Swimming Pool Heat Pump
HKR heat pump

HKR heat pump. The energy of the future.
Energy-saving, resource conserving, innovative.

Maintaining an ecological balance for future generations–especially for leisure needs–is the decisive challenge for BEHNCKE's technicians. The points were therefore set at an early stage for the development of products in the energy intensive sector of heat generation. Then as now, efficiency, energy-saving and high quality standards were the goal-orientated targets for BEHNCKE.

The HKR technology heat pump.
Warm pool water - environmentally friendly due to natural heat recovery.

The mode of operation of the HKR technology heat pump is based on the ingeniously simple principle of air-heat recovery. Similarly to a KERS system in a racing car, the pump draws heat from the ambient air and passes it on with high efficiency to the swimming pool water by way of a thermodynamic process. In this way up to 80% of the required heating energy can be generated from natural resources.

In a word: A 75% cost reduction
in comparison to conventional electric heaters.
A good conscience is free.

The operating costs can be enormously reduced in comparison to conventional electric systems, first of all due to the ingenious principle of the process and secondly due to the high quality and sophisticated functional design of the HKR heat pump. For example: The energy costs of a 50 m^3 pool at an outdoor temperature of 15°C are just 1 euro per day. This degree of efficiency can be increased further by using a good quality pool cover. In this way the low procurement price is amortized in an extremely short period of time due to the low operating costs proportion.

3 control and 4 safety systems. Easy operator control and constant operating dependability due to perfect and functional automation.

A very high-quality standard has already been set for the mechanical components. The heat exchangers are made of titanium and as a result are corrosion-free, even when chemical water additives are being used. A well thought out fan design and the use of brand compressors have reduced the noise level to an absolutely tolerable minimum. In addition an environmentally friendly refrigerant is used to protect the ozone layer.

The individual presetting of the desired water temperature is controlled fully automatically by the intelligent electronics of the HKR heat pump. Even tropical water temperatures of 26°C–28°C can therefore be achieved with energy and cost savings and can also be kept constant.

The control devices of HKR heat pump at a glance:

1. Evaporator temperature sensor. This sensor starts defrost mode fully automatically after the onset of a cold period.

2. Outdoor temperature sensor. If the outdoor air drops below 7°C (factory setting), the outdoor temperature

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Open air pool heat pump HKS 220/300 VS

sensor reliably interrupts operation of the heat pump. The complete operating cycle resumes automatically when the outdoor temperature reaches 12°C (factory setting, changeable). The factory guaranteed range of use is +5°C to +35°C.

3. Temperature sensor in the heat exchanger. This function controls efficient monitoring of the preset water temperature. Upon reaching the desired temperature the control unit sets the pump to ‚idle mode' and if the temperature in the heat exchanger drops below the target value by 2°C, the cycle is reactivated again.

The 4 safety systems at a glance:

1. Flow switch at the inlet of the heat exchanger
2. High pressure safety switch, low pressure safety switch
3. Compressor outlet temperature sensor
4. Solenoid safety switch on the compressor - integrated into the circuit board.

HKR heat pump - Technical specifications*

The models	HKS 90 R	HKS 110 R	HKS 130 R	HKS 180 R	HKS 220 VS	HKS 300 VS
Mains power supply	230V/50 Hz	230V/50 Hz	230V/50 Hz	400V/50 Hz	400V/50 Hz	400V/50 Hz
Connected load	1,7 kW	2 kW	2,5 kW	3,4 kW	4,5 kW	5,2 kW
Heating output	8,5 kW	10,5 kW	13 kW	17,5 kW	21 kW	25 kW
Cooling output	6,8 kW	8,2 kW	10 kW	14 kW	16,5 kW	20,5 kW
Current consumption	7,9 A	9,5 A	11 A	5 A	7,9 A	9,5 A
Fuse	16 A C 1 pol.	16 A C 1 pol.	20 A C 1 pol.	16 A C 3 pol.	16 A C 3 pol.	16 A C 3 pol.
Heat exchanger	Titanium/PVC	Titanium/PVC	Titanium/PVC	Titanium/PVC	Titanium/PVC	Titanium/PVC
COP	> 5	> 5	> 5	> 5	> 4,5	> 4,5
Water throughput at least.	3,5 m^3	4 m^3	4,5 m^3	6,5 m^3	8 m^3	9,5 m^3
Noise level at 10 m.	approx. 38 dbA	approx. 39 dbA	approx. 39 dbA	approx. 43 dbA	approx. 46 dbA	approx. 46 dbA
Refrigerant	R410A	R410A	R410A	R410A	R410A	R410A
Amount of refrigerant approx	1200 g	1850 g	2000 g	2500 g	4300 g	4500 g
Net weight	55 kg	65 kg	75 kg	91 kg	130 kg	132 kg
Dimensions L x W x H (mm)	955 x 305 x 575	1005 x 305 x 610	1005 x 305 x 710	1180 x 430 x 800	745 x 685 x 940 (exhaust vertical)	745 x 685 x 940 (exhaust vertical)
Pool size with cover	approx. 30 m^3	approx. 40 m^3	approx. 50 m^3	approx. 70 m^3	approx. 80 m^3	approx. 100 m^3

* All values are based on an air temperature of +19 °C, pool water of 27 °C (covered pool). Guaranteed usage range +5 °C to + 35 °C.

Your dealer: