



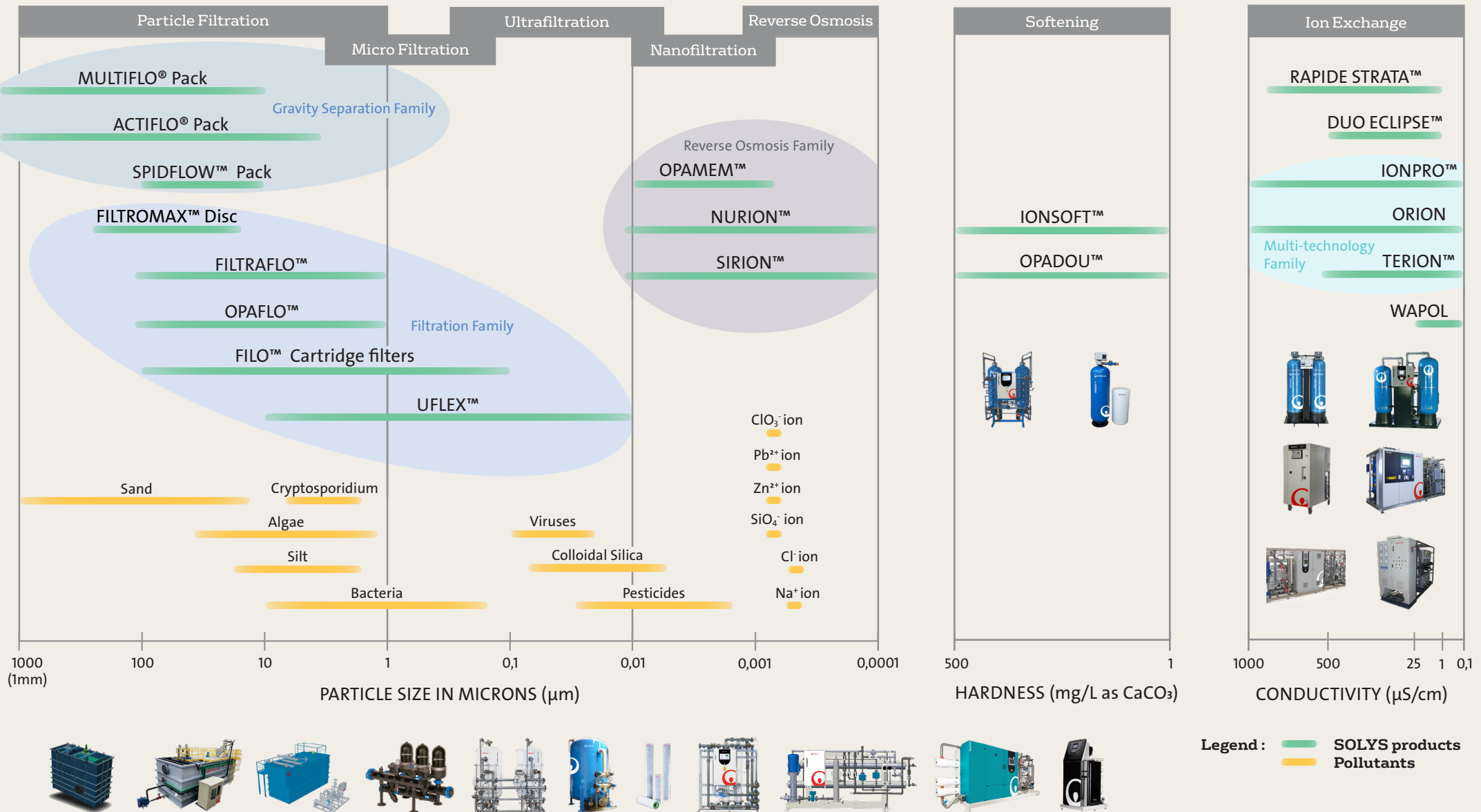
SOLYS  VEOLIA

# SOLYS RO Products

Pocket Guide

**WATER TECHNOLOGIES**

## SOLYS STANDARD PRODUCTS TREATMENT SPECTRUM



# Full RO Products

## SIRION™ :

SIRION™ family is a set of reverse osmosis product ranges that produce high purity water, removing up to 98% of dissolved inorganics and over 99% of large dissolved organics, colloids and particles.

## SIRION™ MINI & MIDI :



FLOW RATE MINI : 10 - 90 L/h  
MIDI : 90 - 800 L/h

TDS : Up to 1 000 mg/L

### APPLICATIONS :

- Boiler feed water treatment
- Industrial process water production
- Utility water
- Water recycling & reuse
- Hospital water for sterilization
- Analytical water grade 3 production

### MARKETS :



Pharma



Cosmetics



Food



Beverage



Power



General Industry\*

\*electronics, hospitals/healthcare, chemical, primary metals



## SIRION™ ADVANCED & PRO :



FLOW RATE : 100 - 5 000 L/h

TDS : Up to 1 000 mg/L

### APPLICATIONS :

- Boiler feed water treatment
- Industrial process water production
- Utility water
- Water recycling & reuse
- Hospital water for sterilization
- Analytical water grade 3 production

### MARKETS :



Pharma



Cosmetics



Food



Beverage



Power

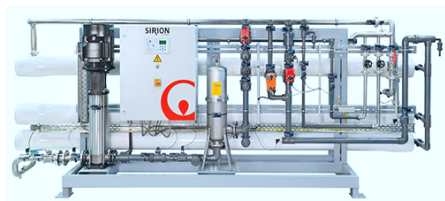


General Industry\*

\*electronics, hospitals/healthcare, chemical, primary metals

 Filo 10" & 20"	 VRO 4" & 8"	 CIP ✓
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## SIRION™ MEGA SF :



FLOW RATE : 5 - 30 m<sup>3</sup>/h

TDS : Up to 1 000 mg/L

### APPLICATIONS :

- Boiler feed water treatment
- Industrial process water production
- Cooling water
- Water recycling & reuse
- Utility water

### MARKETS :



Pharma



Cosmetics



Food



Beverage



Power



General Industry\*

\*electronics, hospitals/healthcare, chemical, primary metals

		
Filo	VRO	CIP
20", 30" & 40"	8"	✓

## SIRION™ MEGA HF :



FLOW RATE : 32 - 139 m<sup>3</sup>/h

TDS : Up to 5 000 mg/L

### APPLICATIONS :

- Boiler feed water treatment
- Industrial process water production
- Cooling water
- Water recycling & reuse
- Utility water

### MARKETS :



Pharma



Cosmetics



Food



Beverage



Power



General Industry\*

\*electronics, hospitals/healthcare, chemical, primary metals

		
Filo	VRO	CIP
20", 30" & 40"	8"	✓

## SIRION™ SEAWATER :



FLOW RATE : 1 - 41 m<sup>3</sup>/h

TDS : Up to 42 000 mg/L

### APPLICATIONS :

- Boiler feed water treatment
- Cooling tower make-up
- Industrial process water production
- Drinking water production
- Concentrate recovery
- Utility water
- Irrigation

### MARKETS :



Power



Drinking  
Water



General  
Industry\*

\*electronics, hospitals/healthcare, chemical, primary metals

	
Filo	VRO
40"	8"

## SENSA™ :

Double pass reverse osmosis system produces demineralised water for the Cosmetics Industry.



FLOW RATE : 1.4 to 10m<sup>3</sup>/h

TDS : Up to 1 000 mg/L

### APPLICATIONS :

- Utrapure water production
- Industrial process water production
- Utility water

### HIGHLIGHTS :

- High recovery to minimize water losses (up to 90%)
- Plug & play unit
- Easy access for operation and maintenance

### MARKETS :



Pharma



Cosmetics

	
VRO	CIP
8"	✓

# RO-CEDI Products

Single-skid unit that combines single-pass reverse osmosis and continuous electrodeionization to remove over 99.9% of dissolved inorganics and over 99% of large dissolved organics to produce deionized water meeting the most stringent specifications in silica, sodium, potassium and TOC levels.

## TERION™ :



### MARKETS :



Power



General Industry\*

\*microelectronics, metal industries, data centers

FLOW RATE : 5 - 50 m<sup>3</sup>/h

TDS : Up to 800 mg/L

### APPLICATIONS :

- Boiler feed
- Turbine injection
- Industrial process water production
- Ultrapure water production

### HIGHLIGHTS :

- Chemical free alternative using CO<sub>2</sub> membrane degasser
- High availability and performance
- Single skid product with low energy consumption

	
VRO 8"	CIP ✓

## TERION™ S :



### MARKETS :



Pharma



Power



General Industry\*

\*microelectronics, hospitals, laboratories, data centers

FLOW RATE : 110 - 4 000 L/h

TDS : Up to 750 mg/L

### APPLICATIONS :

- Boiler feed water treatment
- Analytical water grade 2 production
- Industrial process water production
- Water for sterilisation
- Ultrapure water production

### HIGHLIGHTS :

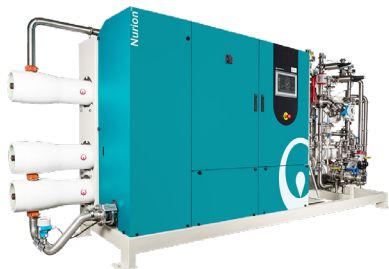
- Instrumentation and valves at the front of the unit for easy maintenance and operation
- Compact design with optional degasser

	
Filo 10" & 20"	CIP ✓

# RO system for F&B Industry

Reverse osmosis system which produces high purity ingredient water for the Food & Beverage Industry.

## NURION™ :



**FLOW RATE :** 5 - 25 m<sup>3</sup>/h

**TDS :** Up to 1 000 mg/L

### APPLICATIONS :

- Cleaning water
- Ingredient water
- Utility water

### HIGHLIGHTS :

- Hygienic design on permeate side, following EHEDG hygienic design principles
- Fully automatic control
- All pipework in SS316L
- Food grade components (FDA, NSF and/or ACS)

## MARKETS :



Food



Beverage

	
Filo	CIP
40"	✓



# Multi-technology Products

Purified water treatment for the pharmaceutical, generics, healthcare and biotechnology markets.

## ORION™ :



### MARKETS :



Pharma

**FLOW RATE :** 500 - 20 000 L/h

**TDS :** Up to 1 000 mg/L

### APPLICATIONS :

- Purified water production
- Water for injection production

### HIGHLIGHTS :

- Integrated system with diverse range of options including softening, single or twin pass RO, degassing, CEDI, UV, UF
- Fully compliant with FDA, cGMP and GAMP requirements
- Meets quality standards from US, Europe and Japan Pharmacopeias (PW, WFI)
- Validation and traceability
- Hot water sanitizable



## IONPRO™ :



### MARKETS :



Pharma



Cosmetics



General Industry\*

**FLOW RATE :** 500 - 1 000 L/h

**TDS :** Up to 1 000 mg/L

### APPLICATIONS :

- Industrial process water production
- Analytical water grade 2 production
- Purified water production

### HIGHLIGHTS :

- Integrated system including softening, degassing and CEDI.
- Integral automatic sanitisation (AutoSan)
- Simple, reliable and compact footprint



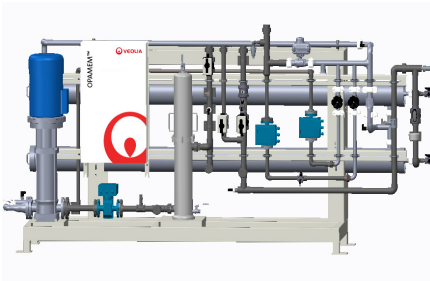
\*electronics, hospitals/healthcare, microelectronics, laboratories



# Membrane Filtration

Skid-mounted system using nanofiltration for municipal applications.

OPAMEM™ :



**FLOW RATE :** 5 - 20 m<sup>3</sup>/h

**TDS :** Up to 1 300 mg/L

**APPLICATIONS :**

- Drinking water softening
- Micropollutants removal
- Nitrate removal
- Cleaning water
- Utility water

**HIGHLIGHTS :**

- All components certified as per french drinking water regulation (ACS)
- Membrane pressure vessels in SS316L

**MARKETS :**



Food



Beverage



Drinking  
Water



# Associated Parts and Chemicals



## FILO CARTRIDGE FILTERS :

A complete family of cartridge filters (7 different ranges) to protect RO membranes from chlorine, suspended solids, colloids and organic matter.

FILTRATION RATES : 1 - 25µm

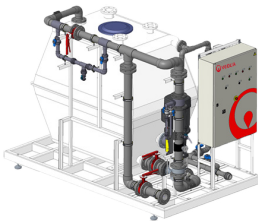
SIZES : 10", 20", 30", 40"

## VEOLIA VRO™ MEMBRANES :

### SUITABLE FOR ALL RO SYSTEMS :

Fifteen models which suit the most common needs in brackish and seawater reverse osmosis.

DIAMETERS : 2.5", 4" and 8"



## CIP STATION :

Clean In Place – CIP – Station for SIRION Advanced / Pro, Mega, NURION and TERION. Seven different models offering a high degree of flexibility (pump VFD, ejectors, electrical heater and semi-automatic operation)

FLOW RATE : 3.6 - 96 m³/h



Veolia Solys RO products are designed to be operated with Hydrex™ additives to get optimum performance and extended life of the membranes, both during operation and cleaning (CIP) phases.

## Our RO products manufacturing and distribution locations :



### Stoke-on-Trent, UK.

- Orion
- IonPro
- Sensa

### Wissous, France.

- Global logistics Hub

### Madrid, Spain.

- Sirion
- Nurion
- Terion
- Opamem

ISO 9001:2015  
BUREAU VERITAS  
Certification



# Resourcing the world

Your local contact



**Veolia Water Technologies**

To find your local contacts, visit

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