

SERVICE MANUAL

Pure Water System
Condair RO-A

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1 For your safety

General

Every person working with the Condair RO-A pure water system must have read and understood the Condair RO-A pure water system installation and operation manual before carrying out any work. Knowing and understanding the contents of this manual is a basic requirement for protecting personnel against any kind of danger, to prevent faulty operation, and to operate the Condair RO-A pure water system safely and correctly.

All icons, signs and markings applied to the components of the Condair RO-A pure water system must be observed and kept in readable state.

Qualification of personnel

The Condair RO-A pure water system must be installed and operated only by persons who are well trained, and adequately qualified for the respective task and are authorized by the customer. For safety and warranty reasons any action beyond the scope of this manual must be carried out only by service personnel authorised by Condair.

It is assumed that all persons working with the Condair RO-A are familiar and comply with the appropriate regulations on work safety and the prevention of accidents.

The Condair RO-A pure water system may not be used by persons (including children) with reduced physical, sensory or mental abilities or persons with lacking experience and/or knowledge, unless they are supervised by a person responsible for their safety or they received instructions on how to operate the system.

Children must be supervised to make sure that they do not play with the Condair RO-A pure water system.

Danger that may arise from the Condair RO-A pure water system



DANGER!
Risk of electric shock

The Condair RO-A is mains powered. Live parts may be exposed when the unit is open. Touching live parts may cause severe injury or danger to life.

Prevention: Before carrying out any work set the Condair RO-A out of operation as described in (switch off the unit, unplug mains cable, shut off the water supply and depressurise the system) and secure the unit against inadvertent power-up.

Observe all local safety standards

Observe all local safety standards regarding the handling of mains-powered electrical and electronic devices, and the design and handling of low-pressure water systems.

Preventing unsafe operation

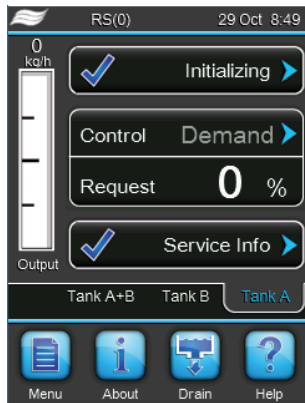
If it is suspected that safe operation is no longer possible, the Condair RO-A pure water system should immediately be shut down and secured against accidental power-up.

All persons working with the Condair RO-A pure water system must report any alterations to the system that may affect safety to the owner without delay.

2 Factory Settings

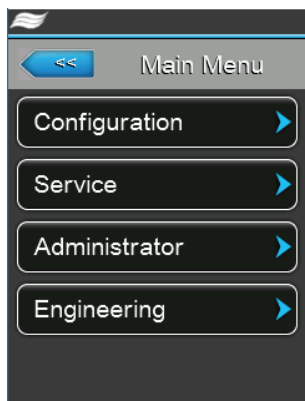
With the factory password "0948" you may access the factory settings in the "Factory" submenu as well as the factory functions in the "Service" submenu.

The Condair RO-A Software is based on the Condair RS software. For general factory setting menu, please refer to the Condair RS service manual.



Press "Menu", Code 0948

Note: Press "Menu" for longer than 4 s, if no keyboard occurs.



Press "Engineering"



Press "Operating Mode" if RO is deactivated



Press "Operating Mode"

Press "RO", if RO is already activated



Press "Mode", if RS is activated



Press "RS+RO" if you have a RS with RO-A.

Press "RO", if you have a "standalone" RO-A system.



"CE" for EU
 "UL" for North America

On = Unit stops if filltime has exceeded (Error 22)



Go back to RO



RO water capacity, depends on the numbers of membranes.
Service hours (count down), depends on the water hardness.

Hygiene Normal = Drain valve with function NC
Hygiene Premium = Drain valve with function NO

PS1 and PS2 Type; do not change these two values, you only need it in case of another type of pressure sensor.

