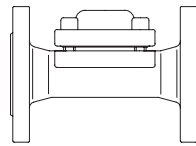


Thermostatic steam trap

**Thermostatic steam trap
PN16**

- with flanges (Fig. 610....1)
- union with butt weld ends (Fig. 610....5)



Grey cast iron
Fig. 610

Page 2

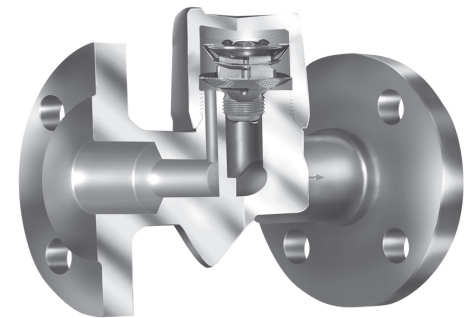
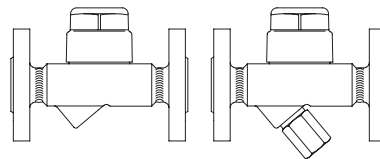


Fig. 610....1

**Thermostatic steam trap
PN40**

- with flanges (Fig. 610/612....1)
- with screwed sockets (Fig. 610/612....2)
- with socket weld ends (Fig. 610/612....3)
- with butt weld ends (Fig. 610/612....4)

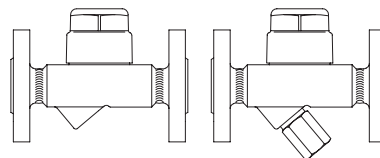


Forged steel
Stainless steel
Fig. 610/612 (Y)

Page 4

**Thermostatic steam trap
With seat for higher flow capacity than
Fig. 610/612
PN40**

- with flanges (Fig. 611/613....1)
- with screwed sockets (Fig. 611/613....2)
- with socket weld ends (Fig. 611/613....3)
- with butt weld ends (Fig. 611/613....4)

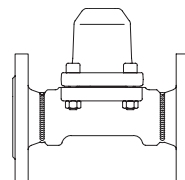


Forged steel
High temperature steel
Stainless steel
Fig. 611/613 (Y)

Page 6

**Thermostatic steam trap
pilot operated / with multi capsule
for very high flow capacity
PN16 / PN40**

- with flanges (Fig. 616....1)
- with screwed sockets (Fig. 616....2)
- with socket weld ends (Fig. 616....3)
- with butt weld ends (Fig. 616....4)

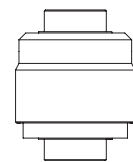


Grey cast iron
Forged steel
Fig. 616

Page
8 + 10

**Thermostatic steam trap
PN16 / PN40**

- with screwed sockets (Fig. 614....2)
- union with butt weld ends (Fig. 614....5)
- with screwed male / screwed socket (Fig. 614....9)
- for clamp connection (Fig. 614....a)
- with screwed sockets (Fig. 615....2)
- for clamp connection (Fig. 615....a)

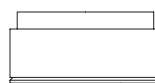


Stainless steel
Fig. 614/615

Page
12 + 14

**Thermostatic steam trap
PN40**

- Wafer pattern flange (Fig. 619....6)

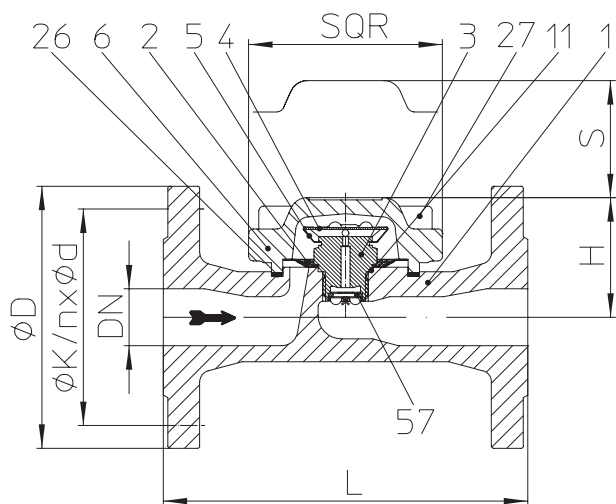


Stainless steel
Fig. 619

Page 15

Features:

- For discharging of slight to highly sub-cooled condensate
- Automatic air-venting during start up and operation of the plant
- High sensitivity
- Exact control characteristic
- Robust and resistant to water-hammer
- Integrated non return protection (Fig. 610/612; 611/613 (not at controller R5))
- Constructions:
 - With inside strainer
 - with outside strainer - Fig. 612 / 613 (Y)
- Optimized design for quick installation (except Fig. 610 PN16, Fig. 616)
- Gasket-free sealing of the screwed cap (PN40, DN15-25)
- Installation in any position (except cover/screwed cap downwards)
- Available types of capsule (sub-cooling from 5K to 40K)

Thermostatic steam trap (Grey cast iron)


- Thermostatic steam trap with noncorrosive and robust water hammer proofed capsule
- Non return protection (not at controller R5)
- With inside strainer
- Installation in any position
- Available capsules:
 - Capsule No. 1 - for condensate discharge at boiling temperature - applicable up to 5 bar inlet pressure
 - Capsule No. 2 - for condensate sub-cooling about approx. 10K (Standard)
 - Capsule No. 3 - for condensate sub-cooling about approx. 30K
 - Capsule No. 4 - for condensate sub-cooling about approx. 40K, especially suitable for tracing systems with low and medium pressure steam

Operating limits

| Fig. 12.610 | PN16 - EN-JL1040 | |
|--|------------------|-----|
| Operating pressure PS (barg) | 12,8 | 9,6 |
| Operating temperature TS (°C) | 200 | 300 |
| allowable differential pressure ΔPMX (bar) | 13 | 5 |
| for controller | R13 | R5 |

Types of connection

| | |
|---------------------------------|---|
| Flanges1 | PN16 acc. to DIN 2501 |
| Union with butt weld ends5 | acc. to data sheet resp. customer request |

Fig. 610....1 with flanges (only DN25)

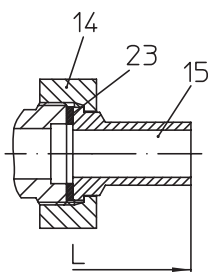


Fig. 610....5 union with butt weld ends

| Dimensions and weights | | Types of connection | | |
|------------------------|----------------|---------------------|---------------------------|-----------|
| | | Flanges | Union with butt weld ends | |
| Nominal diameter | (mm) (inch) | 25 1 | 15 1/2 | 20 3/4 |
| L * | (mm) | 160 | 190 | 190 |
| H | (mm) | 55 | 55 | 55 |
| S | (mm) | 25 | 25 | 25 |
| SQR | (mm) | 85 | 85 | 85 |
| Weight approx. | (kg) | 4,5 | 2,3 | 2,1 |

Standard-flange dimensions refer to page 17.

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

Parts

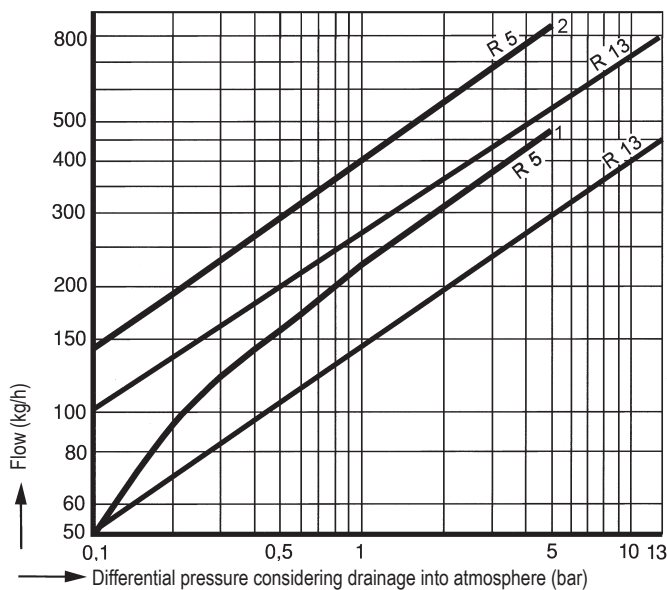
| Pos. | Description | Fig. 12.610 |
|------|---------------------------------|---|
| 1 | Body | EN-GJL-250, EN-JL1040 |
| 2 | Strainer * | X5CrNi18-10, 1.4301 |
| 3 | Seat * | X8CrNiS18-9, 1.4305 |
| 4 | Capsule (Diaphragm / Capsule) * | Hastelloy / X5CrNi18-10, 1.4301 |
| 5 | Spring actuated clip * | X10CrNi18-8, 1.4310 |
| 6 | Cover | EN-GJL-250, EN-JL1040 |
| 11 | Sealing ring * | R-Cu99 or X6CrNiTi18-10, 1.4541 |
| 14 | Union nut | X14CrMoS17+QT, 1.4104+QT |
| 15 | Welding end | C 15, 1.0401 |
| 23 | Sealing ring * | Graphite (CrNi laminated with graphite) |
| 26 | Sealing ring * | Graphite (CrNi laminated with graphite) |
| 27 | Cheese head screw | A2-70 |
| 57 | Non return protection | X5CrNi18-10, 1.4301 |

* 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 rates for controller.

