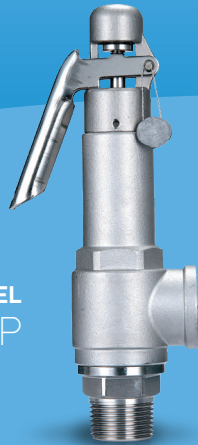
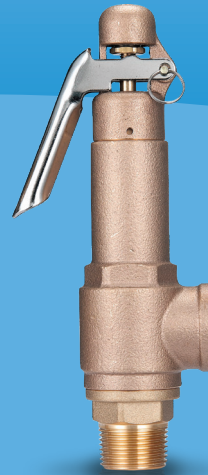


STAINLESS STEEL
L9-SP



BRONZE
L9-BP



L9-SP/BP

SAFETY VALVES

GENERAL FEATURES

In order to protect the systems that are designed according to different fluids and a certain pressure against all the adversities, the valves that provide controlled discharge of the fluid (steam, liquid, gas) when the design pressure rises above a certain value are called safety valve.

Within the safety rules for pressure vessels, the pressure vessel is usually equipped with 2 safety valves.

Duty of Safety Valve

It releases a certain amount of steam, gas or liquid if the system pressure rises above the valve's set pressure. In this way, it protects the desired pressure system against unauthorized pressure increases.

The safety valve reaches its full discharge capacity with a maximum pressure increase of 10% of the set pressure.

Shut-off pressure of the safety valve:

It is maximum 10% for compressible materials and less than 20% for incompressible substances.

Installation

1- Storage and transportation and installation should be done with care.

2- The valve should be protected from foreign objects and dust until the installation time.

3- Valve shaft should be mounted with its axis vertical.

4- There should not be any valve between the safety valve and the pressure vessel.

5- Safety valve should have easily accessible area where it is installed.

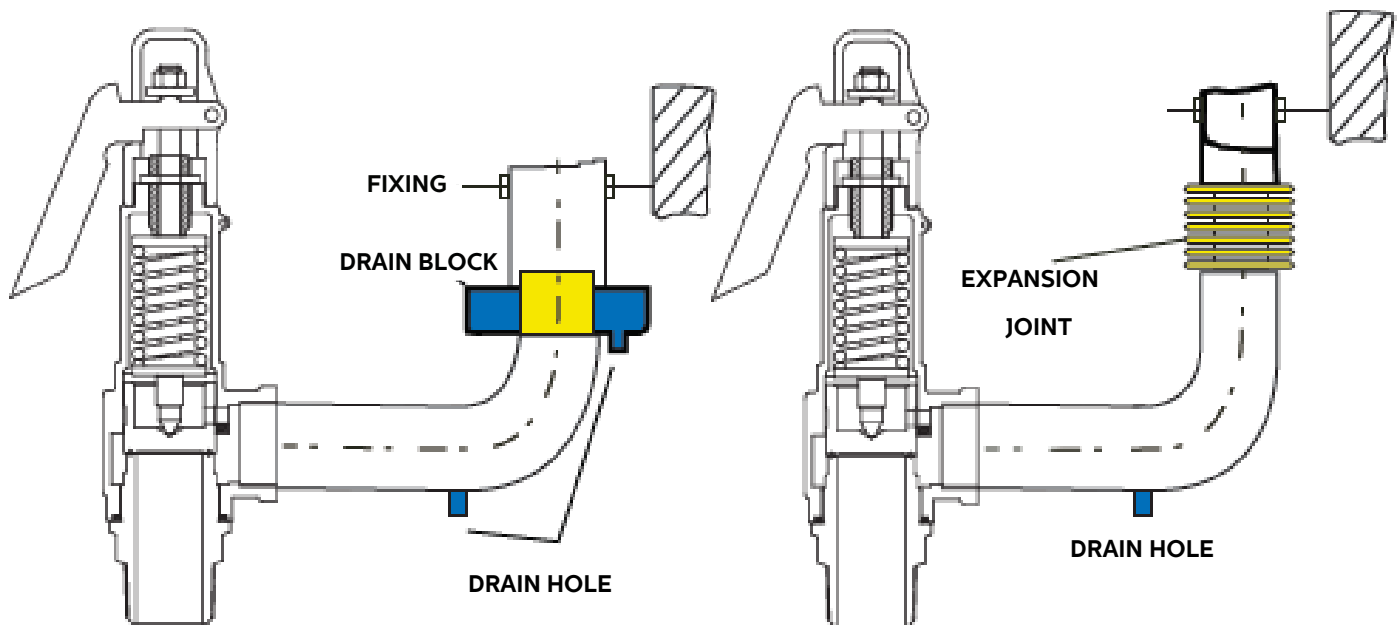
6- Safety valve outlet pipe should be opened to the atmosphere by the shortest way.

