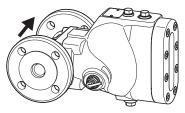
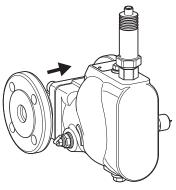


UNA 45 hl, UNA 46 hl, UNA 46A hl



UNA 45 hl Sightglass cover



UNA 45 hl Cover for mounting electrodes

#### Ball Float Steam Trap

## UNA 45, UNA 46, UNA 46A PN 40/Class 300 DN 15, 20, 25, 40, 50, 65

#### Description

Float traps type UNA 45 are designed for removing condensate from steam or compressed air.

Float traps type UNA 46 and UNA 46A are designed for removing condensate from steam or other gases / gas mixtures. Equipment fitted with control unit SIMPLEX and SIMPLEX-P is operated and controlled by the float and the rolling ball. Equipment with this type of control unit is particularly suitable for cold condensate and cold distillates.

The rolling ball of the control unit SIMPLEX-P is made of Perbunan® rubber, which ensures tight shut-off of the seat.

Equipment with control unit DUPLEX may also be used for air venting the installation. This type of control unit is particularly suitable for saturated steam systems. The control unit DUPLEX consists of a float operated rolling ball valve and a temperature dependent air-venting facility. Do not expose the membrane regulator capsule of the DUPLEX control unit to superheat conditions above 5 K.

By means of the externally adjustable internal bypass it is possible to adjust a bypass passage that flows past the control unit.

The equipment must only be used within the allowable pressure and temperature limits and only if the chemical and corrosive influences on the equipment are taken into account.

#### **Function**

The control unit opens the orifice as a function of the liquid level. A rising level results in a proportional opening of the equipment. The max. discharge capacity depends on the orifice size when the ball is completely lifted off its seat and the orifice is fully open.

#### **Optional extras**

Vent hole and drain hole

Float-lifting lever allows the float to be manually lifted (for purging any dirt away from the seat area)

Hand-vent valve allows manual air-venting the pipeline Strainer

Horizontal flow direction (hr) from left to right (when viewed from the body end)

Control unit SIMPLEX-P with Perbunan® rolling ball

Externally adjustable inner bypass

Sightglass cover PN 16/CL 150

Special cover for installing measuring electrodes NRG 16-19 or NRG 16-27

#### **End connections**

Flange EN 1092-1 B1 PN 40

Flange ASME B 16.5 Class 150 RF, 300 RF

Screwed sockets G: ISO 228/1

Screwed sockets NPT: ASME B 16.11

Socket-weld ends to DIN EN 12760

Socket-weld ends ASME B 16.11 Class 3000

Butt-weld ends via transition pieces to EN 12627, welded joint geometry ISO 9692-1 code number 1.3 (30° chamfer) Butt-weld ends via transition pieces ASME B 16.25 ASMF B 36.10

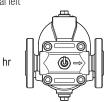
The different equipment versions allow you to adjust the flow direction of the equipment to the flow pattern of your installation. The flow arrow must correspond to the direction of the fluid flow. The following positions of installation are possible:



v for installation in vertical pipework with downward flow



hl for horizontal left



hr for horizontal right

#### **Materials**

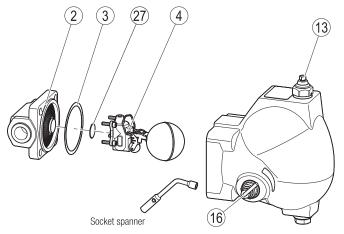
Component	Туре	EN	ASTM
part	.,,,,,		1.01
Body	UNA 45, UNA 46	1.0460	A105
	UNA 46A	1.4404	A182-F316L
Cover	UNA 45 sightglass cover / cover for installing electrodes	5.3103	A395 <sup>1</sup> )
	UNA 46	1.0619	A216-WCB
	UNA 46A	1.4408	A351-CF8M
Body gasket, control unit gasket	all	Graphi	te CrNi
Other components	all	Stainle	ss steel

