

Scaricatori di condensa a galleggiante

Serie UNA

Scaricatori di condensa a galleggiante per eliminare condensa di vapore, condensa fredda o distillati senza accumulo di condensa

Gli scaricatori a galleggiante iniziano a funzionare con una forza di attrito molto bassa, con conseguenti forze d'attuazione estremamente limitate. Inoltre sono durevoli e garantiscono la massima tenuta.

Utilizzo

Scaricatore di condensa versatile, virtualmente per ogni esigenza.

Particolarmente indicato per utilizzo in:

- Scambiatori di calore regolati a vapore
- Sistemi con un flusso di condensa abbondante
- Collettori di vapore
- Essiccatori di vapore, separatori a ciclone
- Sistemi con pressioni d'esercizio e pressioni differenziali molto basse, e condizioni di esercizio molto variabili
- Sistemi a vuoto
- Scaricatori a galleggiante con sfiati integrati, si possono usare come scaricatori d'aria, di gas e per il drenaggio liquidi
- Cilindri essiccatori

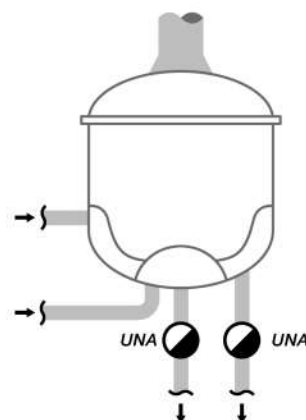
Inoltre, la serie è l'ideale come regolatore di scarico per serbatoi di rievaporazione e di acque d'alimentazione.

Vantaggi

- Affidabile indipendentemente da contro-pressione e temperatura di condensa
- Nessuna perdita di vapore per la formazione di un sigillo d'acqua
- Massima tenuta e durezza, con ottime funzioni di controllo, grazie alla sfera rotante o segmentata presente nell'unità di sigillatura del regolatore
- Controllo di livello a risposta immediata senza ventilazione automatica – versione Simplex
- Con ventilazione rapida e automatica per sistemi a vapore – versione Duplex
- Particolarmente non soggetto allo sporco
- Parti interne in acciaio inox anticorrosione
- Perfettamente funzionante anche con contropressione vicina al 100% della pressione a monte
- Possibilità d'intervento senza rimuovere il corpo

Esempio d'installazione

Distillatore di birra



UNA 14



UNA 45, 46 con elettrodo e valvola di sfiato manuale



UNA 27



UNA 43/46 DN 80-150



UNA 38

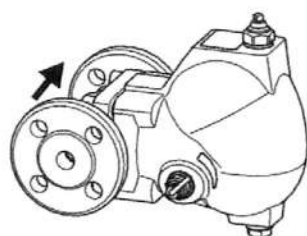


UNA 39

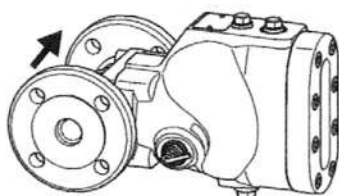


UNA Special PN 63

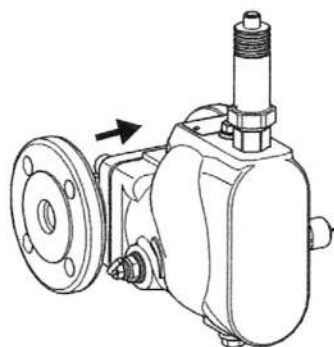
Scaricatori di condensa a galleggiante



UNA 45 hi, UNA 46 hi, UNA 46A hi



UNA 45 hi Sightglass cover



UNA 45 hi Cover for mounting electrodes

Ball Float Steam Trap

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

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

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

Screw sockets G: ISO 228/1

Screw sockets NPT: ASME B 16.11

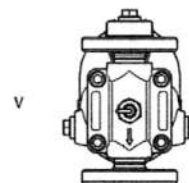
Socket-weld ends to DIN EN 12760

Socket-weld ends ASME B 16.11 Class 3000

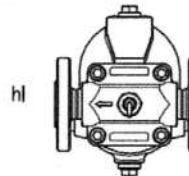
Butt-weld ends via transition pieces to EN 12627, welded joint geometry ISO 9692-1 code number 1.3 (30° chamfer)

Butt-weld ends via transition pieces ASME B 16.25
 ASME B 36.10

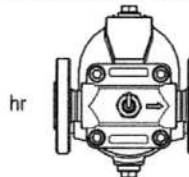
The different equipment versions allow you to adjust the flow direction of the equipment to the flow pattern of your installation. The flow arrow must correspond to the direction of the fluid flow. The following positions of installation are possible:



"v" for installation in vertical pipework with downward flow



"hl" for flow from right to left (when viewed from the body end)



"hr" for flow from left to right (when viewed from the body end)

