



Steam Traps and Monitoring Equipment

The right choice in every case



Engineering steam performance

Best equipped with GESTRA steam traps

Steam traps have to work perfectly

In industry, one of steam's most important tasks is to provide thermal energy through condensation, and to heat a variety of media in heat exchangers. During this process, the steam flows through pipes and cools down more and more en route, so that condensate forms here, too.

Condensate prevents the optimum transfer of heat, but also, in particular, leads to erosion and water hammer. To enable steam systems to work reliably and efficiently, steam traps discharge any condensate that builds up, while retaining the valuable steam to the greatest possible extent. How well steam traps perform has a considerable influence on:

- **the system's reliability**
- **availability and**
- **cost efficiency.**

To achieve the very best results here, it needs valves that satisfy all the different requirements in every respect.

Flexible for different requirements

To heat water using steam, at times large quantities of condensate must be discharged as quickly as possible, so that drainage without banking-up can be guaranteed even if load and pressure are fluctuating.

If turbines or pipes with superheated steam are drained, only low condensate flowrates occur during operation. More condensate only forms on start-up. Here, the demand is for robustness, maintenance friendliness, durability and a regulator that closes reliably even at pressures above 200 barg.

This is what sets GESTRA steam traps apart

For steam system operators, the cost of energy production is a key driver. Durable steam traps that work without loss of steam help to keep these costs as low as possible. What's more, they ensure reliable and safe operation.

For decades now, GESTRA steam traps have epitomised optimum energy efficiency and absolute reliability. They satisfy the most demanding quality requirements, and their compact and modular design makes them impressive in the field. In addition, they are very maintenance-friendly and extremely easy and convenient to use.

Best quality for every need

At GESTRA you will find an extensive selection of functional types and versions to suit every requirement. In addition, we offer systems that enable you to reliably test and monitor your steam and condensate systems.

How do I get my optimum steam trap?

We find the optimum steam trap for you, with the best efficiency. To achieve this, what matters most is keeping an eye on the decisive factors:

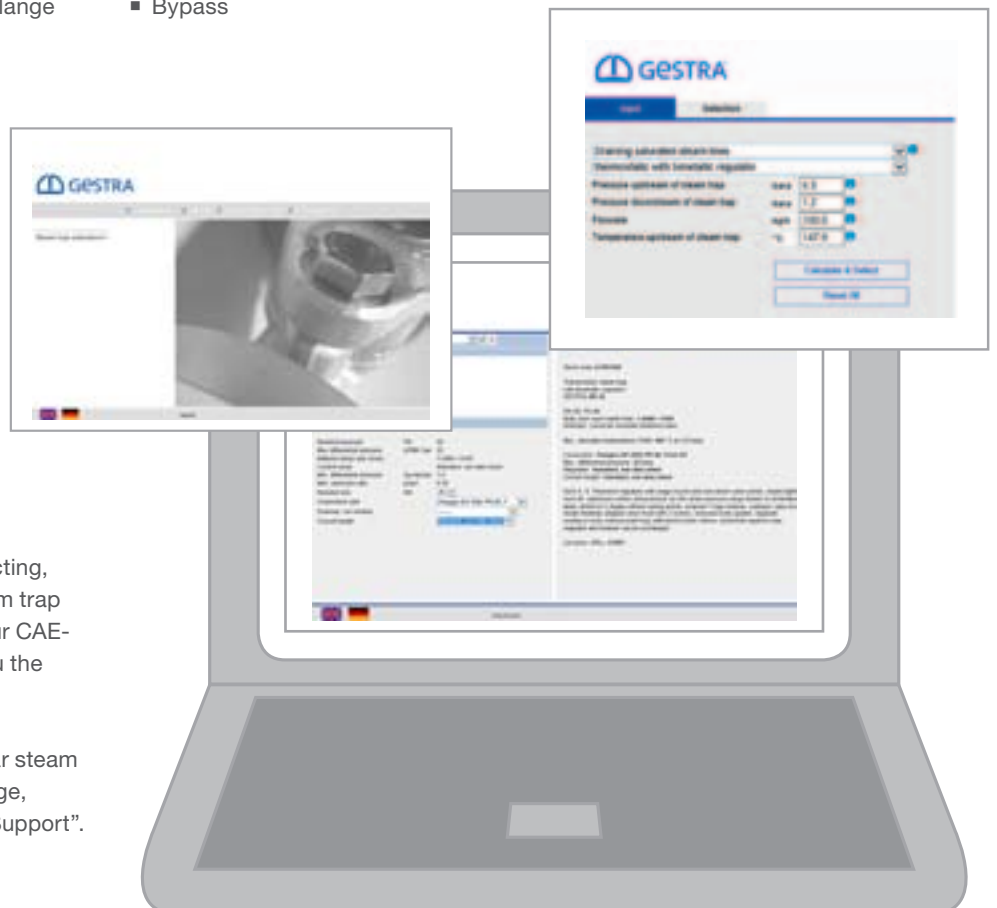
1. Requirements specific to your application
 - Saturated steam pipe
 - Superheated steam pipe
 - Steam-regulated heat exchanger
 - Unregulated heat exchanger or heating coil
 - Steam tracing where undercooling is required
 - Turbine drainage
2. System and equipment requirements
 - Pressure rating
 - Type of end connection, e.g. EN flange or socket weld end
 - Material of construction
3. Operating parameters
 - Pressure upstream from steam trap
 - Temperature upstream from steam trap
 - Pressure downstream from steam trap
 - Condensate flowrate
 - Start-up and shut-down cycles
 - Load changes
4. Additional options required
 - Monitoring
 - Dirt strainer
 - Drain valve and manual air vent
 - Manual vent valve
 - Bypass