7- The safety valve should be inclined in the direction of outlet pipe outlet.

8- If there is an increase after the safety valve, one of the options such as drainage, pot (two nested pipes) and diameter increase should be designed in order to get water that may occur in the elbow.

9- A separate output line should be made for each safety valve. If there will be entry into the exhaust pipe; the distance between the safety valve outlet and the exhaust must be at least 4 meters.

L9-LS/LP SAFETY VALVE



PROPERTIES SPECIFIED IN SAFETY VALVE SELECTION

- System operating pressure
- The initial opening (setting) pressure of safety valve
- Fluid type
- Relevant discharge capacity
- Fluid temperature
- Back pressure at the outlet of the valve
- It is advisable to look at safety valve tables.

APPLICATION AREAS

Usable Fluids

- Water
- Non-corrosive gas
- Corrosive gas
- Air and steam

Unavailable Fluids

- Can not be used in liquid fuels

L9-SP/BP SAFETY VALVE

DISCHARGE CAPACITY

| DISCHARGE CAPACITY KG/H (MODEL L9-BP, BRONZE, 2-10,5 BAR, HANDLE (w/PTFE) (MALE-FEMALE) PROPORTIONAL GAS-AIR-STEAM 45/+185 °C) | | | | | | | | | | | | | | | | | | | | |
|--|----------------------|-----|-----|-----|-----|-----|------|------|------|------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DIA | Gas(AIR & STEAM) BAR | | | | | | | | | | Bar for Water | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1/2" | 18 | 28 | 37 | 46 | 56 | 65 | 74 | 84 | 93 | 102 | 492 | 696 | 852 | 984 | 1100 | 1206 | 1300 | 1392 | 1480 | 1560 |
| 3/4" | 39 | 59 | 79 | 99 | 119 | 139 | 159 | 179 | 198 | 218 | 1056 | 1488 | 1824 | 2100 | 2358 | 2580 | 2790 | 2982 | 3160 | 3330 |
| 1" | 68 | 102 | 137 | 171 | 206 | 240 | 275 | 309 | 344 | 378 | 1824 | 2580 | 3120 | 3648 | 4080 | 4470 | 7860 | 5160 | 5460 | 5760 |
| 1 1/4" | 111 | 168 | 224 | 281 | 337 | 394 | 450 | 507 | 563 | 619 | 2988 | 4224 | 5160 | 5940 | 6660 | 7320 | 7860 | 8400 | 8900 | 9450 |
| 1 1/2" | 157 | 237 | 316 | 396 | 475 | 555 | 635 | 714 | 794 | 874 | 4212 | 5958 | 7260 | 8400 | 9420 | 10320 | 11100 | 11880 | 12600 | 13320 |
| 2" | 272 | 410 | 547 | 685 | 823 | 961 | 1099 | 1237 | 1374 | 1512 | 7296 | 10300 | 12600 | 14580 | 16320 | 17820 | 19260 | 20580 | 21800 | 23000 |

