



PERFECT ENGINEERING SERVICES

ONE STOP INDUSTRIAL VALVE SOLUTIONS



CONDENSATE RECOVERY SOLUTIONS

"Reduce your operating costs through the effective management of condensate"

Perfect Engineering Service's range of condensate recovery solutions are specifically designed to efficiently remove and recover Condensate under all operating conditions

INTRODUCTION

Perfect Engineering Service's Flash & Condensate Recovery systems (PES-CRS) is an innovative solution enabling closed loop recovery of condensate and flash steam that ensures complete energy balance.

- Complete recovery of condensate, flash steam and motive steam
- State of-the-art design
- Engineered for optimum performance
- Installation at equipment level without disturbing existing layout
- Recommended for local flash utilization in process and elevated Condensate recovery temperature of $> 100^{\circ} \text{C}$

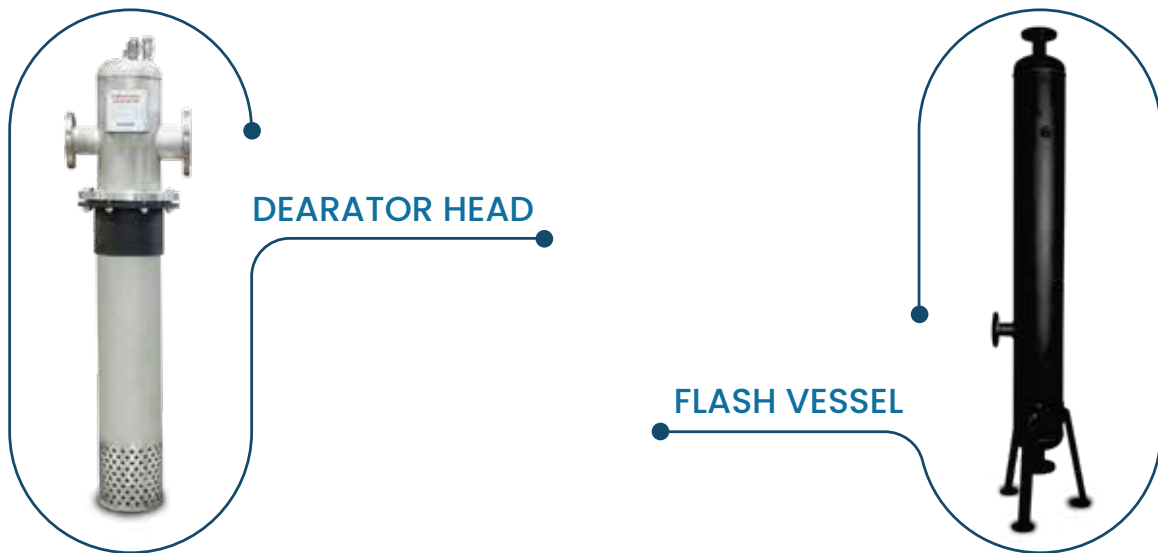
WORKING PRINCIPLE OF CRS

- Condensate along with some residual steam from various equipment's enters the Flash Vessel and it is made to flash, separating flash steam and condensate
- Flash steam being lighter in weight, escapes from the Top end of the vessel and goes to Boiler feed water tank ensuring energy saving
- Condensate being heavier moves down in the Flash Vessel
- From the bottom of the Flash vessel the condensate goes to our Unique By Pass System ensuring no live steam is lost
- Hot Condensate gets collected in the receiver of the Pump
- Receiver has a vent allowing condensate to enter into the System through gravity further to the Pump Assembly
- As the water level rises in the Pump Assembly, our Stainless Steel Float gets lifted because of the weight of water
- Once the float reaches a certain height, a snap action happens allowing motive Steam/Air to enter the Float Assembly
- With the pressure of motive steam, hot condensate travels to the feed water tank
- Once the Pump Assembly is empty, the Float assembly returns back to the original position allowing more condensate to enter again and this same cycle repeats



MATERIAL OF CONSTRUCTION CONDENSATE PUMP

Sr.No.	Part	Standard	Material of Construction
CONDENSATE PUMP			
1	Receiver	IS 2 062 / IS 3589	Carbon Steel
2	Pump Assembly	IS 2 062	Carbon Steel
3	Float		SS 304
4	Gasket	ASTM A-240	Asbestos Free, Reinforced exfoliated graphite
5	Steam Control inlet/ Exhaust Valve	ASTM A-240	SS 316
6	Cover Bolts / Nuts	H.T. IS 1367	High Tensile Carbon Steel
7	Coating	Gr. 8.8	Powder Coating