Curve 1:
Maximum flow of hot condensate for capsule No. 1, 2, 3 and 4.

Curve 2:
Maximum flow at cold condensate at about 20°C.

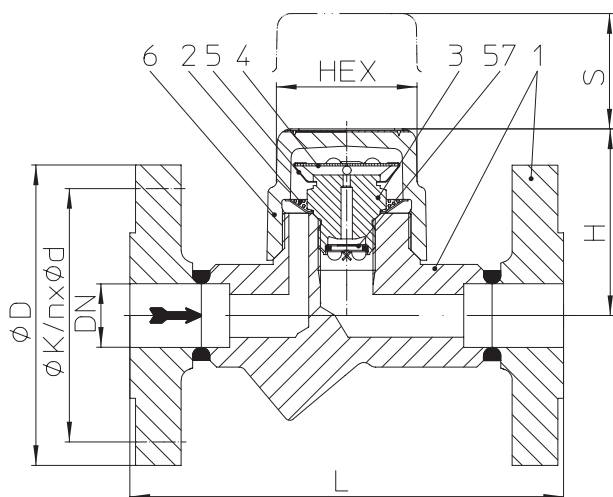
Thermostatic steam trap (Forged steel, Stainless steel)


Fig. 610....1 with flanges

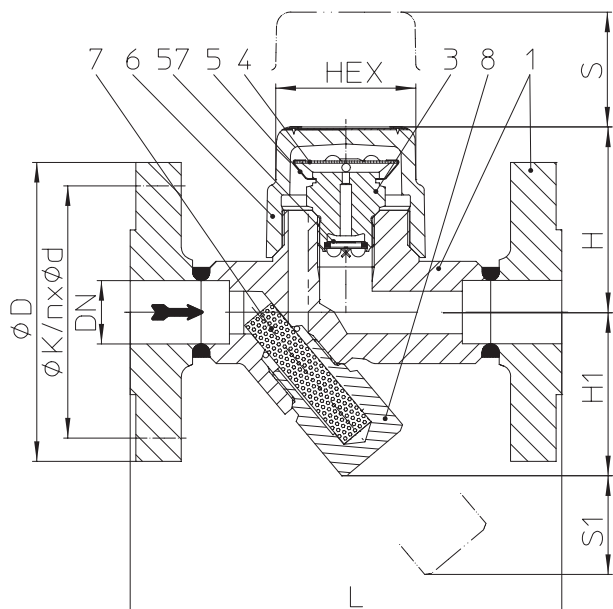
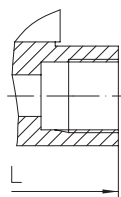
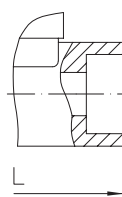
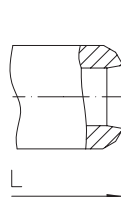


Fig. 612....1 with flanges


 Fig. 610/612....2
 with screwed sockets

 Fig. 610/612....3
 with socket weld ends

 Fig. 610/612....4
 with butt weld ends

- Thermostatic steam trap with noncorrosive and robust water hammer proofed capsule
- Non return protection (not at controller R5)
- with internal strainer - Fig. 610
with outside strainer - Fig. 612 (Y)
- Installation in any position, optimal filter effect at horizontal installation
- Optimized design for quick installation
- Maintenance simplified due to screwed cap without sealing
- Available capsules:
 - Capsule No. 1 - for condensate discharge at boiling temperature - applicable up to 5 bar inlet pressure
 - Capsule No. 2 - for condensate sub-cooling about approx. 10K (Standard)
 - Capsule No. 3 - for condensate sub-cooling about approx. 30K
 - Capsule No. 4 - for condensate sub-cooling about approx. 40K - applicable up to 16 bar inlet pressure, especially suitable for tracing systems with low and medium pressure steam
- Options:
 - Outside strainer with blow down valve (Pos. 46)
 - Ball valve for blow down (pos. 56) with internal strainer (Observe operating and installation instructions!)

Operating limits

| Fig. 45.610 / 45.612 | PN40 - 1.0460 | |
|---|---------------|------|
| Operating pressure PS (barg) | 22 | 14,5 |
| Operating temperature TS (°C) | 385 | 450 |
| allowable differential pressure ΔPMX (bar): | 22 | 5 |
| for controller: | R22 | R5 |
| Fig. 55.610 / 55.612 | PN40 - 1.4541 | |
| Operating pressure PS (barg) | 22 | |
| Operating temperature TS (°C) | 400 | |
| allowable differential pressure ΔPMX (bar): | 22 | 5 |
| for controller: | R22 | R5 |

Types of connection

| | |
|------------------------|---|
| Flanges1 | PN40 acc. to DIN 2501 |
| Screwed sockets2 | Rp- and NPT-thread acc. to DIN EN 10226-1 |
| Socket weld ends3 | acc. to DIN EN 12760 |
| Butt weld ends4 | acc. to DIN EN 12627 |

Other types of connection on request.

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

| Dimensions and weights | | Types of connection | | | | | | | | |
|------------------------|----------------|---------------------|-----------|---------|-------------------------------------|-----------|---------|----------------|-----------|---------|
| | | Flanges | | | Screwed sockets Socket weld ends | | | Butt weld ends | | |
| Nominal diameter | (mm) (inch) | 15 1/2 | 20 3/4 | 25 1 | 15 1/2 | 20 3/4 | 25 1 | 15 1/2 | 20 3/4 | 25 1 |
| L* | (mm) | 150 | 150 | 160 | 95 | 95 | 95 | 250 | 250 | 250 |
| H | (mm) | 65 | 65 | 65 | 65 | 65 | 74 | 65 | 65 | 65 |
| H1 | (mm) | 62 | 62 | 62 | 62 | 62 | 55 | 62 | 62 | 62 |
| S | (mm) | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| S1 | (mm) | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| HEX | (mm) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Weight approx. | (kg) | 2,7 | 3,3 | 3,7 | 1,4 | 1,3 | 1,8 | 1,8 | 1,9 | 2 |

Standard-flange dimensions refer to page 17.

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

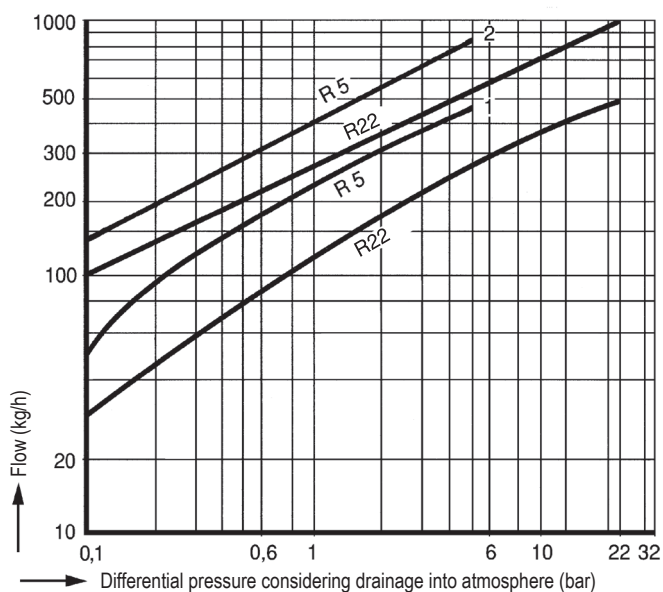
Parts

| Pos. | Description | Fig. 45.610 / 45.612 | Fig. 55.610 / 55.612 |
|------|-------------------------------------|---------------------------------|-----------------------|
| 1 | Body | P250 GH, 1.0460 | X6CrNiTi18-10, 1.4541 |
| 2 | Strainer * | X5CrNi18-10, 1.4301 | |
| 3 | Seat * | X8CrNiS18-9, 1.4305 | |
| 4 | Capsule (Diaphragm / Capsule) * | Hastelloy / X5CrNi18-10, 1.4301 | |
| 5 | Spring actuated clip * | X10CrNi18-8, 1.4310 | |
| 6 | Cap | P250 GH, 1.0460 | X6CrNiTi18-10, 1.4541 |
| 7 | Strainer screen * | X5CrNi18-10, 1.4301 | |
| 8 | Strainer plug * | X8CrNiS18-9, 1.4305 | X6CrNiTi18-10, 1.4541 |
| 46 | Blow down valve, cpl. * | X8CrNiS18-9, 1.4305 | X6CrNiTi18-10, 1.4541 |
| 56 | Ball valve for blow down (G 3/8") * | GX5CrNiMo19-11-2, 1.4408 | |
| 57 | Non return protection | X5CrNi18-10, 1.4301 | |

* Spare part

Information / restriction of technical rules need to be observed!

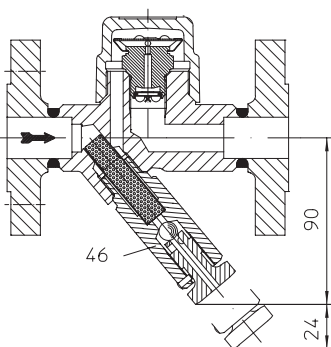
Operating instructions can be ordered by phone +49 (0)5207 / 994-0 or fax +49 (0)5207 / 994-158 or -159.

Capacity chart


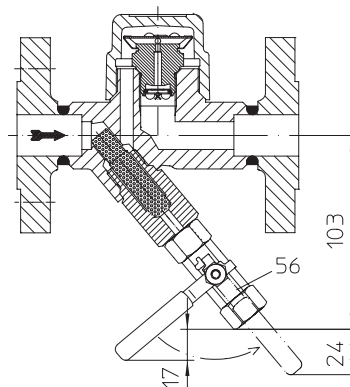
The capacity chart shows the maximum flow rates for controller.

Curve 1:
Maximum flow of hot condensate for capsule No. 1, 2, 3 and 4.

Curve 2:
Maximum flow at cold condensate at about 20°C.

Options


Outside strainer with blow down valve



Ball valve with adapter for blow down
with internal strainer
(restricted to 16 bar, 210°C)

Thermostatic steam trap for higher flow capacity (Forged steel, High temperature steel, Stainless steel)

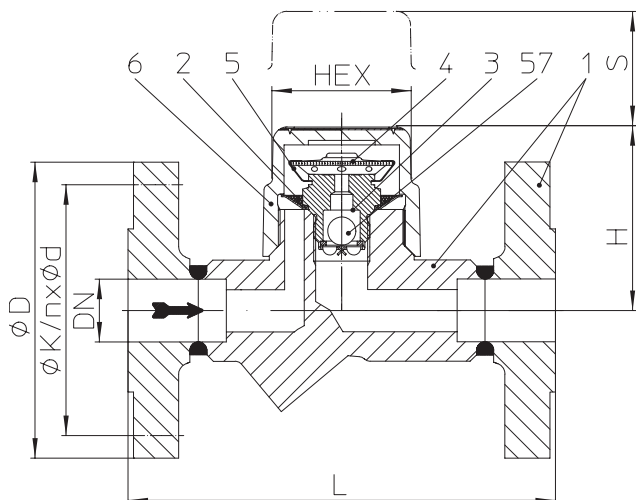


Fig. 611....1 with flanges

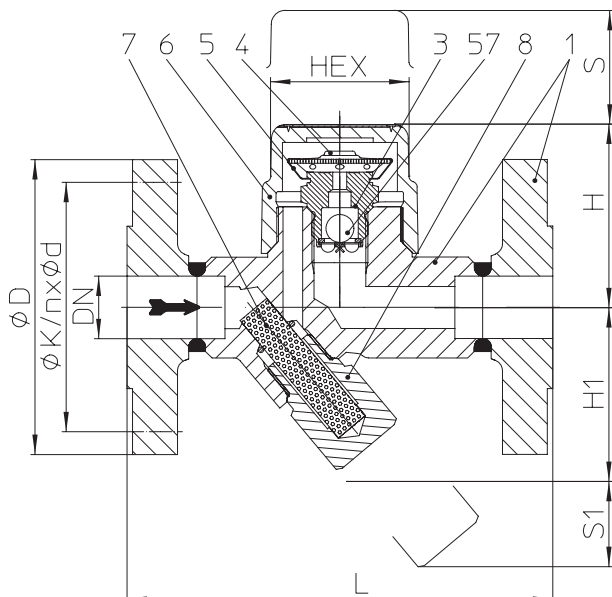


Fig. 613....1 with flanges

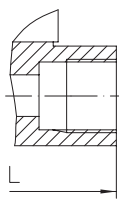


Fig. 610/612....2 with screwed sockets

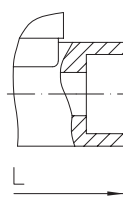


Fig. 610/612....3 with socket weld ends

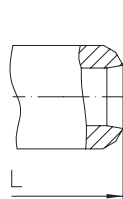


Fig. 610/612....4 with butt weld ends

- Thermostatic steam trap with noncorrosive and robust water hammer proofed capsule
- **With seat for higher flow capacity than Fig. 610/612**
- Non return protection
- with internal strainer - Fig. 611
with outside strainer - Fig. 613 (Y)
- Installation in any position, optimal filter effect at horizontal installation
- Optimized design for quick installation
- Maintenance simplified due to screwed cap without sealing
- Available capsules:
 - Capsule No. 1 - for condensate discharge at boiling temperature
 - Capsule No. 2 - for condensate sub-cooling about approx. 10K (Standard)
 - Capsule No. 3 - for condensate sub-cooling about approx. 30K
- Options:
 - Outside strainer with blow down valve (Pos. 46)
 - Ball valve for blow down (pos. 56) with internal strainer (Observe operating and installation instructions!)

Operating limits

| Fig. 45.611 / 45.613 | PN40 - 1.0460 | | |
|-------------------------------|---------------|-----|------|
| Operating pressure PS (barg) | 32 | 22 | 14,5 |
| Operating temperature TS (°C) | 250 | 385 | 450 |

| | |
|---|-----|
| allowable differential pressure ΔPMX (bar): | 32 |
| for controller: | R32 |

| Fig. 85.611 / 85.613 | PN40 - 16Mo3 | | |
|-------------------------------|--------------|-----|-----|
| Operating pressure PS (barg) | 35 | 32 | 28 |
| Operating temperature TS (°C) | 300 | 335 | 450 |

| | |
|---|-----|
| allowable differential pressure ΔPMX (bar): | 32 |
| for controller: | R32 |

| Fig. 55.611 / 55.613 | PN40 - 1.4541 | |
|-------------------------------|---------------|-----|
| Operating pressure PS (barg) | 32 | 22 |
| Operating temperature TS (°C) | 350 | 400 |

| | |
|---|-----|
| allowable differential pressure ΔPMX (bar): | 32 |
| for controller: | R32 |

Types of connection

| | |
|------------------------|---|
| Flanges1 | PN40 acc. to DIN 2501 |
| Screwed sockets2 | Rp- and NPT-thread acc. to DIN EN 10226-1 |
| Socket weld ends3 | acc. to DIN EN 12760 |
| Butt weld ends4 | acc. to DIN EN 12627 |

Other types of connection on request.

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

| Dimensions and weights | | Types of connection | | | | | | | | |
|------------------------|----------------|---------------------|-----------|---------|-------------------------------------|-----------|---------|----------------|-----------|---------|
| | | Flanges | | | Screwed sockets Socket weld ends | | | Butt weld ends | | |
| Nominal diameter | (mm) (inch) | 15 1/2 | 20 3/4 | 25 1 | 15 1/2 | 20 3/4 | 25 1 | 15 1/2 | 20 3/4 | 25 1 |
| L* | (mm) | 150 | 150 | 160 | 95 | 95 | 95 | 250 | 250 | 250 |
| H | (mm) | 65 | 65 | 65 | 65 | 65 | 74 | 65 | 65 | 65 |
| H1 | (mm) | 62 | 62 | 62 | 62 | 62 | 55 | 62 | 62 | 62 |
| S | (mm) | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| S1 | (mm) | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 | 24 |
| HEX | (mm) | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Weight approx. | (kg) | 2,7 | 3,3 | 3,7 | 1,4 | 1,3 | 1,8 | 1,8 | 1,9 | 2 |

Standard-flange dimensions refer to page 17.

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

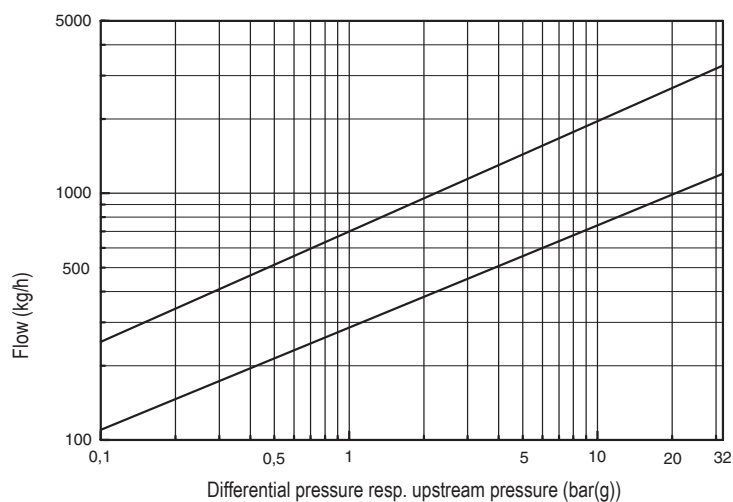
Parts

| Pos. | Description | Fig. 45.611 / 45.613 | Fig. 85.611 / 85.613 | Fig. 55.611 / 55.613 |
|------|-------------------------------------|---------------------------------|----------------------|-----------------------|
| 1 | Body | P250 GH, 1.0460 | 16Mo3, 1.5415 | X6CrNiTi18-10, 1.4541 |
| 2 | Strainer * | X5CrNi18-10, 1.4301 | | |
| 3 | Seat * | X8CrNiS18-9, 1.4305 | | |
| 4 | Capsule B (Diaphragm / Capsule) * | Hastelloy / X5CrNi18-10, 1.4301 | | |
| 5 | Spring actuated clip * | X10CrNi18-8, 1.4310 | | |
| 6 | Cap | P250 GH, 1.0460 | 16Mo3, 1.5415 | X6CrNiTi18-10, 1.4541 |
| 7 | Strainer screen * | X5CrNi18-10, 1.4301 | | |
| 8 | Strainer plug * | X6CrNiTi18-10, 1.4541 | | |
| 46 | Blow down valve, cpl. * | X6CrNiTi18-10, 1.4541 | | |
| 56 | Ball valve for blow down (G 3/8") * | GX5CrNiMo19-11-2, 1.4408 | | |
| 57 | Non return protection | X5CrNi18-10, 1.4301 | | |

* 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


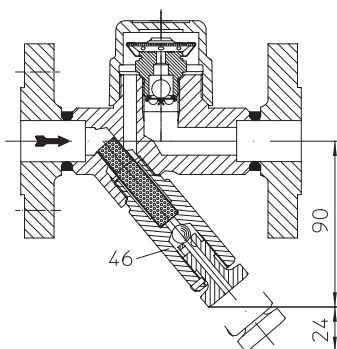
The capacity chart shows the maximum flow rates for controller.

Curve 1:

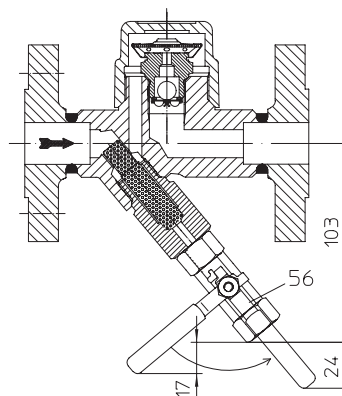
The capacity chart shows the maximum flow of hot condensate for capsule No. 1, 2 and 3.

Curve 2:

Maximum flow at cold condensate at about 20°C.

Options


Outside strainer with blow down valve



Ball valve with adapter for blow down with internal strainer (restricted to 16 bar, 210°C)

Thermostatic steam trap pilot operated for very high flow capacity (Grey cast iron)

- Thermostatic steam trap with noncorrosive and robust water hammer proofed capsule
- **Pilot operated for discharge of very high flow capacity**
- with double-inside strainer - Fig. 616
- Installation in any position, except cover downwards
- Available capsules:
 - Capsule No. 1 - for condensate discharge at boiling temperature - applicable up to 5 bar inlet pressure
 - Capsule No. 2 - for condensate sub-cooling about approx. 10K (Standard)
 - Capsule No. 3 - for condensate sub-cooling about approx. 30K

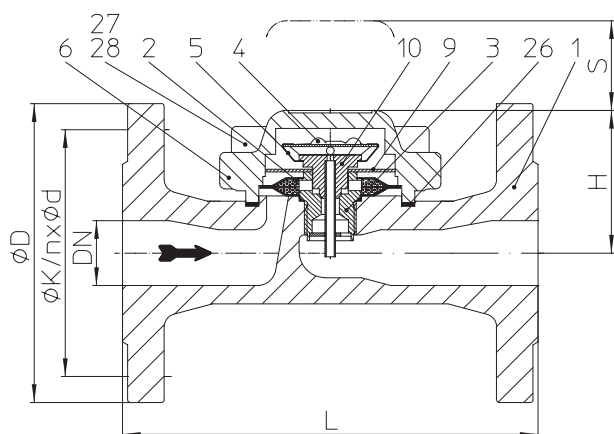


Fig. 616....1 with flanges

Operating limits

| Fig. 12.616 | PN16 - EN-JL1040 | |
|--|------------------|-----|
| Operating pressure PS (barg) | 12,8 | 9,6 |
| Operating temperature TS (°C) | 200 | 300 |
| allowable differential pressure ΔPMX (bar) | 13 | |
| for controller | R13 | |

Other materials on request

Types of connection

| | |
|---------------|-----------------------|
| Flanges1 | PN16 acc. to DIN 2501 |
|---------------|-----------------------|

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

| Dimensions and weights | | Types of connection | |
|------------------------|----------------|---------------------|-----------|
| | | Flanges | |
| Nominal diameter | (mm) (inch) | 25 1 | 50 2 |
| L* | (mm) | 160 | 230 (236) |
| H | (mm) | 55 | 55 |
| S | (mm) | 35 | 35 |
| Weight approx. | (kg) | 4 | 9,5 |

Standard-flange dimensions refer to page 17.

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

Parts

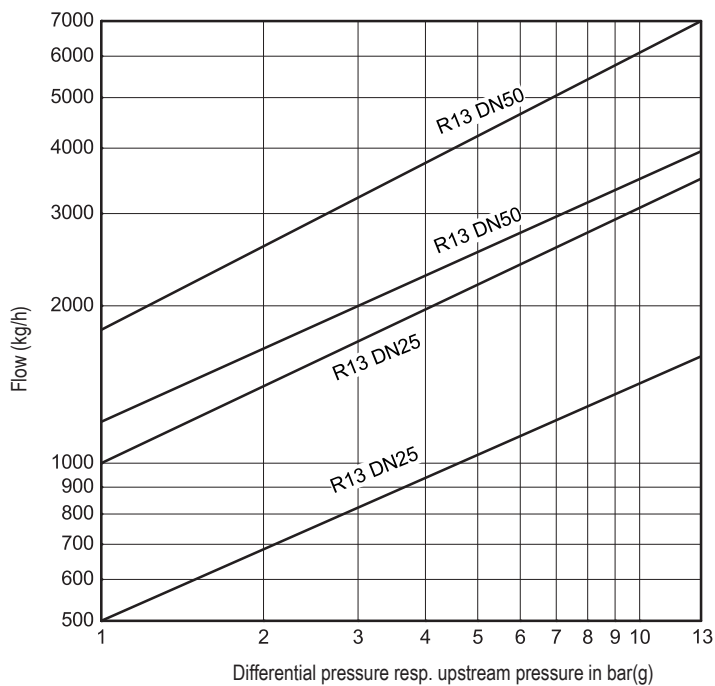
| Pos. | Description | Fig. 12.616 |
|------|---------------------------------|---|
| 1 | Body | EN-GJL-250, EN-JL1040 |
| 2 | Strainer * | X5CrNi18-10, 1.4301 |
| 3 | Seat * | X8CrNiS18-9, 1.4305 |
| 4 | Capsule (Diaphragm / Capsule) * | Hastelloy / X5CrNi18-10, 1.4301 |
| 5 | Spring actuated clip * | X10CrNi18-8, 1.4310 |
| 6 | Cover | EN-GJL-250, EN-JL1040 |
| 9 | Plate piston * | X5CrNi18-10, 1.4301 |
| 10 | Nozzle piston * | X17CrNi16-2, 1.4057 |
| 26 | Sealing ring * | Graphite (CrNi laminated with graphite) |
| 27 | Cheese head screw | A2-70 |

* 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



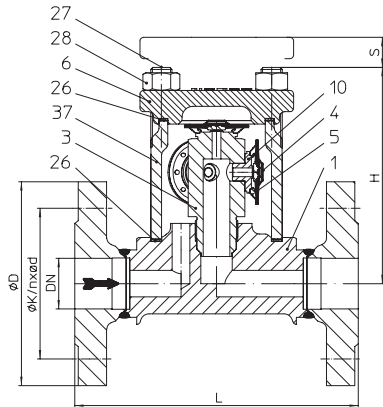
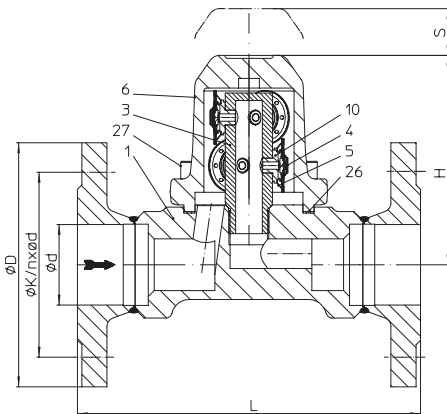
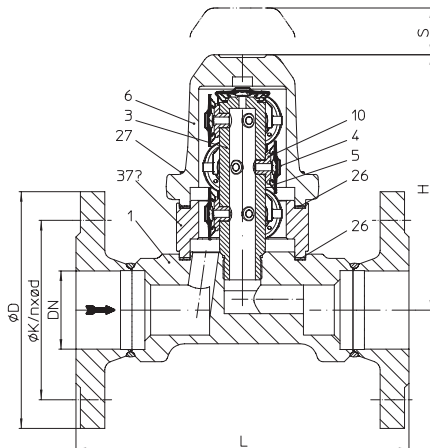
The capacity chart shows the maximum flow rates for controller.

Curve 1:
The capacity chart shows the maximum flow of hot condensate for capsule No. 1, 2 and 3 (Pilot and main valve).

Curve 2:
Maximum flow at cold condensate at about 20°C.

Thermostatic steam trap with multi capsule for very high flow capacity (Forged steel)

- Thermostatic steam trap with noncorrosive and robust water hammer proofed capsule
- **with multi capsule for discharge of very high flow capacity**
- Installation in any position, except cover downwards
- Capsule:
 - Capsule No. 2 - for condensate sub-cooling about approx. 10K (Standard)


 Fig. 616...1...4K2 (DN25)
 with 4 capsules, with flanges

 Fig. 616...1...6K2 (DN40-50)
 with 6 capsules, with flanges

 Fig. 616...1...10K2 (DN40-50)
 with 10 capsules, with flanges

Operating limits

| Fig. 45.616...4K2 | PN40 - 1.0460 - with 4 capsules | |
|-------------------------------|---------------------------------|------|
| Operating pressure PS (barg) | 32 | 14,5 |
| Operating temperature TS (°C) | 250 | 450 |

| Fig. 45.616...6K2 | PN40 - 1.0460 - with 6 capsules | |
|-------------------------------|---------------------------------|------|
| Operating pressure PS (barg) | 32 | 14,5 |
| Operating temperature TS (°C) | 250 | 450 |

| Fig. 45.616...10K2 | PN40 - 1.0460 - with 10 capsules | |
|-------------------------------|----------------------------------|------|
| Operating pressure PS (barg) | 32 | 14,5 |
| Operating temperature TS (°C) | 250 | 450 |

| Fig. 45.616...10K2 | PN40 - 1.0460 - with 10 capsules, In-line design | |
|-------------------------------|--|------|
| Operating pressure PS (barg) | 28,3 | 13,1 |
| Operating temperature TS (°C) | 250 | 450 |

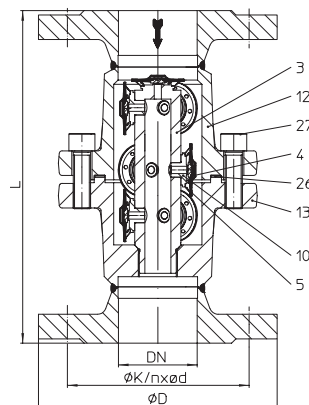
| | |
|---|-----|
| allowable differential pressure ΔPMX (bar): | 32 |
| for controller: | R32 |

1.4541 on request

We recommend a ARI Strainer Fig. 050 in front of the steam trap.
Types of connection

| | |
|------------------------|---|
| Flanges1 | PN40 acc. to DIN 2501 |
| Screwed sockets2 | Rp- and NPT-thread acc. to DIN EN 10226-1 |
| Socket weld ends3 | acc. to DIN EN 12760 |
| Butt weld ends4 | acc. to DIN EN 12627 |

Other types of connection on request.

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

 Fig. 616...1...10K2 (DN40-50)
 with 10 capsules - In-line design, with flanges

| Dimensions and weights | | Types of connection | | | | | | | | |
|------------------------|----------------|---------------------|---------------------------------------|---------------------------------------|-------------------------------------|-------------|---------|----------------|-------------|---------|
| | | Flanges | | | Screwed sockets Socket weld ends | | | Butt weld ends | | |
| Nominal diameter | (mm) (inch) | 25 1 | 40 1 1/2 | 50 2 | 25 1 | 40 1 1/2 | 50 2 | 25 1 | 40 1 1/2 | 50 2 |
| L* | (mm) | 160 | 230 | 230 | on request | | | on request | | |
| H | (mm) | 125 | 144 ¹⁾ / 185 ²⁾ | 144 ¹⁾ / 185 ²⁾ | | | | | | |
| S | (mm) | 65 | 90 | 90 | | | | | | |
| Weight approx. | (kg) | 6,5 | 11,3 | 12,1 | | | | | | |

Standard-flange dimensions refer to page 17.

