

## Ball float steam trap

### Ball float steam trap

#### PN16 / PN40

- with flanges (Fig. 631....1)
- with screwed sockets (Fig. 631....2)
- with socket weld ends (Fig. 631....3)
- with butt weld ends (Fig. 631....4)

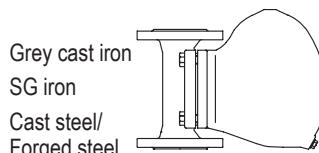


Fig. 631

Page 2

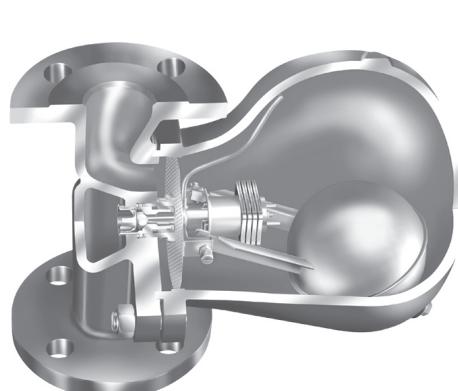


Fig. 631....1

### Ball float steam trap

#### PN63 / PN100

- with flanges (Fig. 631....1)
- with socket weld ends (Fig. 631....3)
- with butt weld ends (Fig. 631....4)

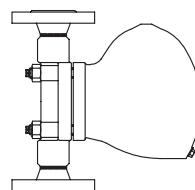


Fig. 631

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### Ball float steam trap

#### PN160

- with flanges (Fig. 631....1)
- with socket weld ends (Fig. 631....3)
- with butt weld ends (Fig. 631....4)

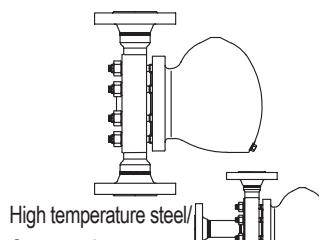


Fig. 631 / Fig. 632

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### Ball float steam trap

#### PN16 / PN40

- with flanges R4-P (Fig. 633....1)
- with flanges (Fig. 639....1)



Fig. 633 / Fig. 639

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### Ball float steam trap

#### PN40

- with flanges (Fig. 637....1)
- Angle pattern design: (Fig. 638....1)
- with flanges (Fig. 638....1)

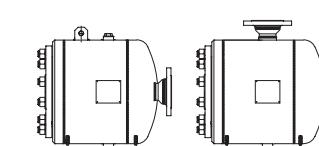
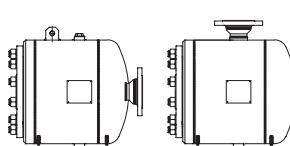


Fig. 637 / Fig. 638

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### Ball float steam trap for drainage of water from compressed air and gas systems

(acc. to PED 97/23/EC fluid group 2)

#### PN16 / PN40

- with flanges (Fig. 630....1)
- with screwed sockets (Fig. 630....2)
- with socket weld ends (Fig. 630....3)
- with butt weld ends (Fig. 630....4)

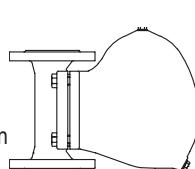
Grey cast iron SG iron

Forged steel/Cast steel

Stainless steel

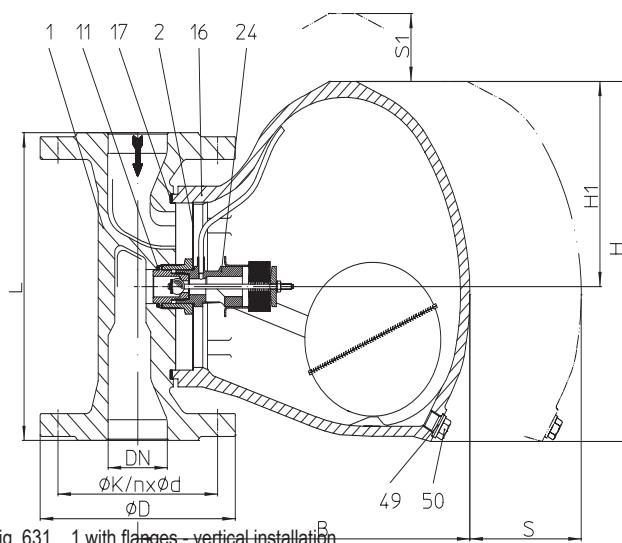
Fig. 630

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### Features:

- Back pressure-free condensate discharge even at extreme pressure- and quantity fluctuations
- Controller with integrated automatic ventilation (except Fig. 630)
- Robust and insensitive to waterhammer
- Non return protection (except Fig. 633/637/638)
- Union for pressure compensation line and bypass possible
- On-site change of the installation position is possible according to the operating instructions (except Fig. 633/637/638)
- The controller maybe changed without disturbing the pipe work

**Ball float steam trap (Grey cast iron, SG iron, Cast steel/Forged steel, Stainless steel)**

**Fig. 631....1 with flanges - vertical installation**

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems
- Rapid system start-up due to thermostatic control element
- Standard installation position: - vertical
- Optional installation position: - horizontal with inlet from right or left (Please indicate when ordering).
- Inside strainer
- Body with flanged hood
- Non return protection
- The controller maybe changed without disturbing the pipe work
- On-site change of the installation position is possible according to the operating instructions
- Options: - Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated

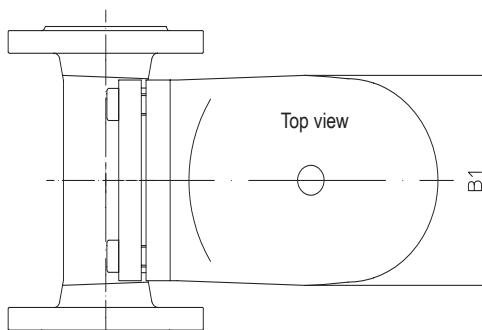
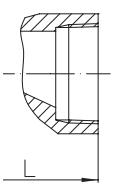
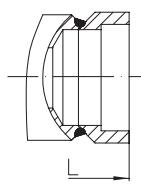
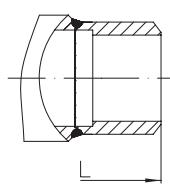
**Operating limits**

| <b>Fig. 12.631</b>                          | <b>PN16 Body/Hood: EN-JL1040</b> |            |            |              |
|---|----------------------------------|------------|------------|--------------|
| Operating pressure PS (bar-g)               | 12,8                             |            | 9,6        |              |
| Operating temperature TS (°C)               | 200                              |            | 300        |              |
| allowable differential pressure ΔPMX (bar): | 2                                | 4          | 8          | 13           |
| for controller:                             | R2<br>R2-S                       | R4<br>R4-S | R8<br>R8-S | R13<br>R13-S |

| <b>Fig. 25.631</b>                          | <b>PN40 Body/Hood: EN-JS1049</b> |            |            |              |
|---|----------------------------------|------------|------------|--------------|
| Operating pressure PS (bar-g)               | 32                               |            | 22         |              |
| Operating temperature TS (°C)               | 250                              |            | 350        |              |
| allowable differential pressure ΔPMX (bar): | 2                                | 4          | 8          | 13           |
| for controller:                             | R2<br>R2-S                       | R4<br>R4-S | R8<br>R8-S | R13<br>R13-S |

| <b>Fig. 45.631</b>                          | <b>PN40 Body: 1.0460 / Hood: 1.0619+N</b> |            |            |              |
|---|---|------------|------------|--------------|
| Operating pressure PS (bar-g)               | 32  |            | 21         |              |
| Operating temperature TS (°C)               | 250                                       |            | 400        |              |
| allowable differential pressure ΔPMX (bar): | 2   | 4          | 8          | 13           |
| for controller:                             | R2<br>R2-S                                | R4<br>R4-S | R8<br>R8-S | R13<br>R13-S |

| <b>Fig. 55.631</b>                          | <b>PN40 Body: 1.4541 / Hood: 1.4308</b> |            |            |              |
|---|---|------------|------------|--------------|
| Operating pressure PS (bar-g)               | 32                                      |            | 28         |              |
| Operating temperature TS (°C)               | 250                                     |            | 300        |              |
| allowable differential pressure ΔPMX (bar): | 2                                       | 4          | 8          | 13           |
| for controller:                             | R2<br>R2-S                              | R4<br>R4-S | R8<br>R8-S | R13<br>R13-S |


**Fig. 631....1 with flanges - horizontal installation**

**Fig. 631....2  
with screwed sockets**

**Fig. 631....3  
with socket weld ends**

**Fig. 631....4  
with butt weld ends**
**Types of connection**

|                               |  |  |  |  |
|-------------------------------|--|--|--|--|
| <b>Flanges ....1</b>          | <b>PN16 / PN40 acc. to DIN 2501</b>              |  |  |  |
| <b>Screwed sockets ....2</b>  | <b>Rp- and NPT-thread acc. to DIN EN 10226-1</b> |  |  |  |
| <b>Socket weld ends ....3</b> | <b>acc. to DIN EN 12760</b>                      |  |  |  |
| <b>Butt weld ends ....4</b>   | <b>acc. to DIN EN 12627</b>                      |  |  |  |

Other types of connection on request.

For ANSI versions refer to data sheet CONA®S-ANSI

| Dimensions<br>and Weights |                | Types of connection |           |         |             |         |                           |                       |                        |   |           |         |             |                                     |           |                              |         |             |                 |
|---------------------------|----------------|---------------------|-----------|---------|-------------|---------|---------------------------|-----------------------|------------------------|---|-----------|---------|-------------|-------------------------------------|-----------|------------------------------|---------|-------------|-----------------|
|                           |                | Flanges             |           |         |             |         |                           |                       |                        | Screwed sockets <sup>1)</sup><br>Socket weld ends <sup>2)</sup> |           |         |             |                                     |           | Butt weld ends <sup>2)</sup> |         |             |                 |
| Nominal diameter          | (mm)<br>(inch) | 15<br>1/2           | 20<br>3/4 | 25<br>1 | 40<br>1 1/2 | 50<br>2 | 65 <sup>2)</sup><br>2 1/2 | 80 <sup>2)</sup><br>3 | 100 <sup>2)</sup><br>4 | 15<br>1/2   | 20<br>3/4 | 25<br>1 | 40<br>1 1/2 | 50 <sup>1)</sup><br>2 <sup>1)</sup> | 15<br>1/2 | 20<br>3/4                    | 25<br>1 | 40<br>1 1/2 | 50 <sup>2</sup> |
| L*                        | (mm)           | 150                 | 150       | 160     | 230         | 230     | 290                       | 310                   | 350                    | 150   | 150       | 160     | 210         | 210 <sup>3)</sup>                   | 160       | 160                          | 160     | 250         | 250             |
| H                         | (mm)           | 162                 | 162       | 187     | 270         | 270     | 270                       | 270                   | 270                    | 162   | 162       | 187     | 270         | 270                                 | 162       | 187                          | 270     | 270         |                 |
| H1                        | (mm)           | 85                  | 85        | 102     | 151         | 151     | 151                       | 151                   | 151                    | 85  | 85        | 102     | 151         | 151                                 | 85        | 85                           | 102     | 151         | 151             |
| B (EN-JS1049)             | (mm)           | 214                 | 214       | 255     | 280         | 280     | --                        | --                    | --                     | 214   | 214       | 255     | 280         | --                                  | --        | --                           | --      | --          | --              |
| B (steel)                 | (mm)           | 214                 | 214       | 255     | 280         | 280     | 280                       | 280                   | 280                    | 167   | 167       | 196     | 285         | 285                                 | 167       | 167                          | 196     | 285         | 285             |
| B1                        | (mm)           | 95                  | 95        | 118     | 157         | 157     | 157                       | 157                   | 157                    | 95  | 95        | 118     | 157         | 157                                 | 95        | 95                           | 118     | 157         | 157             |
| S                         | (mm)           | 180                 | 180       | 200     | 300         | 300     | 300                       | 300                   | 300                    | 180   | 180       | 200     | 300         | 300                                 | 180       | 180                          | 200     | 300         | 300             |
| S1                        | (mm)           | 150                 | 150       | 180     | 200         | 200     | 200                       | 200                   | 200                    | 150   | 150       | 180     | 200         | 200                                 | 150       | 150                          | 180     | 200         | 200             |
| Weight approx.            | (kg)           | 7,9                 | 8,1       | 10,9    | 24,7        | 25,3    | 27,2                      | 29,2                  | 32,7                   | 7,3   | 7,3       | 8,5     | 20          | 20,5                                | 6,9       | 7,9                          | 9       | 21          | 22              |

Standard-flange dimensions refer to page 21.

