

filtersafe

AUTOMATIC SCREEN FILTRATION



ADVANCED WATER FILTRATION FOR THE OIL & GAS INDUSTRY



Our challenge

Taking care of our water and providing solutions in filtration and treatment is the principal challenge facing Filtersafe®, one of the world's leading filtration specialists. Whether across industrial, marine or resource drilling applications, our aim is to ensure the world's industries have ready access to the most advanced filtration equipment available.

Filtersafe's primary objective is to engineer and fabricate tailored and standard filter systems from a range of highly sophisticated and proven materials, utilizing major R&D initiatives to establish the most appropriate specification of materials to ensure each finished product exceeds all mandated requirements.

At the very core of Filtersafe's development philosophy is a dedicated focus on mechanical reliability and efficiency in addition to robust construction technologies. Simultaneously, our emphasis commercially remains on the careful balancing of environmental issues, alongside achieving consistent operational economies for our customers.

Filtersafe® uses expertise developed over three decades in the design, manufacture and application of high quality filtration solutions. It is our unique innovation that has helped the company contribute to the efficiency of world water management.

The company currently services all major international markets from its Head Office and manufacturing facility located in northern Israel and from our manufacturing facility in Hong Kong.



A world leader in water filtration technology

Our solution

Filtersafe® is a multinational company specializing in the supply and evolution of intelligent mechanical filtration systems for industry. With over 110 combined years' experience in the automatic filtration industry, and over 10 years' experience specifically in ballast water treatment, Filtersafe® brings unrivalled economy, value and performance to water filtration.

From improving component technology through to the provision of dedicated pre- and after- sales service, Filtersafe® provides a viable, functionally superior and low-cost alternative to the market.

Filtersafe® is established as the market leader in ballast water filters and it designs, manufactures and supplies a wide range of filtration products for the O&G industry to perform in the most demanding conditions.

We are able to manufacture filtration systems in skid format, and can also supply with stand- by functionality:

- **Water injection filtration down to 10 µ**
- **Intake water filtration**
- **Oil & Gas pipeline flushing**
- **Protection of cartridge filters**
- **General Purpose sea water filtration**

Our proven technologies are world renowned for their unparalleled performance and durability.



Filtersafe® automatic screen filters utilize unique, patented and leading edge technologies to ensure the high performance criterion the market demands are met.

Cleaning process:

1. SmartWeave™ screen traps organic matter & TSS
2. As sediments are trapped, pressure differential between inlet and outlet will initiate the cleaning process
3. Nozzlex™ scans the entire smartweave™ screen removing all matter, disposing of the reject water through the flushing chamber
4. Filter returns to its original parameters

Our filters harness our own market-proven smartweave™ filter screens and nozzlex™ proximity suction nozzles:



SmartWave™ high performance filtration screens

- **Multi-layered sintered structure**
- **Enhanced strength & durability**
- **Available screens: 10-500 µ**
- **Available material: 316L, 904L**



Nozzlex™ self-cleaning cycle for maximum filter efficiency

- **Improved flow rate and shorter ballasting process**
- **100% screen cleaning**
- **Zero wear on the filter screen**

