

## Flange-Safety valve TYPE SF01 / SF02 / SF03



### Description:

Flange-Safety valves are used to protect a closed system, pressure tanks etc. against overpressure.

### Features:

- suitable for neutral and non-neutral, not adhesive **liquid & gaseous media**.
- TUV-type test approval letter L & D/G
- TUV SV 811 F und TUV SV 811 D/G
- Safety valves are set and sealed at the factory
- Direct loaded with spring
- Installation in vertical position with spindle standing upwards

### Connection:

DN15, DN20, DN25, DN32, DN40, DN50, DN65, DN80, DN100

### Temperature:

-60°C to +450°C –  
depending on design

### Set pressure:

0,2 bar – 40,0 bar–  
depending on design

### Design:

Safety valve with flange

### Type SF01

**Material:** EN-JL1040 grey cast iron  
**Temperature:** Metal: -10°C up to +300°C | EPDM: 0°C up to +150°C | FPM: 0°C up to +180°C  
**Flange :** DIN EN 1092-2 / DIN 2533  
**Nominal pressure:** PN16

### Type SF02

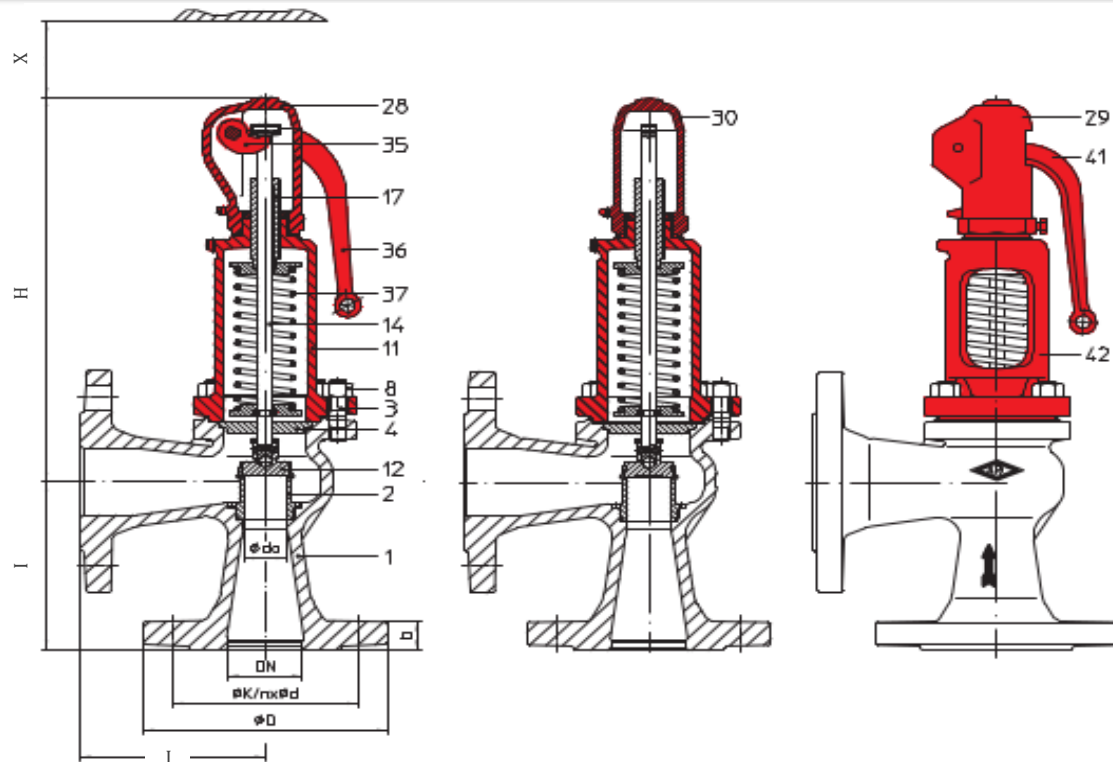
**Material:** 1.0619+N carbon iron  
**Temperature:** Metal: -10°C up to +450°C | EPDM: 0°C up to +150°C | FPM: 0°C up to +180°C  
**Flange :** DIN EN 1092-1 / DIN 2545  
**Nominal pressure:** PN40

### Type SF03

**Material:** 1.4408 stainless steel  
**Temperature:** Metal: -60°C to +400°C | EPDM: 0°C up to +150°C | FPM: 0°C up to +180°C  
**Flange :** DIN EN 1092-1 / DIN 2545  
**Nominal pressure:** PN40

### Approvals:

AD 2000-A2  
 EN ISO 4126-1  
 TRB 801 No. 45  
 TRD 421  
 VdTÜV-leaflet 100



with closed lifting device &  
closed bonnet

SFXX00....

gastight cap & closed bonnet

SFXX01....

with open lifting device & open  
bonnet  
(only for gaseous media!!! and  
only for SF01 and SF02)

SFXX02....

