

## PRE-ENGINEERED BUILDING BLOCKS FOR THE DESIGN OF SEAWATER DESALINATION SYSTEMS

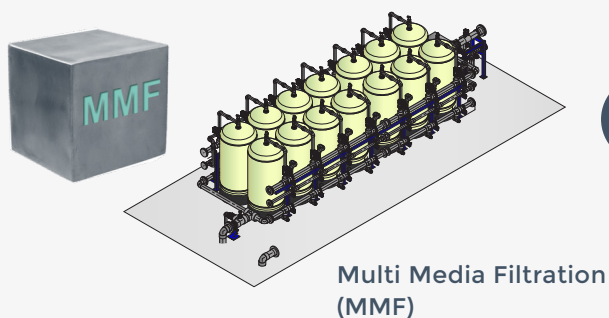
Fluence water experts have designed a family of pre-engineered, pre-treatment and Reverse Osmosis (RO) building blocks for assembly as a cost effective seawater desalination system to match any water sourcing need.

Developed from the highest quality standard components, NIROFLEX system

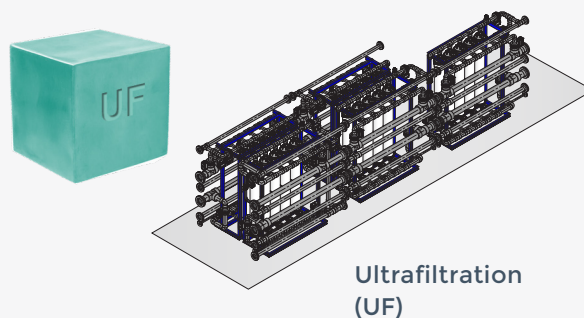
is delivered and deployed as a new water solution for municipal, private and industrial users.

The versatility of the NIROFLEX system enables a capacity range from 100 m<sup>3</sup>/day (25,000 GPD) up to 15,000 m<sup>3</sup>/day (4 MGD) of clean water.

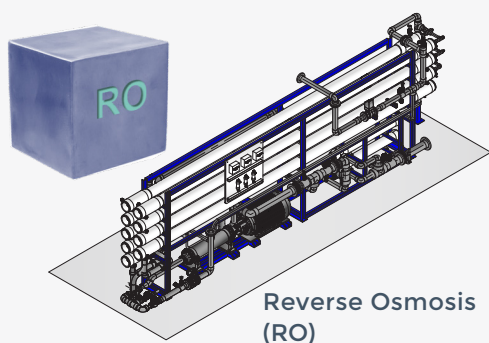
### Step 1 - Select Pretreatment



OR



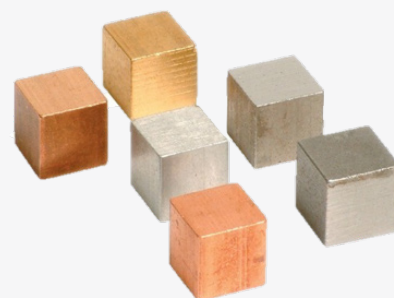
### Step 2 - Select RO Model



- Capacity
- High Pressure Pump
- Energy Recovery Device



### Step 3 - Select Optional Features



### NIROFLEX System (example)

- 1,000 m<sup>3</sup>/day permeate flow rate
- Pretreatment: MMF (UF can be an alternative)
- RO and CIP/FLUSH unit
- Pre-engineered system providing reliable performance



### NIROFLEX MMF System Components:

- Pressurized media filtration vessels
- Skid supported piping and manifolds
- PVC piping
- Electrical and control board
- Compressor and air dryer system
- Inline backwash utilizing filtrate water
- Air scouring system (if required)

### NIROFLEX UF System Components:

- Automatic disc filters
- Pressurized UF vessels
- Skidded system
- Electrical and control board
- Air scouring system, including blower
- Compressed air system
- Backwash, CIP, CEB

### NIROFLEX RO System Components:

- Cartridge filter
- High-pressure pump: centrifugal or positive displacement
- Energy Recovery Device (ERD): turbocharger or isobaric exchanger
- 2 chemical dosing systems
- 9" touch panel PLC with HMI
- VFD for HP pump and isobaric ERD

## Case study: Matsu Islands

**Client:** Engineering company

**Location:** Nangan and Dong islands, Taiwan

**Application:** Drinking water from seawater

**Capacity:** 2 units of 2,000 m<sup>3</sup>/day UF,  
2 units of 600 m<sup>3</sup>/day RO

**Manufacturing time:** 3 months

**Technology:** UF, Seawater RO  
desalination, ERD

**Configuration:** UF in a 20 ft container,  
RO skid mounted for indoor installation



### After Sales Support

- Field Service: Preventative Maintenance (PM) visits, operating service, training and on-call support
- Remote Monitoring Service: Remote process optimization, system and operator support
- Spare Parts: Original spare parts and other critical components

### Optional Features

- Integrated Cleaning In Place (CIP) with automatic flushing system
- Feed/product delivery pumping station
- Alternative power supply
- Remineralization with calcite filters/chemicals injection

### Local Presence

Fluence's team of water professionals are located around the world, prepared to provide support throughout all stages of the project