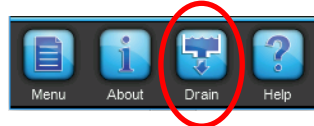


Register "Flush"

Time for tap water flush after "Power on" or pump start.

Time for RO water flush (to drain) before feeding RO water tank.

Duration of manual drain by drain key.



Register "Water production"

After reaching 1.5 bar (after filling the first time or after FWA) the system is ok, = release of green LED.

Start pressure for pump to fill pressure vessel.

Pump stops after reaching 3.0 bar. Do not increase the value to more than 3.9 bar! See next item!

Maximal pressure. If value exceeded, error E62 will occur.



Register "Water production"

If the pressure of RO water not reaches the value of "Pressure Min." after 10 min, "Min.Timeout" , error W/E 124 will occur.

Timeout until W/E 124 will occur.



Register "Fresh Water Automatic"

Value lower than 0.5 bar means "Tank empty"

If the tank is empty, system waits another 120 s for removing water completely.

Timeout "Fresh Water Automatic" (FWA) every 23 h, if no demand occurred. Complete drain of the RO water vessel, draining the system and fill again.

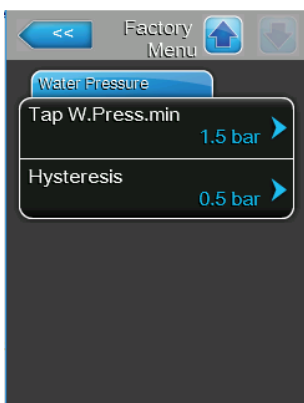


Register "Water Pressure"

Tap water pressure has to be stable min. 10 s.

If "Timeout on", "Timeout Op" will stay 20 s, even if pressure goes down. Min. time for tap water, where pressure has to be always present.

After 30 s, error will occur.



Register "Water Pressure"

Minimal needed tap water pressure to start pump.

Hysteresis tap water pressure for pump.

