



ATECPOOL
INTERNACIONAL ESPAÑA

ATECH ORP/PH DOSING PUMP USER GUIDE






**Please read the manual through completely before commissioning this equipment.
Do not discard!
Any part which has been subject to misuse is excluded from the warranty!**



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1. General User Information

Please read the following information carefully and complete. This information enables to the highest benefit to instructions for use.

	<p>WARNING This symbol used for specify the potential risk situations. Ignoring safety information can endanger life or result in serious injury!</p>
	<p>CAUTION This symbol used for specify the dangerous situations. Ignoring safety information can result in injury to persons or damage to machinery or other materials!</p>
	<p>IMPORTANT This symbol used for specify the danger situations. Ignoring safety information can result in damage to machinery or other materials!</p>

SAFETY GUIDELINES

	<p>WARNING</p> <p>The use of toxic or hazardous materials!</p> <ul style="list-style-type: none"> • This guide has all instructions for lessen the risks of mixing toxic and hazardous materials always read chemical safety data! • Analyze the hydraulic parts of the dosing pump and use it's just all parts smooth case. • Use available materials for pipes, Pipe Glands, covers, suction and injection valves • Please read the notes below 1,2 and 3 for remove the dosing pump. For taking pressure and draw out the chemicals from the pump head look at "MAINTENANCE"
	<p>CAUTION</p> <p><u>Before any service :</u></p> <ul style="list-style-type: none"> • Disconnect pump from electricity, • Release the pressured part from pump head and injection line, • Discharge dosing liquid from pump head.

2. Definition and Features

2.1. Definition

Dosing Pump LARA PR is a concatenation of redox or pH measurement system with a dosing pump. According to selected parameter, allows to dose of required amount of chemicals by measuring pH or Redox amount in the water. Thus, the chemical level in the system is kept in the desired amount of value.

2.2. Electrical Design

Device makes dosing function as considering to user settings.
The device complies with the following standards:

CE • TS EN 60335-1
• TS 3327 EN 55011:1995 / EN55011:1998+A1:1999+A2:2002

2.3. Technical Features

2.3.1 Dosing Pump Technical Features

Power Supply	AC 230V 50-60Hz DC 12V *
Suction Line Max.Height	1,5mt
Injection Line Max.Height	4 mt
Body	IP65
Ambient Temp.	0-50°C
Chemical Temp.	0-45°C
Weight	2,2 Kg

2.3.2 Raw Materials

Parts		
Pipe Glads		PP,PVDF
**Pump Body		PP
Checkvalves **	Suction Group	EPDM, Viton, Silikon, Neopren, Seramik Bilye
	Injection Group	EPDM, Viton, Silikon, Neopren, Seramik Bilye
	Head Group	Zirconium Ball
Diaphragm		PTFE
**Pump Head		PP,PVDF
O-Rings		VITON
Suction Pipe		PVC
Injection Pipe		PE
Discharge Line Pipe		PVC

*In 12 V models / ** May change in models



WARNING

Please keep closed the cover while the device is still working.

2.3.3 Dimensions

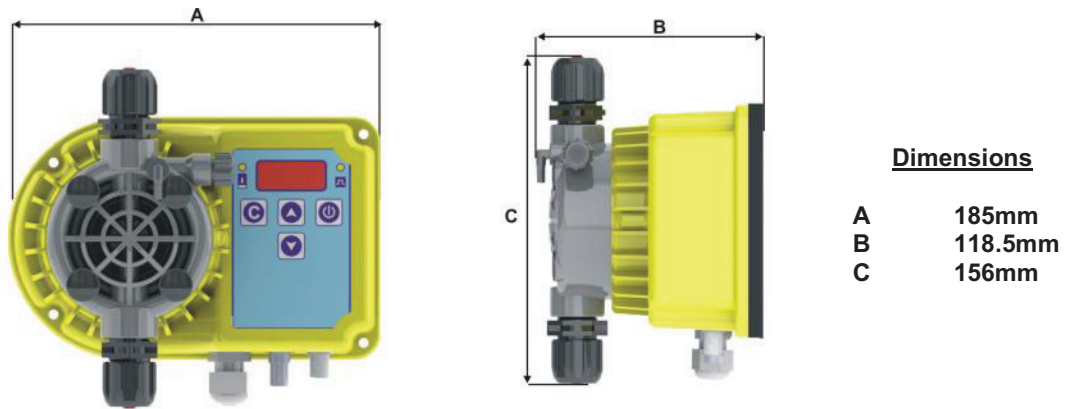


Figure 1

2.3.4 Mounting Holes of the Pumps

- The below figures does shown the mounting hole templates for the pumps.
- Mark the mounting the device surface according to the listed dimensions before installation
- Please make sure that the pump will be installed a clean and dry surface.

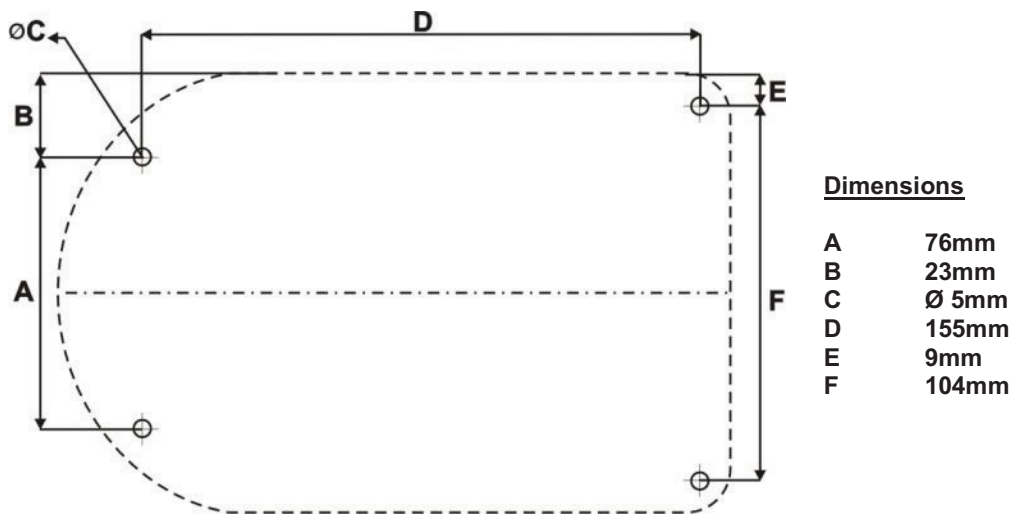





Figure 2

3. Installation

Safety Information

	<p>WARNING</p> <ul style="list-style-type: none"> The device shouldn't be damp or wet. Not used open area without any protection (external box, cover protect from sun and rain.. etc.) Keep the pump dry and away from heat sources which room temperature does not exceed 40°C. Carry out the electrical connection in accordance with electrical rules. Please place the pump as it is shown figure 1. The distance of the liquid level from pump's above and below shouldn't exceed 2mt. Keep the pump over the liquid level and be sure the tightness of liquid tank head.
	<p>CAUTION</p> <ul style="list-style-type: none"> Implement all general safety precautions for installation! Read this user guide completely and carefully before installation All electrical connections are just made by specially trained and qualified persons. Power supply source value must be same with instruction label on the pump
	<p>NOTE</p> <ul style="list-style-type: none"> The device can be read easily and should be installed in a position that can be used. (at eye level if possible)

