



MP-PRO pH/Rx

Digital Peristaltic Dosing Pump pH/ORP Installation, Operation & Maintenance Manual

Oxygen code: 108.05.31



**Scan for
the product page**

www.oxygen.gr

OXYGON — Karamaouna St., N. Rysio, 57001 Thessaloniki, Greece
Tel: +30 2312 208 240 | info@oxygen.gr | www.oxygen.gr

Contents

1. Safety Warnings
2. Package Contents
3. Product Overview
4. Technical Specifications
5. Installation
6. Electrical Connection
7. Hydraulic Connection
8. Calibration & Setting
9. Operating Modes (Manual / On-Off / Proportional)
10. Chemical Compatibility
11. Maintenance & Hose Replacement
12. Alarms & Signals
13. Troubleshooting
14. Spare Parts & Accessories
15. Warranty & Contact

1. Safety Warnings

Read the following instructions carefully before installing, operating or servicing the pump.

ELECTRIC SHOCK HAZARD

- Always disconnect the power supply before any maintenance work.
- Do not handle the unit with wet hands or feet.
- Make sure the electrical installation complies with local regulations.
- Use a high-sensitivity residual-current device (0.03 A).

WATER SAFETY

- Always fit an injection valve or a non-return valve.
- Never let the pump run dry.
- Maximum suction lift: 1.5 metres.

CHEMICAL HAZARD

- Always wear protective gloves, goggles and an apron when handling chemicals.
- The pH version is suitable for sulphuric acid (H₂SO₄) ONLY.
- DO NOT use hydrochloric acid — it permanently destroys the pump.
- Use of hydrochloric acid voids the warranty.
- Always read the safety data sheet (SDS) of the chemical product.

MECHANICAL HAZARD

- Do not leave the unit exposed to the weather.
- The maximum ambient temperature must not exceed 45 °C.
- Do not tamper with the unit; contact qualified personnel for any repair.

EARTHING REQUIRED

- Check that the earth connection works correctly according to the regulations in force.
- Never connect the pump in parallel with inductive loads without a separation relay.

CE marking: the pump is manufactured in accordance with Directives 2014/35/EU (Low Voltage) and 2014/30/EU (Electromagnetic Compatibility). For warranty terms see Section 15 — Warranty & Contact.

2. Package Contents

The package contains:

- MP-PRO pH/Rx dosing pump
- Foot valve (suction filter)
- Injection valve
- 2 m PVC suction hose
- 2 m PE delivery hose
- Wall mounting bracket
- User manual

On receipt, check that all components are present and in good condition. In the event of any anomaly, notify qualified personnel before carrying out any operation.

3. Product Overview



MP-PRO pH/Rx — Oxygen code 108.05.31

The MP-PRO pH/Rx is a digital peristaltic dosing pump with a built-in pH or ORP (Redox) controller, designed for swimming pools, spas and water treatment systems. It measures the water value continuously and doses the corrective chemical to keep the reading at the set point.

Operating Principle

Operation is based on the compression and release of the peristaltic hose by the rollers mounted on the roller carrier. The rotating carrier pushes the liquid towards the delivery side, so the chemical never touches any moving part of the pump — only the inside of the hose.

Key Features

- Menu in 4 languages (IT, EN, FR, ES)
- pH or mV (Rx) control, selectable from the menu
- 3 operating modes: Manual (constant), ON/OFF, Proportional
- Overdosing time alarm
- Start-up delay (0-999 seconds)
- Restore factory settings
- Water flow control (optional)
- Level control (optional)
- Over Range / Under Range signals
- Real-time flow rate display in %
- 8x2 LCD display with backlight

4. Technical Specifications

Commercial name	MP-PRO pH/Rx
Oxygen code	108.05.31
Pump type	Digital peristaltic
Flow rate	1.5 / 3 / 6 l/h @ 1 bar
Max. back pressure	1 bar
Power supply	230V — 50Hz (115V on request)
Display	8x2 LCD with backlight
pH measuring range	0 — 14 pH
mV (Rx) measuring range	0 — 1000 mV
Operating modes	Manual, ON/OFF, Proportional
Probe connection	BNC (pH or ORP)
Overdosing alarm	0 — 120 units (1 unit = 1 minute)
Start-up delay	0 — 999 seconds
Max. ambient temperature	45°C
Suction lift	Max. 1.5 m
pH chemical (standard)	Sulphuric acid (H ₂ SO ₄)
Connections	PVC suction / PE delivery
Dimensions (H x W x D)	219 x 140 x 139 mm (depth 53mm)
Standards	2014/30/CE, 2014/35/CE, CE
Warranty	24 months

Models & Time Alarm

Model	l/h	1 unit	Time for 2 L (units)
MP-PRO pH/Rx 1.5/01	1.5	25cc	80 units
MP-PRO pH/Rx 03/01	3	50cc	40 units
MP-PRO pH/Rx 06/01	6	100cc	20 units

5. Installation

General Rules

Mount the pump on the wall bracket.

