



technical data

RYP-L7/B7



**Twin/Triple/
Double Twin
Application**

air conditioning systems

Split Sky Air

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. participates in the Eurovent Certification Programme for Air Conditioners (AC), Liquid Chilling Packages (LCP) and Fan Coil Units (FC); the certified data of certified models are listed in the Eurovent Directory.

Specifications are subject to change without prior notice.

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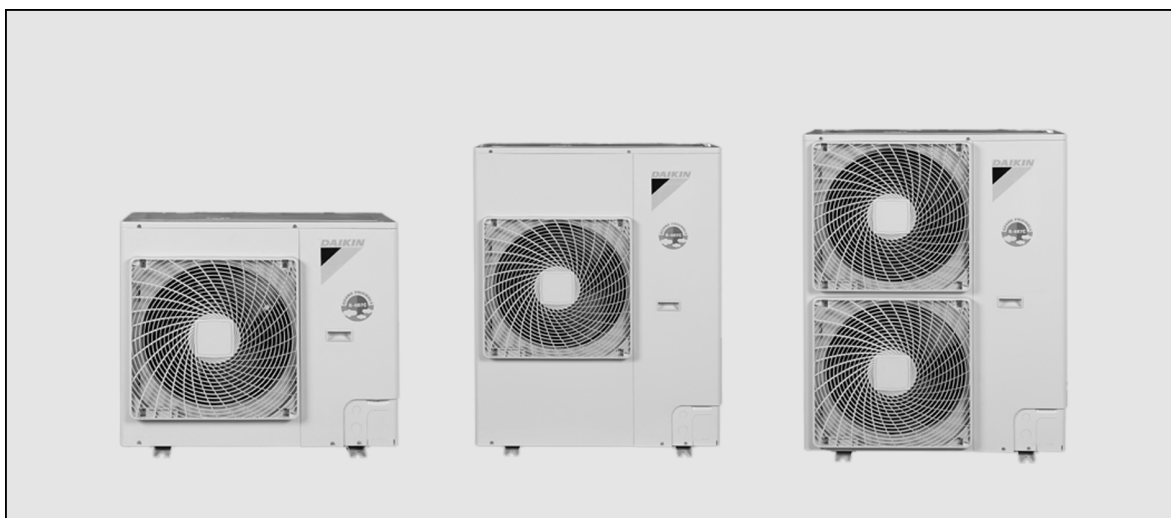
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1 Features

1 Outdoor units for twin/triple/double application.

- It is possible to connect 2, 3 or 4 indoor units to one single outdoor unit. The indoor units can be of different types (e.g. ceiling mounted cassette, wall mounted, ...) and even different capacities. All indoor units operate within the same mode (cooling or heating) from one remote control. This allows an equal air distribution in larger rooms, even if they are irregularly shaped.
- Daikin outdoor units are neat and sturdy and can be mounted easily on a roof or terrace or simply placed against an outside wall.
- They are fitted with a scroll compressor, renowned for low noise and high energy efficiency.
- The piping connections can be accessed from underneath, front, side or rear.
- The service valves are hidden inside the casing.
- A special acryl precoated fin for anti-corrosion treatment on the heat exchanger ensures greater resistance against severe weather conditions.





2 Specifications

2

TECHNICAL SPECIFICATIONS								
OUTDOOR UNITS				RYP71L7V1/W1	RYP100L7V1/W1	RYP125L7W1	RYP200B7W1	RYP250B7W1
DIMENSIONS	Unit	H	mm	770	1,170		1,220	1,440
		W	mm	900	900		1,290	1,290
		D	mm	320	320		700	700
WEIGHT			kg	80/79	102/101	106	196	210
MATERIAL	Unit			Painted galvanised steel plate				
COLOUR	Unit			Ivory white				
SOUND LEVEL	Sound pressure (1) (cooling/heating)	high	dB(A)	50/52	53/56	53/56	57/57	57/57
	Sound power (2) (cooling)	high	dB(A)	63	66	67	77/78	77/78
FAN	Air flow rate (cooling/heating)	high	m ³ /min	48/43	55/50	89/80	170/-	175/-
	Speed	steps		3 steps			1 step	
	Qty x model			1xP47L11S		2xP47L11S	1xP55J11F	
	Qty x motor output		W	1 x 65	1 x 90	85 + 65	1 x (230+190)	
HEAT EXCHANGER	Type			Hi-XSS cooling tube, non sym. waffle fin			Φ 8 Sealing	
	Rows x stages x fin pitch		mm	2 x 34 x 2.0	2 x 52 x 2.0	2 x 52 x 2.0	2 x 40 x 2	2 x 50 x 2
	Face area		m ²	0.634	0.983	0.983	1.57	1.97
REFRIGERANT CIRCUIT	Refrigerant type			R-407C				
	Refrigerant charge		kg	2.8	3.7		7.5	9.2
	Minimum/maximum allowable distance between indoor and outdoor		m	5/70			-/50 (70 m equivalent)	
	Maximum allowable level difference		m	30	30	30	30	30
	Additional refrigerant charge		g/m	Please refer to item 13 'Installation' of this chapter			100 g/m for total piping length > 30 m	140 g/m for total piping length > 30 m
	Refrigerant control			Expansion valve (electronic type)			Expansion valve	
COMPRESSOR	Type			Hermetically sealed scroll type				
	Qty x model			1xJT90FA-V1N	1xJT125FA-V1NX	1xJT160FA-YE	1xJT23DA-YE@2	1xJT300DA-YE@2
	Motor output x no		W	2,200 x 1	3,000 x 1	3,750 x 1	5,500 x 1	7,500 x 1
	Speed		rpm	—	—	—	2,900	2,900
	Oil type			DAPHNE PVC68D				
	Oil charge volume		ℓ	1,200	1,500		4	4
	Crankcase heater		W	—	—	—	50	72
PIPING CONNECTIONS		liquid	mm	Φ9.5			Φ12.7 x 0.90	Φ15.9 x 0.95
		gas	mm	Φ15.9	Φ19.1		Φ28.6 x 1.15	Φ28.6 x 1.15
		drain	mm	Φ26 x 3			Φ26 x 6	Φ26 x 6
INSULATION MATERIAL	Heat insulation			Both liquid and gas pipes				
	Safety devices			High and low pressure switch, thermal protection for indoor and outdoor fan motor, overcurrent relay (compressor), fuse		High and low pressure switch, thermal protector for indoor and outdoor fan motor, overcurrent relay (compressor), reverse phase protector, fuse		

3TW25141-1B
 3TW25181-1B
 3TW25151-1A
 3TW25191-1A
 3TW25201-1A
 3TW23631-1A
 3TW23641-1A

2 Specifications



2

ELECTRICAL SPECIFICATIONS								
OUTDOOR UNITS				RYP71L7V1/W1	RYP100L7V1/W1	RYP125L7W1	RYP200B7W1	RYP250B7W1
CURRENT	Nominal running current	cooling/heating	A	Please refer to electrical data			14.4/-	17.2/-
	Max. running current	cooling/heating	A	Please refer to electrical data			17.9/-	27.5/-
	Starting current	cooling/heating	A	Please refer to electrical data				
POWER SUPPLY				V1/W1	V1/W1	W1	W1	W1
NOMINAL DISTRIBUTION SYSTEM VOLTAGE	Phase			1~/3N~	1~/3N~	3N~	3N~	3N~
	Frequency		Hz	50	50	50	50	50
	Voltage		V	230/400	230/400	400	400	400

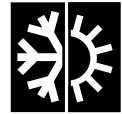
NOTES

- The sound pressure level is measured via a microphone at 1m distance from the unit. It is a relative value, depending on the distance and acoustic environment. For measuring conditions: please refer to item 9 of this chapter.
- The sound power level is an absolute value indicating the "power" which a sound source generates.

ELECTRICAL DATA

See chapter RYP-L7/B7 for the electrical data of RYP71-100-125L7V1/W1~RYP200-250B7W1

3 Combination table



Possible combinations and standard capacity for twin and triple operation

3

RYP71-125L7

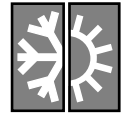
Outdoor models	Possible indoor combination						
	Simultaneous operation						
	Twin			Triple			
RYP71L7V1/W1	35-35 (KHRQ22M20T7)						
RYP100L7V1/W1	45-45 (KHRQ22M20T7)	45-60 (KHRQ22M20T7)	35-71 (KHRQ22M20T7)	35-35-35 (KHRP127HB7)			
RYP125L7W1	60-60 (KHRQ22M20T7)	45-71 (KHRQ22M20T7)		45-45-45 (KHRP127HB7)			

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NOTES

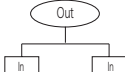
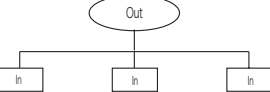
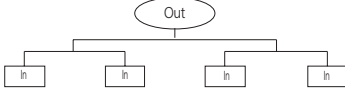
- Possible indoor units: FHYCP35-71, FUYP71, FHYKP35-71, FAYP71, FHYP35-71, FHYBP35-71, FDYMP71
- Individual indoor capacities are not given because the combinations are for simultaneous operation (=indoor units installed in same room).
- When different indoor models are used in combination, designate the infrared remote controller that is equipped with the most functions as the main unit.
Note 1 mentions the indoor units in order of the possible function (most functions are on FHYCP, less functions are on FDYP).
- Between brackets are the required Refnet kits mentioned, that are necessary to install the combination.
- For unit specification of the outdoor units and the indoor units refer to the unit specifications mentioned for pair systems.
- Nominal cooling capacities are based on the following conditions: Indoor air temperature: 27°CDB, 19.0°CWB, outdoor temperature 35°CDB.
Nominal heating capacities are based on the following conditions: Indoor air temperature : 20°CDB, outdoor temperature : 7°CDB, 6°CWB.