3.1 General View

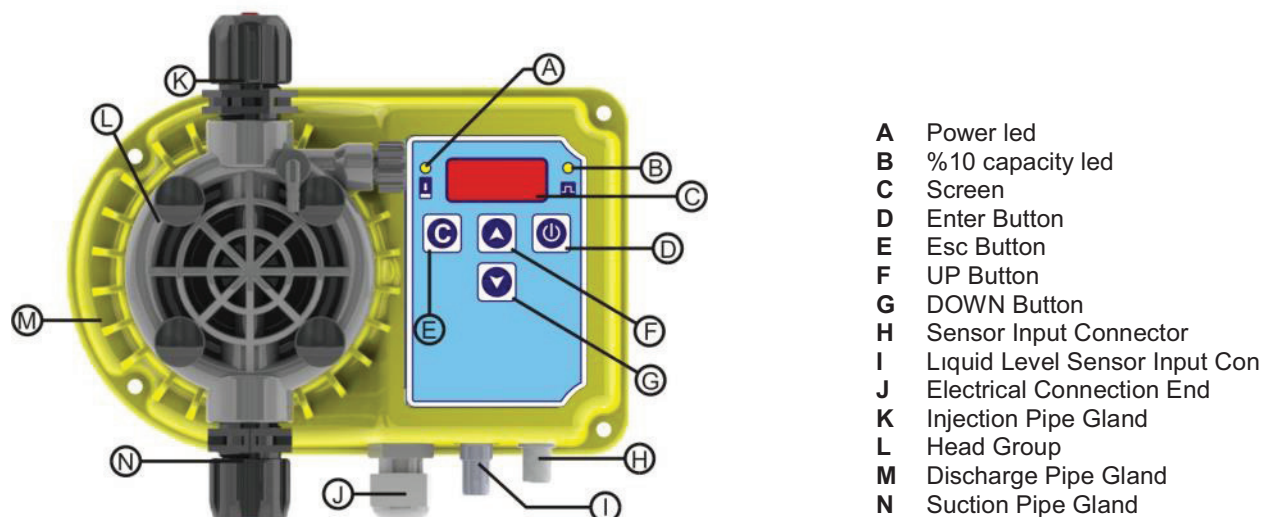



Figure 3

3.2. Electric Connection

	<p>WARNING</p> <ul style="list-style-type: none"> • Do not connect the electric source before assembly the pump. • Cut-off all electrical connections before remove the pump • Choose healthy ground lined electrical outlet for connect the pumps that needs ground line
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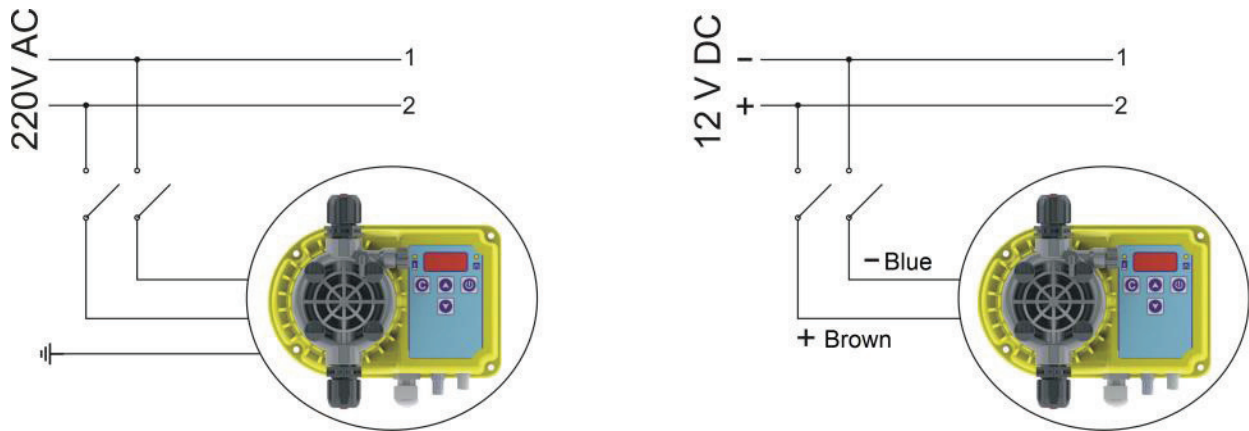