Install above the level of the chemical liquid, at a maximum height of 1.5 metres.

If the pump must be installed below the liquid level, always use an injection valve or a non-return valve.

Do not install the pump above the chemical tank if fumes are given off.

Install in a dry, ventilated place with easy access for maintenance.

Maximum ambient temperature: 45 °C.

6. Electrical Connection

Check that the earth connection works correctly according to the regulations in force.

Make sure a high-sensitivity residual-current device (0.03 A) is fitted.

Check that the rating-plate data match the electrical mains.

Connect the power supply cables and check that the display lights up.

Never connect the pump in parallel with inductive loads (e.g. motors). If necessary, use a separation relay.

Pump Connections

A — Power supply cable, 230V-50Hz (on request: 115V~)

B — Level probe connector (contacts 3 and 4) — OPTIONAL

C — Flow sensor connector (contacts 3 and 4) — OPTIONAL

D — BNC connector for pH or ORP (Rx) probe

E — ON/OFF switch — OPTIONAL

Internal protections: varistor and fuse.

7. Hydraulic Connection

Foot Valve

Connect the PVC suction hose (transparent) to the foot valve, making sure the hose is inserted as far as it will go, and tighten the clamping nut. Place the foot valve on the bottom of the chemical tank, keeping it clear of any sediment.

Suction & Delivery

Suction: connect the suction hose (b) to the suction fitting (a). Tighten the clamping nut (c).

Delivery: connect the delivery hose (e) to the delivery fitting (d). Tighten the clamping nut (f).

Injection Valve

The pump must always be connected to the installation through the injection valve supplied. Fit it on the delivery pipe, downstream of all treatment equipment, and always above the pipe axis so that it cannot be flooded.

8. Calibration & Setting

pH Probe Calibration

Make sure the buffer solutions always match the value printed on the bottle and that they are within their expiry date. Rinse the probe with clean water between one buffer and the next.

Offset calibration (buffer 7.01 pH): Immerse the probe in pH 7 buffer solution. Wait for the reading to stabilise. Press CAL → go to “Probe Set.” → adjust with “+” / “–” until 7.01 is displayed. Confirm.

Gain calibration (buffer 9.01 or 4.01 pH): Clean the probe and immerse it in pH 9 or pH 4 buffer. Wait for the reading to stabilise. CAL → “Probe Set.” → adjust to the buffer value. Confirm.

Rx (mV) Probe Calibration

Offset calibration (buffer 468 mV): Immerse the Rx probe in 468 mV buffer. CAL → “Probe Set.” → “–” for offset. Confirm.

If the message “Calibration not possible” appears: (a) check that the buffer is not contaminated, (b) check the BNC connection, (c) replace the probe if it is worn.

Factory Settings

pH type	Rx type
Mode: Proportional	Mode: Proportional
Setpoint: 7.2 pH	Setpoint: 730 mV
Direction: Acid	Direction: Oxid
On delay: 0 sec	On delay: 0 sec
Flow rate: 100%	Flow rate: 100%
Alarm time: 0 (disabled)	Alarm time: 0 (disabled)
Start-up delay: 3 sec	Start-up delay: 3 sec

9. Operating Modes (Manual / On-Off / Proportional)

Menu Structure

Press CAL to enter the menu. Navigate with “+” and “-”. Press CAL to enter a submenu and ESC to go back.

Menu: Measurement Type → Operating Mode → Probe Set. → Alarm Time → Start-up Delay → Factory Reset.

Manual (Constant Dosing)

The pump doses at a constant flow rate in % with pause-work cycles on a 300-second base. For example, 50% means 150 seconds of work and 150 seconds of pause.

On-Off

Constant dosing that starts when the reading moves away from the set point. Hysteresis: 0.05 pH or 5 mV.

pH: select Acid to dose above the set point, Alk to dose below it.

Rx: select Red to dose above the set point, Oxid to dose below it.

Proportional

Dosing proportional to the distance between reading and set point. Hysteresis: 0.05 pH or 5 mV. Proportional band adjustable; the closer the reading gets to the set point, the lower the flow rate.

Stand-By (Pause)

Press and hold ESC/SBY for 2 seconds. Dosing stops and the green LED flashes. Press again for 2 seconds to resume.

Note: if no key is pressed for 60 seconds during setting, the pump saves and returns to the measurement display.

10. Chemical Compatibility

The table below shows the compatibility of chemicals with the peristaltic hose:

Chemical	Max. conc.	Hose	Compatible
Sodium hypochlorite	≤ 14%	EPDM / Silicone	Yes
Hydrochloric acid	≤ 33%	EPDM	Yes
Sulphuric acid (H ₂ SO ₄)	≤ 50%	EPDM	Yes (standard)
Hydrogen peroxide	≤ 35%	EPDM	Yes
Sodium sulphate	Saturated	EPDM	Yes
Alum	Saturated	EPDM / Silicone	Yes
Sodium carbonate	Saturated	EPDM	Yes
Organic solvents	Any	—	No
Oils	Any	—	No

Always flush the hose with clean water after using aggressive chemicals.

