

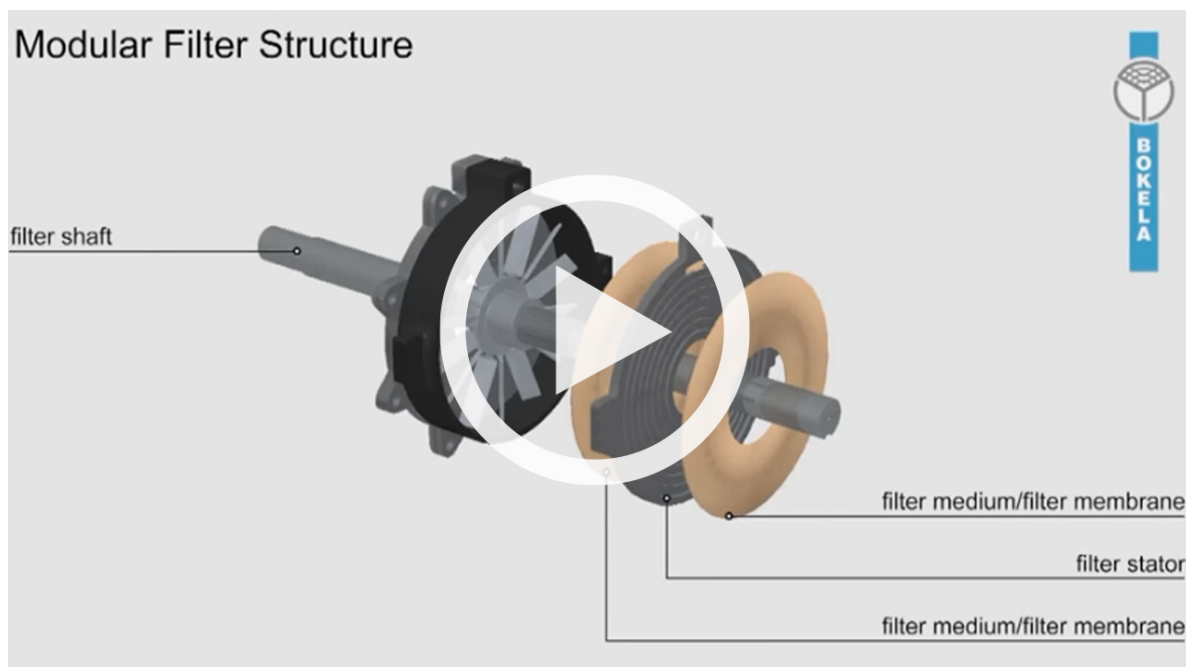
# CROSSFLOW FILTRATION WITH A MEMBRANE FILTER

BoCross Dynamic filter – high solids concentration and clear filtrate.



## Modular construction & functionality

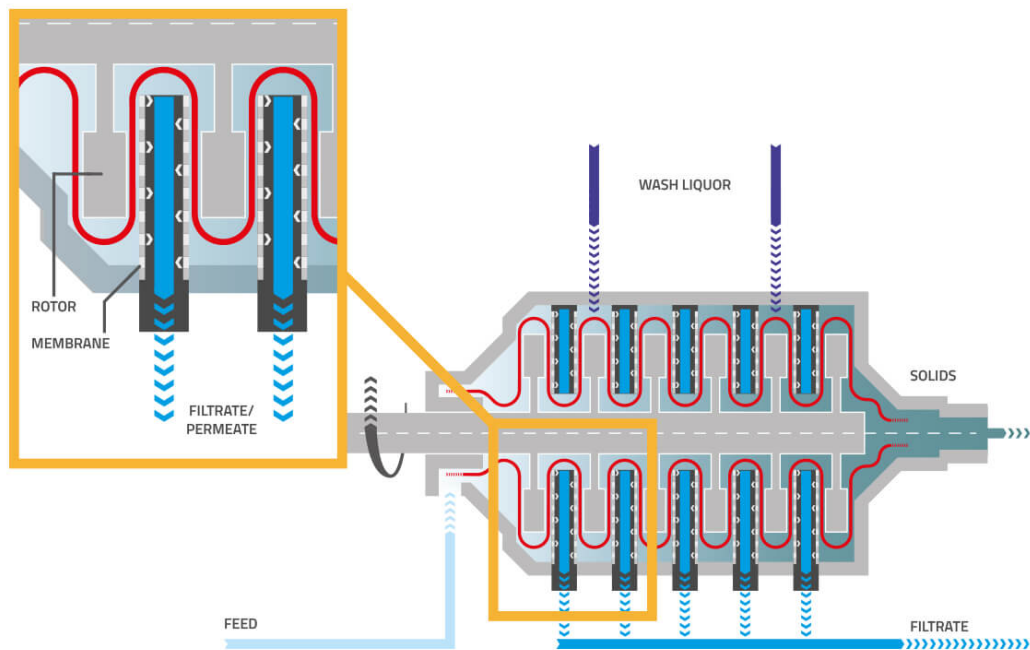
The BoCross Dynamic filter consists of disc-shaped filter modules arranged in a row, forming a completely closed system of process chambers. Each filter module is equipped with filter media on both sides. The modules have central openings for the filter shaft, which carries the rotors of the individual suspension chambers. The suspension flows from chamber to chamber in a meandering manner, whereby the concentration increases successively, since filtrate drains off in each chamber. The thickened concentrate is discharged controlled in the last chamber by means of an exhaust valve. In each chamber separately washing liquid or other process liquids can be supplied.