3 Combination table



3 Possible combinations for twin, triple and double twin application

RYP200-250B7

			Possible indoor combination										
			Simultaneous operation										
			Capacity [kW]		Twin		Triple						Double twin
Outdoor models	Cooling	Heating											
	RYP200B7W1	19.5	23.1	100-100 (KHRQ22M64T7)	71-125 (KHRQ22M64T7)	71-71-71 (KHRP127HB7)	60-60-60 (KHRP127HB7)	45-71-71 (KHRP127HB7)	45-45-100 (KHRP127HB7)	35-71-100 (KHRP127HB7)	35-35-125 (KHRP127HB7)	45-60-100 (KHRP127HB7)	71-60-60 (KHRP127HB7)
RYP250B7W1	25.0	27.0	125-125 (KHRQ22M64T7)		45-100-100 (KHRP127HB7)		60-60-125 (KHRP127HB7)		125-45-71 (KHRP127HB7)		100-71-71 (KHRP127HB7)		60-60-60-60 (2 x KHRQ22M20T7 + KHRQ22M64T7)

3TW23619-1A

NOTES

- Possible indoor units: FHYCP35-125, FUYP71-125, FHYKP35-71, FAYP71-100, FHYP35-60, FHYP71-125, FHYBP35-125, FDYP125.
- Individual indoor capacities are not given because the combinations are for simultaneous operation (=indoor units installed in same room).
- When different indoor models are used in combination, designate the infrared remote controller that is equipped with the most functions as the main unit.
Note 1 mentions the indoor units in order of the possible function (most functions are on FHYCP, less functions are on FDYP).
- Between brackets are the required Refnet kits mentioned, that are necessary to install the combination.
- For unit specification of the outdoor units and the indoor units refer to the unit specifications mentioned for pair systems.
- Nominal cooling capacities are based on the following conditions: Indoor air temperature: 27°CDB, 19.0°CWB, outdoor temperature 35°CDB.
Nominal heating capacities are based on the following conditions: Indoor air temperature : 20°CDB, outdoor temperature : 7°CDB, 6°CWB.

4 Capacity tables



Simultaneous operation RYP71-100-125L7

Cooling capacity

V1: 230V [50Hz]
W1: 400V [50Hz]

Outdoor	Indoor		Outdoor temperature (°CDB)											
	EWB (°C)	EDB (°C)	20		25		32		35		40		46	
			TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
RYP71	12.0	18.0	6.2	1.75	6.1	2.00	5.7	2.17	5.5	2.33	5.3	2.58	4.9	2.83
	14.0	20.0	6.6	1.83	6.5	2.08	6.0	2.25	5.9	2.33	5.5	2.58	5.3	2.83
	16.0	22.0	7.2	1.83	7.0	2.08	6.5	2.25	6.3	2.42	6.0	2.67	5.5	2.92
	18.0	25.0	7.7	1.92	7.5	2.08	7.2	2.33	6.8	2.50	6.4	2.67	6.0	3.00
	19.0	27.0	8.0	1.92	7.7	2.08	7.3	2.33	7.1	2.50	6.6	2.75	6.2	3.00
	19.5	27.0	8.0	1.92	7.9	2.08	7.4	2.33	7.2	2.50	6.7	2.75	6.3	3.00
	22.0	30.0	8.7	2.00	8.5	2.17	8.0	2.42	7.9	2.58	7.4	2.75	6.8	3.08
	24.0	32.0	9.4	2.00	9.1	2.17	8.6	2.50	8.4	2.58	8.0	2.83	7.4	3.17
RYP100	12.0	18.0	8.4	2.56	8.3	2.75	8.1	3.13	7.8	3.32	7.5	3.70	6.9	4.08
	14.0	20.0	8.9	2.66	8.8	2.75	8.7	3.13	8.4	3.32	7.8	3.70	7.5	4.08
	16.0	22.0	10.1	2.66	9.8	2.85	9.1	3.23	8.9	3.42	8.5	3.79	7.8	4.17
	18.0	25.0	10.8	2.66	10.5	2.85	9.8	3.23	9.6	3.42	9.0	3.79	8.4	4.27
	19.0	27.0	11.1	2.66	10.8	2.94	10.1	3.32	10.0	3.51	9.4	3.89	8.7	4.36
	19.5	27.0	11.2	2.66	11.0	2.94	10.3	3.32	10.1	3.51	9.5	3.89	8.8	4.36
	22.0	30.0	12.2	2.75	11.8	2.94	11.2	3.42	11.0	3.60	10.4	3.98	9.6	4.36
	24.0	32.0	13.0	2.85	12.7	3.04	11.9	3.51	11.6	3.70	11.1	4.08	10.3	4.46
RYP125	12.0	18.0	11.1	3.19	10.8	3.47	10.0	3.76	9.7	4.04	9.2	4.41	8.6	5.07
	14.0	20.0	11.8	3.29	11.4	3.47	10.7	3.85	10.4	4.13	9.8	4.51	9.2	5.07
	16.0	22.0	12.7	3.29	12.1	3.57	11.4	3.85	11.1	4.23	10.4	4.60	9.7	5.17
	18.0	25.0	13.3	3.38	13.0	3.57	12.1	3.94	11.8	4.32	11.2	4.70	10.4	5.17
	19.0	27.0	13.6	3.47	13.3	3.66	12.7	4.04	12.2	4.32	11.5	4.79	10.8	5.26
	19.5	27.0	13.8	3.47	13.5	3.66	12.8	4.04	12.4	4.32	11.7	4.79	11.0	5.26
	22.0	30.0	15.1	3.57	14.6	3.66	13.7	4.13	13.4	4.41	12.9	4.88	12.0	5.45
	24.0	32.0	15.9	3.57	15.5	3.76	14.6	4.23	14.3	4.51	13.6	4.98	12.9	5.54

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SYMBOLS

EWB:	Entering wet bulb temp.	(°CWB)
EDB:	Entering dry bulb temp.	(°CDB)
TC:	Total capacity cooling	(kW)
PIo:	Power input of outdoor unit	(kW)
PI corr1:	Correction factor for Pi depending on voltage of outdoor	(kW)
PI corr2:	Correction factor for Pi depending used indoor units	(kW)
PI:	Total power input	(kW)
PI = PIo + PI corr1 + Σ PI corr2		
e.g. RYP100L7V1 + FHYBP71B7V1 + FHYP35B7V1		
PI = 3.5 + 0.23 + 0.21 + 0.14 = 4.08 kW		

Caution:
TC and SHC are shown by WT

NOTES

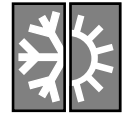
- Ratings shown are net capacities which include a deduction for indoor fan motor heat
- Shows nominal capacities
- Direct interpolation is permissible. Do not extrapolate.
- Capacities are based on following conditions:
Corresponding refrigerant piping length: 7.5 m
Level difference: 0 m
- Add the following correction to the power input for the different outdoor units (PI corr1)

Outdoor model	Power supply	
	V1	W1
RYP71	0.07	0
RYP100	0.23	0

- Add the following correction to the power input for each connected indoor unit (PI corr2)

Indoor model	Indoor types						
	FHYBP	FH(Y)P	FHYCP	FHYKP	FAYP	FUYP	FDYMP
35	0.12	0.14	0.14	0.046			0.12
45	0.16	0.14	0.14	0.069			0.16
60	0.21	0.14	0.16	0.12			0.21
71	0.21	0.14	0.16	0.12	0.069	0.16	0.21

NOTE:
The total capacity does not change with different combination of indoor units.



4 Capacity tables

4 Simultaneous operation RYP71-100-125L7

Heating capacity

V1: 1~230V [50Hz]
W1: 3~400V [50Hz]

Outdoor	Indoor EDB (°C)	Outdoor temperature (°CDB)											
		-10		-5		0		6		10		15	
		TC	PI	TC	PI	TC	PI	TC	PI	TC	PI	TC	PI
RYP71	16.0	6.3	2.25	6.7	2.33	7.4	2.33	8.1	2.41	8.6	2.41	-	-
	18.0	6.3	2.25	6.7	2.33	7.4	2.41	8.0	2.50	8.6	2.50	-	-
	20.0	6.3	2.41	6.7	2.41	7.3	2.50	8.0	2.58	8.6	2.66	9.3	2.75
	22.0	6.3	2.41	6.7	2.50	7.3	2.58	8.0	2.66	8.6	2.66	9.1	2.75
	24.0	6.3	2.50	6.7	2.58	7.3	2.66	7.9	2.75	8.6	2.75	9.1	2.83
RYP100	16.0	8.5	3.01	9.3	3.11	10.1	3.20	11.2	3.30	11.9	3.39	-	-
	18.0	8.4	3.11	9.2	3.20	10.1	3.30	11.1	3.39	11.9	3.49	-	-
	20.0	8.4	3.30	9.1	3.39	10.0	3.49	11.0	3.58	11.7	3.67	12.7	3.77
	22.0	8.4	3.39	9.1	3.49	10.0	3.58	11.0	3.67	11.7	3.77	12.6	3.86
	24.0	8.3	3.49	9.1	3.58	9.8	3.67	10.8	3.77	11.5	3.86	12.6	3.96
RYP125	16.0	11.1	3.99	12.0	4.19	12.9	4.29	14.1	4.39	15.0	4.59	-	-
	18.0	11.1	4.09	12.0	4.29	12.9	4.39	14.0	4.59	14.9	4.69	-	-
	20.0	11.1	4.29	11.8	4.49	12.8	4.69	14.0	4.79	14.8	4.89	16.0	5.09
	22.0	11.1	4.39	11.8	4.59	12.8	4.69	14.0	4.89	14.8	4.99	16.0	5.19
	24.0	10.9	4.49	11.8	4.69	12.7	4.89	13.9	4.99	14.8	5.19	15.8	5.39