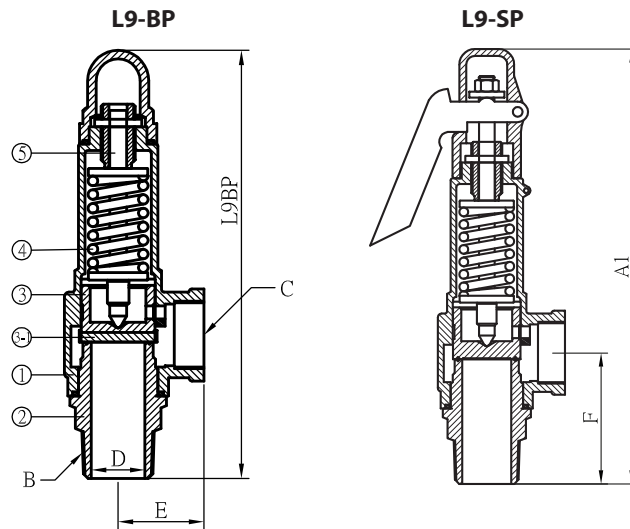
| DISCHARGE CAPACITY L9-BP 10,5-20 BAR, HANDLE (w/PTFE) (MALE-FEMALE) PROPORTIONAL WATER, NON-CORROSIVE GAS, AIR, STEAM -45/+185 °C) | | | | | | | | | | | | | | | | | | | | |
|--|----------------------|------|------|------|------|------|------|------|------|------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DIA | Gas(AIR & STEAM) BAR | | | | | | | | | | Bar for Water | | | | | | | | | |
| | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1/2" | 112 | 121 | 130 | 140 | 149 | 158 | 167 | 177 | 186 | 195 | 1638 | 1710 | 1776 | 1848 | 1908 | 1974 | 2034 | 2094 | 2148 | 2208 |
| 3/4" | 238 | 258 | 278 | 298 | 318 | 338 | 358 | 378 | 398 | 417 | 3492 | 3648 | 3798 | 3942 | 4080 | 4212 | 4344 | 4470 | 4590 | 4710 |
| 1" | 413 | 447 | 481 | 516 | 550 | 585 | 619 | 654 | 688 | 723 | 6048 | 6318 | 6576 | 6822 | 7062 | 7296 | 7518 | 7740 | 7950 | 8154 |
| 1 1/4" | 676 | 732 | 789 | 845 | 902 | 958 | 1015 | 1071 | 1128 | 1184 | 9912 | 10350 | 10776 | 11178 | 11574 | 11952 | 12318 | 12678 | 13038 | 13662 |
| 1 1/2" | 953 | 1033 | 1112 | 1192 | 1272 | 1351 | 1431 | 1510 | 1590 | 1670 | 13974 | 14597 | 15192 | 15768 | 16320 | 16854 | 17356 | 17874 | 18366 | 18846 |
| 2" | 1650 | 1788 | 1926 | 2064 | 2202 | 2339 | 2477 | 2615 | 2753 | 2891 | 24240 | 25320 | 26340 | 27300 | 28260 | 29220 | 30120 | 30960 | 31800 | 32640 |

