

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.

MATERIAL OF CONSTRUCTION:

ASTM A 182 Gr. F22

SIZES AVAILABLE:-

½”, ¾”, and 1”

END CONNECTIONS:

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

Max Operating Back Pressure:-

50% of the upstream pressure

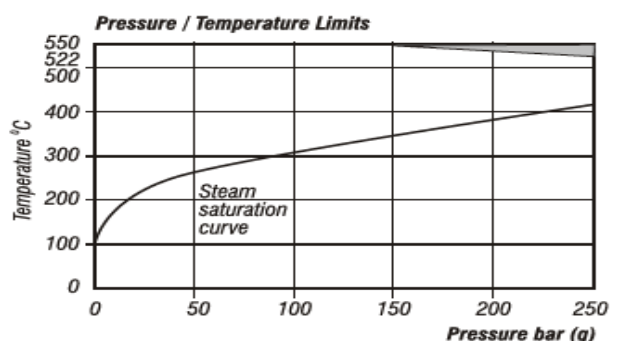
Min Operating Pressure for satisfactory

Operation :- 116 psi



INSTALLATION:-

Preferably in horizontal position.



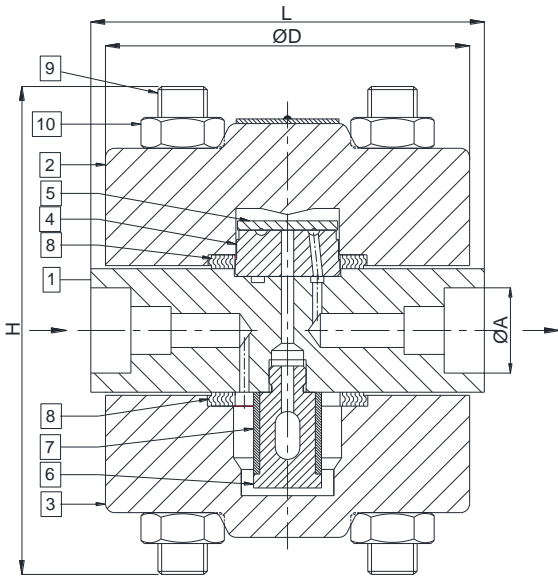
Note: If the product is used at pressures above 170 bar then a reduction in working life may be experienced.

OPERATING CONDITIONS

Size	End Conn. →	SW	BW
½”, ¾”, 1”	Press. Psi	3627	3627
	Temp F	1022	1022

Hydro Test Pressure : 1.5 times design pressure

BILL OF MATERIALS :-




No.	PART NAME	MATERIAL	MATERIAL CODE
1	Body	Alloy Steel	ASTM A182 F22- C13
2	Top Cover	Alloy Steel	ASTM A182 F22- C13
3	Bottom Cover	Alloy Steel	ASTM A182 F22- C13
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 (in)		
	½"	¾"	1"
L	5.0	5.0	5.0
H	6.2	6.2	6.2
ØD	4.6	4.6	4.6
ØA	0.9	1.1	1.3
Weight(lb)	23.5	23.5	24.6

Recommended Tightening Torques

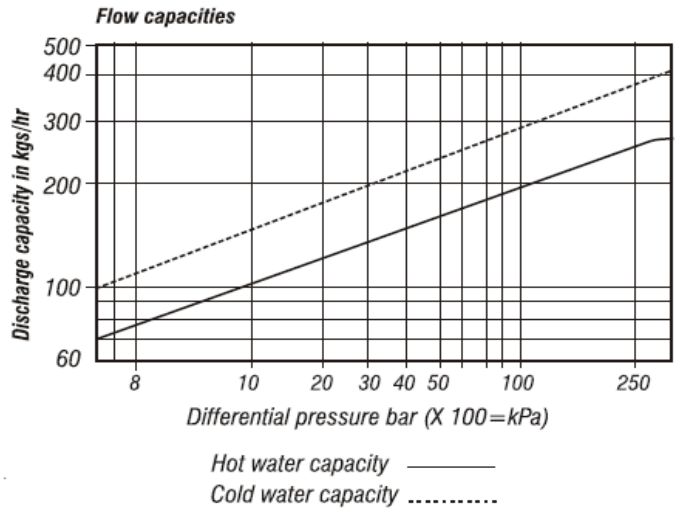
Item	Part	 or mm	Nm
9	Stud	M16	85-90
10	Nut	23A/F M16	160-180

How to fit disc :-

Unscrew the four nuts and remove the top cover. Lift off the disc. Fit the new disc. Ensure that the seating surface is not unduly worn. Lapping is necessary for worn out seats. Re- assemble cover using a new gasket making sure that gasket faces are perfectly clean.

To clean or replace strainer remove strainer cap. Remove strainer screen. Fit new or cleaned strainer screen into recess in cap. A new gasket should be fitted and the cap screwed into the body.

To replace cover studs after removing old cover studs fit new cover studs.



Other Products : 

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.



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

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