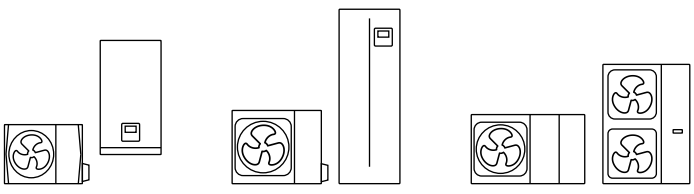
KAISAI

HEAT PUMPS

ENERGY-EFFICIENT SOLUTION FOR YOUR HOME AND OFFICE

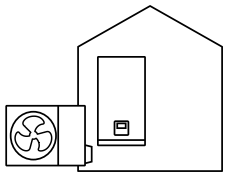


PRODUCT CATALOGUE

2022

Split or monoblok

Split



SPLIT IS A SET OF: OUTDOOR UNIT AND INDOOR UNIT

The design of the device, consisting of an indoor and outdoor unit, requires specialist installation carried out by an installer qualified to work with refrigerant gases. The advantage of this solution is that there is no risk of the heating medium freezing in case of power failure. Unlike monoblock pumps, the unit outside the building uses non-freezing refrigerant.

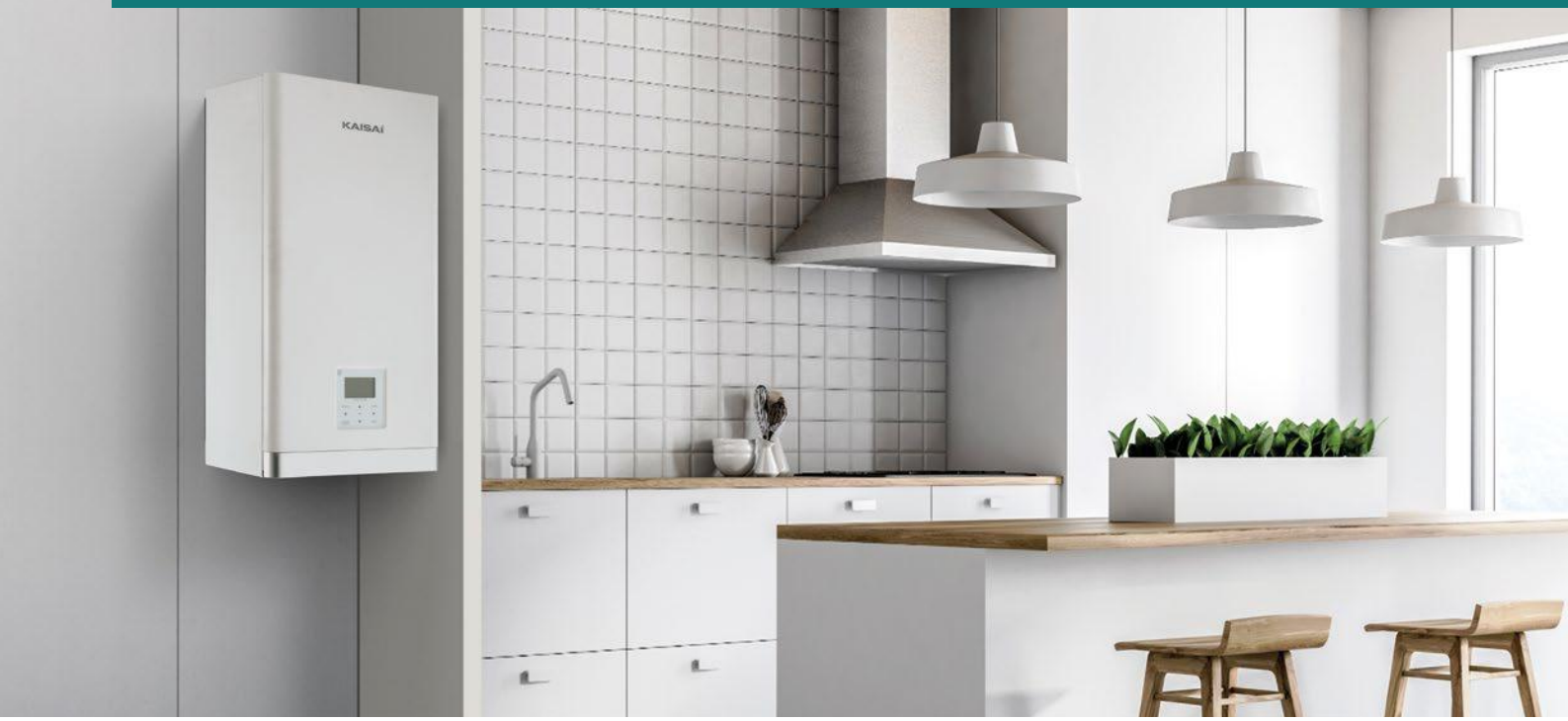
Prevalence of Split

NO RISK OF THE HEATING MEDIUM FREEZING

OUTDOOR UNIT REQUIRING LESS SPACE

EASIER ACCESS TO HYDRAULIC COMPONENTS

POSSIBLE INSTALLATION OF THE HYDRAULIC MODULE UP TO 30 M FROM THE OUTDOOR UNIT



Advantage of our heat pumps

Large selection of units **and heating capacities**

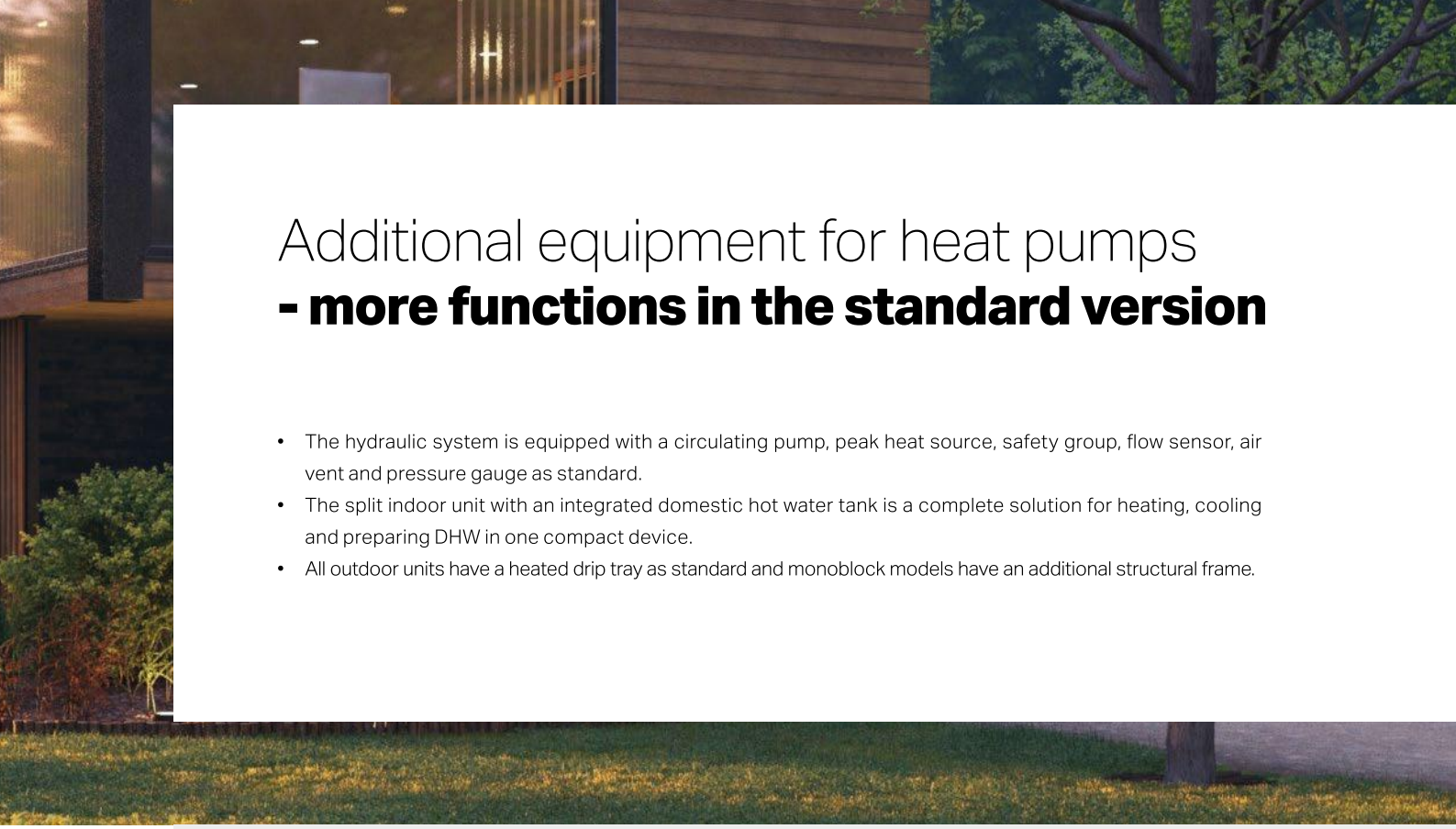
Kaisai's latest product range includes 14 heat pump models, including eight monoblock units (from 6 kW to 30 kW) and six split models (from 6 kW to 16 kW), for which six indoor units are provided with or without domestic water tank (190 l or 240 l).

- 23 different sets of devices, customisable to individual needs.
- When the required heating capacity exceeds 30 kW, the heat pumps can be combined into cascades (up to 6 units) for a total capacity of up to 180 kW.
- The use of Modbus communication makes it possible to connect up to 16 devices.
- Cascade connection and Modbus function come as standard, that is why no additional accessories are required for installation.

Split
from 6 to 16 kW

Split + CWU
190 or 240 l

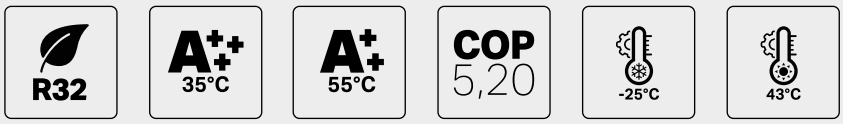
Monoblok
from 6 to 30 kW



Additional equipment for heat pumps **- more functions in the standard version**

- The hydraulic system is equipped with a circulating pump, peak heat source, safety group, flow sensor, air vent and pressure gauge as standard.
- The split indoor unit with an integrated domestic hot water tank is a complete solution for heating, cooling and preparing DHW in one compact device.
- All outdoor units have a heated drip tray as standard and monoblock models have an additional structural frame.

Economical solutions **with high parameters**

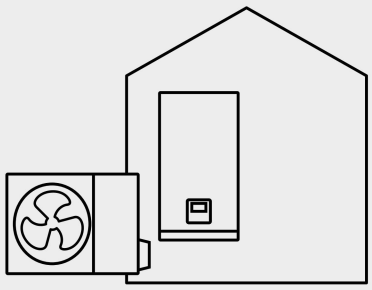


The basic criteria for selecting a heat pump, both for retrofitted and newly erected facilities, are the functionality of the devices and their high operating parameters.

By using environmentally friendly R32 refrigerant and the highest quality components, Kaisai heat pumps have a very wide operating range: outside air temperature range from -25°C to 43°C and heating medium temperature of up to 65°C.

- Possibility of heating a house equipped with traditional radiators even at very low outside temperature (at -20°C outside, the heat pump reaches a temperature of 57°C of heating system water temperature)
- The highest energy class A+++
- Extremely high efficiency: COP of 5.20 (A7W35) and SCOP of 5.22 (LWT 35°C)
- Reduced noise level: from 45 dB (A) at a distance of 1 m

SPLIT
heat pumps



KMK-60 RY1
KMK-100 | 160RY3
KMK-190L | 240L -100RY1(3)
KMK-240L-160RY3
KHA-06RY1-B
KHA-08 | 10 RY1-B
KHA-12 | 14 | 16 RY3-B

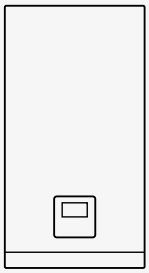
A compact design, an independent indoor unit, and a flexible installation make the split type heat pump an ideal choice for owners of houses, shops, offices and retail premises.