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

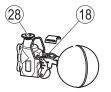




## Components UNA 45, UNA 46, UNA 46A



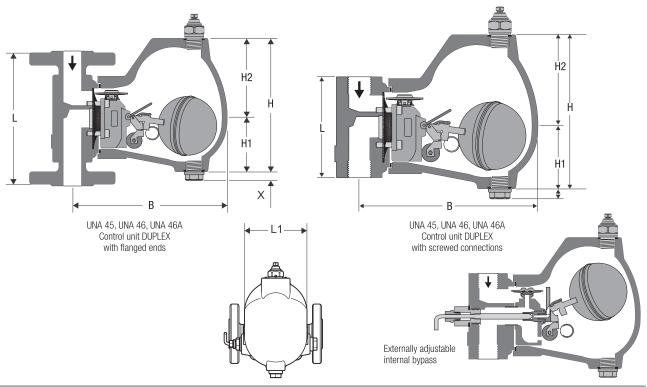
Item no.	Designation
2	Body
3	Body gasket
4	Control unit SIMPLEX
13	Hand-vent valve
16	Float-lifting lever
18	Control unit DUPLEX
19	Control unit SIMPLEX-P with Perbunan® rolling ball
20	Control unit DUPLEX with externally adjustable internal bypass
27	Gasket
28	Body gasket

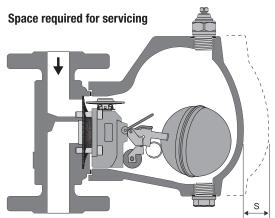






#### **Dimensions and weights**





To remove the cover a withdrawal space S of 240/350 mm (depending on size) is required.

If the supplied socket spanner is attached to the equipment an additional clearance of 100 mm is required.



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## **Dimensions and weights**

## **Equipment with flanges EN 1092-1 PN 1040**

Nominal size	DN 15 (½")	DN 20 (¾")	DN 25 (1")	DN 40 DN 50 (11/2") (2")		DN 65 (2½")
Overall length L [mm (in)]	150	(5.9)	160 (6.3)	230 (9.1) 290 (1		
B [mm (in)] Standard cover Sightglass cover Cover for mounting electrodes		171 (6.7) 213 (8.4) 186 (7.3)			287 (11.3) 333 (13.1) 306 (12.0)	
H1 [mm (in)]		60 (2.4)			107 (4.2)	
H2 [mm (in)]		90 (3.5) 1)			151 (5.9) <sup>1</sup> )	
Total height H [mm (in)]		150 (5.9) <sup>1</sup> )			258 (10.2) ¹)	
Width L1 [mm (in)]		110 (4.3) 2)			170 (6.7) <sup>2</sup> )	
X [mm (in)]			13 (	(0.5)		
Weight [kg] Standard cover Sightglass cover Cover for mounting electrodes	6.8 9.7 8.5	7.3 10.2 9.0	7.8 10.7 9.5	24.8 30.5 28.0	26.2 31.9 29.4	28.6 34.3 31.8
Weight [lb] Standard cover Sightglass cover Cover for mounting electrodes	15.0 21.4 18.7	16.1 22.5 19.8	17.2 23.6 20.9	54.7 67.2 61.7	63.1 75.6 70.1	

<sup>1)</sup> If equipped with hand-vent valve add 25 mm (1 in).