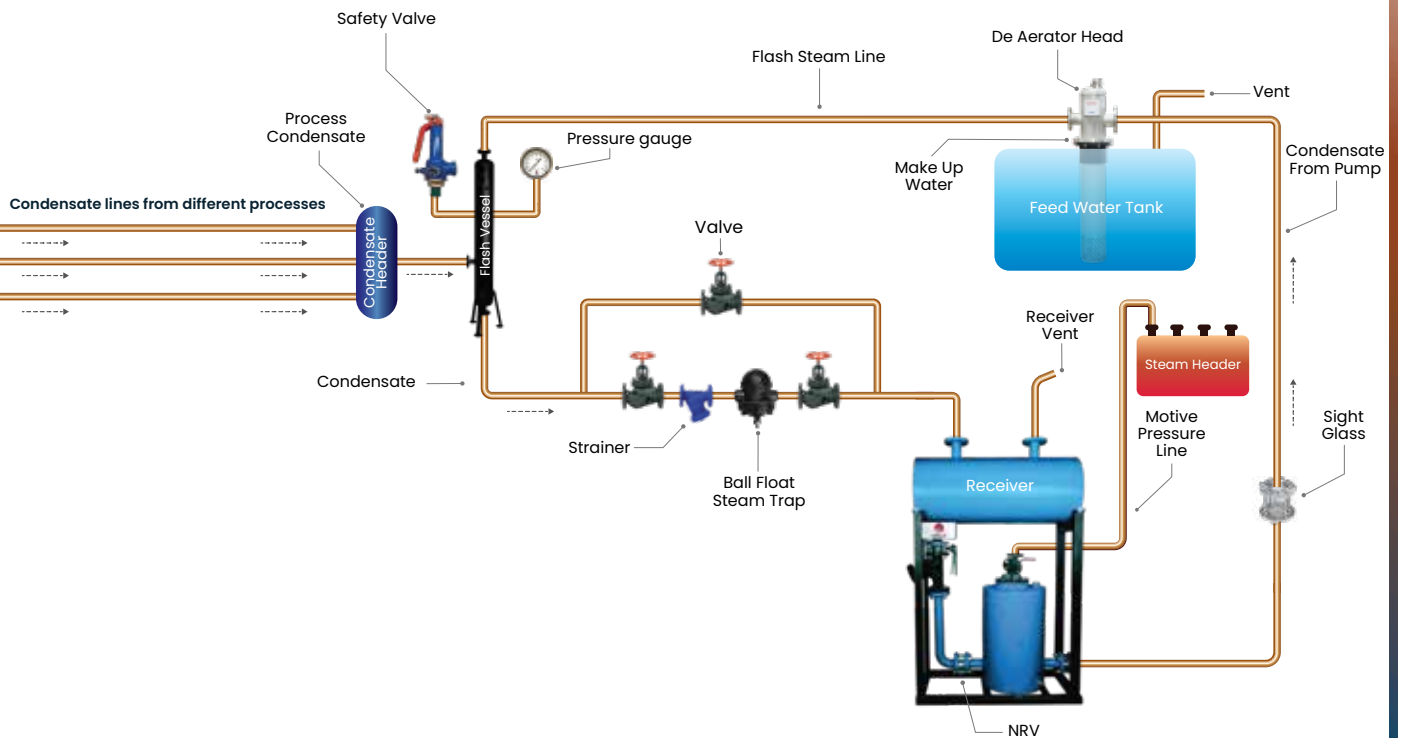
MATERIAL OF CONSTRUCTION – FLASH VESSEL

Sr.No.	Part	Standard	Material of Construction
FLASH VESSEL			
1	Flash Vessel	IS 2062 / IS 3589	Carbon Steel
2	Pressure Gauge		100 MM, SS 304
3	Safety Valve		SS Body with SS Internals
4	Gaskets		Asbestos Free, Reinforces exfoliated graphite
5	Ball Float Trap		Inbuilt with SS Internals
6	Cover Bolts / nuts	H.T. IS 1367	High Tensile Carbon Steel
7	Coating	Gr. 8.8	Power Coating

CAPACITY CHART

"MOTIVE PRESSURE Kg/cm ² "	"BACK PRESSURE Kg/cm ² "	"SIZE 25MM Kg/Hr"	"SIZE 40MM Kg/Hr"	"SIZE 50MM Kg/Hr"	"SIZE 80MM Kg/Hr"	"SIZE 100MM Kg/Hr"
7	1	1143	1233	2900	4500	5610
7	3	990	1080	2800	4230	5340
7	4.5	810	900	2700	4140	5250
5.5	1	1026	1116	2500	4220	5330
5.5	3	810	900	2610	4113	5223
5.5	4.5	720	810	2430	4050	5160
3.5	1	810	900	2610	4050	5160
3.5	1.5	720	810	2520	4140	5250
3.5	2.5	630	720	2421	4050	5160
2	0.5	720	810	2430	3920	5030
2	0.8	720	810	2421	3890	5000
2	1	630	720	2340	3800	4910

Flow Chart for Installation of Condensate Recovery System



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