



शुद्ध एवं सुरक्षित

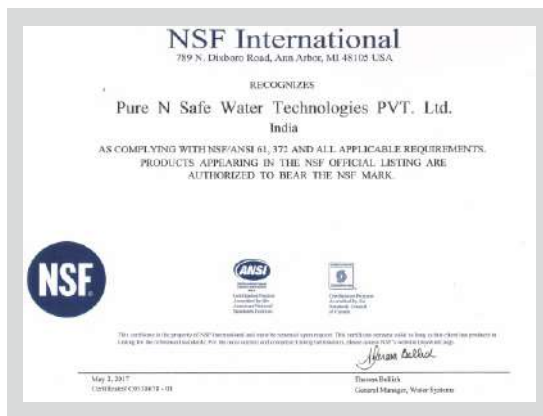
*Purity  
with Safety*



**WATER & WASTEWATER TREATMENT**



# CERTIFICATIONS & ASSOCIATIONS



Ministry of MSME, Govt. of India

PURE N SAFE founded in 2011 is an ISO 9001:2015 and ISO 14001:2015 company. Also is a NSF certified company. PURE N SAFE is member of Water Quality Association (Gold Member), WAPTEMA, WAPTEG, WPMWA and MSME.

Apart from Drinking water, PURE N SAFE has introduced several green and state of the art innovative products which are being used in Residential, Commercial and Industrial sectors. There products include High efficiency water softeners, No-salt regeneration water conditioners, Efficient RO systems, Heavy metal removals, Waste water treatment solutions, lake rejuvenation and landfill leachate solutions.

## VISION

To be one of the global leading brand and to be reckoned as an ethical company creating value for its business partners and customers.

To be a socially responsible brand and enhance quality of everyday living for all.

## MISSION

To provide most effective innovative technology and environment friendly product at affordable cost to customers.

Strive to give our customers freedom from water related problems and to give good health to one and all.

## QUALITY POLICY

Provide reliable and quality products & services which enlightens our customers.

Continuos improvements in all spheres of our business activities.



## UMESH AGRAWAL

Managing Director

Preservation of our natural environment is essential for maintaining community sustain ability

Pure N Safe Pvt. Ltd, since its foundation in 2011 is committed to develop and bring, new, green and innovative technologies and products for improving water quality for drinking, residential usage, commercial, industrial and Infra structural water requirements.

Pure N Safe Pvt. Ltd. today as the name implies is synonym for providing Pure water but also water which is Safe not for human consumption but technology used to make water pure is safe to our environment and mother earth by adapting best available technologies which are green and eco-friendly.

A stylized handwritten signature in black ink, appearing to read 'Umesh Agrawal', with a long horizontal line extending from the bottom right.



## A TO Z One Place



- With the vast range of products, Pure N Safe is capable of serving with end-to-end solutions and products to every segment of the water treatment industry.
- Solution for drinking water.
- Industrial – Medical, Pharmaceuticals, Textile, Metallurgical etc.
- Whole House Filtration.
- Agricultural
- Infrastructure – ETP, STP

## COMPETITIVE PRICE



- Large Production Capacity brings low cost.
- Strong warehousing strategy to reduce the cost.
- Perfectly defined production process decreases the cost of production.
- Strong Sourcing and Partners World Wide.

## ASSURED QUALITY



- Committed to provide best quality products continuously and consistently.
- Our products meet international Quality Standards like NSF, CE, WQA.
- Entire process has been certified to ISO 9001, ISO 14001 to provide best quality and commitment to environment.

## WE GROW TOGETHER



- Highly Qualified and Knowledge professionals Bachelor in Electronics & Mechanical Engineers, MBA, CA, MSC.
- Enthusiastic Team always ready for challenges and come out with innovative solutions.
- We value our clients and strongly believe in keeping our clients satisfied and live up to their expectations in any situation and every time.

## YOUR GROWTH PARTNER !

### ETHICAL BUSINESS



- Achieved Trust of our Business and Channel Partners with Ethical and Transparent Business Practices
- Never Compromise on quality
- Business partners are treated as family members

### INNOVATIVE PRODUCT



- Our Highly Technical Research team is always involved in getting new and innovative product developments.
- Worldwide Tie-ups with innovative technology-oriented companies.

### CONSISTENT AVAILABILITY



- Warehousing in major locations across India
- Growing Distributors & C&F Partners



# AWARDS & RECOGNITIONS



**2022-23**

BEST WATER TREATMENT CHEMICALS  
BEST WATER TREATMENT  
SYSTEM - SOFTENER



**2021-22**

BEST WATER TREATMENT SOLUTION PROVIDER  
BEST WATER TREATMENT  
SYSTEM - SOFTENER



**2020**

TIMES SME ICON  
TOP 21 SME



**2019-20**

BEST WATER TECHNOLOGY  
OF THE YEAR - BEST WATER  
CONSERVE - WASTEWATER  
MANAGEMENT



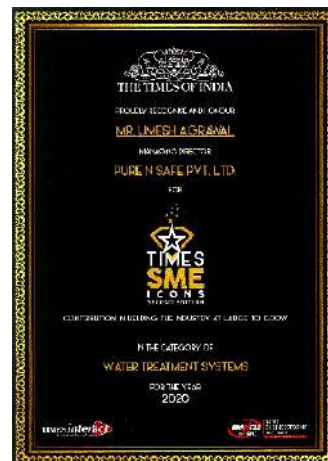
**2018-19**

BEST NON ELECTRIC - WATER  
PURIFIER  
BEST COMPLETE WATER  
MANAGEMENT SOLUTION  
"DOMESTIC & INSTITUTIONS"

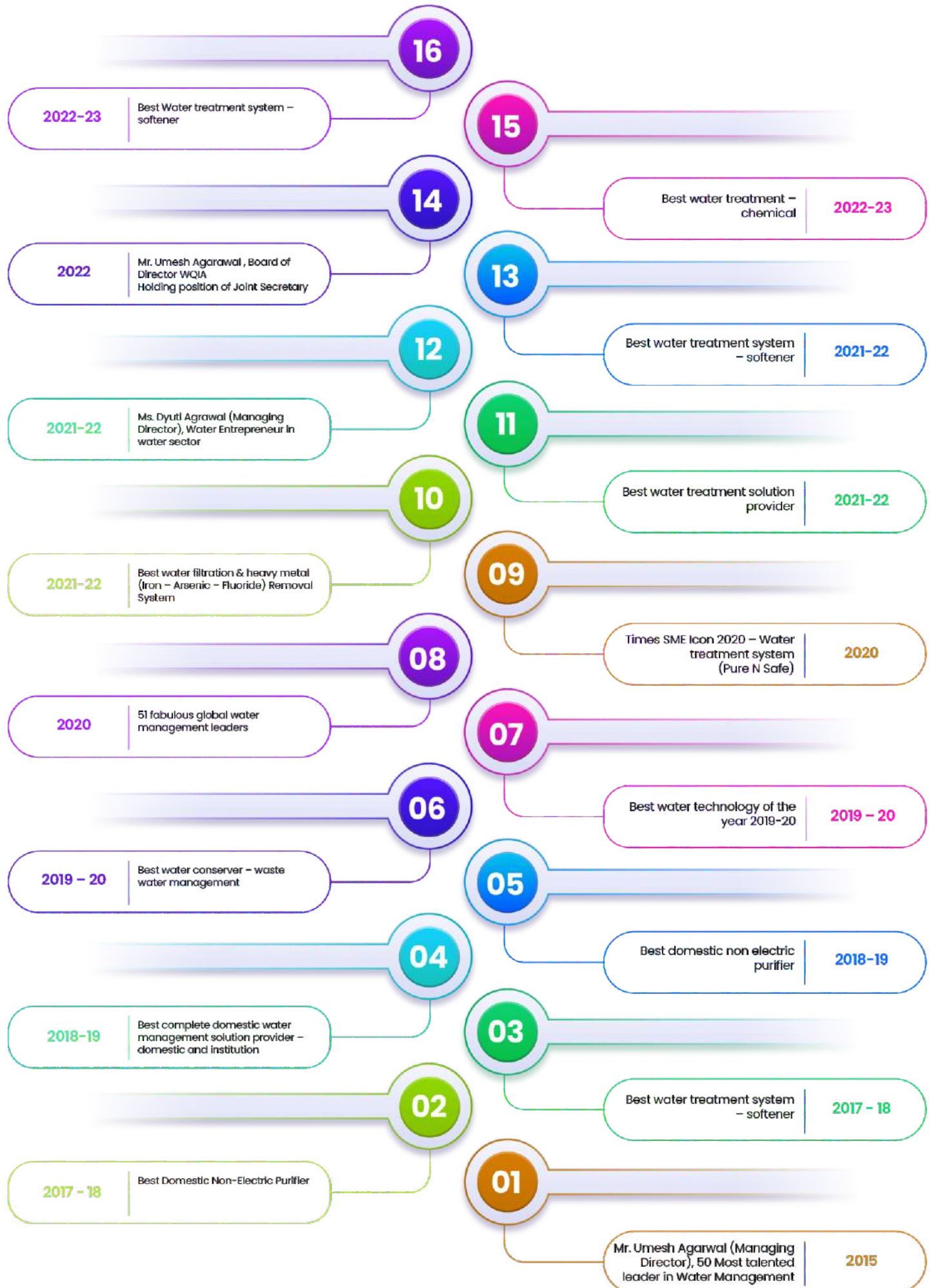


**2017-18**

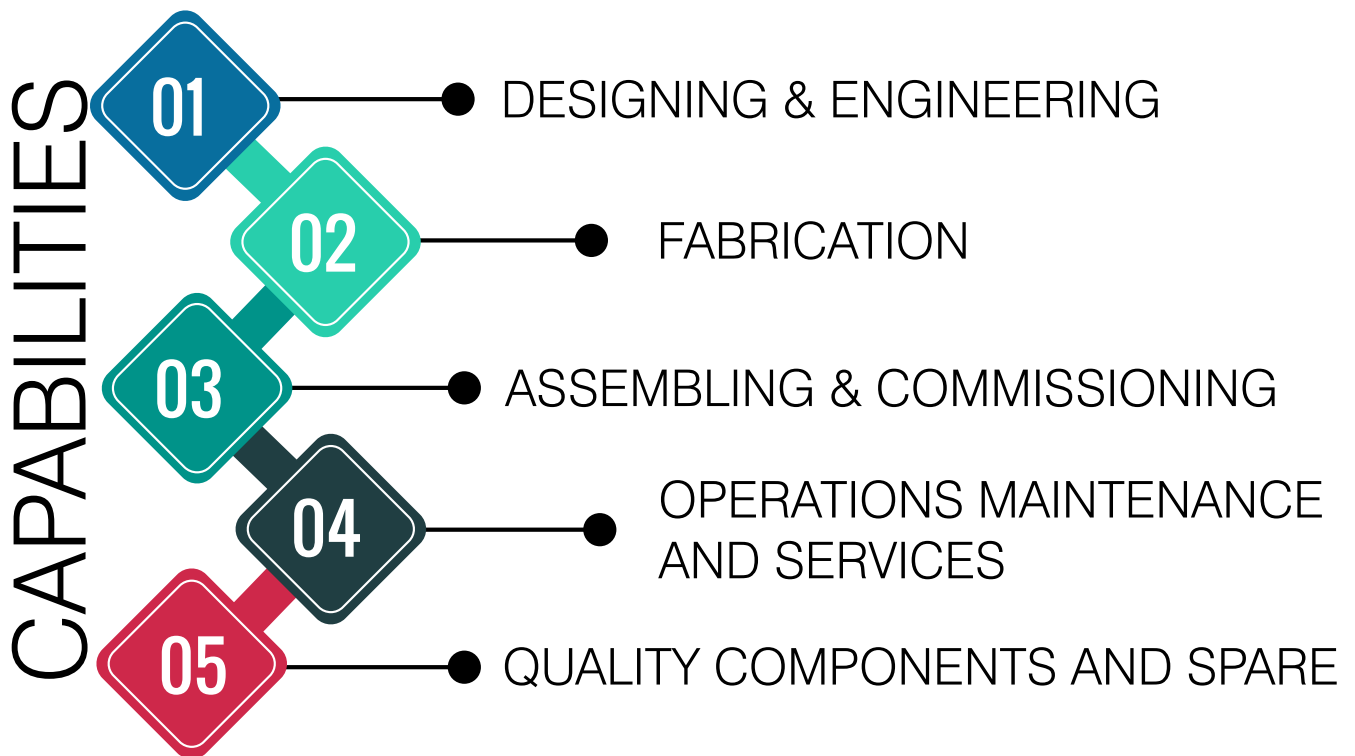
BEST SOFTENER SOLUTION  
BEST NON ELECTRIC  
WATER PURIFIER



## AWARDS & RECOGNITIONS



# CAPABILITIES & OFFERINGS



## WATER SOURCE

- RIVER
- PONDS
- LAKES
- BORE WELL
- OCEAN
- RAIN WATER

## PRE TREATMENT

- CLARIFICATION
- FILTRATION
- MEMBRANES
- DISINFECTION

## WASTE WATER TREATMENT

- GREY WATER TREATMENT
- ZLD
- STP
- ETP

## END TO END SOLUTIONS

## TREATMENT

- SOFTENING
- MEMBRANES
- ULTRA - PURIFICATION
- CONDITIONING

## USER ENDS

- PROCESS PRODUCTS
- COOLING TOWER
- WASHING
- DOMESTIC

## PRODUCERS

- PROCESS PRODUCTS
- COOLING TOWER
- BOILERS
- DOMESTIC

## AGRICULTURE

- RIVER
- SEWER
- IRRIGATION
- OCEAN



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**RESIDENTIAL  
PRODUCTS**





- Food Grade
- Melt Blown PP Spun filter for better Sediment - Filtration
- 1100 IV , Granular Activated Carbon used for high removal of pesticide, Color, Odor and Chlorine.
- Designed for better contact time with Carbon for excellent taste of water.

## INLINE FILTER SET

(POST CARBON, CARBON, SEDIMENT FILTER)

- Removal of Iron
- Can be connected to RO / UV / UF water purifier
- Save water purifier damage cause by Iron in water
- Also removes manganese, arsenic, H<sub>2</sub>S
- Katalox Light (German Media Certified to NSF, WQA GOLD Seal) media used



## HEMELOX IRON FILTER



- Controlled release of beneficial Copper & Zinc nano ions
- Ancient Ayurveda base min-live technology immunity booster

## Cu+Zn Min-live

- Proven state of ART Titanium dioxide absorptions particle effectively removes both type of arsenic (3 & 5) from water supply.
- Operates over wide range of PH and water Quality conditions.
- No chemicals are added in the water like chorine and it does not need to be regenerated, like ion exchange Resin.
- No drain of waste water like RO SYSTEM.
- Consistent performance of arsenic removal
- Long adsorption life (available in wide range house hold water usage rate /Arsenic concentration).
- Low in cost and highest in purity.
- NSF / ANSI 61 Certified Media Used
- Available in both POE and POU Filter system



## ARSENOSORB PLUS INLINE FILTER



## IRON REMOVAL HEMELOX

- High removal capacity of Iron
- Removes Manganese, H<sub>2</sub>S and other Heavy Metals
- Removes Suspended Solids / Turbidity
- Efficient Reduction of Radio Nuclides
- KATALOX LIGHT German Media
- Certified to NSF, WQA Gold Seal

Part Number	Media	Cartridge Size	Max Flow Rate
HEIR 10"	KATALOX LIGHT	2.5" x 10"	1 LPM
HEIR 20"		2.5" x 20"	2 LPM

*\*\*Custom Sizes can be produced*

- Highest arsenic removal capacity
- Fits standard POE and POU housings
- Long adsorption life
- Titansorb (NSF/ANSI 61 Certified) media used
- No regeneration required
- Consistent performance of Arsenic Removal

Part Number	Media	Cartridge Size	Max Flow Rate
AFPF 10"	TITANSORB	2.5" x 10"	1 LPM
AFPF 20"		2.5" x 20"	2 LPM

*\*\*Custom Sizes can be produced*



## ARSENIC REMOVAL ARSENOSORB

- Highest fluoride removal capacity
- Fits standard POE and POU housings
- Highest exchange capacity
- SAFEDEF – Fluoride media used (CSIR, GOI certified)
- Natural mineral
- Consistent performance of Fluoride removal

Part Number	Media	Cartridge Size	Max Flow Rate
FFPF 10"	SAFEDEF	2.5" x 10"	1 LPM
FFPF 20"		2.5" x 20"	2 LPM

