

**UKL BALL FLOAT TYPE STEAM TRAP.**

The enthalpy in the steam basically has two components : The Latent heat and the Sensible heat. Whereas condensate has only sensible heat. This condensate has to be removed as soon as it is formed, because it hinders to efficient heat transfer as well as leads to water hammer phenomenon as it is hot water (having more Specific Gravity) that moves with high velocity of steam (8 to 10 times higher than water), carrying enough momentum to rupture pipes and which is damaging to the plant pipelines as well as piping equipments. Hence, need to remove condensate from steam main and trap steam. This is done by steam trap.

UKL Ball Float Trap discharge condensate near to steam saturation temperature, which works on the principle of Buoyancy, [densities difference of Water and Steam].The rising condensate level elevates the Float open the valve and discharges the condensate. When the level of condensate drops, the float falls down and the valve close the trap.

It is commonly used for most process heating applications. Wherever steam is used for indirect heating application, the trap to be used must be of mechanical design. It is a continuous discharge type steam trap. This trap can handle very high condensate loads and the discharge will be proportional to the differential pressure across the trap. There may be other similar process applications where the heat load is small and a mechanical trap can handle small as well as fluctuating loads.

This trap is provided with two optional features called Steam Lock release (SLR) and Thermostatic Vent (TV). The SLR is a manual operation to release steam that may hamper free movement of the float on water level. The TV will ensure that air and such un dissolved gases will be automatically vented out when present in condensate.

**MATERIAL OF CONSTRUCTION:**

**CAST IRON MODEL**

UFT 14- CI – IS 210 FG260

**CAST CARBON STEEL MODEL**

UFT 20- CS- ASTM A216 Gr. WCB

**SIZES AVAILABLE:-**

UFT 14 Model: 15 NB, 20 NB and 25 NB

UFT 20 Model: 15 NB, 20 NB and 25 NB



**END CONNECTIONS:**

**UFT-14 CAST IRON MODEL**

Threaded to NPT , BSP and BSPT.

**UFT-20 CAST CARBON STEEL MODEL :-**

Threaded to NPT , BSP and BSPT.

Socket Weld to ASME B 16.11

Flanged - #150/#300/#600

**INSTALLATION :-**

Horizontal/Vertical position.

