GESTRA Steam Systems

Product Range A1

Steam Traps
UNA 38, PN 100, DN 15-50
UNA 39, PN 160, DN 15-50

UNA 38
UNA 39

Description

UNA 3... are high-pressure steam traps with ball float and needle closing mechanism. The steam traps work independently of back pressure, thus ensuring universal application.

The steam trap UNA 3... features a body with bolted cover and a control unit. Various control units are available.

Level-dependent SIMPLEX control is particularly suitable for cold condensate and superheated steam. Temperature-dependent DUPLEX control offers automatic deaeration by means of a bimetallic air vent for saturated and superheated steam systems.

The orifice type O 80 MAX (UNA 38) is a control unit for large flowrates and high pressures, and can be supplied as a SIMPLEX or DUPLEX version.

The orifice type O 140 MAX (UNA 39) is a SIMPLEX control unit for large flowrates and high pressures.

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 (O) dictates the maximum flowrate when the valve is completely open. The maximum admissible differential pressure of the control unit is a function of the CSA of the orifice, the density of the fluid to be discharged, and the pressure/temperature ratings of the body. Different closing units (orifices) are available.

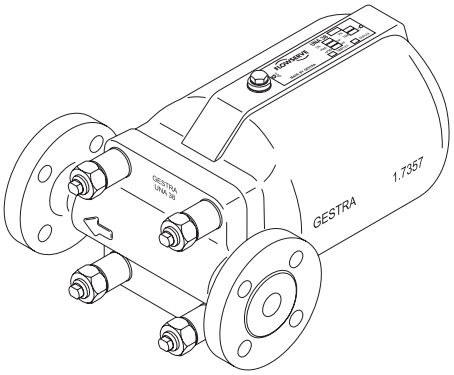
Float traps equipped with DUPLEX control units enable automatic temperature-dependent deaeration of saturated steam systems during start-up and in continuous operation.

UNA 38 control unit Orifice 80 MAX and UNA 39 control unit Orifice 140 MAX:

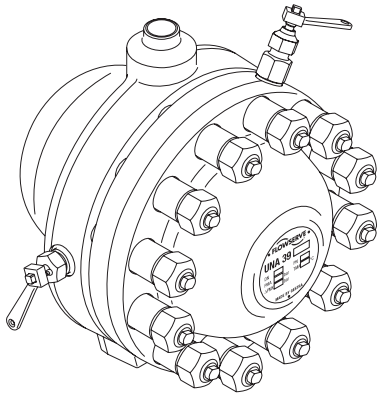
The float ball controls a pilot valve depending on the level of condensate in the trap body. If more condensate flows through the pilot valve out of the control chamber than follows through a balance opening, the pressure in the control chamber drops and the bellows of the control chamber is compressed. The main valve then opens and the condensate is discharged.

The flowing condensate moves the float ball upwards and the pilot valve closes. By means of the vent hole, the pressure between the control chamber and the interior of the steam trap is evened out, so that the main valve closes.

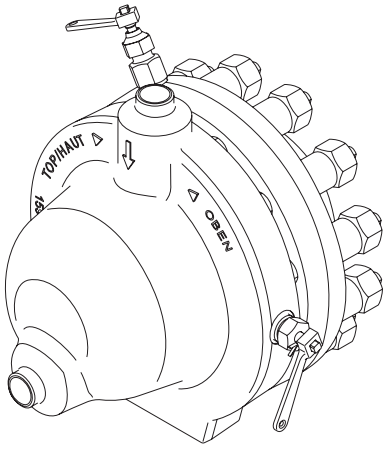
The cross-sectional areas of the pilot and main valves are chosen so that only one orifice (O) is needed for the entire range of differential pressures up to 80 bar (or 140 bar).



UNA 38h



UNA 39



UNA 39 Rear view

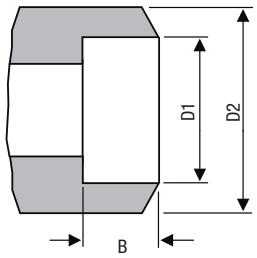
Design	Standard	Optional extras
UNA 38	Butt-weld ends, socket-weld ends, flanges PN 100, EN 1092-1 form B2 or DIN form L (lenticular) Flanged to ASME B 16.5 Class 600 RF Other end connections available on request.	Float-lifting lever Hand-vent valve for design with DUPLEX control. Material for higher requirements Flanges / Butt-weld ends via transition pieces made from 1.7335 (UNA 38) Flow from right to left for UNA 38 (seen from cover side)
UNA 39	Butt-weld ends, socket-weld ends, flanges PN 160, EN 1092-1 form B2 or DIN form L (lenticular) Flanged to ASME Class 900/1500RF Other end connections available on request.	

Pressure / Temp. Ratings	UNA 38 Standard Design for standard applications Flanges / Butt-weld ends 1.5415, bolts 1.7709				UNA 38 High-temperature Design for specific requirements Flanges / Butt-weld ends 1.7335, bolts 1.7709				UNA 39 Design for standard applications Flanges / Butt-weld ends 1.7335, bolts 1.7709			
Max. service pressure PMA [bar]	100	80	66	44	100	91	80	30	160	160	140	35
Related temperature TMA [°C]	20-150	283	400	500	20-150	300	400	530	20	300	442	550
Max. differential pressure ΔPMX (**inlet** pressure minus **outlet** pressure) [bar]	80 (64, 50)				80 (64, 50)				140 (110, 80)			

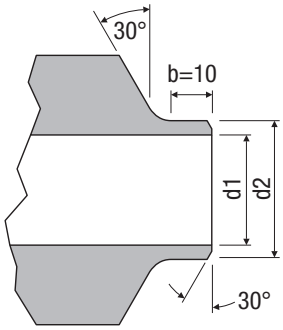
Materials	UNA 38		UNA 39	
Designation	**EN**	**ASTM***	**EN**	**ASTM***
Body	1.5415	A182-F1	1.7335	A182-F12
Flange, butt-weld ends, socket-weld ends optionally: flange/butt-weld ends via transition pieces	1.5415 1.7335	A182-F1 A182-F12	1.7335	A182-F12
Cover	1.7357	A217-WC6	1.7335	A182-F12
Body gasket	Graphite/CrNi	Graphite/CrNi	Graphite/CrNi	Graphite/CrNi
Bolts and spacer sleeve	1.7709		1.7709	
Nuts	1.7709		1.7709	
Internals	Stainless steel	Stainless steel	Stainless steel	Stainless steel

* Physicial and chemical properties comply with DIN grade. ASTM nearest equivalent grade is stated for guidance only.

Socket-weld ends

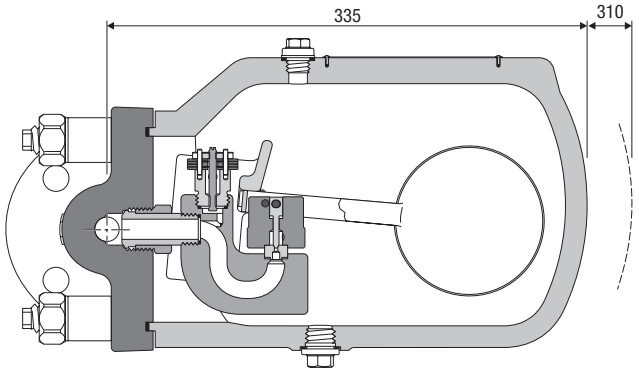


Butt-weld ends, Butt weld ends via transition pieces

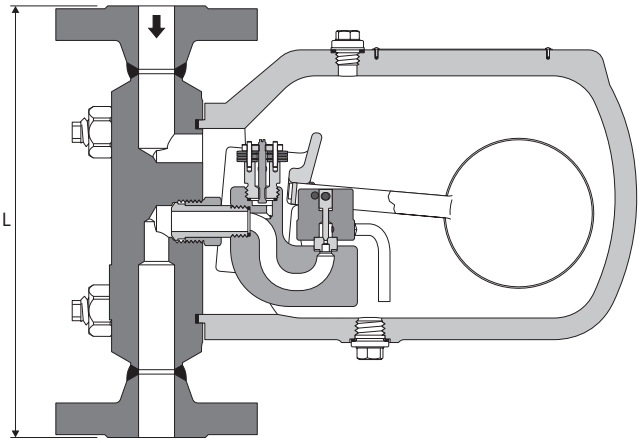


Dimensions UNA 38		[mm]	15	20	25	40	50
		[inch]	½	¾	1	1½	2
Overall length [mm]	Flange EN / DIN (PN 100)	L	300		300	420	416
	Flange ASME (Class 600)	L	300		300	421	427
	Socket-weld end	L	300		300	420	420
	Butt-weld end	L	300		300	300	300
	Butt-weld end via transition pieces of 1.7335	L	300		300	420	420
Dimensions of connections [mm]	Socket-weld end	D2	32		46	62	75,5
		D1	21.9		34.0	48.9	61.3
		B	10		13	13	16
	Butt-weld end/ Butt-weld end via transition pieces	d2	22		34	49	61
		d1	17		28,5	43	54
		for pipe	21.3 x 2.0		33.7 x 2.6	48.3 x 2.6	60.3 x 3.2
Weight	with flange	[kg]	38		38	40	42
	with socket-weld ends, butt-weld ends (via transition pieces)	[kg]	35		35	35	35

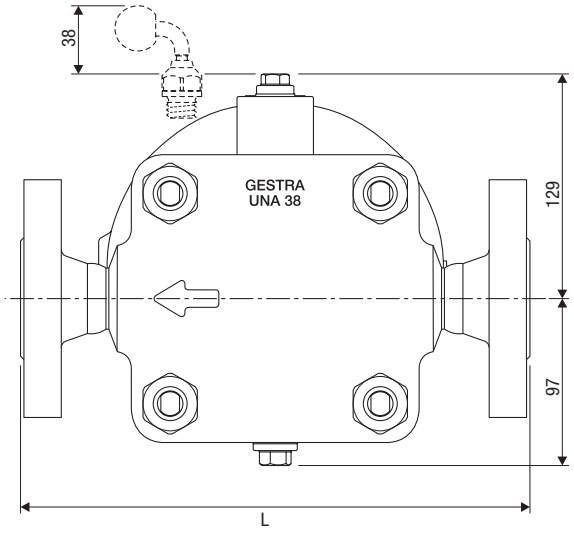
Dimensions UNA 38



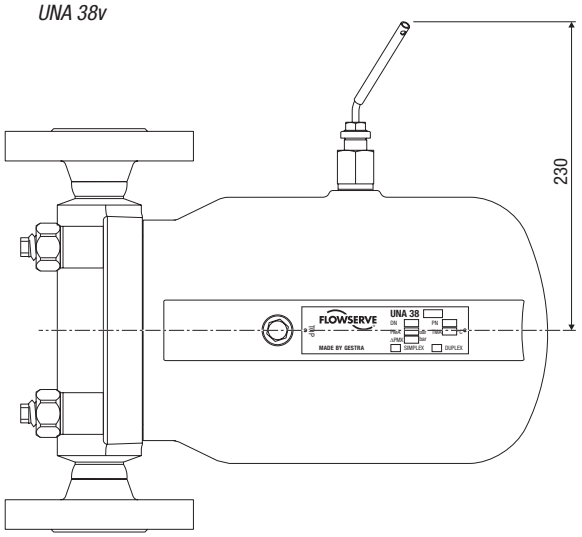
UNA 38h



UNA 38v



UNA 38h, Flow from left to right (seen from cover side)

