

6301S TYPE CAST IRON GS SAFETY VALVES

FEATURES

The 6301 S type safety valve is a device designed to protect installations against possible overpressure. It operates automatically and closes when pressure conditions return to normal. The 6301 S safety valve is a spring-loaded type safety valve, with offset orifices and instantaneous exhaust, made of cast iron GS of pressure class PN 40. As a standard, it is delivered sealed with a closed cover, a leak-tight plug, and a test lever. The seat and the disc are heat hardened providing high resistance to erosion. The 6301 S safety valve is approved by UDV 1413 and Veritas, and can be used with steam, gas and liquids. Calibration certificate and manufacturer dossier according to the 20th of November 2017 order concerning the monitoring of safety valve upon simple request.



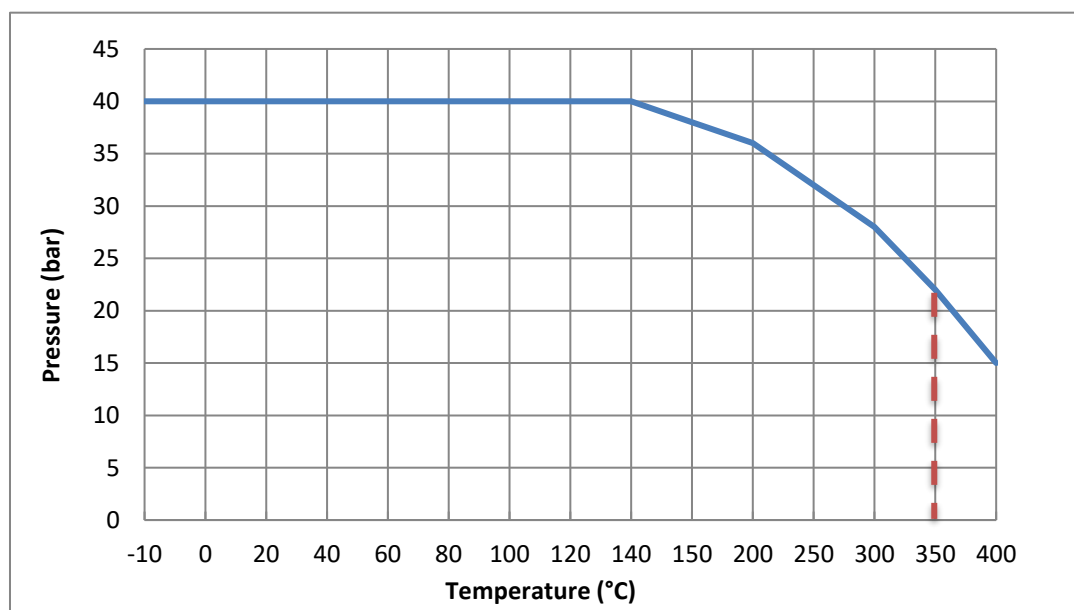
AVAILABLE MODELS

6301S : DN 20 to DN 100.

Connection with PN 40 flanges and PN 10/16 outlet flanges.

LIMITES D'EMPLOI

| | |
|---------------|------------------|
| Fluid WP : | 40 bar |
| Test pressure | 60 bar |
| Fluid WT° : | -10° C / +350° C |



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HYDRAULIC FEATURES

| | | | | | | | | |
|---|---------------------|----|----|-----------------------------|----|-----|--------------------|-----|
| Inlet DN | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
| Outlet DN | 32 | 40 | 50 | 65 | 80 | 100 | 125 | 150 |
| Do orifice (mm) | 16 | 20 | 25 | 32 | 40 | 50 | 63 | 77 |
| Calibration minimum (bar) | 0,5 | | | | | | | |
| Calibration maximum (bar) | 40 | 40 | 40 | 32 | 32 | 32 | 25 | 20 |
| Flow-rate coefficient | Fluid | | | Calibration pressure | | | Coefficient | |
| | Gas and steam | | | ≤ 1,4 bar | | | 0,72 | |
| | Gas and steam | | | > 1,4 bar | | | 0,78 | |
| | Liquids for b1= 10% | | | ≤ 6 bar | | | 0,01 | |
| | Liquids for b1= 10% | | | > 6 bar | | | 0,28 | |
| | Liquids for b1= 25% | | | All pressure | | | 0,28 | |
| For usual fluids (water, compressed air and steam), please refer to our flow-rate graphs. | | | | | | | | |

DIRECTIVES AND MANUFACTURING STANDARDS

| OBJET | Standard | O.N. |
|---|-------------|------|
| Pressure Equipment Directive 2014/68/EC | Category IV | 1413 |
| Construction standard | ISO 4126-1 | |
| Approval for Russia | GOST-R | |
| Approval UDV | 1413 | |
| VERITAS (Use at sea and offshore) | 22324592B00 | |
| Flange connections: | EN 1092-1 | |
| CALIBRATION CERTIFICATE – TEST AND MATERIAL | | |
| EN 10 204 3.1 certificate for calibration and standard compliance, with the serial number engraved on the safety valve. | | |

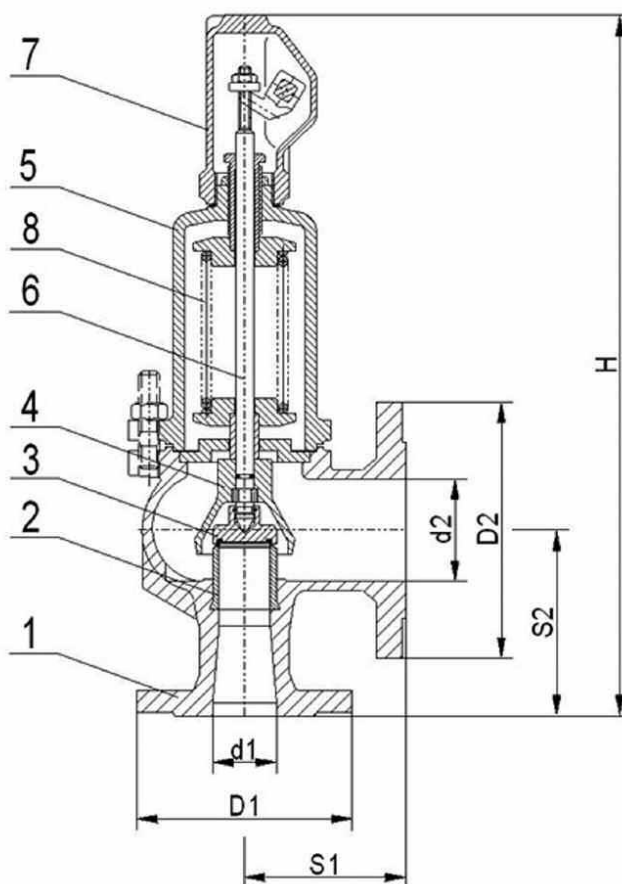
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CONSTRUCTION

| No. | Name | Material |
|-----|-----------|-------------------------|
| 1 | Body | EN GJS-400-18 cast iron |
| 2 | Seat | X39 Cr Mo 17-1 |
| 3 | Disc | X39 Cr Mo 17-1 |
| 4 | Deflector | EN GJS 400-15 cast iron |
| 5 | Bonnet | EN GJS 400-15 cast iron |
| 6 | Stem | X20 Cr13 |
| 7 | Cap | EN GJS 400-15 cast iron |
| 8 | Spring | Alloy steel |



DIMENSIONS (mm) AND WEIGHT (Kg)

| DN | d1 | d2 | Fo (mm ²) | D1 (∅ Inlet flange) | | S1 | S2 | H | Weight (Kg) |
|-----|-----|-----|--------------------------|------------------------|---------------|-----|-----|-----|----------------|
| | | | | PN 40 | PN 10 PN 16 | | | | |
| 20 | 20 | 32 | 201 | 105 | 140 | 85 | 95 | 345 | 7,5 |
| 25 | 25 | 40 | 314 | 115 | 150 | 95 | 105 | 395 | 9 |
| 32 | 32 | 50 | 491 | 140 | 165 | 100 | 110 | 420 | 13 |
| 40 | 40 | 65 | 804 | 150 | 185 | 115 | 130 | 495 | 19 |
| 50 | 50 | 80 | 1257 | 165 | 200 | 125 | 145 | 550 | 25 |
| 65 | 65 | 100 | 1964 | 185 | 220 | 140 | 150 | 660 | 37 |
| 80 | 80 | 125 | 3117 | 200 | 250 | 155 | 170 | 710 | 52 |
| 100 | 100 | 150 | 4657 | 235 | 285 | 175 | 180 | 810 | 77 |

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| DN (Inlet/Outlet) | | D | K | L | Qty | ∅ | ISO PN 10/16/40 flange dimensions |
|-------------------|-------------|-----|-----|----|-----|-----|-----------------------------------|
| 20 | PN 40 | 105 | 75 | 14 | 4 | M12 | |
| 25 | PN 40 | 115 | 85 | 14 | 4 | M12 | |
| 32 | PN 10/16/40 | 140 | 100 | 19 | 4 | M16 | |
| 40 | PN 10/16/40 | 150 | 110 | 19 | 4 | M16 | |
| 50 | PN 10/16/40 | 165 | 125 | 19 | 4 | M16 | |
| 65 | PN 10/16/40 | 185 | 145 | 19 | 4 | M16 | |
| 80 | PN 10/16/40 | 200 | 160 | 19 | 8 | M16 | |
| 100 | PN 10/16 | 220 | 180 | 19 | 8 | M16 | |
| | PN 40 | 235 | 190 | 23 | 8 | M20 | |
| 125 | PN 10/16 | 250 | 210 | 19 | 8 | M16 | |
| 150 | PN 10/16 | 285 | 240 | 23 | 8 | M20 | |

INSTALLATION

The safety valve has to be positioned as close as possible to the volume to protect. It must always be installed in the vertical position. No valve must be installed in-between the volume to protect and the safety valve. The outlet flange of the safety valve must not support the exhaust piping. No foreign body must block the discharge orifice of the safety valve. The exhaust has to be connected to piping without counter-pressure, discharging into a hazard free location. The safety valve installation and servicing have to be carried out according to state-of-the-art rules, following the instruction leaflet provided with the device.