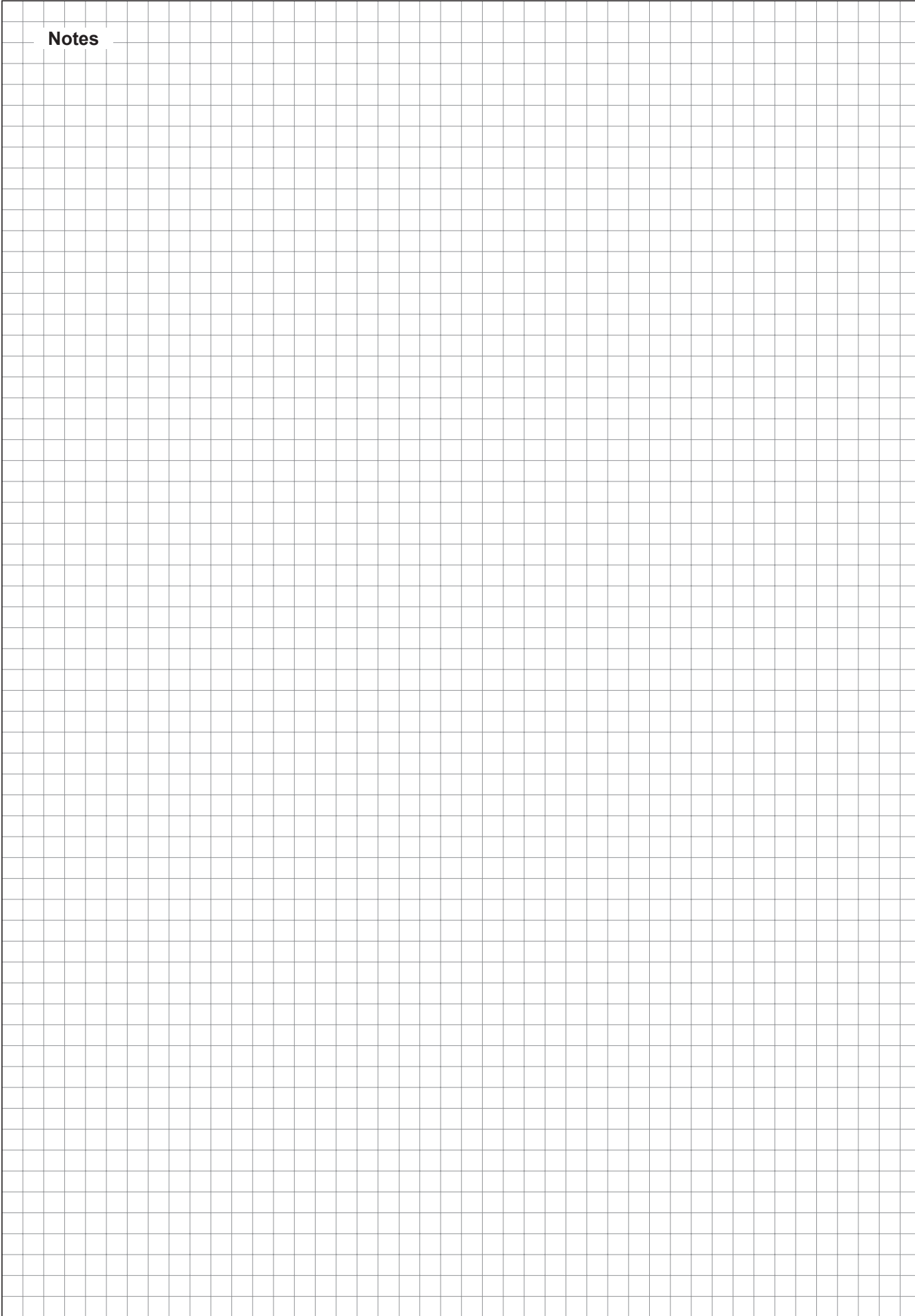
3 Operational malfunctions

Most operational malfunctions are not caused by faulty equipment but rather by improper installation or disregarding of planning guidelines. Therefore, a complete fault diagnosis always involves a thorough examination of the entire system.

