OCEA-X Inver Hero

Most Silent Inverter Pool Pump

36 dBA @1m sound pressure

Sound level tested by TÜV Rheinland

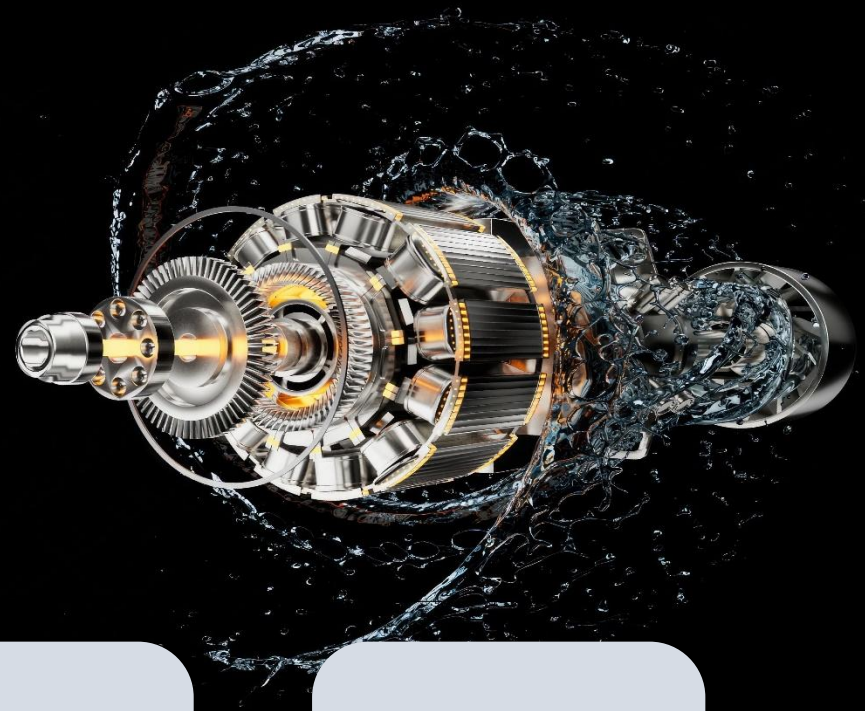
INVERTER TECHNOLOGY

What is Inverter Pool Pump?

INVERTER pool pump is equipped with PMSM (Permanent magnet synchronous motor) and FOC (Field Oriented Control), which can reach the most energy saving and silence.

Inverter Motor

-Born for Energy Saving



Controller	Motor	Efficiency	Noise
Filed Priented Control	PMSM	Motor≥85% Controller≥ 90%	Lower vibration and noise

Why FOC ?

FOC and VFC are both motor speed control method,
we choose FOC due to below:

FOC	VFC
Filed Priented Control	Volt&frequency Control

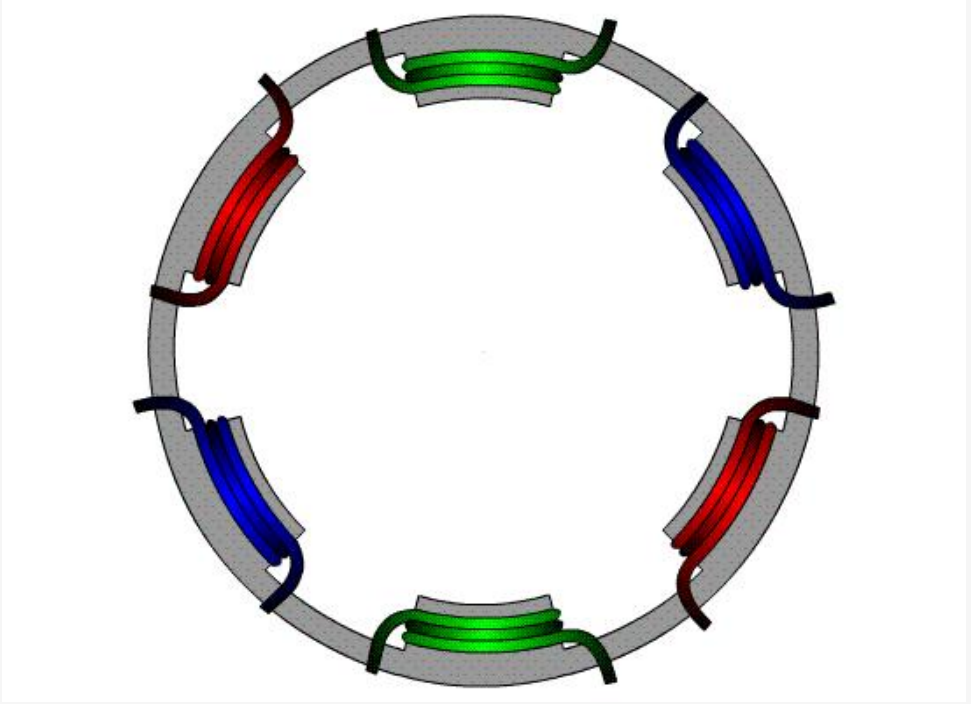
Precision Control	★ ★ ★ ★ ★	★ ★ ★
Stability	★ ★ ★ ★ ★	★ ★ ★ ★
Efficiency	★ ★ ★ ★ ★	★ ★ ★
Low noise	★ ★ ★ ★ ★	★ ★ ★
Low cost	★ ★	★ ★ ★ ★ ★

Why PMSM ?

AQUAGEM®

PMSM is approved as the smallest, lightest and most efficient motor in the world, 99% of electricity cars use PMSM, including BYD/ TESLA.

