

### Autwomatic Process RO Description

The Autwomatic Process RO produces 20 - 120 liters per hour of Osmotized Water (ASTM –Type III) directly from tap water, depending on the model .

#### Two versions:

- Standard Version .
  - o Autwomatic RO Process 20
  - o Autwomatic RO Process 40
  - o Autwomatic RO Process 60
  - o Autwomatic RO Process 90
  - o Autwomatic RO Process 120
- UV Version: with includes UV Lamp and 0.22 Micron Final Filter
  - o Autwomatic RO Process 20 UV
  - o Autwomatic RO Process 40 UV
  - o Autwomatic RO Process 60 UV
  - o Autwomatic RO Process 90 UV
  - o Autwomatic RO Process 120 UV



#### Quality of Osmotized water

- Standard Version .
  - Rate 20 -40 -60 -90 -120 l/h
  - Osmotized Water < 20  $\mu\text{S/cm}$  ( If Inlet water conductivity < 400  $\mu\text{S/cm}$ )
- UV Version .
  - Rate 20 -40 -60 -90 -120 l/h
  - Osmotized Water < 20  $\mu\text{S/cm}$  ( If Inlet water conductivity < 400  $\mu\text{S/cm}$ )
  - Bacteria  $\leq 1$  ufc/ml
  - TOC > 50 ppb

Water purification is reached following a sequential step of treatment:

#### 1.-Pretreatment

The pre treatment includes filters of sediment and active carbon to remove:

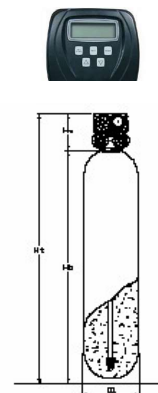
- Particles higher than 1 micron.
- 99.9% of Hypochlorite.
- Organic material present in feed water is reduced to minimum.

**The Autwomatic Process RO 60-90 and 120 l/h includes an automatic dechlorinator external to the RO Sytems.**

Dechlorinator Description (Ref DCL6080).

Dechlorination system that is cleaned periodically and automatically by backwashing thanks to a microprocessor built into the head.

Fiberglass reinforced polyester bottle with internal water dispenser.  
Load of 30 Kilos Activated Carbon.



## 2.-Reverse Osmosis

A reverse osmosis membrane (ROM) System of high performance, eliminates more than 99.9% of Organic Materia higher than 150 dalton, and rejects 94 – 98% of Total Dissolved Solids (TDS).

## 3.-Osmotized water reservoir

The Osmotic water produced is stored in a Tank not included in this proposal.

The system includes a float switch to adapt to the customer's tank.

## Automation y Monitorization

The equipment Autwomatic RO Process works automatically.

The Autwomatic microprocessor controls constantly all relevant purification process parameters:

- Water pressure on RO module.



- Water conductivity (compensation 25°C):
  - Feed Water conductivity ( $\pm 1 \mu\text{S/cm}$ )
  - Permeated water conductivity ( $\pm 1 \mu\text{S/cm}$ )
- % rejection rate efficiency at RO module ( $\pm 0.1\%$ ).



- Water temperature ( $\pm 0,1 \text{ }^{\circ}\text{C}$ ).
- Equipment status (Production/ Full Reservoir/ Dispensing).
- Realistic instrument working time in hours.



Software allows users to personalize the critical water conductivity value. Unit should advice by visual and acoustic warning the Osmosis Membrane cartridge exchange in order to keep safety within limits.

### **Self Test and Preventive maintenance**

Autwomatic's software is programmed to run a regular self-test keeping the unit under constant and effective control on all components and limit values.

The users are allowed to program under their own criteria critical values for main quality water parameters:

- Minimal conversion rate in RO module.
- Osmotized water limit conductivity, to prevent risks or problems caused by poor water quality.

The microprocessor shall advice by acoustic and visual (written message on alphanumeric screen) preventive alarms asking for maintenance needed to keep water quality as needed.

Some of the written messages sent by microprocessor are:

- Temperature out of allowed limits.
- Pre-treatment cartridge life time exhausted.
- Conversion rate in RO module under user allowed limits.
- Osmotized water conductivity exceeding user allowed limit

The microprocessor shall also detect any miss function at conductivity or temperature sensor signal, and will therefore advice user by a written message on screen.

### **Maintenance and Calibration**

The equipment has been designed to carry out a simply, fast and easy maintenance by the user.  
The expendable components life depends on feed water quality (pollution degree, hardness and conductivity).

The software allows to set up and calibrate the conductivity meter by using a certified standard with traceability to the national standards from the German Deutscher Kalibrierdienst (DKD).

After Sales Service of Wasserlab can provide to users the following services:

1. Scheduled unit calibration.
2. Complete system Verification with written Certificate.

### **Advantages of Autwomatic Clinical model**

Fully automatic operation, supplying Osmotized water with constant quality and volume in accordance with user's needs.

Continuous monitorization of water quality produced by the equipment.

Requirements of maintenance are controlled and preventive alarms asking for maintenance are activated when necessary.

Very simple and easy maintenance.

CE mark: The equipment fullfils norms of Low tension and Electromagnetic compatibility - EMC (emission and immunity)

Equipped with cartridge kit.

#### Requirements for the Installation of the system:

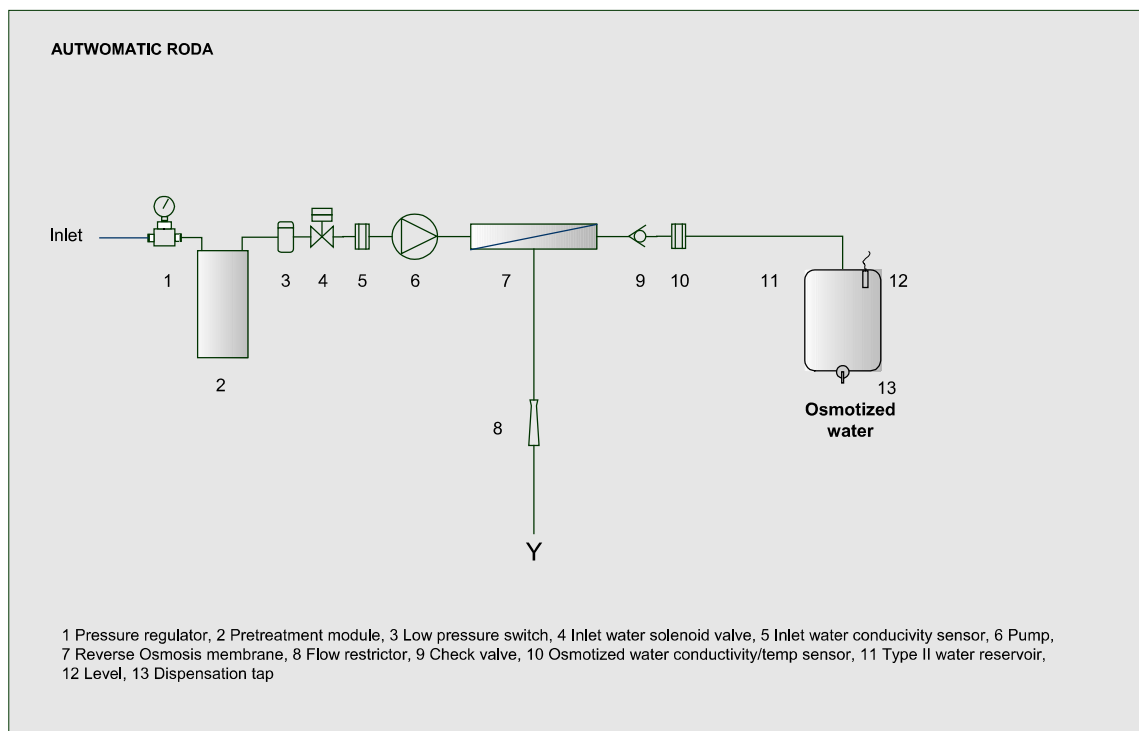
- Electrical power 120/230 VAC -50-60 Hz, Plug earth grounded, within 2 meter of the Equipment.
- Feeding water: Should be close (3 meters max), Pressure 2.5 bar (min., connector 3/8" BSP Male).
- Quality of Inlet Water:
  - Conductivity < 400  $\mu\text{S}/\text{cm}$  (to ensure a 20  $\mu\text{S}/\text{cm}$  conductivity value)
  - Hardness < 30°F
  - Turbidity < 1 NTU
  - Free chlorine < 2ppm.

#### Dimensions :

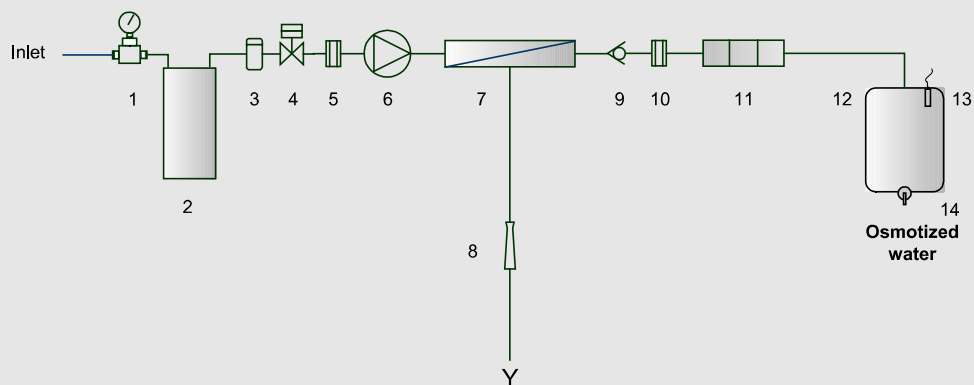
- Autwomatic RO Process 55 x 60 x 80 cm (WxDxH)
- Dechlorinator : 26 x 110 cm (Diam xH)

Operating Weight : 40 Kg

#### Hydraulic Schema



**AUTWOMATIC RODA UV**



1 Pressure regulator, 2 Pretreatment module, 3 Low pressure switch, 4 Inlet water solenoid valve, 5 Inlet water conductivity sensor, 6 Pump, 7 Reverse Osmosis membrane, 8 Flow restrictor, 9 Check valve, 10 Osmotized water conductivity/temp sensor, 11 UV lamp, 12 Type II water reservoir, 13 Level, 14 Dispensation tap.