



## **CERAMIC MEMBRANES**

Closed loop systems with  
Dynamic Cross Flow Filtration



# ROTATION FILTRATION WITH CERAMIC FILTER DISCS

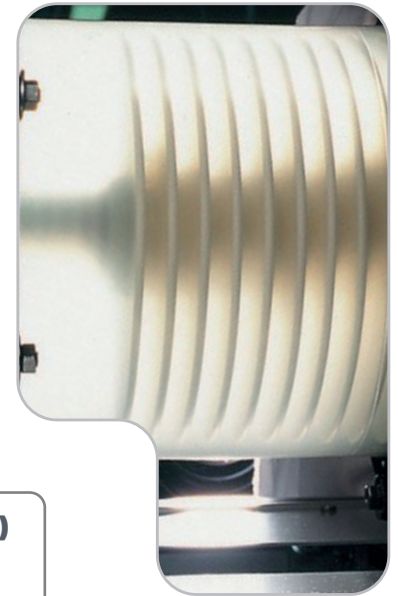
## WHY ROTATION FILTRATION?

- Extreme cross flow velocity  
(High efficient cleaning of the filter surface)
- Very low energy consumption  
(Compared to conventional cross flow techniques)

## MAXIMUM FILTER EFFICIENCY

### • ROTATION FILTRATION (DYNAMIC CROSS FLOW FILTRATION)

The cross flow effect (tangentially flow cleaning of the filter surface) is generated by the rotating of the filter discs and not by pumping of large volumes.



## Why Ceramic Filter Discs?

### • Innovative process technology

**Ceramic Filter Disc 374 mm, 312 mm and 152 mm, Microfiltration and Ultrafiltration**

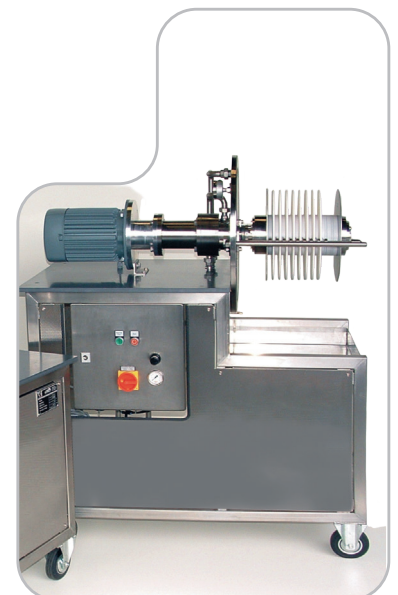
- Optimal filter geometry for the plant engineering

## First Steps for Engineering Companies

Kerafol is an independant filter producer. You can rent:

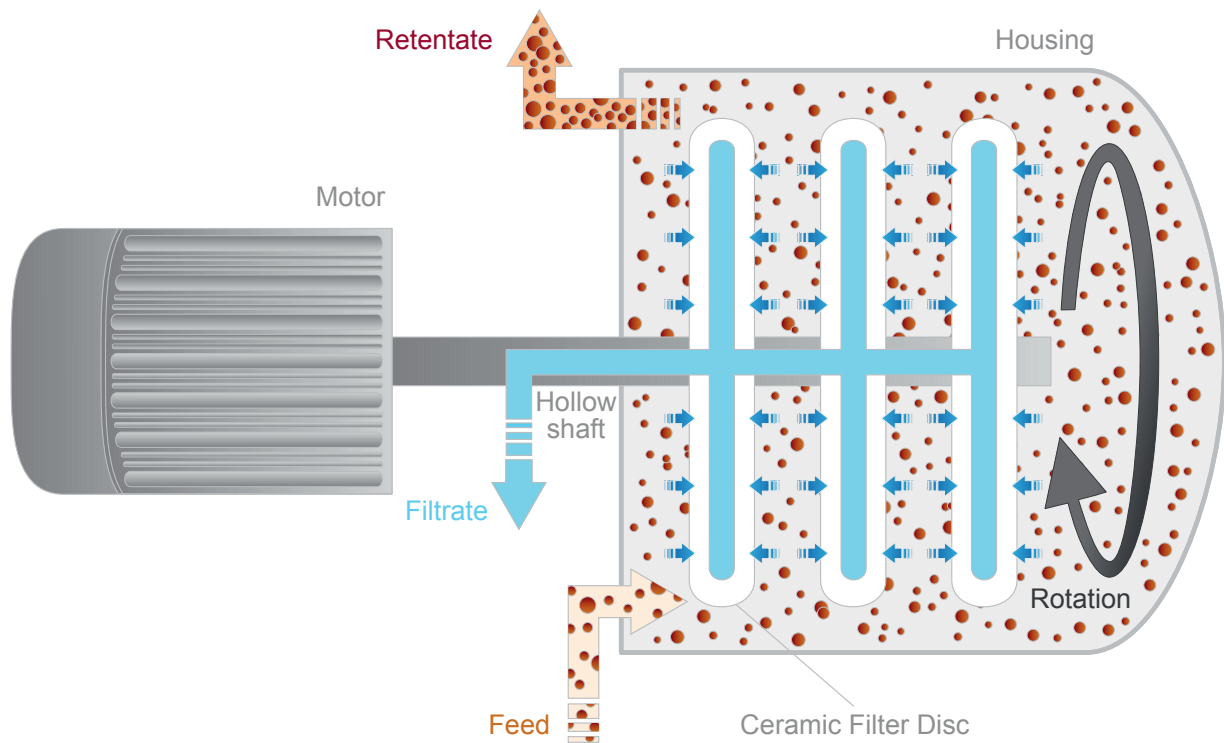
### Test Filtration Plants up to 2m<sup>2</sup> for Piloting

