

MEMBRANE SYSTEM

Are you looking for milling
equipment that could grind
your sample up to nano size or
homogenizing?



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EMPOWERING FUTURE
THROUGH RESEARCH & INNOVATION

INTRODUCTION

Welcome to our 2020 - 2021 edition of Product Catalog. We would like to thank you for your continue support and encouragement. Throughout this challenging time, we have grown and transform our business to be more efficient and effective. This will enable us to offer better service and more competitive pricing to our customers.

Our new edition of catalog comes with a easy reference features where we categorized the products into different usage categories, i.e. Advanced Material, Renewable Energy, Bio-Process, Gauge Calibration, Membrane Technology, 3D scanner and others. This will facilitate the users to quickly access to the equipment specification required, and options available to them in term of measuring range or equipment complexity.

In our new catalog, we have also added the equipment to do research in renewable energy like solar cell, fuel cell, flow cell, lithium ion batteries, and membrane technologies. In synergy with our advanced material equipment, we have also added the equipment for material characterization especially in the area of rare earth research and magnetic properties. In line with the manufacturing industry footsteps, the equipment on 3D scanning and 3D printing also have been added in to expand the tools in the research and development for industry 4.0.

To our current customers, we believed our partnership will be strengthen for the years to come. The new catalog will also create new opportunities to build new relationship with new customers.

Lastly, I would like to thanks our staffs for their dedication and sacrifice in supporting the management for a brighter future.

Patrick Tan
Director
KGC (Group of Companies)

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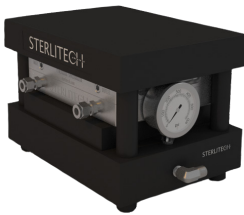
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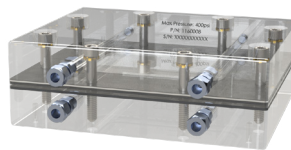
Membrane Test Cell

Cross/tangential flow cells such as CF016, CF042 and SEPA CF are offered for pressure driven, osmotically driven, or temperature driven applications. These cross/tangential flow test cells are perfect for small scale crossflow filtration testing using polymeric flat sheet membranes

Forward Osmosis Cells



Air Gap Membrane Distillation Cell



Stirred Cell



Sepa FO Cell

- Accepts polymeric flat sheet membrane coupons
- Mimics both laminar or turbulent flow conditions
- Has a membrane active area of 140 cm²
- Available in Stainless Steel with a maximum operating pressure of 1000 psi (69 bar)
- Available in Acrylic with a maximum operating pressure of 220 psi (15 bar)

AGMD Test Cell

- Mimics the conditions representative of a large-scale AGMD system while using minimal amounts of membrane or product
- Thermally driven separation technique in which vapors travel through a hydrophobic membrane
- Has a membrane active area of 45.6 cm² (7.1 in²) and an air gap of 5.6 mm (0.22 in)

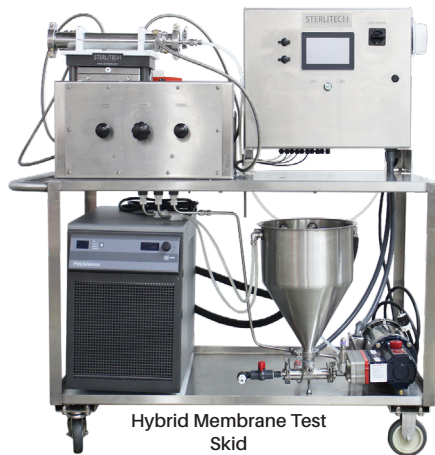
HP4750

- HP4750 stirred cell is a high-pressure stirred cell that is both chemically resistant and features a low hold-up volume (1 ml)
- This particular brand of stirred cell is able to perform a wide variety of membrane separations
- Max operating pressure is 1000 psi
- Removable PTFE stir bar
- 316 stainless steel

Skid Mounted Membrane Filtration Systems:

Sterlitech Skid Mounted Membrane Filtration Systems are custom designed to evaluate the performance of membranes widely used in Reverse Osmosis, Forward Osmosis, Nanofiltration, Ultrafiltration, and Microfiltration applications. Membrane Test Skids stimulate the flow dynamics of larger, commercially available membrane systems.

