

PRIMA M Series

Operating manual



Use and maintenance instructions

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1 GENERAL RULES

Carefully read the warnings listed below as they provide important information regarding the rules for installation, use and maintenance.

Please keep this manual carefully for further reference.

1.1 Shipping and transporting the pump

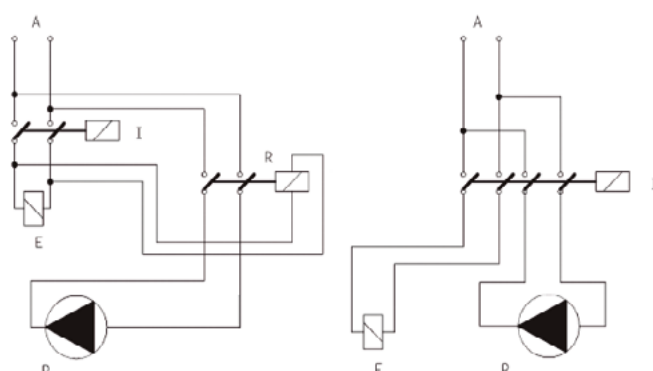
The equipment must be transported in its original packaging, organized and built in such a way as to minimize shocks and to protect the protruding parts that can be damaged. If there is a need for transport after the equipment has already been installed (e.g. for a return for repair or replacement), reuse the original packaging or a sufficiently sturdy packaging with the equipment protected with absorbent material (eg bubble wrap). The external packaging must be such as to ensure the safety of the equipment in the event of a fall from 1 meter in height.

1.2 Installation standards

Install the dosing pump so that it is easily accessible whenever maintenance is required. Never obstruct the place where the dosing pump is located. The servicing and maintenance of the dosing pump and all its accessories must always be carried out by qualified personnel. STURDOS cannot be held responsible for damage to persons or things caused by poor installation or incorrect use of the dosing pump.



Check that the ground is fully functional and corresponds to the regulations in force. Make sure there is a high sensitivity differential switch (0.03 A). Check that the pump ratings are compatible with those of the mains supply. Never install the pump directly in parallel with inductive loads (eg motors / solenoid valves) but if necessary use an "insulation relay". Inside the pump there are two protections: a varistor and a fuse.



P: dosing pump

R: relay

I: Switcher or multi-pole security device

E: Motor or generally inductive charge

A: supply voltage

1.3 Proper use of the pump

The use of this pump must comply with the methods and instructions set out in this manual. The pump can dose chemicals that can be harmful to human health and for this reason it is essential that must be used by qualified personnel who adopt the appropriate safety methods and personal protective equipment.

AVOID IMPROPER USE of the equipment in order to avoid damage to things and people, due to uncontrolled splashes, drips, electrical contacts, etc.

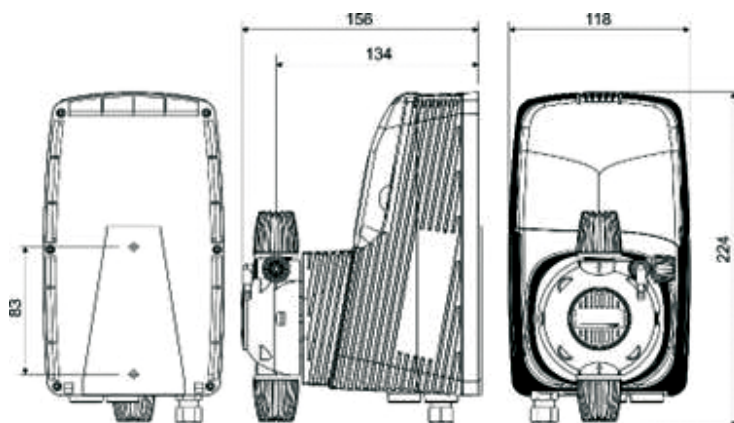
The following uses can be considered improper uses, in indicative and non-exhaustive form:

- Dosing of products not consistent with the materials with which the pump is made
- Dosing of explosive and / or flammable products
- Dosing of fluids with excessive viscosity (1000 cps), such as to prevent the priming of the pump itself
- Dosage of food liquids, if intended to maintain such use
- Avoid inverting the pump delivery and suction
- Avoid powering the pump with voltages other than those indicated in the technical specifications
- Avoid connecting any equipment other than specific equipment to the signal outputs (level, pulse counter, current signal, etc.)

2 OPERATION

PRIMA M are digital electromagnetic dosing pumps that can operate at constant flow rate or proportional flow rate according to an external signal from a pulse emitting water meter or from a mA signal or operate via a Daily / Weekly timer. The pump has a BNC connector for the connection of a level sensor and a 4-pole connector for the connection to a signal in current (mA) or from a pulse emitting water meter. .

2.1 Overall dimensions



2.2 Technical features

Power supply: 100÷240VAC $\pm$ 10% – 50/60Hz

Insulation Class: CLASS I

Absorbed power: see “2.3 - Hydraulic Features”

Fusible: 2 A – RIT

Protection Grade: IP65

Environmental conditions: Closed environment, altitude up to 2000m, room temperature from 5°C up to 40°C, maximum relative humidity 80% (linearly decreases until it is reduced to 50% at 40°C).



The equipment, subject to this document, are not intended to be installed and used in explosive atmosphere environments. It isn't an ATEX pump.

2.3 Hydraulic features

• 230V

Solenoid	Type	Flow Rate	Pressure	Strokes	Injection value	Absorbed power
		l/h	bar	spm	ml/stroke	Watt
60	L	1	7	100	0,17	13
		5	1		0,83	13
	M	3	7	150	0,33	16
		9	1		1	16
	H	5,5	6	180	0,51	22
		10	1		0,93	22
70	L	1,8	20	75	0,40	18
		4	1		0,89	18
	M	4	12	120	0,56	25
		7	1		0,97	25
	H	5,8	9	180	0,54	27
		14	1		1,30	27
80	L	4	20	150	0,44	24
		10	1		1,11	24
	M	6,5	12	200	0,54	27
		13	1		1,08	27
	H	13,5	5	300	0,75	35
		20	1		1,11	35

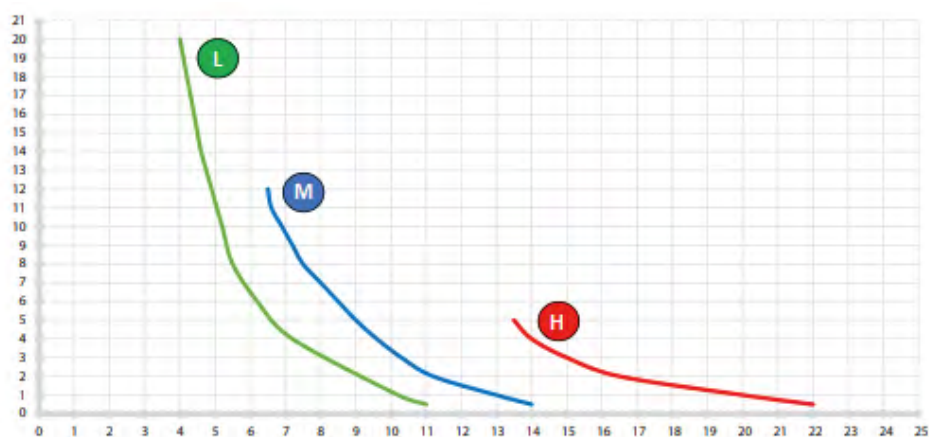
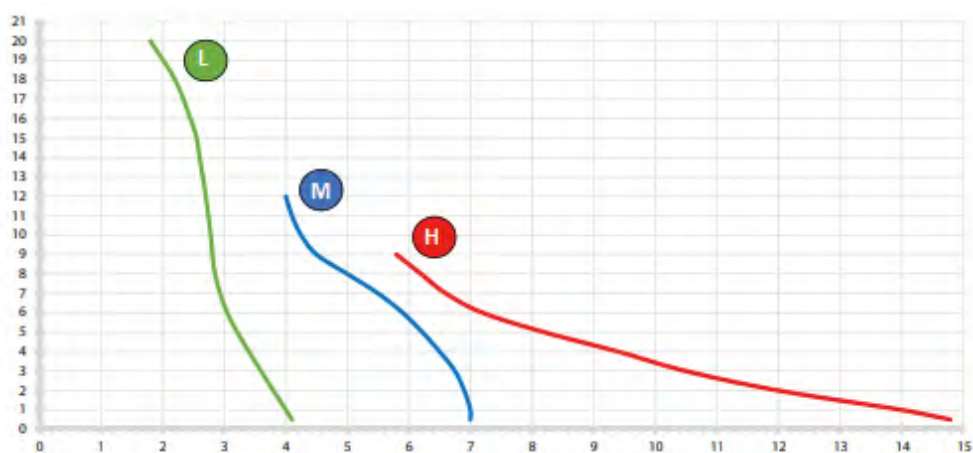
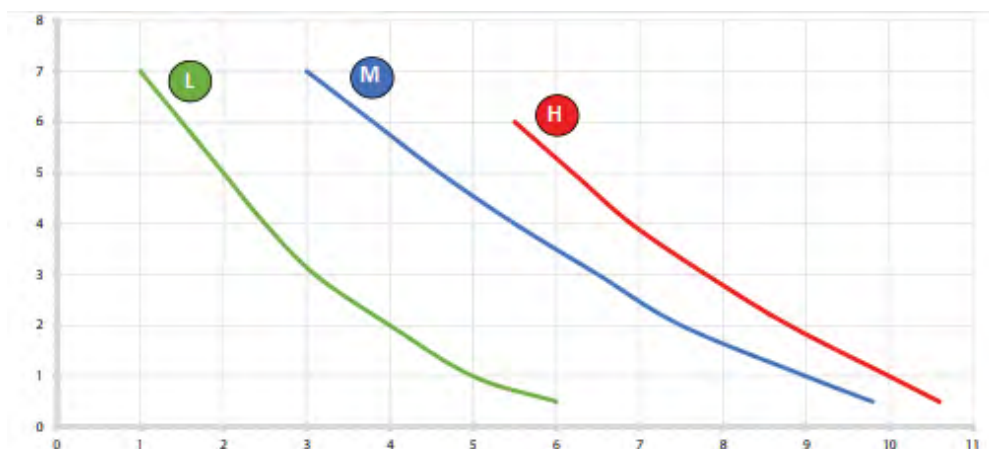
• 110V

Solenoid	Type	Flow Rate	Pressure	Strokes	Injection value	Absorbed power
		l/h	bar	spm	ml/stroke	Watt
60	L	1,5	7	100	0,25	18
		5	1		0,83	18
	M	4,5	7	150	0,5	23
		7	1		0,78	23
	H	6	6	180	0,56	28
		8,8	1		0,81	28
70	L	1	20	75	0,22	21
		4,5	1		1	21
	M	4	12	120	0,56	31
		7	1		0,97	31
	H	6,8	9	180	0,63	41
		10,8	1		1	41
80	L	3	17	150	0,33	27
		10	1		1,11	27
	M	7,5	12	200	0,63	36
		13	1		1,08	36
	H	11	5	230	0,80	44
		16	1		1,16	44

The above data refer to tests carried out with water at room temperature. Values can fluctuate by 10%.

Chemicals with viscosity different than water or with supply voltages and / or frequencies other than 230Vac / 50Hz, the flow rate may also have significant variation.

2.4 Performance graphs



2.5 Content of the package (Standard version)

- PRIMA M
- User's manual
- Injection valve PVDF-CE-VT
- Foot filter PVDF-PTFE-VT
- 2 meters PE discharge tube
- 2 meters PVC suction tube
- 2 meters PVC bleed valve tube (2 m)
- Fixing bracket
- Set of screws and plugs for wall mounting

3 PRIMA M

3.1 Prima M Pump controls

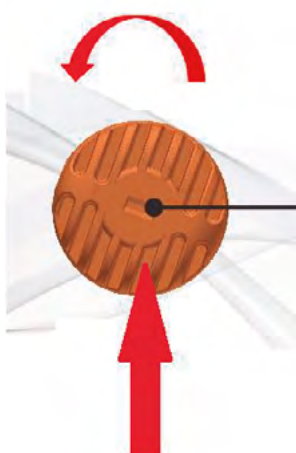
The control panel of the PRIMA M dosing pumps consists of a graphic display (1) and an encoder knob (2) which allow you to navigate through the various menus and select / modify the pump configuration parameters, the figures below show what the control panel looks like:



- A. Active function
- B. Configured parameters
- C. Time
- D. Warnings messages



- 1. 132x56 pixel graphic display
- 2. Encoder



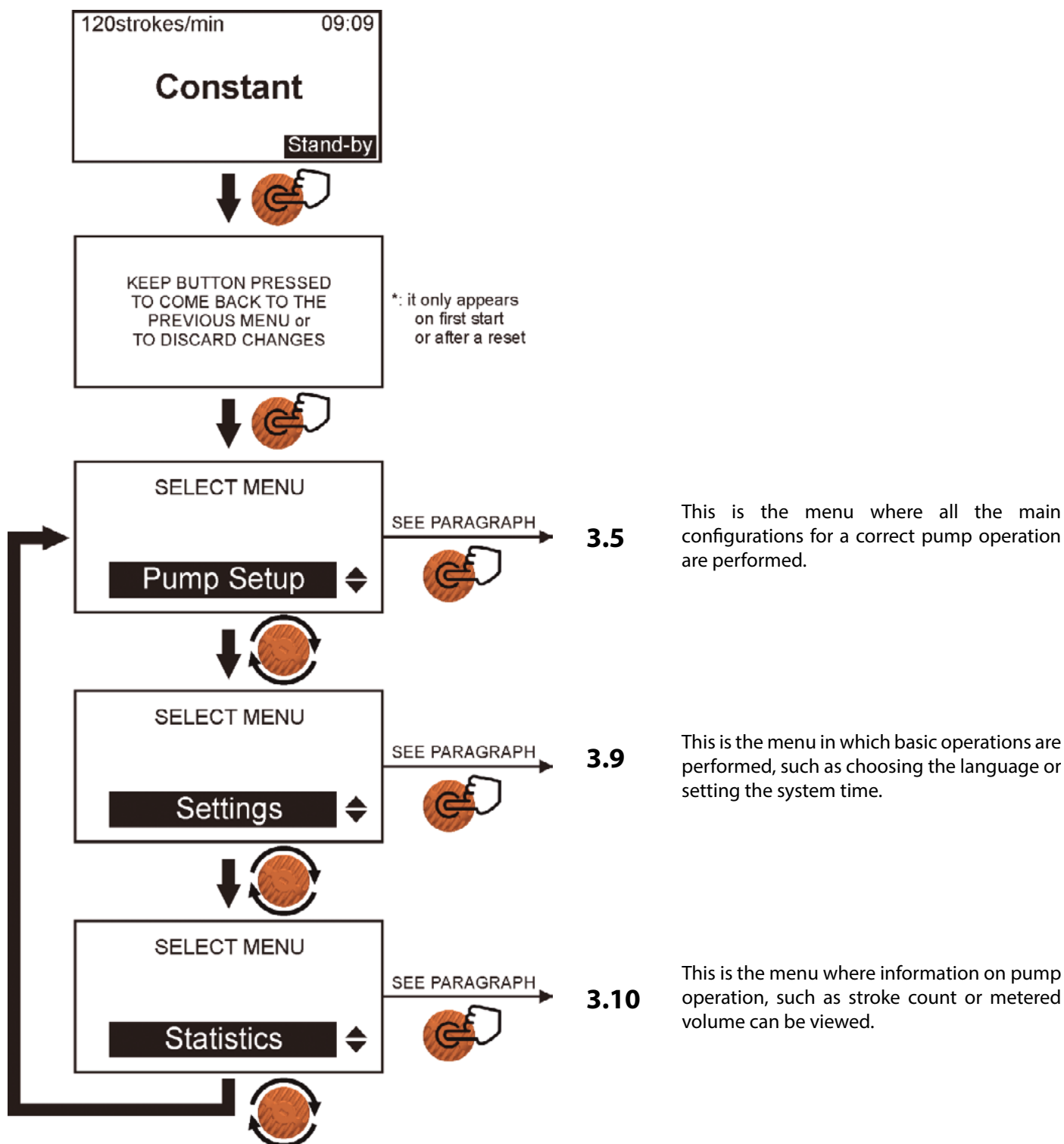
Press to: confirm a value or access a submenu. If it is kept pressed for 2 seconds, it returns to the previous menu or activates/deactivates the Stand-by.

Turn to: navigate the menus or change a numeric value.

3.2 How to navigate through the menus

The pump has been designed so the programming phases are user friendly, for this purpose the control area has a large backlit graphic display and a rotary encoder with an integrated button function. A navigation diagram of the menus on the pump is shown below:

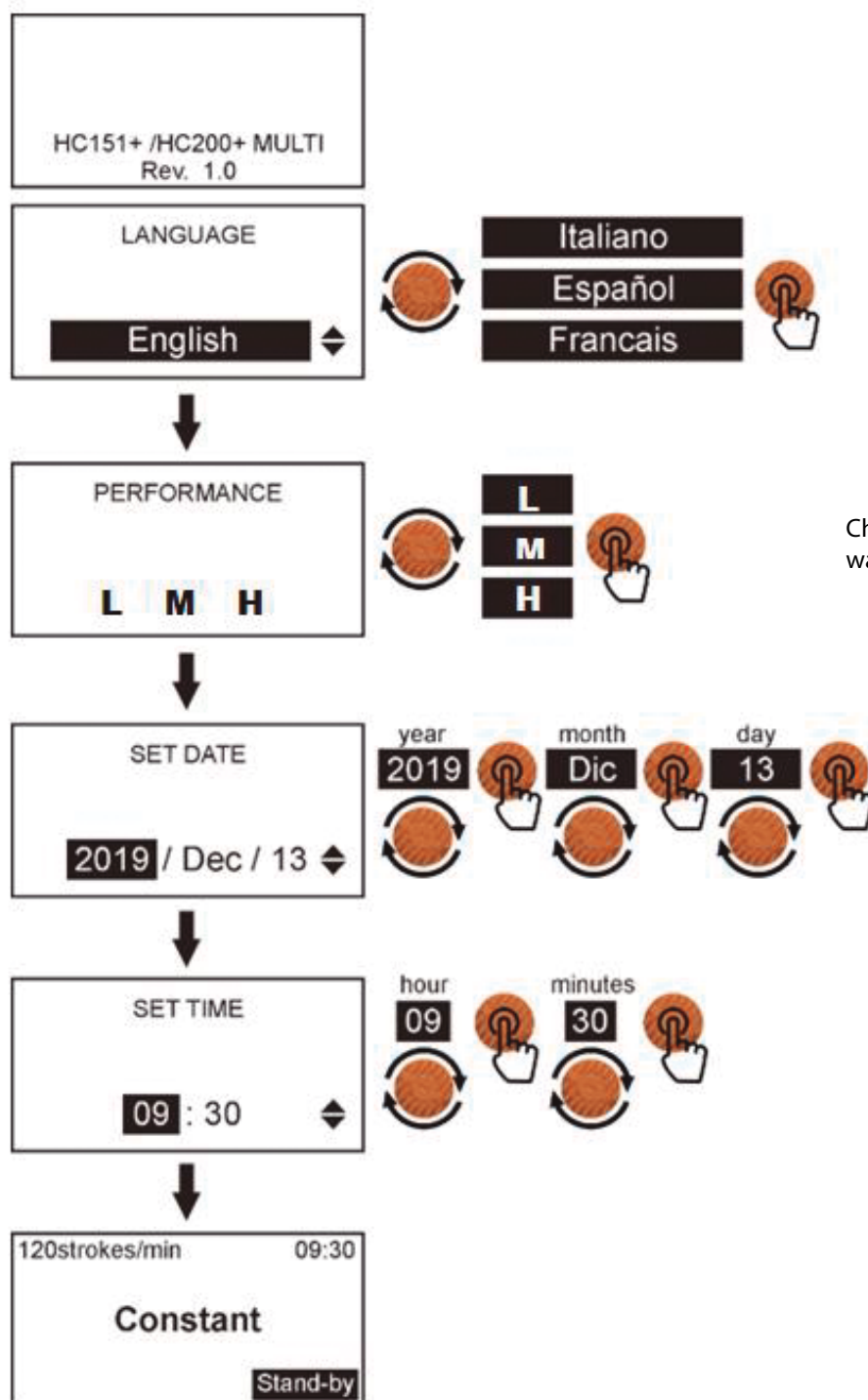
From the Homescreen:



3.3 First pump initialization

The first time the pump is switched on, some basic parameters must be set, such as the language in which the programming menus will be displayed, the date and time of the system and other basic settings.

Below is a diagram of what appears when the unit is first turned on:



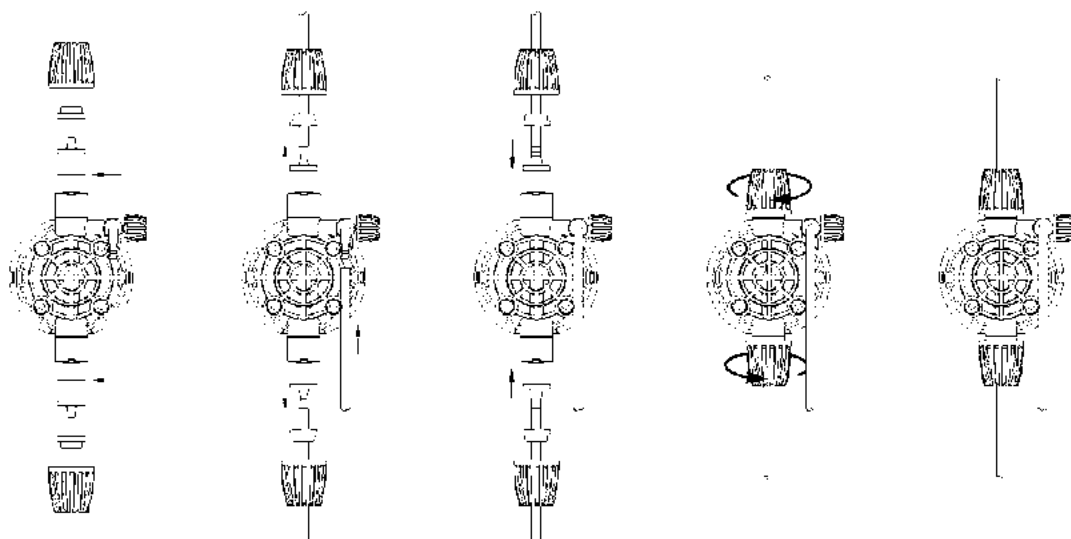
Choose mode L, M or H performance you want according to the table on Paragraph 2.3.

3.4 Getting started

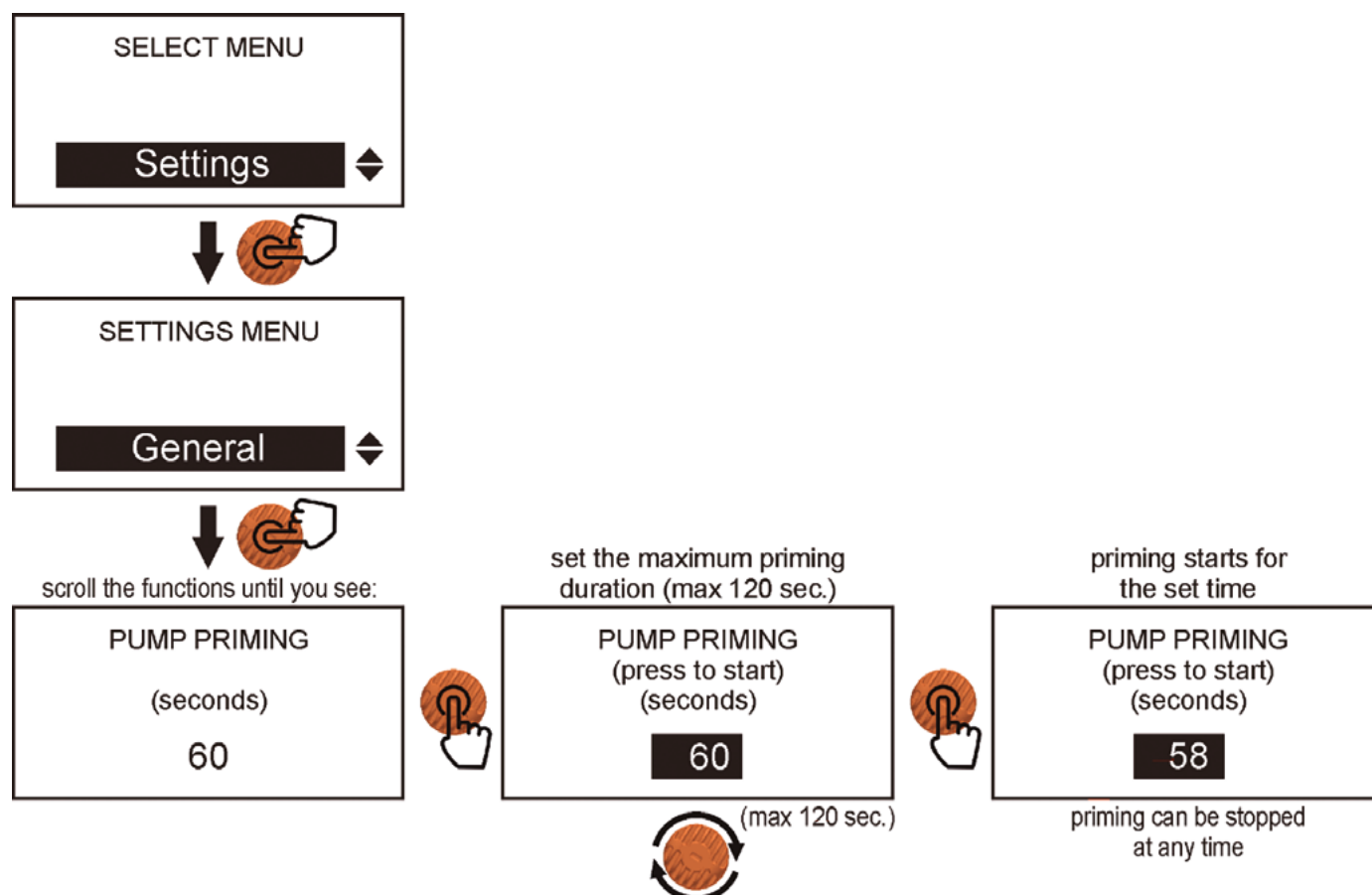
• Priming

Once the basic parameters of the pump have been set, it is suggested to carry out the priming: this operation is used to “prime” the metering pump (i.e. fill the chamber between the membrane and the pump body and remove any air bubbles present inside the suction and discharge tubes) and make it ready to dose the chemical in the plant.

Before proceeding with priming, make sure you have connected the delivery and suction tubes to the pump body as well as the air purge tube included in the supply (for the connection, follow the image shown below:



For priming, follow the steps below:

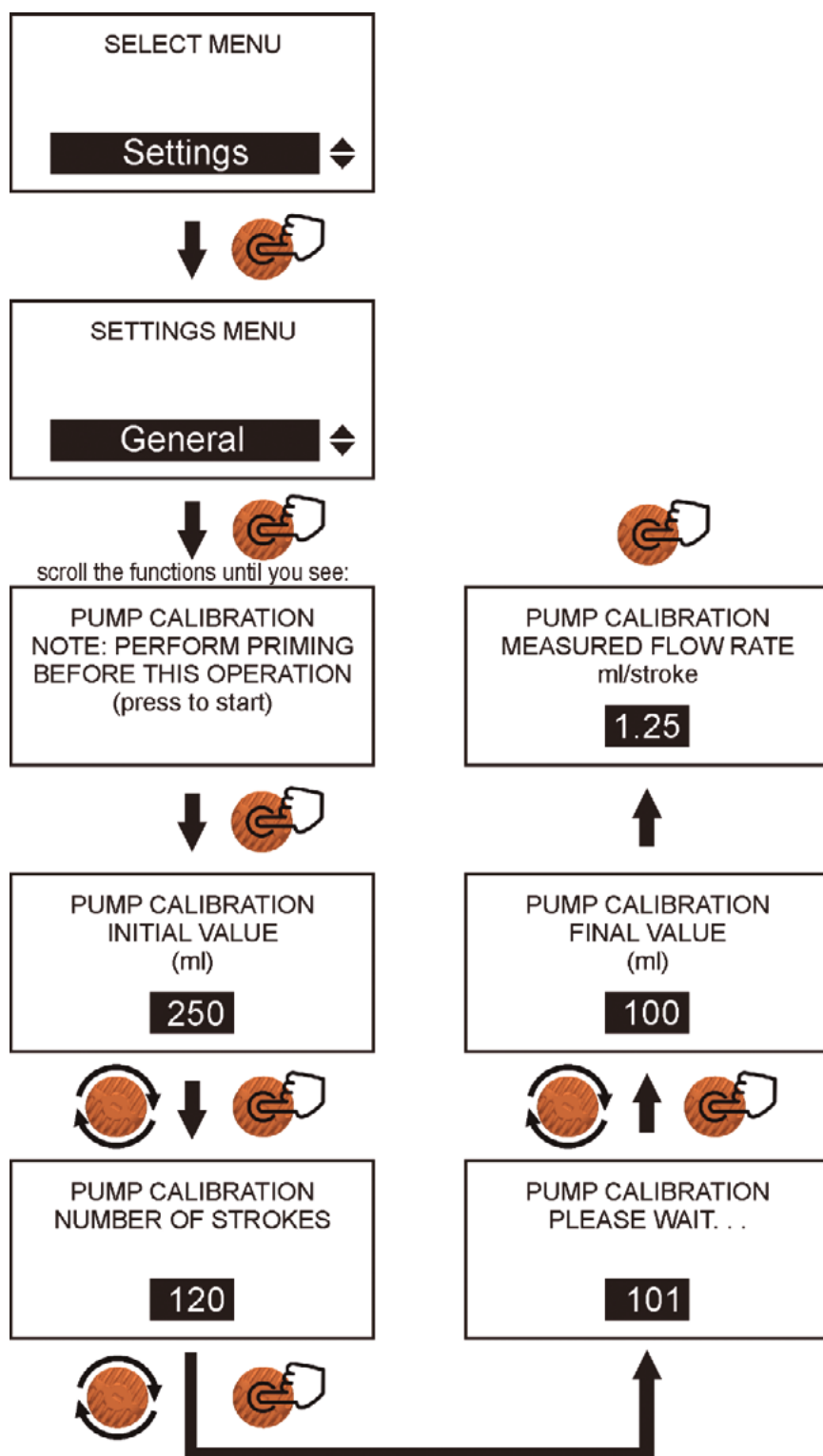


• Pump calibration

Once the priming procedure is complete, the quantity of ml (milliliters) per stroke that the pump is able to supply must be defined, this information is necessary for a correct dosage of the chemical and essential if you want to use the PPM function described in the "PUMP SETUP" paragraph.

ATTENTION: in order to use this function, the pump **MUST** be primed.

To calibrate the pump, follow the steps below:



1. Make sure that the pump has been installed on the plant and it has been primed using the function described in the previous paragraph (§ 3.4.1)

2. Connect the suction tube (complete with foot filter) into a BEKER-type test tube graduated in ml (milliliters);

3. Fill the test tube until reaching the maximum limit with the chemical product that will be used during the normal operation of the pump;

4. Power up the pump, enter the SETTINGS > GENERAL MENU, follow the instructions on the display: enter the maximum value of the beker by turning the encoder knob, then press the knob to confirm;

5. Set the number of strokes the pump will perform;

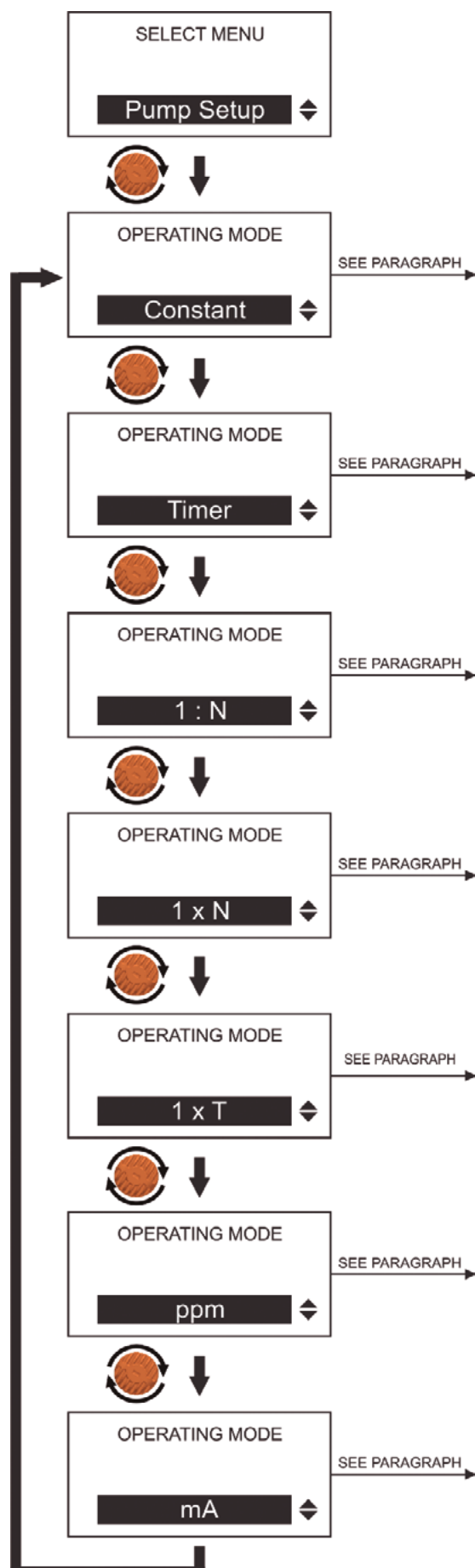
6. Once the button has been pressed to confirm, the pump will start for the number of strokes set;

7. At the end, check how much chemical is left in the beker and write down this value on the display using the knob, finally press to confirm this value;

8. the next screen will show the value calculated by the pump in ml per stroke.

9. To exit the calibration function, keep the button pressed for 2 seconds.

3.5 Pump setup



Within this menu, you can choose the operating mode that you want to use.

The complete list of available functions is shown below:

3.5.1

This mode allows the pump to work with a constant frequency in relation to the strokes/minute or strokes/hour set.

3.5.2

This mode allows the pump to work based on the programming of a daily/weekly timer.

3.5.3

This mode allows you to connect the pump to a pulse emitting water meter. The pulses coming from the water meter are divided by the set value.

3.5.4

This mode allows you to connect the pump to a pulse emitting water meter. The pulses coming from the water meter are multiplied by the set value.

3.5.5

This mode allows the pump to receive an external signal and dose for a time set by the user.

3.5.6

This mode allows you to connect the pump to a pulse emitting water meter. The pulses coming from the water meter determine the dosage according to the ppm, the chemical concentration and the set ml/stroke.

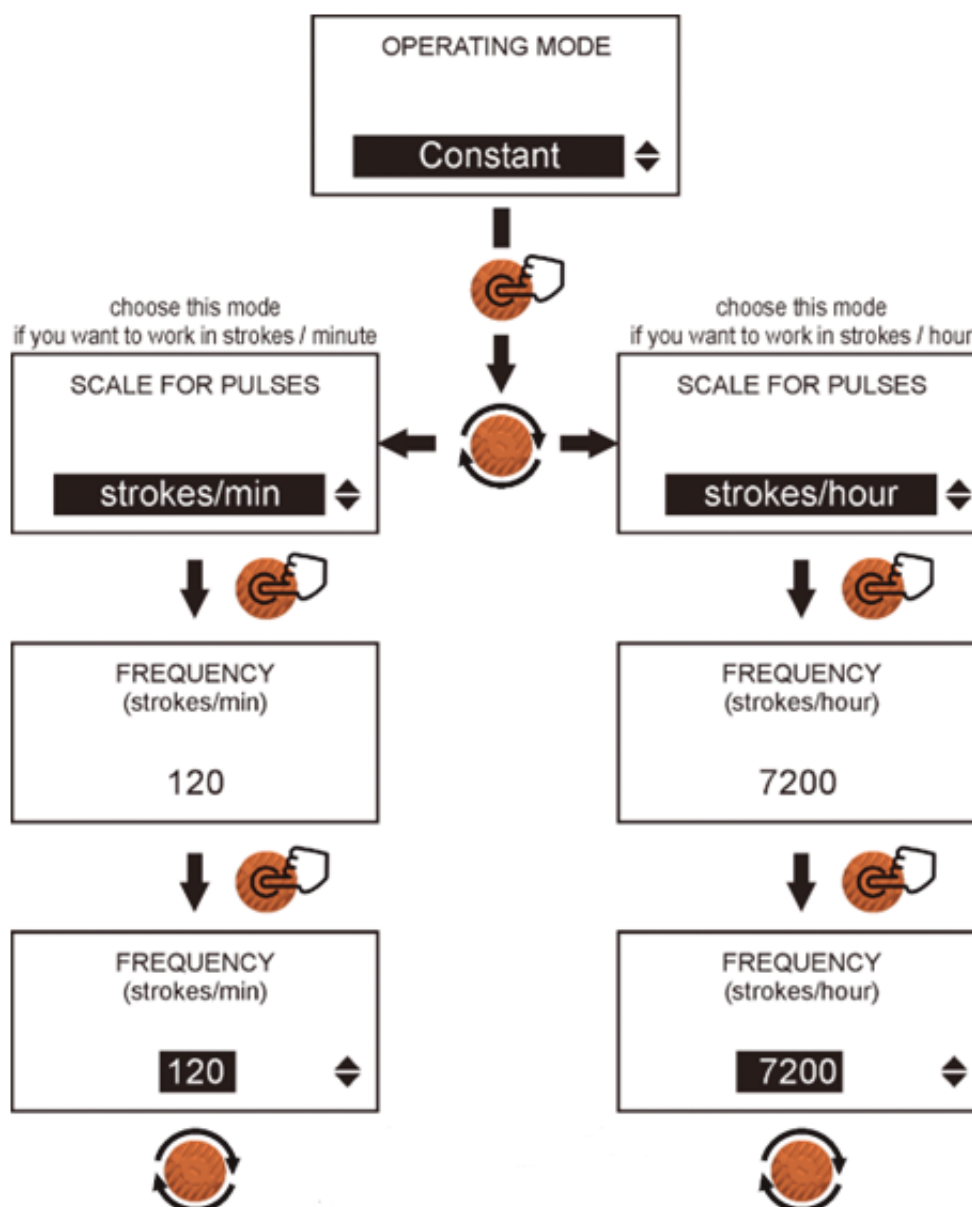
3.5.7

This mode allows you to connect the pump to an external mA signal. The current supplied to the pump (via the input signal) determines the proportional dosage according to the two values.

• Constant mode

This mode allows the pump to dose at a constant frequency that can be set by the user; this function allows the pump to work without the need to connect it to an external signal. You can decide to set the frequency in strokes / minute or in strokes / hour.

Here are the steps to set up this feature:



In **strokes/min** mode

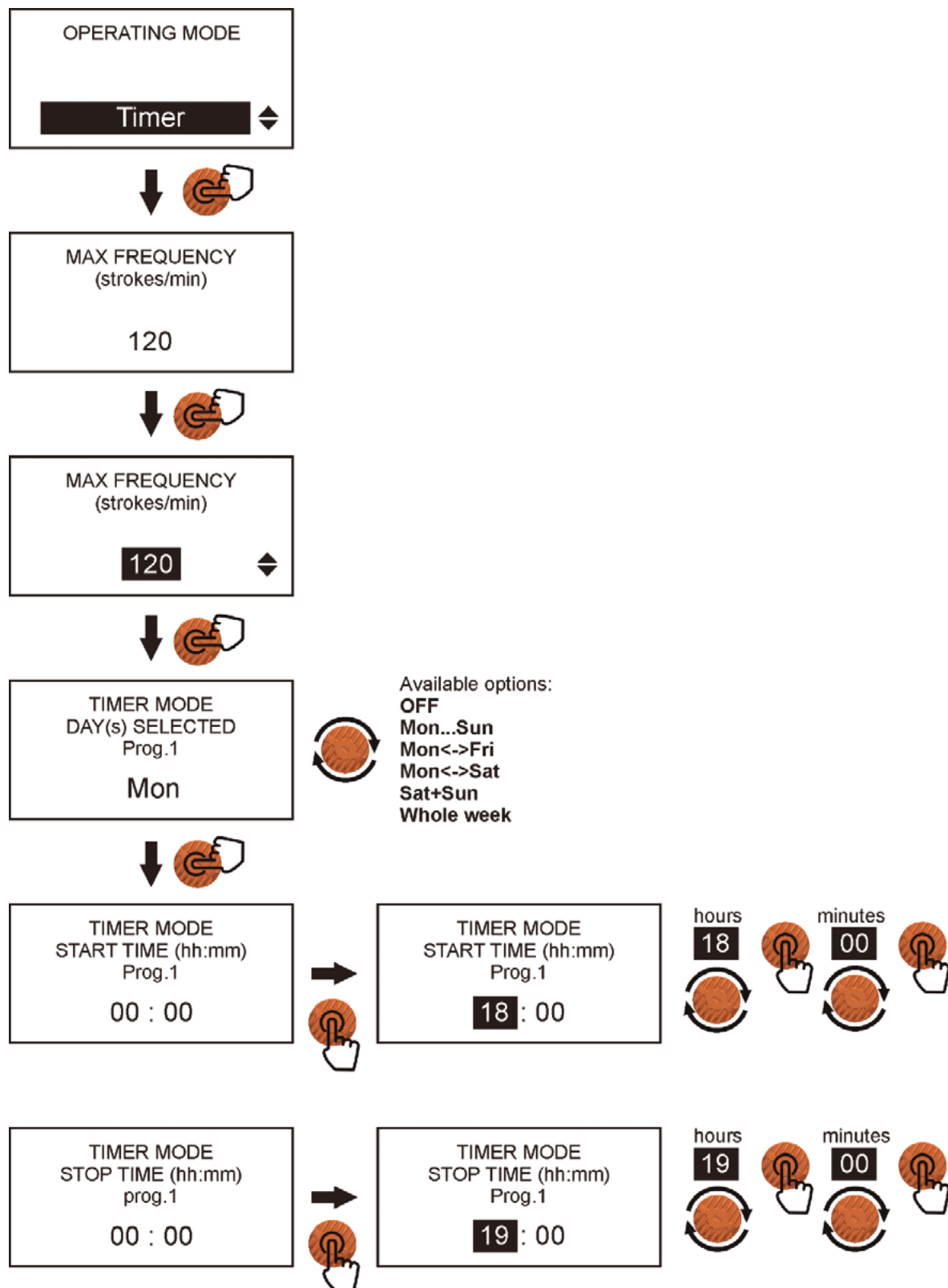
The maximum adjustable value is determined by the choice of performance

L-M-H

(e.g. M = 120 imp./min)

• Timer mode

This mode allows the user to set a dosing time of the chemical product by programming an integrated daily / weekly timer; up to 8 independent programs can be set for each day of the week . Here are the steps to set up this feature:

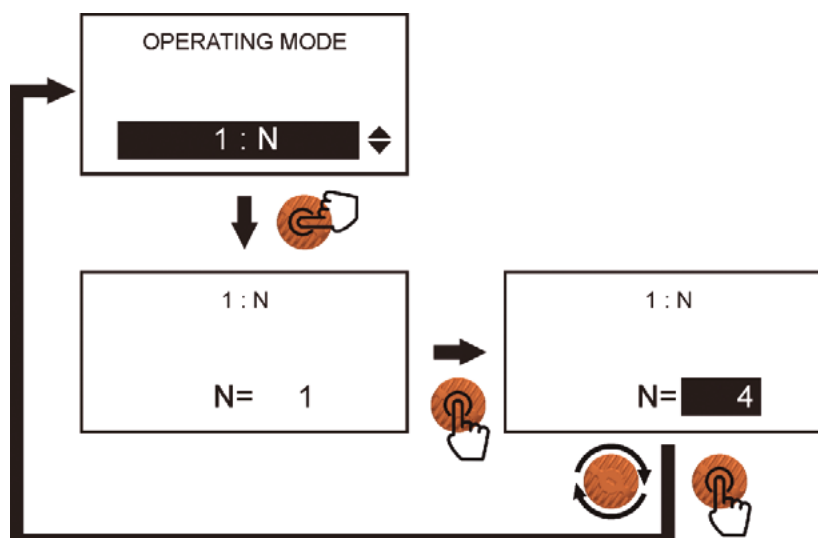


• 1:N mode

This mode allows the user to connect the pump to a pulse emitting water meter. The pulses coming from the water meter are divided by the set value. This mode is used when it is mounted a water meter which delivers many pulses to the pump and it is necessary to divide them to have a correct dosage.

The maximum number of pulses that can be set is 2500.

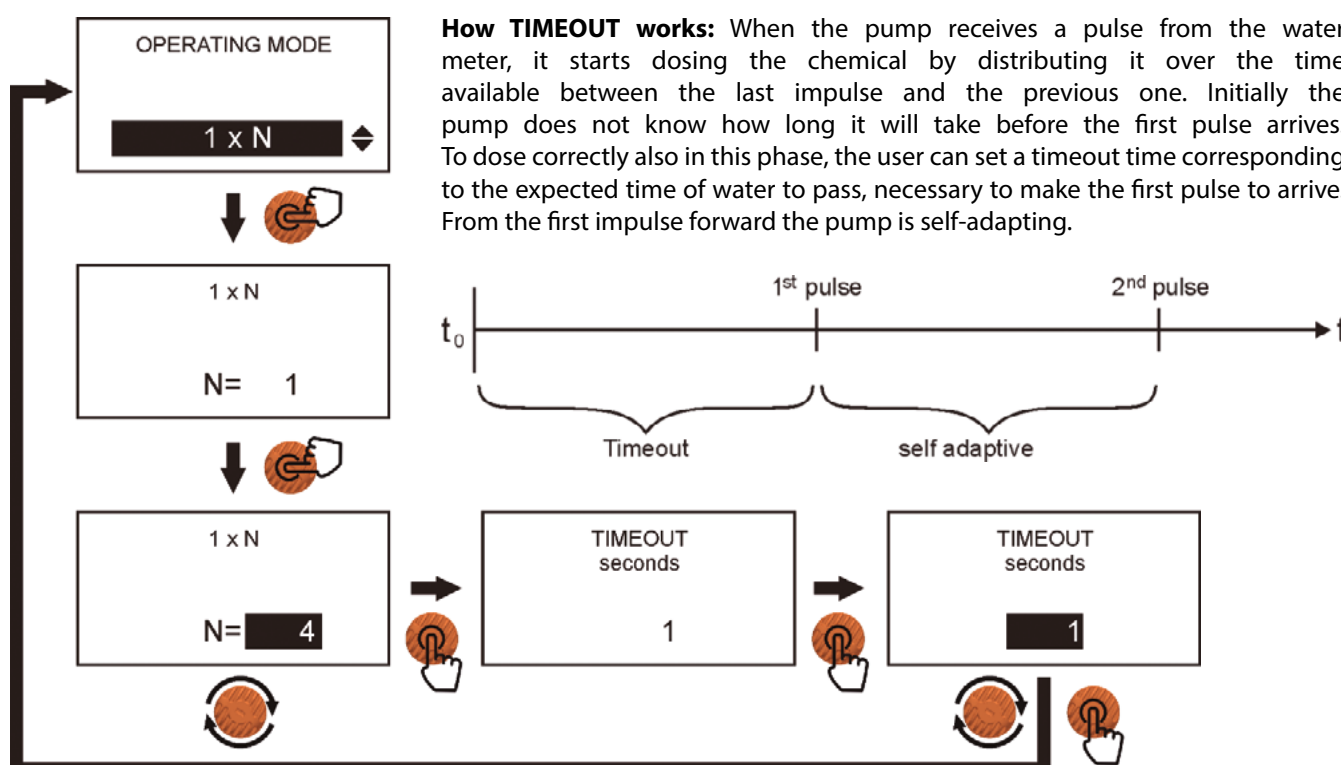
Here are the steps to set up this feature:



• 1xN (Adaptive) mode

This mode allows the user to connect the pump to a pulse emitting water meter. The pulses coming from the water meter are multiplied by the set value, the pump automatically sets the dosage frequency, adapting it to the time that elapses between two following signals. This mode is used when it is mounted a water meter which sends a few pulses to the pump and therefore there is the need to multiply them to have a correct dosage. The maximum number of pulses that can be set is 1000.

Here are the steps to set up this feature:

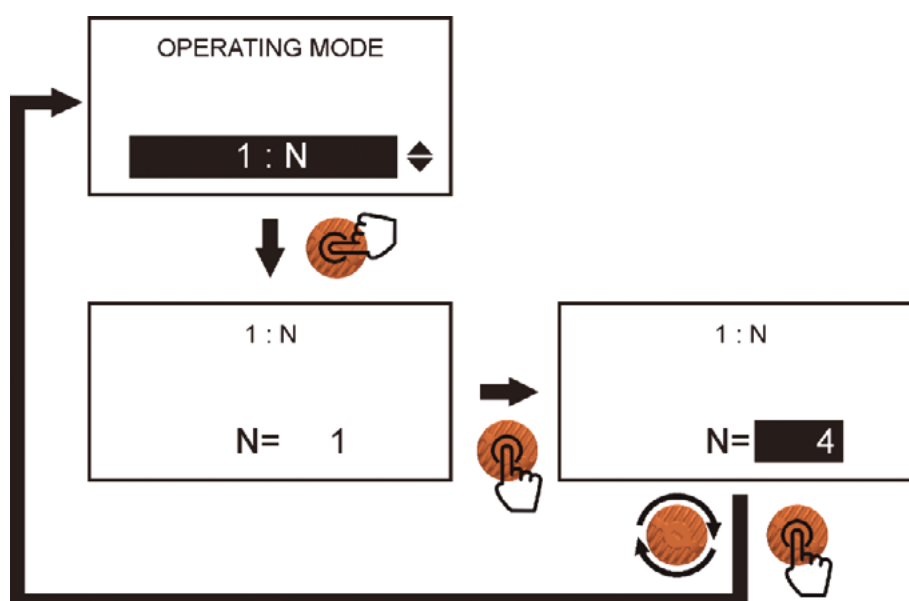


• 1xT mode

This mode allows the pump to receive an external signal (e.g. pulse water meter). When the pump receives a pulse, it will start dosing at the set frequency and time. The frequency cannot exceed the maximum value allowed by the previously set performance (A, B or C). The dosing time can be set between a minimum value of 1 minute and a maximum value of 23 hours and 59 minutes. If a second pulse arrives during the dosing time, the pump will restart the timer from the beginning.

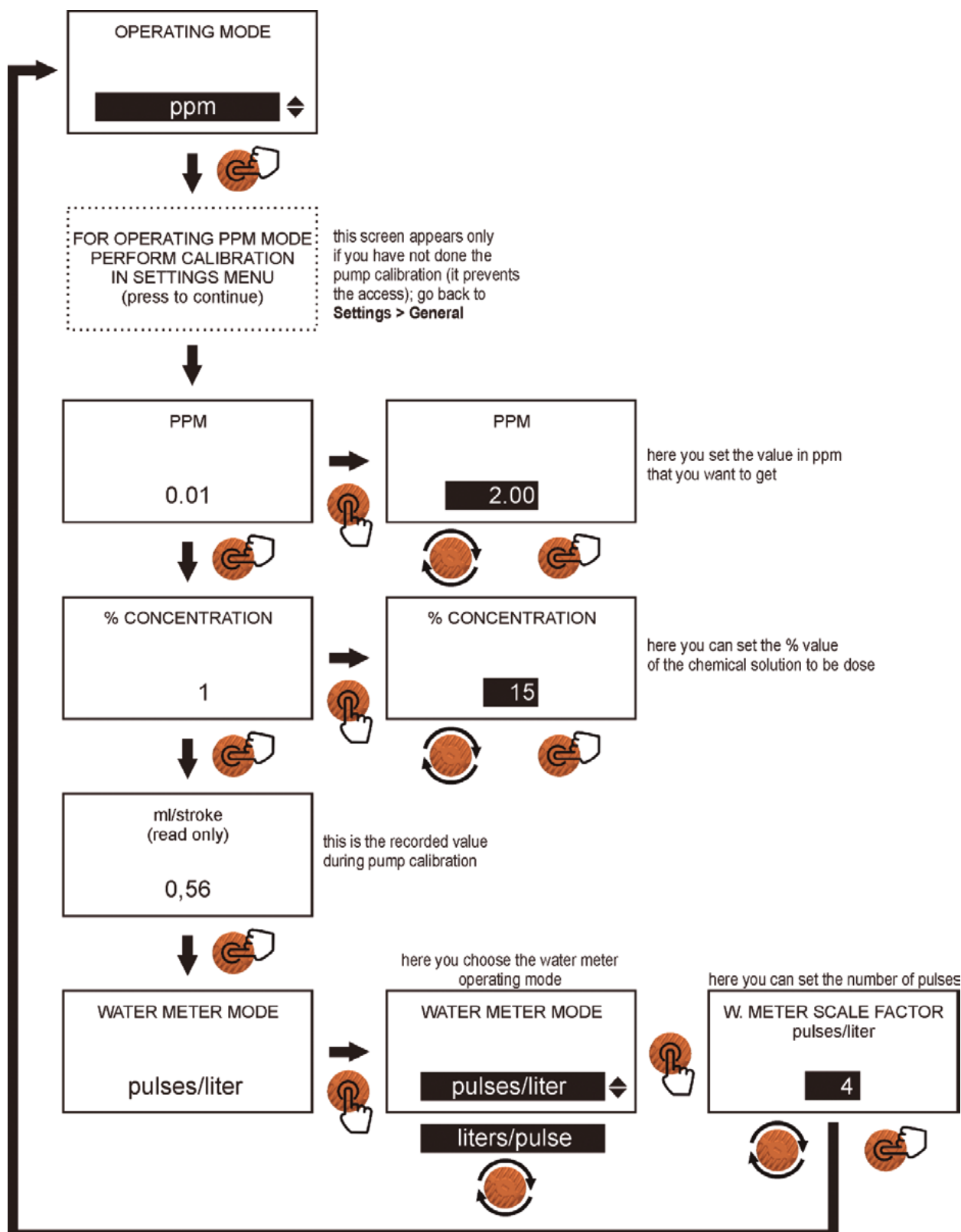
Warning: the pulses arriving during the dosage are not stored and therefore the remaining time is not added to that of a second pulse.

