SINCE 2014

OSMOTECH
Membranes Pvt. Ltd.
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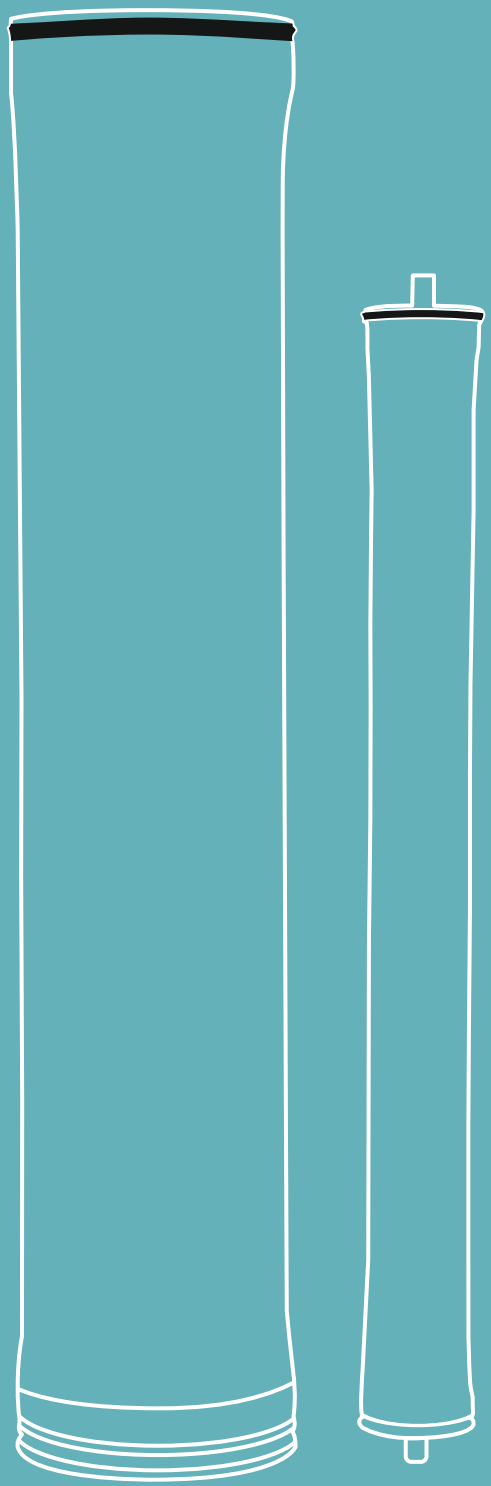