¹⁾ with 6 capsules ²⁾ with 10 capsules

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

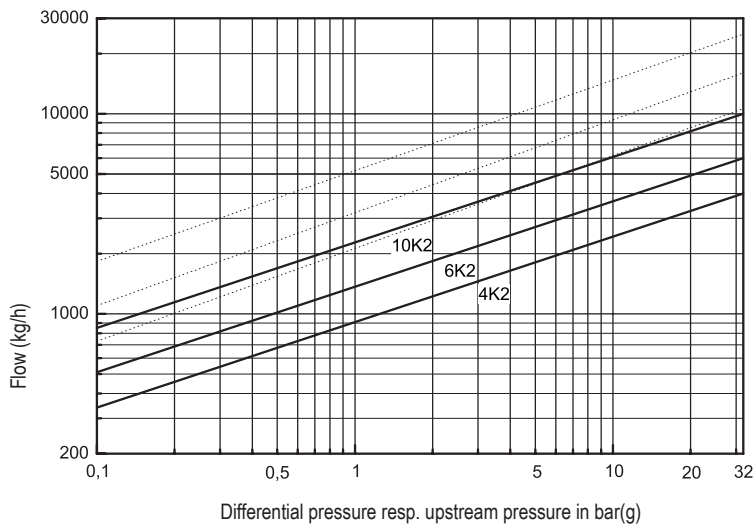
Parts

| Pos. | Description | Fig. 45.616....4K2, with 4 capsules | Fig. 45.616....6K2 with 6 capsules | Fig. 45.616....10K2 with 10 capsules | Fig. 45.616....10K2 with 10 capsules In-line design |
|------|---------------------------------|---|---------------------------------------|---|---|
| 1 | Body | P250 GH, 1.0460 | | | |
| 3 | Seat * | X8CrNiS18-9, 1.4305 | | | |
| 4 | Capsule (Diaphragm / Capsule) * | Hastelloy / X5CrNi18-10, 1.4301 | | | |
| 5 | Spring actuated clip * | X10CrNi18-8, 1.4310 | | | |
| 6 | Cover | P250 GH, 1.0460 | | | -- |
| 12 | Bonnet | -- | | | P250 GH, 1.0460 |
| 13 | Body | -- | | | P250 GH, 1.0460 |
| 26 | Sealing ring * | Graphite (CrNi laminated with graphite) | | | |
| 27 | Cheese head screw | -- | 21CrMoV 5-7, 1.7709 | | |
| 27 | Stud | 21CrMoV 5-7, 1.7709 | | -- | |
| 28 | Hexagonal nut | 25CrMo4, 1.7218 | | -- | |
| 37 | Intermediate flange | -- | | P250 GH, 1.0460 | -- |

* 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


2 The capacity chart shows the maximum flow rates for controller.

Curve 1:

2 Maximum flow of hot condensate.

Curve 2:

Maximum flow at cold condensate at about 20°C.

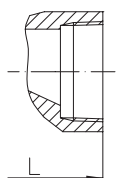


Fig. 616...2
with screwed sockets

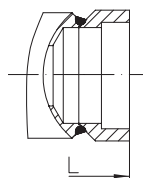


Fig. 616...3
with socket weld ends

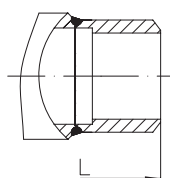


Fig. 616...4
with butt weld ends

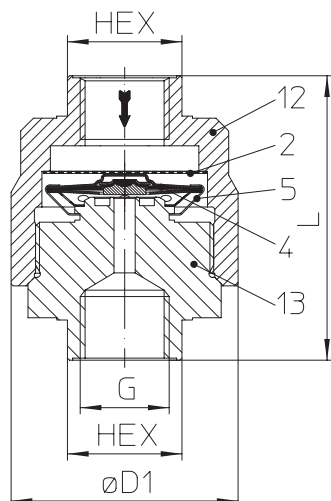
Thermostatic steam trap - compact (Stainless steel)


Fig. 614....2 with screwed sockets

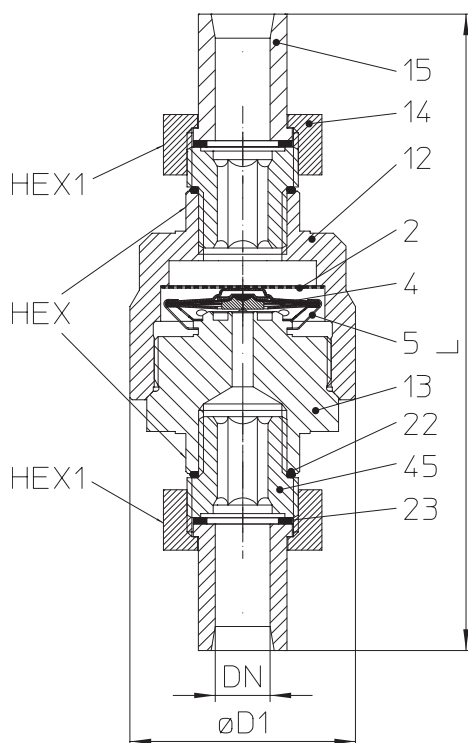


Fig. 614....5 union with butt weld ends

- Thermostatic steam trap with noncorrosive and robust water hammer proofed capsule
- With inside strainer
- Especially designed for instrumentation and product heating with sub-cooled condensate discharge
- Suitable as air vent for steam systems
- Corrosion resistant stainless steel body
- Installation in any position
- Optimized design for quick installation
- Maintenance simplified due to screwed cap without sealing
- Available capsules:
 - Capsule No. 2 - for condensate sub-cooling about approx. 10K (Standard)
 - Capsule No. 3 - for condensate sub-cooling about approx. 30K

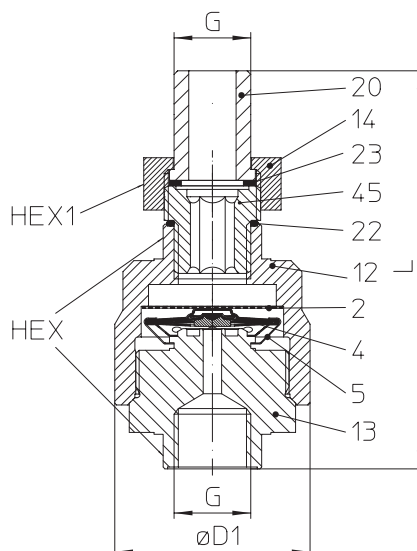
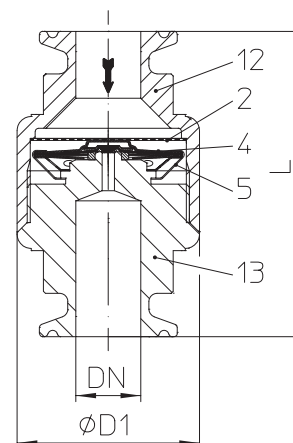
Operating limits

| Fig. 52.614 | PN16 - 1.4305 | |
|---|---------------|-----|
| Operating pressure PS (barg) | 12 | |
| Operating temperature TS (°C) | 190 | |
| Fig. 55.614 | PN40 - 1.4305 | |
| Operating pressure PS (barg) | 32 | 22 |
| Operating temperature TS (°C) | 250 | 400 |
| allowable differential pressure ΔPMX (bar): | 32 | |
| for controller: | R32 | |

Types of connection

| | |
|---|---|
| Screw sockets2 | Rp- and NPT-thread acc. to DIN EN 10226-1 |
| Union with butt weld ends5 | acc. to data sheet resp. customer request |
| Inlet: screwed male; outlet: screwed socket9 | Rp- and NPT-thread acc. to DIN EN 10226-1 |
| for clamp connectiona | PN16 acc. to DIN 32676 or BS 4825-3 |

Other types of connection on request.


 Fig. 614....9
 Inlet: screwed male,
 outlet: screwed socket

 Fig. 614....a
 for clamp connection

| Dimensions and weights | | Types of connection | | | | | | | | | | | | | |
|------------------------|--------|---------------------|------|------|------|------|---------------------------|------|------|------------------------------|------|-----------------------------|-----|-----|--|
| | | Screw sockets | | | | | Union with butt weld ends | | | Screwed male, screwed socket | | for clamp connection (PN16) | | | |
| Nominal diameter | (inch) | 1/4 | 3/8 | 1/2 | 3/4 | 1 | 1/4 | 3/8 | 1/2 | 1/2 | 3/4 | 1/2 | 3/4 | 1 | |
| L* | (mm) | 68 | 68 | 68 | 78 | 78 | 150 | 150 | 150 | 110 | 125 | 75 | 75 | 75 | |
| D1 | (mm) | 53,5 | 53,5 | 53,5 | 53,5 | 53,5 | 53,5 | 53,5 | 53,5 | 53,5 | 53,5 | 45 | 45 | 45 | |
| G | (inch) | 1/4 | 3/8 | 1/2 | 3/4 | 1 | -- | -- | -- | 1/2 | 3/4 | -- | -- | -- | |
| HEX | (mm) | 27 | 27 | 27 | 41 | 41 | 27 | 27 | 27 | 27 | 27 | -- | -- | -- | |
| HEX1 | (mm) | -- | -- | -- | -- | -- | 32 | 32 | 32 | 32 | 32 | -- | -- | -- | |
| Weight approx. | (kg) | 0,65 | 0,65 | 0,65 | 0,85 | 0,85 | 1,2 | 1,2 | 1,2 | 0,95 | 1,2 | 0,7 | 0,7 | 0,8 | |

