OLTREMARE
LIQUID SEPARATION

Model OLTRE$_{CAP}$ - T Series

Inside - Out Ultrafiltration Membranes

PRODUCT DESCRIPTION

Membrane Material	Proprietary Terpolymer
Membrane Configuration	Capillary
MWCO (Molecular Weight Cut Off)	80,000 Dalton
Potting Material	Epoxy
Housing Material	UPVC
Preservative	Glycerin (35%)

MODULE SPECIFICATIONS

MODEL	Membrane ID/OD	Membrane Area
OLTRE$_{CAP}$ -1030 – T- B	1.0/1.7 mm (0.039/ 0.059")	19 m2 (204.5 ft2)
OLTRE$_{CAP}$ -1060 – T- B	1.0/1.7 mm (0.039/ 0.059")	40 m2 (430.5 ft2)
OLTRE$_{CAP}$ -1080 – T- B	1.0/1.7 mm (0.039/ 0.059")	55 m2 (590.0 ft2)

APPLICATION DATA

Typical Filtrate Flux	50 -130 L/m^2· h (30 -77 GFD)
Maximum Applied Feed Pressure	0.5 MPa (73 psi)
Maximum TMP	0.2 MPa (30 psi)
Maximum Backwash Pressure	0.2 MPa (30 psi)
CIP Chlorine Concentrate	100 - 200 ppm
Instantaneous H_2O_2 Tolerance	200 ppm
Operating Temperature	5 - 40 (41 -104)
Operating pH Range	1~13
Operation Mode	Dead-end or cross flow, cross flow preferred

TYPICAL PROCESS CONDITIONS

Backwash Flux	180 - 240 L/m^2· h (106 - 141 GFD)
Backwash Duration	30 - 60 seconds
Backwash Frequency	15 - 120 minutes
CEB Frequency	0 - 4 times per day
CEB Duration	1 -10 minutes
Cleaning Chemicals	NaClO or H_2O_2, NaOH, HCl, citric acid or oxalic acid

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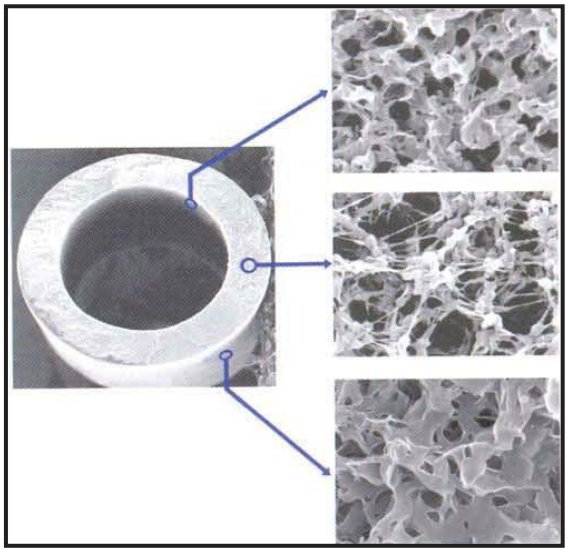
SPECIAL FEATURES

Permanently Hydrophilic Membrane (proprietary technology)
The stabilized operating flux for most of UF or MF membrane products is much lower than their initial flux resulting from Loss membrane hydrophilic by polymer reconfiguration. OLTRE$_{CAP}$ UF membranes ensures steady flux by fixing the hydrophilicity permanently, using a cross – linked technology.



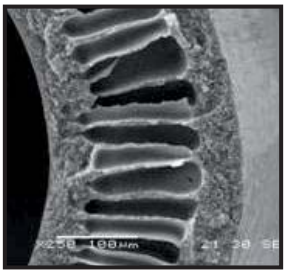
Lower Molecular Weight Cut Off
Typically OLTRE$_{CAP}$ UF membrane offers very fine filtration at a MWCO at 80,000 Dalton, which is the very high end of UF filtration grade in water treatment.

Larger Diameter Capillaries
Larger diameters of the capillaries endow better anti-fouling properties to the membranes. OLTRE$_{CAP}$ UF presents larger diameter UF capillary membranes (ID/OD=1.0/1.7mm) for better performances.

Even Arrangement of the Membranes (patented technology)
A large number of membrane capillaries are evenly distributed inside a pressure vessel by a so-called sub-grouping technology so that each membrane capillary works in very similar environments.

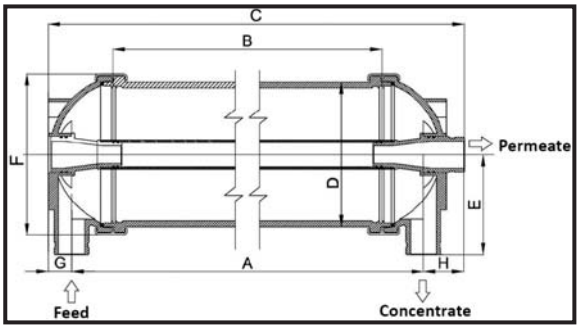
Soft Potting (patented technology)
The "roots" of the capillaries are the weakest portions in membrane modules, and may break during operation. These portions of membranes in OLTRE$_{CAP}$ UF modules are protected by a soft layer of potting material.

SEM Cross-Section Photograph



APPLICATIONS

OLTRE$_{CAP}$ - T membrane modules can be used to purify well and surface water for drinking water, to filter treated waste water for reuse, or filter surface or sea water before RO or NF systems.



MODULE DIMENSION

	A	B	C	D	E	F	G	H
OLTRE$_{CAP}$ -1030 - T – B	850mm (33.5")	750mm (29.6")	965mm (38")	Φ250mm (Φ9.8")	172mm (6.8")	Φ286mm (Φ11.3")	40mm (1.6")	75mm (3.0")
OLTRE$_{CAP}$ -1060 - T – B	1600mm (63.0")	1500mm (59.1")	1715mm (67.5")	Φ250mm (Φ9.8")	172mm (6.8")	Φ286mm (Φ11.3")	40mm (1.6")	75mm (3.0")
OLTRE$_{CAP}$ -1080 - T – B	2100mm (82.7")	2000mm (78.7")	2215mm (87.2")	Φ250mm (Φ9.8")	172mm (6.8")	Φ286mm (Φ11.3")	40mm (1.6")	75mm (3.0")

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