



E-POWER

**Swimming pool
Variable speed Pump**

USER GUIDE

1. PUMP INSTALLATION

- Install the pump on a level, vibration free surface.
- Use short, direct suction pipe to reduce friction losses. Don't install the pump at more than 3 meters of geometrical height from water level.
- Leave enough space for gate valves in suction and discharge piping, if required.
- Make sure that floor drainage is adequate to prevent flooding.
- Protect the pump from excessive moisture.
- Make sure that pump and piping is accessible for servicing.

Note: The pump suction and discharge connections are moulded in thread stops, DO NOT try to screw the pipe beyond these stops.

1.1 START

The wide range of pump settings makes it suitable for multiple purposes. The pump controller is used to program motor speeds and schedules as described in Chapter "Schedules" of this manual.

WARNING:

- NEVER run the pump dry! Running the pump dry will damage seals, causing leakage and flooding. Fill the pump with water before starting.
- Always STOP PUMP before and RELEASE ALL PRESSURE from pump and piping system before servicing.
- NEVER tighten or loosen screws while the pump is operating.
- Do not block the pump suction.

1.2 PRIMING PUMP

- Release all air from filter and piping system (consult your filter user manual).
- In a flooded suction system (water source higher than pump), the pump will prime itself when suction and discharge valves are opened.
- If pump is not installed in a flooded suction system, unscrew and remove pump lid and fill it with water.

WARNING: Tighten / untighten the pump lid by hand only.

1.3 MAIN POWER WIRING

This is an alternative wire connection for those owners who would like to wire the pump directly to the main power. EPV Pump is supplied with a power cord that can be plugged into the power source. There are two terminals labelled as AC-L and AC-N. Attach the power leads to these terminals. Either wire may be attached to either terminal (see Figure 1).

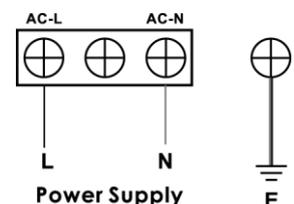


Figure 1

Procedure:

- Make sure that the pump is disconnected from power source.
- Unscrew the control panel located on the top of the electric motor. The power connection is located at the corner where the wire comes out of the box.
- As shows Figure 2, unscrew the pin that fastened the power cord.
- Take out the power cord with plug and replace with the new one.
- To fasten the power cord, connect the live wire to the AC-L pin and the neutral wire to the AC-N pin. The ground wire should connect to the ground wire pin.
- Connect power to ensure the connections are correct. If not, repeat the steps above and check both pin connections.
- Recover the control panel and fasten the screw to prevent potential leakage into the control panel.

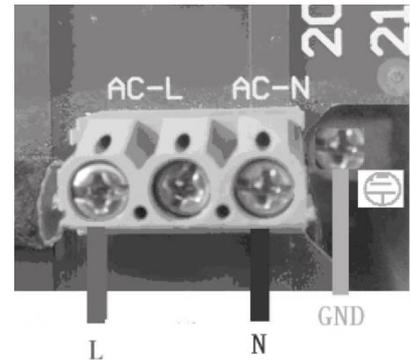


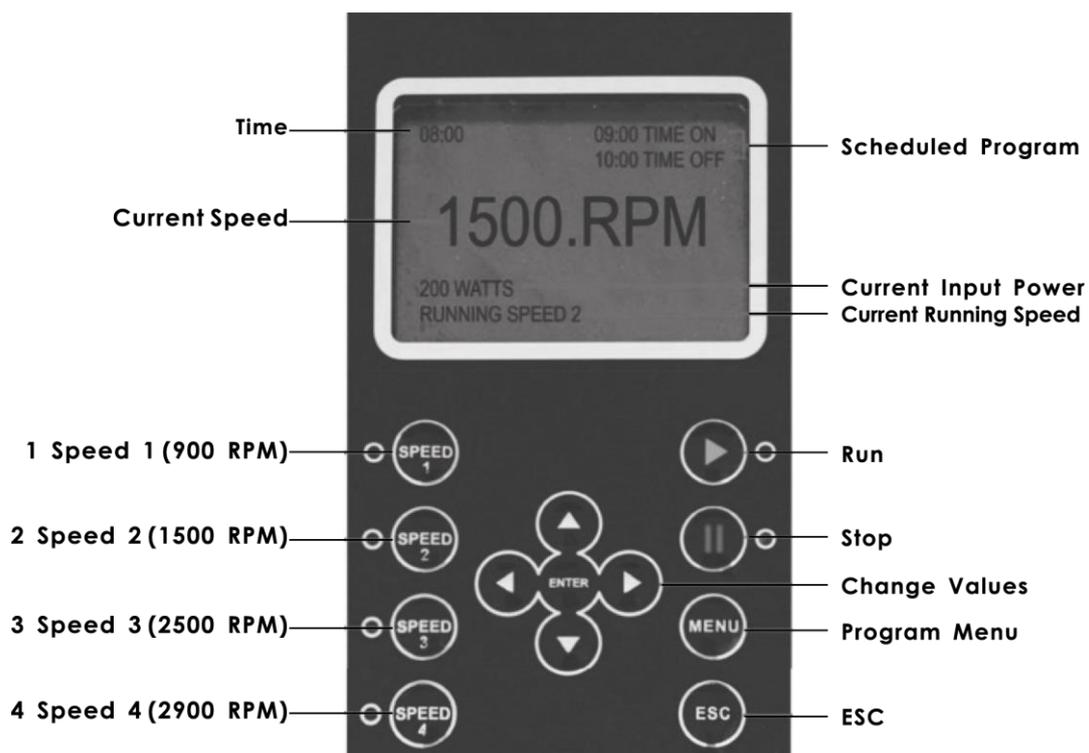
Figure 2

2. OPERATION

2.1 CONTROLLER OVERVIEW

The controller display shows current time, operation speed, input power, speed and schedule settings and fault codes.

2.2 CONTROLLER DISPLAY



Time: Built-in time clock.

Current Speed: Shows operating speed. Expressed in RPM.

Scheduled Program: Shows current operating schedule.

Current Running Speed: Shows current operating speed. Four pre-set speeds available.

LCD Display backlight will switch off after 60 seconds if no button is pressed. It can be turned on again by pressing any button.

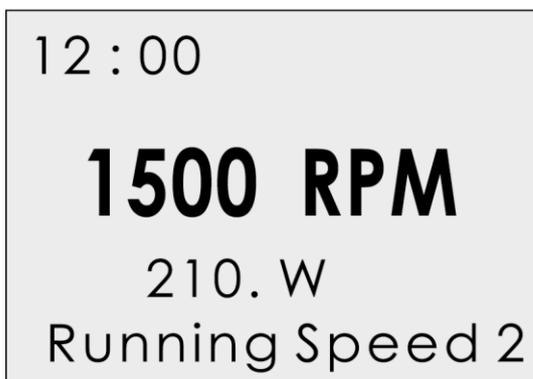
2.3 DISPLAY INTERFACES



Starting screen



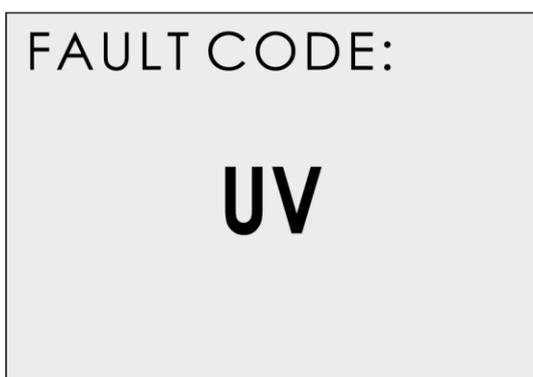
Static interface



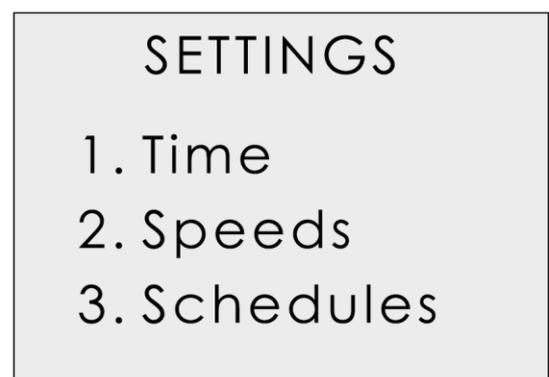
Normal operating interface



Communication error interface



Fault code interface



Parameter setting interface

2.4 CONTROL BUTTONS



Up
Increase value



Down
Decrease value



Left
Move cursor left



Right
Move cursor left



Enter
Enter sub-menus or save setting



Speed 1
Select Speed 1. LED next to the button turns on.



Speed 2
Select Speed 2. LED next to the button turns on.



Speed 3
Select Speed 3. LED next to the button turns on.



Speed 4
Select Speed 4. LED next to the button turns on.



Start
Start the motor. LED next to the button turns on.



Stop
Stop the Motor, LED next to the button turns red. Drive fault reset key.



Menu
Enter adjustment menu, only when the motor is not operating.



ESC
Back / Cancel

2.5 PROGRAMMING INSTRUCTIONS

2.5.1. INTERNAL SYSTEM CLOCK

The internal system clock is used to program operating schedules. If the power supply is disconnected, the controller memory and programmed settings will be maintained for approximately 7 days. The clock set up will be required after this time.

2.5.2. SPEED SET UP

There are 4 speed settings available. To set up the speed:

- Press "Menu" button.
- Use buttons "Up" and "Down" to highlight "Speeds" option.
- Press "Enter" to show 1 to 4 speeds.
- Use buttons "Up" and "Down" to highlight a one of 4 pre-set speeds.
- Press "Enter" to show the set speed. Adjust the speed using "Up" and "Down" buttons.
- Press "Enter" to save settings or press "ESC" to cancel.

Make sure the pump is in off position before modifying the settings.

2.5.3. SCHEDULE SET UP

The pump is supplied with the pre-set schedules for an easier start-up. If necessary, these parameters could be changed (see chapter "2.6.4 Programming Flow Chart" for further details). To modify the schedules, use the following menu parameters (the same method of programming applies to 4 schedules):

"Function": Enable / Disable the schedule

"Time on": Set the start time

"Time off": Set the off time

"Speed": Set the speed (RPM)

Make sure the pump is in off position before modifying the settings.

2.5.4. SCHEDULE 1 SET UP

To revise / update "**Function**" settings:

- Press "Menu" to highlight the settings.
- Use "Up" / "Down" buttons to go to "Schedules" and press "Enter".
- Choose one of four Schedules 1 to 4 by use of buttons "Up" / "Down" and press "Enter". "Function" title will be highlighted.
- Press "Enter" to Disable/ Enable the schedule using the "Up" / "Down" buttons. Press "Enter" to save settings or "ESC" to cancel.
- Press "ESC" to exit.

To revise / update **"Time On"** settings within "Schedules 1" menu:

- Use "Up" / "Down" buttons to go to "Time on" option and press "Enter".
- Choose hours / minutes using "Left" / "Right" buttons.
- Change hours / minutes using "Up" / "Down" buttons.
- Press "Enter" to save settings or "ESC" to cancel.
- Press "ESC" to exit.

To revise / update **"Time Off"** settings within "Schedules 1" menu:

- Use "Up" / "Down" buttons to go to "Time off" option and press "Enter".
- Choose hours / minutes using "Left" / "Right" buttons.
- Change hours / minutes using "Up" / "Down" buttons.
- Press "Enter" to save settings or "ESC" to cancel.
- Press "ESC" to exit.

To set up the Schedules 2, 3 & 4 use the same method as for Schedule 1.

2.5.5. VARIABLE SPEED SET UP

This function is set up through the following parameters:

"Function": Enable / Disable the speed.

"Time On": Set the start time.

"Time off": Set the off time.

"Min Speed": Set the minimum speed (RPM).

"Max Speed": Set the maximum speed (RPM).

"Step": Set the speed for different time frames.

"Rhythm": Set the time frame for water flow to change.

The "Step" & "Rhythm" options are particularly useful for water features like a water descent, making water flow change and creating a visual effect.

- Make sure the pump is in off position before changing the settings.
- Press "Menu" to highlight the settings.
- Use "Up" / "Down" buttons to go to "Variable Speed" and press "Enter".

