

technical data



RKH-CAVMB

**Pair Application,
Inverter Controlled Unit**

air conditioning systems

Split Sky Air

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RKH-CAVMB

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1 Features

- Outdoor units for pair application
- Daikin outdoor units are neat and sturdy and can be mounted easily on a roof or terrace or simply placed against an outside wall.
- Outdoor units are fitted with a swing compressor, renowned for its low noise and high energy efficiency

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2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				RKH20CAVMB	RKH25CAVMB	RKH35CAVMB
For combination indoor units + outdoor units	Indoor Units			FTKS20CAVMB	FTKS25CAVMB	FTKS35CAVMB
	Nominal Capacity	Cooling	Minimum	kW	1.3	1.3
Standard			kW	2.0	2.25	3.15
Maximum			kW	2.6	3.0	3.8
Nominal input	Cooling	Minimum	kW	0.430	0.430	0.460
		Standard	kW	0.620	0.700	1.045
		Maximum	kW	0.945	1.200	1.425
For combination indoor units + outdoor units	EER	Cooling		3.23	3.21	3.01
	Energy Labeling Directive	Cooling		A	A	B
	Annual energy consumption	kWh		310	350	523

2-2 TECHNICAL SPECIFICATIONS				RKH20CAVMB	RKH25CAVMB	RKH35CAVMB	
Casing	Colour			Ivory White			
Dimensions	Unit	Height	mm	560	560	560	
		Width	mm	695	695	695	
		Depth	mm	265	265	265	
	Packing	Height	mm	599	599	599	
		Width	mm	824	824	824	
		Depth	mm	337	337	337	
Weight	Unit		kg	31	31	33	
	Packed Unit		kg	36	36	38	
Heat Exchanger	Dimensions	Length	mm	640	640	618	
		Nr of Rows			1	1	2
		Fin Pitch	mm	1.60	1.60	1.40	
		Nr of Stages			24	24	24
	Tube type		Grooved tube (8)				
	Fin	Type		Waffle fin			
Fan	Type			Propeller			
	Quantity			1	1	1	
	Air Flow Rate (nominal at 230V)	Cooling	m³/min	29.0	29.0	27.5	
	Motor	Quantity		1	1	1	
Model		KF-220-25P					
Motor	Speed (nominal)	Cooling	rpm	720	720	710	
Fan	Motor	Output	W	25	25	25	
Compressor	Quantity			1	1	1	
	Motor	Model		1YC23NXD#A			
		Type		Hermetically sealed swing compressor			
		Motor Output	W	600	600	600	
Operation Range	Cooling	Min	°CDB	10.0	10.0	10.0	
		Max	°CDB	46.0	46.0	46.0	
Sound Level (nominal)	Cooling	Sound Power	dBA	61.0	61.0	63.0	
		Sound Pressure	dBA	46.0	46.0	48.0	
		Refrigerant		Type	R-410A		
Refrigerant	Charge	kg		0.8	0.8	1.0	
	Control		Motor operated expansion valve				
Refrigerant Oil	Type			FVC50K			
	Charged Volume	l		0.375	0.375	0.375	

2 Specifications

2

2-2 TECHNICAL SPECIFICATIONS				RKH20CAVMB	RKH25CAVMB	RKH35CAVMB
Piping connections	Liquid (OD)	Diameter (OD)	mm	6.35	6.35	6.35
	Gas	Diameter (OD)	mm	9.5	9.5	9.5
	Drain	Diameter (OD)	mm	18	18	18
	Piping Length	Maximum	m	15	15	15
	Additional Refrigerant Charge		kg/m	0.02/>10m		
	Max. internit level difference		m	10.0	10.0	10.0
	Heat Insulation			Both liquid and gas pipes		
Standard Accessories	Item			Installation manual		
	Quantity			1	1	1
Notes				Nominal cooling capacities are based on : indoor temperature : 27°CDB, 19°CWB, outdoor temperature : 35°CDB, equivalent refrigerant piping : 7.5m, level difference : 0m.		
				Sound levels are measured in an anechoic room		
				Sound pressure level is a relative value, depending on the distance and acoustic environment. For more details, please refer to sound level drawings of this chapter.		
				The sound power level is an absolute value indicating the power which a sound source generates.		

2-3 ELECTRICAL SPECIFICATIONS				RKH20CAVMB	RKH25CAVMB	RKH35CAVMB
Power Supply	Name			VM		
	Phase			1	1	1
	Frequency		Hz	50/60		
	Voltage			220-240/220-230		
	Voltage range	Minimum	V	-10%		
		Maximum	V	+10%		
Current	Nominal running current (RLA)	Cooling	A	3.12	3.52	4.72
	Starting current (cooling/heating)		A	3.3	3.7	4.9
Wiring connections	For Power Supply	Quantity		3	3	3
	For connection with indoor	Quantity		4	4	4
		Remark		included earth wiring		
Power Supply Intake				Outdoor unit only		

3 Electrical data

RKH20C

Indoor unit	Outdoor unit	Power supply				Compressor		OFM		IFM	
		Hz-Volts	Voltage range	MCA	MFA	RHz	RLA	W	FLA	W	FLA
FTKS20C	RKH20C	50-230	MAX. 50Hz 253V MIN. 50Hz 207V	13.0	15	42	2.81	25	0.35	18	0.20

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SYMBOLS

- MCA : Min. Circuit Amps (A)
- MFA : Max. Fuse Amps (A)
- RHz : Rated operating frequency(Hz)
- RLA : Rated Load Amps (A)
- OFM : Outdoor Fan Motor
- IFM : Indoor Fan Motor
- FLA : Full Load Amps
- W : Rated motor output (W)

NOTES

1. RLA is based on the following conditions:
Indoor temp.: 27°CDB/19.0°CWB
Outdoor temp. : 35°CDB
2. Maximum allowable voltage unbalance between phases is 2%
3. Select wire size based on the larger value of MCA.
4. Instead of fuse, use circuit breaker.
5. For more details concerning conditional connections, see <http://extranet.daikineurope.com>, select "E-Data Books".
Finally, click on the document title of your choice.

RKH25C

Indoor unit	Outdoor unit	Power supply				Compressor		OFM		IFM	
		Hz-Volts	Voltage range	MCA	MFA	RHz	RLA	W	FLA	W	FLA
FTKS25C	RKH25C	50-230	MAX. 50Hz 253V MIN. 50Hz 207V	13.0	15	47	3.21	25	0.35	18	0.20

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SYMBOLS

- MCA : Min. Circuit Amps (A)
- MFA : Max. Fuse Amps (A)
- RHz : Rated operating frequency(Hz)
- RLA : Rated Load Amps (A)
- OFM : Outdoor Fan Motor
- IFM : Indoor Fan Motor
- FLA : Full Load Amps
- W : Rated motor output (W)

NOTES

1. RLA is based on the following conditions:
Indoor temp.: 27°CDB/19.0°CWB
Outdoor temp. : 35°CDB
2. Maximum allowable voltage unbalance between phases is 2%
3. Select wire size based on the larger value of MCA.
4. Instead of fuse, use circuit breaker.
5. For more details concerning conditional connections, see <http://extranet.daikineurope.com>, select "E-Data Books".
Finally, click on the document title of your choice.

3 Electrical data

RKH35C

Indoor unit	Outdoor unit	Power supply				Compressor		OFM		IFM	
		Hz-Volts	Voltage range	MCA	MFA	RHz	RLA	W	FLA	W	FLA
FTKS35C	RKH35C	50-230	MAX. 50Hz 253V MIN. 50Hz 207V	13.0	15	70	4.41	25	0.35	18	0.20

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3

SYMBOLS

- MCA : Min. Circuit Amps (A)
- MFA : Max. Fuse Amps (A)
- RHz : Rated operating frequency(Hz)
- RLA : Rated Load Amps (A)
- OFM : Outdoor Fan Motor
- IFM : Indoor Fan Motor
- FLA : Full Load Amps
- W : Rated motor output (W)

NOTES

1. RLA is based on the following conditions:
Indoor temp.: 27°CDB/19.0°CWB
Outdoor temp. : 35°CDB
2. Maximum allowable voltage unbalance between phases is 2%
3. Select wire size based on the larger value of MCA.
4. Instead of fuse, use circuit breaker.
5. For more details concerning conditional connections, see <http://extranet.daikineurope.com>, select "E-Data Books".
Finally, click on the document title of your choice.

4 Options

RKH-C			
	RKH20C	RKH25C	RKH35C
Air direction adjustment grille	KPW937A4		

5 Capacity tables

5 - 1 Cooling capacity tables

5

FTKS20C+ RKH20C

Cooling capacity

230V [50Hz]

AFR	7.7
BF	0.23

Indoor		Outdoor temperature (°C)																	
EWB (°C)	EDB (°C)	20			25			30			32			35			40		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	1.86	1.68	0.46	1.80	1.62	0.52	1.74	1.57	0.57	1.71	1.54	0.58	1.67	1.50	0.59	1.60	1.44	0.64
16.0	22	2.01	1.81	0.47	1.95	1.75	0.53	1.88	1.69	0.58	1.85	1.66	0.59	1.80	1.62	0.60	1.72	1.55	0.65
18.0	25	2.16	1.95	0.48	2.09	1.88	0.54	2.02	1.82	0.59	1.98	1.79	0.60	1.93	1.74	0.61	1.85	1.67	0.67
19.0	27	2.24	2.01	0.48	2.16	1.95	0.54	2.09	1.88	0.60	2.05	1.85	0.61	2.00	1.80	0.62	1.92	1.72	0.67
22.0	30	2.47	2.22	0.50	2.39	2.15	0.56	2.31	2.08	0.61	2.27	2.04	0.62	2.21	1.99	0.64	2.12	1.91	0.69
24.0	32	2.63	2.36	0.51	2.54	2.29	0.57	2.45	2.21	0.63	2.41	2.17	0.64	2.35	2.12	0.65	2.25	2.03	0.70

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SYMBOLS

AFR:	Air flow rate	(m ³ /min)
BF:	Bypass factor	
EWB:	Entering wet bulb temp.	(°CWB)
EDB:	Entering dry bulb temp.	(°CDB)
TC:	Total capacity	(kW)
SHC:	Sensible heating capacity	(kW)
PI:	Power input	(kW)

NOTES

- Ratings shown are net capacities which include a deduction for indoor fan motor heat
- Shows nominal cooling capacities and power input
- TC, PI and SHC must be calculated by interpolation using the figures in the above tables. (Figures out of the tables should not be used for calculation.)
- SHC is based on each EWB and EDB
 $SHC^* = SHC$ correction for other dry bulb
 $SHC^* = 0.02 \times AFR (m^3/min) \times (1-BF) \times (DB-EDB)$
 Add SHC* to SHC.
- Capacities are based on following conditions:
 Corresponding refrigerant piping length: 5 m
 Level difference: 0 m
- Air flow rate (AFR) and Bypass factor (BF) are tabulated above.

FTKS25C + RKH25C

Cooling capacity

230V [50Hz]

AFR	7.7
BF	0.23

Indoor		Outdoor temperature (°C)																	
EWB (°C)	EDB (°C)	20			25			30			32			35			40		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	2.10	1.78	0.52	2.03	1.72	0.58	1.96	1.66	0.65	1.92	1.63	0.66	1.87	1.59	0.67	1.80	1.52	0.72
16.0	22	2.26	1.92	0.53	2.19	1.86	0.59	2.11	1.79	0.66	2.08	1.76	0.67	2.02	1.72	0.68	1.94	1.65	0.74
18.0	25	2.43	2.06	0.54	2.35	2.00	0.61	2.27	1.93	0.67	2.23	1.89	0.68	2.17	1.85	0.69	2.08	1.77	0.75
19.0	27	2.52	2.14	0.55	2.43	2.06	0.61	2.35	1.99	0.67	2.31	1.96	0.68	2.25	1.91	0.70	2.16	1.83	0.76
22.0	30	2.78	2.36	0.56	2.69	2.28	0.63	2.60	2.20	0.69	2.55	2.17	0.70	2.49	2.11	0.72	2.38	2.02	0.78
24.0	32	2.96	2.51	0.57	2.86	2.43	0.64	2.76	2.34	0.71	2.71	2.30	0.72	2.64	2.24	0.73	2.53	2.15	0.79

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SYMBOLS

AFR:	Air flow rate	(m ³ /min)
BF:	Bypass factor	
EWB:	Entering wet bulb temp.	(°CWB)
EDB:	Entering dry bulb temp.	(°CDB)
TC:	Total capacity	(kW)
SHC:	Sensible heating capacity	(kW)
PI:	Power input	(kW)

NOTES

- Ratings shown are net capacities which include a deduction for indoor fan motor heat
- Shows nominal cooling capacities and power input
- TC, PI and SHC must be calculated by interpolation using the figures in the above tables. (Figures out of the tables should not be used for calculation.)
- SHC is based on each EWB and EDB
 $SHC^* = SHC$ correction for other dry bulb
 $SHC^* = 0.02 \times AFR (m^3/min) \times (1-BF) \times (DB-EDB)$
 Add SHC* to SHC.
- Capacities are based on following conditions:
 Corresponding refrigerant piping length: 5 m
 Level difference: 0 m
- Air flow rate (AFR) and Bypass factor (BF) are tabulated above.

5 Capacity tables

5 - 1 Cooling capacity tables

FTKS35C+ RKH35C																			AFR	7.7
Cooling capacity																			BF	0.18
Indoor		Outdoor temperature (°C)																		
EWB (°C)	EDB (°C)	20			25			30			32			35			40			
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	
14.0	20	2.93	2.14	0.78	2.84	2.07	0.87	2.74	2.00	0.96	2.69	1.97	0.98	2.62	1.92	1.00	2.51	1.84	1.08	
16.0	22	3.17	2.31	0.80	3.06	2.24	0.89	2.96	2.16	0.98	2.91	2.12	1.00	2.83	2.07	1.02	2.72	1.98	1.10	
18.0	25	3.40	2.49	0.81	3.29	2.40	0.90	3.18	2.32	1.00	3.13	2.28	1.01	3.04	2.22	1.04	2.92	2.13	1.12	
19.0	27	3.52	2.57	0.82	3.41	2.49	0.91	3.29	2.40	1.01	3.23	2.36	1.02	3.15	2.30	1.05	3.02	2.20	1.13	
22.0	30	3.89	2.84	0.84	3.76	2.75	0.94	3.63	2.65	1.04	3.57	2.61	1.05	3.48	2.54	1.08	3.33	2.43	1.16	
24.0	32	4.14	3.02	0.86	4.00	2.92	0.96	3.86	2.82	1.06	3.80	2.77	1.07	3.70	2.70	1.10	3.55	2.59	1.19	

