DAIKIN

technical data

air conditioning systems

RYN-E2V1B

Outdoor Units

Split Sky Air

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RYN-E2V1B

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

2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				RYN50E2V1B	RYN60E2V1B
For combination indoor units + outdoor units	Indoor Units			FTYN50E2V1B	FTYN60EV1B
Nominal Capacity	Cooling	Standard	kW	5.0	6.0
	Heating	Standard	kW	5.8	7.0
Nominal input	Cooling	Standard	kW	1.55	1.99
	Heating	Standard	kW	1.60	2.04
For combination indoor units + outdoor units	EER	Cooling		3.23	3.02
	COP	Heating		3.63	3.43
	Energy Labeling Directive	Cooling		A	B
		Heating		A	B
	Annual energy consumption		kWh	775	995

2-2 TECHNICAL SPECIFICATIONS				RYN50E2V1B	RYN60E2V1B
Casing	Colour			Ivory White	
Dimensions	Unit	Height	mm	735	735
		Width	mm	825	825
		Depth	mm	300	300
	Packing	Height	mm	797	797
		Width	mm	960	960
		Depth	mm	390	390
Weight	Unit		kg	48	48
	Packed Unit		kg	53	53
Heat Exchanger	Dimensions	Length	mm	845	845
		Nr of Rows		2	2
		Fin Pitch	mm	1.80	1.80
		Nr of Stages		32	32
	Tube type			Hi-Xa(8)	
	Fin	Type		Waffle fin	
		Treatment		Anti-corrosion treatment (PE)	
Fan	Type			Propeller	
	Quantity			1	1
	Air Flow Rate (nominal at 230V)	Cooling	m³/min	48.9	50.9
		Heating	m³/min	45.0	46.3
	Motor	Quantity		1	1
		Model		KFD-380-50-8A	
Motor	Speed (nominal)	Cooling	rpm	780	810
		Heating	rpm	720	740
Fan	Motor	Output	W	53	53
Compressor	Quantity			1	1
	Motor	Model		2YC36BXD#A	
		Type		Hermetically sealed swing compressor	
		Motor Output	W	1100	1100
Operation Range	Cooling	Min	°CDB	-10.0	-10.0
		Max	°CDB	46.0	46.0
	Heating	Min	°CWB	-15	-15
		Max	°CWB	18	18
Sound Level (nominal)	Cooling	Sound Power	dBA	61.0	63.0
		Sound Pressure	dBA	47.0	49.0
	Heating	Sound Pressure	dBA	48.0	49.0
Refrigerant	Type			R-410A	
	Charge		kg	1.5	1.5
Refrigerant Oil	Type			FVC50K	
	Charged Volume		l	0.65	065

2 Specifications

2-2 TECHNICAL SPECIFICATIONS				RYN50E2V1B	RYN60E2V1B
Piping connections	Liquid (OD)	Diameter (OD)	mm	6.35	6.35
	Gas	Diameter (OD)	mm	12.7	12.7
	Drain	Diameter (OD)	mm	18	18
	Piping Length	Maximum	m	30	30
	Additional Refrigerant Charge		kg/m	0.02/>10m	
	Max. internunit level difference		m	20.0	20.0
	Heat Insulation			Both liquid and gas pipes	
Standard Accessories	Item			Drain plug	
	Quantity			1	1
	Item			Installation manual	
	Quantity			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.	
				Nominal heating capacities are based on : indoor temperature : 20°CDB, outdoor temperature : 7°CDB, 6°CWB, 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				RYN50E2V1B	RYN60E2V1B
Power Supply	Name			V1	
	Phase			1	1
	Frequency		Hz	50	50
	Voltage		V	220-240	
	Voltage range	Minimum	V	-10%	
		Maximum	V	+10%	
Current	Nominal running current (RLA)	Cooling (A)	A	6.75	8.62
		Heating (A)	A	6.94	8.80
	Starting current (cooling/heating)		A	7.1	9.0
Wiring connections	For Power Supply	Quantity		3	3
	For connection with indoor	Quantity		4	4
		Remark		Including earth wiring	
Power Supply Intake				Outdoor unit only	