**OPTIONAL:-**

IBR/Non-IBR

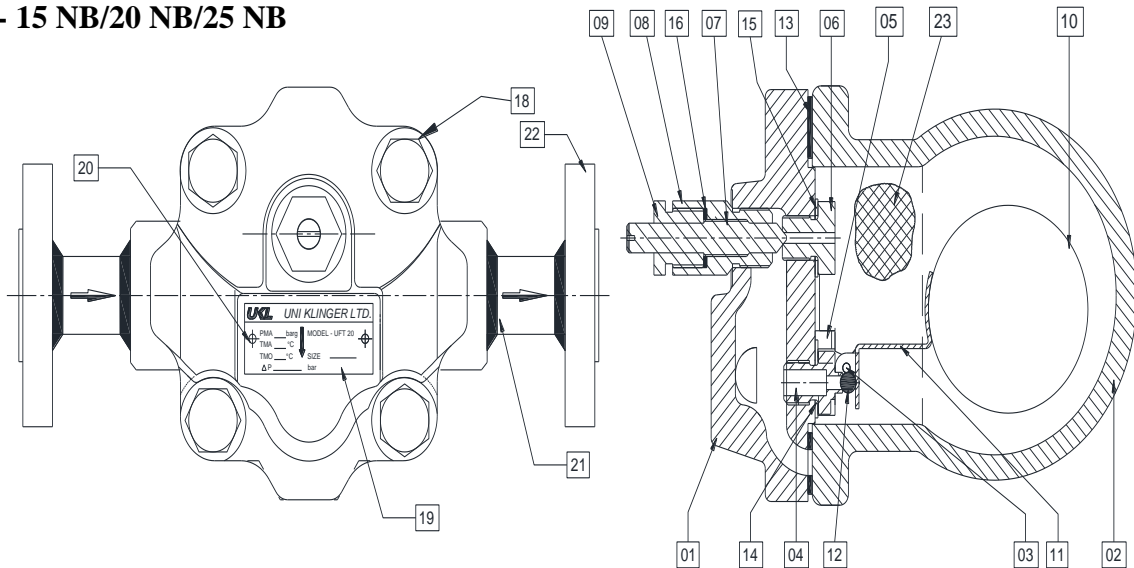
With Thermostatic Air vent

Inbuilt Strainer

**BILL OF MATERIAL:**

**UFT-14/UFT-20**

**Size- 15 NB/20 NB/25 NB**

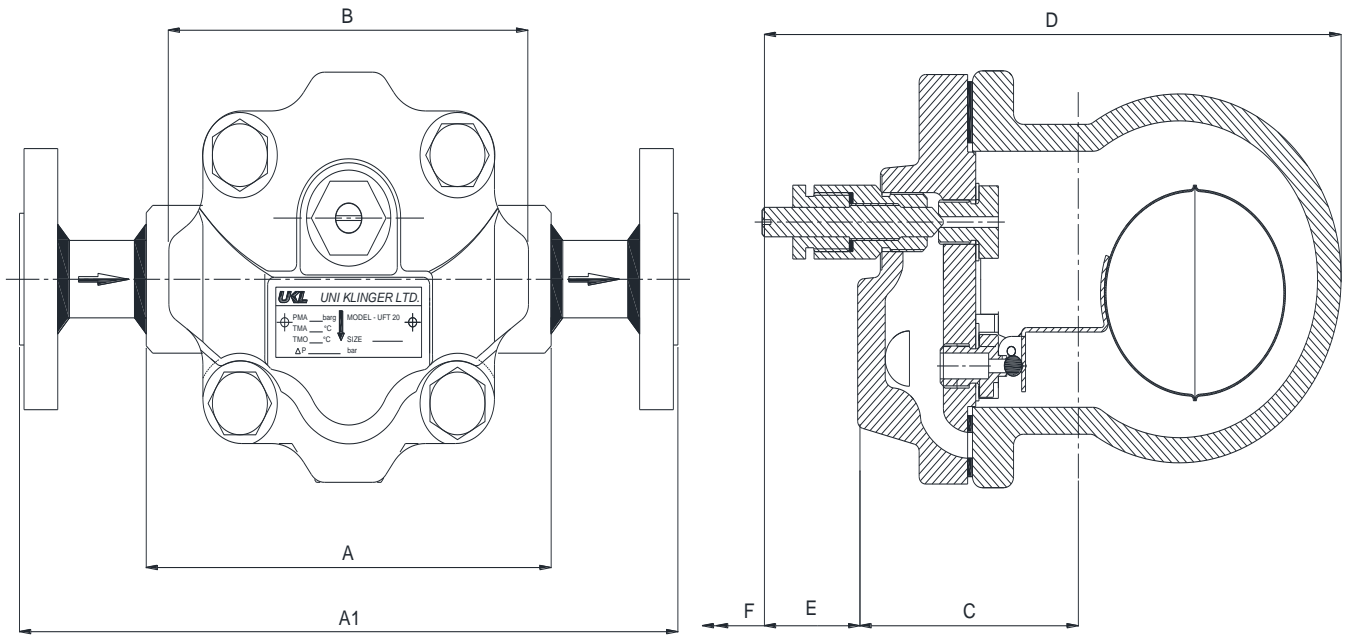


No.	PART NAME	UFT 20 Cast Steel Model		UFT 14 Cast Iron Model	
		MATERIAL	MATERIAL CODE	MATERIAL	MATERIAL CODE
01	Body	Cast Steel	ASTM A 216 Gr WCB	Cast Iron	IS 210 FG 260
02	Cover	Cast Steel	ASTM A 216 Gr WCB	Cast Iron	IS 210 FG 260
03	Pivot Pin	Stainless Steel	AISI 304	Stainless Steel	AISI 304
04	Valve Seat	Stainless Steel	AISI 304	Stainless Steel	AISI 304
05	Pivot Bracket	Stainless Steel	AISI 304	Stainless Steel	AISI 304
06	SLR Valve Seat	Stainless Steel	AISI 304	Stainless Steel	AISI 304
07	Stem	Stainless Steel	AISI 304	Stainless Steel	AISI 304
08	Stem Guide	Stainless Steel	AISI 304	Stainless Steel	AISI 304
09	Stem Guide Lock Nut	Stainless Steel	AISI 304	Stainless Steel	AISI 304
10#	Float	Stainless Steel	AISI 304	Stainless Steel	AISI 304
11	Lever	Stainless Steel	AISI 304	Stainless Steel	AISI 304
12	Steel Ball	Stainless Steel	SS 440C	Stainless Steel	SS 440C
13#	Cover Gasket	CAF/ Non CAF	CAF	CAF	CAF
14	Valve Seat Gasket	Stainless Steel	AISI 304	Stainless Steel	AISI 304
15#	SLR Valve Seat Gasket	Stainless Steel	AISI 304	Stainless Steel	AISI 304
16	SLR Stem Gasket	Graphite	Graphite	Graphite	Graphite
17	Screws	Stainless Steel	AISI 304	Stainless Steel	AISI 304
18	Cover Bolt (M10)	Carbon Steel	Gr. 8.8	Carbon Steel	Gr. 8.8
19	Name Plate	Stainless Steel	AISI 304	Stainless Steel	AISI 304
20	Rivets	Alluminium	---	Alluminium	---
21	Pipe	Carbon Steel	ASTM A 106 Gr B	Carbon Steel	ASTM A 106 Gr B
22	Flanges- SWRF	Carbon Steel	ASTM A 105	Carbon Steel	ASTM A 105
23	Strainer	Stainless Steel	AISI 304	Stainless Steel	AISI 304
#	AVAILABLE AS SPARES				

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**DIMENSIONS (mm) :-**



Screwed / Socket Weld End Connections								
Size	Diff Pressure	A	B	C	D	E	F	Weight (kg)
15 NB	4.5/10/14 bar	128	111	68	179	30	110	3.8
20 NB		128	111	68	179	30	110	3.8
25 NB		153	111	75	202	30	130	5.3

Flanged End Connections				
Size	#150		#300	
	A1	Weight(kg)	A1	Weight(kg)