Motor Type	PMSM	Asynchronous motor
Efficiency	⩾88%	⩽76%
Small Size	★ ★ ★ ★ ★	★ ★ ★ ★
Low noise	★ ★ ★ ★ ★	★ ★ ★
Low Cost	★ ★ ★	★ ★ ★ ★
Light Weight	★ ★ ★ ★ ★	★ ★ ★

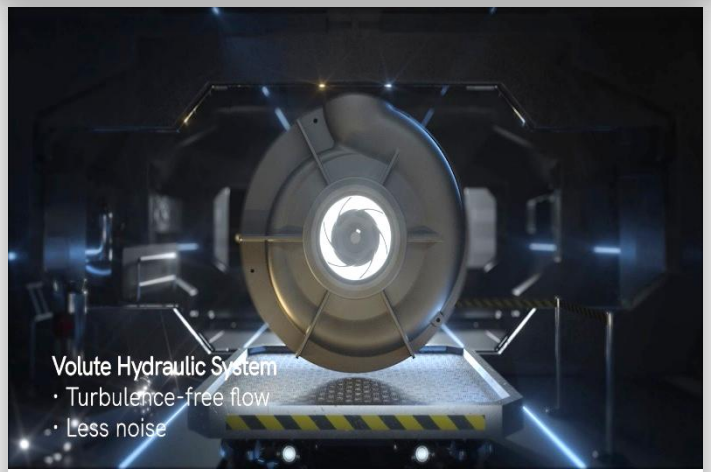


Core Tech

INVERSilence® Tech

Full Inverter Tech

Running capacity to be adjusted between **30~120%**



Volute Structure

Generating more turbulence-free flow **at less noise** compared with traditional diffuser type

PMS Motor

Less noise, higher Efficiency (IE4) and more durability

INVERHERO

AQUAGEN

UP to 15 Times Energy Saving

VS

24H

IH24: 0.1kW x 24h = 2.4kW/h

ON/OFF Pool Pump: 1.5kW x 24h = 36kW/h

15 Times Energy-saving

50m³

IH24: 50m³ x 2 times/10 = 10h; 10h x 0.1kW = 1kW/h

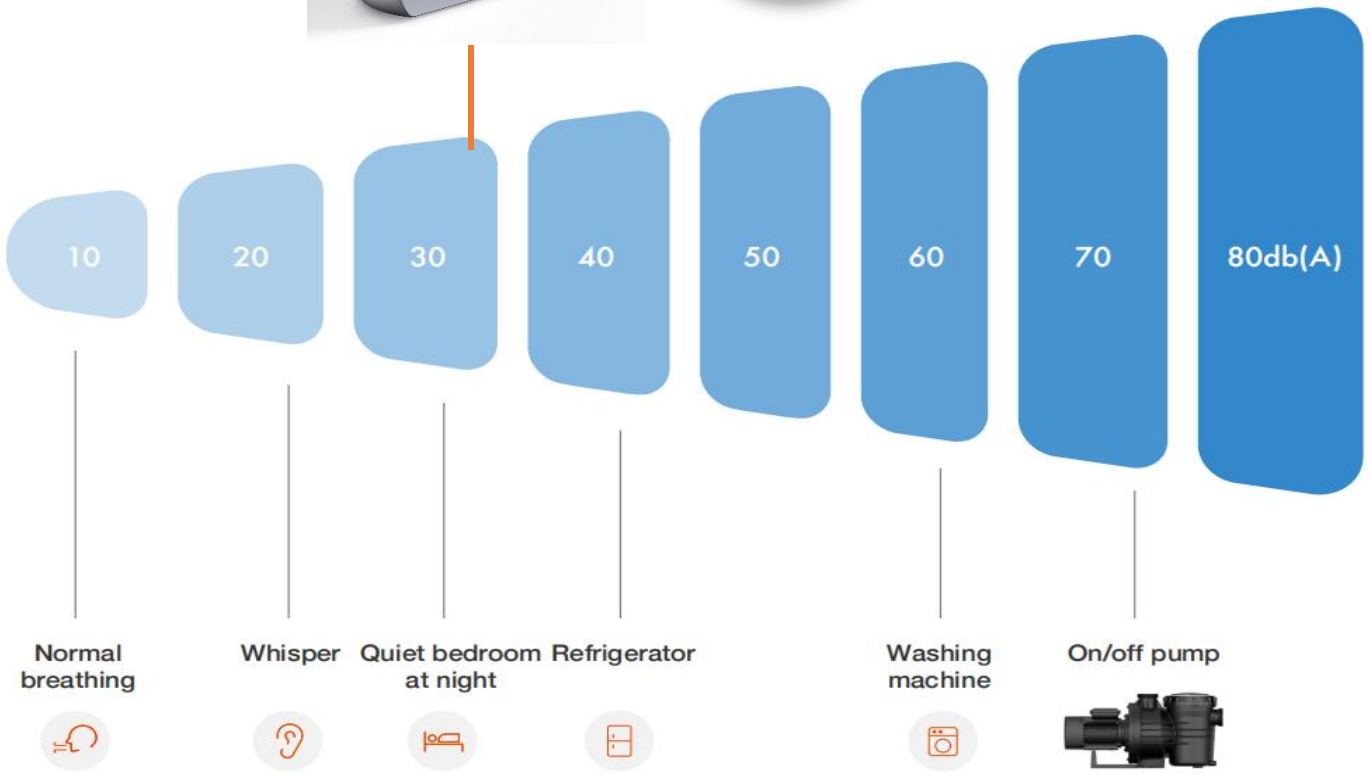
ON/OFF Pool Pump: 50m³ x 2 times/25 = 4h; 4h x 1.5kW = 6kW/h

6 Times Energy-saving

Up to 30 Times Silent

TÜVRheinland®

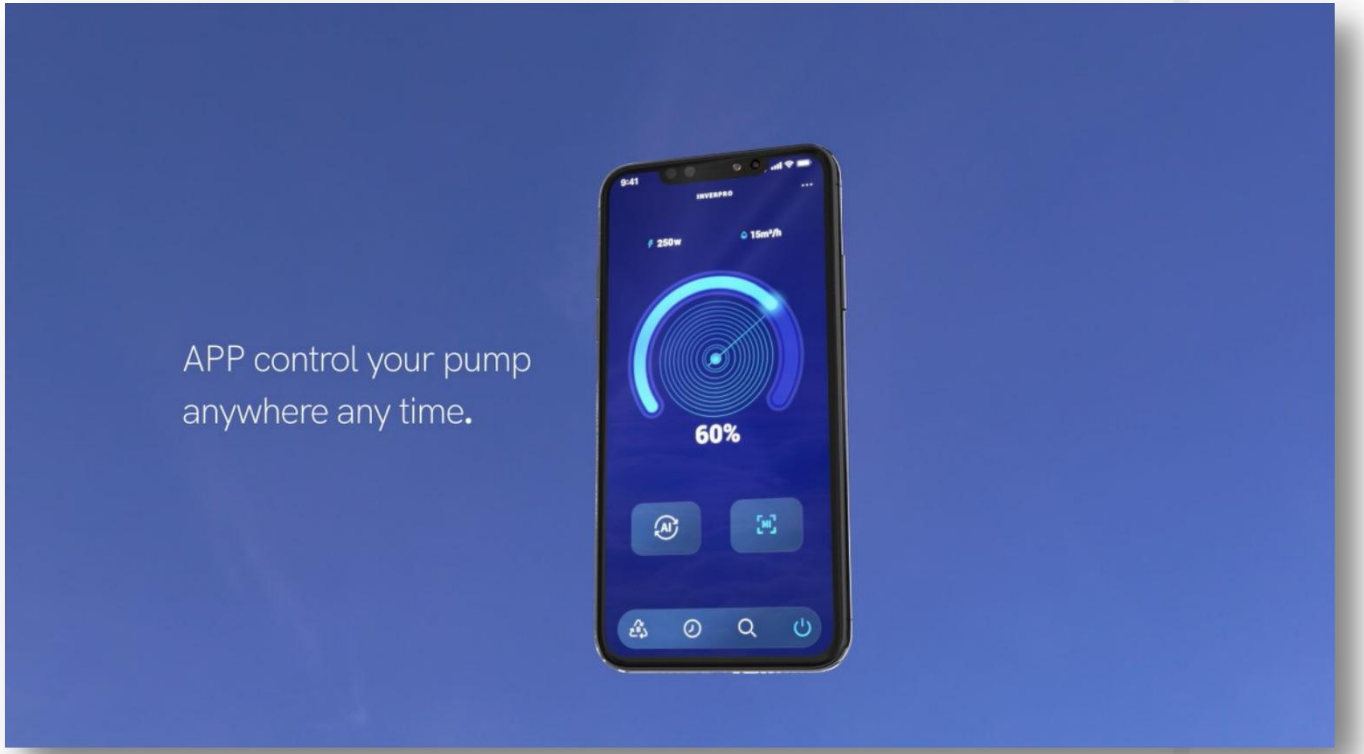
33 dB(A)



Full Touch Controller

- Auto Inverter (Constant flow rate)
  Manual Inverter (30% ~ 100%)
- Power consumption reading
- Flow reading
- One-click backwash
- Timer Mode

External Control



INVERFLOW

Download on the App Store

GET IT ON Google Play

RS485, Digital input

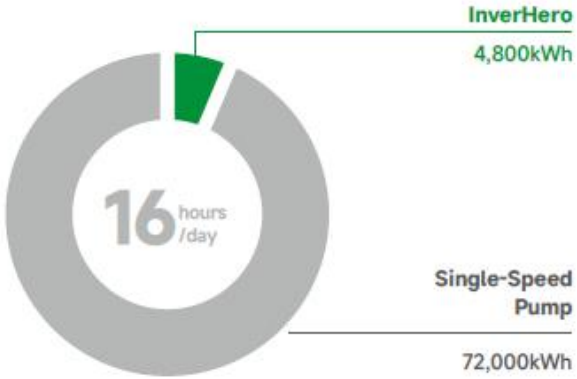
WIFI / APP

SAVE THE ENERGY

6-15 Times Energy Saving

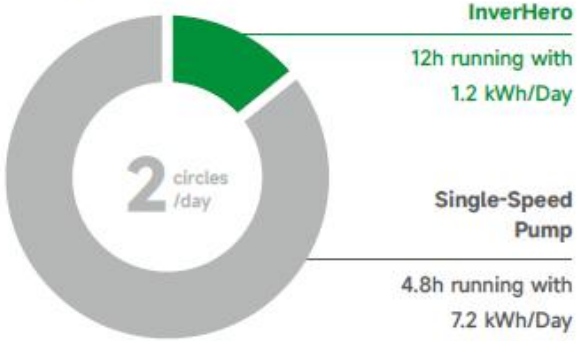
Up To 67,000 kWh in 10 Years

If runs for 16 hours/day



Longer Filtration, More Energy Saving

If runs for 2 circles/day



Ref:
InverHero (1.1kW) VS Single-Speed Pump (1.5kW) ; 25m³/h @8m
Length of swimming seasons: 10 months per year; Pool size: 60m³

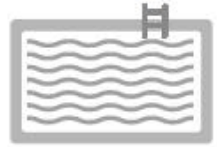
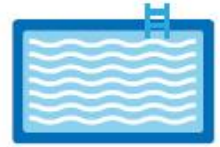
SAVE THE WATER

How Important?

Water Shortages
Europe has been in drought since 2018.

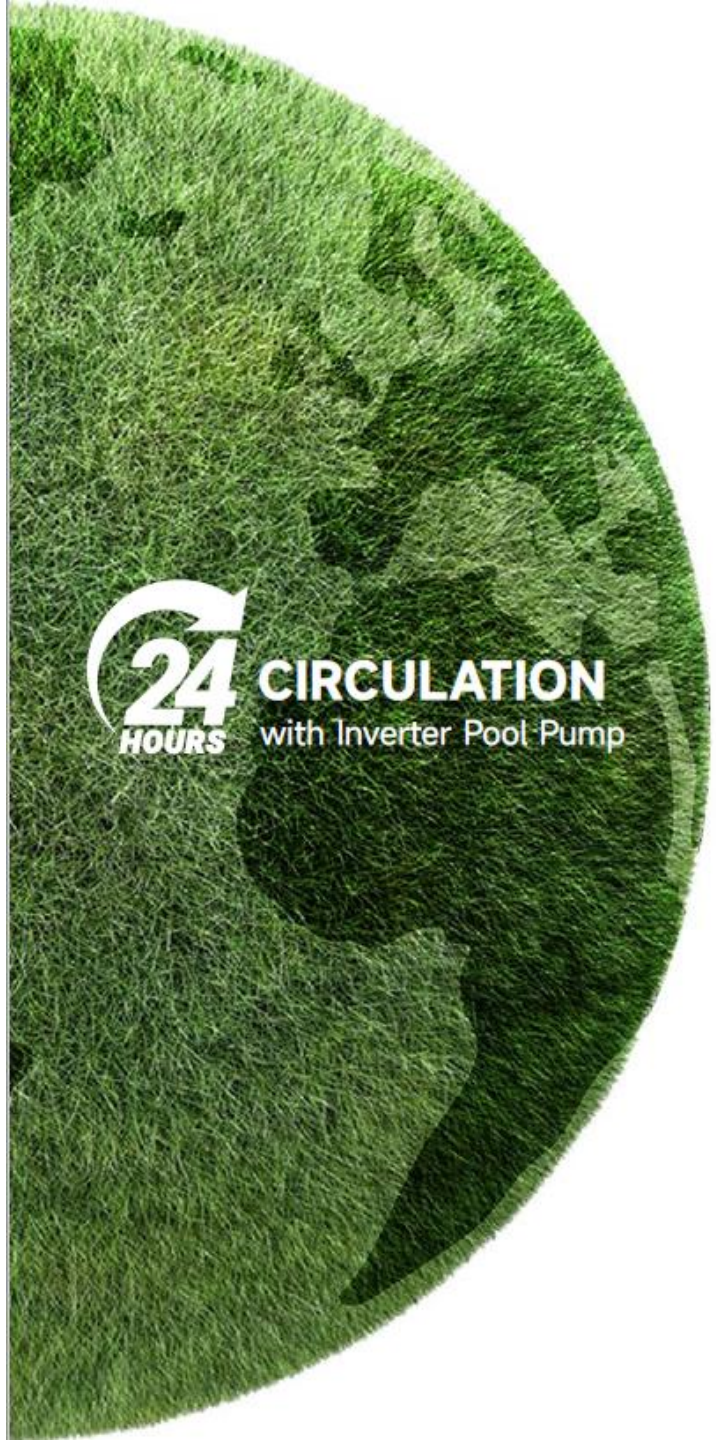
Global Prohibitions
Pool water refilling is prohibited in many countries.

Which Side Are You In?

Water-Wasted Pool	Finely Filtrated Pool
2hr circulation a day But water changes often.	24hr circulation Almost 0 water changes
	
	
Limited circulation	24h circulation
Less clean	Clean pool
Drain water often	Save water
Extra Pool Maintenance	Less maintenance
Possible damage to the pool	Longer use life