<sup>1)</sup> DN50 (2") not for EN-JL/JS

<sup>2)</sup> not for EN-JL/JS

<sup>3)</sup> EN-JS: L = 230 mm

\* Face-to-face acc. to data sheet resp. customer request

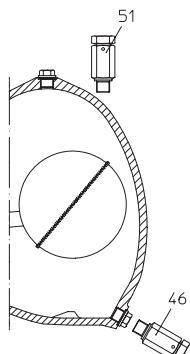
#### Parts

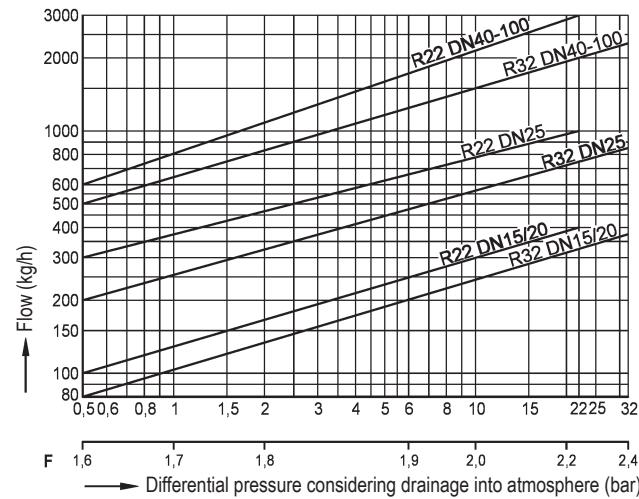
| Pos.         | Description             | Fig. 12.631                               | Fig. 25.631                     | Fig. 45.631         | Fig. 55.631           |
|--------------|-------------------------|---|---------------------------------|---------------------|-----------------------|
| 1            | Body                    | EN-GJL-250, EN-JL1040                     | EN-GJS-400-18U-LT,<br>EN-JS1049 | P250 GH, 1.0460     | X6CrNiTi18-10, 1.4541 |
| 2            | Strainer                | X5CrNi18-10, 1.4301                       |                                 |                     |                       |
| 11           | Sealing ring *          | R-Cu99                                    | X6CrNiTi18-10, 1.4541           |                     |                       |
| 16           | Hood                    | EN-GJL-250, EN-JL1040                     | EN-GJS-400-18U-LT,<br>EN-JS1049 | GP240GH+N, 1.0619+N | GX5CrNi19-10, 1.4308  |
| 17           | Gasket *                | Graphite (CrNi laminated with graphite)   |                                 |                     |                       |
| 24           | Controller *            | TB 102 / 85 (corrosion resistant bimetal) |                                 |                     |                       |
| 27           | Cheese head screw       | X6CrNiTi18-10, 1.4541 /<br>8.8            | 21CrMoV 5-7, 1.7709             | 21CrMoV 5-7, 1.7709 | X6CrNiTi18-10, 1.4541 |
| 46           | Blow down valve, cpl. * | X8CrNiS18-9, 1.4305                       |                                 |                     |                       |
| 49           | Sealing ring *          | R-Cu99                                    | X6CrNiTi18-10, 1.4541           |                     |                       |
| 50           | Plug (M14x1,5) *        | C35E, 1.1181                              | 21CrMoV 5-7, 1.7709             |                     | X6CrNiTi18-10, 1.4541 |
| 51           | Manual air vent valve * | X8CrNiS18-9, 1.4305                       |                                 |                     |                       |
| * Spare part |                         |   |                                 |                     |                       |

Information / restriction of technical rules need to be observed!

Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

#### Options



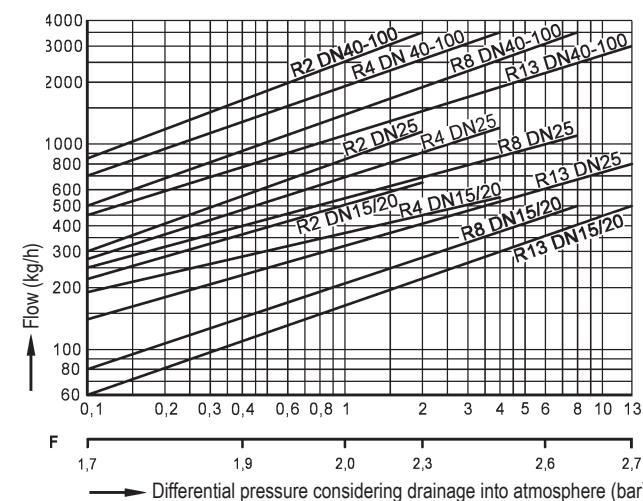
**Capacity chart**
**Standard R22 and R32**
**DN15 - DN100**


The capacity chart shows the maximum flow quantities of hot condensate for the different controllers and steam trap sizes

In common, the steam traps are fitted out with an controller as shown in the flow diagrams of this page acc. to the differential pressures and flow rates.

For very large flow rates with low differential pressures, steam traps at sizes DN40 up to DN100 can be fitted out with a super-controller

The maximum flow quantity of cold condensate at about 20°C can be determined by multiplication of the appropriate factor F (in the scale below the diagrams) with the hot condensate quantity determined by the capacity chart. (Factor F is related to the differential pressure)

**Capacity chart**
**Standard R2 to R13**
**DN15 - DN100**


The capacity chart shows the maximum flow quantities of hot condensate for the different controllers and steam trap sizes

In common, the steam traps are fitted out with an controller as shown in the flow diagrams of this page acc. to the differential pressures and flow rates.

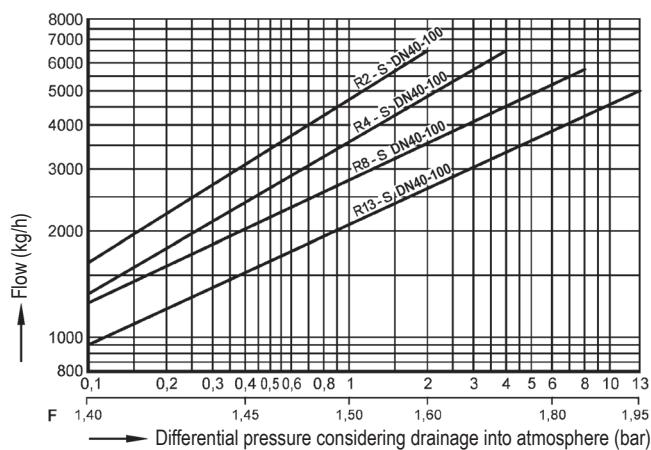
For very large flow rates with low differential pressures, steam traps at sizes DN40 up to DN100 can be fitted out with a super-controller

The maximum flow quantity of cold condensate at about 20°C can be determined by multiplication of the appropriate factor F (in the scale below the diagrams) with the hot condensate quantity determined by the capacity chart. (Factor F is related to the differential pressure)

Special design: Super-controller for very large flow rates with low differential pressures

R2-S to R13-S

DN 40 - 100



The capacity chart shows the maximum flow quantities of hot condensate for the Super-controller versions.

The maximum flow quantity of cold condensate at about 20°C can be determined by multiplication of the appropriate factor F (in the scale below the diagrams) with the hot condensate quantity determined by the capacity chart. (Factor F is related to the differential pressure)

### Ball float steam trap (High temperature steel)

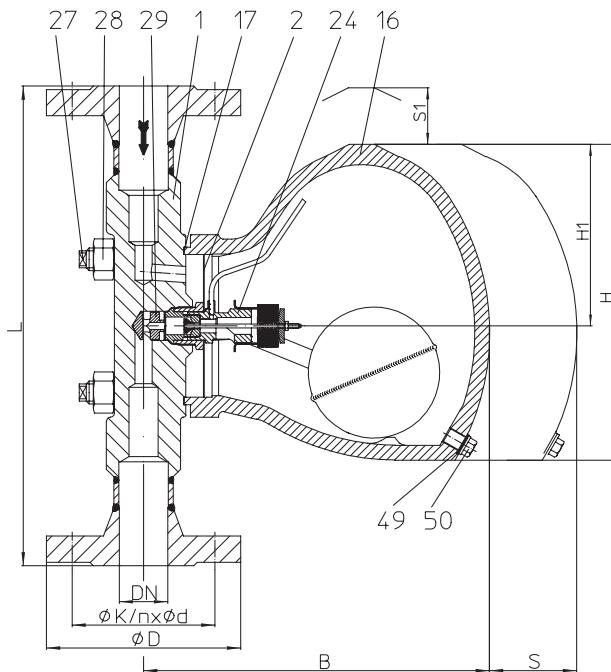


Fig. 631....1 with flanges - vertical installation (PN100)

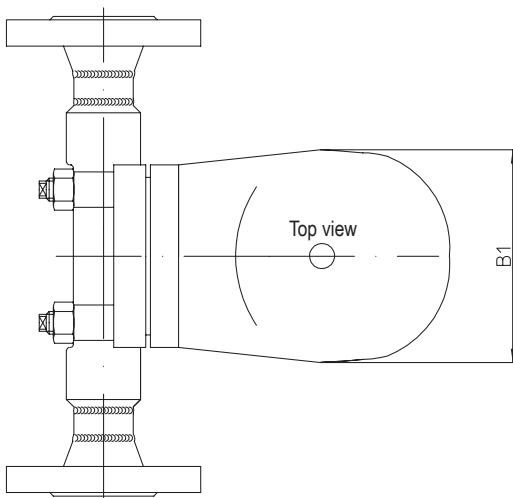
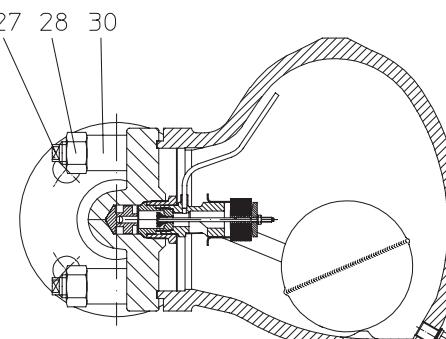


Fig. 631....1 with flanges - horizontal installation (PN100)

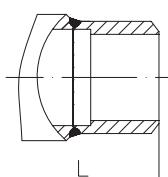


Fig. 631....4  
with butt weld ends

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems
- Rapid system start-up due to thermostatic control element (for condensate with temperatures  $\geq 100^\circ\text{C}$ )
- Standard installation position: - vertical
- Optional installation position: - horizontal with inlet from right or left (Please indicate when ordering).
- Inside strainer
- Body with flanged hood
- Non return protection
- The controller maybe changed without disturbing the pipe work
- On-site change of the installation position is possible according to the operating instructions
- Options: - Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated

#### Operating limits

| Fig. 86.631   | PN63<br>Body: 16Mo3 / Hood: G17CrMo5-5 |     |     |
|---|--|-----|-----|
| Operating pressure PS (bar-g)                             | 56                                     | 50  | 45  |
| Operating temperature TS ( $^\circ\text{C}$ )             | 300                                    | 350 | 450 |
| allowable differential pressure $\Delta\text{PMX}$ (bar): | 50                                     |     |     |
| for controller:   | R50                                    |     |     |

| Fig. 87.631   | PN100<br>Body: 16Mo3 / Hood: G17CrMo5-5 |     |     |
|---|---|-----|-----|
| Operating pressure PS (bar-g)                             | 64                                      | 50  | 50  |
| Operating temperature TS ( $^\circ\text{C}$ )             | 400                                     | 450 | 450 |
| allowable differential pressure $\Delta\text{PMX}$ (bar): | 64                                      |     |     |
| for controller:   | R64                                     |     |     |

| Fig. 87.631   | PN100<br>Body: 13CrMo4-5 / Hood: G17CrMo5-5 |     |     |
|---|---|-----|-----|
| Operating pressure PS (bar-g)                             | 80  | 60  | 30  |
| Operating temperature TS ( $^\circ\text{C}$ )             | 480   | 510 | 525 |
| allowable differential pressure $\Delta\text{PMX}$ (bar): | 80  |     |     |
| for controller:   | R80   |     |     |

#### Types of connection

|                     |                               |
|---------------------|-------------------------------|
| Flanges ....1       | PN63 / PN100 acc. to DIN 2501 |
| Butt weld ends ...4 | acc. to DIN EN 12627          |

Other types of connection on request.

For ANSI versions refer to data sheet CONA®S-ANSI

| Dimensions<br>and Weights |                | Types of connection |         |             |         |                |           |         |             |         |  |
|---------------------------|----------------|---------------------|---------|-------------|---------|----------------|-----------|---------|-------------|---------|--|
|                           |                | Flanges             |         |             |         | Butt weld ends |           |         |             |         |  |
| Nominal diameter          | (mm)<br>(inch) | 15<br>1/2           | 25<br>1 | 40<br>1 1/2 | 50<br>2 | 15<br>1/2      | 20<br>3/4 | 25<br>1 | 40<br>1 1/2 | 50<br>2 |  |
| L                         | (mm)           | 300                 | 300     | 420         | 416     | 216            | 216       | 216     | 240         | 250     |  |
| H                         | (mm)           | 280                 | 280     | 280         | 280     | 280            | 280       | 280     | 280         | 280     |  |
| H1                        | (mm)           | 160                 | 160     | 160         | 160     | 160            | 160       | 160     | 160         | 160     |  |
| B                         | (mm)           | 302                 | 302     | 302         | 302     | 302            | 302       | 302     | 302         | 302     |  |
| B1                        | (mm)           | 185                 | 185     | 185         | 185     | 185            | 185       | 185     | 185         | 185     |  |
| S                         | (mm)           | 300                 | 300     | 300         | 300     | 300            | 300       | 300     | 300         | 300     |  |
| S1                        | (mm)           | 200                 | 200     | 200         | 200     | 200            | 200       | 200     | 200         | 200     |  |
| Weight approx.            | (kg)           | 30                  | 34      | 38          | 42      | 26             | 26        | 26      | 26          | 28      |  |

Standard-flange dimensions refer to page 21.

\* Face-to-face acc. to data sheet resp. customer request

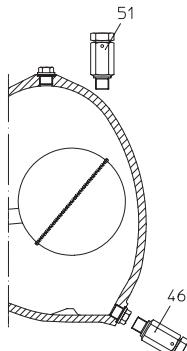
#### Parts

| Pos.         | Description                      | Fig. 86.631 / 87.631                      | Fig. 87.631          |
|--------------|----------------------------------|---|----------------------|
| 1            | Body                             | 16Mo3, 1.5415                             | 13CrMo4-5, 1.7335    |
| 2            | Strainer                         | X5CrNi18-10, 1.4301                       |                      |
| 16           | Hood                             | G17CrMo5-5, 1.7357                        |                      |
| 17           | Gasket *                         | Graphite (CrNi laminated with graphite)   |                      |
| 24           | Controller *                     | TB 102 / 85 (corrosion resistant bimetal) |                      |
| 27           | Stud                             | 21CrMoV 5-7, 1.7709                       | X22CrMoV12-1, 1.4923 |
| 28           | Hexagonal nut                    | 21CrMoV 5-7, 1.7709                       | X22CrMoV12-1, 1.4923 |
| 29           | Erosion deflector * (only PN100) | X17CrNi16-2, 1.4057                       |                      |
| 30           | Extension sleeve                 | 21CrMoV 5-7, 1.7709                       |                      |
| 46           | Blow down valve, cpl. *          | X39CrMo17-1+QT, 1.4122+QT                 |                      |
| 49           | Sealing ring *                   | X6CrNiTi18-10, 1.4541                     |                      |
| 50           | Plug (M14x1,5) *                 | 21CrMoV 5-7, 1.7709                       |                      |
| 51           | Manual air vent valve *          | X39CrMo17-1+QT, 1.4122+QT                 |                      |
| * Spare part |                                  |   |                      |

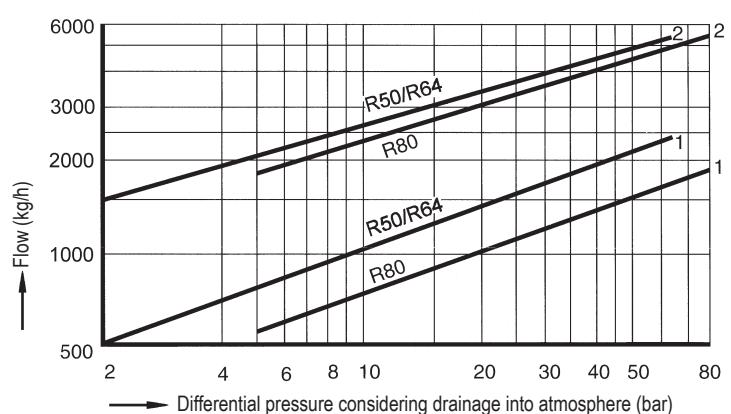
Information / restriction of technical rules need to be observed!

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#### Options



Capacity chart



The capacity chart shows the maximum flow rates.

**Curve 1:**

Maximum flow quantities of hot condensate.

**Curve 2:**

Maximum flow quantities of cold condensate of about 20°C (during system start-up).

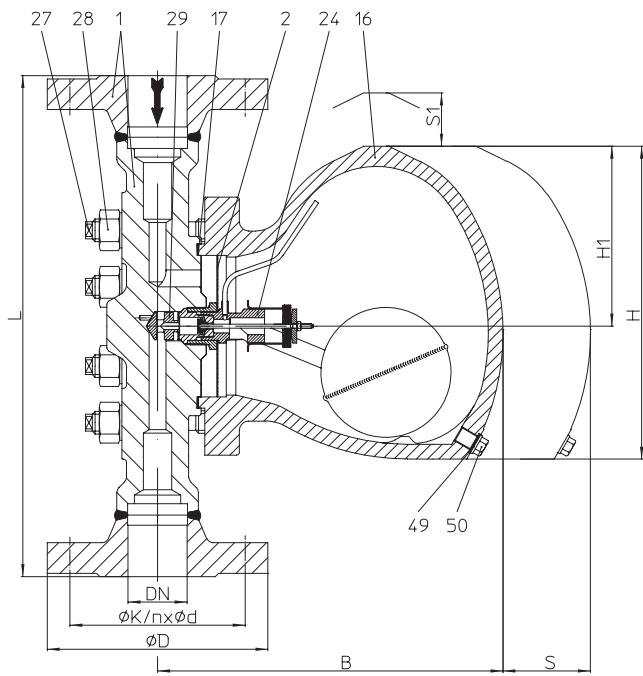
**Ball float steam trap (High temperature steel)**


Fig. 631....1 with flanges - vertical installation

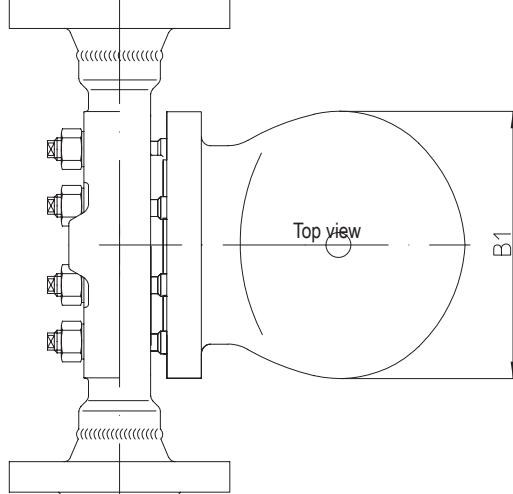
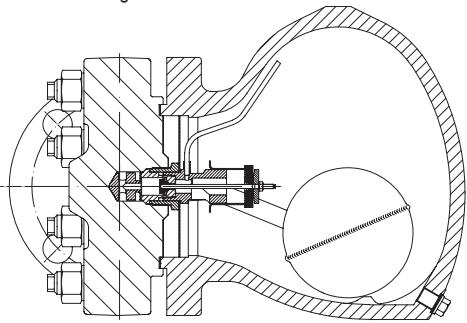
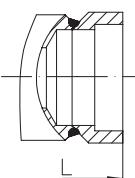
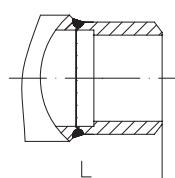


Fig. 631....1 with flanges - horizontal installation


Fig. 631....3  
with socket weld ends

Fig. 631....4  
with butt weld ends

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems
- Rapid system start-up due to thermostatic control element
- Standard installation position: - vertical
- Optional installation position: - horizontal with inlet from right or left (Please indicate when ordering).

- Inside strainer
- Body with flanged hood
- Non return protection
- The controller maybe changed without disturbing the pipe work
- On-site change of the installation position is possible according to the operating instructions
- Options: - Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated

**Operating limits**

| Fig. 88.631 / 88.632                        | PN160<br>Body: 13CrMo4-5 / Hood: G17CrMo5-1 |     |
|---|---|-----|
| Operating pressure PS (bar-g)               | 110   | 80  |
| Operating temperature TS (°C)               | 506   | 519 |
| allowable differential pressure ΔPMX (bar): | 110   | 80  |
| for controller:                             | R110  | R80 |

**Types of connection**

|                        |                        |
|------------------------|------------------------|
| Flanges ....1          | PN160 acc. to DIN 2501 |
| Socket weld ends ....3 | acc. to DIN EN 12760   |
| Butt weld ends ....4   | acc. to DIN EN 12627   |

Other types of connection on request.

For ANSI versions refer to data sheet CONA®S-ANSI

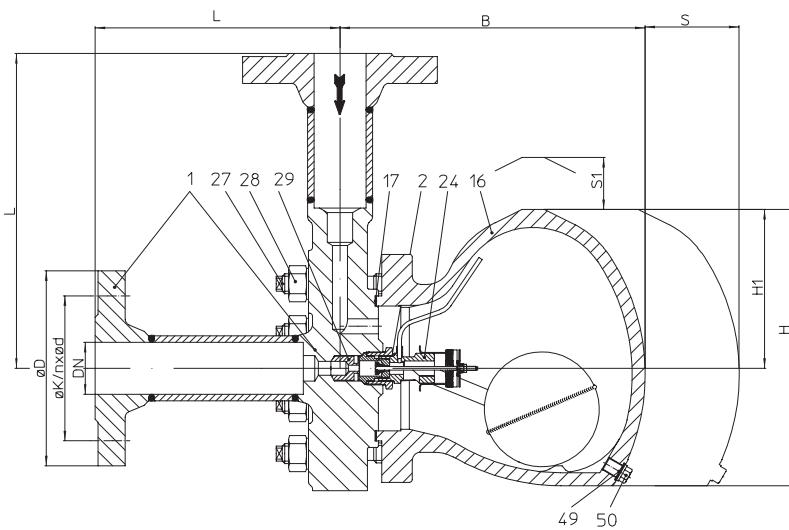


Fig. 632....1 Angle pattern design with flanges - vertical installation

| Dimensions<br>and Weights |                | Types of connection |         |         |                                   |         |         |
|---------------------------|----------------|---------------------|---------|---------|-----------------------------------|---------|---------|
|                           |                | Flanges             |         |         | Butt weld ends<br>Screwed sockets |         |         |
| Nominal diameter          | (mm)<br>(inch) | 15<br>1/2           | 25<br>1 | 50<br>2 | 15<br>1/2                         | 25<br>1 | 50<br>2 |
| L                         | (mm)           | 400                 | 415     | 440     | 335                               | 335     | 335     |
| L1 / L2 ECK *             | (mm)           | 200                 | 208     | 220     | 168                               | 168     | 168     |
| H                         | (mm)           | 280                 | 280     | 280     | 280                               | 280     | 280     |
| H1                        | (mm)           | 160                 | 160     | 160     | 160                               | 160     | 160     |
| B                         | (mm)           | 302                 | 302     | 302     | 302                               | 302     | 302     |
| B1                        | (mm)           | 185                 | 185     | 185     | 185                               | 185     | 185     |
| S                         | (mm)           | 300                 | 300     | 300     | 300                               | 300     | 300     |
| S1                        | (mm)           | 200                 | 200     | 200     | 200                               | 200     | 200     |
| Weight approx.            | (kg)           | 46                  | 49      | 56      | 53                                | 41      | 38      |

Standard-flange dimensions refer to page 21.

