

miniKr3B

Heat pump

NEW



miniKr3, R-32 SERIES, reversible air-water heat-pumps, DC hermetic scroll inverter compressors and R-32 refrigerant gas.

Maximum versatility in ultra-compact units, can be used for AC and DHW production

MAIN FEATURES

- Cooling capacities from 17.7 to 36.0 kW
- Heating capacities: from 20.4 to 38.4 kW
- Four models in two sizes of cabinet.
- Refrigerant R-32
- High efficiency DC INVERTER compressor
- Fan: axial fan with brushless DC motor with variable rotation speed and internal thermal protection; safety grilles; proportional electronic device for continuous regulation of fan speed (Condensation control + Evaporation control)
- Cabinet: made of galvanised sheet steel, finished with oven polymerised polyester resin (RAL 1013), oven polymerised, with excellent resistance to corrosion and weather conditions.
- Electrical protection of all main components by means of magnetothermic relays.
- Electronic expansion valve.
- Water side exchanger: stainless steel plates with thermal insulation.
- New W-HiReg control system as standard, with standard inverter control of condensation and evaporation, comprehensive management of all components for maximum efficiency in all conditions, full protection of equipment components and high communication capability.
- Modbus as standard: RS485 ModBus interface
- Standard Webserver connected by Ethernet.

ADVANTAGES

- High efficiency according to the requirements of Regulations 813/2013 and 2281/2016 (Ecodesign, ErP Ready).
- Water as heat-carrying fluid.
- High performance in all conditions, thanks to optimised design of all components.
- Variable capacity compressor with variable speed.
- Standard digital flow meter
- Low noise and vibration-free operation thanks to an internal damping and sound-proof isolation of compressors and installation on anti-vibration mounts on the chassis.
- Easy and safe access to its internal components by means of hexagonal screws with riveted nuts on the panels, the controller display can be accessed from the outside and the electrical panel by a hinged cover.
- Webserver and Ethernet connector as standard.
- Strong communication and remote monitoring via HITECSA's IoTsystem, that allows continuous monitoring with identification and recording of parameters and operating conditions, making maintenance notably easier.

AVAILABLE OPTIONS

For the optional accessories for this product see page 99

REGULATION

See regulation and control on page 226

miniKr3B		17	23	30	38
MODEL		17	23	30	38
PERFORMANCE					
Cooling Capacity (1)	kW	17.7	22.7	30.1	36
EER		2.85	2.8	2.8	2.8
SEER		4.15	4.12	4.13	4.1
Seasonal cooling energy efficiency / η _{s, c}	%	163	162	162.1	161.1
Heat Output (2)	kW	20.1	27	32.8	38
COP		3	3	3.1	3
Heating capacity (3)	kW	20.4	27.5	33.4	38.4
COP		3.73	3.72	3.8	3.6
SCOP		3.57	3.55	3.33	3.3
Seasonal energy efficiency of heating / η _{s, h}	%	140	139	130.2	129
REFRIGERATION CIRCUIT					
Number of circuits				1	
Number of compressors				1	
Gas base load	kg	4.7	5	5.8	6
PLATES EXCHANGER					
Water flow	m ³ /h	3	3.8	5.4	6.1
Number of exchangers				1	
External hydraulic connections (threaded)	Ø (")	DN32 - 1 1/4"		DN32 - 1 1/4"	
EXTERNAL FAN					
Maximum air flow rate	m ³ /h	12,300	13,800	18,300	18,800
Number of fans				2	
SOUND LEVEL					
Sound level	dBA	77	77	78	78
Sound level at 5 m (4)	dBA	55	55	56	56
FUNCTIONAL LIMITS					
Outdoor Cooling Temperature Range	°C	0~48			
Outdoor Heating Temperature Range	°C	-10~20			
ELECTRICAL DATA					
Power supply (50 Hz ~)		400.3 (no neutral)			
Maximum operating intensity	A	15	18	20	24
DIMENSIONS AND WEIGHT					
Dimensions (length x width x height)	mm	1.810x670x1.334		2.035x634x1.634	
Net weight	kg	380	400	450	460

Notes:

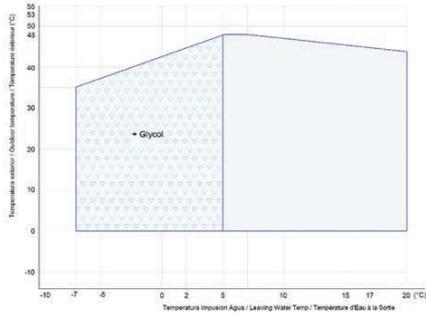
- (1) AC Application. COOL MODE: Outside temperature 35°C, Water inlet temperature 12°C, Water outlet temperature 7°C.
- (2) IT Application. HEAT MODE: Outside temperature 7°C B.S. / 6°C B.H., Water inlet temperature 40°C, Water outlet temperature 45°C.
- (3) LT Application. HEAT MODE: Outside temperature 7°C B.S. 6°C B.H., Water inlet temperature 30°C, Water outlet temperature 35°C.
- (4) LpA: Sound pressure level with the machine placed on the floor in hemisphere (directivity = 2).

OPERATING LIMITS

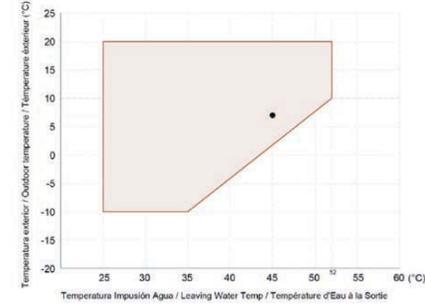
Maximum water volumes depending on the expansion vessel and max.-min. operating temperature.

INSTALLATION LIMITS		17	23	30	38
Nominal water flow	m³/h	3.5	4.7	5.7	6.6
Minimum water flow	m³/h	2.5	3.4	4.1	4.7
Maximum water flow	m³/h	5.1	6.5	8.6	10.3

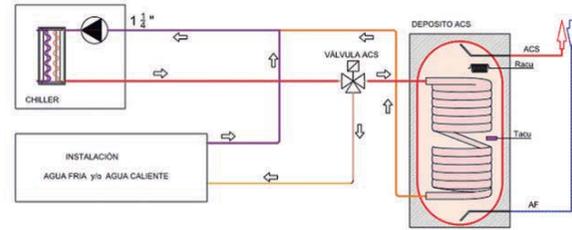
COOLING MODE



HEATING MODE



HYDRAULIC DIAGRAM WITH INERTIAL TANK



INSTALLATION COMPONENTS

- Inertial tank
- Electrical heater
- Valve + Actuator 3-way (ON/OFF)
- Tacu tank temperature sensor

OPERATING LOGIC

- The Control regulates capacities in relation to the supply temperature setpoint in standard way.
- The DHW Valve is activated when there is a demand for domestic hot water, determined by the set point programmed in the control unit and by the temperature sensor reading in the DHW tank.
- The electric heater operates when Anti-Legionella protection is activated and stops when the temperature reaches the set point. The timetable at which the protection is activated is programmable.

TABLE OF OPTIONS. miniKr3B CHILLERS AND HEAT PUMPS

miniKr3B	17	23	30	38
OPTIONS				
Differential pressure switch	✓	✓	✓	✓
Double set point	✓	✓	✓	✓
Bacnet IP and ModBus IP protocols	✓	✓	✓	✓
Cooling-only unit	0	0	0	0
Corrosion protection of the cooling circuit	0	0	0	0
Pre-treated outdoor coils	0	0	0	0
Unit without water pump	0	0	0	0
Unit with HP water pump	0	0	0	0
Compressor Jacket	0	0	0	0
Pressure transducer at water outlet	0	0	0	0
Electrical power meter	0	0	0	0
Calculation of thermal output and energy efficiency	0	0	0	0
Flow switch	a	a	a	a
Water filter	a	a	a	a
Threaded water connections GAS	a	a	a	a
Inertial tank (ask for capacities)	a	a	a	a
Electric heater in tank (as for capacity)	a	a	a	a
3-way on/off valve + actuator	a	a	a	a
PGD Controller/Command Interface	a	a	a	a
Aquacore management system	a	a	a	a
Management of up to 90 devices: Boss STD	a	a	a	a
Hitecsa ConnectPlus IoT System	a	a	a	a
Anti-vibration mounts	a	a	a	a

In addition to these options, please ask our Commercial Department about any other configuration or function not listed as available.

- ✓ = included as standard
- 0 = optional (installed on the unit)
- a = accessory (supplied separately)