Here are the steps to set up this feature:



• PPM mode

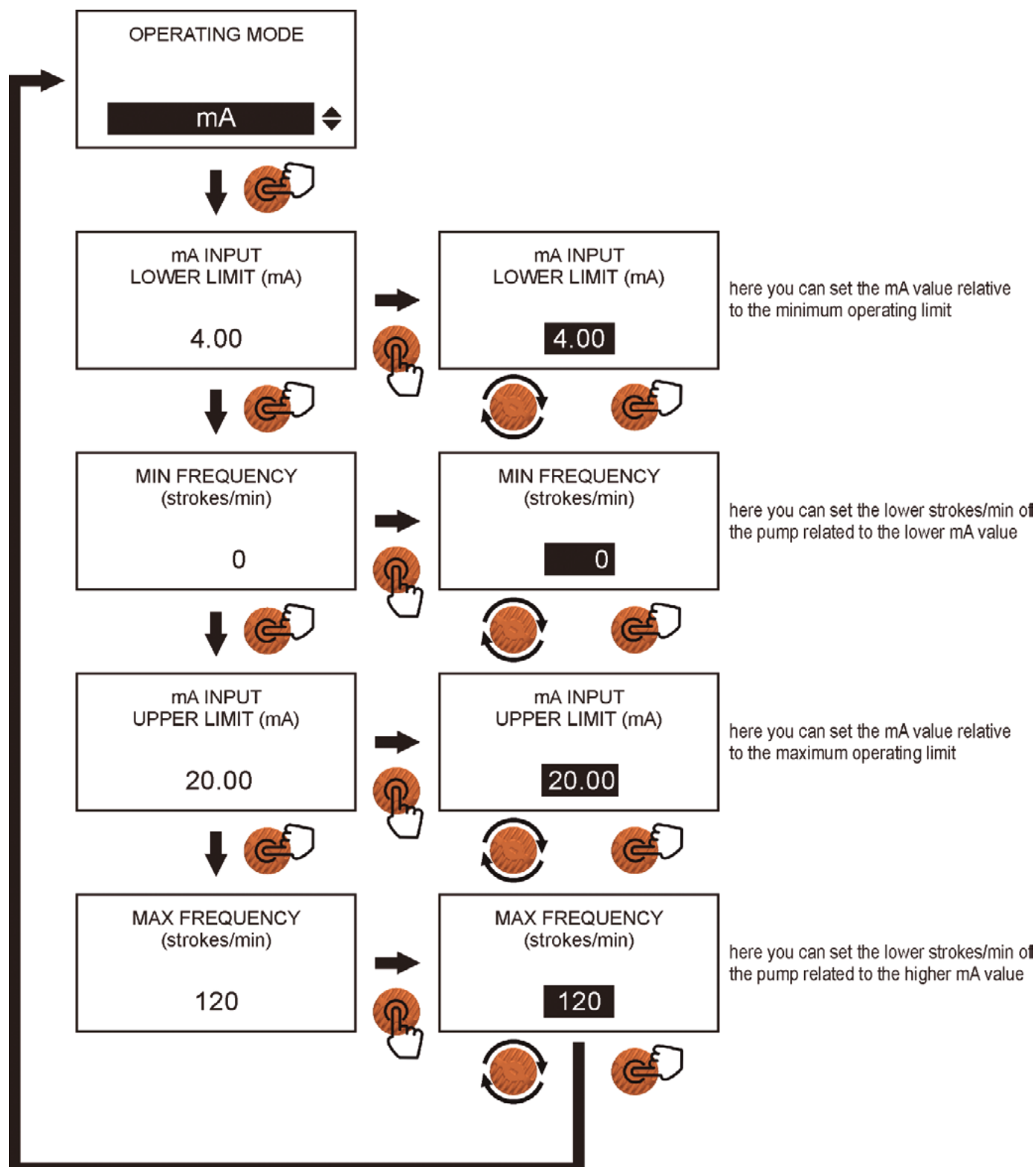
This mode allows the user to connect the pump to a pulse emitting water meter. The pulses coming from the water meter determine the dosage according to the ppm in the plant, the chemical concentration and the set ml / stroke. This mode is used when it is mounted a water meter and there is the need to accurately dose the chemical product in the set quantities by specifying only the PPM and leaving the pump to manage the incoming pulses. Here are the steps to set up this feature:



• mA mode

This mode allows the user to connect the pump to an external mA signal. The current supplied to the pump (via the input signal) determines the dosage proportional to the minimum (4mA) and maximum values set. This mode is used when an external signal is available and there is a need to accurately dose the chemical product according to an input current signal. The adjustable values cannot be lower than 4 mA or higher than 20 mA.

Here are the steps to set up this feature:



3.6 How to choose the pump model

As the number of m³ of water to be treated in the system is known, and the quantity of product to be dosed, expressed in P.P.M. (parts per million) it is possible to define the minimum hourly capacity of the dosing pump required, using the following formula:

$$l/h = \frac{\text{ppm} \times K \times m^3}{1000}$$

Where:

- ppm = quantity of product to dose (gr/m³)
- K = concentration of the chemical product to dose (pure product K=1).
(Example: Sodium hypochlorite at 12%; K = 100:12 = 8.3)
- m³ = maximum flow of the water to be treated expressed in m³

3.7 How to calculate the multiplication value (1xN)

$$N = \frac{\text{ppm} \times K}{\text{imp/l} \times \text{cc} \times 1000}$$

Where:

- ppm = quantity of product to dose (gr/m³)
- K = concentration of the chemical product to dose (pure product K=1)
(Example: Sodium hypochlorite at 12%; K = 100:12 = 8.3)
- Imp/l = pulses per litre provided by the water meter
- cc = quantity of product dosed per single injection (expressed in cc) of the pump

3.8 How to calculate the division value (1:N)

$$N = \frac{\text{imp/l} \times \text{cc}}{\text{ppm} \times K} \times 1000$$

Where:

- ppm = quantity of product to dose (gr/m³)
- K = concentration of the chemical product to dose (pure product K=1)
(Example: Sodium hypochlorite at 12%; K = 100:12 = 8.3)
- Imp/l = pulses per litre provided by the water meter
- cc = quantity of product dosed per single injection (expressed in cc) of the pump

If in the calculation the “N” parameter is:

- N < 1 (N less than 1) it is necessary to install a counter with a number higher than the number of pulses per liter or a pump with a greater capacity per injection.
- N > 1000 (N greater than 1000) it is necessary to install a pump with a lower capacity per injection.

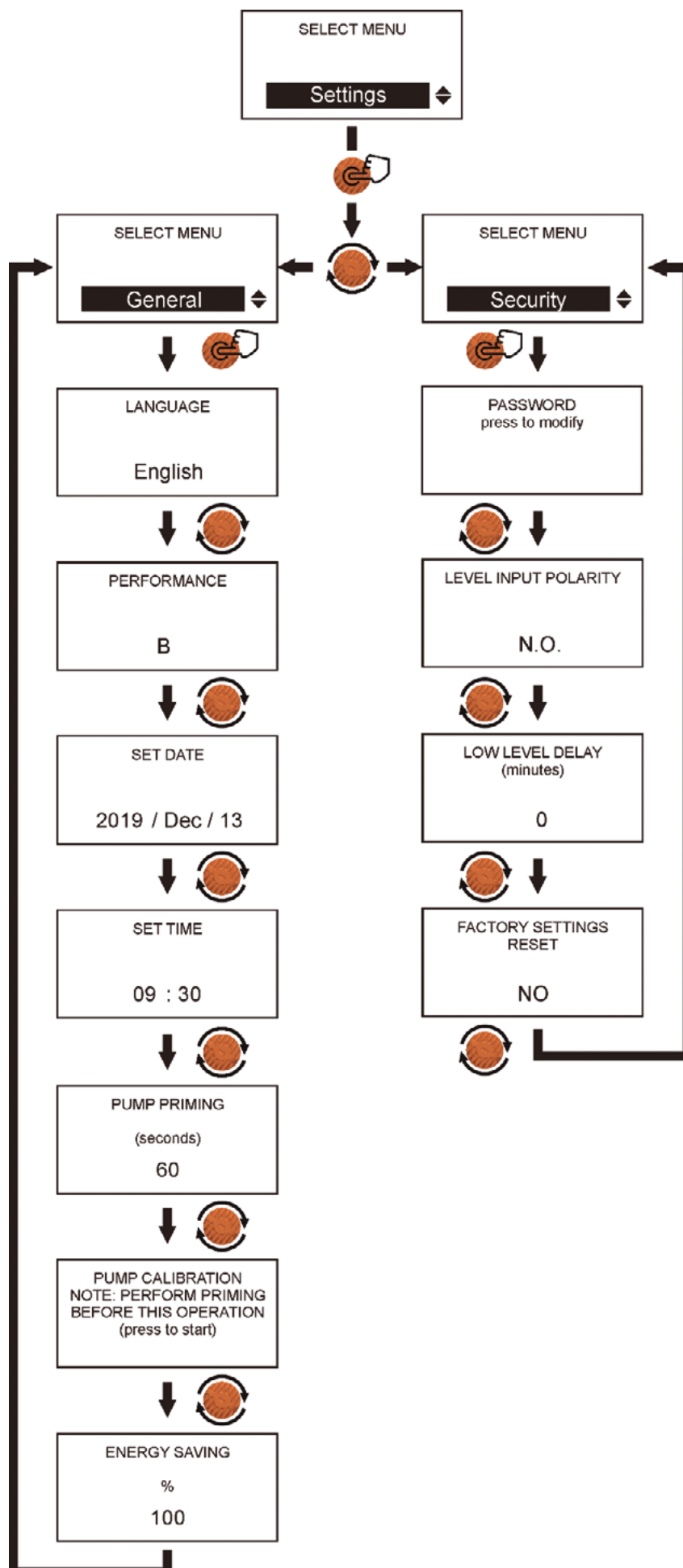
3.9 Settings

• General e Security

The settings menu is divided into two categories: General Settings and Safety Settings: in General Settings you will find all those basic settings encountered during the pump initialisation, such as the choice of language, the setting of the date / time, the pump performance, etc.

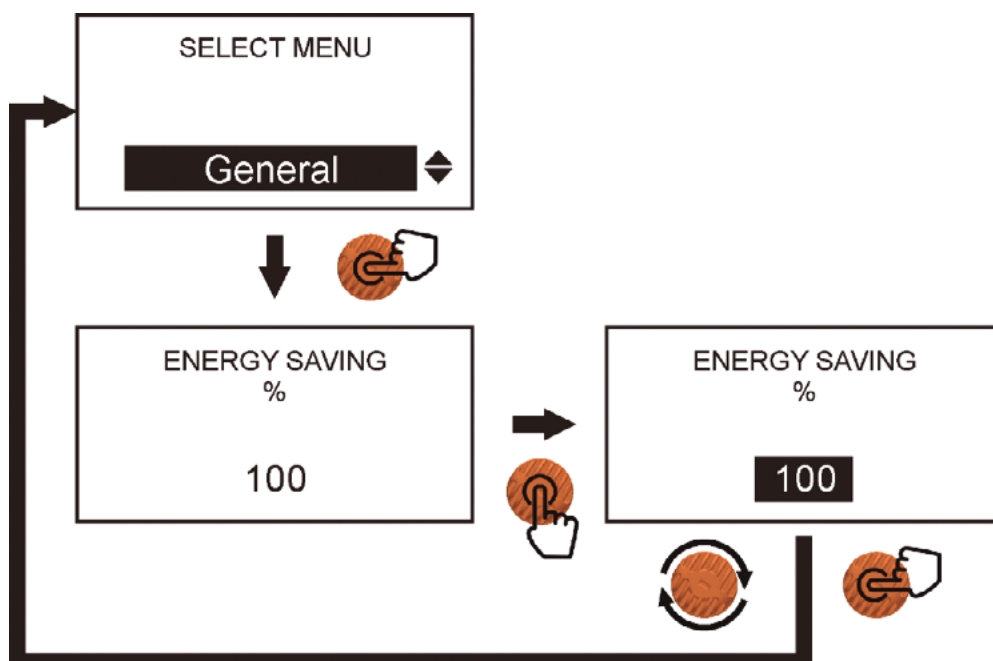
In the Security settings, on the other hand, there are settings such as the choice of the protection password, the delay in activating the level alarm, etc.

