197996	290717	-

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TYPE G SAFETY VALVES WITH CHANNELIZED EXHAUST

WATER FLOW in m³/h AT 20°C

According to ISO 4126-1

Type	G10	G14	Type	G10	G14	Type	G10	G14
P (bar)	m ³ /h		P (bar)	m ³ /h		P (bar)	m ³ /h	
0,5	1,01	1,85	20,5	6,49	11,84	40,5	-	16,65
1	1,43	2,62	21	6,57	11,99	41	-	16,75
1,5	1,76	3,20	21,5	6,65	12,13	41,5	-	16,85
2	2,03	3,70	22	6,73	12,27	42	-	16,95
2,5	2,27	4,14	22,5	6,80	12,41	42,5	-	17,05
3	2,48	4,53	23	6,88	12,54	43	-	17,15
3,5	2,68	4,89	23,5	6,95	12,68	43,5	-	17,25
4	2,87	5,23	24	7,02	12,81	44	-	17,35
4,5	3,04	5,55	24,5	7,10	12,85	44,5	-	17,45
5	3,21	5,85	25	7,17	13,08	45	-	17,55
5,5	3,36	6,13	25,5	7,24	13,21	45,5	-	17,64
6	3,51	6,41	26	7,31	13,34	46	-	17,74
6,5	3,66	6,67	26,5	7,38	13,46	46,5	-	17,84
7	3,79	6,92	27	7,45	13,59	47	-	17,93
7,5	3,93	7,16	27,5	7,52	13,72	47,5	-	18,03
8	4,06	7,40	28	7,59	13,84	48	-	18,12
8,5	4,18	7,63	28,5	7,65	13,96	48,5	-	18,22
9	4,30	7,85	29	7,72	14,09	49	-	18,31
9,5	4,42	8,06	29,5	7,79	14,21	49,5	-	18,40
10	4,53	8,27	30	7,85	14,33	50	-	18,50
10,5	4,65	8,48	30,5	-	14,45	50,5	-	18,59
11	4,76	8,68	31	-	14,56	51	-	18,68
11,5	4,86	8,87	31,5	-	14,68	51,5	-	18,77
12	4,97	9,06	32	-	14,80	52	-	18,86
12,5	5,07	9,25	32,5	-	14,91	52,5	-	18,95
13	5,17	9,43	33	-	15,03	53	-	19,04
13,5	5,27	9,61	33,5	-	15,14	53,5	-	19,13
14	5,36	9,79	34	-	15,25	54	-	19,22
14,5	5,46	9,96	34,5	-	15,36	54,5	-	19,31
15	5,55	10,13	35	-	15,47	55	-	19,40
15,5	5,65	10,30	35,5	-	15,58	55,5	-	19,49
16	5,74	10,46	36	-	15,69	56	-	19,57
16,5	5,82	10,62	36,5	-	15,80	56,5	-	19,66
17	5,91	10,78	37	-	15,91	57	-	19,75
17,5	6,00	10,94	37,5	-	16,02	57,5	-	19,83
18	6,08	11,10	38	-	16,12	58	-	19,92
18,5	6,17	11,25	38,5	-	16,23	58,5	-	20,01
19	6,25	11,40	39	-	16,33	59	-	20,09
19,5	6,33	11,55	39,5	-	16,44	59,5	-	20,18
20	6,41	11,70	40	-	16,54	60	-	20,26

