

madimack

*inver***FLOW**^{ULTRA}

INSTALLATION MANUAL



Powered by  **invermac**
TECHNOLOGY

CONGRATULATIONS AND THANK YOU FOR PURCHASING OUR ELITE INVERTER POOL PUMPS InverFlow Series.

THIS MANUAL CONTAINS IMPORTANT INFORMATION THAT WILL HELP YOU IN OPERATING AND MAINTAINING THIS PRODUCT.



PLEASE READ THE MANUAL CAREFULLY BEFORE INSTALLATION & OPERATION AND RETAIN IT FOR FUTURE REFERENCE.



Adherence to the directions for use in this manual is extremely important for health and safety. Failure to strictly adhere to the requirements in this manual may result in personal injury, property damage and affect your ability to make a claim under the manufacturer's warranty provided with your product. Products must be used, installed and operated in accordance with this manual. You may not be able to claim on the manufacturer's warranty in the event that your product fault is due to failure to adhere this manual.

1. IMPORTANT SAFETY INSTRUCTIONS



This guide provides installation and operation instructions for this pump. If you have any other questions about this equipment, please consult your supplier.

1.1 When installing and using this electrical equipment, basic safety precautions should always be followed, including the following:

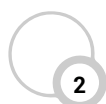
- **RISK OF ELECTRICAL SHOCK.**
Pool pump must be installed on a RCD protected circuit. Check your local state regulations and wiring rules.
- This pump is for use with permanently installed in-ground or above-ground swimming pools and may also be used with hot tubs and spas with a water temperature under 50°C. Due to the fixed installation method, this pump is not suggested to be used on above-ground pools that can be readily disassembled for storage.
- The pump is not submersible.
- Never open the inside of the drive motor enclosure.

1.2 All installations must be fitted with earth leakage or residual current protection devices, having a rated residual operating current not exceeding 30mA.

- Fill the pump with water before starting. Do not run the pump dry. In case of dry run, mechanical seal will be damaged and the pump will start leaking.
- Before servicing the pump, switch OFF power to the pump by disconnecting the main circuit to the pump and release all pressure from pump and piping system.
- Never tighten or loosen screws while the pump is operating.
- Ensure that the inlet and outlet of the pump are unblocked with foreign matter.
- This product must be Earthed in accordance to local and national regulations.

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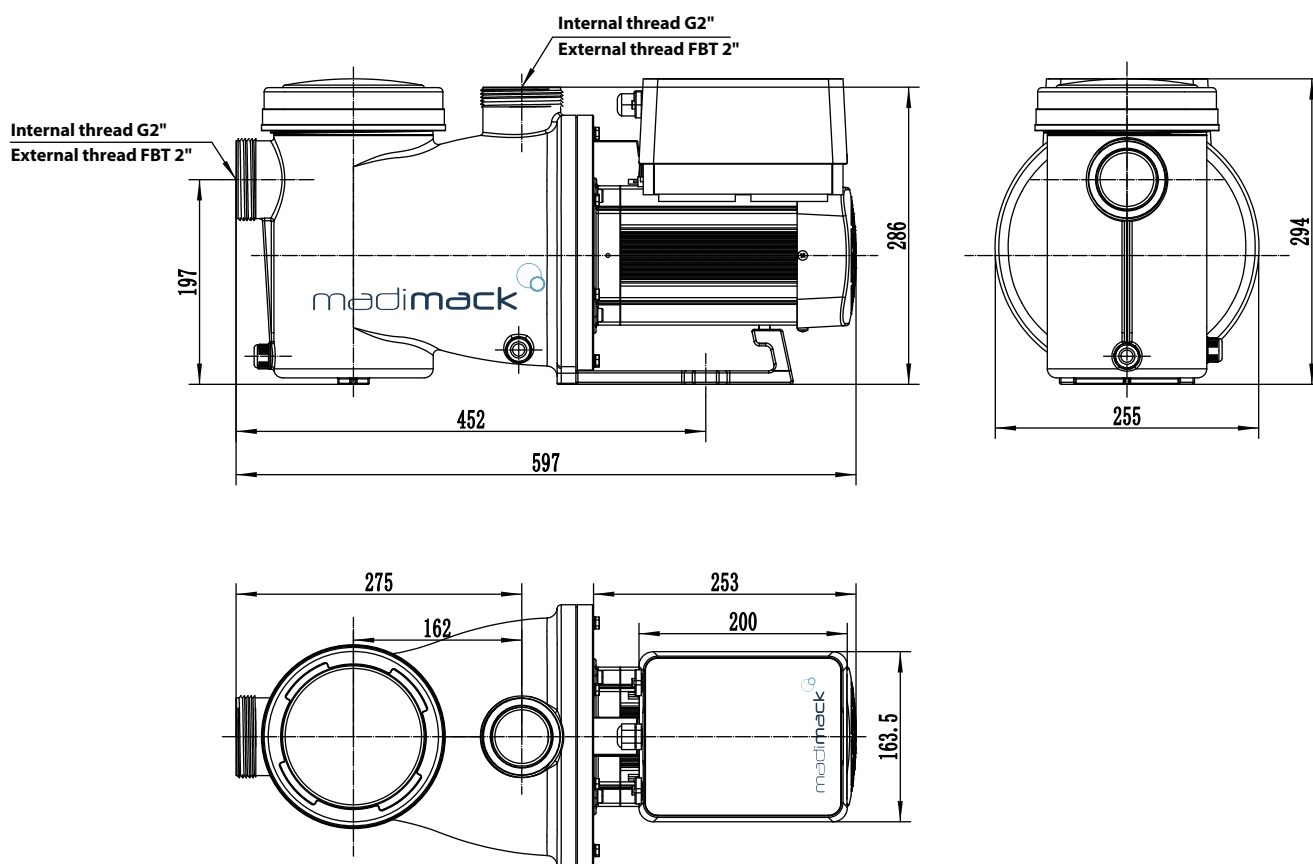
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2. TECHNICAL SPECIFICATIONS

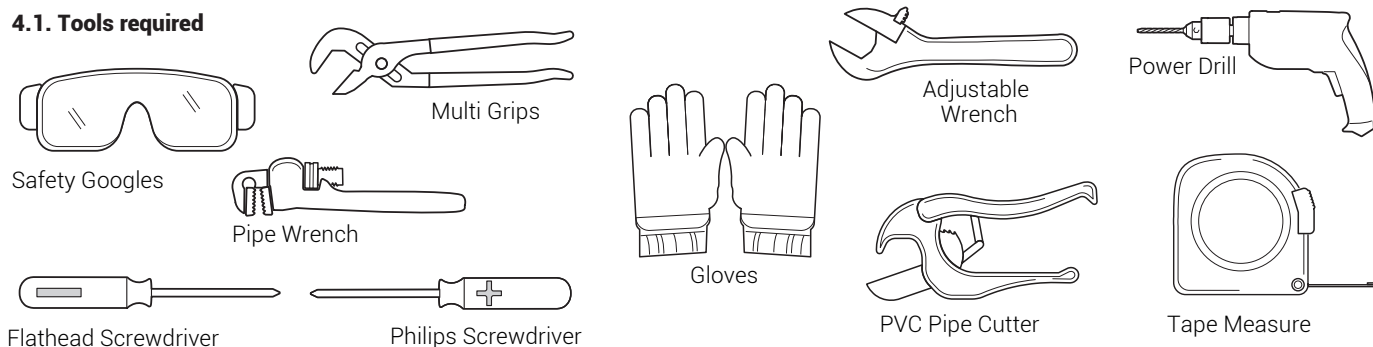
Model	Advised Pool Volume	INPUT POWER		Voltage (V/Hz)	Max Flow (L /m)	Head Max (m)	Circulation	
		Power KW	Power HP				Flow at 8mh L/min	Flow at 10m L/min
INVULT300	30~50	0.75	1.0	220~240 50/60	408	18.0	300	233
INVULT400	40~70	1.05	1.5	220~240 50/60	450	20.0	400	333
INVULT500	50~80	1.40	2.0	220~240 50/60	483	21.0	480	423

3. OVERALL DIMENSION (mm)



4. INSTALLATION

4.1. Tools required



continue INSTALLATION

4.2. Pump Location

The pump should be installed in an area with at least 150mm distance around the unit away from any obstacles and away from any corrosive products.

- 1) Install the pump as close to the pool as possible, to reduce friction loss and improve efficiency, use short, direct suction and return piping.
- 2) To avoid direct sunshine, heat or rain, it is recommended to place the pump indoors or in the shade.
- 3) DO NOT install the pump in a damp or non-ventilated location. Keep pump and motor at least 150mm away from obstacles, pump motors require free circulation of air for cooling.
- 4) The pump should be installed horizontally and fixed in the hole on the support with screws to prevent unnecessary noise and vibration.

4.4. Valves and Fittings

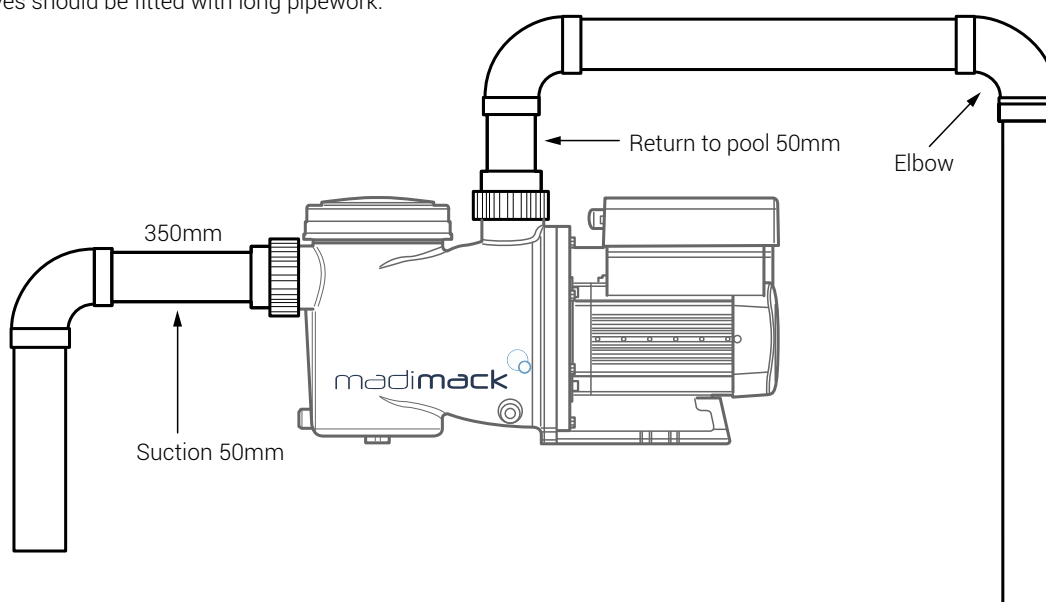
It is recommended to install isolation valves on the suction and return lines for easier maintenance of the pool pump.

Any valves or fittings should not be within 350mm of the pump, and check valves should be fitted with long pipework.

4.3. Piping

Suction and return connections on the pool pumps are 50mm pressure pipe dimensions.

- 1) For optimization of the pool plumbing, it is recommended to use a pipe with size of 63mm. When installing the inlet and outlet fittings (joints), use the special sealant for PVC material.
- 2) The dimension of suction line should be the same or larger than the inlet line diameter, to avoid pump sucking air, which will affect the efficiency of the pump.
- 3) Plumbing on the suction side of the pump should be as short as possible.
- 4) For most installations we recommend installing a valve on both the pump suction and return lines, which is more convenient for routine maintenance. However, we also recommend that a r. valve, elbow, or tee installed on the suction line should be no closer to the front of the pump than seven times the suction line diameter.
- 5) Pump outlet piping system should be equipped with a check valve to prevent the pump from the impact of medium recirculation and pump-stopping water hammer.



* The pump inlet/ outlet union size: optional with metric 50 or 40mm.

- 2) Below water level system should have an isolation valves installed on suction and return line for maintenance; however, the suction gate valve should be no closer than seven times the suction pipe diameter as described in this section.
- 3) A check valve should be installed if there are long pipe runs above water level or if there is significant height between the return line and the outlet of the pump.
- 4) Be sure to install check valves when plumbing in parallel with other pumps. This helps prevent reverse rotation of the impeller and motor.

4.5 Check before initial startup

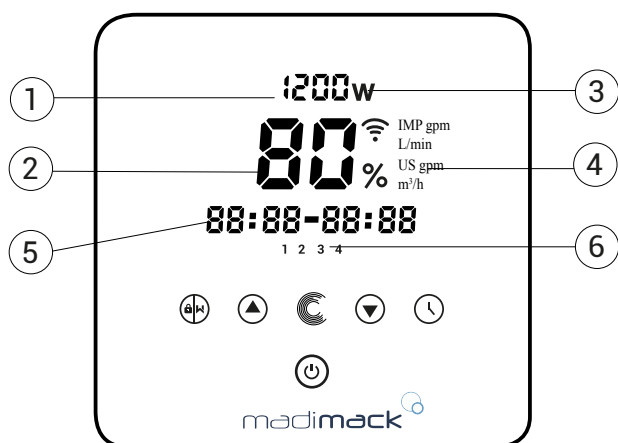
- 1) Check whether pump shaft rotates freely;
- 2) Check whether power supply voltage and frequency conform to the nameplate;
- 3) Facing the fan blade, the direction of motor rotation should be clockwise;
- 4) It is forbidden to run the pump without water.

4.6 Application conditions

Ambient temperature	Indoor installation, temperature range: -10 ~ 42°C
Water temperature	5°C ~ 50°C
Salt pools	Salt concentration up to 0.5%, i.e. 5g/L
Humidity	≤ RH, (20 ± 2)
Altitude	Not exceed 1000m above sea level
Installation	The pump can be installed max. 2m above water level
Insulation	Class F, IP55

5. SETTING AND OPERATION

5.1 Display on control panel:



1	Power Consumption
2	Running capacity/ Flow rate
3	WIFI Indicator
4	Unit of flow
5	Timer period
6	Timer 1/2/3/4

	Backwash/ Unlock Hold down this button to unlock the screen. Single press for Backwash activation.
	Switch between Adaptive Mode and Manual Mode Auto Inverter Mode: The running capacity will be automatically adjusted between 30%-120% according to the preset flow rate. Manual Inverter Mode: The running capacity will be set manually between 30%-120%. The default mode is Adaptive mode.
	UP To change the value (capacity/flow/time).
	DOWN
	Timer setting
	On/ Off

5.2 Startup

Before operation.

Fill the basket with water before starting up the pump.
When the power is switched on, the screen will fully illuminate for 5 seconds, check whether power supply voltage and frequency conform to the nameplate;
Refer to section 4.4 before proceeding.

When the screen is locked, only the button will light up; Press and hold for more than 3 seconds, other buttons will all light up. The screen will automatically lock up when there is no operation for more than 1 minute and the brightness of the screen is reduced by 1/3 of the normal display. Short press to wake up the screen and observe the relevant operating parameters.

The default flow range for Madimack Inverflow Pro is as below:

Model	Default flow rate range
INVULT300	80~320 L/min
INVULT400	80~420 L/min
INVULT500	80~520 L/min

5.3 Self- priming

When switched on for the first time after installation, the pump will start self-priming.

Self-priming:

When the pump performs self-priming, it will count down from 1500s and stop automatically when the system detects the pump is full of water, then the system will recheck for 120s again to make sure the self-priming is completed.

User can exit self-priming manually by pressing for more than 3 seconds. The pump will enter the default Manual-Inverter mode at the initial startup. If the user exits the self-priming in the subsequent startup, the pump will return to the previous state before the last shutdown.

Remark:

The pump is delivered with self-priming enabled. Each time the pump restarts, it will perform self-priming automatically. The user can enter the parameter setting to disable the default self-priming function (see 5.10).