CAUTION — HYDROCHLORIC ACID

The standard pH version is suitable for sulphuric acid (H₂SO₄) ONLY. Hydrochloric acid gives off fumes that permanently damage the electronics and the pump body. Any damage caused by hydrochloric acid is excluded from the warranty.

11. Maintenance & Hose Replacement

General Maintenance

- Check the chemical level regularly — never let the pump run dry.
- Check the suction and delivery hoses for dirt.
- Check the foot valve — clogging reduces the flow rate.
- With aggressive chemicals, check more frequently.

Pump Storage

For winter storage: dose clean water, turn the roller carrier clockwise to release the hose, and keep the pump in a dry place away from frost.

Peristaltic Hose Replacement

- Remove the transparent cover by undoing the 2 screws.
- Release the left-hand connector and turn the roller carrier the opposite way to free the hose.
- Fit the left-hand connector of the new hose (round part facing inwards).
- Turn the carrier clockwise so that the hose settles into its natural position.
- Fit the right-hand connector and screw the cover back on.

Fuse Replacement

1. Undo the 6 housing screws. 2. Open front to back. 3. Replace the fuse. 4. Close the housing and refit the screws.

12. Alarms & Signals

Time Alarm (Tal)

Expressed in dosing units (1 unit = 1 minute). Counting starts from 0 when the pump starts and is reset every time the set point is reached.

When it reaches the “Alarm Time” value: dosing stops, the green LED flashes and the display shows the alarm.

Press ESC for 2 seconds to return. It does not affect Manual mode.

Level Control (Level)

Closing the level contact stops dosing and displays “Level”. It suspends (does not reset) the time alarm counter.

Flow Control (Flow)

Closing the flow contact stops dosing and displays “Flow”. It resets the time alarm counter.

O.R. and U.R. Signals

O.R. (Over Range): the reading exceeds the maximum (>14 pH or >1000 mV). U.R. (Under Range): below the minimum. In Manual mode dosing continues; in ON/OFF and Proportional it stops.

13. Troubleshooting

Problem	Possible cause	Solution
Pump does not start	Incorrect mains connection	Check connection & rating plate
Pump does not start	Blown fuse	Replace the fuse
Pump does not start	Faulty circuit	Replace the board
Runs but does not dose	Chemical tank empty	Refill the tank
Runs but does not dose	Clogged foot valve	Clean the filter
Runs but does not dose	Clogged injection valve	Clean the valve
Reduced flow rate	Worn hose	Replace the hose
Reduced flow rate	Air in the system	Prime again
Leak from the head	Broken hose	Replace the hose
Display off	No power	Check fuse & connection
Wrong dose / calibration	Contaminated buffer	Use fresh buffer solution
Calibration not possible	Worn probe	Replace the probe
Continuous dosing	Wrong set point	Check and adjust the set point
Pump stops unexpectedly	Time alarm	Press ESC 2 sec, adjust the time
Flow alarm	Flow contact closed	Check the flow sensor
Priming failed	Air / blockage	Check filter & hoses
Chemical siphons back	Siphon effect	Fit a non-return valve

14. Spare Parts & Accessories

Pos.	Description	Code
1	MP-PRO housing, blue	00.010.151
2	Polycarbonate cover MP-PRO pH/Rx	00.006.218
3+6	Peristaltic hose, complete	RR.005.003
2	Roller carrier, complete	11.010.401
4	Head cover	00.010.302
16	MP-PRO pH/Rx board	RR.001.620
7	BNC + cable	00.050.006
14	Mounting bracket	11.100.018
1	Peristaltic head	11.010.004

Optional accessories

Oxygen code	Description
108.05.32	Level probe predisposition
108.05.33	Flow alarm sensor

15. Warranty & Contact

Warranty

OXYGON warrants this product against defects in materials and workmanship for a period of 24 months from the date of delivery to the first purchaser.

The warranty does NOT apply in the event of:

- Use of non-original spare parts
- Repair by unauthorised personnel
- Damage caused by hydrochloric acid or unsuitable chemicals
- Damage to the electrical circuit from external causes (over-voltage, etc.)

Contact Information

Company	OXYGON — Karavasilis Stergios & Sia EE
Headquarters	Karamaouna St., N. Rysio, 57001 Thessaloniki, Greece
Phone	+30 2312 208 240
Mobile	+30 6945 157 589
Email	info@oxygen.gr
Website	www.oxygen.gr
Romania branch	Str. Constelatiei 1 Bis, Voluntari, Bucharest
Romania phone	+40 753 380 848

ISO Certifications

ISO 9001:2015 Quality Management <i>EUROCERT</i>	ISO 14001:2015 Environmental Management <i>BQV</i>	ISO 45001:2018 Health & Safety <i>BQV</i>
ISO 22301:2019 Business Continuity <i>EUROCERT</i>	ISO 46001:2019 Water Efficiency <i>BQV</i>	

Recycling of materials must be carried out in accordance with applicable regulations.