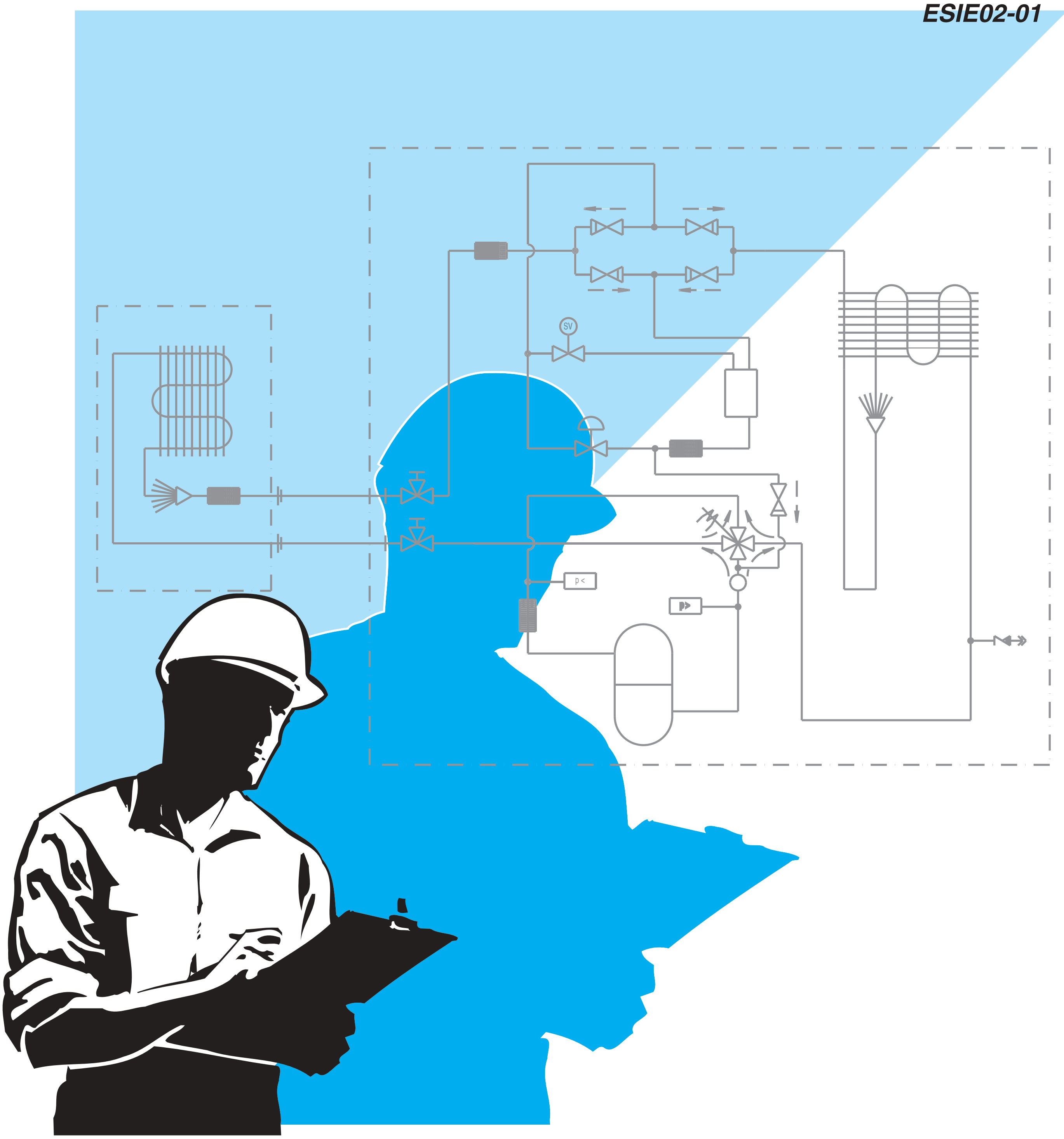
DAIKIN

ESIE02-01



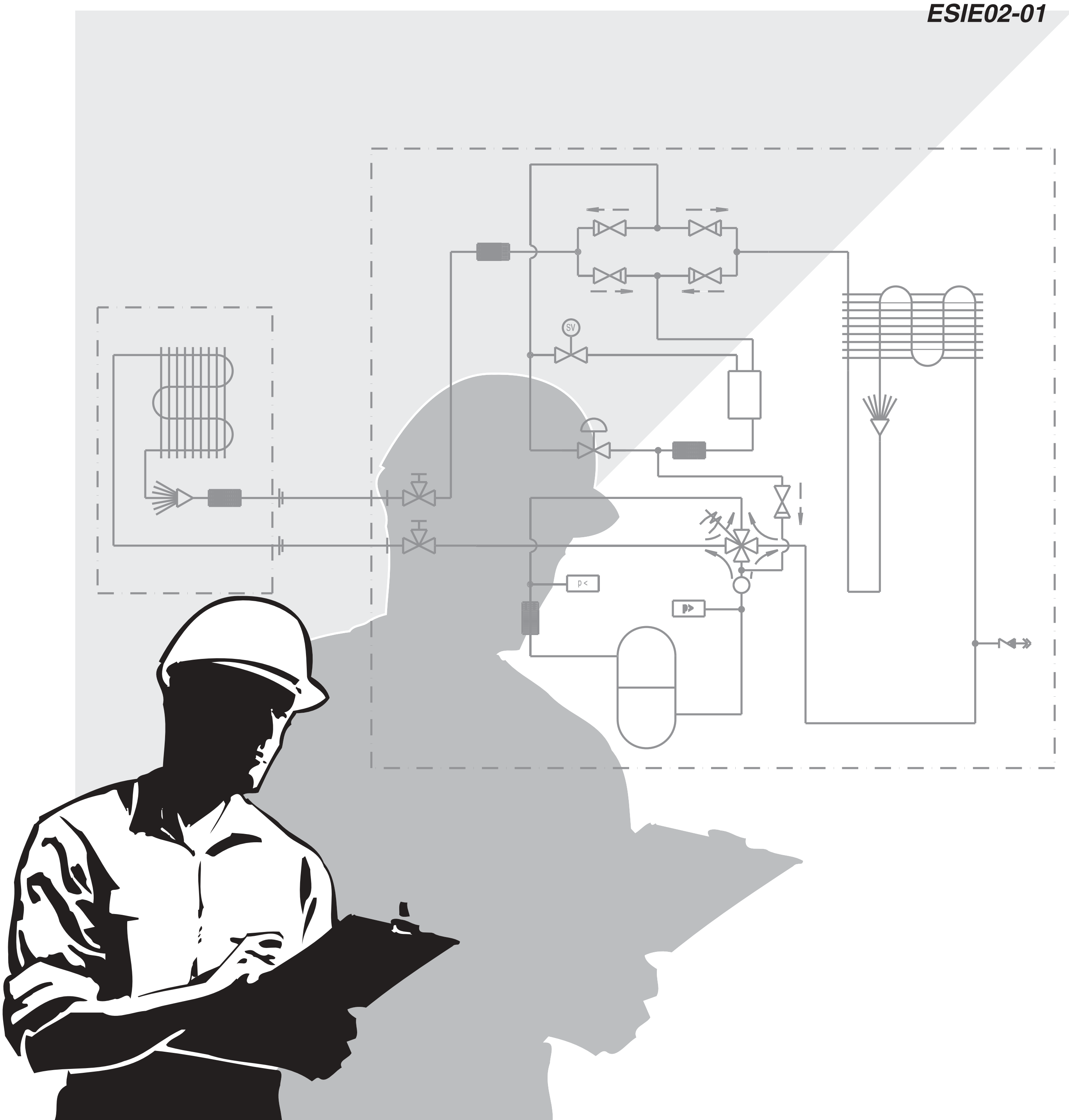
Service Manual

Sky Air R-407C

B-series

DAIKIN EUROPE N.V.

ESIE02-01



Service Manual
Sky Air R-407C
B-series

DAIKIN EUROPE N.V.

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1 Introduction

1.1 About This Manual

Target group

This service manual is intended for and should only be used by qualified engineers.

Purpose of this manual

This service manual contains all the information you need to do the necessary repair and maintenance tasks for the Sky Air B-series room air conditioners.

Five parts

This service manual consists of an introduction, five parts and an index:

Introduction overview

The introduction contains the following topics:

1.2 Combination Overview: Outdoor Units other than the Sky Air B-Series

Introduction

In the table in this section:

- The units in grey boxes are described in ESIE99–01.
- “(o.m.)” stands for old model. These are not described in this manual.
- “M” stands for multi combination.
- “P” stands for pair combination.
- “T” stands for twin, triple or double twin combination.

Combination table

The table below contains the possible combinations between Sky Air B-series indoor units and outdoor units other than the Sky Air B-series.

Outdoor unit \ Indoor unit			FHC35BZ7V1	FHC45BZ7V1	FHC60BZ7V1	FHYC35BZ7V1	FHYC45BZ7V1	FHYC71BZV1	FHYC100BZV1	FHYC125BZV1	FH35BZV1	FH45BZV1	FH60BZV1	FHK35BZV1	FHK45BZV1	FHK60BZV1
Split	Small c/o	R35E(A)Z7V11(o.m.) R35GZ7V11	P	—	—	—	—	—	—	—	P	—	—	P	—	—
		R45E(A)Z7V11/W11(o.m.) R45GZ7V11/W11	—	P	—	—	—	—	—	—	—	P	—	—	P	—
		R60GZ7W1	—	—	P	—	—	—	—	—	—	—	P	—	—	P
		MA56GZ7W11	M	M	—	—	—	—	—	—	M	M	—	M	M	—
		MA90GZ7W11	M	M	M	—	—	—	—	—	M	M	M	M	M	M
	Small h/p	RY35E(A)Z7V1	—	—	—	P	—	—	—	—	—	—	—	—	—	—
		RY45E(A)Z7V1	—	—	—	—	P	—	—	—	—	—	—	—	—	—
Sky Air G -series	Large c/o	R71GZV1/W1/T1	—	—	—	T	—	P	—	—	—	—	—	—	—	—
		R100GZ7V1/W1/T1	—	—	—	T	T	T	P	—	—	—	—	—	—	—
		R125GZ7W1/T1	—	—	—	T	T	T	—	P	—	—	—	—	—	—
	Large h/p	RY71GZ7V1/W1	—	—	—	T	—	—	—	—	—	—	—	—	—	—
		RY100GZ7V1/W1	—	—	—	T	T	—	—	—	—	—	—	—	—	—
		RY125GZ7W1	—	—	—	T	T	—	—	—	—	—	—	—	—	—

1.3 Combination Overview: Outdoor Units of the Sky Air B-Series

Introduction

In the tables in this section:

- "P" stands for pair combination.
- "T" stands for twin, triple or double twin combination.

FHYBP, FHYP and FDYP

The table below contains the possible combinations between indoor units (FHYBP, FHYP and FDYP) and outdoor units of the Sky Air B-series.

Outdoor unit \ Indoor unit		FHYBP35B7V1	FHYBP45B7V1	FHYBP60B7V1	FHYBP71B7V1	FHYBP100B7V1	FHYBP125B7V1	FHYP35BV1	FHYP45BV1	FHYP60BV1	FHYP71BV1	FHYP100BV1	FHYP125BV1	FDYP125B7V1	FDYP200B7V1	FDYP250B7V1
Large c/o	RP71B7V1/W1/T1	T	—	—	P	—	—	T	—	—	P	—	—	—	—	—
	RP100B7V1/W1/T1	T	T	T	T	P	—	T	T	T	T	P	—	—	—	—
	RP125B7W1/T1	T	T	T	T	—	P	T	T	T	T	—	P	P	—	—
	RP200B7W1	T	T	T	T	T	T	T	T	T	T	T	T	T	P	—
	RP250B7W1	—	T	T	T	T	T	—	T	T	T	T	T	T	—	P
Large h/p	RYP71B7V1/W1	T	—	—	P	—	—	T	—	—	P	—	—	—	—	—
	RYP100B7V1/W1	T	T	T	T	P	—	T	T	T	T	P	—	—	—	—
	RYP125B7W1	T	T	T	T	T	P	T	T	T	T	T	P	P	—	—
	RYP200B7W1	T	T	T	T	T	T	T	T	T	T	T	T	T	P	—
	RYP250B7W1	—	T	T	T	T	T	—	T	T	T	T	T	T	—	P

FHYCP, FUYP, FAYP and FHYKP

The table below contains the possible combinations between indoor units (FHYCP, FUYP, FAYP and FHYKP) and outdoor units of the Sky Air B-series.

Outdoor unit \ Indoor unit		FHYCP35B7V1	FHYCP45B7V1	FHYCP60B7V1	FHYCP71B7V1	FHYCP100B7V1	FHYCP125B7V1	FUYP71BV17	FUYP100BV17	FUYP125BV17	FAYP71BV1	FAYP100BV1	FHYKP35BV1	FHYKP45BV1	FHYKP60BV1	FHYKP71BV1
Large c/o	RP71B7V1/W1/T1	T	—	—	P	—	—	P	—	—	P	—	T	—	—	P
	RP100B7V1/W1/T1	T	T	T	T	P	—	T	P	—	T	P	T	T	T	T
	RP125B7W1/T1	T	T	T	T	—	P	T	—	P	T	—	T	T	T	T
	RP200B7W1	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	RP250B7W1	—	T	T	T	T	T	T	T	T	T	T	T	T	T	T
Large h/p	RYP71B7V1/W1	T	—	—	P	—	—	P	—	—	P	—	T	—	—	P
	RYP100B7V1/W1	T	T	T	T	P	—	T	P	—	T	P	T	T	T	T
	RYP125B7W1	T	T	T	T	T	P	T	T	P	T	T	T	T	T	T
	RYP200B7W1	T	T	T	T	T	T	T	T	T	T	T	T	T	T	T
	RYP250B7W1	—	T	T	T	T	T	T	T	T	T	T	—	T	T	T

Part 1
System Outline

What is in this part?

This part contains the following chapters:

1 General Outline: Outdoor Units

1.1 What Is in This Chapter?

Introduction

This chapter contains the following information on the outdoor units:

- Outlook and dimensions
- Installation and service space
- Components.

General outline

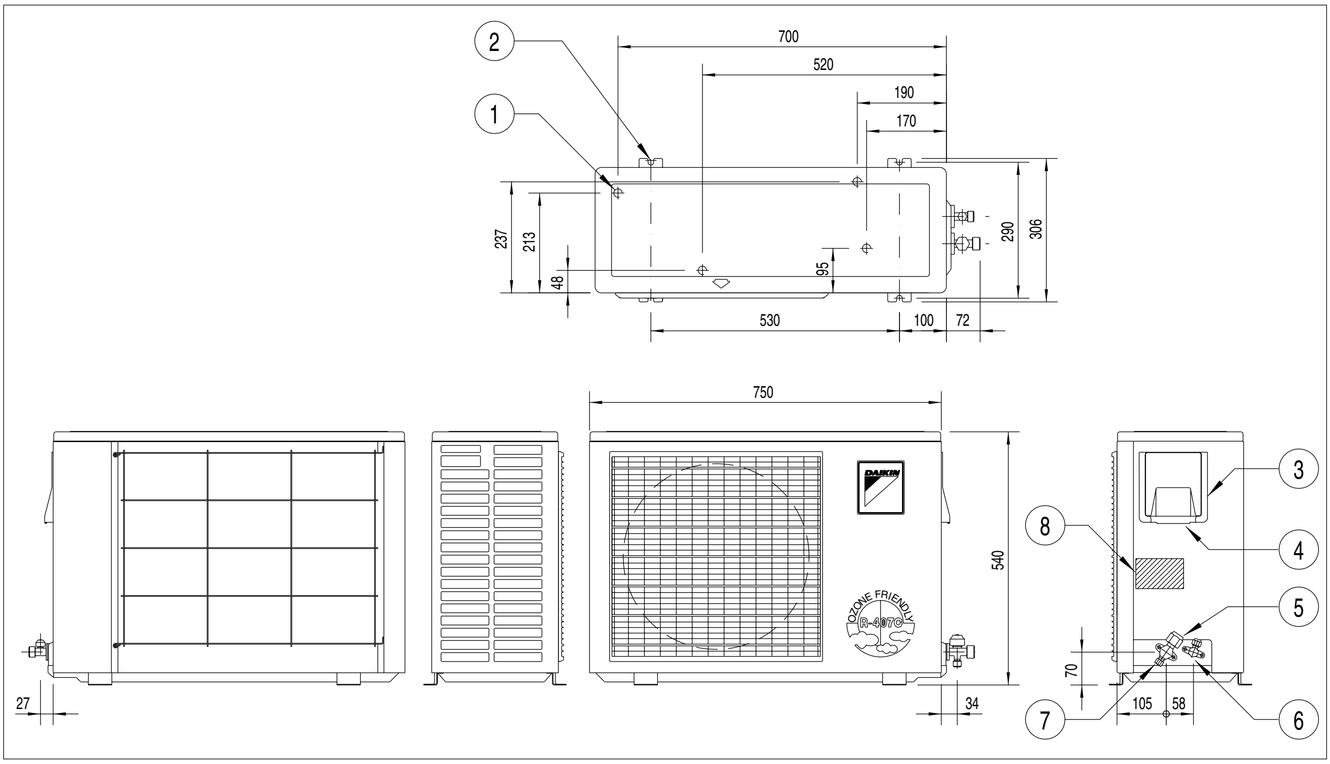
This chapter contains the following general outlines:

1

1.2 R35GZ7V11, R45GZ7V11 and R45GZ7W11

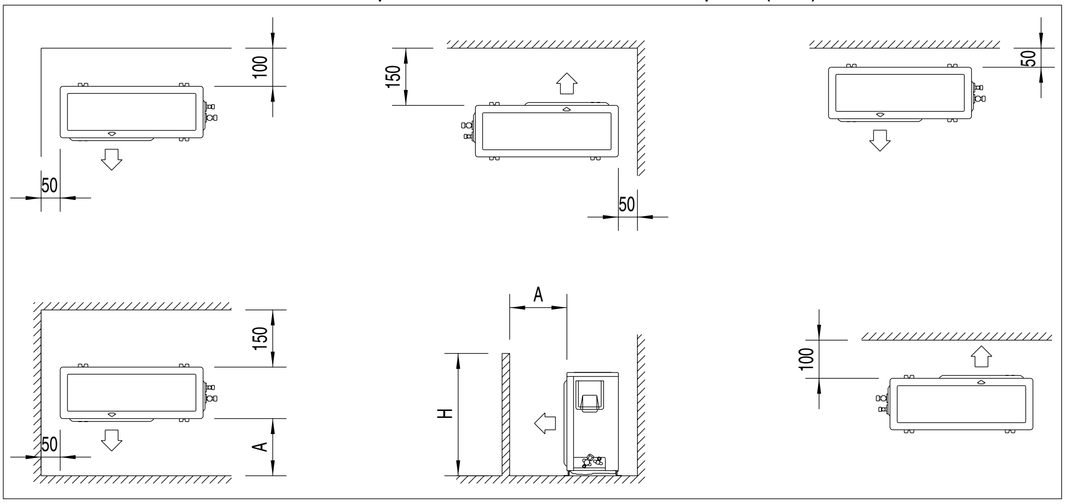
Outlook and dimensions

The illustration below shows the outlook and the dimensions of the unit (mm).



Installation and service space

The illustration below shows the required installation and service space (mm).



H	A
≤ 1000	≥ 250
> 1000	≥ 500

Components

The table below contains the different components of the unit.

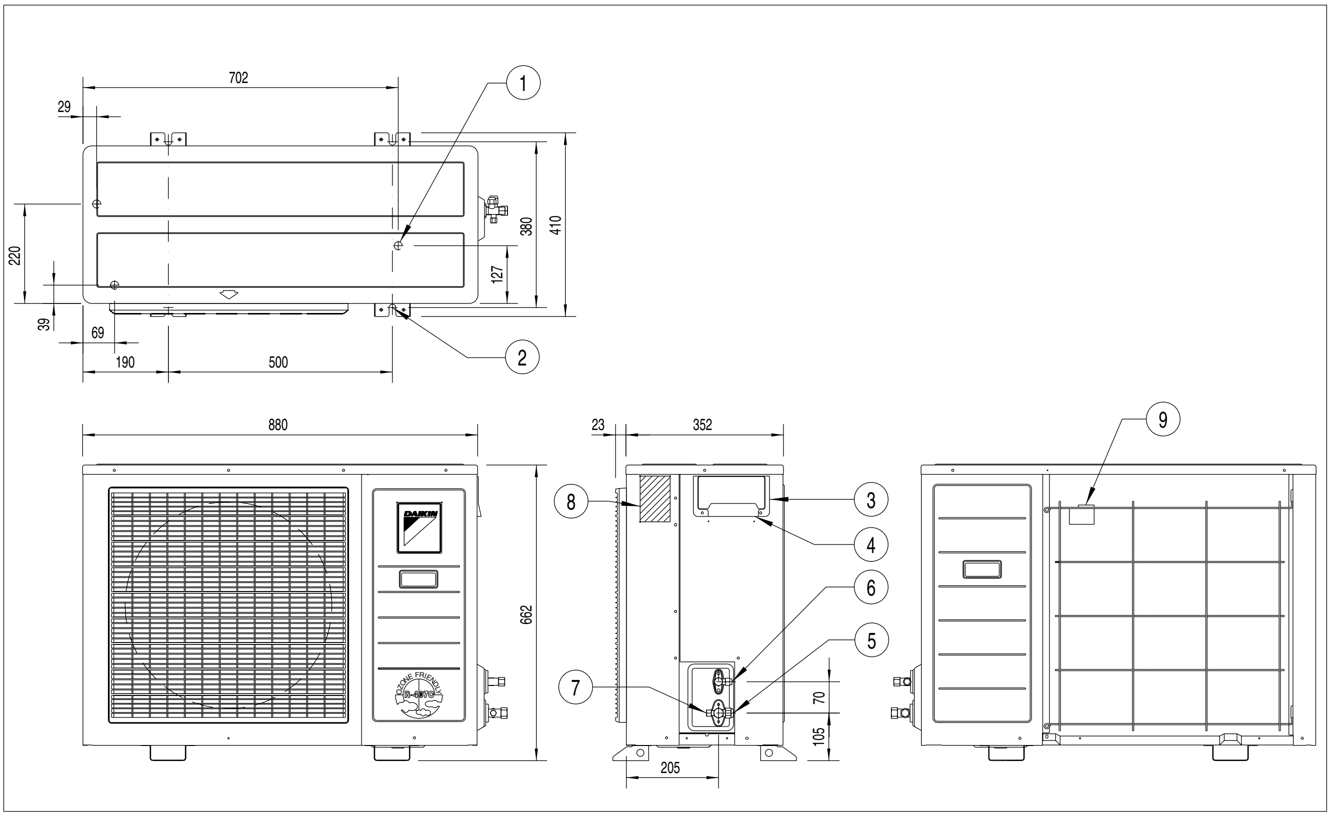
No.	Component
1	4 x drain outlet
2	4 x hole for anchor bolt (M8 or M10)
3	Service cover + wiring diagram
4	Power intake
5	Gas stop valve
6	Liquid stop valve
7	Service port
8	Name plate

1

1.3 RY35EAZ7V1 and RY45EAZ7V1

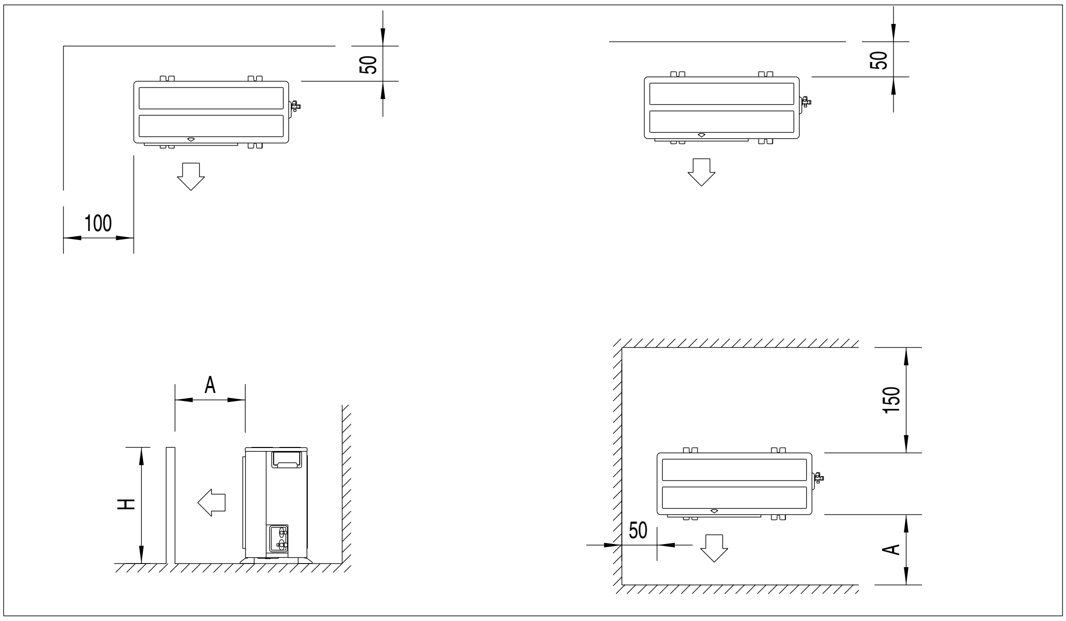
Outlook and dimensions

The illustration below shows the outlook and the dimensions of the unit (mm).