*\*\*Custom Sizes can be produced*



## FLUORIDE REMOVAL SAFEDEF

- Acid wash carbon insure the neutral pH
- Optimum mesh size for greater adsorption
- 1100 IV pure coconut shell dust free carbon used
- Upto 50% higher capacity
- Ideal choice for taste and odor control, chlorine and organic reduction
- Fits standard POE and POU cartridge

Part Number	Media	Cartridge Size	Max Flow Rate
CCPF 10"	CARBON 1100 IV PURE COCONUT SHELL	2.5" x 10"	3 LPM
CCPF 20"		2.5" x 20"	5 LPM

*\*\*Custom Sizes can be produced*



## GAC CARTRIDGE CARBOSORB

# PRE FILTER CARTRIDGE DOMESTIC COMPONENTS



- Prevent appliance and domestic RO from lime scale deposit
- Remove calcium and magnesium from water
- Rechargeable cartridge

Part Number	Media	Cartridge Size	Max Flow Rate
SOPE 10"	PUREION RESIN	2.5" x 10"	4 - 5 LPM
SOPE 20"		2.5" x 20"	7 - 10 LPM

*\*\*Custom Sizes can be produced*

## UDF SOFTENER

- LOWER clean initial pressure drops
- MORE uniform filtration and overall enhanced cartridge performance
- HIGH particulate reduction efficiencies up to 95%
- OPERATE at HIGHER velocities and flow rates
- GREATER degree of depth filtration
- ADDED loading capabilities
- Reduced maintenance down time and cost

Part Number	Cartridge Size	Max Flow Rate
MFFC 10"	2.5" x 10"	4 - 5 LPM
MFFC 20"	2.5" x 20"	7 - 10 LPM

*\*\*Custom Sizes can be produced*



## MF FILTER WITH AND WITHOUT CARBON

# RESIDENTIAL

# PUMP

- High Pressure Pump ~ 140PSI Max
- Self Suction
- Pure Copper Winding
- Long Life Construction
- High Efficiency
- Food Grade Material
- Continuous Duty Cycle for More than 24Hrs



- Attractive Packing
- Strong Long life
- Value for Money



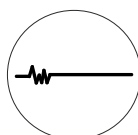
Pure Copper  
Winding



High Pressure  
~140 PSI



Strong Self  
Suction 2MTR



Very Low  
Vibration & Sound



Long Life



Food Grade  
Material





RO MEMBRANE

- High Quality Performance
- High Flow Rate, More Membrane Area
- Dry Sheet Long Shelf Life
- High water quality with high recovery rate
- Long service life
- Very attractive price

Model No.	Permeate Flow Rate (LPH)	Minimum Salt Rejection (%)	Stabilized Salt Rejection (%)	MAX Operating TDS (%)
PNSHT1-75	12 LPH	96 %	95 %	3500 TDS
PNSNT1-75	12 LPH	96 %	95 %	2000 TDS

<b>Product code</b>	<b>FPUFD003</b>
Membrane area	0.2 m <sup>2</sup>
Hollow fiber material	PES
MOC	PP - Membrane shell ABS – Membrane core
Pure water flow rate	>= 1 lpm
Filtration mode	OUT to IN
Size	4" UF Module
Working pressure	0.1 to 0.4 mpa
Pore size	0.01 micron (nominal)
Antibacterial rate	99.99 %
Net purified water	5000 liters
pH	5.0 ~ 11
Application	Domestic tap water UF and RO plant
Connection size type	1/4 Push fit



4 INCH - UF MEMBRANE

*Note: The performance of UF membrane subjected to the feed water quality\*\**



10 INCH - UF MEMBRANE

<b>Product code</b>	<b>FPUFD004</b>
Membrane area	0.65 m <sup>2</sup>
Hollow fiber material	PES
MOC	PP - Membrane shell ABS – Membrane core
Pure water flow rate	>= 3 lpm
Filtration mode	OUT to IN
Size	10" UF Module
Working pressure	0.1 to 0.4 mpa
Pore size	0.01 micron (nominal)
Antibacterial rate	99.99 %
Net purified water	10,000 liters
pH	5.0 ~ 11
Application	Domestic tap water UF and RO plant
Connection size type	1/4 Push fit

*Note: The performance of UF membrane subjected to the feed water quality\*\**

Product code	FPUFD005
Operating temperature	4 ~ 45°C
Hollow fiber material	PVDF
MOC	ABS – Membrane core
Pure water flow rate	300 ~ 500 lph
Filtration mode	OUT to IN
Size	10-inch UF module
Working pressure	0.1 to 0.3 mpa
Pore size	0.01 ~ 0.3 micron
Length	254 ± 1 mm / 10"
Diameter	70 ± 1 mm
pH	5.5 ~ 8.5
Output water SDI	<1
Output water Turbidity, NTU	<1
Application	For household water purification



Washable UF -10 Inch

Note: The performance of UF membrane subjected to the feed water quality\*\*



Product Code	FPUFD006
Operating temperature	4 ~ 45°C
Hollow fiber material	PVDF
MOC	ABS – Membrane core
Pure water flow rate	1200 ~ 1800 lph
Filtration mode	OUT to IN
Size	10-inch UF module
Working pressure	0.1 to 0.3 mpa
Pore size	0.01 ~ 0.3 micron
Length	510 ± 1 mm / 20"
Diameter	117 ± 1 mm
pH	5.5 ~ 8.5
Output water SDI	<1
Output water Turbidity, NTU	<1
Application	For household water purification

Note: The performance of UF membrane subjected to the feed water quality\*\*

### Washable UF - 20 Inch

- Efficient & Reliable Power Watts in most compact cabinet
- Protected against Short Circuit, Over Voltage & high temperature - SMPS based
- Wider AC working range from 120VAC - 2750AC with decent load regulation

PLUG & CORD TYPE  
SMPS ADAPTORS

Model	VAC Range	Rated Specs	Regulation	Casing Type	Output Type
AQPS - 2914 (CORD)	120 - 275V	24V / 2.5A 55Watt continuous	± 3%	With mains Cord	Open end DC wire
AQPS - 2915 (PLUG)	120 - 275V	24V / 2.5A 55Watt continuous	± 3%	Integrated 3-Pin Plug	DC Pin & wired socket



CARBOSORB – MABF multi action block filter is a revolutionary and most advance product in water filtration to remove | reduce both traditional and Morden age contaminants arising from organics and inorganic including heavy metals, PFAs, PFCs, BPA and presumption drugs .

CARBOSORB – MABF is a unique product designed and developed using best of the raw materials, technology and manufacturing practices from Watch Water, GMBH and Pure N Safe, India with combination of various adsorbent, catalyst from WatchWater, Gmbh and high grade Pure Activated carbon from India. CARBOSORB – MABF implement multiple filtration stage and uses electro kinetic adsorption, physicochemical adsorption, catalyst reaction and mechanical filtration.

CARBOSORB – MABF blocks are being manufactured by high end compression technology and not extruded. This gives CARBOSORB – MABF unique advantage of less pressure drop, high efficiency and more life.

## Application

- Drinking water
- Food & Beverage Filtration
- Science/Laboratory
- Point of Use Residential Filtration
- Marine / Aquatic Filtration
- Reverse Osmosis Pre-filtration



## Sizes Available

- 10" & 20" Standard, Custom Size can be produce

## Customized Configurations

- CARBOSORB - MABF + UF
- CARBOSORB - MABF + SP



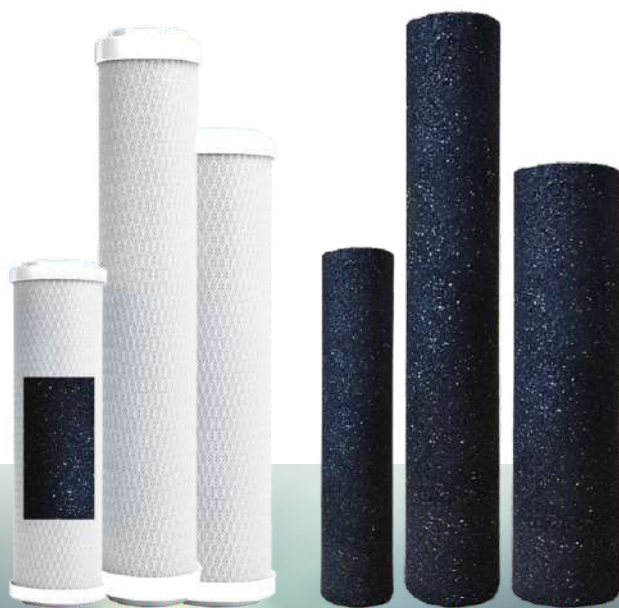


- Carbon filtration is an inexpensive and effective way to remove chemicals and contaminants commonly found in tap water
- High adsorptive capacity and efficiency
- Carbon block made by compression molding
- 5 micron filtration
- Low pressure drop

Dimensions	Nominal Rating	Capacity	Part Number
2.5" x 10" – S	5 Micron	30,000 ltr	GACS10"
2.5" x 20" – S		60,000 ltr	GACS20"
4" x 10" – B		60,000 ltr	GACB10"
4" x 20" – B		1,20,000 ltr	GACB20"



Revolutionary multi action block filter and most advance product in field of water filtration to remove | reduce both traditional and modern age contaminants arising from organic and inorganic including heavy metals, PFAs, PFCs, BPA and presumption drugs.



- 100% coconut carbon
- High porosity design
- Long cartridge life
- Compression molding blocks
- Made from unique binder
- 5-micron filtration
- No channeling and bypass
- Excellent contamination reduction of (Lead, VOCs, Copper, Heavy metals and many more)
- Available sizes 10" and 20" (custom sizes can be produced)



WATER PURIFIERS

RESIDENTIAL

# RELIABLE

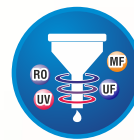
## PureAqua



11 STAGES  
PURIFICATION



COPPER + ZINC + MINERAL  
IMMUNITY BOOSTER MIN LIV



MF+UF+RO+UV  
BEST PROTECTION






**RELIABLE**  
 PUREAQUA - WH

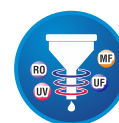
**RELIABLE**  
 PUREAQUA - WH/WH

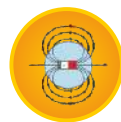
**RELIABLE**  
 PUREAQUA - BK

**RELIABLE**  
 PUREAQUA - BK/WH

Product	RO + UV + UF With Cu+Zn + Min-Liv Technology
Applications	Suitable for Purification of Brackish Water
Purification Production Rate	Upto 15 L/hr or 90 GPD (*municipal water)
Body Material	Food Grade Engineering Plastic / Heavy Weight / Cabinet Weight 4 Kg
Mounting	WALL / Table Top
Inlet Water Pressure	4 PSI (Min) - 45 PSI (Max)
Temperature	5°C (Min) - 35°C (Max)
Filter Cartridge	Micron Filter, Carbox Filter, UF, Cu+Zn Multi Mineral Min-Liv
Pre-Filter	10 Inch S-filter
Germicidal UVC	UVC LED (Barrel / In Tank)
Life of UV Lamp / LED	~ 9000 burning Hrs
Maximum Duty Cycle	75 L / day
Membrane Type	Thin Film Composite RO Membrane
Booster Pump Voltage	24 V DC
Total Power Consumption (Max)	50W Max.
Input Power Supply	Single Phase 220 ± 10 V AC, 50 Hz
Tank Capacity	~ 18 LTR (Approx)
Membrane Enhancer	Magclean MLE Conditioner


**11 STAGE**  
 PURIFICATION

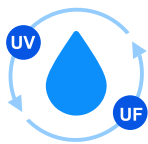
**GENUINE**  
 SMART UVC LED

**MF+UF+RO+UV**  
 BEST PROTECTION

**COPPER + ZINC + MINERAL**  
 IMMUNITY BOOSTER MIN LIVE

**CARBOX**  
 VOC+HEAVY METAL REMOVAL

**MAGCLEAN**  
 MAGNETIC CONDITIONER



## UF + UV WATER PURIFIER



Advanced UV + UF  
shield Technology



CU+ZN mineral  
enrich technology



Advanced 6 stage  
purification



High storage and  
purification capacity



UF+UV WATER



Voltage spike  
guard protection

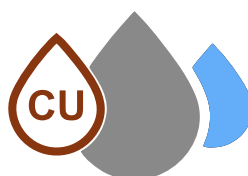
## UNDER SINK RO



Under the Counter  
Water Purifier  
with Purification  
Process of  
RO + UV +  
UF + Cu-Zn  
Technology



Make Water 100% Pure



CU+ZN mineral  
enrich technology



Multi Stage Purification  
Process

## TECHNICAL SPECIFICATION

### 1. PUREION Technology

PureSoft fully automatic water softener works on Ion Exchange technology, High quality, long lasting resin blocks calcium and magnesium and giving you soft water with minimal maintenance.

### 2. Programmability

World's best automatic multi programmable control valves make PureSoft Softener unique.

### 3. Auto Regeneration

PureSoft works with Zero manual intervention and truly automatic.

Model	PS 600	PS 2000	PS MaXX 800G	PS MaXX 1000G	PS MaXX 1200G
Water Flow (Max)	600 LPH	2000 LPH	3000 LPH	3500 LPH	4500 LPH
Working Pressure	0.15 to 0.6 mpa				
OBR in liter (basis of 200 ppm)	1650 liters	6,875 liters	24,375 liters	32,500 liters	48,750 liters
Salt Tank capacity	6 liters	Inbuilt	100 liters	200 liters	200 liters
Salt required per regeneration	900 gm	3.25 kgs	12 kgs	15 kgs	22 kgs
Connection size (Inlet-Outlet-Drain)	20 NB		25 NB		
Process Valve – Auto	Fully programmable automatic valve powered by 12 VDC/1.5 amps adaptor				
Recharging	Auto				
Operating Input Voltage	100 – 240 VAC/ 50 – 60 Hz				

## BENEFITS

1. Increases life of your expensive fixtures and appliances. Maintains efficiency and helps extend life of all water-using systems.
2. Saves Electricity by reducing energy consumption by appliances.
3. Prevent scaling in pipes and fixtures improves the rate of flow of water.
4. Soft water is easily absorbed by our skin and helps maintain hydration leading to glowing skin and hair.
5. Ensures Cleaner, softer, longer lasting fabric.
6. Fully Automatic operation with Minimal maintenance and service requirements.

## FEATURES

1. Freedom from scaling
2. Water using appliances last longer
3. Protects your skin from dryness
4. Protects your hair from fuzziness
5. Intelligent auto regeneration capacity
6. High resin life
7. Trouble free portable design
8. Convenient operation



Healthy Skin



Automatic  
Regeneration



LED / LCD  
Panel For Control



Enhanced  
Quality Of Water



Shiny & Strong  
Hair

## SCALETRAPP

SOFT-NOR SaltFree Anti-Scale System

SALT FREE WATER HARDNESS / SCALE PREVENTION  
SOFTENER EQUIVALENT

- Converts lime scale into harmless soft crystals
- Reduces existing lime scale deposits
- Prevents lime scale deposits without the use of chemicals, electricity or salt
- No regeneration or backwash required, save water
- Easy to install no maintenance required, no electricity required
- Increase the efficiency of boilers and other hot water application
- Retains healthy minerals in water
- No extra salt in water



### Application

#### Residential

Water heater system, washing machine, laundries, bath, dishwasher, coffee machine, kitchen, bathroom and showers

#### Food & Beverages / Restaurant

Coffee machine, boiler, steam tables,

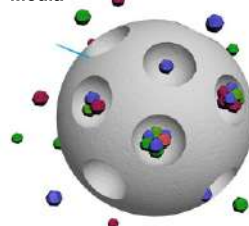
#### Commercial / Industrial

Car wash system, Hotels, Cooling system, evaporation system & boilers

The SCALETRAPP / SOFT-NOR System it can be installed as a Point-of-Entry device, for both cold and hot water, or as a Point-of-Use device, installed directly before the equipment that needs to receive treated water (saunas, dishwashers, washing machines, coffee machines, etc.)

SCALETRAPP / SOFT-NOR System prevents limescale by interacting with the calcium carbonate molecules, turning them into harmless soft crystals. These soft carbonate crystals continue to flow with the water but do not attach to surfaces and are simply washed away down the drain. At the same time the soft crystals "snow ball" their way through the water attracting free calcium carbonate molecules dramatically reducing existing lime scale deposits. The water treated by SCALETRAPP / SOFT-NOR System keeps the original healthful minerals while solving limescale problems.

