HYDRA PR

INSTALLATION MANUAL EN

HANDBUCH DE

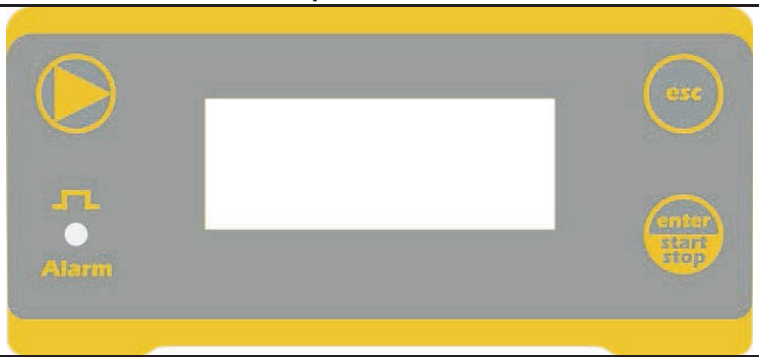
MANUAL DE INSTALACION ES

MANUEL D'INSTALLATION FR

MANUALE D'INSTALLAZIONE IT

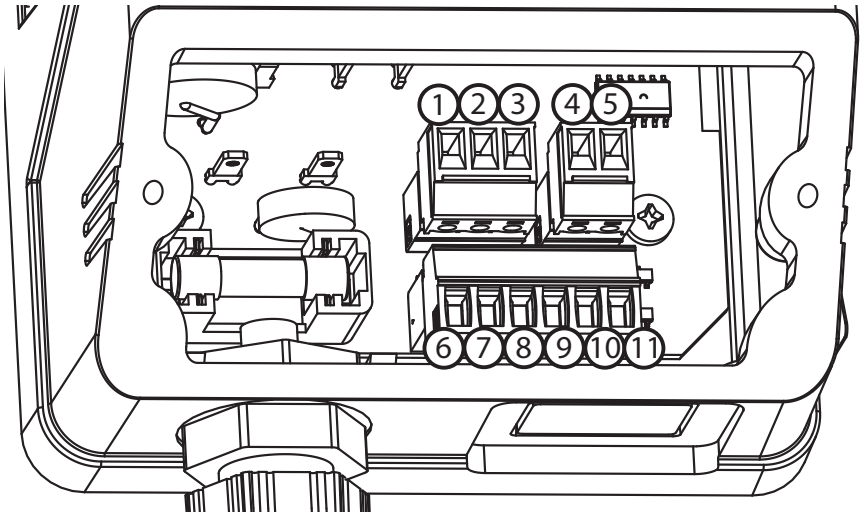
EM00136304 rev.1.0

Control panel – HYDRA PR



enter start stop + esc	To access the programming menu. (Press and hold down simultaneously for at least 3 seconds).
enter start stop	To start and stop the pump. To disable the display notification in case of active level alarm condition (only alarm function), flow alarm condition and memory. In programming mode it functions as “enter”, to confirm the access and the changes to the various menu levels.
esc	To “escape” the various menu levels. Before exiting the programming mode you will be prompted to save the changes. Prolonged pressure displays the screen for the flow sensor calibration. esc + ▶ to change the contrast.
▶	To scroll the menus or change the parameters in programming mode. Prolonged pressure enables the priming.
Alarm	Green LED flashes while dosing. Red LED turns on in case of various alarm conditions.

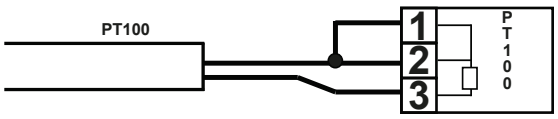
Electrical connections



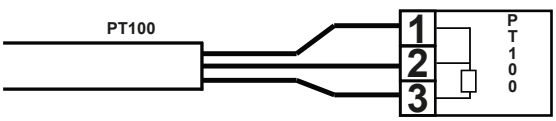
1	PT100 temperature probe input (see the connection diagram)	
2		
3		
4	Pole -	pH or Redox probe input (pre-wired with BNC)
5	Pole +	
6	Level control probe input	
7		
8	Remote control input (start-stop)	
9		
10	Flow sensor input	
11		