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SYMBOLS

EWB:	Entering wet bulb temp.	(°CWB)
EDB:	Entering dry bulb temp.	(°CDB)
TC:	Total capacity cooling	(kW)
PIo:	Power input of outdoor unit	(kW)
PI corr1:	Correction factor for PI depending on voltage of outdoor	(kW)
PI corr2:	Correction factor for PI depending used indoor units	(kW)
PI:	Total power input	(kW)
	PI = PIo + PI corr1 + Σ PI corr2	
	e.g. RYP100L7V1 + FHYBP71B7V1 + FHYBP35B7V1	
	PI = 3.6 + 0.23 + 0.21 + 0.14 = 4.18 kW	

Caution:
TC and SHC are shown by kW

NOTES

- Ratings shown are net capacities.
Influence of fan motor heat is included.
- Shows nominal capacities
- Capacities are based on following conditions:
Outdoor air : 85 % RH. however, the condition on nominal capacity is 7° CDB/6° CWB (heating)
Corresponding refrigerant piping length: 7.5 m
Level difference: 0 m
- Direct interpolation is permissible. Do not extrapolate.
- Add the following correction to the power input for the different outdoor units (PI corr1)

Outdoor model	Power supply	
	V1	W1
RYP71	0.07	0
RYP100	0.23	0

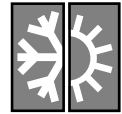
- Add the following correction to the power input for each connected indoor unit (PI corr2)

Indoor model	Indoor types						
	FHYBP	FHYYP	FHYCP	FHYKP	FAYP	FUYP	FDYMP
35	0.12	0.14	0.14	0.046			0.12
45	0.16	0.14	0.14	0.069			0.16
60	0.21	0.14	0.16	0.12			0.21
71	0.21	0.14	0.16	0.12	0.069	0.16	0.21

NOTE:

The total capacity does not change with different combination of indoor units.

4 Capacity tables



Simultaneous operation RYP200-250B7W1

Cooling capacity

W1: 400V [50Hz]

Outdoor	Indoor		Outdoor temperature (°CDB)											
	EWB (°C)	EDB (°C)	20		25		32		35		40		46	
			TC	PI o	TC	PI o	TC	PI o	TC	PI o	TC	PI o	TC	PI o
RYP200	12	18	17.5	5.38	16.8	5.81	15.8	6.67	15.4	7.10	14.8	7.85	14.1	8.93
	14	20	18.7	5.49	17.9	5.92	16.9	6.78	16.5	7.21	15.9	7.96	15.1	9.04
	16	22	20.0	5.59	19.2	6.02	18.1	6.88	17.7	7.31	17.0	8.07	16.2	9.14
	18	25	21.3	5.70	20.4	6.13	19.3	6.99	18.9	7.42	18.2	8.28	17.4	9.36
	19	27	21.9	5.70	21.1	6.24	20.0	7.10	19.5	7.53	18.8	8.28	17.9	9.47
	22	30	24.1	5.92	23.2	6.45	22.0	7.31	21.5	7.75	20.7	8.61	19.8	9.68
	24	32	25.6	6.02	24.6	6.56	23.4	7.42	22.9	7.96	22.1	8.71	21.1	9.90
RYP250	12	18	22.4	6.35	21.5	7.01	20.2	7.98	19.7	8.42	18.9	9.39	18.0	10.59
	14	20	24.0	6.46	23.0	7.11	21.7	8.09	21.2	8.53	20.3	9.50	19.4	10.81
	16	22	25.6	6.57	24.6	7.22	23.2	8.20	22.7	8.74	21.8	9.61	20.8	10.91
	18	25	27.2	6.68	26.2	7.33	24.8	8.42	24.2	8.85	23.3	9.83	22.3	11.13
	19	27	28.1	6.79	27.0	7.44	25.6	8.42	25.0	8.96	24.1	9.94	23.0	11.24
	22	30	30.9	7.01	29.7	7.66	28.2	8.74	27.6	9.29	26.5	10.15	25.4	11.57
	24	32	32.8	7.11	31.6	7.77	30.0	8.85	29.4	9.39	28.3	10.37	27.1	11.78

3TW23612-2B

SYMBOLS

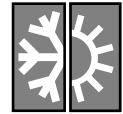
EWB:	Entering wet bulb temp.	(°CWB)
EDB:	Entering dry bulb temp.	(°CDB)
TC:	Total capacity cooling	(kW)
PI o:	Power input of outdoor unit	(kW)
PI corr:	Correction factor for PI depending used indoor units	(kW)
PI:	Total power input	(kW)
	PI = PI o + PI corr	
	e.g. RYP200B7W1 + FHYP100 + FHYP100	
	PI = 7.43 + 0.16 + 0.2 = 7.79 kW	

NOTES

- Ratings shown are net capacities which include a deduction for indoor fan motor heat
- Shows nominal capacities
- Direct interpolation is permissible. Do not extrapolate.
- Capacities are based on following conditions:
Corresponding refrigerant piping length: 7.5 m
Level difference: 0 m
- Add the following correction to the power input for the different outdoor units (PI corr1)

Caution:
TC and SHC are shown by kW

Indoor model	Indoor types						
	FHYBP	FHYP	FHYCP	FHYKP	FAYP	FDYP	FUYP
35	0.13	0.09	0.14	0.08			
45	0.14	0.09	0.14	0.08			
60	0.17	0.1	0.16	0.105			
71	0.18	0.1	0.16	0.105	0.05		0.14
100	0.22	0.16	0.2		0.06		0.23
125	0.29	0.18	0.24			0.7	0.23



4 Capacity tables

4 Simultaneous operation RYP200-250B7W1

Heating capacity

W1: 400V [50Hz]

Outdoor	Indoor		Outdoor temperature (°CDB)											
	EWB (°C)	EDB (°C)	-10		-5		0		6		10		15	
			TC	PI o	TC	PI o	TC	PI o	TC	PI o	TC	PI o	TC	PI o
RYP200	9	16	15.0	5.34	16.7	5.34	19.5	5.67	23.4	5.99	26.4	6.32	-	-
	11	18	14.8	5.45	16.6	5.56	19.4	5.78	23.2	6.21	26.2	6.54	-	-
	12	20	14.6	5.67	16.3	5.67	19.3	5.99	23.1	6.43	26.0	6.76	30.0	7.30
	13	21	14.5	5.67	16.2	5.78	19.3	6.10	23.0	6.54	26.0	6.87	29.9	7.41
	14	22	14.4	5.78	16.0	5.89	19.3	6.21	23.0	6.65	25.9	7.08	29.8	7.52
RYP250	15	24	14.2	5.99	15.8	6.10	19.3	6.43	22.9	6.87	25.8	7.30	29.7	7.85
	9	16	17.6	6.22	19.5	6.22	22.9	6.55	27.3	6.98	30.8	7.41	-	-
	11	18	17.3	6.33	19.4	6.44	22.7	6.76	27.1	7.30	30.6	7.63	-	-
	12	20	17.1	6.55	19.1	6.65	22.6	6.98	27.0	7.52	30.4	7.95	35.0	8.60
	13	21	16.9	6.65	18.9	6.76	22.6	7.09	26.9	7.63	30.3	8.06	34.9	8.71
	14	22	16.8	6.76	18.7	6.87	22.5	7.30	26.9	7.74	30.3	8.28	34.9	8.82
	15	24	16.6	6.98	18.4	7.09	22.5	7.52	26.8	8.06	30.2	8.49	34.8	9.25

3TW23612-3B

SYMBOLS

EWB:	Entering wet bulb temp.	(°CWB)
EDB:	Entering dry bulb temp.	(°CDB)
TC:	Total capacity cooling	(kW)
PI o:	Power input of outdoor unit	(kW)
PI corr:	Correction factor for PI depending used indoor units	(kW)
PI:	Total power input	(kW)
	PI = PI o + PI corr	
	e.g. RYP200B7W1 + FHYP100 + FHYP100	
	PI = 6.43 + 0.16 + 0.2 = 6.79 kW	

Caution:
TC and SHC are shown by kW

NOTES

- Ratings shown are net capacities which include a deduction for indoor fan motor heat
- Shows nominal capacities
- Direct interpolation is permissible. Do not extrapolate.
- Capacities are based on following conditions:
Corresponding refrigerant piping length: 7.5 m
Level difference: 0 m
- Add the following correction to the power input for the different outdoor units (PI corr)

Indoor model	Indoor types						
	FHYBP	FHYP	FHYCP	FHYKP	FAYP	FDYP	FUYP
35	0.13	0.09	0.14	0.08			
45	0.14	0.09	0.14	0.08			
60	0.17	0.1	0.16	0.105			
71	0.18	0.1	0.16	0.105	0.05		0.14
100	0.22	0.16	0.2		0.06		0.23
125	0.29	0.18	0.24			0.7	0.23

5 Dimensional drawings

See chapter RYP-L7/B7 for the dimensional drawings of RYP71-100-125L7V1/W1~RYP200-250B7W1

6 Operation range

See chapter RYP-L7/B7 for the operation range of RYP71-100-125L7V1/W1~RYP200-250B7W1