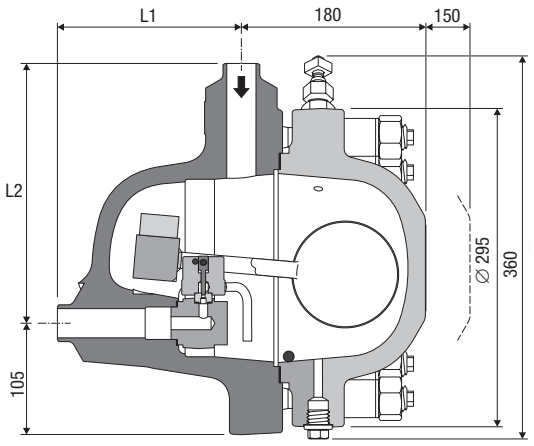


UNA 38h

Dimensions UNA 39		[mm]	15	20	25	40	50
		[inch]	½	¾	1	1½	2
Overall length [mm]	Flange EN / DIN (PN 160)	L1	215		230		245
		L2	285		300		315
	Flange ASME (Class 900/1500)	L1	240		250		280
		L2	310		320		350
	Socket-weld end	L1	170		170		170/245[3])
	Butt-weld end	L2	240		240		240/315[3])
Dimensions of connections [mm]	Socket-weld end	D2[1])	32		46	62	75.5
		D2[2])	34.5		50.5	67	83.5
		D1	21,9		34,0	48,9	61,3
		B	10		13	13	16
	Butt-weld end	d2	22		34	49	61
		d1	17		27	41	52,5
		for pipe	21.3 x 2.0		33.7 x 3.2	48.3 x 3.6	60.3 x 4.0
Weight	with flange	[kg]	67		70		78
	with socket-weld ends, butt-weld ends (via transition pieces)	[kg]	65		65		65

[1]) Valid for pressure rating up to Class 800 [2]) Valid for pressure rating Class 900 and Class 1500 [3]) Butt-weld end/socket-weld end

Dimensions UNA 39

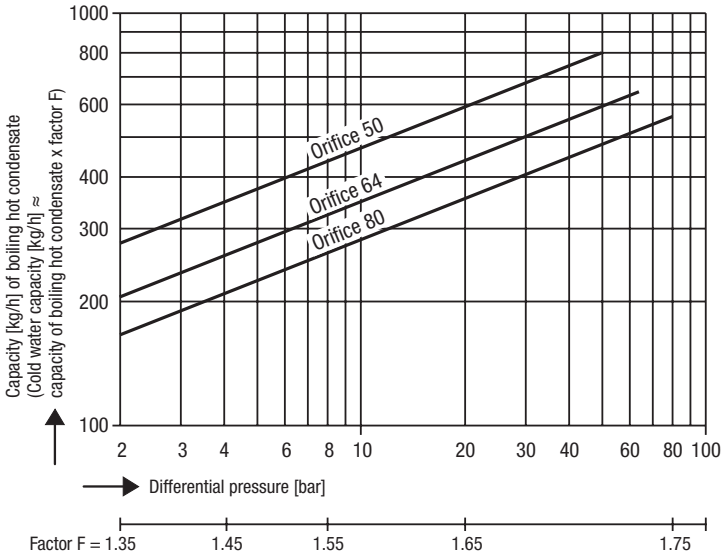


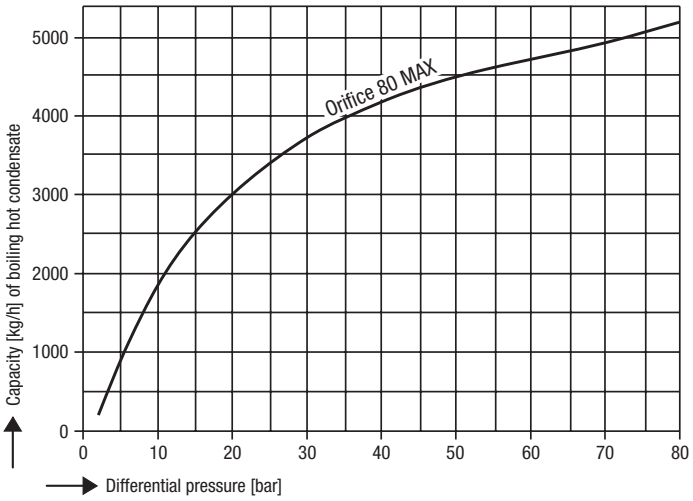
Capacity Charts

The charts show the max. capacity of hot condendate.

