



MULTITUBE FILTER

Our New Nashik Plant



Perfection at work

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CATALYST/CARBON FILTRATION & RECOVERY
SYSTEM WITH HIGH PERFORMANCE AND SAFETY



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SUBODH ENGINEERING PRIVATE LIMITED

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SUBODH Engineering Future

MULTITUBE FILTER General Description

" SUBODH " Multi Tube Filter consists of elements made up of ' Multi tubes ' and dressed with 'seamless Filter hoses to obtain clear filtrate.

The number of elements are housed in a pressure vessel on tube sheets and various registers are externally fitted to avoid complexity and corrosion due to deposition of solids on pipes if located inside the vessel.

- Pressure vessel designed under " ASME CODE " Filtration is done with moderate pump pressure and Initial circulation of slurry to obtain the clear filtrate.

- Filtration : As soon as filtrate is clear the clear liquid is collected in the receiver.

- Scavenging : Soon the slurry exhausts in the tank, Pumping is stopped and compressed nitrogen supply is restored in the filter vessel which filters the hold up till the end ; the heel volume is filtered through single Cartridge Sintered metal filter fixed in Inlet line.

- Drying : In order to effectively discharge the cake in solid form the deposited cake is further blown with compressed nitrogen and dried the cake to permissible limit.

- Discharging the cake : Special system is designed to collect the solids in closed bin through chute fixed with cloth sleeve to dissipate the clean air while solids are received by the bin. Special actuated butterfly valve is fixed at the drain point.



- Slurry discharge : In case of catalysts applications the same candles after drying the cake is back flushed with clean liquid being hydrogenated in subsequent batch so that entire catalyst is re-slurried and collected in the reactor.

Description

- construction of the filter element is with Hexa perforated tubes with centre rising tube closed at the bottom and provided with outlet at the top.

- The element is dressed with compatible seamless filter hose and clamped at the top and bottom.

Circulation & Filtration :

In circulation & Filtration mode, the flow is regulated from outside to in and the clean liquid

flows from six tubes to bottom and taken out from center rising tube to register and conveyed to the outlet.

Scavenging & Drying :

While scavenging & drying of cake the flow of nitrogen gas is regulated from outside to in & the liquid is filtered and flows down & taken out from centre rising tube and conveyed to outlet through register pipes located outside the vessel.

While drying when vessel is empty the filtrate collected while de-liquoring the cake in the same fashion.

Discharging Solids

Solid discharge – when the cake is

dried to be permissible limit, the filter vessel is depressurized and the limit is back blown in reverse direction and the solids are collected from drain nozzle.

Slurry discharge :

In case of certain applications instead of solid discharge slurry discharge is preferred, in that case, instead of gas , liquid is back blow from inside to out so that cake is re-slurried and taken out from drain nozzle



AUTOMATION

- AUTOMATION controlled by PLC or DCS All services available

- SKID mounted Unit with Automation can be supplied.

Features :-

- 1) Closed system ensures hermetic sealing hence degradation due to oxidation is avoided.

- 2) CIP is possible with high pressure rotating nozzle is 360°C

- 3) High operational safety as contacts of toxic and hazardous chemicals is avoided due to Closed operation to the surrounding personnel operating the plant.

- 4) Recovery of valuable product possible with efficient washing with pressure gradient and diffusion.

- 5) Cake discharge in close system possible with automated butterfly valve at the drain nozzle, hence clean room specification is observed.

- 6) Highest recovery of the noble metal catalyst in hydrogenation reaction.

- 7) Variety of filter mediums available.

Applications

- Activated carbon application in API
- In API and Pharma Industry
- Catalyst recovery filtration in hydrogenation
- Food and Sugar Industry\
- Edible oil filtration
- Waste water and process water filtration
- Poly oils
- Phosphatising
- Viscose fibres

Final polishing of filtrate through :

- Centrifuge
- Belt Filter
- Filter press
- Rotary vacuum filter

Conventional separation system

M.O.C.

- S.S. 316 , S.S. 316 L
- S.S. 904 L, Monel metal nickel
- Hastelloy
- Plastic like Polypropylene
- P.V.D.F.
- P.T.F.E. or P.F.A.

