# HIGH PRESSURE BI-METALLIC STEAM TRAP
# P215Ti

### Description:

*Bi-Thermostatic bimetallic steam trap, with corrosion resistant regulator unaffected by waterhammer and superheated steam. Balanced pressure valve. Independent seat and cone valve, and external adjustment device while runningfor temperature and flow discharge.*

*The fact that both, valve plug andvalve seat, be independent and located in the low flow discharge area, reduces erosion and extends the life of the trap. The condensate discharge is controlled by bimetallic thermostat, continuously adjusting to changes of condensate flow. Automatic air venting. Installation in any position. The independence of the cone valve and seat reducesdramatically the costs of its spare parts, joined to the fact that it has an external adjustment device while running,makesan extremely low maintenance cost steam trap.*

### Operation:

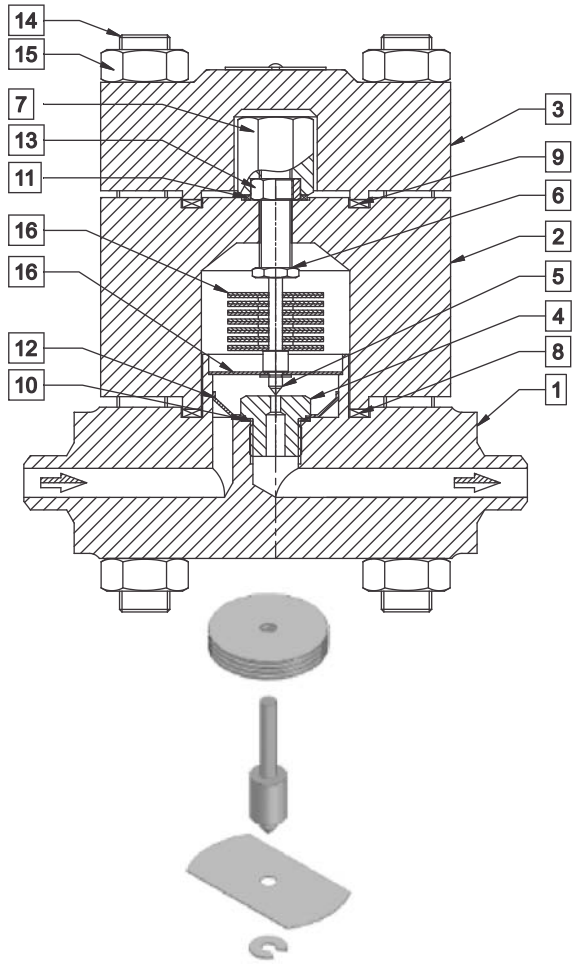
*During the start-up, the condensate is cold and the bimetals are flat. When the temperature starts to rise the bimetals will expand producing the progressive closure of the valve plug. In this way the steam trap is able to adjust itself to changing conditions because if the pressure rises, the higher pressure acts on the valve plug but at the same time the higher temperature will act on the bimetals. Its quick automatic air venting prevents air binding. The valve plug is placed on the upper stream far from the flash steam zone, this avoids erosion and waste, contributes to a long effective life and reduces maintenance costs.*

### Maximum operating conditions:

| | | |
|---|---|---|
| *Maximum operating pressure* | : | *215 bar* |
| *Maximum temperature* | : | *550 °C* |
| *Maximum differential pressure* | : | *215 bar* |

**End Connections:**

*Butt Weld : ½", ¾", 1"*
*Socket Weld : ½", ¾", 1"*
*Flanges DIN PN 160 : DN 15,20,25*
*Flanges ANSI 600/900/1500/2500#*
*Raised Face : ½", ¾" , 1"*
*Special connections on demand.*




| | Component | Material |
|---|---|---|
| 1 | Body | ASTM A 182 Gr.F91 |
| 2 | Cover | ASTM A 182 Gr.F91 |
| 3 | Safety Cap | ASTM A 182 Gr.F91 |
| 4 | Valve Seat | AISI 420 |
| 5 | Valve Plug | AISI 440B |
| 6 | PlugGuide | AISI 420 |
| 7 | CoverNut | ASTM A 182 Gr.F91 |
| 8 | BodyGasket | AISI347 (Octagonal Ring Gasket) /AISI304SPW + GraphiteFiller |
| 9 | CoverGasket | AISI347 (Octagonal Ring Gasket) /AISI304 SPW + GraphiteFiller |
| 10 | V. SeatGasket | Soft Nickel |
| 11 | C. NutGasket | Soft Nickel |
| 12 | StrainerScreen | AISI 304 |
| 13 | Locknut | AISI 304 |
| 14 | Stud | ASTM A 193 Gr.B16 |
| 15 | Nut | ASTM A 194 Gr.7 |
| 16 | Bimetal plates | 38/7NiCr ,19/7NiCr |

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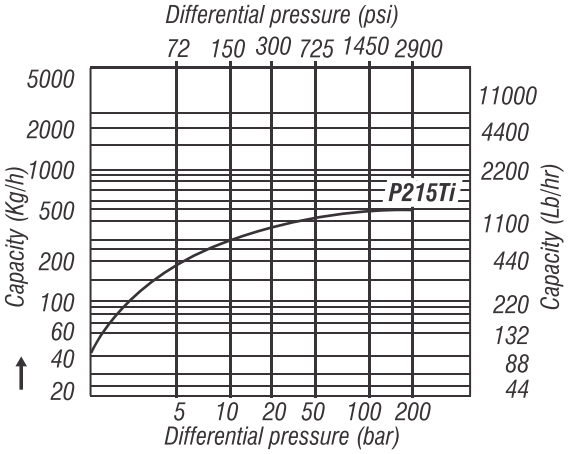
***Other characteristics:***

*This type of steam trap allows can be, continuously and remotely, monitored by SmartWatchWeb system in order to detect anomalies during operation, such as the possibility of appearance of external or internal leak, correct condensate discharge temperature in order to improve the energy efficiency of the installation, pressure and back pressure problems.*

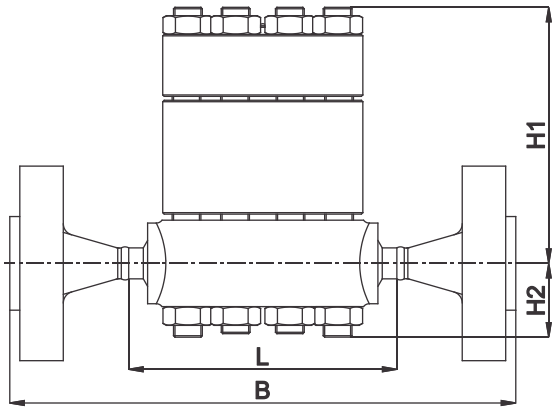
| DN (pulg) | ½" | ¾" | 1" |
|---|---|---|---|
| H1 (mm) | 122 | 122 | 122 |
| H2 (mm) | 27 | 27 | 27 |
| L (mm) | 200 | 200 | 200 |
| B (mm) | ## | ## | ## |




*Capacities given are continuous discharge capacities of hot condensate. The cold water capacity at start-up condition will be 2.5 of the hot condensate capacity.*

***Dimensions**: ## Total length may vary according to type and rating of flange.*

*Approximate weight (without flanges): 28 Kg.*




***External adjustment device:***

*With its external adjustment device, the user can easily modify the conditions of evacuation of condensate. To do this, simply remove the safety cap (3), cover nut (7), loosen the lock nut (13) and turn as necessary the plug guide (6), up to get the required condensate flow or temperature (Bi-Therm qualified personnel adjusts every steam trap according to its operation conditions). Once adjusted, fix the lock nut (13) with soft pressure and place back the cover nut (7), safety cap (3), fix tightly to achieve the total sealing. If sealing problems through the gasket are observed, replace it with an original new one.*

***Spareparts:***

- *Valve seat*
- *Valve plug*
- *Valve seat gasket*
- *Body gasket*
- *Cover gasket*
- *Cover nut gasket*
- *Strainer screen*
- *Set of bimetal plates*

***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 / Gland Packing*


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

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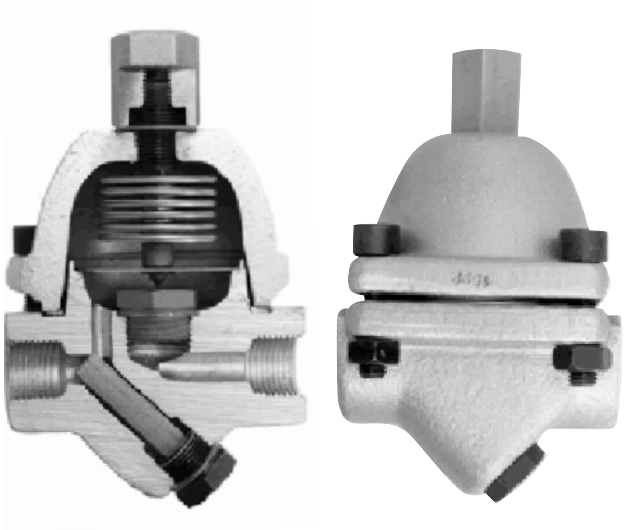
# Bi-metallic Thermostatic Steam Trap
# UG25 / UT25 / UP45Ti / UG45Ti