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6301S TYPE CAST IRON GS SAFETY VALVES

SATURATED STEAM FLOW-RATE IN Kg/h (According to the ISO 4126-1 standard)

| P (bar) | DN | | | | | | | |
|---------|------|------|------|-------|-------|-------|-------|-------|
| | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
| 0,45 | 115 | 180 | 282 | 461 | 721 | 1127 | 1788 | 2672 |
| 0,5 | 120 | 187 | 293 | 479 | 749 | 1171 | 1858 | 2777 |
| 0,55 | 124 | 194 | 304 | 497 | 777 | 1214 | 1927 | 2879 |
| 0,6 | 129 | 201 | 314 | 514 | 804 | 1257 | 1994 | 2980 |
| 0,7 | 137 | 215 | 336 | 550 | 859 | 1343 | 2131 | 3184 |
| 0,8 | 147 | 230 | 359 | 588 | 919 | 1436 | 2280 | 3406 |
| 0,9 | 158 | 246 | 385 | 630 | 985 | 1540 | 2444 | 3651 |
| 1 | 164 | 256 | 401 | 656 | 1026 | 1603 | 2545 | 3802 |
| 1,1 | 171 | 268 | 419 | 686 | 1072 | 1675 | 2659 | 3972 |
| 1,2 | 179 | 280 | 437 | 716 | 1120 | 1749 | 2776 | 4148 |
| 1,3 | 187 | 292 | 457 | 748 | 1169 | 1826 | 2898 | 4330 |
| 1,4 | 195 | 305 | 476 | 780 | 1220 | 1906 | 3025 | 4519 |
| 1,6 | 230 | 360 | 562 | 921 | 1439 | 2249 | 3569 | 5332 |
| 1,8 | 251 | 392 | 613 | 1004 | 1569 | 2452 | 3891 | 5813 |
| 2 | 268 | 418 | 654 | 1071 | 1674 | 2615 | 4150 | 6201 |
| 2,2 | 285 | 445 | 695 | 1138 | 1780 | 2781 | 4413 | 6594 |
| 2,4 | 303 | 473 | 739 | 1210 | 1892 | 2956 | 4691 | 7009 |
| 2,6 | 322 | 502 | 786 | 1286 | 2011 | 3142 | 4987 | 7451 |
| 2,8 | 340 | 532 | 831 | 1361 | 2128 | 3326 | 5278 | 7885 |
| 3 | 357 | 558 | 872 | 1428 | 2233 | 3489 | 5537 | 8273 |
| 3,5 | 402 | 628 | 982 | 1609 | 2515 | 3929 | 6236 | 9317 |
| 4 | 446 | 697 | 1090 | 1784 | 2790 | 4359 | 6918 | 10336 |
| 4,5 | 492 | 768 | 1201 | 1967 | 3075 | 4805 | 7626 | 11393 |
| 5 | 535 | 835 | 1306 | 2139 | 3344 | 5225 | 8292 | 12389 |
| 5,5 | 580 | 906 | 1417 | 2320 | 3627 | 5667 | 8993 | 13437 |
| 6 | 623 | 973 | 1521 | 2491 | 3895 | 6086 | 9658 | 14430 |
| 6,5 | 667 | 1042 | 1630 | 2669 | 4173 | 6520 | 10348 | 15461 |
| 7 | 711 | 1110 | 1736 | 2843 | 4445 | 6945 | 11021 | 16467 |
| 8 | 798 | 1247 | 1950 | 3193 | 4993 | 7801 | 12381 | 18498 |
| 9 | 886 | 1384 | 2165 | 3545 | 5542 | 8659 | 13742 | 20531 |
| 10 | 974 | 1521 | 2378 | 3894 | 6089 | 9513 | 15098 | 22558 |
| 11 | 1060 | 1657 | 2590 | 4242 | 6631 | 10361 | 16444 | 24568 |
| 12 | 1147 | 1792 | 2802 | 4588 | 7173 | 11208 | 17787 | 26575 |
| 14 | 1321 | 2063 | 3227 | 5283 | 8260 | 12906 | 20483 | 30603 |
| 16 | 1494 | 2334 | 3650 | 5976 | 9344 | 14599 | 23169 | 34616 |
| 18 | 1668 | 2605 | 4074 | 6671 | 10429 | 16295 | 25861 | 38638 |
| 20 | 1842 | 2877 | 4499 | 7366 | 11517 | 17995 | 28559 | 42669 |
| 23 | 2101 | 3282 | 5132 | 8403 | 13138 | 20527 | 32578 | 48673 |
| 25 | 2275 | 3553 | 5556 | 9098 | 14224 | 22225 | 35272 | 52699 |
| 30 | 2711 | 4235 | 6622 | 10843 | 16953 | 26488 | 42038 | 62808 |
| 32 | 2884 | 4506 | 7046 | 11538 | 18038 | 28184 | 44730 | 66830 |
| 38 | 3407 | 5322 | 8322 | 13627 | 21305 | 33288 | 52830 | - |
| 40 | 3583 | 5597 | 8752 | 14331 | 22406 | 35008 | 55560 | - |

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6301S TYPE CAST IRON GS SAFETY VALVES