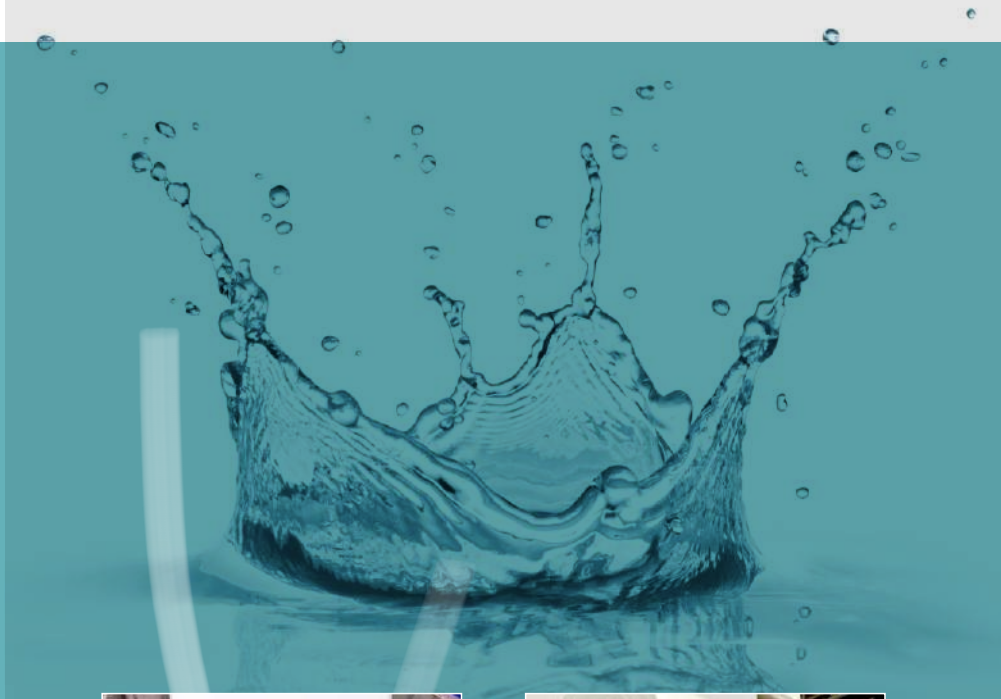

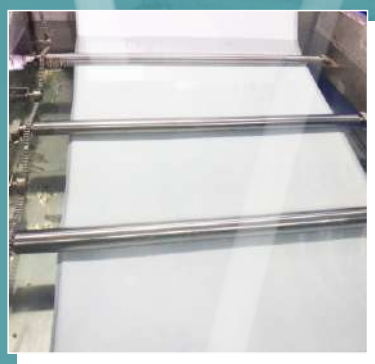

PIONEER MANUFACTURE OF

FLAT SHEET MEMBRANE & ELEMENT

MF, UF, NF, RO, SW & HOLLOW FIBER

ABOUT US

OSMOTECH
Membranes Pvt. Ltd.
a step towards purity

Osmotech is an ultimate pacesetter of advanced membranes technologies dealing with water purification challenges located at Rajkot-Gujarat-India with highly equipped industrial and infrastructure. Osmotech the committed to provide desalinated solution to the entire life cycle of purification solution. Osmotech produces th state-of the-art membranes under continuous to maintain reliable quality.

with the exclusive police of research, analysis, design and development: Osmotech proved their compatibility and quality standard in th market worldwide.

Osmotech Membranes Mark of Purity Products Helps to :

- Desalination of the Water
- Clean and Purifies the water and maintains the minerals
- Reduces the cost of maintenance.
- Increases the reliability.

Our expertise in membranes includes most advanced techniques such as Micro Filtration, Ultra Filtration, Nano Filtration and Reverses Osmosis Filtration of the filtration layers like Polyamide Membranes, Proprietary Thin Film Membranes, Polyethersulfone / Polysulfone Membranes.

MEMBRANES MANUFACTURING

We are one of the best manufacturing units located at Rajkot-India Producing high quality UF, NF, RO, Flat Sheet Membranes as well as MF Flat Sheet Membranes for various sectors like industrial, municipal, corporate, commercial, Desalination and home based drinking water solution. We deliver best quality at most lowest cost.

To provide the best possible Flat Sheet Membranes materials solution, we cautiously choose the most advanced technology and material for your specific purpose of membranes.
We research on materials, and continue to develop invented materials that exhibit exclusive functionality.

For production of these varieties of Flat Sheet Membranes occupies the fully equipped production unit, advanced machineries, developed technologies and finest raw materials under the supervision of industrial norms and excellences to accomplish the desires of most applicable Flat Sheet Membranes.


CERTIFICATE

It is certified that M/s Osmotech Membranes Pvt. Ltd. Plot No. 7-A, Survey No. 238, NH-8B, Gondal Highway, Veraval-Shapar, Dist.-Rajkot, (Gujarat)-360024, has entered into an Agreement with BARC on 3rd July 2015 for transfer of technology for production of "Preparation of Composite Polyamide Reverse Osmosis Membrane for Brackish Water (BWRO) Desalination, (WIT2MDS)" developed by BARC. This certificate is valid until 2nd July 2027, and is renewable thereafter.

M/s Osmotech Membranes Pvt. Ltd., shall be responsible for the product quality as per specifications.

Trombay, Mumbai
September 7, 2022

Head
Technology Transfer & Collaboration Division

Director
Knowledge Management Group


CERTIFICATE

It is certified that M/s. Osmotech Membranes Pvt. Ltd., Plot No. 7-A, Survey No.38, NH-8B Gondal Highway, Veraval-Shapar, Dist.-Rajkot (Gujarat) Pin-360024 has entered into an Agreement with BARC on 07th March 2014 for transfer of technology for production of "Preparation of Thin Film Composite Charged Nanofiltration Membranes" developed by BARC. This certificate is valid until 06th March 2026.

M/s Osmotech Membranes Pvt. Ltd. shall be responsible for the product quality as per specifications.

Trombay, Mumbai
February 14, 2022

Head
Technology Transfer & Collaboration Division

Director
Knowledge Management Group

Mission & Vision

OSMOTECH
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Universal access to safe drinking water with the help of BARC Technology

Development of Indigenous Water Purification System
Focus : Domestic to Community

LIST OF BARC TECHNOLOGY

Charged Nanofiltration Membranes

Polyamide Reverse Osmosis (RO) Membrane for Brackish Water Desalination

Sea Water Reverse Osmosis Membrane for Sea Water Desalination

Nanocomposite Ultrafiltration Membrane Based domestic water purifier

News & Events

Water - The elixir of life

BARC water technologies secure the needs of Border Security Force

Chemical Engineering Group & SIRD Editorial Team
Bhabha Atomic Research Centre, Trombay - 400 085, India

India's premier organization for research and development activities in nuclear energy sector, Bhabha Atomic Research Centre (BARC), continues to expand its pan-India footprint through deployment of new technologies that serve wider societal benefit. The technology for treating seawater to supply clean drinking water, developed in BARC, has now been deployed at Creek Border Outposts, BSF Bhuj, Gujarat.