CONNECTIONS DIAGRAM

2-wire PT100 connection diagram



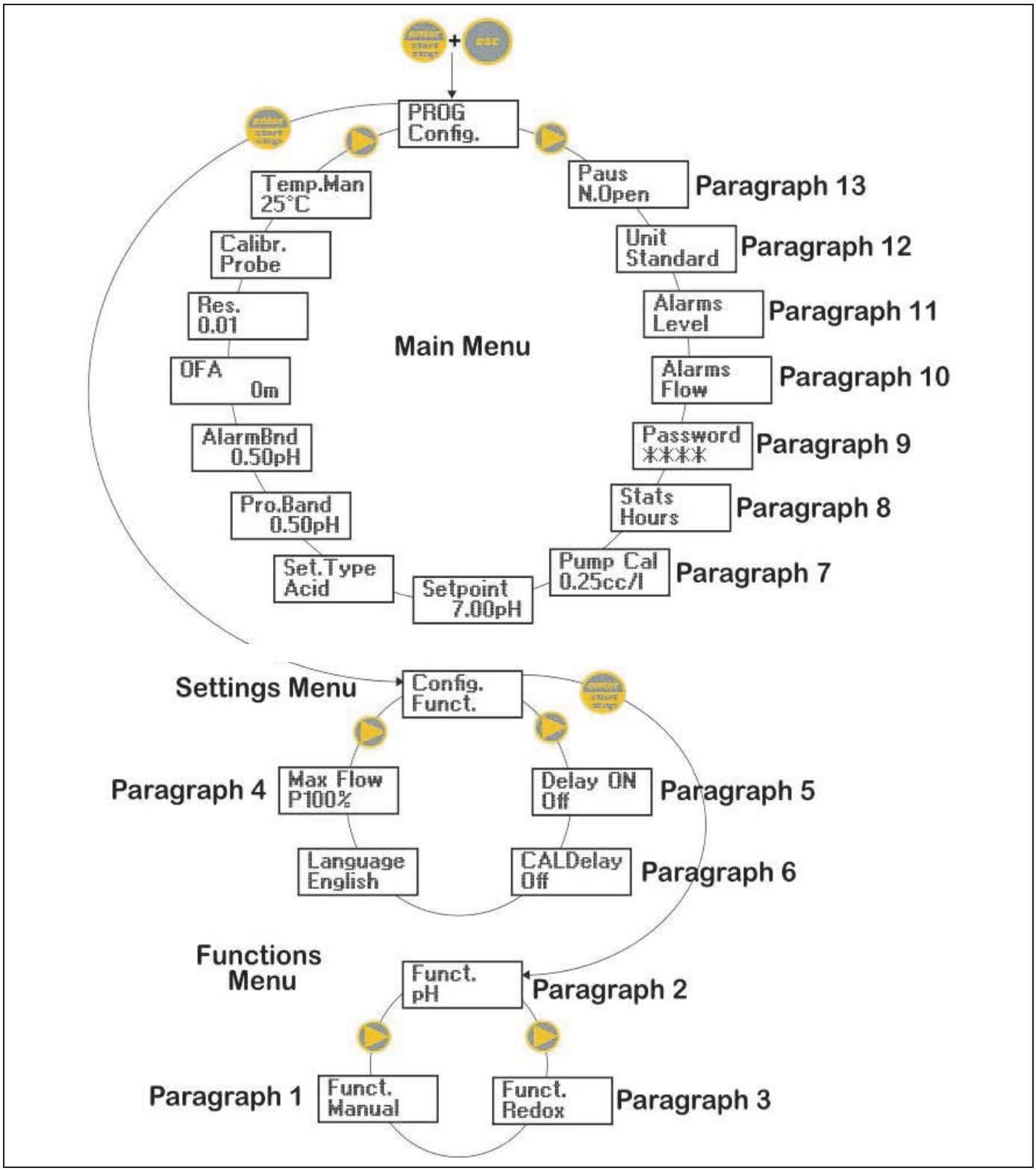
3-wire PT100 connection diagram



HYDRA PR Programming Menu

Press the enter/start/stop + esc keys for more than three seconds to access the programming mode. Press the ▶ key to scroll the menu items, then press the enter/start/stop key to access the options. Whenever a menu item is editable, it flashes. By default the pump is set for constant mode. The pump automatically returns to operating mode after 1 minute of inactivity. In this case, the data entered will not be saved. Press the esc key to exit the programming levels. When you exit the programming mode, the display shows:

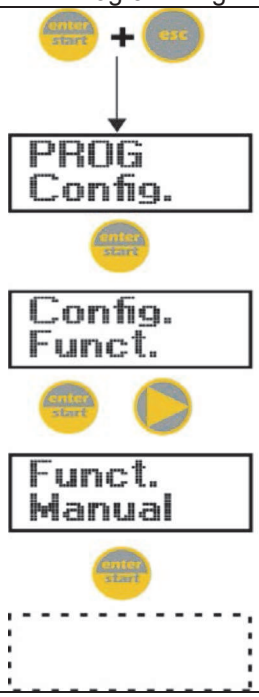
Exit No Save ▶ Exit Save enter/start/stop to confirm your choice.