- An excellent choice for starting your own project planning of large filtration units (e.g. 100m<sup>2</sup> filter surface)



# DIAGRAM OF A ROTATION FILTRATION PLANT

Rotating Ceramic Filter Discs are assembled in a pressurised housing. The design of the discs shows drainage channels in the inside. The filtrate is transported from the outside to the inside of the discs. The rotation of the discs generates shear forces on the membrane surface. With this technique an increase of a filter cake is avoided resulting in a high filtration flux.



## Main Parameters

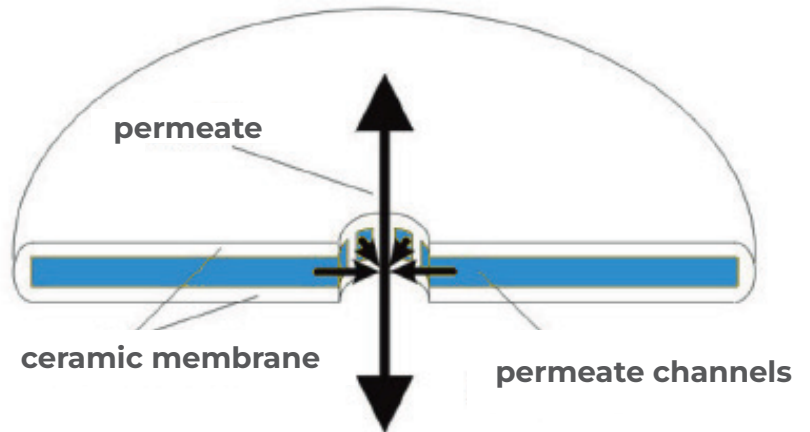
- Rotation Speed (rotating Ceramic Filter Discs)
- Transmembrane Pressure TMP (pressurised housing)
- Solid Content (concentration of liquids due to the removal of filtrate)



Customer example of a rotation Filtration Modul with Ceramic Filter Discs: **Membrane Surface 35 m<sup>2</sup>**

# CERAMIC MEMBRANES

## Dynamic Cross Flow Filtration



### CERAMIC FILTER DISC 374\*

- Diameter  $\varnothing_o$  374 mm /  $\varnothing_i$  91 mm
- Thickness d = 5.85 mm
- Membrane surface 0.20 m<sup>2</sup>

### CERAMIC FILTER DISC 312\*

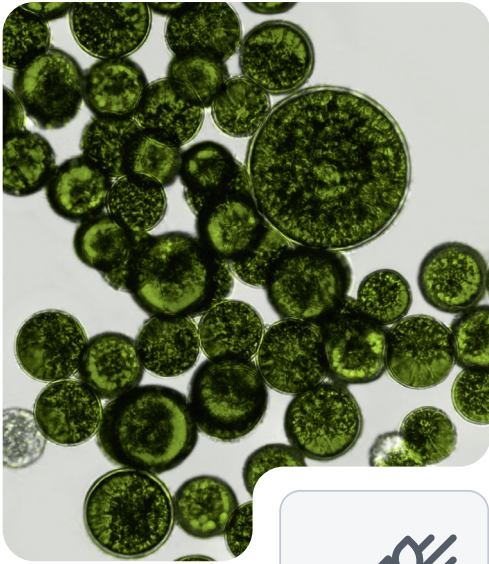
- Diameter  $\varnothing_o$  312 mm /  $\varnothing_i$  91 mm
- Thickness d = 5.85 mm
- Membrane surface 0.14 m<sup>2</sup>

