

Karnot Energy Solutions Inc

iHEAT R290 DC INVERTER HEAT PUMPS

THERMAL EFFICIENCY REVOLUTION



karnot

LOW CARBON HEAT PUMPS
AIR | WATER | STEAM | CO₂



CAREL

RoHS





HEATING | COOLING | HOT WATER



Multiple Modes for Comfortable Use



ERP A+++ Performance



Stable Running Ambient
-25°C to 45°C



5-inch Color Touchscreen



Reduced Noise



Wifi Control



KEYMARK



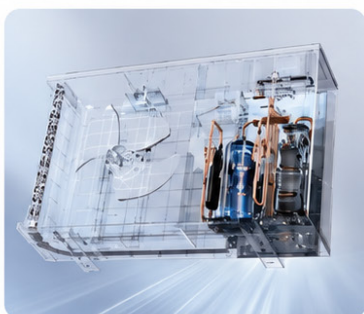
SG Ready

SMART CONTROL SYSTEM

- AI Defrost
- Energy Consumption Tracking (Built-in Energy Consumption Statistics Module)
- Remote Control & Monitoring via APP

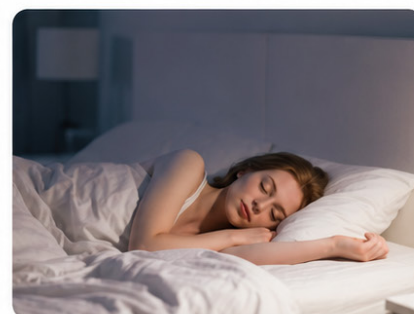
HIGH RELIABILITY

- R290 Safety Structure- Safety Partition Chamber
- R290 Explosion-proof Accessories



ADVANCED NOISE REDUCTION TECHNOLOGY

- Innovative Acoustic Isolation Compartment Tech
- Composite Sound-Insulating Materials
- Vibration-Dampening Design



ADVANTAGES OF THE CAREL SYSTEM

» Extended Lifespan

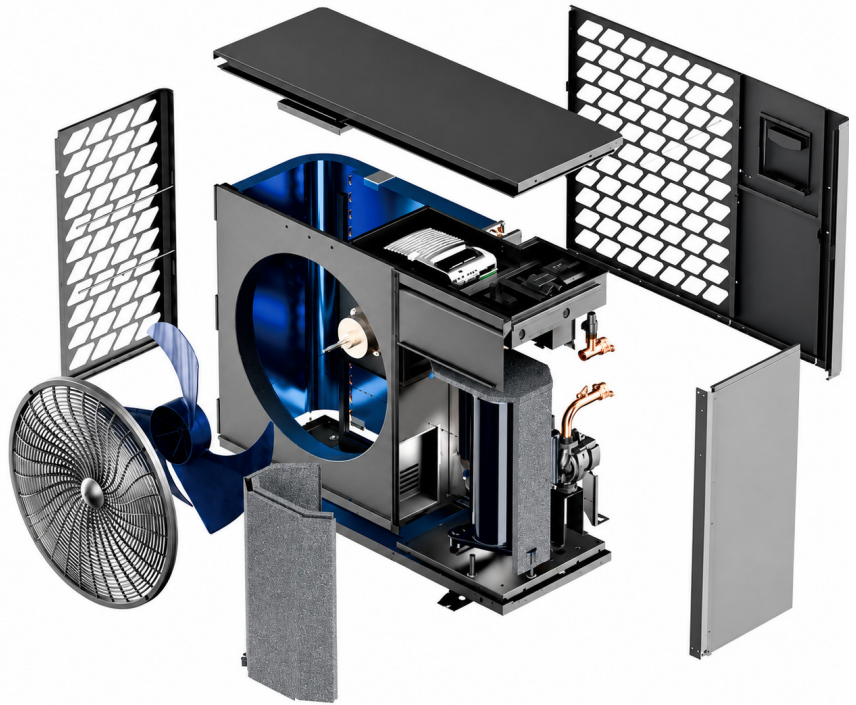
Multi-Protection Systems

» High Immunity

Effective Handling Of Voltage Fluctuations
And Rapid Climate Shifts

» Enhanced Efficiency

The Smart System Leverages the
Compressor Operating Envelope to
Achieve Peak Efficiency



