

Instructions for Installation and Maintenance

GESTRA® Thermostatic Steam Traps MK 25/2 S; MK 25/2 S 3

International patents (including U.S. patents 4, 161, 278 and 4, 356, 964)



Issue Date: 6/90



PN 40
DN 25 mm
(1")

Operation

Thermostatic steam trap with membrane regulator. The regulator consists of corrosion-resistant thermostatic capsules, unaffected by waterhammer (vapour-expansion thermostat). Opening and closing are controlled by the regulator as a function of the temperature and pressure in the trap body. The trap vents automatically during start-up and in continuous operation. Its operation is neither affected by varying upstream pressure nor by back pressure.

Design

MK 25/2 S with 2 thermostatic capsules 5 H 2, MK 25/2 S 3 with 3 thermostatic capsules 5 H 2 for instantaneous condensate discharge.

Standard design with integral strainer.

Capacity Chart

The chart shows the maximum capacities for hot and cold condensate.

MK 25/2 S

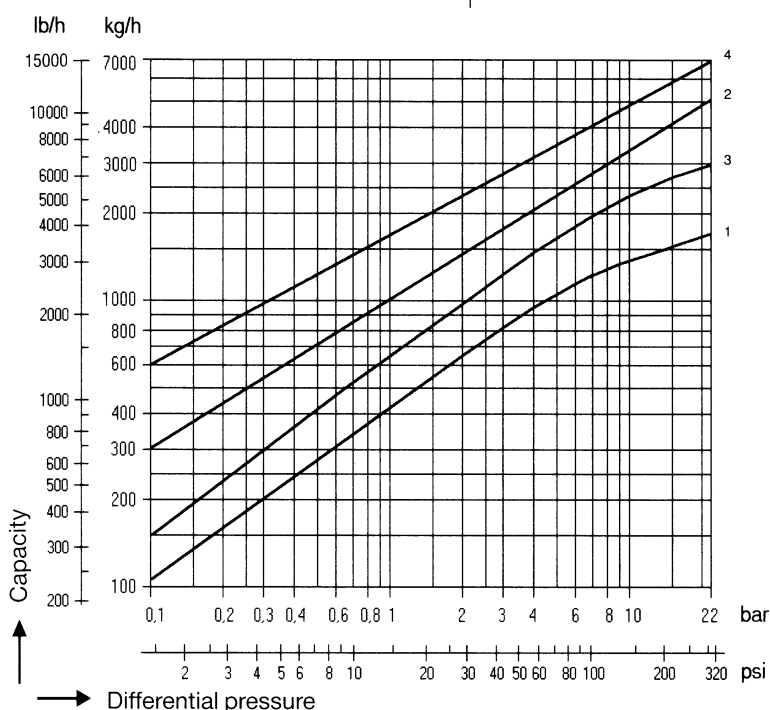
Curve 1: Condensate temperature 10 K (degC) below saturation temperature.

Curve 2: Cold condensate at a temperature of 20 °C (start-up capacity).

MK 25/2 S 3

Curve 3: Condensate temperature 10 K (degC) below saturation temperature.

Curve 4: Cold condensate at a temperature of 20 °C (start-up capacity).



Important Notes

Traps with socket-weld ends should only be welded electrically. Retighten cover bolts after welding.

Installation

The direction of flow is marked by an arrow on the trap body 1. Installation in any plane. To be able to take off cover 4 provide a free space of approx. 60 mm.

Maintenance

The MK does not require any particular maintenance. Cleaning of the strainer and regulator may become necessary from time to time. The cleaning intervals depend on the degree of contamination of the condensate.

Pressure/Temperature Rating according to DIN 3548 PN 40 C 22.8

Max. service pressure	barg psig	32 465	22 320	14.5 210
Related temperature	°C °F	250 482	385 725	450 842
Max. differential pressure (inlet pressure minus outlet pressure)		22 bar (320 psi)		

Checking of capsule

Capsule intact:

The upper face of the valve plate is in the same plane as edge **b** or may protrude by 0.5 mm (dimension $a \geq 4.4$ mm).

If you try to depress the valve plate in the direction of the arrow using a firm object, it should stay almost stable (Fig. 1).

