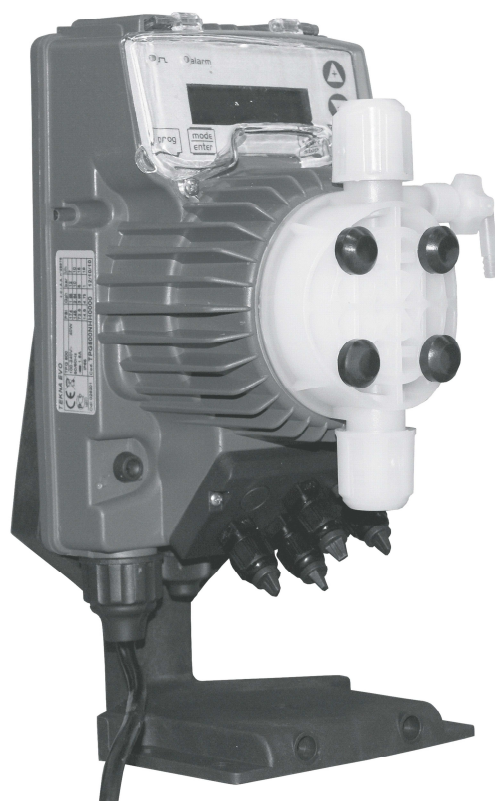


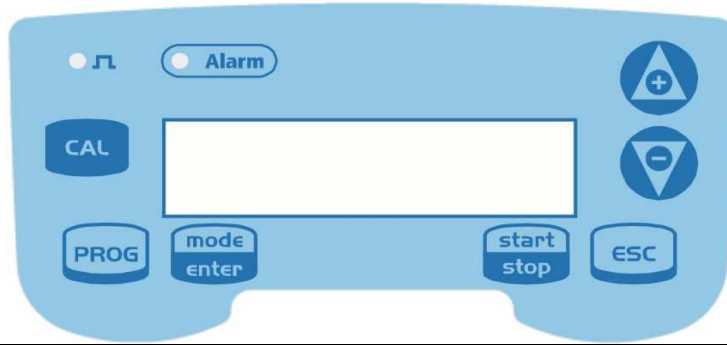
# TEKNA EVO TPR



INSTALLATION MANUAL - EN

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

# Control Panel – TEKNA TPR

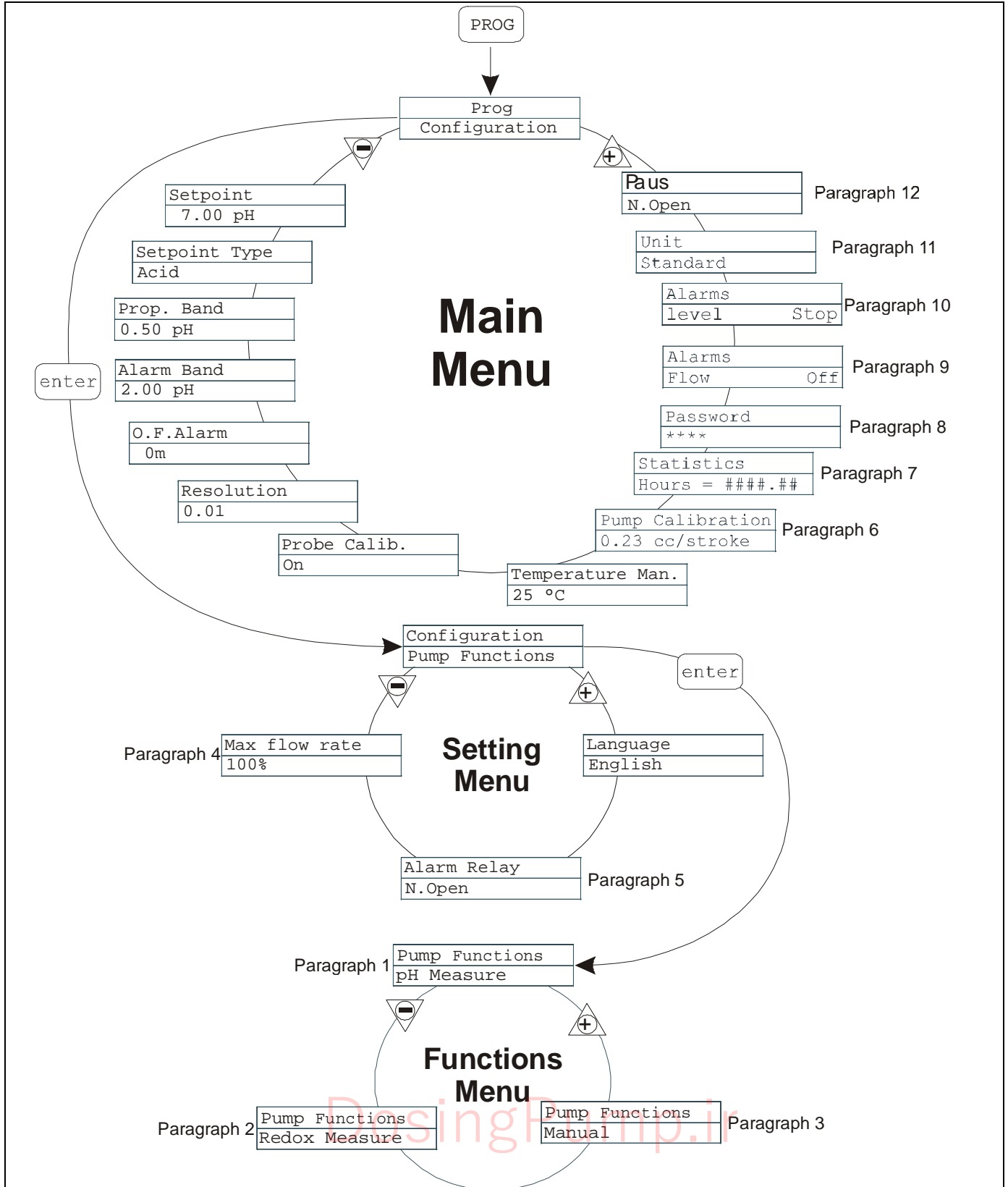
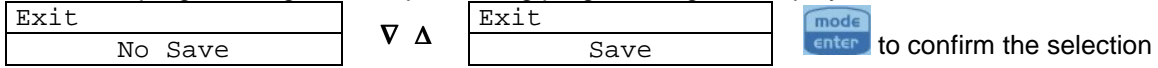


	Access to the programming menu
	When pressed during the pump operation phase, it cyclically displays the programmed values on the display; When pressed at the same time as the   keys, it increases or lowers a value dependent on the selected operating mode. During programming it carries out an “enter” function, meaning that it confirms entry to the various menu levels and modifications within the same.
	Starts and stops the pump. In the event of a level alarm (alarm function only), flow alarm and active memory alarm, it deactivates the signal on the display.
	Used to “exit” the various menu levels. Before definitively exiting the programming phase, you will be asked if you wish to save any changes.
	Access to the pump calibration menu. If in Off mode, the calibration menu is not activated.
	Used to run upwards through the menu or increase the numerical values to be changed. Can be used to start dosage in Batch mode
	Used to run downwards through the menu, or decrease the numerical values to be changed.
	Flashing green LED during dosage
	Red LED that lights up in various alarm situations

Electrical connections			
	1	Alarm relay	
	2		
	3	Pole +	Exit 4-20 mA 500 Ω max load
	4	Pole -	
	5	Remote control input (start-stop)	
	6		
	7	Temperature probe input	
	8		
	9	Flow sensor input	
	10		
B	Input level control		

## Programming menu Tekna TPR

You can access the programming menu by pressing the **PROG** key for over three seconds. The   keys can be used to run through the menu items, with the  key being used to access changes. The pump is programmed in constant mode in the factory. The pump automatically returns to the operating mode after 1 minute of no activity. Any data entered in these circumstances will not be saved. The  key can be used to exit the various programming levels. Upon exiting programming, the display will show:



## Setting the Language

Programming	Operation
	<p>Makes it possible to select the language. The pump is set in English in the factory.</p> <p>Changes can be made by pressing the  key, then using the   keys to set the new value. Press  to confirm and return to the main menu</p>

## Paragraph 1 – Manual Dosage

Programming	Operation
	<p>The pump operates in constant mode. The flow can be manually regulated by pressing the   keys at the same time to increase the flow, or the   keys to decrease it.</p>

Display during Operation	Display during Setting (MODE key)

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Paragraph 2 – Dosage Proportional to the pH (factory setting)

Programming	Operation
<pre> PROG PROG Configuration enter Configuration Pump Functions enter Pump Functions pH Measure enter Setpoint 7.00 pH Setpoint Type Acid Prop. Band 0.50 pH Alarm Band 2.00 pH O.F. Alarm 0m Resolution 0.01 Probe Calib. On Temperature Man. 25 °C Temperature Man. 25 °C &lt;- Temperature Man. 77 °F                     </pre>	<p>The pump measures and controls the pH of a solution, programming in sequence: set-point, set-point type, proportional band and alarm band</p> <p>Set-point type: acid</p> <p>Set-point type: alkaline</p> <p>It is also possible to programme:</p> <ul style="list-style-type: none"> <li>- the O.F.A. (Over Feed Alarm) time in minutes, or rather a time beyond which an alarm signal is triggered if the pH value does not reach the set-point.</li> <li>- The measurement resolution (1 or 2 decimal points)</li> <li>- Deactivation/activation of the calibration procedure</li> <li>- Manual temperature value in °C (default) or °F</li> </ul> <p>The maximum frequency can be modified during operation, by pressing the  keys at the same time to increase the flow, or the  keys to decrease it.</p>

Display during Operation	Display during Setting (MODE key)
<div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 20%;"> <p>Setpoint type; Acid/Alka</p> </div> <div style="border: 1px solid black; padding: 5px; width: 20%;"> <p>Flow sensor status</p> </div> <div style="border: 1px solid black; padding: 5px; width: 20%;"> <p>pH measurement value</p> </div> </div> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 60%; text-align: center;"> <p>Alca <b>F</b> 7.00pH Lev Stop P100%</p> </div> <div style="display: flex; justify-content: space-between;"> <div style="border: 1px solid black; padding: 5px; width: 20%;"> <p><u>Alarms and statuses</u></p> <ul style="list-style-type: none"> <li>• Cal = calibration not completed</li> <li>• Lev = Level alarm</li> <li>• Flw = Flow alarm</li> <li>• Alm = Measurement outside Alarm Band</li> <li>• OFA = O.F.A. alarm</li> </ul> </div> <div style="border: 1px solid black; padding: 5px; width: 20%;"> <p><u>Pump status</u></p> <ul style="list-style-type: none"> <li>• Empty = pump in start</li> <li>• Stop = pump stationary</li> <li>• Paus = pump in pause</li> </ul> </div> <div style="border: 1px solid black; padding: 5px; width: 20%;"> <p><u>Current dosage value</u> (depends on the selected unit of measurement)</p> <ul style="list-style-type: none"> <li>• Percentage, Frequency, l/h, Gph, ml/m</li> </ul> </div> </div>	<p style="text-align: center;"><u>Displays in sequence</u></p> <ul style="list-style-type: none"> <li>• SP = Setpoint value</li> <li>• BP = Proportional band value</li> <li>• BA = Alarm band value</li> <li>• OFA = O.F.A. value</li> <li>• Temp = Temperature value</li> </ul> <div style="border: 1px solid black; padding: 10px; margin: 10px auto; width: 60%; text-align: center;"> <p>SP 7.00pH 4.50pH P100%</p> </div> <p style="text-align: center;"><u>Maximum set dosage value</u> (depends on the selected unit of measurement)</p> <ul style="list-style-type: none"> <li>• Percentage, Frequency, l/h, Gph, ml/m</li> </ul>

Paragraph 3 – Dosage Proportional to the Potential Redox Measurement (O.R.P.)

Programming	Operation
	<p>The pump measures and controls the pH of a solution, programming in sequence: set-point, set-point type, proportional band and alarm band</p> <p>Set-point type: maximum</p> <p>Set-point type: minimum</p> <p>It is also possible to programme:</p> <ul style="list-style-type: none"> <li>- the O.F.A. (Over Feed Alarm) time in minutes, or rather a time beyond which an alarm signal is triggered if the pH value does not reach the set-point.</li> <li>- The measurement resolution (1 or 2 decimal points)</li> <li>- Deactivation/activation of the calibration procedure</li> </ul> <p>The maximum frequency can be modified during operation, by pressing the   keys at the same time to increase the flow, or the   keys to decrease it.</p>

Display during Operation	Display during Setting (MODE key)
	<p>Displays in sequence</p> <ul style="list-style-type: none"> <li>• SP = Setpoint value</li> <li>• BP = Proportional band value</li> <li>• BA = Alarm band value</li> <li>• OFA = O.F.A. value</li> </ul>

Paragraph 4 – Setting the Maximum Flow

Programming	Operation
	<p>This makes it possible to set the maximum flow offered by the pump, and the programmed mode (% or frequency) is used as the standard unit of measurement when displaying the flow. Changes can be made by pressing the  key, then using the   keys to set the new value. Press  to confirm and return to the main menu</p>

### Paragraph 5 – Setting the Alarm Relay

Programming	Operation
	<p>This is used to set the alarm relay in the absence of an alarm situation, if open (default) or closed.</p> <p>Changes can be made by pressing the  key, then using the   keys to set the new value. Press  to confirm and return to the main menu</p>

### Paragraph 6 – Flow Calibration

Programming	Operation
	<p>The memorised cc value per strike appears in the main menu. It can be calibrated in two different ways:</p> <p><b>MANUAL</b> – manually enter the cc value per strike using the   keys and confirm by pressing the  key</p> <p><b>AUTOMATIC</b> – the pump makes 100 strikes, which are started by pressing the  key. At the end of this process, enter the quantity sucked up by the pump using the   keys and confirm by pressing the  key.</p> <p>The entered figure will be used in flow calculations.</p>

### Paragraph 7 - Statistics

Programming	Operation
	<p>The main menu displays the pump operation times. By pressing the  key you can access other statistics:</p> <ul style="list-style-type: none"> <li>- Strokes = number of strokes made by the pump</li> <li>- Q.ty (L) = quantity dosed by the pump in litres; this figure is calculated on the basis of the memorised cc/stroke value</li> <li>- Power = number of pump starts</li> <li>- Reset = use the   to reset the counters (YES) or otherwise (NO), then confirm by pressing the  key.</li> </ul> <p>Pressing the  key will take you back to the main menu.</p>

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Paragraph 8 - Password

Programming	Operation
<p>The flowchart shows the steps to set a password. It starts with the 'PROG' button, leading to the 'PROG Configuration' menu. A dashed line indicates the current menu. The 'Password' field is shown with '****'. Pressing 'enter' leads to the 'Password' field with '0000'. Pressing 'enter' again leads to a dashed box representing the next menu.</p>	<p>By entering the password, you can enter the programming menu and see all the set values. The password will be requested whenever you seek to modify them. The flashing line indicates the number than can be modified.</p> <p>Use the  key to select the number (from 1 to 9), and the  key to select the number to be modified. Confirm by pressing the  key. By setting “0000” (default), the password is eliminated.</p>

Paragraph 9 – Flow Alarm

Programming	Operation
<p>The flowchart shows the steps to configure a flow alarm. It starts with the 'PROG' button, leading to the 'PROG Configuration' menu. A dashed line indicates the current menu. The 'Alarms Flow' field is shown with 'Off'. Pressing 'enter' leads to the 'Alarm Flow' field with 'Off'. Pressing 'enter' again leads to the 'Alarm Flow' field with 'On'. Pressing 'enter' again leads to the 'Alarm Flow - On Signals' field with '6'. Pressing 'enter' again leads to the 'Alarms Flow' field with 'Off'. Pressing 'ESC' leads to the 'Alarms Flow' field with 'Off'. Pressing 'enter' again leads to a dashed box representing the next menu.</p>	<p>This makes it possible to activate (deactivate) the flow sensor.</p> <p>When activated (On), press the  key to access the request for the number of signals that the pump waits for before an alarm is triggered. The number flashes when you press the  key, and you can then use the   keys to set the value. Confirm by pressing the  key. Press  to return to the main menu</p>