\* Face-to-face acc. to data sheet resp. customer request

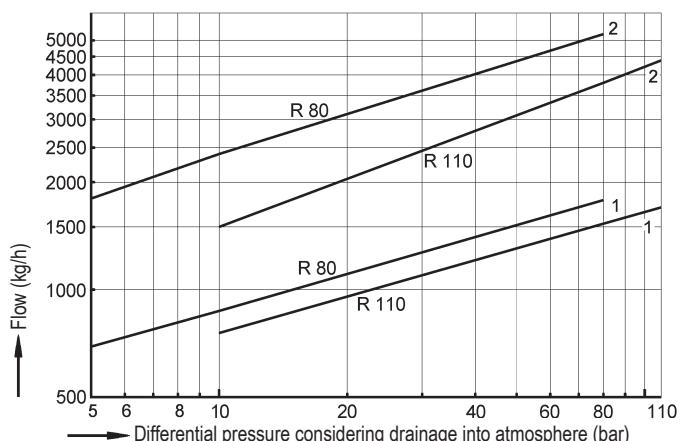
#### Parts

| Pos.         | Description             | Fig. 86.631 / 87.631                      | Fig. 87.631       |
|--------------|-------------------------|---|-------------------|
| 1            | Body                    | 16Mo3, 1.5415                             | 13CrMo4-5, 1.7335 |
| 2            | Strainer                | X5CrNi18-10, 1.4301                       |                   |
| 16           | Hood                    | G17CrMo5-5, 1.7357                        |                   |
| 17           | Gasket *                | Graphite (CrNi laminated with graphite)   |                   |
| 24           | Controller *            | TB 102 / 85 (corrosion resistant bimetal) |                   |
| 27           | Stud                    | X22CrMoV12-1, 1.4923                      |                   |
| 28           | Hexagonal nut           | X22CrMoV12-1, 1.4923                      |                   |
| 29           | Erosion deflector *     | X17CrNi16-2, 1.4057                       |                   |
| 46           | Blow down valve, cpl. * | X39CrMo17-1+QT, 1.4122+QT                 |                   |
| 49           | Sealing ring *          | X6CrNiTi18-10, 1.4541                     |                   |
| 50           | Plug (M14x1,5) *        | 21CrMoV 5-7, 1.7709                       |                   |
| 51           | Manual air vent valve * | X39CrMo17-1+QT, 1.4122+QT                 |                   |
| * Spare part |                         |   |                   |

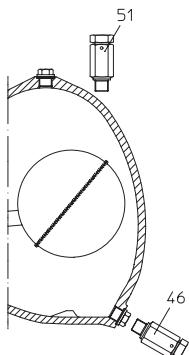
Information / restriction of technical rules need to be observed!

Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

Capacity chart



#### Options



The capacity chart shows the maximum flow rates.

**Curve 1:**

Maximum flow quantities of hot condensate.

**Curve 2:**

Maximum flow quantities of cold condensate of about 20°C (during system start-up).

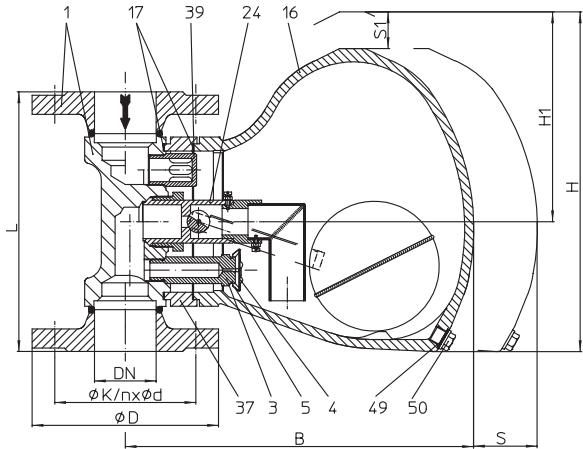
**Ball float steam trap (Forged steel/Cast steel)**


Fig. 633....1 with flanges - vertical installation

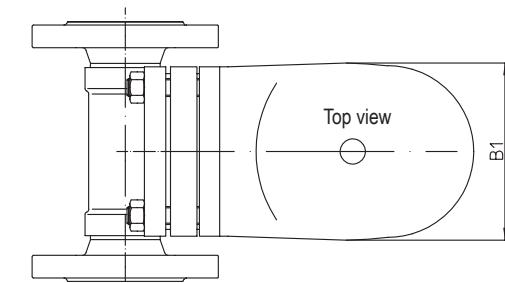
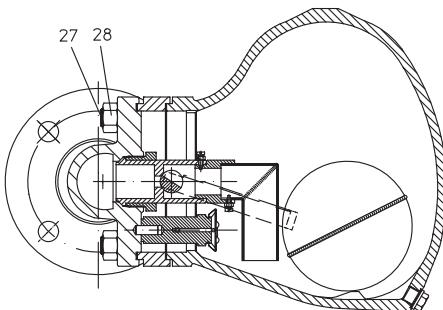


Fig. 633....1 with flanges - horizontal installation

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems
- Rapid system start-up due to thermostatic control element
- Immediate discharge of hot boiling condensate
- Standard installation position: - vertical
- Optional installation position: - horizontal with inlet from right or left (Please indicate when ordering).
- Body with flanged hood
- The controller maybe changed without disturbing the pipe work
- Installation position can not be changed later on
- Options: - Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated

**Operating limits**

| Fig. 45.633                                 | PN40<br>Body: 1.0460 / Hood: 1.0619+N |
|---|---------------------------------------|
| Operating pressure PS (bar-g)               | 0,1 - 4                               |
| Operating temperature TS (°C)               | 350                                   |
| allowable differential pressure ΔPMX (bar): | 4                                     |
| for controller:                             | R4-P                                  |

EN-JS1049 on request.

**Types of connection**

|               |                       |
|---------------|-----------------------|
| Flanges ....1 | PN40 acc. to DIN 2501 |
|---------------|-----------------------|

Other types of connection on request.

For ANSI versions refer to data sheet CONA®S-ANSI

| Dimensions<br>and Weights |      | Types of connection |      |      |      |      |
|---------------------------|------|---------------------|------|------|------|------|
|                           |      | Flanges             |      |      |      |      |
| Nominal diameter          | (mm) | 40                  | 50   | 65   | 80   | 100  |
| L *                       | (mm) | 230                 | 230  | 290  | 310  | 350  |
| H                         | (mm) | 270                 | 270  | 270  | 270  | 270  |
| H1                        | (mm) | 151                 | 151  | 151  | 151  | 151  |
| B                         | (mm) | 307                 | 307  | 307  | 307  | 307  |
| B1                        | (mm) | 157                 | 157  | 157  | 157  | 157  |
| S                         | (mm) | 300                 | 300  | 300  | 300  | 300  |
| S1                        | (mm) | 200                 | 200  | 200  | 200  | 200  |
| Weight approx.            | (kg) | 24,7                | 25,3 | 27,2 | 29,2 | 32,7 |

Standard-flange dimensions refer to page 21.

\* Face-to-face acc. to data sheet resp. customer request

#### Parts

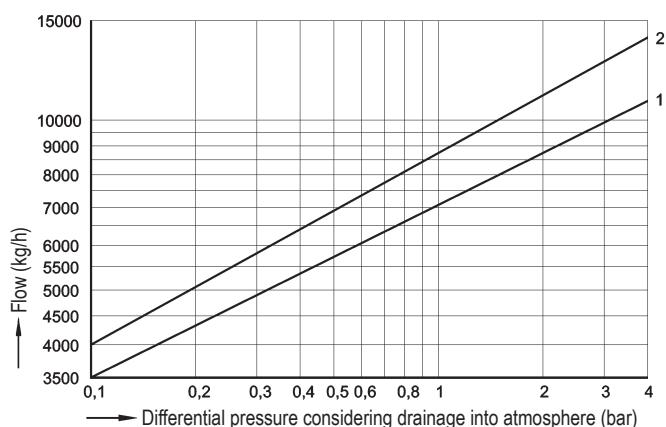
| Pos. | Description             | Fig. 45.633                             |
|------|-------------------------|---|
| 1    | Body                    | P250 GH, 1.0460                         |
| 3    | Seat                    | X8CrNiS18-9, 1.4305                     |
| 4    | Capsule *               | X5CrNi18-10, 1.4301                     |
| 5    | Spring actuated clip *  | X10CrNi18-8, 1.4310                     |
| 16   | Hood                    | GP240GH+N, 1.0619+N                     |
| 17   | Gasket *                | Graphite (CrNi laminated with graphite) |
| 24   | Controller *            | X5CrNi18-10, 1.4301 / bimetal TB102/85  |
| 27   | Stud                    | 21CrMoV 5-7, 1.7709                     |
| 28   | Hexagonal nut           | 21CrMoV 5-7, 1.7709                     |
| 37   | Intermediate flange     | P250 GH, 1.0460                         |
| 39   | Baffle straightener     | X14CrMoS17+QT, 1.4104+QT                |
| 46   | Blow down valve, cpl. * | X8CrNiS18-9, 1.4305                     |
| 49   | Sealing ring *          | X6CrNiTi18-10, 1.4541                   |
| 50   | Plug (M14x1,5) *        | 21CrMoV 5-7, 1.7709                     |
| 51   | Manual air vent valve * | X8CrNiS18-9, 1.4305                     |

\* Spare part

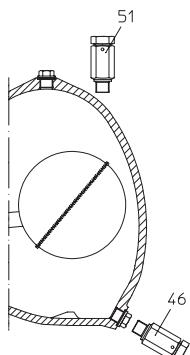
Information / restriction of technical rules need to be observed!

Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

Capacity chart



#### Options



The capacity chart shows the maximum flow rates.

**Curve 1:**

Maximum flow quantities of hot condensate.

**Curve 2:**

Maximum flow quantities of cold condensate of about 20°C.

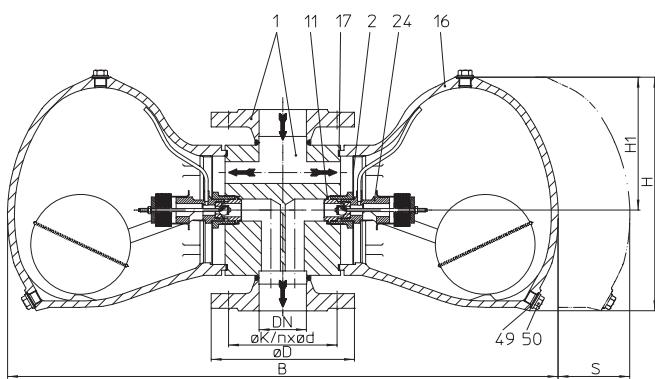
**Ball float steam trap (Forged steel/Grey cast iron, Forged steel/Cast steel , Stainless steel)**


Fig. 639....1 with flanges - vertical installation

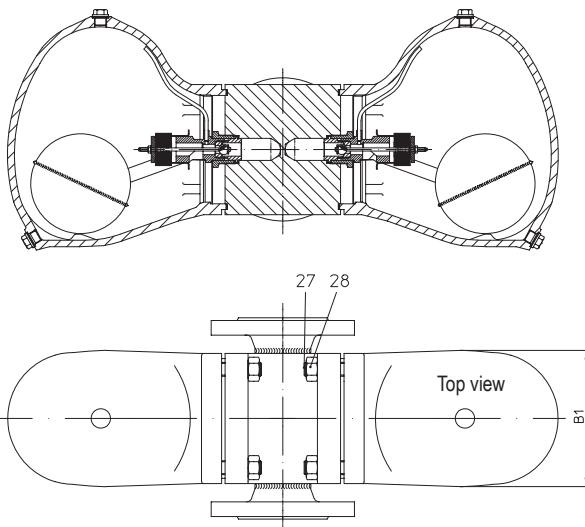


Fig. 639....1 with flanges - horizontal installation

The controller R4-P deviates in his construction from the shown controller on this side. Refer to Fig. 633 (page 10).