3 Electrical data

RYN50,60E

Indoor unit	Outdoor unit	Power supply				Compressor		OFM		IFM	
		Hz-Volts	Voltage range	MCA	MFA	RHz	RLA	W	FLA	W	FLA
FTS50BVMB	RS50BVMB RS50B2VMB	50-230	Max. 50Hz 253V Min. 50Hz 207V	18	20	72	6.92	53	0.18	40	0.16
FTS60BVMB	RS60BVMB RS60B2VMB	50-230	Max. 50Hz 253V Min. 50Hz 207V	18	20	72	6.92	53	0.24	43	0.16
FVKS50BVMB	RS50BVMB RS50B2VMB	50-230	Max. 50Hz 253V Min. 50Hz 207V	18	20	76	7.04	53	0.18	14+14	0.31
FLKS50BVMB	RS50BVMB RS50B2VMB	50-230	Max. 50Hz 253V Min. 50Hz 207V	18	20	75	7.00	53	0.18	34	0.54
FTYS50BVMB	RYS50BVMB RYS50B2VMB	50-230	Max. 50Hz 253V Min. 50Hz 207V	18	20	72	6.92	53	0.18	40	0.16
FTYS60BVMB	RYS60BVMB RYS60B2VMB	50-230	Max. 50Hz 253V Min. 50Hz 207V	18	20	72	8.86	53	0.24	43	0.16
FTN50EV1B	RN50E2V1B	50-220 50-230 50-240	Max. 50Hz 264V Min. 50Hz 198V	20	20	67	6.4	53	0.27	43	0.16
FLKS50BAVMB	RN50E2V1B	50-220 50-230 50-240	Max. 50Hz 264V Min. 50Hz 198V	20	20	73	7.1	53	0.27	34	0.54
FVKS50BAVMB	RN50E2V1B	50-220 50-230 50-240	Max. 50Hz 264V Min. 50Hz 198V	20	20	74	7.0	53	0.27	14+14	0.31
FTYN50EV1B	RYN50E2V1B	50-220 50-230 50-240	Max. 50Hz 264V Min. 50Hz 198V	20	20	67	6.4	53	0.27	43	0.16
FTN60EV1B	RN60E2V1B	50-220 50-230 50-240	Max. 50Hz 264V Min. 50Hz 198V	20	20	84	8.3	53	0.32	43	0.16
FTYN60EV1B	RYN60E2V1B	50-220 50-230 50-240	Max. 50Hz 264V Min. 50Hz 198V	20	20	84	8.3	53	0.32	43	0.16

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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://eu.extranet.daikineurope.com, select "E-Data Books". Finally, click on the document title of your choice.

4 Capacity tables

4 - 1 Cooling capacity tables

RYN50E + FTYN50E

AFR	14.7
BF	0.28

Cooling capacity **220-240V [50Hz]**

Indoor		Outdoor temperature (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
(°C)	(°C)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	5.12	3.61	1.19	4.89	3.49	1.30	4.66	3.37	1.42	4.56	3.32	1.46	4.42	3.25	1.53	4.19	3.13	1.65
16.0	22	5.35	3.55	1.20	5.12	3.43	1.31	4.89	3.32	1.43	4.79	3.27	1.47	4.65	3.21	1.54	4.42	3.10	1.65
18.0	25	5.58	3.69	1.20	5.35	3.58	1.32	5.12	3.47	1.43	5.02	3.43	1.48	4.88	3.37	1.55	4.65	3.26	1.66
19.0	27	5.70	3.86	1.21	5.47	3.75	1.32	5.23	3.65	1.44	5.14	3.61	1.48	5.00	3.55	1.55	4.77	3.45	1.66
22.0	30	6.04	3.71	1.22	5.81	3.62	1.33	5.58	3.52	1.45	5.49	3.49	1.49	5.35	3.43	1.56	5.11	3.35	1.67
24.0	32	6.27	3.60	1.22	6.04	3.52	1.34	5.81	3.43	1.45	5.72	3.40	1.50	5.58	3.35	1.57	5.34	3.27	1.68

