FDS WATERBEHANDELING



MANUAL

Reverse Osmosis

RO 600 Commercial

- **Installation and Commissioning**
- **Operation and Settings**
- **Maintenance and Troubleshooting**

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General Information

The RO 600 Commercial is a computer-controlled reverse osmosis system with various functions that can be adjusted via the controller. The system is designed for the production of demineralized water and is built within a steel frame, allowing it to be installed either freestanding or wall-mounted.

The system is equipped with two membranes. Depending on the model, the production capacity ranges from approximately 35 to 80 liters of demineralized water per hour.

The system is not designed for continuous operation. The maximum recommended operating time is approximately 10 consecutive hours, after which a rest period of around 1 hour is recommended. The maximum recommended storage tank capacity is 1,000 liters.

For water pre-treatment, the system is equipped with three pre-filters that remove coarse particles and contaminants from the feed water before it reaches the membranes.

1. Components

The system is supplied with the components required for operation. The package includes:

- Reverse Osmosis System
- Membranes (vacuum packed)
- Flexible tubing
- Filter housing wrench
- Adapter and connection fittings for the water supply

The system includes, among others:

- 3 pre-filters (1 micron sediment / carbon / 5 micron sediment)
- 2 membrane housings (horizontally mounted)
- Computer controller
- Pressure switch or provision for a float switch (included)
- Connections for demineralized water and wastewater

2. Installation

2.1 Unpacking and Inspection

Remove the system from its packaging and verify that all components are present. The membranes are packaged separately to prevent them from drying out.

2.2 Membrane Installation

he membrane housings are located behind the filter housings and are mounted horizontally.

Unscrew the end caps of the membrane housings and insert the membranes into the housings. Please note the following:

- The membrane must be inserted with the small double O-rings facing inward.
- Push the membrane firmly into place. You will initially feel some resistance; continue pushing until the membrane is fully seated.

Correct installation is essential for proper operation and maximum membrane life.

2.3 Water Supply Connection

The system can be connected to an existing water tap without preventing its use for other purposes.

Procedure:

- Remove the existing tap from the wall connection.
- Install the adapter onto the wall connection.
- Reinstall the tap onto the adapter.
- Install the shut-off valve in the adapter (use PTFE/Teflon tape).
- Connect a hose to the shut-off valve.
- Connect the other end to the first filter housing.

The water supply is now connected.

2.4 Demineralized Water Outlet

The demineralized water outlet is located at the top of the system. Connect a hose to this outlet and route it to the storage tank.

2.5 Wastewater Outlet

The wastewater connection is located at the bottom of the system.

Connect a hose from this outlet to a suitable drain. Ensure that the wastewater can flow freely without restriction.

2.6 Pressure Switch and Float Switch

The system is equipped with a pressure switch as standard. This switch automatically shuts down the system when water can no longer be discharged.

As an alternative, an electrical float switch can be installed in the storage tank. To do this, disconnect the wires from the pressure switch and connect them to the float switch.

3. Initial Start-Up

After installation, the system can be started.

- Open the water supply.
- Connect the system to the electrical supply.
- Start the system.

Inspect the system for leaks.

After approximately 10 minutes of operation, the system is ready for use.

4. Computer Controller

4.1 General Operation

The computer controller continuously displays:

- System operating hours
- Water quality (TDS value)

The TDS value is adjustable. When the set value is exceeded, an alarm signal will be activated.

During start-up, the system automatically flushes the membranes. The flush duration can be adjusted between 15 and 60 seconds.

During operation, an intermediate flush can be configured. In standby mode, an automatic flush can be set at intervals between 12 and 72 hours.

4.2 Controller Settings

For optimal performance, the controller should be configured according to the settings below:

Parameter	Setting
P1	60 seconds
P2	0
P3	1
P4	24
P5	30
P6	Do not change

After configuration, the menu can be exited by pressing the **Set** button twice.

4.3 Display Functions

The display shows various system statuses:

- Timer → displays the system operating hours
- TDS → displays the water quality
- LOW → insufficient water pressure
- FULL → storage tank is full
- FLUSH → system is flushing
- MAIN PUMP → system is operating

When **"LOW"** is displayed, the water pressure is insufficient and the system will not start.

When **"FULL"** is displayed, the storage tank is full or the signal is being provided by the float switch.

5. Maintenance

5.1 Filter Replacement

The system is equipped with three pre-filters:

- First filter: sediment filter (5 micron)
- Second filter: carbon filter
- Third filter: sediment filter (1 micron)

These filters should be inspected and replaced periodically to ensure proper system performance.

6. Troubleshooting

Problem	Possible Cause	Possible Solution
System produces wastewater but no demineralized water	Membrane clogged	Replace membrane
Computer controller counts down and shuts off	Display glass fuse blown	Check the glass fuse and replace if necessary
	Faulty transformer	Check the transformer and replace if necessary
	Short circuit in solenoid valve coil (upper right)	Check the solenoid valve coil and replace if necessary
System receives no water	Solenoid valve coil (upper right) burned out	Replace the solenoid valve coil