The two 1000 litres per hour capacity desalination plants - commissioned at BSF Bhuj (at Lakkinala and Lakhpatwari) recently - would now ensure proper supply of clean drinking water to meet the day-to-day requirements of security forces stationed near the international border. The desalination plants – developed based on BARC supplied technology knowhow – were manufactured by a Rajkot-based firm Osmotech Membranes Pvt. Ltd. The membrane based technology incorporated in these plants is equipped to reject high levels of dissolved salts present in seawater to provide clean and safe drinking water.

The facility was formally inaugurated on 1 September, 2023 by Shri Ravi Gandhi, Inspector General, Gujarat Frontier BSF; Shri K. T. Shenoy, Director, Chemical Engineering Group, BARC and Shri A. K. Adak, Head, Desalination & Membrane Technology Division, BARC in the presence of Shri Anant Singh, Deputy Inspector General, BSF Bhuj; Shri Sanjeev Kumar, Commandant, 18 BN, BSF Bhuj; Shri Shreyas Vagadia, Director, M/s. Osmotech Membranes Pvt. Ltd.

Two 1000 litres per hour capacity desalination plants (equipped with BARC technological knowhow), now installed in one of the remotest locations of the country, would ensure proper supply of clean drinking water to serve the needs of India's security forces

BARC Photo

BARC Photo

Top: Senior personnel of BARC Trombay and BSF preside over a function organized to mark the official commissioning of desalination plant.

Bottom: Inside view of desalination plant commissioned at BSF Bhuj.

REVERSE OSMOSIS

OSMOTECH Membranes Pvt. Ltd.
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Reverse Osmosis removes up to 99% if total dissolved solids. OSMOTECH RO membranes deliver hygienic drinking water by reducing concentration of Arsenic, Barium, Cadmium, Chromium, Chromium (Trivalent), Copper, Cysts, Turbidity, Fluoride, Lead, Radium 226/228, Selenium, and TDS.

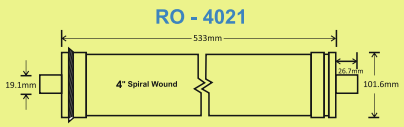
RO involves sorting out water from a solution of dissolved solids by forcing water through a semi-permeable membranes. As pressure is applied t the solution, usually by a pump, water and other molecules with low molecular weights (less than about 200 grams per mole) pass through micro pores in membranes. Larger molecules are hold by the membranes.

Most RO technology uses a cross flow process to allow the membranes to continually clean itself. As some of the fluid passed through the membranes the rest continues downstream, sweeping the rejected species away from the membranes.

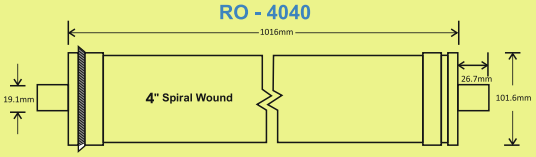
MEMBRANE ELEMENTS PARAMETER SHEET

Type	Model	Stabilized Salt Rejection (%)	Average Permeate Flow (GPD)	Working Pressures & Application Fields	Testing Condition		
					Pressure Psi (Mpa)	Solution Conncentr, NaCl (ppm)	Recovery RATE (%)
Industrial Brackish Water Ro Membrane Series	BW-8040	99.3	10000	Working Under Ultra Low Pressure. Applicable to feedwaters with family low salinity	150 (1.03)	1500	15
	BW-4040	99.3	2500				
	BW-4021	99.3	1000				
Industrial Low Pressure Ro Membrane Series	LP-8040	98.5	10000	Working Under Ultra Low Pressure. Applicable to feedwaters with family low salinity	150 (0.76)	1500	15
	LP-4040	98.5	2500				
	LP-4021	98.5	1000				

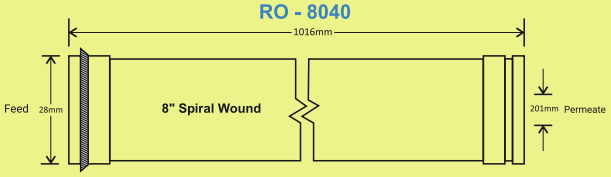
RO - 4021



RO - 4040



RO - 8040



Testing Conditions :

Testing Pressure	150psi (1.03MPa)
Temperature of Testing Solution	25c
Concentration of Testing Solution	1500ppm
PH value of Testing Solution	7.5
Recovery Rate	15%

Operation Limits and Conditions :

