

GESTRA Steam Systems

Product Range A1

Steam Traps

UNA 23, UNA 25, UNA 26

UNA 23

UNA 25

UNA 26

Description

Ball float traps with rolling ball valve and Duplex control (thermostatic bellows for automatic air-venting) for draining large condensate flowrates from steam systems.

With Simplex control (without bellows) and hand vent valve for the discharge of cold condensate or distillates and for draining superheated steam, gas or compressed-air lines.

UNA 2...h for horizontal lines

UNA 2...v for vertical lines.

Body with flanged cover. After removing the cover the control unit is easily accessible without removing the trap from the line.

On request:

Float lifting lever

Sightglass cover (only for UNA 23, PN 16)

Hand vent valve for traps with Duplex control.

Pressure / Temperature Rating

	UNA 23 PN 16 GG-25	UNA 25 PN 40 GGG-40.3	UNA 26 PN 40 DN 15-25 C 22.8	UNA 26 PN 40 DN 40/50 GS-C25
Max. service pressure PMA [barg]	16	13	38	32
[psig]	232	189	550	465
Max. temperature TMA [°C]	120	300	120	250
[°F]	248	572	248	482
Max. differential pressure Δ PMX (inlet pressure minus outlet pressure) [barg]	13 (8, 4, or 2)	32 (22, 13, 8, 4, or 2)		
Max. temperature for design with sightglass cover*)	240 °C (464 °F)			

*) Please note: pH values above 9 and temperatures exceeding 200 °C (392 °F) may reduce the life of the sightglass.

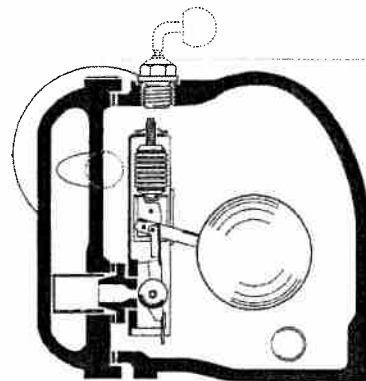
Connections

- UNA 23 h and UNA 23 v
Flanges to EN 1092-2, form B
- UNA 25 h and UNA 25 v
Flanges to DIN 2545, form C
- UNA 26 h and 26 v
Flanges to DIN 2545, form C
- UNA 26 h
Flanges to ASME B 16.5 150 RF or 300 RF
Socket-weld ends
Butt-weld ends
Screw sockets to BSP or NPT

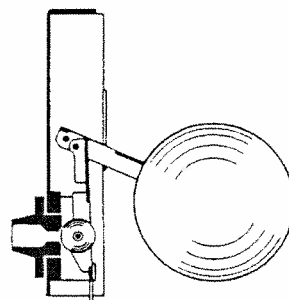
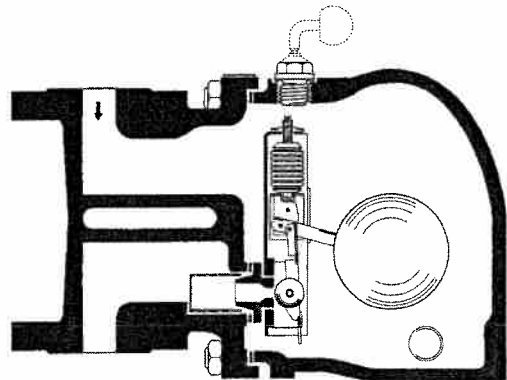


The products meet the requirement of the EC Pressure Equipment Directive (PED) No. 97/23. DN 40/50 with CE marking. DN 15-25 is excluded from the scope of the PED and **not entitled** to bear the marking.

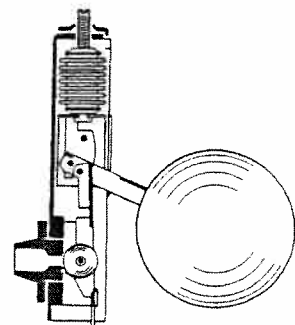
UNA 23 h, UNA 25 h, UNA 26 h (horizontal)
for horizontal installation



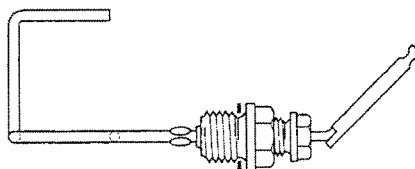
UNA 23 v, UNA 25 v, UNA 26 v (vertical)
for vertical installation



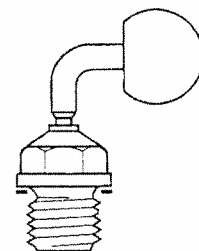
Control unit Simplex
(without thermostatic bellows)



Control unit Duplex
(with thermostatic bellows for automatic air-venting)



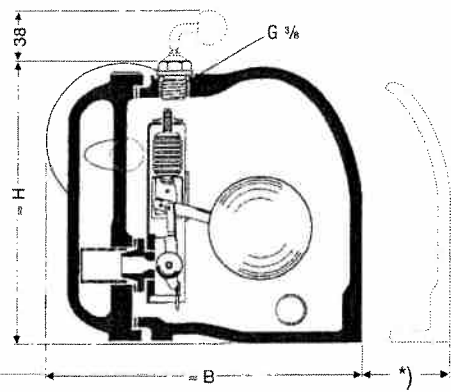
Float lifting lever
(on request)



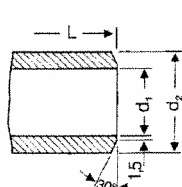
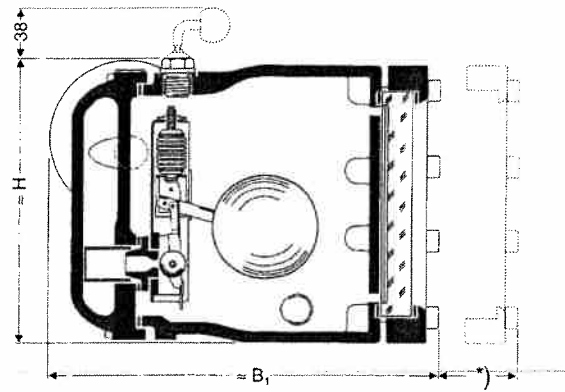
Hand vent valve
(standard for Simplex design)

Dimensions and Weights UNA 23 h, UNA 25 h, UNA 26 h

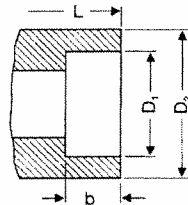
with closed cover



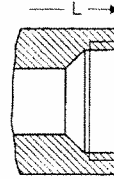
with sightglass cover (only UNA 23, PN 16)



Butt-weld ends (UNA 26 h)



Socket-weld ends (UNA 26 h)



Screwed sockets (UNA 26 h)

*) Space required for opening trap
DN 15 – 25 ≈ 130
DN 40 u. 50 ≈ 200

Nominal sizes DN		[mm]	15	20	25	40	50
		[inch]	½	¾	1	1½	2
Overall length [mm] all types flanged to DIN	L ¹⁾		150	150	160	230	230
	flanged to ASME L ²⁾		210	210	230	320	320
	UNA 26 h Butt-weld ends L ³⁾		200	200	200	230	230
	Socket-weld ends L		200	200	200	230	230
	Screwed sockets L		200	200	200	255	255
Dimensions [mm]	L ₁		94	94	94	154	154
	B		187	192	197	294	302
	B ₁		232	237	242	341	349
	H		184	184	184	318	318
	H ₁		126	126	126	219	219
	H ₂		58	58	58	99	99
UNA 26 h	Socket-weld end D ₂		35	40	45	62	73
	D ₁		22	27.5	34.3	49	61.5
	b		10	13	13	13	16
	Butt-weld ends d ₂ ³⁾		22	28	34	54	67
	d ₁		17	22	28.5	43	54
	for pipe		21.3 x 2	26.9 x 2.3	33.7 x 2.6	48.3 x 2.6	60.3 x 3.2
Weight	with closed cover		9	9.5	10	29	30
UNA 23 h [kg]	with sightglass cover		11	11.5	12	34.5	35.5
Weight UNA 25 h, UNA 26 h		[kg]	9.5	10	10.5	30	31

