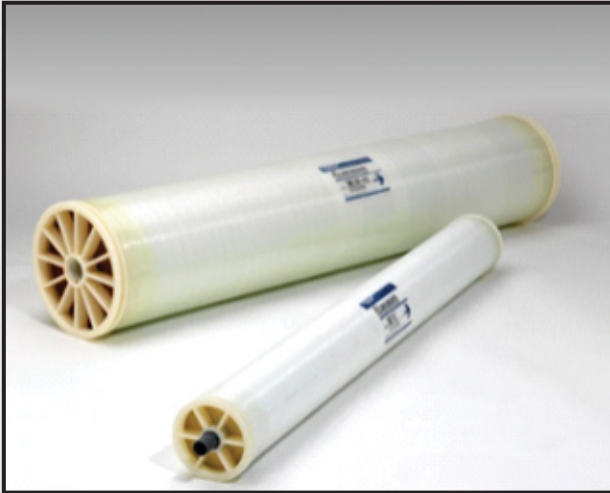




Ultratreatment Membranes

REVERSE OSMOSIS MEMBRANE



Dayliff MRO Reverse Osmosis Membranes are the key components in reverse osmosis water treatment plants used for removal of dissolved salts in low turbidity waters. They are of ultra low-pressure design that provides high energy efficiency giving reduced operating costs together with high salt rejection performance and a high quality specification for operating durability and long life. Two basic specifications are available for brackish and high salt level feed waters in both 4" and 8" sizes to accommodate the majority of RO applications.

MRO Membranes output is split between treated Permeate flow and high TDS Reject flow. Recovery rates (% Permeate to feed flow) depends on water quality and site operating conditions though is typically between 50-70% for brackish water and 20-50% for Sea Water. Membranes periodically require flushing and anti-scalant dosing.

OPERATING PARAMETERS

- Maximum Feed Water SDI:** <5
- Maximum Feed Water Temperature:** 45°C
- Maximum Membrane Pressure Drop:** 1 Bar
- Feed Water Free Chlorine:** Zero
- Feed Water pH:** 3-10

EQUIPMENT SPECIFICATION

	Brackish Water		High Salt Water	
	MRO-4040HF	MRO-8040HF	MRO-4040HR	MRO-8040HR
Permeate Flow (m ³ /hr)	0.25	1	0.1	0.5
Feed Flow (m ³ /hr)	0.4	1.8	0.3	1.4
Stable Rejection Rate (%)	99.5		99.8	
Recovery Rate (%)	50-70		20-50	
Max. Feed Water TDS (ppm)	1,500		32,000	
Operating Pressure Range (Bar)	3-8		18-35	
Dia Size mm (inches)	99 (3.9)	201 (7.9)	99 (3.9)	201 (7.9)
Length mm (inches)	1016 (40)			
Weight (kg)	5	15	5	15

*Indicative flow, actual flow will depend on site conditions

ULTRAFILTRATION MEMBRANES



Dayliff MUF Ultra Filtration membranes are the filtering medium in ultrafiltration treatment plants for the removal of small size suspended solids and colloidal pores in raw waters including macromolecular pollutants, bacteria, viruses and microorganisms. The membranes are designed to be installed in standard pressure vessels that provide ease of operation and maintenance.

The special membrane design is of hollow fiber type structure that provides enhanced water quality, high backwash flow for greater flushing of trapped pollutants and tolerance to high levels of chlorine and pH levels. These features provide enhanced quality water with extended life.

MUF Membranes operate at full input flow output though require periodic backwashing, frequency depending on site conditions, though every hour is usual.

MUF membranes are designed for installation in standard pressure vessels. IUF membranes are for larger capacities plants and are provided with integral membrane housing.

OPERATING PARAMETERS

- Feed Water Quality:** Turbidity <0.2, SDI <3
- Operating Pressure:** 0.2-2Bar
- Operating pH Range:** 2-11
- Operating Temperature Range:** 5-45°C
- Backwash Frequency:** Every 20-60mins
- Maximum Trans Membrane Pressure (TMP):** 2Bar

EQUIPMENT SPECIFICATIONS

Parameter	MUF -4	IUF-51	IUF-77
Flow Rate (m ³ /h)	0.35	2	4
Maximum Feed Pressure (Bar)	3	6.25	
Membrane Area (m ²)	4	51	77
Continuous Operation Chlorine Tolerance (ppm)	100	200	
Length (mm)	1016	1952	2452
Diameter (mm)	99	225	
Dry Weight (kg)	4	53	66