



API

Flanged Safety Relief Valves
Series 526

TOS
TOBS

MODEL :

| | |
|-------------------|-------------------|
| TOS-4C2-01~03-2J3 | TOS-4C2-03~15-3J4 |
| TOS-4C3-01~03-2J3 | TOS-4C3-03~15-3J4 |
| TOS-4N8-01~03-2J3 | TOS-4N8-03~15-2J3 |

Spring fall lift closed safety valve

Program Highlights

SIZING

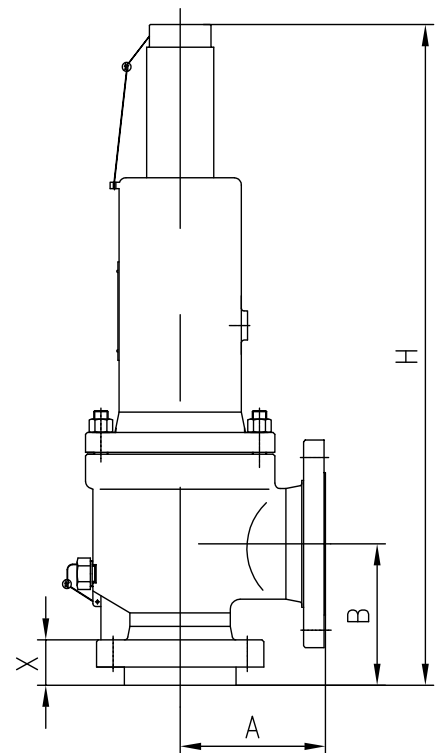
Sizing of safety valves in accordance with the leading global standards and codes (Safety valve according to API 526 with standardized capacities, installation dimensions and materials.)

Calculates two-phase flow in accordance with API 520 Appendix C and fire case according to API 521

Calculates inlet pressure loss, back pressure, reaction forces, and noise level.

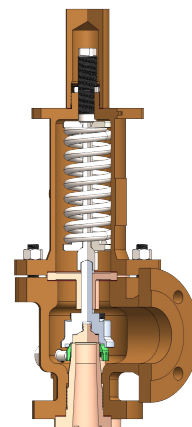


- The solid nozzle screws into the body its maintenance is easy.
- The shape of the disc holder has been designed to enhance the effect of the fluid thrust for an instant lift of the disc.
- Blowdown control is provided with adjustable nozzle ring only.
- The adequate materials and clearance between disc holder and guide, spindle and adjusting screw assures disc to lift successfully.
- The surface of both the disc and the nozzle seat is deposited with Stellite. Excellent flatness and surface finish of the seating surfaces by precision machining and lapping assure safety valve to have high degree of seat tightness and long using life.
- The bellows of balanced bellows safety valves not only can avoid and effect of variable back pressure in the system, but also can protect spring and other trim components from corrosive media.
- The choice of materials is careful. The manufacture of the spring and the bellows has strict technological process. Each of them is test-ed and checked strictly



