



wasserLAB

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CLINICAL 200-400

High production
equipment for feeding
clinical analyzers.
200 and 400 l/h

Custom design of the installation according to your requirements

The CLINICAL 200 - 400 range offers Clinical Laboratory Reagent Water (CLRW), a water that complies with Clinical and Laboratory Standards Institute (CLSI) standards and guarantees a quality of:

Conductivity at 25°C	<1 µS/cm
TOC ¹	<30 ppb
Bacterial count ¹	≤0.01 cfu/ml
Dissolved silica	<0.05 mg/l
Production flow rate ²	200 - 400 l/h

Versions

MODEL	REFERENCE	WATER QUALITY	WATER FLOW PRODUCTION	CONSUMPTION RECOMMENDED
CLINICAL 200	PA200DA	Type II Water (CLRW)	200 l/h	2.000 liters / day
CLINICAL 400	PA400DA	Type II Water (CLRW)	400 l/h	4.000 liters / day

1. These values are typical and may vary depending on the nature and concentration of contaminants in the Tap water.
 2. Nominal flow rates +10% between 10 and 35°C. Additional deviation of -3 % for each degree Celsius in the range 10 °C to 5 °C.

Modular System made up of the following components:

Pre-treatment

In this phase, particles of a size equal to or larger than 1 micron, 99.99% of the hypochlorite and most of the organic matter present in the Tap Water are removed. The system consists of two elements, a Mineral Filter to retain suspended solids and an automatic dechlorinator for the elimination of chlorine and organic matter.

	Mineral Filter	Dechlorinator
Equipment 200 l/h	Ref. FSA6073 (30 kg)	Ref. DCL6072 (50 L)
Equipment 400 l/h	Ref. FSA6066 (70 kg)	Ref. DCL6081 (80 L)

Both elements consist of a fibreglass-reinforced polyester bottle with an internal water distributor. A timer controls the automatic flushing without interrupting the water supply.

Reverse Osmosis

A high performance reverse osmosis membrane system removes up to 99.95% of organic matter (over 150 Daltons) from the water and 94-99% of Total Dissolved Solids (TDS).

316 stainless steel frame and high pressure pump.

Recovery of reject water

The system recovers between 30% and 40% of the reject water, improving system conversion and optimizing water consumption.

Purification Phase with Ion Exchange Resins

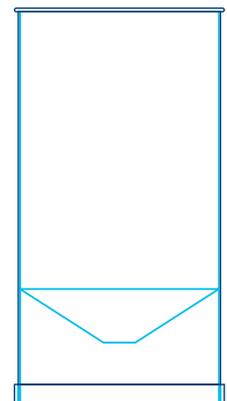
The osmotized water passes through a mixed bed cationic/anionic ion exchange resin, retaining the few dissolved salts in the water, providing purified Type II Water Analytical Grade, according to ASTM (American Society for Testing and Materials) specification, with a conductivity of less than 1 µS/cm.

The system includes 22 liters resin bottles, the number and arrangement of which are determined by the design of the installation.

Storage

The Type II Water produced is accumulated in an atmospheric tank with a conical bottom for easy emptying, cleaning and sanitization.

The size is adjusted to the requirements of the process, and the filling is controlled by an automatic level float system.



UV Lamp and 0.22 µm Final Filter

To guarantee microbiological control of the purified water, the equipment is equipped with an Ultraviolet lamp that performs bacteriostatic and germicidal functions, emitting a wavelength of 254 nm.

To meet even more stringent microbiological requirements (<0.01 cfu/ml), the system incorporates a 0.22 µm in-line Final Filter to retain microorganisms that may be present in the final water, ensuring that the purified water meets high microbiological quality standards.

Automatic safety system for the supply of purified water

The equipment includes a function, activated manually, which allows the production of purified water autonomously and independently of the reverse osmosis stage, in case of equipment failure.

Automation and Monitoring

It is equipped with a microprocessor that starts or stops the equipment automatically, depending on the volume of water accumulated in the tank.

The microprocessor constantly monitors all the parameters of the purification process:

- The working pressure of the Reverse Osmosis module.
- Hours of real operation of the equipment.
- Measurement of the conductivity of the feed water (µS/cm).
- Measurement of the conductivity of the permeate water of the reverse osmosis module (µS/cm).
- Measurement of the conductivity of the Type II Water produced (µS/cm).
- Water temperature (°C).

