



MP2-0X

Peristaltic Dosing Pump for Active Oxygen (Hydrogen Peroxide) Installation, Programming & Maintenance Manual

Oxygen Code: 108.05.28



Scan for more information

www.oxygen.gr

OXYGON — Karamaouna St., N. Rysio, 57001 Thessaloniki, Greece
Tel: +30 2310 810 000 | info@oxygen.gr | www.oxygen.gr

Contents

1. Safety Warnings
2. Package Contents
3. Product Description
4. Technical Specifications
5. Installation
6. Electrical Connection
7. Hydraulic Connection
8. Priming & Programming
9. Operation
10. Level Alarm (Optional)
11. Chemical Compatibility
12. Maintenance
13. Peristaltic Hose Replacement
14. Troubleshooting
15. Dimensions & Spare Parts
16. Warranty & Contact

1. Safety Warnings

ELECTRICAL HAZARD

Before any installation or maintenance work, disconnect the pump from the power supply. Do not operate the pump with wet hands or feet. The electrical installation must comply with the regulations in force in the country of installation, and the electrical data on the pump label must match the supply.

CHEMICAL HAZARD

The MP2-OX is designed for dosing hydrogen peroxide (active oxygen). Before commissioning, read the Safety Data Sheet (SDS) of the dosed chemical to define the correct behaviour and personal protective equipment. During maintenance of parts in contact with the chemical, always wear gloves, apron and safety glasses.

MECHANICAL HAZARD

All maintenance or repair work must be carried out with the system isolated both electrically and hydraulically. Use only original spare parts and accessories; the manufacturer declines any responsibility for faults caused by tampering or non-original parts.

WATER SAFETY

The pump must dose only while water circulates in the filtration system. Connect the dosing enable cable (B) so that the pump is enabled only when the recirculation pump is running (see Section 6).

GROUNDING REQUIRED

Make sure that the earthing of the installation is fully functional and that the supply is protected by a high-sensitivity residual current device (30 mA).

CE marking: the pump is built in conformity with Directives 2014/35/EU (Low Voltage) and 2014/30/EU (Electromagnetic Compatibility). For the warranty terms, see Section 16 — Warranty & Contact.

On receipt, check that the pump and all its components are intact; in case of any anomaly, contact qualified personnel before carrying out any operation. Keep this manual for future reference. The equipment must be operated by qualified personnel and must not be left exposed to atmospheric agents.

Maximum ambient operating temperature: 45 °C. The minimum temperature depends on the dosed chemical, which must remain in the liquid state. In case of malfunction, switch off the pump and contact OXYGON technical service.

2. Package Contents

Standard Supplied Accessories



Clamp saddle d.50/63



Injection valve (PP)



Foot filter (PP)



Suction hose PVC 4x6, 2 m



Delivery hose PE 4x6, 2 m

Clamp saddle d.50/63 for the injection point

Injection valve in PP (lip valve)

Foot filter in PP (lip valve)

Suction hose PVC 4x6 mm — 2 m

Delivery hose PE 4x6 mm — 2 m

Optional Accessories



Suction device with level probe

Suction device with level probe — tank-empty alarm (Section 10)

SCHUKO plug

ON/OFF switch

3. Product Description

The **MP2-OX** is a digital peristaltic dosing pump for **active oxygen (hydrogen peroxide)** in swimming pools. It doses the correct amount of chemical for every hour of operation of the recirculation (filtration) pump, based on two parameters programmed by the user: the **pool volume (CAP, 5-150 m³)** and the **daily filtration hours (FH, 1-24 h)**.