Figure 4

3.2 Assembly

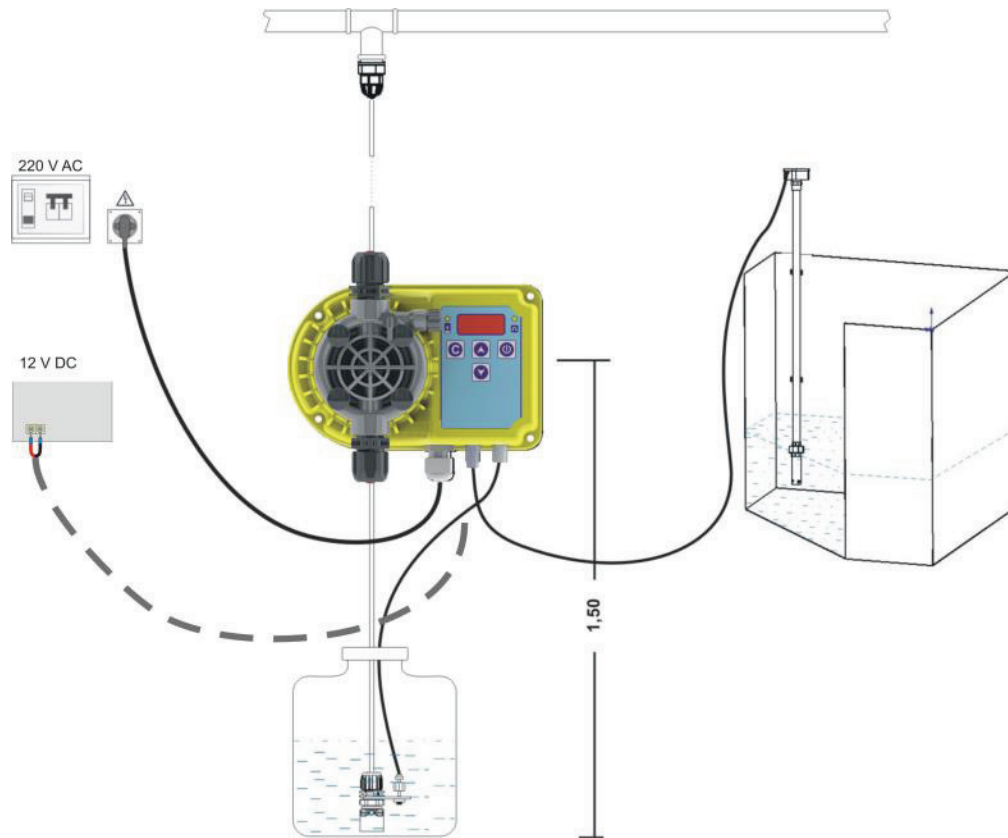


Figure 5_ The Shape of the device general installation

3.2.1 Pump Mounting Installation

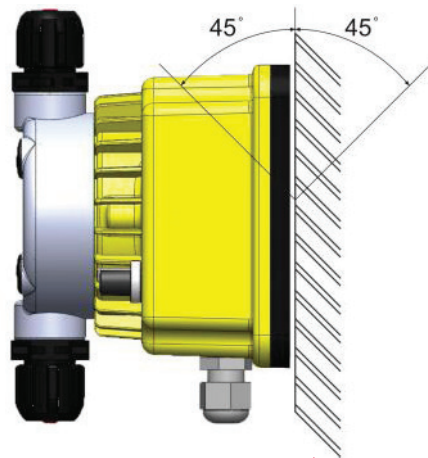


Figure 6_True ✓

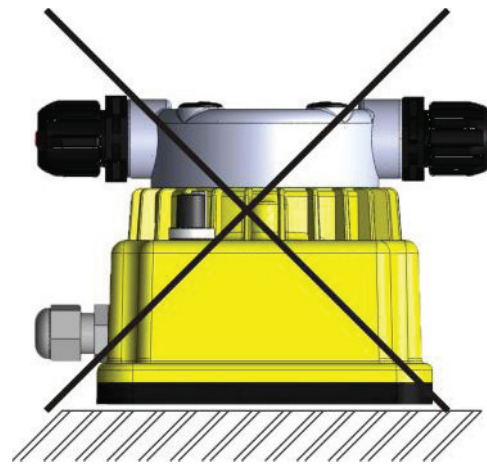


Figure 7_False



NOTE

- Suction and discharge valves (bleed valves for self-degassing liquid ends) must be in a vertical position. ($\pm 45^\circ$)
- Please mount the pump on the wall or vertical surfaces from two holes on it.

3.2.2 Mounting On the Wall

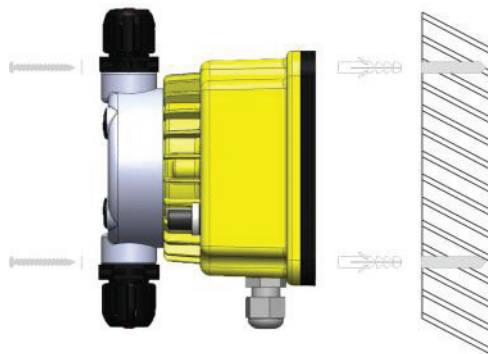


Figure 8

For mounting to wall

- 4 Unitss 4,2x38 YSB Screw
- 4 Unitss 8mm dowel
- 2 Unitss M5 plain washer

3.2.3 Mounting on the Plastic Panel

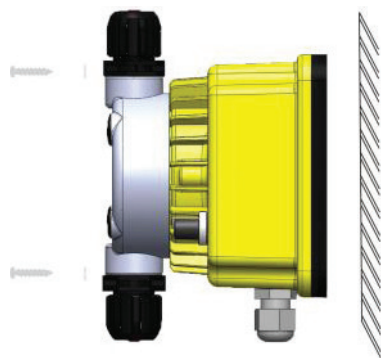


Figure 9

For mounting to plastic panel

- 4 Units 4,2x24 YSB Screw
- 4 Units M5 plain washer

3.2.4 Connecting Tubing

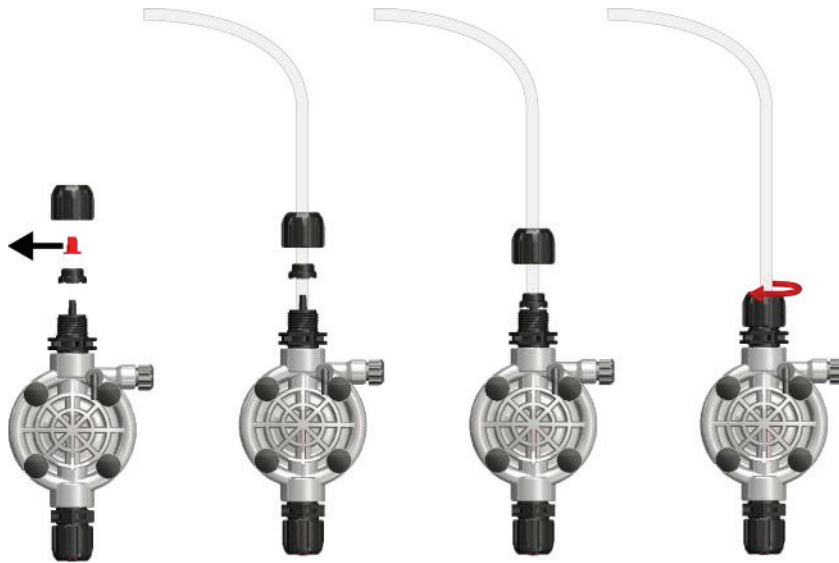


Figure 10

- When installing suction discharge and bypass lines, ensure they are free from all mechanical stress!
- Arrange the lines so that it is possible, if necessary, to pull the liquid end and the pump apart sideways!
- Ensure tubing length ends are cut straight across.
- Insert tubing through union nut and clamping ring.
- Push tubing ends up to the stop on the tube nozzle.
- Place tubing and nozzle onto valve.
- Tighten union nut, pushing tubing down at the same time.
- Pull briefly on the tubing attached to the liquid end and then retighten the union nut

3.2.5 Discharge pump

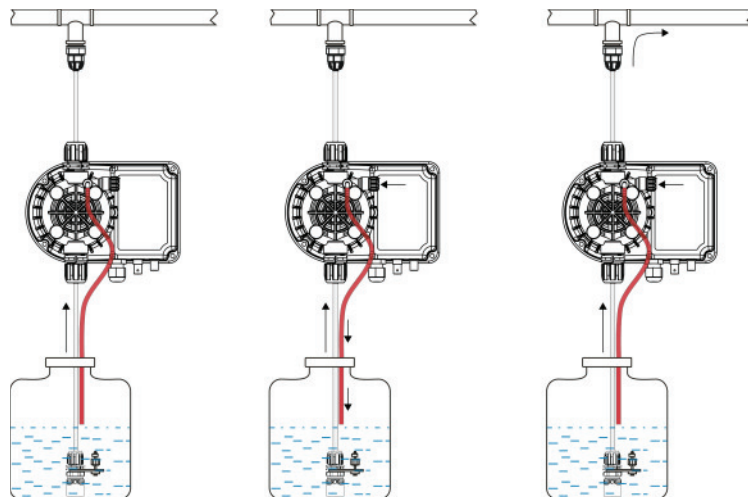


Figure 11

1. Before working on the metering pump, always de-pressurise the discharge line
2. Install PVC pipe to the discharge line and after assembly.
3. Unscrewed the discharge Pipe Gland
4. Run the dosing pump
5. Wait until the chemical goes to the tank from the discharge pipe without air bubbles.
6. Screwed the discharge recorg tightly.

3.3 Injection Line



NOTE

- Injection valve group must be fitted up side of the pump head that shown the arrow sign (↑)
- All parts of the injection group must be fitted same way and placement that the figure below
- If it changes your pump doesn't work smoothly.

Injection Line With Checkvalve

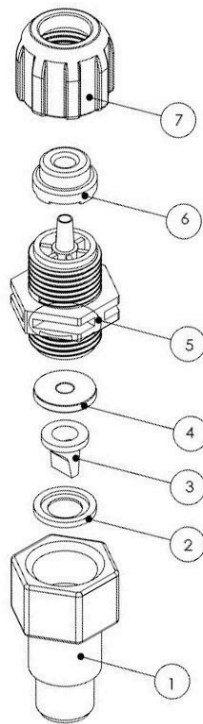


Figure 12

Injection Line With Ball

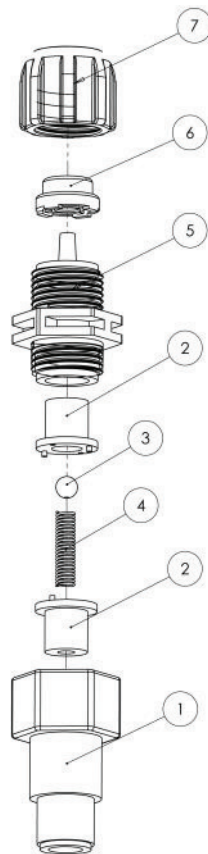


Figure 13

Injection Line With Checkvalve

Nu	Description	pieces
1	Injection Checkvalve Body	1
2	Checkvalve Rubber Washer	1
3	Checkvalve Rubber	1
4	Checkvalve Rubber Stopper 2	1
5	Pipe Gland 2 4x6	1
6	Conical pipe entrance 4x6	1
7	Pipe Gland Cap 2	1

Injection Line With Ball

Nu	Description	pieces
1	Injection Checkvalve Body	1
2	Bilye Yuvası 3 Basma Hatti	2
3	Ball 6,35mm	1
4	Bow for Ball Housing	1
5	Pipe Gland 2 4x6	1
6	Conical pipe entrance 4x6	1
7	Pipe Gland Cap 2	1

3.4 Suction Line



- Suction valve group must be fitted bottom side of the pump head that and immersed the chemical tank.
- All parts of the suction group must be fitted same way and placement that the figure below
- If it changes your pump doesn't work smoothly.

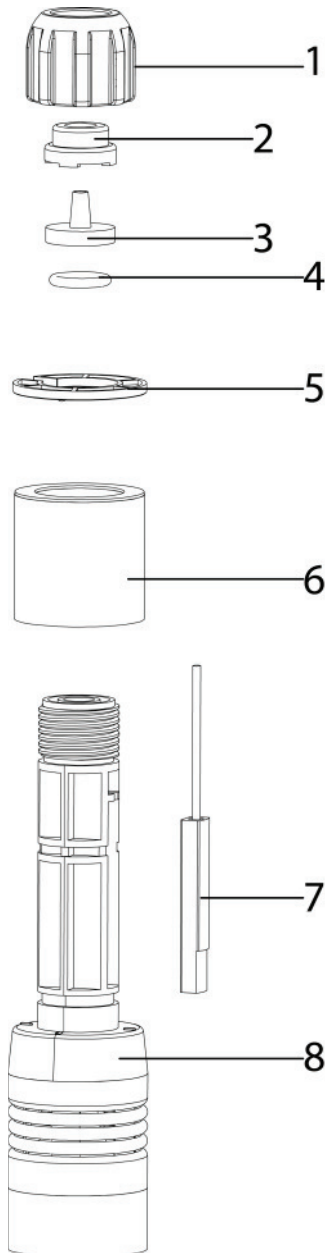


Figure 14

Nu	Description	pieces
1	Pipe Gland Cap 2	1
2	Pipe Press Part 4x6	1
3	Conical pipe entrance 4x6	1
4	Checkvalce Rubber Washer	1
5	Plastic Piston Ring	1
6	Sensor Cap	1
7	Sensor	1
8	Suction Checkvalve Body	1

3.5 Combined Head Group



- All parts of the combined head group must be fitted same way and placement that the figure below
- If it changes your pump doesn't work smoothly.