## **Equipment with flange ASME B16.5 Class 150/300**

Nominal size	DN 15 (½")	DN 20 (¾")	DN 25 (1")	DN 40 (1½")	DN 50 (2")	DN 65 (2½")
Overall length L [mm (in)]	150	(5.9)	160 (6.3) 241 (9.5) 267 (10.5) 292			
B [mm (in)] Standard cover Sightglass cover Cover for mounting electrodes		171 (6.7) 213 (8.4) 186 (7.3)			287 (11.3) 333 (13.1) 306 (12.0)	
H1 [mm (in)]		60 (2.4)			107 (4.2)	
H2 [mm (in)]		90 (3.5) 1)			151 (5.9) <sup>1</sup> )	
Total height H [mm (in)]		150 (5.9) <sup>1</sup> )			258 (10.2) <sup>1</sup> )	
Width L1 [mm (in)]		110 (4.3) 2)			170 (6.7) <sup>2</sup> )	
X [mm (in)]			13	(0.5)		
Weight Class 150	•					
Weight [kg] Standard cover Sightglass cover Cover for mounting electrodes	6.2 9.1 7.9	6.6 9.5 8.3	7.2 10.1 8.9	23.8 29.5 27.0	25.9 31.6 29.1	29.4 35.1 32.6
Weight [lb] Standard cover Sightglass cover Cover for mounting electrodes	13.7 20.1 17.4	14.6 20.9 18.3	15.9 22.3 19.6	52.5 65.0 56.2	57.1 69.7 60.8	64.8 77.4 68.6
Weight Class 300						
Weight [kg] Standard cover Sightglass cover Cover for mounting electrodes	6.6 9.5 8.3	7.4 10.3 9.1	8.2 11.1 9.9	26.0 31.7 29.2	27.5 33.2 30.7	31.1 36.8 34.3
Weight [lb] Standard cover Sightglass cover Cover for mounting electrodes	14.6 20.9 18.3	16.3 22.7 20.1	18.1 24.5 21.8	57.3 69.9 64.4	60.6 73.2 67.7	68.6 81.1 75.6

<sup>1)</sup> If equipped with hand-vent valve add 25 mm (1 in).

<sup>2)</sup> If equipped with hand-vent valve or bypass add 35 mm (1.4 in).

<sup>2)</sup> If equipped with hand-vent valve or bypass add 35 mm (1.4 in).





#### Dimensions and weights continued

### Equipment with socket-weld end, butt-weld end via transition pieces

Nominal size	DN 15 (½")			DN 40 (1½")	DN 50 (2")	DN 65 (2½")	
Overall length L [mm /in]]		95 (3.7)		165 (6.5)	267 (10.5)	292 (11.5)	
Overall length L [mm (in)]	(5	Socket-weld en	d)	(Butt-weld end via transition pieces EN, ASMI			
B [mm (in)]							
Standard cover		171 (6.7)			287 (11.3)		
Sightglass cover		213 (8.4)			333 (13.1)		
Cover for mounting electrodes		186 (7.3)			306 (12.0)		
H1 [mm (in)]		60 (2.4)			107 (4.2)		
H2 [mm (in)]		90 (3.5) 1)			151 (5.9) <sup>1</sup> )		
Total height H [mm (in)]		150 (5.9) <sup>1</sup> )			258 (10.2) <sup>1</sup> )		
Width L1 [mm (in)]		110 (4.3) <sup>2</sup> )			170 (6.7) <sup>2</sup> )		
X [mm (in)]			13	(0.5)			
Weight [kg]							
Standard cover	5.3	5	.2	21.2	21.9	24.6	
Sightglass cover	8.2	8	.1	26.9	27.6	30.3	
Cover for mounting electrodes	7.0	6	.9	24.4	25.1	27.8	
Weight [lb]							
Standard cover	11.7	11	.5	46.7	48.3	54.5	
Sightglass cover	18.1	17	'.9	59.3	60.8	67.0	
Cover for mounting electrodes	15.4	15	5.2	53.8	55.3	61.5	

 $<sup>^{\</sup>mbox{\scriptsize 1}})~$  If equipped with hand-vent valve add 25 mm (1 in).

#### **Equipment with screwed socket**

Nominal size	DN 15 (½")	DN 20 (¾")	DN 25 (1")	DN 40 (1½")	DN 50 (2")		
Overall length L [mm (in)]		95 (3.7)		165 (6.5)			
B [mm (in)]							
Standard cover		171 (6.7)		287	(11.3)		
Sightglass cover		213 (8.4)		333 (	(13.1)		
Cover for mounting electrodes		186 (7.3)		306	(12.0)		
H1 [mm (in)]		60 (2.4)		107	(4.2)		
H2 [mm (in)]		90 (3.5) 1)		151 (	5.9) <sup>1</sup> )		
Total height H [mm (in)]		150 (5.9) <sup>1</sup> )		258 (1	0.2) 1)		
Width L1 [mm (in)]		110 (4.3) 2)		170 (	6.7) <sup>2</sup> )		
X [mm (in)]			13 (	(0.5)			
Weight [kg]							
Standard cover	5.3	5.2	5.1	21.2	20.9		
Sightglass cover	8.2	8.1	8.0	26.9	26.6		
Cover for mounting electrodes	7.0	6.9	6.8	24.4 24.1			
Weight [lb]							
Standard cover	11.7	11.5	11.2	46.7 46.1			
Sightglass cover	18.1	17.9	17.6	59.3 58.6			
Cover for mounting electrodes	15.4	15.2	15.0	53.8	53.1		