| DISCHARGE CAPACITY KG/H (MODEL L9-SP, SS304 (CF8), 2-10,5 BAR, HANDLE (w/PTFE) (MALE-FEMALE) PROPORTIONAL NON-CORROSIVE GAS, CORROSIVE GAS, AIR, STEAM -5 /+290 °C) | | | | | | | | | | | | | | | | | | | | |
|---|----------------------|-----|-----|-----|-----|-----|------|------|------|------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DIA | Gas(AIR & STEAM) BAR | | | | | | | | | | Bar for Water | | | | | | | | | |
| | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 |
| 1/2" | 18 | 28 | 37 | 46 | 56 | 65 | 74 | 84 | 93 | 102 | 492 | 696 | 852 | 984 | 1100 | 1206 | 1300 | 1392 | 1480 | 1560 |
| 3/4" | 39 | 59 | 79 | 99 | 119 | 139 | 159 | 179 | 198 | 218 | 1056 | 1488 | 1824 | 2100 | 2358 | 2580 | 2790 | 2982 | 3160 | 3330 |
| 1" | 68 | 102 | 137 | 171 | 206 | 240 | 275 | 309 | 344 | 378 | 1824 | 2580 | 3120 | 3648 | 4080 | 4470 | 7860 | 5160 | 5460 | 5760 |
| 1 1/4" | 111 | 168 | 224 | 281 | 337 | 394 | 450 | 507 | 563 | 619 | 2988 | 4224 | 5160 | 5940 | 6660 | 7320 | 7860 | 8400 | 8900 | 9450 |
| 1 1/2" | 157 | 237 | 316 | 396 | 475 | 555 | 635 | 714 | 794 | 874 | 4212 | 5958 | 7260 | 8400 | 9420 | 10320 | 11100 | 11880 | 12600 | 13320 |
| 2" | 272 | 410 | 547 | 685 | 823 | 961 | 1099 | 1237 | 1374 | 1512 | 7296 | 10300 | 12600 | 14580 | 16320 | 17820 | 19260 | 20580 | 21800 | 23000 |

| DISCHARGE CAPACITY KG/H (MODEL L9-SP, SS304 (CF8), 10,5-20 BAR, HANDLE (w/PTFE) (MALE-FEMALE) PROPORTIONAL NON-CORROSIVE GAS, CORROSIVE GAS, WATER, AIR, STEAM -5 /+290 °C) | | | | | | | | | | | | | | | | | | | | |
|---|----------------------|------|------|------|------|------|------|------|------|------|---------------|-------|-------|-------|-------|-------|-------|-------|-------|-------|
| DIA | Gas(AIR & STEAM) BAR | | | | | | | | | | Bar for Water | | | | | | | | | |
| | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 | 11 | 12 | 13 | 14 | 15 | 16 | 17 | 18 | 19 | 20 |
| 1/2" | 112 | 121 | 130 | 140 | 149 | 158 | 167 | 177 | 186 | 195 | 1638 | 1710 | 1776 | 1848 | 1908 | 1974 | 2034 | 2094 | 2148 | 2208 |
| 3/4" | 238 | 258 | 278 | 298 | 318 | 338 | 358 | 378 | 398 | 417 | 3492 | 3648 | 3798 | 3942 | 4080 | 4212 | 4344 | 4470 | 4590 | 4710 |
| 1" | 413 | 447 | 481 | 516 | 550 | 585 | 619 | 654 | 688 | 723 | 6048 | 6318 | 6576 | 6822 | 7062 | 7296 | 7518 | 7740 | 7950 | 8154 |
| 1 1/4" | 676 | 732 | 789 | 845 | 902 | 958 | 1015 | 1071 | 1128 | 1184 | 9912 | 10350 | 10776 | 11178 | 11574 | 11952 | 12318 | 12678 | 13038 | 13662 |
| 1 1/2" | 953 | 1033 | 1112 | 1192 | 1272 | 1351 | 1431 | 1510 | 1590 | 1670 | 13974 | 14597 | 15192 | 15768 | 16320 | 16854 | 17356 | 17874 | 18366 | 18846 |
| 2" | 1650 | 1788 | 1926 | 2064 | 2202 | 2339 | 2477 | 2615 | 2753 | 2891 | 24240 | 25320 | 26340 | 27300 | 28260 | 29220 | 30120 | 30960 | 31800 | 32640 |

