



**Field of Application:**

- Laboratory-, Industrial- and Medical Applications

**Besondere Merkmale:**

- Ready-to-connect reverse osmosis system
- Compact microprocessor control
- fully wired to control the entire water treatment
- Stainless steel frame to hold the individual components
- Digital conductivity and temperature measurement
- Flow meter for concentrate, permeate
- Automatic restart after power failure
- Fault display for feed water pressure
- Cyclical flushing device to protect against germs during standstill

**Standard Frame System:**

For the desalination of pre-treated water according to the German Drinking Water Ordinance based on the principle of reverse osmosis. A previous water analysis is necessary for the system calculation.

**Technical Data \***

Electrical Connection	230 V / 50 Hz
Connection Power	2,1 kW - 2,5 kW
RO Permeate Output	80 l/h - 500 l/h
Work Pressure	up to 14 bar
perm. Feed Water Temp. min./max.	+5°C / +25°C
perm. Ambient Temperature min./max.	+5°C / +30°C
Feed Water Pressure	3-6 bar
Desalination Rate	99%
WCF rate	max. 75%
Dimensions (WxHxD)	800 x 1750 x 650 mm

**\*We reserve the right to make changes to products or technical specifications.**

Item Numbers						
	HA-RO basic 80	HA-RO basic 120	HA-RO basic 200	HA-RO basic 300	HA-RO basic 400	HA-RO basic 500
Item Number	10106831	10106832	10106833	10106834	10106676	10106835

Electrical Connection						
	HA-RO basic 80	HA-RO basic 120	HA-RO basic 200	HA-RO basic 300	HA-RO basic 400	HA-RO basic 500
Nominal Voltage	230 V					
Frequency	50 Hz					
Pre-Fuse	16 A					
Current Consumption	11 A	11,8 A	11,8 A	11,8 A	13,6 A	13,6 A
Connected Load	2,1 kW	2,2 kW	2,2 kW	2,2 kW	2,5 kW	2,5 kW

Hydraulic Connection						
	HA-RO basic 80	HA-RO basic 120	HA-RO basic 200	HA-RO basic 300	HA-RO basic 400	HA-RO basic 500
Feed Water Pressure min./max.	3,0 - 6,0 bar					
Feed Water Temperature min./max.	5 – 25 °C					
Feed Water Connection	DN20					
Connections Permeate/Conzentrate	DN15					
Membrane Elements	1	1	1	1	2	2

Product Water						
	HA-RO basic 80	HA-RO basic 120	HA-RO basic 200	HA-RO basic 300	HA-RO basic 400	HA-RO basic 500
Permeate Output (at 15°C)	80 l/h	120 l/h	200 l/h	300 l/h	400 l/h	500 l/h

Dimensions	
Height	1750 mm
Width	800 mm
Depth	650 mm
Location	
Ambient Temperature	5 – 30 °C

Weight						
	HA-RO basic 80	HA-RO basic 120	HA-RO basic 200	HA-RO basic 300	HA-RO basic 400	HA-RO basic 500
Weight (without Water)	100 kg	100 kg	100 kg	100 kg	110 kg	110 kg

**Structure of the Reverse Osmosis System:**

- **Base Frame made of stainless steel** with front panel to accommodate all components
- **Pre-Filter** with 5 µm filter cartridge, inlet and outlet manometer for monitoring the differential pressure
- **High pressure pump** in vertical design
- **Membrane Modules** with composite membranes in GRP pressure pipes with inliner
- **Fittings:**
  - Inlet solenoid Valve
  - Pressure Switch for dry running Protection
  - Flow meter for Permeate, Diluate and Concentrate
  - Manometer for Pump and Concentrate Pressure
  - Flow rate adjustment Valves
- **Control Technology:** Microprocessor control with two-line text display
- **Inputs:** 12 digital Inputs (u.a. Hardness Measurement, Pump Failure, Inlet Pressure, Flow, external Release)
- **Outputs:** 8 digital Outputs (Pumps, Solenoid Valves, Collective Error Message etc.)
- **Internal Fieldbus:** Communication with conductivity transmitters
- **Conductivity- and Temperature Measurement**

**Options:**

- Digital Flow Measurement
- Individually adjustable limit value monitoring of conductivity and temperature limit values as well as permeate, diluate and ring circulation quality

**Accessories:**

- Hardness Controller      10008033
- 3 µm Pre-Filter            10001005 Microfiber
- 5 µm Pre-Filter            10001006 wrapped  
   10001040 Microfiber
- Visual Alarm                10107748

**Other machine options available on request!**