Proportional dosing according to 2 parameters: duty time / pool cubic metres

Residual dosing time shown in real time

Digital display with stand-by key and 5 status LEDs

Predisposition for level probe (tank-empty alarm)

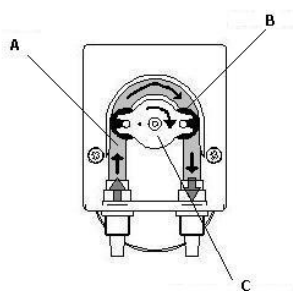
Reinforced PP body, polycarbonate front panel

Protection degree IP55, power supply 230 V

Easy installation and minimum maintenance

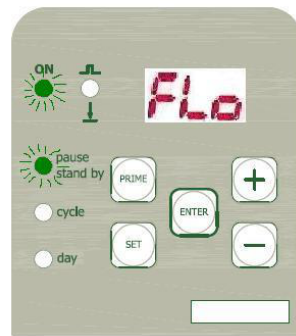
Operating Principle

The operation of the peristaltic pump is based on the compression and release of the hose (A) by the roller (B) mounted on the roller holder (C), which is driven by the motor. This double action creates suction along the hose, which draws the chemical in and pushes it to the delivery side. The flow depends on the motor speed and on the hose section.



Operating principle: (A) peristaltic hose, (B) roller, (C) roller holder

Control Panel



MP2-OX control panel

Element	Function
Display (3 digits)	Parameters (CAP, FH), operating state and countdowns
LED ON (green)	Pump powered
Dosing / level LED	Lit while dosing; red during PRIME; steady orange in level alarm
LED pause / stand by	Flashing: waiting for filtration (FLo); steady: stand-by (SbY)
LED cycle	Flashing during the pause (OFF) of each hourly cycle
LED day	Flashing when the daily cycles are completed (dAY)
PRIME	Priming — the motor runs while the key is pressed
SET	3 s: programming · short press: view CAP/FH
ENTER	Confirm/store a value · during operation: enter/exit stand-by
+ / -	Change value

4. Technical Specifications

Model	MP2-OX
Oxygen code	108.05.28
Pump type	Digital peristaltic, time/volume proportional
Dosed chemical	Hydrogen peroxide (H ₂ O ₂)
Max. flow	1.5 l/h (25 ml/min)
Max. pressure	1 bar (14.7 psi)
Peristaltic hose	Santoprene, 5.8 × 9.4 mm
Pump body	PP (polypropylene)
Rollers	Delrin
Front panel	Polycarbonate
Hydraulic connections	PP, hose 4 × 6 mm
Ring nuts	PP 1/8"
Motor speed	15 rpm
Power supply	230 V, 50-60 Hz
Power absorbed	35 W
Protection degree	IP55
Internal protections	Fuse and VDR overvoltage protection
Pool volume (CAP)	5-150 m ³ (default 5 m ³)
Filtration hours (FH)	1-24 h (default 1 h)
Level input	Voltage-free contact (optional level probe)
Dosing enable input	230 V (cable B)
Max. ambient temperature	45 °C
Net weight	1.0 kg (2.4 lbs)
Dimensions	See drawing, Section 15

5. Installation

General Rules

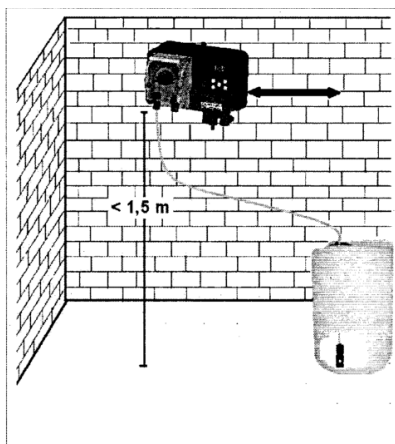
Install the pump on its wall bracket so that the pump head always stays vertical ($\pm 15^\circ$).

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

If the pump has to be installed below the chemical level, always use the injection valve or an anti-siphon valve to avoid siphoning.

Do not install the pump above the tank if the liquid emits fumes, unless the tank is hermetically closed.

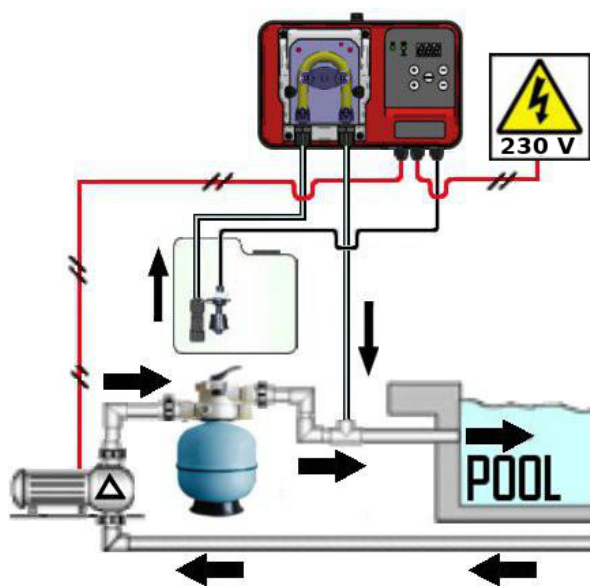
Install in a dry, ventilated place, at a maximum temperature of 45 °C, easily accessible for periodic maintenance.



Wall installation — maximum 1.5 m above the chemical tank

Typical Installation

The drawing shows a typical installation: the dosing pump draws the chemical from the tank and injects it into the pipe returning to the pool, after the filter. The pump is powered at 230 V and is enabled together with the filtration pump; the optional level probe in the tank stops dosing when the chemical runs out.



Typical installation in a swimming pool circuit

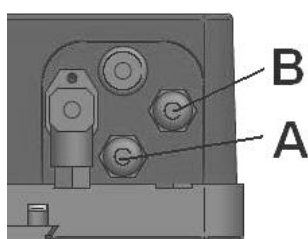
6. Electrical Connection

ELECTRICAL HAZARD

Check that the earthing is fully functional and compliant with the regulations in force, and that a high-sensitivity residual current device (0.03 A) is installed. Connect the pump respecting the voltage and consumption values on its label; the green LED lights up when the pump is powered. To avoid damage caused by other equipment (e.g. transfer pumps), never connect the pump directly to it — always use a contactor.

Inside the pump there are two overvoltage protections: an electronic protection integrated in the circuit board (VDR) and a fuse.

Cables A and B



Cable glands: (A) power supply, (B) dosing enable input

Cable A — power supply: connect it to the 230 V mains.

Cable B — dosing enable input (230 V): connect it to the timer that powers the recirculation pump, as described below.

When the recirculation pump is running, cable B is live and the MP2-OX is enabled to dose. When the recirculation pump is off, the MP2-OX goes to PAUSE: all functions (including programming) remain available except dosing, and the pause LED lights up.

Connection Modes

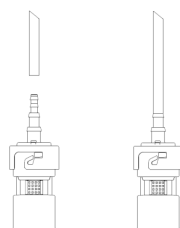
Mode	Connection
Mode 1	Cable A (power) and cable B (enable) both connected to the same timer that activates the recirculation pump.
Mode 2	Cable A connected directly to the mains; cable B connected to the same timer that powers the recirculation pump.
Recirculation pump operation	
Switched on and off several times a day	Mode 1 (mandatory)
Switched on and off once a day	Mode 1 or Mode 2

In Mode 2, at the first installation the dosing pump must be powered **before** the daily activation of the recirculation pump, so that the dosing cycles are correctly synchronised.

7. Hydraulic Connection

Foot Filter

Connect the suction hose (soft transparent PVC) to the supplied foot filter, inserting the hose fully. Place the foot filter at the bottom of the chemical tank.