#### SCALETRAPP / SOFT-NOR System Media



Hardness ions combine to create microscopic crystals on nucleation sites

Crystals detach and flow freely through the system

#### RAPIDSOFT SALTLESS

WATER SOFTENER TECHNOLOGY

#### CONVENTIONAL SALT-BASES

WATER SOFTENER TECHNOLOGY

Best Quality water  
Healthy Minerals

NO Salt required  
NO Pollution to water Supply

NO

- Maintenance
- Cleaning
- Backwash
- Electricity
- Regeneration

Non-Corrosive  
NO Reverse Osmosis Required  
NO Water Waste

SAFE FOR

- Health
- Environment
- Plants



Salty Taste Drinking Water  
NO Healthy Minerals

Salt required  
Pollution to fresh water Supply

HIGH

- Maintenance
- System Cleaning
- Routine Backwash
- Electricity

Corrosive  
Reverse Osmosis required  
Waste Water

UNSAFE FOR

- Health
- Environment
- Plants

### Advantages

- No salt required
- No backwashing required
- No regeneration cycle required
- No increase in sodium content in water
- Removes the previous scales of plumbing
- Catalytic process converts Ca and Mg into harmless micro crystals
- No chemicals
- No electrical connections required

NSF Certified media used to meet public health and regulatory guideline.

#### Water Chemistry Limits

pH	6.5 – 8.5
Hardness, Maximum	1300 ppm
Temperature	5 degree C – 40 degree C
Chlorine	< 3 ppm
Iron	< 0.3 ppm
Manganese	< 0.05 ppm
Sulphate	< 300 ppm
Oil & Polyphosphate	Treat before SOFT-NOR™
Hydrogen Sulfide	Treat before SOFT-NOR™



Leaves Beneficial Minerals In Water



Shiny & Strong Hair



Zero Water Wastage



ECO-Friendly No Salt



Healthy Skin



Maintenance Free Easy Installation





Hemelox-Iron removal filter reduces excess iron in the water and makes it suitable for use in every aspect of life. Our filter utilizes Katalox Light-German made media, ensuring a long-life span of filter and delivering the best quality iron free water.

**Mode of operation - Automatic** (The automatic self-cleaning system, flushes out residue from Katalox media, thus enhancing life of the system all this with no manual effort.)

## TECHNICAL SPECIFICATION

Model	PSHX 160G	PSHX 270G	PSHX 400G	PSHX 540G	PSHX 800G
Water Flow Rate	600 LPH	1000 LPH	1500 LPH	2000 LPH	3000 LPH
Connection size (Inlet-Outlet- Drain)	20 NB			25 NB	
Input water pressure	1.5 to 3.5 kg/cm <sup>2</sup>				
Operation	Auto				
Cleaning	Auto (No manual involvement)				
Filter Media	Katalox light				
Operating Input Voltage	100-240V / 50-60Hz				
Process Valve - Auto	Fully programable automatic valve powered by 12 VDC / 1.5-amp adaptor				
Treated Water Iron	<0.3 ppm				

## FEATURES OF HEMELOX-IRON REMOVAL FILTER

- Food Grade
- Katalox Light-Approved by CSIR
- Reduces iron upto 30 ppm in single pass.
- Enhances performance of water filtration system
- Reduces TSS and Turbidity, No requirement of pre filter
- Removes dissolved iron and other heavy metals from water
- Uses Katalox Light-German Filter media for long term purification
- Katalox Light is a Patented Technology, NSF 61 & NSF 372 Gold Seal certified.
- Fully Automatic operation with Minimal maintenance and service requirements
- Automatic operation ensures proper back washing of filter to provide consistent water quality
- Light weight and easy to backwash, saves water as compared to other available conventional media.



AGT<sup>®</sup> ADVANCE GERMAN TECHNOLOGY

\* NOTE – Minimum 1.5 kg/cm<sup>2</sup> water pressure is required for Auto Iron filter operation.  
Pressure drop of the Auto iron remover filter at specified flow rate is around 0.5 to 0.8Kg/cm<sup>2</sup>.



## ZEOSAFE TSS REMOVAL - AUTO

AUTO - SEDIMENT / SAND REMOVAL FILTER

ZEOSAFE - SAND FILTER AUTO is fully automated sand filtration system to make your water usable by treating the coarse sediments, particles, suspended solid matters, and substances causing blurriness in the water.

ZEOSAFE - SAND FILTER AUTO removes turbidity & suspended matter in raw water which enhances the performance of softener & larger RO systems.

ZEOSAFE - SAND FILTER AUTO system uses ZEOSAFE® (High Quality Zeolite Based Filter Media) which increase filtration capacity by 3 times, filtration quality, saves water and energy during backwash.

ZEOSAFE® is the only high-efficiency zeolite-based filter media that has been chemically pre-washed to optimize the quality of its performance. Our ZEOSAFE® filters can be designed and operated at twice the flow rate of the sand and anthracite filter therefore, it can reduce the filter area by up to 50% and the capital cost of the filtration system by up to 40%.

### Key Component of ZEOSAFE - SAND FILTER AUTO

ZEOSAFE® (High Quality Zeolite Based Filter Media), Auto Multi Port Valve and Media Holding Vessel

### Technical Specification

MODEL	PSZS 220G	PSZS 400G	PSZS 660G	PSZS 950G	PSZS 1200G
Water Flow Rate	800 LPH	1500 LPH	2500 LPH	3500 LPH	4500 LPH
Connection size (Inlet-Outlet-Drain)	20 NB		25 NB		
Input water pressure	1.5 to 3.5 kg/cm2				
Operation	Auto				
Cleaning	Auto (No manual involvement)				
Filter Media	ZEOSAFE® (High Quality Zeolite Based Filter Media)				
Operating Input Voltage	100-240V/50-60Hz				
Process Valve – Auto	Fully programable automatic valve powered by 12V DC / 1.5 - Amp adaptor				
Suspended Solid Reduction	More than 90%				
Turbidity Reduction	More than 75%				

### Features of ZEOSAFE - SAND FILTER AUTO

- Time controlled automatic operation ensures proper back washing of filter to provide consistent water quality
- Fully Automatic operation with Minimal maintenance and service requirements
- Capability to monitor all back wash stage on the digital screen
- High quality ZEOSAFE® optimizes the quality and performance of filtration system
- Saves upto 70% more water and energy in back washing  
Being a material 50% lighter than silica sand requires a lower flow of water to fluidize and release the retained solids causes saving of backwash water and pumping electricity.
- Best in class Filtration upto 3 Micron  
Silica sand retains particles down to a minimum of 20 microns while ZEOSAFE® retains particles down to 3 - 5 micron, which increases the quality of filtered water.
- Small Size, High Flow, Best Flow, Best Filtration  
ZEOSAFE® Filter media increase surface area ten times compared to sand. Silica sand filters water only between the grains, while each grain of ZEOSAFE® retains particles in its grains and between its cavities.



\* NOTE – Minimum 1.5 kg/cm<sup>2</sup> water pressure is required for ZEOSAFE - Sand Filter Auto operation. Pressure drop of the ZEOSAFE - Sand Filter Auto at specified flow rate is around 0.5 to 0.6 kg/cm<sup>2</sup>.



GERMAN   
TECHNOLOGY INSIDE



MAKE WATER  
IRON / SAND / COLOR  
HARDNESS FREE



MAXIMUM  
FLOW RATE



STAIN FREE  
BATHROOM



SHINY &  
STRONG HAIR



PREVENT FABRIC  
FROM LOSING LUSTER



HEALTHY SKIN



MULTIPLE STAGES  
FILTRATION



INCREASES  
LIFE OF APPLIANCES

## 1. SAND FILTER ZEOS

Zeos Sand Filter uses Filter Media from Europe which has very high surface area and can do filtration upto 5 micron as compared to Normal Sand filter 100 micron. ZeoSafe media can remove turbidity, sand particles, even ammonia upto certain level. Life of the ZeoSafe media is approx 4 - 5 years which is almost double the life of normal sand Media

## 2. PureSoft Softener (High Performance Iron Exchange Resin)

PureSoft Softener has high exchange capacity Resin (High cross linking polymerization), which saves lot of water drainage as salt consumption is less as compared to normal ion exchange resin. PureSoft works with Zero manual intervention and truly automatic.

## 3. Actisorb (Activated Carbon Filter)

High Grade pure coconut based granular carbon 1100 IV used for better results. Actisorb removes odour and smell from the water, enhances taste of water

\* Optional Iron Removal Filter is also Available





## MagClean WATER CONDITIONER

- Makes water soft.
- Prevents diseases like chronic prostatic, haemorrhoid, blood pressure, kidney stones etc.
- No chemicals.
- No electricity required.
- simple use
- Avoids scaling in water lines and appliances.
- Improves solubility of water.
- Long Life (More than 20 years.)



### Pure N Safe Magclean Water Conditioner For Residential Use

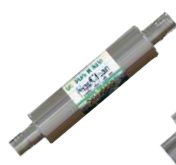
- Healthier skin.
- Better hair texture and more lustrous hair.
- Less usage of detergents.
- Less maintenance of washing machine required.
- Preserves essential elements and minerals in water to give fuller taste in beverages and food.
- Enhances the efficiency of pools and spas.
- Cleaner clothes.
- Shining taps and kitchen.
- Long life of geyser & appliances.



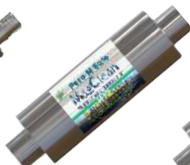
#### Sizes



MAGCLEAN GENIE



1/2"



3/4"



1"



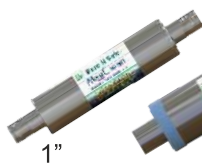
1 1/2"



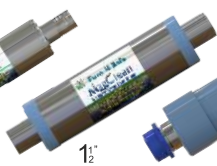
### Pure N Safe Magclean Water Conditioner For Agricultural Use

- Reduces seed germination time.
- Increases productivity (by 15-20%).
- Enriches taste.
- Increases milk production (by 10-15%).
- Increases weight of cattle and poultry (by 10-15%).

#### Sizes



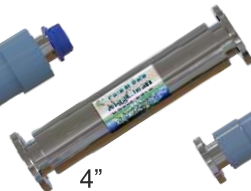
1"



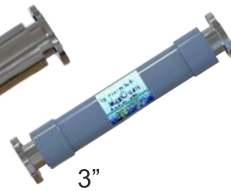
1 1/2"



2"



4"



3"



INDIA



# INDUSTRIAL PRODUCTS





## PRODUCT DETAILS

Size	Volume		Size (mm)	Opening		Base	Dimensions (mm)		
	Liter	Cu. Ft		Top	Bottom		A	B	C
8 X 44	32.2	1.19	Φ 200 X 1115	2.5" 8-NPSM	-	Standard	1138	-	210
10 X 54	62.9	2.33	Φ 250 X 1370	2.5" 8-NPSM	-	Standard	1395	-	261
12 X 48	78	2.92	Φ 300 X 1005	2.5" 8-NPSM	-	Standard	1255	-	312
13 X 54	100	3.70	Φ 330 X 1370	2.5" 8-NPSM	-	Standard	1380	-	335
14 X 65	148	5.54	Φ 350 X 1620	4" 8-UN	-	Standard	1661	-	355
14 X 65	148	5.54	Φ 350 X 1620	4" 8-UN	4" 8-UN	Tripod	1661	210	355
16 X 65	194	7.16	Φ 400 X 1650	4" 8-UN	4" 8-UN	Tripod	1661	225	406
16 X 65	194	7.16	Φ 400 X 1650	4" 8-UN	-	Standard	1661	-	406
18 X 65	228.4	8.45	Φ 450 X 1550	4" 8-UN	4" 8-UN	Tripod	1715	230	463
20 X 69	283	10.47	Φ 500 X 1750	4" 8-UN	4" 8-UN	Tripod	1780	185	510
24 X 72	428	15.84	Φ 600 X 1800	4" 8-UN	4" 8-UN	Tripod	1910	215	611
30 X 72	621	22.98	Φ 750 X 1800	4" 8-UN	4" 8-UN	Tripod	1940	220	750
36 X 72	1071	39.63	Φ 900 X 51800	4" 8-UN	4" 8-UN	Tripod	2150	350	900
40 X 72	1216	44.99	Φ 1000 X 1800	6" Flange	6" Flange	Tripod	2150	350	1000
42 X 72	1490	55.13	Φ 1050 X 1800	6" Flange	6" Flange	Tripod	2270	315	1050
48 X 72	1893	70.04	Φ1200 X 1800	6" Flange	6" Flange	Tripod	2200	400	1200

## DESCRIPTION

PNS offer BEST IN CLASS FRP vessel applicable for any water or waste water treatment system with PP liner. These vessels are non corrosive and light in weight enabling longer life and easy installation at site. 'PNS' vessel can be used in wide range of filtration and softening water & waste water applications.

## DESIGN FEATURES

1. High performance FRP filament wound outer shell
2. 100% Corrosive Resistance
3. Easy installation & low maintenance
4. Safety factor 4:1
5. Maximum operating pressure 150 PSI
6. Maximum operating temperature 120°F

## APPLICATIONS

1. Water treatment plants
2. Commercial softening & filtration
3. Demineralization
4. Iron / Fluoride / Arsenic removal filters
5. Waste water treatment plants

## ADVANTAGES

1. High abrasive resistance
2. Unique designed
3. High performance over price ratio
4. Good heat insulating property

\*Other color options are also available for bulk quantity.



Natural    Green    Grey    Black



# MANUAL MULTIPORT VALVE GREY COLOR (COMPLIED TO NSF)

## DESCRIPTION

Pure N Safe brings to you an extensive range of multiport valves innovatively designed for the customer's convenience. These are easy to handle and simple to operate multiport valves provide excellent seal capability preventing any internal leakage. These valves have long-term reliability and a long shelf life. By simple clockwise and anticlockwise rotation of a single lever, multiple functions such as filter backwash, brine injection, slow rinse, fast rinse, brine rinse and back to service mode can be performed.

## DESIGN FEATURES

- Seal slice with scuff resistance
- Corrosion resistance
- Perfect sealing
- Small rotation angle
- No leakage
- Long service life
- Easy to operate
- Top mount and Side mount types available

## APPLICATIONS

- Sand Filters
- Activated Carbon Filters
- Iron removal filters
- Water Softeners
- De-mineralization units



## SIZE

- 20 NB TMF MPV
- 25 NB SMF MPV
- 25 NB TMS MPV
- 40 NB SMF MPV
- 40 NB TMF MPV
- 40 NB TMS MPV
- 40 NB HF TMF MPV

Tested and Certified to NSF Standard

## DESCRIPTION

Pure N Safe brings to you an extensive range of multiport valves innovatively designed for the customer's convenience. These are easy to handle and simple to operate multiport valves provide excellent seal capability preventing any internal leakage. These valves have long-term reliability and a long shelf life. By simple clockwise and anticlockwise rotation of a single lever, multiple functions such as filter backwash, brine injection, slow rinse, fast rinse, brine rinse and back to service mode can be performed.

## DESIGN FEATURES

- Seal slice with scuff resistance
- Corrosion resistance
- Perfect sealing
- Small rotation angle
- No leakage
- Long service life
- Easy to operate
- Top mount and Side mount types available

## APPLICATIONS

- Sand Filters
- Activated Carbon Filters
- Iron removal filters
- Water Softeners
- De-mineralization units

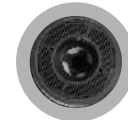


## SIZE

- 20 NB TMF MPV
- 25 NB SMF MPV
- 25 NB TMS MPV
- 40 NB SMF MPV
- 40 NB TMF MPV
- 40 NB TMS MPV
- 40 NB HF TMF MPV



## Auto Multiport Valve



INBUILT TOP  
STRAINER



COMPATIBLE  
WITH RO PANELS



EXTERNAL  
POWER ADAPTOR



TIME MODE



### SPECIFICATIONS

Model	RF-5T-T	RF-3T-T	RF-5T-M	RF-3T-M
Type	Filter	Filter	Filter	Filter
Mode of operation	Automatic	Automatic	Automatic	Automatic
Installation position	Top Mounted	Top Mounted	Top Mounted	Top Mounted
Water capacity (Maximum)	5000 LPH	3000 LPH	5000 LPH	3000 LPH
Size of inlet/outlet	1" F	3/4" F	1" F	3/4" F
Size of drain	1" F	3/4" F	1" F	3/4" F
Size of riser pipe	32 mm OD	26.7 mm OD	32 mm OD	26.7 mm OD
T & B strainer size	1 "	3/4 "	1 "	3/4 "
Size of base	2.5"	2.5 "	2.5"	2.5 "

### ELECTRICAL PARAMETER

Input Voltage	12V	12V	12V	12V
Current	0.6A	0.6A	0.6A	0.6A
Power Rating	8W	8W	8W	8W
Relay Contact	5A (Max.)	5A (Max.)	5A (Max.)	5A (Max.)



