

KAISAI

HEAT PUMPS

AIR TO WATER MONOBLOCK TYPE

KHY R290



Ideal for building
thermal retrofit



Prepared for new
EU regulations



For R290 refrigerant
meeting the latest
EU standards



Complies with
the requirements of
European ErP Directive

R290

ECOLOGICAL REFRIGERANT



TESTED IN DENMARK

2023

Heat pump: a renewable energy source

The heat pump draws free energy from the air and uses it to heat and cool the building, or prepare domestic hot water. It is a cheap, ecological and reliable heat source, which can be used by anyone.

Thanks to cutting-edge technology, Kaisai heat pumps operate in a wide range of outside temperatures and achieve the high temperature parameters of the heating system or domestic hot water. No emission of harmful substances into the environment, operational safety, and maintenance-free make the Kaisai heat pumps an ideal solution for everyone who builds a house as well as replaces or retrofits the current heat source. The Kaisai heat pumps can be used in single-family, multifamily, and commercial buildings.

Renewable energy sources (RES) are based on natural resources, the extraction of which ensures not only zero-emission energy production but also a wide range of possibilities for its use. Due to relatively easy access to technology and the possibility for it to be used by companies and individual households, the most popular solutions are the units which obtain energy from the air and the sun.

Kaisai's product range provides state-of-the-art RES solutions that include air-to-water heat pumps, heat recovery units, and photovoltaic modules and inverters.



flexible energy management system



modern design



eco-friendly refrigerant



highest energy efficiency class



quiet operation

Safe R290 refrigerant

The refrigerant – R290 – is known as propane, a colorless, odorless organic compound belonging to the group of saturated hydrocarbons **existing in natural gas fields**. Devices based on propane have been successfully operating in various countries of the European Union for many years.

ODP=0 neutral for the ozone layer

GWP=3 low impact on global warming

HIGH ENERGY EFFICIENCY

LARGE HEAT CAPACITY

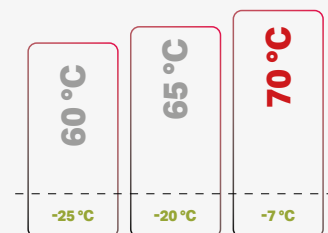
ENVIRONMENTALLY FRIENDLY



Advantage of Kaisai heat pumps

 <p>INTELLIGENT DEFROST</p>	 <p>INTUITIVE CONTROL</p>	 <p>TWO HEATING CIRCUITS</p>
 <p>CENTRALIZED CONTROL</p>	 <p>INVERTER TECHNOLOGY</p>	 <p>COLOURFUL TOUCH DISPLAY</p>

WATER OUTLET TEMPERATURE



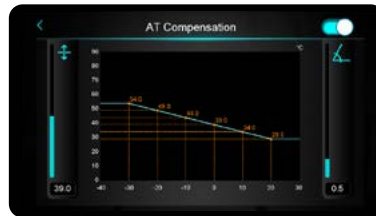
OUTSIDE TEMPERATURE

VERY HIGH OUTLET WATER TEMPERATURE

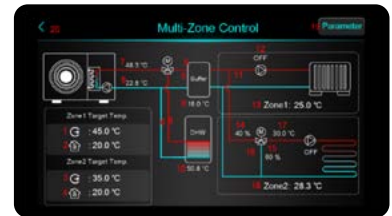
Required operation of the pump in bivalent mode with an electric heater. The heater is not supplied with the device.