7

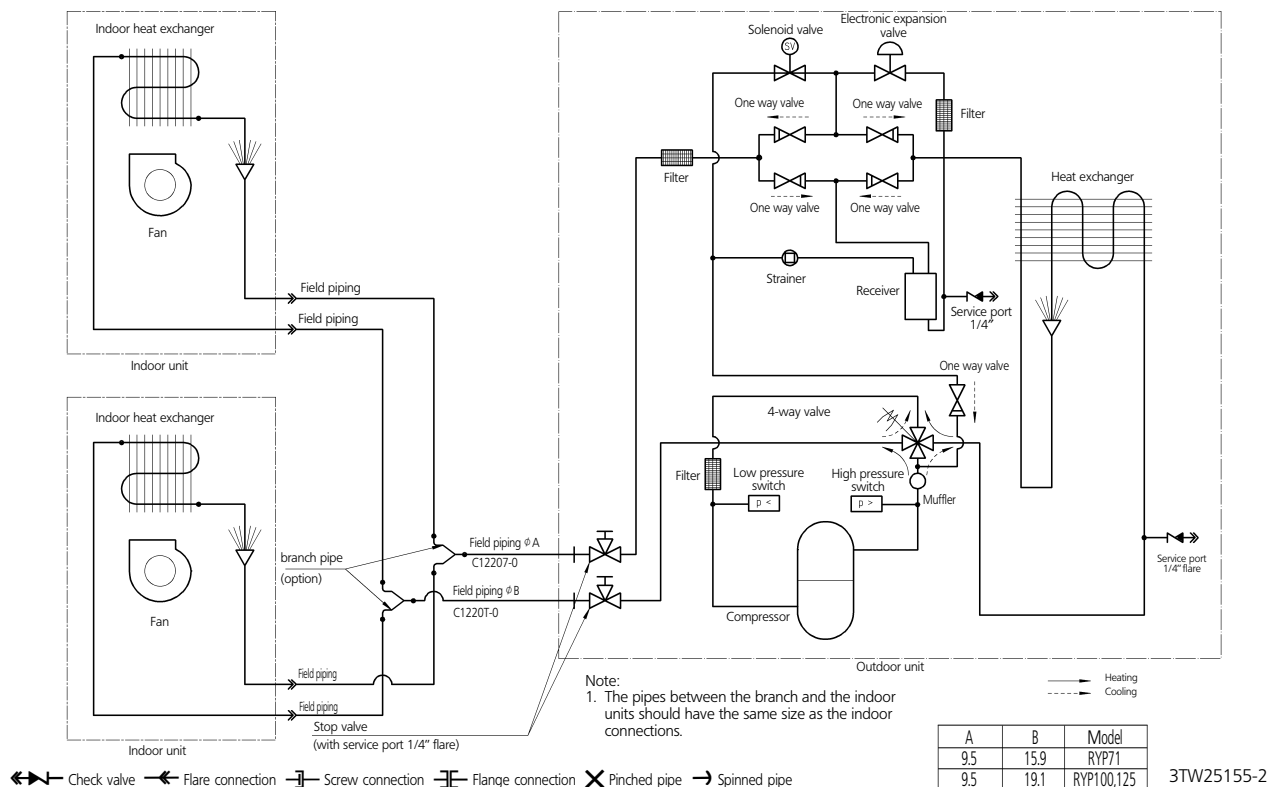
Piping diagrams

See chapter RYP-L7/B7 for the piping diagrams of RYP71-100-125L7V1/W1-RYP200-250B7W1

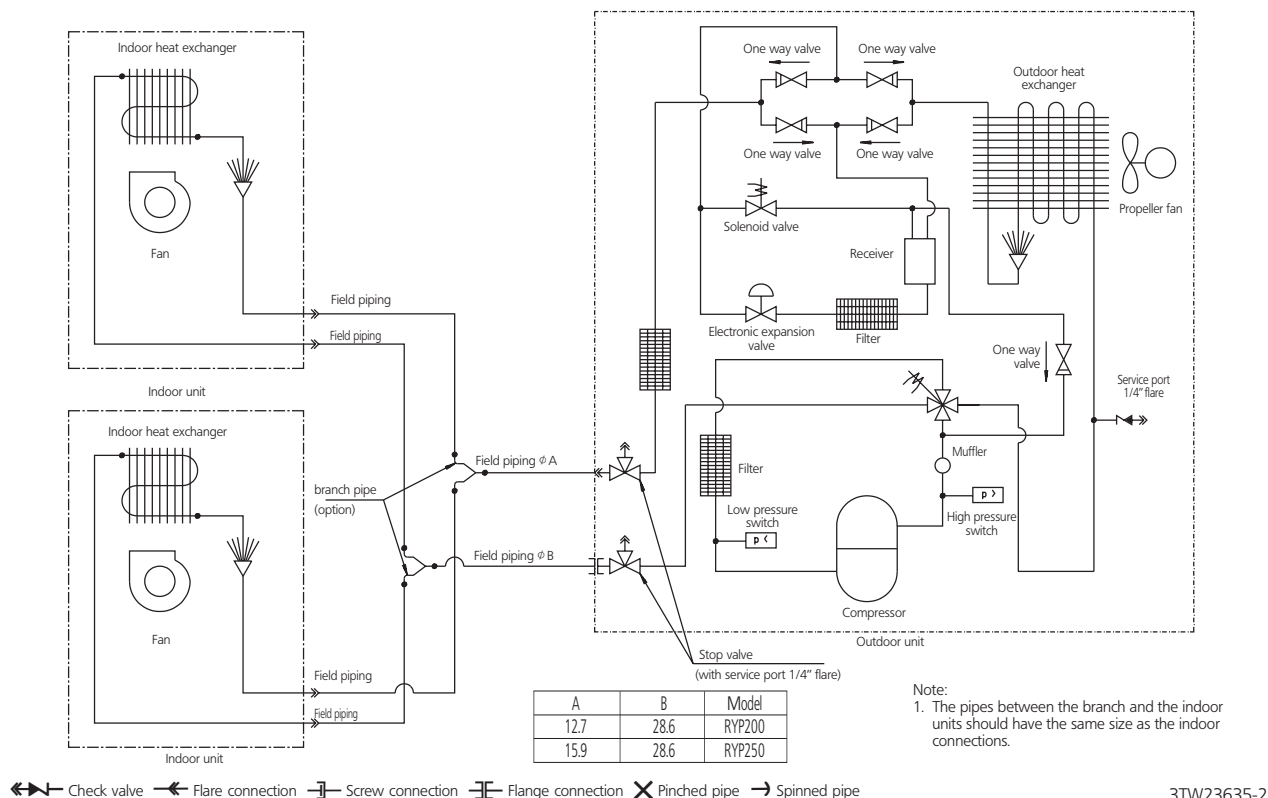


7

Twin application – RYP71-125L7



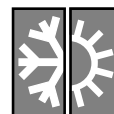
Twin application – RYP200-250B7W1



7

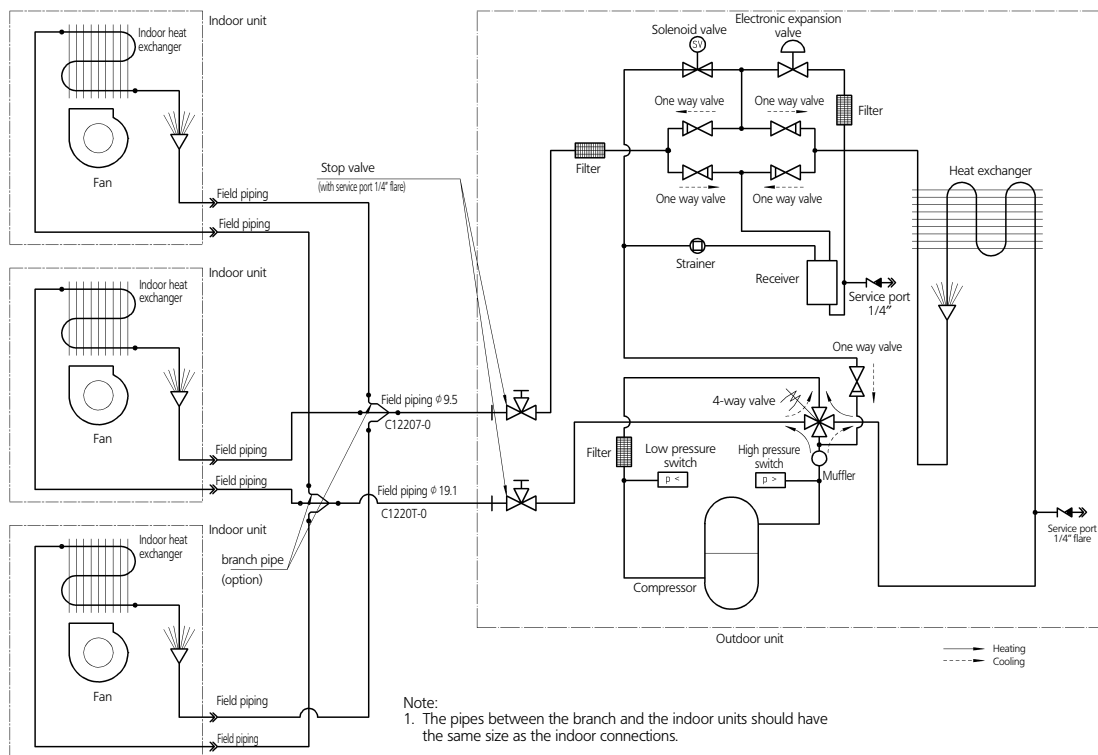
Piping diagrams

See chapter RYP-L7/B7 for the piping diagrams of RYP71-100-125L7V1/W1-RYP200-250B7W1



7

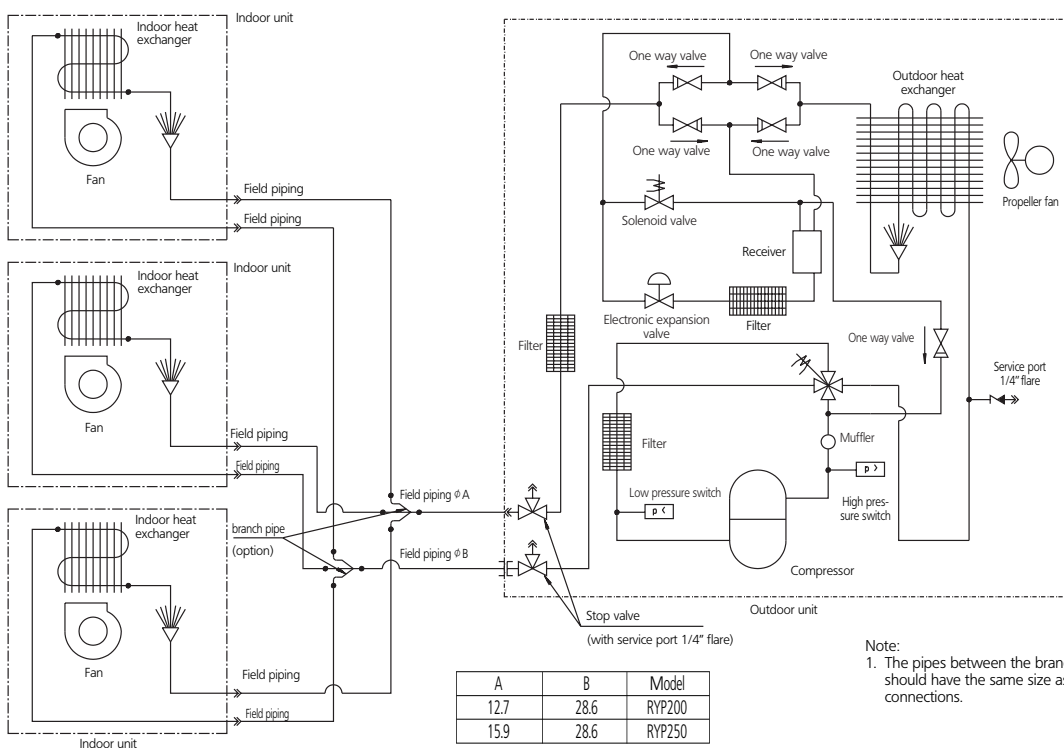
Triple application – RYP100-125L7



Check valve Flare connection Screw connection Flange connection Pinched pipe Spinned pipe

3TW25155-3

Triple application – RYP200-250B7W1



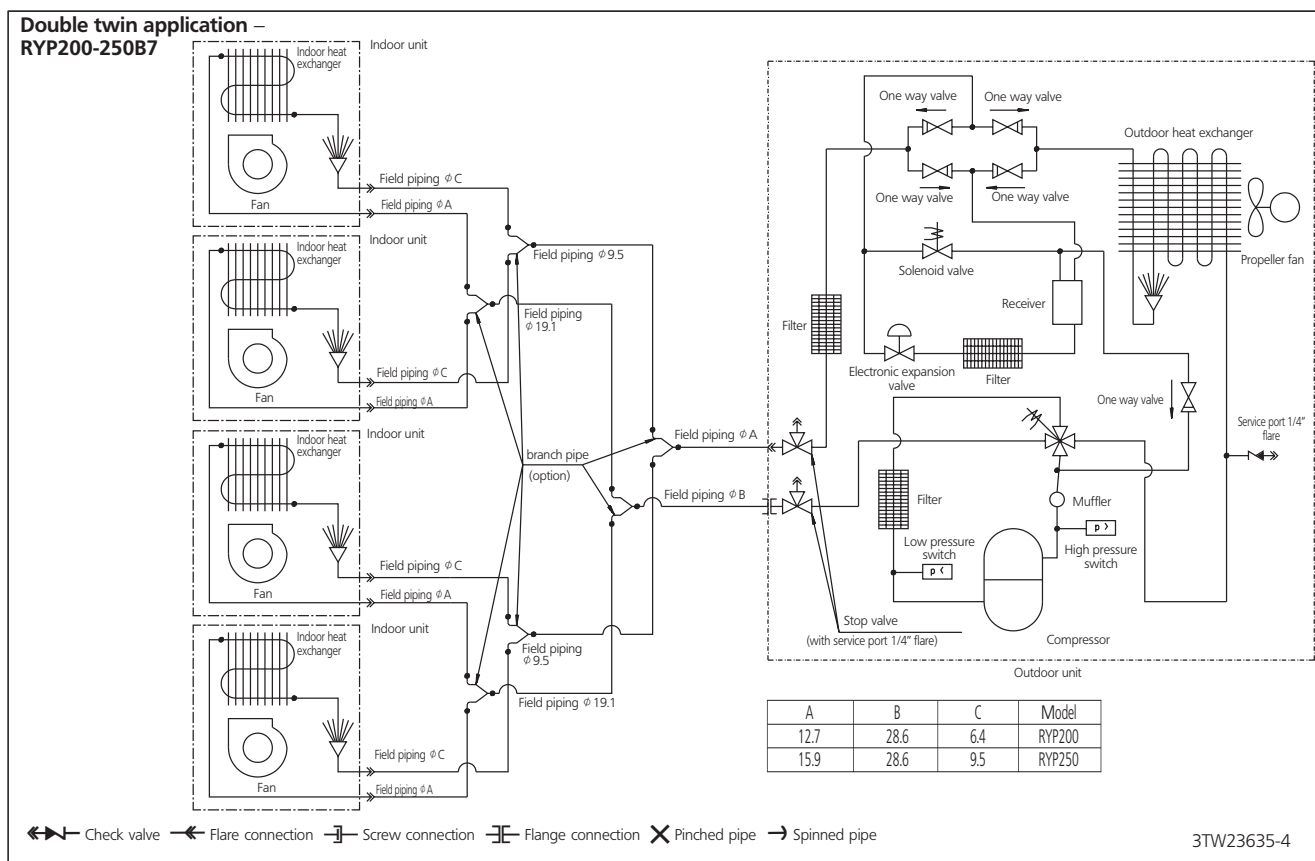
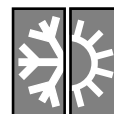
Check valve Flare connection Screw connection Flange connection Pinched pipe Spinned pipe

3TW23635-3

7

Piping diagrams

See chapter RYP-L7/B7 for the piping diagrams of RYP71-100-125L7V1/W1-RYP200-250B7W1





8 Wiring diagrams

See chapter RYP-L7/B7 for the wiring diagrams of RYP71-100-125L7V1/W1~RYP200-250B7W1

9 Sound level

See chapter RYP-L7/B7 for the sound levels of RYP71-100-125L7V1/W1~RYP200-250B7W1

10 Accessories

See chapter RYP-L7/B7 for the accessories of RYP71-100-125L7V1/W1~RYP200-250B7W1

11 Center of gravity

See chapter RYP-L7/B7 for the centre of gravity of RYP71-100-125L7V1/W1~RYP200-250B7W1

12 Safety device settings

See chapter RYP-L7/B7 for the safety device settings of RYP71-100-125L7V1/W1~RYP200-250B7W1

13 Installation



RYP71-125L7

The numerical figures used here represent the dimensions for the models RYP71 to RYP25. The figures inside () indicate the dimensions for the models RYP100 and RY125. (Unit: mm)

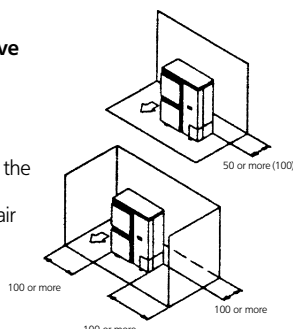
The figures inside <> indicate the dimension of discharge grille when it is installed facing downward

When installing multiple units in lateral connection, discharge grille cannot be set to discharge air in Left/Right direction

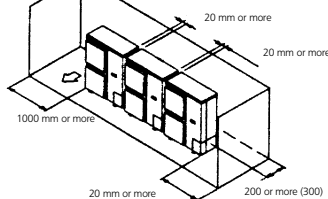
(A) In case obstacles exist in front of the air inlet

• Where there are no obstacles above the unit

- 1 Installation of single unit
 - In case obstacles exist only in front of the air inlet.
 - In case obstacles exist in front of the air inlet and on both sides of the unit.



- 2 Installation of multiple units in lateral connection (2 units or more).

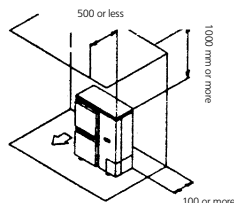


- In case obstacles exist in front of the air inlet and on both sides of the unit.

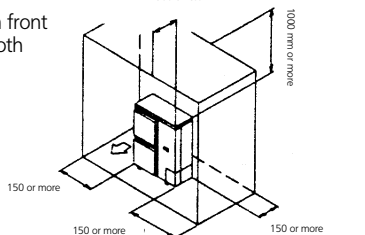


• Where there are obstacles above the unit.

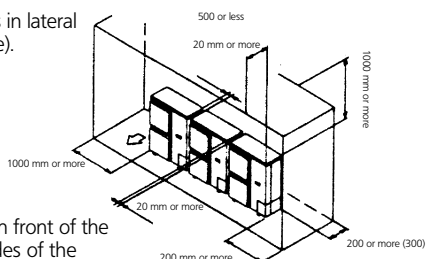
- 1 Installation of single unit
 - In case obstacles exist only in front of the air inlet.



- In case obstacles exist in front of the air inlet and on both sides of the unit.



- 2 Installation of multiple units in lateral connection (2 units or more).



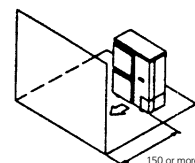
- In case obstacles exist in front of the air inlet and on both sides of the unit.



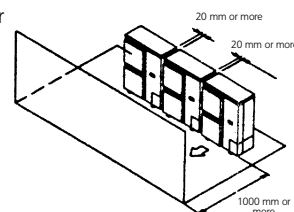
(B) In case obstacles exist only in front of outlet side

• Where there are no obstacles above the unit.

- 1 Installation of single unit
 - In case obstacles exist only in front of outlet side.

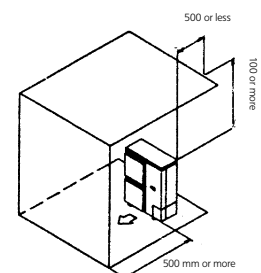


- 2 Installation of multiple units in lateral connection (2 units or more).