EXTERNAL  
POWER ADAPTOR



METER MODE



INBUILT TOP  
STRAINER



COMPATIBLE  
WITH RO PANELS



### Application

- Iron Removal Filter
- Sand Filter
- Carbon Filter
- Residential
- Swimming Pool
- Commercial



EXTERNAL  
POWER ADAPTOR



METER MODE



FLOW METER



BRINE  
ASSEMBLY



COMPATIBLE  
WITH RO PANELS



SPECIFICATIONS

Model	RS-5T-M	RS-3T-M	RS-5T-T	RS-3T-T
Type	Softener	Softener	Softener	Softener
Mode of operation	Automatic	Automatic	Automatic	Automatic
Installation position	Top Mounted	Top Mounted	Top Mounted	Top Mounted
Water capacity (Maximum)	5000 LPH	3000 LPH	5000 LPH	3000 LPH
Size of inlet/outlet	1" F	3/4" F	1" F	3/4" F
Size of drain	1" F	3/4" F	1" F	3/4" F
Size of riser pipe	32 mm OD	26.7 mm OD	32 mm OD	26.7 mm OD
T & B strainer size	1 "	3/4 "	1 "	3/4 "
Size of base	2.5"	2.5 "	2.5"	2.5 "

ELECTRICAL PARAMETER

Input Voltage	12V	12V	12V	12V
Current	0.6A	0.6A	0.6A	0.6A
Power Rating	8W	8W	8W	8W
Relay Contact	5A (Max.)	5A (Max.)	5A (Max.)	5A (Max.)



EXTERNAL  
POWER ADAPTOR



METER MODE



INBUILT TOP  
STRAINER



COMPATIBLE  
WITH RO PANELS



Application

- Domestic • Hospital • Restaurant • Ion Exchange • Commercial • Swimming Pool



## Salient Features

- Compact in structure
- Good corrosion resistance
- Adjustable Frequency upto 360spm
- Backlist LCD Display

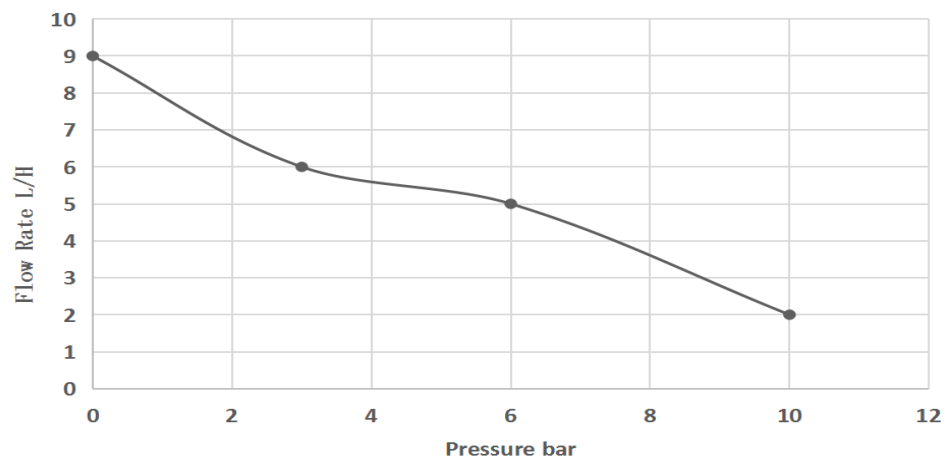
## Technical Specifications

Power Supply	230 V AC, 50hz
Pump Head MOC	PP
Pump Body MOC	PPE +GF
Suction / Discharge Tubing	4/6 mm LDPE Tube
Stroke Frequency	Upto 360 Stroke per minute

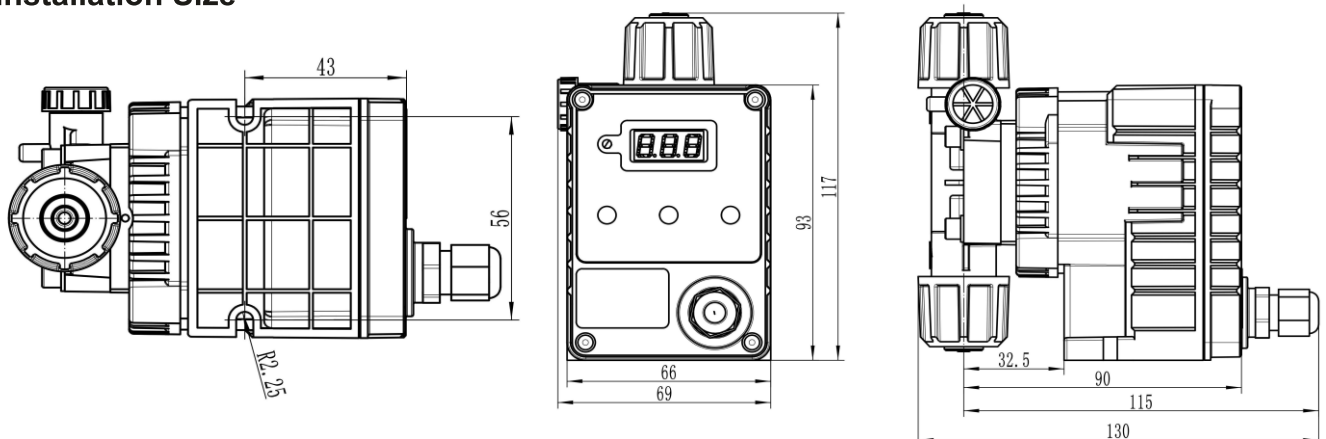
Model	Pressure Bar	Capacity L/H	ml / Stroke	SPM	Suction M	Voltage V	Connection MM	Power W
RD-D60-DG	0	9	0.42	360	1	100-240	4 * 6	20
	3	6	0.27					
	6	5	0.23					
	9	2	0.09					

## Performance Curve

EJ-P Performance Curve



## Installation Size





## TECHNICAL SPECIFICATIONS

Power Supply	230 V AC, 50hz
Diaphragm	Solid PTFE diaphragm
Suction / Discharge Tubing	4/6 mm LDPE tubing
Stroke Frequency	Up to 400 stroke per minute
Dosing Rate @ 4 Kg/cm2	6 LPH

## SALIENT FEATURES

- Compact & Light Weight
- Double Ball NRV
- Built in Air release valve
- Solid PTFE diaphragm for longer life
- Time tested electronics for reliable performance
- Adjustable stroke frequency (upto 400 spm)
- User friendly knob for adjusting dosing frequency
- Splash proof enclosure



## SCOPE OF SUPPLY

- Metering pump
- Suction/discharge tubing suction cum filter cum foot valve
- Anti siphon valve
- Mounting bolts

## PZ Series

Manual adjustment operation



## PH Series

LCD display with liquid level detection, manual & automatic control with the configuration of pulse signal interface

We offer a wide selection of flow rate and pressure, 2~24Lph, 0.1~ 10 Bar. This kind of electronic dosing pump works powerfully, with dosing accuracy, and stable. It's convenient to operate and adjust the capacity according to the LED display and simplified buttons. Reasonable and flexible internal design makes customization realizable. We can provide solutions for you according to user demand and special working conditions to avoid the embarrassing modification of process design upon the unsuitability of the product.

## ADVANTAGES AND FEATURES

- Stroke length adjustment
- High efficiency delivery
- Excellent compact structure
- Optimized pump head structure
- Ultra-low maintenance cost
- Idling to be allowed
- Simplify operation
- Convenient to manage stocking

## TECHNICAL SPECIFICATIONS:

Model	PH-B10 - VC -W1	PH-B20 -VC -W1	PH-B30 - VC-W2	PH-C30 - VC -W2	PH-C35-VC-W2
Mode of operation	LCD display with level detection and automatic control with the configuration of pulse signal interface				
Pressure (bar), max	10 Bar	6 Bar	2 Bar	3.5 Bar	2 Bar
Flow rate, Liter /hr	2.28 liter/hr	6 liter/hr	12 liter/hr	16.2 liter/hr	24 liter/hr
Connection Tube (ID/OD)	4 mm / 9 mm	4 mm / 9 mm	8 mm / 13 mm	8 mm / 13 mm	8 mm / 13 mm
Power Supply	AC 100~240 V				
Material of Construction (MOC)					
Pump Head	PVC				
Ball Valve	CERAMIC				
Valve Set	FKM	FKM	FKM	FKM	FKM
Valve Guide	PVC				
Gasket	PTFE				
O Ring	FKM	FKM	FKM	FKM	FKM
Diaphragm	PTFE + EPDM (EPDM is not wet end)				

Model	PZ-B20 - VC -W1	PZ-B30 - VH -W2	PZ-C30 - VH-W2
Mode of operation	Manual Adjustment		
Pressure (bar), max	6 Bar	2 Bar	3.5 Bar
Flow rate, Liter /hr	6 liter/hr	12 liter/hr	16.2 liter/hr
Connection Tube (ID/OD)	4 mm / 9 mm	8 mm / 13 mm	8 mm / 13 mm
Power Supply	AC 100~240 V		
Material of Construction (MOC)			
Pump Head	PVC		
Ball Valve	CERAMIC		
Valve Set	FKM	FKM	FKM
Valve Guide	PVC		
Gasket	PTFE		
O Ring	FKM	FKM	FKM
Diaphragm	PTFE + EPDM (EPDM is not wet end)		

## USAGE & APPLICATION

- Chemical
- General Industry
- Oil & Gas
- Municipal water & waste treatment
- Waste water treatment
- Petrol Chemical
- Power Generation
- Pharmaceutical
- Food & Beverage





## DESCRIPTION

Ultra filtration (UF) is a separation process using membranes with pore sizes in the range of 0.1 to 0.001 micron. The Aquafluo, UF membranes removes high molecular-weight substances, colloidal materials, and organic and inorganic polymeric molecules. With only high-molecular weight contaminants removed, the osmotic pressure differential across the UF Membrane surface is negligible. Low applied pressures are therefore sufficient to achieve high flux rates from the Aquafluo Ultra filtration membrane.

## FEATURES

- ▶ High Hydrophilicity
- ▶ Higher Design Flux
- ▶ High Chemical & Mechanical resistance
- ▶ High Fouling resistance
- ▶ Wide Range of MWCO
- ▶ High Chlorine tolerance
- ▶ High durability, during clean & safe treatment process
- ▶ Long Service life

## APPLICATIONS

- ▶ Pre-treatment Filtration
  - Seawater Desalination Pretreatment
  - Pre-treatment to RO System
  - Pre-treatment to Nano filtration and Ion Exchange
- ▶ Water Purification
  - Surface water filtration, e.g. river water, run-off water
  - Municipal / Sewage treatment effluent reclamation
  - Industrial waste treatment effluent reclamation and process application.

## QUALITY ASSURANCE

The Aquafluo UF membrane offers a comprehensive range of UF membrane module to suite the need of every customer. Hollow fiber of the Aquafluo UF membrane is an asymmetric, in to out, semi permeable, and highly chemical resistance made up of special polymer membrane technology. Aquafluo UF provides a secure barrier against suspended solids, micro organism and supplies consistently high quality of filtrate water. Optimum flow distribution, topnotch purification efficiency, and variable operating modes even at low pressure ensure consistently high quality of permeate.

## TECHNICAL INFORMATION

Model		Aquafluo 4040 PAN	Aquafluo 8060 H PAN
Performance	Initial Permeate Flow, M3/hr	1	5
	Design Flux, l/m2/hr	40-180	40-180
	Permeate Water turbidity, NTU	<0.1 (when feed water < 70 NTU)	<0.1 (when feed water < 70 NTU)
	Permeate Water SDI	< 1 (when feed water < 25 NTU)	< 1 (when feed water < 25 NTU)
	Maximum continue chlorine, mg/l	70	70
	Maximum temporary chlorine, mg/1	200	200
Specification	Dimention, mm	Ø101x 1016	Ø242 x 1400
	Filter type	Inside-out hollow fibre	Inside-out hollow fibre
	Membrane material	PAN alloy	PAN alloy
	Sealing material	Food grade epoxy resin	Food grade epoxy resin
	MWCO, dalton	50000	50000
	Membrane area, m2	4.1	27
	Filter number	1100	7300
	Filter ID & OD, mm	1.0/1.6	1.0/1.6
	Module Inlet and Outlet	D32/D25	D50/D50
	Module preservation	Dry	Dry
	Temperature in storage & transportation	20 C-45°C	20 C-45°C
	Max air pressure testing for integrity, Mpa	<0.2	<0.2
Working Condition	Maximum feed water pressure, Mpa	0.6	0.6
	Suggested trans-membrane pressure (TMP) Mpa	<0.1	<0.1
	Maximum TMP, Mpa	<0.2	<0.2
	Maximum backwash, TMP, Mpa	<0.15	<0.15
	Working temperature	5 C -40°C	5 C -40°C
	pH	2-10	2-10
	Working process	Cross-flow or Dead end	Cross-flow or Dead end
Recommended Operation	Backwash Flow, m3/H	2	5
	Backwash Pressure, Mpa	0.05-0.1	0.05-0.1
	Backwash time, sec	40-60	40-60
	Backwash interval minute	40-300	40-300
	Flushing time, sec	40-60	40-60
	Flushing interval, minute	40-300	40-300
	Chemical cleaning interval, day	15-200	15-200
	Chemical cleaning time, minute	30-120	30-120

# PU0680A UF-PNS

## INDUSTRIAL WATER FILTRATION

### PU0680A PVDF High Performance Ultrafiltration Module

MODEL	Surface Area (m <sup>2</sup> )	Dimensions (mm)				Weight (kg)
		A	B	C	D	
PU0680A PVDF	44	2260 ± 1	1845 ± 1	275 ± 1	140 ± 1	50

- PVDF based hollow fiber membranes have long lifetime due to their high mechanical strength and chemical resistance.
- The capacity of clean water production is higher due to modification of membranes which enhances the hydrophilicity of membrane.

#### Membrane Specifications:

Model		PU0680A PVDF
Type		Hollow Fiber Ultrafiltration
Material		PVDF
Nominal Pore Size	nm (μ)	30 (0.03)
MWCO	Dalton	100,000
Fiber Bore Diameter (Inner)	mm	0.8
Fiber Bore Diameter (Outer)	mm	1.2
Housing & End Cap (MOC)		UPVC

#### Module Data:

Membrane Surface Area (Active)	m <sup>2</sup>	44
Outer Diameter Housing	mm	150
Nozzels	mm	Victaulic End DN50
Empty Weight With End caps	kgs	50

#### Operational Data:

Mode of Operation		Out to In (Dead End / Cross Flow)
Operating Flux Range	(lmh)	45-180
Operating Temperature	°C	1-40
Feed Pressure Operating Range	bar	2.0 to 2.5
Feed Pressure Maximum @ 25°C	bar	5
Trans membrane Pressure	bar	0.4-2
pH Range Operation		2.0-11.0
Maximum NaOCl	mg/l	500
Particle Dimension	μ	< 200
Total Suspended Solid (TSS)	ppm	50(max80)
Max Feed Turbidity	NTU	50 (max 250)
Oil & Grease		Nil

#### Performance Details:

Filtrate Flow Range	(m <sup>3</sup> /hr)	1.3 ~ 5
Filtrate SDI		≤2.5
Filtrate Turbidity	NTU	≤0.1
Bacteria Reduction	log	6
Virus Reduction	log	4

#### Process Data:

Backwash Flux	lmh	100-150
Backwash Pressure	bar	2.5 max
Air scouring flowrate	Nm <sup>3</sup> /h	5 - 12 (max 15)
Chemically Enhanced Backwash (CEB):		
NaOH	mg/l	500
HCL	mg/l	1000
NaOCl	mg/l	500

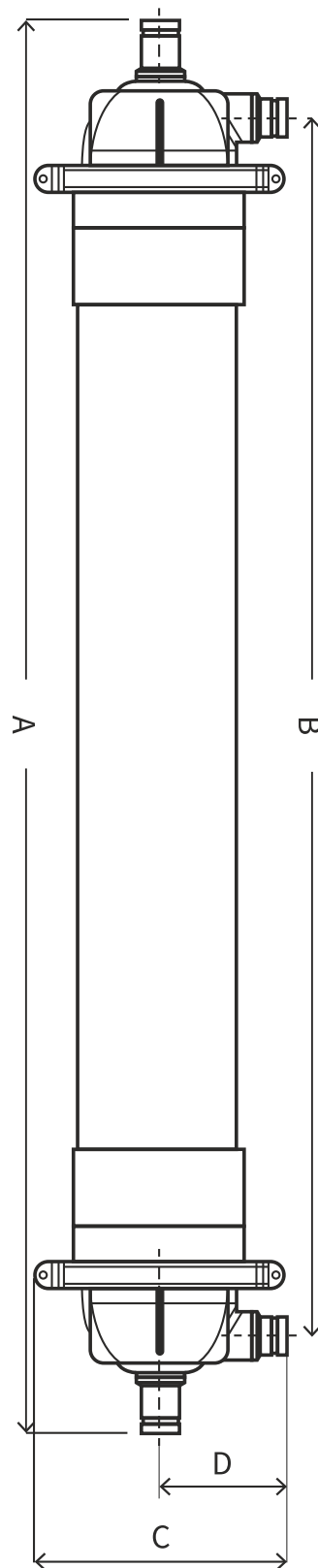
#### Note:

Backwash / CEB / CIP frequency & duration shall be as per the design based on the feed water source, quality & fluctuations

#### Important Warnings & Information:

1. For the recommended design range & guide lines, please follow this technical bulletin or call an application specialist. If the operating limits given in this product information bulletin are not strictly followed, the warranty will be null and void.