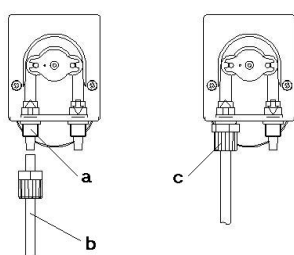


Foot filter

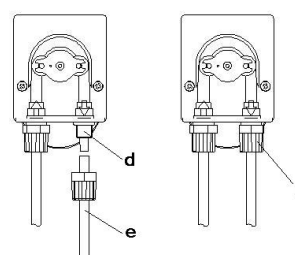
Suction and Delivery

Suction: connect the suction hose (b) to the suction nipple (a) and tighten the nut (c).

Delivery: connect the delivery hose (e) to the delivery nipple (d) and tighten the nut (f).



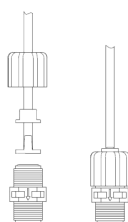
Suction (a, b, c)



Delivery (d, e, f)

Injection Valve

The pump must always be connected to the system through the supplied injection valve. At the injection point, fit the supplied clamp saddle (d.50/63) or a 1/2" female fitting on the pipe. Wrap the thread of the injection valve with PTFE tape and screw it in. Unscrew the nut, pass the rigid PE delivery hose through it and through the hose guard, and push the hose fully onto the conical connection. Tighten the nut firmly. Connect the other end of the hose to the delivery nipple (d) of the pump.



Injection valve

ATTENTION

Avoid kinks or very tight bends in the suction and delivery hoses: they can reduce the performance and the life of the pump.

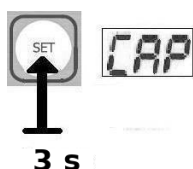
8. Priming & Programming

Priming (PRIME)

Keep the **PRIME** key pressed to prime the pump: whatever state the pump is in, the motor runs, the level LED lights red and the display scrolls the message **StArt**. When the key is released, the pump returns to the state it was in before PRIME was pressed, consistent with its current inputs.



Setting CAP and FH



1. SET 3 s → CAP



2. ENTER → FH



3. ENTER — store

Press and hold **SET** for 3 seconds. The enable, cycle and day LEDs start flashing and the display shows **CAP** flashing, with the stored pool capacity in m³ (5-150, default 5 m³).

Change the value with + or – and press **ENTER** to confirm and store it.

The display shows **FH** flashing, with the stored time in hours (1-24 h, default 1 h). FH is the number of hours per day that the filtration pump runs.

Change the value with + or – and press **ENTER** to confirm. The 3 LEDs turn off and the display returns to normal operation with the new settings.

If no key (+, –, ENTER) is pressed for 60 seconds during programming, the pump exits programming and keeps the values stored up to that moment.

Viewing the Settings

Press **SET** briefly: the 3 LEDs start flashing and the display shows CAP with its value for 3 seconds, then FH with its value for 3 seconds. The LEDs then turn off and the display returns to the current operation.

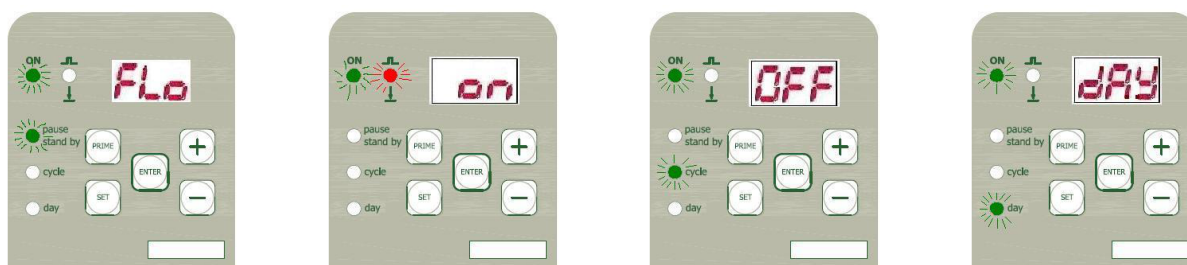
Default Settings

CAP — pool volume	5 m ³
FH — filtration hours per day	1 h

9. Operation

In every hour of filtration, the MP2-OX doses for a time calculated from CAP and FH (on state) and pauses for the rest of the hour (OFF state). When the FH hours of the day have passed, the daily dosing is complete.

