BetaFlo® Automatic Backwash Filter

BetaFlo FILTER is the new generation automatic backwash filter developed by LIVIC for the filtration of various process liquids, viscous liquids and waters. It can remove contaminant particles, viscous impurities, fibers, etc.. BetaFlo filter can run automatically and continuously with only one single filter unit. It features excellent screen cleansing ability, high filtration degree ranging 5-250 micron, high particle removal efficiency, low backwash waste discharge, which makes BetaFlo filter capable of many filtration applications that are impossible for ordinary automatic backwash filters before. And LIVIC offers many custom-made options and greatly expand the automatic filtration possibility in many industrial fields.

BetaFlo automatic backwash filter works with the smart control system, adopts the smart differential pressure transmitter, continuously monitors the running status, starts self-cleaning by DP or time and keeps the contiuous online filtration ability. The control system works reliably, offers convenient parameter settings and feedbacks in time when the failure happens.

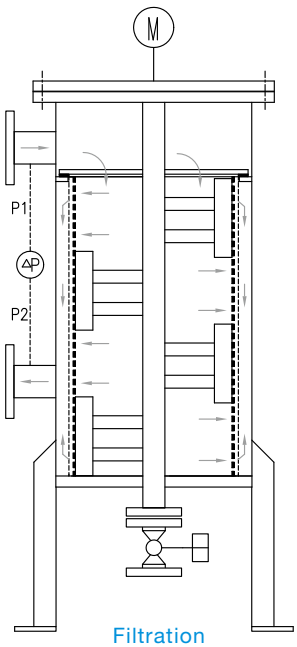
BetaFlo automatic backwash filter consists of filter housing, gear motor, backwash mechanism, automatic valve, filter element, DP transmitter, control system etc.. Both vertical and horizontal installation available. Ex-proof design available.

Working Principle

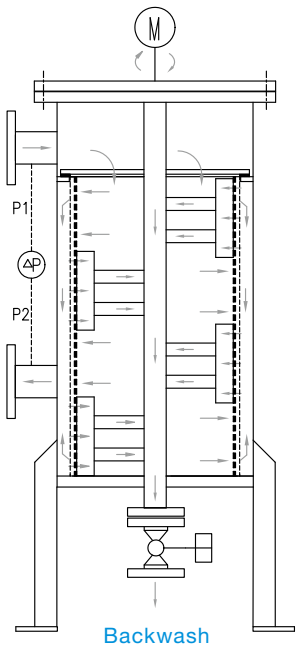
BetaFlo automatic backwash filter works as be below

Filtration Status The liquid driven by Pressure P1 flows into the inner filter chamber via the inlet and passes through the filter element. The contaminants are intercepted on the filter screen inner surface and the filtrate flows out of the outlet and to the downstream.After running for a period, the impurities accumulate on the filter screen inner surface and build up the filter cake, while △P rises up gradually.

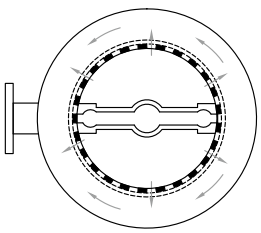
Backwash Status Once △P reaches the preset value, the filter starts backwash. The automatic backwash valve opens, the gear motor rotates the backwash mechanism simultaneously. Pressure P2 drives the clean filtrate to reverse the flow through the filter screen area opposite to suction nozzles and back-flush the impurities into nozzles and then into the central backwash pipe and finally out of the backwash valve. After the backwash mechanism rotates one or several circles, the filter screen is cleaned completely and △P returns to the intial value. Then the backwash valve closes and the gear motor stops. Then backwash sequence is over. During backwashing, the filter keeps filtering normally with no flow interruption.

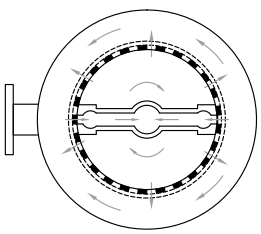


Filtration



Backwash


Filtration

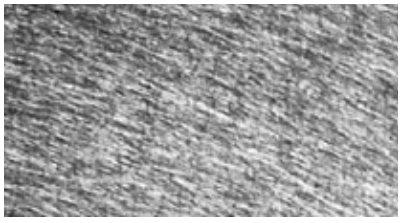

Backwash

Technical Features and Advantages

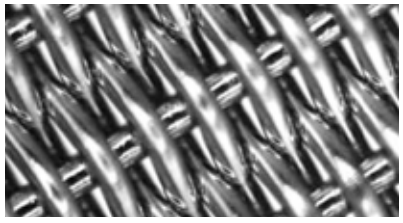
- Continuously filtering during backwash, no flow interruption
- Exellent self-cleaning, particularly for fine filtration and removal of viscous impurities
- Very low waste discharge when backwash, easy for recovery
- Smart control system, easy parameter setting, online running status monitoring

High Performance Filter Media

In order to meet various filtration demands, BetaFlo filter adpots several high performance filter medias, which features precise apertures, high flowrate, excellent cleanability and high dirt loading capacity. Please contact LIVIC specialist for the recommended filter media for the specific application and service condition.



SL Series Sintered SS Fiber Felt
5-25μm, high porosity, narrow pore size distribution, high permeability, low pressure drop, high dirt loading capacity, easy to backwash



TL Series High Performance Mesh
5-100μm, very easy to backwash, high flowrate, long service life, high porosity, high dirt loading capacity, accurate aperture, high strength

QL series Precise Square Mesh
100-250μm, very easy to backwash, high flowrate, long service life, high strength, precise aperture

Main Technical Information

Applicable Liquid	Various Process Liquids, Viscous Liquids and Waters
Lowest Working D.P.	>0.2MPa (depending on applications)
Filtration Rating	5-250μm (advantage range)
Design Pressure	Standard 1.0MPa, Higher pressure available
Design Temperature	Standard <90℃, Max. 280°C available
Filter Area	2200-83760cm^2
Backwash Purge	0.5-2%(depending on impurity amount)

D.P. Instrument	Smart D.P. Transmitter
Gear Motor	380V, IP55, Power Varies by Models
Models	BetaFlo® U22/U41/U35/U71/U110/U130 and more
Inlet & Outlet Size	DN50-DN600, DIN or ANSI Flanges
Backwash Valve	Size: DN50-DN200, Butterfly/Ball Valve, Pneumatic/ Electric, DIN/ANSI Flange
Wet Part Material	304/316L/2205/2507/CS
Sealing Material	NBR/EPDM/VITON/Metal Graphite Spiral Wound gasket

Typical Filtration Application

■ **Applicable Industries** Oil & Gas, Petrochemical, Fine Chemical, Automotive Industry, Water Treatment, Precision Metal Working, Food & Beverage, etc.

■ **Applicable Liquid Types** **Low Viscous Process liquids** such as diesel, gasoline, naphtha, gas oil, amine, methonal, adsorption solvent, cooling media, water-based emulsion, various chemical solution.

Viscous Process Liquids such as resin, polymer emulsion, viscose, syrup, extraction liquid, slurry, etc.

Waters such as process water, circulating cooling water, spraying water, cleaning water, fresh water, sea water, injection water, quenching water etc.