If the default self-priming function is disabled, and the pump has not been used for a long time, the water level in the strainer basket may drop. User can manually activate the self-priming function by pressing both for 3 seconds, the adjustable period is from 600s to 1500s (default value is 600s). After the manual self-priming is completed, the pump will return to the previous state before activating the manual self-priming. If the pump has entered the Auto-Inverter mode previously, the pump will perform self-learning for 180s to redefine the adjustable flow range after the manual self-priming. User can press for more than 3 seconds to exit the manual self-priming, and the pump will run the same as the manual self-priming is completed.

continue SETTING AND OPERATION

5.4 Backwash

Start the Backwash procedure by pressing the backwash button (). Once activated the timer will start to count down on the main screen. Use   to change the length of backwash time required.

	Default	Setting range
Time	180s	Press  or  to adjust from 0 to 1500s with 30 seconds for each step.
Running capacity	100%	80~100%, enter the parameter setting (see 5.10)

Exit backwash:

When backwash mode is on, user can hold  for 3 seconds to exit, the pump will return to the previous state before backwash. If a speed limit is set by the user, the running capacity of the backwash will not exceed the set speed limit. (see 5.9)

5.6 Auto-Inverter Mode

Under Auto Inverter Mode, the pump can automatically detect the system pressure and adjust the speed of motor to reach the set flow.

1		Unlock the screen, press  to switch from the Manual-Inverter mode to Auto-Inverter mode.
2	 	The flow rate could be adjusted, by pressing  or  with 20L/min for each step.
3	 	The unit of flow rate could be changed to LPM, IMP GPM or US GPM, by pressing both   for 3 seconds (default is L/min).
4		Press  to switch to Manual-Inverter mode.

5.7 Timer mode

The pump's on/off and running capacity could be commanded by timer, which could be programmed daily as needed.

1	Enter timer setting by pressing  .
2	Press  or  to set the local time.
3	Press  to confirm and move to time-1 setting
4	Press  or  to choose the desired running periods, running capacity or flow rate (when % icon is flashing, user can change to set the flow rate by pressing  .
5	 Repeat above steps to set other 3 timers.
6	 Hold 3 seconds to save settings and active timer mode
7	 or  Check 4 timers to make sure there is no invalid setting.

5.5 Manual-Inverter Mode

1		Hold  for more than 3 seconds to unlock the screen.
2		Press  to start. The pump will run at 80% of the running capacity at the initial startup after the self-priming.
3	 	Press  or  to set the running capacity between 30%~120%, each step by 5%.
4		Press  again to switch to Auto-Inverter mode.

Note:

When the pipeline pressure is too high, to maintain an adequate flow rate, user can set the running capacity to 105%~120%. The pump will run at a higher speed but will not exceed the rated power of each model. If the pump has reached the rated power at 105% and user continues to increase the running capacity, the display will return to 105% when the motor speed is stabilized.

Self-learning:

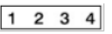
When first switching to the Auto-Inverter mode manually or via external control or activating timer mode with flow rate setting, the system will perform the self-priming process (see 5.3) and then the self-learning process for 180s and redefine the adjustable flow range of the pump by detecting the pipeline pressure. eg: the default adjustable flow range of Inverflow P300i is 80-420 L/min after self-learning, the range may be redefined to 110-320L/min. If the set flow is beyond the current adjustable range, the actual achievable flow rate will be displayed after the motor speed is stabilized.

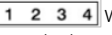
Refer to page5 for the default adjustable flow range for InverFlow Pro.

Note:

After the first self-learning, the pump will redefine the adjustable flow range. The pipeline pressure will be recorded by the system after the pump runs at the set flow/capacity for 5 minutes without other operations. During the pump running, if it is detected that the pipeline pressure changes beyond a certain range, the icon of % or L/min (or other flow units) symbol will flash for 5 minutes. If the change last for 5 minutes, the pump will perform a self-priming and self-learning process, and redefine the flow range accordingly. After the redefinition of the flow range, the pump will automatically adjust the running capacity to reach the set flow. User can set the time interval to trigger the self-learning automatically in the parameter setting (see 5.10) to ensure the accuracy of the flow rate.

NOTE:

When timer mode is activated, if the set time period contains the current time, the pump will start running according to the set running capacity or flow rate. If the set time period does not contain the current time, the timer number  (or 1 or 2 or 3 or 4) that is about to start running will be displayed on the controller and flash, **88:88-88:88** will display the corresponding time period, indicating a successful timer setting.

All 4 time periods should be set in chronological order. Overlap setting of time will be considered as invalid, the pump will only run based on the previous valid setting. If all 4 time periods set by the timer are invalid,  and  will flash to remind the user, you can press  to reset the time period again to make sure they are valid.

During timer setting, if you want to return to the previous setting, hold both   for 3 seconds. If you don't need to set all 4 timers, you can hold  for 3 seconds, the system will automatically save the current set value and activate the timer mode.

Users can exit the timer mode by pressing .

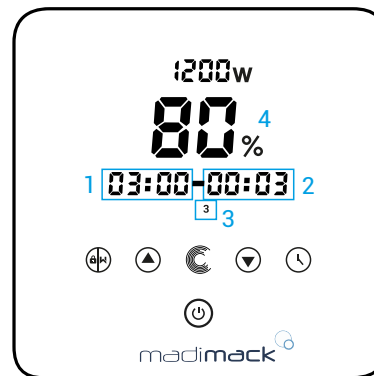
continue SETTING AND OPERATION

5.8 Skimmer Mode

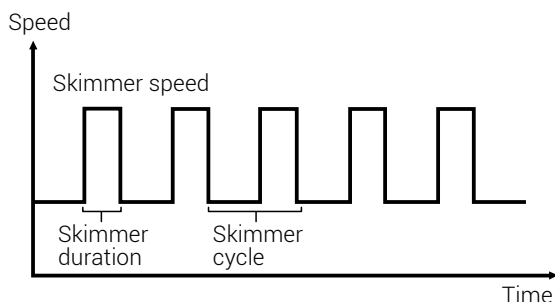
The skimmer mode enables the pump to skim the water surface, prevents the debris from accumulating, and provides users with a cleaner pool.

Hold  and  to enter the preset interface of the skimmer mode, press  or  to view the 3 presets, the selected preset will be activated after 8s without operation. User can exit the skimmer mode without activating it by holding  and  in the preset interface.

At the skimmer duration, the controller will show the parameter of the preset, user can hold  to exit the skimmer duration each time. When the skimmer duration ends, the pump will return to the normal state for the user to operate.



1. Skimmer cycle (hour)
2. Skimmer duration (minute)
3. Skimmer mode preset number
4. Skimmer speed



Preset	Skimmer cycle	Skimmer duration	Skimmer speed	Time period	Remarks
1	1h	3 min	100%	7:00 - 21:00	Editable in parameter setting
2	1h	10 min	100%	7:00 - 21:00	Not editable
3	3h	3 min	80%	7:00 - 21:00	Not editable

5.9 Speed Limit

User can set the speed limit of the running capacity to meet the flow requirement of other equipment such as sand filters.

Speed limit of the running capacity can be set from 60% - 100% in the parameter setting. (see 5.10). 100% means no speed limit and the running capacity can be set from 30% - 120% under normal operation.

To ensure the performance, the following mode or process will not be limited by the speed limit:

1. Self-priming at each start
2. Manual self-priming
3. Self-learning
4. Auto-Inverter mode
5. Flow rate setting in the timer mode

5.10 Parameter Setting

Restore factory setting.	Under off mode, hold both  and  for 3 seconds.
Check the software version.	Under off mode, hold both  and  for 3 seconds.
Manual priming.	Under on mode, hold both  and  for 3 seconds.

