



Bronze High Lift Safety Valves

Test Lever - Screwed or Flanged Connections

GRESSWELL G100 HIGH LIFT SAFETY VALVES

Side Outlet discharge with test lever. These valves are used with compressible media, mainly steam systems to prevent safe pressures being exceeded.

Also available with stainless steel trim.

SIZE RANGE

DN	15	20	25	32	40	50
in	½"	¾"	1"	1¼"	1½"	2"

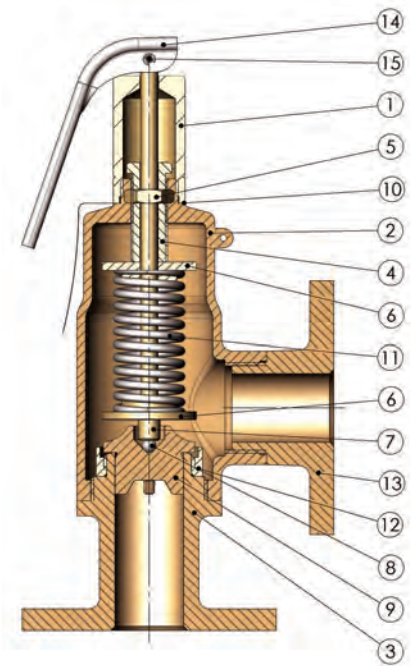
PIPE CONNECTIONS

INLET: Threaded 'G' (BSP) Male to BS EN ISO 228/BS 2779

OUTLET: Threaded 'Rp' Parallel Female to BS 21/BS EN 10226/ISO 7

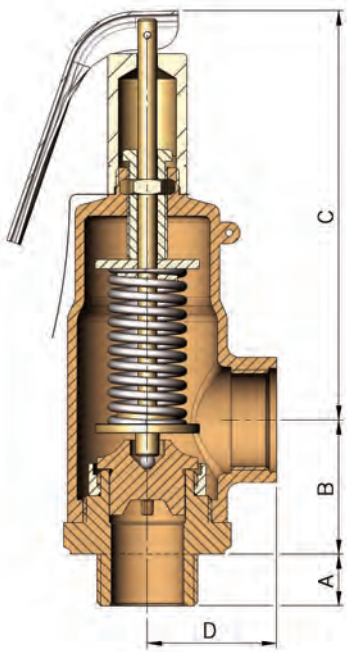
Alternative thread standards, e.g. 'R' x 'Rc' (BSPT) or ANSI B1.20.1 (NPT) are available upon request.

FLANGED: Most flange standards can be accommodated, e.g. BS EN 1759 (Class designated), BS EN 1092 (PN designated) or BS 10 (Table designated) - please specify.



STANDARD SPECIFICATION

No.	Component	Material	No.	Component	Material
1	Dome Top	Cu Alloy BS EN 12164 CW614N	8	Ball	St. Steel AISI 420
2	Body	Cu Alloy BS EN 1982 CC491K	9	Valve	Cu Alloy BS EN 12165 CW602N
3	Base	Cu Alloy BS EN 1982 CC491K	10	Label	Metallised Polymer
3SS	St. St. Base	ASTM A 351/A 351M CF8M	11	Spring	St. Steel BS2056 302 S26
3FL	Inlet Flange	Cu Alloy BS EN 1982 CC491K	12	Blowdown Ring	Cu Alloy BS EN 1982 CC491K
4	Adjusting Screw	Cu Alloy BS EN 12164 CW614N	13	Outlet Flange	Cu Alloy BS EN 1982 CC491K
5	Lock Nut	Cu Alloy BS EN 12164 CW614N	14	Easing Lever	Stainless Steel
6	Spring Plate	Cu Alloy BS EN 12164 CW614N	15	Lever Pin	Stainless Steel
7	Spindle	Cu Alloy BS EN 12164 CW614N			



FEATURES & BENEFITS

Gresswell Valves are quality assurance approved to BS EN ISO 9001: 2008. Certificate No. 10002498.