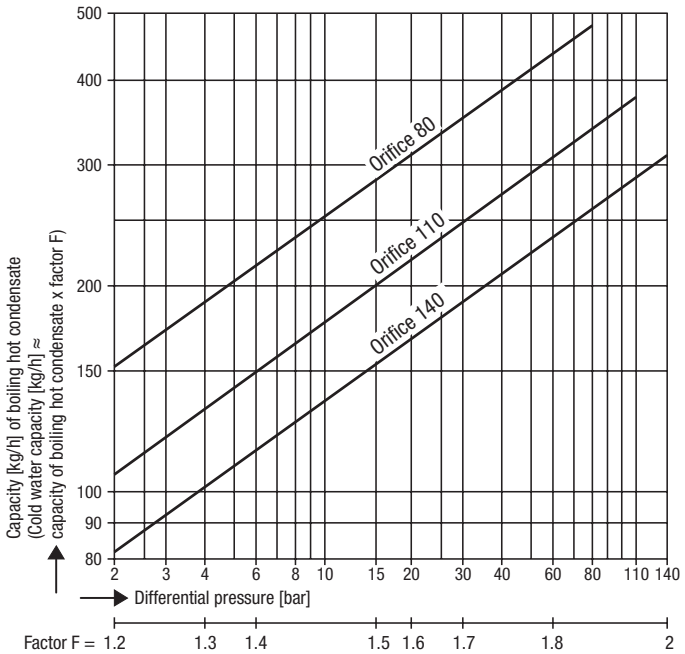
Additional cold-water start-up capacity due to thermostatic capsule DUPLEX design (only UNA 38)								
Δρ	[bar]	1	2	4	8	12	20	80
Approx. capacity	[kg/h]	180	260	380	560	720	950	2100

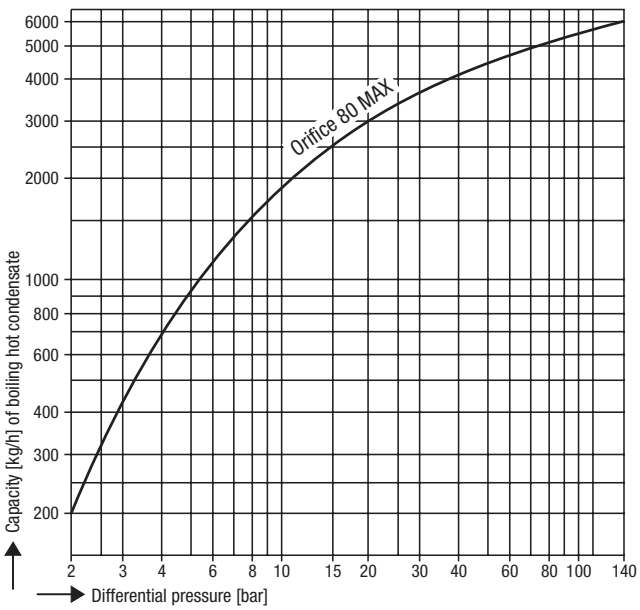
UNA 38





UNA 39





Steam Traps

UNA 38, PN 100, DN 15-50
UNA 39, PN 160, DN 15-50

Design		UNA 38[1])	UNA 39
Body connections	horizontal	●	
	vertical	●	
	angle-type		●
Orifice (O), max. differential pressure [bar]		O 50, O 64, O 80, O 80 MAX	O 80, O 110, O 140, O 140 MAX
Control unit	SIMPLEX[2])	●	●
	DUPLEX	●	

[1]) To convert "h" to "v" design or vice versa turn cover and control unit.

[2]) incl. air venting valve

When ordering, please state:

Steam pressure, back pressure, quantity of condensate to be discharged, design, end connection, size, place of installation or type of steam user.

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

In accordance with EN 10204/2.2, 3.1 and 3.2. All inspection requirements have to be stated with the order. After supply of the equipment certification cannot be established.

For tests and inspection charges please consult us.

PED (Pressure Equipment Directive)

The equipment fulfills the requirements of the Pressure Equipment Directive (PED) 97/23/EC. UNA 38 and UNA 39 classified for application with fluids of group 1 and 2.

With CE marking, except equipment in accordance with section 3.3.

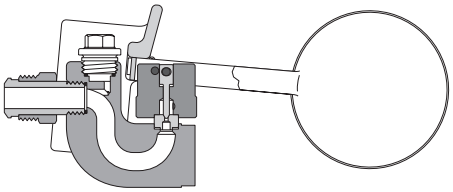
ATEX (Atmosphère Explosible)

The equipment does not have its own potential source of ignition and is therfore excluded from the scope of the Directive 94/9CE. Applicable in Ex zones 0, 1, 2, 20, 21, 22 (1999/92/EC). The equipment is without Ex marking.

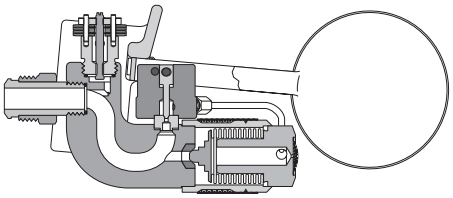
Supply in accordance with our general terms of business.

Control units

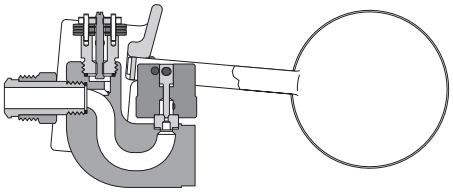
UNA 38



UNA 38 Control unit SIMPLEX, Orifice 50, 64 or 80

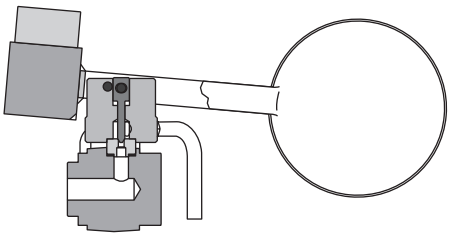


UNA 38 Control unit DUPLEX, Orifice 80 MAX

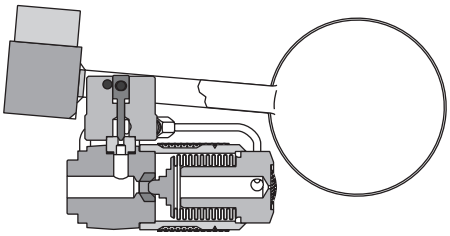


UNA 38 Control unit DUPLEX, Orifice 50, 64 or 80

UNA 39



UNA 39 Control unit SIMPLEX, Orifice 80, 110 or 140



UNA 39 Control unit DUPLEX, Orifice 140 MAX

Spare Parts

Spare parts list UNA 38

Item	Designation		Order no. DN 15-50
Q1	Body gasket (graphite/CrNi)		524532
E, H1	Control unit DUPLEX with body gasket	O 50	560550
		O 64	560551
		O 80	560552
		O 80 MAX	560553
R1	Control unit SIMPLEX with body gasket	O 50	560554
		O 64	560555
		O 80	560556
		O 80 MAX	560557
I1	Hand vent valve with gasket		560559
K1	Float lifting lever with gasket		560566
C	Bimetallic air vent EBK 39 (only for DUPLEX control units) with gasket		560558

O = Orifice

Spare parts list UNA 39

Item	Designation		Order no. DN 15-50
Q2	Body gasket (graphite/CrNi)		523031
H2, R2	Control unit, complete with body gasket	O 80	560172
		O 110	560171
		O 140	560170
		O 140 MAX	560179
K2	Hand vent valve with gasket		560178

O = Orifice Note: Item letters refer to installation manual UNA 38, UNA 39.

GESTRA AG

P. O. Box 10 54 60, D-28054 Bremen
Münchener Str. 77, D-28215 Bremen
Telephone +49 (0) 421 35 03 - 0, Fax +49 (0) 421 35 03-393
E-Mail gestra.ag@flowserve.com, Internet www.gestra.de

FLOWSERVE GESTRA

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