## UKL Bi-metallic Thermostatic 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 and trap steam. This is done by steam trap.*

*UKL make Bi-metallic steam traps are equipped with corrosion resistant regulator unaffected by water hammer and superheat. The cover features an external adjustment device that can be utilized while in the operation, independent seal and cone valve continues discharge. When the temperature starts to rise the upper thermo-state will expand producing the progressive closure of the valve. When the temperature decreases the lower thermo-state opens the valve adding pressure balancing feature. The cone valve is placed on upper stream far from the flash steam zone resulting in long life and reduces maintenance costs.*



***ADVANTAGES:-***

- *Innovative Technology*
- *Autonomous Operation*
- *Online External Adjustment*
- *Reduction in operation costs*
- *Reduction in maintenance costs*
- *Reliability, Balanced Pressure Design*
- *Integral strainer*

***MATERIAL OF CONSTRUCTION :-***

*UG25/UT25 :- ASTM A 105*
*UG45Ti :- ASTM A 105*
*UP45Ti :- ASTM A 105*
*Special material available on request.*

***SIZES AVAILABLE:-***

*15 NB, 20 NB and 25 NB*

***OPERATING CONDITIONS :***

| Model | PMO | TMO | Max Diff. Pressure |
|---|---|---|---|
| UT25 and UG25 | 25 bar(g) | 400 $^{o}$C | 25 bar(g) |
| UP45Ti and UG45Ti | 45 bar(g) | 400 $^{o}$C | 42 bar(g) |

***BI METALLIC TRAP With SMART WATCH***

*UKL Bi Metallic Trap is compactable with Patented technology for online monitoring of steam traps know as SMART WATCH.*

***FEATURES :-***

*Patented Technology*
*Microprocessor based monitoring device.*
*High network integration capacity*
*Monitoring of 4 parameters with integrated sensors.*
*Simple cabling & wiring with 12 V DC supply*
*RS 485 networking over a range of 1200 m*
*Certified for intrinsic safety requirements*
*Variety of Alarm Modes*

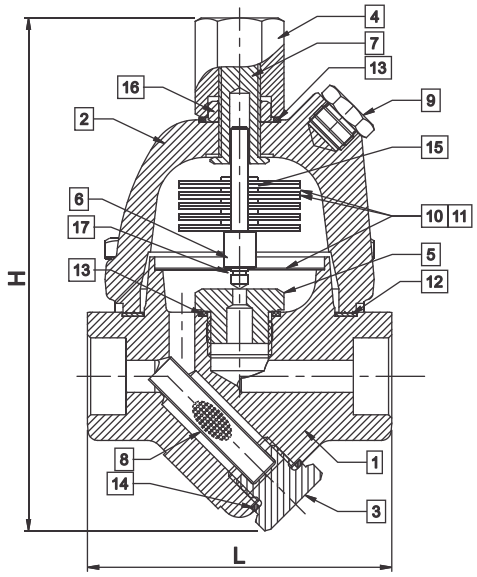
***END CONNECTIONS:***

*Socket Weld as per ASME B 16.11*
*Flanged End Connections #150/#300*
*Threaded to BSP, NPT and BSPT*

***OPTIONAL:-***

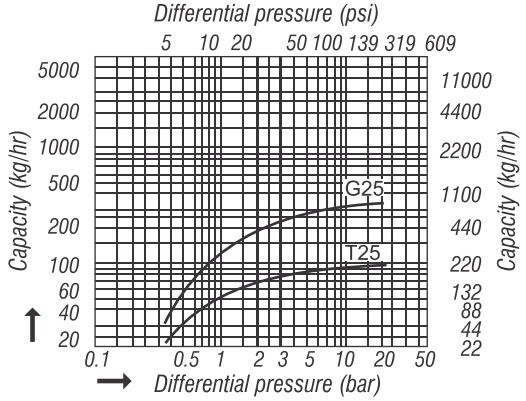
*IBR/Non-IBR*
*Suitable for online steam trap monitoring*
*Compactable with UITVS*
*Blow Down*

## *Bi-metallic Thermostatic Steam Trap*
## *UG25 / UT25 / UP45Ti / UG45Ti*




| Sr. | Size | L | H |
|---|---|---|---|
| 1 | 15 NB | 95.00 | 160.00 |
| 2 | 20 NB | 95.00 | 160.00 |
| 3 | 25 NB | 160.00 | 160.00 |