Manufactured in accordance with BS 6759 Parts 1 & 2 and compliant with BS EN ISO 4126 Part 1 with full Cat IV PED approval.

The G100 range of valves are ideal for handling compressible material but it must be noted... **they are not suitable for liquids.**

Clear operating and maintenance instructions are supplied with each despatch.

Generally in accordance with BS6759 Parts 1 & 2.

See leaflet Ref: DC G100 for Discharge Capacities.

TESTING

All Gresswell Relief Valves are given a hydraulic seat tightness test before leaving the factory and the adjustment range is clearly marked.

All valves are supplied pre-set.

Flanged valves are pressure tested to ensure soundness of joints.

Special tests or witness testing can be arranged at extra cost.

DIMENSION CHART

Size	A	B	C	D	Weight (kg)
DN15	16	35	106	33	0.6
DN20	16	36	114	40	0.8
DN25	17	47	130	48	1.6
DN32	22	56	172	54	2.2
DN40	24	57	170	57	3
DN50	30	68	180	73	4

All dimensions in millimetres (mm). Flange dimensions vary according to specification (available upon request).

SPRING/PRESSURE RANGES at up to 225°C (437°F)

Type	Colour Code	Bar.g	p.s.i.g
A	Red	0.2 - 0.5	3 - 7
B	Blue	0.5 - 0.8	7 - 12
C	Green	0.8 - 1.4	12 - 20
D	Yellow	1.4 - 2.4	20 - 35
E	White	2.4 - 4.1	35 - 60
F	Black	4.1 - 5.9	60 - 85
G	Brown	5.9 - 8.6	85 - 125
H	Purple	8.6 - 12.1	125 - 175
J	Grey	12.1 - 15.5	175 - 225
K	Orange	15.5 - 19.0	225 - 275
L	Red & Black	19.0 - 20.7	275 - 300



GRESSWELL VALVES



Discharge Capacities for Bronze High Lift Safety Relief Valves

SATURATED STEAM in KILOGRAMS PER HOUR

Set Pressure (Bar Gauge)	with 10% Accumulation						Set Pressure (Bar Gauge)	with 10% Accumulation					
	DN15	DN20	DN25	DN32	DN40	DN50		DN15	DN20	DN25	DN32	DN40	DN50
1	33	72	126	153	175	300	11	181	400	713	936	1090	1710
2	50	100	191	231	274	457	12	187	411	736	1016	1156	1820
3	62	119	237	311	369	617	13	192	420	753	1080	1208	1910
4	78	152	299	395	471	774	14	200	435	784	1171	1288	
5	97	192	375	483	580	929	15	209	457	829	1223	1358	
6	121	255	446	575	665	1087	16	218	479	873	1274	1427	
7	142	287	515	665	746	1242	17	227	501	918	1325	1497	
8	152	319	570	730	836	1361	18	240	547	970	1395		
9	163	350	625	796	926	1480	19	255	574	1024	1472		
10	173	382	680	861	1016	1600	20	270	600	1079	1549		

HOT WATER in KILOWATTS

Set Pressure (Bar Gauge)	with 10% Accumulation						Set Pressure (Bar Gauge)	with 10% Accumulation					
	DN15	DN20	DN25	DN32	DN40	DN50		DN15	DN20	DN25	DN32	DN40	DN50
1	21	45	79	96	110	188	11	113	250	446	586	682	1070
2	31	63	120	145	172	286	12	117	257	461	636	724	1139
3	39	74	148	195	231	386	13	120	263	471	676	756	1196
4	49	95	187	247	295	485	14	125	272	491	733	806	
5	61	120	235	302	363	582	15	131	286	519	766	850	
6	76	160	279	360	416	680	16	136	300	546	798	893	
7	89	180	322	416	467	777	17	142	314	575	829	937	
8	95	200	357	457	523	852	18	150	342	607	873		
9	102	219	391	498	580	926	19	160	359	641	921		
10	108	239	426	539	636	1002	20	169	376	675	970		