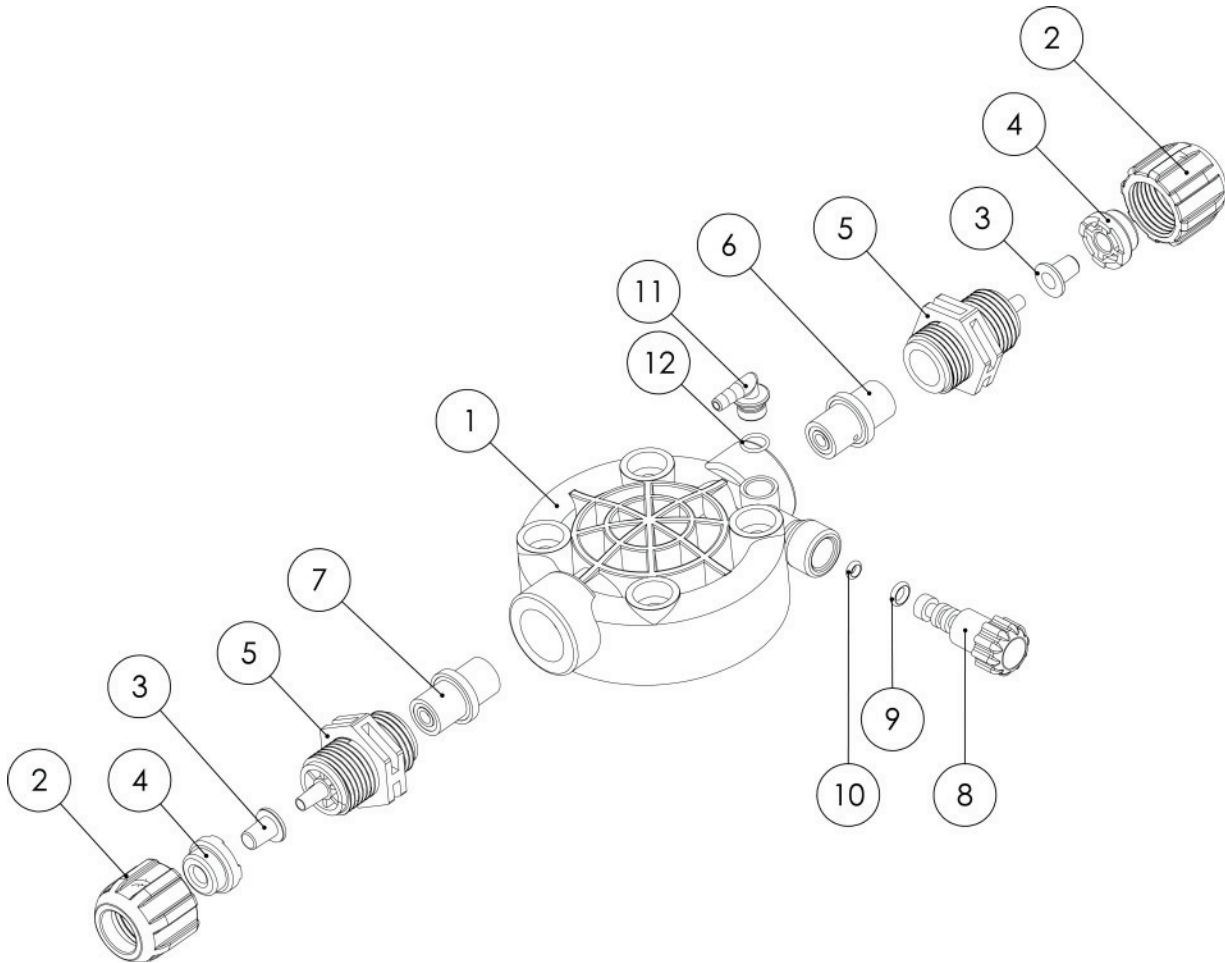


Figure 15

Nu	Description	Pieces
1	KKT body	2
2	Pipe Gland Cap 2	2
3	Security Stopper Cap 2 4x6	2
4	Conical pipe entrance 4x6	2
5	Pipe Gland Body 2	2
6	Injection type cartridge group	1


Nu	Description	Pieces
7	Suction type cartridge group	1
8	Discharge Pipe Gland	1
9	Oring 4,5x1,78	1
10	Oring 2,5x1,78	1
11	Discharge Pipe Ends	1
12	Oring 5x1	1

4. Usage

The dosing pump works with a Teflon (PTFE) diaphragm which is connected to electromagnet that is driven with direct current. Then occurs pressure in the pump head when the piston is pulled by electromagnetic. After that dosing liquid remove out from fluid outlet valve with a pressure.


Liquid fills inward from the inlet valve when electrical pulse is ceased and the piston is brought back by a spring. Device uses simple and does not require any lubrication therefore maintenance free. the materials which used in the pump's body are custom made in order to protect them against toxic and acidic liquids.