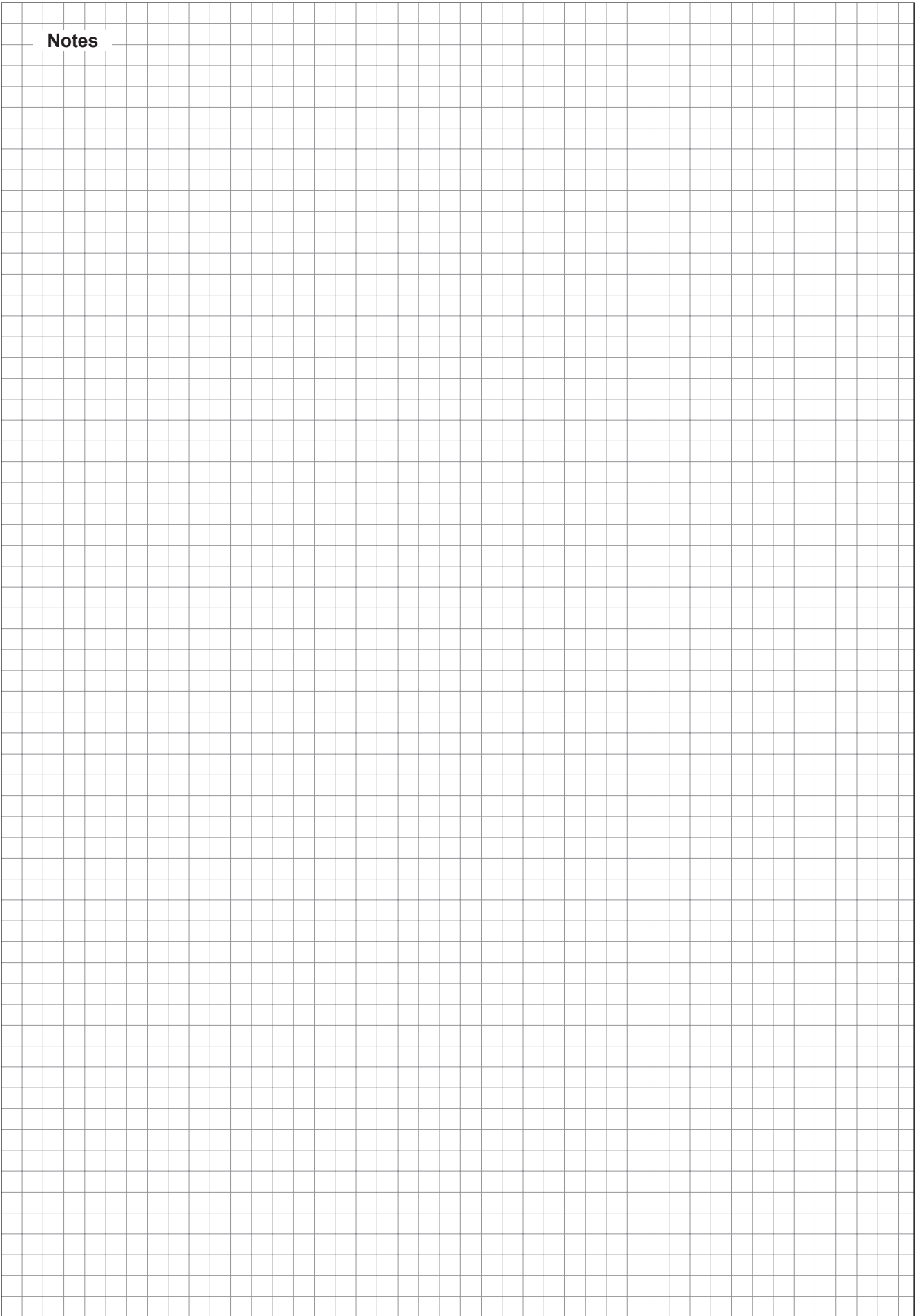
Code		Message	Information	
Warning	Fault		Possible causes	Remedy
—	E54	Leakage	Leakage monitoring has triggered, RO-A is stopped!	
			Leakage in the water system detected.	Check/seal water supply line, water drain line, hose connections in side and outside of the RO-A.
			Fuse "F2" on the driver board defective.	Replace fuse "F2" on the driver board.
—	E58	Pr.Sens.Inlet	Invalid signal from inlet water pressure sensor PS1!	
			Pressure sensor PS1 not or not correctly connected.	Check/correctly connect pressure sensor PS1.
			Pressure sensor PS1 wrong configured.	Correctly configure pressure sensor PS1.
			Pressure sensor PS1 defective.	Replace pressure sensor PS1.
—	E59	Pr.Sens.Tank	Invalid signal from pressure sensor of the tank!	
			Pressure sensor PS2 not or not correctly connected.	Check/correctly connect pressure sensor PS2.
			Pressure sensor PS2 wrong configured.	Correctly configure pressure sensor PS2.
			Pressure sensor PS2 defective.	Replace pressure sensor PS2.
—	E60	Pump Guard	Pump guard (over current monitoring) has triggered.	
			Overcurrent condition occurred during operation of pump. Overcurrent relay inside the control compartment of the RO-A has triggered.	Let have the overcurrent relay inside the control compartment of the RO-A checked by an electrician.
—	E61	Pump Pressure	Pump pressure out of valid range!	
			Tank pressure out of valid range.	Check tank pressure.
—	E62	Tank Pressure	Tank pressure out of valid range!	
			Tank pressure out of valid range.	Check tank pressure.
—	E73	FWA Timeout	FWA has not been completed within the set time!	
			Drain blocked.	Check/clean drain.
			Valves defective.	Check/replace valves inside the RO-A.
—	E74	Keep Alive	Communication between control board and driver board interrupted.	
			Driver board not connected.	Correctly connect driver board.
			Wrong driver board installed.	Install and connect correct driver board.
			Driver board defective.	Replace driver board.
—	E82	Driver Missing	Communication with driver board interrupted.	
			RS485 Bus to driver board interrupted.	Contact your representative.
—	E84	Driver defective	Unknown fault on driver board	
			Driver board defective.	Replace driver board.
—	E85	Driver ID wrong	Driver board ID wrong.	
			Wrong driver board connected or SAB address wrong.	Contact your representative.
—	E86	Driver Incompatible	Wrong version of driver board.	
			Wrong version of driver board.	Contact your representative.