Operating States



FLo

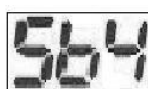
on

OFF

dAY

Display	LED	Meaning
FLo	pause — flashing	The pump waits for the recirculation pump to be powered (230 V) to carry out the first dosing of the day (first on cycle).
on + countdown (min)	dosing — lit	The pump doses for the time calculated from CAP and FH. The number of on states per day equals FH.
OFF + countdown (min)	cycle — flashing	No dosing; countdown to the next on cycle (OFF time = 60 min – on time).
dAY + countdown (h)	day — flashing	All the dosing cycles of the day are completed; countdown of the remaining hours (24 – FH) to the first dosing of the next day. Typical of Mode 2.
SbY	ON and pause/stand by — lit	Stand-by: dosing stopped (see below).

Stand-by



Pressing **ENTER** during operation puts the pump in stand-by: dosing stops, the green ON LED and the green PAUSE/STAND BY LED are lit, and the display shows **SbY** alternating with the current reading. Press ENTER again to return the pump to its initial operating state.

Dosing Time Calculation

Seconds of dosing (on) in every hour of operation of the recirculation pump:

$$A = [(CAP - 5) \times 17.13 \text{ s}] + 86 \text{ s} \cdot \text{SEC} = A / FH$$

Example: CAP = 70 m³, FH = 6 h → A = [(70 – 5) × 17.13] + 86 = 1199.45 s → SEC = 1199.45 / 6 = 200 s. In each of the 6 hours of filtration the pump doses for 200 s (3 min 20 s, on state) and stops for the remaining 56 min 40 s (OFF state). After the 6 hours it waits (dAY state) for the next dosing, which takes place the following day (after 18 hours).

Dosing Seconds per Hour of Filtration — FH 1-12 h

CAP (m³)	1 h	2 h	3 h	4 h	5 h	6 h	7 h	8 h	9 h	10 h	11 h	12 h
5	86	43	29	22	17	14	12	11	10	9	8	7
10	172	86	57	43	34	29	25	21	19	17	16	14
20	343	171	114	86	69	57	49	43	38	34	31	29
30	514	257	171	129	103	86	73	64	57	51	47	43
40	686	343	229	171	137	114	98	86	76	69	62	57
50	857	428	286	214	171	143	122	107	95	86	78	71
60	1028	514	343	257	206	171	147	129	114	103	93	86
70	1199	600	400	300	240	200	171	150	133	120	109	100
80	1371	685	457	343	274	228	196	171	152	137	125	114
90	1542	771	514	386	308	257	220	193	171	154	140	129
100	1713	857	571	428	343	286	245	214	190	171	156	143
110	1885	942	628	471	377	314	269	236	209	188	171	157
120	2056	1028	685	514	411	343	294	257	228	206	187	171
130	2227	1114	742	557	445	371	318	278	247	223	202	186
140	2399	1199	800	600	480	400	343	300	267	240	218	200
150	2570	1285	857	642	514	428	367	321	286	257	234	214

Dosing Seconds per Hour of Filtration — FH 13-24 h

CAP (m³)	13 h	14 h	15 h	16 h	17 h	18 h	19 h	20 h	21 h	22 h	23 h	24 h
5	7	6	6	5	5	5	5	4	4	4	4	4
10	13	12	11	11	10	10	9	9	8	8	7	7
20	26	24	23	21	20	19	18	17	16	16	15	14
30	40	37	34	32	30	29	27	26	24	23	22	21
40	53	49	46	43	40	38	36	34	33	31	30	29
50	66	61	57	54	50	48	45	43	41	39	37	36
60	79	73	69	64	60	57	54	51	49	47	45	43
70	92	86	80	75	71	67	63	60	57	55	52	50
80	105	98	91	86	81	76	72	69	65	62	60	57
90	119	110	103	96	91	86	81	77	73	70	67	64
100	132	122	114	107	101	95	90	86	82	78	74	71
110	145	135	126	118	111	105	99	94	90	86	82	79
120	158	147	137	128	121	114	108	103	98	93	89	86
130	171	159	148	139	131	124	117	111	106	101	97	93
140	185	171	160	150	141	133	126	120	114	109	104	100
150	198	184	171	161	151	143	135	128	122	117	112	107

Values in seconds, according to the formula above (rounded).