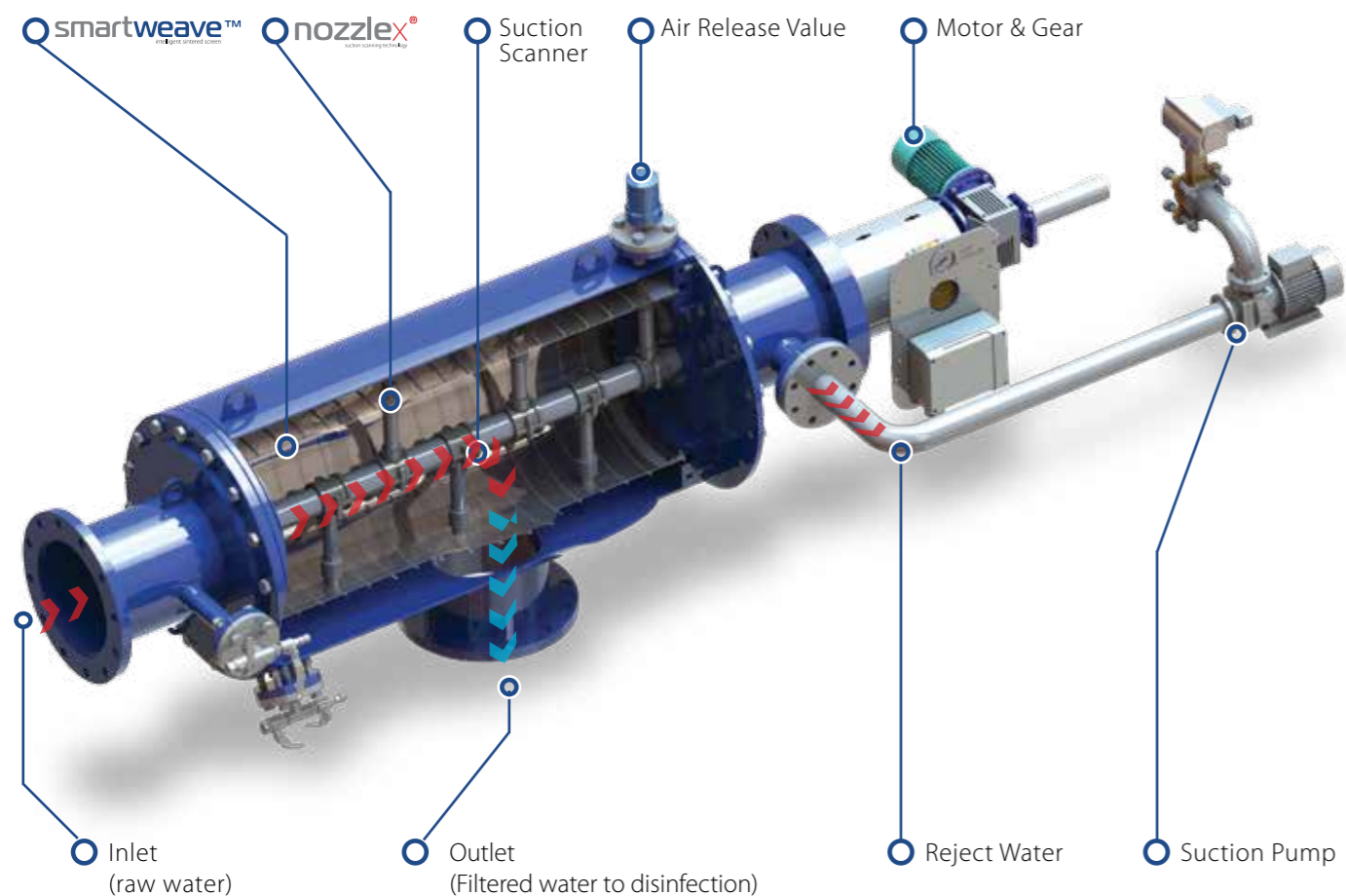


The sum of these technologies amounts to EverClear®

- **Autonomous self-cleaning filtration cycle**
- **Continuous robust automatic operation**
- **No back washing sequence**
- **Minimal water required for flushing**
- **Low operating pressure**