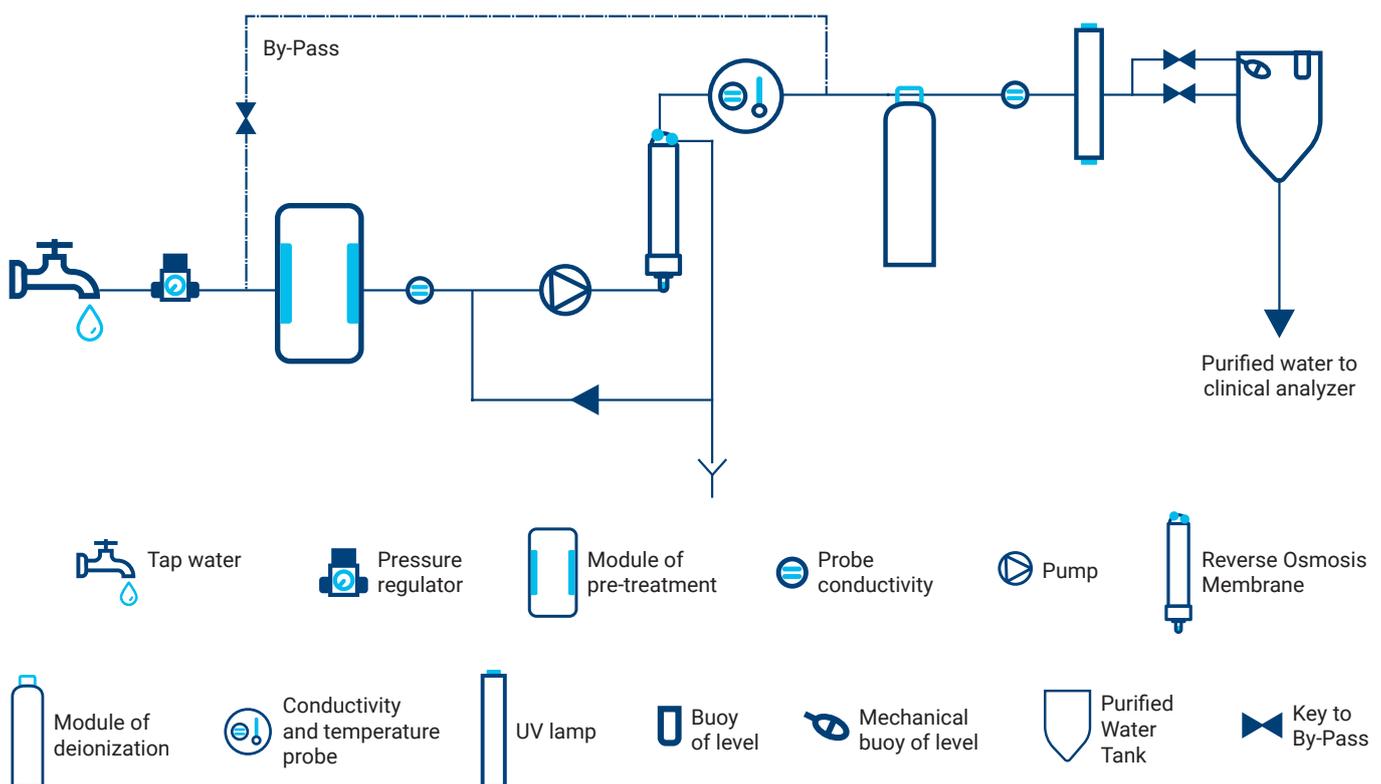
An additional conductivity meter of the produced water is placed in the last deionization stage and measures the quality of the newly produced water.

The software allows the user to customize the critical conductivity value of his water. The equipment will alert you with a visual and audible message when the Module of deionization needs to be replaced, according to the set value.

Maintenance and Calibration

The software allows the adjustment and calibration of the conductivity meter by means of a certified standard traceable to the national standards of the German Deutscher Kalibrierdienst (DKD).

Hydraulic system diagram



Installation Requirements

Electrical:

- One power socket CETAC Three-phase 380 V-3F, 3-pole + Neutral + earth 16 A.
- Three power sockets 230 VAC.
- One protection panel.
- Earth connection at a maximum of 2 meters from the equipment.

Tap Water:

- Source: Tap water or pre-treated water
- Flow rate: >10 l/min
- Tap water connection: 3/8" male gas thread
- Nearby drain (maximum 3 meters) with flow rate >10 l/min.
- Pressure: >2.5 bar
- Conductivity: <2.000 µS/cm
- pH: 4 - 10
- Hardness¹: <300 ppm CaCO₃
- Turbidity: <1 NTU
- TOC: <50 ppb
- CO₂: <30 ppm
- Silica: <30 ppm
- Free chlorine: <1.5 ppm
- SDI: <7
- Temperature: 5 - 35°C

1. If the hardness value exceeds 300 ppm CaCO₃, a water softener must be installed.

Specifications:

Dimensions / weights:

- Mineral Filter:
 - Ref. FSA6073: 26 x 108 cm (dia. x height) / 30 kg.
 - Ref. FSA6066: 34 x 160 cm (dia. x height) / 70 kg.
- Declorinator:
 - Ref. DCL6072: 26 x 160 cm (dia. x height) / 50 kg.
 - Ref. DCL6081: 34 x 160 cm (dia. x height) / 80 Kg.
- Osmosis Equipment: 170 x 90 x 70 cm (H/W/D/D) / 120 kg.
- Deionization Bottle: 20 x 92 cm (D/H) / 30 kg.

Noise level: < 50 dB.

Consumption and power:

	Equipment 200 l/h	Equipment 400 l/h
Consumption	2.5 kW	2.5 kW
Power	6.25 A	6.25 A

WasserLAB

Water Purification Systems

Wasserlab®

We are manufacturers of **water purification equipment** with an extensive track record in the installation of solutions in **multiple sectors**.

We offer **personalised advice** in the selection of equipment and we provide **comprehensive technical support** to guarantee optimum operation.

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