Heating capacity **220-240V [50Hz]**

AFR	16.1

Indoor	Outdoor temperature (°CWB)									
EDB	-10		-5		0		6		10	
(°C)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	3.90	1.35	4.56	1.42	5.21	1.48	6.00	1.56	6.52	1.62
20.0	3.70	1.39	4.36	1.46	5.01	1.52	5.80	1.60	6.32	1.65
22.0	3.62	1.40	4.28	1.47	4.93	1.54	5.72	1.61	6.24	1.67
24.0	3.54	1.42	4.20	1.48	4.85	1.55	5.64	1.63	6.16	1.68
25.0	3.50	1.43	4.16	1.49	4.81	1.56	5.60	1.64	6.12	1.69
27.0	3.42	1.44	4.08	1.51	4.73	1.57	5.52	1.65	6.04	1.70

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SYMBOLS

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

NOTES

1. Ratings shown are net capacities which include a deduction for indoor fan motor heat
2. ▭ Shows nominal cooling capacities and power input
3. 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.)
4. About SHC which are not mentioned on the table, please calculate them with around values in direct proportion.
5. Capacities are based on following conditions:
   Corresponding refrigerant piping length: 7.5 m
   Level difference: 0 m
6. Air flow rate (AFR) and Bypass factor (BF) are taburated above.

4 Capacity tables

4 - 1 Cooling capacity tables

RYN60E + FTYN60E

AFR	16.2
BF	0.29

Cooling capacity **220-240V [50Hz]**

Indoor		Outdoor temperature (°CDB)																	
EWB	EDB	20			25			30			32			35			40		
(°C)	(°C)	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14.0	20	5.60	3.94	1.49	5.60	3.94	1.66	5.59	3.94	1.82	5.48	3.88	1.88	5.31	3.79	1.97	5.03	3.64	2.12
16.0	22	6.42	4.17	1.54	6.14	4.02	1.68	5.86	3.88	1.83	5.75	3.82	1.89	5.59	3.74	1.98	5.31	3.60	2.12
18.0	25	6.70	4.31	1.54	6.42	4.17	1.69	6.14	4.04	1.84	6.03	3.99	1.90	5.86	3.91	1.99	5.58	3.78	2.13
19.0	27	6.84	4.49	1.55	6.56	4.36	1.70	6.28	4.23	1.84	6.17	4.18	1.90	6.00	4.10	1.99	5.72	3.98	2.14
22.0	30	7.25	4.31	1.56	6.97	4.19	1.71	6.69	4.08	1.86	6.58	4.04	1.91	6.41	3.97	2.00	6.14	3.86	2.15
24.0	32	7.53	4.18	1.57	7.25	4.07	1.72	6.97	3.97	1.86	6.86	3.93	1.92	6.69	3.87	2.01	6.41	3.77	2.16

Heating capacity **220-240V [50Hz]**

AFR	17.4

Indoor	Outdoor temperature (°CWB)									
EDB	-10		-5		0		6		10	
(°C)	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
15.0	4.71	1.73	5.50	1.81	6.29	1.89	7.24	1.99	7.87	2.06
20.0	4.47	1.77	5.26	1.86	6.05	1.94	7.00	2.04	7.63	2.11
22.0	4.37	1.79	5.16	1.87	5.95	1.96	6.90	2.06	7.54	2.13
24.0	4.28	1.81	5.07	1.89	5.86	1.98	6.81	2.08	7.44	2.14
25.0	4.23	1.82	5.02	1.90	5.81	1.99	6.76	2.09	7.39	2.15
27.0	4.13	1.84	4.92	1.92	5.71	2.00	6.66	2.10	7.29	2.17