ADVANCED HEAT PUMP TECHNOLOGY

FULL INVERTER TECHNOLOGY

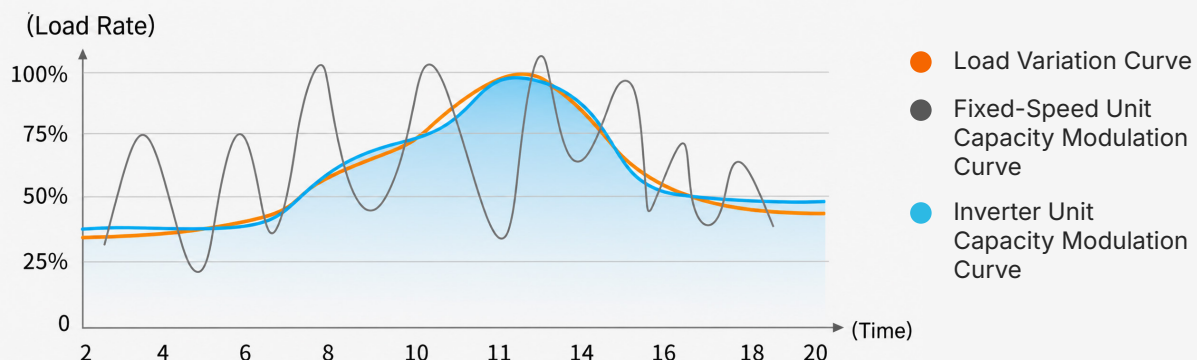
Cuts energy waste by over 25%

FIXED-SPEED UNITS

Frequent starts/stops → Accumulates startup energy waste
Mechanical wear → Reduces compressor lifespan
Rigid operation → Higher overall energy consumption

VARIABLE-SPEED UNITS

Continuous speed adjustment → Precisely matches load demands
Stable operation → Eliminates frequent start cycles
Long-term efficiency → 30-50% energy savings in continuous operation



CAREL CONTROL SYSTEM PACKAGE



Air to Water Heating, Cooling & DHW



Easy Installation Solution



Hot Water & Buffer Tanks



Fan Coil Units



ONE-STOP SOLUTION TO MEET VARIOUS RESIDENTIAL NEEDS

CAREL
CONTROL
SYSTEM

Heat Pump



Heat Pump Kit



Buffer Tank



Water Tank



Integral Hydronic Tank



Smart Control



Cooling/Heating



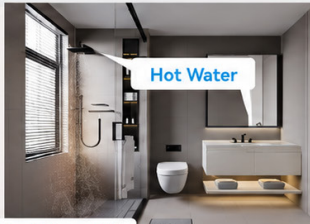
Heating Radiator



Hot Water



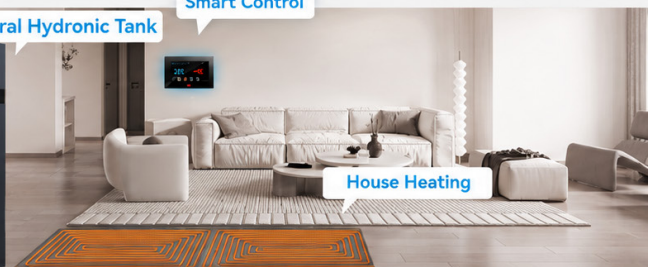
Hot Water



PV System



House Heating



Karnot IoT Platform iSAVE



- Real-Time Monitoring & Data Collection
- Remote Control & Adjustment
- Intelligent Optimization & Scheduling
- Proactive Troubleshooting & Maintenance
- Clear, Intuitive Energy Curves
- User-Friendly Management Interface
- OTA Update



End-user APP

Remote Control & Management

HP Operation Monitoring

Historical Energy Consumption Tracking

Fault Alerts



Dealer APP

Equipment Data Collection

Remote After-Sales Support

HP Installation Management

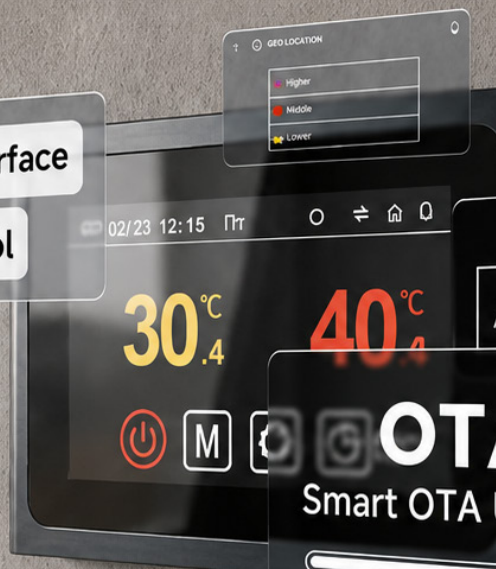
HP Inventory Management

INSTANT CLIMATE CONTROL AT YOUR FINGERTIPS

5-inch Color Touchscreen

Crystal-Clear Interface

Intuitive Control



Customizable
System

OTA
Smart OTA Updates

Downloading... 75%





R290 Refrigerant

Future-ready (GWP=3, ODP=0)

High Safety Rating

Stable & Reliable R290 Safety Accessories

Built-in Water Pump

built-in circulation pump

75°C Max. Outlet Water

Unmatched High-Temperature Capability

SPECIFICATION

R290 DC Inverter Heat Pumps

A+++

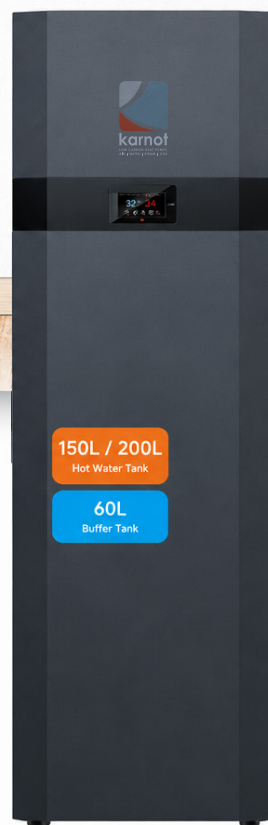


Model		iHEAT 9.5 kW CGK030V4P · CGK-030V4P	iHEAT 11.5 kW CGK040V4P · CGK-040V4P	iHEAT 15.5 kW CGK050V4P · CGK-050V4P	iHEAT 18.5 kW CGK060V4P · CGK-060V4P
Power supply / refrigerant	V/Hz/Ph	220-240 V (1 Ph)* or 380-420 V (3 Ph) · 50-60 Hz · R290			
Max. heating capacity (A7°C/W35°C)	kW	9.5	11.5	15.5	18.5
COP (A7°C/W35°C)	W/W	4.42	4.44	4.42	4.14
Max. heating capacity (A7°C/W45°C)	kW	8.9	10.7	14.1	17.7
COP (A7°C/W45°C)	W/W	3.64	3.77	3.71	3.62
Max. cooling capacity (A35°C/W18°C)	kW	8.4	10.2	13.4	16.8
EER (A35°C/W18°C)	W/W	3.53	3.66	3.60	3.51
Max. cooling capacity (A35°C/W7°C)	kW	7.5	9.0	11.5	14.5
EER (A35°C/W7°C)	W/W	2.90	2.92	2.75	2.82
Max. outlet water temperature	°C	75			
Water flow	m³/h	1.63	2.00	2.67	3.18
Max. power input	kW	4.36	5.05	6.80	7.83
Max. current — 220-240 V models	A	20.86	24.16	32.54	37.46
Max. current — 380-420 V models	A	9.20	10.66	14.35	16.52
Fuse / breaker — 220-240 V models	A	32	32	40	50
Fuse / breaker — 380-420 V models	A	13	16	20	25
Piping connection	inch	G1"	G1"	G1"	G1"
Sound pressure (1 m) — 220-240 V	dB(A)	41.2–50.6	40.4–49.2	40.4–50.8	44.7–51
Sound pressure (1 m) — 380-420 V	dB(A)	41.2–49.7	41.1–52	41.7–50.7	42.4–49
Dimensions (L×D×H)	mm	1110×475×810	1110×475×960	1110×475×1355	1110×475×1355
Net weight	kg	107	116	158	168
Energy class (EU 811/2013, 35°C / 55°C)	—	A+++ / A++			
Operating ambient range	°C	-25 ~ +45			