Enter parameter setting as shown.	Under off mode, hold both  and  for 3 seconds; If current address does no need to be adjusted, hold both  and  or press  to next address.
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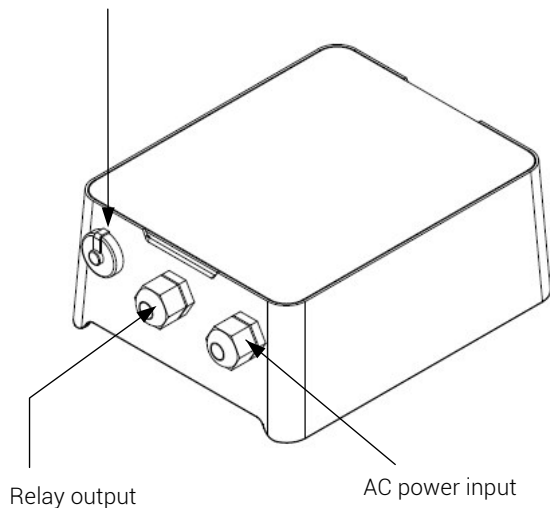
Parameter Address	Description	Default Setting	Setting Range
1	Digital input 2	100% or 183L/min	Flow rate or 30~120%, by 5% increments
2	Digital input 3	80% or 183L/min	
3	Digital input 4	40% or 183L/min	
4	Self-priming/Backwash capacity	100%	80~100%, by 5% increments
5	Control mode of Analog Input.	0	0: current control 1: voltage control
6	Enable or disable the priming that occurs at start.	25	25:enables 0:disables
7	Self-priming recheck time	2min	1-15min by 1min increments

Parameter Address	Description	Default Setting	Setting Range
8	System time	00:00	00:00 - 23:59
9	Preset 1 of the skimmer mode (skimmer cycle, skimmer duration, skimmer speed)	01:00 00:03 100%	Skimmer cycle: 1-24h, 1h for each step Skimmer duration: 1-30min, 1min for each step Skimmer speed: 30%-100%, by 5% increments
10	Time period of the preset 1 of the skimmer mode	7:00-21:00	Start time: 00:00-24:00 End time: 00:00-24:00
11	Speed limit	100%	60%-100%, by 5% increments, 100% means no speed limit
12	RS485 address	170 (0xAA)	160-190 (0xA0-0xBF), each step by 1.
13	automatically	0	self-learning automatically

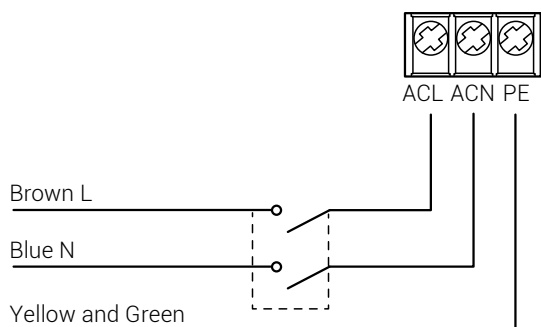
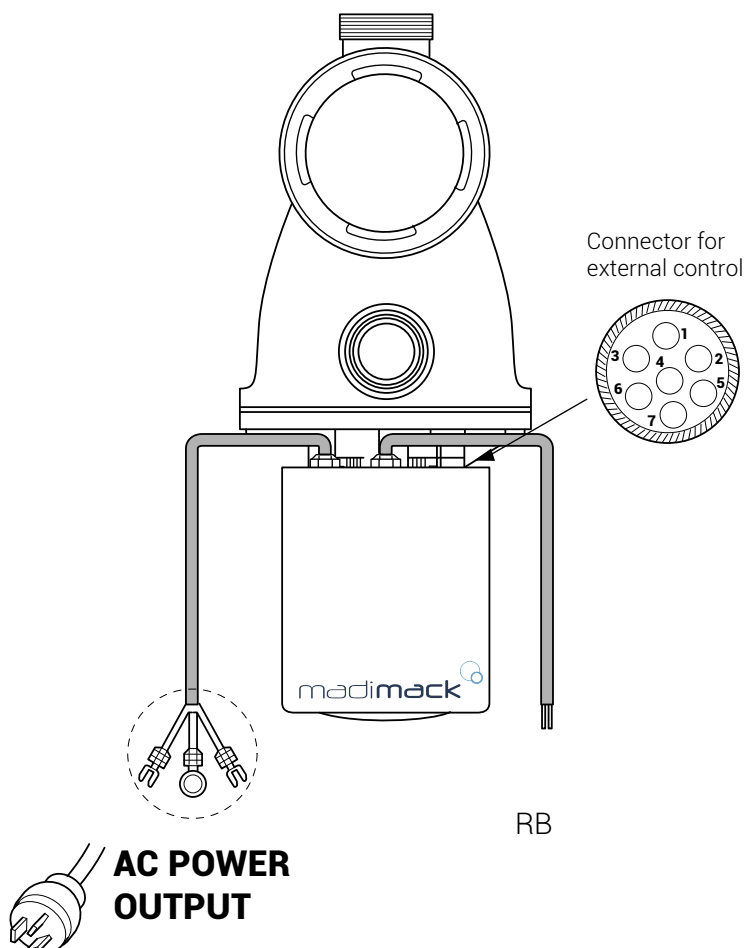
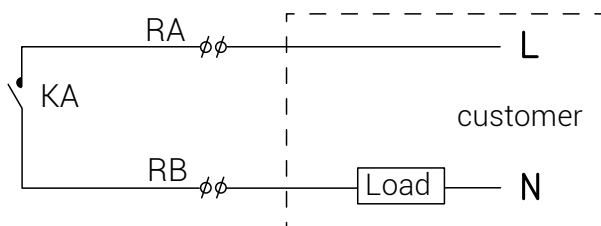
6. EXTERNAL CONTROL

External control can be enabled via following contacts. If more than one external control is enabled, the priority is as below:
Digital Input > Analog Input > RS485 > Panel control

Connector for configurable user inputs,
including Digital Input and RS485



RELAY OUTPUT



Name	Color	Description	Setting Range
PIN 1	Red	Digital Input 4	Flow rate and 30~120%, by 5% increments
PIN 2	Black	Digital Input 3	Flow rate and 30~120%, by 5% increments
PIN 3	White	Digital Input 2	Flow rate and 30~120%, by 5% increments
PIN 4	Grey	Digital Input 1	
PIN 5	Yellow	Digital Ground	
PIN 6	Green	RS485 A	
PIN 7	Brown	RS485 B	

Flow rate setting range:

INVULT300: 83~333L/min
INVULT400: 83~417L/min
INVULT500: 83~500L/min

continue EXTERNAL CONTROL

a. Digital input

Running capacity is determined by the state of digital input, (5 pin)

When PIN4 connect with PIN5, the pump will be mandatory to stop; if disconnected, the digital controller will be invalid;

When PIN3 connect with PIN5, the pump will be mandatory to run at 100%; if disconnected, the control priority will be back on panel control;

When PIN2 connect with PIN5, the pump will be mandatory to run at 80%; if disconnected, the control priority will be back on panel control;

When PIN1 connect with PIN5, the pump will be mandatory to run at 40%; if disconnected, the control priority will be back on panel control;

The capacity of inputs (PIN1/PIN2/PIN3) could be modified according to the parameter setting..

b. RS485:

To connect with PIN6 and PIN7, the pump could be controlled via Modbus 485 communication protocol.

c. Relay output (optional):

Connect terminal L & N to enable external control. An additional on-off Relay is necessary while bearing power is greater than 500W (2.5A).

7. PROTECTION AND FAILURE

7.1 High Temperature Warning and Speed Reduction

In "Auto-Inverter/Manual-Inverter Mode" and "Timer mode" (except backwash/self-priming), when the pump control system reaches the high temperature warning trigger threshold (81°C), it enters the high temperature warning state; when the temperature drops from the high temperature warning release threshold (78°C), the high temperature warning state is released. The display area alternately displays AL01 and running speed or flow.

- 1) If AL01 displayed for the first time, the running capacity will be automatically reduced as below:
 - a. If current operating capacity is higher than 100%, the running capacity will be automatically reduced to 85%;
 - b. If current operating capacity is higher than 85%, the running capacity will be automatically reduced by 15%;
 - c. If current operating capacity is higher than 70%, the running capacity will be automatically reduced by 10%;
 - d. If current operating capacity is lower than 70%, the running capacity will be automatically reduced by 5%.

2) Suggestion for non-first displayed of AL01: check the module temperature every 2 minutes. Compared with the temperature in the previous period, for every 1-degree Celsius increase, the speed will decrease by 5%.

7.2 Undervoltage protection

When the device detects that the input voltage is less than 200V, the device will limit the current running speed

When input voltage is less than or equal to 180V, the running capacity will be limited to 70%;

When the input voltage range is within 180V ~ 190V, the running capacity will be limited to 75%;

When the input voltage range is within 190V ~ 200V, the running capacity will be limited to 85%.

7.3 Troubleshooting

Problem	Possible causes and solution
Pump does not start.	• Power Supply fault, disconnected or defective wiring. • Fuses blown or thermal overload open. • Check the rotation of the motor shaft for free movement and lack of obstruction. • Because of long time lying idle. Unplug the power supply and manually rotate motor rear shaft a few times with a screwdriver.
Pump does not prime.	• Make sure the pump basket is filled with water and the O-ring of cover is clean. • Loose connections on the suction side. • Strainer basket or skimmer basket loaded with debris. • Suction side clogged. • Distance between pump inlet and liquid level is higher than 2m, height of pump installation should be lowered.
Low Water Flow.	• Pump does not prime. • Air entering suction piping. • Basket full of debris. • Inadequate water level in pool.
Pump being noisy	• Air leak in suction piping, cavitation caused by restricted or undersized suction line or leak at any joint, low water level in pool, and restricted discharge return lines. • Vibration caused by improper installation, etc. • Damaged motor bearing or impeller (need to contact the supplier for repair).

continue PROTECTION AND FAILURE

7.4 Error code

When the device detects an error (except for the running capacity reduction strategy and 485 communication failure), it will power off automatically and display an error code. Errors can be sometimes caused by power surge or power interference and can be reset by powering down for 1min and restarting. If error persist, contact your local dealer or service technician.

Item	Error Code	Description	Item	Error Code	Description
1	E001	Abnormal input voltage	10	E108	Motor power overload
2	E002	Output over current	11	E201	Circuit board error
3	E101	Heat sink over heat	12	E203	RTC time reading error
4	E102	Heat sink sensor error	13	E204	Display Board EEPROM reading failure
5	E103	Master driver board error	14	E205	Communication Error
6	E104	Phase -deficient protection	15	E003	No water Protection
7	E105	AC current sampling circuit failure	16	E208	Pressure sensor failure
8	E106	DC abnormal voltage	17	E 209	Loss of prime
9	E107	PFC protection			

Note:

1. When E002/E101/E103 is displayed, the device will resume working automatically, however when it appears a fourth time, the device will stop working, to resume operation, unplug the device and plug in & restart again.

8. MAINTENANCE

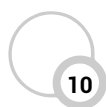
Empty the strainer basket frequently. The basket should be inspected through the transparent lid and emptied when there is an evident stack of rubbish inside. The following instructions should be followed:

- 1). Disconnect the power supply.
- 2). Unscrew the strainer basket lid anti-clockwise and remove.
- 3). Lift up the strainer basket.
- 4). Empty the trapped refuse from the basket, rinse out the debris if necessary.

Note: Do not knock the plastic basket on a hard surface as it will cause damage

- 5). Inspect the basket for signs of damage, replace it.
- 6). Check the lid O-ring for stretching, tears, cracks or any other damage
- 7). Replace the lid, hand tightening is sufficient.

Note: Periodically inspect and clean the strainer basket will help prolong its life.

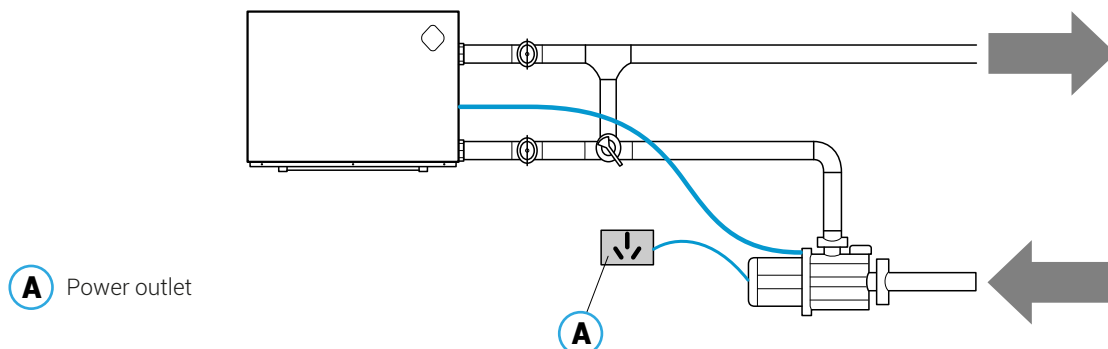


9. CONFIGURATIONS WITH HEATING SYSTEM

Configuration 1 (Separate heating system)

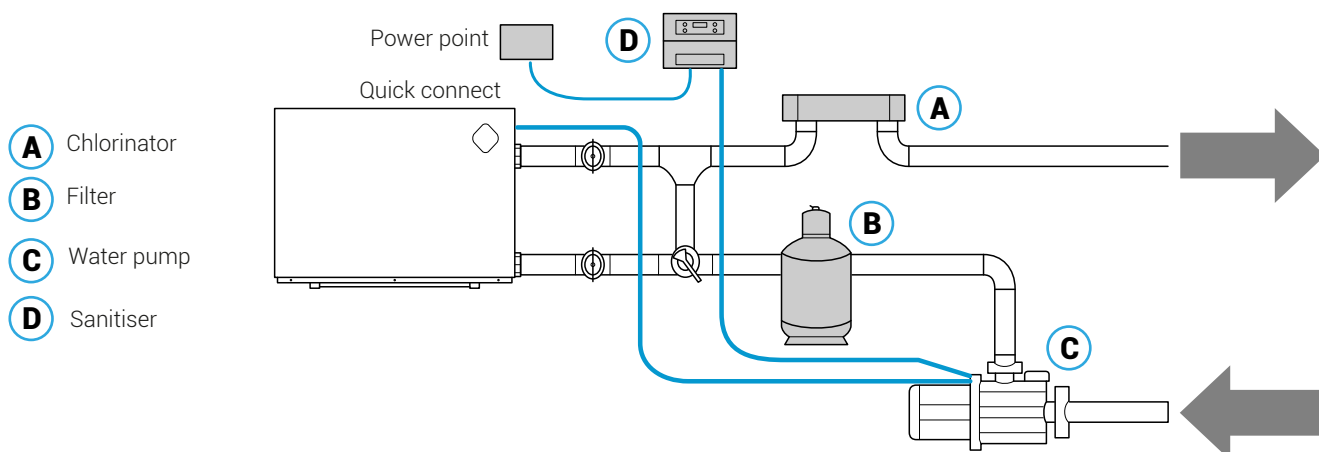
An onboard output initiates the circulation pump to start and stop from heat pump itself based on the temperature and timers.

For use when there are dedicated heating pipes and to separate from the filtration timers.



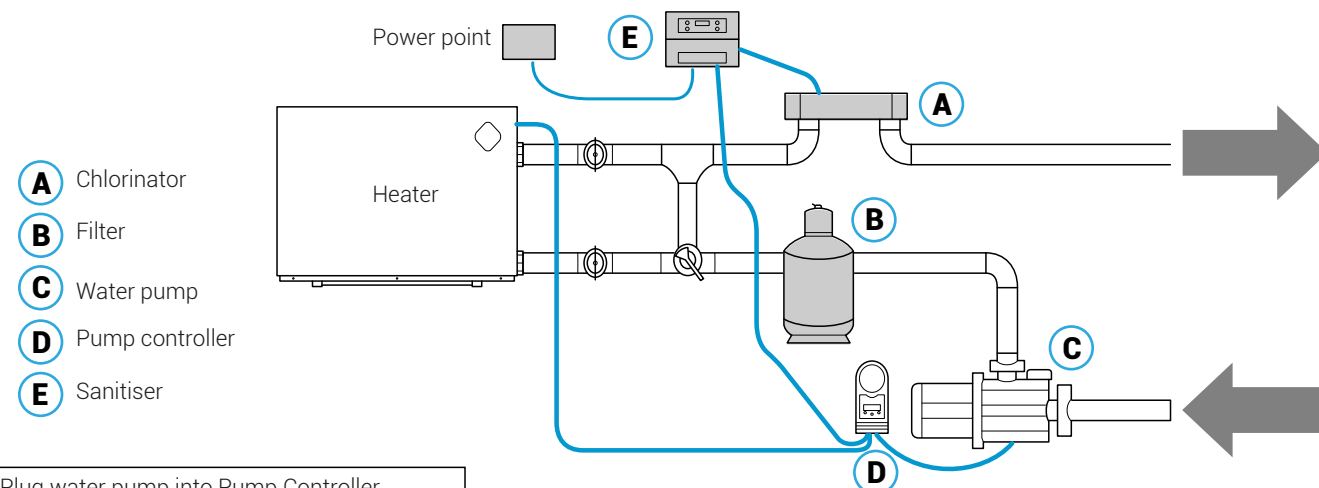
Use quick connect cable "pump output ELV" socket. Pump is activated by heater timer and temperature.