All possible settings are listed below:



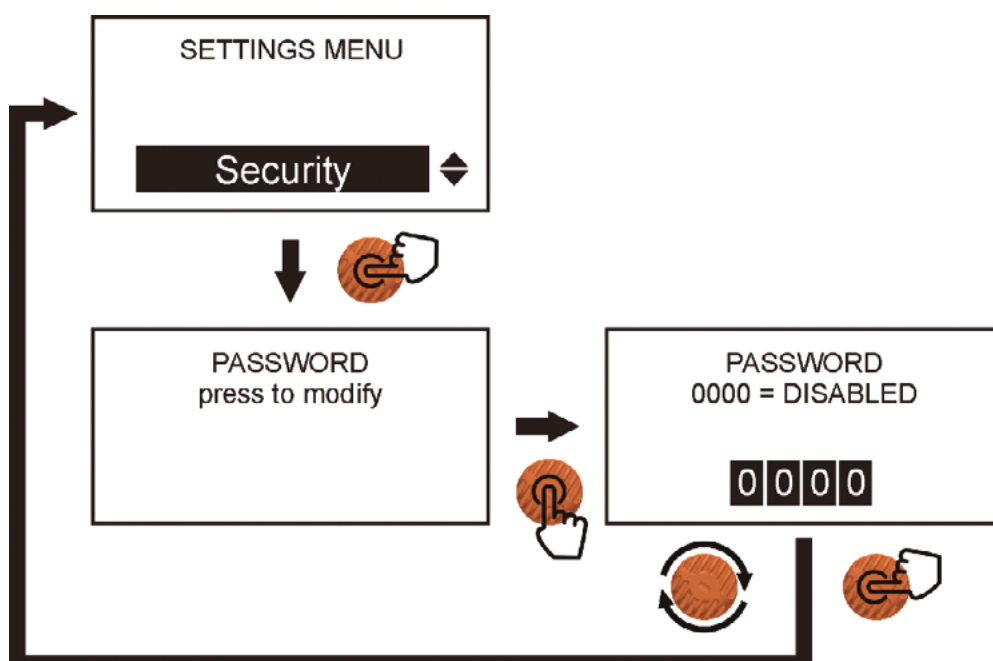
• General > Energy saving

It is possible to change the brightness of the display during its normal operation, this to limit current absorption and to protect the display from overheating and therefore increase its life. The brightness can be changed from 100% (maximum brightness) to 10% (minimum brightness); once the percentage has been chosen, the display will drop its brightness after 1 minute, if you act on the encoder the brightness will return to the maximum value until it is no longer touched for more than 1 minute. Here are the steps to set up this feature:



• Security > Password

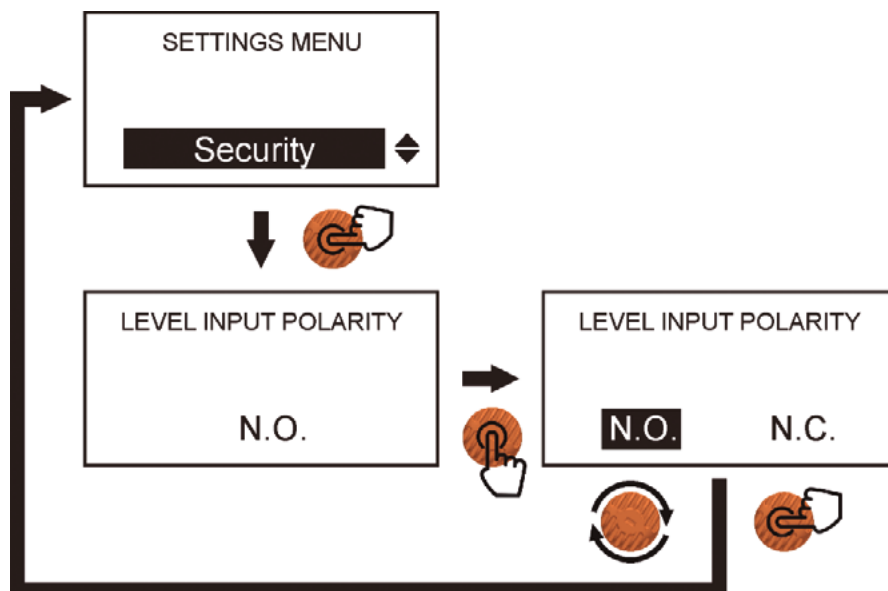
It is possible to set a security password to prevent unauthorized access to the pump configuration menus. If the user forgets or loses his password, he must contact our Assistance. Here are the steps to set up this feature:



• Security > Level Input Polarity

It is possible to invert the polarity of the level probe connected to the pump from Normally Open (N.O.) to Normally Closed (N.C.) and vice versa.

Here are the steps to set up this feature:



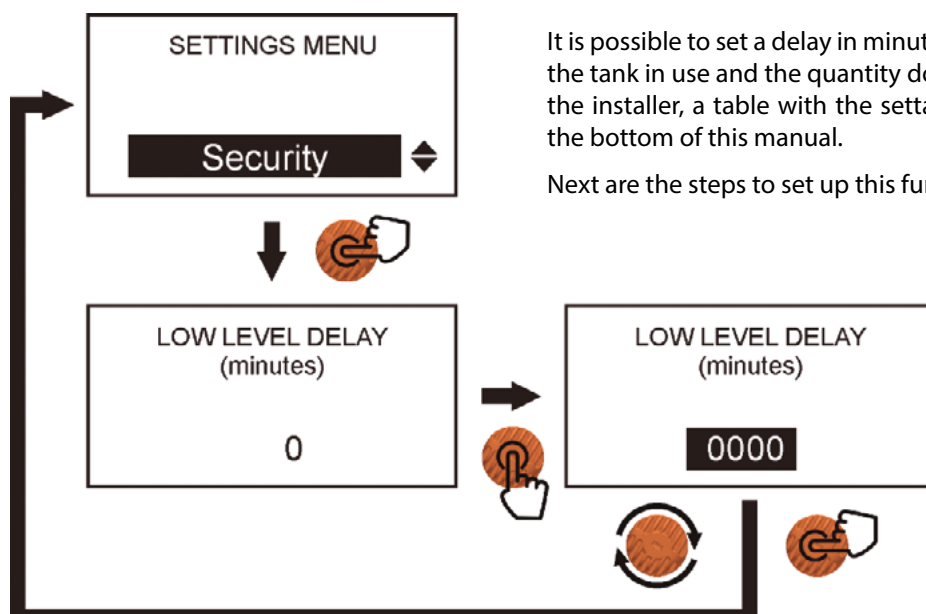
• Security > Low Level Delay

With this function it is possible to delay the stop of the pump (and of the dosage) following the activation of the tank level sensor.

When this function is active, and the level of the chemical reaches the minimum, the level alarm is activated on the pump (on display, in the lower right corner, the text * LVL * will appear) but the pump continues to dose for the time set, after which it stops.

When using a suction lance that maintains a safety margin, activating the level (without stopping the dosage) allows you to have time to set up a new tank, without stop the pump dosing. This ensures better continuity of dosage.

ATTENTION: this function must be activated only if you are using the suction lance with safety margin like the FGFL of PRIMA PUMPS (see photo below).



It is possible to set a delay in minutes according to the size of the tank in use and the quantity dosed by the pump, to help the installer, a table with the settable times is presented at the bottom of this manual.

Next are the steps to set up this function

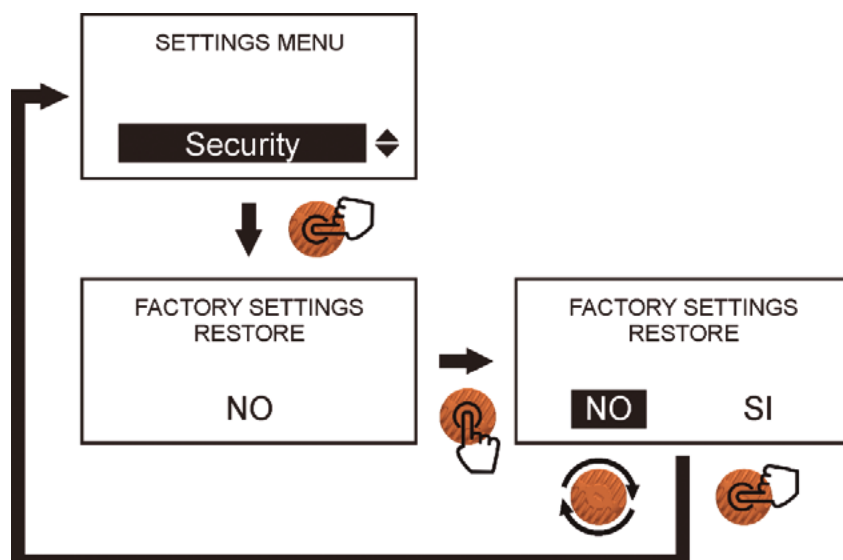


• Security > Factory Settings restore

It is possible to reset the pump to factory settings using this function.

ATTENTION: this will delete all the data previously set and all the statistics with the exception of the counter of the total strokes (see paragraph 3.10).

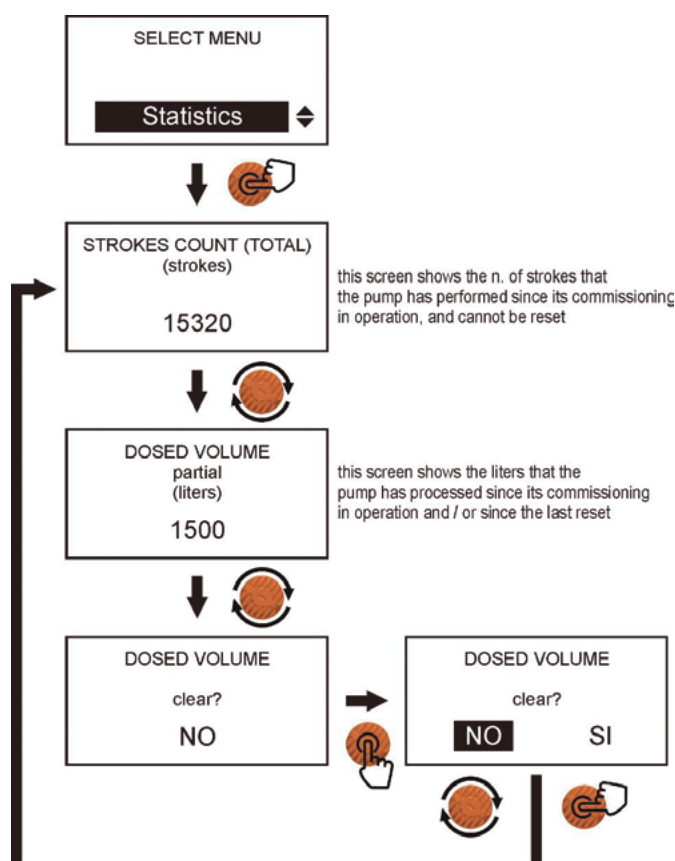
Here are the steps to set up this feature:



3.10 Statistics

During normal pump operation, the electronic board stores some data during its operation; these data can be viewed within the "STATISTICS" menu. In this menu you can find the number of total strokes and the volume delivered (in liters).

Here are the steps to set up this feature:



4 DOSING PUMPS INSTALLATION RULES

Strictly follow the instructions for a correct installation of the dosing pump to avoid malfunctions. The most frequent cases are described below:

- Locate the pump as shown in Figure 1, bearing in mind that it can be mounted either below or above the level of the chemical to be dosed within the maximum limit of 2 meters (we suggest 1.5 meters). The injection point must always be placed higher than the chemical to be injected.
- If the system to be treated works at atmospheric pressure and the chemical tank must absolutely be positioned higher than the injection point (Figure 2), periodically check the functionality of the injection valve (I), as its excessive wear could lead to unintentional injection of the chemical into the plant due to gravity (even with the dosing pump stopped). If the problem persists, insert a counter-pressure valve (V) correctly calibrated between the dosing pump and the injection point.
- For chemicals that emit aggressive fumes, do not install the pump on top of the tank unless the tank is hermetically sealed (Figure 3).

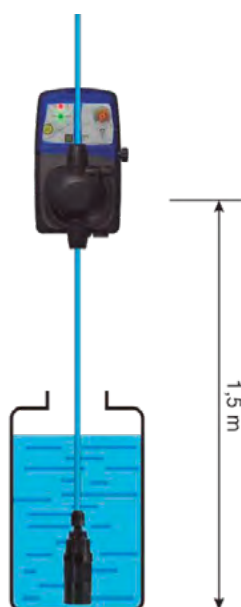


Figure 1

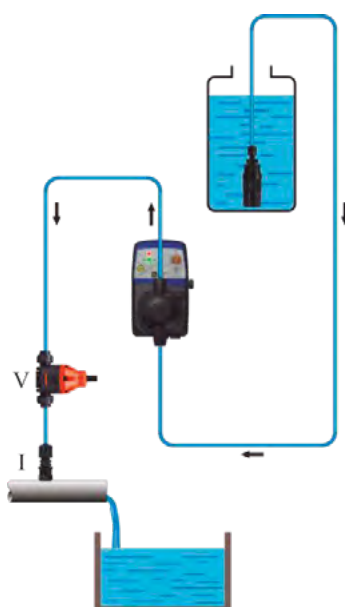


Figure 2

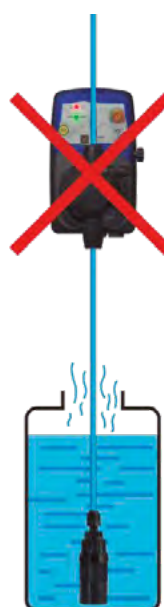
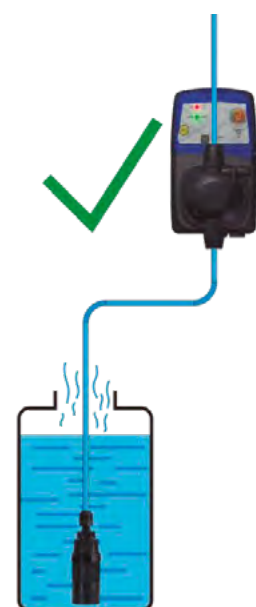