<sup>1)</sup> If equipped with hand-vent valve add 25 mm (1 in).

#### **Equipment with butt-weld end via transition pieces**

Nominal size	DN 15 (½")	DN 20 (¾")	DN 25 (1")	DN 40 (1½")	DN 50 (2")	DN 65 (2½")		
Overall length L [mm (in)]		200 (7.9) 241 (9.5) 267 (10.5) 292						
B [mm (in)]								
Standard cover		171 (6.7)			287 (11.3)			
Sightglass cover		213 (8.4)			333 (13.1)			
Cover for mounting electrodes		186 (7.3)			306 (12.0)			
H1 [mm (in)]		60 (2.4)			107 (4.2)			
H2 [mm (in)]		90 (3.5) 1)			151 (5.9) <sup>1</sup> )			
Total height H [mm (in)]		150 (5.9) <sup>1</sup> )			258 (10.2) <sup>1</sup> )			
Width L1 [mm (in)]		110 (4.3) 2)			170 (6.7) <sup>2</sup> )			
X [mm (in)]			13 (	(0.5)				
Weight [kg]								
Standard cover	5	.6	5.7	21.3	21.6	22.5		
Sightglass cover	8	.5	8.6	27.0	27.3	28.2		
Cover for mounting electrodes	7.	.3	7.4	24.5 24.8 25.7				
Weight [lb]								
Standard cover	12.3 12.6			47.0	47.6	49.6		
Sightglass cover	18	3.7	19.0	59.5	60.2	62.2		
Cover for mounting electrodes	16	5.1	16.3	54.0	54.7	56.7		

 $<sup>^{\</sup>mbox{\scriptsize 1}})~$  If equipped with hand-vent valve add 25 mm (1 in).

<sup>&</sup>lt;sup>2</sup>) If equipped with hand-vent valve or bypass add 35 mm (1.4 in).

<sup>2)</sup> If equipped with hand-vent valve or bypass add 35 mm (1.4 in).

<sup>2)</sup> If equipped with hand-vent valve or bypass add 35 mm (1.4 in).

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#### Pressure & temperature ratings

The values indicated in the following tables apply to standard equipment.

Note that the type of end connection used may restrict the use of the equipment to below the pressure/temperature limits

All equipment specific values are indicated on the nameplate.

#### Limiting conditions for UNA 45 and UNA 46: Flange PN 40, screwed sockets G

Pressure <sup>1</sup> ) p	[barg]	40	37.1	33.3	27.6	25.7	13.1²)		
Temperature <sup>1</sup> ) T	[°C]	10/20	100	200	300	350	450²)		
Max. admissible differential pressure	[bar]	[bar] 2, 4, 8, 13, 22, 32							
ΔPMX	[psi] 29, 58, 116, 188, 320, 465								
Admissible service temperature		Control unit	DUPLEX: Sa	turated stea	ım temperat	ure plus 5 K			
Pressure <sup>1</sup> ) p	[psig] 580 538 483 400 373 190 <sup>2</sup> / <sub>2</sub>								
Temperature <sup>1</sup> ) T	[°F]	14/68	212	392	572	662	8422)		

<sup>1)</sup> Resistance limits of body/cover to EN 1092-1

#### Limiting conditions for UNA 45 and UNA 46: Flange Class 150

[barg]	19.6	17.7	13.8	10.2	8.6	5.5 <sup>2</sup> )		
[°C]	29/20	100	200	300	345	425²)		
[bar]	[bar] 2, 4, 8, 13 (19,6 bar with orifice (AO) 22, 32)							
[psi] 29, 58, 116, 188 (284 psi with orifice (AO) 22, 32)								
	Control unit	DUPLEX: Sa	turated stea	ım temperat	ure plus 5 K			
[psig]	285	260	200	140	125	802)		
[°F]	20/100	200	400	600	650	8002)		
	[°C] [bar] [psi]	[°C] 29/20  [bar] [psi] 2  Control unit	[oc] 29/20 100  [bar] 2, 4, 8, 13  [psi] 29, 58, 116,  Control unit DUPLEX: Sa  [psig] 285 260	[oc] 29/20 100 200  [bar] 2, 4, 8, 13 (19,6 bar w [psi] 29, 58, 116, 188 (284 ps  Control unit DUPLEX: Saturated stead  [psig] 285 260 200	[°C] 29/20 100 200 300  [bar] 2, 4, 8, 13 (19,6 bar with orifice (A)  [psi] 29, 58, 116, 188 (284 psi with orifice  Control unit DUPLEX: Saturated steam temperate  [psig] 285 260 200 140	[°C] 29/20 100 200 300 345  [bar] 2, 4, 8, 13 (19,6 bar with orifice (AO) 22, 32)  [psi] 29, 58, 116, 188 (284 psi with orifice (AO) 22, 32  Control unit DUPLEX: Saturated steam temperature plus 5 K  [psig] 285 260 200 140 125		

<sup>1)</sup> Recolly/acocerlitoria/SME B 16.5

## Limiting conditions for UNA 45 and UNA 46:

#### Flange Class 300, screwed socket NPT, socket-weld end, butt-weld end

Pressure <sup>1</sup> ) p	[barg]	51.1	46.6	43.8	39.8	37.8	28.82)		
Temperature <sup>1</sup> ) T	[°C]	29/20	100	200	300	345	425 <sup>2</sup> )		
Max. admissible differential pressure	[bar]	[bar] 2, 4, 8, 13, 22, 32							
ΔPMX	[psi] 29, 58, 116, 188, 320, 465								
Admissible service temperature		Control unit	DUPLEX: Sa	turated stea	ım temperat	ure plus 5 K			
Pressure <sup>1</sup> ) p	[psig] 740 280 635 570 550 410 <sup>2</sup> )								
Temperature <sup>1</sup> ) T	[°F]	20/100	200	400	600	650	800²)		

<sup>1)</sup> Russilyt/anoverlitoria/SME B 16.5

#### Limiting conditions for UNA 45 with sightglass cover: flange PN 16, screwed sockets G

Lilliang conditions for our	TO WILLI	oigiitgiass	oover, mai	igo i it io,	JUI GRACU C	ouncis a		
Pressure <sup>1</sup> ) p	[barg]	16.0	14.8	14.0	13.3	12.3		
Temperature <sup>1</sup> ) T	[°C]	10/20	100	150	200	240		
Max. admissible differential pressure	[bar]	[bar] 2, 4, 8, 13, (16 bar with orifice (AO) 22, 32)						
ΔPMX	[psi] 29, 58, 116, 188, (230 psi with orifice (A0) 22, 32)							
Admissible service temperature		Control unit DI	JPLEX: Saturat	ed steam temp	oerature plus 5	iΚ		
Pressure <sup>1</sup> ) p	[psig]	232	215	203	193	178		
Temperature <sup>1</sup> ) T	[°F]	14/68	212	302	392	464		

<sup>1)</sup> Roccollyt/acoccertitro iEsNo1 092-1

#### Operating data

Equipment with sightglass cover:

PN 16: max. service temperature 240 °C at

12.3 bar service pressure

Class 150: max. service temperature 240 °C at

12.4 bar service pressure. If the pH value is above 9.0 and the fluid temperature exceeds 200 °C the glass will wear down

Equipment with measuring electrode NRG 16-19 or NRG 16-27,

PN 40/Class 300: max. service temperature 238  $\,^{\circ}\text{C}$  at

32 bar service pressure

Equipment with control unit SIMPLEX-P

with Perbunan rolling ball:

max, service temperature 40 °C at △PMX

16 bar.