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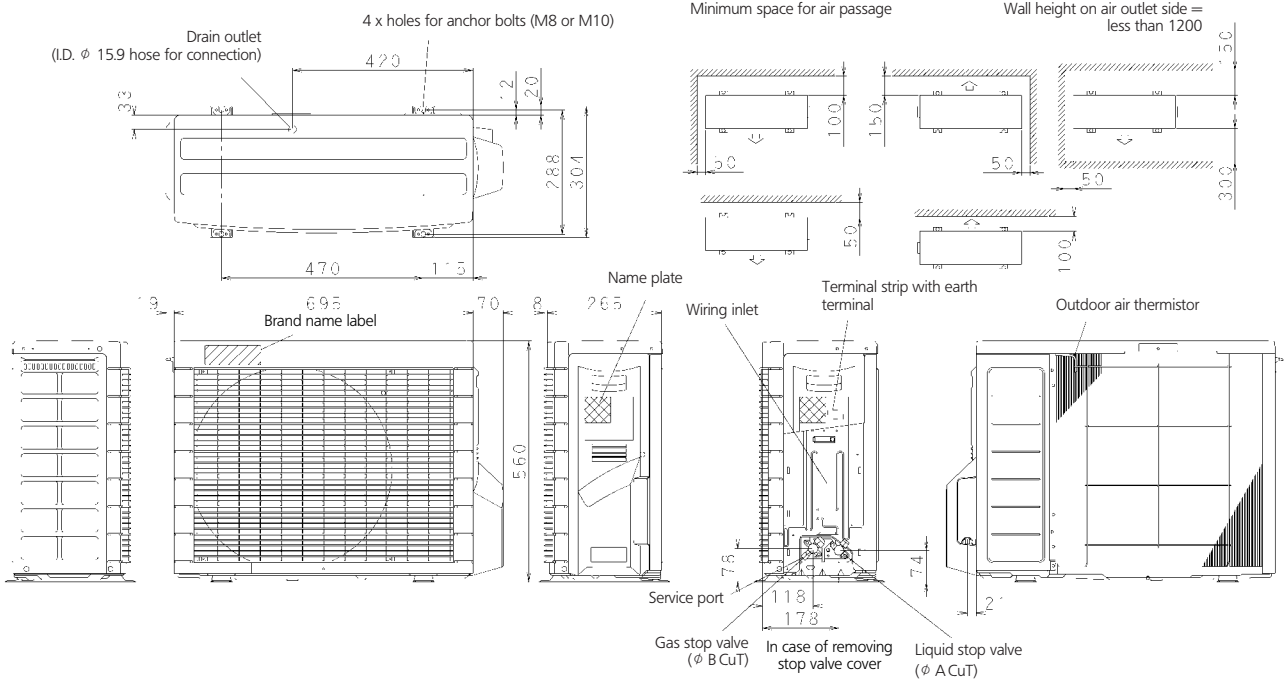
<p>SYMBOLS</p> <p>AFR: Air flow rate (m³/min)</p> <p>BF: Bypass factor</p> <p>EWB: Entering wet bulb temp. (°CWB)</p> <p>EDB: Entering dry bulb temp. (°CDB)</p> <p>TC: Total capacity (kW)</p> <p>SHC: Sensible heating capacity (kW)</p> <p>PI: Power input (kW)</p>	<p>NOTES</p> <ol style="list-style-type: none"> Ratings shown are net capacities which include a deduction for indoor fan motor heat Shows nominal cooling capacities and power input TC, PI and SHC must be calculated by interpolation using the figures in the above tables. (Figures out of the tables should not be used for calculation.) SHC is based on each EWB and EDB SHC* = SHC correction for other dry bulb SHC* = 0.02 x AFR (m³/min) x (1-BF) x (DB-EDB) Add SHC* to SHC. Capacities are based on following conditions: Corresponding refrigerant piping length: 5 m Level difference: 0 m Air flow rate (AFR) and Bypass factor (BF) are tabulated above.
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6 Dimensional drawing & centre of gravity

6 - 1 Dimensional drawing

unit (mm)

RKH20,25,35C

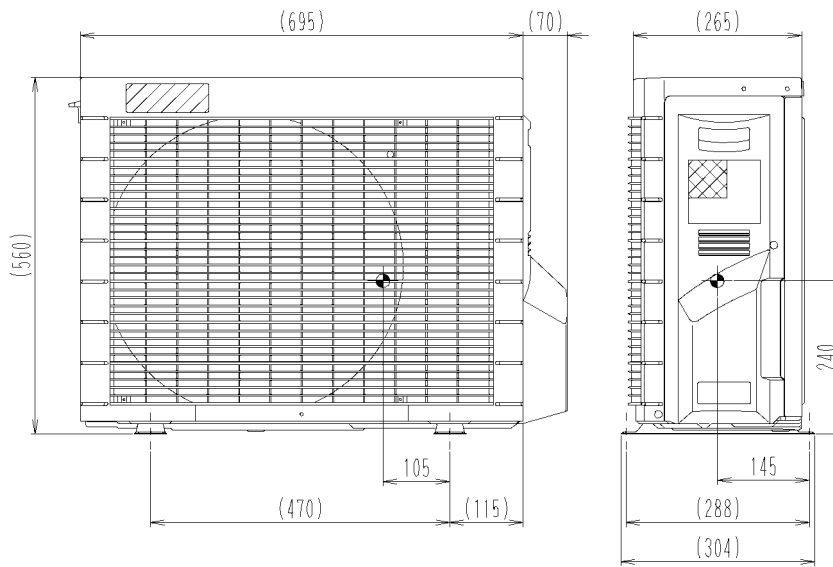


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6 Dimensional drawing & centre of gravity