### CERAMIC FILTER DISC 152

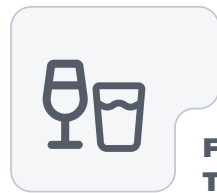
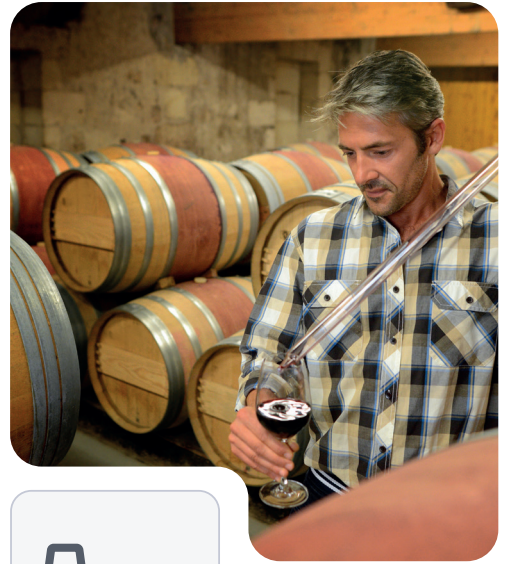
- Diameter  $\varnothing_o$  152 mm /  $\varnothing_i$  25.5 mm
- Thickness d = 4.5 mm
- Membrane surface 360 cm<sup>2</sup>

\* see corresponding technical geometric data sheet

Ceramic Filters	Micro Filtration				Ultra Filtration			
	Quality	2.0 $\mu\text{m}$	0.8 $\mu\text{m}$	0.5 $\mu\text{m}$	0.2 $\mu\text{m}$	80 nm	30 nm	5 nm
Material	$\text{Al}_2\text{O}_3$	$\text{Al}_2\text{O}_3$	$\text{Al}_2\text{O}_3$	$\text{Al}_2\text{O}_3$	$\text{Al}_2\text{O}_3$	$\text{TiO}_2$	$\text{TiO}_2$	$\text{TiO}_2$



**NEW FOOD**



**FOOD TECHNOLOGY**

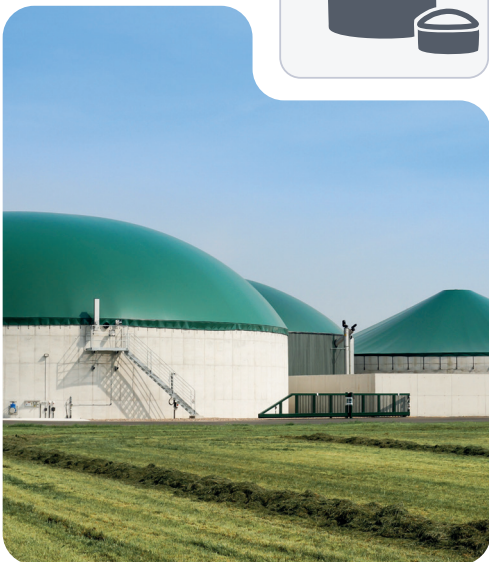


**PHARMA / BIOTECHNOLOGY**



**CHEMICAL INDUSTRY**

**DIGESTER EFFLUENTS**



**DAIRY INDUSTRY**



# Customized solutions

We are looking forward to receiving your inquiry!

KERAFOL® products are applied in vehicle electronics, telecommunications, aerospace, computers and the semiconductor industry – in fact, in all areas in which high performance ceramic materials are irreplaceable.

Discover our broad range of products and take advantage of the diverse application possibilities!

**KERAFOL®**  
**KERAMISCHE FOLIEN GMBH & CO. KG**

Koppe-Platz 1  
D-92676 Eschenbach i. d. OPf.  
Germany

Tel.: +49 (0) 96 45 - 88 300

Fax: +49 (0) 96 45 - 88 390

[filter@kerafol.com](mailto:filter@kerafol.com)

[linktr.ee/kerafol\\_official](https://linktr.ee/kerafol_official)

**[www.kerafol.com](http://www.kerafol.com)**



## Disclaimer

The information provided in this Technical Data Sheet (TDS) including the recommendations for use and application of the product are based on the producers' knowledge and experience of the product, non-binding and are explicitly not an expressly warranted characteristic of the goods. Due to technological developments related to products and systems, the data and procedures are subject to change without notice. The product can have a variety of different applications, as well as differing application and working conditions in the buyer's environment that are beyond Kerafol's control. Therefore, Kerafol is not liable for the suitability of the product for the prospective users' production processes and conditions in which the user uses them, as well as intended applications and results. Kerafol strongly recommends that the user carries out own prior tests to confirm such suitability of the product and that each prospective user tests his proposed application before repetitive use. It is the buyers'/users' responsibility to verify compatibility, fitness and suitability of the product with the specific use / application. Any liability in respect of the information in the Technical Data Sheet or any other written or oral recommendation(s) regarding the concerned product is excluded, except if otherwise explicitly agreed and except in relation to death or personal injury caused by our negligence and any liability under any applicable mandatory product liability law. In case Kerafol would be nevertheless held liable, on whatever legal ground, Kerafol's liability will in no event exceed the amount of the concerned delivery. All Kerafol products are sold pursuant to the Kerafol's Terms and Conditions of sale and delivery in effect. A copy of these will be furnished upon request.