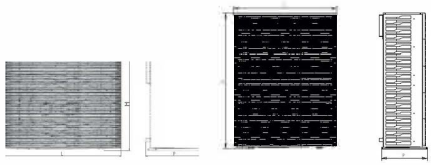
Rinnai - Low-GWP R290 Heat Pumps

Rinnai

Technical Specification - 6kW - 18kW



Dimensions		0106	0109	0112	0115	0118
L	mm	1100	1100	1100	1100	1100
P	mm	510	510	510	510	510
H	mm	875	875	1447	1447	1447

Cooling R290		0106	0109	0112	0115	0118
Cooling capacity (1)	kW	5,8* / 5,4	9,2* / 8,6	11,2* / 10,7	13,5* / 12,4	14,3* / 13,8
Power input (1)	kW	2,0	2,8	3,8	3,7	4,3
E.E.R. (1)	W/W	2,8	3,1	2,9	3,4	3,2
Cooling capacity (2)	kW	6,2* / 5,6	9,9* / 9,2	13,3* / 12,6	14,4* / 12,9	14,8* / 13,9
Power input (2)	kW	1,3	1,9	2,8	2,4	2,7
E.E.R. (2)	W/W	4,5	4,8	4,4	5,4	5,2
SEER (5)	W/W	4,8	5,4	4,7	5,0	5,0
Water flow (1)	L/s	0,3	0,4	0,5	0,6	0,7
Available pressure (1)	kPa	66	57	81	80	74
Heating						
Heating capacity (3)	kW	6,9* / 6,2	10,4* / 9,7	13,7* / 12,6	17,7* / 16,3	19,84* / 18,7
Power input (3)	kW	1,3	2,1	2,6	3,3	4,1
C.O.P. (3)	W/W	4,8	4,7	4,8	4,9	4,6
Heating capacity (4)	kW	6,4* / 6,0	9,75* / 9,1	12,77* / 11,6	16,64* / 15,2	18,65* / 17,4
Power input (4)	kW	1,9	2,9	3,6	4,5	5,3
C.O.P. (4)	W/W	3,1	3,2	3,2	3,4	3,3
Heating capacity (11)	kW	6,41* / 5,9	9,81* / 9,1	13,08* / 12,0	15,94*/14,7	17,73* / 16,7
Power input (11)	kW	2,3	3,4	4,6	5,2	6,0
C.O.P. (11)	W/W	2,6	2,7	2,6	2,8	2,8
SCOP (6)	W/W	4,7	5,2	4,9	4,9	4,8
Water flow (3)	L/s	0,3	0,4	0,6	0,8	0,9
Available pressure (3)	kPa	63	52	80	68	60
Energy efficiency (Water 35°C-65°C)		A+++/A++	A+++/A+++	A+++/A++	A+++/A++	A+++/A++
Compressor						
Type		Twin Rotary DC Inverter				
Compressors	n°	1	1	1	1	1
Refrigerant circuits	n°	1	1	1	1	1
Refrigerant charge (7)	kg	0,43	0,75	1,00	1,27	1,27
Hydraulic circuit						
Water connections	inch	G1"	G1"	G1"	G1"	G1"
Min. water volume (8)	L	65	95	125	155	155
Sound level						
Sound power Lw (9)	dB(A)	57	58	59	62	62
Sound pressure at 1 m distance Lp1 (10)	dB(A)	42	43	44	47	47
Electrical data						
Power supply		230V/1/50Hz	230V/1/50Hz	230V/1/50Hz	400V/3/50Hz	400V/3/50Hz
Max. power input	kW	3	4	5	8	8
Max. current input	A	14	21	26	16	17
Weight						
Gross weight	kg	103	105	156	174	174

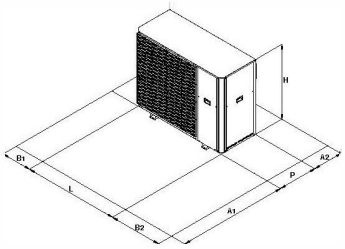
Operating conditions:
(1) Cooling: Outdoor air temperature 35°C; inlet/outlet water temperature 12/7°C.
(2) Cooling: Outdoor air temperature 35°C; inlet/outlet water temperature 23/18°C.
(3) Heating: Outdoor air temperature 7°C DB 6°C WB; inlet/outlet water temperature 30/35°C.
(4) Heating: Outdoor air temperature 7°C DB 6°C WB; inlet/outlet temperature 47/55°C.
(5) Cooling: low temperature, variable outlet, fixed flow.
(6) Heating: in average climate condition; Tbiv=-7°C; low temperature, variable outlet, fixed flow.
(7) The data are only indicative and subject to change. For the correct data, refer to the technical label stuked on the unit.
(8) Calculated for a decrease of the water temperature of the plant with 10°C, with a defrosting cycle of 6 minutes.
(9) Sound power: heating mode according with EN 12102/22, the value is determined respecting the measurements taken in accordance with the regulations UNI EN ISO 9614-1, in compliant with the Eurovent certification.
(10) Sound pressure level: obtained with internal measurements made in accordance with ISO 3744, at 1 m distance.
(11) Heating: Outdoor air temperature 7°C DB 6°C WB; inlet/outlet temperature 55/65°C.