Code		Message	Information	
Warning	Fault		Possible causes	Remedy
—	E87	Local 24V Supply	Local 24V voltage on driver board out of valid range!	
			Short circuit on supply module or supply module defective.	Contact your representative.
—	E88	Local 5V Supply	Local 5V voltage on driver board out of valid range!	
			Short circuit on supply module or supply module defective.	Contact your representative.
—	E89	Local Ref Supply	Local reference voltage out of valid range!	
			DC supply faulty or supply line interrupted.	Contact your representative.
—	E91	Pressure Instable	Water pressure instable because of missing water!	
			Shut-off valve in the water supply line not fully open.	Check/completely open shut-off valve.
			Cross section of the supply line too small.	Install water supply line with larger cross section (min. $\varnothing 10/12$ mm).
			Optional prefilter clogged.	Clean optional prefilter and replace filter cartridges.
W92	E92	RO Service	The maintenance interval of the RO system service has elapsed. If the system service is not performed and the maintenance message is not reset within one week after the maintenance message has appeared a fault message is triggered!	
			RO system service due.	Perform RO system service and reset maintenance counter.
—	E96	Per. 5V Supply	Peripheral 5V supply out of valid range.	
			5V supply interrupted.	Check wiring.
			Fuse "F2" on the driver board defective.	Replace fuse "F2" on the driver board.
			Overload on external connection.	Disconnect load on terminal X16.
			Overload due to defective pressure sensor.	Replace pressure sensor.
—	E97	Ext. 24V Supply	External 24 V supply faulty. Voltage too high or too low.	
			Fuse "F2" on the driver board defective.	Replace fuse "F2" on the driver board.
			Short circuit on external connection.	Remedy short circuit.
			Overload on external connection.	Disconnect load on terminal X16.
—	E98	Ext. 10V Supply	External 10 V supply faulty. Voltage too high or too low.	
			Fuse "F2" on the driver board defective.	Replace fuse "F2" on the driver board.
			Short circuit on external connection.	Remedy short circuit.
			Overload on external connection.	Disconnect load on terminal X16.
—	E122	Water Missing	The inlet valve is open, but the water pressure is not reached within the set time.	
			Water supply closed.	Check/open shut-off valve in water supply line.
			Optional Prefilter clogged.	Replace filter cartridges in the optional prefilter.
			Optional Water softener is refreshing.	Wait until refreshing (duration approx. 2 h) has finished.
—	E124	Pressure Min	The nominal tank pressure is not reached within time.	
			Water supply closed.	Check/open shut-off valve in water supply line.
			Optional Prefilter clogged.	Replace filter cartridges in the optional prefilter.
			Optional Water softener is refreshing.	Wait until refreshing (duration approx. 2 h) has finished.
—	E200	IO Inlet Y11	Fault on inlet valve Y11.	
			Valve electrically not connected or coil defective.	Correctly connect valve or replace coil .
—	E201	IO Inlet Y12	Fault on drain valve Y12.	
			Valve electrically not connected or coil defective.	Correctly connect valve or replace coil .

Notes



Notes



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