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SYMBOLS

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

NOTES

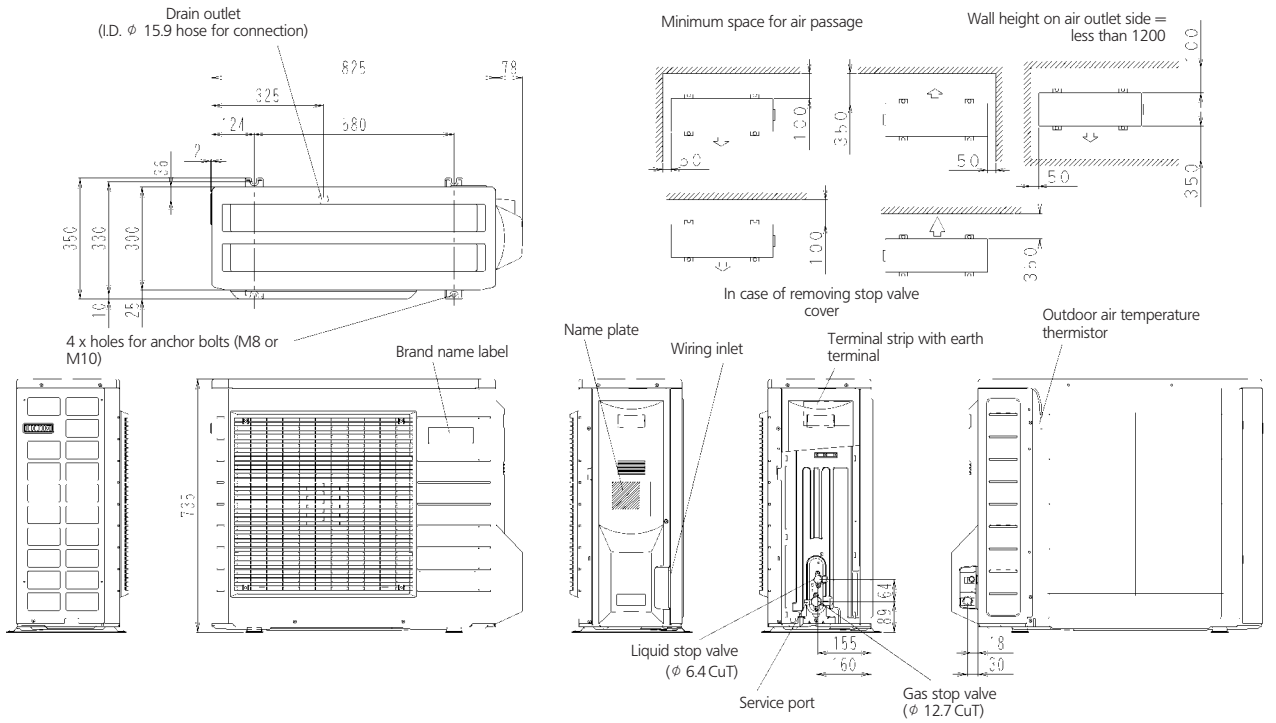
1. Ratings shown are net capacities which include a deduction for indoor fan motor heat
2. ▭ Shows nominal cooling capacities and power input
3. TC, PI and SHC must be calculated by interpolation using the figures in the above tables. (Figures out of the tables should not be used for calculation.)
4. About SHC which are not mentioned on the table, please calculate them with around values in direct proportion.
5. Capacities are based on following conditions:
   Corresponding refrigerant piping length: 7.5 m
   Level difference: 0 m
6. Air flow rate (AFR) and Bypass factor (BF) are taburated above.

5 Dimensional drawing & centre of gravity

5 - 1 Dimensional drawing

RYN50,60E

unit (mm)