SATURATED STEAM FLOW-RATE IN kW (According to the ISO 4126-1 standard)

| P (bar) | DN Puissance (kW) | | | | | | | |
|---------|-------------------|--------|--------|--------|--------|---------|---------|---------|
| | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
| 0,45 | 71,2 | 111,4 | 174,5 | 285,3 | 446,2 | 697,5 | 1106,6 | 1653,7 |
| 0,5 | 74,2 | 115,6 | 181,1 | 296 | 462,9 | 723,7 | 1148,3 | 1716,3 |
| 0,55 | 76,5 | 119,7 | 187,6 | 306,8 | 479,6 | 749,3 | 1189,4 | 1777 |
| 0,6 | 79,6 | 124 | 193,6 | 317 | 495,8 | 775,2 | 1229,6 | 1837,7 |
| 0,7 | 84,3 | 132,3 | 206,7 | 338,4 | 528,5 | 826,3 | 1311,2 | 1959 |
| 0,8 | 90,2 | 141,2 | 220,4 | 361 | 564,2 | 881,5 | 1399,7 | 2090,9 |
| 0,9 | 96,8 | 150,7 | 235,8 | 385,9 | 603,3 | 943,3 | 1497 | 2236,2 |
| 1 | 100,3 | 156,5 | 245,2 | 401,1 | 627,3 | 980,1 | 1556 | 2324,5 |
| 1,1 | 104,4 | 163,6 | 255,7 | 418,7 | 654,2 | 1022,2 | 1622,7 | 2424 |
| 1,2 | 109 | 170,5 | 266,1 | 436 | 682 | 1064,9 | 1690,3 | 2525,7 |
| 1,3 | 113,7 | 177,5 | 277,8 | 454,6 | 710,5 | 1109,8 | 1761,3 | 2631,7 |
| 1,4 | 118,3 | 185 | 288,8 | 473,2 | 740,1 | 1156,3 | 1835,2 | 2741,5 |
| 1,6 | 139,1 | 217,7 | 339,9 | 556,9 | 870,2 | 1360 | 2158,3 | 3224,4 |
| 1,8 | 151,3 | 236,3 | 369,5 | 605,2 | 945,8 | 1478 | 2345,4 | 3503,9 |
| 2 | 161 | 251,1 | 392,9 | 643,5 | 1005,8 | 1571,2 | 2493,5 | 3725,8 |
| 2,2 | 170,7 | 266,5 | 416,2 | 681,5 | 1066 | 1665,5 | 2642,9 | 3949,1 |
| 2,4 | 181 | 282,5 | 441,3 | 722,6 | 1129,9 | 1765,4 | 2801,6 | 4185,9 |
| 2,6 | 191,8 | 299 | 468,1 | 765,9 | 1197,7 | 1871,2 | 2970 | 4437,5 |
| 2,8 | 202 | 316,1 | 493,8 | 808,7 | 1264,4 | 1976,2 | 3136 | 4685 |
| 3 | 211,5 | 330,6 | 516,7 | 846,1 | 1323,1 | 2067,2 | 3280,7 | 4901,8 |
| 3,5 | 236,7 | 369,8 | 578,3 | 947,5 | 1481,1 | 2313,7 | 3672,3 | 5486,7 |
| 4 | 261,2 | 408,1 | 638,3 | 1044,6 | 1633,7 | 2552,4 | 4050,9 | 6052,3 |
| 4,5 | 286,5 | 447,1 | 699,2 | 1145,2 | 1790,3 | 2797,6 | 4440 | 6633,3 |
| 5 | 310 | 483,8 | 756,8 | 1239,4 | 1937,7 | 3027,6 | 4804,8 | 7178,7 |
| 5,5 | 336,1 | 525 | 821,1 | 1344,3 | 2101,6 | 3283,7 | 5210,9 | 7786 |
| 6 | 359,1 | 560,8 | 876,7 | 1435,8 | 2245 | 3507,9 | 5566,8 | 8317,3 |
| 6,5 | 380,9 | 595,1 | 930,9 | 1524,3 | 2383,2 | 3723,6 | 5909,9 | 8829,9 |
| 7 | 404,3 | 631,2 | 987,1 | 1616,6 | 2527,5 | 3949 | 6266,7 | 9363,3 |
| 8 | 450 | 703,2 | 1099,6 | 1800,5 | 2815,5 | 4398,9 | 6981,5 | 10430,8 |
| 9 | 495,9 | 774,7 | 1211,8 | 1984,2 | 3102 | 4846,6 | 7691,7 | 11491,7 |
| 10 | 543 | 848 | 1325,7 | 2170,9 | 3394,6 | 5303,5 | 8417,1 | 12576,1 |
| 11 | 584,8 | 914,1 | 1428,8 | 2340,2 | 3658,1 | 5715,8 | 9071,6 | 13553,3 |
| 12 | 628,3 | 981,6 | 1534,9 | 2513,2 | 3929,2 | 6139,5 | 9743,3 | 14557,2 |
| 14 | 714,4 | 1115,7 | 1745,3 | 2857,2 | 4467,3 | 6980 | 11077,9 | 16551,1 |
| 16 | 798 | 1246,7 | 1949,7 | 3192,2 | 4991,3 | 7798,3 | 12376,1 | 18490,7 |
| 18 | 880,8 | 1375,6 | 2151,3 | 3522,7 | 5507,1 | 8604,7 | 13656 | 20403 |
| 20 | 961,9 | 1502,4 | 2349,5 | 3846,7 | 6014,4 | 9397,4 | 14914,1 | 22282,7 |
| 23 | 1079,7 | 1686,6 | 2637,3 | 4318,2 | 6751,5 | 10548,6 | 16741,5 | 25012,5 |
| 25 | 1157,1 | 1807,1 | 2825,8 | 4627,3 | 7234,5 | 11303,9 | 17939,7 | 26803,3 |
| 30 | 1345,7 | 2102,2 | 3287,1 | 5382,3 | 8415,3 | 13148,3 | 20867,2 | 31177,2 |
| 32 | 1418 | 2215,5 | 3464,3 | 5672,9 | 8868,7 | 13857,1 | 21992,3 | 32858,1 |
| 38 | 1628,7 | 2544,2 | 3978,4 | 6514,5 | 10185 | 15913,5 | 25255,7 | - |
| 40 | 1697,9 | 2652,4 | 4147,5 | 6791,3 | 10618 | 16589,9 | 26329,3 | - |

