

Instruction Manual for Deaerator Head

Contents.....

1. Product Overview
 2. Working
 3. Installation & Commissioning
- Instructions
4. Maintenance and Troubleshooting
 5. Storage

1.Product Overview:-

UNI KLINGER is keeping with the innovative Methods to help Process Industry achieve higher levels of operational Efficiency have to proper and thorough mixing of Boiler Feed water with the other available thermal streams.

Deaerator Head is an attachment to existing Boiler feed water tank which has mixing nozzles for Flash Steam, condensate from plant areas and fresh Make up water. The SS made perforated mixing pipe is immersed in feed water. This allows uniform mixing of Hot condensate, Flash steam and Make up water in feed water tank. The Deaerator Head is provided with Air vent allowing Air, oxygen and other non condensable gases to escape in order to improve life of system.

Features:-

Various reasons to go for Deaerator Head for Process Boilers

- Removes Air, Oxygen, and other non condensable gases.
- Provides effective mixing of BFW with available thermal streams.
- Immersed Perforated Pipe allows uniform heating in Feed water tank.
- Improves efficiency of Boilers by preheating Feed water.
- SS internals avoid corrosion.
- HP boilers can afford to go for a pressurized de-aeration system. But for process boilers a separate DA vessel will cost as much as the boiler cost and may not be affordable and justified.

2. Working Principal :-

Deaerator Head works on process of Deaeration which involves raising the temperature of feed water by using available thermal streams and removal of dissolved gases (oxygen, carbon dioxide and other non condensable gases) from feed water before entering the boiler to prevent corrosion of the boiler and steam system. The make-up water is heated with flash steam and hot condensate, it liberates the oxygen thus preventing corrosion of tank. So SS made perforated pipe is used.



MATERIAL OF CONSTRUCTION

Body Carbon Steel/Stainless Steel
Internals SS 316

SIZES AVAILABLE:-

150 NB to 300 NB

INSTALLATION:-

Preferably in Vertical position.

OPERATING CONDITIONS :

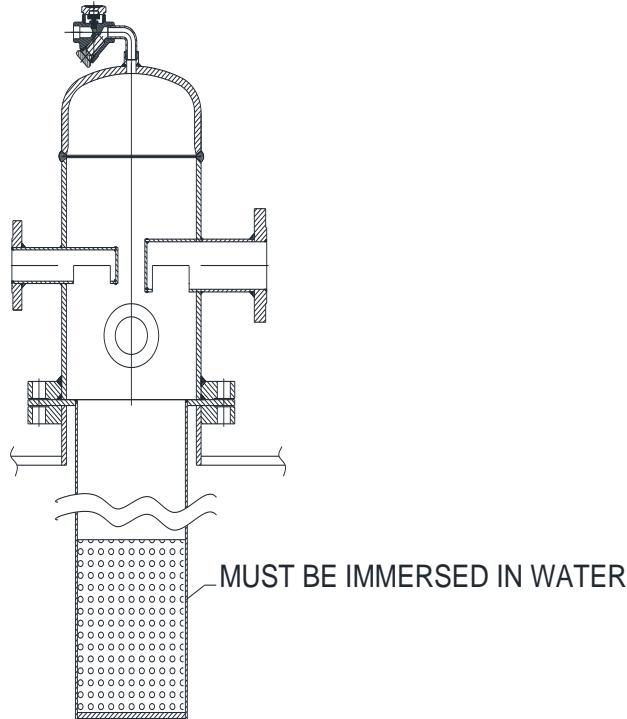
Maximum Operating Pressure : 10.50 kg/cm²(g)
Maximum Operating Temperature : 400°C

3. Installation and Commissioning Instructions:

Your UKL make Deaerator Head will provide you with long, trouble-free service if they are correctly installed and maintained.

A few minutes of your time spend reading these instructions now may save hours of trouble and downtime later.

- Before installing UDH, the inlet piping should be carefully blown down to remove any existing pipe debris.
- UDH must be installed in vertical position only.
- It is advisable to install the Isolation Valves on either sides to facilitate the servicing.
- The SS made perforated pipe must be immersed in Feed water.
- The typical UDH is as shown in the schematic diagram below.