Max. Working Pressure	600 psi (4.1Mpa)
Max. Feedwater Flow	75gpm (8040) 16gpm (4040/4021)
Max. Feedwater Temperature	45C
Max. Feedwater SDI	5
Max. Pressure Decline	115psi(0.1MPa)
Residual Chlorine	<0.1ppm
PH range of Feedwater	3.0 - 10.0

SEA WATER (SW) RO ELEMENT

OSMOTECH
Membranes Pvt. Ltd.
a step towards purity

Sea Water Desalination Membrane Series

OSMOTECH sea water desalination membrane is good in desalinating sea water and brackish water. it can effectively remove salt in water, with stable performance and low maintenance cost. It is used in sea water desalination, brackish, water desalination and other industries

SPECIFICATION AND MAIN PERFORMANCE OF MEMBRANE ELEMENTS

Model	Average Rejection	Minimum Rejection	Average Permeated Flow (GPD)	Active Membrane Area ft^2 (M^2)
SW-8040	99.8	99.6	9000	398 (37)
SW-4040	99.8	99.6	1800	81 (7.5)
SW-4021	99.8	99.6	800	36(3.3)

TESTING CONDITIONS :

Testing Pressure	800psi (5.5MPa)
Temperature of Testing Solution	25c
Concentration of Testing Solution (nacl)	32800PPM
pH value of Testing Solution	7.5
Recovery Rate	8%

OPERATION LIMITS AND CONDITION :

Max. Working Pressure	1000psi (8.3Mpa)
Max. Feedwater Temperature	45C
Max. Feedwater SDI	<5
Max. Pressure Drop A Single Element	15psi(0.1Mpa)
Residual Chlorine Decline	<0.1ppm
PH range of Feedwater	2-11
Burning Chemical eleaning	1-13

NANO FILTRATION

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Membranes Pvt. Ltd.
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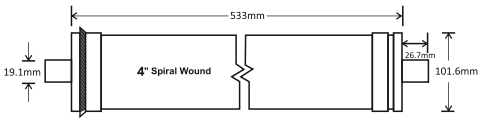
NANO FILTRATION ELEMENT (INDUSTRIAL)

Model	Membrane Material	Effective Membrane Area	Permeate Flow Rate	Average Cacl2 Rejection	Average MgSo4 Rejection	Average NaCl Rejection
NF4021-40	Polyamide (PA)-PES	35 ft^2	1,000 GPD	45 - 70 %	97.5 % - 98.5 %	20 - 40%
NF4040-40	Polyamide (PA)-PES	85 ft^2	2,500 GPD	45 - 70 %	97.5 % - 98.5 %	20 - 40%
NF8040-40	Polyamide (PA)-PES	400 ft^2	10,000 GPD	45 - 70 %	97.5 % - 98.5 %	20 - 40%
NF4021-70	Polyamide (PA)-PES	35 ft^2	1,000 GPD	45 - 70 %	98.0 % - 98.5 %	40 - 70 %
NF4040-70	Polyamide (PA)-PES	85 ft^2	2,500 GPD	45 - 70 %	98.0 % - 98.5 %	40 - 70 %
NF8040-70	Polyamide (PA)-PES	400 ft^2	10,000 GPD	45 - 70 %	98.0 % - 98.5 %	40 - 70 %
NF4021-90	Polyamide (PA)-PES	35 ft^2	800 GPD	92 - 98 %	98.0 % - 98.5 %	85 - 95 %
NF4040-90	Polyamide (PA)-PES	85 ft^2	2,000 GPD	92 - 98 %	98.0 % - 98.5 %	85 - 95 %
NF8040-90	Polyamide (PA)-PES	400 ft^2	8,500 GPD	92 - 98 %	98.0 % - 98.5 %	85 - 95 %

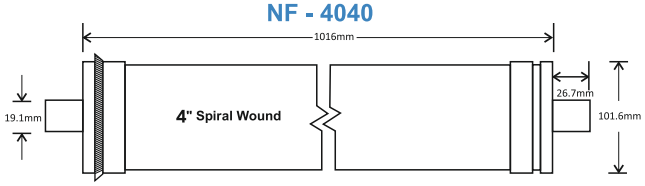
OPERATION LIMITS AND CONDITION :

Max. Pressure Drop / Element	15 psi
Max. Pressure Drop / 240" Vessel	60 psi
Max. Operating Pressure	600 psi
Max. Feed Flow Rate	280 Lpm
Min. Concentrate Flow Rate	60 Lpm
Max. Operating Temperature	45 ^{o}C
Operating pH Range	2.0-11.0
CIP pH Range	1.0-13.0
Max. Turbidity	1.0 NTU
Max. SDI (15 Min)	5.0
Max. Chlorine Concentration	<0.1 mg/L

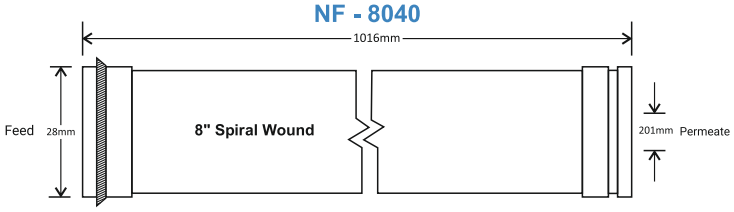
NF - 4021



NF - 4040



NF - 8040



1. Each membrane element supplied with one brine seal, one interconnect or (coupler) and four O-rings.
2. All NF8040 elementsfit nominal 8.0inch (201mm) I.D. pressure vessels.