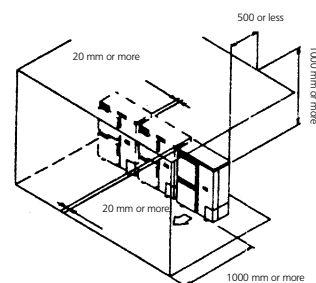


• Where there are obstacles above the unit.

- 1 Installation of single unit
 - In case obstacles exist only in front of outlet side.



- 2 Installation of multiple units in lateral connection (2 units or more).

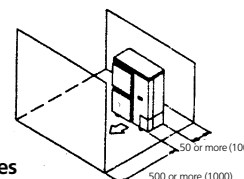


- In case obstacles exist only in front of outlet side.

(C) In case obstacles exist in front of both the air inlet and outlet sides.

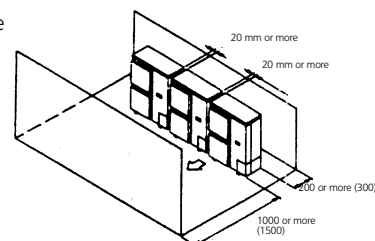
Pattern 1

Where obstacle in front of the air outlet is higher than the unit.

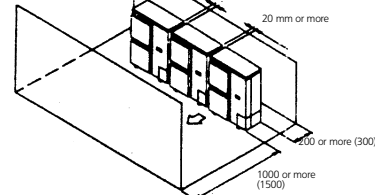


• Where there are no obstacles above the unit.

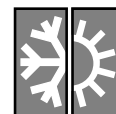
- 1 Installation of single unit.



- 2 Installation of multiple units in lateral connection (2 units or more).



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13 Installation

13

• Where there are obstacles above the unit.

1 Installation of single unit.

Relation of dimensions of H, A, and L are shown in the table below.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	750<1250>
	$1/2 H < L$	1000<1500>
$H < L$	Set the frame to be $L \leq H$	

Get the lower part of the frame sealed so that air from the outlet does not bypass

2 Installation of multiple units in lateral connection (2 units or more).

Relation of dimensions of H, A, and L are shown in the table below.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	1000<1500>
	$1/2 H < L$	1250<1750>
$H < L$	Set the frame to be $L \leq H$	

Get the lower part of the frame sealed so that air from the outlet does not bypass
Do not install more than 2 units

Pattern 2

Where obstacle in front of the air outlet is lower than the unit.

• Where there are no obstacles above the unit.

1 Installation of single unit.

2 Installation of multiple units in lateral connection (2 units or more).

Relation of dimensions of H, A, and L are shown in the table below.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	150 (250)
	$1/2 H < L$	200 (300)

• Where there are obstacles above the unit.

1 Installation of single unit.

Relation of dimensions of H, A, and L are shown in the table below.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	50 (100)
	$1/2 H < L$	100 (200)
$H < L$	Set the frame to be $L \leq H$	

Get the lower part of the frame sealed so that air from the outlet does not bypass

2 Installation of multiple units in lateral connection (2 units or less).

Relation of dimensions of H, A, and L are shown in the table below.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	150 (250)
	$1/2 H < L$	200 (300)
$H < L$	Set the frame to be $L \leq H$	

Get the lower part of the frame sealed so that air from the outlet does not bypass

Do not install more than 2 units

(D) In case of stacked installation

1 In case obstacles exist in front of the outlet side.

Do not stack more than one unit.

About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe..

Get the portion A sealed so that air from the outlet does not bypass..

2 In case obstacles exist in front of the air inlet.

Do not stack more than one unit.

About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe..

Get the portion A sealed so that air from the outlet does not bypass..

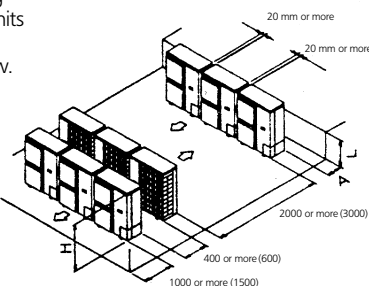
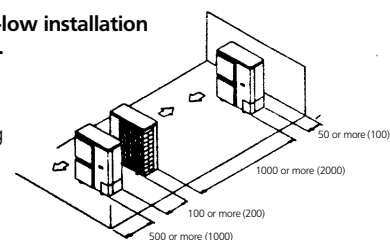
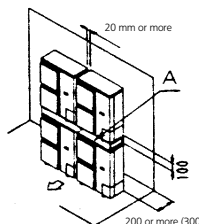
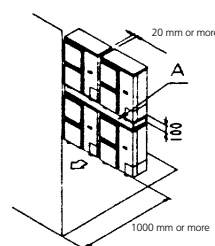
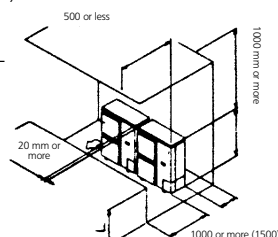
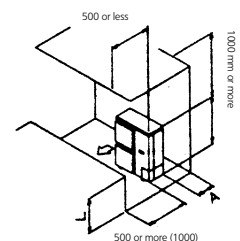
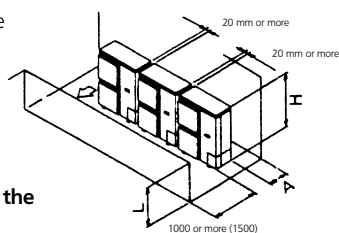
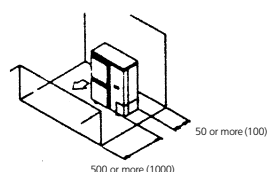
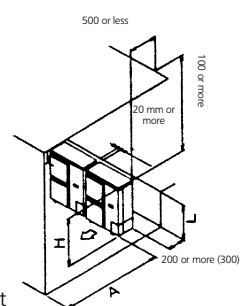
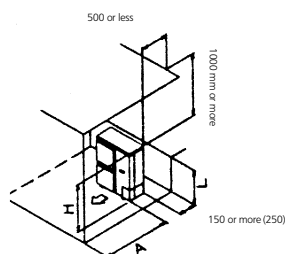
(E) In case of multiple-low installation (for roof top use, etc.).

1 In case of installing one unit per row.

2 In case of installing multiple units (2 units or more) in lateral connection per row.

Relation of dimensions of H, A, and L are shown in the table below.

	L	A
$L \leq H$	$0 < L \leq 1/2 H$	150 (250)
	$1/2 H < L$	200 (300)
$H < L$	Installation impossible	

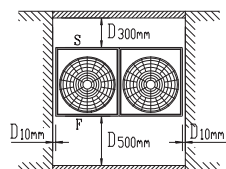


13 Installation

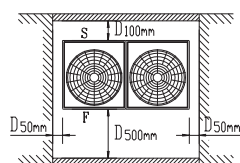


Single installation

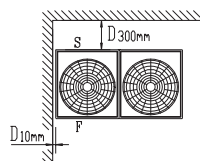
Case 1



Case 2

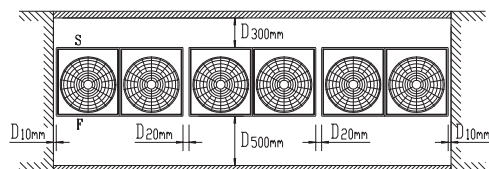


Case 3

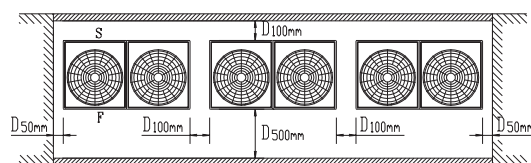


Installation in a row

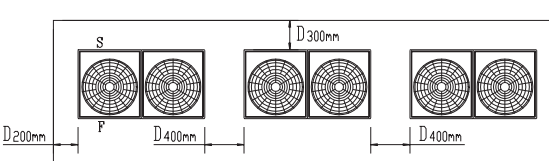
Case 1



Case 2

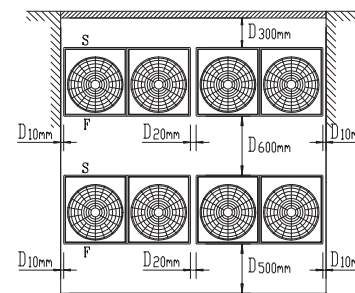


Case 3

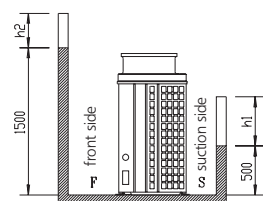
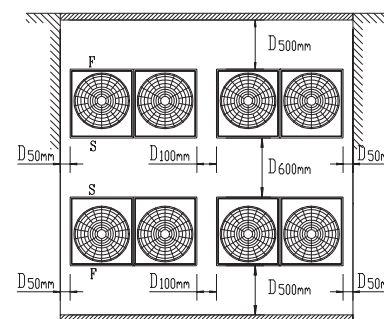
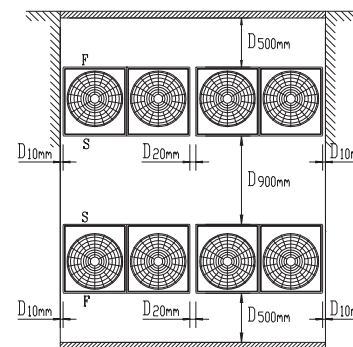
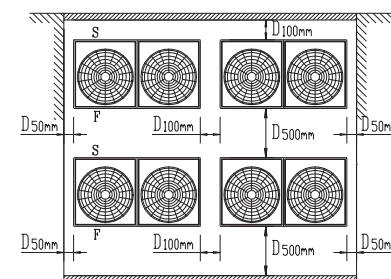


Concentrated installation

Case 1

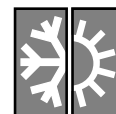


Case 2



- Case 1 and case 2
 - Front wall height is 1500mm
 - Suction wall height is 500mm
 - Side wall height has no limit
 - Case 3 wall height has no limit
- If the wall is higher than mentioned in note 1: ADO h2/2 (front side) and ANO h1/2 (suction side) to the mentioned values for installation. (h1 and h2: see figure to the left)
- Before installing, please check the passage of humans and air at the side, and select a place which is suitable for the case. (If there are a lot of units to be installed, take care that there is no shortcircuit of air)
- Please install considering piping installation at the front side.