To set up the parameters above use the same method as for Schedule 1.

2.5.6. LANGUAGE SET UP

Make sure the pump is in off position before changing the program.

- Use "Up" / "Down" buttons to go to "Language" option and press "Enter".
- The symbol ">" indicates the language in use.
- Press "Enter" again to enter in editing mode, use "Up" / "Down" buttons to select the

required language.

- Press "Enter" to save the setting. The interface will be shown in the selected language immediately. Otherwise, press "ESC" to exit the editing mode.
- Press "ESC" to exit.

2.5.7. "NO FLOW" SET UP

This function is only available for motor speeds of 1800 RPM or more, it is set up through the following parameters:

"Function": Enable / Disable "No-Flow" function.

"Alarm time": Set the time frame for "No-Flow" function. Minimum setting is 5 minutes.

"Sensitivity": Sensitivity of protection system, expressed in %. Minimum setting is 0.01 %

To set up these parameters use the same method as for Schedule 1.

Fault Code "NF" will be shown if "No Flow" protection is activated.

2.5.8. PUMP PRIMING SET UP

This function is set up through the following parameters:

"Function": Enable / Disable "Pump Priming" function

"Priming time": Set the prime time before switching to the other program

"Priming speed": Set the speed during the priming cycle

To set up these parameters use the same method as for Schedule 1.

Pump Priming Time:

- Minimum time: 1 minute.
- Maximum time: 20 minutes.
- Default time: 2 minutes.

Pump Priming Speed:

- Minimum speed: 2900 RPM
- Maximum speed: 3400 RPM
- Default speed: 2900 RPM

2.6 FACTORY DEFAULT SETTINGS

This option allows you to reset the default factory settings.

2.6.1 INTERNAL MEMORY

If the pump is disconnected from the electrical supply, the programmed default settings will be maintained for approximately 7 days.

2.6.2 INTERNAL SYSTEM CLOCK

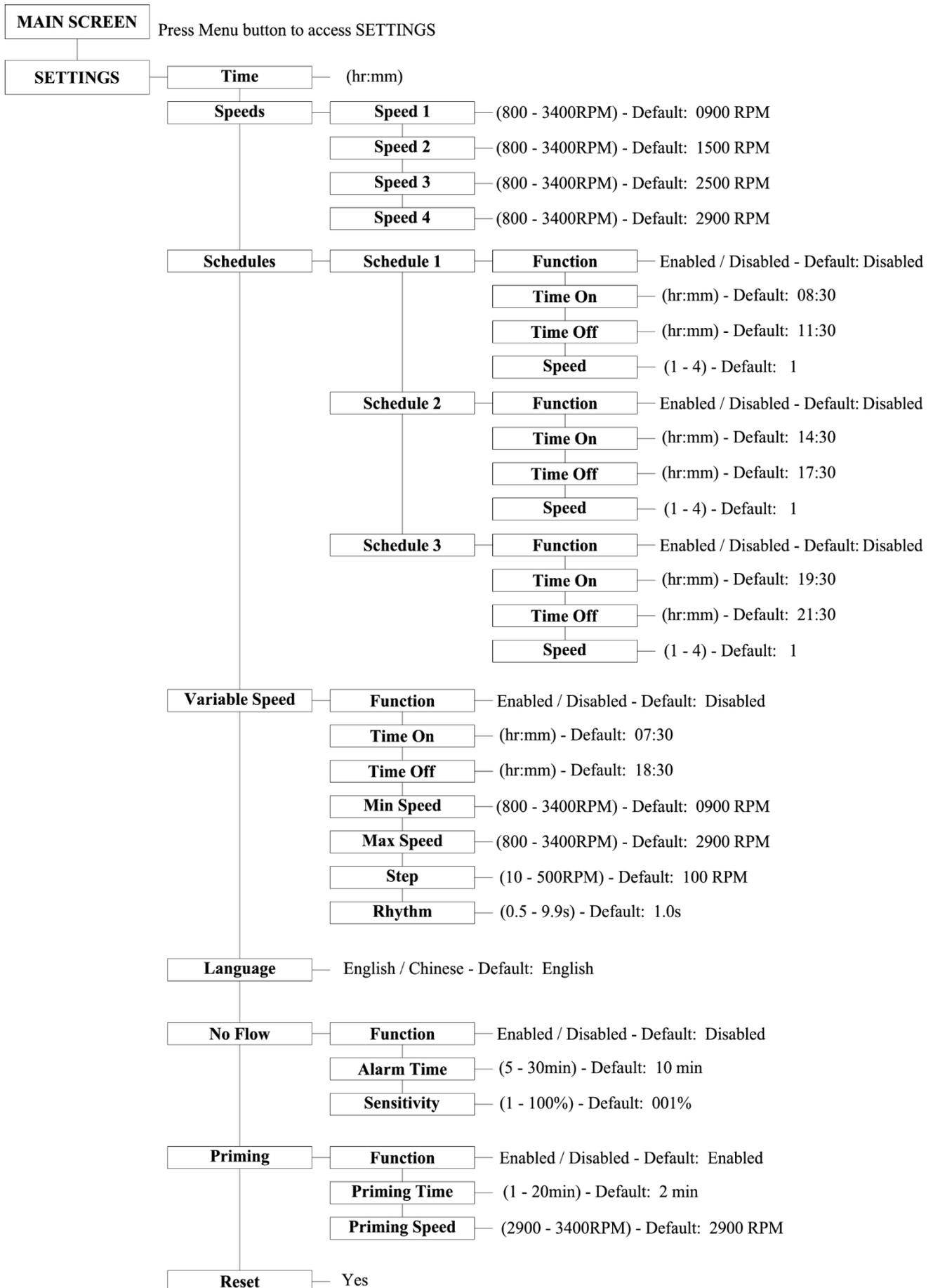
The internal system clock is used to program operating schedules. If the power supply is disconnected, the controller memory as well as the programmed settings will be maintained for approximately 7 days. Clock reset up will be required after this time.