### Dimensions:

| DN1 / DN2                                                                                                                              | 15   | 20     | 25     | 32     | 40     | 50     | 65     | 80     | 100    |        |
|----------------------------------------------------------------------------------------------------------------------------------------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| d0                                                                                                                                     | 12   | 12     | 15     | 18     | 20     | 29     | 36     | 44     | 55     |        |
| A0                                                                                                                                     | 113  | 113    | 177    | 254    | 314    | 661    | 1018   | 1520   | 2376   |        |
| I                                                                                                                                      | 90   | 95     | 100    | 105    | 115    | 125    | 145    | 155    | 175    |        |
| H                                                                                                                                      | 260  | 260    | 270    | 285    | 290    | 290    | 340    | 400    | 450    |        |
| X                                                                                                                                      | 130  | 130    | 130    | 150    | 150    | 150    | 200    | 250    | 300    |        |
| Weight kg                                                                                                                              | 5,0  | 5,0    | 5,5    | 8,0    | 9,5    | 11,5   | 15,5   | 20,5   | 33     |        |
| ØD PN16                                                                                                                                | 95   | 105    | 115    | 140    | 150    | 165    | 185    | 200    | 220    |        |
| ØD PN40                                                                                                                                | 95   | 105    | 115    | 140    | 150    | 165    | 185    | 200    | 235    |        |
| b EN-JL1040                                                                                                                            | 14   | 16     | 16     | 18     | 18     | 20     | 20     | 22     | 24     |        |
| b 1.0619+N                                                                                                                             | 16   | 18     | 18     | 18     | 18     | 20     | 20     | 22     | 24     |        |
| b 1.4408                                                                                                                               | 16   | 18     | 18     | 18     | 18     | 20     | 20     | 22     | 24     |        |
| Flange acc. DIN EN 1092-1 / -2, Flangeholes/-thickness tolerances acc. to DIN 2533 / 2545, raised face, facing acc. to DIN 2526 form C |      |        |        |        |        |        |        |        |        |        |
| ØK                                                                                                                                     | PN16 | 65     | 75     | 85     | 100    | 110    | 125    | 145    | 160    | 180    |
| n x ød                                                                                                                                 |      | 4 x 14 | 4 x 14 | 4 x 14 | 4 x 18 | 4 x 18 | 4 x 18 | 4 x 18 | 8 x 18 | 8 x 18 |
| ØK                                                                                                                                     | PN40 | 65     | 75     | 85     | 100    | 110    | 125    | 145    | 160    | 190    |
| n x ød                                                                                                                                 |      | 4 x 14 | 4 x 14 | 4 x 14 | 4 x 18 | 4 x 18 | 4 x 18 | 8 x 18 | 8 x 18 | 8 x 22 |
| Coefficient of discharge Kdr                                                                                                           |      | 0,26   | 0,26   | 0,23   | 0,23   | 0,26   | 0,23   | 0,26   | 0,23   | 0,23   |
| Set pressure (bar)*                                                                                                                    |      | 0,3-40 | 0,3-40 | 0,2-40 | 0,2-40 | 0,2-40 | 0,2-40 | 0,2-40 | 0,2-40 | 0,2-40 |

\*Set pressure with soft sealing from 0,5 bar

Parts and Material:

| Pos. | Part            | SF01                  | SF02            | SF03          |
|------|-----------------|-----------------------|-----------------|---------------|
| 1    | Body            | EN-JL 1040            | 1.0619+N        | 1.4408        |
| 2    | Seat            | 1.4571                | 1.4571          | 1.4571        |
| 3    | Studs           | 25CrMo4, 1.7218       | 25CrMo4, 1.7218 | A4 - 70       |
| 4    | Spindle guide   | X20Cr13*QT, 1.4021*QT |                 | 1.4571        |
| 8    | Hexagon nut     | C35E, 1:1181          | C35E, 1:1181    | A4            |
| 7    | gasket          | Pure graphite         | Pure graphite   | Pure graphite |
| 11   | Bonnet closed   | EN-JL 1040            | EN-JS1049       | 1.4408        |
| 12   | Disc            | 1.4122+QT             | 1.4122+QT       | 1.4571        |
| 14   | Spindle         | 1.4021+QT             | 1.4021+QT       | 1.4571        |
| 17   | Adjusting screw | 1.4021+QT             | 1.4021+QT       | 1.4404        |
| 27   | Sealing ring    | CuFa                  | CuFa            | 1.4571        |
| 28   | cap closed      | EN-JL 1040            | EN-JS 1049      | 1.4408        |
| 29   | cap open        | EN-JL 1040            | EN-JS 1049      | 1.4408        |
| 30   | cap gastight    | EN-JL 1040            | EN-JS 1049      | 1.4408        |
| 31   | Packingsrings   | Pure graphite         | Pure graphite   | Pure graphite |
| 35   | Lift fork       | EN-JS 1049            | EN-JS 1049      | 1.4408        |
| 36   | Lever closed    | EN-JS 1049            | EN-JS 1049      | 1.4571        |
| 37   | spring          | 1.8159                | 1.8159          | 1.4310        |
| 41   | lever open      | EN-JS 1049            | EN-JS 1049      | --            |
| 42   | bonnet open     | EN-JL 1040            | EN-JS 1049      | --            |

Pressure-temperature-ratings:

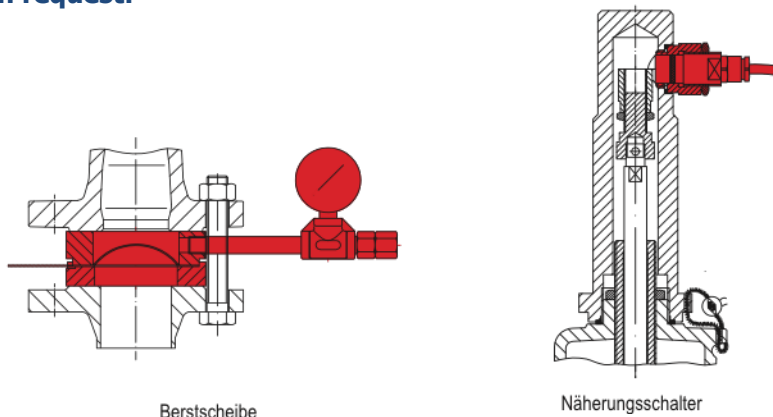
Intermediate values for max. permissible operational pressures can be determined by linear interpolation of the given temperature / pressure chart.

| DIN EN 1092-2         | -60°C to <-10°C | -10°C to 120°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C |
|-----------------------|-----------------|----------------|-------|-------|-------|-------|-------|-------|-------|
| SF01 EN JL1040 in bar | --              | 16             | 14,4  | 12,8  | 11,2  | 9,6   | --    | --    | --    |

| manufacturers standard | -60°C to <-10°C | -10°C to 120°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C |
|------------------------|-----------------|----------------|-------|-------|-------|-------|-------|-------|-------|
| SF02 1.0619+N in bar   | 30              | 40             | 38,1  | 35    | 32    | 28    | 25,7  | 23,8  | 13,1  |

| DIN EN 1092-1      | -60°C to <-10°C | -10°C to 100°C | 150°C | 200°C | 250°C | 300°C | 350°C | 400°C | 450°C |
|--------------------|-----------------|----------------|-------|-------|-------|-------|-------|-------|-------|
| SF03 1.4408 in bar | 40              | 40             | 36,3  | 33,7  | 31,8  | 29,7  | 28,5  | 27,4  | --    |

on request:



Berstscheibe

Näherungsschalter

Capacity table:

Blowing-off rates at 10% above set pressure

| DN                | 15               | 20               | 25               | 32               | 40               | 50               | 65               | 80               | 100              |
|-------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|------------------|
| Set pressure barü | Water 20°C (t/h) | Water 20°C (t/h) | Water 20°C (t/h) | Water 20°C (t/h) | Water 20°C (t/h) | Water 20°C (t/h) | Water 20°C (t/h) | Water 20°C (t/h) | Water 20°C (t/h) |
| 0,2               | --               | --               | 0,97             | 1,4              | 1,95             | 3,63             | 6,33             | 8,36             | 13,06            |
| 0,3               | 0,84             | 0,84             | 1,16             | 1,67             | 2,33             | 4,30             | 7,46             | 9,80             | 15,22            |
| 0,5               | 1,11             | 1,11             | 1,54             | 2,21             | 3,09             | 5,74             | 10,0             | 13,22            | 20,6             |
| 1                 | 1,57             | 1,57             | 2,17             | 3,13             | 4,37             | 8,12             | 14,15            | 18,69            | 29,2             |
| 2                 | 2,22             | 2,22             | 3,07             | 4,42             | 6,17             | 11,48            | 20,0             | 26,4             | 41,3             |
| 3                 | 2,72             | 2,72             | 3,76             | 5,42             | 7,56             | 14,07            | 24,5             | 32,4             | 50,6             |
| 4                 | 3,14             | 3,14             | 4,35             | 6,26             | 8,73             | 16,24            | 28,3             | 37,4             | 58,4             |
| 5                 | 3,51             | 3,51             | 4,86             | 7,0              | 9,76             | 18,16            | 31,6             | 41,8             | 65,3             |
| 6                 | 3,85             | 3,85             | 5,32             | 7,66             | 10,69            | 19,89            | 34,6             | 45,8             | 71,6             |
| 7                 | 4,16             | 4,16             | 5,75             | 8,28             | 11,55            | 21,5             | 37,4             | 49,5             | 77,3             |
| 8                 | 4,45             | 4,45             | 6,14             | 8,85             | 12,35            | 23,0             | 40,0             | 52,9             | 82,6             |
| 9                 | 4,72             | 4,72             | 6,52             | 9,39             | 13,1             | 24,4             | 42,4             | 56,1             | 87,6             |
| 10                | 4,97             | 4,97             | 6,87             | 9,89             | 13,81            | 25,7             | 44,7             | 59,1             | 92,4             |
| 12                | 5,44             | 5,44             | 7,53             | 10,84            | 15,12            | 28,1             | 49,0             | 64,8             | 100,2            |
| 14                | 5,88             | 5,88             | 8,13             | 11,71            | 16,34            | 30,4             | 52,9             | 69,9             | 109,3            |
| 16                | 6,29             | 6,29             | 8,69             | 12,51            | 17,46            | 32,5             | 56,6             | 74,8             | 116,8            |
| 18                | 6,67             | 6,67             | 9,22             | 13,27            | 18,52            | 34,4             | 60,0             | 79,3             | 123,9            |
| 20                | 7,03             | 7,03             | 9,72             | 14,0             | 19,53            | 36,3             | 63,3             | 83,6             | 130,6            |
| 22                | 7,37             | 7,37             | 10,19            | 14,7             | 20,5             | 38,1             | 66,3             | 87,7             | 137,0            |
| 24                | 7,7              | 7,7              | 10,64            | 15,33            | 21,4             | 39,8             | 69,3             | 91,6             | 143,1            |
| 25                | 7,86             | 7,86             | 10,86            | 15,64            | 21,8             | 40,6             | 70,7             | 93,3             | 146,0            |
| 26                | 8,0              | 8,0              | 11,06            | 15,92            | 22,2             | 41,3             | 72,0             | 95,1             | 148,6            |
| 28                | 8,3              | 8,3              | 11,47            | 16,52            | 23,1             | 42,9             | 74,7             | 98,7             | 154,2            |
| 30                | 8,6              | 8,6              | 11,88            | 17,1             | 23,9             | 44,4             | 77,3             | 102,2            | 159,7            |
| 35                | 9,28             | 9,28             | 12,83            | 18,47            | 25,8             | 47,9             | 83,5             | 110,4            | 172,5            |
| 36                | 9,4              | 9,4              | 13,0             | 18,7             | 26,1             | 48,7             | 84,7             | 111,9            | 174,9            |
| 40                | 9,92             | 9,92             | 13,71            | 19,75            | 27,6             | 51,3             | 89,3             | 118,0            | 184,4            |

Capacity table:

Blowing-off rates at 10% above set pressure

| DN                | 15           | 20           | 25           | 32           | 40           | 50           | 65           | 80           | 100          |
|-------------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|--------------|
| Set pressure barü | Steam (kg/h) | Steam (kg/h) | Steam (kg/h) | Steam (kg/h) | Steam (kg/h) | Steam (kg/h) | Steam (kg/h) | Steam (kg/h) | Steam (kg/h) |
| 0,2               | --           | --           | 20           | 33           | 44           | 85           | 142          | 195          | 305          |
| 0,3               | 20           | 20           | 28           | 41           | 56           | 107          | 82           | 247          | 386          |
| 0,4               | 23           | 23           | 23           | 48           | 65           | 126          | 209          | 290          | 450          |
| 0,5               | 27           | 27           | 27           | 55           | 74           | 144          | 239          | 332          | 520          |
| 0,6               | 30           | 30           | 30           | 62           | 82           | 162          | 267          | 372          | 580          |
| 0,8               | 36           | 36           | 36           | 73           | 100          | 189          | 323          | 435          | 680          |
| 1                 | 41           | 41           | 41           | 84           | 114          | 218          | 370          | 500          | 785          |
| 2                 | 68           | 68           | 68           | 139          | 188          | 362          | 610          | 830          | 1300         |
| 3                 | 95           | 95           | 95           | 197          | 265          | 510          | 860          | 1180         | 1840         |
| 4                 | 119          | 119          | 119          | 246          | 330          | 640          | 1070         | 1470         | 2300         |
| 5                 | 142          | 142          | 142          | 295          | 396          | 765          | 1280         | 1760         | 2750         |
| 6                 | 166          | 166          | 166          | 343          | 460          | 890          | 1495         | 2050         | 3200         |
| 7                 | 189          | 189          | 189          | 391          | 525          | 1015         | 1700         | 2340         | 3650         |
| 8                 | 213          | 213          | 213          | 440          | 590          | 1140         | 1910         | 2630         | 4100         |
| 9                 | 236          | 236          | 236          | 490          | 655          | 1265         | 2120         | 2910         | 4550         |
| 10                | 259          | 259          | 259          | 535          | 720          | 1390         | 2330         | 3200         | 5000         |
| 12                | 306          | 306          | 306          | 630          | 850          | 1640         | 2750         | 3780         | 5900         |
| 14                | 352          | 352          | 352          | 730          | 980          | 1890         | 3170         | 4350         | 6800         |
| 16                | 400          | 400          | 400          | 825          | 1105         | 2140         | 3590         | 4920         | 7700         |
| 18                | 445          | 445          | 445          | 920          | 1235         | 2390         | 4000         | 5500         | 8600         |
| 20                | 490          | 490          | 490          | 1020         | 1365         | 2640         | 4430         | 6080         | 9500         |
| 22                | 540          | 540          | 540          | 1110         | 1495         | 2890         | 4850         | 6660         | 10400        |
| 24                | 585          | 585          | 585          | 1210         | 1630         | 3140         | 5270         | 7240         | 11300        |
| 25                | 609          | 609          | 609          | 1260         | 1690         | 3270         | 5480         | 7530         | 11760        |
| 26                | 630          | 630          | 630          | 1310         | 1760         | 3400         | 5700         | 7820         | 12200        |
| 28                | 680          | 680          | 680          | 1405         | 1890         | 3650         | 6120         | 8400         | 13100        |
| 30                | 730          | 730          | 730          | 1505         | 2020         | 3900         | 6550         | 8990         | 14000        |
| 32                | 775          | 775          | 775          | 1600         | 2150         | 4160         | 6980         | 9580         | 15000        |

Structure Article number:

| Type                   | Design                                                               | Seal       | Size       |
|------------------------|----------------------------------------------------------------------|------------|------------|
| SF01 – grey cast iron  | 00 – closed lifting device & bonnet                                  | 00 – Metal | 03 – DN15  |
| SF02 – carbon steel    | 01 – gastight cap & closed bonnet                                    | 01 – EPDM  | 04 – DN20  |
| SF03 – stainless steel | 02 – open lifting device & open bonnet*,<br>(only for gaseous media) | 02 – FPM   | 05 – DN25  |
|                        |                                                                      |            | 06 – DN32  |
|                        |                                                                      |            | 07 – DN40  |
|                        |                                                                      |            | 08 – DN50  |
|                        |                                                                      |            | 09 – DN65  |
|                        |                                                                      |            | 10 – DN80  |
|                        |                                                                      |            | 11 – DN100 |

Example SF02010106:

|      |    |    |    |
|------|----|----|----|
| SF02 | 01 | 01 | 06 |
|------|----|----|----|

Article number. SF02010106  
Safety valve made on carbon steel  
Design: gastight cap & closed bonnet  
Seal: EPDM  
Size: DN32

\*only for type SF01 – grey cast iron and SF02 – carbon steel

Image similar. Change without notice.