Online design software

We are happy to advise you on selecting, sizing and configuring the right steam trap for you. But first you can also use our CAESar design software. This shows you the best way to your perfect steam trap.

You can find the easy-to-use CAESar steam trap selection range on our homepage, www.gestra.com, under “Service & Support”.



Drainage modules of the QuickEM series

Preassembled modules for quick and easy installation

GESTRA QuickEM drainage modules are units with carefully arranged pipework, consisting of a steam trap, sightglass, check valve, stop valves and bypass pipe, plus all the necessary pipes, flanges, gaskets and fasteners.

GESTRA QuickEM-Control drainage modules are used for steam trap monitoring and are equipped with an electrode either in the steam trap itself or in a test chamber.

Use

The preassembled modules are used for draining e.g.:

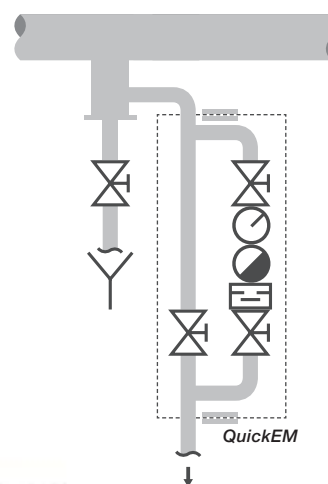
- Steam pipes
- Steam headers
- Heat exchangers

Advantages

- Preassembled steam trap module with the recommended additional valves
- Saves time on installation
- Keeps installation errors to a minimum
- Also available without bypass
- QuickEM-Control with integrated monitoring electrode
- Standardised lengths
- For horizontal or vertical installation
- Also available in stainless steel

Installation example

Saturated steam pipe



QuickEM with bypass pipe for horizontal installation

QuickEM with UNA 16A ball-float steam trap, Vaposcope and bypass in detail:

Drainage module with optimum, dirt-protected positioning of the steam trap to ensure ideal operation.