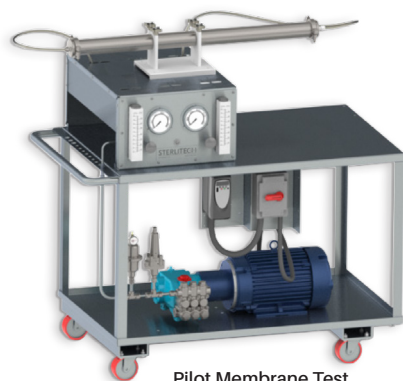
Available in both Digital and Analog configuration, test Skids offer experimental control by allowing adjustment of the flow parameters to accommodate a wide range of applications.



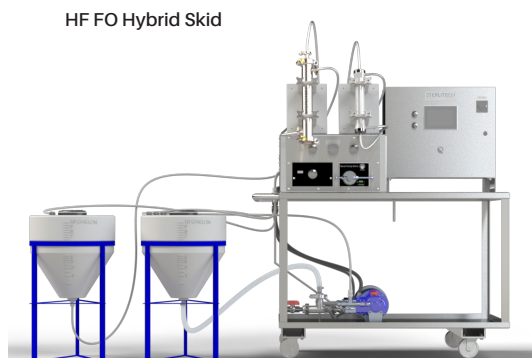
Hybrid Membrane Test Skid



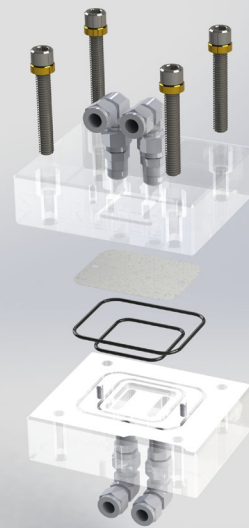
Analog 1812 Membrane Test Skid



Pilot Membrane Test Skid



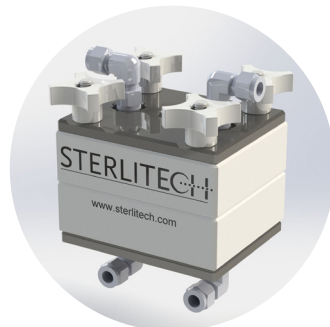
HF FO Hybrid Skid



Delrin



316 SS



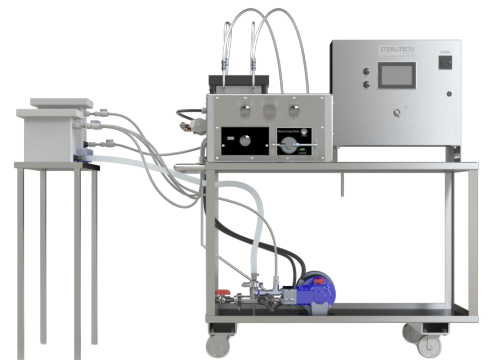
PTFE



Hastelloy



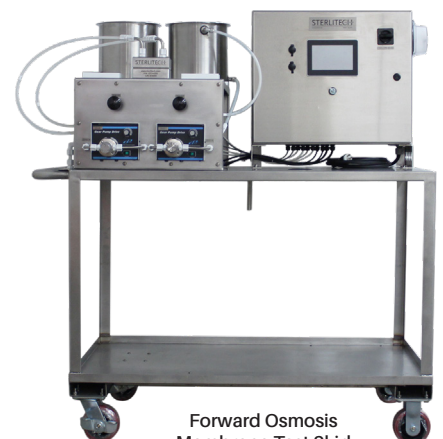
CF042 Membrane Test Skid



Convertible Membrane Test Skid



Sepa Membrane Test Skid



Forward Osmosis Membrane Test Skid

Standard Features:

The handheld refractometers HR series are the ideal solution for the petrochemical, automotive, aviation, metal processing and food industries.