AQUAGEM®

GO GREEN WITH INVERTER POOL PUMP



BENEFIT POOL SYSTEM

HEAT PUMP

Good to Heat Exchange

Create a better heating effect in the low-speed water cycle

FILTER

Smarter Filtration

Improving filtration and endurability by slower water flow

SALT CHLORINATOR

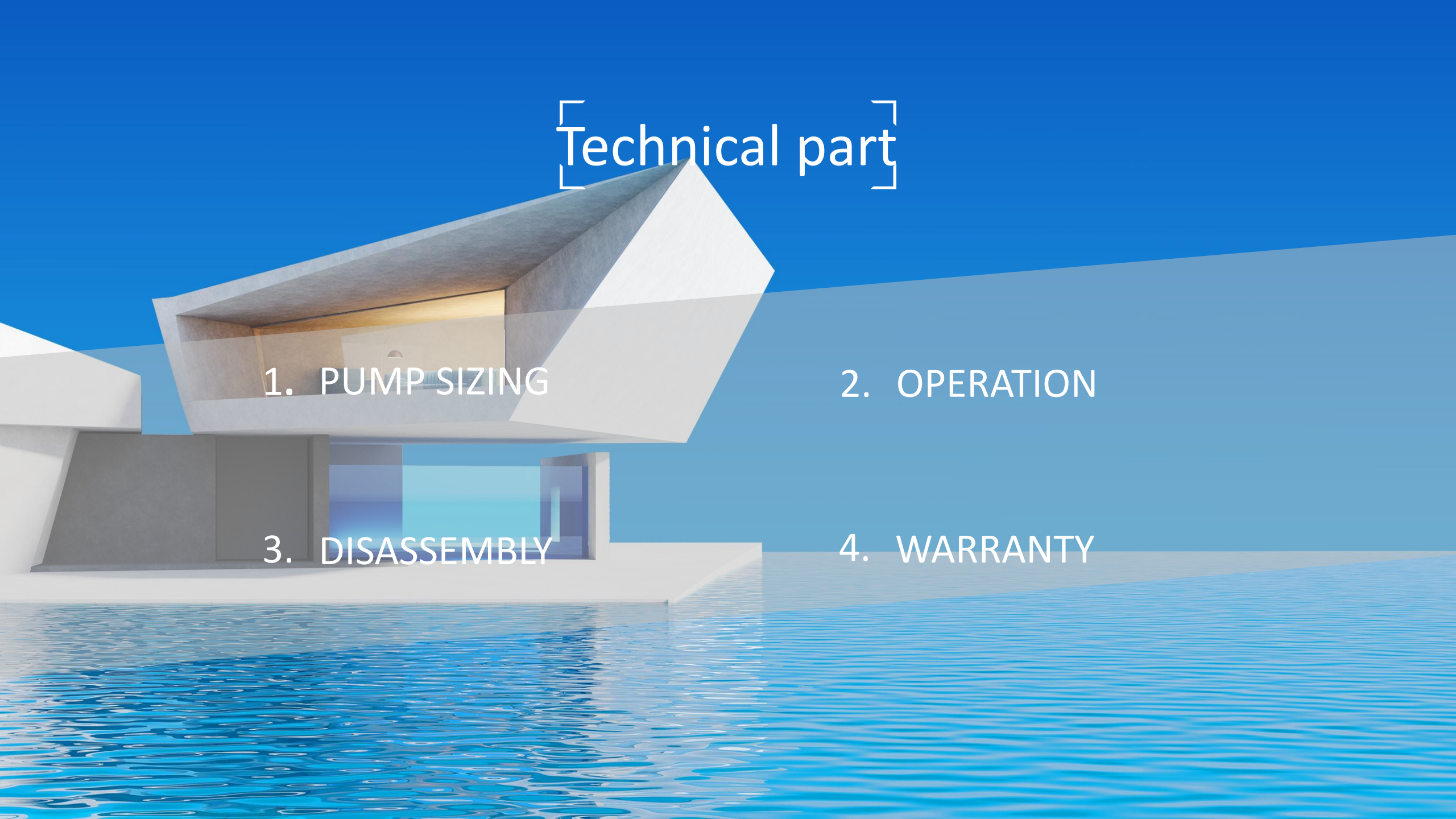
More Efficient Disinfection

Providing the best working condition for electrolytic cells and sensors

PIPELINE SYSTEM

Extended Lifetime

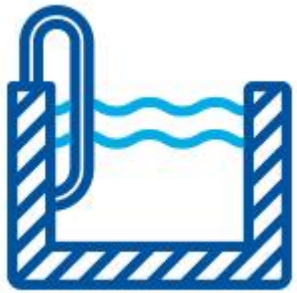
Slow water flow to reduce pipeline friction