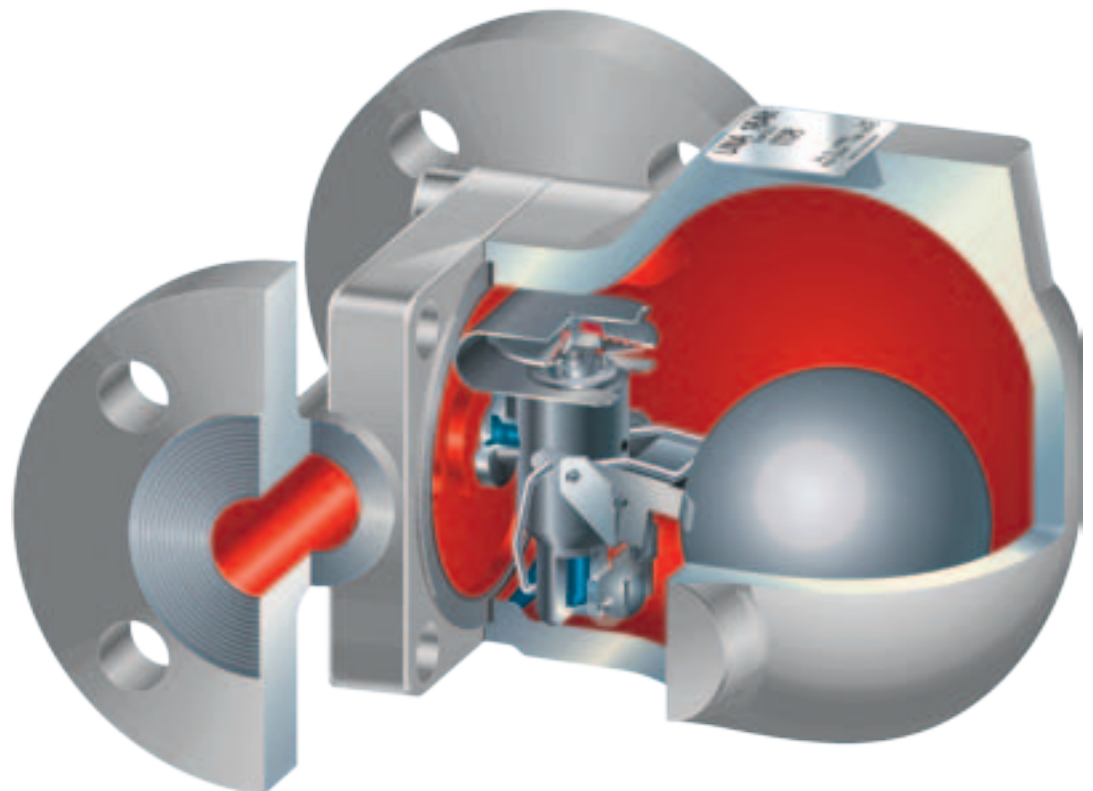
This type of QuickEM is a preassembled drainage module in stainless steel, complete with steam trap, monitoring function and maintenance-friendly bypass. It features a UNA 16A ball-float steam trap, which works with extremely low friction and therefore requires very low actuating forces. It also promises outstanding durability.

Key data

- DN 15–25 (NPS ½–1")
- PN 40
- Max. differential pressure: 22 bar
- Stainless steel version

Options

- Choice of BK, MK or UNA steam trap
- Versions for horizontal or vertical installation
- Without bypass pipe
- Monitoring electrode
- Carbon steel or stainless steel version
- Also available in larger nominal sizes – DN 40 and DN 50



UNA 16Ah ball-float steam trap

GESTRA steam traps at a glance

Operating principle

| Type | Materials, body, cover | Operating principle | | | | |
|----------------------|--------------------------------------|---------------------|----------------|-------------------|---------------------|-----------------------|
| | | Bimetallic BK | Membrane MK | Ball float UNA | Thermodynamic DK | Inverted bucket IB |
| AK 45 | 1.0460/SA105 | | | | | |
| BK 15 | 1.0460/SA105 | x | | | | |
| BK 27N | 1.5415 | x | | | | |
| BK 28 | 1.5415 | x | | | | |
| BK 28-ASME | 1.7335/SA182-F12-2 | x | | | | |
| BK 29 | 1.7335/SA182-F12-2 | x | | | | |
| BK 29-ASME | 1.7335/SA182-F12-2 | x | | | | |
| BK 36A-7 | 1.4408/SA351-CF8M | x | | | | |
| BK 37 | 1.5415 | x | | | | |
| BK 37-ASME | A182-F12 | x | | | | |
| BK 45 | 1.0460/SA105 | x | | | | |
| BK 45-LT | SA350-LF2 | x | | | | |
| BK 46 | 1.5415 | x | | | | |
| BK 212 | 1.7383/A182-F22-3 | x | | | | |
| BK 212-F91 | 1.4903/SA182-F91 | x | | | | |
| BK 212-1.4901 | 1.4901 (F92) | x | | | | |
| BK 212-ASME | 1.7383/A182-F22-3 | x | | | | |
| DK 36A-7 | 1.4408/SA351-CF8M | | | | x | |
| DK 45 | 1.0460/SA105 | | | | x | |
| DK 47-L | A743 CA40 | | | | x | |
| DK 47-H | A743 CA40 | | | | x | |
| DK 57-L | AISI 420 | | | | x | |
| DK 57-H | AISI 420 | | | | x | |
| GK 11 | 5.1301 | | | | | |
| GK 21 | 5.1301 | | | | | |
| IB 16A-7 | SA240-304L | | | | | x |
| MK 20 | 5.4202 | | x | | | |
| MK 25/2 | 1.0460, 1.0619/SA105, SA216-WCB | | x | | | |
| MK 25/2 S | 1.0460, 1.0619/SA105, SA216-WCB | | x | | | |
| MK 35/31 | 1.0460/SA105 | | x | | | |
| MK 35/32 | 1.0460/SA105 | | x | | | |
| MK 35/2S | 1.0460/SA105 | | x | | | |
| MK 35/2S3 | 1.0460/SA105 | | x | | | |
| MK 36A-71 | 1.4408/SA351-CF8M | | x | | | |
| MK 36A-72 | 1.4408/SA351-CF8M | | x | | | |
| MK 36/51 | 1.4301/SA479-F304 | | x | | | |
| MK 36/52 | 1.4301/SA479-F304 | | x | | | |
| MK 45-1 | 1.0460/SA105 | | x | | | |
| MK 45-2 | 1.0460/SA105 | | x | | | |
| MK 45 A-1 | 1.4404/A182-F316L | | x | | | |
| MK 45 A-2 | 1.4404/A182-F316L | | x | | | |
| SMK 22 | 1.4435 | | x | | | |
| SMK 22-51 | 1.4404 | | x | | | |
| SMK 22-81 | 1.4404 | | x | | | |
| SMK 22-82 | 1.4404 | | x | | | |
| TK 23 | 5.1301 | | | | | |
| TK 24 | 1.0619/SA216-WCB | | | | | |
| TS 36 | 1.4408/SA351-CF8M | | | | | |
| UBK 46 | 1.0460/SA105 | x | | | | |
| UC 36, UCY 36 | 1.4408/SA351-CF8M | | | | | |
| UNA 14 | 5.3103 | | | x | | |
| UNA 14P | 5.3103 | | | x | | |
| UNA 16 | 1.0460, 1.0619/SA105, SA216-WCB | | | x | | |
| UNA 16A | 1.4404, 1.4408/A182-316L, SA351-CF8M | | | x | | |
| UNA 25-PK | 5.3103 | | | x | | |
| UNA 25-PS | 5.3103 | | | x | | |
| UNA 27h | 1.5419 | | | x | | |
| UNA 43 | 5.1301/A126-B | | | x | | |
| UNA 45 | 1.0460, 5.3103/SA105, (A395) | | | x | | |
| UNA 45 MAX | 1.0460, 5.3103/SA105, (A395) | | | x | | |
| UNA 46 | 1.0460, 1.0619/SA105, SA216-WCB | | | x | | |
| UNA 46 MAX | 1.0460, 1.0619/SA105, SA216-WCB | | | x | | |
| UNA 46A | 1.4404, 1.4408/A182-316L, SA351-CF8M | | | x | | |
| UNA 46A MAX | 1.4404, 1.4408/A182-316L, SA351-CF8M | | | x | | |
| UNA 38 | 1.5415, 1.7357 | | | x | | |
| UNA 39 | 1.7335/SA182-F12 | | | x | | |
| UNA-Special Typ 62-B | 1.0425 | | | x | | |
| UNA PN 25 | 1.0619/SA216-WCB | | | x | | |
| UNA-Special PN 63 | 1.5419 | | | x | | |