Applications and circuits



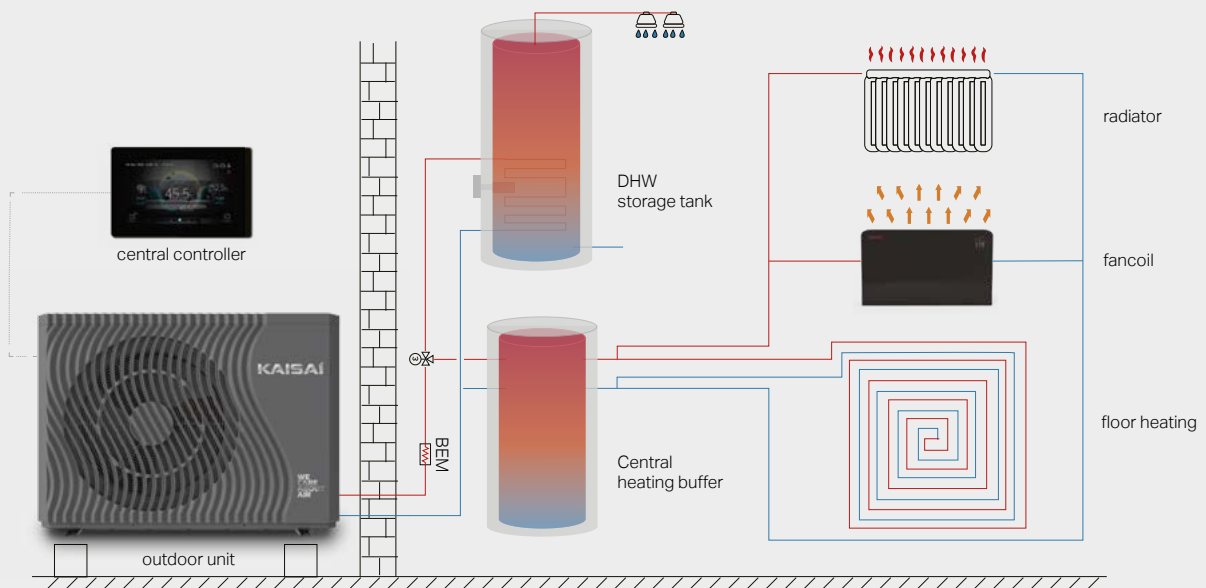
intuitive heating curve settings



advanced control of two heating circuits

Heat pump capabilities

The KHY heat pump offers a wide functionality, realizing all the user's needs, including heating with two circuits: radiator and floor, temperature control according to the heating curve, domestic hot water preparation, cooling, and ecological operation by using renewable energy from the environment.



Modern technologies

The innovative design of the heat pump, advanced materials and technical solutions ensure quiet operation of the device. Modern technologies are **constantly tested and optimized** for complete comfort of use.



SOUNDPROOF ISOLATION

All-sided of cabinet is fully wrapped with soundproof sponge material, which can efficiently absorb and block out the noise from compressor operation.



SHOCK ABSORPTION AND NOISE REDUCTION TECHNOLOGY

The suspension chassis greatly minimalizes vibration and reduces noise.

NEW

STYLISH CASE DESIGN

Distinctive wave pattern and innovative case design with no visible screws on the surface of the unit.

ASA MATERIAL

The ASA panel and top cover are strongly corrosion-resistant and anti-weathering that ensures a long service life.



Efficient solutions

The combination of environmentally friendly R290 refrigerant and inverter technology helps ensure **efficient heating and cooling of the house and domestic hot water even in extremely cold climates.**



ELECTRONIC EXPANSION VALVE

The use of an electronic expansion valve precisely and quickly regulates the flow of refrigerant, increasing the efficiency of the heat pump.



DC INVERTER COMPRESSOR

Compared to AC drive technology, DC inverter speed technology usually modulates control process of the compressor more precisely, thus improving transmission efficiency and reducing noise and energy consumption of the compressor.



DC INVERTER FAN MOTOR

With better dynamic balance and reducing turbulent flow noise, heat pump work efficiency is greatly improved.



SWEP PLATE HEAT EXCHANGER

High-efficiency plate heat exchanger provides highest efficiency and thermal comfort for the user.



CENTRAL CONTROL SYSTEM



Intuitive control

A high-end controller with a 5-inch color screen touch screen provides a quick overview of the pump's operating parameters, such as temperature and current operating parameters.

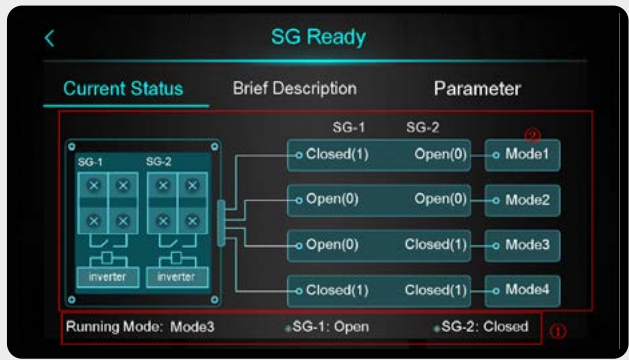
SIMPLE CONFIGURATION

MULTILINGUAL MENU

REAL-TIME OPERATION PARAMETERS MONITORING



Smart Grid

Smart Grid flexible configuration allow for optimal energy management in the house. Different scenarios direct electricity to defined receivers, thus reducing operating costs.



T E C H N I C A L S P E C I F I C A T I O N

KHY-12PY3 / KHY-15PY3

Model			KHY-12PY3	KHY-15PY3
				
Heating A7W35 ΔT=5, R.H. 87%	nominal heat capacity (range)	kW	11.65 (5.20 ~ 13.40)	15.50 (6.30 ~ 18.60)
	electric energy consumption (range)	kW	3.75 (1.20 ~ 3.80)	4.94 (1.60 ~ 6.90)
	COP (range)	W/W	3.11 (2.90 ~ 4.30)	4.45 (4.99 ~ 4.44)
Heating A-10W55 ΔT=5, R.H. 70%	nominal heat capacity	kW	9.06	16.11
	electric energy consumption	kW	3.28	5.48
	COP	W/W	2.77	2.94
Heating A-10W55 ΔT=5, R.H. 70%	nominal heat capacity	kW	12.06	17.75
	electric energy consumption	kW	3.11	4.65
	COP	W/W	3.88	3.82
Seasonal space heating energy efficiency class (avarage climate)	TWW at 35°C class	-	A+++	A+++
	TWW at 55°C class	-	A++	A++
Power supply	voltage / number of phases / frequency	V/Ph Hz	380 ~ 415 / 3N / 50	380 ~ 415 / 3N / 50
	maximum operating current (MCA)	A	10.5	15.8
Hydraulic system	nominal water flow	m³/h	1.7	2.9
	pump head	mH ₂ O	7.5	12.5
Sound level	sound power level	dB(A)	63	62
	sound pressure level (1m)	dB(A)	51.5	50
Outside air temperature range	cooling	°C	-5÷43	-5÷43
	heating	°C	-25÷43	-25÷43
Leaving water temperature range	cooling	°C	5÷15	5÷15
	heating	°C	9÷75	9÷75
Water connection	diameter	cal	G1	G1
Refrigerant	symbol (GWP) / refrigerant amount	--- / kg	R290(3) / 0.85	R290(3) / 1.30
Dimension	of the unit (W×H×L)	mm	1287×928×458	1250×1330×540
	of the packaging (W×H×L)	mm	1420×1080×540	1380×1480×570
Weight	net / in packaging	kg	160 / 163	202 / 205

All technical data is compliant with the guidelines specified in the following standards: EN14511; EN14825; EN50564; EN12102; (EU) No. 811:2013; (EU) No. 813:2013; The sound power level in the heating mode was determined in accordance with EN 12102, under the conditions consistent with EN 14825.

The purpose of this document is to provide information and present heat pumps of the Kaisai brand. | Since the technologically advanced production process necessitates its continuous control and improvement, the information contained in this publication may be subject to change. The technical data and prices included in the folder are subject to change. Up-to-date information is always available on www.kaisai.com



kaisai.com