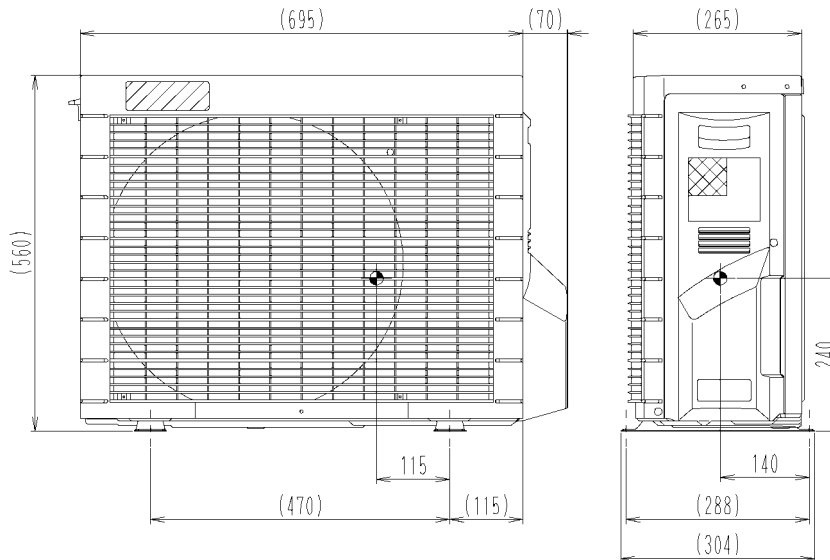
6 - 2 Centre of gravity

RKH20,25C



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RKH35C

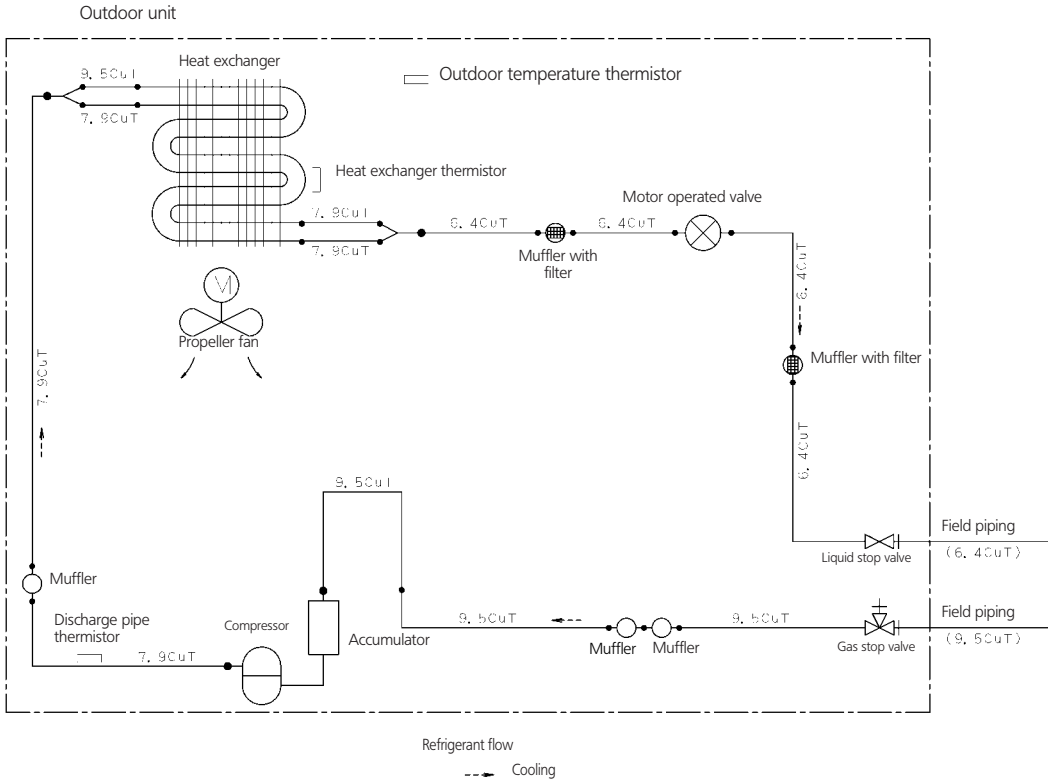


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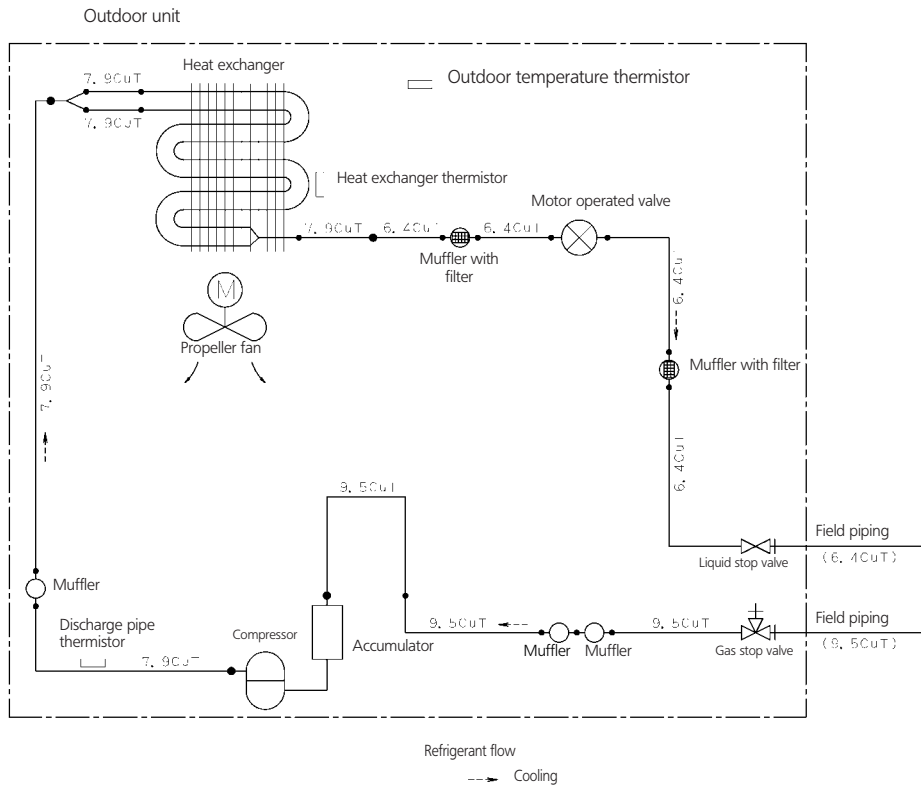
7 Piping diagram

7

RKH20,25C



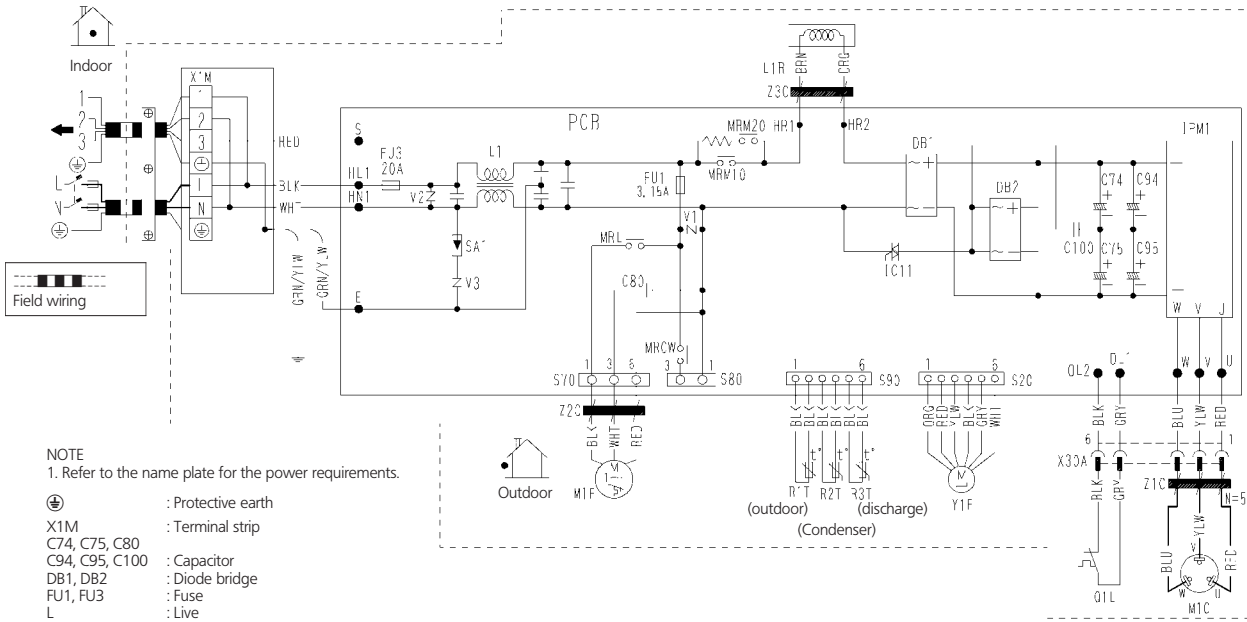
RKH35C



8 Wiring diagram

8 - 1 Wiring diagram

RKH20,25,35C



NOTE
1. Refer to the name plate for the power requirements.

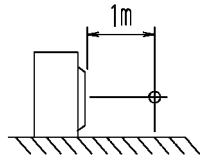
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|----------------|-------------------------|--------------------|-----------------------------------|
| ⊕ | : Protective earth | R1T, R2T, R3T | : Thermistor |
| X1M | : Terminal strip | S20, S75, S80, S90 | : Connector |
| C74, C75, C80 | : Capacitor | SA1 | : Surge arrester |
| C94, C95, C100 | : Capacitor | Z1C, Z2C, Z3C | : Ferrite core |
| DB1, DB2 | : Diode bridge | IC11 | : Solid state relay |
| FU1, FU3 | : Fuse | IMP1 | : Intelligent power module |
| L | : Live | V1, V2, V3 | : Varistor |
| L1 | : Coil | Y1E | : Electronic expansion valve coil |
| L1R | : Reactor | | |
| M1C | : Compressor motor | | |
| M1F | : Fan motor | | |
| PCB | : Printed circuit board | | |
| MRCW, MRL | : Magnetic relay | | |
| MRM10, MRM20 | : Magnetic relay | | |
| N | : Neutral | | |
| Q1L | : Overload protector | | |

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9 Sound data

9 - 1 Sound level data

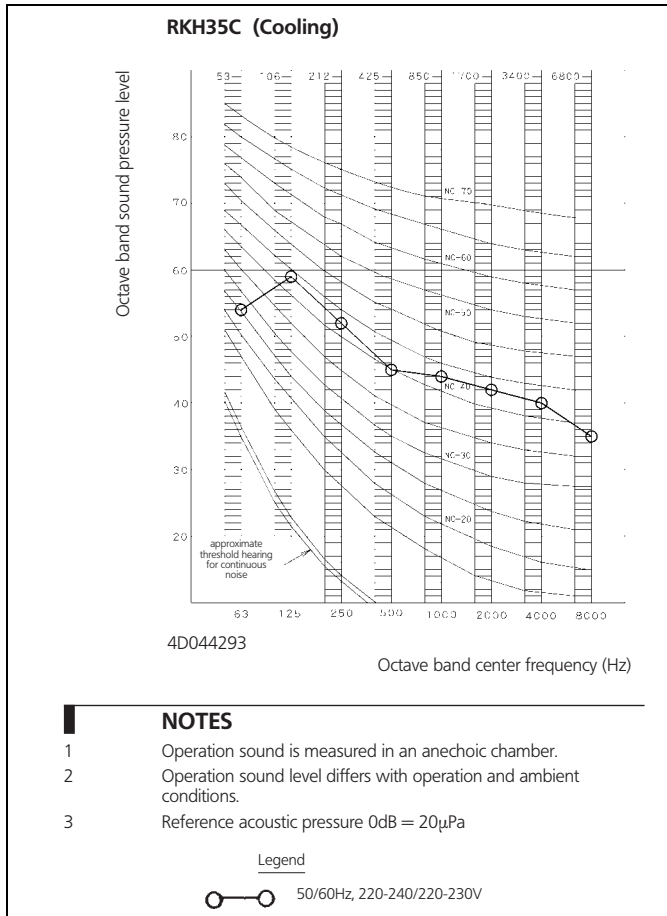
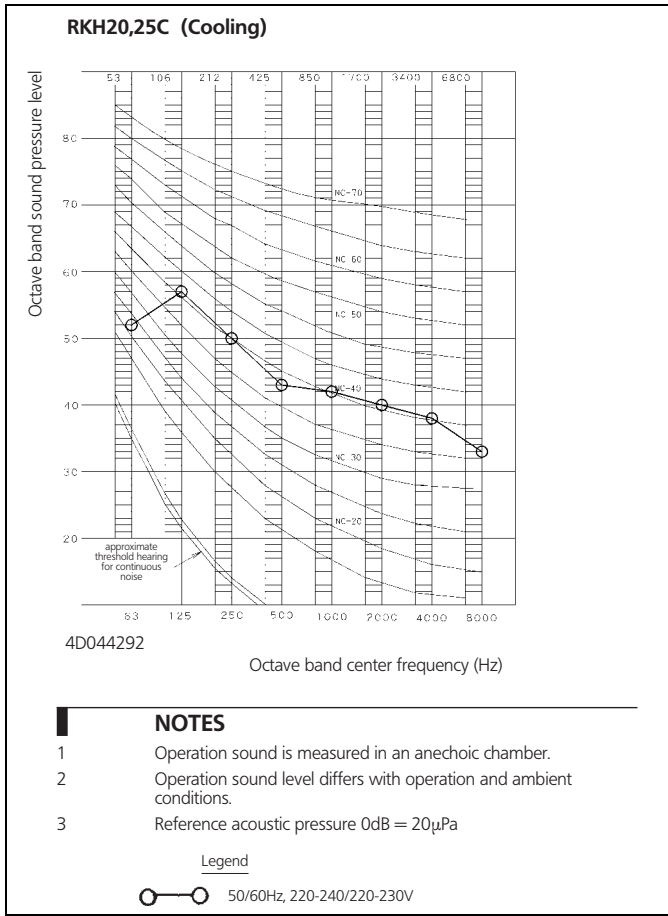
9

Cooling only					
Model	Sound pressure level			Measuring location	Sound power level (cooling)
	230V, 50Hz				
	Cooling				
	H	L			
RKH20C	46	*		61	
RKH25C	46	*		61	
RKH35C	48	*		63	

* This information was not available at the time of publication.

9 Sound data

9 - 2 Sound pressure spectrum



10 Installation

10 - 1 Installation method

10

RKH20,25,35C

Outdoor unit installation drawings

Model	20 / 25 / 35 class
Max. allowable length	15m
Max. allowable height	15m
Additional refrigerant required for refrigerant pipe exceeding 10 m in length.	20 g/m
Gas pipe	O.D. 9.5 mm
Liquid pipe	O.D. 6.4 mm

* Be sure to add the proper amount of additional refrigerant. Failure to do so may result in reduced performance.

Wrap the installation pipe with the finishing tape from bottom to top

Service lid

How to remove the service lid.

- This service lid is an open/close type.
- Slide the lid downward to remove it.

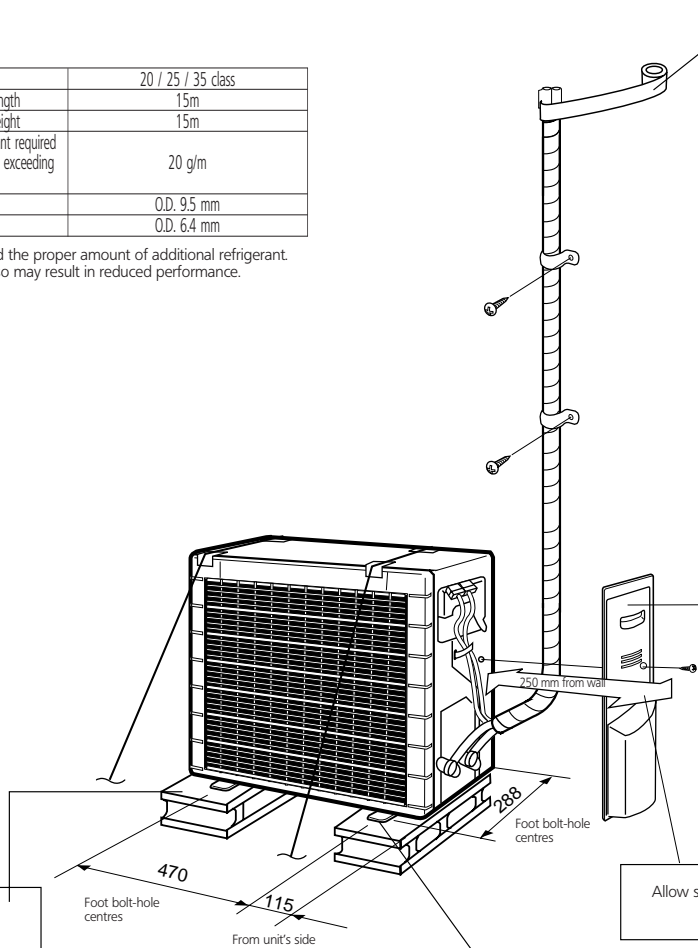
How to attach the service lid.

