



# POLYTROPIC

• POOL HEATING SOLUTIONS •



## RAK INVERTER

The reversible swimming pool heat pump for commercial and large pools !



POLYCONNECT<sub>20</sub>  
• INSIDE •



4G



> Video demo

### LOWER ENERGY BILLS AND CONTROLLED NOISE LEVELS

with this reversible high-power heat pump with full-Inverter technology, specially designed for large pools.

Thanks to **full-Inverter technology** and its **exclusive regulation system**, RAK Inverter automatically regulates its power according to the **water temperature**, but also according to the **ambient temperature**, to always ensure the right bathing temperature, the best coefficient of performance and the lowest noise level!



3-PHASE MODELS	RAK35 IVT	RAK45 IVT	RAK90 IVT
SCOP according to EN 17645	7,1	7,1	7,2
Classification according to EN 17645	A	A	A
<b>Air 26°C / Water 26°C / Humidity 80%</b>			
Energy Output BOOST mode	46,5 kW	56,8 kW	115,3 kW
COP BOOST mode	6,1	5,6	5,2
Energy Output SMART mode	46,5 ~ 24,1 kW	56,8 ~ 24,4 kW	115,3 ~ 68,0 kW
COP SMART mode	10,2 ~ 6,1	10,2 ~ 5,6	8,9 ~ 5,2
Energy Output ECO-Silence mode	24,1 kW	24,4 kW	68,0 kW
COP ECO-Silence mode	10,2	10,2	8,9
<b>Air 15°C / Water 26°C / Humidity 70%*</b>			
Energy Output BOOST mode	35,6 kW	43,7 kW	86,4 kW
COP BOOST mode	4,6	4,4	4,2
Energy Output SMART mode	35,6 ~ 18,0 kW	43,7 ~ 18,2 kW	86,4 ~ 51,4 kW
COP SMART mode	7,2 ~ 4,6	7,1 ~ 4,4	5,3 ~ 4,2
Energy Output ECO-Silence mode	18,0 kW	18,2 kW	51,4 kW
COP ECO-Silence mode	7,2	7,1	5,3
<b>Air 7°C / Water 26°C / Humidity 90%</b>			
Energy Output BOOST mode	28,5 kW	32,9 kW	61,0 kW
COP BOOST mode	3,7	3,4	3,2
<b>Air -7°C / Water 26°C / Humidity 0%</b>			
Energy Output BOOST mode	17,8 kW	21,9 kW	39,0 kW
COP BOOST mode	2,8	2,7	2,4
Noise level CTTM mini-maxi (at 10m) according to EN ISO 3741 : 2010 **	46 ~ 49 dB(A)	46 ~ 51 dB(A)	46 ~ 55 dB(A)
Maximum noise level (at 10m) according to EN ISO 3744: 2010	39 dB(A)	44 dB(A)	49 dB(A)
Temperature working range	-15°C -> +43°C		
<b>Installation</b>			
Hydraulic connexions	Threaded connection 63 mm		Flanges + counter-flanges 90 mm
Power	400 V / 3~+N / 50 Hz		
Circuit breaker and cable size (for 20 m)	3P +N C 25 A (5G*4 mm <sup>2</sup> )	3P +N C 32 A (5G*6 mm <sup>2</sup> )	3P +N C 50 A (5G*10 mm <sup>2</sup> )
Power Input Max (air 28°C)	6,8 kW	10,1 kW	22,0 kW
Minmum water flow	12 m <sup>3</sup> /h	15 m <sup>3</sup> /h	33 m <sup>3</sup> /h
Dimensions in mm (L x l x h)	1050 x 1050 x 1260		2144 x 1113 x 1260
Weight net (gross)	207 kg (264 kg)		410 kg (450 kg)

\* Testes réalisés à 18°C d'air, température d'air, de l'eau, de l'air et de l'eau à 28°C et une sortie d'eau à 26°C. Effort de débit fait le débit d'eau, de capacité de chauffage et la consommation, selon le tableau minimum de performances.

\*\* Niveau sonore mesuré à 10 m de distance en BOOST et ECO à 10 m, certifiés par le laboratoire indépendant Centre de Transfert de Technologie du Mans, selon EN ISO 3741 et ISO 3744: 2010.

# Equipment benefits



## SIMPLE AND INTUITIVE OPERATION

Color digital touch screen.

**3 operating modes: Heating, Cooling and Automatic** (heating or cooling to maintain the set temperature).



## INSTALLATION

**Several units (up to 16) can be connected** and controlled via a single remote control screen (optional).



## OPTIMAL PERFORMANCES

**Optimal Twist** : a spiral wound PVC/titanium condenser that is impervious to corrosion.



**2D Technology**: an INVERTER compressor with enhanced performance, very high COP thanks to its hertz-by-hertz speed variation.



**DC Brushless** : a fan with variable speed down to the rpm to ensure optimum performance.



## COP IMPROVED

An efficient electronic expansion valve, which adapts the flow of refrigerant gas according to climatic conditions.



## INTELLIGENT OPERATING MODE

**PolySmart Control** : the heat pump regulates its own power to adapt to the needs of your pool, depending on the water temperature and the ambient temperature.



## EXCLUSIVE «LOW TEMPERATURE» SYSTEM

- Defrosting by cycle inversion,
- Compressor crankcase preheating,
- Condensation anti-freeze system,
- Automatic control of the «low temperature» system.



## COMMISSIONING AND WINTERING

Technical commissioning and 1st wintering of the machine can be carried out on request by dedicated POLYTROPIC technicians.



## CONNECTED SOLUTION

**PolyConnect inside** : wifi module and 4G key included for remote control via smartphone and permanent supervision by the Technicenter.Technicenter.

ACCESSORIES INCLUDED: hydraulic connection kit, winter cover.

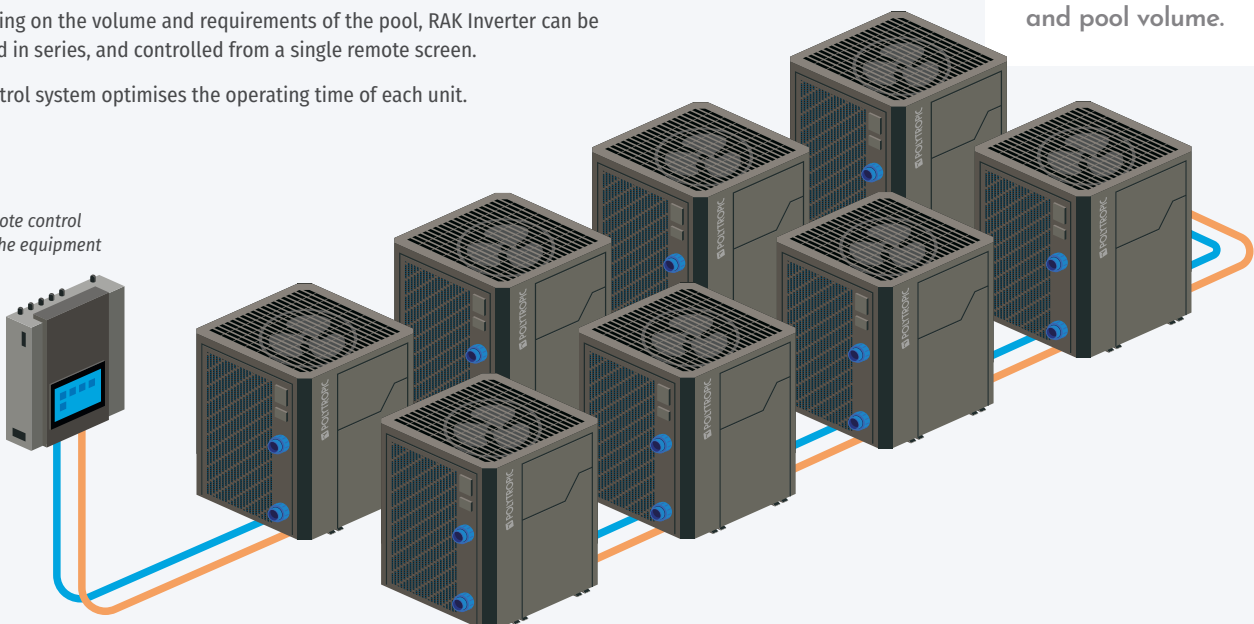
# An exclusif system

## EASY INSTALLATION AND CUSTOM SOLUTION

- Installation is easy with this compact pool heat pump and its standard electrical connection.
- Depending on the volume and requirements of the pool, RAK Inverter can be installed in series, and controlled from a single remote screen.
- The control system optimises the operating time of each unit.

Possibility of chaining  
up to 16 units  
depending requirements  
and pool volume.

Single remote control  
screen in the equipment  
room







## Color TFT touch screen

### A HIGHLY RESPONSIVE DIGITAL TOUCHSCREEN FOR EXCELLENT VISIBILITY

- Large, high-definition capacitive TFT touchscreen for excellent readability (W 72 x H 68 mm, 4» diagonal).
- Protected by a layer of **thermally toughened glass** to ensure **durability**.
- The **opaque protective door** protects the display from weather conditions, dust, scratches and UV rays.

#### ZOOM ON

##### Screen protection case

- > Waterproof plastic casing with rubber seals and sturdier opaque protective door
- > Easy 180° door opening
- > Closes with a simple push
- > Reinforced plastic hinge, not subject to rest or breakage



Single remote control screen in the equipment room for controlling several units (optional)  
Code : AO1500001



## An intuitive, multilingual control interface

Clear operation and easy navigation, responsive to the touch of a finger...



Alarm display, diagnosis and solution



History of the last 50 events



Lockable TFT screen to prevent tampering



### POLYCONNECT<sub>2.0</sub>



#### CONNECTED SOLUTION

Easily connect the heat pump by scanning the QR code, control it via the free app and benefit from secure remote supervision for preventive maintenance and remote diagnosis by Polytropic technicians.

