Pure water system RO 60 / 120 alpha AS

The RO Alpha system delivers premium-grade CLRW (CLSI) water with unmatched reliability, meeting the highest industry standards for operational safety.
Compact and efficient, it combines everything into a space-saving cabinet.
Available in 60 L/h and 120 L/h.

* The picture might show optional accessories

The RO Alpha pure water system is specifically designed to efficiently produce and supply high-quality pure water for clinical analyzers, as well as whole laboratories and hospitals.

This all-in-one system integrates pre-treatment, optional softener, reverse osmosis, a pure water tank, UV disinfection, 2 polishing cartridges, distribution pump and a sterile filter into a single noise-reducing cabinet.

With a large 10” touch controller that monitors and manages all operating and performance parameters, the RO Alpha ensures compliance with standards such as CLSI, ASTM, DIN EN 285, and DIN EN 15883.

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Central Systems
RO alpha
www.neptec.de/RO-alpha

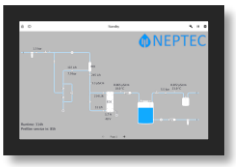
Scope of delivery

- ✓ Electronic control cabinet (IP 55): For all system components with a transparent door
- ✓ Pre-treatment unit: Activated carbon with 5µm prefilter against free chlorine and particles in the feed water
- ✓ Reverse osmosis unit: Retains salts and organic and inorganic impurities
- ✓ 10” Touch display: Displays and controls all operation and performance parameters
- ✓ Wi-Fi – Easy remote monitoring via VNC connection
- ✓ Pressure probe for an exact tank measurement in 1% steps
- ✓ Large 160l pure water tank with sterile overflow and sterile vent filter
- ✓ Distribution for low noise pumping of pure water to the consumers
- ✓ Loop connection to avoid contamination
- ✓ UV disinfection (mercury free)
- ✓ Sterile filter 0.2µm
- ✓ 2 x Polishing cartridges with quick connectors
- ✓ Choose from additional options to adapt the system to your specific needs:
  - Optional (Twin) Water softener: Against hardness in the feed water
  - Optional UV Tank disinfection, sterile overflow and sterile vent filter
  - Optional Hardness monitor: Protect the system from hardness breakthrough
  - Optional EDI module as residual demineralisation to extend the lifetime of the polishing cartridges

Reverse osmosis unit

- ✓ Concentrate recycling for minimum wastewater
- ✓ Measuring cell for determination of pure water conductivity
- ✓ Piping made of PA, PP and stainless-steel
- ✓ Solenoid valves for raw water and quality rinse
- ✓ Safety pressure switch for switch-off when the feed water pressure is too low
- ✓ High pressure pump for generation of the operating pressure with dry-run protection
- ✓ Reverse osmosis membranes with pressure tube and all necessary fittings
- ✓ Operating and feed water pressure sensor for system monitoring and fault diagnosis
- ✓ Digital flow meters for monitoring and adjusting the permeate and concentrate flow
- ✓ Regulating valves for setting the operating pressure and the WCF rate (proportional production rate)

10” Touch display



- ✓ Intuitive and simple operation via touch screen
- ✓ Choice of languages (German, English, French and Russian)
- ✓ Adjustable limit values (warning and alarm) for all operating values
- ✓ Digital flow meters and pressure sensors
- ✓ Line diagrams for the operating values
- ✓ Logbook
- ✓ Adjustable remaining time for filters
- ✓ Adjustable code for service access
- ✓ Display for current for EDI
- ✓ Adjustable time for flushing
- ✓ Wi-Fi – Easy remote monitoring via VNC connection to access real-time data and control the RO alpha from anywhere
- ✓ Optional: Ethernet connection
- ✓ Optional: Modbus-TCP interface for all operating values

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UV disinfection (Flow through)

High quality UVC LED (mercury free) with patented flow chamber for an efficient chemical-free flow-through disinfection.

Pure water tank 160l

Storage tank for the storage of pure water fed in from the reverse osmosis. Made of black PE. Closed, square and opaque construction, with a 200 mm inspection opening for cleaning. The tank is supplied completely piped and with a level control for fully automatic stock holding. Optional accessories such as UV lamp, sterile overflow and sterile vent filter are available on request.

Nominal volume	160 Liter
Material	PE black
Connections	R 1“
Dimensions	W 705 x D 535 x H 550

Sterile overflow and vent filter + CO_2 Absorber

Protection of the pure water stored in the tank from exposure to airborne microorganisms, viruses and/or physical contaminants in the surrounding environment. It prevents the produced water from quality degradation

Distribution pump

Fully integrated, self-priming, compact booster pump with extremely low-noise permanent magnet motor and water cooling.

Manufacturer	Grundfos
Rated flow	3 l/min at 2 bar

Optional components – EDI module

Low-energy, integrated EDI module for the final demineralization. Reliable high-purity water supply without regeneration or other interruptions. No chemicals needed. Lowest operating costs combined with high, constant quality. Regulating valves and flow meters for setting the pure water and concentrate flow.

Pure water quality	< 0.2 µS/cm typ. 0.055-0.1 µS/cm
Recovery rate	90-95 %

Optional components – UV tank disinfection

High quality UVC LED (mercury free) with patented flow chamber for an efficient chemical-free flow-through disinfection.

UVC LED (mercury free) tank disinfection specially developed for the chemical-free disinfection of water in storage tanks and tubs using UV radiation. The UV light irradiates the water and the tank walls UV-C radiation, so that no biofilm can develop

Optional components – Cabinet water softener

This volume-controlled unit fully automatically softens drinking water free of iron and manganese as required by drinking water regulations.

Resin volume:	8 liters
Working flow:	0,9 m3/h
Exchange capacity:	30ºHFxm3
Electrical connection:	220V / 50Hz – 24VAC
ByPass:	Included

Optional components – Twin water softener

High performance, economical, ultra-compact twin water softener without interruption.

Resin volume:	2 x 4,5 litres
Working flow:	1,2 m3/h
Pressure (Min/Max):	2,5 / 8,5 bar
Exchange capacity:	18ºHFxm3 (per column)
Electrical connection:	not needed

Optional components – Hardness monitor

Automatic switch-off of the reverse osmosis unit in the event of hardness breakthrough. For the operation neither water nor chemicals are consumed.

Feed water requirements

Feed water quality	Potable drinking water acc. to DIN 2000
Conductivity at 25°C	< 2000µS/cm
Chlorine	< 0.01 mg/l
Iron and manganese	each < 0.05 mg/l
CO_2	max. 15 mg/l
SiO_2	max. 10 mg/l
pH value	4 to 11

Pure water specifications

Performance at 10°C	60 or 120 l/h
Retention rate	> 99 % ions, germs and bacteria
Pure water quality	< 0.1 µS/cm | > 10 MΩ·cm
Proportional production rate	up to 75 % (adjustable)
Total Organic Carbon (TOC)	< 10ppb
Microorganisms	< 5 CFU/mL

Technical data

Ambient and water temperature	+2 to 35°C
Raw water pressure	2 – 6 bar
Operating pressure RO	max. 14 bar
Connected load	max. 0.8 kW
Supply voltage	230 Volt / 50 Hz
Connections	R ¾“
Dimensions	W 800 x D 600 x H 1800 mm
Weight	approx. 200 kg

Dimensions: