

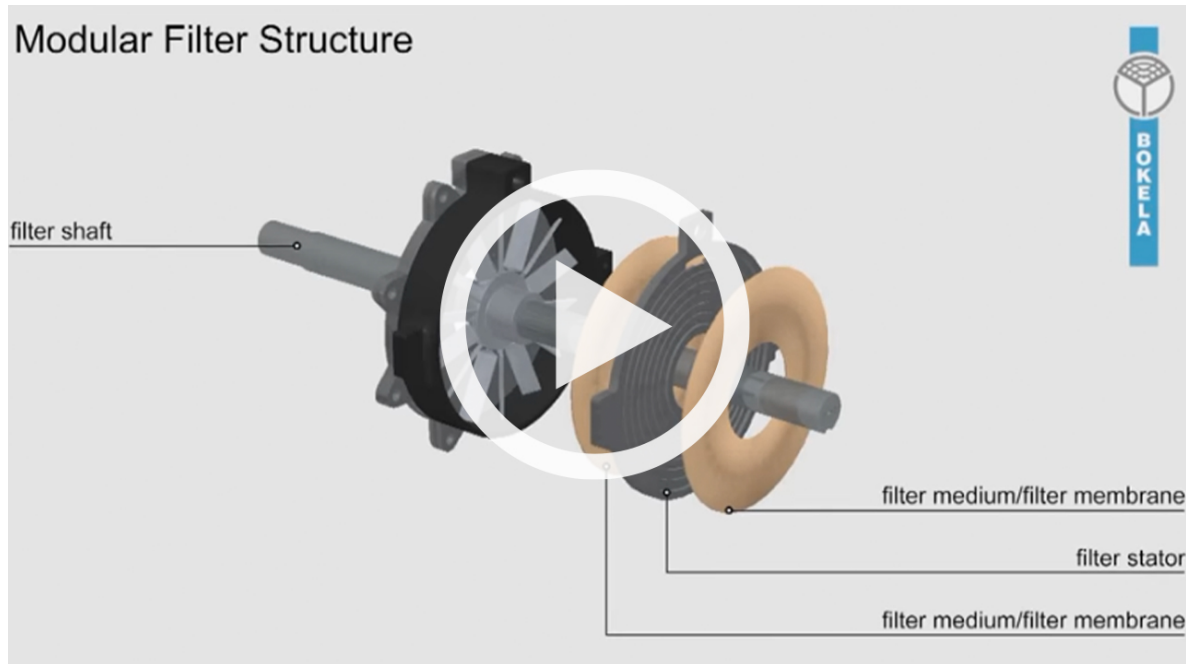
CROSSFLOW FILTRATION WITH A SIEVE FILTER

BoCross MicroScreen filter – screening under difficult process conditions.



Modular construction & functionality

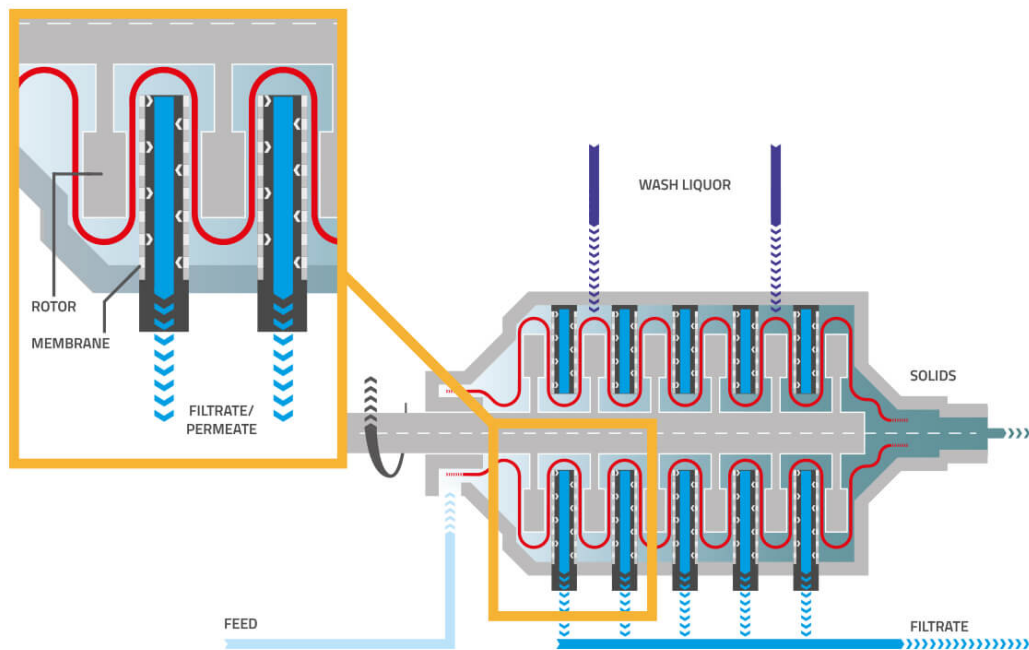
The BoCross MicroScreen filter has a modular, hermetically sealed construction and only differs in a few details from the BoCross Dynamic filter. These differences are due to the use of metallic filter media and a modified mode of operation.



