

Instruction Manual for Flash Vessel

Contents.....

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

1.Product Overview:-

Condensate when discharged from higher pressure to lower pressure, the difference in the sensible heats at the two pressures causes certain amount of Condensate to again convert to Steam known and referred to as Flash Steam. This is as good as dry steam, albeit at lower pressure, and can be utilized as steam. This separation can be done by allowing the hot condensate to discharge into a vessel of a pre determined volume, to get the desired amount of condensate and Flash at a specific pressure. This vessel is known as a Flash vessel.

When the steam loses its heat either by transferring it to the product being heated or by radiation loss to the environment, condensate is formed. This condensate which is formed, is also at same pressure and temperature as that of steam. When this pressurized condensate is exposed to atmospheric pressure, it has energy more than it can contain at atmospheric pressure. This excess energy is used to convert a portion of this condensate into steam. This phenomenon is called as flashing and the steam so generated is referred to as flash steam. UKL Flash vessel are designed to facilitate uniform energy



MATERIAL OF CONSTRUCTION:

Body Carbon Steel

SIZES AVAILABLE:-

150 NB to 500 NB

OPERATING CONDITIONS :

Maximum Operating Pressure : 10.50 kg/cm2(g)

Maximum Operating Temperature : 400°C

ON REQUEST:-

IBR/ Non IBR

STRAINER/SIGHT GLASS

INSULATING JACKET

TEMPERATURE GAUGE

END CONNECTIONS:

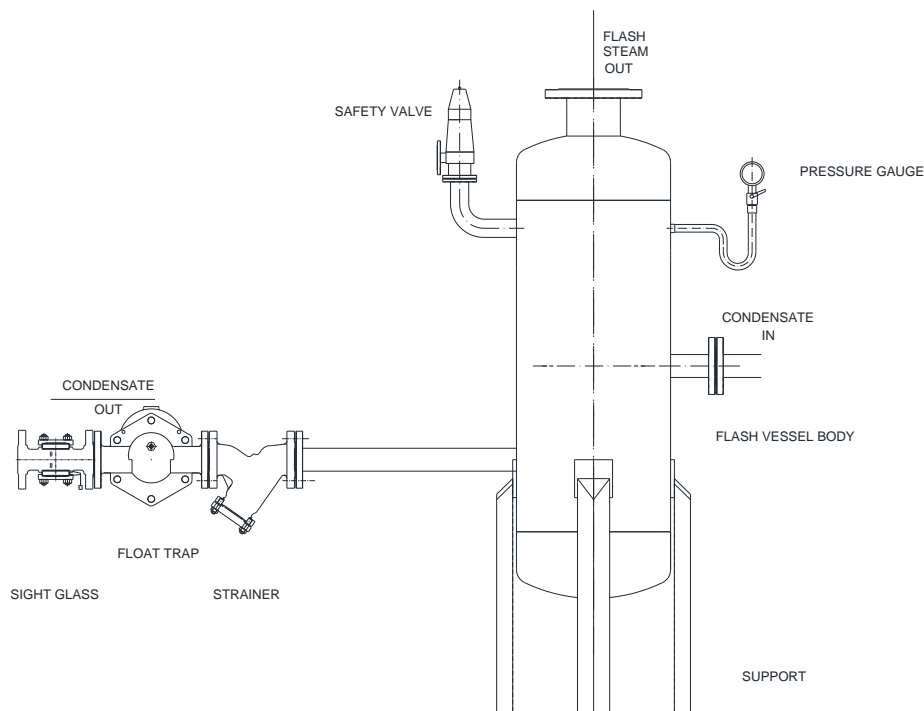
Flanged to ANSI #150

2. Installation and Commissioning Instructions:

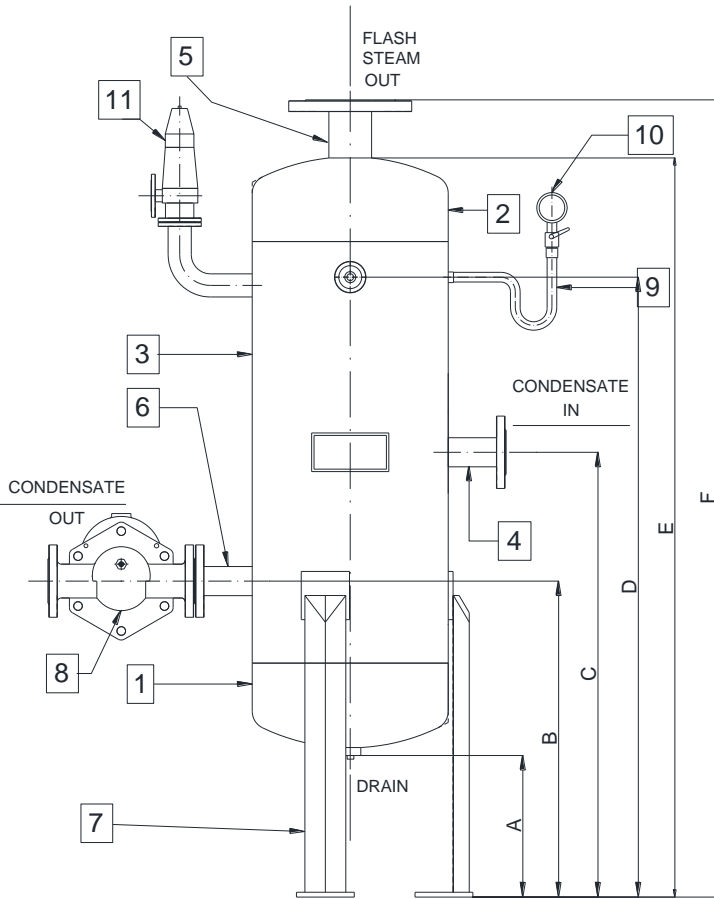
Your UKL make Flash Vessel will provide you with long, trouble-free service if they are correctly installed and maintained.