15 NB	278	4.5	278	5.1
20 NB	278	5.1	278	6.1
25 NB	303	7.0	303	8.0

**Installation :-**

The trap must be fitted with the float arm in a horizontal plane so that it rises and falls vertically. Hence the arrow on the name plate must point downwards.

Traps will be generally supplied in horizontal connections with flow from left to right outlet (L-R) & horizontal connections with flow R-L (rotating cover 180° w.r.t L-R ) or vertical connections with top inlet and bottom outlet (rotating cover 90° w.r.t L-R) if specified.

The connection orientation can be changed from L-R and R-L in horizontal connections on site itself only by undoing 4 bolts and rotating the cover to required direction and then assembling.

The SLR has to be opened at the time of start up to avoid steam locking of the trap.

**STORAGE**

UNI KLINGER UFT and the respective spares should be stored only in enclosed dry rooms in a non-aggressive atmosphere. Fully assembled Ball Float Traps must be stored as supplied by UNI KLINGER. Spare parts must be handled with care and should be stored in their original packing.

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## OPERATING CONDITIONS

Model	Max Diff. Pressure	PMO (Bar)	Sat. Temp °C
UFT 14-4.5	4.5 Bar	14	193
UFT 14-10	10 Bar	14	193
UFT 14-14	14 Bar	14	193
UFT 20-4.5	4.5 Bar	32	237
UFT 20-10	10 Bar	32	237
UFT 20-14	14 Bar	32	237
UFT 20-21	21 Bar	32	237
UFT 20-32	32 Bar	32	237

For referring the capacity charts, please note following:

- Select the model of UFT based on P/T range and MOC
- Select flow capacity on Y axis of the chart for selected model.
- Work out actual differential pressure across the UFT.
- Consider all possible pressure losses in the lines.
- Select differential pressure on X axis.
- Move horizontally on Y axis & vertically on X axis.
- The point of cross section will give you the trap size required.

### MOST IMPORTANT:-

Before doing any maintenance on the trap it is necessary to isolate both supply and return lines and any pressure to normalize to atmosphere pressure by opening SLR. Allow the trap to cool before doing any maintenance and clean all sealing faces before assembling it.