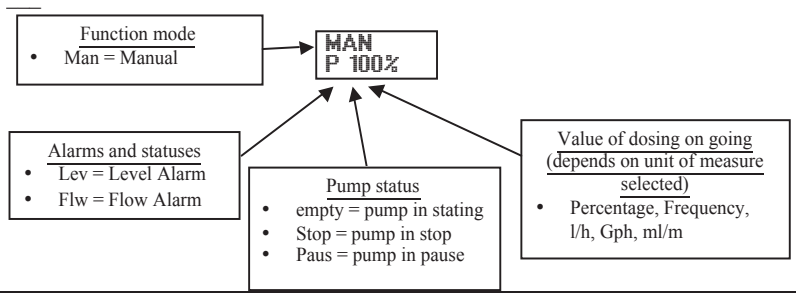
Setting the language

Programming	Operation
	Allows you to set the language. By default the pump is set to English. Press to access the item, and then press to set the language. Press to confirm and return to the main menu.

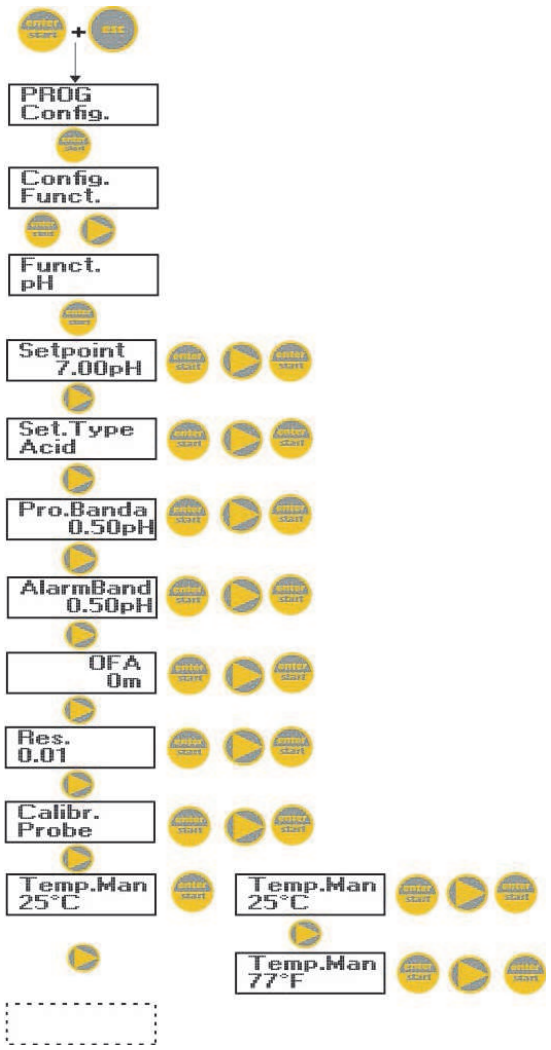
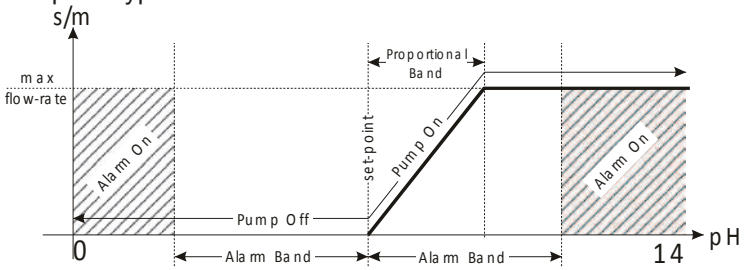
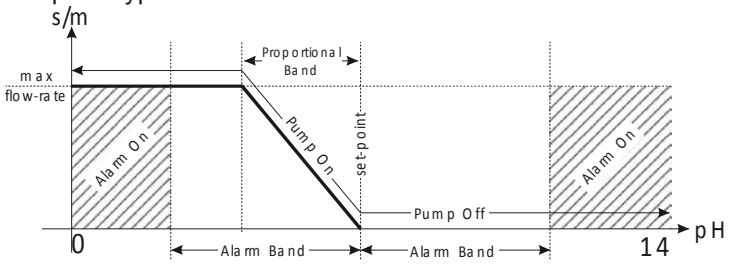
Paragraph 1 – Manual dosing

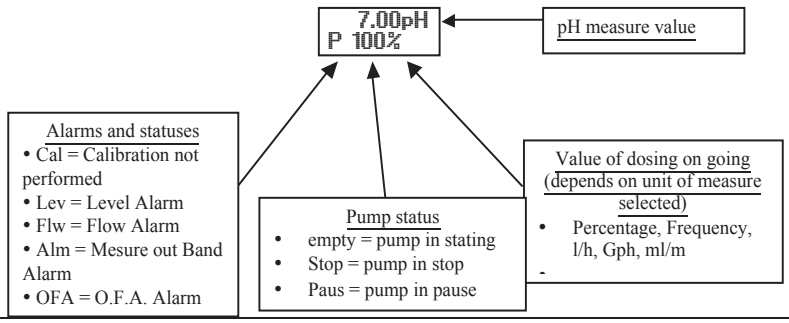
Programming	Operation
	The pump works in constant mode. The flow rate can be adjusted manually by pressing + simultaneously.

Display during operation

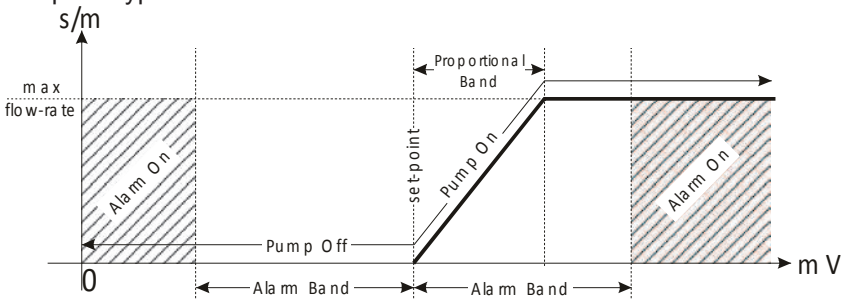
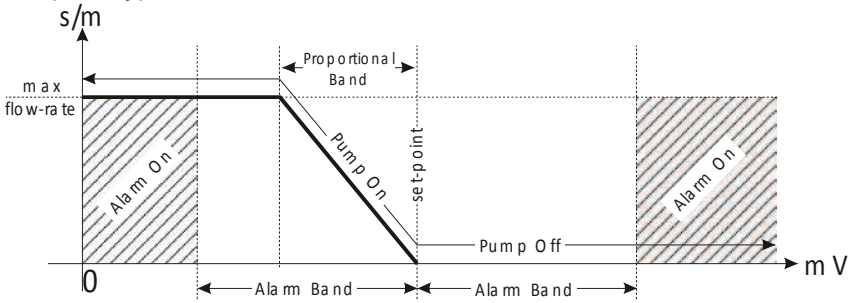


Paragraph 2 – Proportional dosing for the pH measurement (factory default)

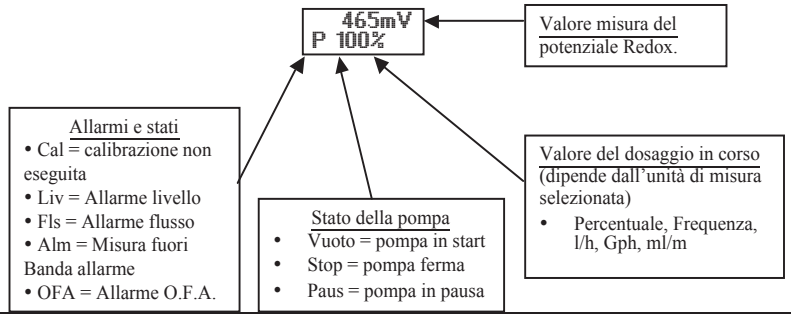
Programming	Operation
	The pump measures and controls the pH value of a solution, by programming the following parameters: set-point, set-point type, proportional band and alarm band. Set-point type: acid  Set-point type: alkaline  Can also be programmed: - The O.F.A. (Over Feed Alarm) time in minutes, a set period of time after which, if the measured pH does not reach the set-point, an alarm signal is activated. - The resolution of the measurement (1 or 2 digits) - Activation / deactivation of the calibration procedure - Manual temperature value in °C (default) or °F The maximum frequency can be changed during the operation by pressing enter start stop + ▶ simultaneously.

