

Safety Valves

Type 06801 with bellow seal



Stainless steel bellow sealed Safety Valves, angle type, PN40, type tested TÜV-SV.1105. S/G/L orifice $d_0 = 12.5$ mm TÜV-SV.1105. only S/G

Standard safety valve,
metal to metal seated, closed bonnet
"cleaned and degreased for oxygen service"

Part No. 06801.X.0000

Inlet: male thread type G (BSPP) acc. to ISO 228/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06801.X.2000

Inlet: male thread type R (BSPT) acc. to ISO 7/1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06801.X.5000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread type G (BSPP) acc. to ISO 228/1

Part No. 06801.X.6000

Inlet: male thread NPT acc. to ANSI B 1.20.1, Outlet: female thread NPT acc. to ANSI B 1.20.1



Applications:

Provided as safety device for protection against excessive pressure in stationary and moveable gas cylinders and pressure vessels. Approved for non-inflammable and inflammable vapours, gases and fluids.

Working temperature: $-270^{\circ}\text{C} / -454^{\circ}\text{F}$ (3K) up to $+225^{\circ}\text{C} / +437^{\circ}\text{F}$ (498K)

Maximum allowed back pressure: 15% of set pressure, pressure-temperature must be observed

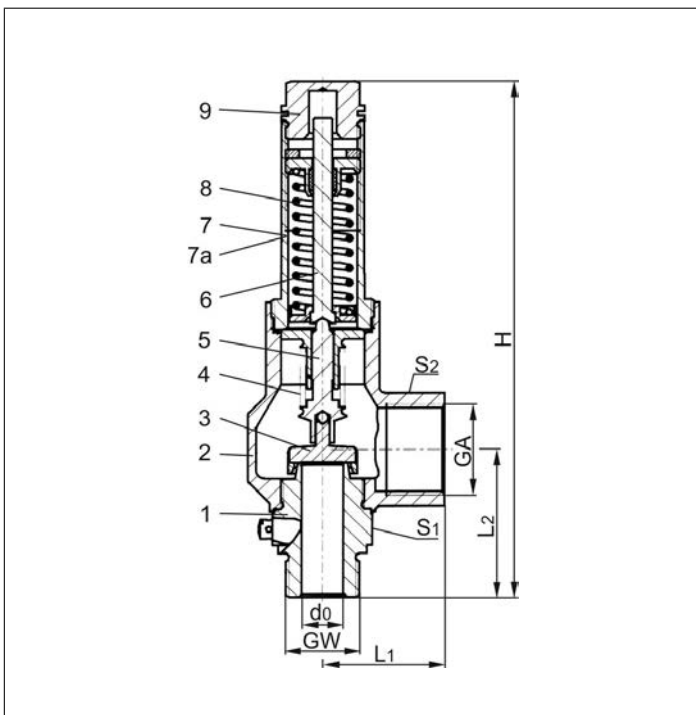
| Materials | DIN EN | ASTM |
|---------------------|--------|-------------------|
| 1 Inlet body | 1.4571 | A 276 Grade 316Ti |
| 2 Outlet body | 1.4308 | A 351 CF8 |
| 3 Disc | 1.4541 | A 276 Grade 321 |
| 4 Bellow | 1.4571 | A 276 Grade 316Ti |
| 5 Bellow stem | 1.4571 | A 276 Grade 316Ti |
| 6 Stem | CW453K | B 103 UNS C52100 |
| 7 Bonnet | 1.4308 | A 351 CF 8 |
| 7a Bonnet from GW 1 | 1.4301 | A 276 Grade 304 |
| 8 Spring | 1.4571 | A 276 Grade 316Ti |
| 9 Cap | 1.4301 | A 276 Grade 304 |

Important:

For nominal size GW 3/4, $d_0 = 15.0$ mm the back pressure reduces the blow off performance of the safety valve (see diagram 06801-3/4).

Essential: Valves are delivered at a set pressure, therefore when ordering please confirm set pressure, medium and temperature.