3TW23619-4



13 Installation

13 R(Y)(E)P-L

A. Non stacked installation

	SSO	DSO	LSO	RSO	TSO		A	B1	B2	C	D1	D2	E	L1/L2
	✓						≥50(100)							
	✓		✓	✓			≥100	≥100		≥100				
	✓				✓			≥100				≤500	≥1000	
	✓		✓	✓	✓		≥150	≥150		≥150		≤500	≥1000	
		✓									≥500			
		✓			✓				≤500		≥500		≥1000	
	✓	✓				L1<L2	≥50(100)				≥500			
						L2<L1	≥50(100)				≥500			
						L1<L2	L1≤H	≥150(250)	≤500		≥750		≥1000	0<L1≤0.5H
							x			L1≤H				0<L1≤0.5H
	✓	✓					≥200	≥200(300)		≥1000				
	✓		✓	✓	✓		≥200	≥200(300)		≥1000		≤500	≥1000	
		✓								≥1000				
		✓			✓	L1<L2		≤500		≥1000			≥1000	
	✓	✓				L2<L1	≥150(250)			≥1000				0<L2≤0.5H
							≥200(300)			≥1000				0.5H<L2≤H
						L1<L2	L1≤H	≥200(300)	≤500		≥1000		≥1000	0<L1≤0.5H
							x			L1≤H				0.5H<L1≤H
	✓	✓				L2<L1	L2≤H	≥150(250)		≥1000		≤500	≥1000	0<L2≤0.5H
							≥200(300)			≥1000				0.5H<L2≤H
							x			L2≤H				

Legend

= mm

SSO Suction side obstacle
DSO Discharge side obstacle
LSO Left side obstacle
RSO Right side obstacle
TSO Top side obstacle

✓ Obstacle is present

□ In these cases, close the bottom of the installation frame to prevent discharged air from being bypassed.

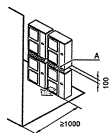
■ In these cases, only 2 units can be installed.

x This situation is not allowed.

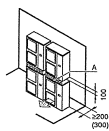
() Figures between () indicate the dimensions only for the 100-125 class models.

B. Stacked installation

1. Obstacles exist in front of the outlet side



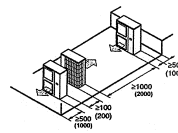
2. Obstacles exist in front of the air inlet



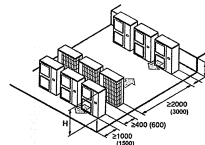
Do not stack more than one unit.
About 100mm is required as the dimension for laying the upper outdoor unit's drain pipe.
Get the portion A sealed so that air from the outlet does not bypass.

C. Stacked installation

1. Installation of one unit per row



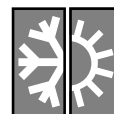
2. Installing multiple units (2 units or more) in lateral connection per row



Relation of dimensions of H, A, and L are shown in the table below.

	L	A
L ≤ H	0 < L ≤ 0.5 H	150 (250)
	0.5 H < L	200 (300)
H < L	Installation impossible	

13 Installation



RYP71-125L7

Refrigerant pipe size

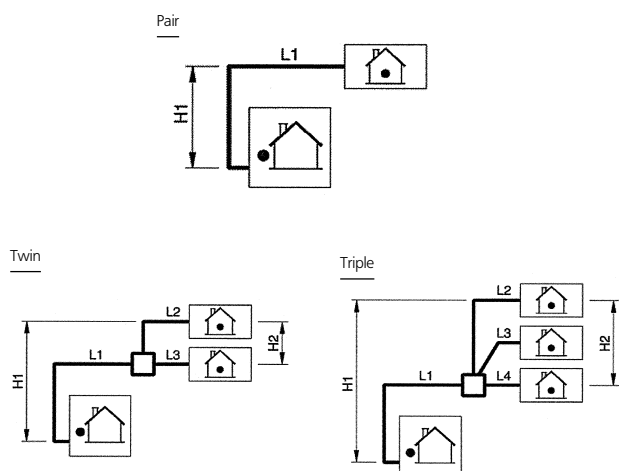
Pair system

Model	Piping length	
	Gas pipe	Liquid pipe
71	Φ 15.9x1.0	Φ 9.5x0.8
100, 125	Φ 19.1x1.0	

The pipes between the outdoor unit and the branch (L1) should have the same size as the outdoor connections. The pipes between the branch and the indoor units (L2-L4) should have the same size as the indoor connections.

Allowable pipe length and height difference

See the table below concerning lengths and heights. Refer to the figures. Assume that the longest line in the figure corresponds with the actual longest pipe, and the highest unit in the figure corresponds with the actual highest unit.



Allowable pipe length			
Maximum allowable pipe length (figures between parenthesis represent equivalent length)	Pair	L1	70 m (90 m)
	Twin/Triple	L1+L2	
Maximum total one-way pipe length	Twin	L1+L2+L3	80 m
	Triple	L1+L2+L3+L4	
Maximum branch pipe length	Twin/Triple	L2	20 m
Maximum difference between branch lengths	Twin	L2-L3	10 m
	Triple	L2-L4	
Maximum height between indoor and outdoor	All	H1	30 m
Maximum height between indoors	Twin/Triple	H2	0.5 m
Chargeless length	All	L1+L2+L3+L4	≤30 m

The minimal piping length should be 5 m. If installation is performed with less field piping, the system will be overcharged (abnormal HP, etc.). If the distance between indoor and outdoor unit is less than 5 m, please make sure that the piping length is ≥5 m by additional bending of the pipes.

Charging refrigerant

This unit requires additional charging of refrigerant according to the length of pipe connected at the site. Charge the refrigerant to the liquid pipe in its liquid state. Since R-407C is a mixed refrigerant, its composition changes if charged in a state of gas and normal system operation would no longer be assured.

On this model it is not necessary to charge additionally if the piping length ≤30 m.

On twin/triple application, piping length means sum of main pipe and branch pipe.

Piping length is the 1 way length, gas or liquid.

Over 30 m or for complete recharging, please charge based as shown in the figures, where the pipe length is respectively L1+L2+L3 and L1+L2+L3+L4.

Additional charging of refrigerant

Over 30 m please, add refrigerant quantity according to following table.

For future servicing, mark with a circle the selected amount on the tables below.

Pair system

Table 1: Additional charging amount <unit: kg>

	Model	Piping length			
	Class	30~40m	40~50m	50~60m	60~70m
H/P	71	+0.50	+1.00	+1.50	+2.00
	100-125	+0.75	+1.50	+2.25	+3.00
C/O	71-100-125	+0.25	0.50	+1.75	+1.00

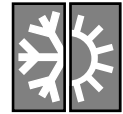
For twin/triple system

Please charge additionally according to the following calculation. (Additional amount is R1+ R2)

- G1: total length of Φ 9.5 mm liquid piping
G2: total length of Φ 6.4 mm liquid piping
- a G1 > 30 m
calculate length over 30 m (+ G1 - 30 m)
Based on this length decide R1, R2 in the table
b G ≤ 30 m and G1 + G2 > 30 m
calculate total length over 30 m (= G1 + G2 - 30 m)
Total additional charge amount
- Total additional charge amount
R = R1 + R2 (kg)

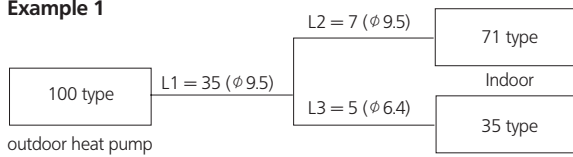
Table 2: Additional charging amount <unit: kg>

	Model	Length exceeding 30 m						
	Class	Piping	Φ	0-10	10-20	20-30	30-40	40-50
H/P	71	Main	9.5	0.50	1.00	1.50	2.00	2.50
	100-125		9.5	0.75	1.50	2.25	3.00	3.75
	71	Branch	9.5	0.30	1.00	1.50	2.00	2.50
	100-125		9.5	0.75	1.50	2.25	3.00	3.75
	71-100-125		6.4	0.30	0.60	0.90	1.20	1.50
	71-100-125		6.4	0.15	0.30	0.45	0.60	0.75



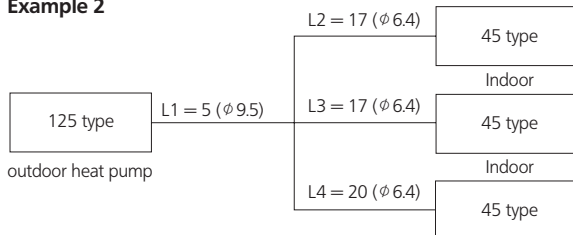
13 Installation

13 Example 1



1. $G1 = L1 + L2 = 35 + 7 = 42 \text{ m}$ $G2 = L3 = 5$
2. Over 30 m
 - a $G1 - 30 = 12 \text{ m}$ $\rightarrow \phi 9.5 \text{ R1} = 1.50 \text{ kg}$
 - b $G2 = 5 \text{ m}$ $\rightarrow \phi 6.4 \text{ R2} = 0.30 \text{ kg}$
3. Refrigerant charge amount= $R = R1 + R2 = 1.50 + 0.30 = 1.80 \text{ kg}$

Example 2



1. $G1 = L1 = 5 \text{ m}$ $G2 = L2 + L3 + L4 = 17 + 17 + 20 = 54$
2. Over 30 m
 - a $G1 = 5 \text{ m}$ $\rightarrow R1 = 0.0 \text{ kg}$
 - b $(G1 + G2) - 30 = (5 + 54) - 30 = 29 \rightarrow \phi 6.4 \text{ R2} = 0.90 \text{ kg}$
3. Refrigerant charge amount= $R = R1 + R2 = 0.0 + 0.9 = 0.9 \text{ kg}$

In case of complete recharge of the refrigerant, please first execute vacuuming. Execute this vacuuming from the service port. Do not use the port of the stop valve for vacuuming. Vacuuming can not be executed completely using such port.

