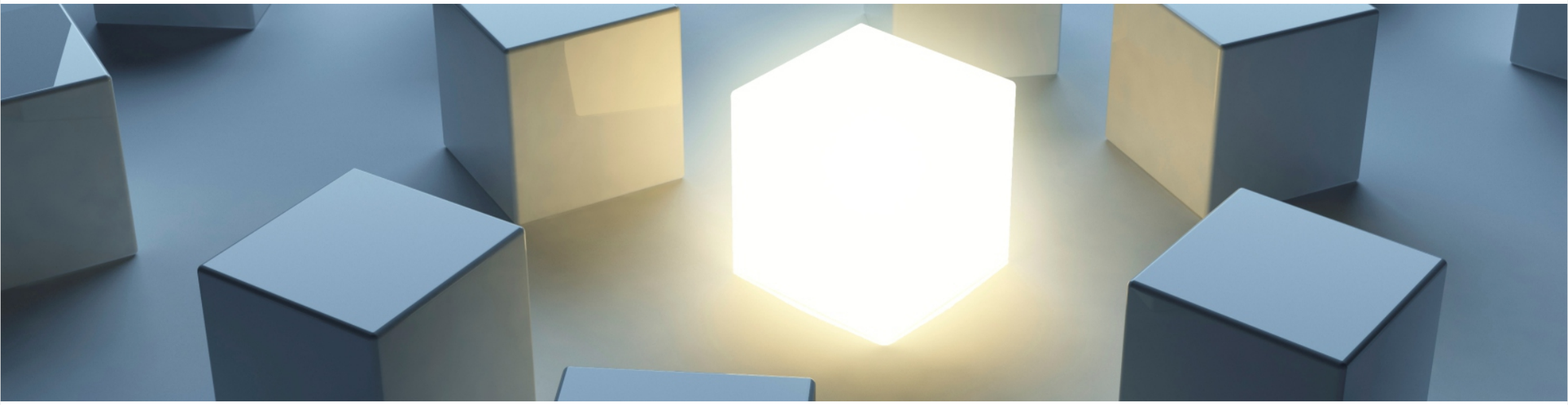
AQUABRANE

WATER TECHNOLOGIES PVT. LTD.

redefining ultrafiltration

ABOUT US

A CLASS APART QUALITY & TECHNOLOGY



Aquabrane Water Technologies Pvt. Ltd, a group company of Aquabrane Holdings Pte. Ltd, Singapore was incorporated with an investment from private equity investor & an Indian partner with a vision to promote cutting edge Ultrafiltration Technologies. Aquabrane is specialized in developing, manufacturing & marketing of best in class Ultrafiltration Membranes for water & waste water treatment. Aquabrane has made substantial investment in research & development and manufacturing plant in Maharashtra, India.

Aquabrane also deals in Ceraflo®, a proprietary multi-channel ceramic membrane plates designed to remove suspended particulates, colloidal material, bacteria and high molecular weight material ranging from 1.0 micron (microfiltration) to 0.01

VISION

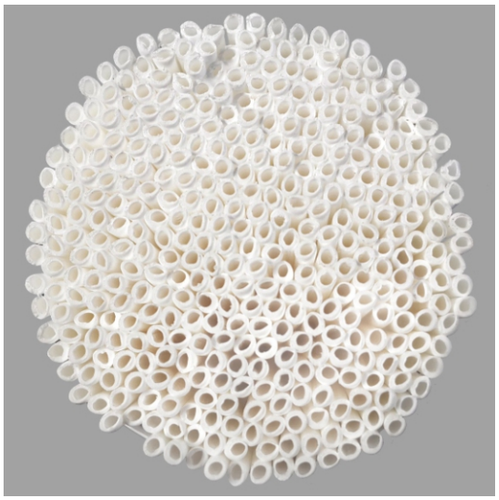
- Be a globally renowned Ultrafiltration Membrane manufacturer, offering cutting edge Ultrafiltration technologies for water & waste water treatment.
- Be the most preferred supplier of Ultrafiltration Membranes.
- Provide simple and viable Ultrafiltration solutions.
- Maximize the returns to investors & network of partners while being mindful of our overall responsibilities.