All the hydraulic components are easily accessible. The cooling connection between the outdoor and indoor units is resistant to freezing, even during a prolonged power failure, and an additional charge of refrigerant is only required if the length of the cooling lines exceeds 15 m.

Hydraulic **module**

- All hydraulic components in the outdoor unit, i.e. circulating pump, expansion vessel, safety and air vent valve, flow sensor, pressure gauge and water flow heater, are fitted as standard.
- Built-in controller, possibility to move the wired controller to another location
- Easy installation and simple maintenance

KMK-60RY1, KMK-100 | 160RY3



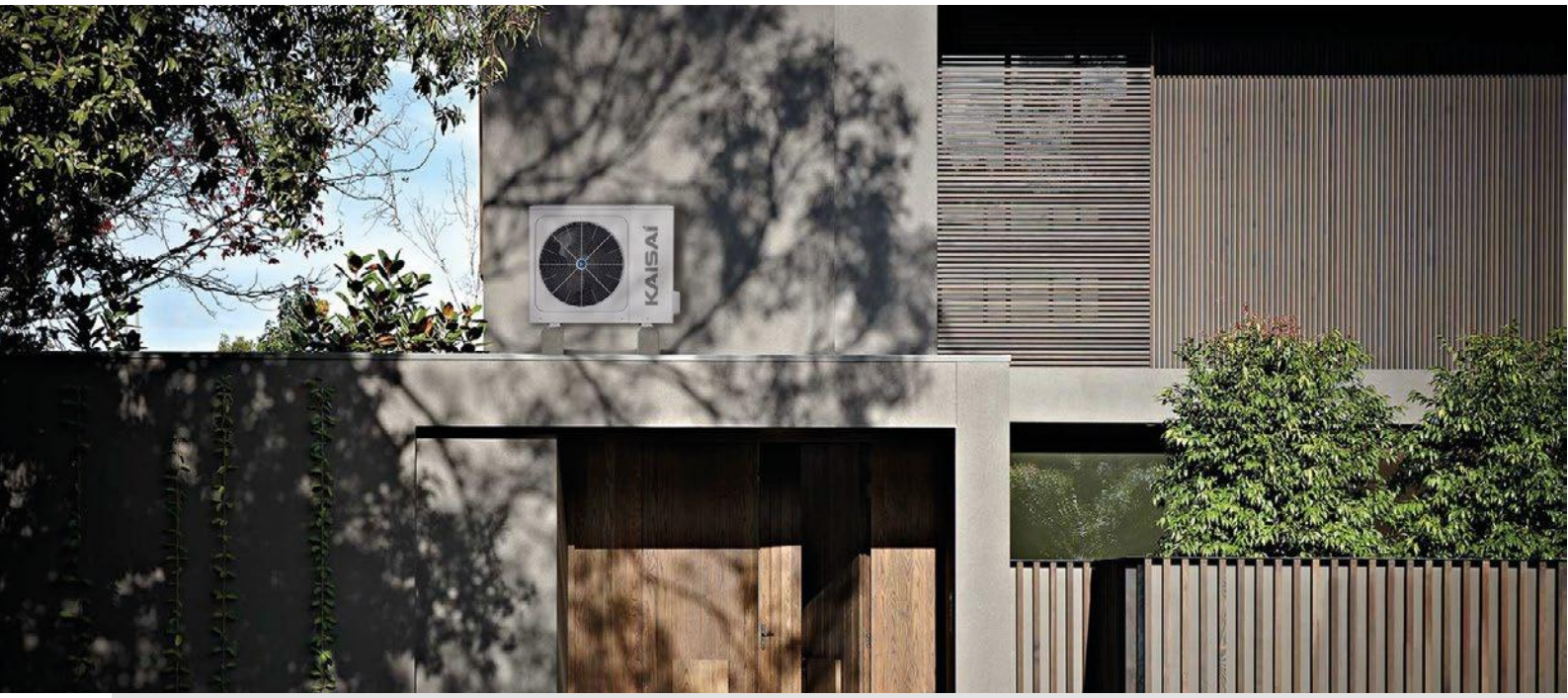
TECHNICAL SPECIFICATION

Model			**KMK-60RY1**	**KMK-100RY3**	**KMK-160RY3**
Names of compatible outdoor unit models			KHA-06RY1-B	KHA-08RY1-B KHA-10RY1-B	KHA-12RY3-B KHA-14RY3-B KHA-16RY3-B
Water-side heat exchanger			plate	plate	plate
Water pump	type		adjustable DC inverter	adjustable DC inverter	adjustable DC inverter
	head	m H_2O	9	9	9
Expansion vessel	volume	l	8	8	8
	initial pressure on the gas side	MPa	0,3	0,3	0,3
Safety valve		MPa	0,3	0,3	0,3
Flow switch		m^3/h	0,36	0,36	0,60
Internal volume of the system, total		l	5	5	5
Power supply	voltage / number of phases / frequency	V/Ph/Hz	220÷240/1/50	380÷415/3/50	380÷415/3/50
	maximum operating current (MCA)	A	14,3	14,0	14,0
