Pressure Filter

Pressure filter, with the exception of the Rotary Drum Pressure Filter, are semi-continuous type machines that enter a wash and cake discharge mode at the end of the filtration cycle. The filtration cycle may extend from 5-10 minutes on cake filtration applications and up to 8 or even more hours for the polishing of liquids.

Pressure sand filter consists of a pressure vessel—this could be either vertical or horizontal—fitted with a set of frontal pipe work and valves, graded silica quartz sand supported by layers of graded under bed consisting of pebbles and gravels, a top distributor to distribute the incoming water uniformly throughout the cross section of the filter, and an under drain system to collect filtered water.

Raw water flows downwards through the filter bed and as the suspended matter—which has usually been treated by addition of a coagulant like alum—is retained on the sand surface and between the sand grains immediately below the surface. There is steady rise in the loss of head as the filter process continues and the flow reduces once the pressure drop across the filter is excessive.

The filter is now taken out of service and cleaning of the filter is effected by flow reversal. To assist in cleaning the bed, the backwash operation is often preceded by air agitation through the under drain system. The process of air scouring agitates the sand with a scrubbing action, which loosens the intercepted particles. The filter is now ready to be put back into service.

Picture Low Flow PSF (FRP Vessel) and High flow custom Vessel (MS Vessel)

Advantages and Features
1. Efficient Turbidity and TSS Removal
2. Filter up to 20 – 30 Microns
3. FRP, CS, MSEP, SS Vessel available
4. ASME Pressure Vessel is also available
5. Standard and effective silica quartz sand media
6. Low Pressure drop across the vessel
7. Air scouring available for high flow Pressure vessel
8. Automatic Valves are provided as per customer need
9. Manual, Semi Automatic and Automatic features are provided
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