4. Maintenance and Troubleshooting:-

- Deaerator head must be cleaned. The perforated pipe must be cleaned for removing of scales if any.
- **Air Vent Strainers**

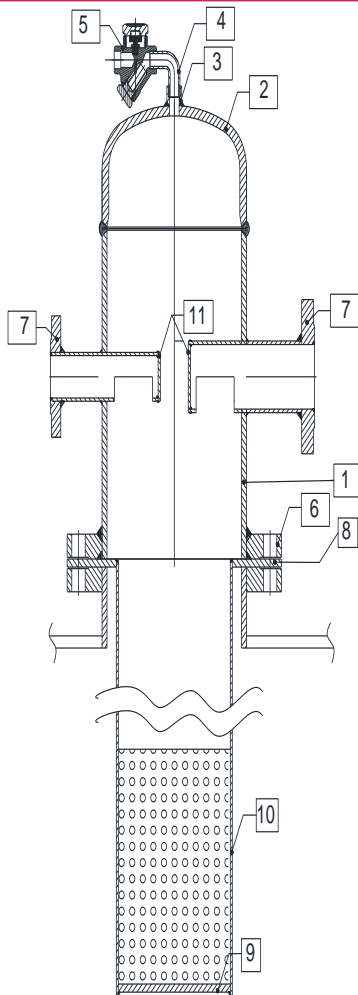
This trap is fitted with an in-built strainer. Please ensure that the strainer is clean. It is necessary to clean the strainer periodically. Unscrew filter cap using spanner. Withdraw filter and clean. If damaged replace with new one.

- **Air Vent is leaking live steam.**

The most likely reason for this is possible deposition of dirt on the valve seating area. Please ensure that the strainer screen is removed and cleaned properly. It is necessary to inspect the seat and spindle of any dirt deposition. If this is noticed, clean the surfaces and refit. If the problem persists, contact UKL


5. Storage:

- UDH and the respective spares should be stored only in enclosed dry rooms in a non-aggressive atmosphere. Fully assembled UDH 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. Sudden change in temperatures must be avoided.
- Any damage due to inappropriate storage shall release UNI KLINGER of any obligations derived from warranty, guarantee, and product liability.



11	End Plate	Carbon Steel	Carbon Steel
10	Deep Tube SCH. 10`S	Stainless Steel	AISI 316
9	End Plate	Stainless Steel	AISI 316
8	Conneting Plate	Stainless Steel	AISI 316
7	SORF Flanges Class 150	M.S.	M.S.
6	Branch Pipe	Carbon Steel	ASTM A 106 Gr. B
5	Thermostatic Trap	Forged Steel	ASTM A 105
4	Bend 1/2"	M.S.	M.S.
3	Half Coupling BSP #3000	Carbon Steel	ASTM A 105
2	Dish End	M.S.	M.S.
1	Dearator Head Pipe SCH.40	Carbon Steel	ASTM A 106 Gr. B
No.	PART NAME	MATERIAL	MATERIAL CODE

SR.	Size	Dearator Head ØD (Inches)	Perforation Tube ØD1 (Inches)	Height H (mm)	Height h1 (mm)	Height h2 (mm)	Height h3 (mm)	Height h4 (mm)	Width W (mm)	Width W1 (mm)	Condensate Nozzle-1	Flash Steam Nozzle-2	Make up Nozzle-3
1	150 NB	6"	4"	1760	1200	400	450	560	188	356	50 NB	80 NB	40 NB
2.1	200 NB	8"	6"	1860	1200	400	550	660	214	417	80 NB	100 NB	50 NB
2.2	200 NB	8"	6"	2460	1800	400	550	660	214	417	80 NB	100 NB	50 NB
3.1	250 NB	10"	8"	2510	1800	500	600	710	241	471	100 NB	150 NB	80 NB
3.2	250 NB	10"	8"	3110	2400	500	600	710	241	471	100 NB	150 NB	80 NB
4.1	300 NB	12"	10"	2710	1800	500	800	910	266	522	125 NB	150 NB	100 NB
4.2	300 NB	12"	10"	3310	2400	500	800	910	266	522	125 NB	150 NB	100 NB

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.

UKL®

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 – 277223 / 2777512 Fax : 0241 – 277294, 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, A.J.C Bose road, Kolkata-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