Equipment with control unit DUPLEX:

The max.service temperature corresponds to the saturated steam temperature  $+5\,\mathrm{K}.$ 

According to the Body of Regulations AD 2000 300 °C is the limit temperature for resistance to intercrystalline corrosion occurring in UNA 46A made from material 1.4408

<sup>2)</sup> Not for UNA 45

<sup>2)</sup> Not for UNA 45

<sup>2)</sup> Not for UNA 45



#### Pressure & temperature ratings continued

# Limiting conditions for UNA 45 with sightglass cover: flange Class 150, screwed sockets NPT, socket-weld end, butt-weld end

90 000 100, 00.01.01.0 000.01.0 1 1, 000.001 1								
Pressure¹) p	[barg]	19.6	17.7	15.8	13.8	12.4		
Temperature <sup>1</sup> ) T	[°C]	29/20	100	150	200	240		
Max. admissible differential pressure	[bar]	[bar] 2, 4, 8, 13, (19,6 bar with orifice (A0) 22, 32)						
ΔPMX	[psi] 29, 58, 116, 188, (284 psi with orifice (A0) 22, 32)							
Admissible service temperature		Control unit D	UPLEX: Saturat	ed steam temp	perature plus 5	iΚ		
Pressure <sup>1</sup> ) p	[psig]	285	260	230	200	180		
Temperature <sup>1</sup> ) T	[°F]	20/100	200	300	400	465		

<sup>1)</sup> Rossilyt/anoverlitorit&SME B 16.5

#### Limiting conditions for UNA 46A: flange PN 40, screwed sockets G

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Pressure <sup>1</sup> ) p	[barg]	40.0	37.9	31.8	27.6	25.7	25	
Temperature <sup>1</sup> ) T	[°C]	10/20	100	200	300	4002)	450²)	
Max. admissible differential pressure	[bar]	par] 2, 4, 8, 13, 22, 32						
ΔPMX	[psi]	29, 58, 116, 188, 320, 465						
Admissible service temperature	Control unit DUPLEX: Saturated steam temperature plus 5 K							
Pressure <sup>1</sup> ) p	[psig]	580	550	461	400	373	363	
Temperature <sup>1</sup> ) T	[°F]	14/68	212	392	572	752	842	

<sup>1)</sup> Rossolyt/asoccertitro iEsNof 092-1

#### Limiting conditions for UNA 46A: flange Class 150

Pressure <sup>1</sup> ) p	[barg]	15.9	13.3	11.2	10.0	6.5	5.5	
Temperature <sup>1</sup> ) T	[°C]	29/20	100	200	300	4002)	425 <sup>2</sup> )	
Max. admissible differential pressure	[bar] 2, 4, 8, 13, (15,9 bar with orifice (AO) 22, 32)							
ΔPMX	[psi]	29, 58, 116, 188 (230 psi with orifice (A0) 22, 32)						
Admissible service temperature	Control unit DUPLEX: Saturated steam temperature plus 5 K							
Pressure <sup>1</sup> ) p	[psig]	230	195	160	140	95	80	
Temperature <sup>1</sup> ) T	[°F]	20/100	200	400	600	750	800	

<sup>1)</sup> Rossolsyttanoccerlitro i ASSME B 16.5

#### **Limiting conditions for UNA 46A:**

#### flange Class 300, screwed socket NPT, socket-weld end, butt-weld end

	•		•				
[barg]	41.4	34.8	29.2	26.1	24.3	23.9	
[°C]	29/20	100	200	300	4002)	425²)	
[bar]	2, 4, 8, 13, 22, 32						
[psi]	29, 58, 116, 188, 320, 465						
Control unit DUPLEX: Saturated steam temperature plus 5 K							
[psig]	600	510	420	370	355	345	
[°F]	20/100	200	400	600	750	800	
	[°C] [bar] [psi]	[°C] 29/20  [bar] [psi] Control unit	[°C] 29/20 100  [bar]	[°C] 29/20 100 200  [bar] 2, 4, 8, 1 [psi] 29, 58, 116, Control unit DUPLEX: Saturated stea	[°C] 29/20 100 200 300  [bar] 2, 4, 8, 13, 22, 32  [psi] 29, 58, 116, 188, 320, 44  Control unit DUPLEX: Saturated steam temperat  [psig] 600 510 420 370	[°C] 29/20 100 200 300 400²)  [bar] 2, 4, 8, 13, 22, 32 [psi] 29, 58, 116, 188, 320, 465  Control unit DUPLEX: Saturated steam temperature plus 5 K  [psig] 600 510 420 370 355	

