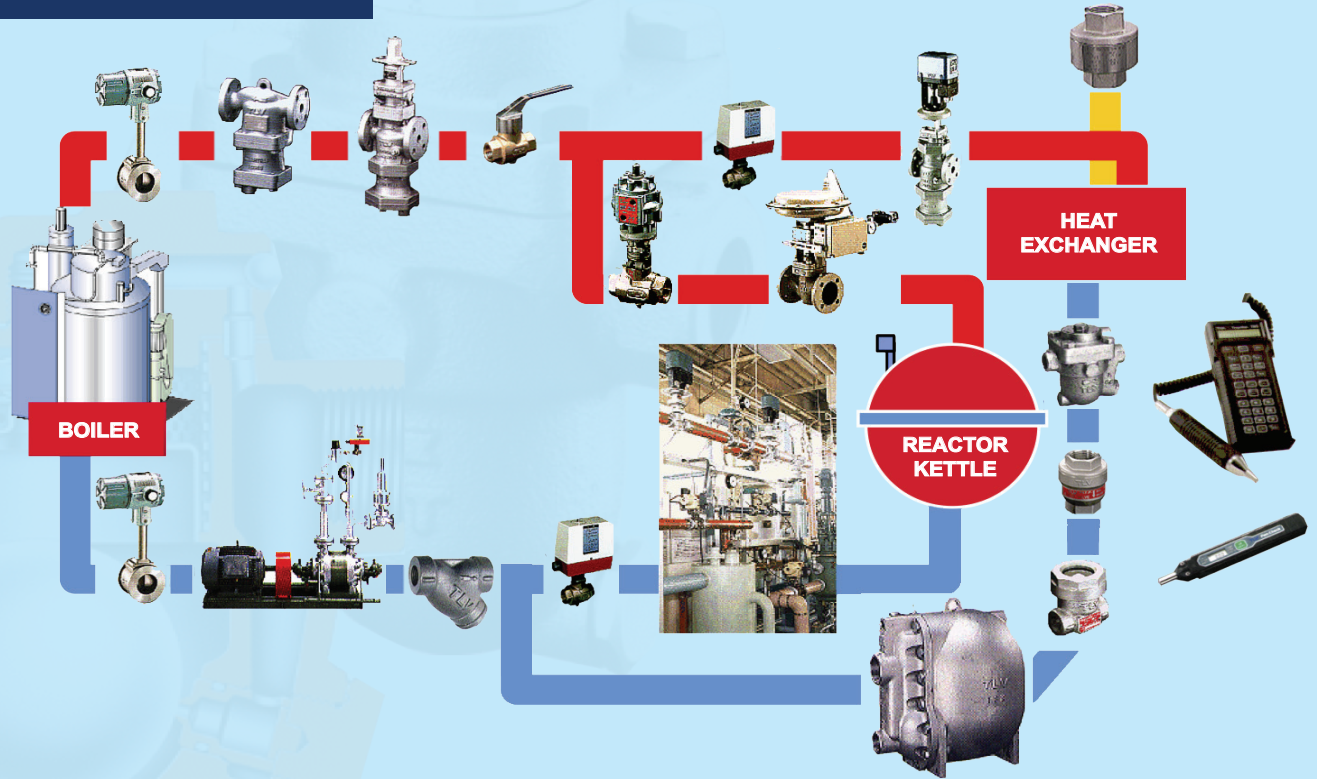




**TLV STEAM ENGINEERING**  
 Consulting and Engineering Services (CES)

**PRODUCT RANGE**



**JX SERIES**

**A&P SERIES**

**COSPECT/  
COSR SERIES**

**DC SERIES**

**GP SERIES**

**JA SERIES**



Mechanical Steam Traps



Thermodyne Steam Traps



Pressure/  
Temperature Control



Separators



Condensate Recovery Systems



Air & Gas Traps



**PT1 (Pocket TrapMan®)**

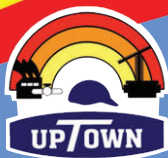
Daily inspection tools used to measure vibration (ultrasound) and temperature, for basic operational judgement of steam traps, and valves and shaft bearings.



**TrapMan.**

**STEAM TRAP MANAGEMENT SYSTEM**

Steam trap malfunctions can be discovered soon after they occur, which contributes to the stable operation of the steam equipment.



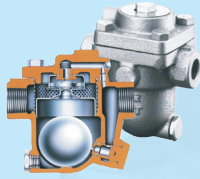
Authorized Distributor:  
**UP-TOWN INDUSTRIAL SALES, INC.**  
 Head Office Address: 56-58 Up-town Bldg., Madison St., Mandaluyong City, Philippines 1554  
 Telephone Nos.: (02) 633 9673/ (02) 631 8366 loc. 112 Fax No.: (02) 633 9673  
 Homepage: [www.uptown.com.ph](http://www.uptown.com.ph)  
 Product Manager: Rodolfo A. Ordoño  
 ContactNo.: (+63) 915 769 0408 | Email: [rordono@uptown.com.ph](mailto:rordono@uptown.com.ph)



# TLV'S SUPERIORITY AND ORIGINALITY

## MECHANICAL STEAM TRAPS "FLOAT TYPE"

### 1. TLV FREE FLOAT SERIES



#### 1. "FREE FLOAT" DESIGN (Patented)

- a) Only 1 moving part (Float).
- b) No levers, hinges. Fewer Failures and longer service life.

#### 2. PRECISION-GROUND SPHERICAL FLOAT – NO WELDED SEAM ON FLOAT

- a) Float is "Free" – infinite number of contact points with main valve – wear and tear is diffused.

#### 3. EQUIPPED WITH A FLOAT COVER

- a) Float cover diffuses the pressure of incoming steam - inhibits water hammer.

### 2. CONVENTIONAL LEVER FLOAT TYPE



#### 1. BALL / LEVER FLOAT

- a) Lever Mechanism attached to the float.
  - b) Uses float arm and pin.
- Failure of steam traps is related to their number of moving parts.

#### 2. FLOAT HAS WELDED SEAM

- a) Main Valve is closed off by "Fixed" portion of the Float Arm. – Wear and tear concentrated on a specific area.

#### 3. NO FLOAT COVER

- a) Less Protection against water hammer.

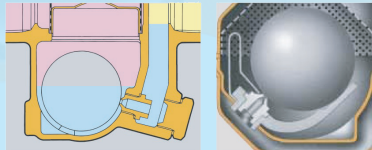
## THE FIRST CHOICE FOR PROCESS EFFICIENCY THE REASONS ARE SIMPLE

### 1. PROCESS EFFICIENCY

The **TLV** Free Float adjusts quickly to changes in condensate flow, ensuring rapid discharge and maximum process efficiency. Unaffected by back pressure, the **TLV** Free Float is ideal wherever condensate is recovered.

### 2. ENERGY CONSERVATION

A valve orifice below "water level" and 3- point seating in some models prevent steam leakage.

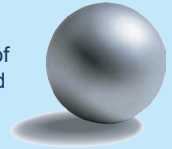


### 3. INTEGRAL STRAINER

All internals are protected by an integral perforated stainless steel strains screen

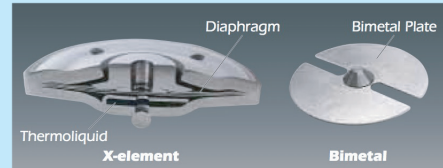
### 4. LONG LIFE

The precision ground float provides an infinite number of contact surfaces with the orifice, ensuring little wear and long reliable *life*.



### 5. AUTOMATIC AIR VENTING

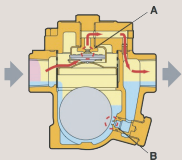
Automatic air venting discharges initial air so the equipment can be started up in the shortest possible time period. X-element also vents air at near steam temperature, suitable for batch operation equipment.



Other brands need for you to install air vent separately thereby requiring unnecessary points in the line.

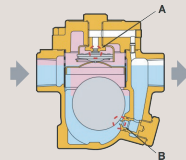
## FREE FLOAT® OPERATION (X-element)

### 1 START-UP DISCHARGE



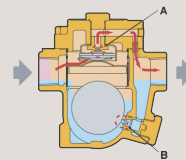
When trap is cool, the X-element contracts and valve port (A) opens wide, continuously discharging initial air. As cold condensate enters the trap, the float rises to allow discharge of condensate from valve port (B) and both air and condensate from valve port (A).

### 2 HOT CONDENSATE DISCHARGE



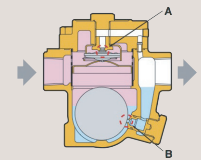
Once all initial air and cold condensate have been discharged, hot condensate heats the X-element and closes valve port (A) before steam can escape. Condensate which simultaneously enters the trap continues to be discharged through valve port (B).

### 3 CONTINUOUS RESPONSE

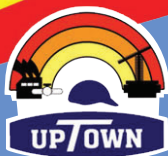


Air or retained condensate entering the trap drop the temperature and contract the Xelement. Valve port (A) instantaneously opens to discharge air. When higher temperature condensate follows, the X-element expands and closes valve port (A).

### 4 COMPLETE CLOSURE



When condensate flow to the trap ceases, the float closes valve port (B) which is always sealed below the water level. The upper section fills with steam, keeping valve port (A) closed. The trap is then completely sealed, preventing any steam leakage.



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