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BOKELA DYNO Filter for Dynamic Cross Flow Filtration - Function Principle





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Modular construction & functionality

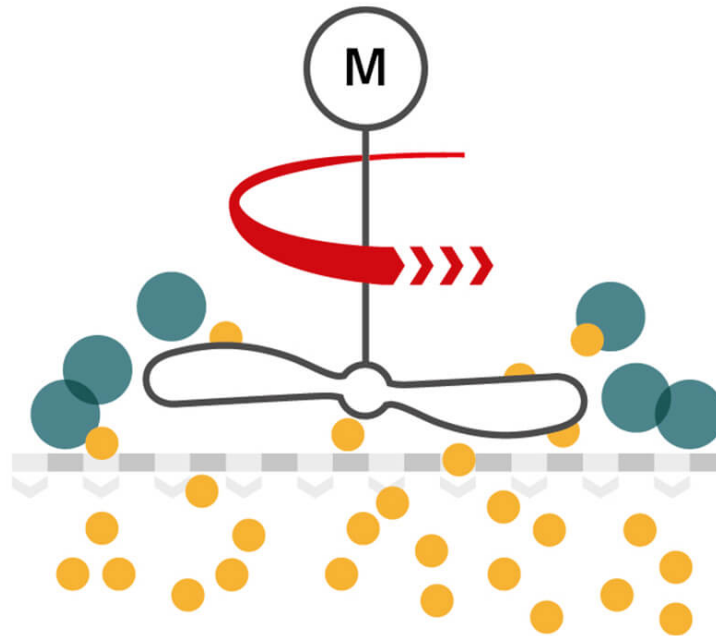
Dynamic sieve filtration

Dynamic sieve filtration with the BoCross MicroScreen filter is a method for classifying suspensions. The fine fraction and the mother liquor pass through the sieve medium, while the much smaller coarse fraction is retained by the sieve and discharged as a highly concentrated concentrate. This way, products of high purity or a narrow particle size distribution can be produced. To avoid depth filtration, the screen is cleaned at regular intervals during operation by short, intermittent backwashing.

The strengths and advantages:

- continuous separation of low concentrated coarse grain (ppm range)
- cut size down to 5 μ m
- minimal product loss through 20 to 500-fold coarse grain accumulation in the retentate
- high solids concentration in the feed is allowed
- screening even with high viscosity and thixotropic flow behavior

- screening without air contact



Dynamic sieve filtration

Dynamic precoat filtration

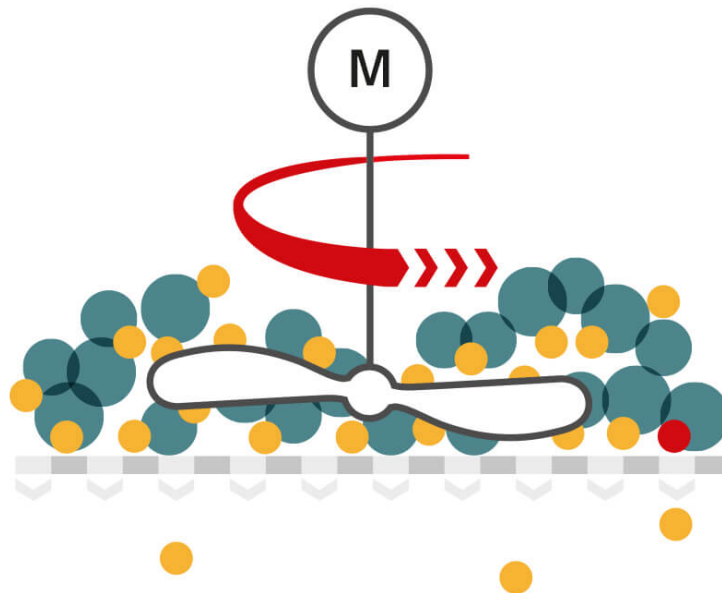
Dynamic precoat filtration allows solids to be completely recovered from a suspension. This process combines dynamic crossflow filtration with classic precoat filtration. For this purpose, the speed of the rotors is adjusted so that under controlled conditions, a particle layer of typically 1–2 mm forms on the filter medium. The metallic filter medium only serves as a carrier for the precoat layer, which represents the actual separation medium for this process. filter aids from other material are not needed because the precoat layer is made of the particles of the product suspension. At certain time intervals, the precoat layer is removed by backwashing.

The strengths and advantages:

- complete separation or recovery of the solid (e.g. catalyst)
- constant filtrate flow



- particle-free filtrate (after a short start-up time)
- low residence time of the product in the filter
- can be used in difficult separation tasks where membrane filters or centrifuges fail, such as
 - hot suspensions
 - suspensions containing solvents and / or fine particles.



Dynamic precoat filtration

Gentle operation & high flexibility

The BoCross MicroScreen filter is very gentle on the product. The desired process result is achieved not only after several circulations with circulating streams but in only one run with short residence times. The variable rotor speed ensures that no particle destruction takes place. A heating/ cooling system which is integrated in the modules allows a tempering of the product by cooling or heating during filtration.

The BoCross MicroScreen filter reacts flexibly on changes in the product characteristics – for

example, in terms of viscosity or solids concentration in the feed or as a result of product changes – and thus, ensures reliable operation and constant operating results.

Filter media

For both processes, asymmetric metallic filter media are used which allow backwashing. For dynamic sieve filtration, separation media are used with a cut size between 20 and 100 microns. They have excellent selectivity and outstanding service life.

Automatic operation

BoCross MicroScreen filters work fully automatically and can be easily integrated into process automation. Startup and shutdown procedures as well as cleaning procedures are automated.

Technical data

Filter Type [-]	XS01	M2	XL10	XL12
Filter Area [m ²]	0.13	1.8	10	12
Filter Diameter [mm]	145	375	850	850
No. of modules [-]	5	10	10	12
Drive [kW]	3	< 15	≥ 45	≥ 45