Roccodyt/acoccertitro i&SolfE B 16.5

#### Operating data

Equipment with sightglass cover:

PN 16: max. service temperature 240 °C at

12.3 bar service pressure

Class 150: max. service temperature 240 °C at

12.4 bar service pressure. If the pH value is above 9.0 and the fluid temperature exceeds 200  $^{\circ}$ C the glass will wear down

faster.

Equipment with measuring electrode

NRG 16-19 or NRG 16-27,

PN 40/Class 300: max. service temperature 238  $\,^{\circ}\text{C}$  at

32 bar service pressure

Equipment with control unit SIMPLEX-P

with Perbunan rolling ball:

max. service temperature 40 °C at  $\triangle$ PMX

16 bar.

Equipment with control unit DUPLEX:

The max.service temperature corresponds to the saturated steam temperature +5 K.

According to the Body of Regulations AD 2000 300 °C is the limit temperature for resistance to intercrystalline corrosion occurring in UNA 46A made from material 1.4408.

<sup>2)</sup> If the operating temperatures exceed 300 °C intercrystalline corrosion may occur. Do not subject the equipment to operating temperatures higher than 300° C unless intercrystalline corrosion can be ruled out.

<sup>2)</sup> If the operating temperatures exceed 300 °C intercrystalline corrosion may occur. Do not subject the equipment to operating temperatures higher than 300° C unless intercrystalline corrosion can be ruled out.

<sup>2)</sup> If the operating temperatures exceed 300 °C intercrystalline corrosion may occur. Do not subject the equipment to operating temperatures higher than 300° C unless intercrystalline corrosion can be ruled out.



#### **Capacity Chart**

The chart shows the maximum capacities for hot condensate for the various orifices.

The capacities are dependent on the differential pressure (working pressure).

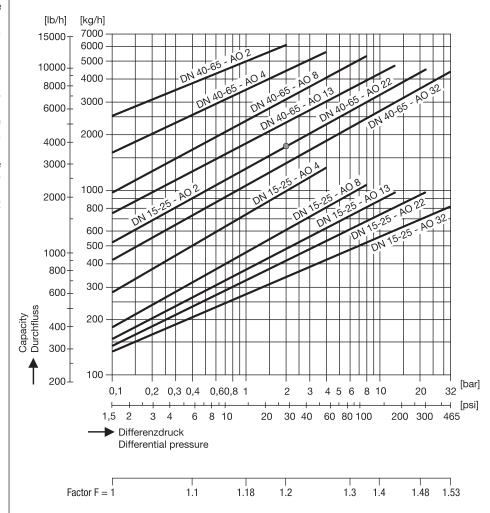
The differential pressure is the difference between inlet and outlet pressure and depends among other things on the run of the condensate line. If the condensate downstream of the trap is lifted, the differential pressure is reduced by approximately 1 bar for 7 m lift.

The max. admissible differential pressure is a function of the cross-sectional area of the orifice and the density of the fluid to be discharged.

The graphs in the chart show the hot water flowrates that the steam traps UNA 45, UNA 46 and UNA 46A can discharge with virtually no banking up.

The cold water capacities of steam traps with control unit SIMPLEX / DUPLEX are: Capacity multiplied by factor F.

#### **Capacity Chart**



The max. differential pressure  $\triangle$  PMX of the equipment depends on the type of orifice (A0) used.