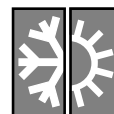
Position of service port:

Heat pump: On the piping between the heat exchanger and the 4-way valve.
Cooling only: On the discharge pipe.

Complete charging of the refrigerant (after a leak, etc.)

When the entire refrigerant pipe length is within 30 meters, charge the refrigerant in accordance with the amount mentioned in the nameplate, and when the pipe length exceeds 30 meters, the charging amount mentioned in the nameplate and that required for additional charging are to be totalled as the net charging amount.

13 Installation



RYP200-250B7

Refrigerant pipe size

1. Pair system (fig. 1)

Outdoor unit	Refrigerant pipe size	
	Gas pipe	Liquid pipe
RYP200	φ 28.8	φ 12.7
RYP250	φ 28.8	φ 15.9

2. Simultaneous operation system

Twin and triple operation system (fig. 2 / fig. 3)
 The pipes between the outdoor unit and the branch (L1) should have the same size as the outdoor connections.
 The pipes between the branch and the indoor units (L2-L4) should have the same size as the indoor connections.
 Branch: see marking '□' on the figures.
 Double twin operation system (fig. 4)
 The pipes between the outdoor unit and the branch (L1) should have the same size as the outdoor connections.
 The pipes between the branch and the indoor units (L2-L4) should have the same size as the indoor connections.
 Branch: see marking '□' on the figures.

Outdoor unit	Refrigerant pipe size	
	Gas pipe	Liquid pipe
RYP200,250	φ 19.1	φ 9.5

Allowable pipe length

See the table below concerning lengths and heights. Refer to the figures. Assume that the longest line in the figure corresponds with the actual longest pipe, and the highest unit in the figure corresponds with the actual highest unit.

Maximum allowable pipe length (figures between parenthesis represent equivalent length)	Pair	L1	50m (70m)
	Twin/triple	L1+L2	
Maximum total one-way pipe length	Double twin	L1+L2+L4	60m
	Twin	L1+L2+L3	
	Triple	L1+L2+L3+L4	
Maximum branch pipe length	Double twin	L1+L2+L3+L4+L5+L6+L7	20m
	Twin/triple	L2	
Maximum difference between branch lengths	Double twin	L2+L4	10m
	Twin	L2-L3	
	Triple	L2-L4	
Maximum difference between each 1st branch	Double twin	(L2+L4)-(L3+L7)	10m
Maximum difference between each 2nd branch	Double twin	L2-L3	10m
Maximum height between indoor and outdoor	Double twin	L4-L5, L6-L7	10m
Maximum height between indoors	All	H1	30m
	Twin / triple / double twin	H2	0.5m

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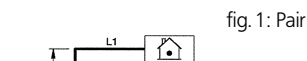


fig. 1: Pair

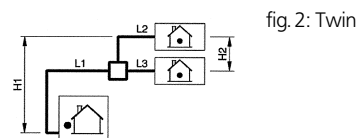


fig. 2: Twin

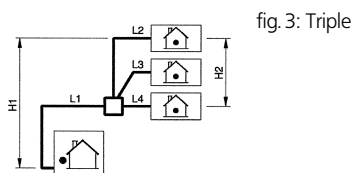


fig. 3: Triple

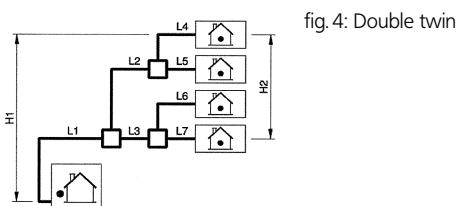


fig. 4: Double twin

Additional charge

The units require additional charging of refrigerant, according to the length of pipe connected at the size.
 The correct amount of refrigerant to charge 'G' (kg) can be found by using the following formulas (If G<0: no addition is required).

1. Pair system

L1 (m) One way length of liquid pipe

RP200	$G = (L1-30) * 0.06$
RP250	$G = (L1-30) * 0.09$
RYP200	$G = (L1-30) * 0.10$
RYP250	$G = (L1-30) * 0.14$

2. Simultaneous operation system

L1 (m) One way length of main liquid pipe

L2-L7 (m) One way length of branched liquid pipes

RP200	$G = (L1-30) * 0.06 + L2*A + L3*A + L4*A + L5*A + L6*A + L7*A$
RP250	$G = (L1-30) * 0.09 + L2*A + L3*A + L4*A + L5*A + L6*A + L7*A$
RYP200	$G = (L1-30) * 0.10 + L2*A + L3*A + L4*A + L5*A + L6*A + L7*A$
RYP250	$G = (L1-30) * 0.14 + L2*A + L3*A + L4*A + L5*A + L6*A + L7*A$

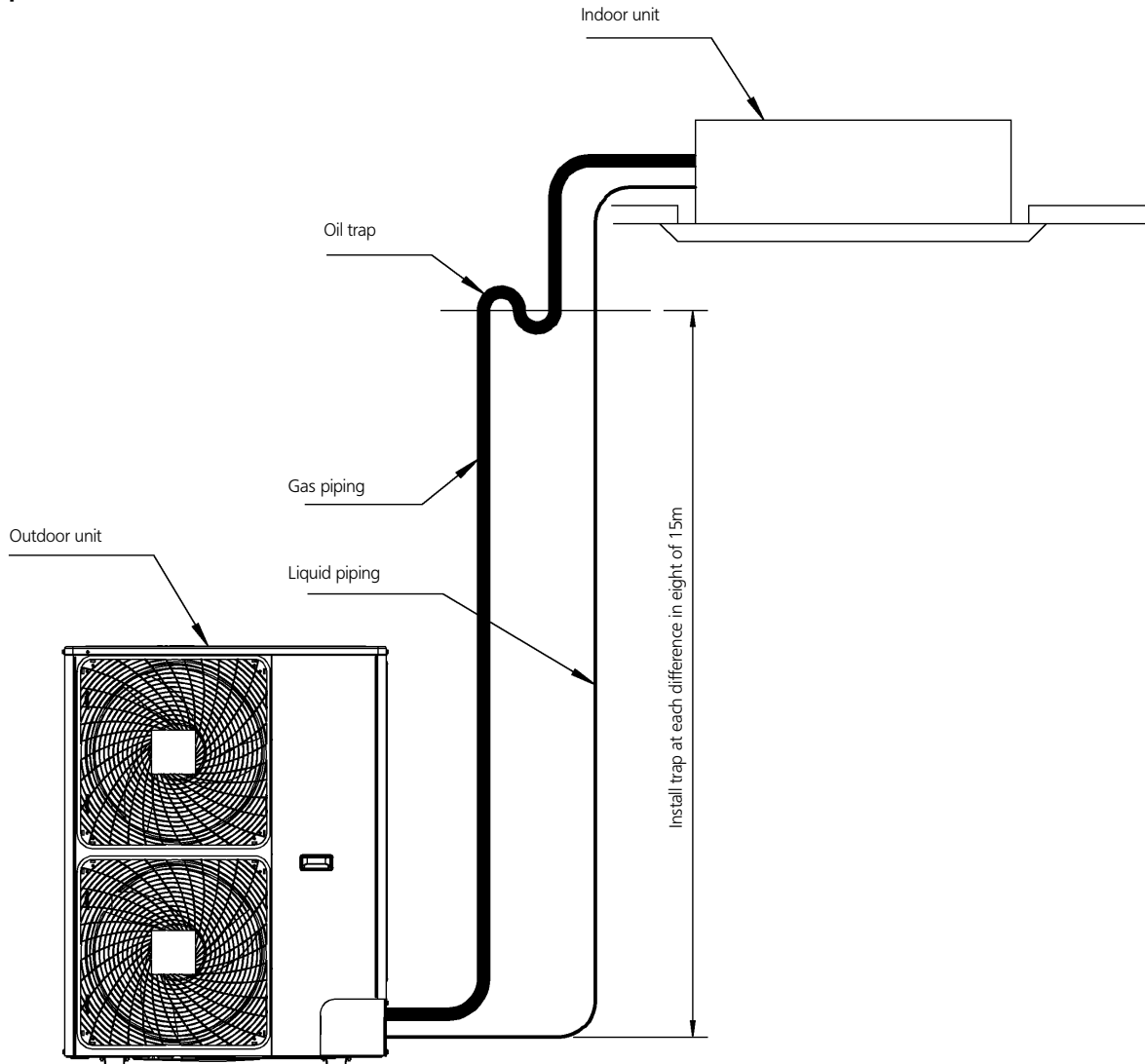
Outdoor unit	Branched pipe	A
RP200,250	φ 9.5	0.03 kg/m
RYP200,250	φ 6.4	0.03 kg/m
	φ 9.5	0.05 kg/m

13 Installation



13 RYP71-125L7

Oil trap



NOTE:

Since there is fear of the oil held inside the riser piping flowing back into the compressor when stopped and causing liquid compression phenomenon, or cases of deterioration of oil return, it will be necessary to provide a trap at an appropriate place in

A trap is not necessary when the outdoor unit is installed in a higher position than the indoor unit.

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