

technical data



RYN-DAV3B

Outdoor Units

air conditioning systems

Split Sky Air

TABLE OF CONTENTS

RYN-DAV3B

1	Features	2
2	Specifications	3
	Nominal Capacity and Nominal Input	3
	Technical Specifications	3
	Electrical Specifications	4
3	Electrical data	5
4	Capacity tables	6
	Cooling/Heating capacity tables	6
5	Dimensional drawing & centre of gravity	8
	Dimensional drawing	8
6	Piping diagram	9
7	Wiring diagram	10
	Wiring diagram	10
8	Sound data	11
	Sound pressure spectrum	11
9	Operation range	12

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 rotary compressor, renowned for low noise and high energy efficiency



2 Specifications

2-1 NOMINAL CAPACITY AND NOMINAL INPUT				RYN25DAV3B	RYN35DAV3B
For combination indoor units + outdoor units	Indoor Units			FTYN25DAV3B	FTYN35DAV3B
Nominal Capacity	Cooling	Standard	kW	2.5	3.15
	Heating	Standard	kW	3.0	3.85
Nominal input	Cooling	Standard	kW	0.83	1.20
	Heating	Standard	kW	0.88	1.29
For combination indoor units + outdoor units	EER	Cooling		3.01	2.63
	COP	Heating		3.41	2.98
	Energy Labeling Directive	Cooling		B	D
		Heating		B	D
	Annual energy consumption		kWh	415	600

2-2 TECHNICAL SPECIFICATIONS				RYN25DAV3B		RYN35DAV3B	
Casing	Colour			Ivory White			
Dimensions	Unit	Height	mm	560		560	
		Width	mm	695		695	
		Depth	mm	265		265	
	Packing	Height	mm	607		607	
		Width	mm	824		824	
		Depth	mm	337		337	
Weight	Unit		kg	31		36	
	Packed Unit		kg	35		40	
Heat Exchanger	Dimensions	Length	mm	608		608	
		Nr of Rows		2		2	
		Fin Pitch	mm	1.41		1.41	
		Nr of Stages		24		24	
	Tube type			Tube(8)			
	Fin	Type		Colgate fin			
Fan	Type			Propeller			
	Quantity			1		1	
	Air Flow Rate (nominal at 230V)	Cooling	m³/min	28.0		28.0	
		Heating	m³/min	25.2		25.2	
	Motor	Quantity		1		1	
		Model		WF-220-23-6-1			
Motor	Speed (nominal)	Cooling	rpm	695		680	
		Heating	rpm	680		670	
Fan	Motor	Output	W	23		23	
Compressor	Quantity			1		1	
	Motor	Model		5PS112DAH21		5KS150DBK21	
		Type		Hermetically sealed rotary compressor			
		Motor Output	W	750		1100	
Operation Range	Cooling	Min	°CDB	15.0		15.0	
		Max	°CDB	46.0		46.0	
	Heating	Min	°CWB	-10		-10	
		Max	°CWB	20		20	
Sound Level (nominal)	Cooling	Sound Power	dBA	62.0		63.0	
		Sound Pressure	dBA	47.0		48.0	
	Heating	Sound Pressure	dBA	49.0		49.0	
Refrigerant	Type			R-410A			
	Charge		kg	0.9		1.0	