Installation and service space

The illustration below shows the required installation and service space (mm).



H	A
≤ 1000	300
> 1000	600

Components

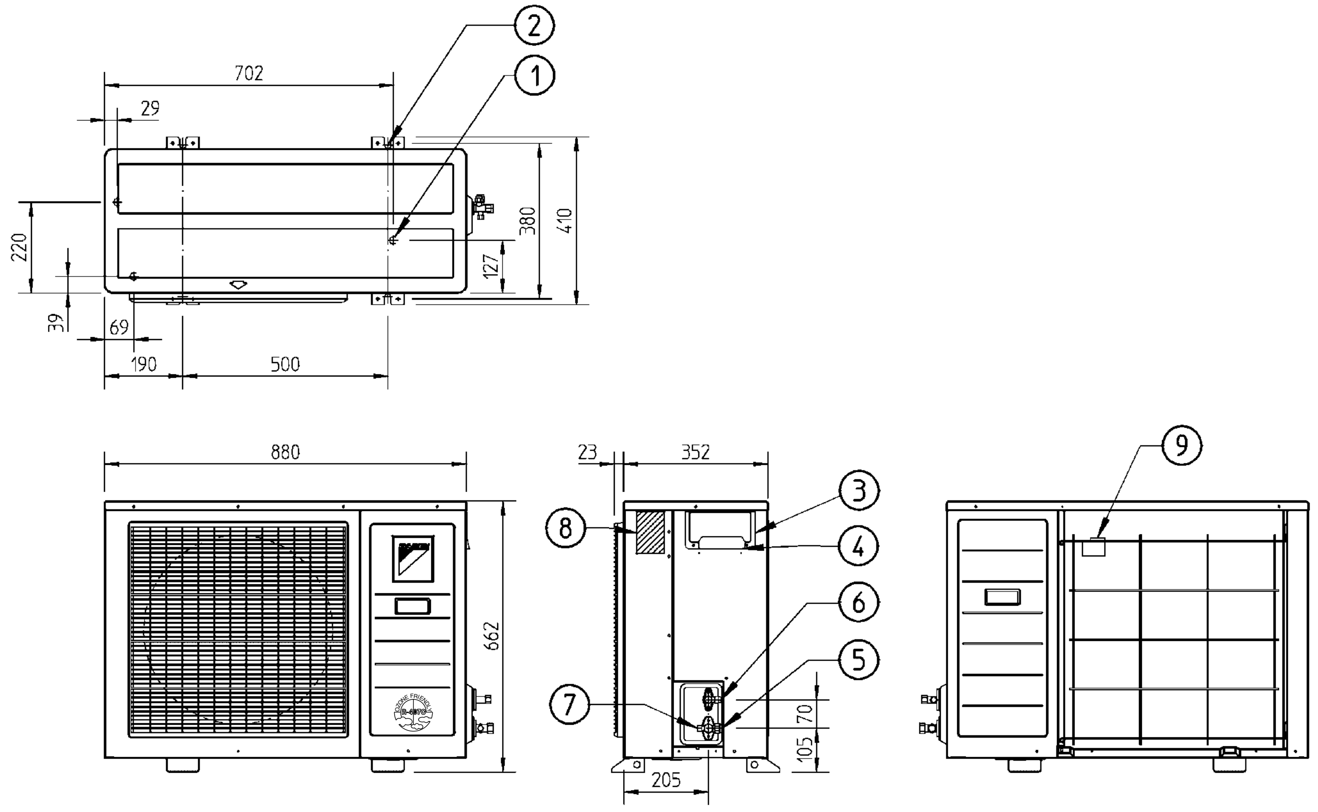
The table below contains the different components of the unit.

No.	Component
1	3 x drain outlet
2	4 x hole for anchor bolt (M10)
3	Service cover
4	Power supply intake
5	Gas stop valve
6	Liquid stop valve
7	Service port
8	Name plate
9	Outdoor air thermostat

1.4 R60GZ7W1

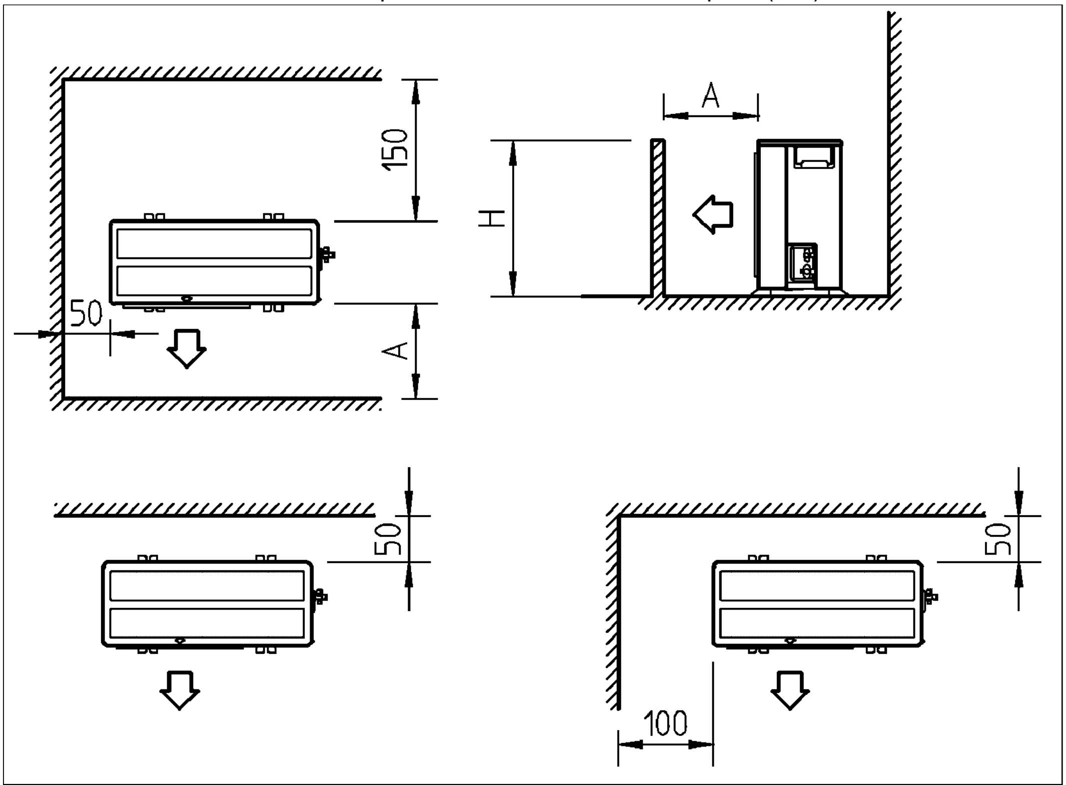
Outlook and dimensions

The illustration below shows the outlook and the dimensions of the unit (mm).



Installation and service space

The illustration below shows the required installation and service space (mm).



H	A
< 1000 mm	350 mm
> 1000 mm	600 mm

Components

The table below contains the different components of the unit.

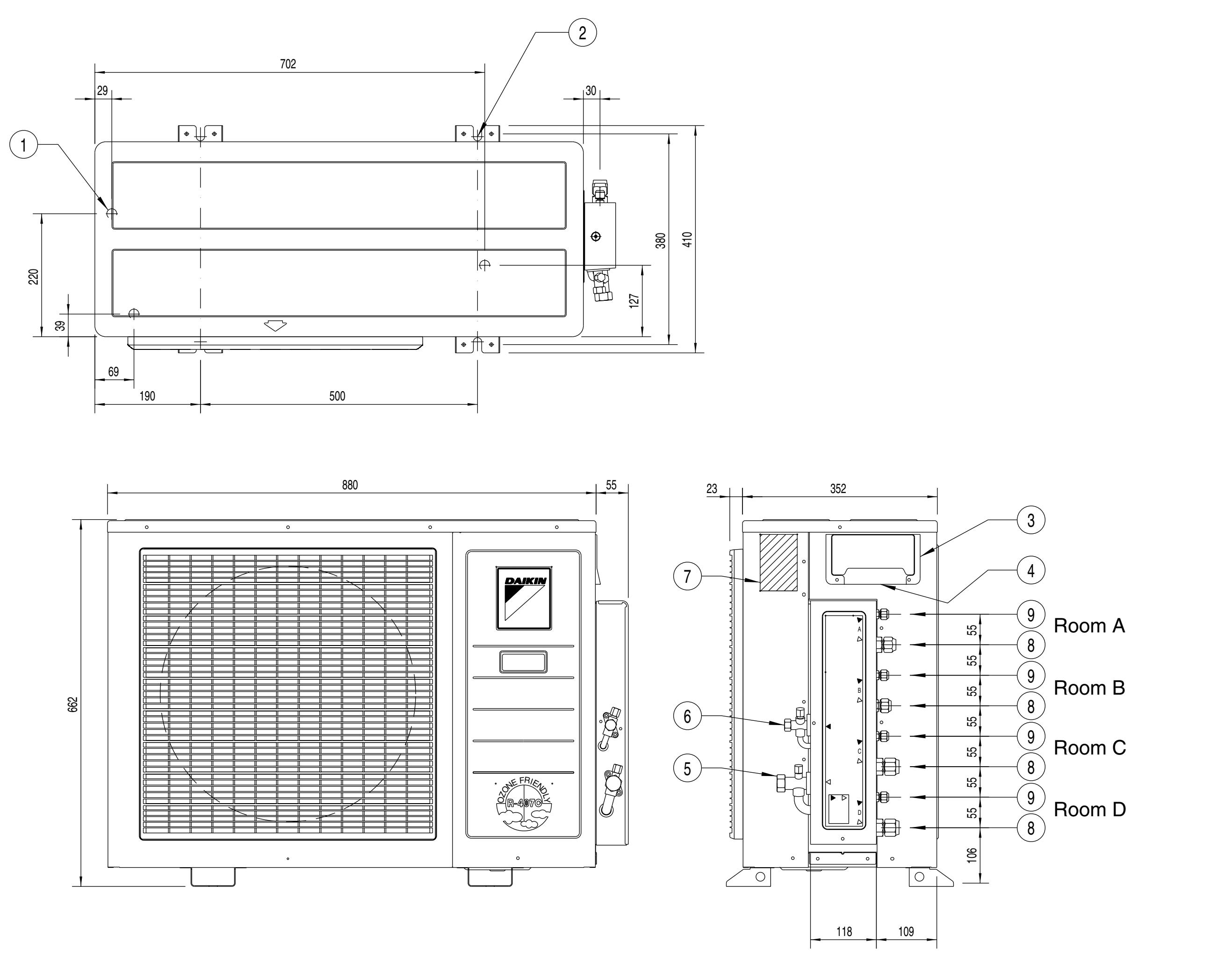
No.	Component
1	3 x drain outlet
2	4 x hole for anchor bolt (M10)
3	Service cover
4	Power intake
5	Gas stop valve
6	Liquid stop valve
7	Service port
8	Name plate
9	Outdoor air thermostat

1

1.5 MA56GZ7W11

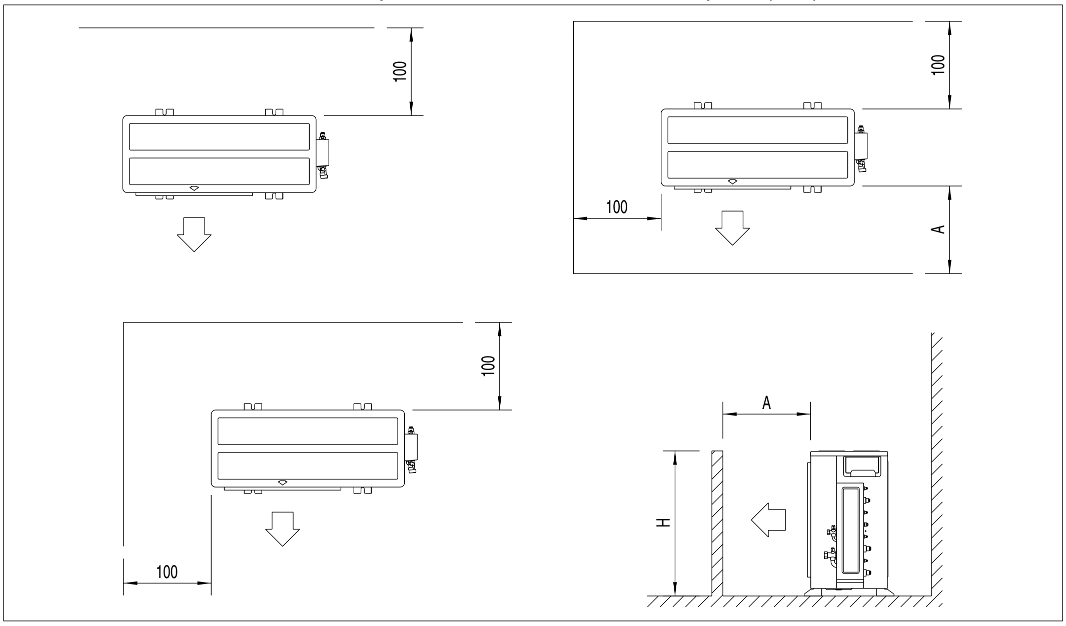
Outlook and dimensions

The illustration below shows the outlook and the dimensions of the unit (mm).



Installation and service space

The illustration below shows the required installation and service space (mm).



H	A
≤ 1000	350
> 1000	600

Components

The table below contains the different components of the unit.

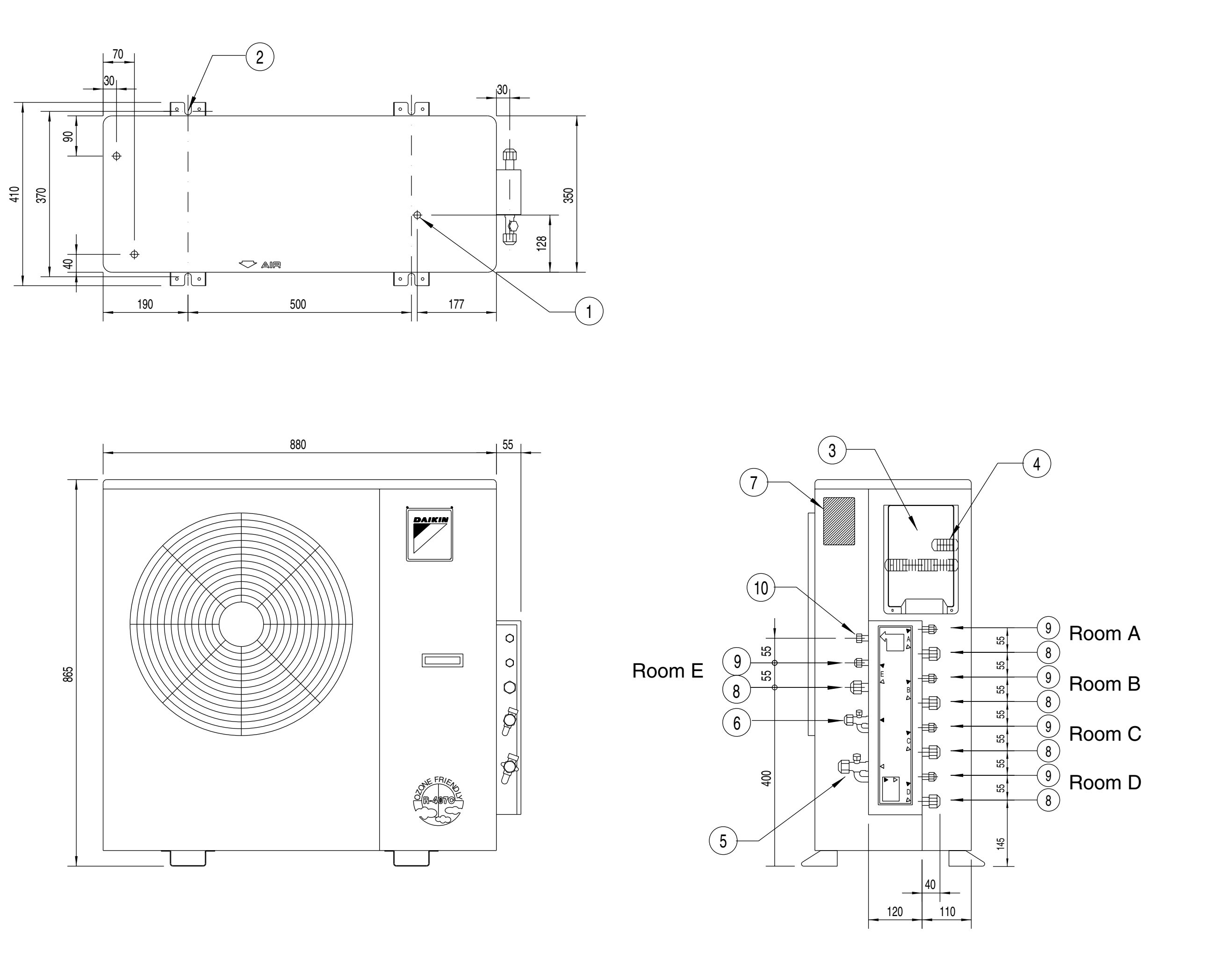
No.	Component
1	3 x drain outlet
2	4 x hole for anchor bolt (M10)
3	Service cover
4	Power intake
5	Gas stop valve with service port
6	Liquid stop valve with service port
7	Name plate
8	Gas pipe connection
9	Liquid pipe connection

1

1.6 MA90GZ7W11

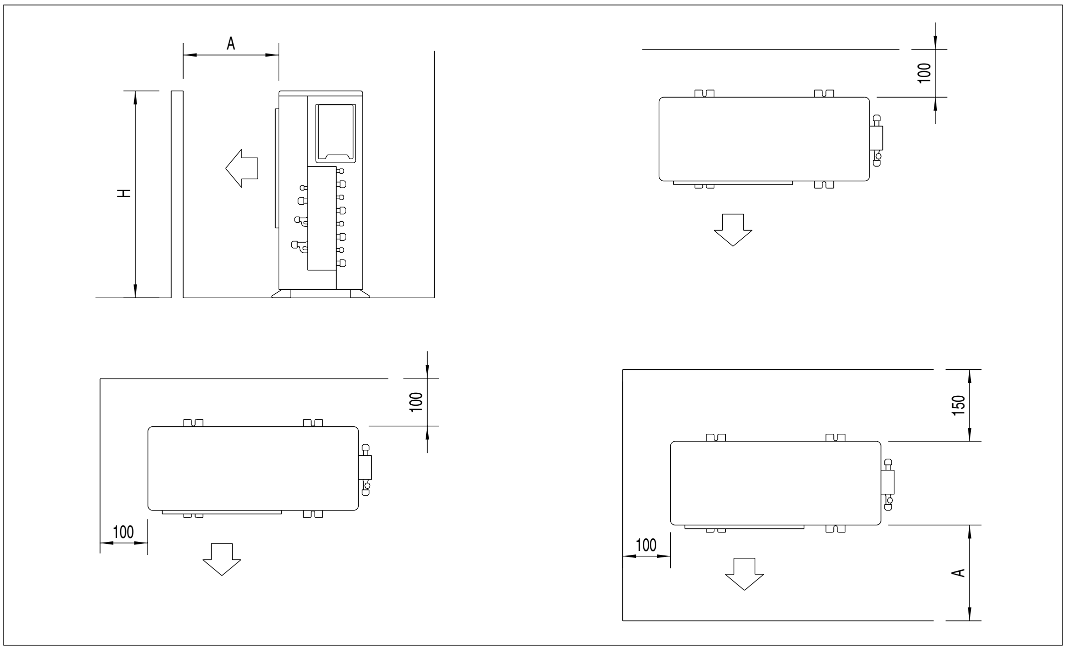
Outlook and dimensions

The illustration below shows the outlook and the dimensions of the unit (mm).



Installation and service space

The illustration below shows the required installation and service space (mm).



H	A
≤ 1000	350
> 1000	600

Components

The table below contains the different components of the unit.

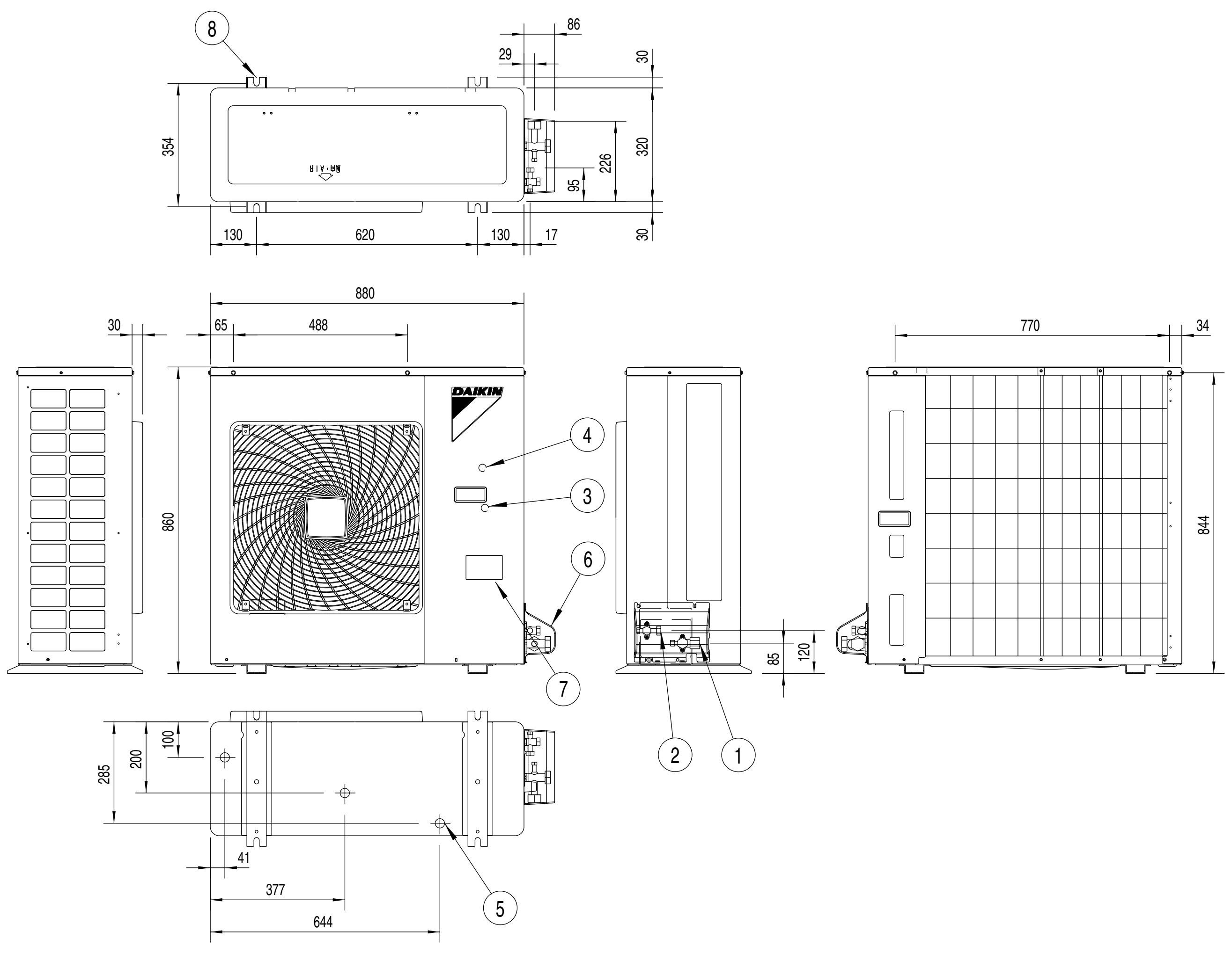
No.	Component
1	3 x drain outlet
2	4 x hole for anchor bolt (M8 or M10)
3	Terminal cover
4	Grounding terminal
5	Gas stop valve with service port
6	Liquid stop valve with service port
7	Name plate
8	Gas pipe connection
9	Liquid pipe connection
10	Service port

1

1.7 RP71B7V1, RP71B7W1, RP71B7T1, RYP71B7V1 and RYP71B7W1

Outlook and dimensions

The illustration below shows the outlook and the dimensions of the unit (mm).



Installation and service space

See page 1–22.

Components

The table below contains the different components of the unit.

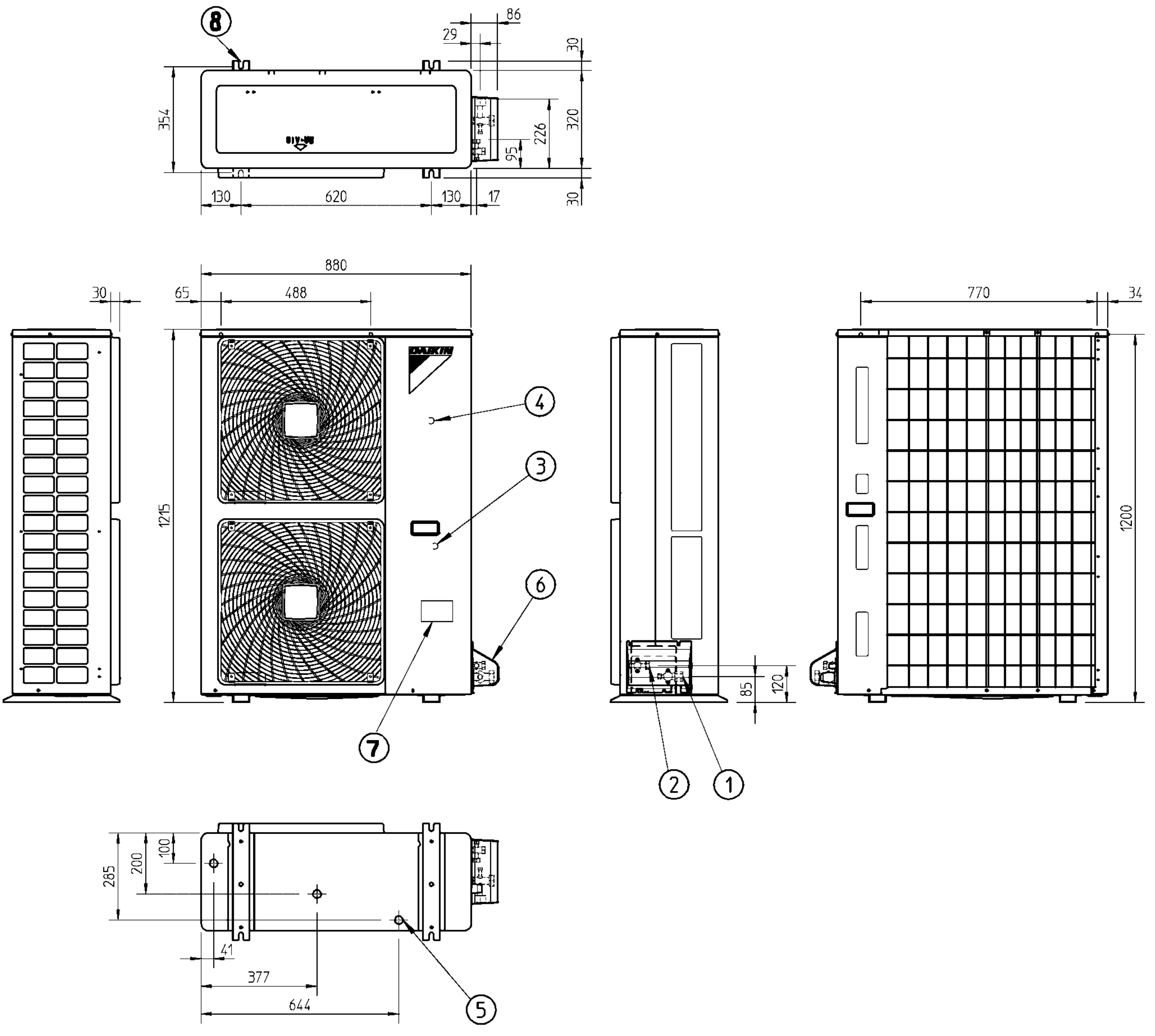
No.	Component
1	Gas pipe connection
2	Liquid pipe connection
3	Service port (inside the unit)
4	Grounding terminal M5 (inside the switch box)
5	3 x drain outlet
6	Stop valve cover
7	Name plate
8	4 x hole for anchor bolt (M12)

1

1.8 RP100B7V1, RP100B7W1, RP100B7T1, RP125B7W1, RP125B7T1, RYP100B7V1, RYP100B7W1 and RYP125B7W1

Outlook and dimensions

The illustration below shows the outlook and the dimensions of the unit (mm).



Installation and service space

See page 1–22.

Components

The table below contains the different components of the unit.

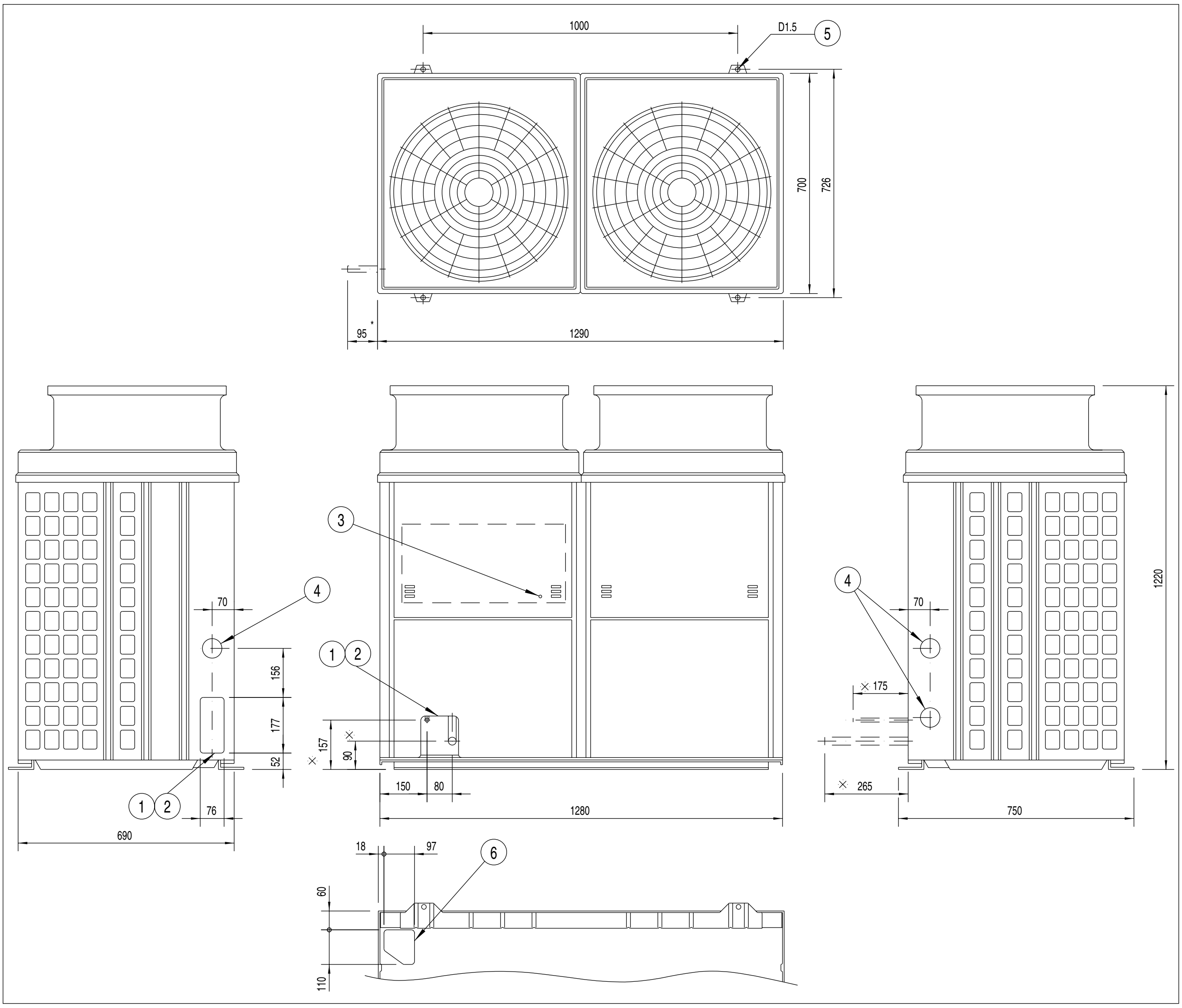
No.	Component
1	Gas pipe connection
2	Liquid pipe connection
3	Service port (inside the unit)
4	Grounding terminal M5 (inside the unit)
5	Drain outlet
6	Stop valve cover
7	Name plate
8	4 x hole for anchor bolt (M12)

1

1.9 RP200B7W1 and RYP200B7W1

Outlook and dimensions

The illustration below shows the outlook and the dimensions of the unit (mm).



Dimensions marked with x show distances after fixing the connection pipes.

Installation and service space

See page 1–24.

Components

The table below contains the different components of the unit.

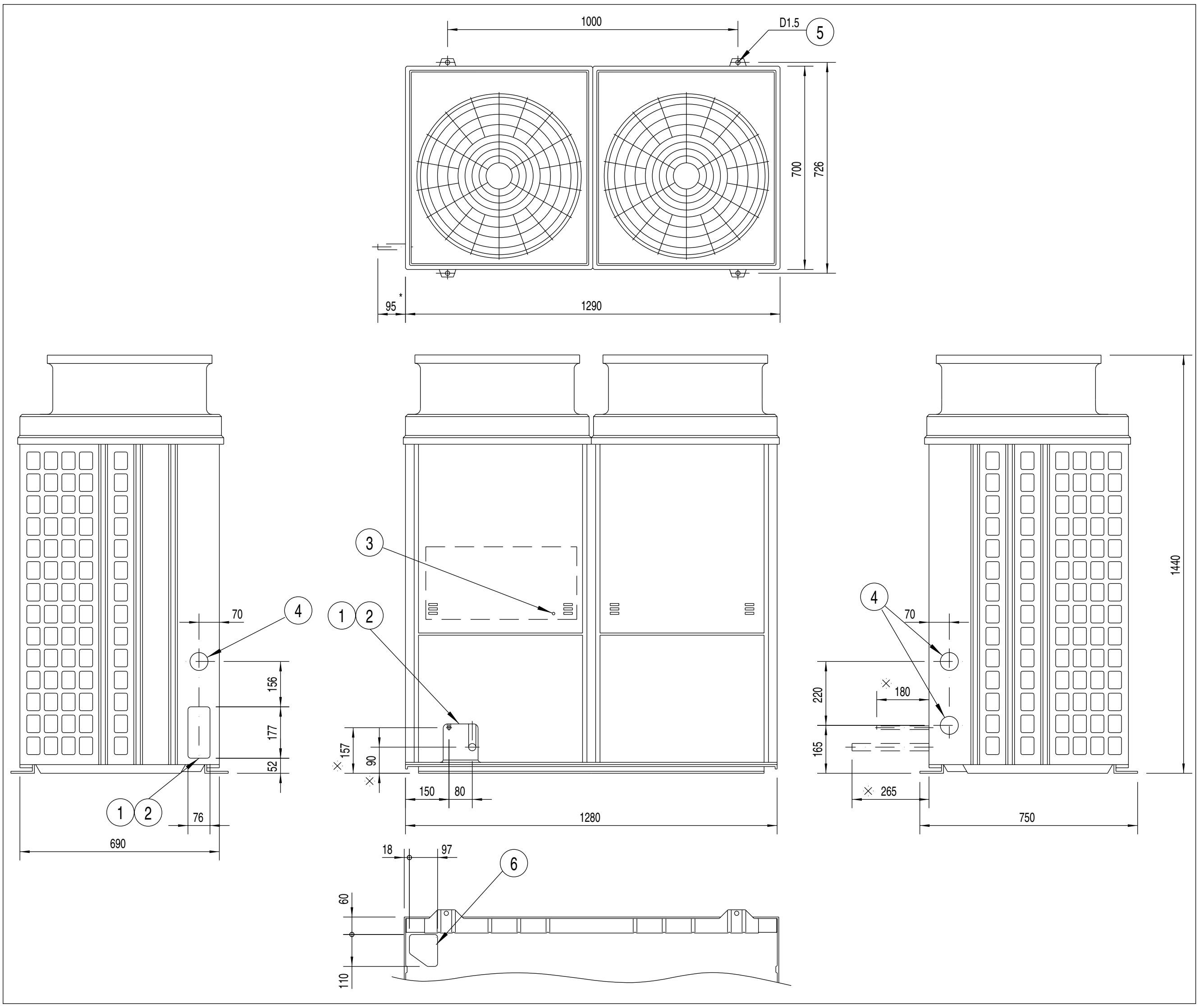
No.	Component
1	Liquid pipe connection
2	Gas pipe connection
3	Grounding terminal
4	Power supply intake
5	4 x foundation hole
6	Knock hole for lower piping

1

1.10 RP250B7W1 and RYP250B7W1

Outlook and dimensions

The illustration below shows the outlook and the dimensions of the unit (mm).



Dimensions marked with x show distances after fixing the connection pipes.

Installation and service space

See page 1–24.

Components

The table below contains the different components of the unit.

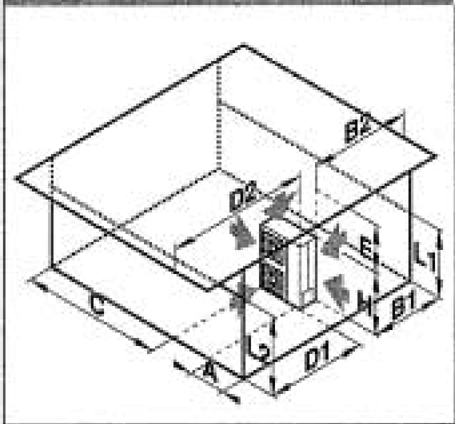
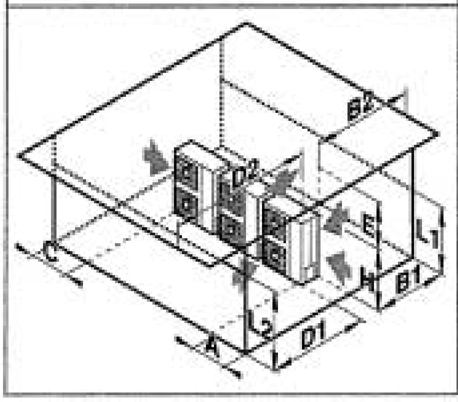
No.	Component
1	Liquid pipe connection
2	Gas pipe connection
3	Grounding terminal
4	Power supply intake
5	4 x foundation hole
6	Knock hole for lower piping

1

1.11 RP71B7V1, RP71B7W1, RP71B7T1, RYP71B7V1, RYP71B7W1, RP100B7V1, RP100B7W1, RP100B7T1, RP125B7W1, RP125B7T1, RYP100B7V1, RYP100B7W1 and RYP125B7W1: Installation and Service Space

Non stacked

The illustrations and table below show the required installation and service space (mm). The values in brackets are for the 100 and 125 class.

								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≤½H
												≥1000			½H<L1
							H<L1	L≤H							
						L2≤L1	L2≥H		≥50(100)			≥500	≤500	≥1000	0<L2≤½H
									≥100(200)						½H<L2
							H<L2	L≤H							
	✓		✓	✓				≥200	≥200(300)		≥1000				
	✓		✓	✓	✓			≥200	≥200(300)		≥1000		≤500	≥1000	
		✓										≥1000			
		✓			✓					≤500		≥1000		≥1000	
	✓	✓				L1≤L2			≥200(300)			≥1000			
						L2≤L1			≥150(250)			≥1000			0<L≤½H
									≥200(300)						½H<L
	✓	✓			✓	L1≤L2	L1≤H		≥200(300)	≤500		≥1000		≥1000	0<L1≤½H
												≥1250			½H<L1
							H<L1	L≤H							
						L2≤L1	L2≥H		≥150(250)			≥1000	≤500	≥1000	0<L2≤½H
									≥200(300)						½H<L2
							H<L2	L≤H							

Suction side obstacle

Discharge side obstacle

Left side obstacle

Right side obstacle

Top side obstacle

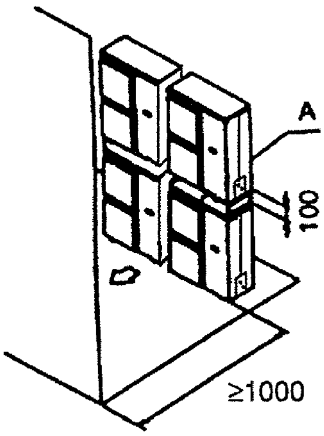
✓ Obstacle is present

Stacked

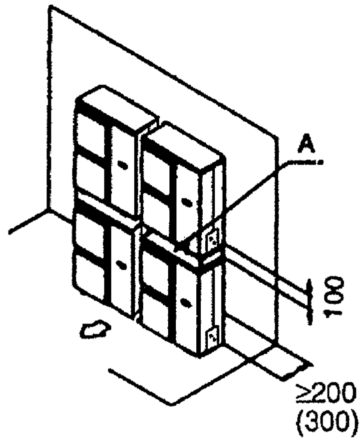
The illustration below shows the required installation and service space (mm). The values in brackets are for the 100 and 125 class.

- Do not stack more than one unit.
- ± 1000 mm is required for the drain pipe.
- Seal A in order to prevent outlet air from bypassing.

With obstacles in front of the air outlet side



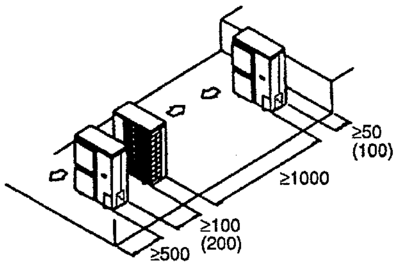
With obstacles in front of the air inlet side



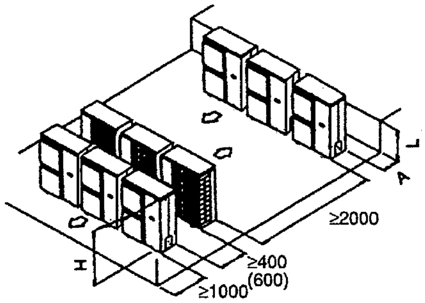
Multiple rows

The illustration below shows the required installation and service space (mm). The values in brackets are for the 100 and 125 class.

One unit per row



Multiple units per row



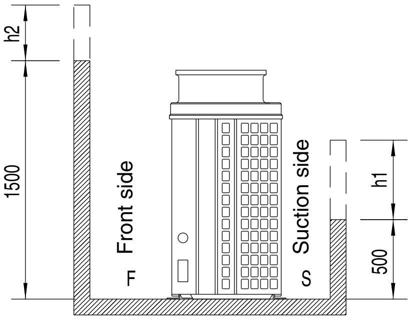
	L	A
L≤H	0<L≤1/2H	150 (250)
	1/2H < L	200 (300)
H < L	Installation impossible	

1

1.12 RP200B7W1, RP250B7W1, RYP200B7W1 and RYP250B7W1: Installation and Service Space

Wall height

The illustration below shows the wall height limits (mm).

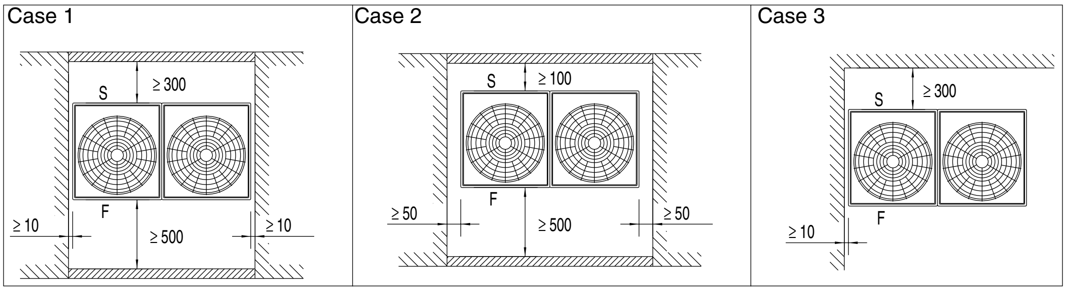


In case 1 or 2:

If...	Then...
Frontal wall height > 1500 mm	Add h2/2 to the values mentioned in this section.
Suction wall height > 500 mm	Add h1/2 to the values mentioned in this section.

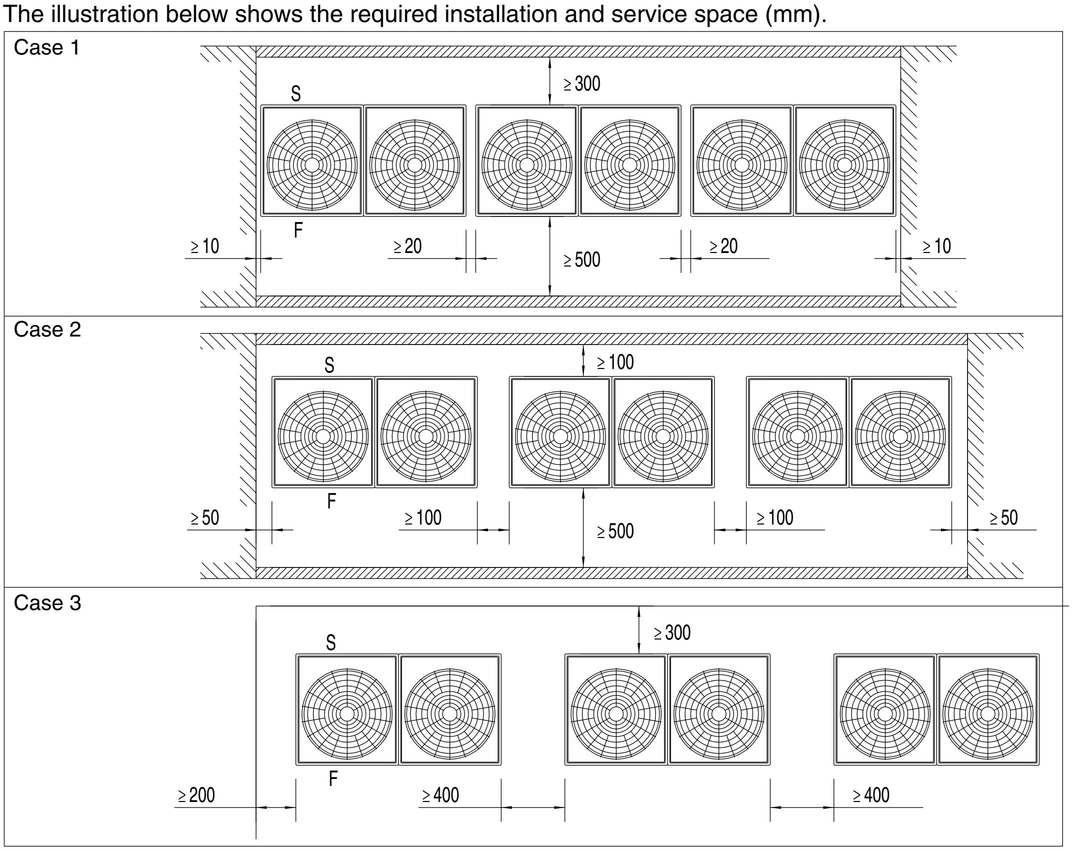
Single installation

The illustration below shows the required installation and service space (mm).



Installation in row

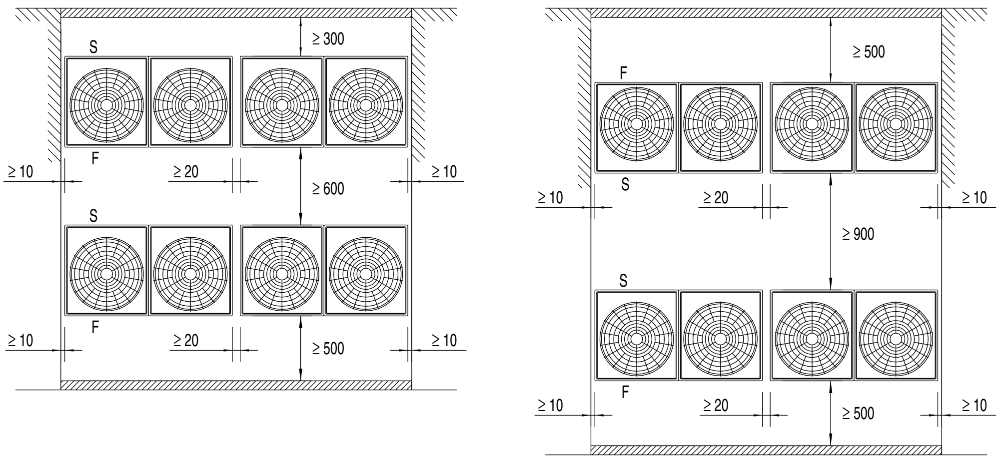
The illustration below shows the required installation and service space (mm).



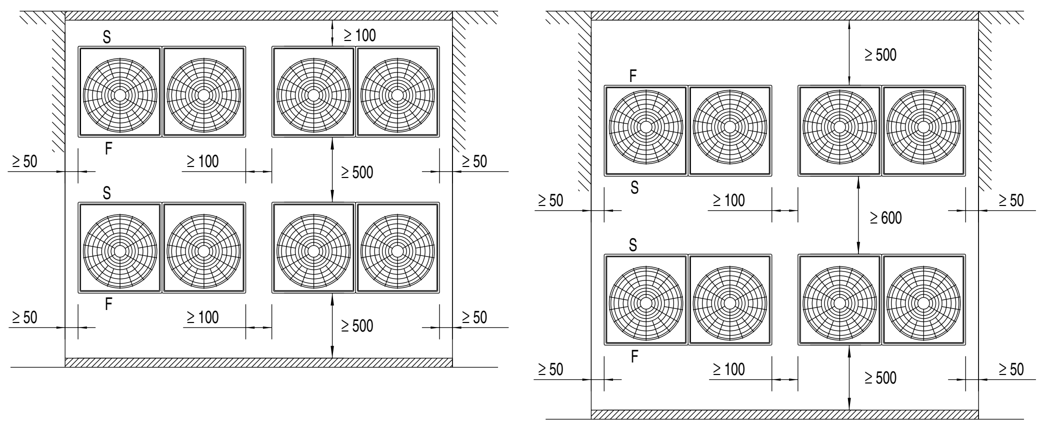
Concentrated installation

The illustration below shows the required installation and service space (mm).

Case 1



Case 2



Air short circuit

If there are multiple units installed, make sure there is no short circuit of air.

2 General Outline: Indoor Units

2.1 What Is in This Chapter?

Introduction

This chapter contains the following information on the indoor units:

- Outlook and dimensions
- Installation and service space
- Components.

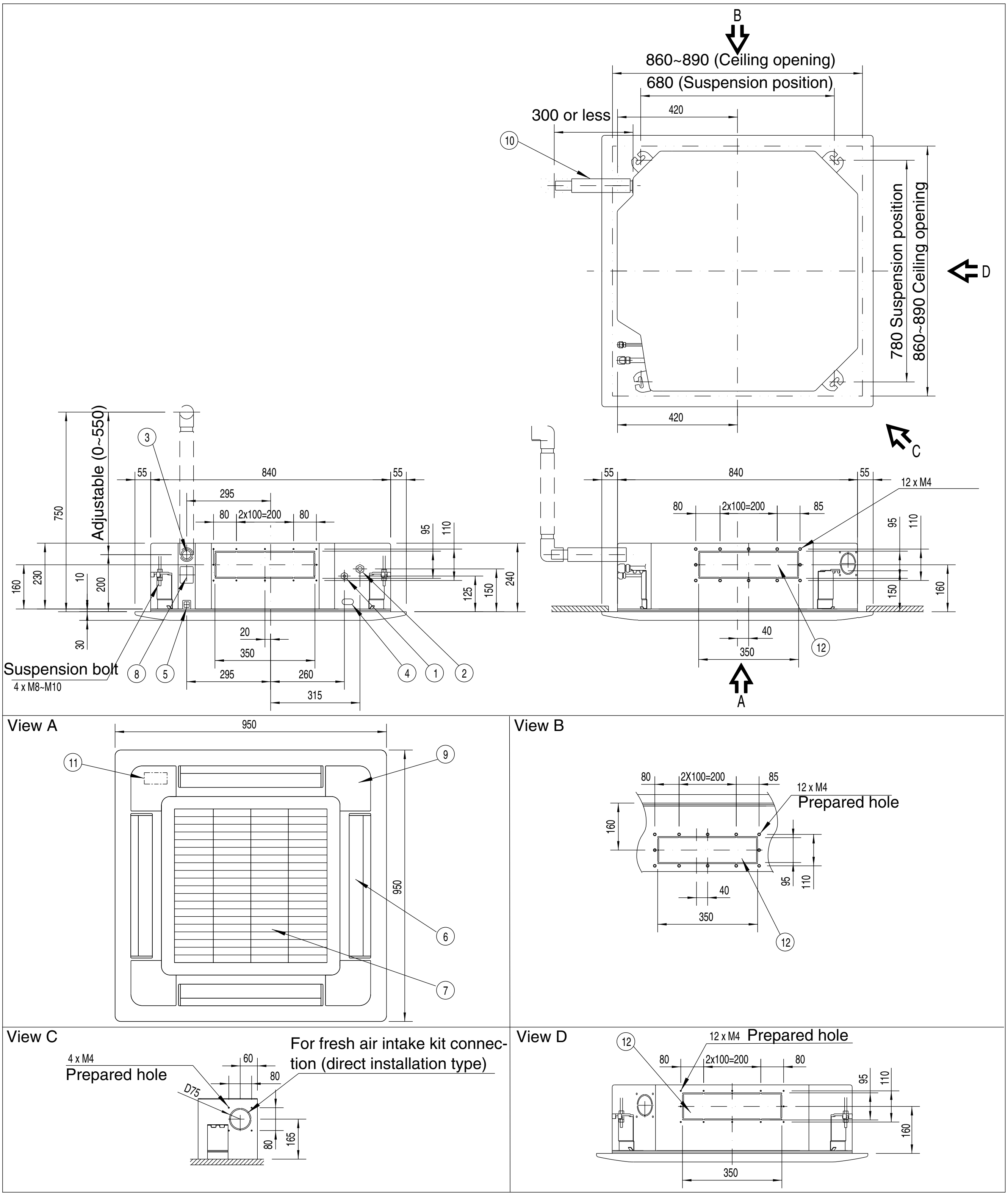
General outline

This chapter contains the following general outlines:

2.2 FHC35BZ7V1, FHC45BZ7V1, FHC60BZ7V1, FHYC35BZ7V1, FHYC45BZ7V1, FHYCP35B7V1, FHYCP45B7V1, FHYCP60B7V1 and FHYCP71B7V1

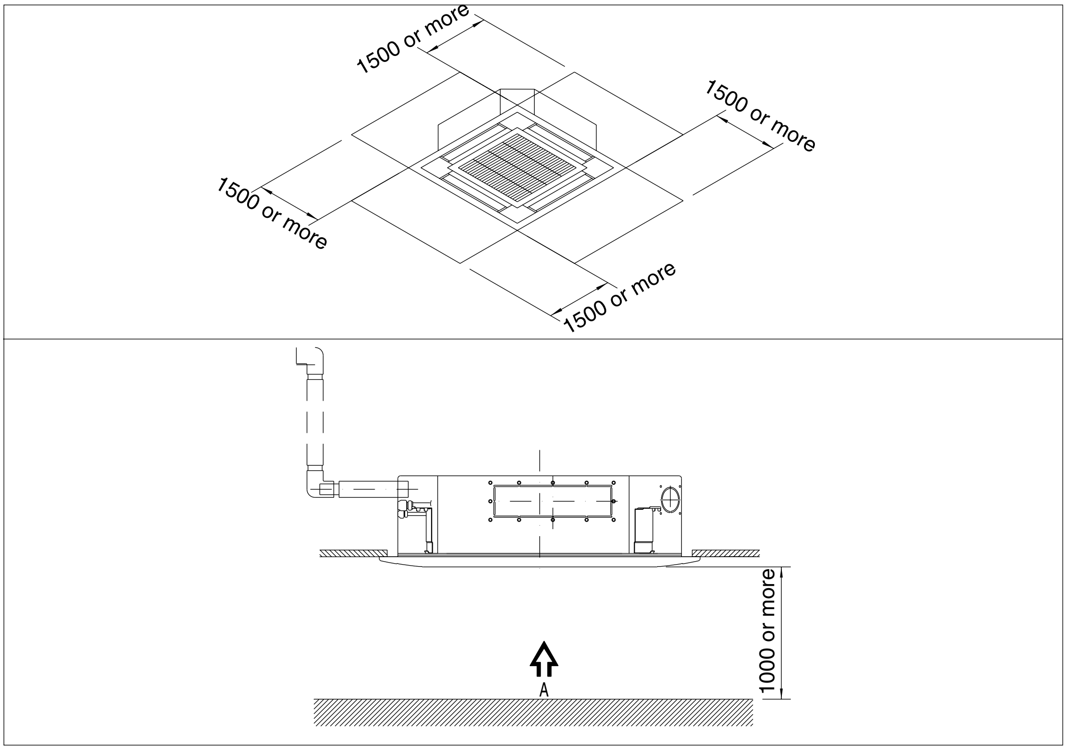
Outlook and dimensions

The illustration below shows the outlook and the dimensions of the unit (mm).



Installation and service space

The illustration below shows the required installation and service space. When a discharge grille is closed (e.g. 3-way blow application), the required space is 200 mm or more (mm).



Components

The table below contains the different components of the unit.

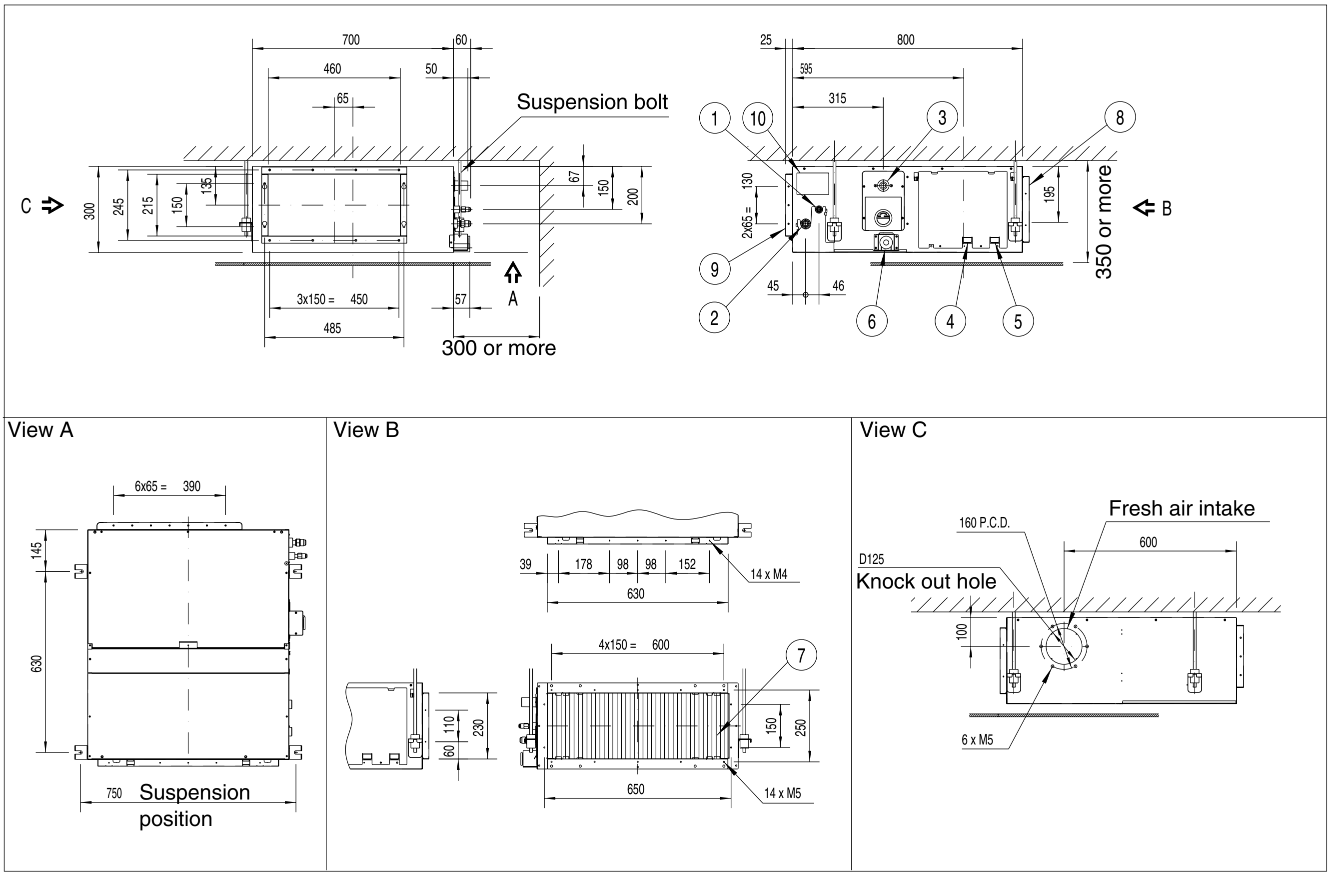
No.	Component
1	Liquid pipe connection
2	Gas pipe connection
3	Drain pipe connection
4	Power supply connection
5	Transmission wiring connection
6	Air discharge grille
7	Air suction grille
8	Water supply intake
9	Corner decoration cover
10	Drain hose
11	In case an infrared remote control is used, this position is a signal receiver.
12	Branch duct connection

1

2.3 FHYBP35B7V1 and FHYBP45B7V1

Outlook, dimensions and installation and service space

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



Components

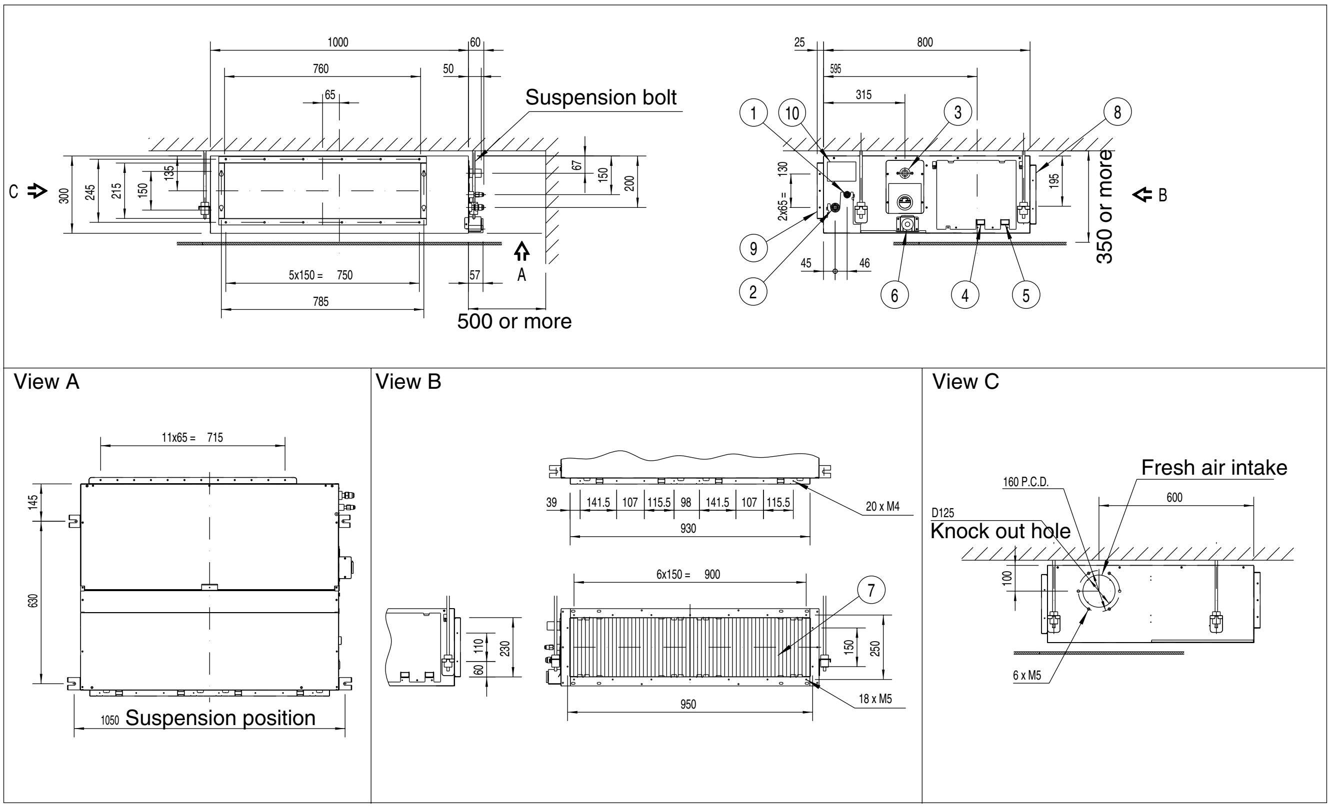
The table below contains the different components of the unit.

No.	Component
1	Liquid pipe connection
2	Gas pipe connection
3	Drain pipe connection (O.D. 32 mm, I.D. 25 mm)
4	Remote control wiring connection
5	Power supply connection
6	Drain hole (O.D. 32 mm, I.D. 25 mm)
7	Air filter
8	Air suction side
9	Air discharge side
10	Name plate

2.4 FHYBP60B7V1 and FHYBP71B7V1

Outlook, dimensions and installation and service space

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



Components

The table below contains the different components of the unit.

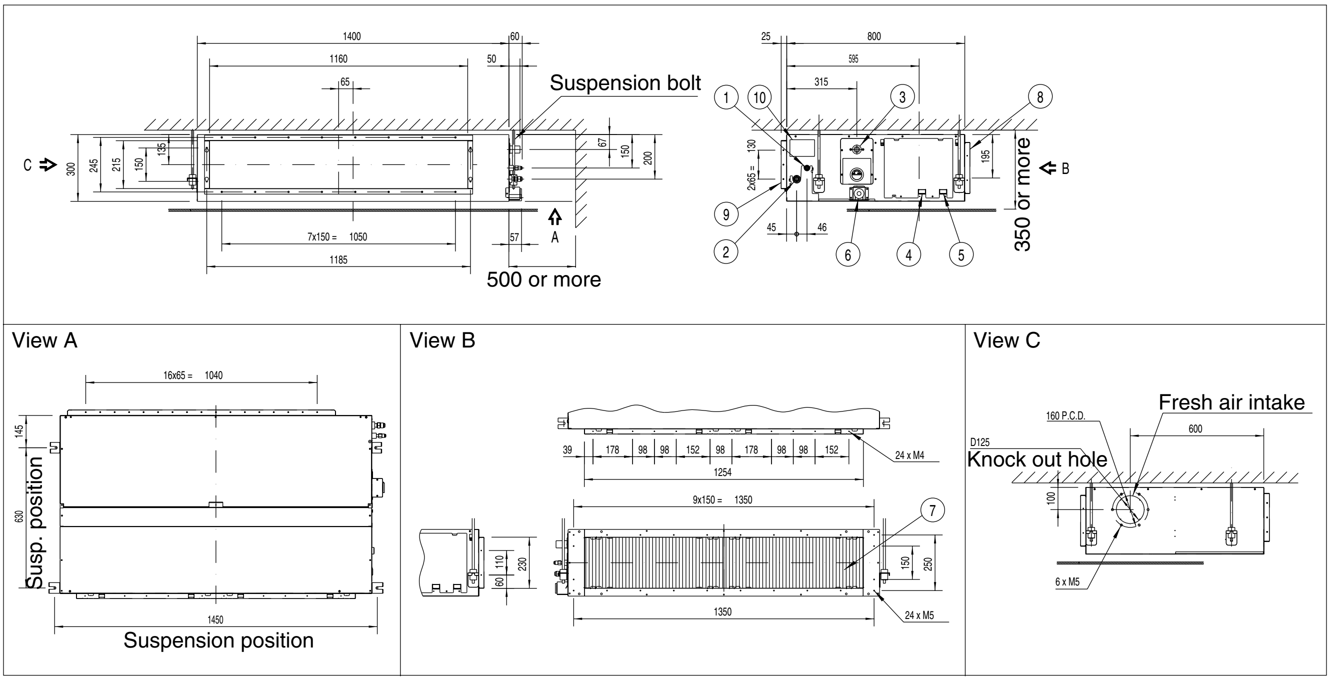
No.	Component
1	Liquid pipe connection
2	Gas pipe connection
3	Drain pipe connection (O.D. 32 mm, I.D. 25 mm)
4	Remote control wiring connection
5	Power supply connection
6	Drain hole (O.D. 32 mm, I.D. 25 mm)
7	Air filter
8	Air suction side
9	Air discharge side
10	Name plate

1

2.5 FHYBP100B7V1 and FHYBP125B7V1

Outlook, dimensions and installation and service space

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



Components

The table below contains the different components of the unit.

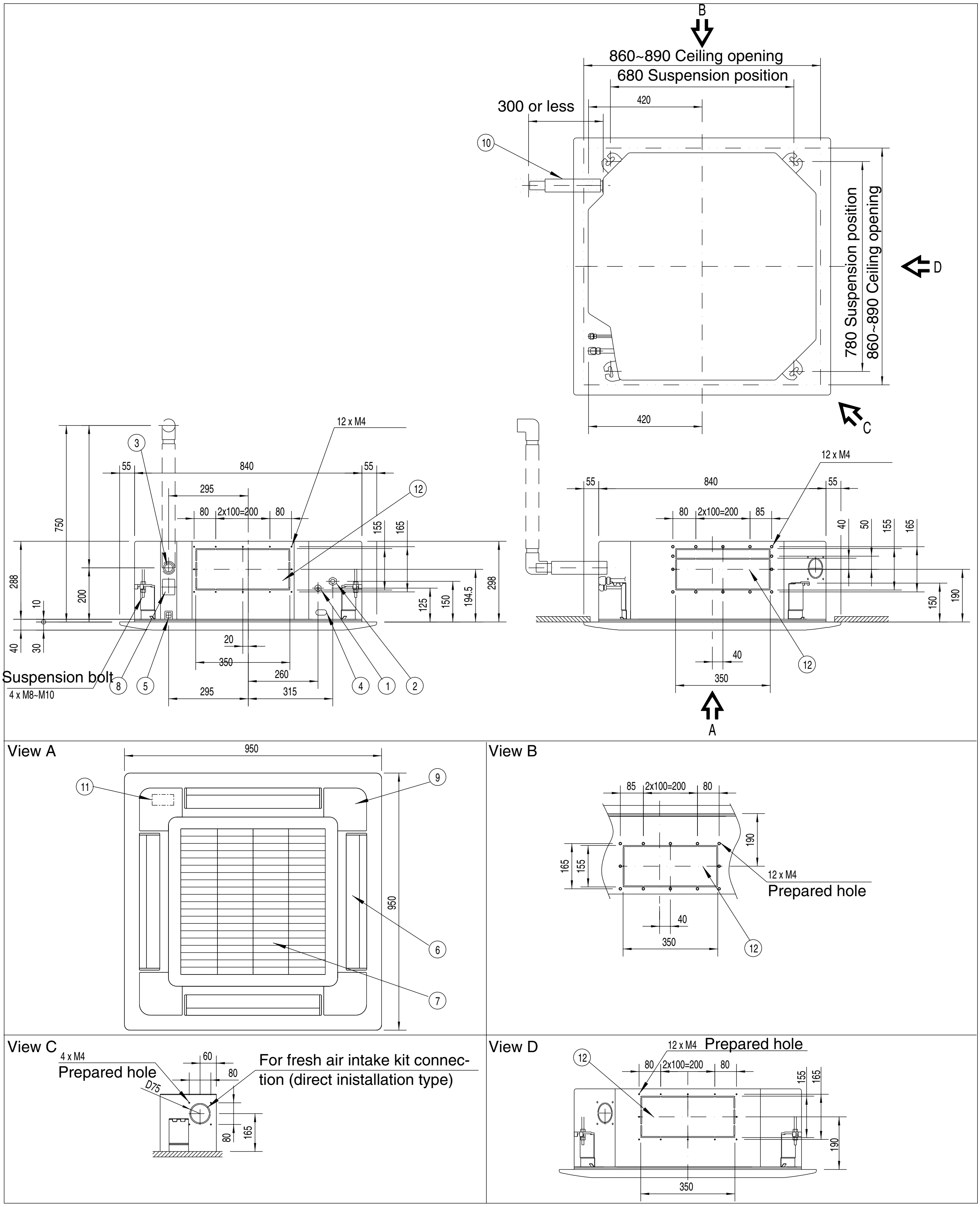
No.	Component
1	Liquid pipe connection
2	Gas pipe connection
3	Drain pipe connection (O.D. 32 mm, I.D. 25 mm)
4	Remote control wiring connection
5	Power supply connection
6	Drain hole (O.D. 32 mm, I.D. 25 mm)
7	Air filter
8	Air suction side
9	Air discharge side
10	Name plate

1

2.6 FHYCP100B7V1 and FHYCP125B7V1

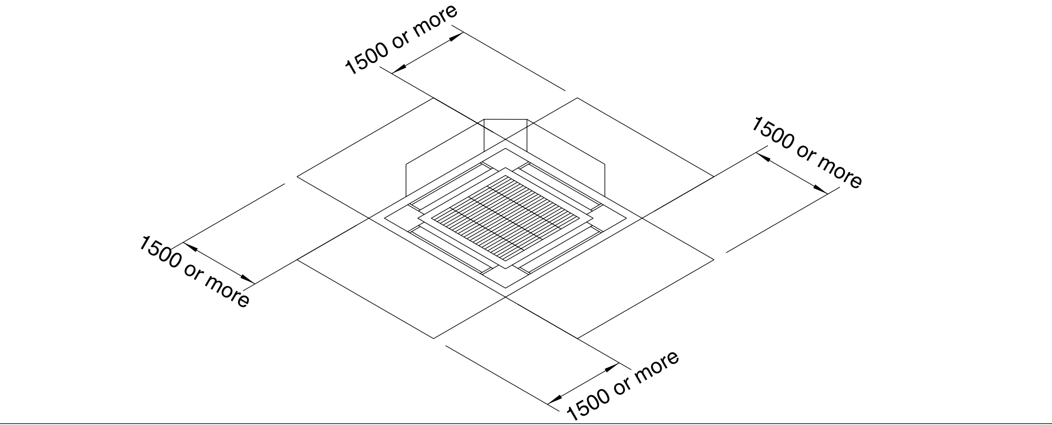
Outlook and dimensions

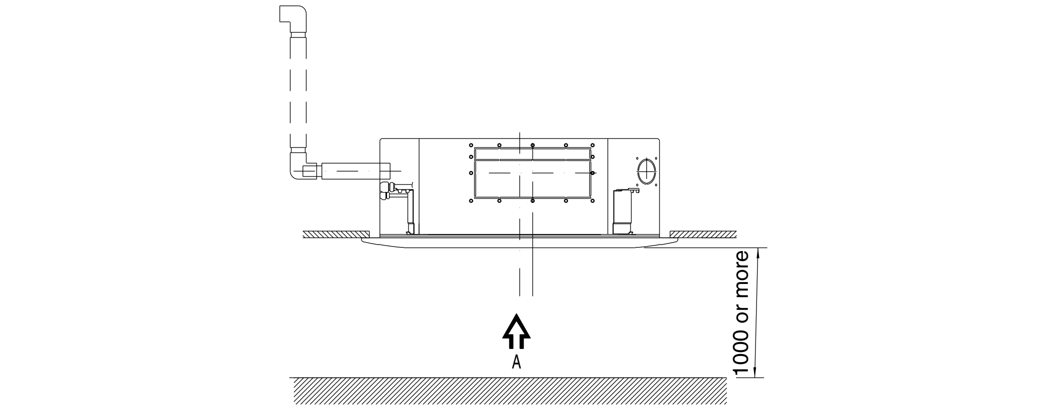
The illustration below shows the outlook and the dimensions of the unit (mm).



Installation and service space

The illustration below shows the installation and service space (mm). When a discharge grille is closed (e.g. 3-way blow application), the required space is 200 mm or more.





Components

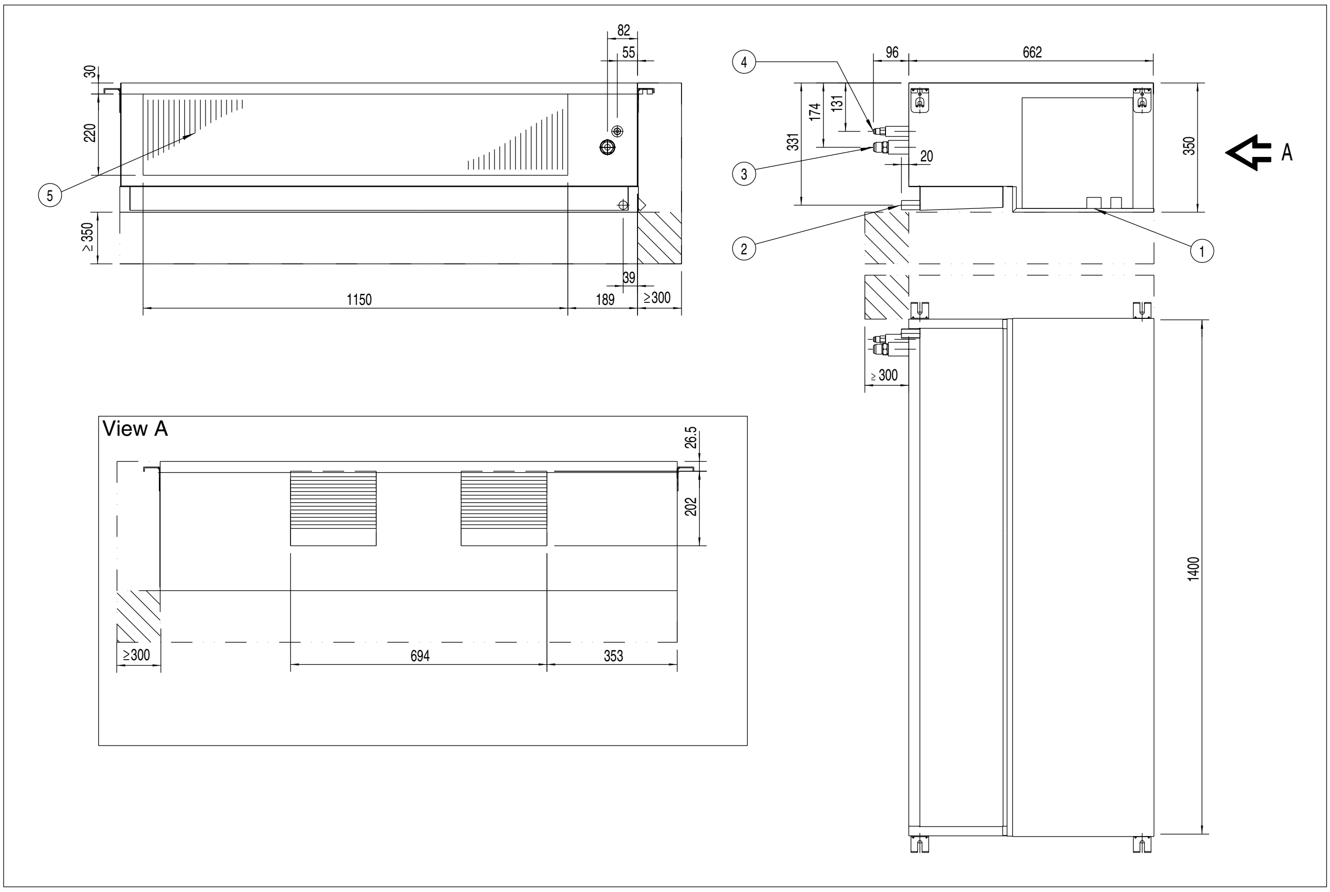
The table below contains the different components of the unit.

No.	Component
1	Liquid pipe connection
2	Gas pipe connection
3	Drain pipe connection (O.D. 32 mm, I.D. 25 mm)
4	Power supply connection
5	Transmission wiring connection
6	Air discharge grille
7	Air suction grille
8	Water supply intake
9	Corner decoration cover
10	Drain hose (O.D. 32 mm)
11	In case an infrared remote control is used, this position is a signal receiver.
12	Branch duct connection

2.7 FDYP125B7V1

Outlook, dimensions and installation and service space

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



Service space

Components

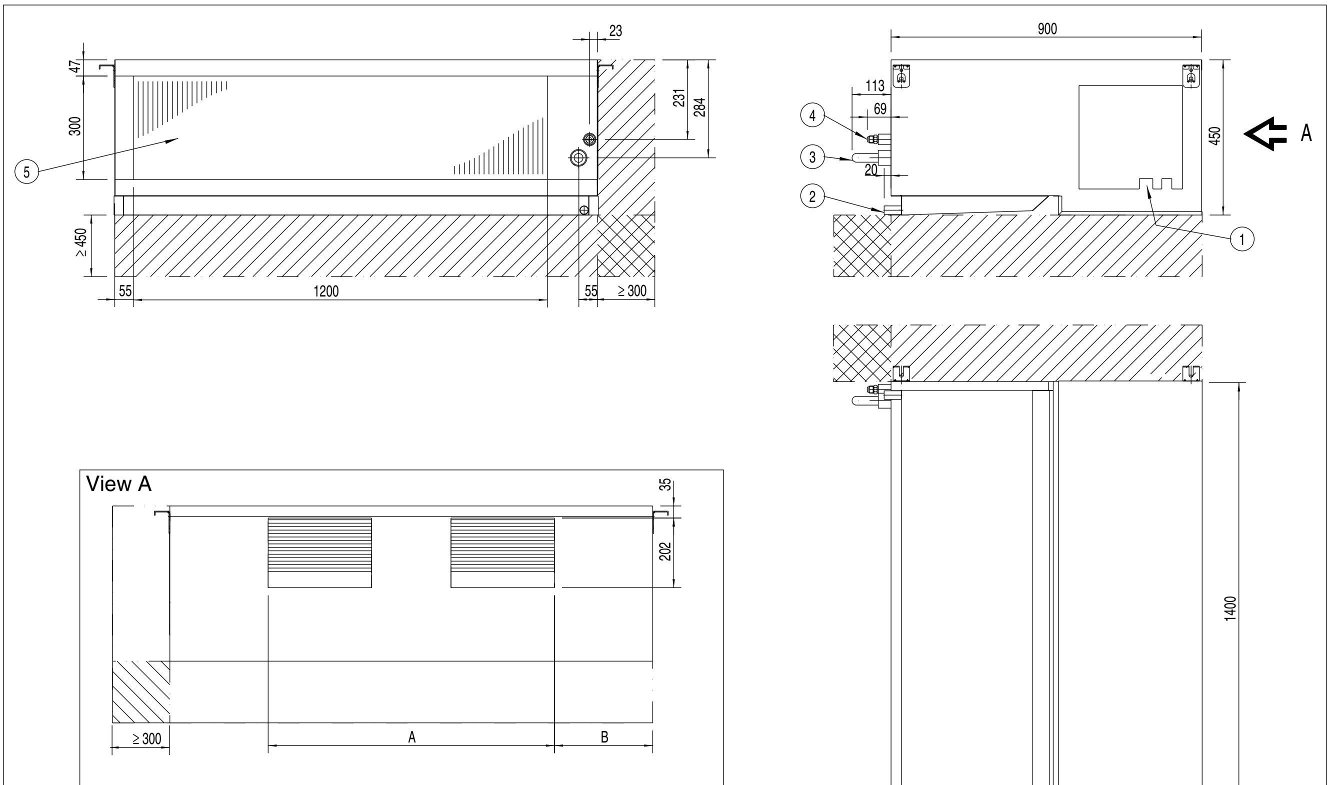
The table below contains the different components of the unit.

No.	Component
1	Power supply intake
2	Drain connection (O.D. 25 mm)
3	Gas pipe connection
4	Liquid pipe connection
5	Filter

2.8 FDYP200B7V1 and FDYP250B7V1

Outlook, dimensions and installation and service space

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



	A	B
FDYP200B7V1	830	285
FDYP250B7V1	890	255

Service space

Extra service space for optional drain pump

Components

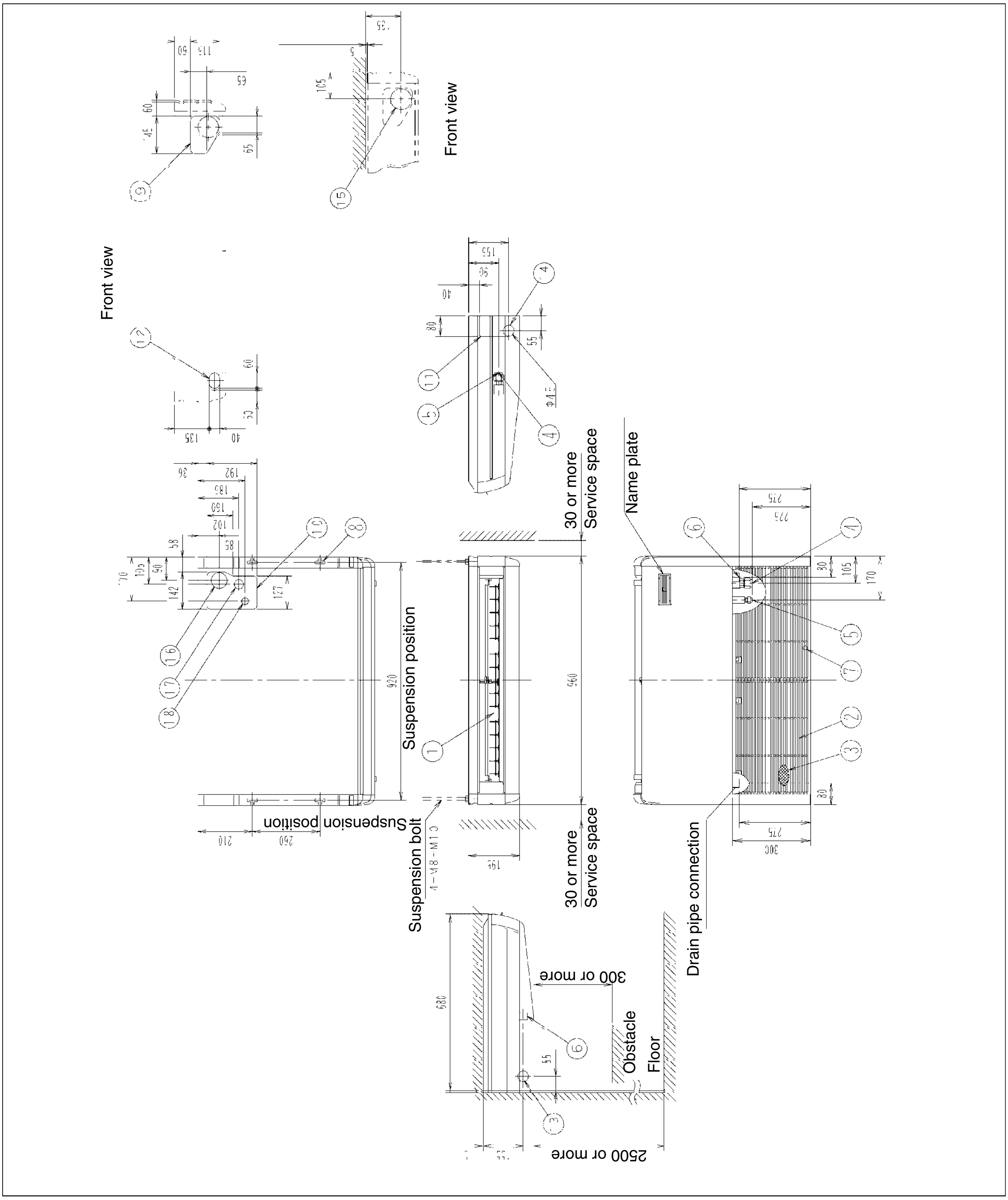
The table below contains the different components of the unit.

No.	Component
1	Power supply intake
2	Drain connection (O.D. 25 mm)
3	Gas pipe connection
4	Liquid pipe connection
5	Filter

2.9 FHYP35BV1 and FHYP45BV1

Outlook and dimensions

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



Components

The table below contains the different components of the unit.

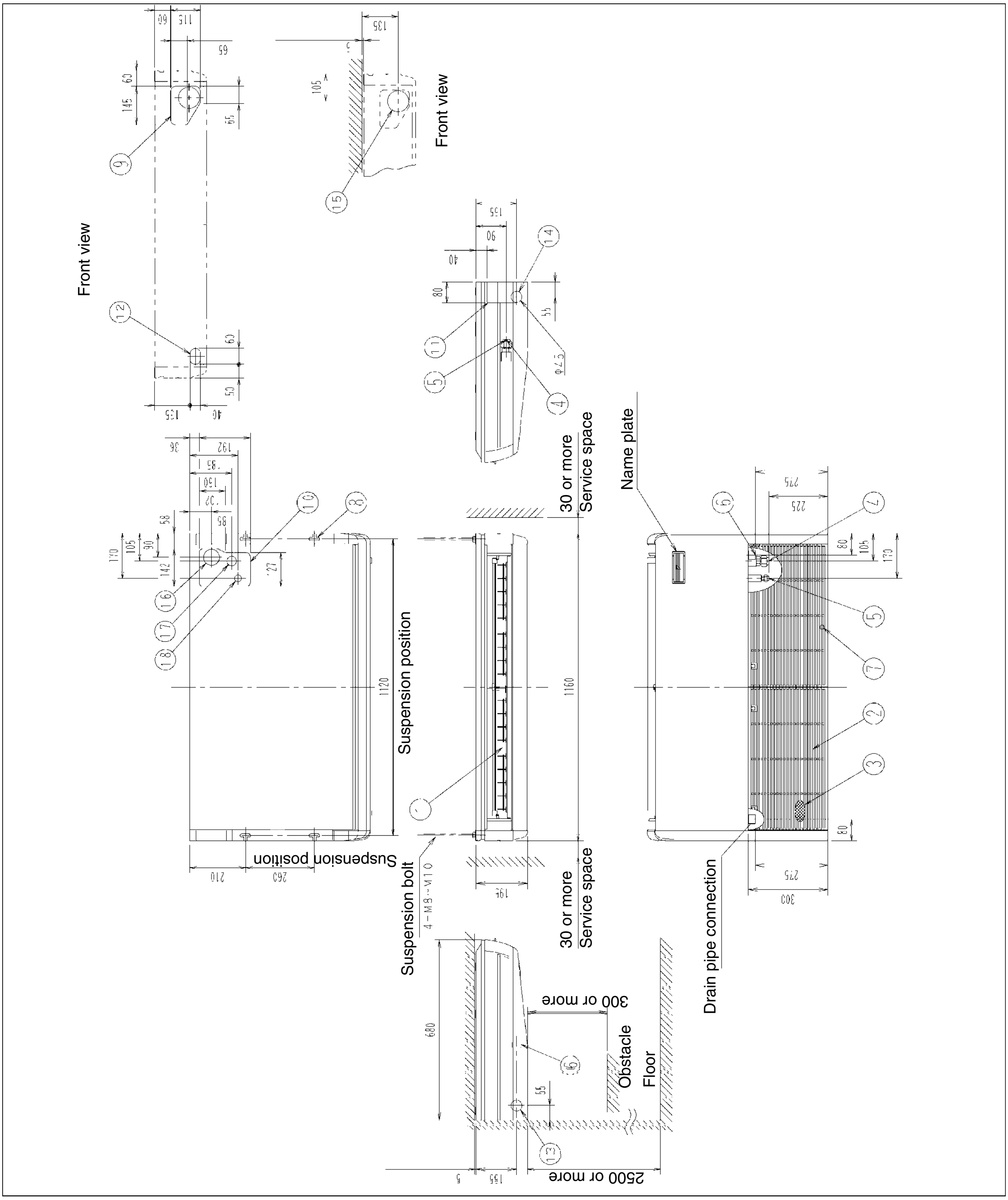
No.	Component
1	Air discharge grille
2	Air suction grille
3	Air filter
4	Gas pipe connection
5	Liquid pipe connection
6	Drain pipe connection
7	Grounding terminal (inside the electric components box) M4
8	Suspension bracket
9	Backward piping and wiring connection opening lid
10	Upward piping and wiring connection opening lid
11	Right side pipe connection (slit hole)
12	Left back drain pipe connection (slit hole)
13	Left side drain pipe connection (slit hole)
14	Right side drain pipe connection (slit hole)
15	Wall hole for taking out in piping back (∅ 100 mm)
16	Upward drain pipe connection (∅ 60 mm)
17	Upward gas pipe connection (∅ 36 mm)
18	Upward liquid pipe connection (∅ 26 mm)
—	Name plate: In case of an infrared remote control, this position is a signal receiver.

1

2.10 FHYP60BV1 and FHYP71BV1

Outlook and dimensions

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



Components

The table below contains the different components of the unit.

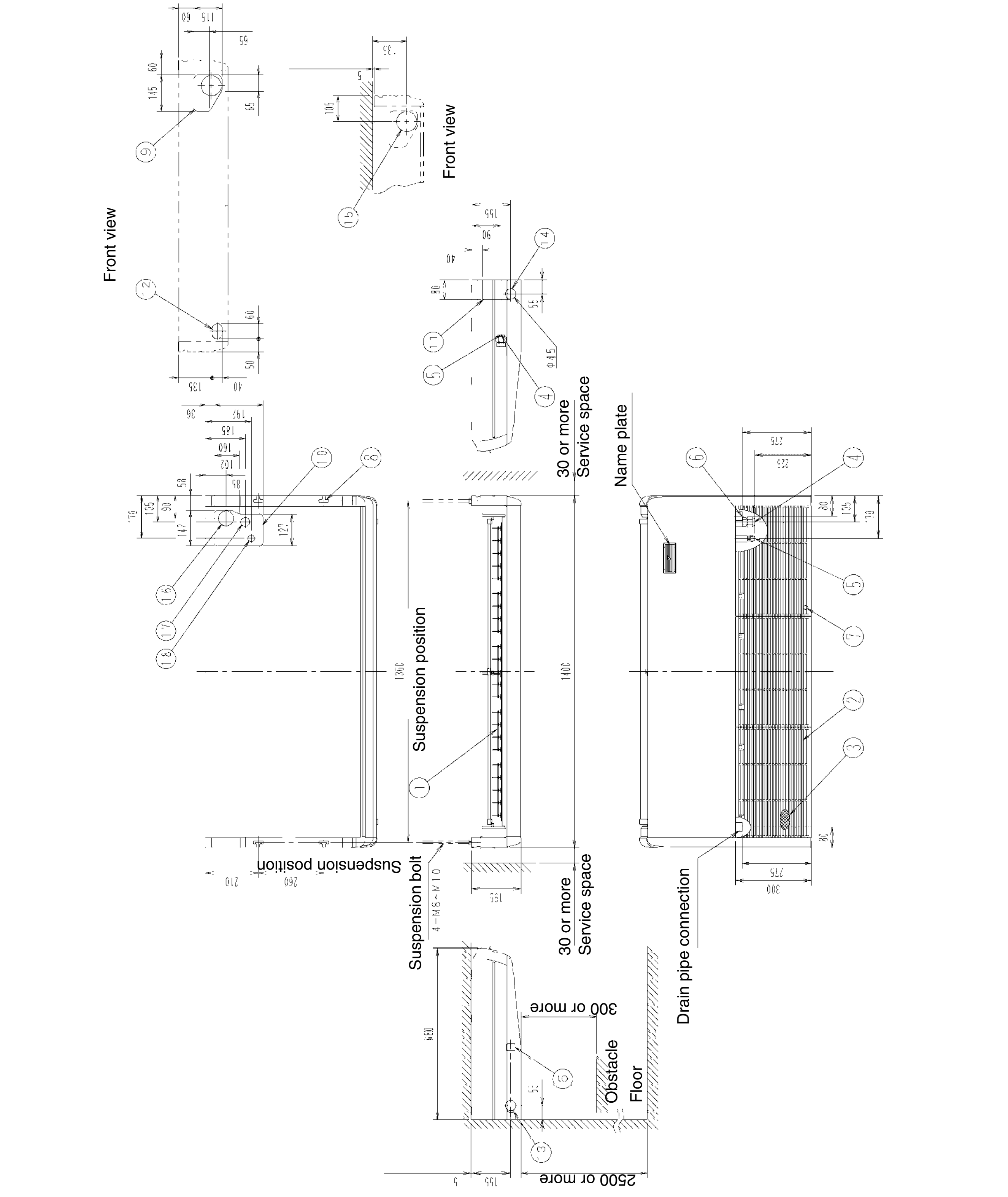
No.	Component
1	Air discharge grille
2	Air suction grille
3	Air filter
4	Gas pipe connection
5	Liquid pipe connection
6	Drain pipe connection
7	Grounding terminal (inside the electric components box) M4
8	Suspension bracket
9	Backward piping and wiring connection opening lid
10	Upward piping and wiring connection opening lid
11	Right side pipe connection (slit hole)
12	Left back drain pipe connection (slit hole)
13	Left side drain pipe connection (slit hole)
14	Right side drain pipe connection (slit hole)
15	Wall hole for taking out in piping back (∅ 100 mm)
16	Upward drain pipe connection (∅ 60 mm)
17	Upward gas pipe connection (∅ 36 mm)
18	Upward liquid pipe connection (∅ 26 mm)
—	Name plate: In case of an infrared remote control, this position is a signal receiver.

1

2.11 FHYP100BV1

Outlook and dimensions

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



Components

The table below contains the different components of the unit.

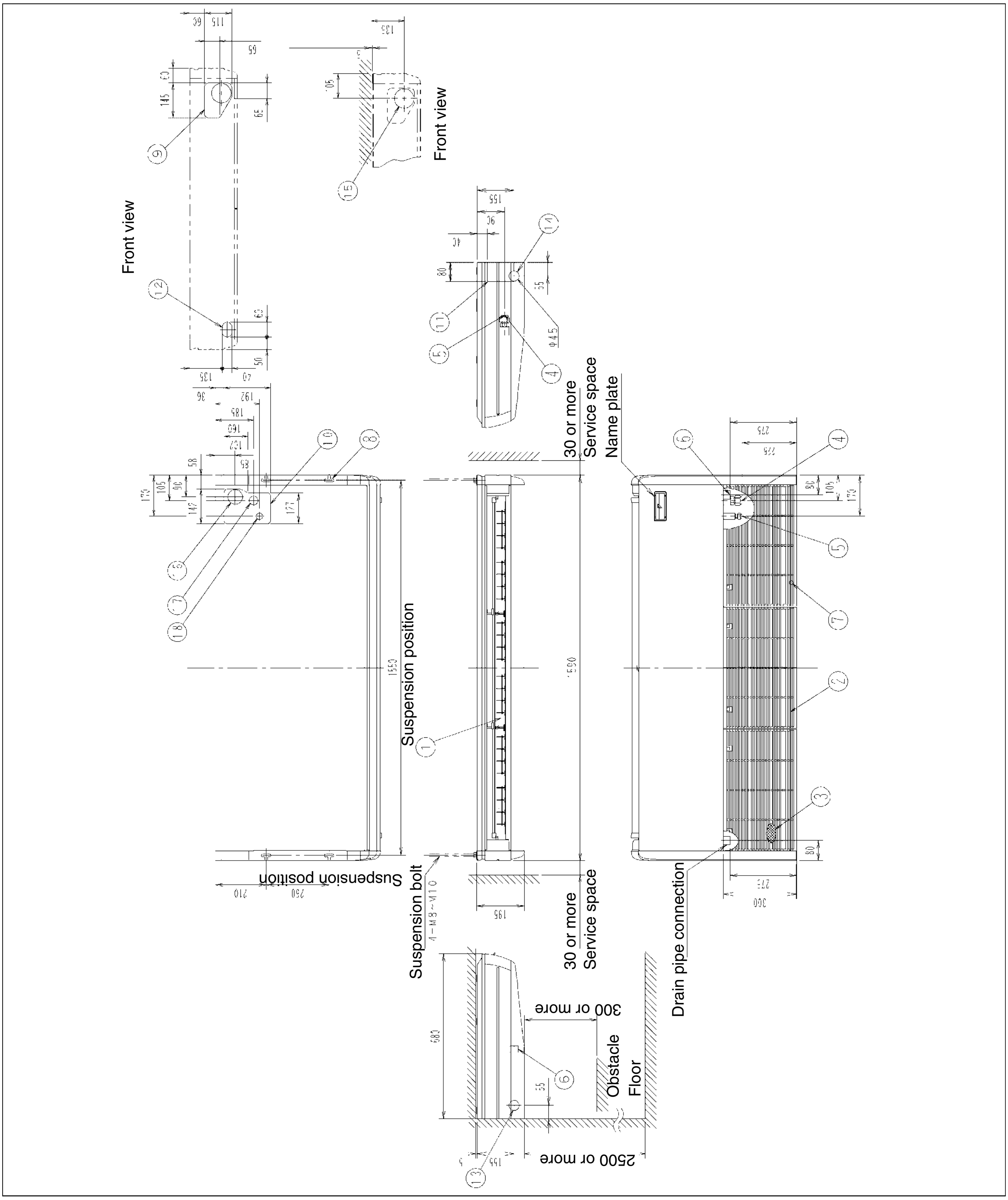
No.	Component
1	Air discharge grille
2	Air suction grille
3	Air filter
4	Gas pipe connection
5	Liquid pipe connection
6	Drain pipe connection
7	Grounding terminal (inside the electric components box) M4
8	Suspension bracket
9	Backward piping and wiring connection opening lid
10	Upward piping and wiring connection opening lid
11	Right side pipe connection (slit hole)
12	Left back drain pipe connection (slit hole)
13	Left side drain pipe connection (slit hole)
14	Right side drain pipe connection (slit hole)
15	Wall hole for taking out in piping back (∅ 100 mm)
16	Upward drain pipe connection (∅ 60 mm)
17	Upward gas pipe connection (∅ 36 mm)
18	Upward liquid pipe connection (∅ 26 mm)
—	Name plate: In case of an infrared remote control, this position is a signal receiver.

1

2.12 FHYP125BV1

Outlook and dimensions

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



Components

The table below contains the different components of the unit.

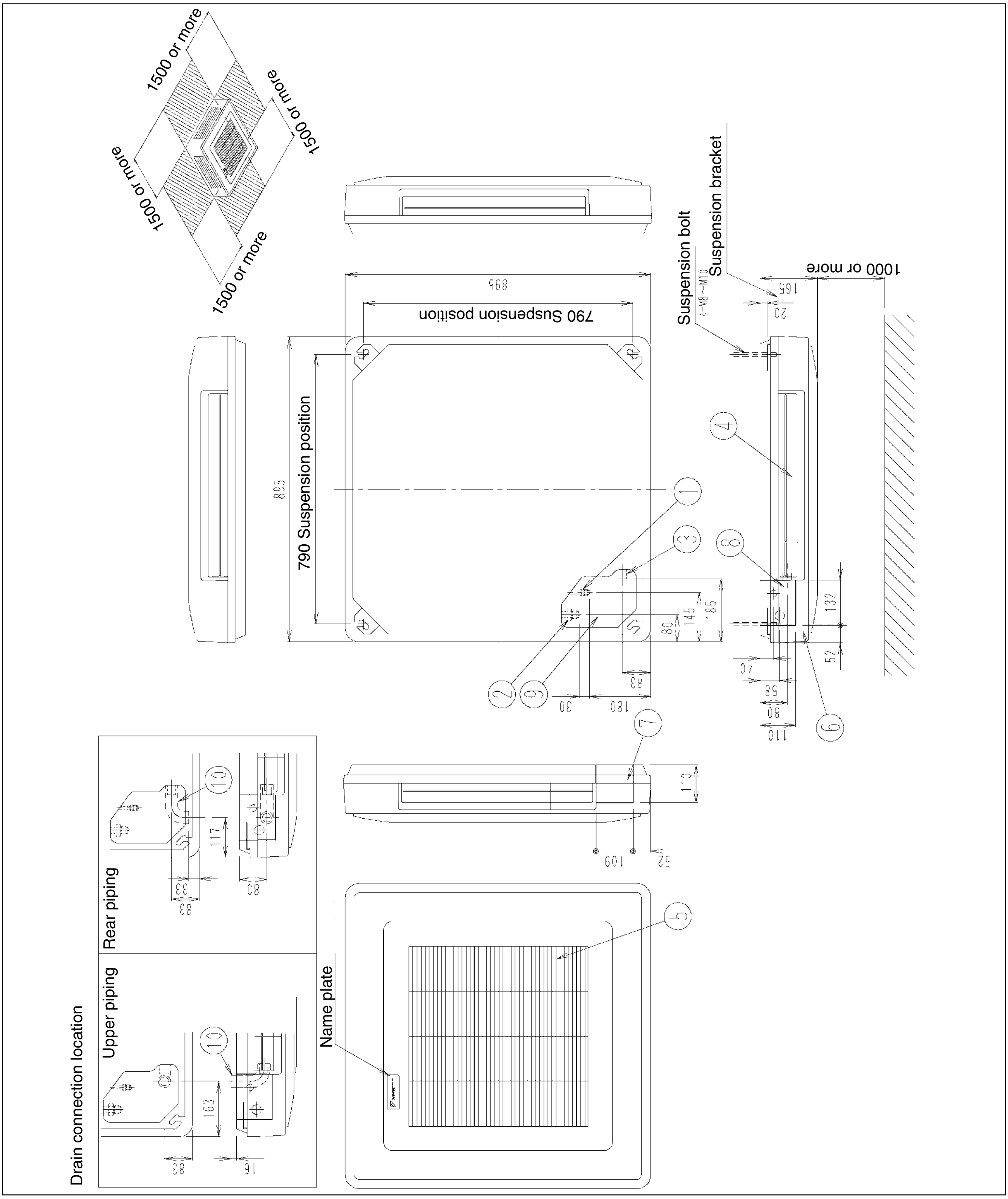
No.	Component
1	Air discharge grille
2	Air suction grille
3	Air filter
4	Gas pipe connection
5	Liquid pipe connection
6	Drain pipe connection
7	Grounding terminal (inside the electric components box) M4
8	Suspension bracket
9	Backward piping and wiring connection opening lid
10	Upward piping and wiring connection opening lid
11	Right side pipe connection (slit hole)
12	Left back drain pipe connection (slit hole)
13	Left side drain pipe connection (slit hole)
14	Right side drain pipe connection (slit hole)
15	Wall hole for taking out in piping back (∅ 100 mm)
16	Upward drain pipe connection (∅ 60 mm)
17	Upward gas pipe connection (∅ 36 mm)
18	Upward liquid pipe connection (∅ 26 mm)
—	Name plate: In case of an infrared remote control, this position is a signal receiver.

1

2.13 FUYP71BV17

Outlook and dimensions

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



Components

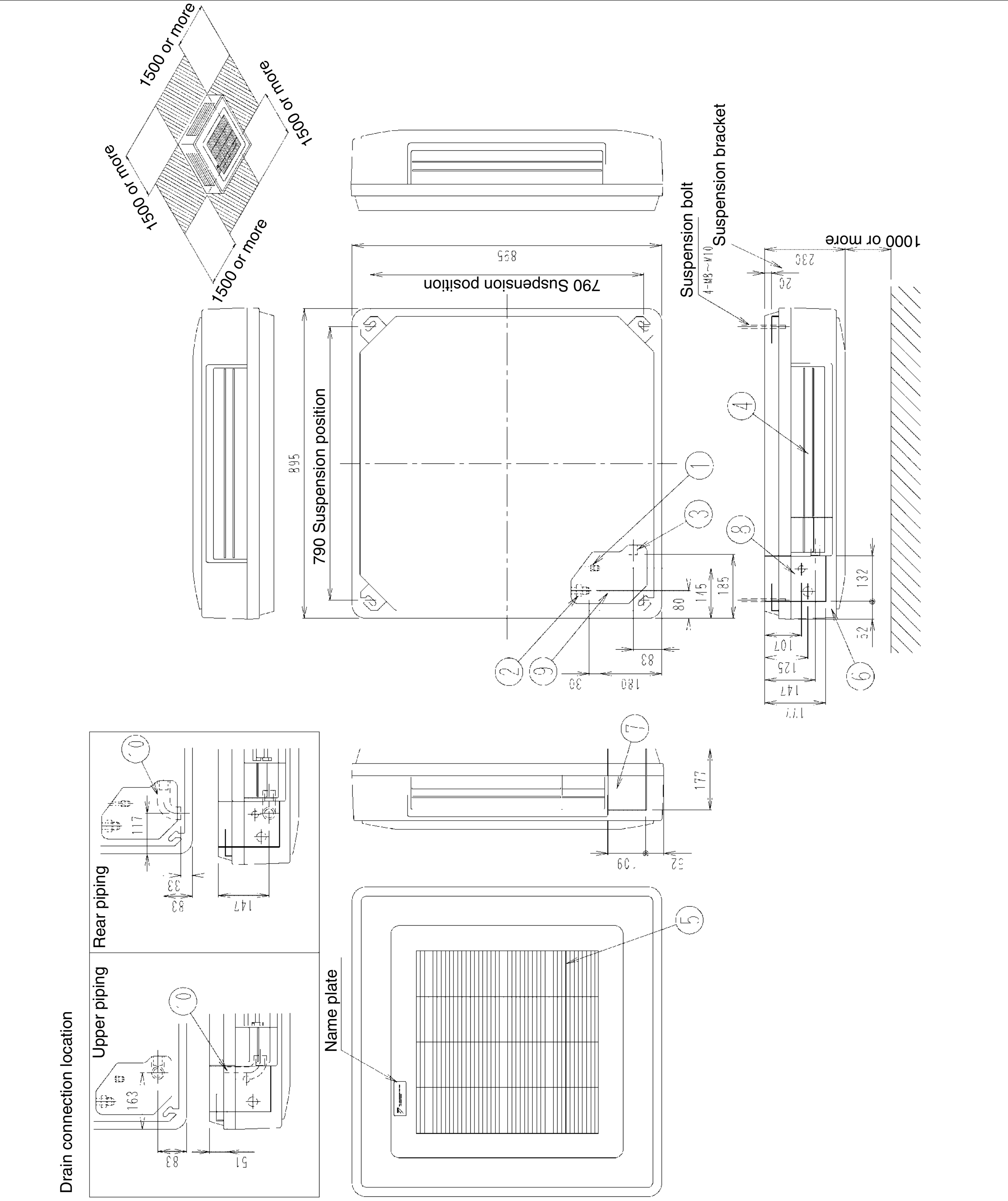
The table below contains the different components of the unit.

No.	Component
1	Liquid pipe connection
2	Gas pipe connection
3	Drain pipe connection
4	Air outlet
5	Air suction grille
6	Corner decoration panel
7	Right pipe / wiring connection
8	Rear pipe / wiring connection
9	Pipe through cover
10	Accessory drain elbow
—	Name plate: In case of an infrared remote control, this position is a signal receiver.

2.14 FUYP100BV17 and FUYP125BV17

Outlook and dimensions

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



Components

The table below contains the different components of the unit.