Auxiliary electric heater	electric power	kW	3	3/6/9	3/6/9
	capacity levels		1	3	3
Sound power level		dB(A)	38	42	43
Sound pressure level		dB(A)	28	30	32
Leaving water temperature (LWT)	cooling	°C	5÷25	5÷25	5÷25
	heating	°C	25÷65	25÷65	25÷65
	DHW	°C	30÷60	30÷60	30÷60
Room temperature range		°C	5÷35	5÷35	5÷35
Connection	water-side (external thread ET)	cal	1	1	1
	refrigerant liquid	mm	6,35	9,52	9,52
	refrigerant gas	mm	15,88	15,88	15,88
Dimensions	of the unit (W×H×L)	mm	420×790×270	420×790×270	420×790×270
	of the packaging (W×H×L)	mm	525×1050×360	525×1050×360	525×1050×360
Weight	net / in packaging	kg	37 / 43	37 / 43	39 / 45

The technical data above is compliant with the guidelines specified in the following standards: EN16147/2017; EN14511/2018; EN14825/2018; EU No.: 811/2013
The sound power level in the heating mode was determined in accordance with EN 12102, under the conditions consistent with EN 14825;

DHW – domestic hot water LWT - leaving water temperature

Outdoor units



- Compact design, independent hydraulic module, and flexible installation
- The cooling connection between the outdoor and indoor units is resistant to freezing, even during a prolonged power failure
- An additional charge of refrigerant is only required if the length of the cooling lines exceeds 15 m.
- Built-in drip tray with heater

