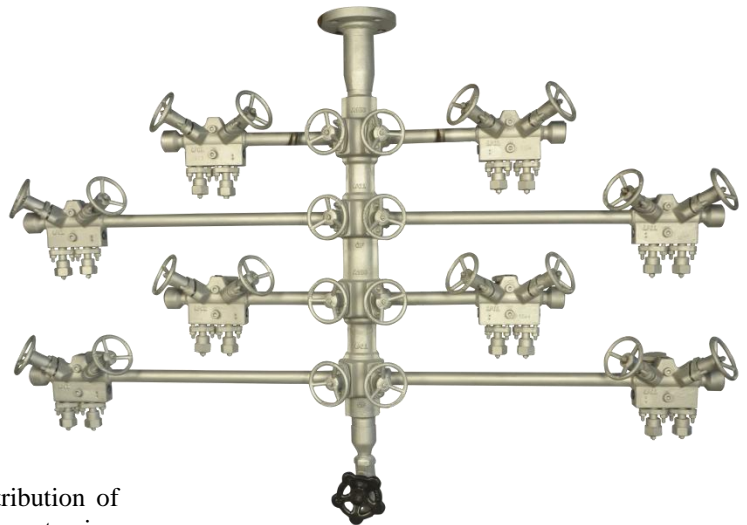


Instruction Manual for Manifolds

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- 1. Product Overview
- 2. Installation & Commissioning Instructions
- 3. Maintenance and Troubleshooting
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1. Product Overview:-

Steam distribution manifolds facilitate the distribution of steam to various user points (mainly for tracing applications) through Forged units with inbuilt Piston valves for isolation.

Similarly condensate from these points can be collected through the condensate collection manifolds consisting with associated isolation and by-pass piston valves.

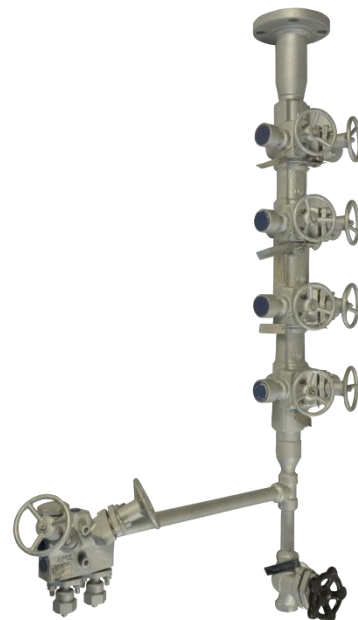
A very effective way of distribution and collection allowing a clean environment devoid of cluster of pipes and equipments. Designed for double duty of both Steam distribution as well as condensate collections through the same body. UKL Steam and Condensate manifolds are made from forged steel and are available in configurations of 4, 8, or 12 take-off points.

Integral piston valves of glandless and seatless design will ensure that leakages across seat and gland areas are eliminated totally.

Forged design minimizes the welding requirements making it much easier to operate and maintain headers.

These manifolds are designed for vertical installation. The back is provided with threaded connections M16 stud for ease of installation by attaching to a supporting structure.

The steam main/condensate return connections is 40 NB. The tracer line drain connections are available as 15NB/20NB.



OPERATING CONDITIONS :

Maximum Operating Pressure : 51 kg/cm²(g)
Maximum Operating Temperature : 425°C

MATERIAL OF CONSTRUCTION:

ASTM A 105

END CONNECTIONS:

Socket Weld Class 3000 as per ASME B 16.11
Flanged End Class #150/#300 as per ASME B16.5

2. Installation and Commissioning Instructions:

Line Flushing: Before connecting the manifold to the system, please blow down the line at full pressure to clear the pipes from dirt, pipe cuttings and welding beads.

Manifold assembly is generally as shown in the diagram attached.

Startup procedure

For Steam Manifolds, if it is supplied with inlet isolation piston valve and inlet strainer, please follow the steps given

- Ensure that the assembly is done as required.
- Open the inlet isolation Valve
- Open the bottom flange of the Strainer screen or the drain plug or Blow down valve.
- Let the fluids get flushed through this port to ensure that dirt and such foreign impurities are removed from line. Close the flange of the Strainer screen or the drain plug or Blow down valve and proceed.
- Check opening and closing of each piston valve on the 4, 8 or 12 take-off tapings.
- Now the Manifold assembly is ready for use.

For Condensate Manifolds, as they have UITVS on all tapings, the start up procedure needs to be carefully followed. Follow the procedure for each UITVS.

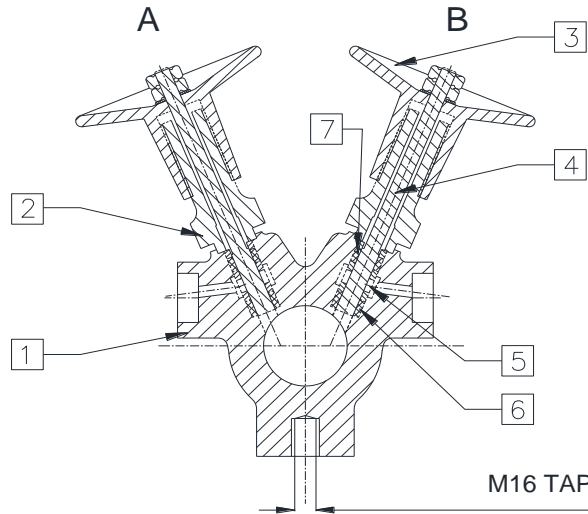
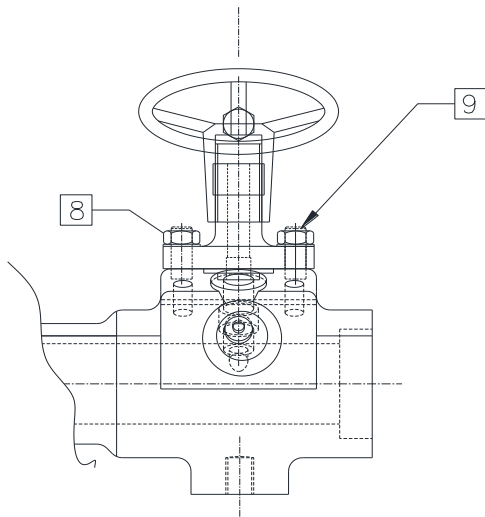
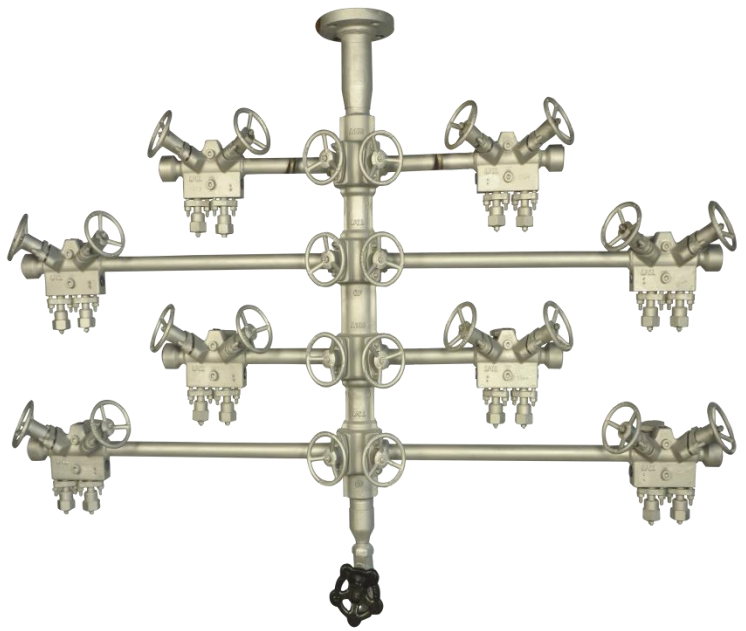
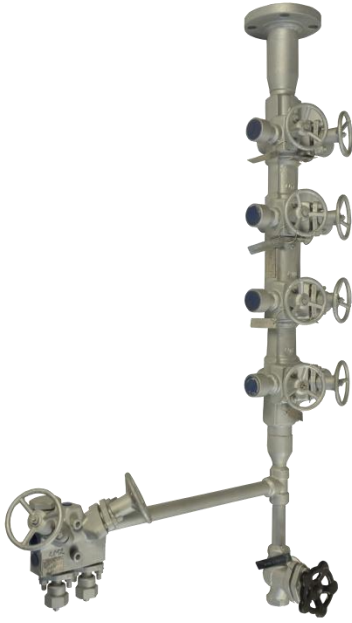
- Ensure that the assembly is done as required.
- Open the inlet isolation valve of UITVS.
- Open the Bypass valve provided on UITVS..
- Let the fluids get flushed through this bypass port to ensure that dirt and such foreign impurities are removed from line. Close the bypass valve or Blow down valve and proceed.
- Close trap bypass valve and open the outlet isolation valve on UITVS
- Open cap on the integral strainer, if provided, on the UITVS trap and close after flushing for a while.
- Check operation of trap test valve on the UITVS.
- Check opening and closing of each piston valve on the 4-off, 8-off or 12-off tapings of Condensate manifold assembly.
- Now the Condensate Manifold assembly is ready for use.

