

## stakpure Pure water system RO 50-80 ED ready

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The ready-to-connect pure water system from stakpure combines all treatment steps in one compact and low-noise unit. Pre-treatment, reverse osmosis, electro-deionisation for residual desalination, pure water tank and pressure boosting are integrated in a control cabinet to save space and are completely pre-assembled. Pure water units of the RO ED READY "to use" series produce pure water according to all common standards such as ASTM and DIN 285 + DIN EN 15883 and aqua purificata. Specially developed for the safe and economical supply of pure water to complete laboratory floors and AEMP's in medical practices and hospitals, as well as manufacturing plants in the food and pharmaceutical industries (aqua purificata for external parts cleaning), where space is still a scarce commodity. The clean water system is completed with a digital microprocessor control for display and control of all operating and performance parameters.

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### Design and scope of delivery

**Electronics control** cabinet with transparent door to accommodate all system components

**Pre-treatment unit** to protect against free chlorine and particles in the feed water

**Softening unit** to protect against limescale and blockage

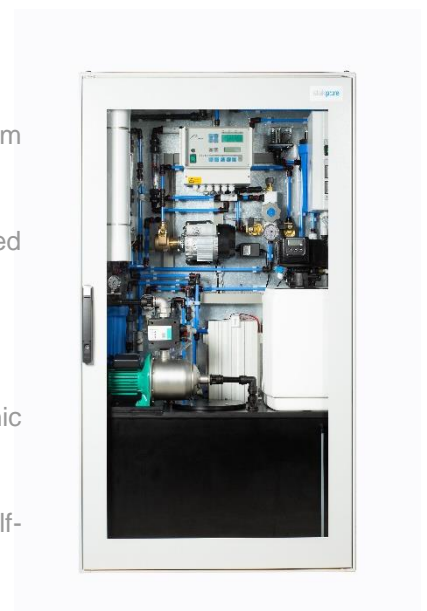
**Reverse osmosis unit** for desalination and removal of removal of organic and inorganic impurities

**Electro-deionisation module** for residual desalination Continuously self-regenerating - without chemicals

**Pure water tank** incl. level control for automatic storage of the produced pure water

**Pressure boosting system** incl. pressure control for low-noise low-noise delivery of the pure water to the end user

**Multilingual microprocessor** control with LCD display for control and monitoring of RO systems. Display of Permeate conductivity, fully automatic flushing cycles and potential-free fault indication.



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## System structure softening plant

Volume-controlled system, for softening iron- and manganese-free drinking water, according to drinking water regulations, fully automatic, 5-step central control valve type FLECK 5600 SXT with microprocessor made of NORYL with integrated blending valve and water meter. Pressure tank made of corrosion-resistant GRP, incl. cation exchanger of highest quality, installed in cabinet tank with float valve

Type	WEA 32 Compact
Capacity	32 m <sup>3</sup> x°dH
Nominal flow rate	0.32 m <sup>3</sup> /h
Resin quantity	8 litres
Salt supply	25kg
Salt consumption	approx. 1.92 kg/reg.
Water consumption	0.08 m <sup>3</sup> /reg.
Operating pressure	2 to 6 bar
Water temperature	max. 30°C
Ambient temperature	max. 5 to 40°C
Electrical connection	220 V 50 Hz
Dimensions of housing	W 310 x D 430 x H 660 mm
Connection	R1



## System design Reverse Osmosis Unit

- √ Safety pressure switch for shutting off when feed water pressure is too low
- √ High-pressure pump for generating the working pressure
- √ Reverse osmosis membrane incl. pressure pipe and all necessary fittings
- √ Working pressure manometer for system monitoring and fault diagnosis
- √ 2 x solenoid valves for raw water and quality flushing
- √ 2 x regulating valves for setting the working pressure and the WCF rate
- √ Measuring cells for determining the raw and clean water conductivity values
- √ Complete piping made of PA, PP, POM and stainless steel materials

## Structure electro-deionisation

- √ Electro-deionisation module
- √ Flow meter for pure water, concentrate and electrode rinse water
- √ Set of regulating valves
- √ Conductivity measuring cell
- √ Complete piping in PA, PP, POM and stainless steel
- √ Microprocessor control with LCD display for control and display of all operating and performance parameters.

## Digital microprocessor control

Universally applicable for the automatic control and monitoring of reverse osmosis systems. The controller is equipped with one or optionally two conductivity meters with temperature compensation. Optional board for recorder outputs 4-20mA possible. Integrated in a separate electronic control cabinet for wall mounting. The following functions/operating modes are executed and displayed:

- √ Stand-by
- √ Production
- √ Rinse after production
- √ Flushing interval
- √ Maintenance



Adaptable options through programmable configuration that can be stored in a memory.

## Properties

Menu-guided programming in the 2-line display

- √ Language selection for English, French, Spanish, Italian or Dutch
- √ Adaptation to user-specific requirements through programmable options
- √ Easy handling and control through the use of symbols on the control buttons
- √ Universally applicable even for larger reverse osmosis systems
- √ Production can be controlled via manual or level switch
- √ Maintenance interval display programmable via code

- √ Service number can be shown in the display
- √ Status display can be called up via info key for the following conditions:  
Current status for inputs and outputs, service telephone number, software version, programming status, type of fault messages, Interval rinsing with current time interval, manual rinsing with time specification, conductivity measuring probe, cell constants
- √ Display of the current permeate and pure water conductivity with indication of the desalination rate in a large green LED display.
- √ Connection of optional board for recorder outputs 4-20mA
- √ Inputs for :  
Production stop, storage tank full/empty, overpressure, raw water shortage, motor protection switch, alarm reset, temperature sensor (optional), concentrate monitor
- √ Integrated conductivity meter with measuring range switchover
- √ Cell constants adjustable from for measurement of conductivities 0.1- 100000µS/cm
- √ Cell constants programmable from 0.01-10.00cm
- √ Manual and automatic temperature compensation
- √ Extension of conductivity measurement by dual function display
- √ Thermostwitch for pressure pump with fault signal available as option
- √ Outputs for :  
Pressure pump (contactor), input solenoid valve, flush valve, permeate valve, fault signal contact
- √ Insensitive to mains failures, as all programme functions are stored without battery.
- √ Large microprocessor memory capacity with "watchdog" against illegal "Operation Code and frequency monitoring
- √ Manufacture of the control unit in compliance with the EMC standard by means of galvanic isolation between microprocessor and input and output circuits, plus extra built-in filter
- √ Available input/output voltages (input/output) 24/24V 115/115V 230/230V

## System design pure water tank

Storage tanks made of black PE for storing pure water from reverse osmosis systems. Closed and opaque design, angular, incl. 200 mm manhole for cleaning. The tank is completely piped and available with optional additional equipment. Incl. level control with min./max. control for fully automatic storage.

Scope of delivery:

- √ CO2 absorber, tank ventilation and sterile overflow

Nominal volume	approx. 200 litres
Material	PE black
Inlet and overflow connection	R ¾".
Connection outlet	R 1 ¼"

## System design Pressure boosting

The PST 2500 PC pump station is a self-priming, horizontal, single-stage centrifugal pump with built-in ejector. The squirrel-cage motor and the use of a mechanical shaft seal make the unit maintenance-free and insensitive to faults. Long service life due to the use of stainless steel for all highly stressed parts, such as impeller and housing. In combination with the automatic pressure control, the unit becomes a complete supply station.

Single stage centrifugal pump

Automatic pressure control

Type	PST 2500 PC
Pumping medium	water
Actual flow rate	3.4 m <sup>3</sup> /h
At actual delivery head	22 m
Switch-on pressure Pressure control	2.2 bar
Material impeller and casing	stainless steel AISI 304
Ambient temperature	max. 40°C
Electrical connection	230 V / 50 Hz
Power consumption	850 W
Dimensions incl. pressure control	approx. W 206 x D 364 x H 500 mm
Connection inlet	d25 grommet
Connection outlet	R ¾"

**Order no.** **16551200**

## Technical data

for connection to softened or hardness-stabilised drinking water in accordance with the German Drinking Water Ordinance.

Blocking index	max. 3
Salt content	max. 2,000 mg/l
Chlorine concentration	< 0.01 mg/l
Manganese content	< 0.05 mg/l
Iron content	< 0.05 mg/l
CO <sub>2</sub> content	max. 15 mg/l
SiO <sub>2</sub> content	max. 0.4 mg/l
pH range	4 to 11

## Pure water values

RO capacity ( at 10°C )	100 l/h
RO membrane retention rate	> 99 % salts, germs and bacteria
WCF rate	adjustable up to 75
Output EDI ( at 10°C )	50-80 l/h
Membrane retention rate RO	> 99 % salts, germs and bacteria
Residual conductivity ED	0.06 to 1 $\mu\text{S}/\text{cm}^*$
Type. Residual conductivity ED	0.1 $\mu\text{S}/\text{cm}^*$
TOC value ED	< 30 ppb
Silicate and germ reduction ED	> 99 %*
WCF rate RO/EDI adjustable	up to 75/90

## Connection values

Ambient temperature	5 - 40°C
Water temperature	5 - 35°C
Raw water pressure RO	2 to 6 bar
Working pressure RO	max. 14 bar
Working pressure ED	1 to 4 bar
Clean water back pressure	max. 0 to 1 bar
Supply voltage	230 volts / 50 Hz
Connected load	1.5 kW
Connection inlet	DN 20
Connection outlet	DN 20
Brine connection	DN 10
Dimensions	W 1020 x D 600 x H 1850 mm
Weight approx.	270 kg

**Order no.** **17600080**