4.1. Leds and Their Meaning


	<p>NOTE</p> <ul style="list-style-type: none"> When the device is running automatic mode the values are shown on the screen by blinking .
---	---

Green Led : Shows that the energy is on the system
 Red Led : Shows that the pump is running.

4.2. Working Modes

	<p>NOTE</p> <ul style="list-style-type: none"> Use the "Enter" button to change the run mode on the main screen.
---	--

- 0. Auto:** In this mode, device works according to information comes from electrode and its set value that entered.
- 1. Stop:** In this mode, the device do not answer to electrode and do not let the liquid pass on
- 2. Run :** In this mode, the device do not answer to electrode. The pump works manually between %0 and %100 according to set value entered.

	<ul style="list-style-type: none"> The device shouldn't be damp or wet. Not used open area without any protection (external box, cover protect from sun and rain.. etc.) Before starting to use the device Please should be work the electrodes for minimum of 15 minutes with clean water.
---	---

4.3. Parameter List

4.3.1 Adjusting Parameter Value

In order to adjust set value please keep pressing ENTER button until "PAR" is shown on the screen.

Use the "C" button in order to turn back to Main Screen from Parameter list. Use Up▲ and Down ▼ buttons in order to switch between parameters. To change the value of any parameter; display the parameter value by pressing the ENTER button when desired parameters comes to the screen

Use Up▲ and Down ▼ buttons and choose the desired value. Press ENTER button , save the settled value and turn back to parameter list. Use "C" button in order to get out without saving anything.

4.3.2 Adjusting Set Value

SetL and **SetH** Parameters should be organized for adjusting set value


In redox version Set value as shown SetL and offset value as shown SetH. Device Works %100 gain to comes adjusted SetL value, than Works proportional to SetH value and stopped (%0) up the setH value.

In pH version Set value as shown SetH and offset value as shown SetL. Device Works %100 gain to comes adjusted SetH value, than Works proportional to SetL value and stopped (%0) under the setL value.

- In the example above $rtL-100$, $rtH: 0$ has been considered. -

SetL Parameter determines the Pump's Dosage starting point for Redox, and ending point for pH application. Display SetL parameter value by pressing ENTER button. Use Up▲ and Down ▼ buttons and choose the desired value. Press ENTER button , save the settled value and turn back to parameter list.

SetH parameter determines the Pump's Dosage ending point for Redox, and starting point for pH application. Display SetH parameter value by pressing ENTER button. Use Up▲ and Down ▼ buttons and choose the desired value. Press ENTER button , save the settled value and turn back to parameter list.

	<p>NOTE</p> <p>Change the rtL and rtH parameters to adjust the proportional speed of chlorination dosage. Bu parametreler dozaj debisini ayarlamak için kullanılır.</p> <p>Redox ölçümü yapılıyorsa; rtH değeri 0 (sıfır)'dan farklı bir değer girilirse elektrottan okunan değer SetH parametresinde girilen (klorlama bitiş noktası) değerinin üzerine çıktığında rtH parametresine girilen değer kadar dozajlama yapmaya devam eder.</p> <p>This parameters use for adjust the dosing flow rate. If use REDOX measurement technique, and wants to any dosage</p> <p>rtH parameter value selected different from 0 (zero)</p> <p>pH ölçümü yapılıyorsa; rtL değeri 0 (sıfır)'dan farklı bir değerde girilirse elektrottan okunan değer SetL parametresinde girilen değer altına indiğinde rtL'da girilen değer kadar dozajlama yapmaya devam eder.</p>
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4.3.3 Parameter List

No	Unit	Limits	Default Value		Description
			pH	ORP	
1	SEtL	0- (SEtH)	7,2	400	SEtL: Lower limit value for device run
2	SEtH	SEtL -max	8,2	600	SEtH: Higher limit value for device run
3	rt L	0–100	0	100	rt L: The operating speed of the device proportional low value.
4	rt H	0–100	100	0	rt H: The operating speed of the device proportional high value.
5	units	0–1	0		0: pH 1: ORP
6	buf 1	1- buf2	4,0	220	Lower calibration point value.
7	buf 2	buf1–999	7,0	468	The upper calibration point value.
8	Cntr	0–1	1		0: work run mode always. 1: pass auto mode after 1 minute
9	LCAP	0–1	0		0: Lcap off mode 1: Lcap on mode (Works %10 gain of max capacity)
10	dLY	0–60dk.	15		Adjustable delay time (In order to fix measuring value)
11	SnSt	0–1	0		Liquid Level Sensor or flow Sensor working mode adjust paramater. 0: Normaly open 1: Normaly closed
12	PSEn	0–1	0		0:User password is non-activated 1: User password is activated
13	PASS	0–999	1		User password value





NOTE

System wait for run as delay time in adjusted from dLY parameter in every re-energy to pump. This technic use for the stable sensor reading value. Ststem waits to delay time and after that time it starts to run as working mode.

If dont want to wait delay time please press ENTER button. Pump is start to run as working mode.