1) Face-to-face dimensions to DIN EN 26554 (ISO 6554) series 1

2) Face-to-face dimensions to DIN EN 26554 (ISO 6554) series 3

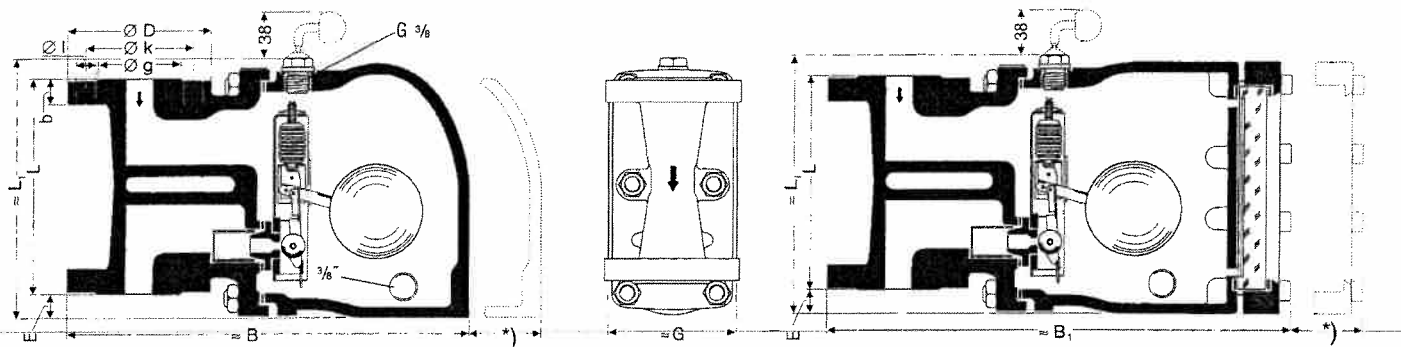
3) Butt-weld ends to DIN EN 12627-R1, weld joint geometry to DIN 2559, code number 22

Flange dimensions in [mm] to DIN 2545/EN 1092-2		DN	15	20	25	40	50
UNA 23 h and v UNA 25/26 h and v	D		95	105	115	150	165
	b		14	16	16	18	20
	b		16	18	18	18	20
	k		65	75	85	110	125
	g		45	58	68	88	102
	l		14	14	14	18	18
Number of bolts			4	4	4	4	4

Dimensions and Weights UNA 23 v, UNA 25 v, UNA 26 v

with closed cover

with sightglass cover (only UNA 23, PN 16)



Nominal sizes DN		[mm]	15	20	25	40	50
		[inch]	½	¾	1	1½	2
Overall lengths in [mm] with flanges to DIN L ₁)			150	150	160	230	230
Dimensions in [mm]	L ₁		184	184	184	318	318
	B		267	272	227	403	411
	B ₁		310	315	320	451	459
	E		18	18	13	42	42
	G		94	94	94	154	154
Weight with closed cover			8.5	9	10	30	31
UNA 23 v [kg] with sightglass cover			10.5	11	12	35.5	36.5
Weight UNA 25 v, UNA 26 v		[kg]	9	9.5	10.5	31	32

1) Face-to-face dimensions to DIN EN 26554 (ISO 6554), series 1

Materials			New DIN designation		Old DIN designation		ASTM equivalent ⁴⁾
			Short designation	Number	Short designation	Number	
Body	UNA 23		EN-GJL-250	EN-JL 1040	GG-25	0.6025	A 126 Cl.B
	UNA 25		EN-GJS-400-18-LT	EN-JS 1025	GGG-40.3	0.7043	FGS 370-17
	UNA 26 h	DN 15-25			C 22.8	1.0460	A 105
	UNA 26 h	DN 40 + 50	GP 240 GH	1.0619	GS-C 25	1.0619	A 216 WCB
	UNA 26 v		GP 240 GH	1.0619	GS-C 25	1.0619	A 216 WCB
Cover	UNA 23		EN-GJL-250	EN-JL 1040	GG-25	0.6025	A 126 Cl.B
	UNA 25		EN-GJS-400-18-LT	EN-JS 1025	GGG-40.3	0.7043	FGS 370-17
	UNA 26		GP 240 GH	1.0619	GS-C 25	1.0619	A 216 WCB
Bolts		DN 15-25 (h)			24 CrMo 5	1.7258	A 193 B 16
		DN 15-25 (v)			21 CrMoV 57	1.7709	A 193 B 16
	UNA 23	DN 40 + 50			5.6-2		
	UNA 25, 26	DN 40 + 50			21 CrMoV 57	1.7709	A 193 B 16
Nuts		DN 15-25 (v)			24 CrMo 5	1.7258	A 193 B 16
	UNA 23	DN 40 + 50			5.2		
	UNA 25, 26	DN 40 + 50			24 CrMo 5	1.7258	A 193 B 16
Seat					X 8CrNiS 18-9	1.4305	AISI 303
Ball valve					X 6CrNiMoTi 17-12-2	1.4571	AISI 316 Ti
Ball float					X 6CrNiMoTi 17-12-2	1.4571	AISI 316 Ti
Bellows					X 6CrNiTi 18-10	1.4541	A 182 F 321
Other internals					X 6CrNi 18-10	1.4301	A 182 F 304
Body and seat gasket					Graphite-CrNi		

⁴⁾ Physical and chemical properties comply with DIN grade. ASTM nearest equivalent grade is stated for guidance only.

Steam Traps
UNA 23, UNA 25, UNA 26

Capacity Chart

The chart shows the maximum capacities of hot condensate for the range of orifices and sizes available for the float-controlled traps. The cold water capacities are: Capacity of hot condensate multiplied by factor F.

The capacities are dependent on the differential pressure (working pressure). The differential pressure is the difference between inlet and outlet pressures and depends among other things on the run of the pipeline. If the condensate downstream of the trap is lifted, the differential pressure is reduced by approximately 1 bar for 7 m (or 2 psi for 3 feet) in lift.

The maximum admissible differential pressure is dependent on the cross-sectional area of the orifice and the density of the fluid to be discharged.

The standard designs of the traps are available for the following maximum differential pressures:

UNA 23: up to 2, 4, 8 or 13 bar.
UNA 25/26: up to 2, 4, 8, 13, 22 or 32 bar.

Orifice	DN 15 - 25 mm (½" - 1")	
	k _{vs} -value [m³/h]	Ø of bore [mm]
Orifice 2	1.5	8
Orifice 4	0.9	6
Orifice 8	0.58	4.8
Orifice 13	0.44	4.1
Orifice 22	0.38	3.5
Orifice 32	0.31	3
DN 40 + 50 mm (1½" + 2")		
Orifice 2	6	15
Orifice 4	4.1	12.5
Orifice 8	3.2	10
Orifice 13	2.1	8.5
Orifice 22	1.5	7
Orifice 32	1.1	6.5

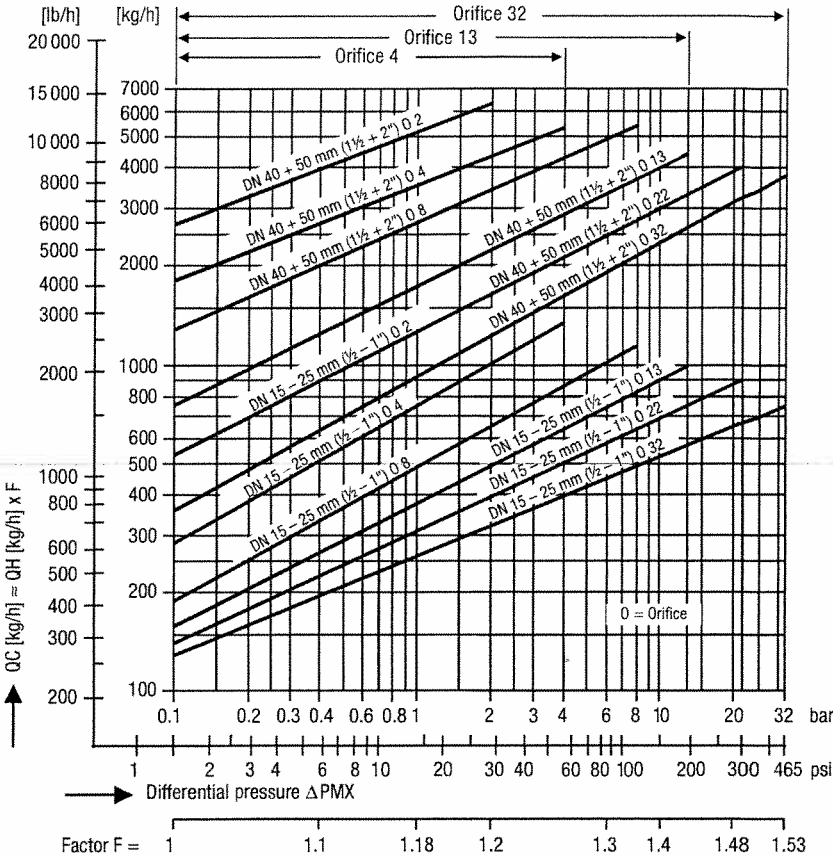
When ordering please state:

Inlet pressure, outlet pressure, quantity of condensate to be discharged, design, size and desired orifice, position of trap and details of application.

The following test certificates can be issued on request, at extra cost:

In accordance with EN 10204-2.2 for UNA 23. For UNA 25 and UNA 26 also 3.1A, 3.1B and 3.1C. All inspection requirements have to be stated with the order. After supply of the equipment certification cannot be established. For test and inspection charges please consult us.

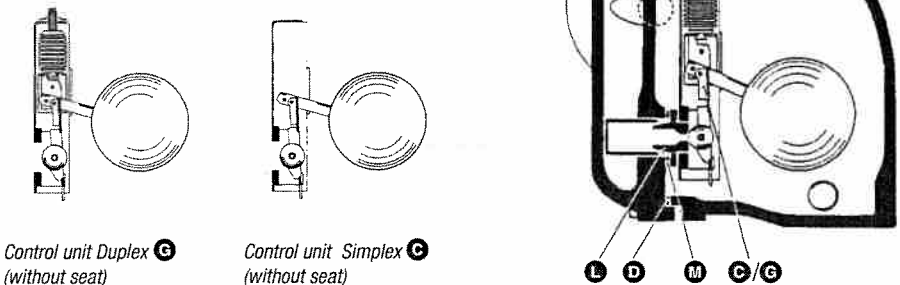
Supply in accordance with our general terms of business.



Spare Parts

Item no.	Designation	Ref. no.	
		DN 15-25	DN 40 + 50
M	Seat gasket*) DN 15-25: 18.5 x 35 x 1, DN 40 + 50: 27 x 40 x 1	560 489	560 490
C	Control unit Simplex including seat gasket M two socket-head screws K and cover gasket D, without seat	560 079	560 094
G	Control unit Duplex up to 13 barg (185 psig), otherwise as above	560 080	560 095
G	Control unit Duplex above 13 barg (185 psig), otherwise as above	560 081	560 096
D	Cover gasket*)	560 491	560 492
L	Seat including gasket M and two socket-head screws K	Orifice 32	560 045
		Orifice 22	560 044
		Orifice 13	560 043
		Orifice 8	560 042
		Orifice 4	560 041
		Orifice 2	560 040

*) Kit consisting of 20 items



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FLOWSERVE

GESTRA

GESTRA Steam Systems

UNA 23

UNA 25

UNA 26

UNA 27



Installation Instructions 810516-06

Steam Traps

UNA 23, UNA 25, UNA 26, UNA 26h Stainless Steel, UNA 27h

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Important Notes

Usage for the intended purpose

UNA 23, UNA 25:

Use the steam traps only for the discharge of condensed steam within the admissible pressure/temperature ratings.

Contact the factory for specific recommendations concerning the chemical resistance and suitability of the valve material for the application in question.

UNA 26, UNA 26h Stainless Steel, UNA 27h:

Use the steam traps only for the discharge of condensates, liquids and condensable gases in pipes.

Use the equipment only within the specified pressure and temperature ratings and check corrosion resistance and chemical suitability for the application in question.

Safety note

The equipment must only be installed and commissioned by qualified staff.

Maintenance and service work must only be performed by adequately trained persons who have a recognised level of competence.



Danger

The steam trap is under pressure during operation.

When loosening flanged connections or sealing plugs, hot water, steam, corrosive liquids or toxic gases may escape. This presents the danger of severe burns and scalds to the whole body or severe cases of poisoning.

Installation and maintenance work should only be carried out when the system is depressurized. Isolate the trap from both upstream and downstream pressure.

The steam trap becomes hot during operation. This presents the risk of severe burns to hands and arms. Installation and maintenance work should only be carried out at room temperatures.

Sharp edges on internals present a danger of cuts to hands. Always wear industrial gloves for installation and maintenance work.



Attention

The name plate indicates the technical specification of the equipment.

Do not commission or operate a steam trap without name plate.

PED (Pressure Equipment Directive)

The equipment fulfills the requirements of the Pressure Equipment Directive PED 97/23/EC. UNA 23 and UNA 25 for applications with fluids of group 2; UNA 26, UNA 26h stainless steel and UNA 27h for applications with fluids of group 1 and 2.

With CE marking (apart from equipment according to section 3.3).

ATEX (Atmosphere Explosible)

The equipment does not have its own potential source of ignition and is therefore not subject to the ATEX Directive 94/9/EC. The equipment can be used in potentially explosive areas 0, 1, 2, 20, 21, 22 (1999/92/EC). The equipment is not Ex marked.

Explanatory Notes

Scope of supply

**UNA 23h/v, UNA 25h/v, UNA26h/v,
UNA 26h stainless steel, UNA 27h**

1 Steam trap UNA 2..
1 Installation manual

UNA 2.. with Simplex control

1 Steam trap UNA 2..
1 Hand vent valve with gasket
1 Installation manual

UNA 2.. with float lifting lever

1 Steam trap UNA 2..
Float lifting lever installed
1 Lever extension
1 Installation manual

Description

UNA 2.. are ball float traps with rolling ball closing mechanisms.

The steam traps work independently of back pressure, thus ensuring universal application.

The steam trap UNA features a body with bolted cover and a control unit. Two different control units are available: Level-dependent SIMPLEX control for cold condensate and superheated steam, and temperature-dependent DUPLEX control with automatic deaeration for saturated steam systems.

Optional item: sightglass cover with integral water-level gauge glass (UNA 23, PN 16).

Function

The ball valve of the control unit is operated by the float as a function of the condensate level in the trap. The cross-sectional area (CSA) of the orifice dictates the max. flowrate when the valve is completely open. The max. admissible differential pressure of the control unit is a function of the CSA of the orifice and the density of the fluid to be discharged. There are different closing units (orifices) available which can also be exchanged subsequently. Float traps equipped with control units DUPLEX enable automatic temperature-dependent deaeration of saturated steam systems during start-up and in continuous operation.

Design

UNA 23h, UNA 25h, UNA 26h, UNA 26h stainless steel:
for installation in horizontal pipes

UNA 23v, UNA 25v, UNA 26v:
for installation in vertical pipes

UNA 23h, UNA 23v:
with sightglass cover (integrated reflexion water level indicator)

Technical Data

UNA 23h/v, UNA 25h/v, UNA 26h/v, UNA 27h

Orifices (O) (Seat design)	Max. admissible differential pressure ^{1) 2)} ΔPMX [bar]	UNA 23h/v	UNA 25h/v UNA 26h/v UNA 26h stainless steel	UNA 27h
0 2	2	●	●	
0 4	4	●	●	
0 8	8	●	●	
0 13	13	●	●	
0 16	16			●
0 22	22		●	
0 28	28			●
0 32	32		●	
0 45	45			●

¹⁾ Observe pressure/temp. specifications.

²⁾ Inlet pressure minus outlet pressure.

Pressure / Temperature Ratings

UNA 2... without sightglass cover:

For pressure / temperature ratings see indications on trap body or name plate: pressure class PN / Class, material number, max. temperature, max. pressure, max. differential pressure.

UNA 23h/v: max. admissible temperature: 300 °C

UNA 25h/v: max. admissible temperature: 350 °C

UNA 26h stainless steel: max. admissible temperature: 300 °C

UNA 26h/v: max. admissible temperature: 400 °C

UNA 23h/v with sightglass cover: max. admissible temperature: 240 °C

Reduced temperature limits for sightglass cover with integrated reflexion water level indicator.

If the pH value is above 9.0 and the fluid temperature exceeds 200 °C the glass will get more wear.

Corrosion Resistance

When used for its intended purpose the safe functioning of the steam trap will not be impaired by corrosion.

Sizing

The trap body must not be subjected to sharp increases in pressure.

The dimensional allowances for corrosion reflect the latest state of technology.

Name Plate / Marking

For pressure and temperature ratings see indications on trap body or name plate.

According to EN 19 the name plate must specify:

- Manufacturer
- Type designation
- Pressure class PN or Class
- Material number
- Max. temperature
- Stamp on name plate, e. g. $\frac{4}{04}$ specifies the manufacturing year and the quarter, in this case the 4th quarter in 2004.



Fig. 1

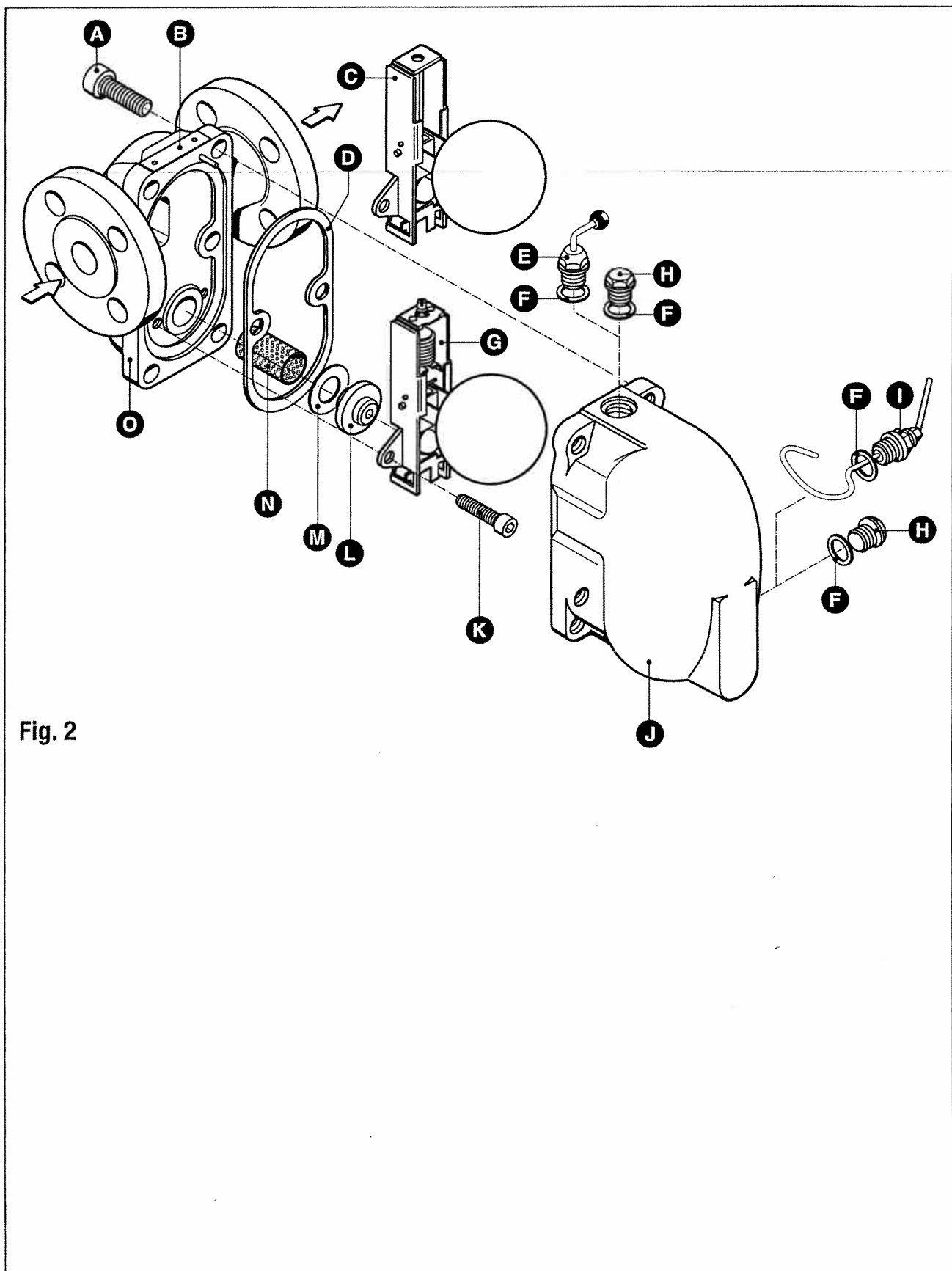


Fig. 2

Component Parts UNA 23v, UNA 25v, UNA 26v, UNA 23h/v (sightglass cover)

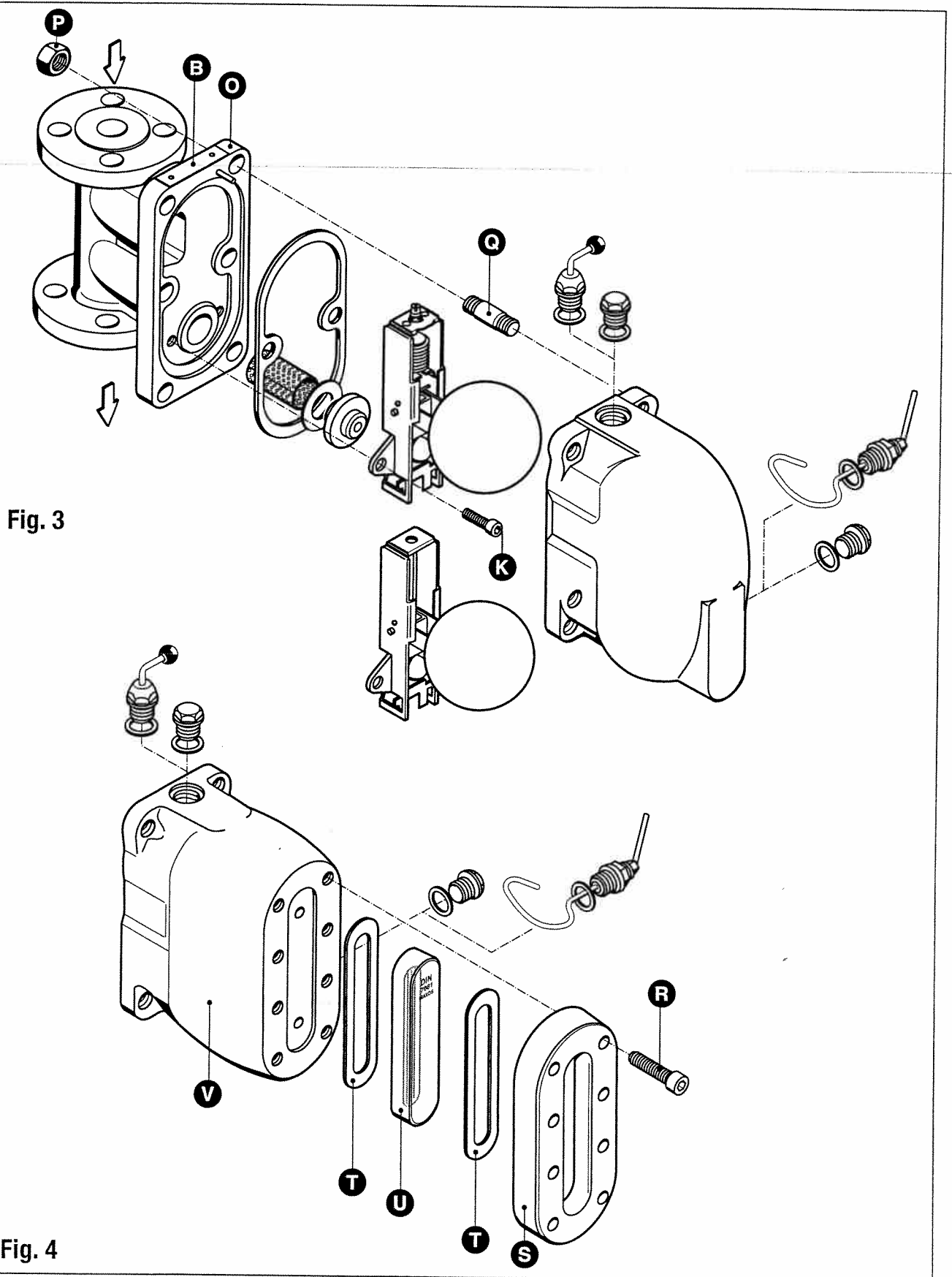


Fig. 3

Fig. 4

Component Parts UNA 27h

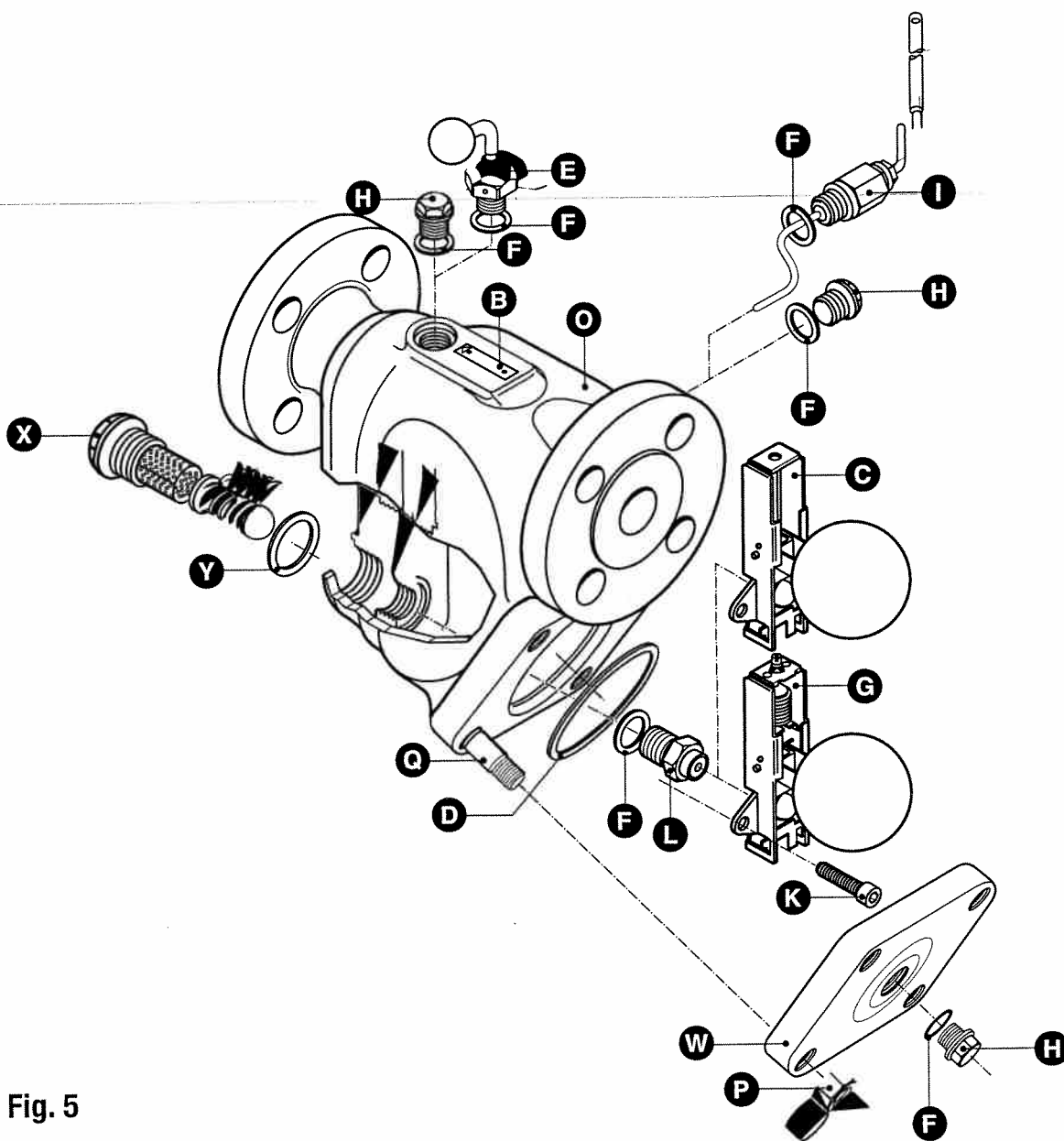


Fig. 5

Key to Component Parts

- A** Hexagon-socket screw
- B** Name plate
- C** Control unit Simplex
- D** Body gasket (graphite/CrNi)
- E** Hand vent valve
- F** Gasket
- G** Control unit Duplex
- H** Plug
- I** Float lifting lever with handle
- J** Cover
- K** Hexagon-socket screw
- L** Orifice
- M** Seat gasket (graphite/CrNi)
- N** Deflector
- O** Body
- P** Hexagon nut
- Q** Fixing stud
- R** Hexagon-socket screw
- S** Flange for sightglass cover
- T** Gasket (graphite/CrNi)
- U** Water-level gauge glass
- V** Sightglass cover
- W** Body lid
- X** Non-return valve, cpl.
- Y** Gasket

Installation

UNA 23h/v, UNA 25h/v, UNA 26h/v, UNA 27h

The float traps can – depending on their body design – be installed in horizontal or vertical pipelines with downward flow.