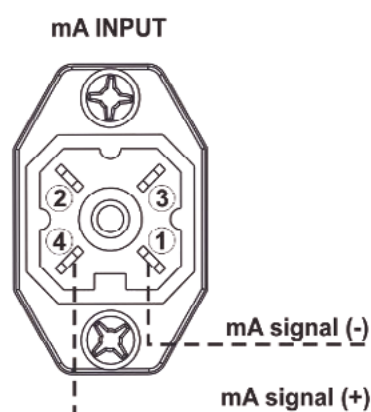
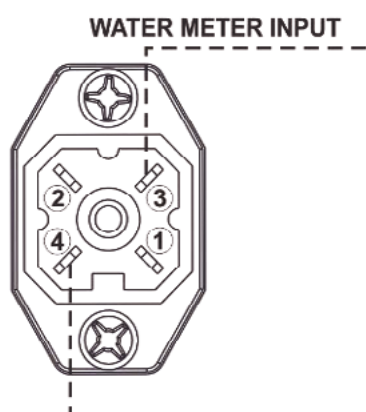
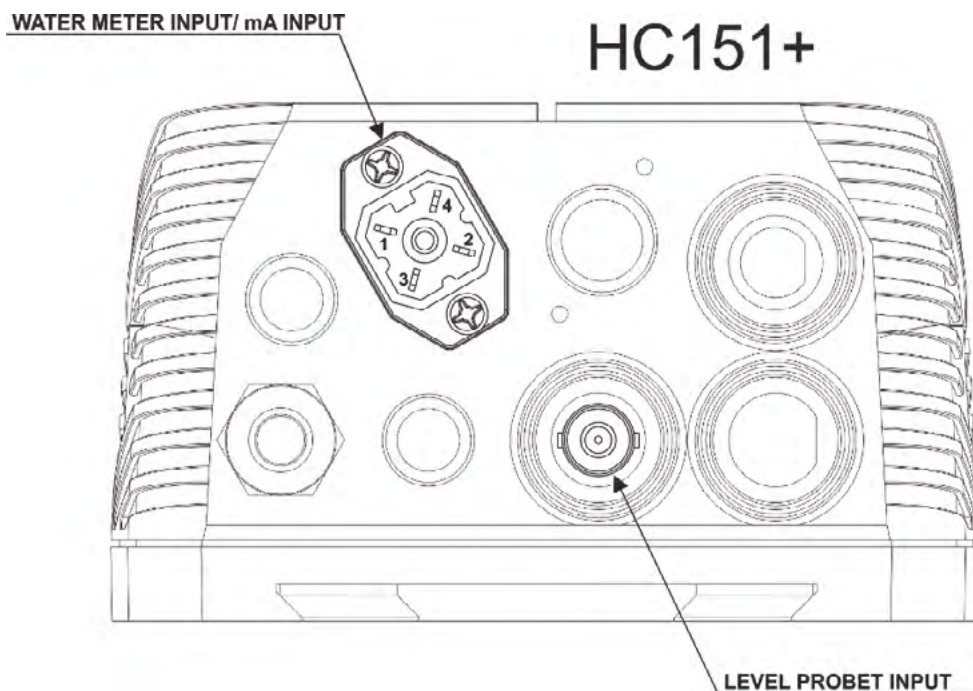
Figure 3



5 ELECTRICAL CONNECTIONS

5.1 PRIMA M model pump

The connector on the bottom of the pump allows the connection of an external signal coming from a pulse emitting water meter or a mA signal. Obviously, if a pulse emitting water meter is connected, a mA signal cannot be connected and vice versa. The pump is also equipped with a BNC connector for connecting a level probe (not included in the package).



6 TROUBLESHOOTING

The solenoid driven dosing pump is a relatively robust device, therefore the chances of mechanical failures are low. Sometimes chemical leaks may occur from nipples or loose hose nuts of the pump head or simply due to breakage of the discharge pipe. If one of the above cases occurs, user has to first disconnect the unit from the power supply, then replaces the damaged part, cleans the unit from any chemical leaks, then restart the pump.

6.1 Problem - Cause - Solution

Below are listed some of the problems that may occur, the causes and solutions

Problem	Possible Cause	Solution
The pump does not switch on	The pump is not powered	Connect the pump to the mains
	The protection fuse is blown up	Replace the fuse
	The electronic board is damaged	Replace the electronic board
The pump does not dose but the solenoid is working	The foot filter is obstructed	Clean the foot filter
	The suction tube is empty, the pump is not primed	Repeat the priming procedure
	Air bubbles in the hydraulic circuit	Check nipples and hoses
	The chemical in use generates gas	Open the bleed valve and let the air goes out. Replace the pump head with automatic bleed version.
The pump does not dose and the solenoid does not works or the stroke is greatly muffled	Crystals formation, valve occlusion and / or the balls are blocked	Clean the valves and try to circulate water instead of the chemical product
	The injection valve is obstructed	Replace the valves of the pump head. Replace the injection valve.

7 CLEANING AND MAINTENANCE

7.1 Cleaning the pump

The pump must be periodically cleaned in order to ensure its efficiency. We suggest to carry out regular cleaning during maintenance period.

Before carrying out any maintenance or cleaning operations on the dosing pump, it is necessary to:

1. Make sure that it is electrically disabled (both polarities) by disconnecting the conductors from the contact points of the power supply by opening the omnipolar switch;
2. Eliminate in the most appropriate and gradual way, (paying the utmost attention not to generate splashes), the existing pressure in the pump body and in the delivery pipe, by opening the appropriate air bleed valve.
3. Remove the protective cover of the pump body, to highlight any underlying leaks and encrustations;
4. Clean any incrustations due to leaks or drips on the pump body or on the entire pump structure, paying particular attention to the lower part of the pump where, usually, any incrustations due to drips accumulate;
5. Reassemble the cover of the pump body, the delivery and suction pipes, close the air bleed valve and reconnect the pump electrically;
6. Carry out priming if necessary and restore the normal operating status of the pump.

7.2 Pump maintenance

Under normal operating conditions, the metering pump should be checked monthly.

To avoid malfunctions or sudden stops, carefully check the following items:

- check that the electrical and hydraulic connections are intact;
- check for any leaks on the connections of the pump head or the injection valve;
- check that there are no parts of the pump or pipes corroded.

Always empty the pump head from chemical, if there could still be presence of dangerous chemicals inside the pump head it is mandatory to declare it filling the RETURN MATERIAL AUTHORIZATION module.

Always use original spare parts if it is necessary to replace worn parts

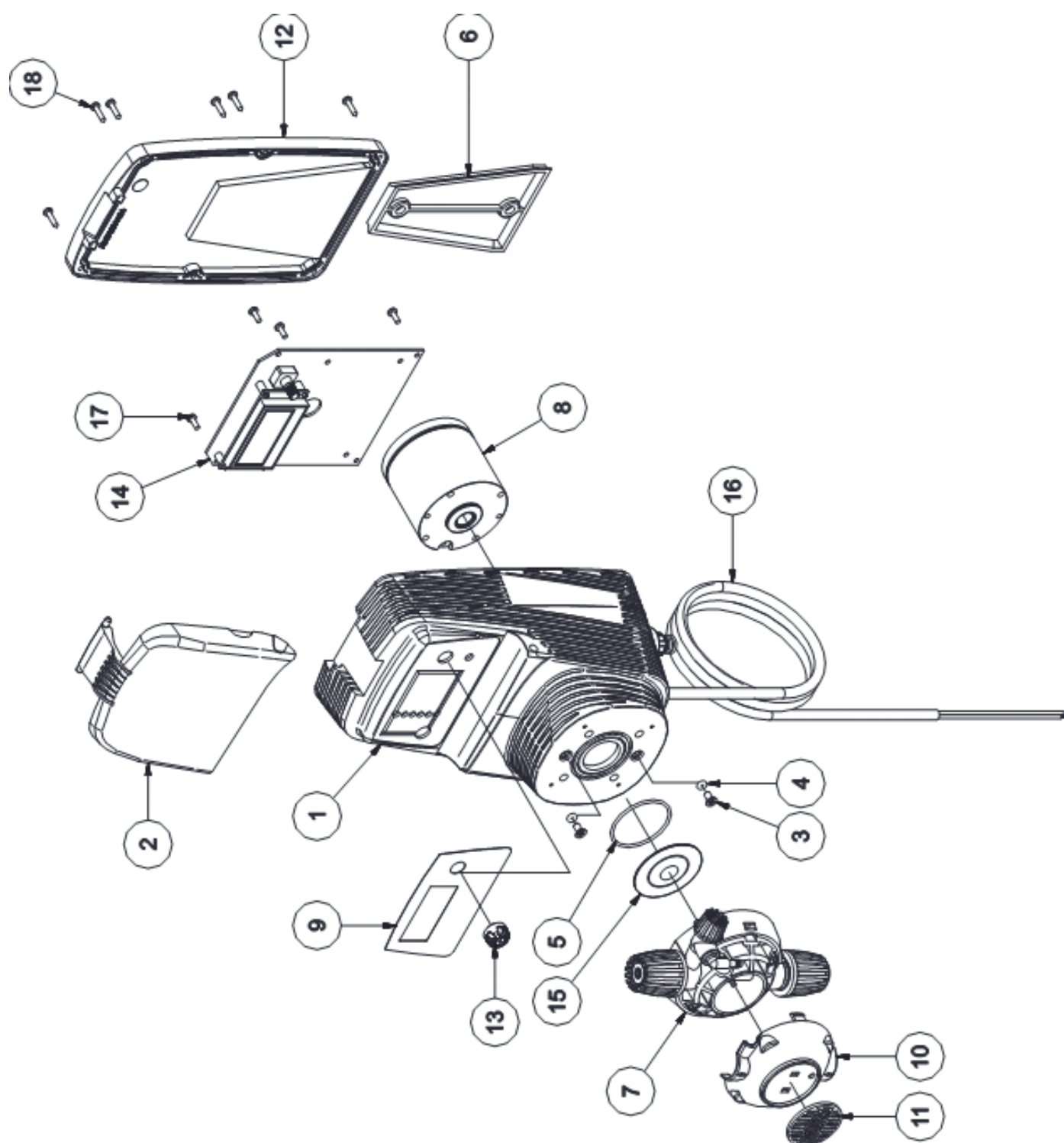
All technical assistance operations must be performed only by expert and authorized personnel. If the pump requires direct assistance from the manufacturer, it is necessary to remove all the liquid inside the pump head and dry it BEFORE packing it in its original box!

8 WARRANTY

The product is covered by the manufacturer's warranty for manufacturing defects. The methods and conditions are set forth in the "General Conditions of Sale" document of STURDOS