FREE AIR in LITRES PER SECOND AT 20°C

Set Pressure (Bar Gauge)	with 10% Accumulation						Set Pressure (Bar Gauge)	with 10% Accumulation					
	DN15	DN20	DN25	DN32	DN40	DN50		DN15	DN20	DN25	DN32	DN40	DN50
1	12	28	47	57	67	113	11	68	148	267	250	408	642
2	18	42	72	87	103	172	12	70	153	275	383	433	683
3	23	53	88	117	138	230	13	72	157	280	405	453	
4	28	68	110	148	177	288	14	75	167	292	450	483	
5	37	83	148	182	217	348	15	78	172	308	458	510	
6	45	95	172	217	250	408	16	82	183	325	477	533	
7	53	105	192	250	280	467	17	85	194	343	500	560	
8	57	118	212	275	313	508	18	92	203	367	525		
9	62	130	233	300	347	555	19	97	213	383	550		
10	65	142	253	325	383	600	20	100	225	400	583		

Pressure Relief Valves

CONVERSION FIGURES

Steam.....	lbs/h	x	0.4535	=	kg/h
	Btu/h	x	0.0003	=	kW
Air	m ³ /h	x	16.667	=	L/min
	ft ³ /min	x	28.32	=	L/min
Pressure	psi	x	0.069	=	bar. g.
	kg/cm ²	x	0.98	=	bar. g.
	in.Water	x	0.0025	=	bar. g.

Gresswell Valves have over 65 years experience in the manufacture of Safety and Relief Valves, supplying all industries worldwide and are approved to BS EN ISO 9001:2008 quality standards. (Certificate No. 10002498)

The G100 is available in Bronze with a metal seat to suit even the most demanding applications. Designed to protect systems against overpressure, it has proven to be the ideal safety device for thousands of users.

- Screwed/Flanged connections or a combination of both are available as standard.

- The blowdown ring is adjustable thus allowing small variations in lift /re-seat for specific applications.

- All valves are supplied pre-set.

- Clear operating and maintenance instructions are supplied.

VALVE OPERATION

All our pressure relief valves are designed to function automatically. They are fitted to systems to prevent a safe pressure being exceeded. As protective devices they will perform reliably and will require the minimum of maintenance.

As 'full lift' type valves, the G100 range is designed to handle 'compressible materials' and is therefore not suitable for use with liquids. The accepted point to measure this flow is when the predetermined pressure (the set pressure) is exceeded by 10% - the maximum pressure including 10% accumulation is shown on the flow-rate charts overleaf.

INSTALLATION

- 1) It is essential that the G100 valves be sited with their spindles upwards at a point where pressure surging or pulsation does not occur. Care should be taken not to oversize as this can cause rapid fluctuation, noise and extreme valve wear.
- 2) If thread sealing is required, **DO NOT** use PTFE tape as small pieces can easily foul the valve seat and cause 'weeping'. Always use a liquid sealer instead.
- 3) Discharge pipes should not be smaller than the valves outlet port and **must** be self draining. If there is a back pressure, this must be allowed for when setting the valve. Any back pressure must not be in the form of a liquid column.
- 4) Valves should be positioned where there is no possible risk to personnel during the normal course of operation. Some product will issue from the test lever area when the valve opens. Gresswell Valves should be consulted if there is any doubt regarding the valves SAFE operation.

GRESSWELL VALVES strive to provide the best possible service and welcome any suggestions which would advance this process. Therefore we reserve the right to change specifications without prior notice.

The company's engineering staff are able to assist in offering advice on further matters regarding the SAFE OPERATION of Safety and Relief valves. Information on sizing and selection can be obtained by contacting the GRESSWELL sales desk.

To place an order we request that you provide the following information regarding the intended service installation: OPERATING PRESSURE, OPERATING TEMPERATURE & INTENDED MEDIUM. Products selected and quoted for are based on the information provided and we reserve the right to amend / withdraw in part or in full should further information regarding the operating media and conditions (eg flow rates / viscosity etc) indicate that the products quoted may not be entirely suitable for the purpose(s) intended. Where a PED category is stated by Gresswell Valves, the product can only be used for the stated category.



GRESSWELL VALVES