Membrane Type : Thin-Film Composite
Element configuration : Spiral-Wound, FRP Wrapping

Industrial Ultra filtration Sprial Wound Element

(Widest Range of UF MWCO's Available)

OSMOTECH Membranes Pvt. Ltd.
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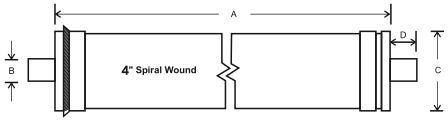
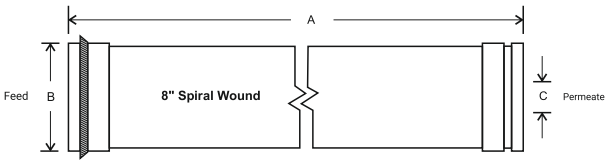
PRODUCT DESCRIPTION

Model	Membrane Material	MWCO	Application
UFPE10	UF PES	10,000 Da	• Food and Dairy Process applications to industrial water purification • Enzyme Concentration • Gelatin Concentration • Protein Concentration
UFPE20	UF PES	20,000 Da	• Skim Milk protein concentrate & isolate production • Beverage clarification • Protein Separation • Industrial water purification
UFPE30	UF PES	30,000 Da	• Skim Milk protein concentrate & isolate production • Beverage clarification • Protein Separation
UFPE50	UF PES	50,000 Da	• Protein Separation • Beverage Clarification • Water and Process application
UFPE75	UF PES	75,000 Da	• Water Purification • Extract Purification
UFPE100	UF PES	1,00,000 Da	• Corn Wet Miling • Treatment of Fermentation Broth • Sugar & Sweetener Clarification

UF - 4040 / 4021



UF - 8040



DIMENSIONS

Model	Area (ft2)	A MM	B MM	C MM	D MM	Weight KG
8040	400	1016	28	201	-	15
4040	85	1016	19.1	101.6	26.7	3.6
4021	35	533	19.1	101.6	-	2.5

RECOMMENDED OPERATING PARAMETERS

Max Inlet Pressure	116 PSI
Min Outlet Pressure	10 PSI
Max Differential Pressure Per Elements	18 PSI
Max Permeate Back pressure	5 PSI
Max. Operating Temperature	5 C
Operating PH Range	2.0 - 11.0
Max. Peroxide Concentration	<3 ppm
Max. Chlorine Concentration	<0.1 mg/L

NANO FILTRATION

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APPLICATIONS OF NANO FILTRATION

- Removes pesticides from groundwater.
- Removes heavy metals from wastewater.
- Wastewater recycling in laundries.
- Water softening. ■ Nitrates removal.

TEST CONDITION

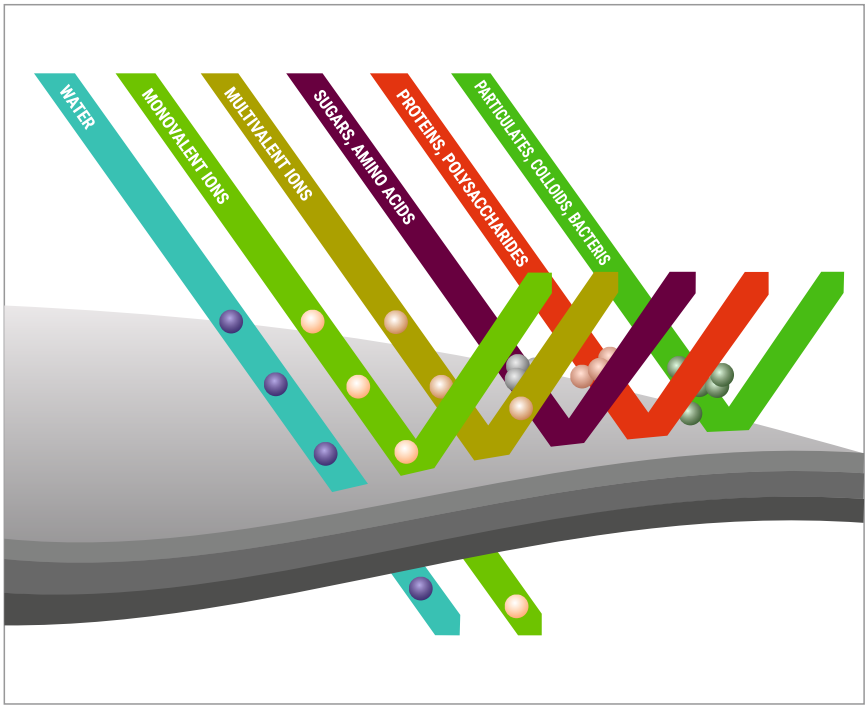
- Temperature : 24-28 °c
- Concentration of Solution : 1000 ppm
- Ph Value 7-8
- Operating Pressure : 110 PSI

NANO FILTRATION ELEMENT (DOMESTIC)

Model	Active Membrane Area m2	Operating Pressure bar	Permeate Flow Rate GPD	Rejection Rate %	
				$Mg\ So_4$	Nacl
NF(20)2012-100	0.37	10	150	90.0 - 95%	20 - 30%
NF (40) 2012-100	0.37	10	150	98.5 - 99%	40 - 50%
NF(60) 2012-100	0.37	10	130	98.5 - 99%	60 - 70%
NF(80) 2012-100	0.37	10	130	98.5 - 99%	80 - 85%
NF 2012-200	0.93	10	200	98.5 - 99%	40 - 70%
NF 3012-300	1.30	10	300	98.5 - 99%	40 - 70%

Today Nano filtration is majorly functional in drinking water refinement process steps, such as water softening, discolouring and micro pollutant removal. While for industrial processes Nano filtration is functional for the removal coloring agents.

Nano Filtration is a pressure associated procedure, during which separation takes place, based on molecule size. The technique is chiefly applied of the removal of organic solutes, such as micro pollutants and multivalent ions.



ULTRA FILTRATION

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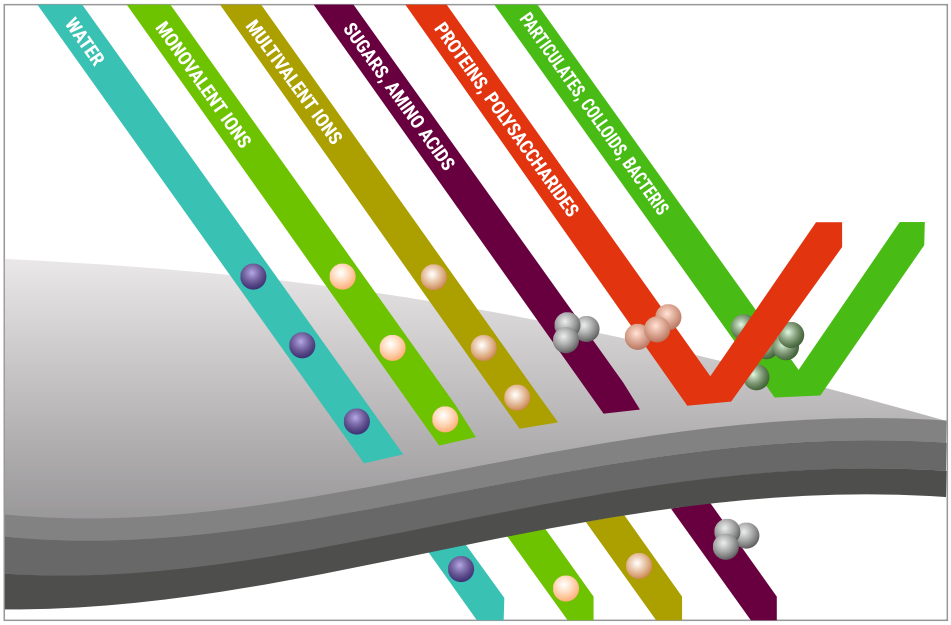
Ultra Filtration technology uses a membranes wall to remove particles as small as 0.01 microns, including bacteria, viruses and colloids, impurities meeting increasingly harsh water quality standards around the world providing purified water.

Ultra Filtration(UF) is a pressure-driven purification technology in which water and low molecular weight material pass through a membranes while particle, colloids and macro molecules are rejected, yet does not remove ions and small molecules. Flow through the semi-permeable membranes is achieved by applying a pressure gradient between the outer and inner walls of the membranes structure.
UF membranes typically have pore sizes in the range of 0.0.1-0.05 um which contributes to a high removal capability of bacteria, viruses, colloids and impurity thereby producing highly purified water. UF membranes basically have a service life or three to seven years or longer, compared to reverse osmosis membranes. They are commercially available in hollow fiber, tubular, plate and frame, and spiral wound configurations.