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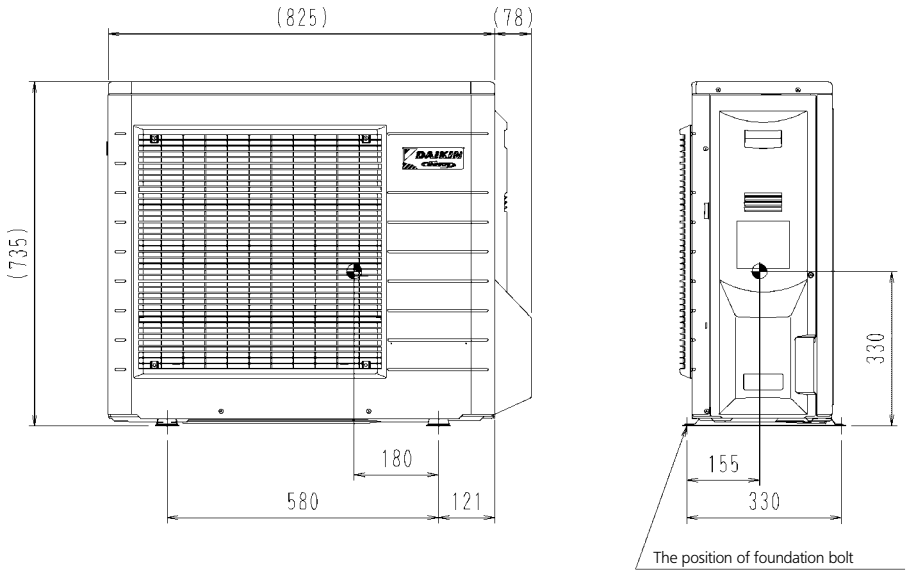
5 Dimensional drawing & centre of gravity

5 - 2 Centre of gravity

RYN50,60E



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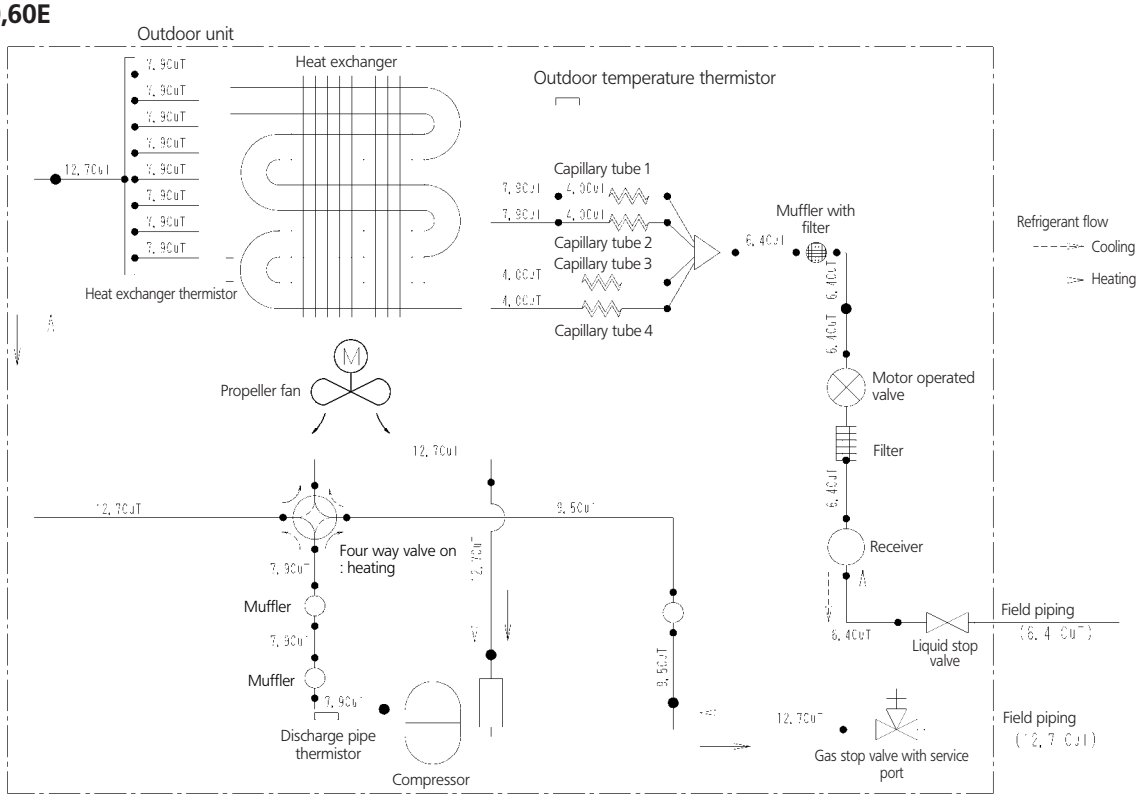
6 Piping diagram