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6301S TYPE CAST IRON GS SAFETY VALVES

WATER FLOW-RATE IN kg/h AT 20°C (According to the ISO 4126-1 standard)

| P (bar) | DN | | | | | | | |
|---------|-------|-------|-------|-------|--------|--------|--------|--------|
| | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
| 0,45 | 70,7 | 111 | 176 | 290 | 456 | 716 | 1141 | 1711 |
| 0,5 | 74 | 117 | 184 | 303 | 477 | 748 | 1193 | 1789 |
| 0,55 | 77,2 | 122 | 191 | 316 | 496 | 779 | 1243 | 1863 |
| 0,6 | 80,2 | 126 | 199 | 328 | 516 | 810 | 1290 | 1934 |
| 0,7 | 86 | 135 | 213 | 351 | 552 | 867 | 1381 | 2070 |
| 0,8 | 91,4 | 144 | 226 | 373 | 586 | 920 | 1466 | 2198 |
| 0,9 | 96,5 | 152 | 239 | 394 | 619 | 971 | 1547 | 2318 |
| 1 | 101 | 160 | 251 | 413 | 650 | 1019 | 1624 | 2433 |
| 1,1 | 106 | 168 | 264 | 434 | 682 | 1070 | 1704 | 2553 |
| 1,2 | 111 | 175 | 276 | 454 | 713 | 1118 | 1781 | 2668 |
| 1,3 | 116 | 183 | 287 | 473 | 742 | 1165 | 1855 | 2779 |
| 1,4 | 121 | 190 | 298 | 491 | 771 | 1209 | 1926 | 2885 |
| 1,6 | 129 | 203 | 319 | 526 | 825 | 1294 | 2061 | 3087 |
| 1,8 | 137 | 216 | 339 | 558 | 876 | 1374 | 2188 | 3277 |
| 2 | 145 | 228 | 358 | 589 | 924 | 1449 | 2307 | 3456 |
| 2,2 | 152 | 239 | 376 | 618 | 970 | 1521 | 2422 | 3627 |
| 2,4 | 159 | 250 | 393 | 646 | 1014 | 1590 | 2531 | 3790 |
| 2,6 | 166 | 260 | 409 | 673 | 1056 | 1656 | 2635 | 3946 |
| 2,8 | 172 | 270 | 425 | 699 | 1097 | 1719 | 2736 | 4097 |
| 3 | 178 | 280 | 440 | 724 | 1136 | 1780 | 2833 | 4242 |
| 3,5 | 193 | 303 | 476 | 783 | 1228 | 1925 | 3063 | 4586 |
| 4 | 207 | 324 | 510 | 838 | 1314 | 2059 | 3277 | 4906 |
| 4,5 | 220 | 345 | 541 | 889 | 1395 | 2186 | 3478 | 5206 |
| 5 | 232 | 364 | 571 | 938 | 1471 | 2305 | 3668 | 5490 |
| 5,5 | 243 | 382 | 599 | 985 | 1544 | 2419 | 3849 | 5761 |
| 6 | 254 | 399 | 626 | 1029 | 1614 | 2528 | 4021 | 6019 |
| 6,5 | 7654 | 11957 | 18698 | 30617 | 47867 | 74790 | 118697 | 177341 |
| 7 | 7943 | 12409 | 19403 | 31772 | 49674 | 77613 | 123177 | 184035 |
| 8 | 8492 | 13265 | 20743 | 33966 | 53104 | 82972 | 131682 | 196742 |
| 9 | 9007 | 14070 | 22001 | 36027 | 56325 | 88005 | 139670 | 208676 |
| 10 | 9494 | 14831 | 23191 | 37975 | 59372 | 92766 | 147225 | 219964 |
| 11 | 9957 | 15555 | 24323 | 39829 | 62270 | 97293 | 154411 | 230700 |
| 12 | 10400 | 16247 | 25405 | 41600 | 65039 | 101620 | 161277 | 240959 |
| 14 | 11233 | 17548 | 27440 | 44933 | 70250 | 109762 | 174199 | 260265 |
| 16 | 12009 | 18760 | 29335 | 48035 | 75100 | 117340 | 186227 | 278235 |
| 18 | 12737 | 19898 | 31115 | 50949 | 79656 | 124458 | 197523 | 295113 |
| 20 | 13426 | 20974 | 32798 | 53705 | 83965 | 131190 | 208208 | 311076 |
| 23 | 14398 | 22493 | 35172 | 57592 | 90042 | 140686 | 223278 | 333592 |
| 25 | 15011 | 23450 | 36669 | 60044 | 93875 | 146675 | 232784 | 347794 |
| 30 | 16444 | 25688 | 40169 | 65775 | 102835 | 160675 | 255002 | 380989 |
| 32 | 16983 | 26531 | 41486 | 67932 | 106208 | 165944 | 263365 | 393484 |
| 38 | 18507 | 28911 | 45208 | 74028 | 115737 | 180833 | 286995 | - |
| 40 | 18988 | 29662 | 46383 | 75951 | 118744 | 185531 | 294451 | - |