Standard marking acc. to Pressure Equipment Directive 97/23/EC (PED).



| Type 06801 | Technical data | | | | |
|------------------------------------|----------------|----------|----------|----------|----------|
| | GW | 1/2 | 3/4 | 1 | 1 |
| Nominal size | GW | | | | |
| Orifice | d_0 | 12.5 | 15 | 20 | 23 |
| Dimension code | .X. | 1204 | 1506 | 2010 | 2310 |
| Set pressure range | bar | 3.0-25.0 | 3.0-25.0 | 3.0-25.0 | 3.0-25.0 |
| Outlet | GA | G 1 | G 1 | G 1-1/4 | G 1-1/2 |
| Height | H | 186 | 190 | 205 | 255 |
| Length | L_1 | 44 | 44 | 51 | 56 |
| Length | L_2 | 52 | 54 | 63 | 65 |
| Wrench size across flats | S_1 | 36 | 36 | 41 | 50 |
| Wrench size across flats | S_2 | 41 | 41 | 50 | 55 |
| Weight | ca. kg | 1.03 | 1.05 | 1.70 | 2.45 |
| Coeff. of discharge vapours, gases | α_w | 0.60 | 0.50 | 0.60 | 0.66 |
| Coeff. of discharge fluids | α_w | - | 0.39 | 0.45 | 0.48 |

Dimensions in mm.

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Discharge capacities

Calculation of mass flow acc. to AD2000-Merkblatt A2 / DIN EN ISO 4126-1

Medium:

Air in m³/h at 0°C and 1013.25 mbar

Water in kg/h

Saturated steam in kg/h

The capacity indicated below is for a fully opened valve.

Maximum allowed back pressure: 15% of set pressure.

For nominal size GW 3/4 the back pressure reduces the blow off performance of the safety valve (see diagram 06801-3/4).

d₀ - orifice

A₀ - flow area

| Set pressure in bar (g) | GW | 1/2 | 1/2 | 1 | 1 | 1/2 | 1/2 | 1 | 1 | 1/2 | 1 | 1 |
|-------------------------|-----------------------------------|-------|-------|-------|-----------------|-------|-------|-------|-------|-------|-------|-------|
| | d ₀ (mm) | 12.5 | 15.0 | 20.0 | 23.0 | 12.5 | 15.0 | 20.0 | 23.0 | 15.0 | 20.0 | 23.0 |
| | A ₀ (mm ²) | 122.7 | 176.7 | 314.2 | 415.5 | 122.7 | 176.7 | 314.2 | 415.5 | 176.7 | 314.2 | 415.5 |
| Medium | Air | | | | Saturated steam | | | | Water | | | |
| 3.0 | | 216 | 260 | 555 | 807 | 169 | 203 | 433 | 630 | 6374 | 13075 | 18445 |
| 4.0 | | 272 | 326 | 696 | 1013 | 211 | 253 | 540 | 786 | 7360 | 15098 | 21298 |
| 5.0 | | 328 | 393 | 839 | 1221 | 252 | 303 | 647 | 942 | 8229 | 16880 | 23812 |
| 6.0 | | 383 | 460 | 981 | 1428 | 294 | 353 | 753 | 1096 | 9014 | 18491 | 26085 |
| 7.0 | | 438 | 526 | 1123 | 1634 | 335 | 402 | 859 | 1249 | 9736 | 19973 | 28175 |
| 8.0 | | 495 | 594 | 1269 | 1846 | 376 | 452 | 964 | 1403 | 10409 | 21352 | 30120 |
| 9.0 | | 551 | 661 | 1411 | 2053 | 417 | 501 | 1069 | 1555 | 11040 | 22647 | 31947 |
| 10.0 | | 608 | 729 | 1556 | 2265 | 458 | 550 | 1174 | 1708 | 11637 | 23872 | 33676 |
| 12.0 | | 719 | 863 | 1842 | 2679 | 540 | 648 | 1384 | 2013 | 12748 | 26150 | 36890 |
| 14.0 | | 830 | 997 | 2127 | 3094 | 622 | 746 | 1592 | 2317 | 13770 | 28246 | 39846 |
| 16.0 | | 942 | 1130 | 2412 | 3509 | 703 | 844 | 1802 | 2621 | 14720 | 30196 | 42597 |
| 18.0 | | 1053 | 1264 | 2697 | 3924 | 785 | 942 | 2010 | 2924 | 15613 | 32028 | 45181 |
| 20.0 | | 1176 | 1411 | 3011 | 4380 | 866 | 1040 | 2219 | 3228 | 16458 | 33760 | 47625 |
| 22.0 | | 1288 | 1546 | 3298 | 4799 | 948 | 1137 | 2427 | 3531 | 17261 | 35408 | 49949 |
| 25.0 | | 1457 | 1748 | 3730 | 5427 | 1070 | 1284 | 2739 | 3985 | 18401 | 37745 | 53246 |

Diagram 06801-3/4

