AQUARK

AQUARK®

www.aquark.com.cn

+86 20 3781 4693

sales@aquark.com.cn

Address: Keyuan Two Road,
Gaoli Development Zone,Ronggui,
Shunde District, Foshan,
P.R.China 528306

SMART
SAVING

Mr. Smart Inverter pool heat pump

Stepless DC

COP up to 13

R32 R410A

Mr. Smart

Stepless DC Inverter

Mr.Smart is stepless DC inverter. It adopts stepless inverter compressor and DC brushless fan motor. The speed adjustment can be as low as one hertz and one round, which provides amazing energy saving performance and extreme silence.

Specially designed inverter control system

Mr.Smart's control system is specially designed for pool heating. It can adjust the heating capacity precisely according to different heating loss in a pool season. The design philosophy is to achieve fast heating by high speed in the beginning of the season, and better energy saving in the rest of the season by middle & low speed.
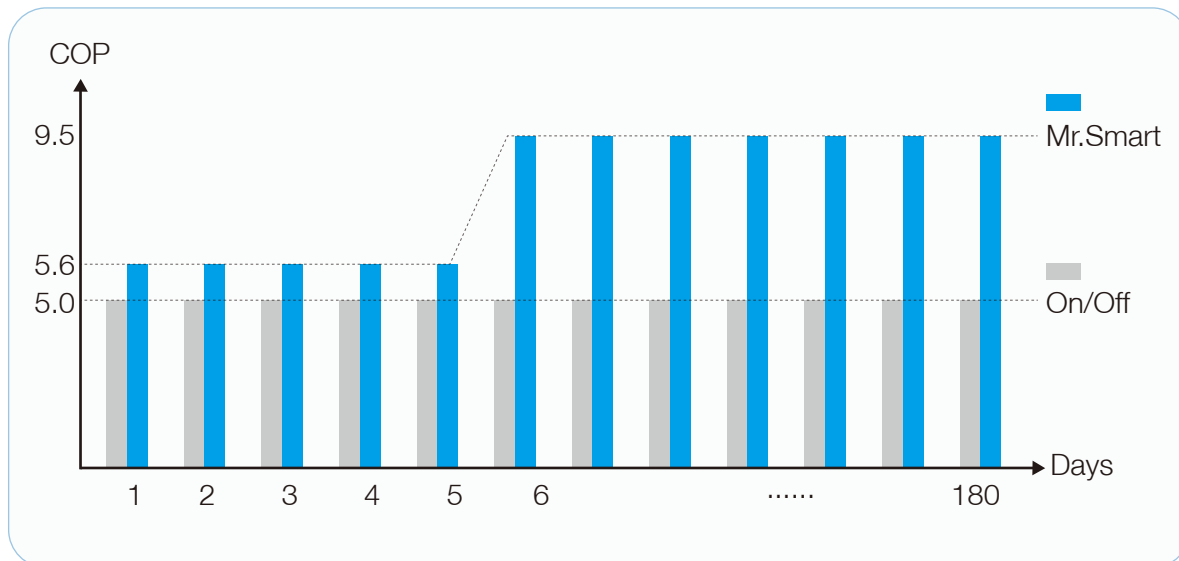
Intelligent Protection

Mr.Smart can adapt to wide voltage and adjusts the system in different tough condition. For example, if there is electricity peek or poor ventilation, the system can slow down intelligently for comfortable operation. Thus, it brings longer life span than traditional on/off heat pump.
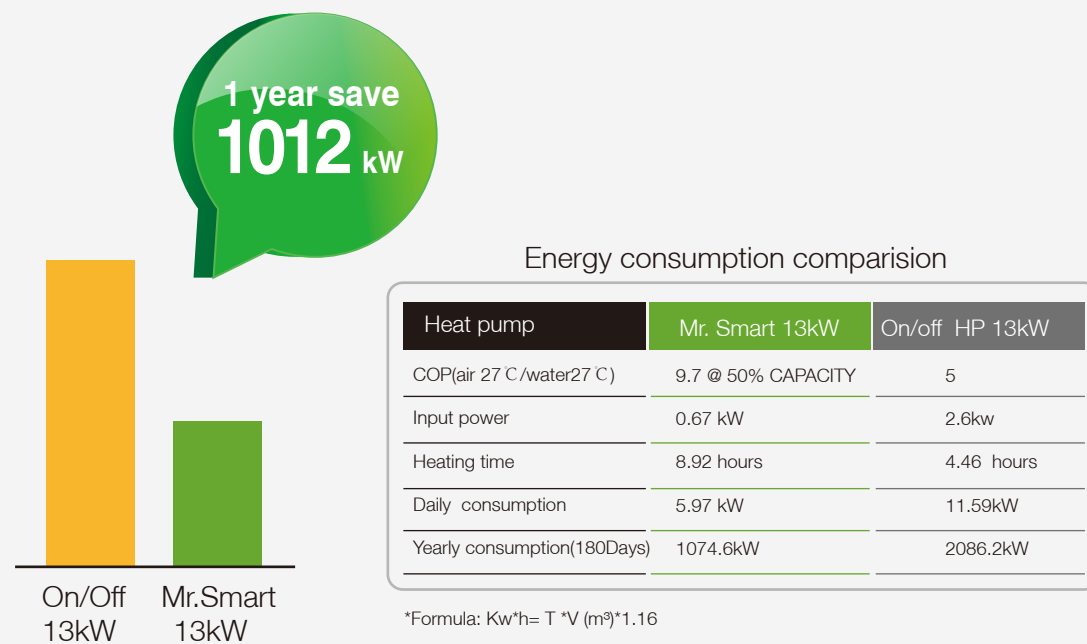
1 Average-COP 9.5 (air 27℃ / water 27℃)