Display during operation


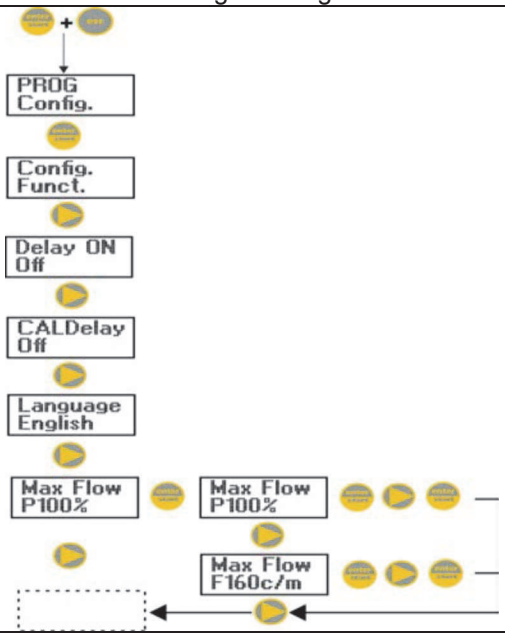
Paragraph 3 – Proportional dosing for the Redox (O.R.P.) measurement

Programming	Operation
	The pump measures and controls the Redox value of a solution, by programming the following parameters: set-point, set-point type, proportional band and alarm band. Set-point type: maximum  Set-point type: minimum  Can also be programmed: - The O.F.A. (Over Feed Alarm) time in minutes, a set period of time after which, if the measured Redox value does not reach the set-point, an alarm signal is activated. - The resolution of the measurement (1 or 2 digits) - Activation / deactivation of the calibration procedure The maximum frequency can be changed during the operation by pressing + simultaneously.

Display during operation



Paragraph 4 – Setting the Maximum Flow Rate

Programming	Operation
	Allows you to set the maximum flow rate of the pump and the programmed mode (% or frequency) is used as the standard measurement unit when displaying the flow rate. Press to access the item then press to set the value. Press to confirm and return to the main menu.

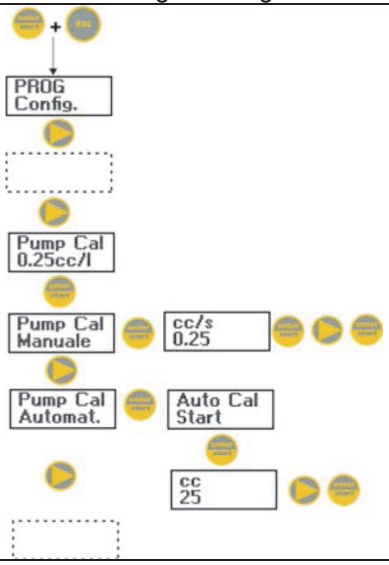
Paragraph 5 – Setting the Power On Delay

Programming	Operation
	Allows you to set a pump operation delay at the start up of the pump. This delay takes effect only if the pump is switched off and then switched on by disconnecting the power supply. The delay can be disabled, Off (default) or can be set from 1 to 60 minutes. With the delay enabled, during the set time the LED flashes (1 sec On – 1 sec Off) and the display shows the countdown in seconds. If the pump is in Stop mode the display shows only the flashing LED. During the delay time the function can be disabled by accessing the menu and setting the time to Off. Press to access the item, and then press to set the value. Press to confirm and return to the main menu.

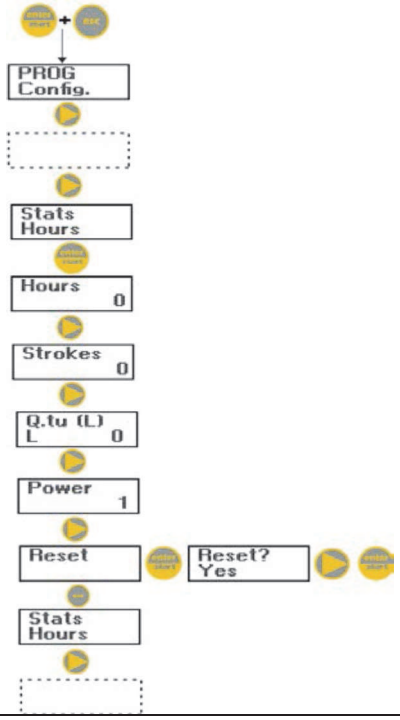
Paragraph 6 – Setting the Calibration Delay

Programming	Operation
	Allows you to set a pump operation delay after the probe (Redox or pH) calibration The delay can be disabled, Off (default) or can be set from 1 to 60 minutes. With the delay enabled, during the set time the LED flashes (1 sec On – 1 sec Off) and the display shows the countdown in seconds. If the pump is in Stop mode the display shows only the flashing LED. During the delay time the function can be disabled by accessing the menu and setting the time to Off. Press to access the item, and then press to set the value. Press to confirm and return to the main menu.