### How to order and Specify:

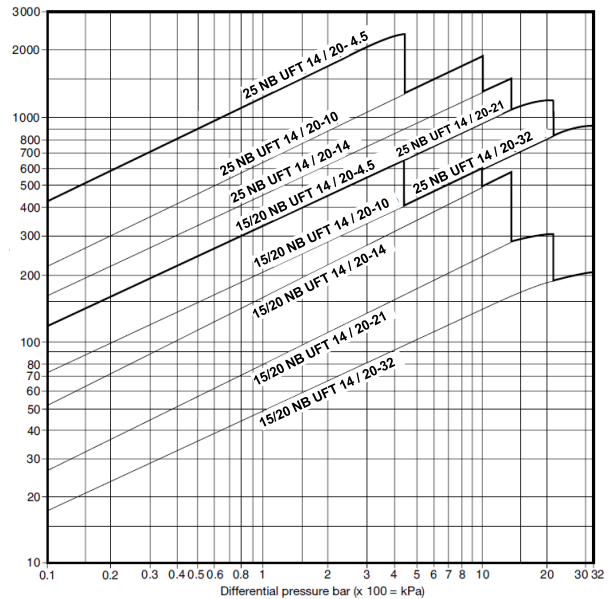
15 NB UKL UFT 14- 4.5 Bar, TV, Float Trap, Threaded BSP

Always order spares by stating the type and differential pressure, specify-

EXAMPLE :-

**Controller Assembly- valve seat for 15 NB UFT14-4.5 Bar**

## CAPACITY CHART



### SPARES AVAILABLE:

- SLR Assembly
- Float
- Main controller assembly
- Cover Gasket
- Strainer



Cast / Forged Steel Piston Valves, Bellow seal valves, High Pressure valves (Gate/Globe), Strainers – "Y" Type, ITVS Steam Traps (Thermodynamic, Thermostatic, Ball Float Traps and IBT), Pressure Reducing Station, Condensate Recovery Products. Level Gauges (Reflex, Transparent, Bicolor), Sight Glass, Hot Water Generation System, Safety and Relief Valves. FSD Products : Compressed Asbestos / Non Asbestos Fiber Sheeting / Cut Gaskets, Spiral Wound Gaskets.

In view of technical progress design and dimensions are subjected to change without notice.



**UNI KLINGER LIMITED**

A joint venture of the Neterwala group of companies and KLINGER AG. Switzerland.

Central Sales Office & Pune Branch : SC1, 5<sup>th</sup> Fl., Kohinoor Est. Mumbai-Pune Highway, Kadaki, Pune-411 003. Tel.: +91-20-4102 3000 Fax.: (020) 4102 3001 e-mail : [salescsco@uniklinger.com](mailto:salescsco@uniklinger.com), [salespune@uniklinger.com](mailto:salespune@uniklinger.com), Website : [www.uniklinger.com](http://www.uniklinger.com)

Factory : C-37, M.I.D.C., Ahmednagar – 414 111, Maharashtra, Tel. : 0241 – 2777223 / 2777512 Fax : 0241 – 2777294, E-mail : [fdworks@uniklinger.com](mailto:fdworks@uniklinger.com)

#### Branch Offices :

**Baroda** : 102, 1st Floor, Otel Towers-II R.C. Dutt Road, Baroda-390 005, Tel.: 91-0265-2312343 / 2340660, Fax.: 91-265-2341419. E-mail : [salesbar@uniklinger.com](mailto:salesbar@uniklinger.com)  
**Chennai** : East Coast Centre, 5<sup>th</sup> Floor, 553, Mount road, Teyanampet, Chennai - 600 018, Tel.: 91 - 44 - 24345707. Fax.: 91 - 44 - 24343960. E-mail : [saleschen@uniklinger.com](mailto:saleschen@uniklinger.com)  
**Kolkata** : 9, Chittrakoot, 8th Floor, 230 A, AJC Bose road, Kolkatta-700 020, Tel.: 91-33-22872510, Fax.: 91-33-22876494. E-mail : [salescal@uniklinger.com](mailto:salescal@uniklinger.com)  
**Mumbai** : 22, 2nd Flr, Shreeji Arcade CHS, Almeda road, Thane-400 602, Tel.: 91-22-25421140 / 91-22-25440461, Fax.: 91-22-25440463. E-mail : [salesmum@uniklinger.com](mailto:salesmum@uniklinger.com)  
**Delhi** : 321, Ansal Chamber-II, 6, Bhikaji Cama Place, New Delhi-110 066, Tel.: 91-11-41658767 / 91-11-26193847, Fax.: 91-11-41658768. E-mail : [salesdel@uniklinger.com](mailto:salesdel@uniklinger.com)