Technical data API Safety valves

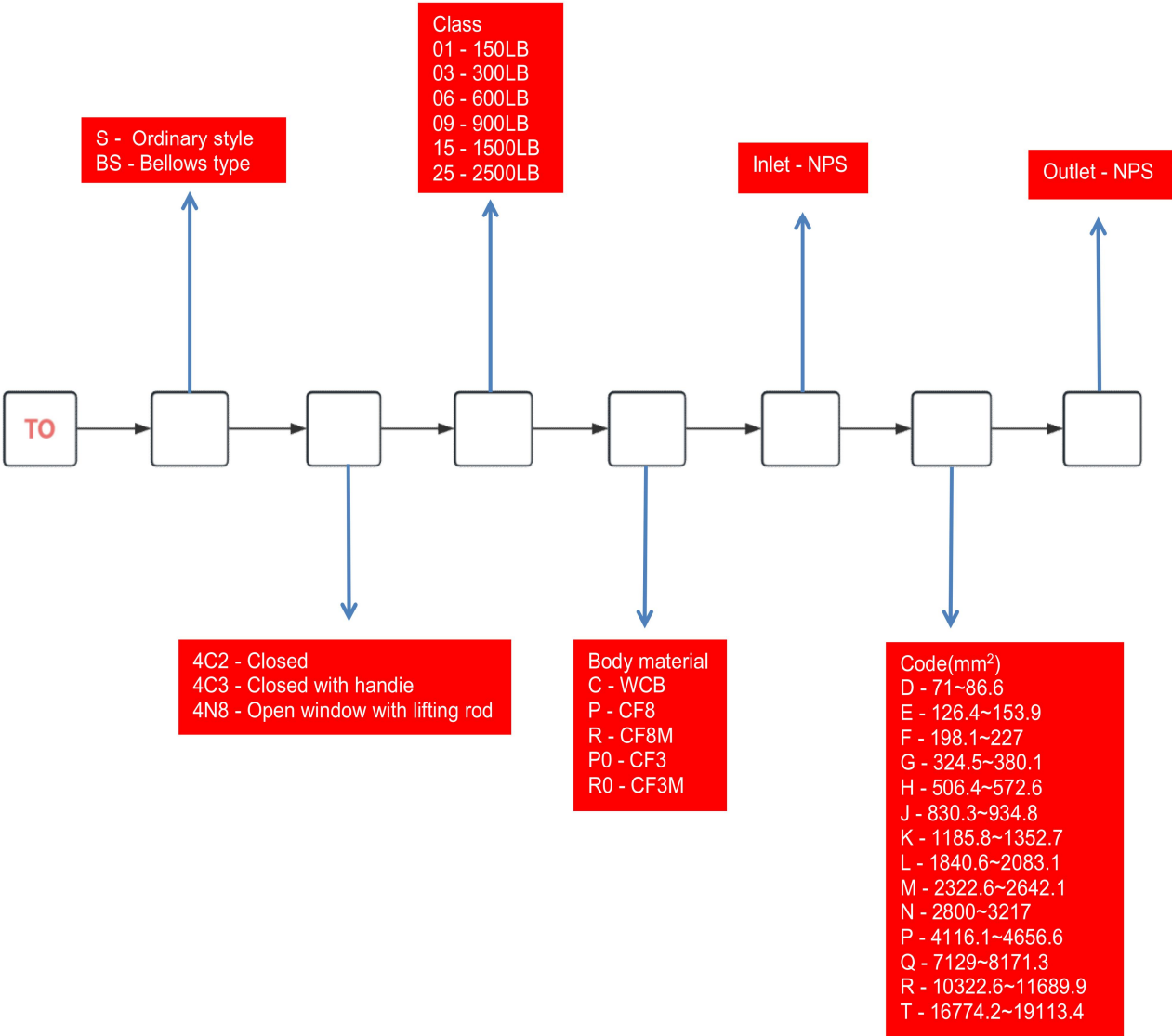
| | |
|-------------------------|---|
| Set pressure | 0.2-400barg / 2-5,802psig |
| Temperature | -273-550° C/-450-1,000° F |
| Connections DIN EN 1952 | DN25toDN200 |
| Connections ASME B16.5 | NPS1toNPS8 |
| Body material | Carbonsteel,heat resistant Carbon steel, Stainless steel |