Configuration 2 (Integrated system)



Plug water pump into sanitisation system.
Connect pump to heater with quick connect (Pump Output ELV).

Configuration 3 (Heater, integrated system and Pump Controller (MJBX))



Plug water pump into Pump Controller.
Plug pump controller into Sanitisation.
Plug Quick connect from pump to controller.
Plug quick connect from heater to controller.

10. WIFI OPERATION

1 InverFlow Download



Android"

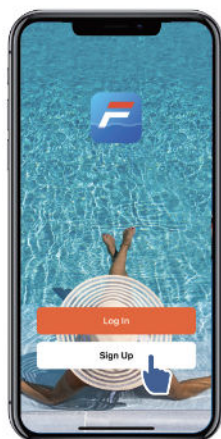


iOS"

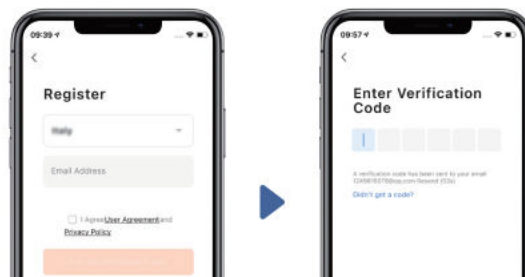


2 Account registration

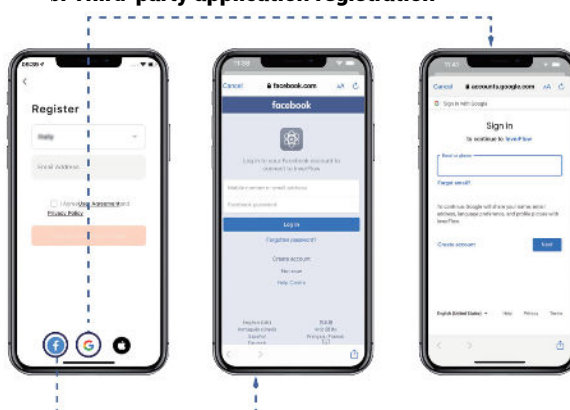
Register by email or third-party application



a. Email Registration

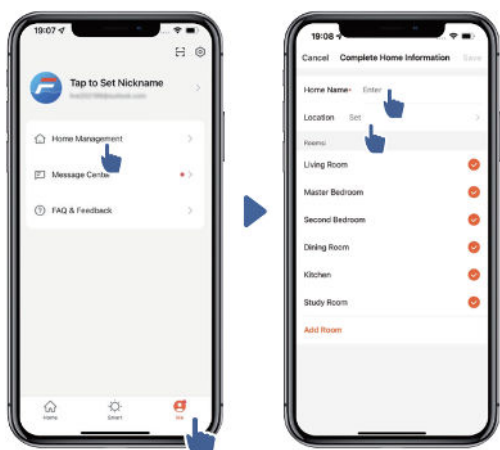


b. Third-party application registration



3 Create Home

Please set home name and choose the location of the device. (It is recommended to set the location so the weather can be shown in the App for your convenience).



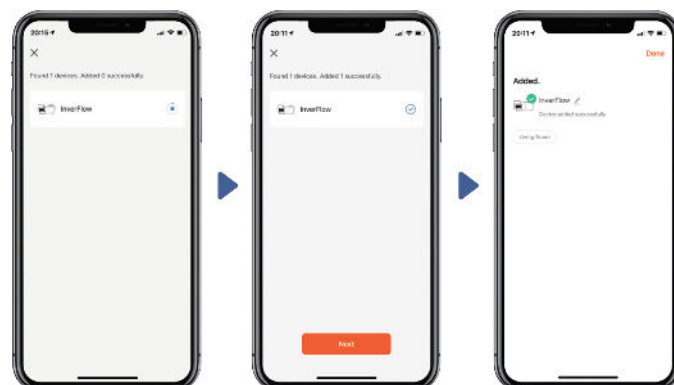
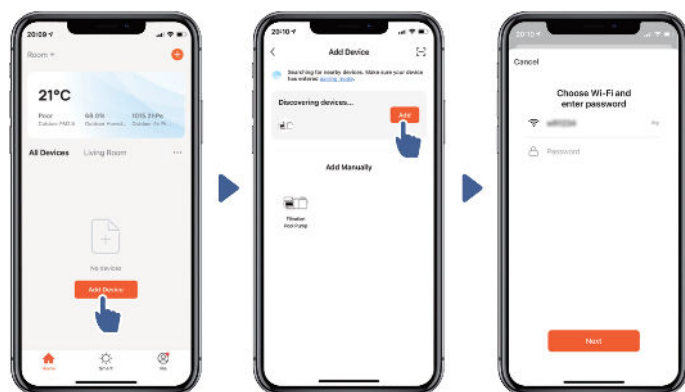
4 App pairing

Please make sure your pump is turned on before you start.

WiFi and Bluetooth

Pool pump WiFi only compatible with 2.4Ghz band and combined 2.4/5Ghz band.

- 1) Please ensure your phone is connected to the home WiFi and has a strong connection at the pool pump location. Also, please enable Bluetooth.
- 2) First, Unlock the screen by holding the Unlock button for 3seconds until a beep noise can be heard and the screen is illuminated.
- 3) Press button, (for 5 seconds) until hearing a beep, then release and will flash.
- 4) Click "Add Device"



continue WIFI OPERATION

5 Operation

1) Using Auto Inverter mode:



2) Using Manual Inverter mode:

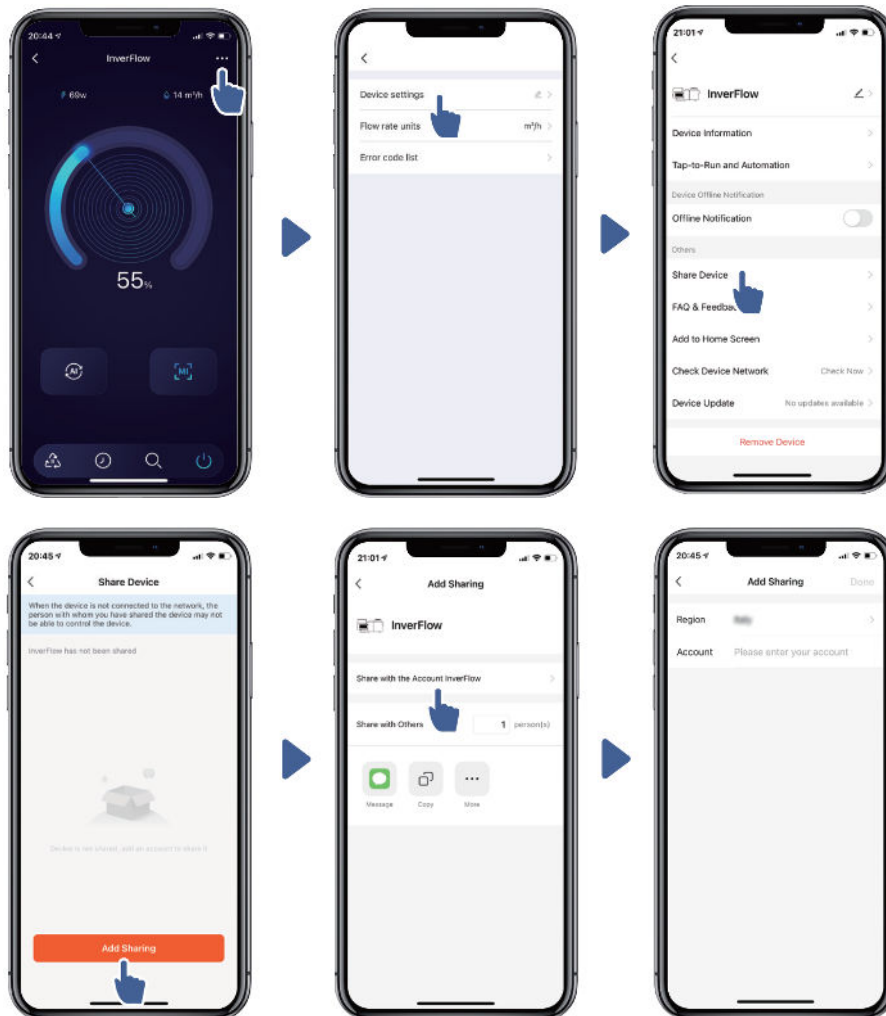


continue WIFI OPERATION

6

Sharing Devices with your family members

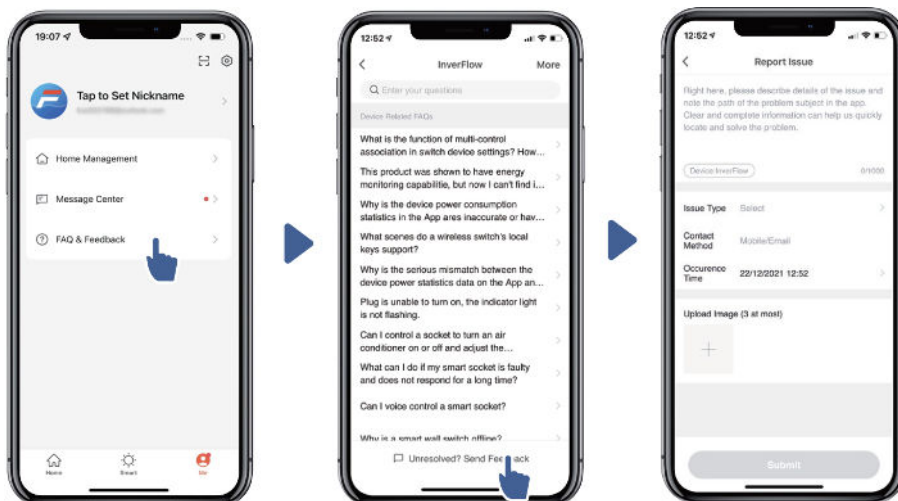
After pairing, if your family members also want to control the device, please let your family members register "InverFlow" first, and then the administrator can operate as below:



7

Feedback

If you have any problem while using, welcome to send feedback.

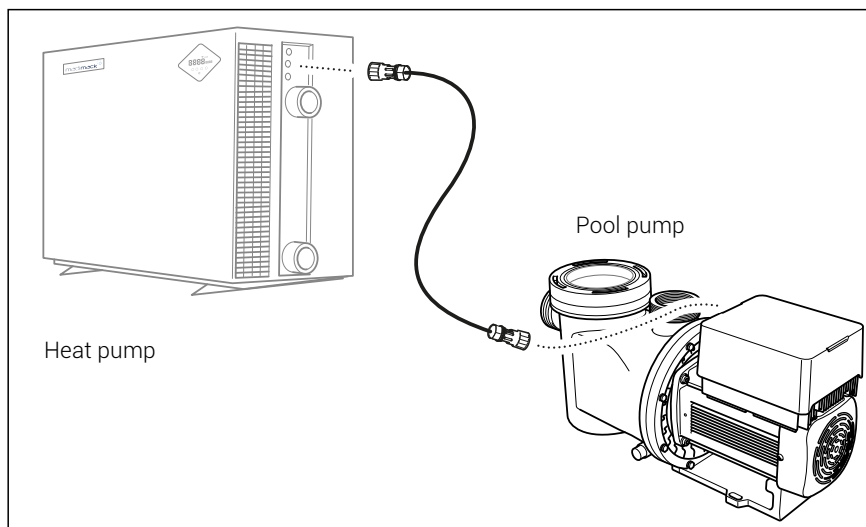


Notice:

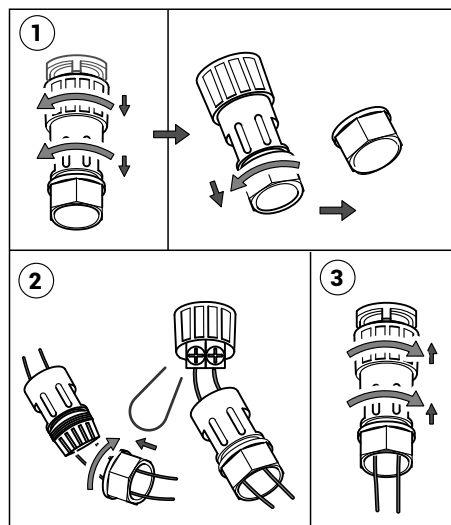
- 1) Weather forecast is just for reference;
- 2) The power consumption data is for reference only, as it may be affected by network problems and imprecision of the calculation.
- 3) App is subject to updates without notice.

11. CONNECTING TO MADIMACK HEAT PUMP POOL HEATER

How to connect: *Only available on late 2022 Madimack models.*

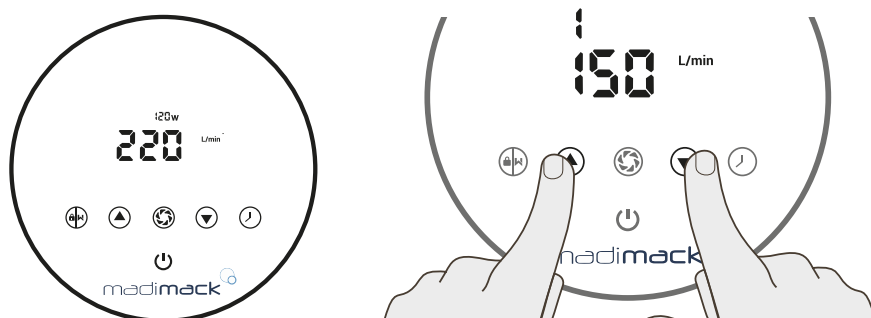


Socket



Adaptive Flow - Perfect Pairing with Madimack Pool Heat Pump

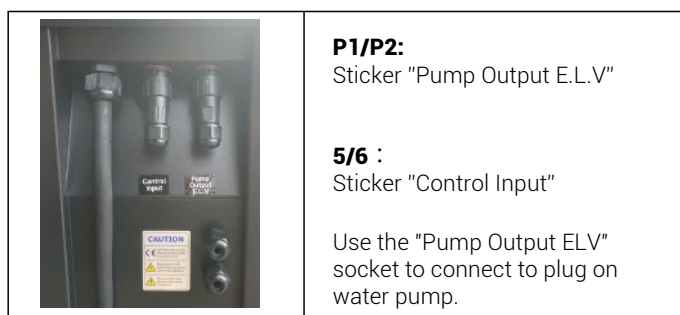
The Perfect Pairing uses the intelligent communication functions of the pool heat pump to activate the speed required for the pool pump ensuring the most efficient solution for your pool and equipment.



1. Switch pump off with so only power symbol is illuminated.
2. Press and hold and arrows for 4 seconds on until "1" is displayed.
3. Use the or arrow whilst on "1" to adjust to the bottom number (L/min) optimum stated on the table on the right side.