When maintain pool temperature at 95% of pool season, Mr. Smart HP is running by average 50% capacity which leads to the best energy saving performance and most silent pool environment. Its average-COP at 50% speed is 9.5 at air 27℃ / water 27℃ and 6.2 at air 15℃ / water 26℃.

COP

	Mr.Smart
9.5	
5.6	
5.0	On/Off

Days
1 2 3 4 5 6 180

3 Comfort silence

Thanks to the Inverquark technology, Stepless DC inverter compressor and DC brushless fan motor, Mr. Smart runs very quietly which provide you a comfortable heating environment.

breathing rustling leaves whisper Mr. Smart moderate rainfal conversation

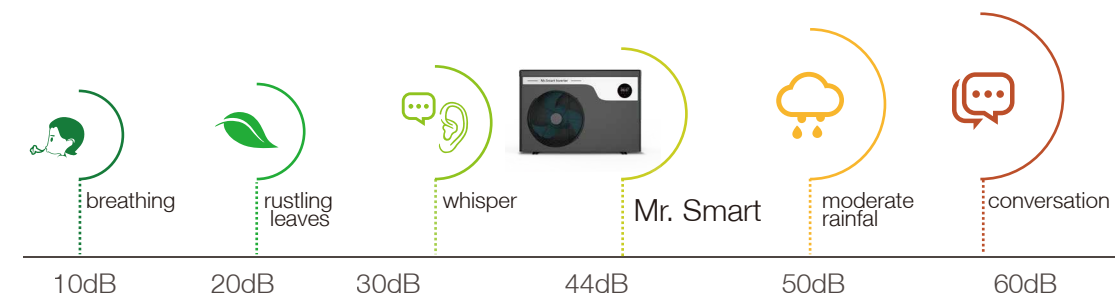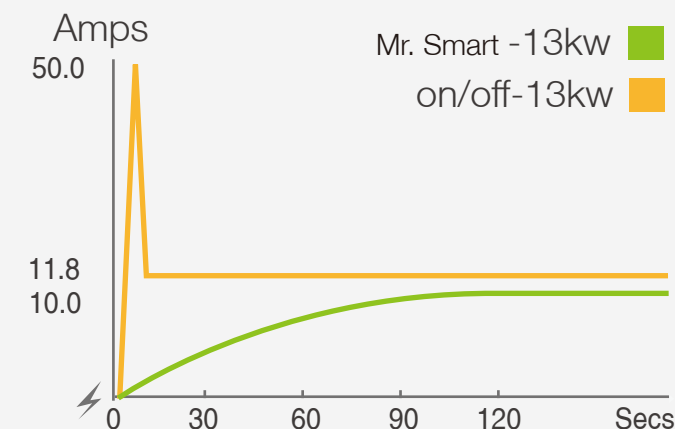10dB 20dB 30dB 44dB 50dB 60dB

2 Double energy saving

Use a 13kw Mr. Smart to heat up a 50 m³ pool for 1℃, it can save 1012 kW energy consumption than use a 13kw On/Off heat pump in one pool season. It is nearly double energy saving.

