

**RHS130 Typical training equipment
kit "Water Desalination by the
Reverse Osmosis Method"
EXPERIMENT SET**



Designed for removing solvent from saline solution using reverse osmosis

Specifications:

- removal of solvent from a salt solution using reverse osmosis
- polyamide spiral wound membrane module
- piston pump with pulsation damper for pressure generation
- overflow valve to adjust the pressure upstream of the membrane module
- valve to adjust the retentate flow rate
- raw water tank with stirring machine to prepare a salt solution of up to 4% max.
- tank for distilled water to flush through the spiral wound membrane module
- tank to collect the permeate
- safety cutout to protect the pump against dry running

The students can make with this experiment set:

- assembly, cleaning and conservation of membrane modules
- fundamental principle of reverse osmosis
 - Van't Hoff's law
- permeate flow rate and retention dependent on
 - pressure
 - salt concentration in raw water
 - yield
- determination of diffusion coefficients

Technical data

Spiral wound membrane module

- active area: 1,2m²
- raw water flow rate: max. 23L/min
- length: approx. 500mm
- diameter: approx. 60mm

Piston pump

- max. flow rate: approx. 425L/h
 - max. head: approx. 700m
- Max. operating pressure: 48bar

Stirring machine

- power consumption: 140W
- speed: 30...1000min⁻¹

Tanks

- raw water (salt solution): approx. 110L
- distilled water: approx. 110L
- permeate: approx. 5L

Measuring ranges

- flow rate: 0,2...6,0L/min (retentate), 0,05...1,8L/min (permeate)
- temperature: 3x 0...50°C
- pressure: 2x 0...120bar
- conductivity: 3x 0...200mS/cm

The equipment comply with applicable standards.

The equipment is convenient in operation and ensure safety of the maintenance personnel during operation.

Operating conditions: Indoors only at ambient temperatures from +10 to +30°C; relative humidity is up to 80% (non-condensing).

The equipment is provided with a technical description and operation manual in Uzbek and Russian.