



Discharge Capacities for Bronze 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 ph | 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 9001:2000 quality standards. (Certificate No. 0910407)

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.



Cert. No. LRQ 0910407

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