KHA-06 | 08 | 10RY1-B, KHA-12 | 14 | 16RY3-B

TECHNICAL SPECIFICATION

Model			KHA-06RY1-B	KHA-08RY1-B	KHA-10RY1-B	KHA-12RY3-B	KHA-14RY3-B	KHA-16RY3-B
Heating A7W35 ΔT=5, R.H. 85%	nominal heat capacity (range)	kW	6,20 (2,73÷7,41)	8,30 (3,36÷9,11)	10,00 (3,81÷10,30)	12,10 (5,58÷14,60)	14,50 (5,92÷15,50)	16,00 (6,43÷16,80)
	electric energy consumption (range)	kW	1,24 (0,53÷1,56)	1,60 (0,61÷1,80)	2,00 (0,71÷2,09)	2,44 (1,04÷3,11)	3,09 (1,12÷3,37)	3,56 (1,27÷3,79)
	COP (range)	W/W	5,00 (5,32÷4,76)	5,20 (5,54÷5,07)	5,00 (5,39÷4,93)	4,95 (5,38÷4,69)	4,70 (5,27÷4,59)	4,50 (5,08÷4,43)
Heating A2W35 ΔT=5, R.H. 85%	nominal heat capacity	kW	5,50	7,10	8,20	9,30	11,40	13,00
	electric power consumption	kW	1,39	1,73	2,02	2,35	3,12	3,71
	COP	W/W	3,95	4,10	4,05	3,95	3,65	3,50
Heating A-7W35 ΔT=5, R.H. 85%	nominal heat capacity (range)	kW	6,10(1,48÷6,21)	7,10(1,82÷7,27)	8,25(2,05÷8,31)	10,00(3,97÷11,00)	12,00(4,57÷12,70)	13,30(4,99÷13,90)
	electric energy consumption (range)	kW	2,00 (0,48÷2,17)	2,18 (0,53÷2,26)	2,62 (0,61÷2,61)	3,33 (1,26÷3,89)	4,29 (1,48÷4,55)	4,93 (1,68÷5,19)
	COP (range)	W/W	3,05 (3,06÷2,86)	3,25 (3,44÷3,21)	3,15 (3,37÷3,11)	3,00 (3,14÷2,83)	2,80 (3,10÷2,79)	2,70 (2,97÷2,67)
Cooling A35W18 ΔT=5	nominal cooling capacity	kW	6,55	8,40	10,00	12,00	13,50	14,90
	electric power consumption	kW	1,34	1,66	2,08	3,00	3,75	4,38
	EER	W/W	4,90	5,05	4,80	4,00	3,60	3,40
Cooling A35W7 ΔT=5	nominal cooling capacity	kW	7,00	7,40	8,20	11,60	12,70	14,00
	electric power consumption	kW	2,33	2,19	2,48	4,22	4,98	5,71
	EER	W/W	3,00	3,38	3,30	2,75	2,55	2,45
Seasonal energy efficiency rating for room heating	LWT at 35°C (temperate climate zone)	klasa	A+++	A+++	A+++	A+++	A+++	A+++
	LWT at 55°C (temperate climate zone)	klasa	A++	A++	A++	A++	A++	A++
SCOP	LWT at 35°C		4,95	5,21	5,19	4,81	4,72	4,62
	LWT at 55°C		3,52	3,36	3,49	3,45	3,47	3,41
Power supply	voltage / number of phases / frequency	V/Ph/ Hz	220÷240/1/50	220÷240/1/50	220÷240/1/50	380÷415/3/50	380÷415/3/50	380÷415/3/50
	maximum operating current (MCA)	A	14	16	17	10	11	12
Sound level	sound power level (acc. to EN 12102)	dB	58	59	60	64	65	68
	acoustic pressure (1m)	dB	45	46	49	50	51	55
Outside air temperature range	cooling	°C	-5÷43	-5÷43	-5÷43	-5÷43	-5÷43	-5÷43
	heating	°C	-25÷35	-25÷35	-25÷35	-25÷35	-25÷35	-25÷35
	CWU	°C	-25÷43	-25÷43	-25÷43	-25÷43	-25÷43	-25÷43
Compressor type	twin rotary		DC	DC	DC	DC	DC	DC
Cooling system	liquid / gas line diameters	mm	6,35 / 15,88	9,52 / 15,88	9,52 / 15,88	9,52 / 15,88	9,52 / 15,88	9,52 / 15,88
		cal	1/4 / 5/8	3/8 / 5/8	3/8/ 5/8	3/8 / 5/8	3/8 / 5/8	3/8 / 5/8
	permissible system length / permissible height difference	m	2÷30 / 20	2÷30 / 20	2÷30 / 20	2÷30 / 20	2÷30 / 20	2÷30 / 20
	connection method		socket	socket	socket	socket	socket	socket
Additional refrigerant	charge	g/m	20	38	38	38	38	38
	length without charge	m	<15	<15	<15	<15	<15	<15
Refrigerant	symbol (GWP) / refrigerant amount	kg	R32 (675) / 1,5	R32 (675) / 1,65	R32 (675) / 1,65	R32 (675) / 1,84	R32 (675) / 1,84	R32 (675) / 1,84
Dimensions	of the unit (W×H×L)	mm	1008×712×426			1118×865×523		
	of the packaging (W×H×L)	mm	1065×800×485			1180×890×560		
Weight	net / in packaging		58 / 64	75 / 89	75 / 89	112 / 125	112 / 125	112 / 125