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6301S TYPE CAST IRON GS SAFETY VALVES

COMPRESSED AIR FLOW-RATE IN kg/h AT 20°C (According to the ISO 4126-1 standard)

| P (bar) | DN | | | | | | | |
|---------|------|------|-------|-------|-------|-------|-------|--------|
| | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
| 0,45 | 185 | 289 | 451 | 739 | 1156 | 1806 | 2866 | 4281 |
| 0,5 | 193 | 301 | 471 | 771 | 1205 | 1883 | 2988 | 4464 |
| 0,55 | 200 | 313 | 489 | 801 | 1252 | 1956 | 3105 | 4639 |
| 0,6 | 207 | 324 | 507 | 830 | 1297 | 2027 | 3217 | 4806 |
| 0,7 | 221 | 345 | 540 | 884 | 1382 | 2160 | 3428 | 5121 |
| 0,8 | 234 | 365 | 571 | 935 | 1461 | 2283 | 3624 | 5414 |
| 0,9 | 246 | 384 | 601 | 984 | 1538 | 2404 | 3815 | 5699 |
| 1 | 258 | 404 | 631 | 1033 | 1615 | 2524 | 4005 | 5984 |
| 1,1 | 272 | 425 | 664 | 1087 | 1700 | 2656 | 4215 | 6298 |
| 1,2 | 285 | 446 | 697 | 1141 | 1785 | 2788 | 4425 | 6611 |
| 1,3 | 299 | 467 | 730 | 1196 | 1869 | 2920 | 4635 | 6925 |
| 1,4 | 312 | 488 | 763 | 1250 | 1954 | 3053 | 4845 | 7238 |
| 1,6 | 368 | 575 | 898 | 1471 | 2300 | 3593 | 5703 | 8521 |
| 1,8 | 397 | 620 | 970 | 1588 | 2483 | 3880 | 6158 | 9200 |
| 2 | 426 | 666 | 1042 | 1706 | 2667 | 4166 | 6612 | 9879 |
| 2,2 | 456 | 712 | 1113 | 1823 | 2850 | 4453 | 7067 | 10558 |
| 2,4 | 485 | 758 | 1185 | 1940 | 3033 | 4739 | 7521 | 11237 |
| 2,6 | 514 | 803 | 1256 | 2057 | 3216 | 5026 | 7976 | 11917 |
| 2,8 | 544 | 849 | 1328 | 2175 | 3400 | 5312 | 8431 | 12596 |
| 3 | 573 | 895 | 1400 | 2292 | 3583 | 5598 | 8885 | 13275 |
| 3,5 | 646 | 1010 | 1579 | 2585 | 4041 | 6315 | 10022 | 14973 |
| 4 | 720 | 1124 | 1758 | 2878 | 4500 | 7031 | 11158 | 16671 |
| 4,5 | 793 | 1239 | 1937 | 3171 | 4958 | 7747 | 12295 | 18369 |
| 5 | 866 | 1353 | 2116 | 3464 | 5416 | 8463 | 13431 | 20067 |
| 5,5 | 939 | 1467 | 2295 | 3758 | 5875 | 9179 | 14567 | 21765 |
| 6 | 1013 | 1582 | 2474 | 4051 | 6333 | 9895 | 15704 | 23463 |
| 6,5 | 1086 | 1696 | 2653 | 4344 | 6791 | 10611 | 16840 | 25161 |
| 7 | 1159 | 1811 | 2832 | 4637 | 7250 | 11327 | 17977 | 26859 |
| 8 | 1306 | 2040 | 3190 | 5223 | 8166 | 12759 | 20250 | 30254 |
| 9 | 1452 | 2269 | 3548 | 5810 | 9083 | 14191 | 22523 | 33650 |
| 10 | 1599 | 2498 | 3906 | 6396 | 9999 | 15624 | 24796 | 37046 |
| 11 | 1746 | 2727 | 4264 | 6982 | 10916 | 17056 | 27069 | 40442 |
| 12 | 1892 | 2956 | 4622 | 7568 | 11833 | 18488 | 29342 | 43838 |
| 14 | 2185 | 3414 | 5338 | 8741 | 13666 | 21352 | 33887 | 50630 |
| 16 | 2478 | 3872 | 6054 | 9913 | 15499 | 24217 | 38433 | 57422 |
| 18 | 2772 | 4330 | 6770 | 11086 | 17332 | 27081 | 42979 | 64214 |
| 20 | 3065 | 4788 | 7486 | 12259 | 19166 | 29945 | 47525 | 71005 |
| 23 | 3504 | 5474 | 8560 | 14017 | 21915 | 34242 | 54344 | 81193 |
| 25 | 3798 | 5932 | 9276 | 15190 | 23749 | 37106 | 58890 | 87985 |
| 30 | 4530 | 7077 | 11067 | 18121 | 28332 | 44267 | 70254 | 104965 |
| 32 | 4823 | 7535 | 11783 | 19294 | 30165 | 47131 | 74800 | 111756 |
| 38 | 5703 | 8909 | 13931 | 22812 | 35665 | 55724 | 88438 | - |
| 40 | 5996 | 9367 | 14647 | 23984 | 37498 | 58588 | 92924 | - |