Filtersafe® Technology

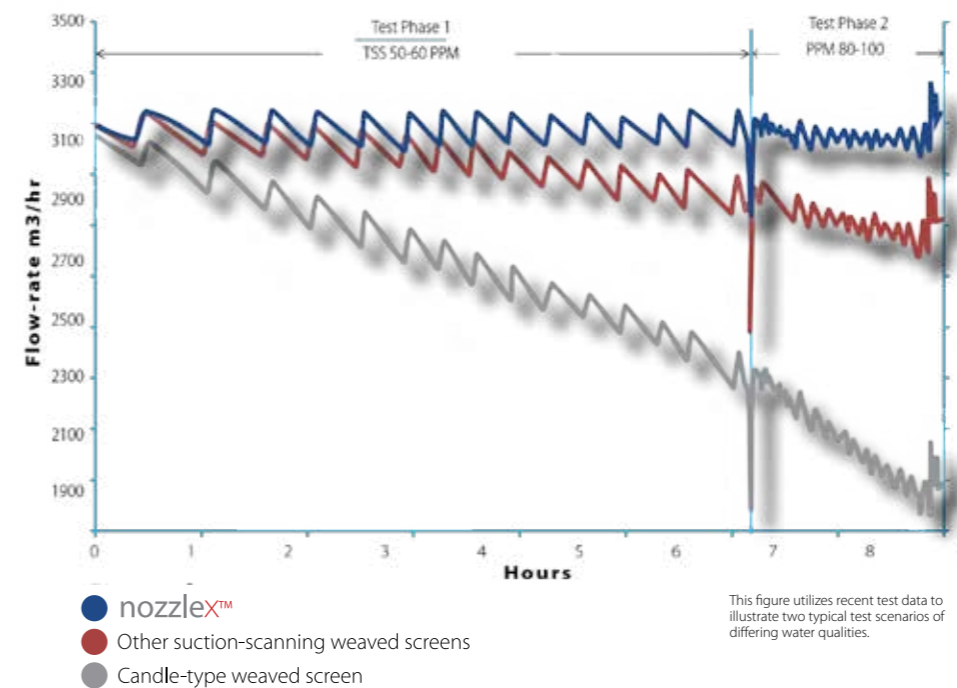


- Use of highly durable, noncorrosive components for robust trouble-free operation, requiring minimal maintenance
- Filtersafe® filters are reliable and durable. Hundreds of commissioned filters have consistently performed without delay
- Tailor made design for optimal installation solution



nozzlex™ Cleaning Performance

Real-time test data comparative technologies



Filtersafe's filter performance is substantially better when compared to other filtration systems

After just 6 hours of operation, other technologies suffer a substantial loss in performance with virtually no ability to reclaim original flow rates.

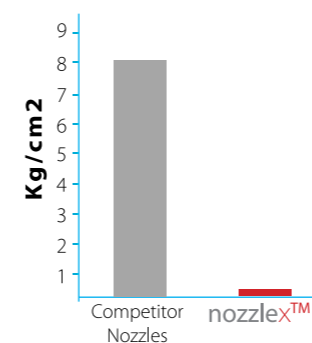
Filtersafe's filters will continue to work to specification.

Zero screen wear

Nozzlex™ has zero screen wear, where other nozzle-based cleaning technologies utilize often detrimental mechanical force, often pushing TSS against the screen causing punctures.

Nozzlex™ equalizes system pressure and ensures an optimal amount of force is activated on the screen

Force exerted on screen by nozzles



What does this mean?

- 1 An increase in force means more wear of the nozzle head leading to shorter maintenance cycles.
- 2 The increase in force by standard nozzle also pushes sediment into the filtration screen puncturing the fine screen and rendering it significantly less productive.
- 3 nozzlex™ is designed and proven to have no impact on the performance of the screen due to our consistent but low force applied to the screen.

Only **3.1%**

of the strenuous force exerted on the screen compared to other suction scanning technologies.

Filtersafe® BS-SERIES

Single screen

16 - 1,000 m³/hr

- Easy maintenance, can be performed by one person with unique inspection port. No lifting tools required
- Includes a preliminary course screen for prevention of large solids entering the filtration chamber
- Horizontal and vertical configurations



Compact Single Screen Filters

20 - 2,000 m³/hr

- The largest single screen filter on the market
- Small footprint
- Horizontal and vertical configurations



Multi-screen

420 - 6,840 m³/hr

- Unique twin-screen assembly reduces service space required
- Horizontal and vertical configurations



Custom Pressure Vessel Design

Filtersafe® offers explosion proof (EX) and pneumatically operated models. We also have experience in delivering ASME & PED standard pressure vessels.