RYN50,60E



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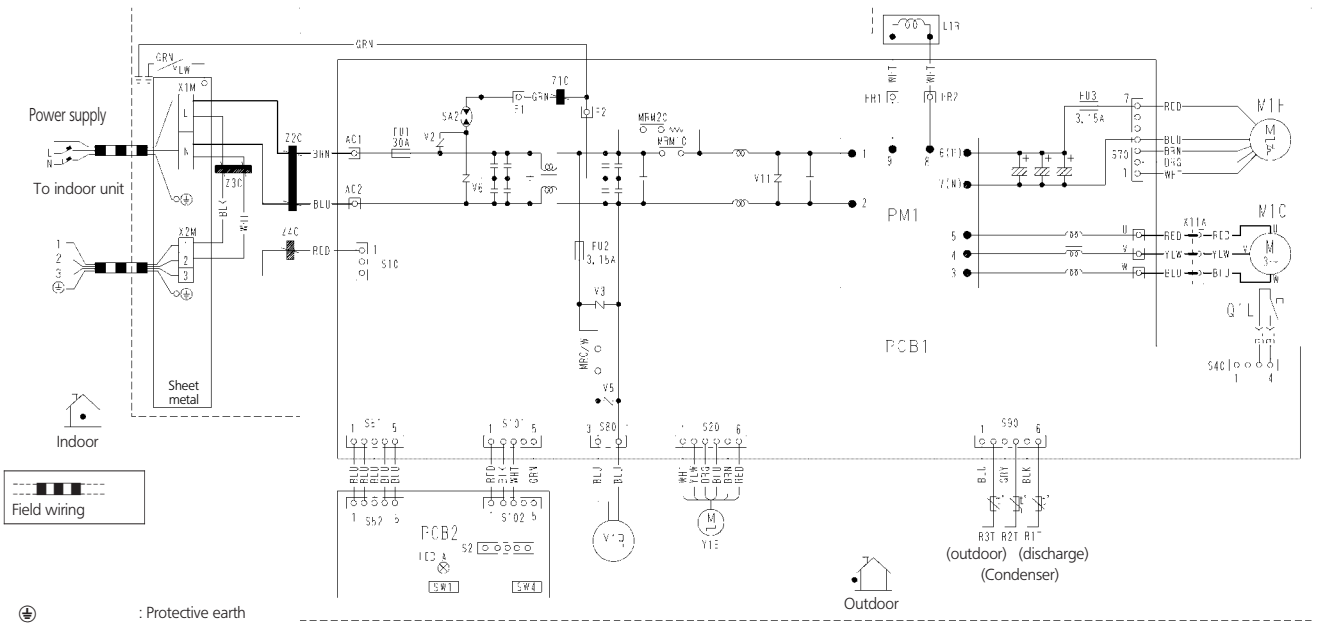
7 Wiring diagram

7 - 1 Wiring diagram

RYN50,60E



⏚	: Protective earth						
Z1C~Z4C	: Ferrite core	MRM10, MRM20				M1C	: Compressor motor
X1M, X2M	: Terminal strip	MRC/W	: Magnetic relay			M1F	: Fan motor
Y1E	: Electronic expansion valve coil	R1T~R3T	: Thermistor			L1R	: Reactor
V2,V3,V5,V6,V11	: Varistor	S2~S102	: Connector			Q1L	: Overload protector
SA2	: Surge arrester	LEDA	: Pilot lamp			MID	: Molded interconnect device
F1U, F2U, FU3	: Fuse	L	: Live			SPM	: System power module
AC1, AC2		N	: Neutral			PCB1, PCB2	: Printed circuit board
U, V, W, X11A		S1W	: Forced operation on/off switch (SW1)			Y1R	: Reversing solenoide valve coil
E1, E2	: Connector	S4W	: Local setting (SW4)			Sheet metal	: Terminal strip fixed plate
HR1, HR2							