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6301S TYPE CAST IRON GS SAFETY VALVES

COMPRESSED AIR FLOW-RATE IN Nm³/h AT 20°C (According to the ISO 4126-1 standard)

| P (bar) | DN | | | | | | | |
|---------|--------|--------|---------|--------|---------|---------|---------|---------|
| | 20 | 25 | 32 | 40 | 50 | 65 | 80 | 100 |
| 0,45 | 44,4 | 69,3 | 108,2 | 177,3 | 277,3 | 433,3 | 687,5 | 1027 |
| 0,5 | 49,7 | 77,6 | 121,4 | 198,7 | 310,5 | 485,2 | 769,9 | 1150,2 |
| 0,55 | 54,9 | 85,9 | 134,1 | 219,7 | 343,4 | 536,5 | 851,7 | 1272,4 |
| 0,6 | 60 | 93,9 | 147 | 240,6 | 376 | 587,6 | 932,5 | 1393,1 |
| 0,7 | 70,3 | 109,8 | 171,9 | 281,4 | 439,9 | 687,5 | 1091,1 | 1630 |
| 0,8 | 80,4 | 125,4 | 196,2 | 321,2 | 501,9 | 784,3 | 1245 | 1860 |
| 0,9 | 90,1 | 140,6 | 220,1 | 360,3 | 563,1 | 880,2 | 1396,9 | 2086,7 |
| 1 | 99,7 | 156,1 | 243,9 | 399,3 | 624,2 | 975,5 | 1547,9 | 2312,8 |
| 1,1 | 110,1 | 172,1 | 268,9 | 440,1 | 688,3 | 1075,4 | 1706,7 | 2550,1 |
| 1,2 | 120,2 | 188 | 293,9 | 481,1 | 752,3 | 1175,5 | 1865,7 | 2787,4 |
| 1,3 | 130,6 | 204 | 318,9 | 522,5 | 816,6 | 1275,8 | 2025,1 | 3025,6 |
| 1,4 | 140,7 | 220 | 344 | 563,6 | 881,1 | 1376,6 | 2184,7 | 3263,7 |
| 1,6 | 175,1 | 273,5 | 427,2 | 699,7 | 1094,1 | 1709,2 | 2712,9 | 4053,3 |
| 1,8 | 197,3 | 308,1 | 482 | 789,1 | 1233,9 | 1928,1 | 3060,1 | 4571,7 |
| 2 | 219,5 | 343,1 | 537 | 879,2 | 1374,4 | 2146,9 | 3407,4 | 5090,9 |
| 2,2 | 242,3 | 378,4 | 591,5 | 968,8 | 1514,6 | 2366,5 | 3755,6 | 5610,9 |
| 2,4 | 264,6 | 413,6 | 646,6 | 1058,5 | 1654,9 | 2885,8 | 4103,8 | 6131,4 |
| 2,6 | 287 | 448,3 | 701,2 | 1148,4 | 1795,4 | 2805,9 | 4452,8 | 6653 |
| 2,8 | 309,8 | 483,6 | 756,4 | 1238,8 | 1936,6 | 3025,6 | 4802,1 | 7174,4 |
| 3 | 332,2 | 518,9 | 811,6 | 1328,8 | 2077,2 | 3245,4 | 5151 | 7696,1 |
| 3,5 | 388,4 | 607,2 | 949,3 | 1554,1 | 2429,5 | 3796,7 | 6025,4 | 9002 |
| 4 | 445,2 | 695,1 | 1087,1 | 1779,7 | 2782,8 | 4347,9 | 6900,1 | 10309,3 |
| 4,5 | 501,5 | 783,6 | 1225,1 | 2005,5 | 3135,7 | 4899,6 | 7776 | 11617,5 |
| 5 | 557,8 | 871,6 | 1363 | 2231,4 | 3488,8 | 5451,5 | 8651,7 | 12926,4 |
| 5,5 | 614,2 | 959,5 | 1501,1 | 2458 | 3842,7 | 6003,7 | 9527,9 | 14235,9 |
| 6 | 671,2 | 1048,2 | 1639,2 | 2684,1 | 4196 | 6556,1 | 10405 | 15545,8 |
| 6,5 | 727,5 | 1136,2 | 1777,3 | 2910,2 | 4549,5 | 7108,6 | 11281,6 | 16856,1 |
| 7 | 783,9 | 1224,9 | 1915,5 | 3136,3 | 4903,7 | 7661,2 | 12159,1 | 18166,6 |
| 8 | 897,4 | 1401,7 | 2191,9 | 3588,8 | 5610,9 | 8766,8 | 13913,9 | 20787,7 |
| 9 | 1010,1 | 1578,5 | 2468,3 | 4042 | 6319 | 9872,6 | 15669,1 | 23410,1 |
| 10 | 1123,7 | 1755,4 | 2744,8 | 4494,6 | 7026,5 | 10979,3 | 17424,7 | 26033,1 |
| 11 | 1237,2 | 1932,3 | 3021,4 | 4947,3 | 7734,8 | 12085,5 | 19180,5 | 28656,3 |
| 12 | 1350 | 2109,2 | 3298 | 5400 | 8443,2 | 13191,8 | 20936,5 | 31279,9 |
| 14 | 1576,4 | 2463,1 | 3851,2 | 6306,3 | 9859,5 | 15404,7 | 24448,2 | 36527,6 |
| 16 | 1802,8 | 2817 | 4404,4 | 7212 | 11275,9 | 17618,5 | 27961 | 41775,9 |
| 18 | 2030 | 3170,9 | 4957,7 | - | - | - | - | - |
| 20 | 2256,4 | 3524,9 | 5511,1 | - | - | - | - | - |
| 23 | 2595,7 | 4055,1 | 6341,1 | - | - | - | - | - |
| 25 | 2822,9 | 4409 | 6894,5 | - | - | - | - | - |
| 30 | 3388,7 | 5294 | 8278,8 | - | - | - | - | - |
| 32 | 3615,2 | 5648 | 8832,2 | - | - | - | - | - |
| 38 | 4295,4 | 6710 | 10492,5 | - | - | - | - | - |
| 40 | 4521,8 | 7064 | 11045,9 | - | - | - | - | - |