Paragraph 10 – Level Alarm

Programming	Operation
<p>The flowchart shows the steps to configure a level alarm. It starts with the 'PROG' button, leading to the 'PROG Configuration' menu. A dashed line indicates the current menu. The 'Alarms Level' field is shown with 'Stop'. Pressing 'enter' leads to the 'Alarm Level' field with 'Stop'. Pressing 'enter' again leads to the 'Alarm Flow Alarm' field. Pressing 'enter' again leads to the 'Alarms Level' field with 'Alarm'. Pressing 'ESC' leads to the 'Alarms Level' field with 'Alarm'. Pressing 'enter' again leads to a dashed box representing the next menu.</p>	<p>This makes it possible to set the pump when the level sensor alarm is activated. In other words you can decide whether to stop dosage (Stop) or simply activate the alarm signal without stopping dosage.</p> <p>Changes can be made by pressing the  key, then using the   keys to set the alarm type. Confirm by pressing the  key. Press  to return to the main menu</p>

Paragraph 11 – Flow Display Unit

Programming	Operation
<p>The flowchart shows the steps to set the dosage unit. It starts with the 'PROG' button, leading to the 'PROG Configuration' menu. A dashed line indicates the current menu. The 'Unit' field is shown with 'Standard'. Pressing 'enter' leads to the 'Unit' field with 'Standard' and a flashing cursor. Pressing 'enter' again leads to the 'Unit' field with 'L/h'. Pressing 'enter' again leads to a dashed box representing the next menu.</p>	<p>This makes it possible to set the dosage unit of measurement on the display.</p> <p>Changes can be made by pressing the  key, then using the   keys to set the unit of measurement, choosing between L/h (litres/hour), Gph (Gallons/hour), ml/m (millilitres/minute) or standard (% or frequency, depending on settings). Press  to confirm and return to the main menu</p>



Paragraph 12 - Setting the Pause

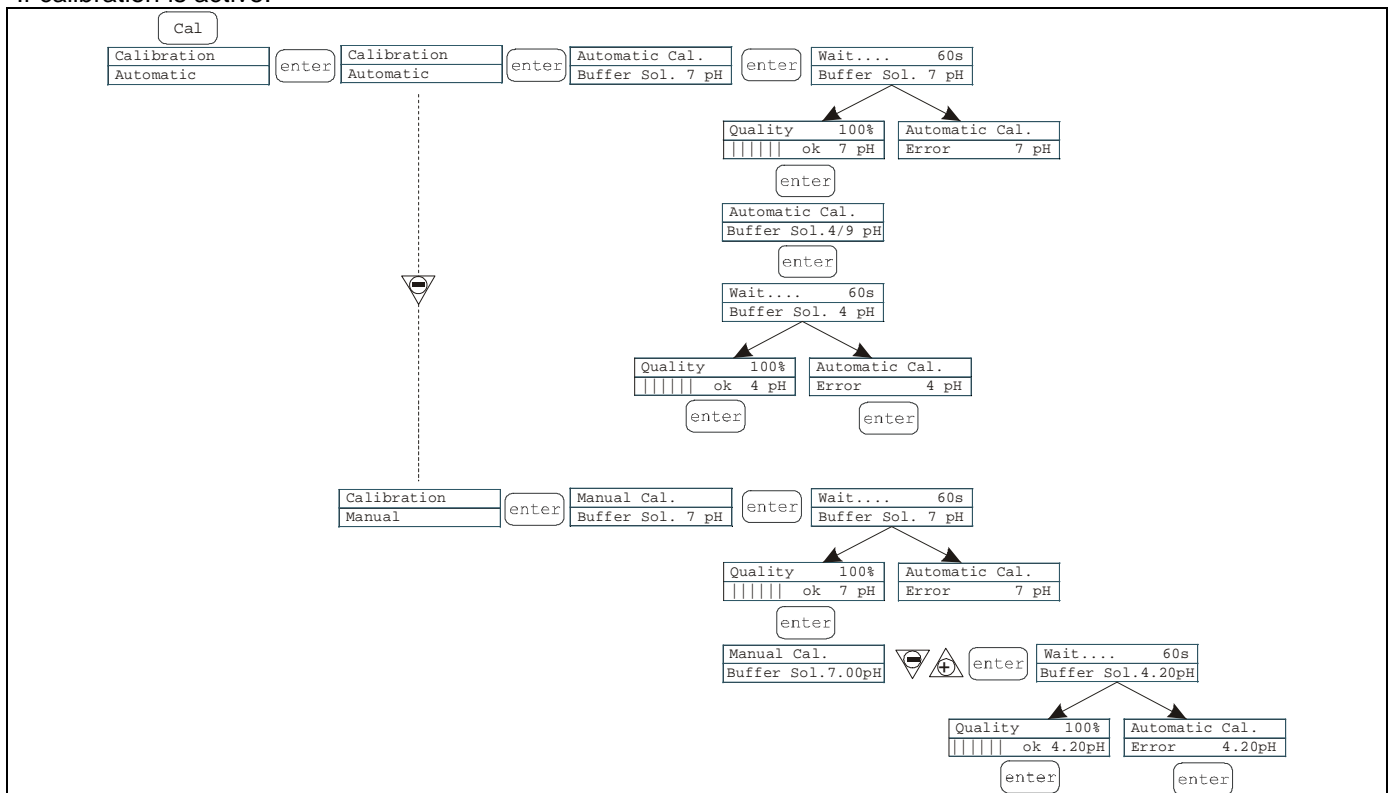
Programming	Operation
	<p>The pump can be paused by remote input. The factory setting is Normally Open.</p> <p>Changes can be made by pressing the  key, then using the   keys to set the new value ( N. OPEN or N. CLOSED).</p> <p>Press  to confirm and return to the main menu.</p>

**pH Calibration Menu**

Pressing the CAL key for 3 seconds takes you into the calibration menu. If calibration was excluded during programming, the following appears on the display:

Calibration
Off

If calibration is active:



It is possible to select automatic or manual mode. In both cases, it is automatically calibrated to pH 7.

- Automatic calibration:

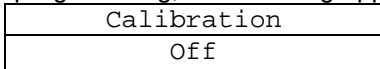
The buffer solution value appears on the display. Enter the probe in the bottle and press the key. A 60 second countdown necessary to complete calibration will appear on the display. If the alignment quality is below 50%, an error message appears on the display and you should press to exit calibration (the pump exits automatically after 4 seconds). If the quality is above 50%, the value is shown on the display and, after pressing the key, the buffer solution at pH 4 or 9 will be requested. At this point the procedure is the same as above.

- Manual calibration:

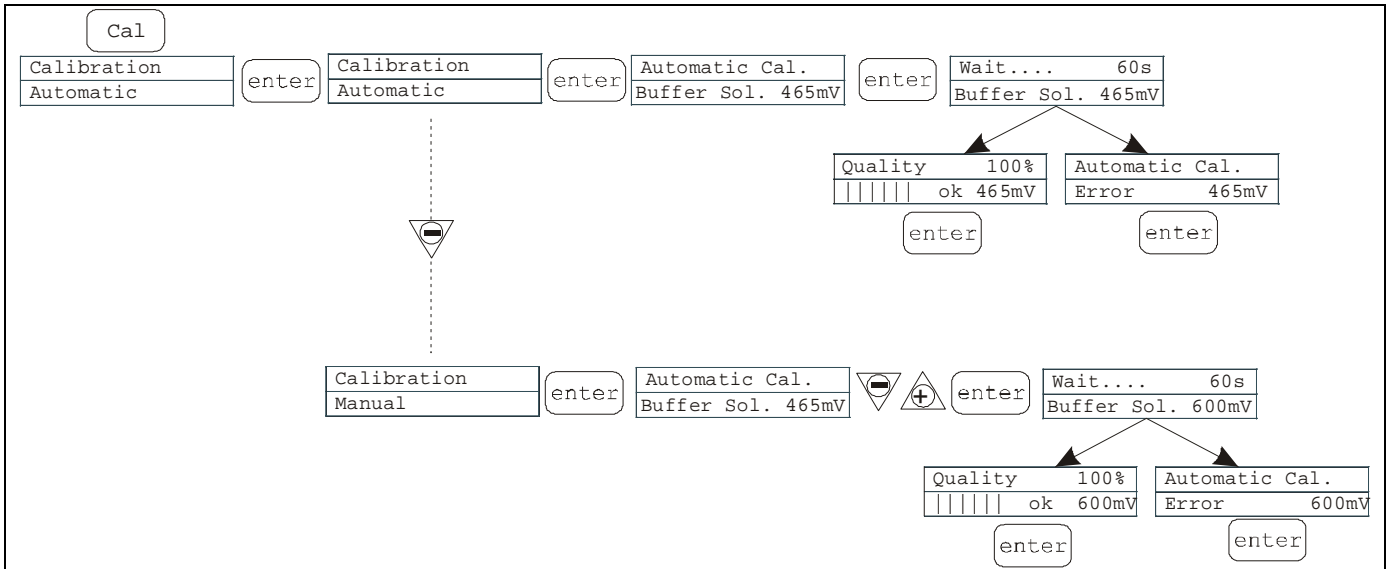
when the buffer solution value appears on the display, insert the probe in the bottle and press the key. A 60 second countdown necessary to complete calibration will appear on the display. If the alignment quality is below 50%, an error message appears on the display and you should press to exit calibration (the pump exits automatically after 4 seconds). If the quality is above 50%, the value is shown on the display and, after pressing the key, the value of pH 7.00 flashes on the display. Use the keys to enter the value of the solution in your possession, then press to confirm and start the calibration procedure as before.