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TYPE G SAFETY VALVES WITH CHANNELIZED EXHAUST

WATER FLOW in m³/h AT 20°C

According to ISO 4126-1

Type	G20	G25	G32	Type	G20	G25	G32	Type	G20	G25	G32
P (bar)	m ³ /h			P (bar)	m ³ /h			P (bar)	m ³ /h		
0,5	4,06	6,34	10,38	20,5	25,97	40,57	-	40,5	36,50	57,03	-
1	5,74	8,96	14,68	21	26,28	41,06	-	41	36,72	57,38	-
1,5	7,02	10,97	17,98	21,5	26,59	41,55	-	41,5	36,95	57,73	-
2	8,11	12,67	20,76	22	26,90	42,03	-	42	37,17	58,07	-
2,5	9,07	14,17	23,21	22,5	27,21	42,51	-	42,5	37,39	58,42	-
3	9,93	15,52	25,43	23	27,51	42,98	-	43	37,61	58,76	-
3,5	10,73	16,76	27,47	23,5	27,80	43,44	-	43,5	37,83	59,10	-
4	11,47	17,92	29,36	24	28,10	43,90	-	44	38,04	59,44	-
4,5	12,17	19,01	31,14	24,5	28,39	44,35	-	44,5	38,26	59,78	-
5	12,82	20,04	32,83	25	28,68	44,81	-	45	38,47	60,11	-
5,5	13,45	21,02	34,43	25,5	28,96	45,25	-	45,5	38,69	60,45	-
6	14,05	21,95	35,96	26	29,24	45,69	-	46	38,90	60,78	-
6,5	14,62	22,85	37,43	26,5	29,52	46,13	-	46,5	39,11	61,11	-
7	15,17	23,71	38,84	27	29,80	46,56	-	47	39,32	61,43	-
7,5	15,71	24,54	40,21	27,5	30,08	46,99	-	47,5	39,53	61,76	-
8	16,22	25,35	41,53	28	30,35	47,42	-	48	39,74	62,08	-
8,5	16,72	26,13	42,80	28,5	30,62	47,84	-	48,5	39,94	62,41	-
9	17,21	26,88	44,05	29	30,89	48,26	-	49	40,15	62,73	-
9,5	17,68	27,62	45,25	29,5	31,15	48,67	-	49,5	40,35	63,05	-
10	18,14	28,34	46,43	30	31,41	49,08	-	50	40,56	63,36	-
10,5	18,58	29,04	47,57	30,5	31,67	49,49	-	50,5	40,76	63,68	-
11	19,02	29,72	48,69	31	31,93	49,89	-	51	40,96	63,99	-
11,5	19,45	30,39	49,79	31,5	32,19	50,29	-	51,5	41,16	64,31	-
12	19,87	31,04	50,86	32	32,44	50,69	-	52	41,36	64,62	-
12,5	20,28	31,68	51,91	32,5	32,70	51,09	-	52,5	41,56	64,93	-
13	20,68	32,31	52,94	33	32,95	51,48	-	53	41,75	65,24	-
13,5	21,07	32,92	53,94	33,5	33,20	51,87	-	53,5	41,95	65,54	-
14	21,46	33,53	54,93	34	33,44	52,25	-	54	42,15	65,85	-
14,5	21,84	34,12	-	34,5	33,69	52,63	-	54,5	42,34	66,15	-
15	22,21	34,71	-	35	33,93	53,01	-	55	42,53	66,46	-
15,5	22,58	35,28	-	35,5	34,17	53,39	-	55,5	42,73	66,76	-
16	22,94	35,84	-	36	34,41	53,77	-	56	42,92	67,06	-
16,5	23,30	36,40	-	36,5	34,65	54,14	-	56,5	43,11	67,36	-
17	23,65	36,95	-	37	34,89	54,51	-	57	43,30	67,65	-
17,5	23,99	37,49	-	37,5	35,12	54,87	-	57,5	43,49	67,95	-
18	24,33	38,02	-	38	35,36	55,24	-	58	43,68	68,25	-
18,5	24,67	38,54	-	38,5	35,59	55,60	-	58,5	43,87	68,54	-
19	25,00	39,06	-	39	35,82	55,96	-	59	44,05	68,83	-
19,5	25,33	39,57	-	39,5	36,05	56,32	-	59,5	44,24	69,12	-
20	25,65	40,07	-	40	36,27	56,67	-	60	44,43	69,41	-

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TYPE G SAFETY VALVES WITH CHANNELIZED EXHAUST

WATER FLOW in m³/h AT 20°C

According to ISO 4126-1

Type	G10	G14	Type	G10	G14	Type	G10	G14
P (bar)	Kg/h		P (bar)	Kg/h		P (bar)	Kg/h	
0,5	1014	1850	20,5	6492	11843	40,5	-	16646
1	1434	2616	21	6571	11986	41	-	16748
1,5	1756	3203	21,5	6648	12128	41,5	-	16850
2	2028	3699	22	6725	12268	42	-	16951
2,5	2267	4136	22,5	6801	12407	42,5	-	17052
3	2483	4530	23	6876	12544	43	-	17152
3,5	2682	4893	23,5	6951	12680	43,5	-	17251
4	2868	5231	24	7024	12814	44	-	17350
4,5	3042	5549	24,5	7097	12947	44,5	-	17448
5	3206	5849	25	7169	13078	45	-	17546
5,5	3363	6134	25,5	7241	13208	45,5	-	17643
6	3512	6407	26	7311	1337	46	-	17740
6,5	3656	6669	26,5	7381	13465	46,5	-	17836
7	3794	6920	27	7450	13591	47	-	17932
7,5	3927	7163	27,5	7519	13716	47,5	-	18027
8	4056	7398	28	7587	13841	48	-	18122
8,5	4180	7626	28,5	7655	13964	48,5	-	18216
9	4302	7847	29	7721	14086	49	-	18309
9,5	4419	8062	29,5	7788	14206	49,5	-	18402
10	4534	8271	30	7853	14326	50	-	18495
10,5	4646	8476	30,5	-	14445	50,5	-	18587
11	4756	8675	31	-	14563	51	-	18679
11,5	4862	8870	31,5	-	14680	51,5	-	18771
12	4967	9061	32	-	14796	52	-	18861
12,5	5069	9248	32,5	-	14911	52,5	-	18952
13	5170	9431	33	-	15026	53	-	19042
13,5	5268	9610	33,5	-	15139	53,5	-	19132
14	5365	9787	34	-	15252	54	-	19221
14,5	5460	9960	34,5	-	15363	54,5	-	19310
15	5553	10130	35	-	15474	55	-	19398
15,5	5645	10298	35,5	-	15584	55,5	-	19486
16	5735	10462	36	-	15694	56	-	19573
16,5	5824	10625	36,5	-	15802	56,5	-	19661
17	5912	10784	37	-	15910	57	-	19747
17,5	5998	10942	37,5	-	16057	57,5	-	19834
18	6083	11097	38	-	16124	58	-	19920
18,5	6167	11250	38,5	-	16229	58,5	-	20006
19	6250	11401	39	-	16335	59	-	20091
19,5	6332	11550	39,5	-	16439	59,5	-	20176
20	6412	11697	40	-	16543	60	-	20260

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TYPE G SAFETY VALVES WITH CHANNELIZED EXHAUST

WATER FLOW in Kg/h AT 20°C

According to ISO 4126-1

Type	G20	G25	G32	Type	G20	G25	G32	Type	G20	G25	G32
P (bar)	Kg/h			P (bar)	Kg/h			P (bar)	Kg/h		
0,5	4056	6336	10382	20,5	25968	40573	-	40,5	36500	57028	-
1	5735	8961	14682	21	26283	41065	-	41	36724	57379	-
1,5	7024	10975	17981	21,5	26594	41551	-	41,5	36947	57727	-
2	8111	12673	20763	22	26901	42031	-	42	37169	58074	-
2,5	9068	14169	23214	22,5	27205	42506	-	42,5	37390	58419	-
3	9934	15521	25430	23	27506	42976	-	43	37609	58761	-
3,5	10730	16765	27467	23,5	27803	43440	-	43,5	37827	59102	-
4	11471	17922	29364	24	28097	43900	-	44	38044	59441	-
4,5	12167	19009	31145	24,5	28389	44355	-	44,5	38260	59778	-
5	12825	20037	32829	25	28677	44805	-	45	38474	60112	-
5,5	13451	21016	34432	25,5	28962	45251	-	45,5	38687	60446	-
6	14049	21950	35963	26	29245	45693	-	46	38899	60777	-
6,5	14622	22846	37431	26,5	29525	46130	-	46,5	39110	61106	-
7	15174	23709	38844	27	29802	46563	-	47	39320	61434	-
7,5	15707	24541	40208	27,5	30076	46992	-	47,5	39528	61760	-
8	16222	25346	41526	28	30349	47417	-	48	39736	62084	-
8,5	16721	26126	42804	28,5	30618	47839	-	48,5	39942	62406	-
9	17206	26883	44045	29	30886	48257	-	49	40148	62727	-
9,5	17678	27620	45252	29,5	31151	48671	-	49,5	40352	63047	-
10	18137	28337	46428	30	31414	49082	-	50	40555	63364	-
10,5	18585	29037	47574	30,5	31675	49489	-	50,5	40757	63680	-
11	19022	29720	48694	31	31933	49893	-	51	40959	63995	-
11,5	19450	30388	49788	31,5	32190	50294	-	51,5	41159	64308	-
12	19868	31042	50859	32	32444	50691	-	52	41358	64619	-
12,5	20278	31682	51908	32,5	32697	51086	-	52,5	41557	64929	-
13	20679	32309	52936	33	32947	51477	-	53	41754	65237	-
13,5	21073	32925	53944	33,5	33196	51866	-	53,5	41951	65544	-
14	21460	33529	54934	34	33443	52251	-	54	42146	65850	-
14,5	21840	34123	-	34,5	33688	52634	-	54,5	42341	66154	-
15	22213	34706	-	35	33931	53014	-	55	42535	66457	-
15,5	22580	35280	-	35,5	34172	53392	-	55,5	42727	66758	-
16	22941	35844	-	36	34412	53766	-	56	42919	67058	-
16,5	23297	36400	-	36,5	34650	54138	-	56,5	43111	67357	-
17	23647	36947	-	37	34887	54508	-	57	43301	67654	-
17,5	23993	37487	-	37,5	35122	54875	-	57,5	43491	67950	-
18	24333	38018	-	38	35355	55240	-	58	43679	68245	-
18,5	24669	38543	-	38,5	35587	55602	-	58,5	43867	68539	-
19	25000	39060	-	39	35817	55962	-	59	44054	68831	-
19,5	25327	39571	-	39,5	36046	56319	-	59,5	44240	69122	-
20	25649	40075	-	40	36274	56675	-	60	44426	69412	-

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TYPE G SAFETY VALVES WITH CHANNELIZED EXHAUST

INSTALLATION AND SERVICING REGULATION

1 - DESCRIPTION

1.1 NGI spring-loaded safety valves are suitable for steam, gases and liquids. They are the result of decades of experience in numerous applications, and more than fulfil their function as the ultimate protection for pressure vessels. They are capable of ensuring that the internal pressure does not exceed the maximum permitted, even if other upstream safety devices fail, provided they have been correctly dimensioned.

1.2 NGI safety valves are made of brass or stainless steel. All safety valves are calibrated and lead sealed at the factory, for maximum safety and minimum maintenance.

2 - GUARANTEE

2.1 Before any contact with our services, please identify the type of safety valve and the individual number engraved on the safety valve body.

2.2 NGI safety valves have a 24-month guarantee, as of the delivery date. Parts admitted as faulty by an assessment at our factory, will be replaced at our expense. Complaints resulting from the incorrect use, modification of the safety valve, a leak following the passage of impurities, shall not be accepted.

3 - TRANSPORT, INSPECTION AT ACCEPTANCE AND STORAGE

3.1 CAUTION: The safety valve can be damaged by vibrations, impacts and the contact with impurities. For this reason, the safety valve has to be handled with precaution, without removing the protective plugs before installation, and without manoeuvring the test lever.

3.2 At acceptance, check that:

- the packaging is in good condition,
- the delivered safety valve is as ordered,
- the equipment has not been damaged,
- the safety valve is delivered with a calibration certificate whose number must match that engraved on the safety valve body.

3.3 It is recommended to install the safety valve as of acceptance and not to leave it unused. If the equipment has to be stored, it must be in a dry place protected from the weather.