| Nominal size | | | | | | | | | | | Nominal pressure | | Max. permitted differential pressure | | Hot condensate | |
|--------------|------------|------------|------------|----------|--------------|----------|--------------|----------|-----------|-----------|------------------|------|--------------------------------------|------------|----------------|---------|
| 8 1/4" | 10 3/8" | 15 1/2" | 20 3/4" | 25 1" | 40 1 1/2" | 50 2" | 65 2 1/2" | 80 3" | 100 4" | 150 6" | PN | Cl | ΔPMX [bar] | ΔPMX [psi] | [kg/h] | [lb/h] |
| | | X | X | X | | | | | | | 40 | | | | | |
| | | | | | X | X | | | | | 40 | 300 | 22 | 320 | 2,550 | 5,620 |
| | | | | | X | X | | | | | 63 | | 45 | 650 | 1,500 | 3,310 |
| | | X | X | X | | | | | | | 100 | | 85 | 1,230 | 910 | 2,010 |
| | | X | X | X | | | | | | | | 600 | 85 | 1,230 | 910 | 2,010 |
| | | X | X | X | | | | | | | 160 | | 110 | 1,600 | 980 | 2,160 |
| | | X | X | X | | | | | | | | 900 | 110 | 1,600 | 980 | 2,160 |
| | | | | | | | | | | | | 300 | 32 | 465 | 300 | 660 |
| | | X | X | X | | | | | | | 100 | | 45 | 650 | 570 | 1,260 |
| | | X | X | X | | | | | | | | 600 | 45 | 650 | 570 | 1,260 |
| | | X | X | X | | | | | | | 40 | 300 | 22 | 320 | 510 | 1,120 |
| | | X | X | X | | | | | | | 40 | 300 | 22 | 320 | 510 | 1,120 |
| | | X | X | X | | | | | | | 40 | 300 | 32 | 465 | 550 | 1,210 |
| | | X | X | X | | | | | | | 630 | | 275 | 3,988 | 300 | 660 |
| | | X | X | X | | | | | | | 775 | 2500 | 275 | 3,988 | 300 | 660 |
| | | | | | | | | | | | 800 | | 275 | 3,988 | 300 | 660 |
| | | X | X | X | | | | | | | | 2500 | 275 | 3,988 | 300 | 660 |
| | | | | | | | | | | | | 300 | 32 | 465 | 400 | 880 |
| | | X | X | X | | | | | | | 40 | 300 | 32 | 465 | 510 | 1,120 |
| | | X | X | | | | | | | | 63 | 600 | 42 | 610 | 330 | 730 |
| | | | X | X | | | | | | | 63 | 600 | 42 | 610 | 2,000 | 4,410 |
| | | X | X | | | | | | | | 63 | 600 | 42 | 610 | 550 | 1,210 |
| | | | X | X | | | | | | | 63 | 600 | 42 | 610 | 2,100 | 4,630 |
| | | | | | | | X | X | X | X | 16 | | 6 | 87 | 380,000 | 837,740 |
| | | | | | | X | | | | | 16 | | 6 | 87 | 18,000 | 39,680 |
| | | | | | | | | | | | | 300 | 27.6 | 400 | 750 | 1,650 |
| | | X | X | | | | | | | | 6 | | 4.5 | 65 | 1,050 | 2,310 |
| | | | | | X | X | | | | | 40 | | 32 | 465 | 5,500 | 12,130 |
| | | | | | X | X | | | | | 40 | | 32 | 465 | 8,200 | 18,080 |
| | X | X | | | | | | | | | 25 | | 21 | 305 | 360 | 790 |
| | X | X | | | | | | | | | 25 | | 21 | 305 | 790 | 1,740 |
| | | | | X | | | | | | | 40 | | 32 | 465 | 1,800 | 3,970 |
| | | | | X | | | | | | | 40 | | 32 | 465 | 3,100 | 6,830 |
| | | | | | | | | | | | | 300 | 32 | 465 | 300 | 660 |
| | | | | | | | | | | | | 300 | 32 | 465 | 450 | 990 |
| X | X | X | X | | | | | | | | | 300 | 32 | 465 | 500 | 1,100 |
| X | X | X | X | | | | | | | | | 300 | 32 | 465 | 830 | 1,830 |
| | | X | X | X | | | | | | | 40 | 300 | 32 | 465 | 610 | 1,340 |
| | | X | X | X | | | | | | | 40 | 300 | 32 | 465 | 1,100 | 2,430 |
| | | X | X | X | | | | | | | 40 | 300 | 32 | 465 | 610 | 1,340 |
| | | X | X | X | | | | | | | 40 | 300 | 32 | 465 | 1,100 | 2,430 |
| | X | X | X | X | | | | | | | 10 | | 6 | 87 | 270 | 600 |
| | X | X | X | X | | | | | | | 10 | | 6 | 87 | 270 | 600 |
| | X | X | X | X | | | | | | | 10 | | 6 | 87 | 270 | 600 |
| | | | | X | | | | | | | 10 | | 6 | 87 | 400 | 880 |
| | | | | | | X | X | X | X | | 16 | | 10 | 145 | 125,000 | 275,570 |
| | | | | | | X | X | X | X | | 25 | | 14 | 203 | 140,000 | 308,640 |
| | | X | X | X | | | | | | | | 300 | | | | |
| | | X | X | X | | | | | | | 40 | 300 | 32 | 465 | 170 | 370 |
| | | X | X | X | | | | | | | | 300 | | | | |
| | | X | X | X | | | | | | | 25 | | 13 | 188 | 650 | 1,430 |
| | | X | X | X | | | | | | | 25 | | 16 | 232 | 1,000 | 2,200 |
| | | X | X | X | | | | | | | 40 | 300 | 22 | 320 | 650 | 1,430 |
| | | X | X | X | | | | | | | 40 | 300 | 22 | 320 | 650 | 1,430 |
| | | | | | X | | | | | | 40 | | 13 | 188 | 3,200 | 7,050 |
| | | | | | X | | | | | | 40 | | 13 | 188 | 610 | 1,340 |
| | | | | X | X | X | | | | | 63 | | 45 | 650 | 4,800 | 10,580 |
| | | X | X | X | X | X | X | X | X | | 16 | 125 | 13 | 188 | 26,000 | 57,320 |
| | | | | | X | X | X | | | | 40 | 300 | 32 | 465 | 6,050 | 13,340 |
| | | | | | X | X | X | | | | 40 | 300 | 32 | 465 | 15,500 | 34,170 |
| | | X | X | X | X | X | X | X | X | X | 40 | 300 | 32 | 465 | 26,000 | 57,320 |
| | | | | | X | X | X | | | | 40 | 300 | 32 | 465 | 15,500 | 34,170 |
| | | X | X | X | X | X | X | | | | 40 | 300 | 32 | 465 | 6,050 | 13,340 |
| | | | | | X | X | X | | | | 40 | 300 | 32 | 465 | 15,500 | 34,170 |
| | | X | X | X | X | X | | | | | 100 | | 80 | 1,160 | 5,200 | 11,460 |
| | | X | | X | | X | | | | | 160 | 900 | 140 | 2,030 | 6,000 | 13,230 |
| | | | | | | | | | X | | 16 | | 16 | 232 | 90,000 | 198,410 |
| | | | | | | | | | X | | 25 | | 22 | 320 | 66,000 | 145,500 |
| | | | | | | | X | X | X | | 63 | | 45 | 650 | 32,000 | 70,550 |



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