APPLICATIONS OF ULTRA FILTRATION

- Filtration of Sewage from paper pulp mill.
- Cheese manufacture, see ultra filtered milk.
- Removal of pathogens from milk.
- Process and waste water treatment.
- Fruit juice concentration and clarification.
- Dialysis and other blood treatments.
- Desalting and solvent-echange of proteins.



INDUSTRIAL MICRO FILTRATION SPRIAL - WOUND ELEMENT

(PES 0.1 um to 0.5 um) (Widest Range of MF MWCO's available)

OSMOTECH Membranes Pvt. Ltd.
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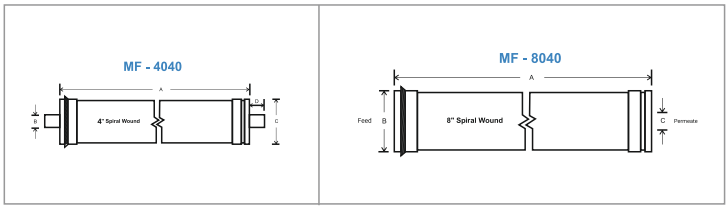
PRODUCT DESCRIPTION

- Membrane Material : Polyethersulfone (PES)
- Membrane Type : 0.1 µ - Spiral wound with FRP



APPLICATION

- Concentrate Large Organic Solutes.
- Remove Macromolecules
- Separating large suspended solids such as Fat, particulars, colloids and bacteria.

SPACER SIZE AVAILABLE

- 28mil
- 34mil
- 46mil

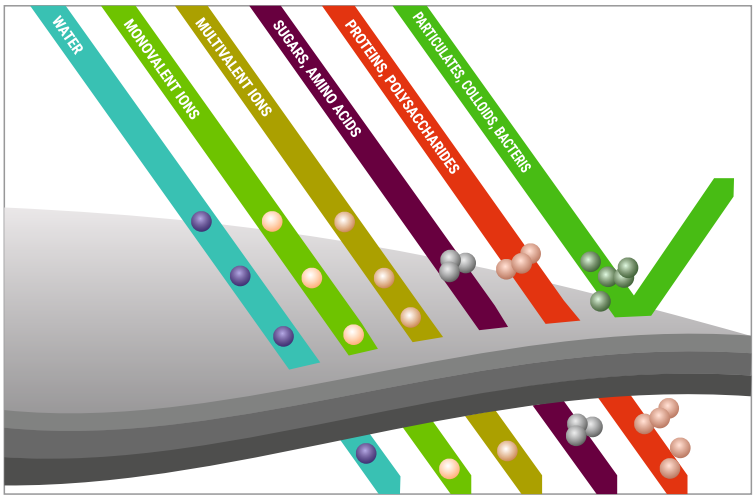
DIMENSIONS

Model	Area (ft2)	A MM	B MM	C MM	D MM	Weight KG
4021	34	533	19.1	101.6	-	2.5
4040	56	1016	19.1	101.6	26.7	3.6
8040	400	1016	28	201	-	15

RECOMMENDED OPERATING PARAMETERS

Max Inlet Pressure	116 PSI
Min Outlet Pressure	10 PSI
Max Differential Pressure Per Elements	18 PSI
Max Permeate Back pressure	5 PSI
Max. Operating Temperature	5 C
Operating PH Range	2.0 - 11.0
Max. Peroxide Concentration	<3 ppm
Max. Chlorine Concentration	<0.1 mg/L

Micro Filtration uses membranes with pore size 0.1-10um. Micro Filtration membranes remove all bacteria. Only part of the viral contamination is caught up in the process. This is because viruses can attach themselves to bacterial bio film (group of microorganisms in which cells stick to each other on a surface). Micro filtration can be implemented in many different water treatment processes when particles with a diameter greater than 0.1 mm need to be removed from a liquid.



APPLICATION OF MICRO FILTRATION

- Water Treatment
- Petroleum Refining
- Sterilization
- Dairy Processing To Remove
- Bacteria From Milk.

Our Products & Services

OSMOTECH
Membranes Pvt. Ltd.
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- All Types of Membrane (PS, PES, PVDF)
  MF, UF, NF, BWRO, SWRO, Electrolytic (E-Coat)

- Hollow Fibre Membrane
  Water Treatment
  Gas Separation
  Biological Drugs

- Containerized Water Treatment System

- Drinking Water Treatment Plant

- Desalination Plant

- Nanofiltration Plant

- Process Seperation & Purification

Our Valuable Clients

Achivements

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WETEX - Dr. Aman Puri
Consulate General of Dubai

Dr. Ajit Kumar Mohanty (Director - BARC)
IAS Videh Khare (Mission Director - GSEM)

BARC TEAM

Sh. K.N. Vyas
(Sec. & Chairman of DAE)

BARC TEAM

Sh. Ravi Gandhi
(IG BSF Gujarat)

Projects Executed

OSMOTECH
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Container Based Desalination Plant
BSF - BHUJ

UF Drinking Water Dispenser
Railways - Mumbai

30,000 LPH Drinking Water Plant
Kenya

OSMOTECH
Membranes Pvt. Ltd.
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DBS CERT

CERTIFICATE

This is to Certify that

Quality Management System

of

OSMOTECH MEMBRANES PVT. LTD.

SURVEY NO. 238, PLOT NO. - 7-A, NEAR. ANAND ENTERPRISES, N.H. - 8- B, GONDAL ROAD, VERAVAL - SHAPAR, RAJKOT, GUJARAT- 360024, INDIA

has been independently assessed by DBS
and is compliant with the requirement of:

ISO 9001:2015

For the following scope of activities:

MANUFACTURING OF MF, UF, NF, RO FLATSHEET & ELEMENTS

Certificate Number: Q-205021111602

Date of Certification:	**16th November 2021**
1st Surveillance Audit Due:	**15th November 2022**
2nd Surveillance Audit Due:	**15th November 2023**
Certificate Expiry:	**15th November 2024**

This Certificate is property of DBS Certifications and remains valid subject to satisfactory surveillance audits

Head of Certification

IAS ACCREDITED MS C 0-157

IAF

The certificate remains the property of DBS Certifications Private Limited, to whom it must be returned upon request.

DBS CERTIFICATIONS PVT. LTD.
142, IInd Floor, Arter Enclave, Paschim Vihar, Delhi-110063, (INDIA) info@dbscertification.com, www.dbscertification.com
ACCREDITED BY :
International Accreditation Service (IAS) 3060, Saturn Street Suite 106, Brea, Ca 92821-1732, United States of America

UKcert
Certification & Inspection

Certificate of Compliance

CE

We hereby declare that the technical files of all the items in each product group complies with the requirements of the Council Directive on The Low Voltage Directive 2014/35/EU (LVD)

Certificate No : - CE-1899

Manufacturer : **OSMOTECH MEMBRANES PVT. LTD.**

Address : **SURVEY NO. 238, PLOT NO.- 7-A, NEAR. ANAND ENTERPRISES, N.H.- 8- B, GONDAL ROAD, VERAVAL - SHAPAR, RAJKOT, GUJARAT- 360024, INDIA**

Products : **MF, UF, NF, RO FLATSHEET & ELEMENTS**

Complies with the requirements applicable to it

The quality system file has been assessed, approved and is subject to continuous surveillance according to the Council Directive on The Low Voltage Directive 2014/35/EU (LVD).

This certificate is issued under the following conditions:

1. It applies only to the quality system maintained in the manufacture of above referenced models and it does not substitute the design or type-examination procedures, if requested.
2. The certificate remains valid until the manufacturing conditions or the quality systems are changed.
3. The certificate validity is conditioned by positive results or surveillance audits.

The CE mark as shown above can be used, under the responsibility of the manufacturer, after completion of an EC Declaration of conformity and compliance with all relevant EC Directives. The statement is based on a single evaluation of test report of one sample of above mentioned product. It does not imply an assessment of the whole production.

Validity of this certificate can be verified at www.ukcertifications.org.uk/verify

Date of Certification	16th November 2021
1st Surveillance Audit Due	15th November 2022
2nd Surveillance Audit Due	15th November 2023
Certificate Expiry (subject to the company maintaining its system to the required standard)	15th November 2024

Authorised Signatory

This certificate is the property of U.K. Certification & Inspection Limited and shall be returned immediately on request.
71-75 Shelton Street, Covent Garden, London, WC2H 9JQ, United Kingdom
Website:- www.ukcertifications.org.uk, email - info@ukcertifications.org.uk
Company No. 11637951

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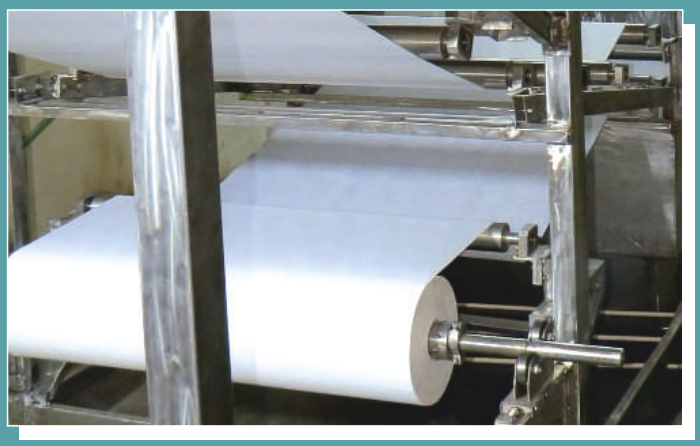

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