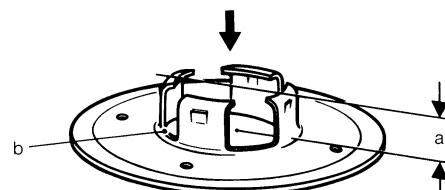


Fig. 1: Intact capsule

Capsule defective:

The upper face of the valve plate protrudes almost to its complete height over edge **b** (dimension $a \leq 3.8$ mm).

If you try to depress the valve plate in the direction of the arrow using a firm object, the plate reaction is mobile as if it were floating on a water cushion (Fig. 2). In this case replace the capsule.

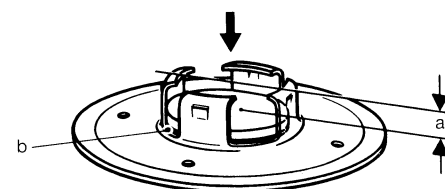


Fig. 2: Defective capsule

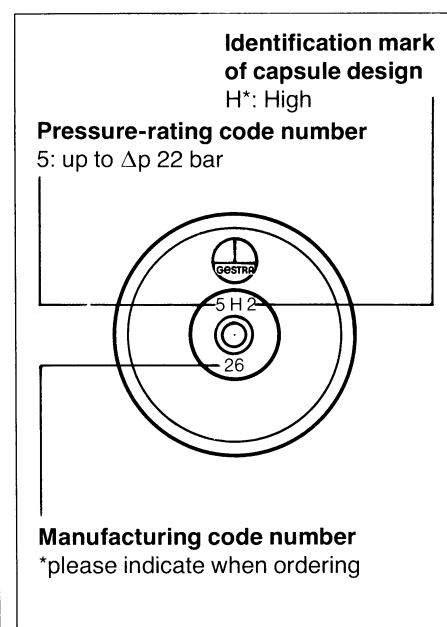


Fig. 3: Markings of thermostatic capsule

Cleaning of Strainer, Replacing of Thermostatic Capsules and Valve-Seat Housing

1. Cut off steam, in the case of back pressure also shut off condensate line.
2. Unscrew cover bolts **5.4/5.5** and remove cover **4**.
3. Withdraw retainer **5.3** and remove thermostatic capsules **3** by pulling them off their seats in housing **2** (press-stud fixing).
4. Clean sealing surfaces of valve-seat housing **2** and capsules **3** and check for damage. If housing **2** or capsules **3** show any wear replace them.
5. Unscrew valve-seat housing **2**, remove strainer **5.1** and carefully clean body **1**, cover **4**, strainer **5.1**, valve-seat housing **2** and all sealing surfaces.
6. Replace strainer **5.1**, renew gasket **5.2**. Apply heat-resistant lubricant to threads of valve-seat housing **2**, screw in housing and tighten applying a torque of 90 Nm.
7. Position capsules **3** horizontally onto force-fit seats in valve-seat housing **2** and press down turning slightly.
8. Push retainer **5.3** back into position, replace cover **4**. Apply heat-resistant lubricant to threads of cover bolts **5.4** screw on nuts **5.5** and tighten in diagonally opposite pairs applying a torque of 35 Nm.

Tools Required

8 mm Allen key
Spanners A.F. 19 mm, 24 mm

Torques Required for Tightening Parts at Room Temperature

2 - 90 Nm
5.4/5.5 - 35 Nm

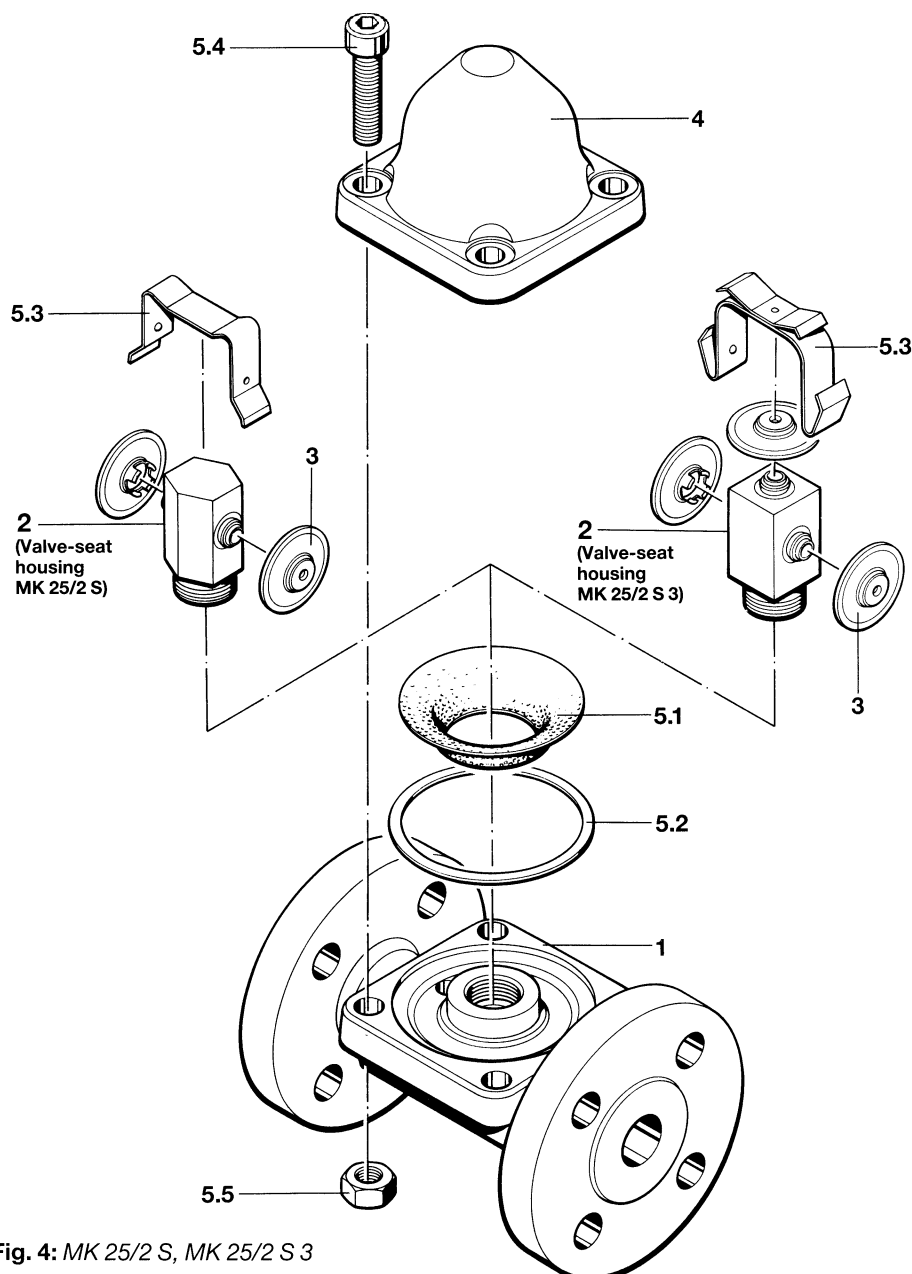


Fig. 4: MK 25/2 S, MK 25/2 S 3

Parts List		MK 25/2 S		MK 25/2 S 3		Hints
Item No.	Designation	Order No.	Number	Order No.	Number	
1	Body	—	1	—	1	no spare part
★ 2	Valve-seat housing complete (without capsules)	099711	1	085427	1	1.4104/1.4305
★ 3	Capsule 5 H 2	099511	2	099511	3	s.s./Hastelloy
4	Cover	—	1	—	1	no spare part
5.1	Strainer	001699	1	001699	1	1.4301
★ 5.2	Cover gasket	086519	1	086519	1	graphite/CrNi
5.3	Retainer	099715	1	085430	1	
5.4	Socket-head cover bolt M 10 × 40	013119	4	013119	4	DIN 912, 1.7711
5.5	Hexagonal nut M10	013123	4	013123	4	DIN 934, 1.7258

★ Parts subject to wear (stock-keeping recommended)



GESTRA AKTIENGESELLSCHAFT

P.O.B. 105460 · Hemmstr. 130 · D-2800 Bremen 1 · Tel. (0421) 3503-0 · Fax (0421) 3503-393 · Tlx 244945-0 gb d · Ttx 42 12 166 GAGHB