2. The customer is fully responsible for the effects of chemicals that are incompatible with the membrane modules.





# PU0440A UF-PNS

## INDUSTRIAL WATER FILTRATION

### CP0440A PVDF High Performance Ultrafiltration Module

MODEL	Surface Area (m <sup>2</sup> )	Dimensions (mm)		Weight (kg)
		A	B	
PU0440A PVDF	8	1125 ± 1	920 ± 1	7

- PVDF based hollow fiber membranes have long lifetime due to their high mechanical strength and chemical resistance.
- The capacity of clean water production is higher due to modification of membranes which enhances the hydrophilicity of membrane.

#### Membrane Specifications:

Model		PU0440A PVDF
Type		Hollow Fiber Ultrafiltration
Material		PVDF
Nominal Pore Size	nm (μ)	30 (0.03)
MWCO	Dalton	100,000
Fiber Bore Diameter (Inner)	mm	0.8
Fiber Bore Diameter (Outer)	mm	1.2
Housing & End Cap (MOC)		UPVC

#### Module Data:

Membrane Surface Area (Active)	m <sup>2</sup>	8
Outer Diameter Housing	mm	100
Nozzels	mm	Victaulic End DN25
Empty Weight With End caps	kgs	7

#### Operational Data:

Mode of Operation		Out to In (Dead End / Cross Flow)
Operating Flux Range	(lmh)	45-180
Operating Temperature	°C	1-40
Feed Pressure Operating Range	bar	2.0 to 2.5
Feed Pressure Maximum @ 25°C	bar	5
Trans membrane Pressure	bar	0.4-2
pH Range Operation		2.0-11.0
Maximum NaOCl	mg/l	500
Particle Dimension	μ	< 200
Total Suspended Solid (TSS)	ppm	50(max80)
Max Feed Turbidity	NTU	50 (max 250)
Oil & Grease		Nil

#### Performance Details:

Filtrate Flow Range	(m <sup>3</sup> /hr)	0.5 ~ 1.2
Filtrate SDI		≤2.5
Filtrate Turbidity	NTU	≤0.1
Bacteria Reduction	log	6
Virus Reduction	log	4

#### Process Data:

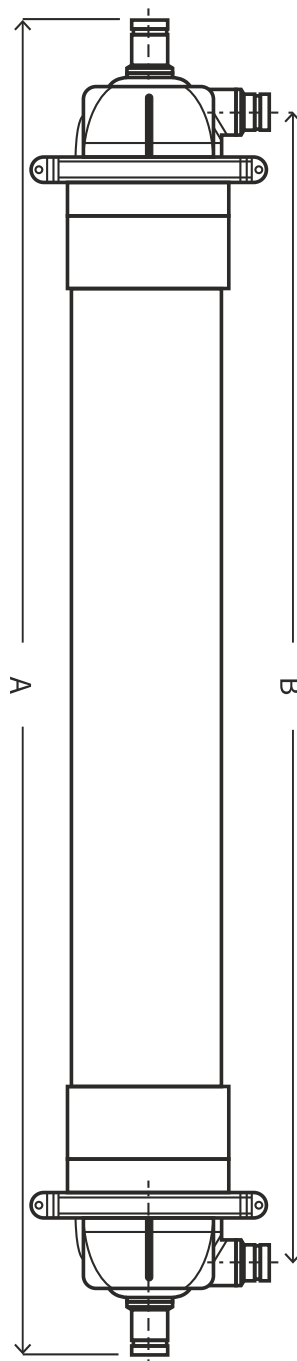
Backwash Flux	lmh	100-150
Backwash Pressure	bar	2.5 max
Air scouring flowrate	Nm <sup>3</sup> /h	0.9 - 2 (max 2)
Chemically Enhanced Backwash (CEB):		
NaOH	mg/l	500
HCL	mg/l	1000
NaOCl	mg/l	500

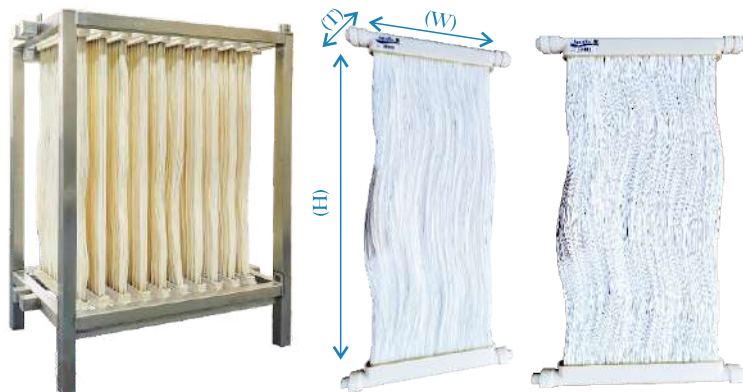
#### Note:

Backwash / CEB / CIP frequency & duration shall be as per the design based on the feed water source, quality & fluctuations

#### Important Warnings & Information:

- For the recommended design range & guide lines, please follow this technical bulletin or call an application specialist. If the operating limits given in this product information bulletin are not strictly followed, the warranty will be null and void.
- The customer is fully responsible for the effects of chemicals that are incompatible with the membrane modules.





**MEMBIO™**  
R PVDF MBR MEMBRANE

Type		MEMBIO 10	MEMBIO 15	MEMBIO 20
Membrane	Nominal pore size, $\mu\text{m}$	0.03 to 0.1		
	Material	Reinforced - PVDF		
Membrane area per element, $\text{m}^2$		10	15	20
Membrane 3 element dimension	Height (H), mm	1010	1515	2020
	Wide (W), mm	535	535	535
	Thickness (T), mm	45	45	45
Amount of Aeration, $\text{m}^3/\text{hr}$		3.5 – 4	4 – 4.5	4.5 – 5
Filtration Method		Suction / Outside - In		
Hollow fibers I /O diameter, mm		1.2 / 2.2		
Design flow rate	Liters / Hour	100 - 300	150 - 450	200 - 600
	Sewage design, l/h	150	225	300

## Recommended Conditions

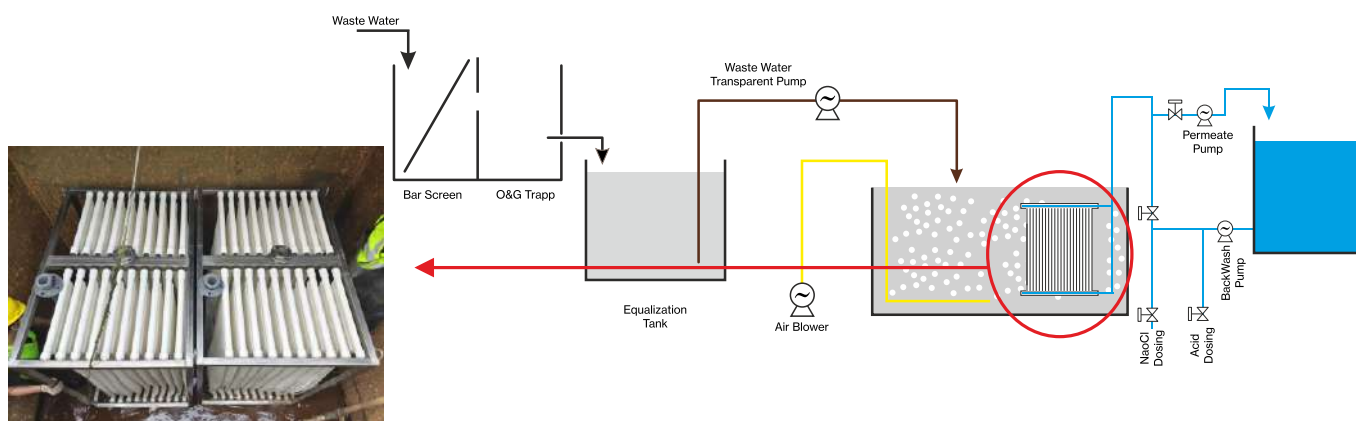
Rated critical design flux, $\text{l/m}^2 \text{ h}$	15-30
Service life, year	3-5
Operating temperature, $^{\circ}\text{C}$	10-45
PH tolerance range	2-11
Sludge turbidity, g/l	4-12
Operating pressure, mpa	-0.01 ~ -0.05 (Negative pressure)
Backwash pressure, mpa	Less than 0.2
Air diffuser	Fine Bubble – Disk or Tube Type
Recommended usage	Medium and large capacity plants ( $>200 \text{ m}^3/\text{d}$ ) Municipal & Industrial wastewater

Membrane bio-reactor (MBR) is a new water treatment technology that combines membrane separation units with biological treatment unit. It replaces secondary sedimentation with membrane components to maintain high activated sludge concentration in the bio-reactor, reduces the land occupation of sewage treatment facility.

Treatment and reuse of waste water

## Benefits

- High treatment efficiency and good treated effluent quality
- Compact equipment saves space
- Simple automated operation
- Modular design
- Large Flux, High Filtering Precision
- Waste Water Optimization
- High Fiber Strength



## DESCRIPTION

Aguaflo reverse osmosis elements are some of the finest products in the industry. The state of the art coating line, coupled with advanced membrane technology, yields product of the highest quality and most stable performance. This membrane is uniquely engineered to have a high level of salt rejection with minimum compromise in water flux.

## FEATURES

- Polyamide thin film composite
- Spirally wound element
- Epoxy-based FRP over wrap
- Used in water treatment of brackish water, surface water, ground water,

## APPLICATION

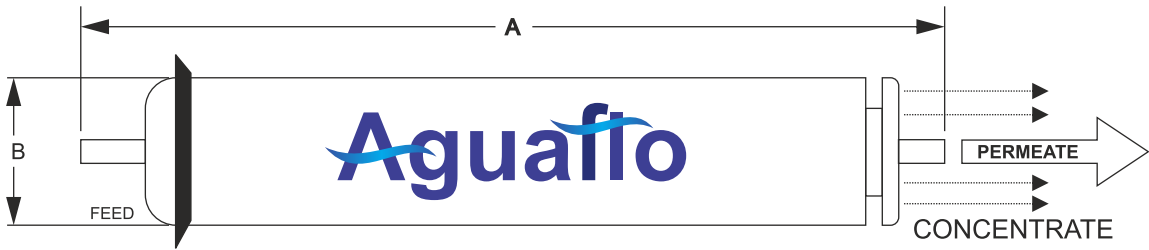
- Desalting of well waters for municipal drinking water supplies
- Production of boiler make-up water for power plants
- Municipal wastewater plants
- Industrial surface and waste waters
- Seawater desalting

## TEST CONDITIONS

- Feed Water Concentration : 2000 PPM NaCl solution
- Feed Water Pressure : 150-225 psi
- Feed water Temperature : 77 °F (25°C)
- Permeate Recovery : 15%
- Feed Water pH- 6.5 - 7.5 pH Range

## PRODUCT TECHNICAL SPECIFICATION

Model	Length (Inches) A	Diameter (Inches) B	Active Surface Area (Ft²)	Salt Rejection (%)	Product Flow
Aguaflo BW 4040	40"	4.0"	85	99.5	24000 GPD (9.0 m³/d)
Aguaflo BW 8040	40"	8.0"	400	99.5	10200 GPD (38.5 m³/d)





## DESCRIPTION

PUREION C222 / C225 is a strong acid cation exchange resin. PUREION C222 / C225 is cross linked polystyrene sulfonated based gel type resin, available in sodium form, specially developed for industrial and domestic softening application.

PUREION C222 / C225 is manufactured in bead form with a high exchange capacity for greater attrition resistance and good chemical resistance over a wide range of temperature and pH condition.

PUREION C222 / C225 can be used in sodium cycles in water treatment, as well as in other chemical processes.



## CHARACTERISTICS

	PUREION C222	PUREION C225
<b>Appearance</b>	<b>Golden Yellow beads</b>	<b>Golden Yellow beads</b>
Matrix	Styrene divinyl benzene copolymer	Styrene divinylbenzene copolymer
Functional Group	Sulphonic acid	Sulphonic acid
Ionic form as supplied	Sodium	Sodium
Total exchange capacity	1.85 meq/ml	2.0 meq/ml
Moisture holding capacity	40%	45 – 50%
Shipping weight	780 ~ 800 kg/1000 liter, approximately	800 ~ 810 kg/1000 liter, approximately
Particle size range	0.3 to 1.2 mm	0.315 to 1.25 mm
Maximum uniformity co-efficient	1.70, Max	1.70
Operating pH range	0 to 14	0 to 14
Maximum operating temperature	140 deg C	140 deg C
Resistance to reducing agent	Excellent	Excellent
Resistance to oxidizing agent	Good, chlorine should be present	Good, chlorine should be present
Osmotic strength	Excellent	Excellent
Mechanical strength	Excellent	Excellent
Solubility	Insoluble in all common solvent	Insoluble in all common solvent

## APPLICATION

PUREION C222 / C225 is used for water softening application, with good exchange capacity and physical stability in residential, commercial and industrial application.

## PACKING

25 Liter Bag

## STORAGE

The resin must not be allowed to dry. A periodic inspection of resin is very important when in storage. If found dry enough clean demineralized water should be added to keep the resin in moist condition. Resin should be stored in shade having temperature between 20° C to 40° C.

## DESCRIPTION

Pureion Promix is a proprietary composite media designed to solve the water problems. Combined with 6 premium-grade materials, Promix works effectively in well water and municipal water within the allowable concentrations of hardness, iron, manganese, ammonium and natural organic matter. Also, Promix can be easily regenerated as the same steps as water softener.

## SUGGESTED OPERATING CONDITIONS AND REMOVAL EFFICIENCY



Raw water limitation		Max. Efficiency (%)
Hardness as CaCO <sub>3</sub>	800 ppm ~ 1000 ppm	~ 95 %
TOC (including Tannins)	18 ppm	50
Ammonium	4 ppm	90
Nitrate	2 ppm	90

\* PROMIX is recommended be used after sediment pre-filter.

\* PROMIX cannot treat microbiologically un safe water.

## CHARACTERISTICS

pH Range	5 – 10
Max Operating Temperature	40 degree C
Service Flow Rate	20 – 25 m/hr
Regeneration Flow Rate	3 – 5 m/hr
Backwash Flow Rate	15 – 20 m/hr
Rinse Flow Rate	20 – 25 m/hr
Minimum Bed Depth	508 mm (20")
Optimal Bed Depth	812 mm (32")
Free Bed Volume	~ 40 %
Brine Concentration	~ 10 %
Salt consumption	120 gram / ltr of resin
Input - TDS	Less than 4000 ppm
Active Chlorine in Input Water	Less than 1 ppm

## APPLICATION

- Water Hardness
- Organics, including tannins
- Ammonium
- Nitrate

## PACKING

25 Liter Bag

## STORAGE

The resin must not be allowed to dry. A periodic inspection of resin is very important when in storage. If found dry enough clean demineralized water should be added to keep the resin in moist condition. Resin should be stored in shade having temperature between 20° C to 40° C.

## DESCRIPTION

PUREION XEC is a strong acid cation exchange resin. PUREION XEC is cross linked polystyrene sulfonated based gel type resin, available in sodium form, specially developed for industrial and domestic softening application.

PUREION XEC is manufactured in bead form with a high exchange capacity for greater attrition resistance and good chemical resistance over a wide range of temperature and pH condition.

PUREION XEC can be used in sodium cycles in water treatment, as well as in other chemical processes.



## CHARACTERISTICS

Appearance	Golden Yellow beads
Matrix	Styrene divinylbenzene copolymer
Functional Group	Sulphonic acid
Ionic form as supplied	Sodium
Total exchange capacity	2.2 meq/ml
Moisture holding capacity	45 – 50%
Shipping weight	800 ~ 810 kg/1000 liter, approximately
Particle size range	0.315 to 1.25 mm
Maximum uniformity co-efficient	1.70
Operating pH range	0 to 14
Maximum operating temperature	140 deg C
Resistance to reducing agent	Excellent
Resistance to oxidizing agent	Good, chlorine should be present
Osmotic strength	Excellent
Mechanical strength	Excellent
Solubility	Insoluble in all common solvent

## APPLICATION

PUREION XEC is used for water softening application, with good exchange capacity and physical stability in residential, commercial and industrial application.