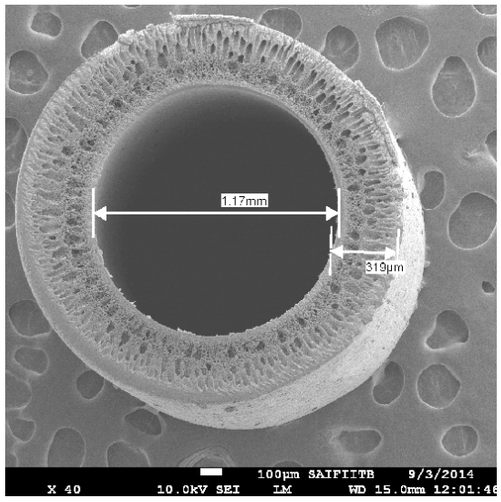
MISSION

We will accomplish our vision through complete customer satisfaction by providing quality products & services on time and to budget.

We will continue to invest in our human resource, research & development and manufacturing capabilities while incorporating

S Series Ultrafiltration Membrane Modules





Aquabrane uses the dry jet wet spinning phase inversion technology for manufacturing the hollow fiber Ultrafiltration membranes. The membranes are manufactured using highest quality polymers & chemicals under continuous supervision of well experienced scientific and technical team. Continuous R&D is being carried out to further optimize the membrane performance.

MEMBRANE DEVELOPEMENT

Aquabrane has developed a consistent high quality Out-to-In hollow fiber Ultrafiltration Membrane with extremely low Transmembrane Pressure (TMP)

The membranes are tested by leading government & private institutes for its consistency, specification & uniformity of pore size distribution

Aquabrane has long-term membrane research partnerships with several universities and research institutes

Periodically the SEMs (Scanning Electron Microscope) images of the membranes are sent to various institutes for Quality audit-check

QUALITY COMES WITH CONSISTENCY

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PRODUCT DATA SHEET

	Model	S 860	S 830	S 430
Membrane Specification	Membrane Material	Modified PES		
	Surface Properties	Hydrophilic		
	Fiber ID	1.2 mm		
	Fiber OD	2 mm		
	Wall Thickness	0.4 mm		
	Membrane Area (m^2)	40	20	6
	Pore Size	0.03 μm		
Module Characteristics	Membrane Material	Modified PES		
	Housing Material	UPVC		
	End Cap Material	Glass Filled ABS		UPVC
	Nozzle Size	1.5"NPT		0.5/0.75"NPT
	Potting Material	Aquabrane Proprietory Potting Compound		
	Weight (Empty / water filled) - Kgs	35/40	23/27	6/7.5
Operating Parameters	Flow Path	Outside - In		
	Operating Mode	Dead End or Cross Flow		
	Clean Water Flux at 20 Deg. Cel.	125 LMH		
	Maximum Feed Pressure	1.5 bar (22 psi)		
	Transmembrane Pressure (TMP)	0.55 - 0.83 bar (8 - 12 psi)		
	pH - Continuous Operation	3 - 9		
	pH - Cleaning	2 - 11		
	Temperature	0 - 45°C		
	Chlorine Tolerance	100000 ppm hrs		
	Maximum Feed TSS	100 mg/L		
	Maximum Feed Turbidity	150 NTU		
	Maximum Total Oil & Grease	< 1 PPM		
	Maximum NaOCl - Continuous	20 PPM		
	Backwash Flux Range	Greater of 1.5 times Constant Flux or 3m3/hr	Greater of 1.5 times Constant Flux or 1.5 m3/hr	Greater of 1.5 times Constant Flux or 0.5 m3/hr
	Backwash Feed Pressure	1 - 1.4 bar (14 - 20 psi)		
	Backwash Frequency & duration	Depending upon feed water quality, backwash to be carried out with 20 ppm NaOCl at an interval of 20 - 60 mins or 20% Increase in TMP, whichever is earlier for 30 - 60 seconds. However 1 backwash with 200 ppm NaOCl must be carried out once a day.		
	Forward Flush	60 Sec forward flush is recommended once in 12 hours for fresh water & once In 6 hours for waste water & sea water.		
	Air Scouring - Pressure	0.55 - 1 bar (8 - 15 psi)		
	Air Scouring - Volume	7 Nm3/hr	3.6 Nm3/hr	1.75 Nm3/hr
	Air Scouring - Duration	30 Secs + Backwash time		
	Maximum NaOCl during Cleaning	1000 ppm		

