

UKL THERMODYNAMIC 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.

The thermodynamic traps separate condensate and steam based on velocity which in case of steam is higher than that of condensate. These are used mainly on drip lines of the main steam distribution line, platen presses and super heated steam lines to remove condensate.

Condensate pressure is used to open the trap by lifting the disc, discharging condensate in low pressure. Due to low pressure flashing of condensate takes place. High flash steam velocity (approximately 5 times of condensate) creates a low pressure zone below the disc. Accumulated flash steam force over the disc becomes greater than the incoming condensate pressure this leads to closure of the disc. Subsequently the flash steam condenses and the incoming higher pressure condensate pushes the disc opening the trap and thus the cycle continues. The UTD 120 is a steam trap with integral strainer specifically designed to meet above application.

UTD 120 is a Thermodynamic Steam Trap manufactured in forged Alloy Steel construction. It is a very rugged design built for high pressure applications such as in power plants. Also used for superheated applications.



END CONNECTIONS:

Socket Weld to ASME B 16.11 #6000
Butt weld end to suit SCH 160
Flanged End Connections On Request

MATERIAL OF CONSTRUCTION:

ASTMA 182 Gr. F22

SIZES AVAILABLE:-

1/4", 3/4" and 1"
15, 20 and 25NB

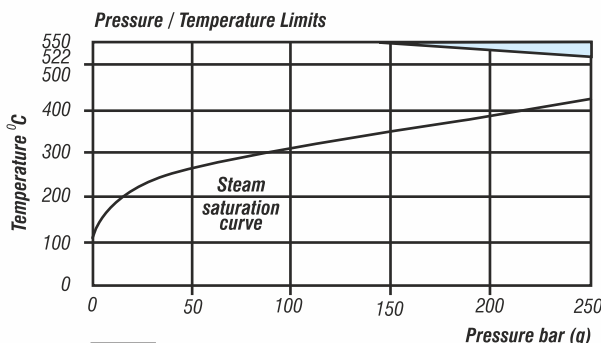
ON REQUEST :-

UTD 120R with replaceable sheet and disc also available on request. (Non Standard Requirement)

INSTALLATION:-

Preferably in horizontal position.

- **Max Operating Back Pressure:-**
50% of the upstream pressure
- **Min Operating Pressure for satisfactory Operation :-** 116 psi



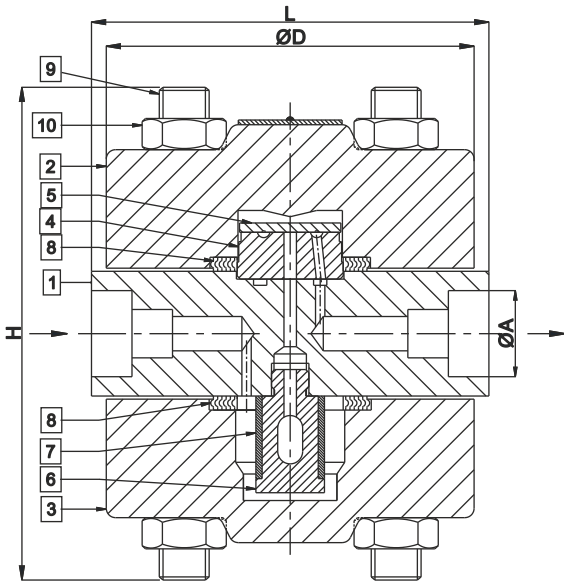
The Product MUST NOT BE USED in this section
Note: if the product is used at pressures above 170 bar then a reduction in working life may be experienced

OPERATING CONDITIONS

Size (NB)	End Conn. →	SW	BW
1/4", 3/4", 1"	Press. Psi	3627	3627
	Press. Kg/cm2	255	255
15, 20, 25NB	Temp °F	1022	1022
	Temp °C	550	550

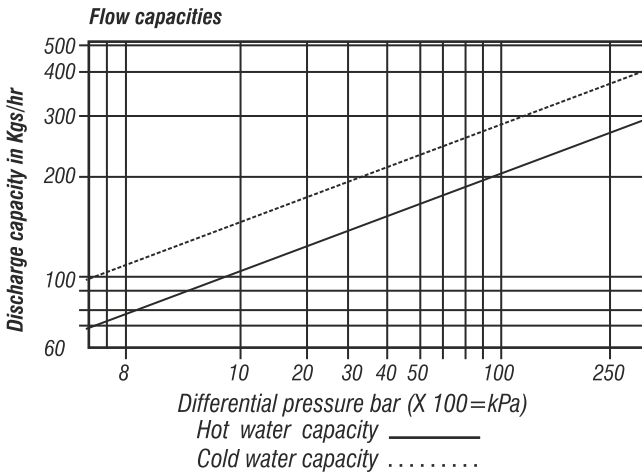
Hydro Test Pressure : 1.5 times design pressure

BILL OF MATERIAL





No.	PART NAME	MATERIAL	MATERIAL CODE
1	Body	Alloy Steel	ASTM A182 F22-CI3
2	Top Cover	Alloy Steel	ASTM A182 F22-CI3
3	Bottom Cover	Alloy Steel	ASTM A182 F22-CI3
4	Seat	Tool Steel	ASTM A 681 Gr D2
5#	Disc	Tool Steel	ASTM A 681 Gr D2
6	Filter Housing	Stainless Steel	AISI 316
7#	Filter	Stainless Steel	AISI 304
8#	Gasket	Spiral Wound	S.S. With Graphite Filler
9#	Stud	Alloy Steel	ASTM A 193 Gr B16
10#	Nut	Alloy Steel	ASTM A 194 Gr 4 / Gr7

Available as Spares.



Notations	Dimensions (mm) (kg)			Dimensions (in) (lb)		
	15	20	25	1/2"	3/4"	1"
L	127.5	127.5	127.5	5.0	5.0	5.0
H	158	158	158	6.2	6.2	6.2
ØD	118	118	118	4.6	4.6	4.6
ØA	21.80	27.20	33.90	0.9	1.1	1.3
Weight(kg)	10.5	10.5	11.0	23.5	23.5	24.6

Recommended Tightening Torques

Item	Part		or mm		Nm
9	Stud		M16		85-90
10	Nut	23A/F	M16		160-180

In view of technical progress designs and dimensions are subject to change without notice.

UNI KLINGER LIMITED

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