Modular configurations

Specifically designed for retrofit installations in particular. BS-Series filters can be coupled or manifold mounted to increase flow rates with a flexible footprint.

Optional Filter Accessories



Market leading R&D

The original weavewire screen tailored specifically for challenges of seawater filtration

Leading Filtration Performance

Being a pioneer of the BW filtration, Filtersafe® is in constant pursuit of finding added value & benefit. Filtersafe® stays ahead of the rest by adopting new, advanced and polished technologies and solutions. Our ever evolving R&D program ensures our filters are best equipped to meet the stringent needs of ship owners and operators.

* Test data shown accurately represents numerous tests conducted by Filtersafe & research groups over the course of the last 10 years.

Research partners

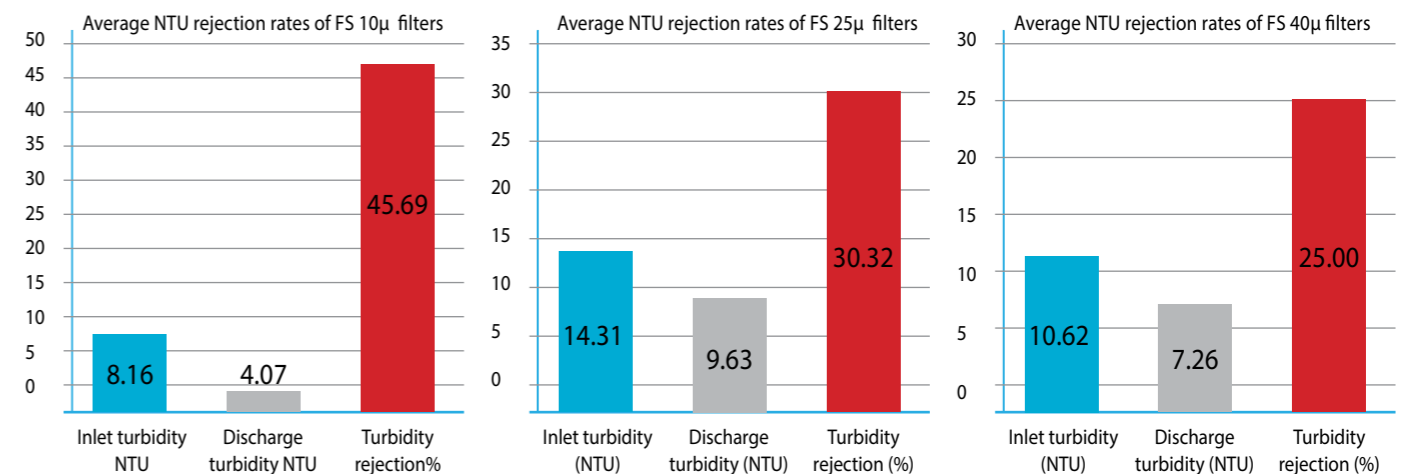
In conjunction with our research, Filtersafe® has tested the performance of its automatic screen filters to meet the rigorous demands of all marine industry standards. Through scientific development, we have been able to implement some unique technological breakthroughs, including:

- Epoxy phenol corrosion prevention
- High flow rate models
- Refined water-saving mechanisms
- Spatial efficiencies in service zones
- smartweave™ sintered screen technology
- nozalex™ proximity nozzles

TSS & Organism Removal Rate - 40µ Screen



NTU Removal Rate



Regional Office, Manufacturing & Assembly

ISRAEL

A 4,000 sq/m premises comprising our regional sales offices, R&D facilities and manufacturing/assembly hall. The facility is capable of handling very large volumes of production in line with market growth.

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HONG KONG

Our Hong Kong assembly plant supplies our entire line of products to the region and is supported by a world-class steel fabrication facility.

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○ Filtersafe Offices

● Filtersafe Manufacturing Facilities



www.filtersafe.net

*All flow rates are for 25, 40 & 50 micron.
Max 50 PPM dirt load.

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