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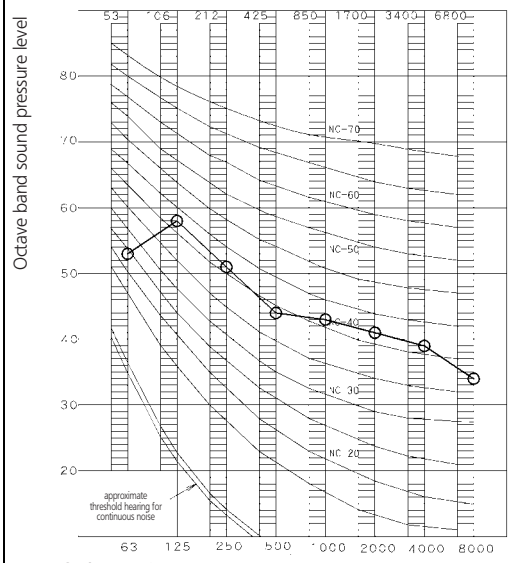
8 Sound data

8 - 1 Sound pressure spectrum

RYN50E (Cooling)



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NOTES

1 Measure in anechoic room

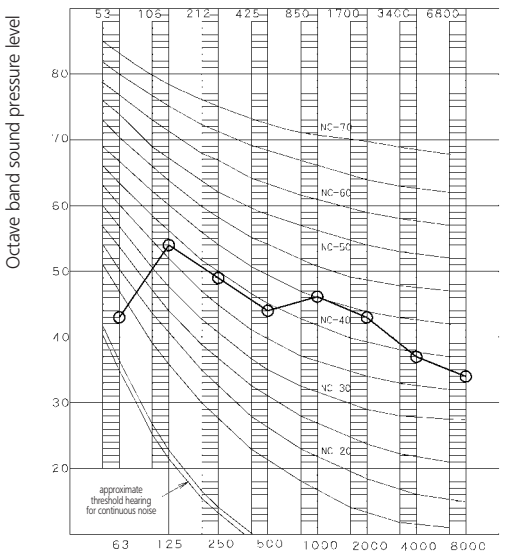
2 Operation noise differs with operation and ambient conditions.

3 The operation noise measuring method is in accordance with JISC9612

Legend

50Hz, 220-240V

RYN50E (Heating)



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NOTES

1 Measure in anechoic room

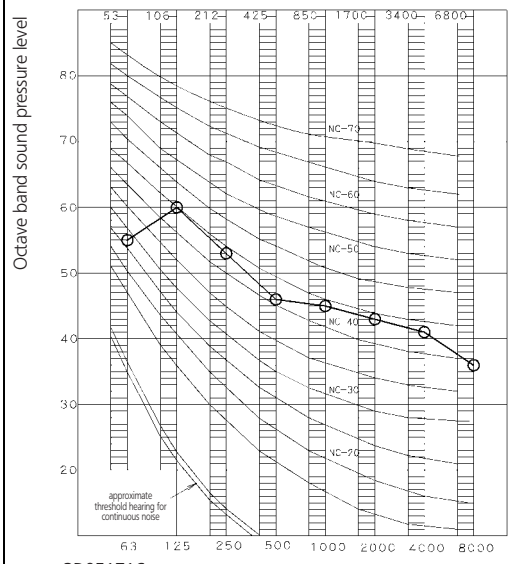
2 Operation noise differs with operation and ambient conditions.