2 Specifications

2-2 TECHNICAL SPECIFICATIONS				RYN25DAV3B	RYN35DAV3B
Refrigerant Oil	Type			FV50S	
	Charged Volume		l	0.35	0.43
Piping connections	Liquid (OD)	Diameter (OD)	mm	6.35	6.35
	Gas	Diameter (OD)	mm	9.5	9.5
	Drain	Diameter (OD)	mm	18	18
	Piping Length	Maximum	m	15	15
	Additional Refrigerant Charge		kg/m	0.02/>7.5m	0.02/>10m
	Max. internunit level difference		m	10.0	10.0
	Heat Insulation			Both liquid and gas pipes	
Standard Accessories	Item			Drain plug	
	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				RYN25DAV3B		RYN35DAV3B	
Power Supply	Name			V3			
	Phase			1		1	
	Frequency		Hz	50		50	
	Voltage		V	230		230	
	Voltage range	Minimum	V	-10%			
		Maximum	V	+10%			
Current	Nominal running current (RLA)	Cooling (A)	A	3.81		5.21	
		Heating (A)	A	3.81		5.61	
	Starting current (cooling/heating)		A	18.6		23.1	
Wiring connections	For Power Supply	Quantity		3		3	
	For connection with indoor	Quantity		6		6	
		Remark		included earth wiring/1 thermistor			
Power Supply Intake				Outdoor unit only			

3 Electrical data

RYN-D

Representative unit combination		Power supply				Compressor		OFM		IFM	
Indoor unit	Outdoor unit	Hz-Volts	Voltage range	MCA	MFA	LRA	RLA	kW	FLA	kW	FLA
FTYN25D	RYN25D	50-230	Max. 50Hz 253V Min. 50Hz 207V	4.9	16	19	3.56	0.023	0.27	0.018	0.21
FTYN35D	RYN35D			6.9	16	23	5.10	0.023	0.27	0.018	0.21

3D048841

SYMBOLS

MCA : Min. Circuit Amps (A)
 MFA : Max. Fuse Amps (A)
 LRA : Locked Rotor Amps (A)
 RLA : Rated Load Amps (A)
 OFM : Outdoor Fan Motor
 IFM : Indoor Fan Motor
 FLA : Full Load Amps (A)
 kW : Fan Motor Rated Output (kW)

NOTES

1. RLA is based on the following conditions:
Indoor temp.: 27°CDB/19.0°CWB
Outdoor temp. : 35°CDB
2. Voltage range
Units are suitable for use on electrical systems where voltage supplied to unit terminals is not below or above listed operation range limits
3. Maximum allowable voltage variation between phases is 2%
4. Instead of fuse, use circuit breaker.
5. MCA/MFA
 $MCA = 1.25 \times RLA + ea. FLA$
 $MFA \leq 2.25 \times RLA + ea. FLA$
6. 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 Capacity tables

4 - 1 Cooling/Heating capacity tables

RYN25D + FTYN25D

Cooling (50 Hz, 230 V)

Indoor		Outdoor temperature (°CDB)																				
EWB (°C)	EDB (°C)	20			25			30			30			35			40			46		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	2.56	1.76	0.48	2.41	1.69	0.58	2.26	1.62	0.67	2.20	1.60	0.71	2.11	1.55	0.77	1.96	1.48	0.86	1.78	1.40	0.97
16	22	2.72	1.80	0.51	2.57	1.73	0.60	2.42	1.66	0.70	2.36	1.63	0.73	2.27	1.59	0.79	2.12	1.52	0.89	1.94	1.43	1.00
18	25	2.87	1.83	0.53	2.72	1.76	0.63	2.57	1.69	0.72	2.51	1.66	0.76	2.42	1.62	0.82	2.27	1.55	0.91	2.09	1.47	1.03
19	27	2.95	1.85	0.55	2.80	1.78	0.64	2.65	1.71	0.74	2.59	1.68	0.77	2.50	1.64	0.83	2.35	1.57	0.93	2.17	1.48	1.04
22	30	3.18	1.90	0.58	3.03	1.83	0.68	2.88	1.76	0.77	2.82	1.73	0.81	2.73	1.69	0.87	2.58	1.62	0.96	2.40	1.54	1.08
24	32	3.34	1.93	0.61	3.19	1.86	0.71	3.04	1.79	0.80	2.98	1.77	0.84	2.89	1.72	0.90	2.74	1.65	0.99	2.56	1.57	1.10

Heating (50 Hz, 230 V)

