Diva Envitec Product Data Sheet

MSDF – MODULAR SPIN DISK FILTER

New Design MSDF is a development moving away from conventional cross flow filtration towards spin filtration. The advantages of spin disk filtration lies in the improved cleaning effect on the filter surface at a reduced energy cost.

Philosophy

Prerequisite for a continuous filtration method is how to avoid filter media blocking by preventing the formation of a secondary resistive layer on the filter media surface (filter cake). This always requires continuous cleaning of the filter surface during the process. Conventionally this is being done with tangential or cross flow technologies with high velocity flows. The shear forces that occurred this way prevented the formation of a filter cake.

In order to achieve this cross flow effect, it used to be necessary to move high liquid volumes with powerful pumps. The excellent filtration capacities were offset by high energy costs. Dynamic cross flow methods work with much less energy consumption. The relative motion between the medium to be filtered and the filter is not generated by pumps but instead by the rotation of the filter elements or a rotation of flow disrupters.

Features and Benefits

- High temperature resistance (0-130 °C) with varied range of membranes starting from Polymers to Ceramic to SS membranes
- Broad pH range (0-14)
- Resistance to aggressive solvents, oxidants and most chemicals
- Steam Sterilization (autoclave, oxidant, etc.)
- Extremely high cross flow velocities – with no filter blocking
- Reduced energy costs compared to conventional cross flow systems
- Modular design with large scalability options
- Repeatability in fluxes
- Excellent mechanical resistance (High Solid loading)

Operation

MSDF membrane systems operate using membrane disks of different MOC that are configured in modular stack mode on a rotating shaft. That separation technology purely relies on the differences in physical sizes in the MF range and in the molecular weight (size) of the individual components when processing in the MF and UF range. The membrane pore is a safe barrier for any insoluble matter (i.e. protein complexes if any, triglycerides, fats, oils, bacteria, colloidal matter, fibres etc) irrespective of the incoming concentrations. The selection of the right membrane or filter media is more from experience of working in similar applications.

Technical Specifications

Membrane types available suitable for a wide range of applications and process conditions.

Modular Design : Area – 1 sq.mts to 100 sq.mts

UF/MF MEMBRANES: PP, SS, Ceramic

MW Cut-Off or Micron : 1,000 MW, 5,000 MW, 10,000 MW, 20,000 MW, 25,000 MW, 30,000 MW, 50,000 MW, 100,000 MW, 120,000 MW, 0.05 Microns, 0.1 Microns, 0.2 Microns, 0.45 Microns, 0.65 Microns, 0.8 microns, 1.2 microns, 3.0 microns.

Cross Flow Mode of Separation

The rotation filtration with ceramic membrane disks is used for many different applications in the industrial and municipal sector. Dynamic cross flow filtration becomes more and more important because of the outstanding advantages. The high cross flow velocities, the low energy consumption and the homogeneous transmembrane pressure lead to a higher flexibility in solving separation problems. With the rotation filtration the plant engineering has new possibilities for applying membrane technology.
Applications and Uses

- **Chemical Pharmaceutical Industry**
  - Organic solvents colour removal
  - Activated Carbon filtration
- **Biotechnology**
  - Enzyme concentration, diafiltration
  - Yeast recovery and concentration
  - Cell separation
  - Protein concentration
  - Bioethanol Microfiltration of cellulose
- **Food Technology**
  - Beer, wine clarification
  - Tomato puree
  - Haze Removal
- **Paper Industry**
  - Resource recycling
  - Closed loop techniques
  - Sieve water paper mills
- **Paints, pigments, adhesives**
  - Pigments desalting
  - Solvent recycle
  - Lacquer de-watering
  - Water soluble glue concentration
- **Metal-Working Industry**
  - Cooling lubricants
  - Cleaning units
  - Emulsions, suspensions
  - Aluminum swarf water
- **Waste Water Treatment**
  - Digested sludge
  - Water recycling
  - MBR / aeration

---

About

Diva Envitec (Europe) Ltd

Diva Envitec Pvt Ltd.

Diva Envitec (Europe) Ltd. in Peterborough in UK and Diva Envitec Pvt Ltd. in Mumbai, India, are leading global filtration and separation companies. We offer a wide range of filtration and separation systems, products and services in market sectors including Pharmaceutical, API, Biotech, F&B, Brewery, Winery, Distillery, Chemical, Fine Chemical, Sugar, Oil and Gas, Petrochemicals and Renewable Energy. We serve leading and reputed companies across many industries.

We work with you to understand your needs and to enable and implement key technical requirements in your manufacturing processes. We deliver practical solutions to generate productivity, ensure error-free operations and help you manage your process effectively.

Our commitment to delivering measurable results is unparalleled, as is our dedication to transferring knowledge. Our experience translates to your results.

To find out more about how Diva Envitec can inspire your next success, please call +91-22-28712926 or +44-203-2866558 or visit us at www.aboutfilter.com

---

Diva Envitec Pvt Ltd.
4/31, Road No.2
Siddharth Nagar 5
Near Prabodhan Krishi Kendra
Goregaon(W),
Mumbai 400 104. INDIA
T: +91-22-28712926
  +91 22 3202 4873
F: +91-22-2871 2926
E: info@aboutfilter.com
W: www.aboutfilter.com

Diva Envitec (Europe) Ltd.
14 Mercian court, Stanground
Peterborough, PE2 8LF
Cambridgeshire - United Kingdom
T: +44 203 2866558

© 2011 Diva Envitec Europe Ltd. All rights reserved. “Filter Essentials. Feel The Difference” and “Knowledge Filtered Into Action” are service marks of Diva Envitec Europe Ltd. Diva Envitec Europe Ltd., ContiFilt, Ekho, Mag-Filter, SCEF, PMF and the Diva Envitec Filtration Technologies Pvt Ltd. logo are either trademarks or registered trademarks of Diva Envitec Europe Ltd and Diva Envitec Pvt Ltd in UK, India and/or other countries.