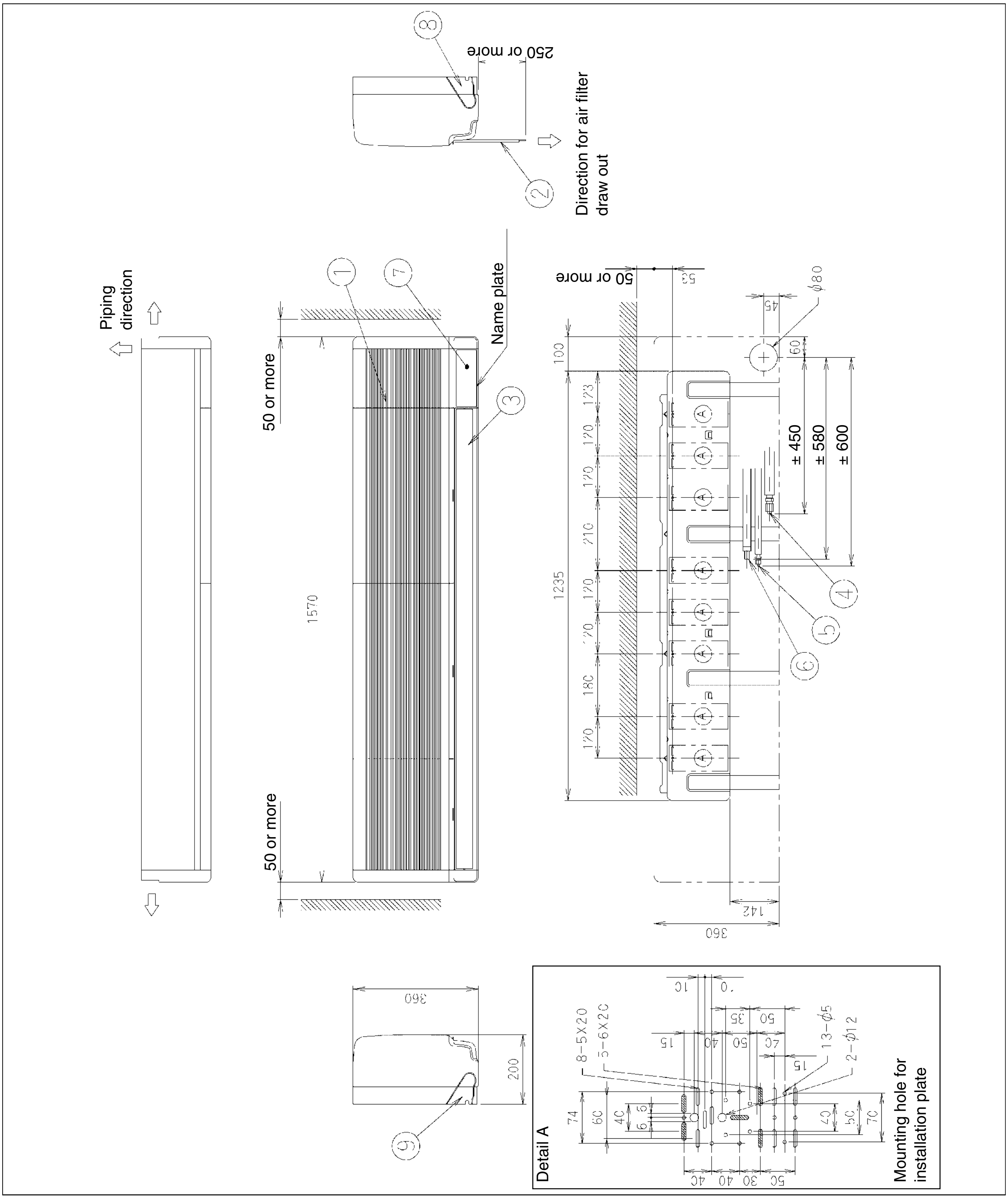
No.	Component
1	Liquid pipe connection
2	Gas pipe connection
3	Drain pipe connection
4	Air outlet
5	Air suction grille
6	Corner decoration panel
7	Right pipe / wiring connection
8	Rear pipe / wiring connection
9	Pipe through cover
10	Accessory drain elbow
—	Name plate: In case of an infrared remote control, this position is a signal receiver.

1

2.15 FAYP71BV1 and FAYP100BV1

Outlook and dimensions

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



Components

The table below contains the different components of the unit.

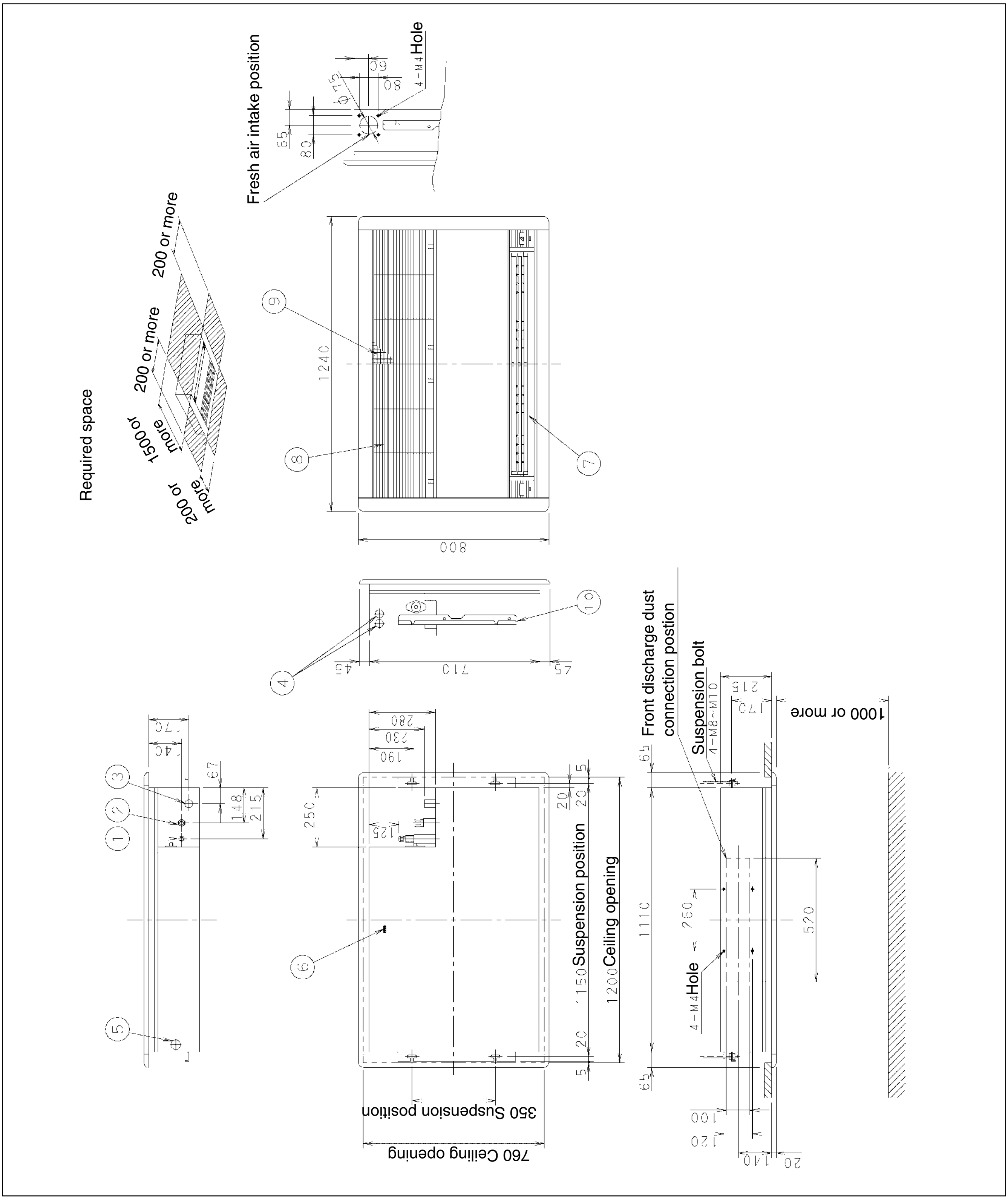
No.	Component
1	Front grille
2	Air filter
3	Discharge outlet
4	Gas pipe connection
5	Liquid pipe connection
6	Drain pipe connection (O.D. 26 mm)
7	Grounding terminal M4 (inside the cover)
8	Slit hole for right piping connection
9	Slit hole for left piping connection
—	Name plate: In case of an infrared remote control, this position is a signal receiver.

1

2.16 FHYKP35BV1 and FHYKP45BV1

Outlook and dimensions

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



1

Components

The table below contains the different components of the unit.

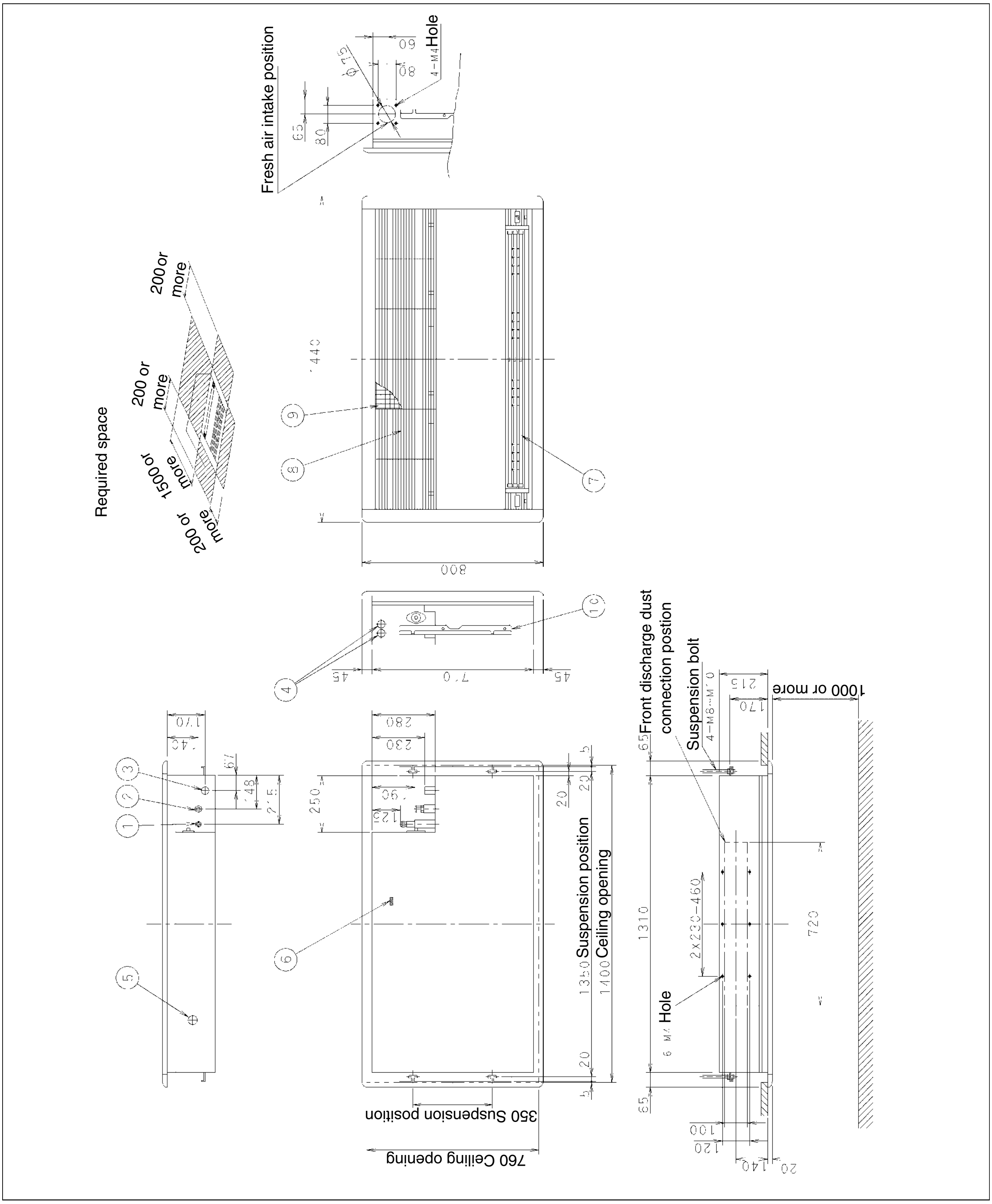
No.	Component
1	Liquid pipe connection
2	Gas pipe connection
3	Drain pipe connection
4	Wire intake
5	Wire intake for remote control
6	Grounding terminal M4 (inside the switch box)
7	Air discharge grille
8	Air suction grille
9	Air filter
10	Suspension bracket

1

2.17 FHYKP60BV1 and FHYKP71BV1

Outlook and dimensions

The illustration below shows the outlook, the dimensions and the installation and service space of the unit (mm).



Components

The table below contains the different components of the unit.

No.	Component
1	Liquid pipe connection
2	Gas pipe connection
3	Drain pipe connection
4	Wire intake
5	Wire intake for remote control
6	Grounding terminal M4 (inside the switch box)
7	Air discharge grille
8	Air suction grille
9	Air filter
10	Suspension bracket

3 Specifications

3.1 What Is in This Chapter?

Introduction

This chapter contains the following information:

- Technical specifications
- Electrical specifications.

Options

For possible options, refer to OH98-2 or the installation manual.

Outdoor units

This chapter contains the following specifications:

Indoor units

This chapter contains the following specifications:

3.2 R35, R45, R60, MA56 and MA90

Technical specifications

The table below contains the technical specifications.

Specification		R35GZ7V11	R45GZ7V11	R45GZ7W11	R60GZ7W11	MA56GZ7W11	MA90GZ7W11
Compressor	Model x No.	802 352 45 x 1	808 052 45 x 1	808 060 88 x 1	802 445 88 x 1	808 060 88 x 1	802 445 88 x 1
	Type	Hermetically sealed rotary compressor				Hermetically sealed rotary compressor	
	Refrigerant oil type	FV68S				FV68S	
	Speed	2880 rpm	2875 rpm	2790 rpm	2800 rpm	2790 rpm	—
	No. of cylinders	1				—	—
	Oil charge	520 cc	750 cc		1350 cc	750 cc	1350 cc
Heat exchanger	Length	733 mm			788 mm	788 mm	784 mm
	Rows x stages x fin pitch	2 x 20 x 2.0 mm			2 x 24 x 2.0 mm	2 x 24 x 2.0 mm	2 x 32 x 2.0 mm
	No. of passes	2				2	
	Face area	0.372 m²			0.481 m²	0.481 m²	0.319 m²
	Tube type	Hi-XA				Hi-XA	
	Fin type	WL fin				WL fin	
	Empty tubeplate hole	0				0	
	No. of fans	1				1	
Fan	Nominal air flow (230V) cooling	27 m³/min	30 m³/min		43 m³/min	43 m³/min	46 m³/min
	Fan motor model	UE6S-31A4P	F62P45J22		AF-220-49-6-1	AF-220-49-6-1	AF-230-66-6-1
	Nominal speed (230 V)	H: 815 rpm L: 490 rpm	H: 890 rpm L: 470 rpm		H: 785 rpm L: 455 rpm	H: 765 rpm	H: 775 rpm
	Fan speed	2 steps				2 steps	1 step
Refrigerant circuit	Type	R407C				R407C	
	Charge	1.3 kg	1.5 kg		1.85 kg	1.9 kg	3.0 kg
	No. of circuits	1				Max. 4	Max. 5
Safety and functional devices		See page 1–71				See page 1–71	
Heat insulation		Both liquid and gas pipes				Both liquid and gas pipes	
Weight		39 kg	46 kg		62 kg	62 kg	87 kg

Electrical specifications

The table below contains the electrical specifications.

Specification		R35GZ7V11	R45GZ7V11	R45GZ7W11	R60GZ7W11	MA56GZ7W11	MA90GZ7W11
Unit	Phase	1~		3N~		3N~	
	Voltage	230 V		400 V		400 V	
	Frequency	50 Hz				50 Hz	
	No. of wire connections	3 for power supply 4 for connections with indoor (including earth wire)		5 for power supply 4 for connections with indoor (including earth wire)		5 for power supply 4 for connections with indoor (including earth wire)	
	Nominal running current (cooling)	6.4 A	10.8 A	3.98 A	5.6/6.35 A	—	—
	Max. running current	—	—	—	6.8/7.7 A	—	—
	Starting current	33.5 A	48 A	19 A	26 A	19 A	27 A
	Recommended fuses	12 A	16 A	12 A	16 A	16 A	—
	Power supply intake	Outdoor unit only				Outdoor unit only	
Compressor	Phase	—	—	—	—	—	3N~
	Voltage	—	—	—	—	—	400 V
	No. x motor output	1 x 1075 W	1 x 1500 W	1 x 1600 W	1 x 2100 W	1 x 1600 W	1x 2100 W
Fan motor	Phase	—	—	—	—	—	1~
	Voltage	—	—	—	—	—	230 V
	Starting current	—	—	—	—	—	1.01
	Nominal running current	—	—	—	—	—	0.68 A
	Power consumption	—	—	—	—	—	152 W
	No. of motors x output	1 x 30 W	1 x 45 W		1 x 49 W	1 x 49 W	1 x 66 W

3.3 RP71

Technical specifications

The table below contains the technical specifications.

Specification		RP71B7V1	RP71B7W1	RP71B7T1
Compressor	Model x No.	JT90FA-V1N x 1	JT90FA-YE x 1	JT90FA-T1 x 1
	Type	Hermetically sealed scroll type		
	Refrigerant oil type	DAPHNE FVC68D		
	Oil charge	1200 cc		
Heat exchanger	Length	860 mm		
	Rows x stages x fin pitch	2 x 38 x 2.0 mm		
	No. of passes	6		
	Face area	0.719 m²		
	Tube type	Hi-XA		
	Fin type	Non symm. waffle louvre		
	Empty tubeplate hole	0		
	No. of fans	1		
Fan	Nominal air flow (230V) cooling	51 m³/min		
	Fan motor model	P47L11S		
	Fan speed	3 steps		
Refrigerant circuit	Type	R407C		
	Charge	3.1 kg		
Safety and functional devices		See page 1–71 and 3–15		
Heat insulation		Both liquid and gas pipes		
Weight		88 kg	85 kg	

Electrical specifications

The table below contains the electrical specifications.

Specification		RP71B7V1	RP71B7W1	RP71B7T1
Unit	Phase	1N~	3N~	3~
	Voltage	230 V	400 V	230 V
	Frequency	50 Hz		
	No. of wire connections	3 wires for power supply (including earth wire) 4 wires for connection with indoor (including earth wire)	5 wires for power supply (including earth wire) 4 wires for connection with indoor (including earth wire)	4 wires for power supply (including earth wire) 4 wires for connection with indoor (including earth wire)
	Power supply intake	Outdoor unit only		
Compressor	Phase	1~	3~	
	Voltage	230 V	400 V	230 V
	Starting method	Direct		
	No. x motor output	1 x 2200 W		
Fan motor	Phase	1~		
	Voltage	230 V		
	No. of motors x output	1 x 80 W		

1

3.4 RP100, RP125, RP200 and RP250

Technical specifications

The table below contains the technical specifications.

Specification		RP100B7V1	RP100B7W1	RP100B7T1	RP125B7W1	RP125B7T1	RP200B7W1	RP250B7W1
Compressor	Model x No.	JT125FA-V1N x 1	JT125FA-YE x 1	JT125FA-T1 x 1	JT160FA-YE x 1	JT160FA-T1 x 1	JT236DA-YE x 2	JT300DA-YE x 2
	Type	Hermetically sealed scroll type						
	Crankcase heater	—	—	—	—	—	50 W	72 W
	Refrigerant oil type	DAPHNE FVC68D						
	Speed	—	—	—	—	—	2900 rpm	
	Oil charge	1500 cc					4000 cc	
Heat exchanger	Length	860 mm					1790 mm	
	Rows x stages x fin pitch	2 x 54 x 2.0 mm					2 x 40 x 2.0 mm	2 x 50 x 2.0 mm
	No. of passes	9			13		18	16
	Face area	1.022 m²					1.57 m²	1.97 m²
	Tube type	Hi-XA						
	Fin type	Non symm. waffle louvre						
	Empty tubeplate hole	8			0			
	No. of fans	2						
Fan	Nominal air flow (230V) cooling	94 m³/min					170 m³/min	175 m³/min
	Fan motor model	P47L11S x 2					P55J11F	P55J11F
	Fan speed	3 steps					1 step	
Refrigerant circuit	Type	R407C						
	Charge	3.6 kg			3.9 kg		7.5 kg	9.2 kg
Safety and functional devices		See page 1–71 and 3–15						
Heat insulation		Both liquid and gas pipes						
Weight		103 kg	98 kg		100 kg		194 kg	206 kg

Electrical specifications

The table below contains the electrical specifications.

Specification		RP100B7V1	RP100B7W1	RP100B7T1	RP125B7W1	RP125B7T1	RP200B7W1	RP250B7W1
Unit	Phase	1~	3N~	3~	3N~	3~	3N~	
	Voltage	230 V	400 V	230 V	400 V	230 V	400 V	
	Frequency	50 Hz						
	No. of wire connections	3 wires for power supply (including earth wire) 4 wires for connection with indoor (including earth wire)	5 wires for power supply (including earth wire) 4 wires for connection with indoor (including earth wire)	4 wires for power supply (including earth wire) 4 wires for connection with indoor (including earth wire)	5 wires for power supply (including earth wire) 4 wires for connection with indoor (including earth wire)	4 wires for power supply (including earth wire) 4 wires for connection with indoor (including earth wire)	5 wires for power supply (including earth wire) 4 wires for connection with indoor (including earth wire)	
	Nominal running current (cooling)	—	—	—	—	—	14.4 A	17.2 A
	Max. running current	—	—	—	—	—	17.9 A	27.5 A
	Power supply intake	Outdoor unit only					—	—
Compressor	Phase	1~	3~				—	—
	Voltage	230 V	400 V	230 V	400 V	230 V	—	—
	No. x motor output	1 x 3000 W			1x 3750 W		2 x 5500 W	2 x 7500 W
	Starting method	Direct					—	—
Fan motor	Phase	1~					—	—
	Voltage	230 V					—	—
	No. of motors x output	80 + 85 W					230 + 190 W	230 + 140 W

3.5 RY35 and RY45

Technical specifications

The table below contains the technical specifications.

Specification		RY35EAZ7V1	RY45EAZ7V1
Compressor	Model x No.	1YC43BTV1	1YC56ATV1N
	Type	Hermetically sealed swing type	
	Crankcase heater	—	—
	Refrigerant oil type	FVC68D + HAB15D	
	No. x motor output	1 x 1300 W	1 x 1700 W
	Speed	2850 rpm	2860 rpm
	No. of cylinders	1	
	Oil charge	850 cc	
Heat exchanger	Length	805 mm	788 mm
	Rows x stages x fin pitch	1 x 24 x 2.0 mm	2 x 24 x 2.0 mm
	No. of passes	1.67	3
	Face area	0.513 m^2	0.481 m^2
	Tube type	Hi-XA	
	Fin type	WL fin	
	Empty tubeplate hole	0	
	No. of fans	1	
Fan	Nominal air flow (230 V) cooling	36 m^3/min	31 m^3/min
	Nominal air flow (230 V) heating	32 m^3/min	28 m^3/min
	Fan motor model	19TFB6062	
	Nominal speed (230 V)	H: 610 rpm L: 350 rpm	
	Fan speed	2 steps	
Refrigerant circuit	Type	R407C	
	Charge	1.1 kg	2.0 kg
	No. of circuits	Max. 1	
Safety and functional devices		See page 1–71	
Heat insulation		Both liquid and gas pipes	
Weight		50 kg	57 kg

Electrical specifications

The table below contains the electrical specifications.

Specification		RY35EAZ7V1	RY45EAZ7V1
Unit	Phase	1~	
	Voltage	230 V	
	Frequency	50 Hz	
	No. of wire connections	3 for power supply (including earth wire) 4 for connecting with indoor (including earth wire)	
	Nominal running current (cooling)	6.9 A	9.1 A
	Nominal running current (heating)	6.4 A	8.8 A
	Starting current (cooling)	34 A	42 A
	Starting current (heating)	34 A	42A
	Recommended fuses	16 A	20 A
	Power supply intake	Outdoor unit only	
Fan motor	No. of motors x output	1 x 30 W	

1

3.6 RYP71, RYP100, RYP125, RYP200 and RYP250

Technical specifications

The table below contains the technical specifications.