Orifice	ΔPMX [bar]	Diameter of bore [mm]				
Utilice	ΔPWIX [Dai]	DN 15-25	DN 40-65			
2	2	8	15.0			
4	4	6	12.5			
8	8	4.8	10.0			
13	13	4.1	8.5			
22	22	3.5	7.0			
32	32	3.0	6.5			



Ball Float Steam Trap

## **UNA 45, UNA 46, UNA 46A** PN 40/Class 300 DN 15, 20, 25, 40, 50, 65

#### **Inspection & Certification**

Documentation regarding material tests and in-house examination with test report to EN 10204 available at extra cost. All inspection requirements have to be stated with the enquiry or order. After supply of the equipment certification cannot be established. Charges and extent of the above mentioned test certificates as well as the different tests confirmed therein are listed in our Price List Test and Inspection Charges for Standard Equipment. For other tests and inspections please consult us.

#### **Pressure Equipment Directive**

The equipment fulfills the requirements of the Pressure Equipment Directive PED 97/23/EC and can be used for the following fluids:

#### **UNA 45**

Fluids of group 2

#### UNA 46 und UNA 46A

Fluids of group 1

Fluids of group 2

The equipment has a CE marking on the name plate.

The following types of equipment are excluded from the scope of the PED according to Article 3.3 and must not bear a CE marking.

Equipment with DN 15 up to DN 25

Equipment type UNA 45 with PN 16 or Class 150 and DN 40 or DN 50

#### **ATEX**

The equipment does not have its own potential source of ignition and is therefore not subject to the ATEX Directive

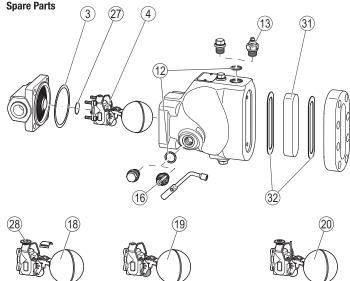
The equipment is not Ex marked.

Please observe the following notes if the equipment is to be used in explosion-risk areas:

The equipment can be used in zones (surrounding atmosphere acc. to Directive 1999/92/EC) 0, 1, 2, 20, 21 and 22 (ATEX Directive 94/9/EC).

Make sure that the operating fluid does not generate a surface temperature that exceeds the limit specified for the

If the equipment is electrically insulated when installed between pipe end connections, appropriate measures must be taken to discharge any static electricity.



1 Delivery quantity: 20 pcs.

2 560486: Material 1.4301 560514: Material 1.4571

- Comprises:
  - 4 joint rings 3/8" 1 joint ring 1/4"
  - 1 body gasket
  - 1 gasket for control unit

				DN 15-25			DN 40-65			
Item no.	Designation	Orifice	Standard cover	Cover for mounting electrodes	Sightglass cover	Standard cover	Cover for mounting electrodes	Sightglass cover		
					Stock	code #				
		2	560656			560669				
	Control unit	4	560657			560670				
3, 4, 27	SIMPLEX, cpl. with body gasket and	8		560658		560671				
0, 4, 21	gasket for control	13	560659			560672				
	unit	22	560660			560673				
		32	560	560661		560674				
3, 19, 27	Control unit SIMPLEX-P, cpl. with body gasket and gasket for control unit	16	560662							
		2		560650		560663				
	Control unit	4	560651			560664				
3, 18,	DUPLEX, cpl. with body gasket and	8	560652			560665				
27, 28	gasket for control unit	13	560653			560666				
1		22	560654		560667					
		32	560655		560668					
3, 28	Membrane regulator capsule 5N2, cpl. with body gasket	all	560494		560687					
12, 13	Hand vent valve, complete with gasket	all	560676		560676	560676		560676		
12, 16	Float-lifting lever, complete with gasket	all	560677		560678					
3	Body gasket1)	all	560493			560680				
12	Joint ring for sealing plug <sup>3</sup> / <sub>8</sub> ", manual float-lifting lever, hand-vent valve or bypass¹)	all	560486²) or 560514²)							
27	Gasket for control unit1)	all	560681			560682				
3, 12, 27	Gasket set3)	all	560	1683		560684				
31, 32	Sightglass, incl. gasket	all			560685			560480		

Supply in accordance with our general terms of business.