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems for large condensate flowrates
- Discharge of great condensate quantities even at low differential pressure
- Rapid system start-up due to thermostatic control element
- Standard installation position: - vertical
- Optional installation position: - horizontal
- Inside strainer
- Body with flanged hood
- Non return protection
- The controller maybe changed without disturbing the pipe work
- On-site change of the installation position is possible according to the operating instructions; with an existing external vent there are modified bypass parts needed due to the required installation position - please inquire.
- Options: - External vent cpl. for venting of high quantities of air during start-up and operation (standard with controller R2-S, R4-S and R4-P)

**Operating limits**

| <b>Fig. 42.639</b>            | <b>PN16<br/>Body: 1.0460 / Hood: EN-JL1040</b> |  |  |  |
|-------------------------------|--|--|--|--|
| Operating pressure PS (bar-g) | 13   |  |  |  |
| Operating temperature TS (°C) | 300  |  |  |  |

| allowable differential pressure ΔPMX (bar): | 2    | 4    | 8    | 13    |
|---|------|------|------|-------|
| for controller:                             | R2-S | R4-S | R8-S | R13-S |

| <b>Fig. 45.639</b>                          | <b>PN40<br/>Body: 1.0460 / Hood: 1.0619+N</b> |      |      |       |     |     |
|---|---|------|------|-------|-----|-----|
| Operating pressure PS (bar-g)               | 32  |      |      |       |     |     |
| Operating temperature TS (°C)               | 250   |      |      |       |     |     |
| allowable differential pressure ΔPMX (bar): | 2   | 4    | 8    | 13    | 22  | 32  |
| for controller:                             | R2-S  | R4-S | R8-S | R13-S | R22 | R32 |

| <b>Fig. 55.639</b>                          | <b>PN40<br/>Body: 1.4541 / Hood: 1.4308</b> |      |      |       |     |     |
|---|---|------|------|-------|-----|-----|
| Operating pressure PS (bar-g)               | 32  |      |      |       |     |     |
| Operating temperature TS (°C)               | 250   |      |      |       |     |     |
| allowable differential pressure ΔPMX (bar): | 2   | 4    | 8    | 13    | 22  | 32  |
| for controller:                             | R2-S  | R4-S | R8-S | R13-S | R22 | R32 |

**Types of connection**

|                                       |                              |  |  |  |  |  |
|---------------------------------------|------------------------------|--|--|--|--|--|
| Flanges ....1                         | PN16 / PN40 acc. to DIN 2501 |  |  |  |  |  |
| Other types of connection on request. |                              |  |  |  |  |  |

For ANSI versions refer to data sheet CONA®S-ANSI

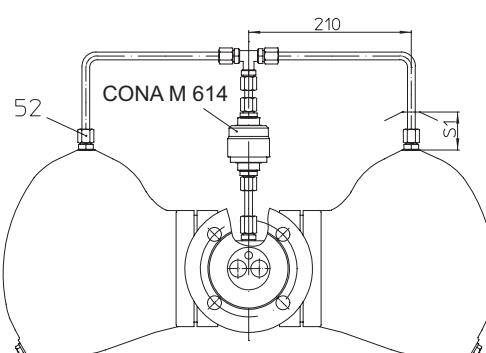


Fig. 639....1 with flanges - horizontal installation and external vent kpl.

| Dimensions<br>and Weights |                | Types of connection |             |         |          |
|---------------------------|----------------|---------------------|-------------|---------|----------|
|                           |                | Flanges             |             |         |          |
| Nominal diameter          | (mm)<br>(inch) | 50<br>2             | 65<br>2 1/2 | 80<br>3 | 100<br>4 |
| L*                        | (mm)           | 230                 | 290         | 310     | 350      |
| H                         | (mm)           | 270                 | 270         | 270     | 270      |
| H1                        | (mm)           | 151                 | 151         | 151     | 151      |
| B                         | (mm)           | 634                 | 634         | 634     | 634      |
| B1                        | (mm)           | 157                 | 157         | 157     | 157      |
| S                         | (mm)           | 300                 | 300         | 300     | 300      |
| S1                        | (mm)           | 200                 | 200         | 200     | 200      |
| Weight PN16               | (kg)           | 44,7                | 46,2        | 47,7    | 50,5     |
| Weight PN40               | (kg)           | 46                  | 48,3        | 50,5    | 55       |

Standard-flange dimensions refer to page 21.

\* Face-to-face acc. to data sheet resp. customer request

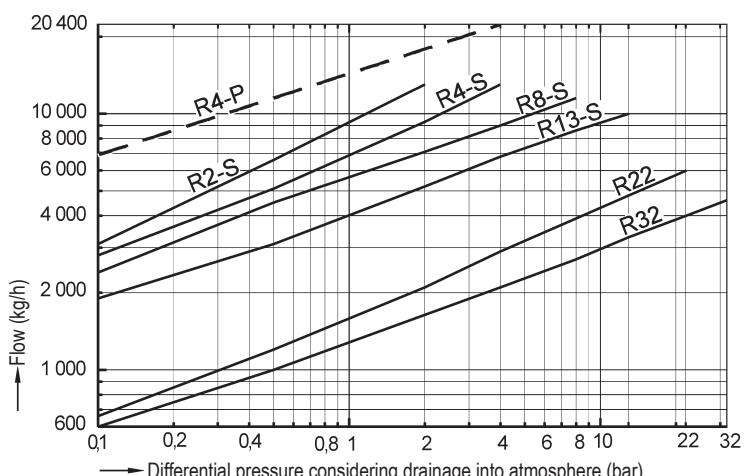
#### Parts

| Pos.         | Description                            | Fig. 42.639                             | Fig. 45.639         | Fig. 55.639           |
|--------------|--|---|---------------------|-----------------------|
| 1            | Body                                   | P250 GH, 1.0460                         |                     | X6CrNiTi18-10, 1.4541 |
| 2            | Strainer                               | X5CrNi18-10, 1.4301                     |                     |                       |
| 11           | Sealing ring *                         | A4                                      |                     |                       |
| 16           | Hood                                   | EN-GJL-250, EN-JL1040                   | GP240GH+N, 1.0619+N | GX5CrNi19-10, 1.4308  |
| 17           | Gasket                                 | Graphite (CrNi laminated with graphite) |                     |                       |
| 24           | Controller *                           | X5CrNi18-10, 1.4301 / bimetal TB102/85  |                     |                       |
| 27           | Stud                                   | C35E, 1.1181                            | 21CrMoV 5-7, 1.7709 | X6CrNiTi18-10, 1.4541 |
| 28           | Hexagonal nut                          | C35E, 1.1181                            | 21CrMoV 5-7, 1.7709 | X6CrNiTi18-10, 1.4541 |
| 46           | Blow down valve, cpl. *                | X8CrNiS18-9, 1.4305                     |                     |                       |
| 49           | Sealing ring *                         | A4                                      |                     | X6CrNiTi18-10, 1.4541 |
| 50           | Plug (M14x1,5) *                       | 21CrMoV 5-7, 1.7709                     |                     | X6CrNiTi18-10, 1.4541 |
| 51           | Manual air vent valve *                | X8CrNiS18-9, 1.4305                     |                     |                       |
| 52           | Union for pressure compensation line * | X8CrNiS18-9, 1.4305                     |                     |                       |
| * Spare part |  |   |                     |                       |

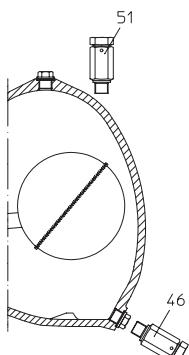
Information / restriction of technical rules need to be observed!

Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

Capacity chart



#### Options (R8-S to R32)



The capacity chart shows the maximum flow quantities of hot condensate for the different controllers and steam trap sizes

## Ball float steam trap (Steel)

- Ball float steam trap with level control for the condensate-discharge from all kinds of steam systems
- Rapid system start-up and venting of air during operation due to thermostatic air venting capsule (only at Fig.637 necessary)
- Immediate discharge of hot boiling condensate
- Standard installation position: - horizontal
- Fig. 637: straight through (inlet from right or left)  
Fig. 638: Angle pattern design (inlet from the top)
- Capacity: 74 litres
- Drain plug
- Support points
- Simple exchange of controller.
- Options: - pre-assembled welding neck flanges to the inlet and outlet (standard on DN50)

### Operating limits

| Fig. 85.637 / 85.638                        | PN40<br>Body: P265GH / Cover: P355NH |     |     |     |
|---|--------------------------------------|-----|-----|-----|
| Operating pressure PS (bar-g)               | 40                                   | 29  | 25  | 22  |
| Operating temperature TS (°C)               | 120                                  | 250 | 300 | 350 |
| allowable differential pressure ΔPMX (bar): | 4                                    | 14  | 23  | 30  |
| for controller:                             | R4                                   | R14 | R23 | R30 |

### Types of connection

|               |                       |
|---------------|-----------------------|
| Flanges ....1 | PN40 acc. to DIN 2501 |
|---------------|-----------------------|

Other types of connection on request  
(possibly note different operating limits).

For ANSI versions refer to data sheet CONA®S-ANSI

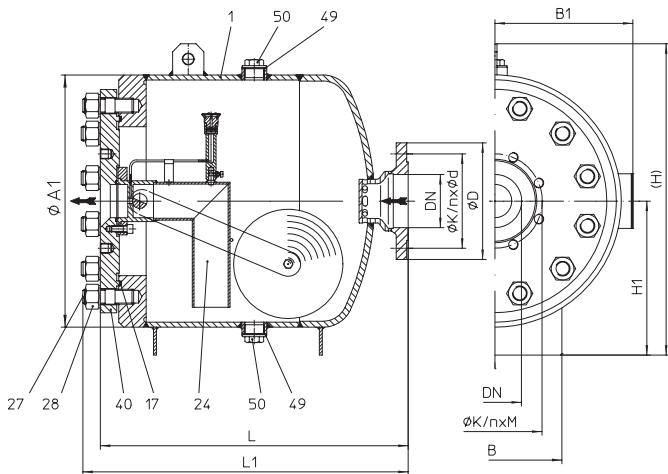


Fig. 637....1 with flanges -

**Construction DN65-100**

DN50: Connecting flange at the outlet  
(refer to page 15)