Accessories

AWHP-AG	Heat Pump Vibration Damper
AWHP-eLite	Multifunctional Remote Control System
AWHP-EXOGEL	Frost Protection
AWHP-FD	Dirt Separator Filter
AWHP-FY	Y-Filter
AWHP-Gi3	Hardware Expansion Module
AWHP-TV415	Remote Touch Screen Display
AWHP-KA	Heat Exchanger Resistance + Base
AWHP-KA3	Base Resistance
AWHP-RP	Battery Protection Grilles
AWHP-SAS	Heat Pump Remote Probe
AWHP-TR2	Remote Plant Probe
AWHP-VDIS3	3 Way Diverter Valve for Thermal Storage
AWHP-VRC	Condensate Collection Tray

Scan QR code for more technical data

Technical Specification - 21kW - 27kW



Spaces of respect		0121-0123	0125-0127
A1	mm	1500	1500
A2	mm	400	400
B1	mm	400	400
B2	mm	500	500

Dimensions		0121-0127
L	mm	1010
P	mm	710
H	mm	1270

Cooling R290		0121	0123	0125	0127
Cooling capacity (1)	kW	17,4	18,9	19,8	22,3
Power input (1)	kW	5,2	5,9	6,2	7,2
E.E.R. (1)	W/W	3,3	3,2	3,2	3,1
Cooling capacity (2)	kW	19,6	21,0	25,3	27,9
Power input (2)	kW	4,0	4,4	5,3	6,4
E.E.R. (2)	W/W	4,9	4,8	4,8	4,3
SEER (5)	W/W	5,27	5,27	4,94	4,84
Water flow (1)	L/s	0,8	0,9	1,0	1,1
Available pressure (1)	kPa	128	121	128	117
Heating					
Heating capacity (3)	kW	21,0	22,8	24,8	27,0
Power input (3)	kW	4,28	4,8	5,4	6,2
C.O.P. (3)	W/W	4,87	4,8	4,6	4,4
Heating capacity (4)	kW	19,6	21,6	23,2	26,3
Power input (4)	kW	6,1	6,8	7,7	8,7
C.O.P. (4)	W/W	3,2	3,2	3,0	3,0
SCOP (6)	W/W	4,75	4,72	4,49	4,46
Water flow (4)	L/s	0,59	0,65	0,69	0,79
Available pressure (4)	kPa	150	146	149	142
Energy efficiency (Water 35°C-65°C)		A+++ / A++	A+++ / A++	A+++ / A++	A+++ / A++
Compressor					
Type			Scroll DC Inverter		
Compressors	n°	1	1	1	1
Refrigerant circuits	n°	1	1	1	1
Refrigerant charge (7)	kg	1,7	1,7	2,1	2,1
Hydraulic circuit					
Water connections	inch	1" 1/4 M	1" 1/4 M	1" 1/4 M	1" 1/4 M
Min. water volume (8)	L	175	175	220	225
Electrical data					
Power supply		400V/3P+N+T/50Hz			
Max. power input	kW	11	11	13	13
Max. current input	A	19	19	21	21
Weight					
Gross weight	kg	254	254	264	264

Operating conditions:
(1) Cooling: Outdoor air temperature 35°C; inlet/outlet water temperature 12/7°C.
(2) Cooling: Outdoor air temperature 35°C; inlet/outlet water temperature 23/18°C.
(3) Heating: Outdoor air temperature 7°C DB 6°C WB; inlet/outlet water temperature 30/35°C.
(4) Heating: Outdoor air temperature 7°C DB 6°C WB; inlet/outlet temperature 47/55°C.
(5) Cooling: low temperature, variable outlet, fixed flow.
(6) Heating in average climate condition; Tbiv=-7°C; low temperature, variable outlet, fixed flow.
(7) The data are only indicative and subject to change. For the correct data, refer to the technical label sticked on the unit.
(8) The indicated volume refers to the total needed, the designer must satisfy it considering the quantity already present inside the unit according to the chosen hydronic kit (please check this value in the technical sheet).