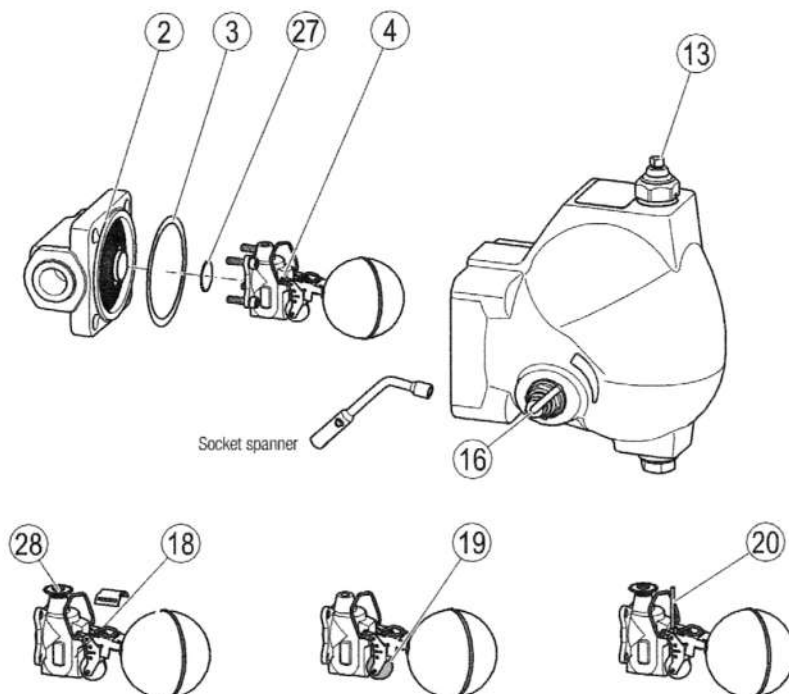
Materials

Component part	Type	EN	ASTM
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 ¹⁾
	UNA 46	1.0619	A216-WCB
	UNA 46A	1.4408	A351-CF8M
Body gasket, control unit gasket	all	Graphite CrNi	
Other components	all	Stainless steel	

¹⁾ Physical and chemical properties comply with EN grade. ASTM nearest equivalent grade is stated for guidance only.

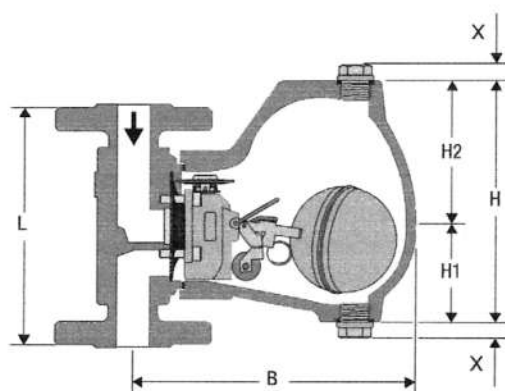
Scaricatori di condensa a galleggiante

Components UNA 45, UNA 46, UNA 46A

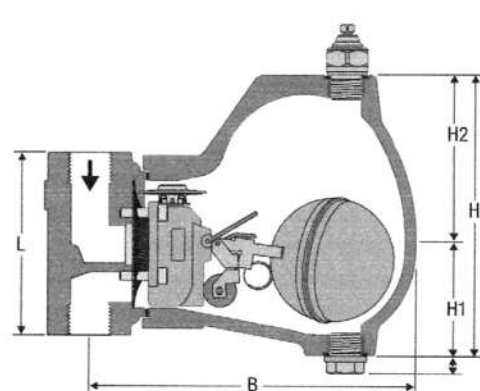


Item no.	Designation
2	Body
3	Body gasket
4	Control unit SIMPLEX
13	Hand-vent valve
16	Float-lifting lever

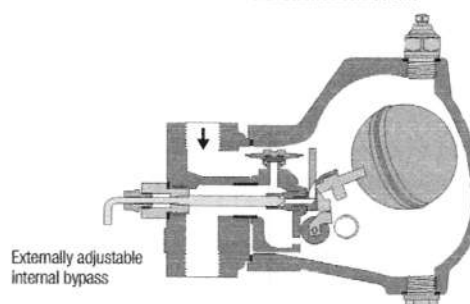
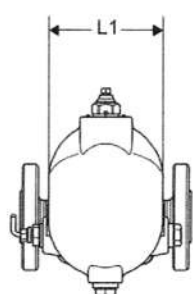
Item no.	Designation
18	Control unit DUPLEX
19	Control unit SIMPLEX-P with Perbunan® rolling ball
20	Control unit DUPLEX with externally adjustable internal bypass
27	Gasket
28	Body gasket