L9-SP/BP SAFETY VALVE

TECHNICAL SPECIFICATIONS



DIMENSIONS (L9-BP BRONZE SAFETY VALVE)

| Dia. | L9S | Inlet Dia B. | Outlet Dia. C | Valve Seat Orifice D | E | F | Lift Device | Weight kg. | Dia. | L9-BP | Weight Kg. |
|--------|-----|--------------|---------------|----------------------|----|----|-------------|------------|--------|-------|------------|
| 1/2" | 145 | 1/2" | 1/2" | 13 | 29 | 49 | 0,52 | 0,5 | 1/2" | 168 | 0,6 |
| 3/4" | 167 | 3/4" | 3/4" | 19 | 36 | 55 | 0,76 | 0,8 | 3/4" | 190 | 0,9 |
| 1" | 202 | 1" | 1" | 25 | 40 | 67 | 1 | 1,3 | 1" | 223 | 1,4 |
| 1 1/4" | 233 | 1 1/4" | 1 1/4" | 32 | 50 | 79 | 1,28 | 2,2 | 1 1/4" | 248 | 2,2 |
| 1 1/2" | 256 | 1 1/2" | 1 1/2" | 38 | 54 | 86 | 1,52 | 2,9 | 1 1/2" | 272 | 2,9 |
| 2" | 283 | 2" | 2" | 50 | 66 | 96 | 2 | 4,7 | 2" | 299 | 5 |

DIMENSIONS (L9-SP STAINLESS STEEL VALVE)

| Dia. | L9S | Inlet Dia B. | Outlet Dia. C | Valve Seat Orifice D | E | F | Lift Device | Weight kg. | Dia. | L9-BP | Weight Kg. |
|--------|-----|--------------|---------------|----------------------|----|----|-------------|------------|--------|-------|------------|
| 1/2" | 142 | 1/2" | 1/2" | 13 | 29 | 49 | 0,52 | 0,5 | 1/2" | 168 | 0,6 |
| 3/4" | 164 | 3/4" | 3/4" | 19 | 36 | 55 | 0,76 | 0,7 | 3/4" | 190 | 0,8 |
| 1" | 200 | 1" | 1" | 25 | 40 | 67 | 1,00 | 1,2 | 1" | 222 | 1,3 |
| 1 1/4" | 232 | 1-1/4" | 1-1/4" | 32 | 50 | 79 | 1,28 | 2,0 | 1-1/4" | 248 | 2,0 |
| 1 1/2" | 256 | 1-1/2" | 1-1/2" | 38 | 54 | 86 | 1,52 | 2,6 | 1-1/2" | 272 | 2,7 |
| 2" | 283 | 2" | 2" | 50 | 66 | 96 | 2,00 | 4,3 | 2" | 306 | 4,6 |

(Dimensions are given in mm.)

L9-BP BRONZE SAFETY VALVE

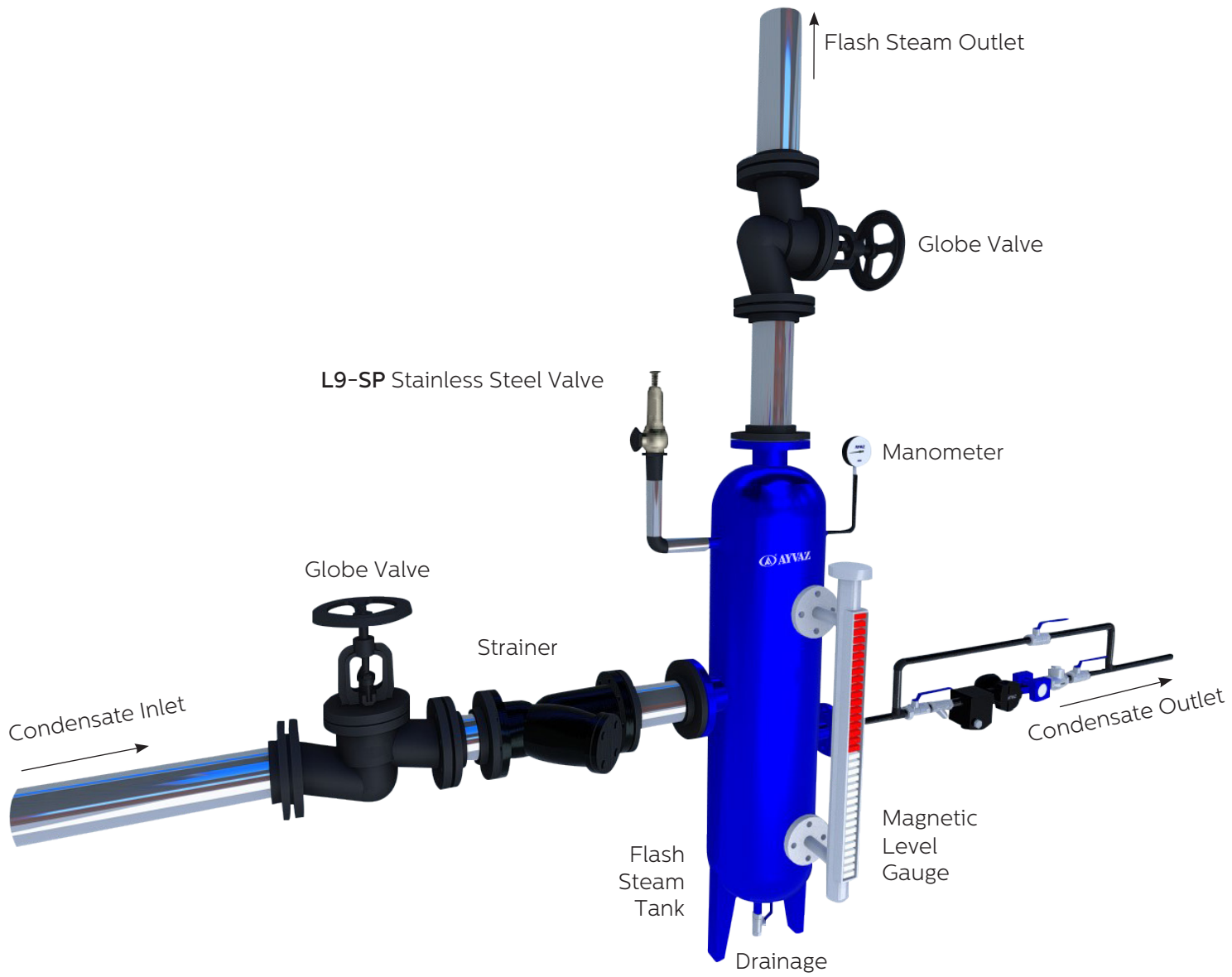
| NO. | Part Name | L9 - BP |
|------------------|------------|---|
| 1 | Valve Body | Cast Bronze |
| 2 | Seat | Cast Brass |
| 3 | Disc | Cast Brass |
| 4 | Gasket | Teflon (PTFE) |
| 5 | Stem | Brass |
| Working Pressure | | 2-10,5 bar/10,5-20bar |
| Working Temp. | | - 45 °C - 185 °C |
| Fluid | | Non-Corrosive Gas / Fluid, Air, Steam, Water, Oil |

L9-SP STAINLESS STEEL SAFETY VALVE

| NO. | Part Name | L9 - SP |
|------------------|------------|--|
| 1 | Valve Body | CF8 SS |
| 2 | Seat | 304 SS or CF8 |
| 3 | Disc | 304 SS or CF8 |
| 4 | Gasket | 304 SS |
| 5 | Stem | 304 SS |
| Working Pressure | | 2-10,5 bar/10,5-20bar |
| Working Temp. | | - 196 °C - 290 °C |
| Fluid | | Non-Corrosive Gas, Corrosive Gas, Air, Steam |

L9-SP/BP SAFETY VALVE

3D APPLICATION SAMPLE 1



L9-SP/BP SAFETY VALVE

3D APPLICATION SAMPLE 2