10. Level Alarm (Optional)

Available with the optional suction device with level probe, which acts as a voltage-free contact.



Suction device with level probe



Level probe cable



Display in level alarm

When the level contact closes during operation, in any mode, after a delay of 3–4 seconds:

- dosing stops;
- the orange level LED lights up steadily;
- the green ON LED remains lit;
- the display shows **LEU** alternating with the current reading.

When the level contact opens again (tank refilled), after 3–4 seconds the pump returns to the operating state it was in before the alarm, consistent with its current inputs.

11. Chemical Compatibility

CHEMICAL HAZARD

The MP2-OX is intended only for dosing liquid hydrogen peroxide (active oxygen). Do not use it for other chemicals without the written approval of OXYGON. Never mix different chemicals and always follow the Safety Data Sheet (SDS) of the product used.

Chemical	Max. concentration	Hose	Compatible
Hydrogen peroxide (H ₂ O ₂), liquid	As supplied for swimming pools — see the product SDS	Santoprene	Yes
Any other chemical (chlorine products, acids, etc.)	—	—	No, without OXYGON approval
Granular or powder products, liquids with suspended particles	—	—	No

Construction Materials

Peristaltic hose	Santoprene
Pump body	PP (polypropylene)
Rollers	Delrin
Front panel	Polycarbonate
Connections and ring nuts	PP
Foot filter and injection valve	PP (lip valve)
Suction hose	PVC 4 × 6 mm
Delivery hose	PE 4 × 6 mm

Before storing the pump, dose clean water to rinse the hose (see Section 12).

12. Maintenance

Periodic Maintenance

Regular maintenance is essential for the correct operation and the long life of the pump. Carry out the following checks systematically:

Task	Frequency
Check the level of the chemical tank, so that the pump never runs dry	Once a week
Check the suction and delivery hoses for impurities	Once a week
Check the condition of the foot filter (clogging reduces the flow)	Once a week
Replace the peristaltic hose	At least once a year

Storage (e.g. in Winter)

The peristaltic hose is the part to protect when the pump is stored. Dose clean water to rinse the hose and avoid chemical attack while the pump is idle. Then rotate the roller holder clockwise to the position shown in the figure, so that the hose is not left compressed near the suction side.



Storage position of the roller holder

13. Peristaltic Hose Replacement

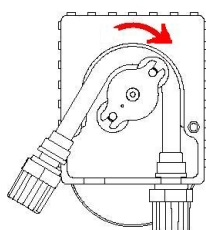
ELECTRICAL HAZARD

Before any operation on the pump, disconnect it from the power supply.

The peristaltic hose is a wear part: it must be replaced at least once a year and is not covered by the warranty.

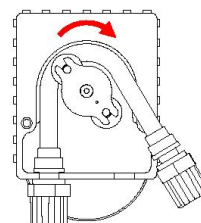
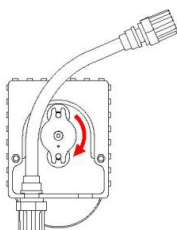
Step 1 — Remove the old hose

Remove the transparent cover by unscrewing the two screws on the front. Release the left connector first, then turn the roller holder in the direction of the arrow, so that the hose is freed up to the right connector.