- Insert the upper part of the service lid into the outdoor unit to install.
- Tighten the screws.

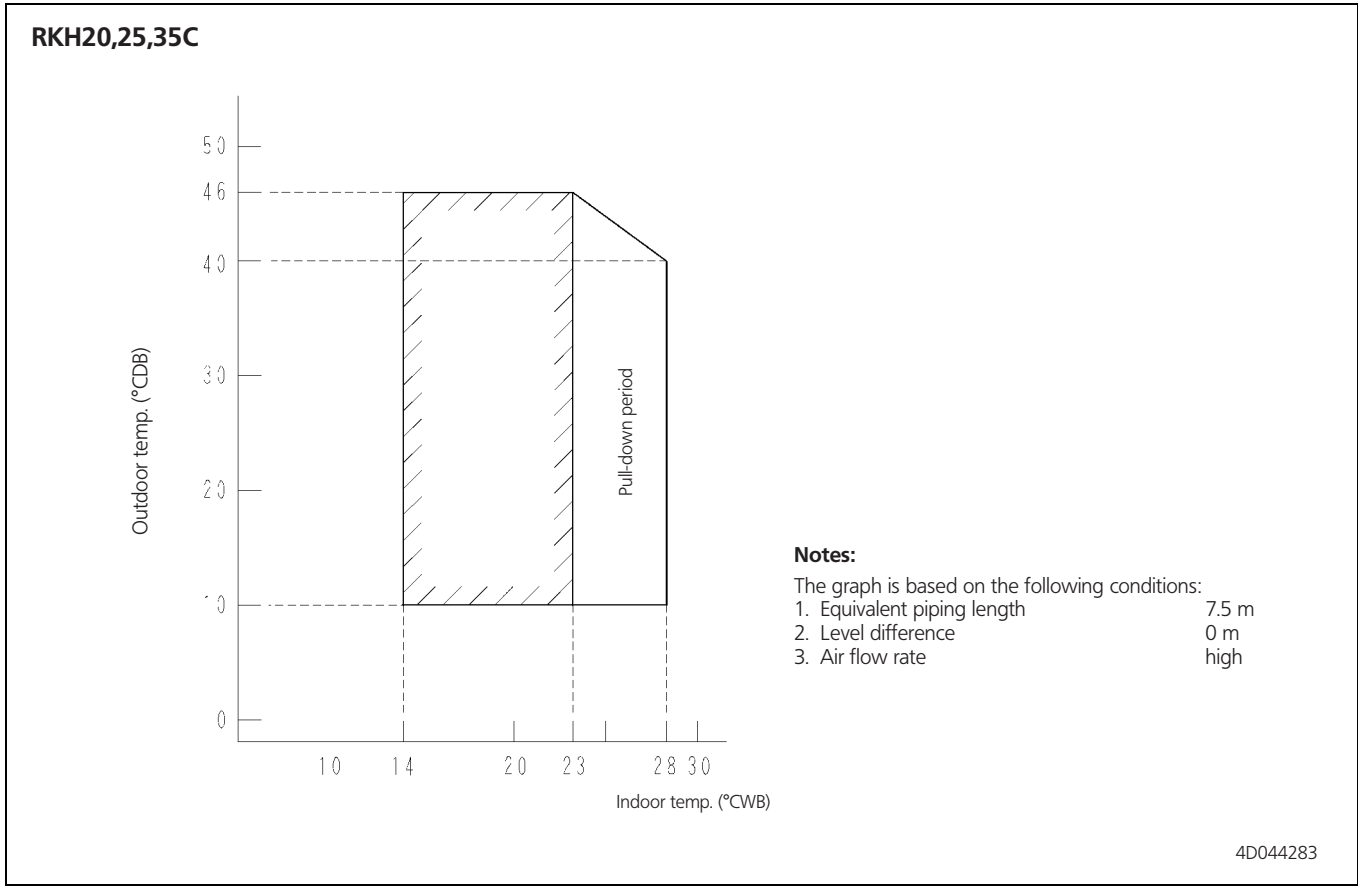
Allow space for piping and electrical servicing.

Where there is a danger of the unit falling, use foot bolts, or wires.

In sites with poor drainage, use block bases for outdoor unit. Adjust foot height until the unit is leveled. Otherwise, water leakage or pooling of water may occur.



11 Operation range



Split - Sky Air

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Daikin Europe N.V. is approved by LRQA for its Quality Management System in accordance with the ISO9001 standard. ISO9001 pertains to quality assurance regarding design, development, manufacturing as well as to services related to the product.



Daikin units comply with the European regulations that guarantee the safety of the product.



Daikin Europe N.V. is participating in the EUROVENT Certification Programme. Products are as listed in the EUROVENT Directory of Certified Products.

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