



## Quality of the water

### Ultrapure Water (Type I)

#### Autwomatic 1+2 Plus GR Version

- Water Quality at 25°C
  - Resistivity 18,2 MΩ·cm.
  - TOC < 3 ppb.
  - Bacteria < 1 cfu/ml.
  - Particles < 0,22 μm.
- Dispensation 1,1 l/min.
- Applications: analytical methods such as analysis of organic and inorganic traces, HPLC, ICP-MS, IC and TOC analysis

#### Autwomatic Plus 1+2 GRUF Version

- Water Quality at 25°C
  - Resistivity 18,2 MΩ·cm
  - TOC < 3 ppb
  - Bacteria < 1 cfu/ml
  - Endotoxines < 0,03 (IU/ml)
  - Particles < 0,22 μm
  - RNases y DNases removal
- Dispensation 1,1 l/min
- Applications: Molecular Biology, Cell Culture, PCR, DNA sequencing, Monoclonal Antibody Production.

### Purified Water (Type II)

- Water Quality at 25°C
  - Conductivity < 1 μS/cm.
  - TOC < 50 ppb.
  - Bacteria < 1 cfu/ml.
  - Particles < 0,22 μm.
- Production rate of Reverse Osmosis
  - 3 l/h
  - 5 l/h
  - 10 l/h
- Storage Tank
  - 10 Liters
  - 30 Liters
  - 50 Liters

#### Applications:

- Preparation of microbiological culture media.
- Preparation of reagents and buffers.
- RIA / ELISA.
- Atomic Absorption-Flame.
- Spectrophotometry.

### Osmotic Water (Type III)

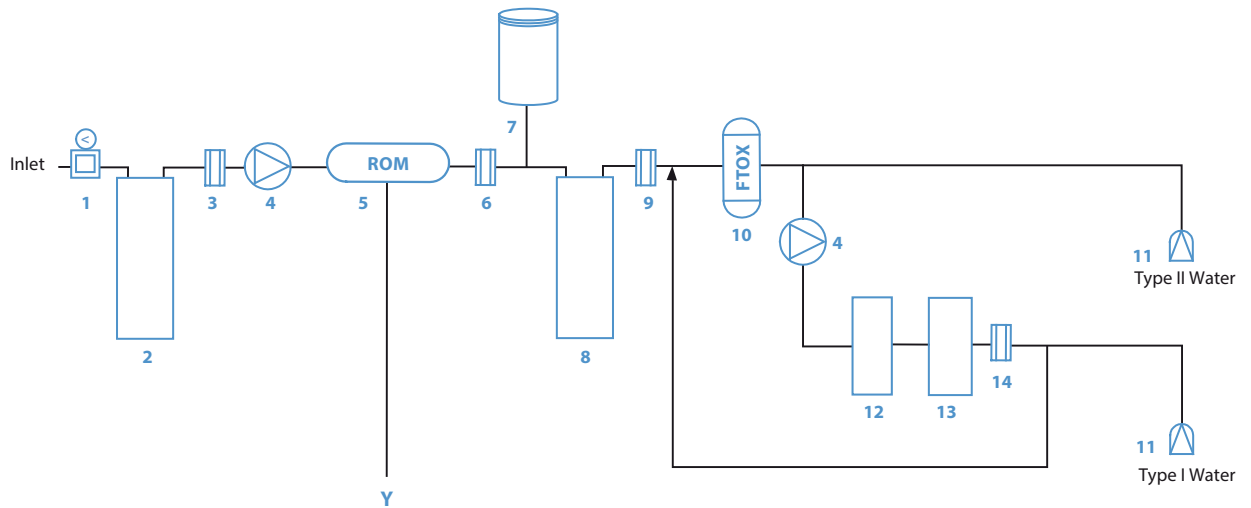
- Water Quality Osmotic Water. Removal of:
  - 95-98% dissolved inorganic salts.
  - > 99% of dissolved organic matter (PM > 100 dalton).
  - >99,95% microorganisms and particles.

#### Applications:

- Feeding of autoclaves and cleaning equipment.
- Cleaning glassware material.