## PACKING

25 Liter Bag

## STORAGE

The resin must not be allowed to dry. A periodic inspection of resin is very important when in storage. If found dry enough clean demineralized water should be added to keep the resin in moist condition. Resin should be stored in shade having temperature between 20° C to 40° C.



**ZEOSAFE®** filter media solution with superior results to traditional filter media.

**60%**

Less water and energy in backwashes

**50%**

Higher water quality

**80%**

Less turbidity in water



**ZEOSAFE®**

0.6 ~ 1.2 mm  
0.3 ~ 0.6 mm

Removal of particles up to 3 to 5 micron

**Applications**

Filtration of well water, municipal network, pretreatment of RO|UF|NF, Swimming Pool Cooling Tower, STP, ETP and many other specialized applications

Tested and Certified to NSF Standard



**SEDIMENT FILTRATION**

DOMESTIC | COMMERCIAL | COMMUNITY

**SWIMMING POOLS**

**PRE TREATMENT**

RO | UF | NF

**POST TREATMENT**

ETP | STP | MUNICIPAL



**Optimize the quality and performance of your filtration system**

Make your filtration system **more efficient** and sustainable with **ZEOSAFE® Filter Media**

Greater filtering capacity



Eliminates particles between grains and cavities due to its porous surface.

Savings in water and energy



It generates 60% less cost of water and energy in backwashing per year.

Greater particle retention



It retains particles of up to one micron due to its porous capacities

Triplies the filtration stroke



Being a more porous filter medium and with greater permeability

## What makes **ZEOSAFE®** a good water filtration media?

When it comes to filters, the more pores within the treatment media, means more efficiency in the filtration performance. **ZEOSAFE®** (Processed activated Zeolite) media, have many pores, therefore they do not just capture particles between grains, they also can adsorb them onto the surface of the media.

The unique advantage of **ZEOSAFE®** is its physical, chemical, adsorption, ionization, reduction and catalytic properties. Zeolite can adsorb ammonia, nitrate, nitrogen, hydrogen-sulfide, heavy metals, carbon-oxygen etc. It also can adsorb and/or separate the following with catalytic effect: potassium (K), iron (Fe), manganese (Mn), strontium (Sr), lead (Pb), copper (Cu), silver (Ag) etc.

Due to its high pore density, **ZEOSAFE®** has a highly effective surface area, meaning it can capture high concentrations of physical contaminants before backwashing is needed. The media can also use the process of adsorption to capture and remove certain particles. This process is an active effect where particles adhere to the surface of the media instead of passively getting caught between grains.

active effect where particles adhere to the surface of the media instead of passively getting caught between grains.

The life of **ZEOSAFE®** will be 6 to 8 years. At the end of life, **ZEOSAFE®** may be added to your garden or potted plants as a soil conditioner or simply discarded as a non-hazardous waste

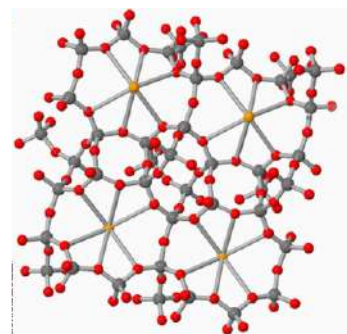


Fig 1 : The Tetrahedral Framework of Zeolite

## Technical Details

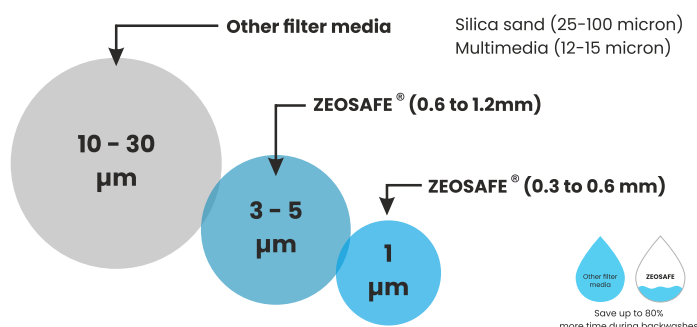
### Physical Properties

Filtration (nominal)	< 3 micron
Porosity	24 ~ 32%
Particle size	0.3 to 0.6 mm 0.6 to 1.2 mm
Surface area	>270 m2/gram
Color	Pale green / grey

### Operational condition

Bed Depth	600 – 1000 mm
Free board	30 ~ 50%
Service flow rate	18 – 35 m/hr
Backwash flow rate	25 – 50 m/hr

Save up to **60% more water and energy** during back washes



( Multimedia: 70% silica sand 20% - 40%, 15% anthracite, 15% others. )

## Just as your Operational Costs

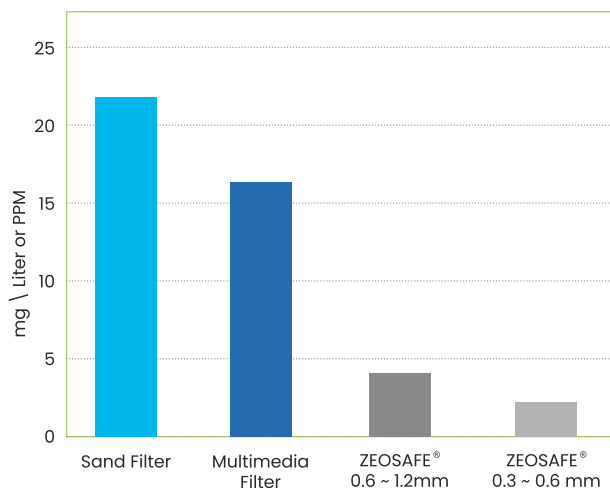
- ZEOSAFE® media offers up to 2.5x greater filtrations. multimedia filters.
- Down to 30% less cartridges wear and fouling in the rest of the filter elements.
- Up to 60% more savings in water and energy during backwashing.



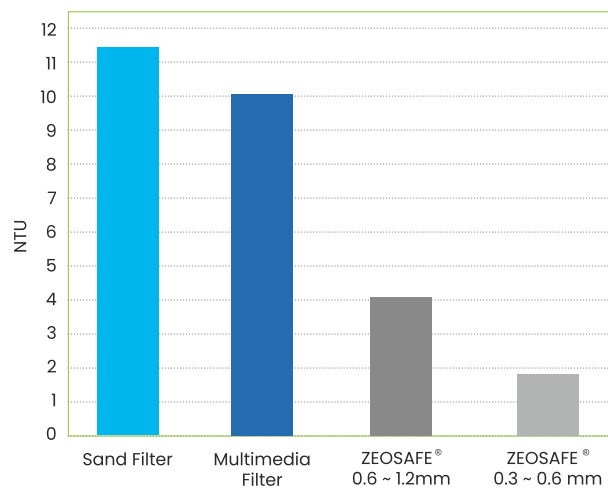
## Reduce Capital Costs

- Does not require Blowers to expand the bed during backwash
- Has 2.5 x ~3x filtration speed.
- ZEOSAFE® occupies 50% less filtration area, which translates to 60% less materials used for vessels | Filter bed

Greater suspended solids removal results in **fewer cartridge replacement.**



Total Suspended solids removal



Turbidity removal

## Advantage

- Larger surface area: ZEOSAFE® generally has 100 times more surface area than sand. This makes ZEOSAFE® a better filter media with highest loading rate.
- Better filtration: Typically, the conventional filter using sand and other media beds can provide filtration upto 20 to 30 microns but ZEOSAFE® typically would have a nominal filter rating of less than 3~5 micron. This property greatly reduces the turbidity in treated water.
- Lower capital requirement: ZEOSAFE® filter designed for 2 to 3 times more filtration velocity in comparison to sand, hence by using ZEOSAFE®, the filter size will be smaller that reduces the capex.
- Fewer backwash cycle: Due to high loading capacity ZEOSAFE® requires only one half of the backwash cycle that are required by sand filter.
- Less backwash water wastage: The fewer backwash cycles generally cut the amount of backwash water by one third to one half. This means treating less backwash water and greater plant capacity.
- Long media bed life: the anticipated media bed life of ZEOSAFE® is upto 6-8 year.
- Removes heavy metal cations, certain hydrocarbons and other contaminants.





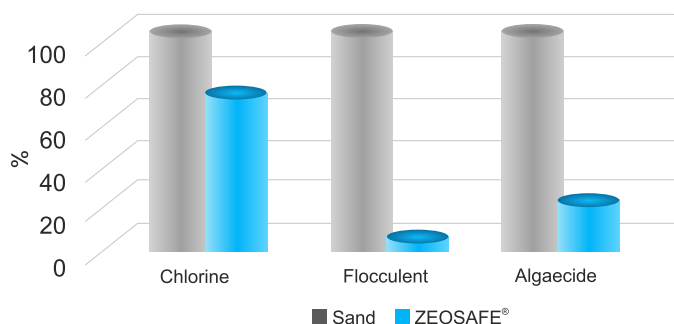
**ZEOSAFE® – Pool** is an excellent filter media for the treatment of swimming pool water. It is used as a replacement for sand in filters. With **ZEOSAFE® – Pool**, filtration efficiencies close to 4~8 microns can be achieved without the use of flocculent, compared to the 40-80 microns of sand.

This exceptional filtration performance is due to the structure and shape of **ZEOSAFE® – Pool**, which provides better adhesion to the particles in the pool water than sand.

**ZEOSAFE® – Pool** can remove ammonia brought by swimmers (organic matter of the nitrogen type: sweat, mucus, urine, etc.) and greatly reduces the presence of chloramines by simply preventing their formation.

The use of **ZEOSAFE® – Pool** therefore reduces shock treatments, chlorine consumption and reduces filter maintenance. With **ZEOSAFE® – Pool**, chlorine is no longer blocked by ammonia, rather it can again act as a disinfectant and anti-alga! No need to overdose of chlorine to fight against microbes, nor shock treatments based on copper or quaternary ammonium to eliminate algae. The reduction of nitrogenous and organic nutrients in the water allows a better balance to be achieved and thus reduces the overall chemical requirements. This comfort is highly appreciated by swimmers and professionals.

## Reduction of chemicals with ZEOSAFE®-Pool compared to sand

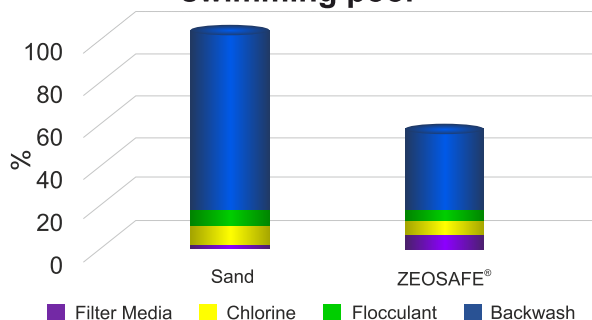


Although **ZEOSAFE® – Pool** is more expensive than sand, the savings made on a private or public swimming pool can reach up to 46% over 5 years by combining the main expenses related to water treatment (excluding energy) including the purchase of filter material.

**ZEOSAFE® – Pool** is a solution in accordance with a sustainable development approach. By using it, everyone makes a significant contribution to words for the protection of the environment.

**ZEOSAFE® – Pool** is compatible with the main water treatment products: organic chlorine, hypochlorite, salt electrolysis, bromine but not with metal based chemicals (copper, silver, etc)

## ZEOSAFE®-Pool vs Sand Savings rate over 5 year for a public swimming pool



## BENEFITS

- A 25 kg bag of **ZEOSAFE® – Pool** is equivalent to approximately 100 kg of sand.
- The low density of **ZEOSAFE® – Pool** compared to sand, drastically reduces the energy required for filtration.
- The filter media is lighter and therefore easier to backwash, reducing the frequency of filter cleaning and reducing the water consumption required for flushing (up to 50 %).
- Enhanced adsorption of contaminants, capable of capturing particles as small as 5~8 microns, while sand can only capture a minimum of 40 ~ 60 microns.
- Removal of ammonia from water increases chlorination efficiency, there by reduces the amount of chlorine required to treat pool water by up to 40%.
- Controls malodorous volatile (chloramines).



## SAFEDEF

High Efficiency Fluoride Removal Media

### Introduction

SAFEDEF® a new and very high efficiency Fluoride removal media. SAFEDEF® is rapidly becoming media of choice for removing fluoride from portable, community and filter for water supply schemes. This media can also be used for fluoride removal of fluoride containing waste water.



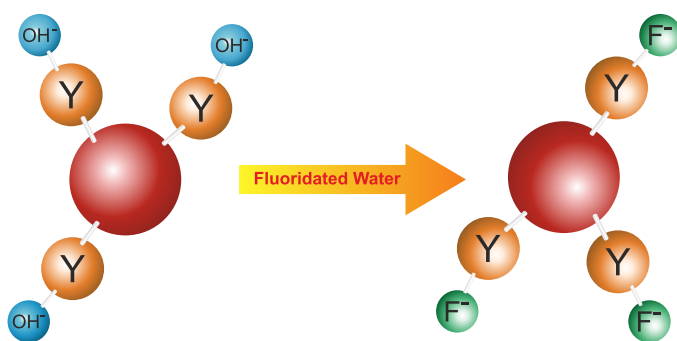
### Identification of Material

Product Name	SAFEDEF®
Recommended use	Removal of Excess Fluoride from Water

### Physical properties

Material origin	Natural mineral
Physical state	Solid grain
Color	White
Solubility	Insoluble in water
Bulk density	1.33 gram/ml
Particle size	0.5 mm to 1.0 mm

### Fluoride removal mechanism & capacity



The principle of fluoride removal is based on the  $\text{OH}^-$  ion in the media being replaced by the fluoride. It is one of the most effective adsorbents of the fluoride with much faster reaction times than activated alumina and fluoride specific ion exchange media.

The fluoride removal capacity of SAFEDEF® is about 2~4 mg/g, which is superior than the most media under the same condition. The capacity is impacted by different raw water quality including fluoride concentration, temperature, co-existing ions etc.

### Technical advantage

- High capacity and shorter contact time
- Does not release any harmful substances into the water that is to be treated.
- Safe to use, no dissolution of toxic and hazardous substances.
- High efficiency, SAFEDEF® can remove 99% fluoride of the raw water. Thereby the treated water could be mixed with the raw water in order to reduce the operating costs and extend the operation cycle.
- Steady capacity under other ionic competition like hardness etc.
- Lower regeneration cost and simple regeneration process



## Performance comparison

Figure 1 and Figure 2 demonstrate that the SAFEDEF<sup>®</sup> media have higher performance than other common fluoride removal media under the same conditions. The treated water volume of SAFEDEF<sup>®</sup> is About 11.7 times of activated alumina and 23 times of activated clinoptilolite.