Technical part

1. PUMP SIZING
2. OPERATION
3. DISASSEMBLY
4. WARRANTY

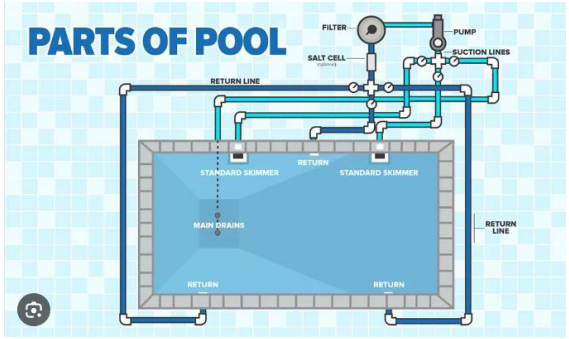
Pump Sizing



1 Calculate Pool Volume

2 Minimum Turnover Rate

3 Pool Filter Flow Rate



4 Medium Head or High Head

Pump Sizing

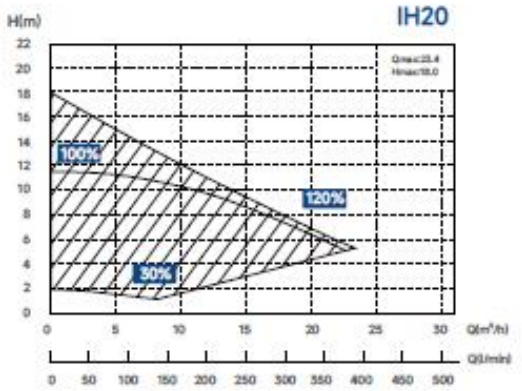
InverHero

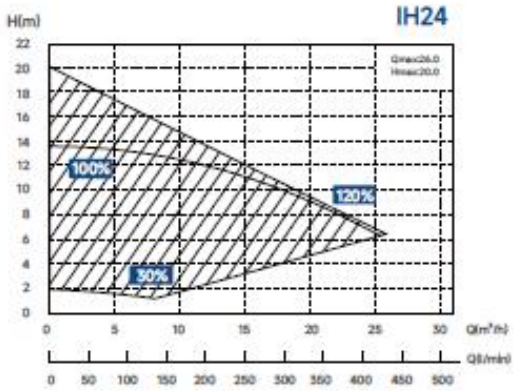
5 Choose the Model

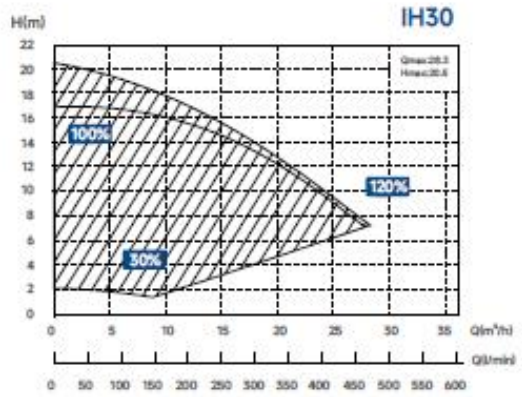
Think Bigger!

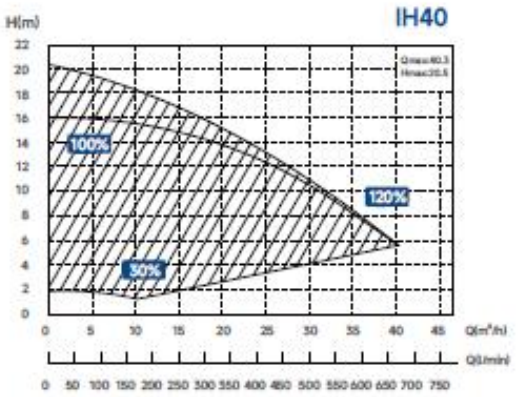
Model	Advised pool volume (m³)	P1 (kW)	Voltage (V/Hz)	Qmax (m³/h)	Hmax (m)	Circulation Flow (m³/h) (Max)	
						10m	8m
IH20	30-50	0.75	220-240/50/60	23.4	18.0	14.1	18.1
IH24	40-70	1.05		26.0	20.0	19.3	23.0
IH30	50-80	1.4		28.3	20.5	24.5	27.6
IH40	70-100	1.75		40.3	20.5	32.0	35.6

PERFORMANCE CURVE









Installation

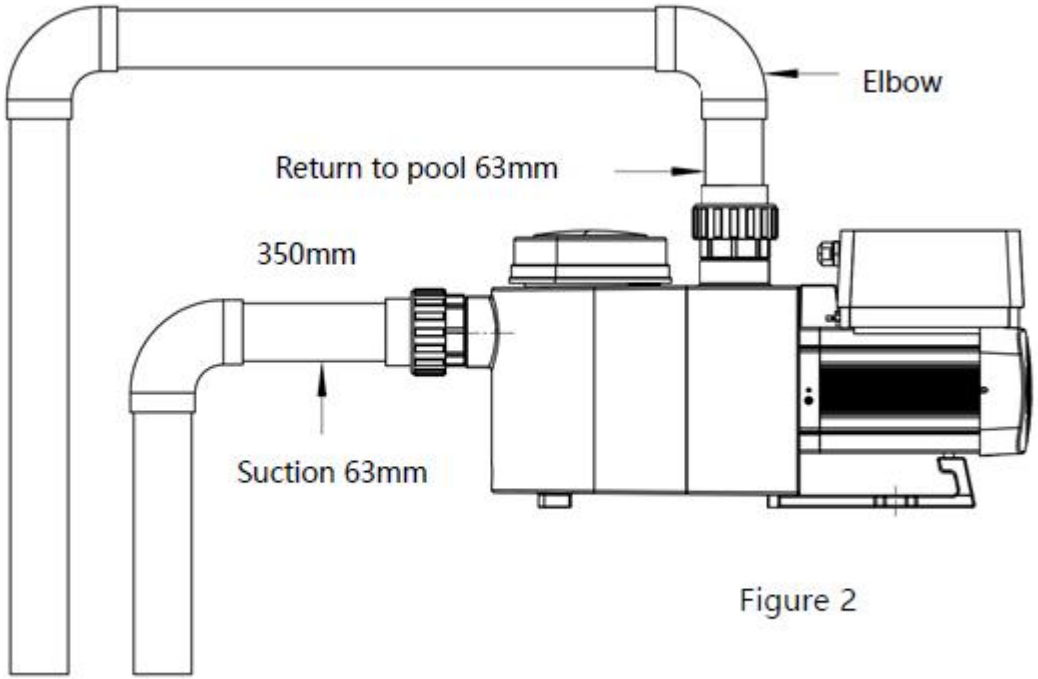


Figure 2

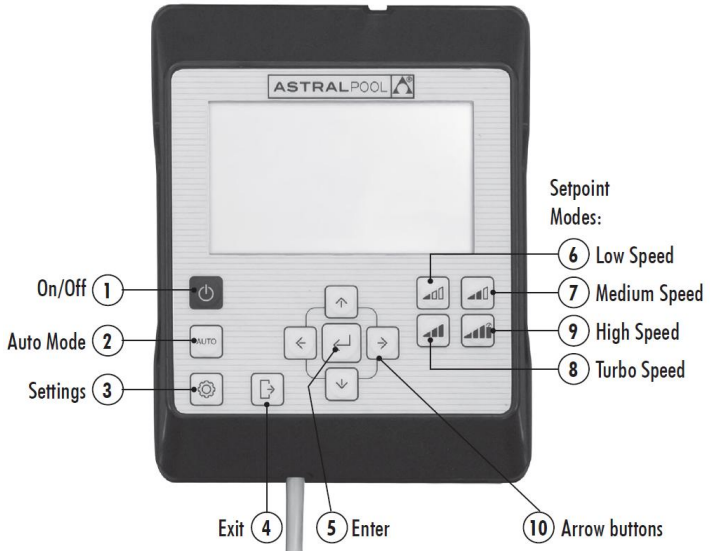
* The pump inlet/outlet union size: optional with 48.5/50/60.3/63mm

