fluytec®
filtration technologies

Integrated UF [i-UF]

Made with
Dow Technology

Autoscreening & Ultrafiltration
STAGES INTEGRATED IN THE SAME VESSEL

Next Generation of UF

- **LOWER CAPEX & OPEX**
  Easier, faster and cheaper maintenance
- **SHORTER PROJECT LEAD TIMES**
  No need for UF Building
- **REDUCED FOOTPRINT**
- **UNLIMITED DESIGN PRESSURE**

Material's availability:
_FRP/GRP
_SS
_CSRL

UF QUALITY

Innovation

The i-UF represents the natural evolution of UF filtration, where the integration of the screening and membrane filtration in a single vessel strengthens the footprint, pressure rating and robustness benefits of vessel contained UF.

The i-UF vessel design and manufacturing in FRP/GRP allows installing the system outdoors. FRP has proven to have a perfect corrosion resistance behaviour.

The vessel internals and membrane cartridge design allow changing membrane material, configuration or size at any time. Other materials upon request (Stainless Steel & Carbon Steel Rubber Lined).

This enables the EPC/End User to take advantage of the following main benefits:

EPC's

Decreases significantly

- PROJECT'S CAPEX
- PROJECT'S LEAD TIME
- PLANT'S FOOTPRINT

END USERS

Decreases significantly

- MEMBRANE REPLACEMENT COSTS
- SOLID WASTE DURING REPLACEMENT
- WATER CONSUMPTION
- POWER CONSUMPTION

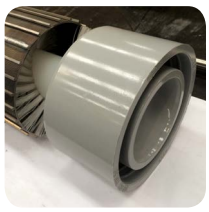
Technology Description

i-UF systems combine the **screening** and **UF stages** in a **single vessel**. Feed water flows across the strainer in an in/out direction, reaching the membrane chamber.

The vessel internals are designed for **out/in** UF configuration and can include air scouring. Both stages can be cleaned at the same time or individually.

The UF is BWed or CEBed as in conventional systems and the screen is cleaned using a combination of BW and brushing.

The screen tube (screen, brush and propeller) can be extracted and replaced easily. Similarly to a conventional cartridge filter, the cartridges can be accessed from the top flange and individually tested and replaced.



Membrane Cartridge Features

i-UF is specially designed with Dow's "High Permeability XP Fibers", helping to improve Productivity and Efficiency and lowering the cost of water.

XP Fibers have up to 35% more permeability than the standard, allowing to work at larger fluxes while producing the same transmembrane pressure (TMP).

This leads to minimize the number of modules resulting in a smaller footprint whilst reducing CAPEX and OPEX.

i-UF Models

Model	i-UF 500	i-UF 600	i-UF 700	i-UF 800	i-UF 900	i-UF 1000
Production (m^3/h)[1]	8-26	11-33	18-53	22-66	30-92	44-132
No. of UF modules	4	5	8	10	14	20
Total Membrane Area (m^2)	220	275	440	550	770	1,100

Model	i-UF 1100	i-UF 1200	i-UF 1300	i-UF 1400	i-UF 1500	i-UF 1600
Production (m^3/h)[1]	48-145	57-172	70-211	81-244	94-284	110-330
No. of UF modules	22	26	32	37	43	50
Total Membrane Area (m^2)	1,210	1,430	1,760	2,035	2,365	2,750

[1] The production range is based in a flux range of 40 – 120 LMH using inside/out organic membranes.

Technical Specifications

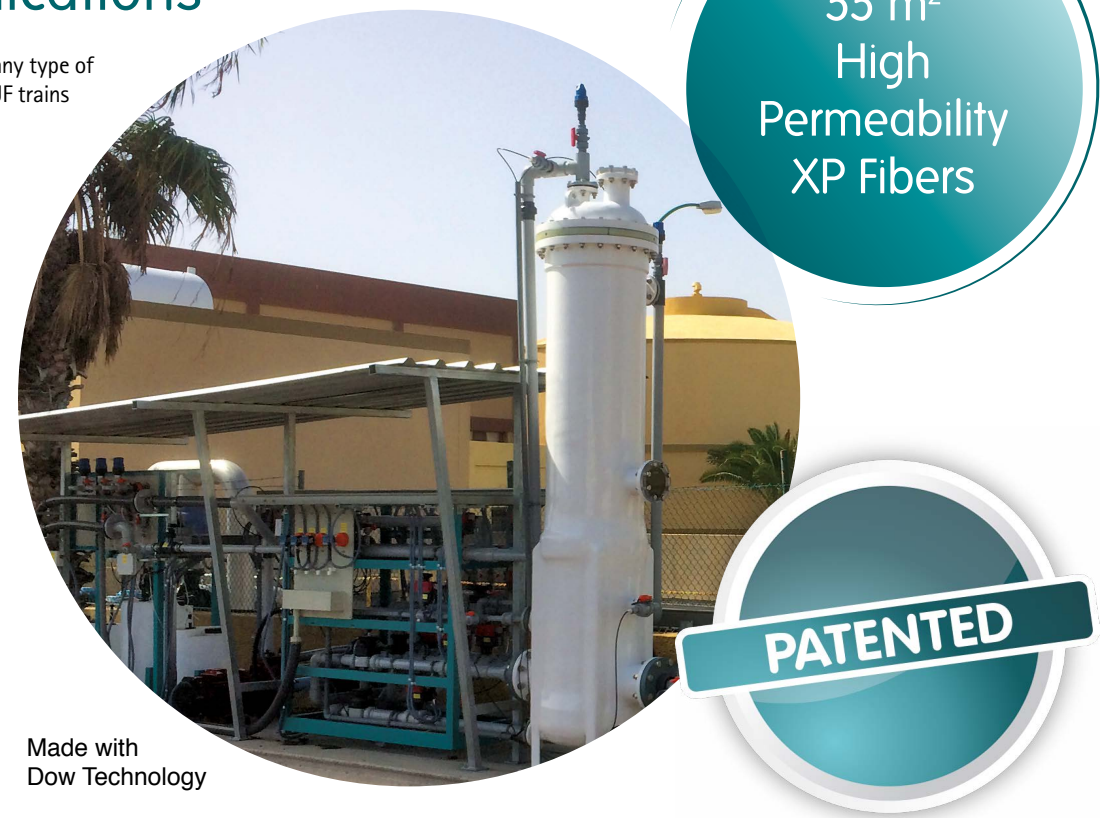
- Outside to Inside (FOTI) Design.
- The UF is BWed or CEBed as in Conventional Systems (Can include air scouring).
- Filtration Stages can be BWed at the same time or individually.
- UF Membrane package replacement similar to cartridge filters.

NATURAL EVOLUTION
OF UF SYSTEMS

Typical Applications

The i-UF system is applicable to any type of application where conventional UF trains are used. Some examples are:

- Large and medium size desalination plants.
- Municipal brackish water plants.
- Wastewater reuse plants.
- Industrial water plants.
- Off Shore platforms.
- Retrofit of conventional filtration (ie. MMF).



DOW®

Made with
Dow Technology

Subject to change without notice.

Other products in this range:

- c-UF (Continuous Ultrafiltration Systems)
- Ultrafiltration Standard Systems
- FTAUR series filters (Automatic Backwash Filters)
- ...

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