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

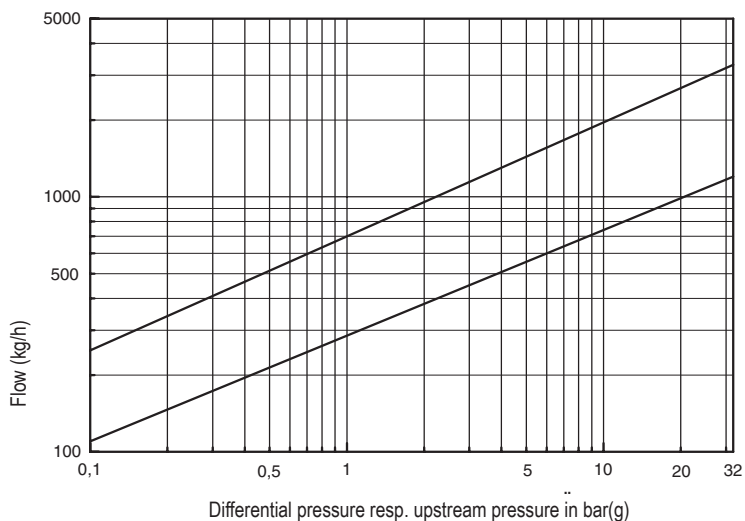
Parts

| Pos. | Description | Fig. 52.614 | Fig. 55.614 |
|------|--------------------------------------|---------------------------------|--|
| 2 | Strainer * | X5CrNi18-10, 1.4301 | |
| 4 | Capsule B (Diaphragm / Capsule) * | Hastelloy / X5CrNi18-10, 1.4301 | |
| 5 | Spring actuated clip * | X10CrNi18-8, 1.4310 | |
| 12 | Bonnet | X8CrNiS18-9, 1.4305 | |
| 13 | Body | X8CrNiS18-9, 1.4305 | |
| 14 | Union nut | -- | X14CrMoS17+QT, 1.4104+QT |
| 15 | Welding end | -- | X20Cr13+QT, 1.4021+QT (optional: C 15, 1.0401) |
| 20 | Screwed male end with outside thread | -- | C 15, 1.0401 |
| 22 | Sealing ring * | -- | A4 |
| 23 | Gasket * | -- | Graphite (CrNi laminated with graphite) |
| 45 | Intermediate part | -- | X6CrNiMoTi17-12-2, 1.4571 |

* 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 rates for controller.

Curve 1:

The capacity chart shows the maximum flow of hot condensate for capsule No. 2 and 3.

Curve 2:

Maximum flow at cold condensate at about 20°C.

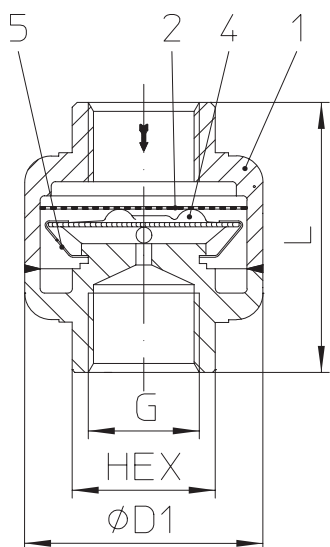
Thermostatic steam trap - compact (Stainless steel)


Fig. 615...2 with screwed sockets

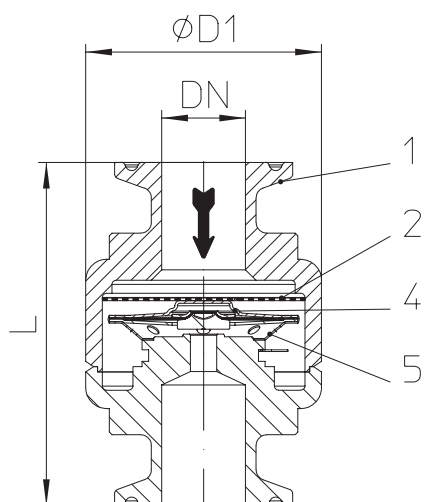


Fig. 615...a for clamp connection (PN16)

- Thermostatic steam trap with noncorrosive and robust water hammer proofed capsule
- With inside strainer
- Especially designed for instrumentation and product heating with sub-cooled condensate discharge
- Corrosion resistant stainless steel body
- Installation in any position
- Discharge of condensate sub-cooled at 10K over the entire application range

Operating limits

| Fig. 52.615 | PN16 - 1.4301 |
|-------------------------------|---------------|
| Operating pressure PS (barg) | 12 |
| Operating temperature TS (°C) | 190 |

| Fig. 55.615 | PN40 - 1.4301 |
|-------------------------------|---------------|
| Operating pressure PS (barg) | 32 |
| Operating temperature TS (°C) | 250 |

| | |
|---|-----|
| allowable differential pressure ΔPMX (bar): | 32 |
| for controller: | R32 |

Types of connection

| | |
|----------------------------|---|
| Screwed sockets2 | Rp- and NPT-thread acc. to DIN EN 10226-1 |
| for clamp connectiona | PN16 acc. to DIN 32676 or BS 4825-3 |

Other types of connection on request.

Capacity chart

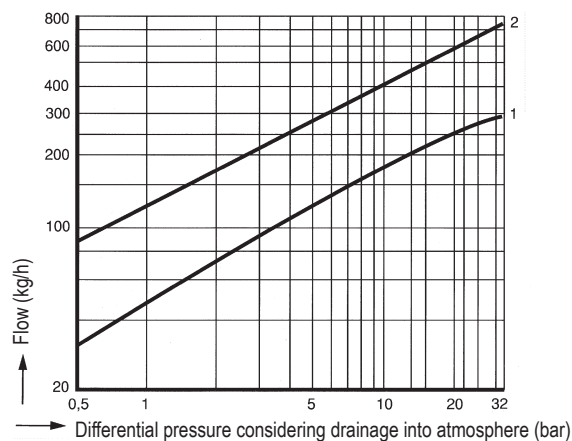
The capacity chart shows the maximum flow rates for controller.

Curve 1:

Maximum flow of hot condensate.

Curve 2:

Maximum flow at cold condensate at about 20°C.



| Dimensions and weights | | Types of connection | | | | | |
|------------------------|--------|---------------------|-----|-----|-----------------------------|------|-----|
| | | Screwed sockets | | | for clamp connection (PN16) | | |
| Nominal diameter | (inch) | 1/4 | 3/8 | 1/2 | 1/2 | 3/4 | 1 |
| L* | (mm) | 50 | 50 | 50 | 65 | 65 | 65 |
| D1 | (mm) | 45 | 45 | 45 | 45 | 45 | 45 |
| G | (inch) | 1/4 | 3/8 | 1/2 | -- | -- | -- |
| HEX | (mm) | 27 | 27 | 27 | -- | -- | -- |
| Weight approx. | (kg) | 0,3 | 0,3 | 0,3 | 0,32 | 0,32 | 0,4 |

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

Parts

| Pos. | Description | Fig. 55.615 |
|------|-------------------------------|---------------------------------|
| 1 | Body | X5CrNi18-10, 1.4301 |
| 2 | Strainer | X5CrNi18-10, 1.4301 |
| 4 | Capsule (Diaphragm / Capsule) | Hastelloy / X5CrNi18-10, 1.4301 |
| 5 | Spring actuated clip | X10CrNi18-8, 1.4310 |

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.