Indoor		Outdoor temperature (°CWB)									
EDB (°C)		-10		-5		0		6		10	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16		1.72	0.64	2.13	0.70	2.54	0.75	3.03	0.82	3.36	0.86
18		1.70	0.67	2.11	0.73	2.52	0.78	3.02	0.85	3.34	0.89
20		1.69	0.70	2.10	0.76	2.51	0.81	3.00	0.88	3.33	0.92
21		1.68	0.72	2.09	0.77	2.50	0.83	2.99	0.90	3.32	0.94
22		1.67	0.74	2.08	0.79	2.49	0.85	2.99	0.91	3.31	0.96
24		1.66	0.77	2.07	0.82	2.48	0.88	2.97	0.94	3.30	0.99

SYMBOLS

AFR	Air flow rate [m³/min.]
BF	Bypass factor
EWB	Entering wet bulb temperature [°C]
EDB	Entering dry bulb temperature [°C]
TC	Total capacity [kW]
SHC	Sensible heat capacity [kW]
PI	Power input [kW]

NOTES

- Ratings shown are net capacities which include a deduction for indoor fan motor heat.
- | |
|--|
| |
|--|

 shows nominal (rated) 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.
 $SHC^* = SHC \text{ correction for other dry bulb.}$
 $= 0.02 * AFR [m³/min.] * (1 - BF) * (DB^* - EDB)$
 Add SHC^* to SHC.
- Capacities are based on the following conditions.
 Corresponding refrigerant piping length: 7.5 m
 Level difference: 0 m
- Air flow rate (AFR) and Bypass factor (BF) are tabulated below.

	AFR	BF
Cooling	7.5	0.30
Heating	7.8	

3D048838

4 Capacity tables

4 - 1 Cooling/Heating capacity tables

RYN35D + FTYN35D

Cooling (50 Hz, 230 V)

Indoor		Outdoor temperature (°CDB)																				
EWB (°C)	EDB (°C)	20			25			30			30			35			40			46		
		TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI	TC	SHC	PI
14	20	3.21	2.11	0.85	3.06	2.04	0.95	2.91	1.97	1.04	2.85	1.94	1.08	2.76	1.90	1.14	2.61	1.83	1.23	2.43	1.75	1.34
16	22	3.37	2.14	0.88	3.22	2.07	0.97	3.07	2.00	1.07	3.01	1.98	1.10	2.92	1.93	1.16	2.77	1.86	1.26	2.59	1.78	1.37
18	25	3.52	2.18	0.90	3.37	2.11	1.00	3.22	2.04	1.09	3.16	2.01	1.13	3.07	1.97	1.19	2.92	1.90	1.28	2.74	1.81	1.40
19	27	3.60	2.19	0.92	3.45	2.12	1.01	3.30	2.05	1.11	3.24	2.03	1.14	3.15	1.98	1.20	3.00	1.91	1.30	2.82	1.83	1.41
22	30	3.83	2.25	0.95	3.68	2.18	1.05	3.53	2.11	1.14	3.47	2.08	1.18	3.38	2.04	1.24	3.23	1.97	1.33	3.05	1.88	1.45
24	32	3.99	2.28	0.98	3.84	2.21	1.08	3.69	2.14	1.17	3.63	2.11	1.21	3.54	2.07	1.27	3.39	2.00	1.36	3.21	1.92	1.47

Heating (50 Hz, 230 V)

Indoor		Outdoor temperature (°CWB)									
EDB (°C)		-10		-5		0		6		10	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
16		2.21	0.94	2.73	1.02	3.26	1.10	3.89	1.20	4.31	1.26
18		2.19	0.99	2.71	1.07	3.24	1.15	3.87	1.24	4.29	1.31
20		2.17	1.03	2.69	1.11	3.22	1.19	3.85	1.29	4.27	1.35
21		2.16	1.06	2.68	1.14	3.21	1.22	3.84	1.31	4.26	1.38
22		2.15	1.08	2.67	1.16	3.20	1.24	3.83	1.34	4.25	1.40
24		2.13	1.12	2.66	1.21	3.18	1.29	3.81	1.38	4.23	1.45