4 - PRECAUTIONS FOR OPERATION

4.1 Before installing, make sure that the installation is completely depressurized and brought to ambient temperature.


4.2 Any adjustment or any modification can only be made by technicians qualified for safety valves.

4.3 - CAUTION WITH TOXIC GASES

If the safety valve is installed on an acid tank, wear gloves and safety glasses, and any other personal protection needed.

4.4 The safety valve cannot be commissioned unless it has been calibrated, lead sealed and certified by NGI. The calibration certificate bears the indication of the exact pressure of its calibration.

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TYPE G SAFETY VALVES WITH CHANNELIZED EXHAUST

4.5 When a safety valve with free exhaust in operation, has to be tested, make sure beforehand that nobody stays in the way of the exhaust. Do not let toxic, explosive or flammable products discharge into the atmosphere. Before testing, schedule a controlled degassing procedure in a confined volume.

4.6 Do not perform work on the safety valve, do not break its lead seal, and do not modify its calibration pressure.

4.7 Do not subject the safety valve to a hot or cold shock.

4.8 In case of malfunctioning, contact SECTORIEL or NGI immediately.

4.9 CAUTION: ONLY STAINLESS STEEL SAFETY VALVES MUST BE INSTALLED IN A CORROSIVE ENVIRONMENT.

4.10 The type of connection has to match the piping class of the installation.

4.11 We recommend to choose, preferably, a channelled exhaust safety valve. If the safety valve discharges directly into the atmosphere, direct the exhaust so as not to cause any damage to equipment or persons. Upon request, it is possible to provide a safety valve with a leak detector for the control and instrumentation.

5 - INSTALLATION

5.1 Check that the lead seal has not been damaged.

5.2 Spring safety valves have to be installed in the vertical position with the bonnet upwards.

5.3 Be careful not to damage the seats, remove the protective plugs and install the safety valve on the installation according to its type of connection.

5.4 No isolation valve shall be placed in-between the volume to protect and the safety valve.

5.5 No reduction limiting the flow-rate to discharge shall be placed in-between the volume to protect and the safety valve.

5.6 For channelled exhaust safety valves, make sure that the discharge piping discharges into a location free of hazards for personnel and the environment.

5.7 If the safety valve exhaust has to be connected to a piping, make sure that the latter is as short as possible so as to create just a minimum counter-pressure.

5.8 The piping connected to a channelled exhaust safety valve should not be supported by the safety valve itself, otherwise, leaks may occur.

6 - CLEANING AND LUBRICATION

6.1 NGI safety valves are designed not to require any lubrication.


6.2 Keep the safety valve clean and in running order. Check, in particular, that the exhaust stays clear and that no foreign body blocks the discharge piping.

7 - USUAL MAINTENANCE

7.1 The safety valve is a sensitive safety element which has to be checked periodically. In case of reported malfunctioning, please contact SECTORIEL or NGI.

7.2 CAUTION: NGI and SECTORIEL are no longer responsible for the proper operation of a safety valve which has been disassembled, modified or re-calibrated by a person not authorized by NGI or SECTORIEL.

Information given as an indication only, and subject to possible modifications

	SECTORIEL S.A. 45 rue du Ruisseau 38290 SAINT QUENTIN-FALLAVIER – FRANCE Tél : +33 4 74 94 90 70 - Fax : +33 4 74 94 13 95 www.sectoriel.com / Email : sectoriel@sectoriel.fr	Pages	15/16
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TYPE G SAFETY VALVES WITH CHANNELIZED EXHAUST


8 - PERIODIC INSPECTION

8.1 To make sure that the safety valve is still operating, it has to be tested periodically. To carry out this test, the lever or the test thumb screw have to be manually actuated, briefly. To protect the installation during this test, the test pressure must stay between 80 and 90% of the calibration pressure. The safety valve has to be wide open to allow a significant flow-rate to circulate.

At re-closing, make sure that the seat is again leak-tight. At the start of an installation, it is recommended to carry this test regularly.

8.2 For use on gas or steam on installations located on the French territory, comply with the prescriptions of the order of 20th November 2017 concerning the monitoring of safety valves.

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