### Potential Redox Calibration Menu (O.R.P.)

Pressing the CAL key for 3 seconds takes you into the calibration menu. If calibration was excluded during programming, the following appears on the display:






If calibration is active:







It is possible to select automatic or manual mode.




- Automatic calibration:

The buffer solution value appears on the display. Insert the probe in the bottle and press the  key. A 60 second countdown necessary to complete calibration will appear on the display. If the alignment quality is below 50%, an error message appears on the display and you should press  to exit calibration (the pump exits automatically after 4 seconds). If the quality is above 50%, the value is shown on the display and you should press the  key to complete the procedure.

- Manual calibration:

The buffer solution value appears on the display. Insert the probe in the bottle and press the  key. The value of 465 mV should now flash on the display. Insert the probe in your solution and use the   keys to display the value of the solution in your possession, then confirm by pressing the  key and begin the calibration procedure as before

## Alarms

Display	Cause	Interruption						
Fixed alarm LED Flashing word "Lev" I.e. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>Man</td><td></td><td></td></tr><tr><td>Lev</td><td>P100%</td><td></td></tr></table>	Man			Lev	P100%		End of level alarm, without interrupting pump operation	Restore the liquid level.
Man								
Lev	P100%							
Fixed alarm LED Flashing words "Lev" and "stop" I.e. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>Man</td><td></td><td></td></tr><tr><td>Lev Stop</td><td>P100%</td><td></td></tr></table>	Man			Lev Stop	P100%		End of level alarm, with interruption to pump operation	Restore the liquid level.
Man								
Lev Stop	P100%							
Fixed alarm LED Flashing word "Flw" I.e. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>Man</td><td><b>E</b></td><td></td></tr><tr><td>Flw</td><td>P100%</td><td></td></tr></table>	Man	<b>E</b>		Flw	P100%		Active flow alarm. The pump has not received the programmed number of signals from the flow sensor.	Press the  key
Man	<b>E</b>							
Flw	P100%							
I.e. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>Parameter Error</td><td>PROG</td><td></td></tr><tr><td>to default</td><td></td><td></td></tr></table>	Parameter Error	PROG		to default			Communication error with the eeprom.	Press the  key to restore the default parameters.
Parameter Error	PROG							
to default								
Flashing word "OFA" Flashing word "stop" I.e. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>High</td><td>475 mV OFA</td><td></td></tr><tr><td>Stop</td><td>P 75%</td><td></td></tr></table>	High	475 mV OFA		Stop	P 75%		O.F.A. alarm	Press the  key to stop the flashing word "stop". Press the key again to start up the pump again.
High	475 mV OFA							
Stop	P 75%							
Flashing word "Alm" I.e. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>High</td><td>475 mV Alm</td><td></td></tr><tr><td>P 75%</td><td></td><td></td></tr></table>	High	475 mV Alm		P 75%			The probe reading is outside the set alarm band range	Make sure that the "Alarm Band" parameter is set correctly in the programme
High	475 mV Alm							
P 75%								
Flashing word "Cal" I.e. <table border="1" style="display: inline-table; vertical-align: middle;"><tr><td>High</td><td>475 mV Cal</td><td></td></tr><tr><td>P 75%</td><td></td><td></td></tr></table>	High	475 mV Cal		P 75%			Probe not calibrated alarm	Calibrate the probe
High	475 mV Cal							
P 75%								

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