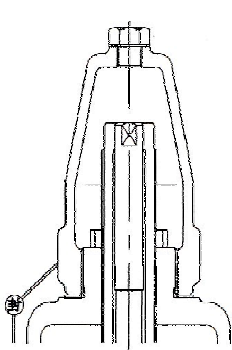
| Orifice Area cm ² | Inlet Flange Class | Type | Size (inch) | Connections | | Maximum Set Pressure (MPa) | | | | | | Back pressure limit 38°C | | Material | | Inlet Temp. Range (°C) |
|------------------------------|--------------------|---------|----------------------|-------------|--------|----------------------------|--------|------------|------------|-------------|---------|--------------------------|----------|-----------------------------|----------------------------------|------------------------|
| | | | Inlet×Orifice×Outlet | | | Inlet Temperature | | | | | | | | | | |
| | | | | Inlet | Outlet | -268~-60 | -59~29 | -29°C~38°C | 38°C~232°C | 233°C~427°C | 427~538 | T0S-4C2 | T0BS-4C2 | Body | Spring | |
| 8.303 (J) | 1 | T0S-01 | 2J3 | 150LB | 150LB | | | 1.96 | 1.27 | 0.55 | | 1.96 | 1.58 | Carbon Steel. | Alloy Steel. | -29~427 |
| | 2 | T0S-03 | 2J3 | 300LB | 150LB | | | 1.96 | 1.96 | 1.96 | | 1.96 | 1.58 | | | |
| | 3 | T0S-03a | 3J4 | 300LB | 150LB | | | 5.10 | 4.24 | 2.82 | | 1.96 | 1.58 | | | |
| | 4 | T0S-06 | 3J4 | 600LB | 150LB | | | 10.20 | 8.51 | 5.68 | | 1.96 | 1.58 | | | |
| | 5 | T0S-09 | 3J4 | 900LB | 150LB | | | 15.30 | 12.72 | 8.51 | | 1.96 | 1.58 | | | |
| | 6 | T0S-15 | 3J4 | 1500LB | 300LB | | | 18.61 | 18.61 | 14.20 | | 4.13 | 1.58 | | | |
| | 3 | T0S-03a | 3J4 | 300LB | 150LB | | | | | 3.51 | 1.48 | 1.96 | 1.58 | Chrome Molybde-num Steel. | Alloy Steel. | 428~538 |
| | 4 | T0S-06 | 3J4 | 600LB | 150LB | | | | | 6.99 | 2.96 | 1.96 | 1.58 | | | |
| | 5 | T0S-09 | 3J4 | 900LB | 150LB | | | | | 10.51 | 4.48 | 1.96 | 1.58 | | | |
| | 6 | T0S-15 | 3J4 | 1500LB | 300LB | | | | | 17.51 | 7.44 | 4.13 | 1.58 | | | |
| | 1 | T0S-01 | 2J3 | 150LB | 150LB | 1.89 | 1.89 | 1.89 | 1.24 | 0.55 | 0.13 | 1.96 | 1.58 | Austenitic Stainless Steel. | Alloy Steel. Stainless Steel. | -268~538 |
| | 2 | T0S-03 | 2J3 | 300LB | 150LB | 1.89 | 1.89 | 1.89 | 1.89 | 1.89 | 1.89 | 1.96 | 1.58 | | | |
| | 3 | T0S-03a | 3J4 | 300LB | 150LB | 3.44 | 4.96 | 4.96 | 3.41 | 2.89 | 2.41 | 1.96 | 1.58 | | | |
| | 4 | T0S-06 | 3J4 | 600LB | 150LB | 4.30 | 9.92 | 9.92 | 6.72 | 5.82 | 4.82 | 1.96 | 1.58 | | | |
| | 5 | T0S-09 | 3J4 | 900LB | 150LB | 5.51 | 14.89 | 14.89 | 10.23 | 8.72 | 7.23 | 1.96 | 1.58 | | | |
| | 6 | T0S-15 | 3J4 | 1500LB | 300LB | 5.51 | 18.61 | 18.61 | 17.09 | 14.54 | 12.06 | 4.13 | 1.58 | | | |

| Type | | ANSI Flange Class | | Center to Face | | Total Thickness of Flange gnd Nozzle | Approximate height H | | |
|---------|-----|-------------------|--------|----------------|-------|--------------------------------------|----------------------|-----|-----|
| | | | | outlet | Inlet | | Gap Type | | |
| | | Inlet | outlet | A | B | X | 4C2 | 4N8 | 4C3 |
| T0S-01 | 2J3 | 150 | 150 | 124.0 | 136.0 | 43 | 540 | 590 | 600 |
| T0S-03 | 2J3 | 300 | 150 | 124.0 | 136.0 | 43 | 540 | 590 | 600 |
| T0S-03a | 3J4 | 300 | 150 | 181.0 | 184.0 | 55 | 685 | 735 | 755 |
| T0S-06 | 3J4 | 600 | 150 | 181.0 | 184.0 | 57 | 685 | 735 | 755 |
| T0S-09 | 3J4 | 900 | 150 | 181.0 | 184.0 | 70 | 695 | 745 | 765 |
| T0S-15 | 3J4 | 1500 | 300 | 181.0 | 184.0 | 70 | 735 | 785 | 805 |