2.6.3 INTERNAL SPEED SETTINGS

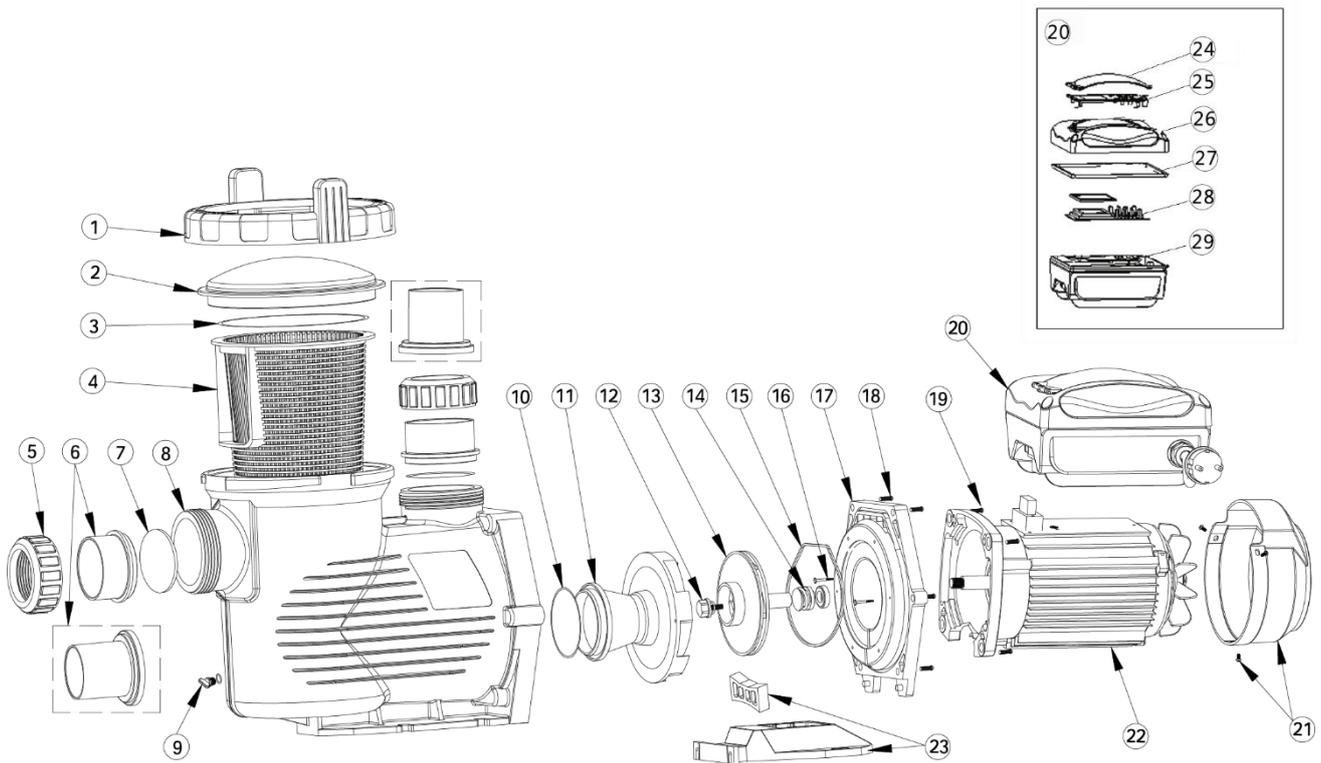
In order to set speed settings, the pump must be in the off position:

- Press "Menu" button.
- Use "Up" / "Down" buttons to go to "Speeds" and press "Enter". The pre-set speeds from 1 to 4 will be shown.
- Use "Up" / "Down" buttons to choose a particular speed (1 – 4).
- Adjust the desired speed using "Up" / "Down" buttons.
- Press "Enter" to save settings or "ESC" to cancel.

2.6.4 PROGRAMMING FLOW CHART



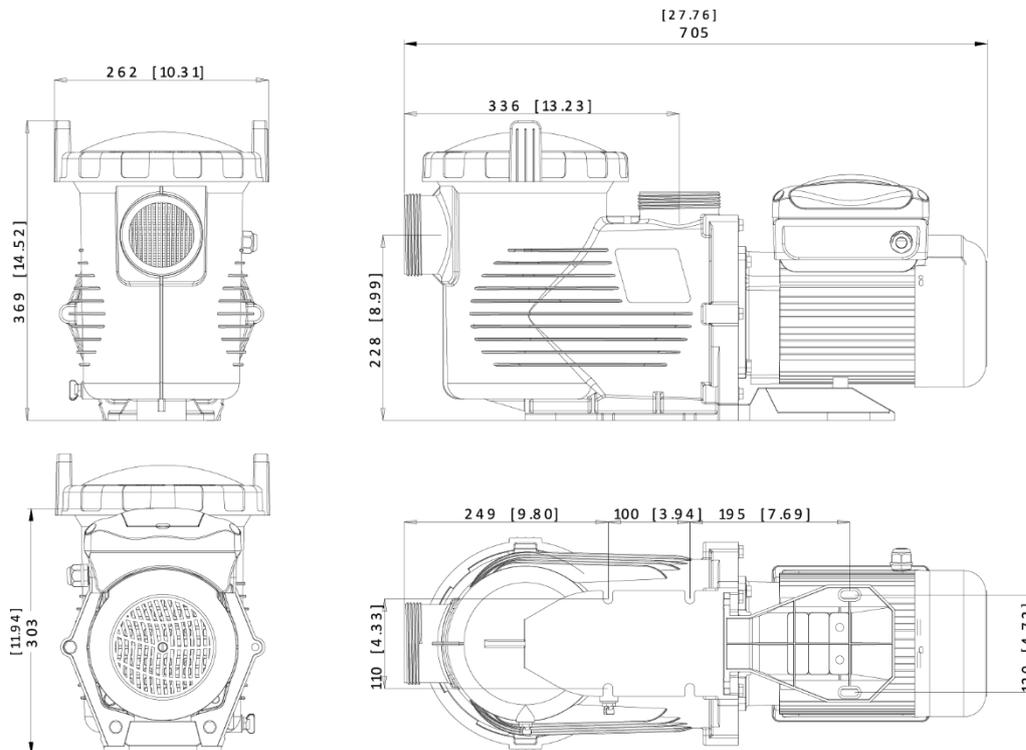
3. REPLACEMENT PARTS



Key No.	Part No.	Description	Qty
1	01020016	Nut for Lid	1
2	01041049	Transparent Lid	1
3	02010042	O-Ring for Lid	1
4	01110024	Basket	1
5-7	89020721	2.5" Union with O-ring	2
5-7	89020722	2.5" Union / 2" Tale with O-Ring	2
8	01112087	Pump Body	1
9	89021307	Drain Plug with O-Ring	2
10	02010213	O-Ring	1
11	01110025	Diffuser	1
12	89020719	Screw for Impeller with O-Ring	1
13	01311058	Impeller for EPV150	1
13	01311047	Impeller for EPV200	1
13	01400103	Impeller for EPV300	1
14	04015065	3/4" Mechanical Seal	1
15	02010212	O-Ring for Flange	1
16	03011402	M3.5 x 35 Screw AISI314	2
17	01020017	Flange	1

18	89020720	M8 x 35 Screw with Washer for Motor	6
19	03011075	M8 x 30 Screw	4
20	89023702	Programmable Controller for EPV150	1
20	89023703	Programmable Controller for EPV200	1
20	89023704	Programmable Controller for EPV300	1
21	01321024	Fan Cover	1
22	04020113	EPV150 TYC-80M Motor	1
22	04020114	EPV200TYC-80L Motor	1
22	04020115	EPV300TYC-80XL Motor	1
23	01110026	Base	1
23	02010211	Arch Cushion for Base	1
24	01041054	Transparent Lid for Programmable Controller	1
25	02010302	panel for Programmable Controller	1
26	03039918	Cover for Programmable Controller	1
27	02021080	Cushion for Cover	1
28	04015047	Operation panel (PCB)	1
29	89020802	EPV150PCB with Shell	1
29	89020803	EPV200 PCB with Shell	1
29	89020804	EPV300 PCB with Shell	1

4. DIMENSIONS



5. SPECIFICATIONS

Code	Model	Connection Size	Voltage / Frequency	Maximum Input Power (kW)	Power (hp)	Weight (kg)
88021107	EPV150	63 mm / 75 mm 2" / 2.5"	220V-240V 50Hz/60Hz	1,50	1,5	23
88021108	EPV200			1,80	2,0	24
88021109	EPV300			2,20	3,0	25

6. TROUBLESHOOTING

6.1 COMMUNICATION ERROR (COMM ERROR)

If the communication error appears, check the following:

- Ensure the 3-pin plug has good contact with the power point.
- Reset the system by turning off the power supply, leaving it for 30 seconds and then switching the pump on again.
- If problem persists, contact your Emaux service agent.

6.2 ERROR DISPLAY

When the programmable controller is not working properly, a fault code will be shown on the controller display.

Error	Description	Possible causes
OC	Overcurrent Driver's output current exceeds the threshold (200% of rated current)	<ul style="list-style-type: none"> • Driver output failure • Drive of IPM module is damaged
OV	Overvoltage Main circuit DC voltage exceeds the threshold	<ul style="list-style-type: none"> • Excessive power of power supply • Power supply voltage exceeds settings
UV	Undervoltage The main electric current is too low	<ul style="list-style-type: none"> • Supply voltage fluctuation is too large
OH	Overheating Heat sink on motor is overheating	<ul style="list-style-type: none"> • Environment temperature is too high
NF	No Water Flow No water in the circuit	<ul style="list-style-type: none"> • Water level in the pool is too low • Not enough water in the basket when starting

6.3 REPLACEMENT PARTS

Refer all service to your local agent or distributor as his knowledge of your equipment makes him the best-qualified source of information. Order all spare parts through your distributor.

Please provide the following information when ordering spare parts:

- Unit nameplate data or serial number on label.
- Description of the part.

6.4 QUICK SOLUTIONS GUIDE

Pump Does Not Start

- Power Supply fault, disconnected or defective wiring
- Fuses blown or thermal overload open
- Locked or Jammed Motor shaft - Contact Service Agent
- Motor windings burned out - Contact Service Agent

Pump Does Not Reach Correct Speed

- Low Voltage - Contact Service Agent

Motor Overheating

- Inadequate ventilation

No or Poor Water Flow

- Pump is not primed
- Air entering suction piping
- Basket full of debris
- Inadequate water level in pool

Contact Your Local Service Agent for Further Assistance.

