



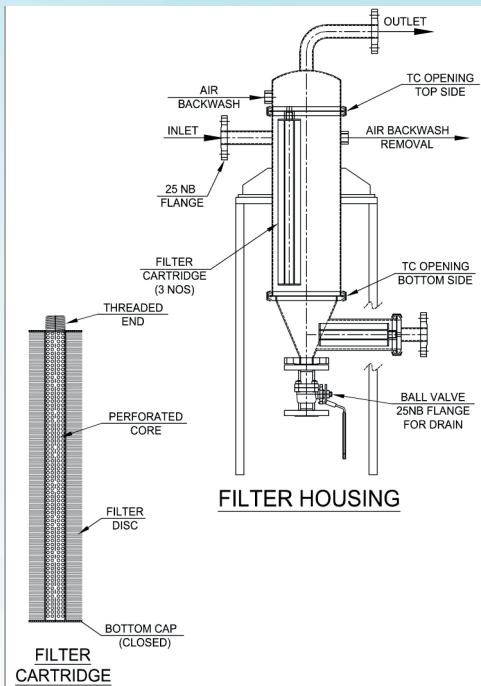
**SS FILTERS PVT LTD**

THE TRUST FOR PROCESS FILTRATION

**FLOWFILT**

## Specification Sheet

### TANGENTIAL EDGE DISC FILTER (Next generation Backwashable Candle filter)



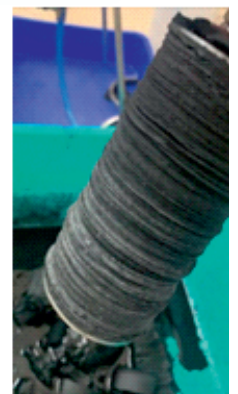
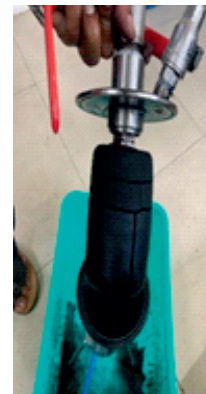
SS Filters tangential edge disc filter is one of a kind filtration system. It is based on the simple technology of crossflow or a tangential flow where the feed stream flows parallel to the membrane surface. In normal filtration, the feed passes through the membrane and here (tangential flow) the feed flows along (parallel to) the feed side membrane surface rather than passing through the membrane. SSF has developed this filter inhouse and has applied a patent for it.

**Construction:** The filter element is made up of many nanofiber discs which are stacked together. It consists of an inner core which has holes in it for liquid product flow. One side is closed (bottom), and other side is threaded (top). The inlet is from the sides and the outlet is at the top. Due to tangential filtration, the catalyst/carbon is held up at the edges of the filter element.

**Working principle:** The filter solution flows from outside of the filter element to inside. There is a tangential flow of the filter solution over the filter media. The required product (cake) is held up at the edges of the filter element and the clean filtrate comes out from the top of the filter housing. Once the filter element is completely choked, filtration is stopped, and backwash process is started.

**Zero Hold-up Design:** This system has a zero hold-up design. Once the filtration is completed, then, compressed air or nitrogen is purged in the filter housing and clean filtrate is collected from the bottom side. The wet cake is dislodged by the backwash process.

**Backwash:** Backwash can be carried out by flushing nitrogen or compressed air. Both inlet/outlet valves are closed, and the drain valve is opened for backwash. Complete cake with product can be drained and sent back to the reactor tank for next batch. If the cake is required as a dry precipitate, then compressed air or nitrogen can be used as a backwash and the same can be obtained via the drain.



**Benefits:** This is a new technology. The product (cake) is filtered up to 0.5 to 1 microns and hence it is pure in a single pass. Cake losses are minimum as all the cake are caught on the surface of the filter element. No human intervention and can be completely automated. Base material being PP, it can work with almost all acids and alkalis. For strong acids all the contact parts can be PTFE coated. It works best at temperatures below 80-90 degrees Celsius.

It has many advantages over sparkler filter system, the highlights are given below-

S.No	Consumables	Filter press/ sparkler filter	TEDF (tangential edge disc filter)
1	Hi-flow powder	It is used in every batch equivalent to the weight of the carbon	No use of hi -flow.
2	Filter pads and paper	After every batch filter pads have to be replaced.	Complete backwashable system. No consumables.
3	Pre coat	In every batch pre coat is done on the filter pads.	No pre coat needed.
4	Electricity usage	Electricity is required first to dose the hi-flow into the system and then to precoat the filter pads.	No hi -flow, no pre coat and hence saving on electricity.
5	Recirculation of products	Product has to be circulated many times, before clear product is achieved, thus more time & electricity.	Single pass clear product.
6	Manual labour	Required to install filter pads before starting and its removal after every batch.	No need to open the system, it is completely in -situ backwashable hence no labour.
7	Discarding filter pad with carbon and hi-flow	All the waste goes into landfills and it harms the environment.	No waste generated and hence environment friendly.

This system not only helps in monetary savings but also makes our environment a much better place to live in as compared to a sparkler filter. We suggest this as a replacement to sparkler filters for activated carbon powder filtration.

#### **Applications:**

Pharmaceuticals  
 Catalyst regeneration  
 Processing chemicals & petrochemicals  
 Gold purification & metal extractions  
 Production of hydrogen chloride  
 Oil & gas  
 Distilled beverages purification  
 Air purification  
 Solvent recovery  
 Water purification & sewage treatment

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