- Installed close to the pool if possible
- Avoid direct sun shine, heat or rain
- Keep ventilated
- Fix the motor base to avoid vibration or noise

OPERATION

AQUAGEN

Control Panel



Control Panel

- Auto Inverter (Flow rate control)
  Manual Inverter (Running capacity 30% ~ 100%)
- Power consumption reading
- Running capacity / Flow rate reading
- One-click backwash
- Timer Mode

Initial Start Up

UNLOCK THE SCREEN

Hold for more than 3s, all buttons on the screen will light up.

Press to turn on the pump.

SELF PRIMING

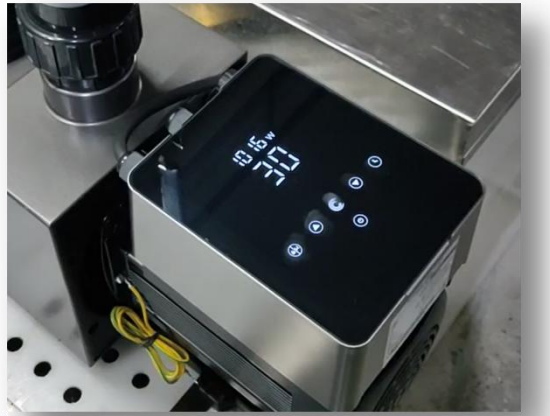
Counting down from 1500s,

it will stop automatically when the system detects the pump is full of water.

Initial Start Up

RECHECK

Recheck for 30s to make sure the priming is successful.



DEFAULT MODE

Manual Inverter Mode, 80%

Manual Inverter Mode (Default)

RUNNING CAPACITY SETTING

- Press to switch between Manual Inverter Mode and Auto Inverter Mode.
- Under Manual Inverter Mode, the “%” icon will light up.
- Press and to adjust the running capacity from **30% - 120%,** each step by 5%, the parameter will be saved and the motor speed will be changed immediately.

Auto Inverter Mode

FLOW RATE SETTING

- Press  to switch between Manual Inverter Mode and Auto Inverter Mode.

- When entering the Auto Inverter Mode at the first time, the pump will perform self-priming and recheck.
  Then it will perform the “self-learning” process for 180s, to redefine the adjustable flow range of Auto Inverter Mode by detecting the pipeline pressure.

- Under Manual Inverter Mode, the “flow unit” icon will light up

- Press  and  to adjust the flow rate,

  (adjustable flow range as per the result of the self learning process)

  the system will adjust the running capacity automatically to reach the set flow.

Timer Mode

4 TIMERS ON CONTROL PANEL

- Press to enter timer mode.

- Press and to set local time,

  press to confirm the HOUR and MINUTE and enter the TIMER 1 setting.

- In each TIMER setting, press and to select the timer period and running capacity / flow rate,

  (press to switch between running capacity and flow rate), press to confirm the setting.

Timer Mode

NOTE

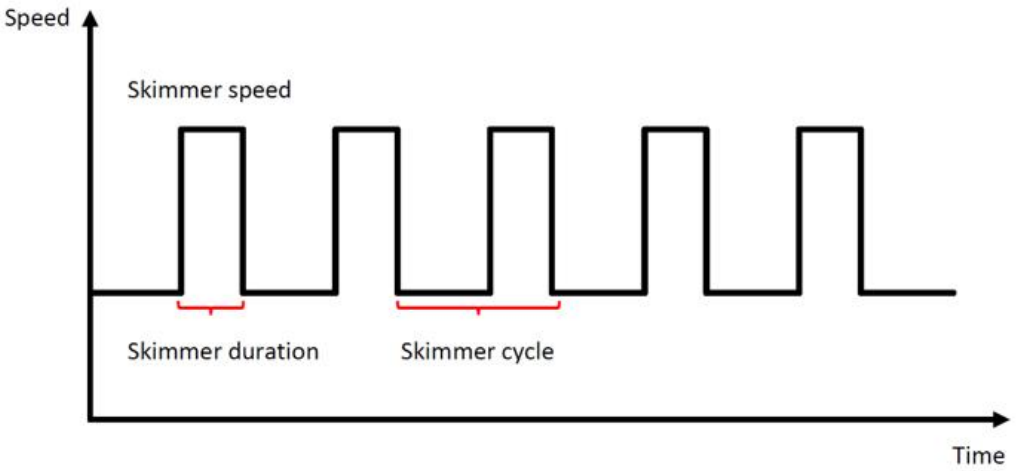
- When timer mode is activated, if the set time period contains the current time,
  the pump will start running according to the set running capacity or flow rate.