1 year save 1012 kW

On/Off 13kW   Mr.Smart 13kW

Energy consumption comparision

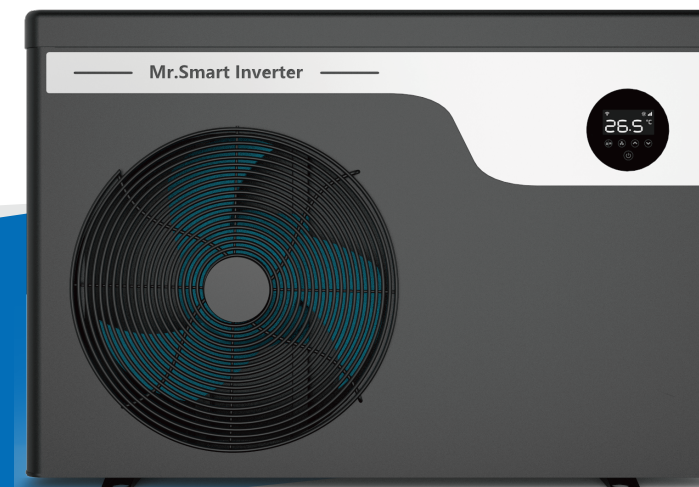| Heat pump	Mr. Smart 13kW	On/off HP 13kW
COP(air 27℃/water27℃)	9.7 @ 50% CAPACITY	5
Input power	0.67 kW	2.6kw
Heating time	8.92 hours	4.46 hours
Daily consumption	5.97 kW	11.59kW
Yearly consumption(180Days)	1074.6kW	2086.2kW

*Formula: Kw*h= T *V (m³)*1.16

4 Soft start & wide voltage application

With DC inverter compressor, Mr. Smart starts from 0 Amps to rated Amps Slowly & steadily. There is no strike to the house electricity system. And with its smart conversion, Mr. Smart can be applied to a wide range of voltage which is 180~260V.

Amps

Mr. Smart -13kw
on/off-13kw

50.0

11.8
10.0

0 30 60 90 120 Secs

180~260V

5 Smart Wi-Fi APP

With smart Wi-Fi App, you can see or control Mr. Smart anywhere any time.

Mr.Smart Inverter

MORE FEATURES OF MR. SMART

Alu — Aluminum Alloy casing and Inner Metal Frame.

EEV — EEV technology: 10 times flexibility to adjust the gas flow and increase the COP up to 20% higer.

Twisted titanium heat exchanger: 40% higher efficiency than normal titanium heat exchanger.

-5°C — Extend the pool season with down to -5℃ running

Hot gas defrosting with saginomi-ya 4-way valve for quick & efficient defrosting.

Parameter

Model	STN70	STN90	STN130	STN160	STN200	STN240
PERFORMANCE CONDITION: Air 27°C/ Water 27°C/ Humid. 80%						
Heating capacity (kW)	7.0	9.0	13.0	16.0	20.2	24.2
COP Range	13~6.3	13.2~6.4	13.5~6.5	13.5~6.4	13.5~6.3	13.8~6.5
Average COP at 50% Speed	9.0	9.6	9.8	9.5	9.6	9.6
PERFORMANCE CONDITION: Air 15°C/ Water 26°C/ Humid. 70%						
Heating capacity (kW)	5.0	6.5	9.0	11.0	14.0	16.0
COP Range	6.8~4.6	6.9~4.5	7~4.7	7~4.5	7~4.5	7.2~4.8
Average COP at 50% Speed	6.3	6.3	6.4	6.2	6.2	6.4
TECHNICAL SPECIFICATIONS						
Advised pool volume (m3) *	15~30	20~45	35~65	40~75	50~90	60~110
Operating air temperature (℃)	-5℃~43℃					
Heat exchanger	Twisted Titanium Heat Exchanger					
Power supply	230V 1Ph					
Rated input power (kW)	0.20~1.09	0.26~1.44	0.34~1.91	0.44~2.44	0.56~3.11	0.60~3.33
Input power at 50% Speed (kW)	0.40	0.52	0.70	0.89	1.13	1.25
Rated input current (A)	0.85~4.73	1.13~6.28	1.50~8.33	1.91~10.63	2.43~13.53	2.61~14.49
Maximum input current (A)	6.5	9.5	12.5	17	19.5	20
Power cord (mm²)	3×1.5	3×2.5	3×2.5	3×4	3 x 6	3×6
Sound level at 1m dB(A)	37.8~49.2	39.6~51.5	41.9~52.0	44.2~55.3	44.3~56.1	44.9~56.7
Sound level by 50% speed 1m dB(A)	41.8	44.8	47.5	47.7	48.6	49.1
Sound level at 10m dB(A)	17.8~29.2	19.6~31.5	21.9~32	24.2~35.3	24.3~36.1	24.9~36.7
Advised water flux (m³/h)	2~4	3~5	4~6	6~8	7~10	10~12
Water connection (mm)	50					
Net dimension LxWxH (mm)	744*359*648	864*359*648	864*359*648	954*359*648	954*359*748	954×429×755
Net Weight (kg)	42	47	49	60	68	68
Qty per 20'FT / 40'HQ (sets)	114/252	102/216	102/216	90/198	60/198	52/165

Remarks:
*Advised pool volume applies to a private pool with isothermal cover, from April to September.
*The data above is only for reference. For specific data, please refer to the nameplate on the unit.