Wafer pattern-thermostatic steam trap (Stainless steel)

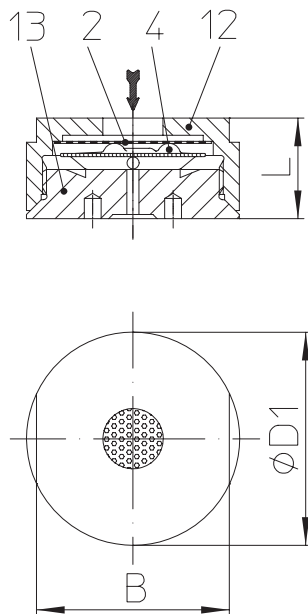


Fig. 619...6

- Thermostatic steam trap with noncorrosive and robust water hammer proofed capsule
- With inside strainer
- Space-saving wafer pattern steam trap
- Corrosion resistant stainless steel body
- Installation in any position
- Optimized design for quick installation
- Maintenance simplified due to screwed cap without sealing
- Available capsules:
 - Capsule No. 1 - for condensate discharge at boiling temperature - applicable up to 5 bar inlet pressure
 - Capsule No. 2 - for condensate sub-cooling about approx. 10K (Standard)
 - Capsule No. 3 - for condensate sub-cooling about approx. 30K
 - Capsule No. 4 - for condensate sub-cooling about approx. 40K - applicable up to 16 bar inlet pressure, especially suitable for tracing systems with low and medium pressure steam

Operating limits

| Fig. 55.619 | PN40 - 1.4305 |
|---|---------------|
| Operating pressure PS (barg) | 21 |
| Operating temperature TS (°C) | 300 |
| allowable differential pressure ΔPMX (bar): | 21 |
| for controller: | R21 |

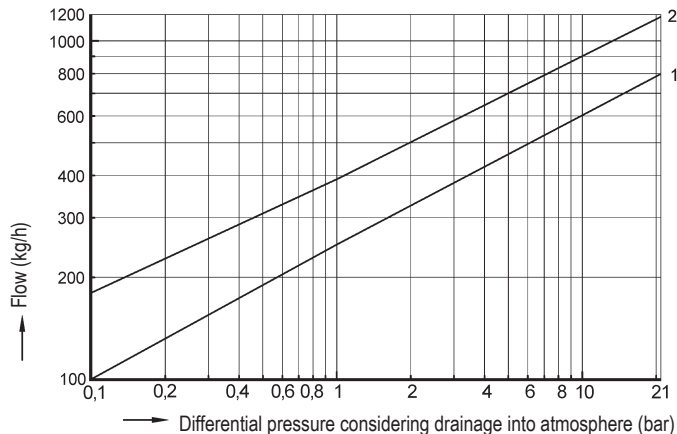
Types of connection

| | |
|---------------------------|-----------------------|
| Intermediate flange6 | PN40 acc. to DIN 2501 |
|---------------------------|-----------------------|

Other types of connection on request.

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

Capacity chart



The capacity chart shows the maximum flow rates for controller.

- Curve 1:** Maximum flow of hot condensate for capsule No. 1, 2, 3 and 4.
- Curve 2:** Maximum flow at cold condensate at about 20°C.

| Dimensions and weights | | Types of connection | | |
|------------------------|------|---------------------|------|------|
| | | Intermediate flange | | |
| Nominal diameter | (mm) | 15 | 20 | 25 |
| L* | (mm) | 25 | 31,5 | 35 |
| D1 | (mm) | 53 | 63 | 72 |
| B | (mm) | 46 | 56 | 65 |
| Weight approx. | (kg) | 0,45 | 0,65 | 0,85 |

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

Parts

| Pos. | Description | Fig. 55.619 |
|------|---------------------------------|---------------------------------|
| 2 | Strainer * | X5CrNi18-10, 1.4301 |
| 4 | Capsule (Diaphragm / Capsule) * | Hastelloy / X5CrNi18-10, 1.4301 |
| 12 | Bonnet | X8CrNiS18-9, 1.4305 |
| 13 | Body | 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.

Informations about pipe welding

Welding groove acc. to DIN 2559

| | | |
|---|-----------|------------------------------------|
| The material used for ARI valves with butt weld ends are: | 1.0460 | P250GH acc. to DIN EN 10222-2 |
| | 1.0401 | C15 acc. to DIN 17210 |
| | 1.5415 | 16Mo3 acc. to DIN EN 10028 |
| | 1.4541 | X6CrNiTi18-10 acc. to DIN EN 10088 |
| | 1.4021+QT | X20Cr13+QT acc. to DIN EN 10088 |

Based on our experience we recommend electric welding process for connecting valves or strainers with tubes or with each other

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.

On bimetallic steam traps face-to-face of 95 mm or less, the bimetallic controller has to be disassembled prior to welding. After the traps have cooled down to the ambient temperature the bimetallic controller shall be fitted again into the body.

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!

Selection criteria:

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

Example for order data:

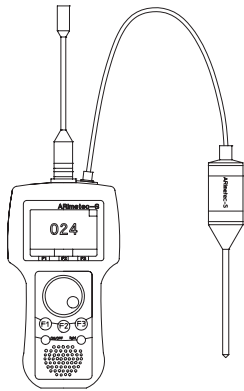
=> **Thermostatic steam trap CONA[®]M,**
Fig. 610, PN40, DN15, 1.0460, Capsule-No. 2, with flanges, Face-to-face dimension 150 mm

| |
|--|
| Dimensions in mm resp. inch |
| Weights in kg |
| 1 bar $\hat{=}$ 10 ⁵ Pa $\hat{=}$ 0,1 MPa |
| Kvs in m ³ /h |
| 1 bar $\hat{=}$ 14,5 psi |
| 1 inch $\hat{=}$ 25,4 mm |

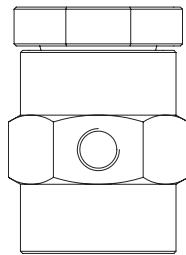
Standard-flange dimensions

Flanges according to DIN 2501

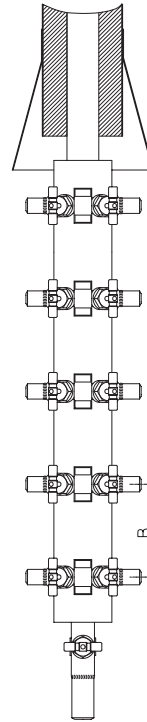
| DN | | (mm) | 15 | 20 | 25 | 32 | 40 | 50 |
|------|--------|------|--------|--------|--------|--------|--------|--------|
| PN16 | ØD | (mm) | 95 | 105 | 115 | 140 | 150 | 165 |
| PN16 | ØK | (mm) | 65 | 75 | 85 | 100 | 110 | 125 |
| PN16 | n x Ød | (mm) | 4 x 14 | 4 x 14 | 4 x 14 | 4 x 18 | 4 x 18 | 4 x 18 |
| PN40 | ØD | (mm) | 95 | 105 | 115 | 140 | 150 | 165 |
| PN40 | ØK | (mm) | 65 | 75 | 85 | 100 | 110 | 125 |
| PN40 | n x Ød | (mm) | 4 x 14 | 4 x 14 | 4 x 14 | 4 x 18 | 4 x 18 | 4 x 18 |



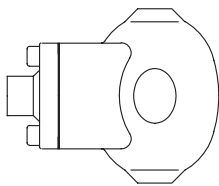
Multifunction tester **ARImetec[®]-S**



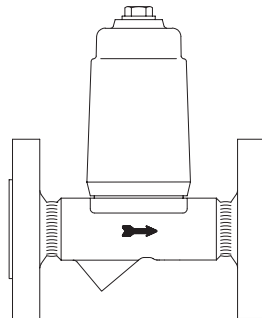
Vacuum breaker Fig. 655



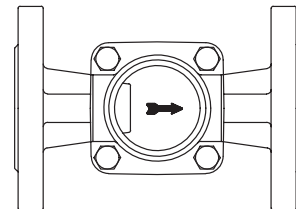
CONDIS[®]S with gland packing Fig. 671/672;
CONDIS[®]B with bellows seal, maintenance-free Fig. 675/676



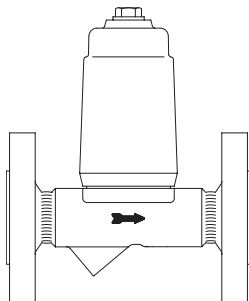
Automatic air vent for liquid systems
Fig. 656



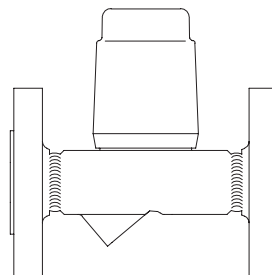
Condensate discharge temperature limiter
Fig. 645/647



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.)