

# CONTAINERIZED RO SYSTEM WITH PRETREATMENT FOR BRACKISH WATER

## MODELS: ECOSOFT K20MO4B6 AND K20MO8B6



Designed for the treatment of brackish water with salinity up to 7.5 g/l and a low content of Iron, Manganese and Organic compounds and Microbiology.

Reduces the total salt content to the level of drinking water of the highest quality (100–250 mg/l depending on the type of membranes selected and water temperature), including Hardness, Alkalinity (Hydrocarbonates), Chlorides, Sulfates, Sodium, Fluoride, Silicates, reduces the content of Organic compounds and Microbiology.

Preparation of domestic and drinking water for temporary settlements of people and personnel (mining and processing plants, mobile camps and hospitals, etc).

Preparation of process water in industry for various production processes that require partially desalinated and softened water: hot water and steam boilers, production of household chemicals.

Process water treatment in agriculture for processes requiring partially desalinated and softened water with low sodium content: fertilizer preparation, fog irrigation systems, etc.

## KEY FEATURES

- Transportation to the installation site by standard transport for the transportation of 20-foot sea containers.
- No capital construction is required, only a prepared site for placing the container with utilities (inlet and treated water, drainage, electricity) is needed.
- The containers are thermally insulated with environmentally friendly materials and air conditioning, which minimizes the risk of overheating and prevents condensation on sensitive system elements (electrical contacts, electronic control boards, etc.).
- The containers are equipped with internal lighting for comfortable 24/7 maintenance of the system's technological elements.
- The containers are safe in operation: they are equipped with a smoke alarm system and an anti-flood system on the inlet pipeline.
- Effective protection of reverse osmosis membranes by bisulfite and RedOx control dosing station for protection against active chlorine and a universal anti-scalant dosing station for protection of membranes against hardness and silicate scaling.
- Reverse osmosis unit with a working pressure of up to 20 bar with SS316 pressure line and SS316 pump in a special compact design with e-connect remote monitoring function for easy maintenance.
- System components from global manufacturers (Clack Corp., Grundfos, Danfoss, EMEC).
- Direct flow system without storage tanks and pumping stations to minimize energy consumption and increase the space inside the container for easy system maintenance.
- Quick installation and start-up of the water treatment system (all water treatment elements inside the container are already installed and tested for leaks and correct electrical connections at the manufacturer's factory), you only need to connect external communications to the container.
- Quick start-up of the system on the "ready to use" principle, i.e., only the overall system needs to be put into operation (individual elements of the system are already configured at the manufacturer's factory).



TECHNICAL CHARACTERISTICS OF THE PLANTS

Name of the equipment	Model of the mobile unit «MODUL-RO»	
	K20MO4B6	K20MO8B6
Rated capacity for pure water, m³/day	100	200
Rated capacity of the membrane unit, m³/h	4 — 4.5	8 — 8.5
Raw water consumption, m³/day	160 — 170	320 — 340
Raw water pressure, bar	0.5 — 5.0	
Permeate pressure, bar	0.5	
Electricity consumption	3 phases, 380V, 50Hz, 11.5 (15.5) kW	
Dimensions of the modular unit (L × D × H), m	2.5 × 6.1 × 2.6	
Connection of the unit to pipelines:		
Raw water	Flange DN 50	
Pure water	Flange DN 50	
Waste water	Pipe socket for 110 mm pipe	
Overflows	2 overflows for 110 mm pipe	
Electrical cable supply	PG24	
Feed water requirements (no more)		
TDS, mg/l	7500	
Hardness, ppm CaCO <sub>3</sub>	2000	
Iron, mg/l	0,5	
Manganese, mg/l	0,1	
Turbidity, NTU	5	
Organic, mgO <sub>2</sub> /l	5	

COMPLETE SET OF INSTALLATIONS

Name of the equipment	Model of the system	
	K20MO4T6	K20MO8T6
Hypochlorite dosing station	1	1
Disc filter	2	2
Multimedia filter	3	6
Bisulfite (MBS) dosing station	1	1
Antiscalant dosing station	1	1
BW Reverse osmosis system	1	1
Reverse osmosis 8" membrane elements*	4	8
Control panel with controller and power unit	1	1
Set of instrumentation and control devices	1	1
Set of fittings, pipe piping, electrical materials, etc.	1	1
Insulated and coated 20ft.container with air-condition and lightening	1	1

\* The membranes are not included

EQUIPMENT LAYOUT AND DIMENSIONS

- 1

Hypochlorite dosing station
- 2

Disc filter
- 3

Multimedia filters
- 4

MBS dosing station
- 5

Antiscalant dosing station
- 6

Reverse osmosis system