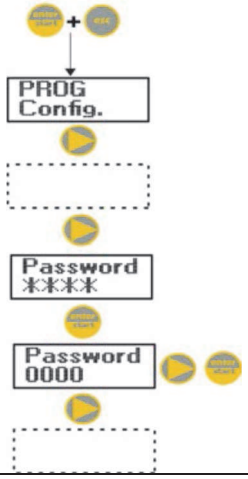
Paragraph 7 – Flow Rate Calibration

Programming	Operation
	On the main menu appears the memorized cc/stroke value. You can perform the calibration in two modes: MANUAL – insert manually the cc/stroke value using the key and then confirm with the key. AUTOMATIC – the pump runs 100 strokes, which are started by pressing the key, and at the end of the strokes insert the amount aspirated by the pump using the key and confirm with the key. The data entered will be used for the calculation of the flow rates.

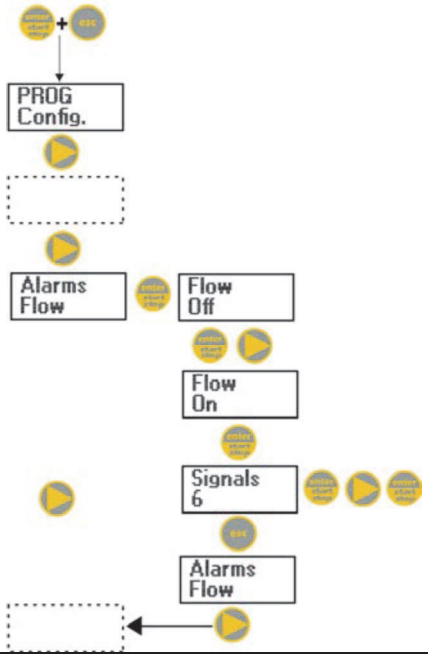
Paragraph 8 – Statistics

Programming	Operation
	On the main menu is displayed, in hours, the operating time of the pump; press to access other statistics: - Strokes = the number of strokes performed by the pump - Q.ta (L) = the quantity dosed from the pump expressed in liters; this information is calculated based on the memorized cc/stroke value - Power = the number of pump activations - Reset = press to reset the counters, select (YES) or (NO), then press to confirm. Press to return to the main menu.

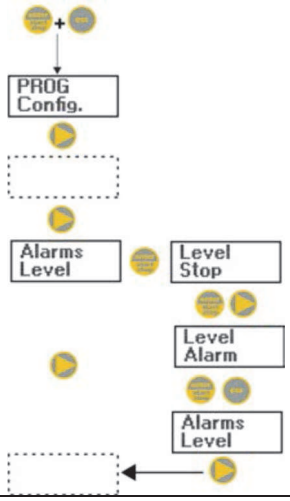
Paragraph 9 – Password

Programming	Operation
	By setting the password, the programming section can be accessed to view all the setup parameters, but every time you try to change the settings you will be prompted for the password. The flashing line indicates the editable number; press to select the number (from 1 to 9), then press to select the number to modify, and then press to confirm. By setting “0000” (default), the password will be eliminated.

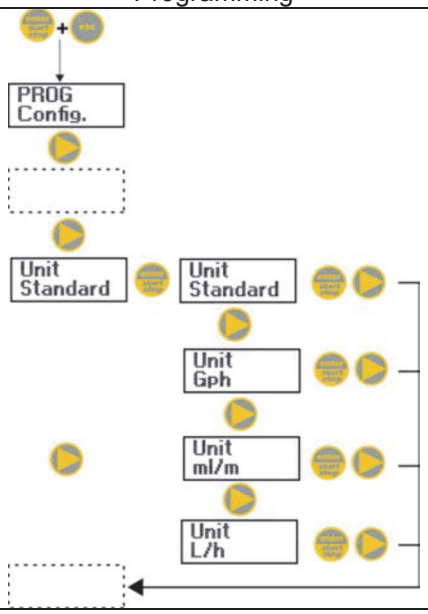
Paragraph 10 – Flow Alarm

Programming	Operation
	Allows you to activate (deactivate) the flow sensor. Once activated (On) by pressing the key, you can set the number of signals the pump requires before starting the alarm. Press and the number will start to flash; press to set the value. Press to confirm. Press to return to the main menu.

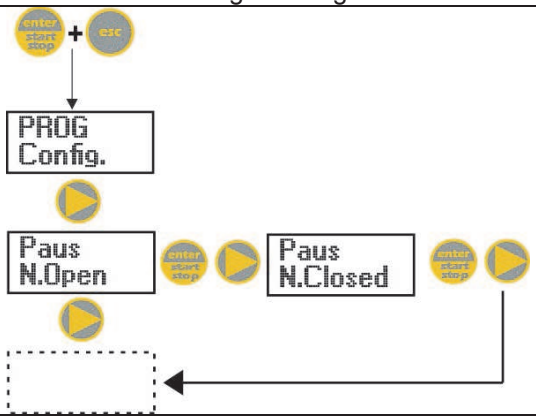
Paragraph 11 – Level Alarm

Programming	Operation
	Allows you to set the pump for the level alarm activation, with dosage operation interruption (Stop), or simple activation of the alarm signal without dosage operation interruption. Press to access the item then press to set the alarm type. Press to confirm. Press to return to the main menu.

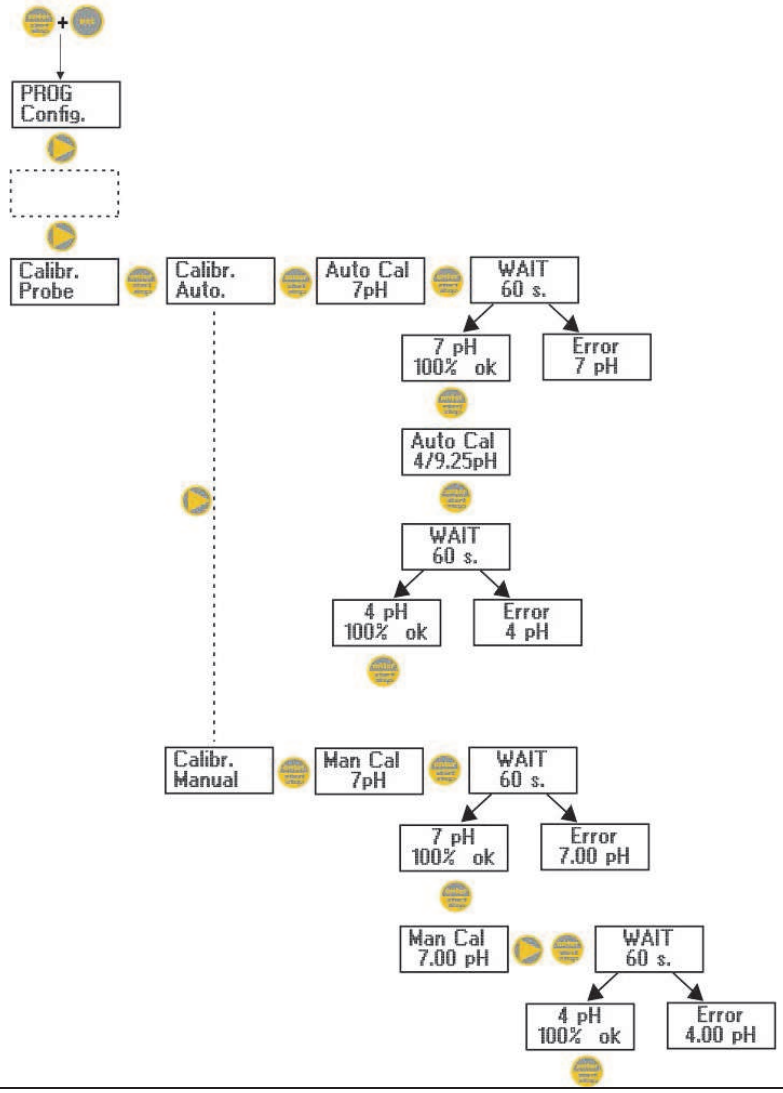
Paragraph 12 – Flow Rate Measurement Unit Display

Programming	Operation
	Allows you to set the measurement unit of the displayed dosage. Press to access the item, then press to set the type of unit, L/h (Liter/hour), Gph (Gallons/hour), mL/m (milliliters/minute) or standard (% or frequency, according to the settings). Press to confirm and return to the main menu.

Paragraph 13 – Setting the Pause

Programming	Operation
	Remote input to pause the pump. By default, the system is set to Normally Open. Press to access the item, and then press to set the value (N. OPEN or N. CLOSED). Press to confirm and return to the main menu.

Calibration Menu



You can choose the automatic or manual calibration mode, in both cases the calibration at pH 7 is automatic.