3. Maintenance and Troubleshooting:

- It is very much necessary to depressurize the manifold before doing any maintenance procedure. For depressurizing follow the steps given
- Please wear all necessary safety equipment before approaching the manifold.
- Make sure that everyone around is warned of possible discharge of hot fluids from the valve and trap openings. All should be careful to avoid any exposure of unprotected skin and limbs to hot condensate and steam jets/sprays.
- Ensure that the inlet isolation valve on the Manifold inlet is closed.
- Ensure that the outlet valve of the UITVS is closed.
- Now the manifold is isolated from the rest of the system.
- Open the trap bypass valve to flush out manifold body.
- Open cap on the integral strainer, if provided, on the UITVS trap.
- Once you are sure that all the pressure has been relieved, allow the metal parts to cool down before starting any activity of inspection, repairs or replacements.
- For shutting down the manifold assembly where no inspection, repair or replacement work is to be carried out, please follow the sequence of start up to shut down the assembly.
- Please note that this equipment is under pressure & operating temperature is normally > 100 Deg. C
- Make sure assembly is cold enough before handling.

STEAM DISTRIBUTION MANIFOLD

CONDENSATE COLLECTION MANIFOLD



M16 TAPPING
SUPPORT FOR
MANIFOLD AT
160 MM PITCH

SECTION A-A

PART	PART NAME	MATERIAL	MATERIAL CODE
1	BODY	FORGED STEEL	ASTM A 105
2	BONNET	FORGED STEEL	ASTM A 105
3	HAND WHEEL (RISING TYPE)	CARBON STEEL	ASTM A 216 Gr. WCB
4	INTEGRAL PISTON SPINDLE WITH	STAINLESS STEEL	ASTM A 276 Gr. TP. 410
5	LANTERN BUSH	STAINLESS STEEL	ASTM A 276 Gr. TP. 410
6	RENEABLE TYPE LOWER VALVE RING	KLINGER STD.	WITH SS IMPREGNETION KLINGER GRAHITED
7	RENEABLE TYPE UPPER VALVE RING	KLINGER STD.	WITH SS IMPREGNETION KLINGER GRAHITED
8	BONNET NUT	CARBON STEEL	ASTM A 194 Gr. 2H
9	STUD BOLT	ALLOY STEEL	ASTM A 193 Gr. B7



- **Piston valve/isolation valve leaks when the valve is closed.**

Close the hand wheel fully and make sure that the valve is closed. Tighten the bonnet bolts evenly. This compresses the valve sealing rings against the body and the Piston. This process can be repeated whenever valve leaks till the bonnet touches and seats on the body. When bonnet is resting on body, this is the indication that valve sealing rings are worn out and needs to be replaced. Attend to the isolation valves as soon as leakage starts for getting long life of resilient rings. Prolonged internal leakage can cause scratches/wear on the metallic Piston or resilient valve sealing rings. Damaged components will have to be replaced, if leakage continues.