UNA 45, UNA 46, UNA 46A
Control unit DUPLEX
with flanged ends



UNA 45, UNA 46, UNA 46A
Control unit DUPLEX
with screwed connections



Externally adjustable
internal bypass

Scaricatori di condensa a galleggiante

Dimensions and weights

Equipment with flanges EN 1092-1 PN 10-40

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)	230 (9.1)		290 (11.4)
B [mm (in)]	171 (6.7) 213 (8.4) 186 (7.3)			287 (11.3)		
Standard cover				333 (13.1)		
Sightglass cover				306 (12.0)		
Cover for mounting electrodes						
H1 [mm (in)]	60 (2.4)			107 (4.2)		
H2 [mm (in)]	90 (3.5) ¹⁾			151 (5.9) ¹⁾		
Total height H [mm (in)]	150 (5.9) ¹⁾			258 (10.2) ¹⁾		
Width L1 [mm (in)]	110 (4.3) ²⁾			170 (6.7) ²⁾		
X [mm (in)]	13 (0.5)					
Weight [kg]						
Standard cover	6.8	7.3	7.8	24.8	26.2	28.6
Sightglass cover	9.7	10.2	10.7	30.5	31.9	34.3
Cover for mounting electrodes	8.5	9.0	9.5	28.0	29.4	31.8
Weight [lb]						
Standard cover	15.0	16.1	17.2	54.7	57.8	63.1
Sightglass cover	21.4	22.5	23.6	67.2	70.3	75.6
Cover for mounting electrodes	18.7	19.8	20.9	61.7	64.8	70.1

¹⁾ If equipped with hand-vent valve add 25 mm (1 in).

²⁾ If equipped with hand-vent valve or bypass add 35 mm (1.4 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 (11.5)
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) ¹⁾	
Total height H [mm (in)]	150 (5.9) ¹⁾				258 (10.2) ¹⁾	
Width L1 [mm (in)]	110 (4.3) ²⁾				170 (6.7) ²⁾	
X [mm (in)]	13 (0.5)					
Weight Class 150						
Weight [kg]						
Standard cover	6.2	6.6	7.2	23.8	25.9	29.4
Sightglass cover	9.1	9.5	10.1	29.5	31.6	35.1
Cover for mounting electrodes	7.9	8.3	8.9	27.0	29.1	32.6
Weight [lb]						
Standard cover	13.7	14.6	15.9	52.5	57.1	64.8
Sightglass cover	20.1	20.9	22.3	65.0	69.7	77.4
Cover for mounting electrodes	17.4	18.3	19.6	56.2	60.8	68.6
Weight Class 300						
Weight [kg]						
Standard cover	6.6	7.4	8.2	26.0	27.5	31.1
Sightglass cover	9.5	10.3	11.1	31.7	33.2	36.8
Cover for mounting electrodes	8.3	9.1	9.9	29.2	30.7	34.3
Weight [lb]						
Standard cover	14.6	16.3	18.1	57.3	60.6	68.6
Sightglass cover	20.9	22.7	24.5	69.9	73.2	81.1
Cover for mounting electrodes	18.3	20.1	21.8	64.4	67.7	75.6

¹⁾ If equipped with hand-vent valve add 25 mm (1 in).

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

Scaricatori di condensa a galleggiante

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 quoted.

All equipment specific values are indicated on the nameplate.

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

Pressure ¹⁾ p	[barg]	40	37.1	33.3	27.6	25.7	13.1 ²⁾
Temperature ¹⁾ T	[°C]	-10/20	100	200	300	350	450 ²⁾
Max. admissible differential pressure ΔPMX	[bar]	2, 4, 8, 13, 22, 32					
	[psi]	29, 58, 116, 188, 320, 465					
Admissible service temperature	Control unit DUPLEX: Saturated steam temperature plus 5 K						
Pressure ¹⁾ p	[psig]	580	538	483	400	373	190 ²⁾
Temperature ¹⁾ T	[°F]	14/68	212	392	572	662	842 ²⁾

¹⁾ Limit values for body/cover to EN 1092-1

²⁾ Not for UNA 45

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

Pressure ¹⁾ p	[barg]	19.6	17.7	13.8	10.2	8.6	5.5 ²⁾
Temperature ¹⁾ T	[°C]	−29/20	100	200	300	345	425 ²⁾
Max. admissible differential pressure ΔPMX	[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)					
Admissible service temperature	Control unit DUPLEX: Saturated steam temperature plus 5 K						
Pressure ¹⁾ p	[psig]	285	260	200	140	125	80 ²⁾
Temperature ¹⁾ T	[°F]	−20/100	200	400	600	650	800 ²⁾

¹⁾ Limit values for body/cover to ASME B 16.5

²⁾ Not for UNA 45

Limiting conditions for UNA 45 and UNA 46:

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

Pressure ¹⁾ p	[bar]	51.1	46.6	43.8	39.8	37.8	28.8 ²⁾
Temperature ¹⁾ T	[°C]	-29/20	100	200	300	345	425 ²⁾
Max. admissible differential pressure ΔPMX	[bar]	2, 4, 8, 13, 22, 32					
	[psi]	29, 58, 116, 188, 320, 465					
Admissible service temperature	Control unit DUPLEX: Saturated steam temperature plus 5 K						
Pressure ¹⁾ p	[psig]	740	280	635	570	550	410 ²⁾
Temperature ¹⁾ T	[°F]	- 20/100	200	400	600	650	800 ²⁾

¹⁾ Limit values for body/cover to ASME B 16.5

²⁾ Not for UNA 45

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

Pressure ¹⁾ p	[bar]	16.0	14.8	14.0	13.3	12.3
Temperature ¹⁾ T	[°C]	-10/20	100	150	200	240
Max. admissible differential pressure ΔPMX	[bar]	2, 4, 8, 13, (16 bar with orifice (AO) 22, 32)				
	[psi]	29, 58, 116, 188, (230 psi with orifice (AO) 22, 32)				
Admissible service temperature	Control unit DUPLEX: Saturated steam temperature plus 5 K					
Pressure ¹⁾ p	[psig]	232	215	203	193	178
Temperature ¹⁾ T	[°F]	14/68	212	302	392	464

¹⁾ Limit values for body/cover to EN 1092-1

Scaricatori di condensa a galleggiante

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).

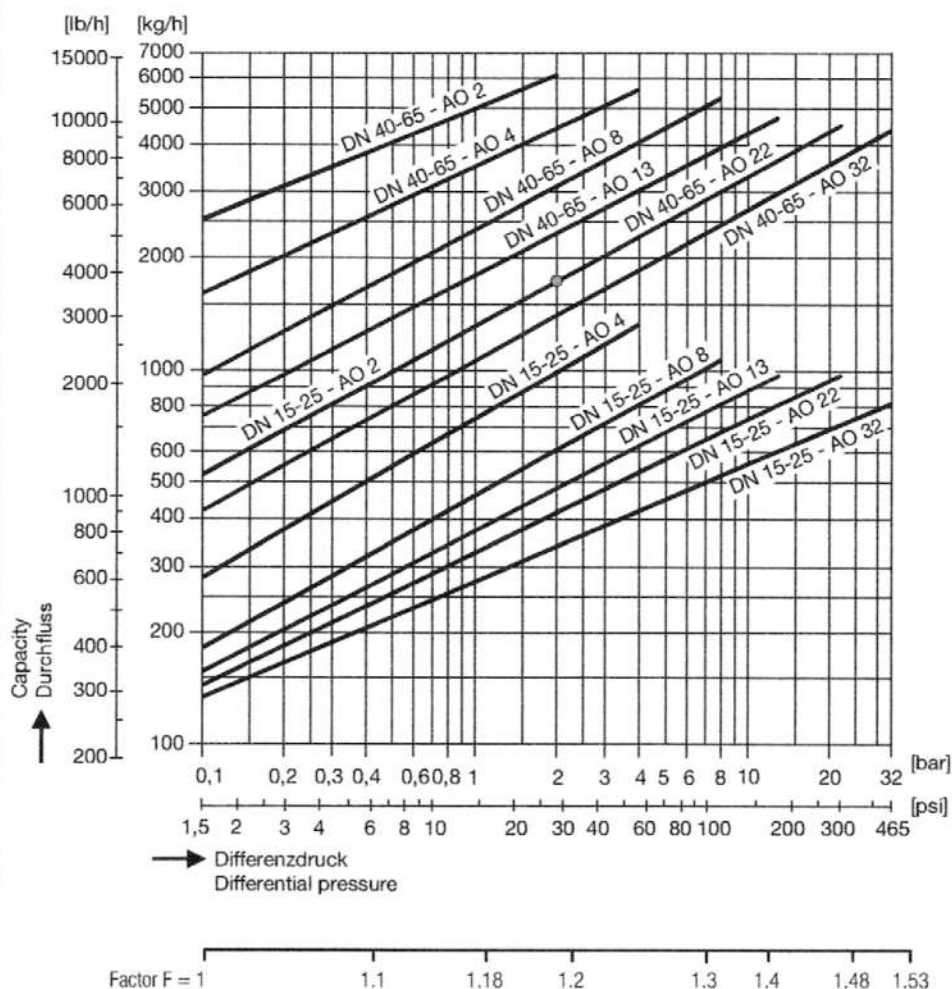
The differential pressure is the difference between inlet and outlet pressure and depends among other things on the run of the condensate line. If the condensate downstream of the trap is lifted, the differential pressure is reduced by approximately 1 bar for 7 m lift.

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 ΔPMX of the equipment depends on the type of orifice (AO) used.

Orifice	ΔPMX [bar]	Diameter of bore [mm]	
		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