Note:

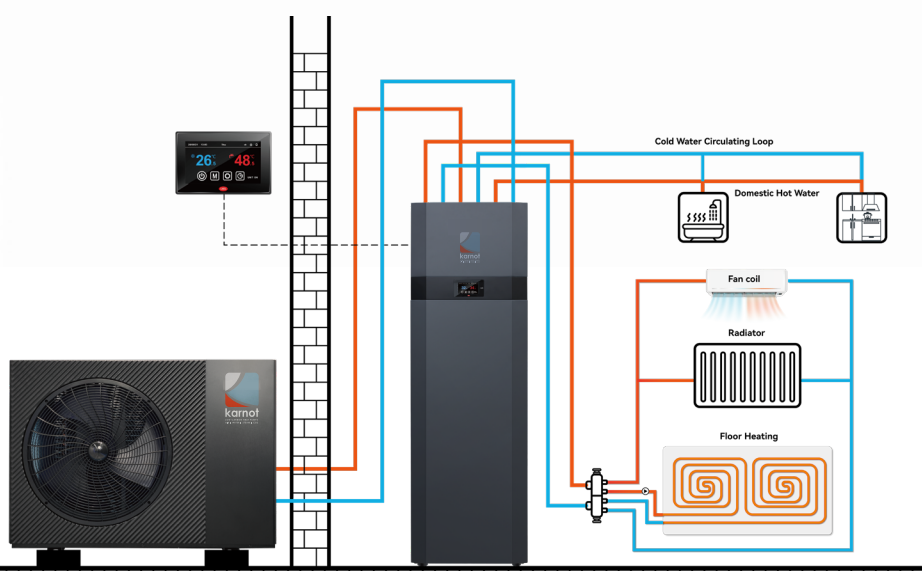
(1) Heating condition: water inlet/outlet temperature: 30°C/35°C, Ambient temperature: DB 7°C/WB 6°C; (3) Cooling condition: water inlet/outlet temperature: 23°C/18°C, Ambient temperature: DB 35°C/WB 24°C;
(2) Heating condition: water inlet/outlet temperature: 40°C/45°C, Ambient temperature: DB 7°C/WB 6°C; (4) Cooling condition: water inlet/outlet temperature: 12°C/7°C, Ambient temperature: DB 35°C/WB 24°C;

The information in this document is just for reference. Since the continuous improvement and control in the production process, the information contained in this document may be subject to change.
Please refer to the nameplate on the machine for model specifications.



Integral Hydronic Tank

Easy Installation & Cost Saving



- ✓ Efficient Heating
- ✓ Dual Temperature Zone Control
- ✓ Adaptable with Solar Water Heater
- ✓ Zero Cold Water Control
- ✓ Dual Safety Protection
- ✓ Increase the Stability of the Unit

SPECIFICATION

The Specification of Integral Hydronic Tank with CAREL Controller

Model		Tank 150 L (1-ph) CGH-06HR150	Tank 200 L (1-ph) CGH-06HR200	Tank 150 L (3-ph) CGH-06HR150	Tank 200 L (3-ph) CGH-06HR200
Power supply	V/Hz/Ph	220-240 / 50-60 / 1	220-240 / 50-60 / 1	380-420 / 50-60 / 3	380-420 / 50-60 / 3
Hot water tank	L	150	200	150	200
Buffer tank	L			60	
Electric heaters (hot water + heating)	kW			3 + 3	
Max. water temperature	°C			75	
Current	A	13.6 + 13.6	13.6 + 13.6	7.8 + 7.8	7.8 + 7.8
Heat-exchange coil (SUS304)	—			DN32 × 15 m	
3-way valve	—			DN25	
Expansion tank	L			5	
Controller	—			CAREL	
Dimensions (L×D×H)	mm	585×630×1865	665×625×1985	585×630×1865	665×625×1985
Net weight	kg	125	155	125	155
Compatible heat pumps	—			All iHEAT V4P models (match tank voltage to unit)	

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RoHS



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