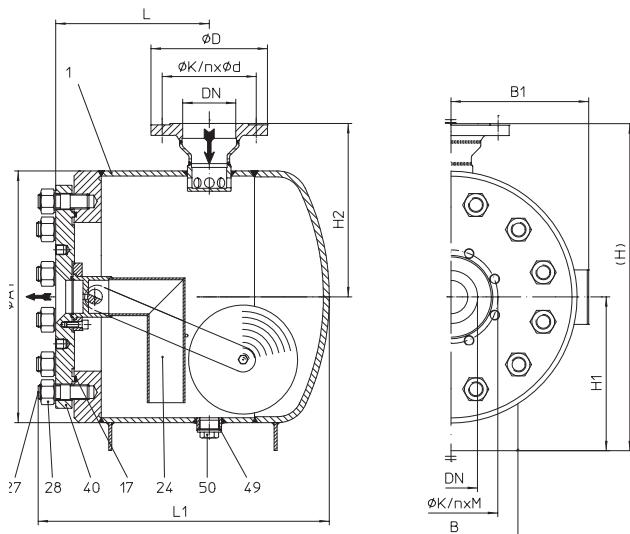


Fig. 638....1 Angle pattern design with flanges -

**Construction DN65-100**

DN50: Connecting flange at the outlet  
(refer to page 15)

| Dimensions<br>and Weights |                | Types of connection    |               |               |               |                                 |               |               |               |
|---------------------------|----------------|------------------------|---------------|---------------|---------------|---------------------------------|---------------|---------------|---------------|
|                           |                | Fig. 637 (Straightway) |               |               |               | Fig. 638 (Angle pattern design) |               |               |               |
| Nominal diameter          | (mm)<br>(inch) | 50<br>2                | 65<br>2 1/2   | 80<br>3       | 100<br>4      | 50<br>2                         | 65<br>2 1/2   | 80<br>3       | 100<br>4      |
| L                         | (mm)           | 750                    | 620           | 620           | 620           | 445                             | 310           | 310           | 310           |
| L1                        | (mm)           | 656                    | 656           | 656           | 656           | 588                             | 588           | 588           | 588           |
| H                         | (mm)           | 627                    | 627           | 627           | 627           | 660                             | 660           | 660           | 660           |
| H1                        | (mm)           | 310                    | 310           | 310           | 310           | 310                             | 310           | 310           | 310           |
| H2                        | (mm)           | --                     | --            | --            | --            | 350                             | 350           | 350           | 350           |
| B                         | (mm)           | 270                    | 270           | 270           | 270           | 270                             | 270           | 270           | 270           |
| B1                        | (mm)           | 280                    | 280           | 280           | 280           | 280                             | 280           | 280           | 280           |
| Ø A1                      | (mm)           | 508                    | 508           | 508           | 508           | 508                             | 508           | 508           | 508           |
| Ø K / n x M               | (mm)           | *                      | 145 / 8 x M16 | 160 / 8 x M16 | 190 / 8 x M20 | *                               | 145 / 8 x M16 | 160 / 8 x M16 | 190 / 8 x M20 |
| Ø K / n x d               | (mm)           | 125 / 4 x 18           | 145 / 8 x 18  | 160 / 8 x 18  | 190 / 8 x 22  | 125 / 4 x 18                    | 145 / 8 x 18  | 160 / 8 x 18  | 190 / 8 x 22  |
| Weight approx.            | (kg)           | 201                    | 194           | 195           | 197           | 201                             | 194           | 195           | 197           |

\* on DN50 connecting flange at the outlet standard (refer to bottom)

Face-to-face acc. to data sheet resp. customer request

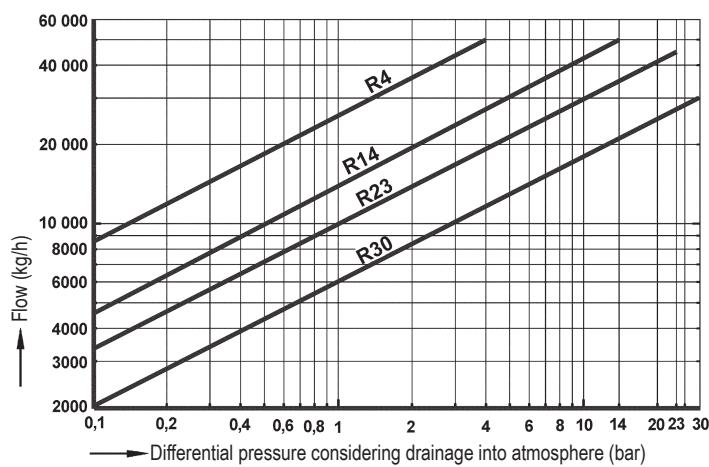
#### Parts

| Pos.         | Description                   | Fig. 85.637 / 85.638                    |
|--------------|-------------------------------|---|
| 1            | Body                          | P265 GH, 1.0425                         |
| 17           | Gasket *                      | Graphite (CrNi laminated with graphite) |
| 24           | Controller *                  | X5CrNi18-10, 1.4301 / bimetal TB102/85  |
| 27           | Stud                          | 21CrMoV 5-7, 1.7709                     |
| 28           | Hexagonal nut                 | 21CrMoV 5-7, 1.7709                     |
| 40           | Cover                         | P355NH, 1.0565                          |
| 49           | Gasket *                      | Graphite                                |
| 50           | Plug / Screw plug (G1 1/4") * | P250 GH, 1.0460                         |
| 59           | Gasket *                      | Graphite (CrNi laminated with graphite) |
| * Spare part |                               |   |

Information / restriction of technical rules need to be observed!

Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

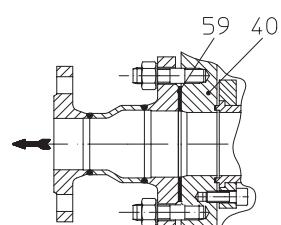
#### Capacity chart



The capacity chart shows the maximum flow quantities of hot condensate for the different controllers and steam trap sizes

#### Design of outlet connecting flange on DN50

| Nominal diameter |        | Dimension and material for the studs and hexagon nuts for the connecting flange to the pipe flange (Pos. 40) |               |
|------------------|--------|--|---------------|
| (mm)             | (inch) | Stud   | Hexagonal nut |
| 65               | 2 1/2  | DIN 939 - 1.7709<br>M16 x 55   | NF M16        |
| 80               | 3      | M16 x 55   | NF M16        |
| 100              | 4      | M20 x 55   | NF M20        |



Design of outlet connecting flange on DN50

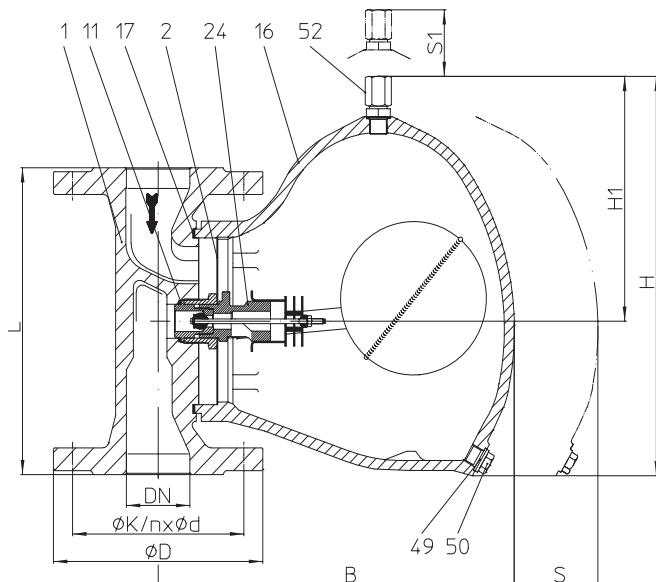
**Ball float steam trap (Grey cast iron, SG iron, Forged steel /Cast steel, Stainless steel)**


Fig. 630....1 with flanges - vertical installation

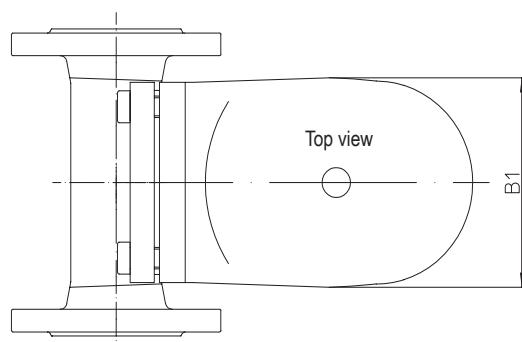
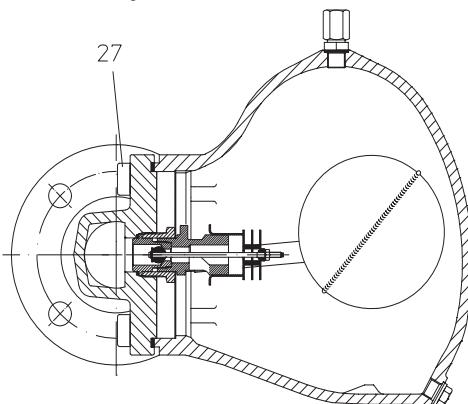


Fig. 630....1 with flanges - horizontal installation

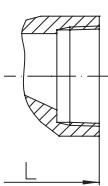
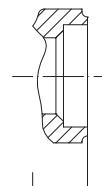

Fig. 630....2  
with screwed sockets

Fig. 630....3  
with socket weld ends

Fig. 630....4  
with butt weld ends

- Ball float steam trap with level control for the condensate-discharge from compressed air and gas systems (acc. to PED 97/23/EG fluid group 2, other fluid groups on request)

- Standard installation position: - vertical
- Optional installation position: - horizontal with inlet from right or left (Please indicate when ordering).
- Inside strainer
- Body with flanged hood
- Non return protection
- Union (Pos. 52) for pressure compession line
- The controller maybe changed without disturbing the pipe work
- On-site change of the installation position is possible according to the operating instructions
- Options: - Air vent - (Pos. 51) or blow down valve (Pos. 46), manual operated

**Operating limits**

| <b>Fig. 12.630</b>            | <b>PN16 Body/Hood: EN-JL1040</b> |  |     |  |
|-------------------------------|----------------------------------|--|-----|--|
| Operating pressure PS (bar-g) | 12,8                             |  | 9,6 |  |
| Operating temperature TS (°C) | 200                              |  | 300 |  |

|   |    |    |    |     |
|---|----|----|----|-----|
| allowable differential pressure ΔPMX (bar): | 2  | 4  | 8  | 13  |
| for controller:                             | R2 | R4 | R8 | R13 |

| <b>Fig. 25.630</b>                          | <b>PN40 Body/Hood: EN-JS1049</b> |    |     |     |     |     |
|---|----------------------------------|----|-----|-----|-----|-----|
| Operating pressure PS (bar-g)               | 32                               |    | 22  |     |     |     |
| Operating temperature TS (°C)               | 250                              |    | 350 |     |     |     |
| allowable differential pressure ΔPMX (bar): | 2                                | 4  | 8   | 13  | 22  | 32  |
| for controller:                             | R2                               | R4 | R8  | R13 | R22 | R32 |

| <b>Fig. 45.630</b>            | <b>PN40 Body: 1.0460 / Hood: 1.0619+N</b> |  |     |  |  |  |
|-------------------------------|---|--|-----|--|--|--|
| Operating pressure PS (bar-g) | 32  |  | 21  |  |  |  |
| Operating temperature TS (°C) | 250                                       |  | 400 |  |  |  |

|   |    |    |    |     |     |     |
|---|----|----|----|-----|-----|-----|
| allowable differential pressure ΔPMX (bar): | 2  | 4  | 8  | 13  | 22  | 32  |
| for controller:                             | R2 | R4 | R8 | R13 | R22 | R32 |

| <b>Fig. 55.630</b>                          | <b>PN40 Body: 1.4541 / Hood: 1.4308</b> |    |     |     |     |     |
|---|---|----|-----|-----|-----|-----|
| Operating pressure PS (bar-g)               | 32                                      |    | 28  |     |     |     |
| Operating temperature TS (°C)               | 250                                     |    | 300 |     |     |     |
| allowable differential pressure ΔPMX (bar): | 2                                       | 4  | 8   | 13  | 22  | 32  |
| for controller:                             | R2                                      | R4 | R8  | R13 | R22 | R32 |

**Types of connection**

|                        |   |  |  |  |  |  |
|------------------------|---|--|--|--|--|--|
| Flanges ....1          | PN16 / PN40 acc. to DIN 2501              |  |  |  |  |  |
| Screwed sockets ....2  | Rp- and NPT-thread acc. to DIN EN 10226-1 |  |  |  |  |  |
| Socket weld ends ....3 | acc. to DIN EN 12760                      |  |  |  |  |  |
| Butt weld ends ....4   | acc. to DIN EN 12627                      |  |  |  |  |  |

Other types of connection on request.

For ANSI versions refer to data sheet CONA®S-ANSI

| Dimensions<br>and Weights |                | Types of connection |           |         |             |         |   |           |         |                   |                                     |                              |           |         |             |         |
|---------------------------|----------------|---------------------|-----------|---------|-------------|---------|---|-----------|---------|-------------------|-------------------------------------|------------------------------|-----------|---------|-------------|---------|
|                           |                | Flanges             |           |         |             |         | Screwed sockets <sup>1)</sup><br>Socket weld ends <sup>2)</sup> |           |         |                   |                                     | Butt weld ends <sup>2)</sup> |           |         |             |         |
| Nominal diameter          | (mm)<br>(inch) | 15<br>1/2           | 20<br>3/4 | 25<br>1 | 40<br>1 1/2 | 50<br>2 | 15<br>1/2   | 20<br>3/4 | 25<br>1 | 40<br>1 1/2       | 50 <sup>1)</sup><br>2 <sup>1)</sup> | 15<br>1/2                    | 20<br>3/4 | 25<br>1 | 40<br>1 1/2 | 50<br>2 |
| L*                        | (mm)           | 150                 | 150       | 160     | 230         | 230     | 150   | 150       | 160     | 210 <sup>3)</sup> | 210                                 | 160                          | 160       | 160     | 250         | 250     |
| H                         | (mm)           | 188                 | 188       | 213     | 296         | 296     | 188   | 188       | 213     | 296               | 296                                 | 188                          | 188       | 213     | 296         | 296     |
| H1                        | (mm)           | 111                 | 111       | 128     | 177         | 177     | 111   | 111       | 128     | 177               | 177                                 | 111                          | 111       | 128     | 177         | 177     |
| B (EN-JS1049)             | (mm)           | 214                 | 214       | 255     | 280         | 280     | 214   | 214       | 255     | 280               | --                                  | -                            | --        | --      | --          | --      |
| B (steel)                 | (mm)           | 214                 | 214       | 255     | 280         | 280     | 167   | 167       | 196     | 285               | 285                                 | 167                          | 167       | 196     | 285         | 285     |
| B1                        | (mm)           | 95                  | 95        | 118     | 157         | 157     | 95  | 95        | 118     | 157               | 157                                 | 95                           | 95        | 118     | 157         | 157     |
| S                         | (mm)           | 180                 | 180       | 200     | 300         | 300     | 180   | 180       | 200     | 300               | 300                                 | 180                          | 180       | 200     | 300         | 300     |
| S1                        | (mm)           | 150                 | 150       | 180     | 200         | 200     | 150   | 150       | 180     | 200               | 200                                 | 150                          | 150       | 180     | 200         | 200     |
| Weight approx.            | (kg)           | 7,9                 | 8,1       | 10,9    | 24,7        | 25,3    | 7,3   | 7,3       | 8,5     | 20                | 20,5                                | 6,9                          | 7,9       | 9       | 21          | 22      |

\* Face-to-face acc. to data sheet resp. customer request

<sup>1)</sup> DN50 (2") not for EN-JL/JS

<sup>2)</sup> not for EN-JL/JS

<sup>3)</sup> EN-JS: L = 230 mm

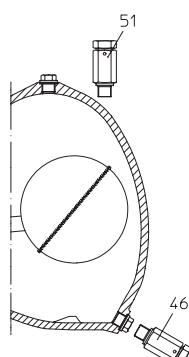
#### Parts

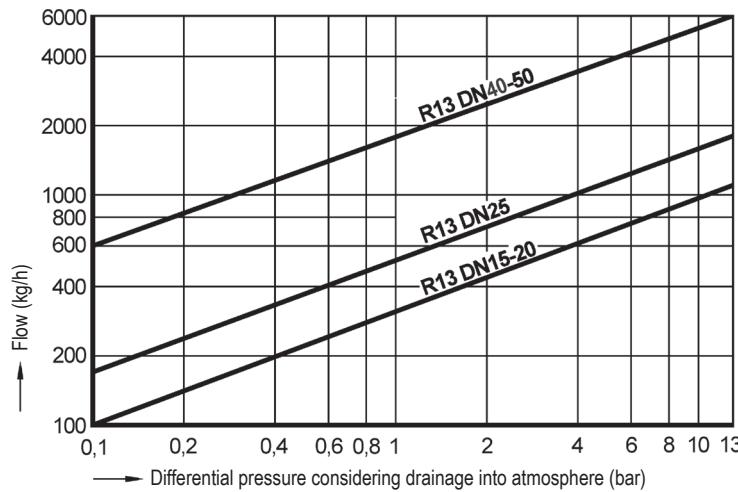
| Pos.         | Description                            | Fig. 12.630                               | Fig. 25.630                     | Fig. 45.630              | Fig. 55.630           |
|--------------|--|---|---------------------------------|--------------------------|-----------------------|
| 1            | Body                                   | EN-GJL-250, EN-JL1040                     | EN-GJS-400-18U-LT,<br>EN-JS1049 | P250 GH, 1.0460          | X6CrNiTi18-10, 1.4541 |
| 2            | Strainer                               | X5CrNi18-10, 1.4301                       |                                 |                          |                       |
| 11           | Sealing ring *                         | R-Cu99                                    | X6CrNiTi18-10, 1.4541           |                          |                       |
| 16           | Hood                                   | EN-GJL-250, EN-JL1040                     | EN-GJS-400-18U-LT,<br>EN-JS1049 | GP240GH+N, 1.0619+N      | GX5CrNi19-10, 1.4308  |
| 17           | Gasket *                               | Graphite (CrNi laminated with graphite)   |                                 |                          |                       |
| 24           | Controller *                           | TB 102 / 85 (corrosion resistant bimetal) |                                 |                          |                       |
| 27           | Cheese head screw                      | X6CrNiTi18-10, 1.4541 /<br>8.8            | 21CrMoV 5-7, 1.7709             | 21CrMoV 5-7, 1.7709      | X6CrNiTi18-10, 1.4541 |
| 46           | Blow down valve, cpl. *                | X8CrNiS18-9, 1.4305                       |                                 |                          |                       |
| 49           | Sealing ring *                         | R-Cu99                                    | X6CrNiTi18-10, 1.4541           |                          |                       |
| 50           | Plug (M14x1,5) *                       | C35E, 1.1181                              | 21CrMoV 5-7, 1.7709             |                          | X6CrNiTi18-10, 1.4541 |
| 51           | Manual air vent valve *                | X8CrNiS18-9, 1.4305                       |                                 | X14CrMoS17+QT, 1.4104+QT |                       |
| 52           | Union for pressure compensation line * | X8CrNiS18-9, 1.4305                       |                                 | X14CrMoS17+QT, 1.4104+QT |                       |
| * Spare part |  |   |                                 |                          |                       |

Information / restriction of technical rules need to be observed!

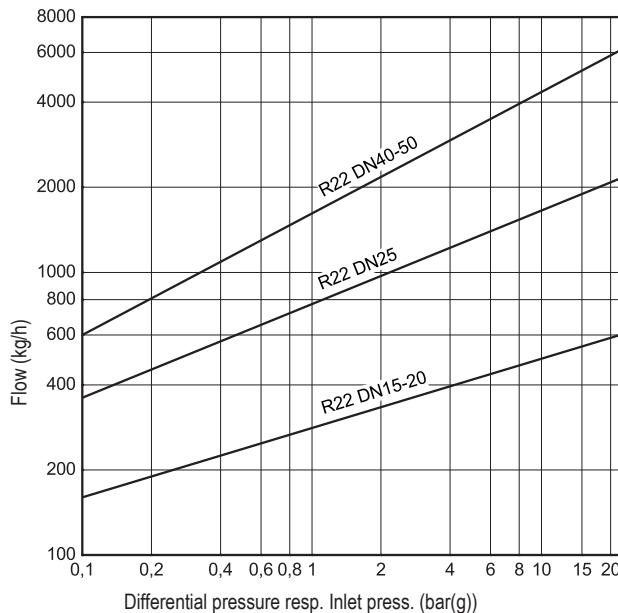
Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

#### Options

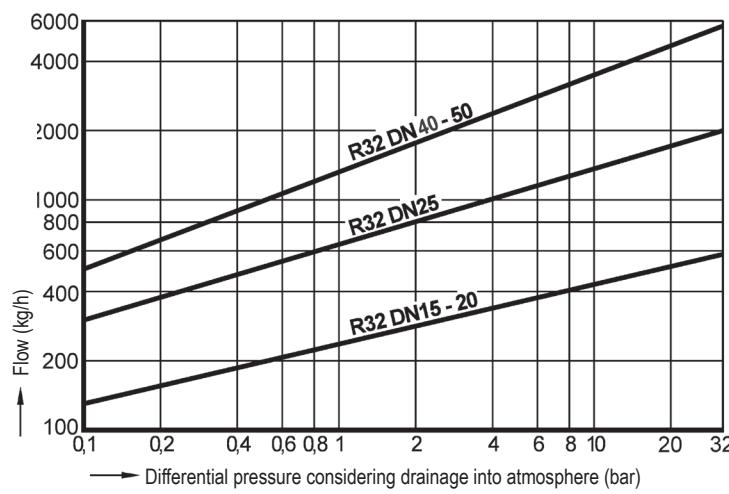


**Capacity chart**
**PN16**
**Standard R13**
**DN15 - DN50**


To determine the drainage quantity of cold water at about 20°C from compressed air and gas systems.

**Capacity chart**
**PN40**
**Standard R22**
**DN15 - DN50**


To determine the drainage quantity of cold water at about 20°C from compressed air and gas systems.

**Capacity chart**
**PN40**
**Standard R32**
**DN15 - DN50**


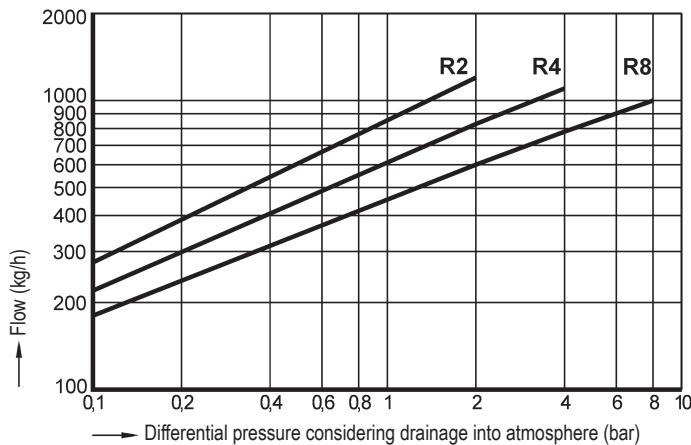
To determine the drainage quantity of cold water at about 20°C from compressed air and gas systems.

**Capacity chart**

PN16 - PN40

Special execut. R2, R4, R8

DN 15 - DN 20



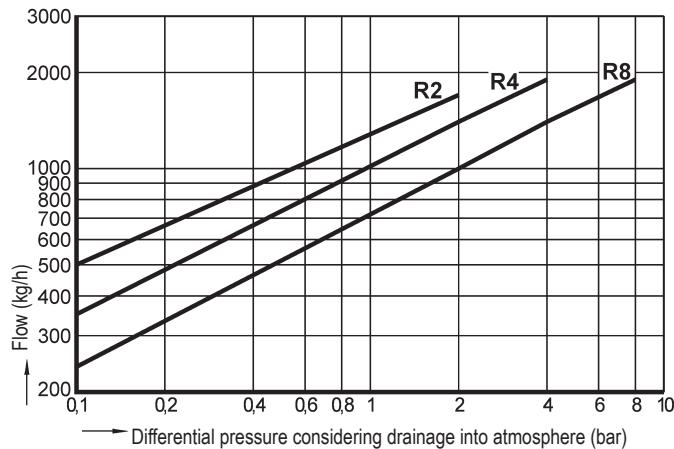
To determine the drainage quantity of cold water at about 20°C from compressed air and gas systems.

**Capacity chart**

PN16 - PN40

Special execut. R2, R4, R8

DN 25



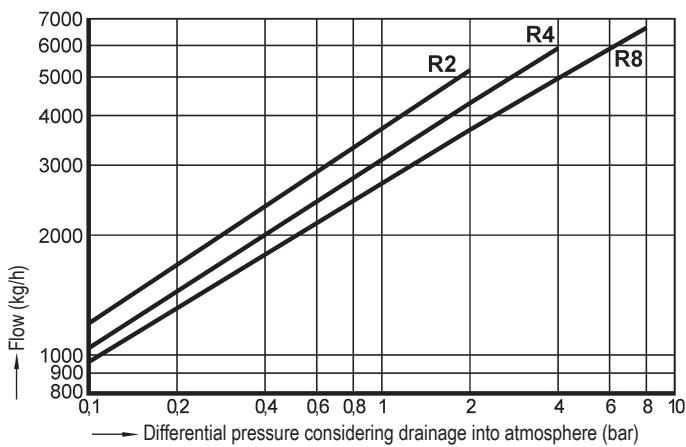
To determine the drainage quantity of cold water at about 20°C from compressed air and gas systems.