7. SAFETY NOTES

- This pump must be equipped with an isolating transformer or through a residual current device (RCD) having a rated residual operating current not exceeding 30 mA.
- If the supply cord is damaged, it must be replaced by the manufacturer or its service agent or a similarly qualified person in order to avoid a hazard.
- This appliance can be used by children aged from 8 years and above and persons with reduced physical, sensory or mental capabilities or lack of experience and knowledge if they have been given supervision or instruction concerning use of the appliance in a safe way and understand the hazards involved. Children shall not play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.

8. WARRANTY POLICY

Emaux manufactures its products with the highest standard of workmanship, using the best materials available through state of the art process. Emaux proudly warrants its products as follows:

EXTENDED WARRANTY FOR SPECIFIC PRODUCTS (OFFERED FROM DATE OF INVOICE)

Product	Warranty Period
Filters & Filter Systems	2 years
Pumps	1 year
Underwater Lights	1 year (bulbs 90 days)
Ladders	1 year
Control devices	1 year
Heat Pumps & Heat Exchangers	1 year
Salt Chlorinators & UV Systems	1 year (2 years for cell material)
Pool Fittings	1 year
Cleaning Equipment & All others	1 year

8.1 EXCEPTIONS THAT MAY RESULT IN DENIAL OF A WARRANTY CLAIM

1. Damage caused by careless handling, improper repackaging or shipping.
2. Damage due to misapplication, misuse, abuse or failure to operate and install the equipment as specified in this manual.
3. Damage caused by a misuse, abuse or failure to operate and install the equipment out of the scope of a professional level demanded in similar equipment or installation type.
4. Damage due to unauthorized product modifications or failure to use Emaux original replacement parts.
5. Damage caused by negligence or failure to properly maintain products as specified in this manual.
6. Damage caused by failure to maintain water chemistry in conformity with the standards of the swimming pool industry for any length of time.
7. Damage caused by water freezing inside the product.
8. Accident damage, fire, natural disaster or other circumstances outside the control of Emaux.
9. Items repaired or altered in any way by any person that is not authorized by Emaux.
10. Wear & tear parts.

8.2 CLAIM PROCESS

Summary of Emaux Claim Process in 3 steps:

1. Claim: Customer contacts Emaux salesperson and provides complete details of the claim which includes:
 - a. Information about the failed product such as the part number(s) and serial number(s).
 - b. Description of the complaint/failure.
 - c. Pictures

2. Revision: Once the complaint is received, the product quality incident will then be reviewed by Emaux Quality Department following the “Emaux Warranty Policy”.
3. Conclusion: After the investigation is completed, Emaux will inform the distributor accordingly.

8.3 WARRANTY OBLIGATION

Emaux warrants any of above items from workmanship and/or material(s).

Should a defect become evident during the term of warranty, Emaux will, at its option, repair or replace such item or part at its own cost and expense. Customer will need to follow the warranty claim procedures from Emaux in order to obtain the benefit on this warranty.

Emaux is not, however, responsible under this warranty for any cost of shipping or transportation of the equipment or parts thereof “to” or “from” our technical operations. Emaux is not liable for any loss of time, inconvenience, incidental expenses such as labor cost, phone calls, legal cost or material cost incurred in connection with the replacement or removal of the equipment, or any other consequential or incidental damage on persons or assets. Emaux will be not responsible for any business profit loss or operation stop due to the non-conformity product equipment. No indemnity or damages can be claimed on any account whatever.

8.4 WARRANTY OR REPRESENTATIONS BY OTHERS

No dealer or other person has authority to make any warranty or representation concerning Emaux or its products.

Accordingly, Emaux is not responsible for any such warranty or representation.

9. CORRECT DISPOSAL OF THIS PRODUCT



This marking indicates that this product should not be disposed with other household wastes throughout the EU. To prevent possible harm to the environment or human health from uncontrolled waste disposal, recycle it responsibly to promote the sustainable reuse of material resources. To return your used device, please use the return and collection systems or contact the retailer where the product was purchased. They can take this product for environmental safe recycling.