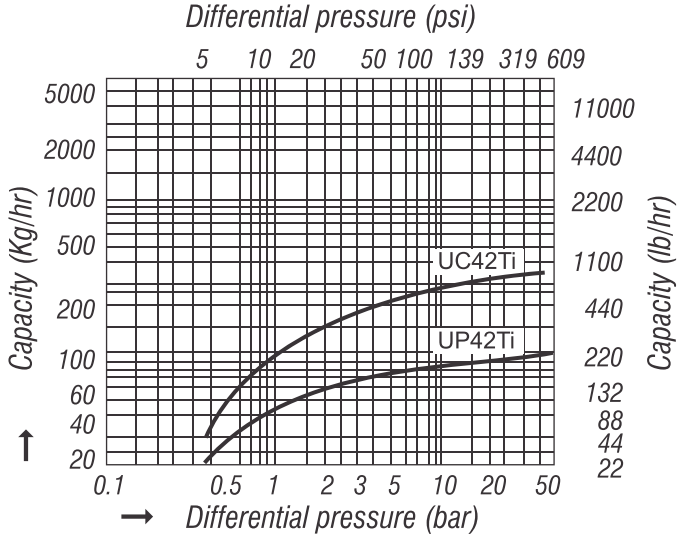
### *Capacity Curves for Model Ut25 & UG25*




### *BILL OF MATERIAL:-*

| No. | PART NAME | MATERIAL | MATERIAL CODE |
|---|---|---|---|
| 1 | Body | Carbon Steel | ASTM A 105 |
| 2 | Cover | Carbon Steel | ASTM A 105 |
| 3 | Strainer Cap | Carbon Steel | ASTM A 105 |
| 4 | Cver Nut | Stainless Steel | AISI 304 / AISI 316 |
| 5 | Valve Seat | Stainless Steel | AISI 304 / AISI 316 |
| 6 | Stem | Stainless Steel | AISI 304 / AISI 316 |
| 7 | Stem Guide | Carbon Steel | ASTM A 105 |
| 8 | Strainer | Stainless Steel | AISI 304 |
| 9 | Cover Plug | Brass / C.S. / S.S. | --- |
| 10<br>11 | Bi-Metallic Controller Plates | ---- | Klingr Standard Set |
| 12 | Body Gasket | --- | Graphite / CAF / Non CAF. |
| 13 | Valve Seat Gasket | Copper | --- |
| 14 | Strainer Cap Gasket | Copper | --- |
| 15 | Plain Washer | Stainless Steel | AISI 304 / AISI 316 |
| 16 | Nut (1/4" BSP) | Stainless Steel | AISI 304 / AISI 316 |
| 17 | Circlip | Carbon Steel | --- |

### *Capacity Curves for UP45Ti & UG45Ti*




***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 / Gland Packing*

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# Bi-metallic Thermostatic Steam Trap
# UP64 Ti / UP110 Ti

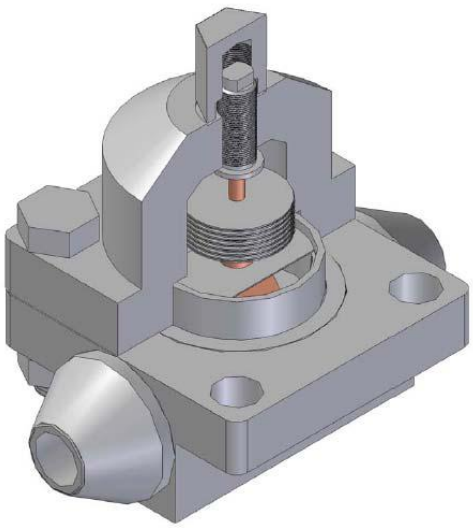
**UKL Bi-metallic Thermostatic Steam Trap.**

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 and trap steam. This is done by steam trap.

UKL make Bi-metallic steam traps are equipped with corrosion resistant regulator unaffected by water hammer and superheat. The cover features an external adjustment device that can be utilized while in the operation, independent seal and cone valve continues discharge.

The fact that both cone valve and seat be independent and located in allow flow discharge area is controlled by Bi-metallic thermostat, continuously adjusting to changes of condensate flow. Automatic air venting. Installation in any position. The independence of the cone valve and seat reduces dramatically the costs of its spare parts joined to the fact that it has an external adjustment device while running makes an extremely low maintenance cost steam trap.

During the start-up, the condensate is cold and the bimetals are flat. When the temperature starts to rise the bimetals will expand producing the progressive closure of the valve. In this way the steam trap is able to adjust itself to changing conditions because if the pressure rises the higher pressure acts on the valve but at the same time the higher temperature will act on bimetals. Its quick automatic air venting prevents air binding. The cone valve is placed on the upper stream far from flash steam zone this avoids erosion and waste contributes to a long effective life and reduces maintenance costs.



**SIZES AVAILABLE:-**

½", ¾", and 1"

**END CONNECTIONS:**

Butt Weld as per ASME B 16.25
Socket Weld as per ASME B 16.11
Flanged End Connections #600/#900/ #1500

**OPTIONAL:-**

IBR/Non-IBR

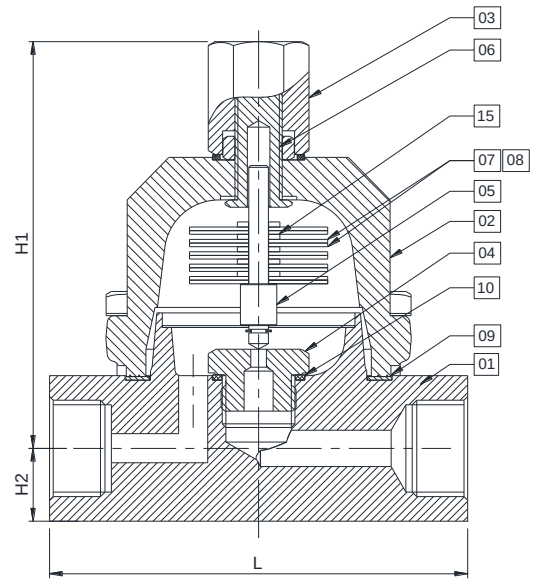
**MATERIAL OF CONSTRUCTION :-**

UP64 Ti :- ASTM A 182 F11
UP110Ti :- ASTM A 182 F11

**OPERATING CONDITIONS :-**

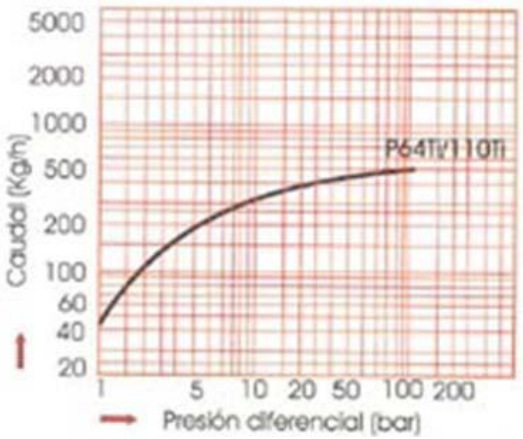
| Model | PMO | TMO | Max Diff. Pressure |
|---|---|---|---|
| UP64 Ti | 928 psi | 977 °F | 928 psi |
| UP110Ti | 1595 psi | 977 °F | 1595 psi |

**BILL OF MATERIAL :-**




| No. | PART NAME | MATERIAL | MATERIAL CODE |
|---|---|---|---|
| 1 | Body | Carbon Steel | ASTM A 182 F11 Cl 3 |
| 2 | Cover | Carbon Steel | ASTM A 182 F11 Cl 3 |
| 3 | Cver Nut | Stainless Steel | AISI 304 / AISI 316 |
| 4 | Valve Seat | Stainless Steel | AISI 420 |
| 5 | Stem | Stainless Steel | AISI 440 B |
| 6 | Stem Guide | Carbon Steel | AISI 420 |
| 7 | Bi- Metallic Controller Plates | ---- | 28/7NiCr-19/7NiCr |
| 8 | | | |
| 9 | Body Gasket | Graphite / CAF / Non CAF. | --- |
| 10 | Valve Seat Gasket | Copper | --- |

**FLOW CAPACITIES :-**




Capacities given are continuous discharge capacities of hot condensate. The cold water capacity at start-up condition will be 2.5 of the hot condensate capacity.

**DIMENSIONS (in)**

| Sr. | Size | L | H1 | H2 |
|---|---|---|---|---|
| 1 | ½" | 7.9 | 4.8 | 1.1 |
| 2 | ¾" | 7.9 | 4.8 | 1.1 |
| 3 | 1" | 7.9 | 4.8 | 1.1 |

**External Adjustment Device:-**

With its external adjustment device, the user can easily modify the conditions of evacuation of condensate. To do this simply remove the top cap, loosen the lock nut and turn as necessary the adjustment screw, up to get the required condensate flow or temperature. Once adjusted, fix the safety nut with soft pressure and place back the top cap, fix tightly to achieve the total sealing. If sealing problems through the gasket are observed replace it with an original new one.


***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.*

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