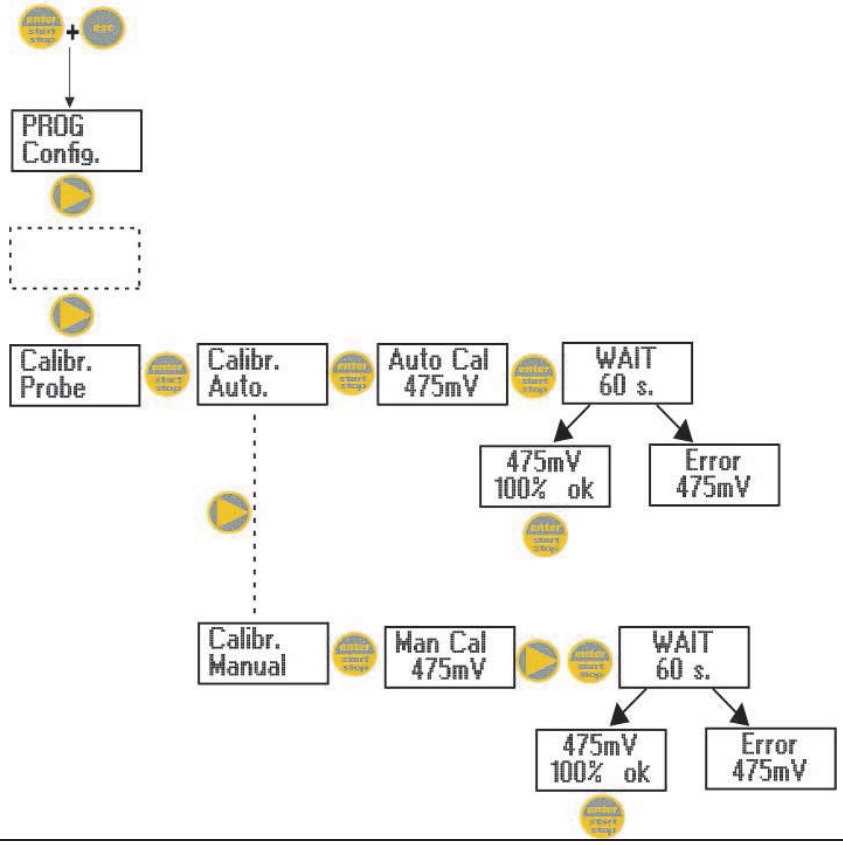
- Automatic calibration:

When the display shows the value of the buffer solution, insert the probe into the bottle, press and the display will show the countdown of the 60 seconds required to complete the calibration. If the quality of the alignment is less than 50%, an error appears on the display; press to exit the calibration (after 4 seconds the pump will automatically exit the calibration); if the quality is higher than 50%, the value appears on the display; pressing you will be prompted for the pH 4 or 9 buffer solution; at this point the procedure is similar to the previous calibration.

- Manual calibration:

When the display shows the value of the buffer solution, insert the probe into the bottle, press and the display will show the countdown of the 60 seconds required to complete the calibration. If the quality of the alignment is less than 50%, an error appears on the display; press to exit the calibration (after 4 seconds the pump will automatically exit the calibration); if the quality is higher than 50%, the value appears on the display; pressing on the display will flash the pH 7.00 value; press to insert the value of my solution, then press to confirm and start the calibration procedure as described previously.

Redox (O.R.P.) Calibration Menu



You can choose the automatic or manual mode.

- Automatic calibration:

When the display shows the value of the buffer solution, insert the probe into the bottle, press and the display will show the countdown of the 60 seconds required to complete the calibration. If the quality of the alignment is less than 50%, an error appears on the display; press to exit the calibration (after 4 seconds the pump will automatically exit the calibration); if the quality is higher than 50%, the value appears on the display; press and the procedure is completed.

- Manual calibration:

When the display shows the value of the buffer solution, insert the probe into the bottle, press and the display will show the value 465mV flashing, insert the probe into my solution, press to display the value of my solution, then press to confirm and start the calibration procedure as described previously.

Alarms

Dislay	Cause	Remedy
Alarm LED on “Lev” icon flashing	End level alarm, without pump operation interruption.	Restore the liquid level.
Alarm LED on “Lev” and “Stop” icons flashing	End level alarm, with pump operation interruption.	Restore the liquid level.
Alarm LED on “Flw” icon flashing	Flow alarm activated, the pump has not received from the flow sensor the programmed number of signals.	Press the  key.
“OFA” icon flashing “Stop” icon flashing	O.F.A. alarm	Press the  key to stop the flashing of the “Stop” icon, press the key again to restart the pump.
“Alm” icon flashing	The value read by the probe is out of the alarm band set	Check the "Alarm Band" parameter for the correct settings in programming mode.
“Cal” icon flashing	Probe not calibrated alarm	Perform the probe calibration procedure.