- Stainless Steel or Plastic Feed Tanks
- Operates as 1 or 2 Lines in Parallel
- High-Pressure, Stainless Steel Diaphragm Pump
- Digital or Analog Pressure and Flow Meters
- Digital Temperature and Conductivity Sensors (Optional)
- Stainless Steel Frame with Heavy Duty Casters
- Configured with Parts and Instruments Resistant to Harsh Environments and Corrosive/Hazardous Chemicals

Industrial Membrane System

Equipped with Nickel Based Super Alloy Tube & Flanges
30 Segments PID Temperature Control with Auto-tune Function
High Purity Alumina Fiber Insulation

Microfiltration:

Microfiltration (MF) generally refers to the application of membranes with pore size range between 0.05 - 2 μm and allows for the fractionation and clarification of larger compounds.

The MMS Microfiltration unit design is highly specific to the final application. Several MF module types are possible, such as ceramic, hollow fibre and spiral wound elements.

The correct choice of module is a function of numerous factors such as, viscosity, pH, operating temperature, feed volume to treat, fractionation requirements, etc. MMS do not favour a specific module type or supplier, through our screening process we select the module which best suits your process.

Some typical MF applications are:

Sterilisation and biological stabilisation

Biopharmaceutical products, skim milk, whey, wine fruit juices, water

Purification

Gelatine, fermentation broth, cell homogenate, fruit juices, vinegar, vodka, wine

Concentration and enrichment

Milk fat, casein, cell suspension, macropolymers, etc.



Ultrafiltration:

Ultrafiltration membranes have a pore size distribution in the range of 1,000 to 500,000 daltons (1 to 500 KD) and are used to separate micro-components dissolved in liquid and macromolecules or colloids. UF technology allows the concentration of high molecular weight components without the need for heat, phase inversion or absorption step.

Ultrafiltration is present in a wide variety of industries and is suitable for a variety of applications, including:

Some typical MF applications are:

Clarification

Fermentation broth, Wine, cell homogenate, fruit juices

Concentration

Whey proteins, enzymes, bio-pharmaceutical products (proteins, peptides, polysaccharides, nucleic acids), milk, fruit juices

Fractionation

Proteins from salts, color molecules (anthocyanins) from sugars, protein from peptides, oil from water



Nanofiltration

Nanofiltration (NF) generally refers to the application of membranes with pore size range between 150- 2000 Da and allows for the fractionation and clarification of smaller compounds. The MMS Nanofiltration unit design is highly specific to the final application. NF module are predominantly delivered in spiral wound element format however some ceramic elements are available as well. Nanofiltration systems are highly specific to our end customers and tend to be used when both concentration and fractionation of smaller compounds are required.

Some typical NF applications are:

Part demineralization and concentration

Whey, acid whey, pharmaceutical products, hydrolysed gelatin, etc

Concentration and enrichment

Yeast and wheat extract, coffee extract, peptide concentration, etc

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Reverse Osmosis

Reverse Osmosis (RO) is the application of the tightest membranes on the market and their pore size is defined in terms of salt (NaCl) rejection. The range of RO membranes are from open 90% to 99.8% NaCl rejection. The MMS Reverse Osmosis unit design as a standard can be operated up to 40 bar, however recently many customers have been requesting units for 60 and 80 bar for the food and pharma sectors. Reverse Osmosis systems are used either for concentration of product at low energy costs and low temperatures. This gives a huge impact on OPEX as well as producing a concentrate with reduce flavor impact due to high temperatures.

Some typical RO applications are:

Concentration

Skim milk, whey, lactose, apple juice, salts, etc

Purification

Condensate water treatment

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**DESIGN YOUR PERFECT
LABORATORY WITH OUR**

PRODUCT CATALOG

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