

OptiFlow ERS™

Engineered Rack System for Cartridge Filtration

Optimized Flow. Modular Power. Non-Metallic Reliability.





Flow



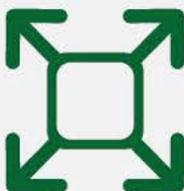
Non-Metallic



Modular



FAT



Footprint

What is OptiFlow ERS?

OptiFlow ERS is Impact Filtration's engineered cartridge filtration rack system—a modular platform integrating FRP cartridge housings, non-metallic header piping, and a structurally reinforced carbon-steel frame.

All wetted components are fully non-metallic, providing long-term corrosion resistance in filtered seawater and filtered brackish water environments.

Designed to optimize hydraulic performance, minimize footprint, and simplify installation, OptiFlow ERS supports flow capacities from **60 to 600 m³/h per rack (1,440 to 14,400 m³/day)** across **six standard configurations**.

Key Features

- Non-metallic flow path: FRP housings with HDPE/UPVC/CPVC pipelines
- Optimized hydraulic design
- Factory-assembled, FAT-ready integration
- Modular system architecture

System Overview

OptiFlow ERS is engineered as a fully integrated cartridge filtration rack system, combining FRP cartridge housings with non-metallic header piping and a structurally reinforced steel support frame.

The system architecture is designed to optimize hydraulic balance and ensure consistent flow distribution across all housings—supporting stable performance under varying operating conditions.

All wetted components are completely non-metallic, making the system inherently resistant to corrosion in filtered seawater and filtered brackish water service.

Why OptiFlow ERS?

- **Compact footprint** through optimized vessel spacing and vertical stacking
- **Fully non-metallic flow path** eliminating corrosion risks in seawater environments
- **Factory-built modular system** reducing on-site construction, alignment, and installation time
- **Direct replacement** for legacy cartridge filter systems utilizing carbon steel, hard rubber-lined, or FRP vessels

Engineered for Every Scale

Applications



SWRO Pretreatment



BWRO Pretreatment



UF Filtration



RO Brine Recovery



Industrial Water



Power Plant Intake



Refinery / Petrochemical Water



Cooling Tower Filtration

Capacity Overview

Each OptiFlow ERS accommodates scalable plant designs, from 1,440 m³/day (Type A) to 14,400 m³/day (Type F).

Multiple racks can be arranged in parallel to reach large-scale plant capacities.

Flow Capacity at a Glance

Series	Flow Capacity (up to)
F	(600 m ³ /h = 14,400 m ³ /day)
E	(360 m ³ /h = 8,640 m ³ /day)
D	(240 m ³ /h = 5,760 m ³ /day)
C	(160 m ³ /h = 3,840 m ³ /day)
B	(120 m ³ /h = 2,880 m ³ /day)
A	(60 m ³ /h = 1,440 m ³ /day)

Additional Offering

We can provide Design & Build CF Housing Systems for larger custom capacities.

Performance, Materials & Factory Readiness

Operating Conditions

Operating Pressure:	Up to 8 barg
Design Pressure:	10 barg
Temperature:	18-40°C (design up to 60°C)
Clean ΔP Drop:	Up to 1 barg
pH Range:	3-11
Cartridge Rating:	5 micron nominal

Materials of Construction

Wetted Components

- FRP housings
- HDPE / UPVC / CPVC headers
- UPVC drains/vents
- Non-metallic coupling clamps and blind inserts
- NBR gaskets (alternatives available)

Structural Components

- Precision-fabricated carbon steel frame (epoxy coated)
- Stainless-steel nameplate
- Optional coated or FRP-overlaid frame versions

Factory Acceptance & Delivery

Factory Acceptance Test (FAT)

- Hydrostatic testing at 110% of design pressure
- Pipe header hydrostatic test
- Dimensional verification
- Third-party witness testing available

Modular Delivery

- Supplied fully assembled or as modular kits
- Simple on-site positioning and connection
- Suitable for green-field, brown-field, or offshore applications



Sustainable Materials. Scalable Impact. Global Stewardship.™



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