**Capacity chart**

PN16 - PN40

Special execut. R2, R4, R8

DN 40 - DN 50



To determine the drainage quantity of cold water at about 20°C from compressed air and gas systems.

### Informations about pipe welding

#### Welding groove acc. to DIN 2559

The material used for ARI valves with butt weld ends are:

|          |                                    |
|----------|------------------------------------|
| 1.0619+N | GP240GH+N acc. to DIN EN 10213-2   |
| 1.0460   | P250GH acc. to DIN EN 10222-2      |
| 1.5415   | 16Mo3 acc. to DIN EN 10028         |
| 1.4541   | X6CrNiTi18-10 acc. to DIN EN 10088 |
| 1.7335   | 13CrMo4-5 acc. to DIN EN 10028     |

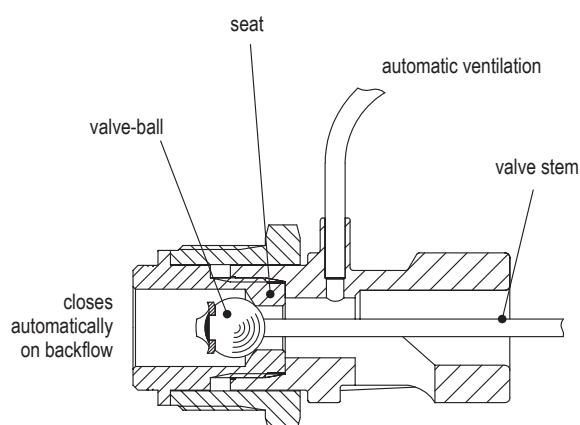
Due to our experience, we recommend to apply an electric welding process.

Because of the different material compositions and wall thickness of the steam traps and the pipe gas welding shall not be applied. Quenching cracks and coarse grain structure may develop.

Steam traps with socket-weld ends shall only be welded by arc welding (welding process 111 acc. to DIN EN 24063).

If during the time of warranty others than the manufacturer or by the manufacturer authorized persons are interfering in the product and/or the setting, the right of claim for warranty will lapse!

### Integrated non return protection

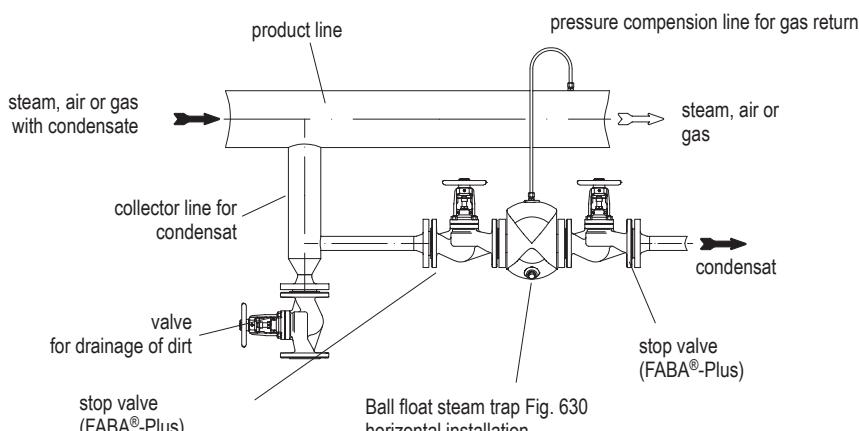


The integrated non return protection acts as a check valve (except BR633 and BR639 R4-P, R2-S, R4-S).

In case of parallel installed heat exchangers or heater batteries the non return protection prevents a shut down heat-exchanger from flooding with condensate from the downstream side and reverse heating up.

A check valve which otherwise has to be installed is not necessary.

### Installation with pressure compensation line



#### Important:

The installation of a pressure compensation line for gas return is always recommended; especially if the ball float steam trap is installed horizontally.

### Selection criteria:

- Steam pressure
- Back pressure
- Quantity of condensate
- Flow medium
- Nominal diameter / pressure
- Type of connection
- Material
- Place of service or kind of steam consumer

Other installation positions than standard (vertical) have to be indicated together with the information about the flow direction i.e. inlet from left or right

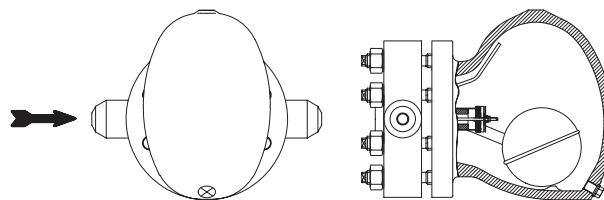
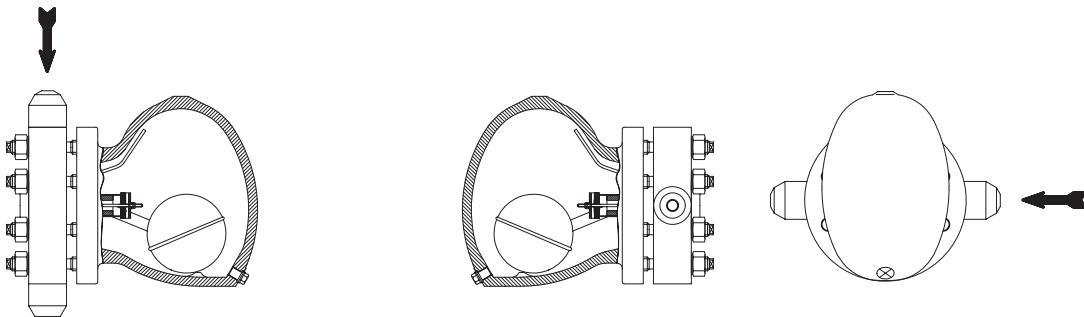
### Example for order data:

=> Ball float steam trap CONA® S,  
Fig. 630, PN40, DN50, 1.0460/1.0619+N, Controller R22, with flanges, Face-to-face dimension 230 mm

|  |
|--|
| Dimensions in mm resp. inch                        |
| Weights in kg                                      |
| 1 bar $\Delta$ 10 <sup>5</sup> Pa $\Delta$ 0,1 MPa |
| Kvs in m <sup>3</sup> /h                           |
| 1 bar $\Delta$ 14,5 psi                            |
| 1 inch $\Delta$ 25,4 mm                            |

**Standard-flange dimensions**
**Flanges according to DIN 2501**

| DN    |        | (mm) | 15     | 20     | 25     | 32     | 40     | 50     | 65     | 80     | 100    |
|-------|--------|------|--------|--------|--------|--------|--------|--------|--------|--------|--------|
| PN16  | ØD     | (mm) | 95     | 105    | 115    | 140    | 150    | 165    | 185    | 200    | 220    |
| PN16  | ØK     | (mm) | 65     | 75     | 85     | 100    | 110    | 125    | 145    | 160    | 180    |
| PN16  | n x Ød | (mm) | 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 |
| PN25  | ØD     | (mm) | --     | --     | --     | --     | --     | --     | 185    | 200    | 235    |
| PN25  | ØK     | (mm) | --     | --     | --     | --     | --     | --     | 145    | 160    | 190    |
| PN25  | n x Ød | (mm) | --     | --     | --     | --     | --     | --     | 8 x 18 | 8 x 18 | 8 x 18 |
| PN40  | ØD     | (mm) | 95     | 105    | 115    | 140    | 150    | 165    | 185    | 200    | 235    |
| PN40  | ØK     | (mm) | 65     | 75     | 85     | 100    | 110    | 125    | 145    | 160    | 190    |
| PN40  | n x Ød | (mm) | 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 |
| PN63  | ØD     | (mm) | 105    | --     | 140    | --     | 170    | 180    | --     | --     | --     |
| PN63  | ØK     | (mm) | 75     | --     | 100    | --     | 125    | 135    | --     | --     | --     |
| PN63  | n x Ød | (mm) | 4 x 14 | --     | 4 x 18 | --     | 4 x 22 | 4 x 22 | --     | --     | --     |
| PN100 | ØD     | (mm) | 105    | --     | 140    | --     | 170    | 195    | --     | --     | --     |
| PN100 | ØK     | (mm) | 75     | --     | 100    | --     | 125    | 145    | --     | --     | --     |
| PN100 | n x Ød | (mm) | 4 x 14 | --     | 4 x 18 | --     | 4 x 22 | 4 x 26 | --     | --     | --     |
| PN160 | ØD     | (mm) | 130    | --     | 150    | --     | --     | 195    | --     | --     | --     |
| PN160 | ØK     | (mm) | 75     | --     | 100    | --     | --     | 4 x 26 | --     | --     | --     |
| PN160 | n x Ød | (mm) | 4 x 14 | --     | 4 x 18 | --     | --     | 4 x 26 | --     | --     | --     |

**Information about the different installation positions (shown at Fig. 631)**

**Horizontal installation - inlet from the left side (ZL)**

**Vertical installation (standard)**
**Horizontal installation – inlet from the right side (ZR)**
**Installation (see picture)**

The ball float steam traps can be installed either in vertical (standard) or horizontal position. In case of horizontal installation please indicate whether the inlet is from the left or right side.

The steam trap can also be converted on site to match the different installation positions. Please observe the appropriate operating manuals.

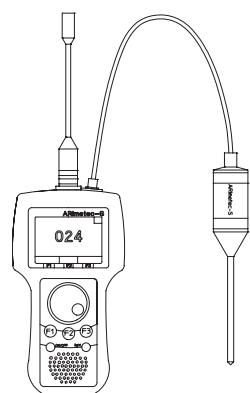
The steam trap must be fitted with the direction of flow as indicated by the arrow on the body.

A clearance of 300 mm for the removal of the hood shall be provided.

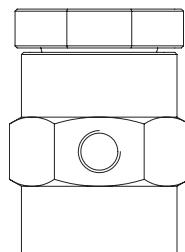
The steam trap shall preferably be installed at the lowest point of the system and the membrane capsule resp. the bleeding tube shall be installed in an upright position inside of the hood.

**For the modification of the installation position observe the operating manual.**

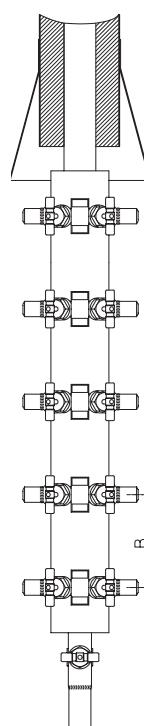
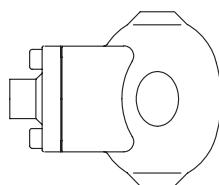
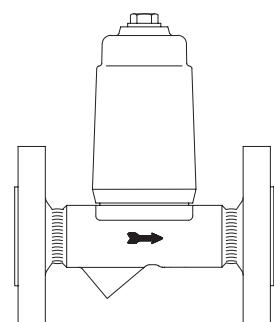
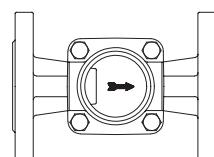
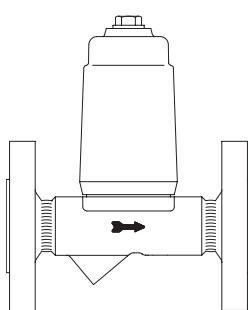
A modification of the installation position during the time of warranty shall be carried out by the AWH-Service or it shall be agreed between the customer and manufacturer.



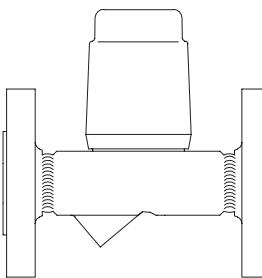
Multifunction tester ARImetec®-S



Vacuum breaker Fig. 655


Condensate collection ( $B = 160$ ), steam distribution ( $B = 120$ )  
CODI®S with gland packing Fig. 671/672;  
CODI®B with bellows seal, maintenance-free Fig. 675/676

Automatic air vent for liquid systems  
Fig. 656

Condensate discharge temperature limiter  
Fig. 645/647

Flow indicator  
Fig. 660/661


Return temperature limiter Fig. 650



Liquid drainer Fig. 665

(Further informations about the accessories can be found in the appropriate data sheets.)