4.4. Calibration

	<p>NOTE</p> <ul style="list-style-type: none"> • Shut water flow off before removing the electrode from its housing. • Prepare the buffer solutions that will be used for calibration
---	--

	<p>NOTE</p> <ul style="list-style-type: none"> • Before starting calibration, 1. and 2. buffer solution entrance might be arranged according to buffer solutions you have.
---	--

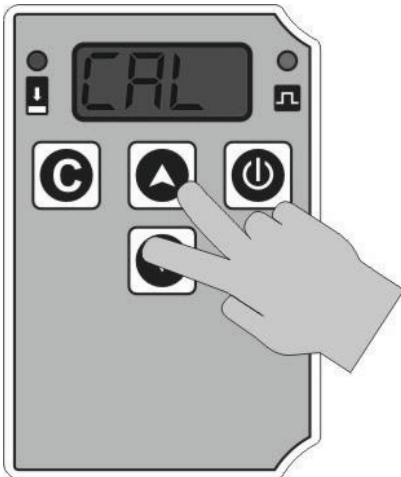


Figure 16

On the main screen if you press both Up and Down buttons, the device switches to the calibration process.


CAL notification appears on the screen and then buf 1 value which was adjusted before is shown.

First buffer solution value as seen a few seconds and then the device shown the uncalibrated electrode reading value. At that time immerse the sensor to the first buffer solution.

Should be waited until the changes stop on the screen and then buf 2 value which was adjusted before is shown.

This time second buffer solution value as seen a few seconds and then the device shown the uncalibrated electrode reading value. At that time immerse the sensor to the second buffer solution.

Again it should be waited until the changes stop on the screen and pressed ENTER button.

	<p>NOTE</p> <ul style="list-style-type: none"> • Use "C" button in order to get out without saving calibration
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4.5 Using Password

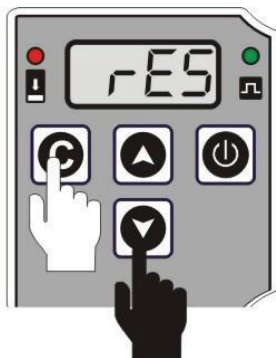


Figure 17

If (PSEn) parameter value adjust to 1, password protective is activated.

If password protective parameter is active please enter the password for any intervention.

When you forget the password, keep pressing the CLEAR (C) button more than 10 second till rES notification is seen on the screen. And hold on the Down button.

This intervention canceling asking password . As doing the P09 parameter's value 0.

5. Service



UYARI

- Please disconnect all the electric connections before any service.
- Use just 5x20 mm mini glass fuse

5.1. Maintenance



NOTE

- Control the liquid level periodically in chemical tank, to work pump without liquid
- Control pumps working minimum every 5 hours
- Hydraulic pumps needed to clean periodically but cleaning frequency is dependent to application type.

Electrode Maintenance

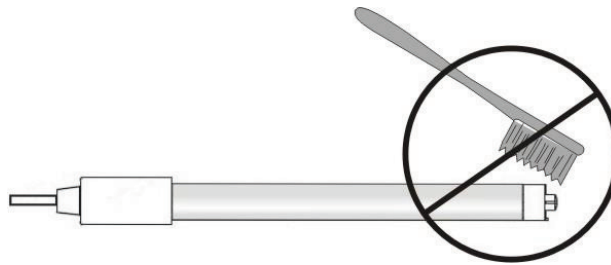


Figure 18

- When cleaning your electrode please use a soft cloth. Do not use a brush or a similar hard objects.
- Please do not let the electrodes dry. Keep it in its protector liquid when you don't use.

Cleaning with Sodium hypochlorite (most used):

1. Remove injection line pipe from injection line.
2. Remove suction pipe with filter from liquid and insert to clean water.
3. Run pump for 5-10 minutes.
4. Insert filter to hydrochloric acid and wait until acid finishes cleaning.
5. Run pump for 5 minutes while suction and inject Pipe Glands are in same tank.
6. Repeat process with water.
7. Mount pump again.

6. Service

6.1 Mechanical Failures

If system fully quite, probably there is an electrical or electronically defect. If there is a lost of dosing liquid in a fixed interval, Pipe Gland caps may be loosed or crack in injection line pipe. Very unusual there is a break or crack on diaphragm or screws loosen on pump head.

If let air in pump head while pump is note working, all the check valves at system must controlled and must changed with new one if needed.

6.2 Electrical Failures

If any of leds are note lighting

- Switch must be open.
- Check electric plug.
- If led blinks quickly:
 - Liquid finished in liquid tank.
 - Liquid level sensor note inserted completely in liquid tank.
 - Cable of liquid level sensors is broken or defected.
- If the device reading ORP values different from the water in-line ORP values;
 - Calibrate the sensor with suitable buffer solutions
 - Check the sensor



NOTE

- If problem is different from these contact to firm that you bought pump.

7. Guarantee

7.1. Guarantee

- Dosage Pump, 2-year warranty for material and production errors.
- Normal wear, overloading or wrong usage damages are without warranty.
- Metarial or production error damages are compensated with repair or changing the defective parts.
- Guarantee accepted if the device brings to the service or delivery firm without disjoint.



NOTE

- Please approved the document and keep with dosing pump.