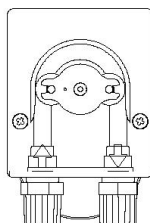
Step 2 — Fit the new hose

Insert the left connector of the new hose into its housing, with the rounded part facing towards the back of the pump. Turn the roller holder clockwise so that the hose takes its natural position in the pump head.



Step 3 — Complete the replacement

Insert the right connector into its housing and refit the cover, tightening the two screws on the front.

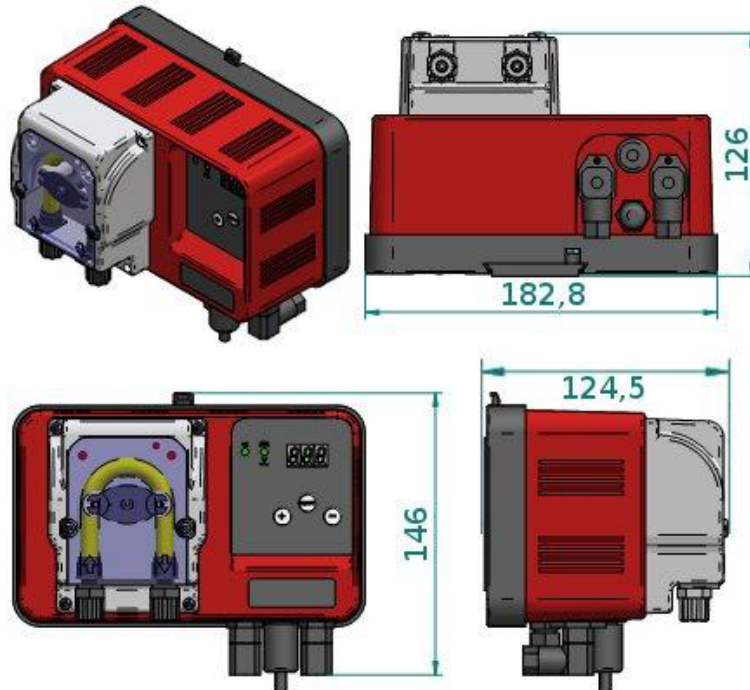


14. Troubleshooting

Problem	Possible cause	Solution
The pump does not switch on and the green ON LED stays off	Power supply not connected correctly	Check the connection of cable A to the mains, according to the pump label
The pump does not switch on and the green ON LED stays off	Internal fuse blown	Check the fuse (qualified technician)
The pump does not switch on and the green ON LED stays off	Faulty electronic board	Contact OXYGON technical service
The pump works but does not inject liquid	Chemical tank empty	Check the tank level and refill
The pump works but does not inject liquid	Foot filter clogged	Check and clean the foot filter
The pump works but does not inject liquid	Injection valve clogged	Check and clean the injection valve
Liquid leaking from the pump head	Peristaltic hose damaged or worn	Check the hose and replace it (Section 13)
Display FLo, pause LED flashing, no dosing	Enable input (cable B) not live: filtration off or cable B not connected	Normal while filtration is off; otherwise check the cable B connection (Section 6)
Display LEU, orange LED steady	Level contact closed — chemical tank empty	Refill the tank; dosing resumes 3–4 s after the contact opens (Section 10)
Display SbY, no dosing	Pump in stand-by (ENTER pressed)	Press ENTER to return to operation
Display dAY, no dosing	The dosing cycles of the day are completed	Normal: the pump waits (24 – FH) hours for the next day (Section 9)
Dose too high or too low	Wrong CAP (pool volume) or FH (filtration hours)	Press SET briefly to check the values and reprogram (Section 8)
Dosing not synchronised with filtration	Mode 2 with filtration switched on/off several times a day, or pump powered after filtration start	Use Mode 1; in Mode 2 power the pump before the daily start of filtration (Section 6)
Programming exits on its own	No key pressed for 60 seconds	The values up to that moment are stored; repeat the programming
The chemical does not reach the pump	Air in the suction line or suction nut (c) not tightened	Tighten the nut and keep PRIME pressed to prime the pump (Section 8)
Reduced flow	Impurities in the hoses, clogged foot filter or tight bends in the hoses	Clean the hoses and the foot filter; avoid kinks (Sections 7, 12)
Chemical siphons when the pump is stopped	Pump installed below the chemical level without injection valve	Always use the injection valve or an anti-siphon valve (Section 5)
Damage to the electronics	Direct connection to other equipment (e.g. transfer pumps), overvoltages	Connect through a contactor; contact OXYGON technical service (Section 6)