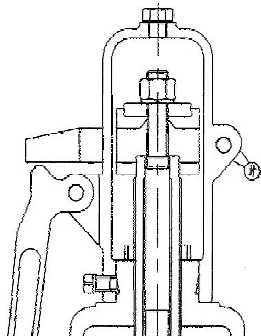
Model numbering



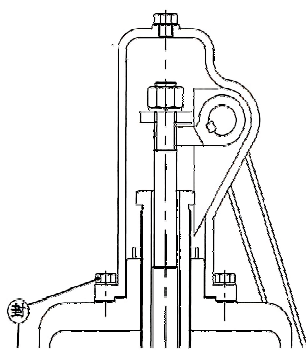
4C2 Closed

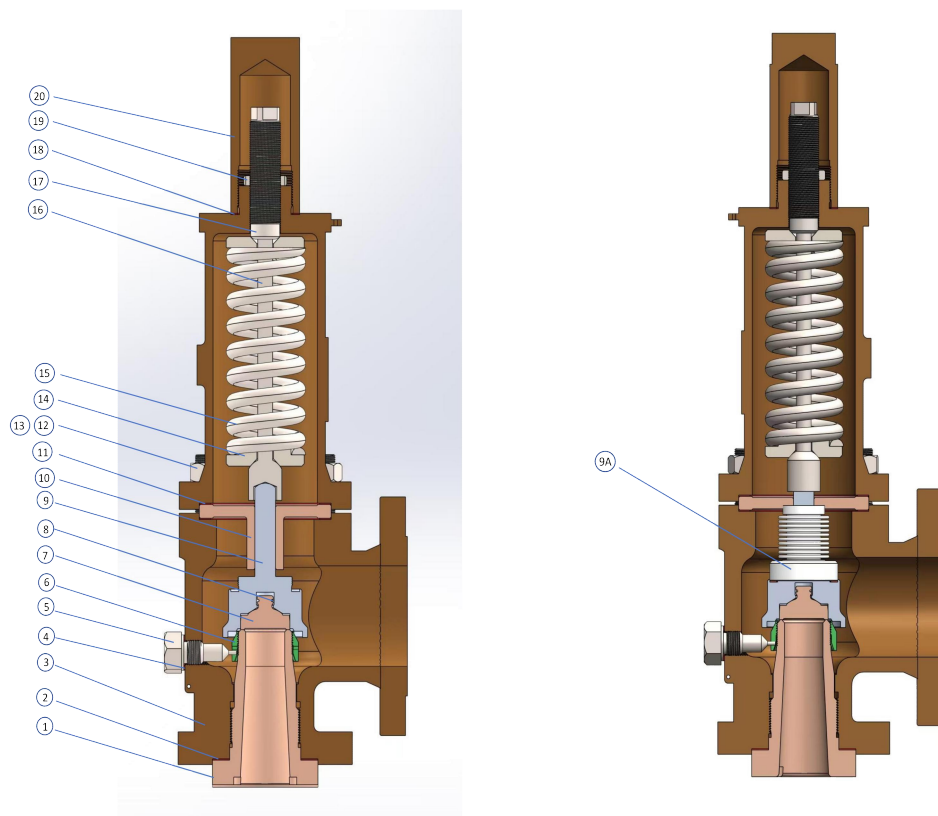


4N8 Open window with lifting rod



4C3 Closed with handie





| Item | Component | Type TOS NACE | Type TOBS NACE |
|------|--------------------|-----------------------------------|---|
| 1 | Nozzle | 316 Stainless Steel | 316 Stainless Steel |
| 2 | Nozzle Gasket | Flexible Graphite/Stainless Steel | Flexible Graphite/Stainless Steel |
| 3 | Body | ASME SA216 GR WCB | ASME SA351 GR CF8M |
| 4 | Set Screw Gasket | Stainless Steel | Stainless Steel |
| 5 | Set Screw | Stainless Steel | 316 Stainless Steel |
| 6 | Nozzle Ring | Stainless Steel | 316 Stainless Steel |
| 7 | Disc | Stainless Steel | 316 Stainless Steel |
| 8 | Retention Clip | Stainless Steel | Stainless Steel |
| 9 | Disc Holder | Stainless Steel | 316 Stainless Steel |
| 9A | Bellows | / | 316L Stainless Steel |
| 10 | Guide | Stainless Steel | 316 Stainless Steel |
| 11 | Guide Gasket | Stainless Steel | Stainless Steel |
| 12 | Bonnet Stud | ASME SA193 GR. B7 | ASME SA193 GR. B8M |
| 13 | Bonnet Stud Nut | ASME SA194 CL 2H | ASME SA194 CL 8M |
| 14 | Spring Washers | Carbon Steel | Stainless Steel |
| 15 | Spring | Alloy Steel | Alloy Steel Corrosion Resistant Coating |
| 16 | Spindle | 420 Stainless Steel | 316 Stainless Steel |
| 17 | Adjusting Bolt | Stainless Steel | Stainless Steel |
| 18 | Cap Gasket | Stainless Steel | Stainless Steel |
| 19 | Adjusting Bolt Nut | Stainless Steel | Stainless Steel |
| 20 | Threaded Cap | Stainless Steel | Stainless Steel |