MODULE PROPERTIES	MODEL		
	S860	S830	S430
L(mm)	1667	1030	918
L1(mm)	1428	791	760
L2(mm)	1271	635	640
L3(mm)	156	156	120
D(mm)	219	219	114
P1(∅inch)	1 1/2" MNPT	1 1/2" MNPT	3/4" MNPT
P2(∅inch)	1 1/2" MNPT	1 1/2" MNPT	3/4" MNPT
P3(∅inch)	1 1/2" FNPT	1 1/2" FNPT	3/4" MNPT
P4(∅inch)	1 1/2" MNPT	1 1/2" MNPT	3/4" MNPT
P5(∅inch)	1 1/2" FNPT	1 1/2" FNPT	3/4" MNPT
W1(mm)	150	150	82
W2(mm)	282	282	146
W3(mm)	75	75	NA

PORT CONFIGURATION:

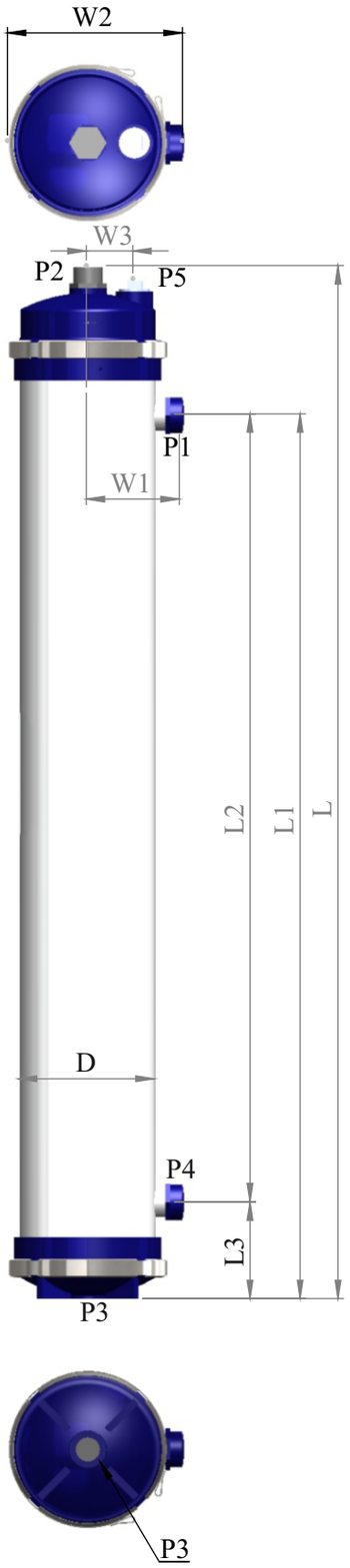
P1 : FEED INLET / CIP & BACKWASH OUTLET

P2 : AIR INLET

P3 : FILTRATE / BACKWASH

P4 : CIP INLET / CONCENTRATE

P5 : FILTRATE OUTLET (OPTIONAL)



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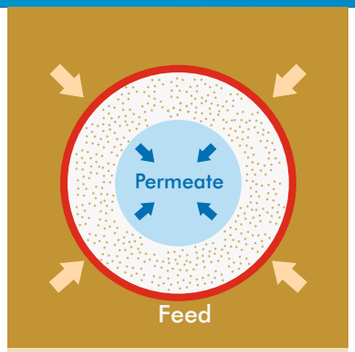
SALIENT FEATURES

- Pore diameter of 0.03 μm effectively removes suspended solids, colloids, bacteria & viruses and provides consistent treated water quality from various feed water sources.
- Modified PES Chemistry with permanent Hydrophilicity. Multiple ports options offers simple, automated operation with flexibility in service and maintenance.
- Dead end / cross flow operation depending upon feed water quality.
- Lower operating cost due to Low Transmembrane Pressure (TMP) (4 – 8 psi)
- Low Transmembrane Pressure (TMP) ensures lesser particle penetration into the surface pores, enabling easier removal during backwash.
- High Resistance to Fouling & Oxidants.
- No aggressive Chemical Enhanced Backwash.
- Environmental friendly due to low CIP requirements and hence low generation of chemical waste.
- Maintenance friendly with simple & easy to follow fiber repairing procedures.
- Additional port on feed side helps to optimally design the operational sequence & duration while handling feed with high TSS.
- No complicated operating & cleaning procedures.
- Easy to follow storage guidelines and best in class warranties & site support.
- High temperature and Oil & Grease resistant

TYPICAL APPLICATIONS

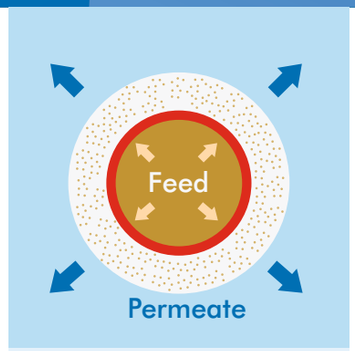
- Drinking water
- Surface & well water purification
- Pretreatment to RO/NF & SWRO Plants
- Industrial process water treatment
- Tertiary treatment in sewage treatment plants
- Industrial & municipal waste water recycling

Advantages of Outside-In Flow as compared to Inside-Out flow configuration



OUTSIDE-IN

- Solids remain outside of lumen.
- Cleaning is easier & less frequent.
- Allows uniform flow distribution and higher solids loading.
- More tolerant towards particulate fouling.
- Foulant removal is more effective during back wash with air scouring & CIPs.
- Prevents irreversible chocking of Membrane Fibers during surges in feed water quality.



INSIDE-OUT

- Fine prescreening is required to prevent the solids from entering the lumen.
- Cleaning is aggressive & more frequent.
- Higher solids loading may cause fiber blockage.
- Less tolerant towards particulate fouling.
- Aggressive CEBs & CIPs may be needed for effective removal of foulants.
- Inside-Out membrane may inevitably foul.

QUALITY ASSURANCE

TYPICAL TREATED WATER QUALITY		
Turbidity	<	0.1 NTU, 90% of the time
SDI	<	3, 90% of the time
TSS	<	1 ppm
Bacteria, Giardia & Cryptosporidium	>	5 log removal
Viruses	>	3 log removal

- Manufacturing the Ultrafiltration Membrane Modules at such a high quality level without a properly through- out quality assurance process is unimaginable.
- There are series of quality checks of fibers prior to module assembly.
- Each module is wet tested for its flow & permeate quality prior to dispatch
- Each module has the unique serial number to ensure complete traceability upto the raw material stage.

QUALITY POLICY

- Aquabrane Water Technologies Pvt. Ltd. is committed to serve it's customers and meet their needs and expectations in the design, manufacture, inspection, supply and support of hollow fiber ultrafiltration membranes for water and waste water treatmentsystems.