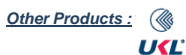
- Maintenance of UITVS at condensate Manifolds can also be done.

- **Replacing the isolation valve internals:**

1. When the manifold is closed for maintenance, the piston valve internals can be replaced.
2. Loosen and remove the bonnet nuts. Leave the studs in the body.
3. Pull complete bonnet assembly out of valve body.
4. Remove valve sealing rings, valve washers and lantern bush using a Packing Hook. Check to see if all components, including valve washer at bottom of valve body have been removed. Inspect and clean any debris that might have remained in the valve body.
5. Replace new sealing rings, lantern bush and valve washers in the order they are removed.
6. Fit back the bonnet assembly.

5. STORAGE:-

- Manifolds and the respective spares should be stored only in enclosed dry rooms in a non-aggressive atmosphere. Fully assembled manifolds must be stored as supplied by UNI KLINGER. Spare parts must be handled with care and should be stored in their original packing.
- It is recommended to take protective measures if parts are stored in dusty conditions.
- The ambient temperature in store room must be between -20 Deg. C and +50 Deg. C.
- Any damage due to inappropriate storage shall release UNI KLINGER of any obligations derived from warranty, guarantee, and product liability.



Cast / Forged Steel Piston Valves, Bellow Seal Valves, High Pressure valves (Gate/Globe) , Strainers – “Y” Type, Flash Vessel. Steam Traps (Thermodynamic, Thermostatic, Ball Float Traps, Inverted Bucket), 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.



UNI KLINGER LIMITED

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

Central Sales Office & Pune Branch : SC1, 5th Fl., Kohinoor Est. Mumbai-Pune Highway, Kadaki, Pune-411 003. Tel.: +91-20-4102 3000 Fax.: (020) 4102 3001
e-mail : salesco@uniklinger.com, salespune@uniklinger.com, Website : www.uniklinger.com

Factory : C-37, M.I.D.C., Ahmednagar – 414 111, Maharashtra, Tel. : 0241 – 2777223 / 2777512 Fax : 0241 – 2777294, E-mail : fdworks@uniklinger.com

Branch Offices :

Baroda : 102, 1st Floor, Otel Towers-II R.C. Dutt Road, Baroda-390 005, Tel.: 91-0265-2312343 / 2340660, Fax.: 91-265-2341419. E-mail : salesbar@uniklinger.com
Chennai : East Coast Centre, 5th Floor, 553, Mount road, Teyanampet, Chennai - 600 018, Tel.: 91 - 44 - 24345707. Fax.: 91 - 44 - 24343960. E-mail : saleschen@uniklinger.com
Kolkata : 9, Chittrakoot, 8th Floor, 230 A, AJC Bose road, Kolkatta-700 020, Tel.: 91-33-22872510, Fax.: 91-33-22876494. E-mail : salescal@uniklinger.com
Mumbai : 22, 2nd Flr, Shreeji Arcade CHS, Almeda road, Thane-400 602, Tel.: 91-22-25421140 / 91-22-25440461, Fax.: 91-22-25440463. E-mail : salesmum@uniklinger.com
Delhi : 321, Ansal Chamber-II, 6, Bhikaji Cama Place, New Delhi-110 066, Tel.: 91-11-41658767 / 91-11-26193847, Fax.: 91-11-41658768. E-mail : salesdel@uniklinger.com