Accessories

AWHP-AG	Heat Pump Vibration Damper
AWHP-eLite	Multifunctional Remote Control System
AWHP-EXOGEL	Frost Protection
AWHP-FD	Dirt Separator Filter
AWHP-FY	Y-Filter
AWHP-Gi3	Hardware Expansion Module
AWHP-TV415	Remote Touch Screen Display
AWHP-KA	Heat Exchanger Resistance + Base
AWHP-KA3	Base Resistance
AWHP-RP	Battery Protection Grilles
AWHP-SAS	Heat Pump Remote Probe
AWHP-TR2	Remote Plant Probe
AWHP-VDIS3	3 Way Diverter Valve for Thermal Storage
AWHP-VRC	Condensate Collection Tray

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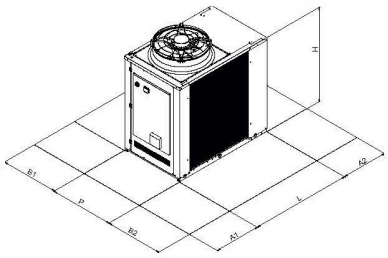
Technical Specification - 40kW - 50 kW



Spaces of respect		0240-0250
A1	mm	1200
A2	mm	1000
B1	mm	1500
B2	mm	1500

Dimensions		0240-0250
L	mm	1895
L (with tank)	mm	2510
P	mm	1110
H	mm	1920
H (SSL)	mm	1930

Cooling R290 + PSI		0240	0250
Cooling capacity (1)	kW	28,8	34,1
Power input (1)	kW	9,3	11,0
E.E.R. (1)	W/W	3,1	3,1
Cooling capacity (2)	kW	34,5	37,0
Power input (2)	kW	8,2	8,5
E.E.R. (2)	W/W	4,2	4,3
SEER (5)	W/W	4,89	4,81
Water flow (1)	L/s	1,4	1,6
Heating			
Heating capacity (3)	kW	40,0	50,1
Power input (3)	kW	9,76	11,9
COP (3)	W/W	4,1	4,2
Heating capacity (4)	kW	38,1	47,9
Power input (4)	kW	13,4	16,5
COP (4)	W/W	2,8	2,9
SCOP (6)	W/W	4,10	4,20
Energy Efficiency water 35°C / 55°C	Classe	A++ / A++	A++ / A++
Water flow (1)	L/s	1,14	1,43
Compressor			
Type		Scroll DC Inverter	Scroll DC Inverter
Compressors	n°	2	2
Refrigerant circuits	n°	1	1
Refrigerant R290	kg	3,15	3,5
Fan			
Nominal air flow	m³/h	16630	18020
Hydraulic circuit			
Available head (1) (*)	kPa	139	124
Available head (4) (*)	kPa	153	144
Water connections	inch	1" 1/2 (DN 40)	1" 1/2 (DN 40)
Minimum water volume	L	365	415
Electrical data			
Power supply		400V/3P+N+T/50Hz	400V/3P+N+T/50Hz
Max. power input	kW	23	27
Max. current input	A	37	44
Weight			
Gross weight	kg	515	530
Hydronic kit (Optional)			
Tank volume	l	400	400
Expansion vessel volume	l	24	24

Data referred to the following condition:
(1) Cooling: outdoor air temperature 35°C; in/out water temperature 12/7°C.
(2) Cooling: outdoor air temperature 35°C; in/out water temperature 23/18°C.
(3) Heating: outdoor air temperature 7°C b.s. 6°C b.u.; in/out water temperature 30/35°C.
(4) Heating: outdoor air temperature 7°C b.s. 6°C b.u.; in/out water temperature 47/55°C.
(5) Cooling: low temperature, variable outlet, fixed flow.
(6) Heating: Average climatic conditions; Tbiv=-7°C; low temperature, fixed flow.
(7) Data indicative and subject to change. For the correct data, always refer to the technical label on the unit, fixed flow.
(8) The indicated volume refers to the total needed, the designer must satisfy it considering the quantity already present inside the unit according to the chosen hydronic kit (please check this value in the technical sheet).

Remote Controls

e-LITE	*Multifunctional remote control system*
Hi-TV415	*Multifunctioning touch screen remote control*
i-CR	*Remote wall controller*

Scan QR code for more technical data

The new generation of heat pumps

R290 refrigerant gas is known for its excellent thermodynamic properties in both heat pumps and refrigeration units.

The advantages of R290 refrigerant gas is that it has a particularly low global warming potential. This factor ensures that it is exempt from the EU-wide F-gas regulation, creating a long term safe and sustainable solution.

The increasing attention to climate change, fuel security and government policy has favoured investments in research and development aimed at the optimisation of low GWP natural refrigerant gases.

The new generation of Rinnai heat pumps that use this environmentally friendly refrigerant gas can boast the following benefits:

- **GWP (Global Warming Potential) = 3**
- **Greater efficiency up to +10%**
- **Water temperature up to 75 ºC**
- **Compliance with the phase down on refrigerants provided by the European F-Gas Regulation**
- **Quiet operation**
- **Suitable for retrofit projects**

Creating a healthier way of living with air source heat pumps

The Rinnai range of heat pumps with R290 natural refrigerant gas is one of the widest on todays market, the R290 range is complimented by Rinnai controls and cylinders, creating a complete solution.

The range includes eleven different sizes from 6kw to 50kw. The innovative portfolio shares the same smart control system that allows for real time system management, including demand side response. The technologically advanced heat pumps come with a substantial range of accessories to fulfil your specification needs.

Scan here or email us at **sales@rinnaiuk.com** to ask us a question or arrange a site visit with one of our support consultants.

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