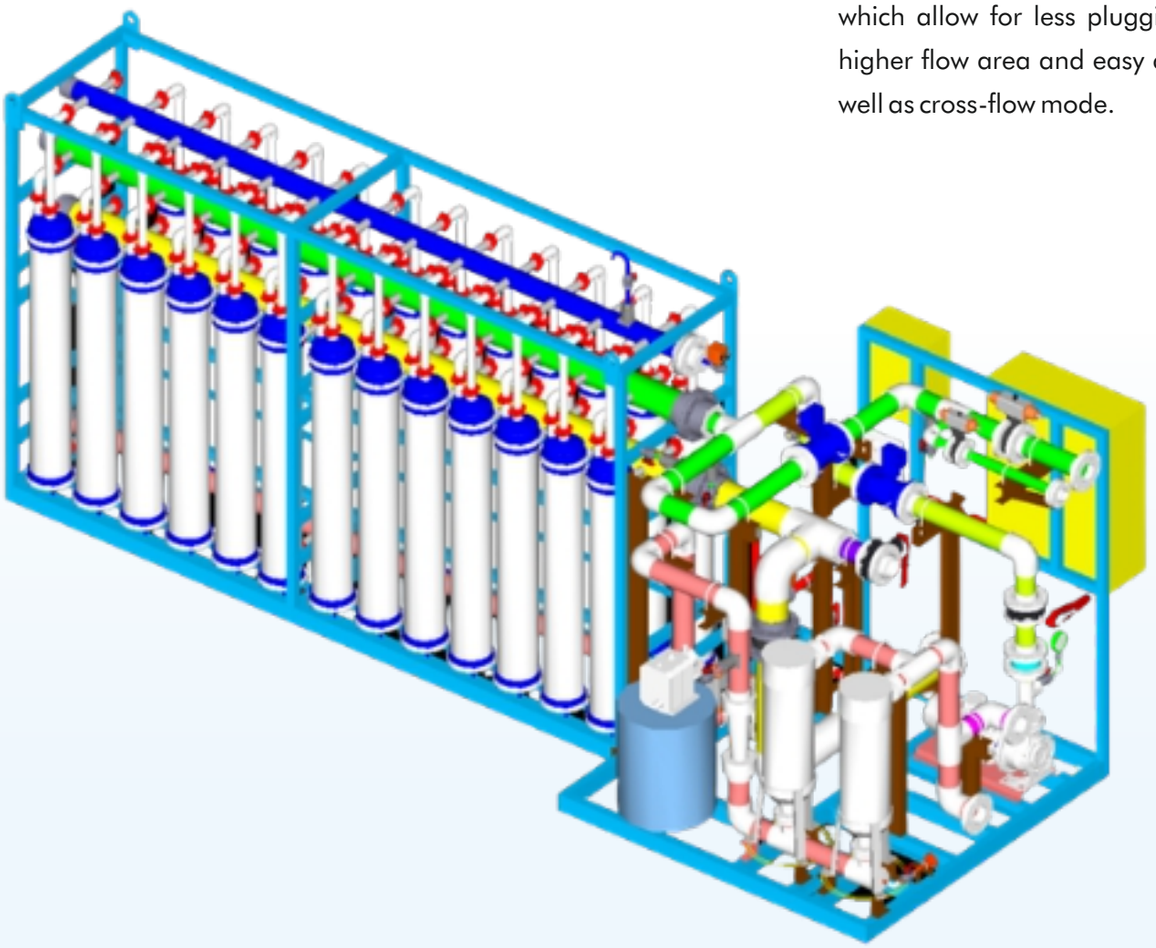
- Aquabrane Water Technologies Pvt. Ltd. aims towards total customer satisfaction, so as to provide innovative, high shelf-life UF membrane products and services to achieve increased customer delight as well as to ensure compliance with the requirements of the Quality Management System and its continual improvement.

FQC
FQC CERTIFICATION PVT. LTD.
ISO 9001 : 2008

DAkkS
Deutsche
Akkreditierungsstelle
D-ZM-16033-01-00

Pre-engineered Q Rack

- Aquabrane offers fully pre-engineered off the shelf Ultrafiltration systems, designed and manufactured for an automated operation. Aquabrane Ultrafiltration system is easy-to-use, plug-and-play system capable of treating water from wide range of sources for various applications. A fully automatic control panel is used to control the different operating modes of the ultrafiltration process: filtration, backwashing and cleaning.
- With the professional knowledge and solid engineering experience, Aquabrane can provide the standard and custom Ultrafiltration systems with flow range from 1 m3/hr to 100 m3/hr.
- Aquabrane Ultrafiltration systems are based on Outside – In flow configuration, which allow for less plugging, uniform flow distribution, higher solids loading, higher flow area and easy cleaning. The system can be operated in dead-end as well as cross-flow mode.



BENEFITS

- Easy to install, operate and maintain
- Low capital and operating costs
- Low power consumption and chemical usage
- Efficient, reliable operation with minimum downtime
- Low fouling membrane modules with outside – in configuration
- Very fine nominal pore diameter (0.03 μm)
- Effectively removes suspended solids, colloids, bacteria & viruses from various feed source
- Can be easily back washed and air scoured to improve the performance and extend the operating life by removing the fouling layer
- Consistent, high quality product water

Our Expertise:

- Ultrafiltration Membranes
- Ultrafiltration Systems
- Ceramic Membranes Modules

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