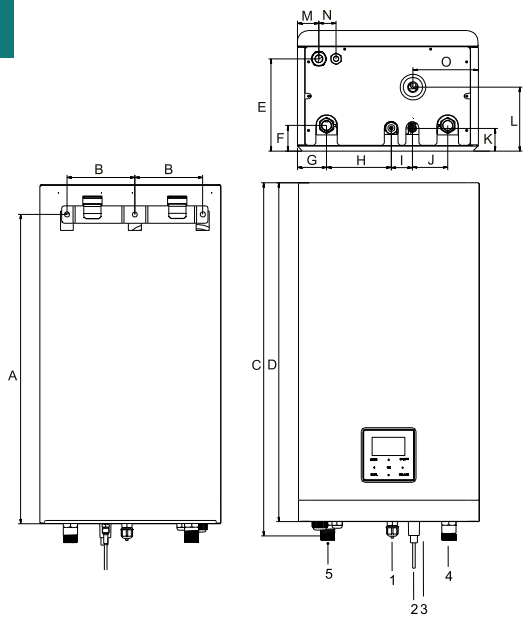
The technical data above is compliant with the guidelines specified in the following standards: EN14511; EN14825; EN50564; EN12102; (EU) No. 811:2013; (EU) No. 813:2013; OJ 2014/C 207/02:2014. The SCOP seasonal heating efficiency was determined for temperate climate conditions.
The sound power level in the heating mode was determined in accordance with EN 12102, under the conditions consistent with EN 14825;

Dimensions of the **devices**

KMK-60RY1
KMK-100 | 160RY3

1	Cooling connection – gas 5/8"
2	Cooling connection – liquid 1/4" (model 60), 3/8" (models 100/160)
3	Condensate drain ø25
4	Water inlet from the central heating system R1" (ET)
5	Water outlet to the central heating system R1" (ET)

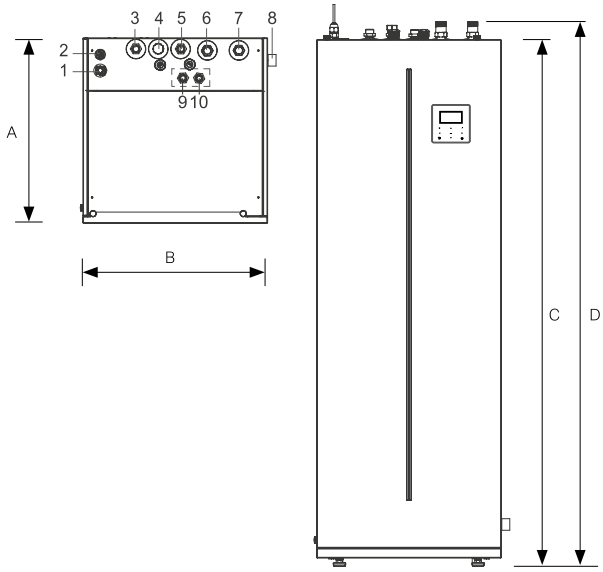
A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
721	158	824	790	216	60	68	151	49	82	53	149	50	40	152