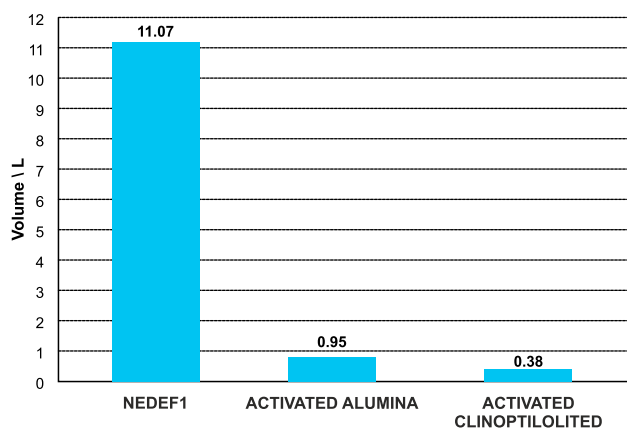


Figure 1. The volume of water treated by different media under the same conditions, the conc. of fluoride is 6mg/L in raw water

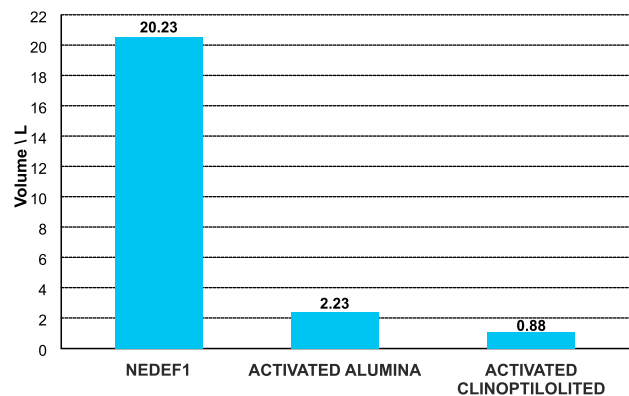
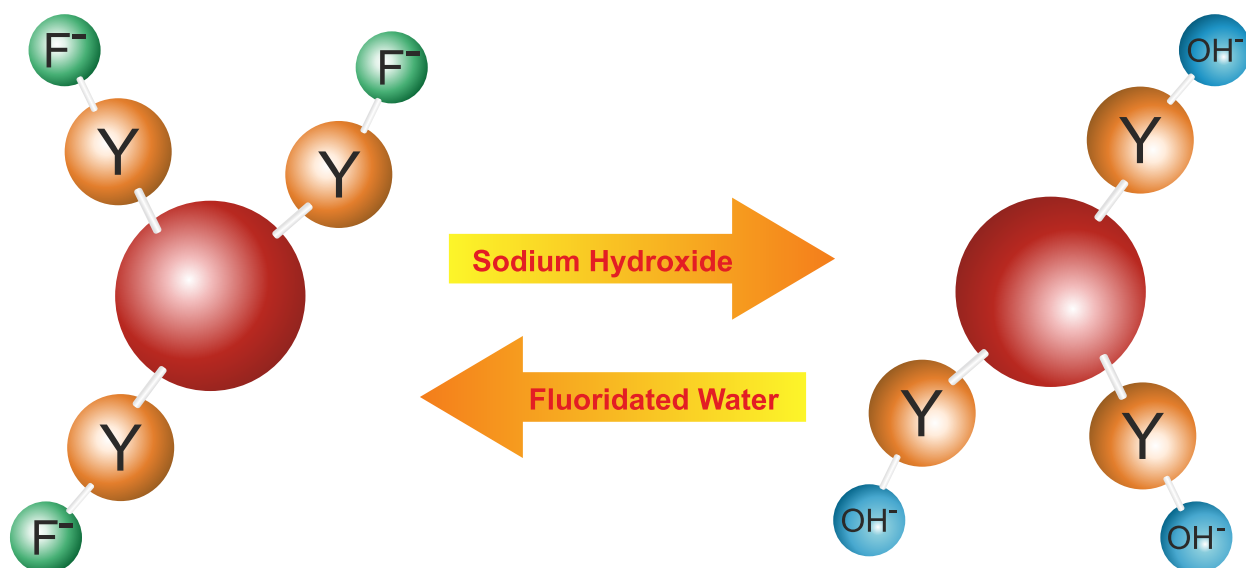


Figure 2. The volume of water treated by different media under the same conditions, the conc. of fluoride is 2mg/L in raw water

## Regeneration:

Method	Concentration	Time
NaOH – recirculation	3 ~ 5%	1 ~ 2 Hrs
NaOH – Soaking	0.5 ~ 3%	6 ~ 8 Hrs



It's the reverse reaction of the fluoride removal mechanism. OH<sup>-</sup> replaces F<sup>-</sup> on the particle surface. Regeneration is carried out using 0.5 to 5 % caustic solution which is recirculated or soaked as per the above regeneration mechanism.

# KATALOX-LIGHT®

Advanced Catalytic Filtration Media for Iron, Manganese and Hydrogen Sulfide Removal

KATALOX-LIGHT® is a new brand of revolutionary advanced filtration media completely developed in Germany. It's composition simply makes it outstanding against the contemporary filter media available in water treatment industries, like sand, BIRM, Green sand Plus, Manganese Green sand etc. KATALOX-LIGHT® is manufactured in Germany.

KATALOX-LIGHT® is engineered with unique MnO<sub>2</sub> coating technique on ZEOSORB®, providing it light weight, higher filtration surface, more service life and more reliable performance (filtration down to 3 µm)..

KATALOX-LIGHT® is being used in numerous system for residential, commercial, industrial and municipal applications worldwide, for High level filtration, color and odor removal, Iron, Manganese, Hydrogen sulfide removal, efficient reduction of Arsenic, Zinc, Copper, Lead, Radium, Uranium and other radionuclides and heavy metals.



KATALOX - LIGHT® is ANSI/NSF 61 Certified for drinking water applications and has met the ANSI/ NSF 372 Lead free compliance.



## WORKING PRINCIPLE

KATALOX-LIGHT® can be used for Arsenic, Radium, Uranium removal but in these cases there is requirement of Iron in the water. KATALOX-LIGHT® system is designed with special iron dosing technology which has many advantages over Adsorbent media used for Heavy Metal removal.

## ADVANTAGES FEATURES

### Filtration (≤ 3 µm) of:

- Total Suspended Solids
- Sediments
- Turbidity
- Organics
- Color (some, organic)
- Odor

### Removal of:

- Iron (Inlet conc. up to. 100 mg/L)
- Manganese (Inlet conc. up to 20 mg/L)
- Arsenic
- Hydrogen sulfide
- Uranium, Radium
- Heavy Metals
- Radionuclide

- High content MnO<sub>2</sub> coating (10%)
- Very High Surface Area
- Contains NO Crystalline Silica
- Light Weight - providing significant savings on backwash water
- Effective reduction of Arsenic, Zinc, Copper, Lead, Radium, Uranium, radio nuclides and other heavy metals
- Filtration of sand, sediment and suspended solids, down to 3 micron
- High removal capacity of Iron, Manganese and Hydrogen sulfide
- Higher Filtration rates
- Media replacement every 7 - 10 years
- No disinfection by-product
- No mandatory KMnO<sub>4</sub>, chlorine or chlorine dioxide dosing
- Low operational costs
- Unique product, unmatched by our Competitors

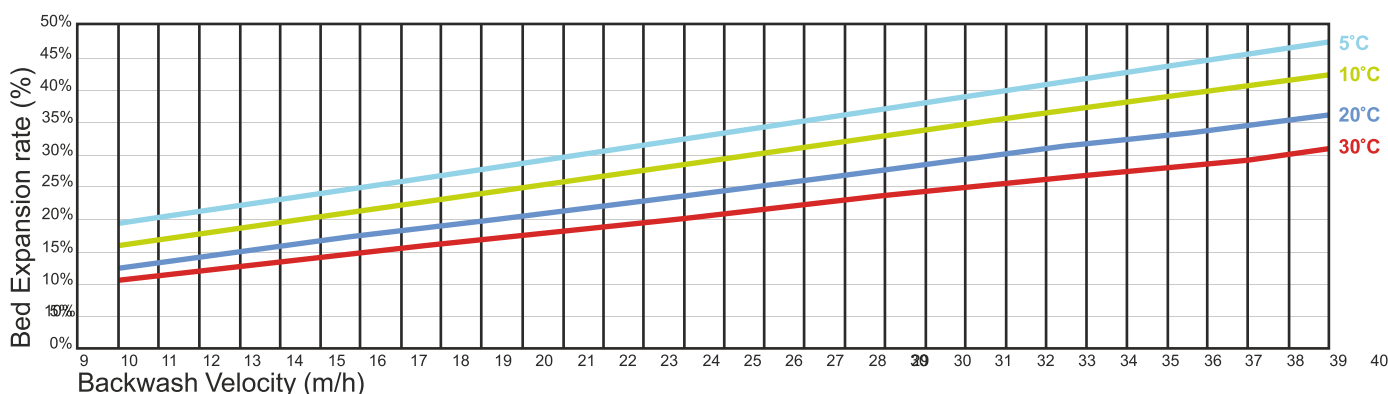


**WATCHER**  
WATCH WATER

*a Water Company*



## BACKWASH VELOCITY (m/h) VS. BED EXPANSION (%)



Standard systems are designed with a filtration velocity of 20 m/h (8.2 gpm/ft<sup>2</sup>) to provide a good filtration. This value may differ for advanced application like Arsenic, Radium, Uranium and other Heavy Metal removal where co-precipitation process requires higher contact time thus lower filtration velocity. Running the system at higher velocity may compromise the filtration performance.

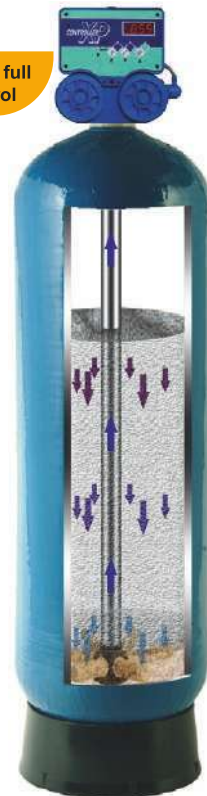
Virtually there is no flow rate limitations for KATALOX-LIGHT® systems as KATALOX-LIGHT® units can be configured in parallel to address industrial high flow requirements.



KL System with simple Manual Control



KL System with full Automatic Control



## Physical Properties

Appearance	Granular black beads	
Odor	None	
Mesh size	US	14 x 30
	SI	0.6 – 1.4 mm
Uniformity Coefficient for H <sub>2</sub> S alone	≤ 1.75	
Bulk density	US	66 lb./t <sup>3</sup>
	SI	1060 kg/m <sup>3</sup>
Moisture Content	< 0.5 % as shipped	
Filtration	< 3 micron	
Loading Capacity	for Fe <sup>2+</sup> alone	3000 mg/l 85000 mg/t <sup>3</sup> (aprx)
	for Mn <sup>2+</sup> alone	1500 mg/l 42500 mg/t <sup>3</sup> (aprx)
	for H <sub>2</sub> S alone	500 mg/l
		14000 mg/t <sup>3</sup> (aprx)

## Recommended System Operating Conditions

Inlet water pH	5.8 - 10.5	
Freeboard	40%	
Minimal Bed Depth	US	29.5 inches
	SI	75 cm
Optimal Bed Depth	US	47 inches
	SI	120 cm
Service flow	US	4 - 8 gpm/t <sup>2</sup>
	SI	10 - 20 m/h
Backwash velocity**	US	10 - 12 gpm/t <sup>2</sup>
	SI	25 -30 m/h
Backwash time**	10 - 15 minutes	
	2 - 3 minutes	

## Titanium Dioxide Based High Capacity Absorbent Media

The breakthrough, which has taken Watch-Water® five years to develop the Double Capacity Titanium dioxide crystals into Patented Adsorbent. TITANSORB™, such a low cost Adsorbent is expected to have immense potential to help tackle ongoing Global Adsorbent Market in Arsenic and Environmental issues of Arsenic Removal

[illegible]

If arsenic is detected above the new Maximum Contaminant Level (MCL) is 5 µg/l, watch this warning “Don’t use this water for drinking, cooking, bathing, or in other consumption ways”. At this time Watch-Water® recommends arsenic removal for residential, commercial, hospitals, schools and all other food service whose city water or well water contains arsenic above 5 µg/l to install a arsenic removal system. Don’t boil your water as a method of treatment. This will result in higher arsenic concentrations in your water. Remember only water evaporates but not contaminants and also not arsenic.



## Crystalline Titanium Dioxide Based Adsorber

Pg. 44

To reduce the arsenic concentration from drinking water, there are several short-term (Low capacity) and long term (High capacity) adsorbent solutions. There are three types of water treatment systems to remove arsenic.

1. Point-of-Use (POU) systems treat the water at the kitchen tap.
2. Point-of-Entry (POE) treatment systems for the entire household.
3. Large system for municipalities serving 100 homes or more.

Fast adsorption kinetics makes it possible to make TITANSORB™ cartridges for POU filters



Pic. 2 POE Filters are available both with manual or fully automatic



Highest Arsenic Loading



Operates in wider pH Range



Highest Purity



Low Cost

## ADVANTAGES

- No regeneration chemical required
- Simple system design
- Simple manual or Automatic Systems
- Simple start ups
- Reduced equipment footprint
- High adsorption capacity for Arsenic and other Heavy Metals.
- Removing Arsenic in millions of gallons of drinking water worldwide.
- Extremely fast kinetics
- Empty Bed Contact Time (EBCT) between 0.5 – 3 minutes.

## Loading Capacity

Contaminants	Tested capacity*
Arsenic (V)	48 – 60 g/kg
Arsenic (III)	20 – 30 g/kg
Chromium (VI)	14 – 18 g/kg

## Technical Specification

Appearance	White solid granules
Base material	Titanium oxohydrate
Particle size	SI 0.5 – 2.0 mm
	US 10 x 35
Bulk density	SI 608 kg/m <sup>3</sup>
Color	38 lb/t <sup>3</sup>
Moisture Content	< 4 %
Specific surface area	300 m <sup>2</sup> /g (BET)

## Operating conditions

Flow direction	Down-flow
Inlet water pH *	6.5 – 6.9
Max. feed water temp.	40 °C (104 °F)
Pressure rating	3 – 10 bar (43.5 – 145 psi)
Freeboard	40 – 45 %
Minimum bed depth	100 cm (39.4 in)
Filtration velocity	15 – 25 m/h (6 – 10 gpm/ft <sup>2</sup> )
EBCT	30 – 180 sec.
Backwash velocity	6 – 10 m/h (2.4 – 4 gpm/ft <sup>2</sup> )
Backwash Volume	5 – 10 BV



# FILTERSORB® SP3

Scale Prevention Media based on NAC Technology

Watch Water® core motivation for developing this product was to find an alternative to conventional ion exchange based water softeners, reverse osmosis or other chemical based systems that prevent scale. Recent restrictions placed upon the above mentioned technology lead to an environment friendly, cost effective solution for hard water, Watch Water® FILTERSORB® SP3. FILTERSORB® SP3 completely takes care of the primary cause of scale forming cations viz.  $\text{Ca}^{2+}$  and  $\text{Mg}^{2+}$



FILTERSORB® SP3 is the result of extensive research work along with its undisputable success in the market Worldwide since 2005.



## WORKING PRINCIPLE

When the hard water under goes nucleation in the pressure vessel, the calcium bicarbonate  $\text{Ca}(\text{HCO}_3)_2$  is transformed into aragonite form of calcium carbonate  $\text{CaCO}_3$  crystals. These crystals are formed through decomposition and crystallization process, forming very stable harmless crystals.

The following equation describes the reaction that occurs inside the pressure vessel when flow over grains of nucleation.



The name fragment "SP (Scale Prevention) 3" is to indicate this unique transformation of water hardness  $\text{Ca}(\text{HCO}_3)_2$  into 3 components viz.

1)  $\text{CaCO}_3$  (micro-crystals)

2)  $\text{CO}_2$  (colloid)

3)  $\text{H}_2\text{O}$  (pure)

In the pressure vessel, the equilibrium of carbonate species in water is changed, assisted by the driving force of stable crystal formation and therefore the reaction is pushed to the right  $\rightarrow$ . With this technology, as long as  $\text{CO}_2$  is being removed the soluble  $\text{Ca}(\text{HCO}_3)_2$  converts into insoluble calcium carbonate ( $\text{CaCO}_3$ ) crystals.

The calcium carbonate crystals grow steadily. They are **very stable** and **cannot dissolve** (incapable of forming scale) in the water.

Glass grains crystallization sites provide increased nucleation sites for the formation of submicron sized  $\text{CaCO}_3$  crystals. Hence this amazing process is called **NUCLEATION ASSISTED CRYSTALLIZATION**.



## FEATURES

- 3 – 5 years media life
- Nucleation Assisted Crystallization (NAC)
- Best Quality Drinking Water Green Technology!

## APPLICATION

### Home Appliances:

Faucets, water pipes, shower heads, shower cabins, toilets. All beverage systems, kitchen machines, dish washers, ice cubes, compact washers and dryers.

### Major Appliances:

Central heating, air conditioners, water heaters, air humidifiers, coffee and tea makers, solar heating systems, water coolers.

### Boilers:

Hot water boilers, central heating boilers, combo boilers, catering water boilers, boilers and pool heaters, commercial water heaters, industrial hot water boilers.

### Cooling towers:

Closed circuit cooling towers, open circuit cooling towers, concrete cooling towers, cross flow cooling towers.

### Industrial appliances:

Winery, Car Washing, Dairy Processing, Food & Beverages, Injection Moulding, Irrigation, Nurseries, Reverse Osmosis pre-treatment etc

### Other applications:

Irrigation, Swimming pools and SPA, Dairy Processing, Winery and Beverages, Planting and Gardening, Automobile Washing, Hotel, Restaurants and Institutions, Coffee and Tea-machines, Vending appliances, and many more...

## Physical Characteristics

Appearance	White / opaque solid granules	
Composiion	modified ceramic beads	
Bulk density	SI	780 kg/m3
	US	48.7 lb / t3
Paricle size	SI	0.55 – 0.75 mm
	US	
Moisture content	10 – 25 %	

## ADVANTAGES

- **No backwashing** required
- **No regeneraion** cycle required
- No increase in sodium content in water
- Removes the previous scales of plumbing
- Catalytic process converts **Ca** and **Mg** into harmless micro crystals
- **Maintenance free.** No extra cost incurred.
- **No chemicals** required for disinfection
- **No electrical connecions** required
- No drain connecions required
- No control valves required
- Very easy to install
- Great savings against conveional salt based water sot eners
- Provide the best quality healthy water without the addiion of Sodium or Phosphates



Let us saY Bye Bye to conventional water softener BY using our FILTERSORB technologies.

### CERTIFICATIONS:

- ✓ **FILTERSORB® SP3** is cerified under ANSI/NSF 61 from WQA, USA
- ✓ **FILTERSORB® SP3** is BS 6920:2000 (Briish Standard, UK) cerified.
- ✓ **FILTERSORB® SP3** is tested to meet MSZ 448-36:1985 standard (Hungary).
- ✓ **FILTERSORB® SP3** is cerified from Department of Environmental Hygiene (Poland).
- ✓ **FILTERSORB® SP3** Tested to meet WRAS (Water Regulaions Advisory Scheme, Briish Standard, UK) Standard of Product Quality and High temperature



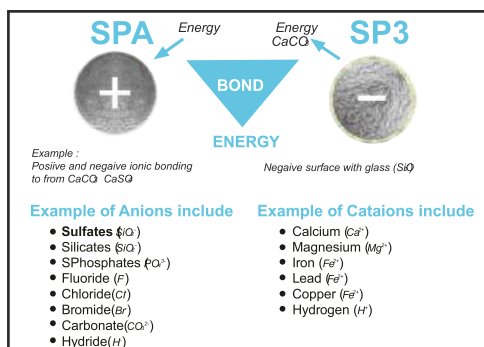
**FILTERSORB® SP3**

# FILTERSORB CT

Combined Treatment of Cationic and Anionic Scale ( Total Hardness )

The goal of Watch-Water® is to guide all customers in designing an accurate combined treatment system. There are a number of different technologies which are described as combined treatment (CT) used avoid scaling including the Watch-Water® **FILTERSORB®SP3**.

The goal of the designer of a CT combined treatment system is to ensure that the correct **water quality and quantity** is delivered with optimized tank, head and distributors. The optimum design depends on the relating Importance of water parameters.



**FILTERSORB®CT** is the best way to treat both anions as well as cations in hard water which can provide safe treatment of scale with 100 times more power.

## FILTERSORB® CT is a Nucleation and Exothermic Combination

### Problem

The formation of heavy deposits of calcium and magnesium, silicate and sulfate scale has become a major operational problem for domestic, industrial and all commercial applications. Scale formation combined with silicate and sulfate ions in the well water, seawater is resistant to removal with acid. The scales formed are of such low solubility that occurred and deposition cannot be cleaned. If not treated with **FILTERSORB® CT**, this scale can rapidly lead to severe productivity impairment



### Nucleation

**FILTERSORB® SP3** works in a process of nucleation in which the media absorbs cations from its surroundings in the form of crystal and release CO<sub>2</sub> in the form of gas → splitting a gas molecule. Example: photosynthesis.

**Result:** Calcium and Magnesium is absorbed from hard water on the surface and released into the form of CaCO<sub>3</sub> crystals. Example: Evaporation or melting ice.

### Exothermic

**FILTERSORB® SP3** is an exothermic process in which the media separates the anions (negatively charged) from positively charged cations in the form of ionic bonds on the surface called EXO (outside) on very strong positively charged beads.

**Result:** Negatively charged energy is separated from water and released and joined them in a form of electricity. Example: Making ice, rusting iron or chemical bonds. These electrons keep switching directions and sometimes going behind the protons (cations) and then going "backwards".

**CT** = **C**ombined **T**reatment of

- Carbonate scales
- Silicate and sulfate scales

**FILTERSORB®CT** is the best way to treat both anions as well as cations in hard water which can provide safe treatment of scale with 100 times more power

### FEATURES



Scale Prevention



High Efficacy



No Salt



Water Softener



100 % Efficiency





## Operational parameters & water impurities

Flow direction	Up Flow	
Recommended operating time	SI	5 – 80 °C
	US	41 – 176 °F
ph range	6.5 – 9.5	
Hardness, max.	SI	1338 ppm (mg/l)
	US	75 gpg
Salinity, max.	35000 ppm (mg/l)	
Iron, max.	0.5 ppm (mg/l) *	
Manganese, max.	0.05 ppm (mg/l)	
Free chlorine, max.	3 ppm (mg/l)	
Copper, max.	1.3 ppm (mg/l)	
Oil	Free	
Hydrogen sulfide	Free	

**FILTERSORB®CT** is able to remove Iron from water with very high efficiency.

## Uses of FILTERSORB® with alternating surfaces

The two types of FILTERSORB® units are SP3 scale prevention and SPA anion scale prevention. SP3 units prevent cationic scale based on positively charged ions such as calcium and magnesium and with nucleation it changes them into  $\text{CaCO}_3$  crystals. SPA units prevent scale based on negatively charged ions such as sulfates, silicates and phosphates (Calcium phosphate).

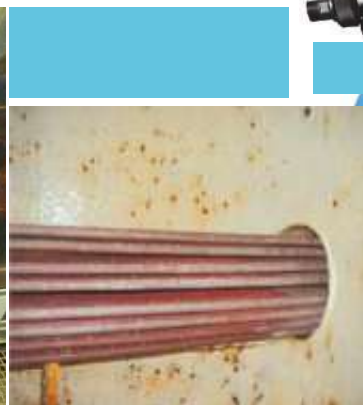
FILTERSORB® CT units prevent scale of both cations and anions, both positively and negatively charged ions. WatchWater® recommends a mix of 50 % SP3 media and 50 % SPA media.

The FILTERSORB® systems do not need any regeneration, no chemical feed and no electrical valve head or waste water outlet. FILTERSORB®CT is a continuous up-flow system.

**FILTERSORB® CT** systems can treat both:

- Point-of-entry (POE)
- Point-of-use (POU)

These systems will reduce the scale of calcium, magnesium, sulfates, silicates including phosphates.



**FILTERSORB®CT**

## INSTANT I-SOFT

*A Solid Comprehensive Dosing Range (Aniscalants)*

Watch Water® **INSTANT** dosing chemicals are manufactured in our plant in Mannheim, Germany. **INSTANT I-SOFT** with an addition of highly concentrated scale inhibitors, corrosion inhibitors, dispersants, oxygen scavengers (Volatile and Non-Volatile), biocides (Oxidizing and Non-oxidizing) for any Residential, Industrial or Commercial applications are proven to be the most environmental friendly and safe products available in Water Treatment industry.



Watch Water® is the only producer of **INSTANT** complexing Agent. In addition to the **I-SOFT** (complex), we also offer corrosion inhibitors, Biocides, Oxygen Scavengers, Cleaning agents, Descalers and strong Oxidizers – and all of these products are biodegradable! Watch Water® does not supply Phosphates, EDTA, NTA, Phosphonates or Complexing agents which are not Biodegradable.

The performance of the **I-SOFT** Instant type is much higher and the biggest advantage for customers is not to buy 95 % of expensive water, which involves higher transport costs and handling costs. It solves the problem of storage as well. The excellent ecological properties of the **I-SOFT** have been confirmed by numerous customers worldwide. Watch Water® therefore recommends the **I-SOFT** as replacement for other, less environment friendly complexing agents, such as Phosphates, Phosphonates, Ion-Exchange Cations, Anions and Silicates etc.

### Watch-Water Scale-Prevention Solution:

Hard Water contains salts of Caions and Anions	Water Hardness	Treatment Method
Ca <sup>2+</sup> Mg <sup>2+</sup> + HCO <sub>3</sub> <sup>-</sup>	Temporary / carbonate water hardness	Treated with by converging the bicarbonates into nonsoluble carbonate crystals (Directed NAC)
Ca <sup>2+</sup> Mg <sup>2+</sup> Ba <sup>2+</sup> Sr <sup>2+</sup> + SO <sub>4</sub> <sup>2-</sup> SiO <sub>2</sub> <sup>2-</sup> PO <sub>4</sub> <sup>2-</sup> F <sup>-</sup>	Permanent / noncarbonate water hardness	Treated by addiion of I-Sot for permanent for rest hardness stabilizaion for corrosion control

Will you pay for the “Water” in the chemicals ?

A 5 kg **INSTANT** bag makes 100 liters of dosing chemical



The difference between instant dosing technology and othe products is 95 % less water and cost

### APPLICATIONS

- Drinking water
- Process water
- Heaing equipments
- Heat exchangers
- Air condiioners
- Cooling towers
- Boilers
- Steam boilers
- Membrane Systems
- Ani-Scalants

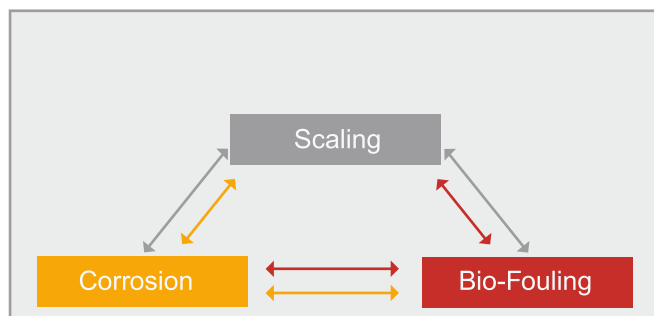
### FEATURES

- Correct Dosing/Coninuous Operaion
- Controlled Concentraion of products
- Personnel Safety
- Cost effeciveness
- Low Toxicity Technology
- Lower CO<sub>2</sub> Emissions
- 100% Recyclable Packaging
- Ease of Disposal
- Convenience
- No Service and Maintenance Costs

2 x 20 kg Instant chemical boxes can provide 800 liters of dosing chemical



Less product, less waste and maximum efficiency



### Very important for the environment !

There is absolute need for ion exchange softeners, phosphates, phosphonates, EDTA and NTA to be replaced in many applications, because of issues concerning the effects of salt rejection and phosphorus compounds on aquatic life and water quality. All these products are not biodegradable

## INSTANT I-SOFT FAMILY

Form	Product Name	Addiion Fuction
INSTANT	I-SOFT	- <ul style="list-style-type: none"> <li>Municipal, Residenial, Industrial, Commercial Water Applicaiaon</li> <li>Scale &amp; Corrosion inhibitor for all pipes and equipments.</li> </ul>
	I-SOFT	DW <ul style="list-style-type: none"> <li>Drinking Water applicaions, Food &amp; beverage Industries</li> <li>Scale &amp; Corrosion inhibitor for all pipes.</li> </ul>
	I-SOFT	ON <ul style="list-style-type: none"> <li>Scale &amp; Corrosion inhibitor with Non-volaile Oxygen scavengers.</li> <li>FDA approved muli-purpose Hot Boiler Water Treatment.</li> </ul>
	I-SOFT	OV <ul style="list-style-type: none"> <li>Scale &amp; Corrosion inhibitor with Volaile Oxygen scavengers.</li> <li>Multi-purpose Boiler (Steam Boilers) Water Treatment.</li> </ul>
	I-SOFT	NB <ul style="list-style-type: none"> <li>Cooling Water, Heat exchangers, Air condiioners</li> <li>Multi-funcional Scale and Corrosion inhibitor with Dispersant and non-oxidizing biocide for high silica and sulphate content in feed water.</li> </ul>
	I-SOFT	OB <ul style="list-style-type: none"> <li>Cooling Water, Heat exchangers, Air condiioners</li> <li>Most effective non-hazardous oxidizing biocide in the market. High Cycle chemistry!</li> </ul>
	I-SOFT	RO <ul style="list-style-type: none"> <li>Guaranteed one dosage and all prevention ofscaling &amp; fouling, such as Silica, Sulphate including Barium and Strontium scales.</li> </ul>
	I-SOFT	ROB <ul style="list-style-type: none"> <li>Prevention of Silica, Sulphate, Barium and Strontium scaling and Bio-fouling</li> </ul>



to aluminum if their pH is adjusted to 5 – 7.

One of the biggest advantage to soten water and stop scale and corrosion is that I-SOFT contains a very low content of chlorides.



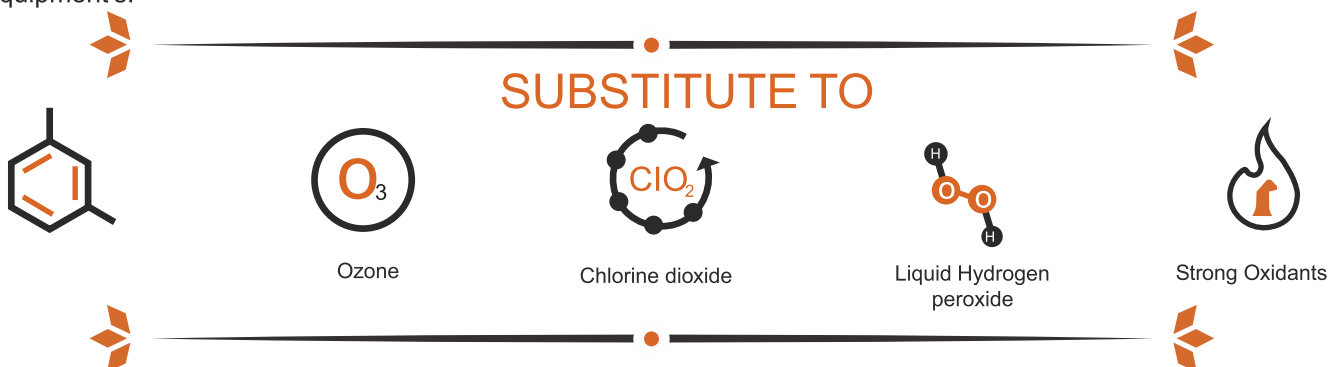
# INSTANT OXYDES

The Source of Oxygen

INSTANT OXYDES® is an absolute white food grade biocide in odorless, crystalline powder form which, when added to water dissolves easily and releases hydrogen peroxide which is stabilized to work as very strong and powerful disinfectant. It has very wide range of applications and uses. Since it's approved for any food applications, it is used in drinking water applications, Resin and Membrane cleaning applications, disinfectant for all surfaces, barrels, pressure vessels, lines and pipes, tanks and complete range of Food and Beverage equipment's.

It is the best Biocide and Disinfectant for cooling towers and swimming pools.

INSTANT OXYDES® is the best disinfectant which breaks down to oxygen, water and carbonates and the decomposition happens without the formation of any residues or toxic contaminants unlike chlorine, chlorine dioxide and potassium permanganate..



## Directions of Use

Surface disinfection: Wash surfaces to remove any residue (ANY!) and thoroughly spray a diluted solution 100 grams of **INSTANT OXYDES®** in 5 liters (1.5 gallons) of water as 1:50 ratio in a barrel. After 5 minutes rinse with clean water spray.

Water disinfection: Dilute 50 grams of **INSTANT OXYDES®** to keep water disinfected for a long time and use it for any application. Since it is approved for use around food it is naturally the best choice for use in residential, industrial and all commercial applications.

## Properties:

Name	INSTANT OXYDES®
Applications	Substitute to <ul style="list-style-type: none"> <li>• Chlorine</li> <li>• Ozone</li> <li>• Chlorine dioxide</li> <li>• Liquid Hydrogen Peroxide</li> <li>• Strong Oxidants</li> </ul>
Bulk Density	0.8 - 1.05 g/cm <sup>3</sup>
Active Oxygen	17%
Moisture	20% (Max.)
pH Value (3% solution)	10.2 (approx.)
Contains	Stabilizer*

\***INSTANT OXYDES®** is always sold as powder with Stabilizer to maintain the stability of the Biocide chemical.

## INSTANT OXYDES® as 5 STAR

**INSTANT OXYDES®** also is one of the 5 STARS disinfectant agent which can actively destroy:

- ★ Coli-form
- ★★ Staphylococcus
- ★★★ Hepatitis Bacterium
- ★★★★ All kind of Biofilm bacteria
- ★★★★★ Disinfection of Dental water lines and Dental hygiene equipment.



## PRODUCING INSTANT OXYDES®

**OXYDES®** is made in a crystallization process from Stabilized Hydrogen Peroxide (SHP) in an agitated reaction vessel containing a mother liquor at a temperature from 15 to 30 °C with formation of **OXYDES®** which precipitates out of the solution. The precipitated **OXYDES®** powder is separated from the liquid and recovered as product.

**OXYDES®** contains a stabilizer based on tri-sodium salts with an amount of 1% of its own weight. **OXYDES®** has the best oxidant and disinfectant qualities.