8.1 Exploded views

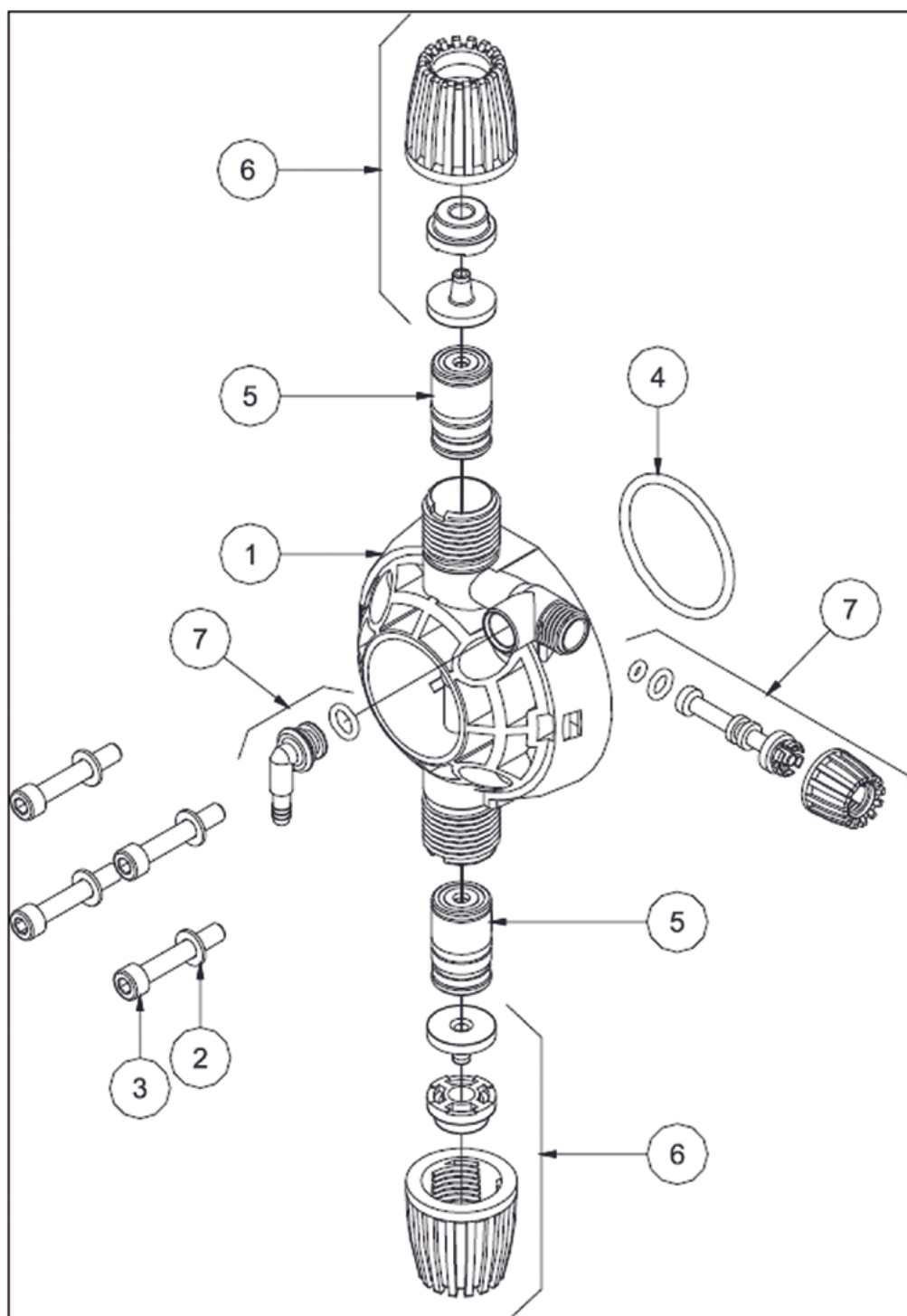
• PRIMA Exploded view



Nº	Code	Description	Quantities
1	PRIMAP9300058	PRIMA+ PP+20% GF BLACK HOUSING	1
2	PRIMAP9300061	PRIMA TRANSPARENT FRONT COVER	1
3	PRIMAP6000708	M4X8 UNI 7688 (AF-TSTC) SS A2 SCREW	2
4	PRIMAP5007072	NBR – 2,60X1,90 O-RING	2
5	PRIMAP5007117	FPM 2150 ORING	1
6	PRIMAP6020221	WALL FIXING BRACKET	1
7	PRIMAP9000I05	1-14 PVDF-CE-VT INCOMPLETE PUMP HEAD	1
7	PRIMAP900PI06	1-14 PVDF-CE-DT INCOMPLETE PUMP HEAD	1
8	PRIMAP6000295	230V D60 COMPLETE SOLENOID	1
8	PRIMAP6000287	230V D70 COMPLETE SOLENOID	1
8	PRIMAP6000536	230V D80 COMPLETE SOLENOID	1
9	PRIMAP7000772	PRIMA+ MULTI/PH-RX-CL POLICARBONATE ADHESIVE LABEL	1
10	PRIMAP9000022	1-14LT PUMP HEAD BLACK COVER	1
11	PRIMAP9000003	1-14LT PUMP HEAD BLACK PLATE WITH LOGO STURDOS	1
12	PRIMAP9300034L	PRIMA DGT PP BACK COVER WITH GASKET	1
13	PRIMAP9300072	PRIMA KNOB FOR POTENTIOMETER	1
14	PRIMAP9300083	PRIMA MULTIFUNCTION 10÷240Vac ELECTRONIC BOARD	1
15	PRIMAP9200001	1614/1645 1-14L PRIMA M12x1 PTFE DYNEON DIAPHRAGM	1
16	PRIMAP6020281	H05VV-F 3x0,75 POWER SUPPLY CABLE 3 METERS W/OUT PLUG	1
17	PRIMAP6000749	3x8 SS A2 HILO SERIES SCREW	4
18	PRIMAP6000714	2,9x13 UNI6954 SCREW	6

Nº	Code	Description	Quantities
1	PRIMAP900PI05	1-14 PVDF-CE-VT INCOMPLETE PUMP HEAD	1
1	PRIMAP900PI06	1-14 PVDF-CE-DT INCOMPLETE PUMP HEAD	1
2	PRIMAP9300063	PRIMA FRONT CASING BLACK COLOR	1
3	PRIMAP9300059	PRIMA REAR CASING BLACK COLOR	1
4	PRIMAP9000022	1-14LT PUMP HEAD BLACK COVER	1
5	PRIMAP9000003	1-14LT PUMP HEAD BLACK PLATE WITH LOGO STURDOS	1
6	PRIMAP6000759	STROKE LENGTH SHAFT	1
7	PRIMAP6000295	230V D60 COMPLETE SOLENOID	1
7	PRIMAP6000287	230V D70 COMPLETE SOLENOID	1
8	PRIMAP9300083	PRIMA MULTIFUNCTION 10÷240Vac ELECTRONIC BOARD	1
9	PRIMAP6000507	STROKE LENGHT ADJUSTMENT KNOB	1
10	PRIMAP9300072	PRIMA KNOB FOR ENCODER	1
11	PRIMAP7000774	PRIMA MULTI/PH-RX POLICARBONATE ADHESIVE LABEL	1
12	PRIMAP6000738	04-18 STROKE LENGTH ADJUSTMENT INSERT WITH PLATE	1
13	PRIMAP6000739	04-18 STROKE LENGTH ADJUSTMENT SCREW	1
14	PRIMAP5007035	FPM 106 O-RING	1
15	PRIMAP5003021	PRIMA RETURN SPRING STROKE LENGHT ADJUSTMENT	1
16	PRIMAP9200001	614/1645 1-14L FGS M12x1 PTFE DYNEON DIAPHRAGM	1
17	PRIMAP5007117	FPM 2150 ORING	1
18	PRIMAP6000708	M4X8 UNI 7688 (AF-TSTC) SS A2 SCREW	2
19	PRIMAP5007072	NBR – 2,60X1,90 O-RING	2
20	PRIMAP6020281	H05VV-F 3x0,75 POWER SUPPLY CABLE 3 METERS W/OUT PLUG	1
21	PRIMAP6000749	3x8 SS A2 HILO SERIES SCREW	4
22	PRIMAP6000542	PVC CAP FOR M4 SCREW	1
23	STURDOS010300	3,5 X 32 STAINLESS STEEL SCREW	6
24	PRIMAP6000800	2,9 X 19 STAINLESS STEEL SCREW	6
25	PRIMAP6000714	2,9 X 13 STAINLESS STEEL SCREW	1

• Pump Head exploded view



CORPO POMPA PP / PP PUMP HEAD

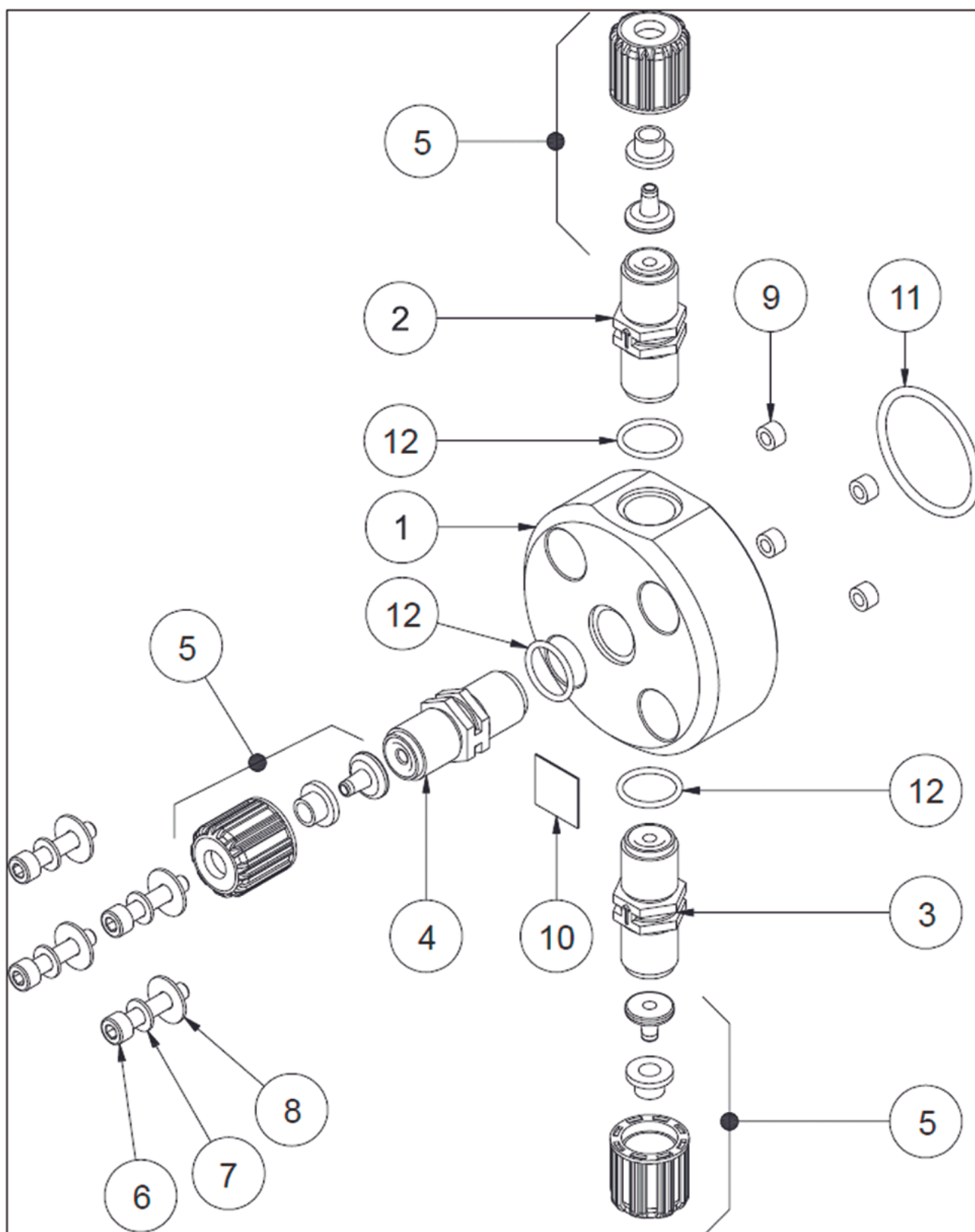


CORPO POMPA PVDF / PVDF PUMP HEAD



Nº	Code	Description	Quantities
1	PRIMAP9000001	1-14 PP BLACK PUMP HEAD	1
1	PRIMAP9000001P	1-14 PVDF WHITE PUMP HEAD	1
2	PRIMAP6000701	D.5 WASHER – UNI 6592 SS A2	4
3	PRIMAP9000016	M5x30 UNI 5931 SS A2 SCREW	4
4	PRIMAP5007200	FPM 3143 (T.2,62xD.36,14) ORING	1
4	PRIMAP5007209	EPDM 3143 (T.2,62xD.36,14) ORING	1
5	PRIMAP9005010	½" PP-GL-VT VALVE KIT	1
5	PRIMAP9005011	½" PP-GL-DT VALVE KIT	1
5	PRIMAP9005P12	½" PVDF-CE-VT VALVE KIT	1
5	PRIMAP9005P13	½" PVDF-CE-DT VALVE KIT	1
6	PRIMAP6500059	½" PP FIXING KIT FOR 4x6 HOSE	1
6	PRIMAP6500060	½" PVDF FIXING KIT FOR 4x6 HOSE	1
6	PRIMAP6500067	6x8 FIXING KIT WITH ½" BLACK PP HOSE NUT	2
6	PRIMAP6500068	6x8 FIXING KIT WITH ½" BLACK PP HOSE NUT L	2
6	PRIMAP6500063	6x8 FIXING KIT WITH ½" BLACK PP HOSE NUT	2
7	PRIMAP6500072	AIR BLEED KIT + PP-VT HOSE FITTING FOR PUMP HEAD	1
7	PRIMAP6500072P	AIR BLEED KIT + PP-VT HOSE FITTING FOR PUMP HEAD	1
7	PRIMAP6500073	AIR BLEED KIT + PP-DT HOSE FITTING FOR PUMP HEAD	1
7	PRIMAP650073P	AIR BLEED KIT + PVDF-DT HOSE FITTING FOR PUMP HEAD	1

• Auto Bleed Pump Head exploded view



Nº	Code	Description	Quantities
1	PRIMAP9000029	1-14 PVC AUTO BLEED PUMP HEAD	1
2	PRIMAP5005033	3/8" PP-CE-VT DEGAS VALVE KIT	1
2	PRIMAP5005133	3/8" PP-CE-DT DEGAS VALVE KIT	1
2	PRIMAP5005036	3/8" PVDF-CE-VT DEGAS VALVE KIT	1
2	PRIMAP5005038	3/8" PVDF-CE-DT DEGAS VALVE KIT	1
3	PRIMAP5005031	3/8" PP-CE-VT VALVE KIT	1
3	PRIMAP5005131	3/8" PP-CE-DT VALVE KIT	1
3	PRIMAP5005034	3/8" PVDF-CE-VT VALVE KIT	1
3	PRIMAP5005037	3/8" PVDF-CE-DT VALVE KIT	1
4	PRIMAP5005032	3/8" PP-CE-HAST-VT VALVE KIT	1
4	PRIMAP5005132	3/8" PP-CE-HAST-DT VALVE KIT	1
4	PRIMAP5005035	3/8" PVDF-CE-HAST-VT VALVE KIT	1
4	PRIMAP5005135	3/8" PVDF-CE-HAST-DT VALVE KIT	1
5	PRIMAP6500048	3/8" PP FIXING KIT FOR 4X6 HOSE	3
5	PRIMAP6500013	3/8" PVDF FIXING KIT FOR 4X6 HOSE	3
6	STURDOS010040	M5x25 UNI 5931 SS A2 SCREW	4
7	PRIMAP6000701	D. 5 WASHER – UNI 6592 SS A2	4
8	STURDOS010460	5x15 WASHER – UNI 6592 SS A2	4
9	PRIMAP5007011	PUMP HEAD SCREW GASKET D. 3,2 x 6,45 x 5,5 SANT64A	4
10	PRIMAP7000442	FLOW DIRECTION LABEL	1
11	PRIMAP5007200	FPM 3143 (T.2,62 x D.36,14) ORING	1
11	PRIMAP5007209	EPDM 3143 (T.2,62 x D.36,14) ORING	1
12	PRIMAP5007001	FPM 2062 - ORING	3
12	PRIMAP5007002	EPDM 2062 - ORING	3



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Industrial metering pumps