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BOKELA BoCross Filter for Dynamic Cross Flow Filtration - Function Principle





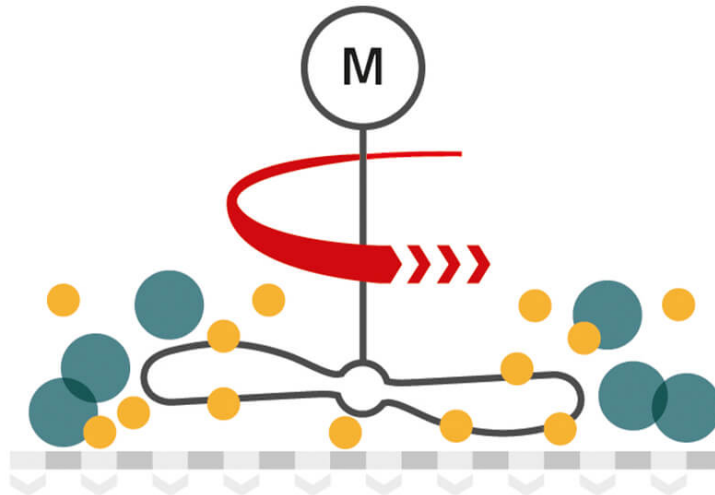
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Modular construction & functionality

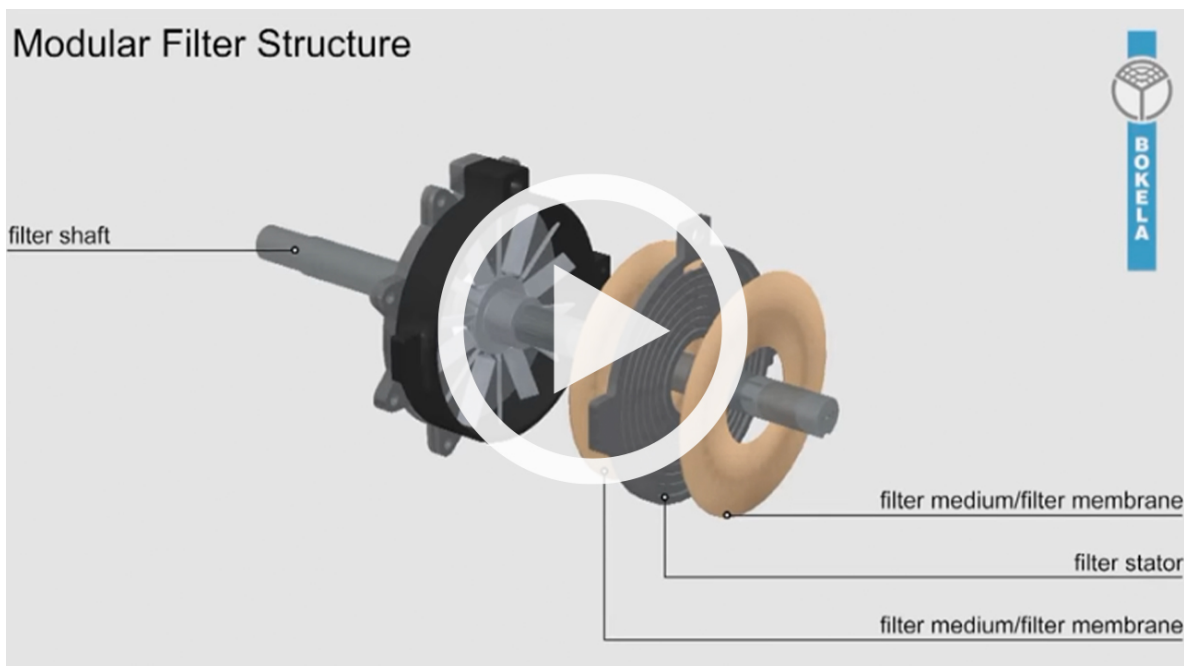
## Dynamic Crossflow Filtration

The tangential overflow of the filter surface is induced by rotors in the suspension room and the transmembrane pressure difference is generated by the feed pump. The liquid flows over the filter medium in a shear gap with a high velocity gradient. This prevents blocking of the filter medium. The rotors ensure a uniform homogenization of the suspension and excellent mixing, e.g. with the washing liquid.





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Dynamic Crossflow Filtration



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BOKELA BoCross Filter for Dynamic Cross Flow Filtration - Function Principle

## Washing out of residues and contaminations

In each chamber wash liquid or other process liquids can be introduced separately. The rotors cause an intensive mixing of suspension and wash liquid and thus, an efficient washing out. It is also possible to replace the mother liquor with another process fluid.

## Gentle operation & high flexibility

The BoCross Dynamic 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 Dynamic 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. This is particularly important for multi-purpose plants.

## Continuous small batch production

Due to the process and apparatus principle, the BoCross Dynamic filter also enables continuous operation with very small production volumes in the range of 1 kg/h.

## Filter media

**The BoCross Dynamic filter can be used with a variety of filter media such as:**

- micro filtration membranes in the range of 0.1–1.0  $\mu\text{m}$
- ultrafiltration membranes
- sintered plastic or ceramic membranes
- specially developed sieve composite sheets



- metallic media

## Automatic operation

BoCross Dynamic 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	S04	M2	L8
Filter Area [m <sup>2</sup> ]	0.13	0.4	1.8	8
Filter Diameter [mm]	145	200	375	555
No. of modules [-]	5	8	10	20
Drive [kW]	3	< 5.5	< 15	< 55

