



POLYTROPIC

• POOL HEATING SOLUTIONS •



RAK INVERTER

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



POLYCONNECT₂₀
• 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	RAK50 IVT	RAK100 IVT
SCOP according to EN 17645	7,5	7,1	7,2
Classification according to EN 17645	A	A	A
Air 26°C / Water 26°C / Humidity 80%			
Energy Output SMART mode	46,6 ~ 24,3 kW	62,2 ~ 30,7 kW	123,2 ~ 68,0 kW
COP SMART mode	10,9 ~ 6,0	10,6 ~ 5,5	8,9 ~ 5,2
Air 15°C / Water 26°C / Humidity 70%*			
Energy Output SMART mode	35,6 ~ 18,3 kW	51,5 ~ 23,7 kW	101,2 ~ 51,4 kW
COP SMART mode	7,5 ~ 4,6	7,2 ~ 4,4	5,3 ~ 4,1
Air 7°C / Water 26°C / Humidity 90%			
Energy Output SMART mode **	31,1 kW	37,8 kW	74,0 kW
COP SMART mode **	3,9	3,6	3,3
Air -7°C / Water 26°C / Humidity 0%			
Energy Output SMART mode **	20,0 kW	27,6 kW	48,3 kW
COP SMART mode **	2,7	2,9	2,7
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		
Installation			
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 mm²)	3P +N C 32 A (5G*6 mm²)	3P +N C 50 A (5G*16 mm²)
Power Input Max (air 28°C)	8,2 kW	10,8 kW	25,0 kW
Minmum water flow	15 m³/h	15 m³/h	35 m³/h
Dimensions in mm (L x l x h)	1073 x 1073 x 1090	1050 x 1050 x 1260	2144 x 1113 x 1260
Weight net (gross)	218 kg (266 kg)	234 kg (284 kg)	410 kg (450 kg)

* Tests carried out at an air temperature of 15°C, with water inlet at 26°C and water outlet at 28°C in order to determine water flow rate, heating capacity and consumption, in accordance with FPP recommendations.

** Power output and COP at 100% of Smart mode

*** Min and Max noise levels at 10 m, certified by the independent laboratory Centre de Transfert de Technologie du Mans, according to EN ISO 3741: 2010

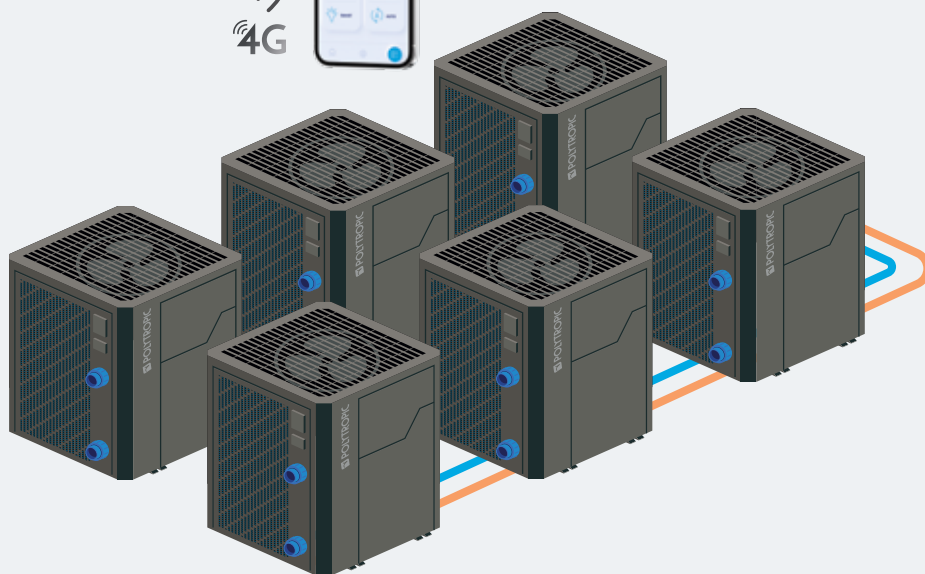


An exclusive system



CUSTOMISED CONNECTED SOLUTION

- Unique SMART mode, power and noise level automatically adjust according to the outside temperature and the temperature of the pool water.
- Heat pump connected via Wi-Fi or 4G to PolyConnect, allowing control from a smartphone and continuous monitoring by the Technicenter.
- Depending on the volume and requirements of the pool, RAK Inverter can be installed in series.
- The control system optimises the operating time of each unit.



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

Multiple units can be connected and controlled via the Polyconnect application.



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.

ACCESSORIES INCLUDED: hydraulic connection kit, winter cover.



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



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



POLYCONNECT₂₀



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.

