

**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.



**MATERIAL OF CONSTRUCTION:**

UTD55 : -ASTM A 743 Gr. CA40  
UTD 55F : - AISI 420

**SIZES AVAILABLE:-**

UTD 55 :- ½” and ¾”  
UTD 55 F :- 1”

**END CONNECTIONS:**

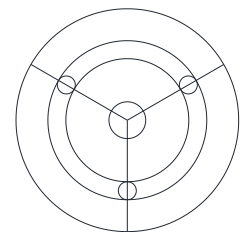
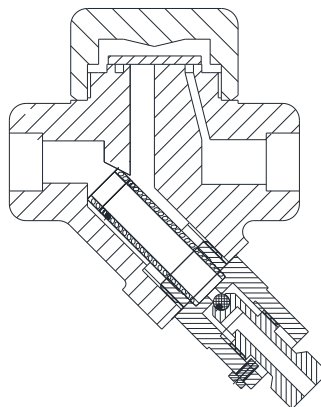
Threaded to NPT , BSP and BSPT  
Socket Weld to ASME B 16.11  
Flanged End- #150/#300/DIN

**INSTALLATION:-**

Preferably in horizontal position.

**ON REQUEST:-**

- IBR/Non-IBR
- Blow down cock
- Isotub
- Flanges weld on type
- Single Orifice/Three orifice
- Compactable with UITVS



3 ORIFICE TOP VIEW

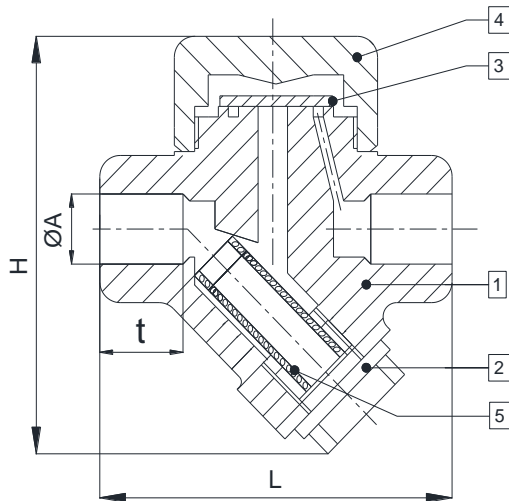
OPTIONAL BLOWDOWN COCK

**OPERATING CONDITIONS**

| End Conn.  |           | BSP   | NPT   | SW    | FL 150 | FL 300 |
|------------|-----------|-------|-------|-------|--------|--------|
| Size (in)  | Press psi | 177.8 | 782.4 | 782.4 | 284.5  | 739.7  |
| ½”, ¾”, 1” | Temp °F   | 500   | 849   | 849   | 797    | 797    |

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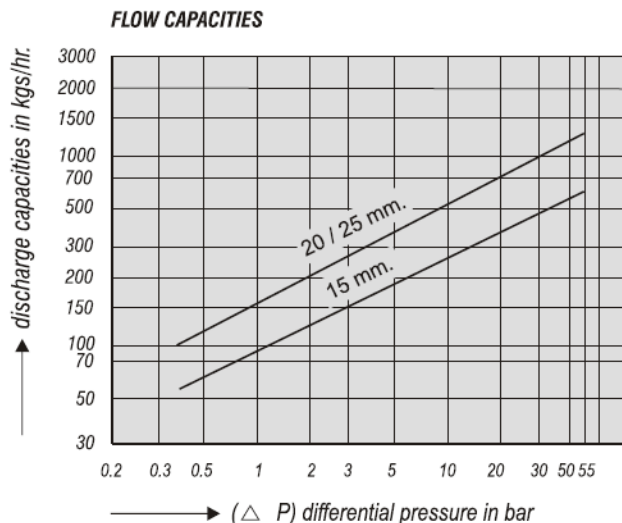
**BILL OF MATERIAL :-**



| Sr. | Part       | Materials      |          |
|-----|------------|----------------|----------|
|     |            | UTD55          | UTD55F   |
|     |            | ½" and ¾"      | 1"       |
| 1   | Body       | A743 Gr. CA 40 | AISI 420 |
| 2   | Filter Cap | A743 Gr. CA 40 | AISI 420 |
| 3   | Disc       | A743 Gr. CA 40 | AISI 420 |
| 4   | Cover      | A743 Gr. CA 40 | AISI 420 |
| 5   | Filter     | AISI 304       | AISI 304 |
| 6*  | Blow down  | SS             | SS       |

\* Parts are available on Request.

| Notations   |    | Dimensions (IN)  |      |      |
|-------------|----|------------------|------|------|
|             |    | ½"               | ¾"   | 1"   |
| L           |    | 2.95             | 2.95 | 3.54 |
| H           |    | 4.25             | 4.25 | 4.92 |
| ØA          | SW | 0.86             | 1.07 | 1.33 |
|             | t  | 0.39             | 0.51 | 0.51 |
| ØA          |    | BSP / NPT / BSPT |      |      |
| Weight (lb) |    | 2.06             | 2.06 | 4.03 |



**HOW TO SERVICE:**

Unscrew the main bore cap using spanner. If the wear on the surface of disc and body is minor they can be refaced by lapping individually on a flat surface.

If the wear on the surface of body is major then seating surface must be ground and lapped. The total amount of metal removed in this way should not exceed 0.01". The disc, however may be replaced by a new one. While re-assembling suitable high temperature anti seize grease should be applied to threads. Screw the cover and tighten it with suitable torque. Ensure the disc is free by shaking the trap.

**HOW TO CLEAN OR REPLACE FILTER.**

Unscrew filter cap using spanner. Withdraw filter and clean. If damaged replace with new one.



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 Sheetting / Cut Gaskets, Spiral Wound Gaskets.



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