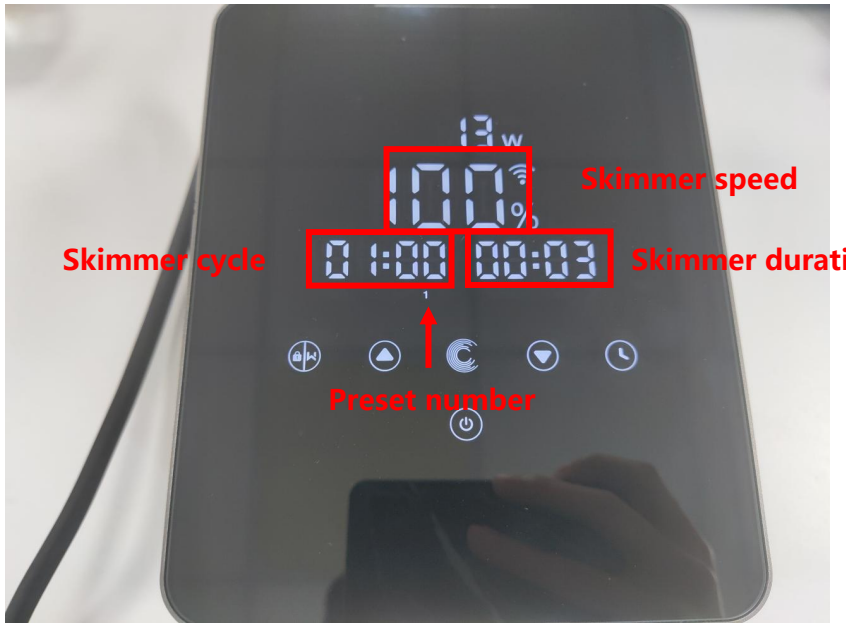
- If the set time period does not contain the current time,
  the timer number 1 2 3 4 (or 1 or 2 or 3 or 4) that is about to start running will be displayed on the controller and flash,
  88:88-88:88 will display the corresponding time period.

- During timer setting, if you want to return to the previous setting, hold both  and  for 3 seconds

Skimmer Mode

- Hold  and  to enter the preset interface of the skimmer mode.
- Press  and  to view the presets
- The selected preset will be activated after 8s with operation
- User can exit the skimmer mode without activating it by holding  and  again.

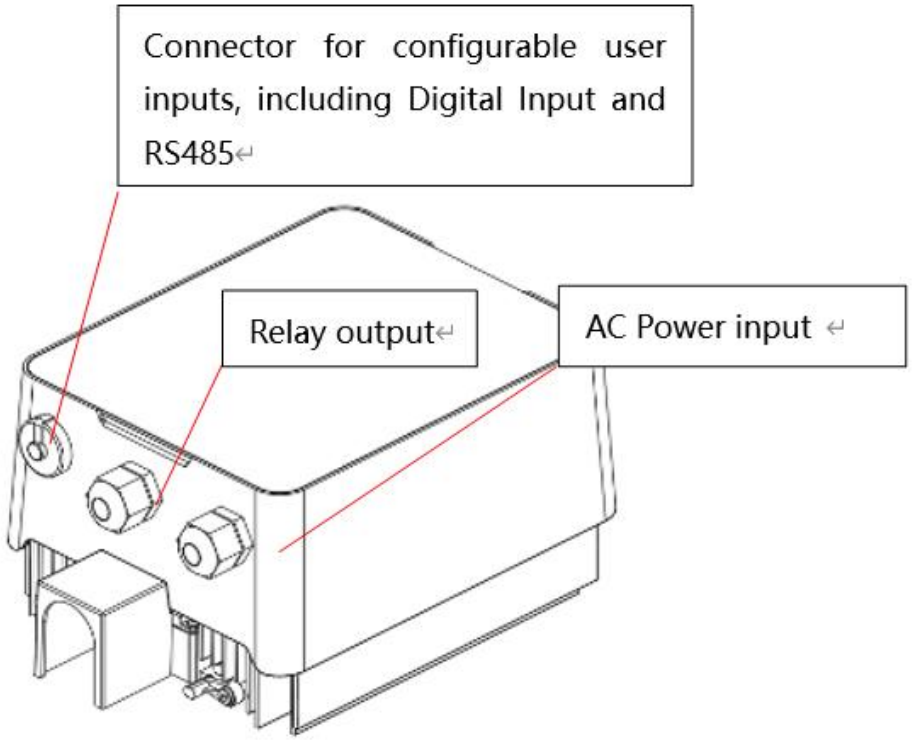




External Control

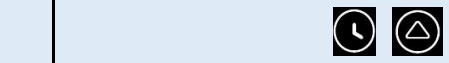
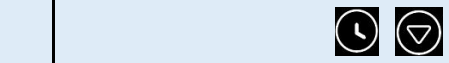
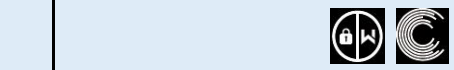
PRIORITY:
DIGITAL INPUT>RS485 >PANEL CONTROL

DI PRIORITY: PIN 4 > PIN3 > PIN2 > PIN1



Name	Color	Description
PIN 1	Red	Digital Input 4
PIN 2	Black	Digital Input 3
PIN 3	White	Digital Input 2
PIN 4	Grey	Digital Input 1
PIN 5	Yellow	Digital Ground
PIN 6	Green	RS485 A
PIN 7	Brown	RS485 B

Parameter Setting

Restore factory setting	Under off mode, hold both  for 3 seconds
Check the software version	Under off mode, hold both  for 3 seconds
Manual priming	Under on mode hold both  for 3 seconds
Enter parameter	Under off mode, hold both  for 3 seconds; If current address does no need to be adjusted, hold both  or press  to next address

Parameter Address

Parameter Address	Description	Default Setting	Setting Range
1	PIN3	100%	30~100%, by 5% increments
2	PIN2	80%	30~100%, by 5% increments
3	PIN1	40%	30~100%, by 5% increments
4	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 each start	25	25:enables 0: disables
11	Speed limit	100%	60%-100%, by 5% increments 100% means no speed limit


THANK YOU