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

- Before installing UFV, the piping system should be carefully blown down to remove any existing pipe debris.
- UFV must be installed in vertical position only with flash steam outlet at top, as vapour flows against the gravity. So flash steam formed flows from top of flash vessel.
- The safety valve installation must be checked.
- The pressure gauge must be fitted as required.
- The strainer must be installed before the ball float trap connected on condensate outlet line of flash vessel. A sight glass can also be installed after the float trap on condensate outlet line of flash vessel to ensure condensate flows.
- When the condensate outlet is connected to recovery system a non-return valve must be installed after the float trap maintain unidirectional flow.
- The flash steam outlet can be connected directly to Deareator head or flash steam can be used at low pressure applications.
- Flushing of all the system after installed should be carried by opening the drain plug of UFV to ensure removal of dirt.
- Check that no external stresses are induced on Flash vessel due to Piping System.
- Check for leakages during commissioning in piping system.
- The typical UFV is as shown in the schematic diagram below.



STRAINER/ SIGHT GLASS/INSULATING JACKET are available on customer request.



No.	PART NAME	MATERIAL	MATERIAL CODE
1	Torispherical Bottom End	Carbon Steel	M.S.
2	Torispherical Top End	Carbon Steel	M.S.
3	Vessel Pipe- Sch40/20	Carbon Steel	ASTM A 106 Gr. B
4	Hot Condensate Inlet Nozzle	Carbon Steel	ASTM A 106 Gr. B
5	Flash steam outlet nozzle	Carbon Steel	ASTM A 106 Gr. B
6	Condensate outlet	Carbon Steel	ASTM A 105 / M.S.
7	Support Legs	Carbon Steel	ASTM A 105 / M.S.
*8	UKL Float trap	C.I.	IS 210 FG 260
*9	Syphon 'D'	Carbon Steel	M.S.
*10	Pressure Gauge	SS	
*11	Safety Valve - 25X40 NB	C.I.	IS 210 FG 260

DIMENSIONS:-

Sr.	Size (Inch)	A (mm)	B (mm)	C (mm)	D (mm)	E (mm)	F (mm)
1	6"	286	620	801	1060	1257	1377
2	8"	300	620	808	1065	1270	1390
3	12"	300	620	825	1015	1284	1408
4	16"	300	662	929	1292	1535	1659
5	18"	300	685	990	1355	1752	1895
6	20"	338	720	1162	1700	1950	2100

AVAILABLE PIPE CONNECTIONS:-

Size	Condensate Inlet	Condensate Outlet	Flash Steam Outlet	Safety Valve	Float Trap	Strainer
6"	80 NB FLG	50 NB FLG	80 NB FLG	25 NB	50 NB	50 NB
8"	80 NB FLG	50 NB FLG	80 NB FLG	25 NB	50 NB	50 NB
12"	80 NB FLG	50 NB FLG	80 NB FLG	25 NB	50 NB	50 NB
16"	150 NB FLG	50 NB FLG	100 NB FLG	25 NB	50 NB	50 NB
18"	150 NB FLG	50 NB FLG	150 NB FLG	25 NB	50 NB	50 NB
20"	200 NB FLG	50 NB FLG	200 NB FLG	25 NB	50 NB	50 NB



3. Maintenance and Troubleshooting:

- It is very much necessary to depressurize the Flash Vessel before doing any maintenance procedure. For de-pressurizing follow the steps given :
- Please wear all necessary safety equipment before approaching the Flash vessel.
- Make sure that everyone around is warned of possible discharge of hot fluids from the drain 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 flash vessel is isolated from rest of the system and open the drain valve to de-pressurize the flash vessel.
- Please note that this equipment is under pressure & operating temperature is normally above 100 Deg. C
- Make sure assembly is cold enough before handling.
- 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.

4. Storage:

- UNI KLINGER FLASH VESSEL and the respective spares should be stored only in enclosed dry rooms in a non-aggressive atmosphere. Fully assembled UFV 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, 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.



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, Khadki, Pune-411 003. Tel.: +91-20-4102 3000 Fax.: (020) 4102 3001
e-mail : salescsco@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, A.J.C 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