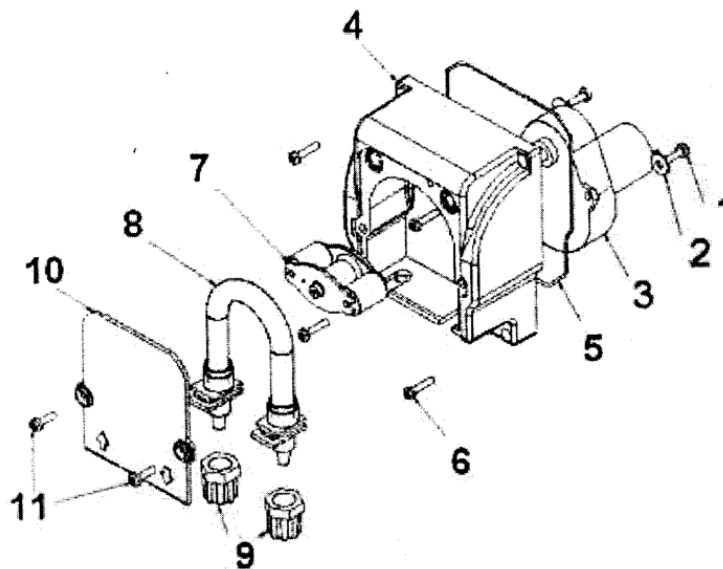
15. Dimensions & Spare Parts

Dimensions



MP2-OX dimensions (mm)

Exploded View — Pump Head



Exploded view of the peristaltic pump head

Spare Parts List

#	Description
1	Screw M3×20
2	Plain washer 3×12×1
3	Motor (specify power supply and flow)
4	Peristaltic head
5	Gasket
6	Self-tapping screw TC+ 2.9×16
7	Complete roller holder
8+9	Complete peristaltic hose
10	Transparent peristaltic head cover
11	Screw M3×8

To order spare parts, contact OXYGON quoting the pump code 108.05.28 and the position number.

16. Warranty & Contact

Warranty Terms

The pump is guaranteed against defects in workmanship and materials for **24 months** from the date of delivery to the first user. Within this period, parts found to be defective are replaced free of charge or repaired, directly or through authorised workshops. Repair or replacement does not extend or renew the warranty period.

The costs of installation and removal of the pump, transport costs and consumables (filters, valves, etc.) remain at the user's expense. Any other liability for direct or indirect damage or loss arising from the use, or inability to use, the pump is excluded.

The warranty does not apply if: the pump is not used according to this manual; it has been repaired, disassembled or modified by unauthorised workshops; non-original spare parts have been used; the injection system has been damaged by unsuitable products; the electrical parts have failed due to external causes such as overvoltages or electrical discharges.

The peristaltic hose is a wear part and is not covered by the warranty.

When dismantling the pump, separate the materials by type and dispose of them according to local recycling requirements.

Contact Information

Company	OXYGON — Karavasilis Stergios & Sia EE
Headquarters	Karamaouna St., N. Rysio, 57001 Thessaloniki, Greece
Phone	+30 2310 810 000
Service	+30 2312 208 240
Email	info@oxygen.gr
Website	www.oxygen.gr
Romania Branch	Str. Constelatiei 1 Bis, Voluntari, Etaj 1, Birou 9, 077191, Bucharest
Romania Phone	+40 753 380 848
Romania Email	info@oxygen.ro

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.