SYMBOLS

AFR	Air flow rate [m³/min.]
BF	Bypass factor
EWB	Entering wet bulb temperature [°C]
EDB	Entering dry bulb temperature [°C]
TC	Total capacity [kW]
SHC	Sensible heat capacity [kW]
PI	Power input [kW]

NOTES

- Ratings shown are net capacities which include a deduction for indoor fan motor heat.
- shows nominal (rated) 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.
 $SHC^* = SHC \text{ correction for other dry bulb.}$
 $= 0.02 * AFR [m³/min.] * (1 - BF) * (DB^* - EDB)$
 Add SHC* to SHC.
- Capacities are based on the following conditions.
 Corresponding refrigerant piping length: 7.5 m
 Level difference: 0 m
- Air flow rate (AFR) and Bypass factor (BF) are tabulated below.

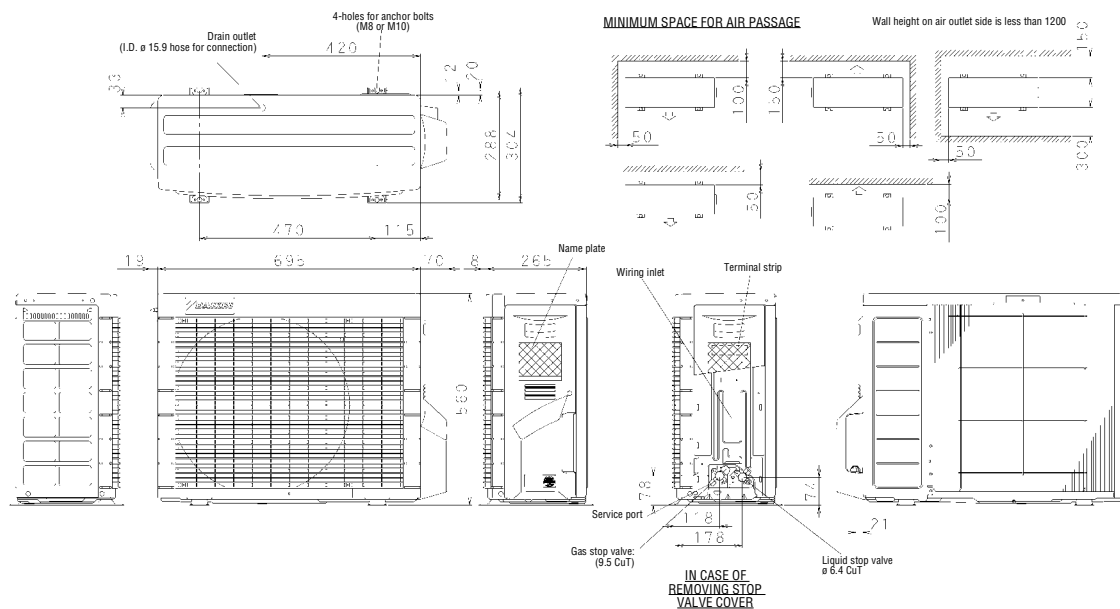
	AFR	BF
Cooling	7.5	0.22
Heating	7.8	

3D048837

5 Dimensional drawing & centre of gravity

5 - 1 Dimensional drawing

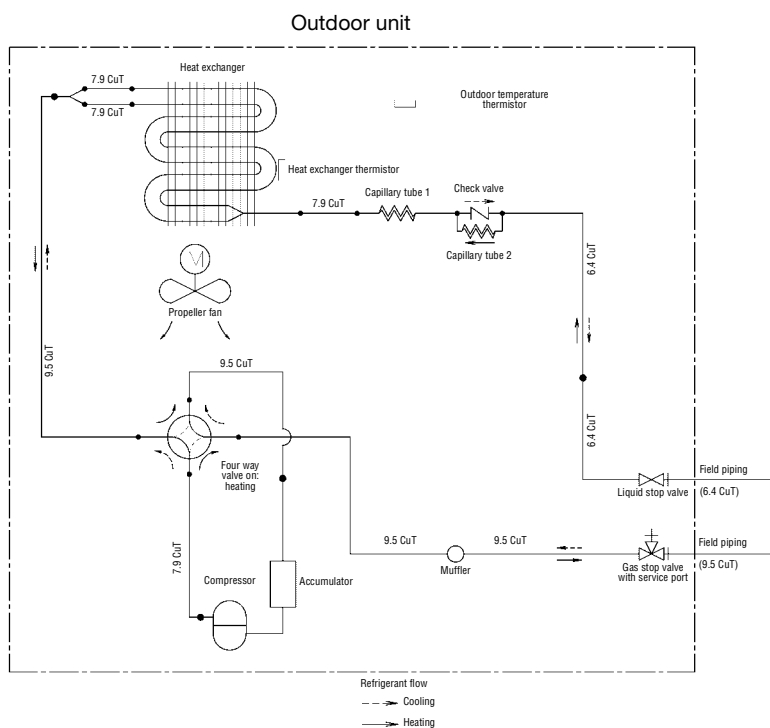
RYN-D



3D048955

6 Piping diagram

RYN-D

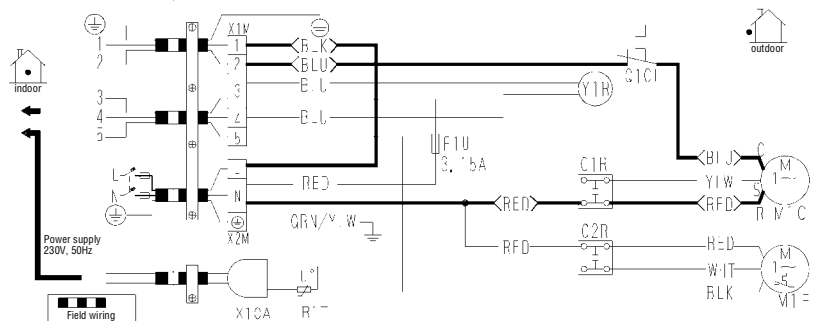


3D048804

7 Wiring diagram

7 - 1 Wiring diagram

RYN-D



LEGEND

⊕	Protective earth
C1R, C2R	Running capacitor
M1C	Compressor motor
M1F	Fan motor
Q1CL	Over load protector
R1T	Thermistor
F1U	Fuse
X10A	Connector
X1M, X2M	Terminal strip
Y1R	Reversing solenoid valve coil

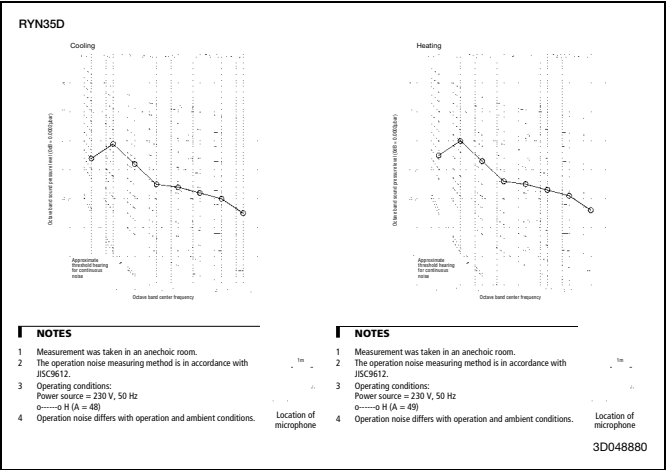
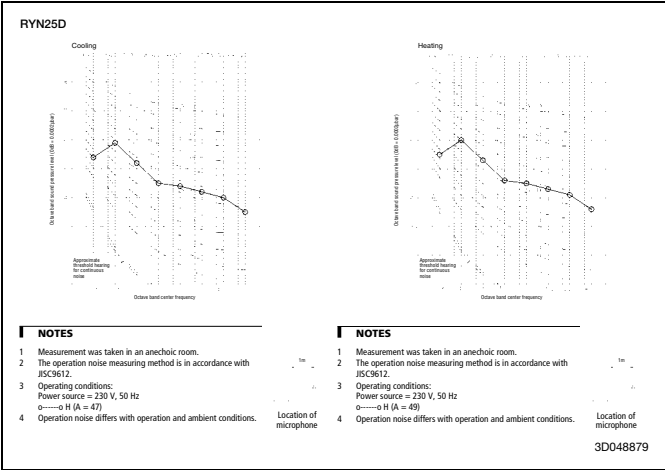
NOTES

- Size: length 70 x width 110.
- Refer to purchasing specification AS303002, unless otherwise specified.
- This drawing was drawn on CAD system.
- Material: wood free tack paper.
- Coat the reverse side with pressure sensitive adhesive.
- Make a slit on separate liner in vertical direction.
- Refer to the nameplate for the power requirements.

3D048404A

8 Sound data

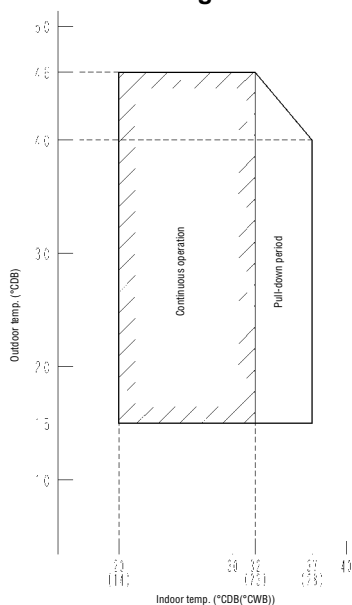
8 - 1 Sound pressure spectrum



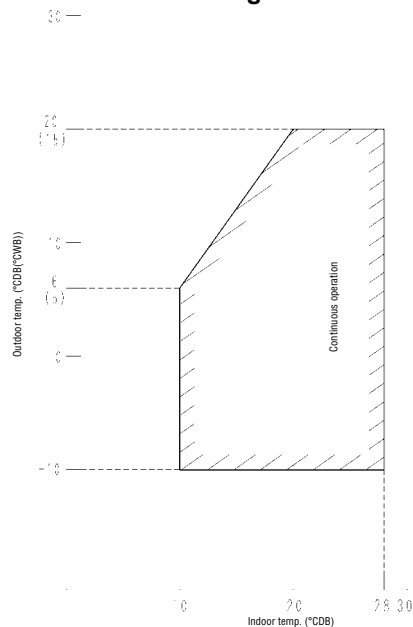
9 Operation range

RYN-D

Cooling



Heating



NOTES

The graphs are based on the following conditions.

- Equivalent piping length: 7.5m
- Level difference: 0m
- Air flow rate: High

3D049043

Split - Sky Air

The present publication is drawn up by way of information only and does not constitute an offer binding upon Daikin Europe N.V.. Daikin Europe N.V. has compiled the content of this publication to the best of its knowledge. No express or implied warranty is given for the completeness, accuracy, reliability or fitness for particular purpose of its content and the products and services presented therein. Specifications are subject to change without prior notice. Daikin Europe N.V. explicitly rejects any liability for any direct or indirect damage, in the broadest sense, arising from or related to the use and/or interpretation of this publication. All content is copyrighted by Daikin Europe N.V..



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 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.

DAIKIN EUROPE N.V.

Zandvoordestraat 300
B-8400 Ostend - Belgium
www.daikineurope.com



EEDE06-1/3