Flanged Traps

1. Take care of correct position of installation. Name plate **B** must always be on top.
2. Take care of flow direction. The flow arrow is on the trap body.
3. Consider space required for opening trap. When the trap is installed a minimum space of at least 130 mm (DN 15-25) / 200 mm (DN 40, 50) is required for removing the cover **J** or **V C**.
4. Remove plastic plugs. They are only used as transit protection.
5. Clean seating surfaces of both flanges.
6. Install steam trap.

Screwed-Socket Traps

1. Take care of correct position of installation. Name plate **B** must always be on top.
2. Take care of flow direction. The flow arrow is on the trap body.
3. Consider space required for opening trap. When the trap is installed a minimum space of at least 130 mm (DN 15-25) / 200 mm (DN 40, 50) is required for removing the cover **J** or **V C**.
4. Remove plastic plugs. They are only used as transit protection.
5. Clean threads of screwed sockets.
6. Install steam trap.

Socket-Weld Traps

1. Take care of correct position of installation. Name plate **B** must always be on top.
2. Take care of flow direction. The flow arrow is on the trap body.
3. Consider space required for opening trap. When the trap is installed a minimum space of at least 130 mm (DN 15-25) / 200 mm (DN 40, 50) is required for removing the cover **J** or **V C**.
4. Remove plastic plugs. They are only used as transit protection.
5. Clean socket-weld ends.
6. Arc-weld trap only manually (welding process 111 and 141 in accordance with ISO 4063).

Butt-Weld Traps

1. Take care of correct position of installation. Name plate **B** must always be on top.
2. Take care of flow direction. The flow arrow is on the trap body.
3. Consider space required for opening trap. When the trap is installed a minimum space of at least 130 mm (DN 15-25) / 200 mm (DN 40, 50) is required for removing the cover **J** or **V C**.
4. Remove plastic plugs. They are only used as transit protection.
5. Clean butt-weld ends.
6. Arc-weld trap only manually (welding process 111 and 141 in accordance with ISO 4063) or use gas-welding process (welding process 3 in accordance with ISO 4063).

Installation – continued –



Attention

- Only qualified welders certified e. g. according to EN 287-1 may weld the steam trap into pressurized lines.
The responsibility lies with the owner of the installation.

Heat treatment of welds

A subsequent heat treatment of the welds is only required if this is necessary for the material in question, e. g. for 1.7335 (13CrMo4-5) / A182-F12 (not standard material).

Hand vent valve

1. Remove plug **H**.
2. Insert gasket **F**, fit hand vent valve **E** in place.
For torque see table “Torques” on page 15.
3. Close the hand vent valve.

Tools

- Spanner A.F. 22 mm to DIN 3113, form B
- Torque spanner 20 – 120 Nm, to DIN ISO 6789

Floating lifting lever (optional extra)

1. Take heed of the note “Danger” on page 4.
2. Remove plug **H**.
3. Mount float lifting lever **I** together with gasket **F**. Attach handle to float-lifting lever and hold it in a vertical position. For torque see table “Torques” on page 15.

Commissioning

UNA 23h/v, UNA 25h/v, UNA 26h/v, UNA 27h

Make sure that all flanged connections, the hand vent valve and the float lifting lever are firmly fixed to the trap, ensuring a tight, leakproof joint.

If the steam trap is to be used in a new installation which has not been rinsed yet, it may be necessary to check and – if required – clean the trap.

Operation

Hand vent valve

1. Take heed of the note "Danger" on page 4.
2. Open the hand vent valve if necessary.
3. Close hand vent valve firmly after the venting process.

Float lifting lever

1. Take heed of the note "Danger" on page 4.
2. Attach handle to float-lifting lever **❶**, **Fig. 2**.
3. Turn float-lifting lever **❶** according to the direction arrow on the cover **❶** / **❷**.
4. Turn float-lifting lever **❶** in the opposite direction of the arrow to close the valve and remove the handle.

Maintenance

GESTRA steam traps type UNA do not require any special maintenance. However, if used in new installations which have not been rinsed it may be necessary to check and clean the trap.

Check steam trap

You can check the trap UNA for steam loss during operation using the ultrasonic measuring unit VAPOPHONE® or the test unit TRAPtest®. In case of steam loss clean the trap and/or replace the control unit or orifice (closing unit).

Clean / exchange control unit

1. Take heed of the note "Danger" on page 4.
2. Undo the body screws **A** or hexagon nuts **P**. Remove cover **J** / **V** from body **O**.
3. Unscrew hexagon-socket screws **K**, remove control unit **C** or **G** and orifice **L**.
4. Replace control unit **C** or **G** and orifice **L** in case of visible signs of wear or damage.
5. Clean body, internals and all gasket surfaces.
6. Apply heat-resistant lubricant to all threads and the seating surfaces of the closing unit and cover (use for instance WINIX® 2150).
7. Insert orifice **L**, attach control unit **C** or **G** and tighten screws **K** alternately. For torque see table "Torques" on page 15.
8. Insert a new body gasket **D**.
9. Put cover onto the body. Tighten body screws **A** or hexagon nuts **P** alternately in several steps to the torque indicated in the table on page 15.

Tools

- Spanner A. F. 17, 19, 22 and 24 mm to DIN 3113, form B.
- Allen key A. F. 5, 6, 10 mm to ISO 2936
- Torque spanner 10 – 60 Nm, 60 – 120 Nm; DIN ISO 6789

Clean/exchange sightglass cover

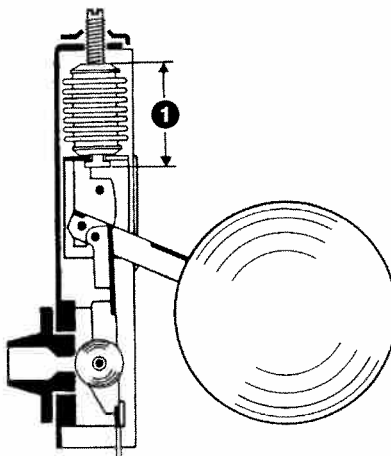
1. Take heed of note “Danger” on page 4.
2. Undo hexagon-socket screws **R**. Remove flange **S** from body **V**.
3. Remove and clean water-level gauge glass **U**.
4. Replace water-level gauge glass **U** and gaskets **T** in case of visible signs of wear or damage.
5. Clean all gasket surfaces.
6. Apply heat-resistant lubricant to all threads and seating surfaces of the flange (use for instance WINIX® 2150).
7. Insert gasket **T** and water-level gauge glass **U**. Install flange **S** and tighten the screws **R** alternately and evenly. For torque see table “Torques” on page 15.