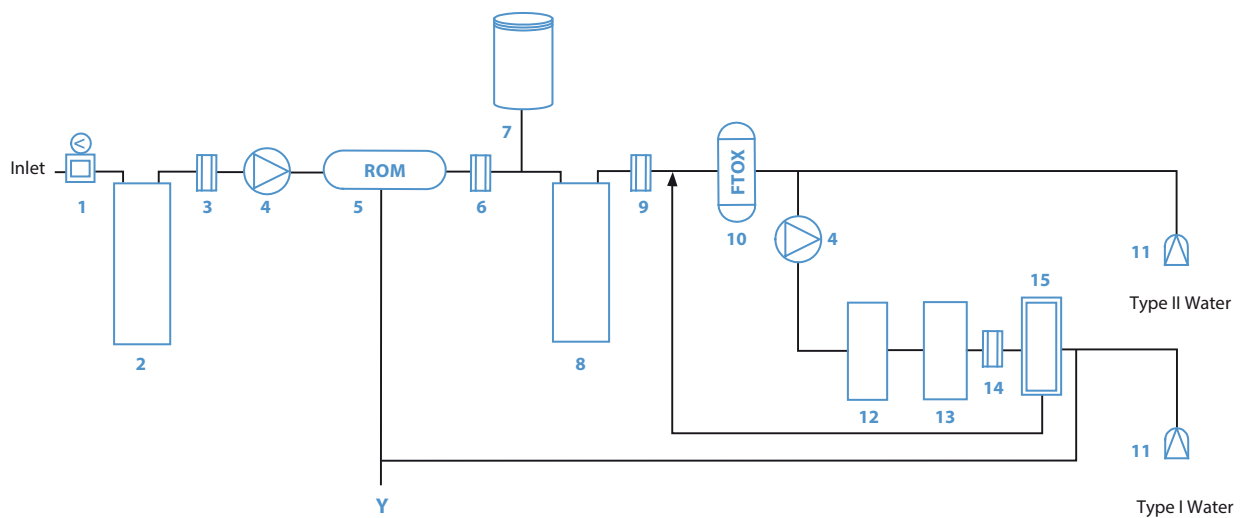
# Hydraulic scheme

## Autwomatic plus 1+2 GR



- 1** Pressure regulator. **2** Pretreatment module. **3** Inlet water conductivity sensor. **4** Pump. **5** Reverse Osmosis membrane. **6** Osmotized water conductivity sensor. **7** Pressure tank. **8** DI module. **9** Type II water conductivity sensor. **10** UV-Photo-oxidation lamp. **11** Final filter 0,22 µm. **12** Ultrapurification module. **13** Polishing module. **14** Resistivity / Temperature sensor.

## Autwomatic plus 1+2 GR UF



- 1** Pressure regulator. **2** Pretreatment module. **3** Inlet water conductivity sensor. **4** Pump. **5** Reverse Osmosis membrane. **6** Osmotized water conductivity sensor. **7** Pressure tank. **8** DI module. **9** Type II water conductivity sensor. **10** UV-Photo-oxidation lamp. **11** Final filter 0,22 µm. **12** Ultrapurification module. **13** Polishing module. **14** Resistivity / Temperature sensor. **15** Ultrafiltration module.

# Technical specifications

Equipment		AUTWOMATIC PLUS 1+2			
Model	GR		GRUF		
	Type II	Type I	Type II	Type I	
<b>Final Water Quality</b>					
Water Conductivity (µS/cm)	<1	0,056	<1	0,056	
Water Resistivity (MΩ-cm)		18,2		18,2	
TOC (ppb)	< 50	< 3	< 50	< 3	
Bacteria (cfu/ml)	<1	<1	<1	<1	
Endotoxins (EU/ml)				< 0,03	
<b>Rate and Storage</b>					
Flow Rate	3/5/10 l/h	1,1 l/min	3/5/10 l/h	1,1 l/min	
Max. Flow rate Recommended LPD	30-50-100		30-50-100		
RO Pressurized Tank (L)	10/30/50		10/30/50		
<b>Dispensation</b>					
Manual Dispensing	✓	✓	✓	✓	
Volume controlled Dispensing	✓	✓	✓	✓	
Time Controlled dispensing	✓	✓	✓	✓	
<b>Continuous Monitorization</b>					
Touch Screen/ keyboard	Touch Screen	Touch Screen	Touch Screen	Touch Screen	
Visual and audible warning messages	✓	✓	✓	✓	
Feed Water Conductivity (µS/cm)	✓		✓		
Osmotized water Conductivity (µS/cm)	✓		✓		
Ionic Rejection %	✓		✓		
Final Water Conductivity (µS/cm)	✓		✓		
Final Water Resistivity (MΩ-cm)		✓		✓	
Work Time counter	✓	✓	✓	✓	
Multiparameter Time counter	✓	✓	✓	✓	
Water Temperature (°C)	✓	✓	✓	✓	
Temperature compensation	✓	✓	✓	✓	
<b>Warning to user messages</b>					
Out of range parameters	✓	✓	✓	✓	
Pretreatment cartridge exchange	✓		✓		
RO exchange	✓		✓		
DI cartridge exchange	✓	✓	✓	✓	
Ultrapure cartridge exchange		✓		✓	
UV/Photo-oxidation Lamp exchange	✓	✓	✓	✓	
Final Filter/UF exchange	✓	✓	✓	✓	
Feed water supply failure	✓		✓		
<b>Automatizms</b>					
Automatic Start/Stop	✓		✓		
Automatic/Programmable recirculation		Programmable		Programmable	
Automatic Stop/water supply failure	✓		✓		
Automatic RO cleaning	✓		✓		
<b>Other components</b>					
Photo Oxidation lamp/UV	✓	✓	✓	✓	
Final Filter 0,22 µm	✓	✓	✓	✓	
Ultrafiltration cartridge			✓	✓	
<b>Dimensions (Height/Widht/Depth) [cm]</b>					
	60x36x49		60x36x49		
<b>Weight [kg]</b>					
	35		35		
<b>Power supply</b>					
	110-220VAC/50-60 Hz		110-220VAC/50-60 Hz		
<b>Feed Water Requirements</b>					
Min. Inlet Pressure	2 bar		2 bar		
Max. Inlet Pressure	6 bar		6 bar		
Max. Water Temperature	30 °C		30 °C		
Max. Hardness	300 ppm (CaCO3)		300 ppm (CaCO3)		
SDI (Silt Density Index)	< 5		< 5		
Max. Feed Water conductivity	1500 uS/cm		1500 uS/cm		
Free Chlorine	< 1 ppm		< 1 ppm		
Turbidity	< 1NTU		< 1NTU		