Liqui-Flux® FILTRATION

W-SERIES

Ultrafiltration Modules

3M

MEMBRANA

Now proudly part of 3M

3M
A Market Leader in Membrane Technology

3M has been a technological leader in membrane development and manufacturing for over 40 years. Our experience spans over 20 years of module development and manufacturing. Employing more than 500 people, 3M's large scale production facilities ensure the highest level of quality.

With an annual output of several million SQM per year, 3M is one of the largest membrane manufacturers in the world.

Liqui-Cel® - Product Family

Extensive R&D activities and facilities promote continued development and advancement of 3M products and technologies.

We offer our technical know-how and experience to support our customers from the decision making process through the start-up and optimization steps of integrating Liqui-Flux® modules into the end user's process.

Our primary company-wide product focus includes:

- Hollow Fiber and Flat Sheet Membranes for medical applications
- Flat Sheet Microfiltration Membranes for process filtration
- Liqui-Cel® Membrane Contactors for degassing
- Liqui-Flux® Microfiltration Modules for beverage clarification
- Liqui-Flux® Ultrafiltration Modules for water treatment

Liqui-Flux® Module
"Economy and Reliability in Ultrafiltration"

3M manufactures one of the largest UF modules of its kind. The new Liqui-Flux® Filtration module uses cutting-edge technology for inside-out ultrafiltration with large effective membrane area.

The durable module design and the Variable Connect Concept - VCC™ represent an advancement in ultrafiltration technology today. In addition, the Variable Connect Concept provides several options for assembling the modules.

According to the system size and application type, 3M offers several product types and sizes.

Application Areas for Liqui-Flux® Water Modules:

- Drinking water treatment
- Pre-treatment to reverse osmosis
- Process water filtration
- Waste water polishing

Waste Water Re-use | 2250m³/h

Pre-treatment to Reverse Osmosis | 540m³/h

Waste Water Re-use | 1000m³/h

Water Bottling | 100m³/h

Process Water Power Plant | 240m³/h

Drinking Water Treatment | 180m³/h

Sustainable Module Design

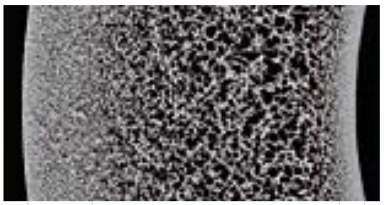
Ultrafiltration Modules

A structured membrane arrangement inside a 12-inch housing leads to well defined liquid flow hydrodynamics. 3M has designed this high quality Liqui-Flux® module for long-term operation.

UltraPES™ membrane
„Superior Permeability and Strength“

- Robust asymmetric 3-layer structure
- Narrow pore size distribution
- Excellent permeability
- Reduced fouling potential
- High temperature and chemical resistance (pH 1 – 13)

Distinctive 3-layer structure

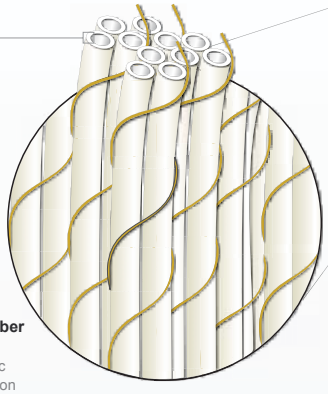


Protection layer Support layer Separation layer

Multifiber P.E.T.® Feature
“Sophisticated Membrane Support”

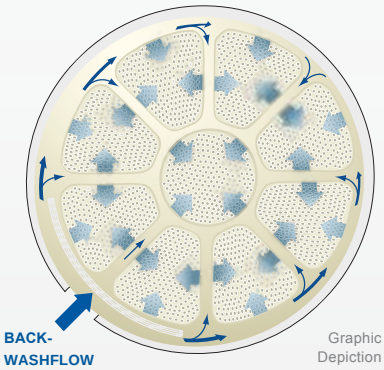
UltraPES™ hollow fiber membranes are stabilized by 3M’s patented Multifiber P.E.T.® technology where PET yarn is twisted around and potted with the hollow fibers.

The Multifiber P.E.T.® technology provides excellent mechanical support to the membrane and ensures long-term stability.



Multifiber P.E.T.® Graphic Depiction

Even Flow Distribution Promotes Efficient Backwash
“Controlled Hydrodynamics”



Graphic Depiction

The special module design is optimized for favorable hydrodynamic conditions during the backwash procedure.

- The introduction of backwash water through a narrowing annular channel ensures a uniform pressure distribution. This leads to excellent physical cleaning performance.

- Without O-ring sealing to separate the feed from the filtrate side, Liqui-Flux® ultrafiltration modules reduce the potential for microbiological cross-contamination.

For further information visit:
www.membrana.com

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