Attention

Do not change the factory setting of the bellows (thermostatic element).
In case of inadvertent misadjustment restore the factory setting. When the float ball is pushed right down the dimension **1** (length of bellows) should be as follows:

Type	Size	Design	Dimension 1
UNA 23h/v, UNA 25h/v, UNA 26h/v, UNA 26h stainless steel	DN 15 - 25	Control unit up to 13 bar (soft bellows)	34.5 mm
	DN 15 - 25	Control unit up to 32 bar (hard bellows)	32.0 mm
	DN 40, 50	Control unit 2 up to 32 bar	34.5 mm
UNA 27h	DN 15 - 25	Control unit 16 up to 45 bar	32.0 mm
	DN 40, 50	Control unit 16 up to 45 bar	51.5 mm



Torques

Designation		Torque [Nm]							
Item		UNA 23h/v		UNA 25h/v UNA 26h/v		UNA 26h stainless steel		UNA 27h	
		DN 15-25	DN 40, 50	DN 15-25	DN 40, 50	DN 15-25	DN 40, 50	DN 25	DN 40, 50
Hexagon-socket screw	A	40 ¹⁾		60 ¹⁾		60			
Hand vent valve	E	75	75	75	75	140	140	140	140
Plug	H	75	75	75	75	140	140	140	140
Float lifting	I	75	75	75	75	140	140	170	170
Hexagon-socket screw	K	5	10	5	10	5	10	5	10
Orifice	L							180	240
Hexagon nut	P	40 ²⁾	75	60 ²⁾	115		180	115	115
Hexagon-socket screw	R	15	15						

¹⁾ UNA..h for installation in horizontal pipes

²⁾ UNA..v for installation in vertical pipes

Spare Parts

Spare part list UNA 23h/v, UNA 25h/v, UNA 26h/v, UNA 27h

Item	Designation	Ref. no.	Ref. no.	
		DN 15 – 25	DN 40 + 50	
D	Body gasket ¹⁾ (graphite/CrNi)	560 491	560 492	
F	Gasket ¹⁾ 17 x 23	560 486	560 486	
T	Sightglass gasket ²⁾ (graphite/CrNi)	560 487	560 488	
U T	Reflection sightglass with gasket	560 481	560 480	
M	Seat gasket ¹⁾ (graphite/CrNi)	560 489	560 490	
G L M K D	Control unit Duplex, complete	Orifice 2	560 073	560 088
		Orifice 4	560 074	560 089
		Orifice 8	560 075	560 090
		Orifice 13	560 076	560 091
		Orifice 22	560 077	560 092
		Orifice 32	560 078	560 093
C L M K D	Control unit Simplex, complete	Orifice 2	560 067	560 082
		Orifice 4	560 068	560 083
		Orifice 8	560 069	560 084
		Orifice 13	560 070	560 085
		Orifice 22	560 071	560 086
		Orifice 32	560 072	560 087

¹⁾ Minimum order quantity 20 items.

²⁾ Minimum order quantity 10 items. Contact your local dealer for smaller quantities.

Spare Parts – continued –

Spare part list UNA 23h/v, UNA 25h/v, UNA 26h/v, UNA 27h – continued –

Item	Designation	Ref. no.	Ref. no.	
		DN 15 – 25	DN 40 + 50	
C M K D	Control unit Simplex, complete without orifice	560 079	560 094	
G M K D	Control unit Duplex up to 13 bar, complete without orifice	560 080	560 095	
G M K D	Control unit Duplex above 13 bar, complete without orifice	560 081	560 096	
L M K	Orifice, complete without control unit	Orifice 2	560 040	560 046
		Orifice 4	560 041	560 047
		Orifice 8	560 042	560 048
		Orifice 13	560 043	560 049
		Orifice 22	560 044	560 050
		Orifice 32	560 045	560 051
E F	Hand vent valve with gasket	560 058		

Spare Parts – continued –

Spare part list UNA 26h Stainless Steel

Item	Designation		Ref. no.	Ref. no.
			DN 15–25	DN 40 + 50
D	Body gasket ¹⁾ (graphite/CrNi)		560 491	560 492
F	Gasket ¹⁾ 17 x 23		560 514	560 514
M	Seat gasket ¹⁾ (graphite/CrNi)		560 489	560 490
G L M K D	Control unit Duplex, complete	Orifice 2	560 394	560 388
		Orifice 4	560 395	560 389
		Orifice 8	560 396	560 390
		Orifice 13	560 397	560 391
		Orifice 22	560 398	560 392
		Orifice 32	560 399	560 393
C L M K D	Control unit Simplex, complete	Orifice 2	560 097	560 104
		Orifice 4	560 098	560 105
		Orifice 8	560 099	560 106
		Orifice 13	560 100	560 107
		Orifice 22	560 101	560 108
		Orifice 32	560 102	560 109

¹⁾ Minimum order quantity 20 items.

²⁾ Minimum order quantity 10 items. Contact your local dealer for smaller quantities.

Spare Parts – continued –

Spare part list UNA 26h Stainless Steel – continued –

Item	Designation	Ref. no	Ref. no.
		DN 15–25	DN 40 + 50
C M K D	Control unit Simplex, complete without orifice	560 103	560 110
G M K D	Control unit Duplex up to 13 bar, complete without orifice	560 401	560 403
G M K D	Control unit Duplex above 13 bar, complete without orifice	560 400	560 402
L M K	Orifice, complete without control unit	Orifice 2	560 111
		Orifice 4	560 112
		Orifice 8	560 113
		Orifice 13	560 114
		Orifice 22	560 115
		Orifice 32	560 116
E F	Hand vent valve with gasket	560 125	

Spare Parts – continued –

Spare part list UNA 27h

Item	Designation		Ref. no.	Ref. no.
			DN 25	DN 40 + 50
D	Body gasket ¹⁾ (graphite/CrNi)		522 247	522 248
F	Gasket ¹⁾ 17 x 23		560 514	560 514
G L M K D	Control unit Duplex, complete	Orifice 16	560 376	560 379
		Orifice 28	560 377	560 380
		Orifice 45	560 378	560 381
C L M K D	Control unit Simplex, complete	Orifice 16	560 370	560 373
		Orifice 28	560 371	560 374
		Orifice 45	560 372	560 375
C M K D	Control unit Simplex, complete without orifice		560 366	560 368
G K D	Control unit Duplex, complete without orifice		560 367	560 369
L M K	Orifice, complete without control unit	Orifice 16	560 384	560 387
		Orifice 28	560 383	560 386
		Orifice 45	560 382	560 385
X	Non-return valve, complete		560 406	560 407
E F	Hand vent valve with gasket		560 058	

¹⁾ Minimum order quantity 10 items. Contact your local dealer for smaller quantities.

Annex

CE Declaration of Conformity

We hereby declare that the pressure equipment **UNA 23h/v, UNA 25h/v, UNA 26h/v, UNA 26h stainless steel and UNA 27h**, conform to the following European Directive:

- EC Pressure Equipment Directive (PED) No. 97/23 of 29 May 1997 – apart from equipment according to section 3.3

Applied conformity assessment procedure acc. to Annex III: module H, verified by the Notified Body 0525.

This declaration is no longer valid if modifications are made to the equipment without prior consultation with us.

Bremen, 10th December 2004
GESTRA AG

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For your notes



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Instructions for Installation and Maintenance

GESTRA® Duo Steam Trap BK 28



Issue Date: 4/01

Steam Traps
PN 100
DN 15–25 mm
1/2–1"
BK 28

A₁

Operation

Thermostatic/thermodynamic steam trap with corrosion-resistant regulator unaffected by waterhammer. The trap opens and closes a few degrees below saturation temperature relative to the applied pressure. It vents air automatically during start-up and during continuous operation.

The stage nozzle of the regulator operates as a non-return valve.

Pressure/Temperature Rating (DIN 2401) PN 100 15 Mo 3				
PMA (Maximum allowable pressure)	barg psig	87 1260	74 1070	70 1015
TMA (Maximum allowable temperature)	°C °F	300 572	400 752	450 842
ΔPMX (Maximum differential pressure) (inlet pressure minus outlet pressure)		85 bar (1230 psi)		

Installation

The direction of flow is marked by an arrow on the trap body and in addition it is indicated by the name plate in the form of an arrow. Installation in any plane. To be able to take off cover 3 provide a free space of approx. 80 mm.

Important Note

Heat Treatment of Welds

The material 15 Mo 3 does not require any heat treatment after welding. If the BK 28 is, however, welded into a pipeline made of 13 CrMo 4 4, we recommend that only resistance annealing is used. Annealing

must be restricted to the region of the welds; the steam trap must not be completely insulated during heat treatment.

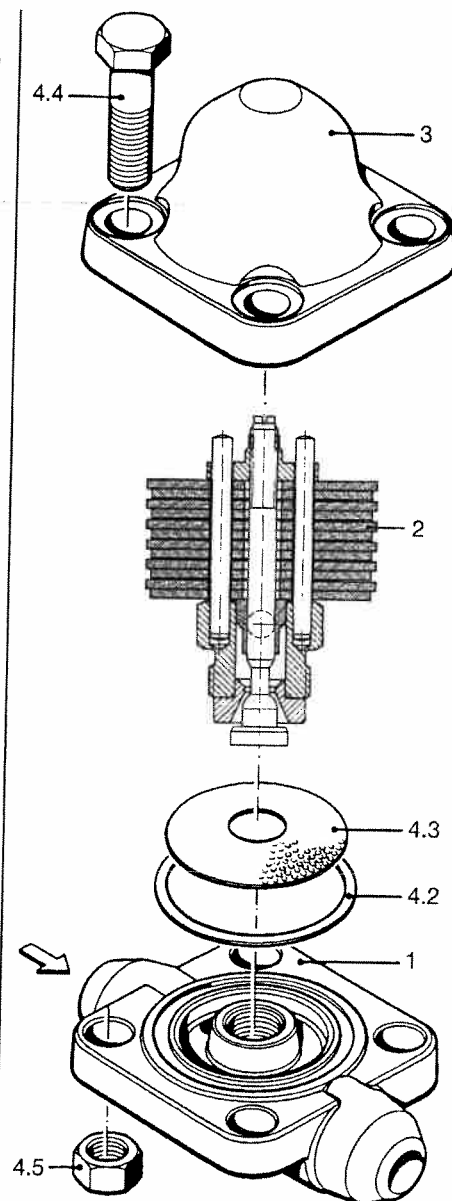
If gas annealing is used, the regulator 2 must be removed beforehand, as otherwise it might suffer damage from overheating, so that it would no longer operate correctly.

Maintenance

The BK 28 does not require any particular maintenance. Its capacity and operation might, however, be impaired by an accumulation of dirt.

Cleaning of Trap and Replacing of Regulator 2

1. Cut off steam, in the case of back pressure also shut off condensate line.
2. Unscrew cover bolts 4.4/4.5 and remove cover 3.
3. Unscrew regulator 2 and take off strainer 4.3.
4. Clean body 1, regulator 2, cover 3 and strainer 4.3.
5. Renew cover gasket 4.2.
6. Clean sealing surfaces of regulator and body, metal-to-metal seal.
7. Replace strainer 4.3. Apply heat-resistant lubricant to threads of regulator 2. Screw in regulator 2 and tighten applying a torque of 100 Nm.
8. Replace cover 3. Apply heat-resistant lubricant to threads of cover bolts 4.4. Insert bolts and screw on nuts 4.5 in diagonally opposite pairs with a torque of 60 Nm.



Parts List

Item No.	Designation	Order No.	Number	Hints
1	Body	—	1	no spare part
★ 2	Regulator, complete including cover gasket 4.2	370281	1	
3	Cover	—	1	no spare part
★ 4.2	Cover gasket	086519	1	Graphite/CrNi
4.3	Strainer	096701	1	
4.4	Hexagonal cover bolt M 16 × 60 DIN 931	010003	4	1.7258
4.5	Hexagonal nut M 16 DIN 934	000866	4	1.0501

★ Parts subject to wear (stock-keeping recommended)

A₁

Steam Traps
PN 100
DN 15-25 mm
1/2-1"

BK 28



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FLOWSERVE

Flow Control Division

Adjustment of Regulator

The regulator 2 is adjusted before leaving our factory to close steam-tight and open as soon as condensate is formed. If another adjustment is required (larger amount of undercooling or steam-lock release), please indicate when ordering.

Torques Required for Tightening Parts at Room Temperature

Item No. 2 - 100 Nm
No. 4.5 - 60 Nm

Tools Required

Spanners AF 2 x 24 mm

Capacity Chart

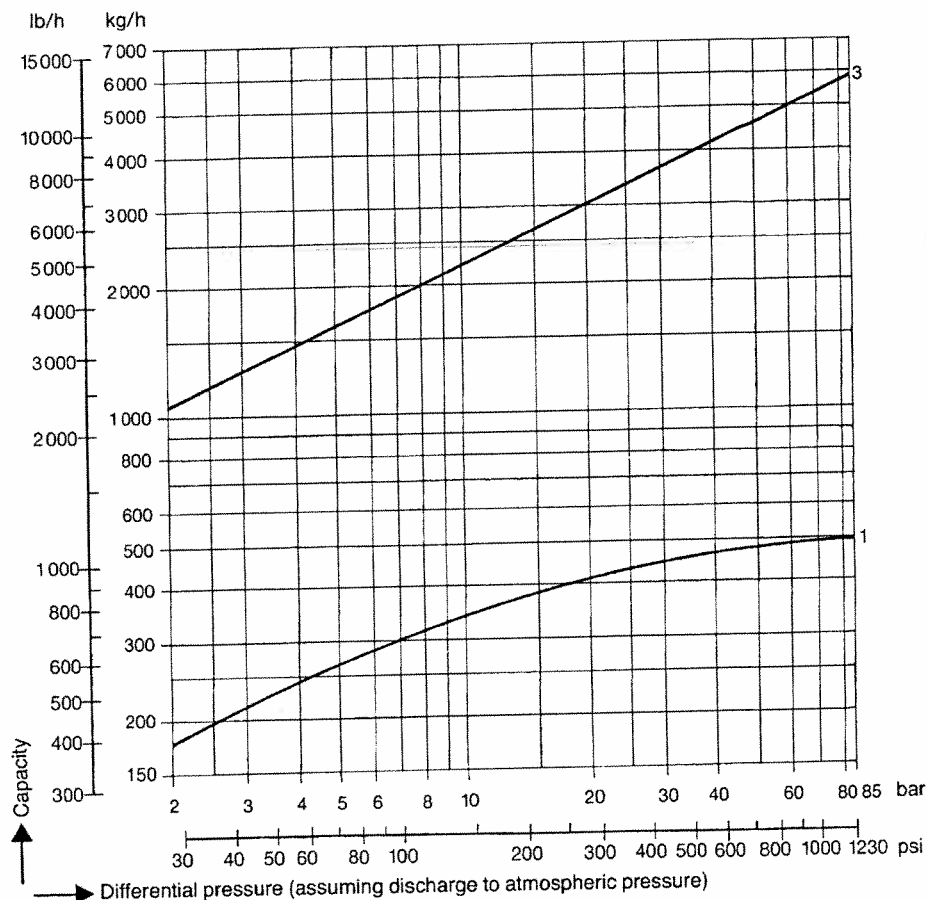
The chart shows the maximum capacities for hot and cold condensate discharge at factory setting (steam-tight closure).

Curve 1

Hot condensate capacities

Curve 2

Cold condensate capacities



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