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6301S TYPE CAST IRON GS SAFETY VALVES

INSTALLATION AND SERVICING REGULATION

1 - DESCRIPTION

1.1 The SERIE 6300 spring loaded safety valves are designed for steam, gas, and liquids. They provide ultimate protection to devices under pressure. They are able to guarantee that the internal pressure does not exceed the authorized maximum, even if other safety systems installed upstream are faulty, insofar as they have been sized correctly.

1.2 The SERIE 6300 safety valves are made of cast iron, carbon steel or stainless steel. All safety valves are calibrated and lead sealed by us, for maximum safety and minimum maintenance.

1.3 As a standard solution, the 6300 safety valves are delivered with closed bonnet, leaktight plug and test lever. Other models are available upon request. The operation of the 6300 safety valves is of the “instantaneous exhaust” type which is particularly recommended on steam generators or gas containing enclosures. A model with progressive exhaust is available upon request.

1.4 The safety valve body has a boss which can be pierced to create a purging orifice for the downstream pipe.

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 SERIE 6300 safety valves have a 12-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.

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6301S TYPE CAST IRON GS 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 SECTORIEL or a body specially authorized to this end. The calibration certificate bears the indication of the exact pressure of its calibration.

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 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 If the safety valve discharges directly into the atmosphere, direct the exhaust so as not to cause any damage to equipment or persons.

5 - INSTALLATION

5.1 Check that the lead seal has not been damaged.

5.2 6300 safety valves have to be installed in the vertical position with the bonnet upwards, as close as possible to the volume to protect.

5.3 The inlet piping has to be as short as possible, with a diameter equal to or greater than that of the inlet flange of the safety valve, and with a length which cannot cause any pressure drop of more than 3% of the initial opening pressure, considering the maximum flow-rate to discharge.

5.4 6300 safety valves have metal-metal sealing which can be damaged by the entry of impurities between the seat and the disc. Pipes and tanks must be cleaned beforehand with the utmost care.

5.5 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.


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

5.7 No fitting with a DN smaller than the DN of the inlet of the safety valve, shall be placed in-between the safety valve and the volume to protect.

5.8 Make sure that the discharge piping discharges into a location free of hazards for personnel and the environment.

5.9 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.

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6301S TYPE CAST IRON GS SAFETY VALVES

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

5.11 If a hydrostatic test of the installation has to be carried out after the safety valve is installed, it is preferable to remove it and replace it with a blind flange. Otherwise, close the safety valve disc with a mechanical stop. Do not forget to remove this stop after the test.

6 - CLEANING AND LUBRICATION

6.1 SERIE 6300 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.

7.2 CAUTION: SECTORIEL is 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 SECTORIEL.

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 can 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. Caution, never manoeuvre the test lever under no-load.

8.2 If the safety valve has to be removed, the servicing and, if needed, the re-calibration of the safety valve have to be entrusted exclusively to a workshop qualified for this operation. The safety valve re-calibration has to be carried out on a test bench equipped with an inspected pressure gauge. In case of a leaking seat, grinding may be necessary. Please contact us.

8.3 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

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