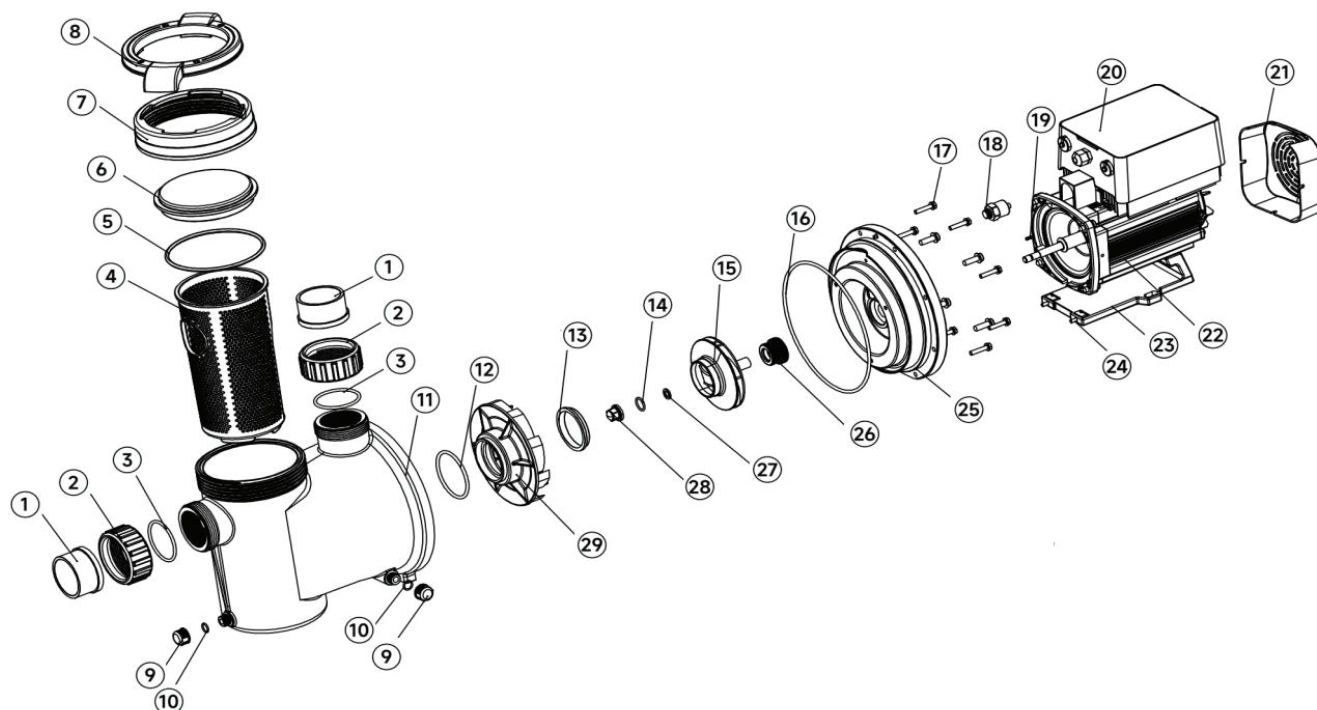
Pool Heater kW size	Optimum Flow rate L/min
9-16	83
17-20	100
21-24	133
25-28	150
29-32	183
33-36	200
37-40	283

CUSTOMIZED SOCKET



12. DIAGRAM

12.1 Exploded view



Explosive Diagram Code	Part Name
1	T union
2	Union nut
3	O-ring(62*4.5mm)
4	Strainer Basket
5	O-ring for Transparent Lid (132*5.3mm)
6	Transparent Lid
7	Nut for lid
8	Open wrench
9	Drain plug
10	O-ring(10*3mm)
11	Pump body
12	O-ring(71*4.5mm)
13	Turnable ring
14	O-ring(17*2.65mm)
15	Impeller

Explosive Diagram Code	Part Name
16	O-ring(204.5*4.5mm)
17	Stainless-Steel hex head bolt
18	Pressure sensor
19	Flat key
20	Inverter controller
21	Fan cover
22	Motor
23	Base
24	Cross recess head screw
25	Sealplate
26	Mechanical seal
27	Spring washer
28	Nut for impeller
29	Diffuser

13. WARRANTY & EXCLUSIONS



STANDARD CONDITIONS - Australia and New Zealand

Madimack Pty Ltd distributes pool products and provides the following warranties:

STATUTORY RIGHTS

The benefits to the consumer under this warranty are in addition to other rights and remedies of the consumer under the laws in relation to the goods and services to which the warranty relates.

Our goods come with guarantees that cannot be excluded under Australian Consumer Law. You may be entitled to a replacement or refund for a major failure and compensation for any other loss or damage. You are also entitled to have the goods repaired if the goods fail to be of acceptable quality and the failure does not amount to a major failure.

LIMITED WARRANTY

Madimack warrants that its products are free from defects in materials and manufacture for a period of 4 years from the date of purchase, unless otherwise specified.

Please visit www.madimack.com.au for all warranty terms and conditions

Madimack will, at its discretion, repair or replace any product proven to be defective during the warranty period for either materials or manufacture. Alternatively, Madimack will pay the cost of repair or replacement within 90 days of receiving the defective product, subject to unforeseen delays. This warranty is applicable for domestic installations only, is personal to the original purchaser, and does not transfer to any subsequent purchasers.

EXCLUSIONS

To the extent permitted by law, Madimack excludes all statutory or implied conditions and warranties, as well as any other liability that may arise under statute or at law, including without limitation liability for breach of contract, negligence, or any other cause of action. The following exclusions apply:

- Incorrect installation or operation of the unit resulting from failure to follow the provided instructions.
- Damage caused to the due to misuse or any means other than a manufacturer defect.
- Repairs or servicing performed by unauthorized dealers or service stations.
- Damage caused by an unauthorized service station repairs.
- Faults in the machine's operation caused by the use of non-specified accessories.
- General wear and tear of consumable items.

LIMITATION OF LIABILITY

To the extent permitted by law, Madimack's liability under any condition or warranty that cannot be legally excluded in relation to the supply of goods and services is limited to one of the following options:

Repairing the goods.

Replacing the goods with equivalent products or services.

Paying the cost of replacing the goods or providing equivalent products or services again.

Paying the costs of repairing the goods.

PROCEDURE FOR WARRANTY CLAIMS

Making a claim

The following steps should be taken when making a warranty claim with Madimack Pty Ltd.

- 1) Owners experiencing issues with their system are to contact Madimack Pty Ltd service departments online portal to and provide the requested information. www.madimack.com.au
- 2) A service agent will review the provided information and will contact you on the provided phone number to try and solve the issue.
- 3) If the issue cannot be dealt with over the phone, owners will be supplied with details of service agent in their area
- 4) Owners will need to contact and deal with service agents directly in relation to the booking in and payments of works related to the service or repair of their Madimack Pool Heat Pump
- 5) Owners can claim reimbursement for costs of works covered under the product warranty when completed by an approved Madimack Service Agent. When making a claim, owners will need to provide the following documents.
 - Proof that you are the original system owner – original invoice showing owner name and property address.
 - Copy of invoice from an approved Madimack approved service agent.
 - For a major defect a copy of the report for major defects from approved Madimack Service agent.

In the event of a warranty claim, the faulty product should be returned to the place of purchase or, to an authorised service and warranty agent repair centre.

You are responsible for arranging the removal of the defective product and the installation of the repaired or replacement product. This includes all transportation costs and any applicable insurance fees associated with transporting the products to the supplier and the replaced or repaired product from the supplier.

All returns require Madimack's written approval and must be accompanied by either:

- A service support ticket authorized by Customer Service Manager or Authorised Agent, or
- A "Return Goods Authorisation"



14. DISPOSAL

Observe all safety and warning information during installation and operation.

DISPOSAL CONSIDERATIONS

The transport and protective packaging has been selected from materials which are environmentally friendly for disposal, and can normally be recycled.

Recycling the packaging reduces the use of raw materials in the manufacturing process and also reduces the amount of waste in landfill sites. Ensure that any plastic wrappings, bags etc. are disposed of safely and kept out of the reach of babies and young children. Danger of suffocation.



DISPOSING OF YOUR ELECTRICAL PRODUCT

Electrical devices marked with this label may not be disposed of in domestic waste at the end of their service life.

Electrical and electronic appliances often contain valuable materials. They also contain specific materials, compounds and components, which were essential for their correct function and safety. These could be hazardous to human health and to the environment if disposed of with your domestic waste or if handled incorrectly. Please do not, therefore, dispose of your old appliance with your household waste.

Please dispose of those materials by contacting your local authorities and ask for the correct method of disposal. Please ensure that your old appliance poses no risk to children while being stored prior to disposal.

By disposing of this product in accordance with the regulations, you protect the environment and the health of those around you from negative consequences.