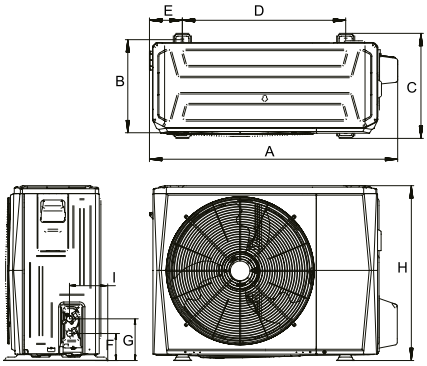
KMK-190L-100RY1
KMK-240L-100/160RY3

1	Cooling connection – gas 5/8"
2	Cooling connection – liquid 3/8"
3	Domestic hot water outlet
4	Domestic hot water recirculation inlet (plugged with screw plug)
5	Domestic cold water inlet
6	Water inlet from the central heating system R1" (ET)
7	Water outlet to the central heating system R1" (ET)
8	Condensate drain ø25
9	Circulation outlet from the solar collector system (non-standard)
10	Circulation inlet from the solar collector system (non-standard)

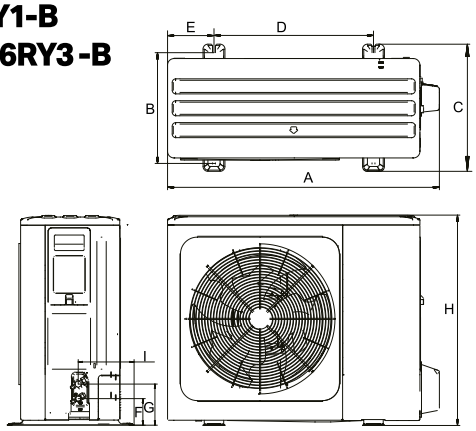
MODEL	A	B	C	D
KMK-190L-100 RY1	600	600	1711	1774
KMK-240L-100 RY1/ KMK-100-160 RY3	600	600	1971	2034



KHA-06RY1-B

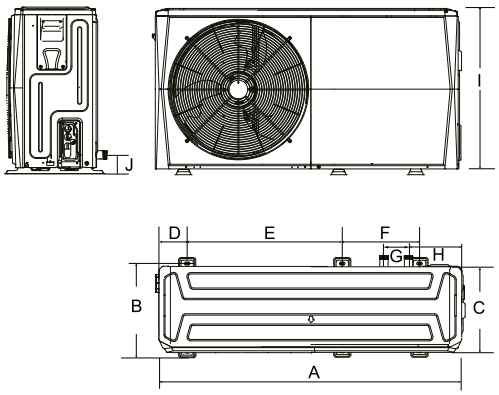


KHA-08|10RY1-B
KHA-12|14|16RY3-B

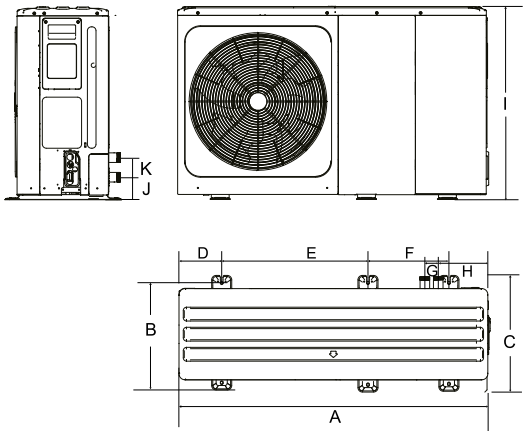


MODEL	A	B	C	D	E	F	G	H	I
KHA-06RY1	1008	375	426	663	134	110	170	712	160
KHA-08/10RY1	1118	456	523	656	191	110	170	865	230
KHA-12/14/16RY3	1118	456	523	656	191	110	170	865	230

KHC-06RY1-B



KHC-08|10|12|14|16RY3-B



MODEL	A	B	C	D	E	F	G	H	I	J	K
KHC-06RY1	1295	401	429	115	638	379	105	225	718	161	/
KHC-08/10/12/14/16RY3	1385	488	526	192	656	363	60	221	865	182	81

KHC-22|30RX3

A	B	C	D	E	F	G	H	I	J	K	L
1129	494	528	668	192	98	206	1558	558	143	400	440