3 The operation noise measuring method is in accordance with JISC9612

Legend

50Hz, 220-240V

RYN60E (Cooling)



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NOTES

1 Measure in anechoic room

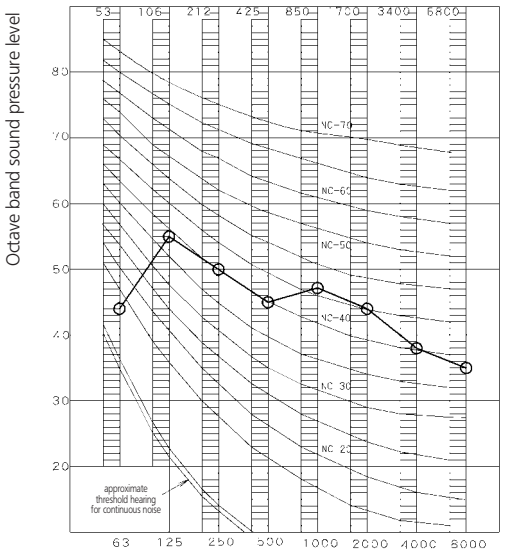
2 Operation noise differs with operation and ambient conditions.

3 The operation noise measuring method is in accordance with JISC9612

Legend

50Hz, 220-240V

RYN60E (Heating)



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NOTES

1 Measure in anechoic room

2 Operation noise differs with operation and ambient conditions.

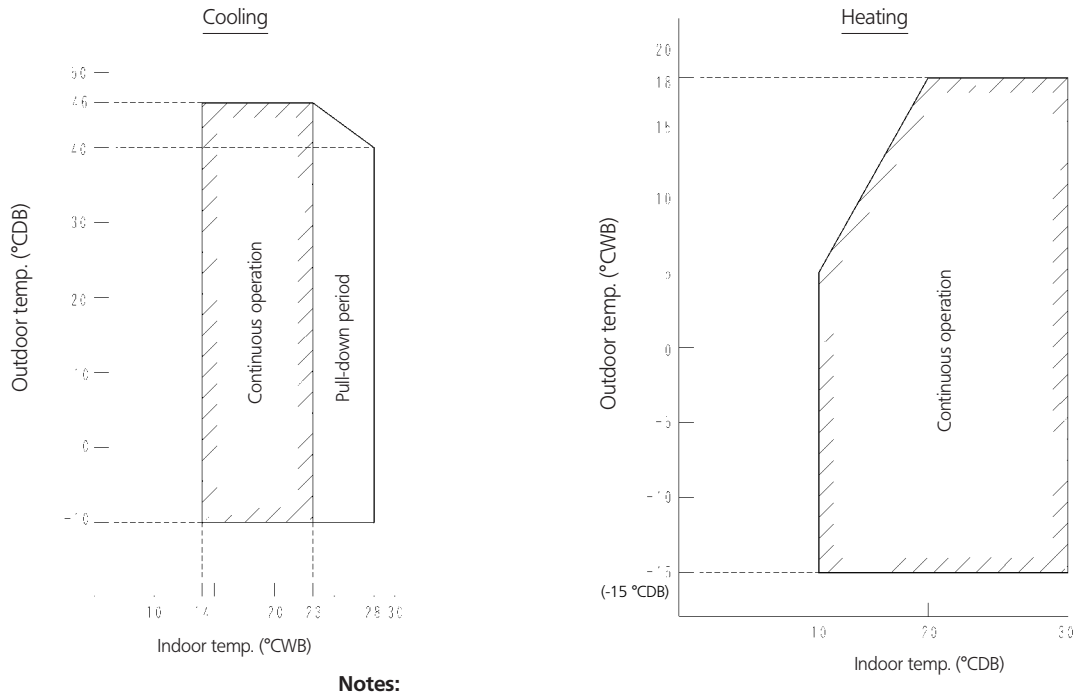
3 The operation noise measuring method is in accordance with JISC9612

Legend

50Hz, 220-240V

9 Operation range

RYN50,60E



Notes:
The graphs are based on the following conditions:
- Equivalent piping length 7.5 m
- Level difference 0 m
- Air flow rate high

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Split - Sky Air

ISO14001 assures an effective environmental management system in order to help protect human•health•and the environment from the potential impact of our activities, products and services and to assist in maintaining and improving the quality of the•environment.

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

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 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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