Specification		RYP71B7V1	RYP71B7W1	RYP100B7V1	RYP100B7W1	RYP125B7W1	RYP200B7W1	RYP250B7W1
Compressor	Model x No.	JT90FA-V1N x 1	JT90FA-YE x 1	JT125FA-V1N x 1	JT125F-YE x 1	JT160FA-YE x 1	JT236DA-YE x 2	JT300DA-YE x 2
	Type	Hermetically sealed scroll type						
	Crankcase heater	—	—	—	—	—	50 W	72 W
	Refrigerant oil type	DAPHNE FVC68D						
	No. x motor output	1 x 2200 W		1 x 3000 W		1 x 3750 W	2 x 5500 W	2 x 7500 W
	Speed	—	—	—	—	—	2900 rpm	
	Oil charge	1200 cc		1500 cc			4000 cc	
Heat exchanger	Length	860 mm					1790 mm	
	Rows x stages x fin pitch	2 x 38 x 2.0 mm		2 x 54 x 2.0 mm			2 x 40 x 2.0 mm	2 x 50 x 2.0 mm
	No. of passes	6		9		13	18	16
	Face area	0.719 m²		1.022 m²			1.57 m²	1.97 m²
	Tube type	Hi-XA						
	Fin type	Non symm. waffle louvre						
	Empty tubeplate hole	0		8		0		
	No. of fans	1		2				
Fan	Nominal air flow (230 V) cooling	51 m³/min		94 m³/min			170 m³/min	175 m³/min
	Nominal air flow (230 V) heating	46 m³/min		82 m³/min	85 m³/min		—	—
	Fan motor model	P47L11S		P47L11 x 2			P55J11F	
	Fan speed	3 steps					1 step	
Refrigerant circuit	Type	R407C						
	Charge	3.1 kg		3.6 kg		3.9 kg	7.5 kg	9.2 kg
Safety and functional devices		See page 1–71 and 3–15						
Heat insulation		Both liquid and gas pipes						
Weight		89 kg	86 kg	104 kg	99 kg	102 kg	196 kg	210 kg

Electrical specifications

The table below contains the electrical specifications.

Specification		RYP71B7V1	RYP71B7W1	RYP100B7V1	RYP100B7W1	RYP125B7W1	RYP200B7W1	RYP250B7W1
Unit	Phase	1~	3N~	1~	3N~			
	Voltage	230 V	400 V	230 V	400 V			
	Frequency	50 Hz						
	No. of wire connections	3 for power supply (including earth wire) 4 for connecting with indoor (including earth wire)	5 for power supply (including earth wire) 4 for connecting with indoor (including earth wire)	3 for power supply (including earth wire) 4 for connecting with indoor (including earth wire)	5 for power supply (including earth wire) 4 for connecting with indoor (including earth wire)			
	Nominal running current (cooling)	—	—	—	—	—	14.4 A	17.2 A
	Nominal running current (heating)	—	—	—	—	—	—	—
	Max. running current	—	—	—	—	—	17.9 A	27.5 A
	Power supply intake	Outdoor unit only				—	—	—
Compressor	Phase	1~	3~	1~	3~		—	—
	Voltage	230 V	400 V	230 V	400 V		—	—
	Starting method	Direct						
Fan motor	Phase	1~			1~		—	—
	Voltage	230 V			230 V		—	—
	No. of motors x output	1 x 80 W		80 + 85 W			230 + 190 W	

3.7 FHC

Technical specifications

The table below contains the technical specifications.

Specification		FHC35BZ7V1	FHC45BZ7V1	FHC60BZ7V1
Heat exchanger	Rows x stages x fin pitch	2 x 8 x 1.5 mm		
	Face area	0.331 m²		
	Tube type	Hi-XA		
	Fin type	Cross fin coil		
Fan	Nominal air flow (cooling)	H: 14 m³/min L: 10 m³/min	H: 15 m³/min L: 11 m³/min	H: 18 m³/min L: 14 m³/min
	Fan motor model	QTS56B14M		
	Fan speed	2 steps		
	Fan type	Turbo fan		
	Drive	Direct drive		
Refrigerant circuit	Type	R407C		
Safety and functional devices		See page 1–91 and 3–14		
Air filter		Resin net (mold resistant)		
Temperature control		Computerized control		
Insulation	Heat	Foamed polystyrene		
	Sound absorbing			
Weight		Unit: 23 kg Decoration panel: 5 kg		

Electrical specifications

The table below contains the electrical specifications.

Specification		FHC35BZ7V1	FHC45BZ7V1	FHC60BZ7V1
Unit	Phase	1~		
	Voltage	230 V		
	Frequency	50 Hz		
Fan motor	No. of motors x output	1 x 45 W		
	Power consumption	140 W		161 W
	FLA (Full Load Amps)	0.6 A		

1

3.8 FHYC and FHYCP

Technical specifications

The table below contains the technical specifications.

Specification		FHYCP35B7V1 FHYC35BZ7V1	FHYCP45B7V1 FHYC45BZ7V1	FHYCP60B7V1	FHYCP71B7V1	FHYCP100B7V1	FHYCP125B7V1
Heat exchanger	Rows x stages x fin pitch	2 x 8 x 1.5 mm				2 x 12 x 1.5 mm	
	Face area	0.331 m²				0.497 m²	
	Tube type	Hi-XA					
	Fin type	Cross fin coil					
Fan	Nominal air flow (cooling)	H: 14 m³/min L: 10 m³/min	H: 15 m³/min L: 11 m³/min	H: 18 m³/min L: 14 m³/min		H: 28 m³/min L: 21 m³/min	H: 31 m³/min L: 24 m³/min
	Nominal air flow (heating)	H: 14 m³/min L: 10 m³/min	H: 15 m³/min L: 11 m³/min	H: 18 m³/min L: 14 m³/min		H: 28 m³/min L: 21 m³/min	H: 31 m³/min L: 24 m³/min
	Fan motor model	QTS46B14M				QTS46A17M	
	Fan speed	2 steps					
	Fan type	Turbo fan					
	Drive	Direct drive					
Refrigerant circuit	Type	R407C					
Safety and functional devices		See page 1–91 and 3–14					
Air filter	Filter class	Resin net (mold resistant)					
	Max. temperature						
	Cleaning						
Temperature control		Computerized control					
Insulation	Heat	Foamed polystyrene					
	Sound absorbing						
Weight		Unit: 23 kg Decoration panel: 5 kg				Unit: 27 kg Decoration panel: 5 kg	

Electrical specifications

The table below contains the electrical specifications.

Specification		FHYCP35B7V1 FHYC35BZ7V1	FHYCP45B7V1 FHYC45BZ7V1	FHYCP60B7V1	FHYCP71B7V1	FHYCP100B7V1	FHYCP125B7V1
Unit	Phase	1~					
	Voltage	230 V					
	Frequency	50 Hz					
Fan motor	FLA (Full Load Amps)	0.6 A				1.0 A	
	Power consumption	140 W		161 W		204 W	238 W
	No. of motors x output	1 x 45 W				1 x 90 W	

3.9 FHYBP

Technical specifications

The table below contains the technical specifications.

Specification		FHYBP35B7V1	FHYBP45B7V1	FHYBP60B7V1	FHYBP71B7V1	FHYBP100B7V1	FHYBP125B7V1
Heat exchanger	Length	450 mm		750 mm		1150 mm	
	Rows x stages x fin pitch	3 x 14 x 1.75 mm					
	No. of passes	4	6	7		10	13
	Face area	0.132 m^2		0.221 m^2		0.338 m^2	
	Tube type	Hi-XA					
	Fin type	Fin Rhombus type					
	Empty tube hole	4	0			14	0
	No. of fans	1		2		3	
Fan	Nominal air flow (cooling)	H: 11.5 m^3/min L: 9 m^3/min	H: 14 m^3/min L: 10 m^3/min	H: 19 m^3/min L: 14 m^3/min		H: 27 m^3/min L: 20 m^3/min	H: 35 m^3/min L: 24 m^3/min
	Nominal air flow (heating)	H: 11.5 m^3/min L: 9 m^3/min	H: 14 m^3/min L: 10 m^3/min	H: 19 m^3/min L: 14 m^3/min		H: 27 m^3/min L: 20 m^3/min	H: 35 m^3/min L: 24 m^3/min
	Fan speed	2 steps					
	Fan type	Sirocco fan					
	Drive	Direct drive					
	Static external pressure (50/60 Hz)	—	—	H: 88 M: 49 L: 20		H: 88 M: 49	
Refrigerant circuit	Type	R407C					
Safety and functional devices		See page 1–91 and 3–14					
Insulation	Heat	Both liquid and gas pipes					
	Sound absorbing	Flame and heat resistant foamed polyethylene, regular foamed polyethylene and foamed PU		Foamed polyurethane			
Weight		30 kg	31 kg	41 kg		51 kg	52 kg

Electrical specifications

The table below contains the electrical specifications.

Specification		FHYBP35B7V1	FHYBP45B7V1	FHYBP60B7V1	FHYBP71B7V1	FHYBP100B7V1	FHYBP125B7V1
Unit	Phase	1~					
	Voltage	230 V					
	Frequency	50 Hz					
	Recommended fuses	16 A	20 A	—	—	—	—
Fan motor	Phase	1~					
	Voltage	230 V					
	Nominal running current	0.5 A	0.7 A	0.9 A		1.0 A	1.4 A
	No. of motors x output	1 x 65 W	1 x 85 W	1 x 125 W		1 x 135 W	1 x 225 W
	Power consumption	65 W	85 W	125 W		135 W	225 W

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3.10 FDYP

Technical specifications

The table below contains the technical specifications.

Specification		FDYP125B7V1	FDYP200B7V1	FDYP250B7V1
Heat exchanger	Rows x stages x fin pitch	3 x 14 x 1.75 mm	3 x 24 x 3 mm	
	Face area	0.338 m²	0.634 m²	
	Tube type	Hi-XA		
	Fin type	MLH7 fin hydrophilia	Non symm. fin	
Fan	Nominal air flow (cooling)	43 m³/min	69 m³/min	89 m³/min
	Fan motor model	DPA216-178NB	DPC241-241NB	
	Fan speed	3 steps		2 steps
	Drive	Direct drive		
	Static external pressure (50/60 Hz)	0-150 Pa	0-250 Pa	
Refrigerant circuit	Type	R407C		
Safety and functional devices		See page 1–91 and 3–14		
Air filter	Filter class	Eurovent 4/5 (EU2), EN 779 5G2)		
	Max. temperature	100˚C		
	Cleaning	Hot water 30-40˚C or compressed air		
Temperature control		Computerized control		
Insulation	Sound absorbing	Flame and heat resistant foamed felt		
Weight		59 kg	90 kg	92 kg

Electrical specifications

The table below contains the electrical specifications.

Specification		FDYP125B7V1	FDYP200B7V1	FDYP250B7V1
Unit	Phase	1~		
	Voltage	230 V		
	Frequency	50 Hz		
Fan motor	No. of motors x output	500 W	650 W	1000 W

1

3.11 FHYP

Technical specifications

The table below contains the technical specifications.

Specification		FHYP35BV1	FHYP45BV1	FHYP60BV1	FHYP71BV1	FHYP100BV1	FHYP125BV1
Heat exchanger	Length	722 mm		922 mm		1162 mm	1352 mm
	Rows x stages x fin pitch	2 x 12 x 1.75 mm	3 x 12 x 1.75 mm				
	No. of passes	6				11	
	Face area	0.182 m²		0.233 m²		0.293 m²	0.341 m²
	Tube type	N-hiX tubes					
	Fin type	Cross fin coil (multi louvre fins)					
	Empty tube hole	0					
Fan	Nominal air flow (cooling)	H: 13 m³/min L: 10 m³/min		H: 16m³/min L: 13 m³/min	H: 17 m³/min L: 14 m³/min	H: 24 m³/min L: 20 m³/min	H: 30 m³/min L: 25 m³/min
	Nominal air flow (heating)	H: 13 m³/min L: 10 m³/min		H: 16 m³/min L: 13 m³/min	H: 17 m³/min L: 14 m³/min	H: 24 m³/min L: 20 m³/min	H: 30 m³/min L: 25 m³/min
	Fan motor model	3D12K1AA1		4D12K1AA1		3D12K2AA1	4D12K2AA1
	Fan speed	2 steps					
	Fan type	Sirroco fan					
Refrigerant circuit	Type	R407C					
Safety and functional devices		See page 1–91 and 3–14					
Insulation	Heat	Foamed polystyrene / foamed polyethylene					
	Sound absorbing	Foamed polyurethane / glass wool					
Weight		23 kg	24 kg	26 kg	27 kg	32 kg	35 kg

Electrical specifications

The table below contains the electrical specifications.

Specification		FHYP35BV1	FHYP45BV1	FHYP60BV1	FHYP71BV1	FHYP100BV1	FHYP125BV1
Unit	Phase	1~					
	Voltage	230 V					
	Frequency	50 Hz					
Fan motor	Phase	1~					
	Voltage	230 V					
	Power consumption	111 W		115 W	117 W	135 W	144 W
	FLA (Full Load Amps)	0.6 A				0.7 A	
	No. of motors x output	3 x 62 W		4 x 62 W		3 x 130 W	4 x 130 W

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3.12 FUYP

Technical specifications

The table below contains the technical specifications.

Specification		FUYP71BV17	FUYP100BV17	FUYP125BV17
Heat exchanger	Length	2101 mm		
	Rows x stages x fin pitch	3 x 6 x 1.8 mm	3 x 8 x 1.8 mm	
	No. of passes	8		12
	Face area	0.265 m²	0.353 m²	
	Tube type	N-hiX tubes		
	Fin type	Cross fin coil (multi louvre fins)		
	Empty tube hole	0	4	0
Fan	Nominal air flow (cooling)	H: 19 m³/min L: 14 m³/min	H: 29 m³/min L: 21 m³/min	H: 32 m³/min L: 23 m³/min
	Nominal air flow (heating)	H: 19 m³/min L: 14 m³/min	H: 29 m³/min L: 21 m³/min	H: 32 m³/min L: 23 m³/min
	Fan motor model	QTS48A10M	QTS50B15M	
	Fan speed	2 steps		
	Fan type	Turbo fan		
Refrigerant circuit	Type	R407C		
Safety and functional devices		See page 1–91 and 3–14		
Air filter		Resin net (with mold resistant)		
Insulation	Heat	Heat resistant foamed polyethylene Regular foamed polyethylene		
Weight		25 kg	31 kg	

Electrical specifications

The table below contains the electrical specifications.

Specification		FUYP71BV17	FUYP100BV17	FUYP125BV17
Unit	Phase	1~		
	Voltage	230 V		
	Frequency	50 Hz		
Fan motor	Phase	1~		
	Voltage	230 V		
	Power consumption	Cooling: 180 W Heating: 160 W	Cooling: 289 W Heating: 269 W	
	FLA (Full Load Amps)	0.6 A	1.0 A	
	No. of motors x output	1 x 45 W	1 x 90 W	

3.13 FAYP and FHYKP

Technical specifications

The table below contains the technical specifications.

Specification		FAYP71BV1	FAYP100BV1	FHYKP35BV1	FHYKP45BV1	FHYKP60BV1	FHYKP71BV1
Heat exchanger	Length	1320 mm		778 mm		978 mm	
	Rows x stages x fin pitch	2 x 12 x 1.4 mm		2 x 11 x 1.75 mm	3 x 11 x 1.75 mm		
	No. of passes	9		5		9	
	Face area	0.332 m²		0.186 m²		0.226 m²	
	Tube type	N-hiX tubes		N-hiX tubes			
	Fin type	Cross fin coil (multi louvre fins)		Cross fin coil (multi louvre fins)			
	Empty tube hole	2		2	3		
Fan	Nominal air flow (cooling)	H: 19 m³/min L: 16 m³/min	H: 23 m³/min L: 19 m³/min	H: 12 m³/min L: 9 m³/min	H: 12 m³/min L: 10 m³/min	H: 17 m³/min L: 14 m³/min	
	Nominal air flow (heating)	H: 19 m³/min L: 16 m³/min	H: 23 m³/min L: 19 m³/min	H: 12 m³/min L: 9 m³/min	H: 12 m³/min L: 10 m³/min	H: 17 m³/min L: 14 m³/min	
	Fan motor model	QCL1163MA and QCL1163MB		3D12H1AH1V1	3D12H1J1V1	4D12H1AG1V1	
	Fan speed	2 steps		2 steps			
	Fan type	Cross frow fan		Sirocco fan			
Refrigerant circuit	Type	R407C		R407C			
Safety and functional devices		See page 1–91 and 3–14		See page 1–91 and 3–14			
Insulation	Heat	Foamed polystyrene / foamed polyeth-ylene		Foamed polystyrene / foamed polyethylene			
Weight		26 kg		30 kg	31 kg	33 kg	
Decoration panel (option)	Model	—	—	BYK45FJW1		BYK71FJW1	
	Air filter	—	—	Resin net (with mold resistant)			
	Weight	—	—	8.5 kg		9.5 kg	

Electrical specifications

The table below contains the electrical specifications.

Specification		FAYP71BV1	FAYP100BV1	FHYKP35BV1	FHYKP45BV1	FHYKP60BV1	FHYKP71BV1
Unit	Phase	1~		1~			
	Voltage	230 V		230 V			
	Frequency	50 Hz		50 Hz			
Fan motor	Phase	1~		1~			
	Voltage	230 V		230 V			
	Power consumption	86 W	101 W	Cooling: 92 W Heating: 59 W	Cooling: 100 W Heating: 67 W	Cooling: 123 W Heating: 90 W	
	FLA (Full Load Amps)	0.3 A	0.4 A	0.2 A	0.3 A	0.5 A	
	No. of motors x output	1 x 46 W	1 x 49 W	1 x 20 W	1 x 25 W	1 x 45 W	

4 Functional Diagrams

4.1 What Is in This Chapter?

Introduction

This chapter contains the following information:

- Functional diagrams
- Pipe connection diameters.

Functional diagrams

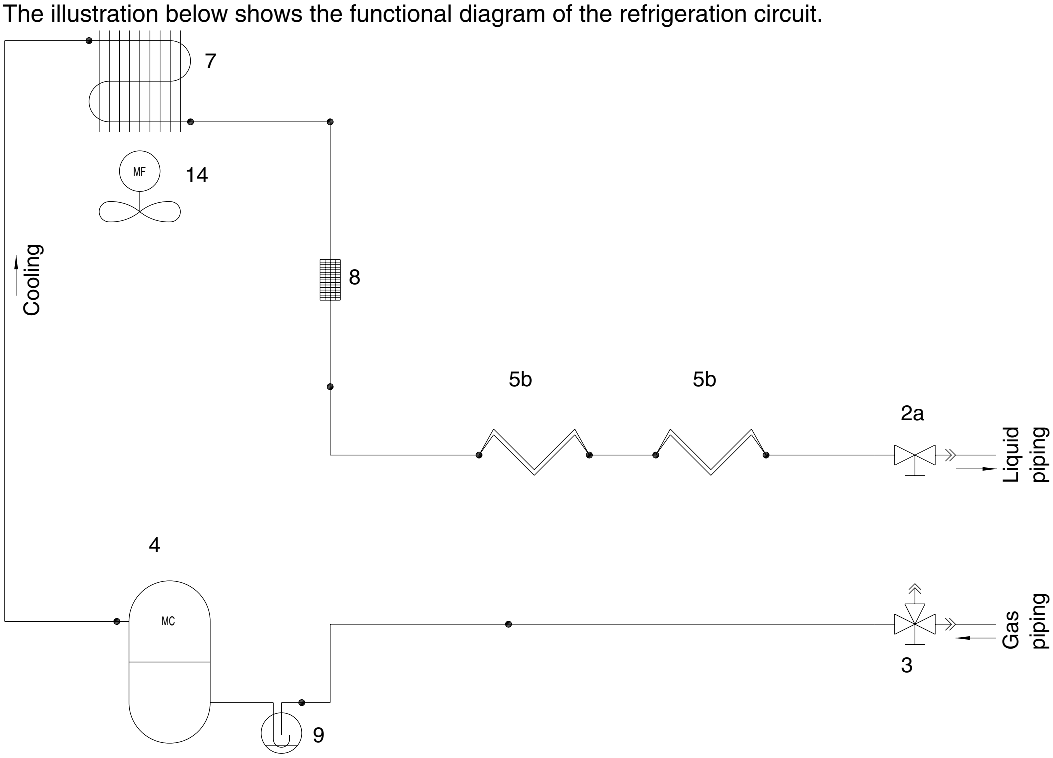
This chapter contains the following functional diagrams:

1

4.2 R35GZ7V11

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

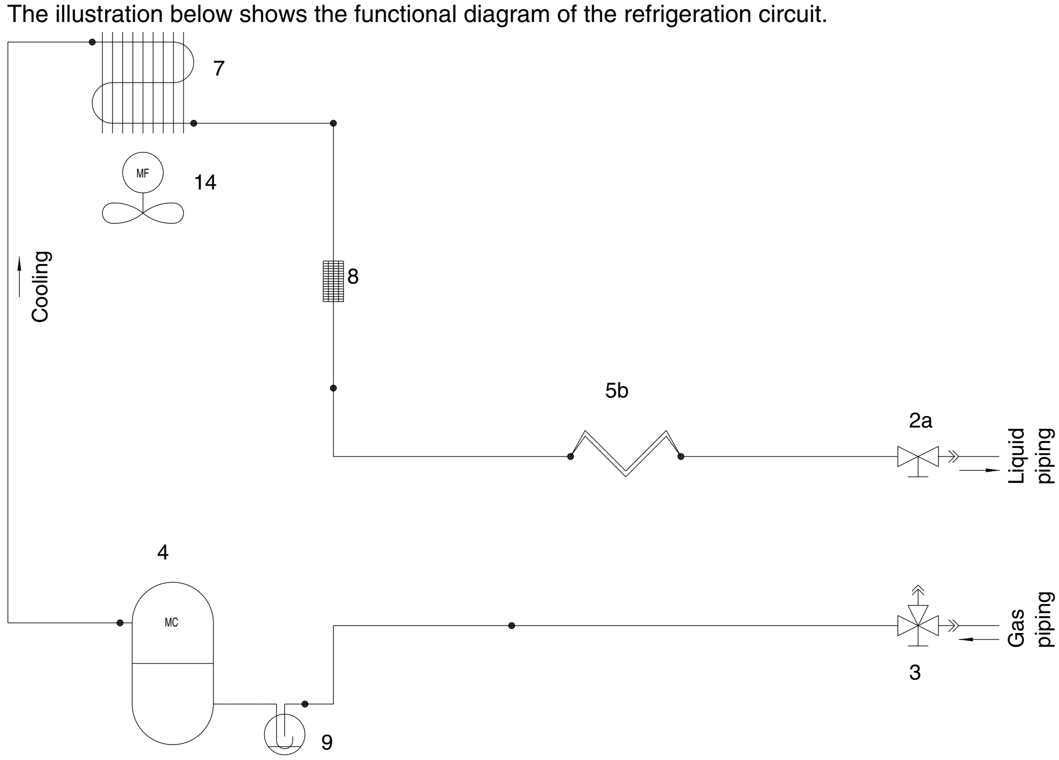
The table below contains the refrigerant pipe connection diameters.

Model	∅ Gas pipe (flare)	∅ Liquid pipe (flare)
R35GZ7V11	12.70 mm	6.35 mm

4.3 R45GZ7V11 and R45GZ7W11

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

The table below contains the refrigerant pipe connection diameters.

Model	∅ Gas pipe (flare)	∅ Liquid pipe (flare)
R45GZ7V11	15.87 mm	6.35 mm
R45GZ7W11		

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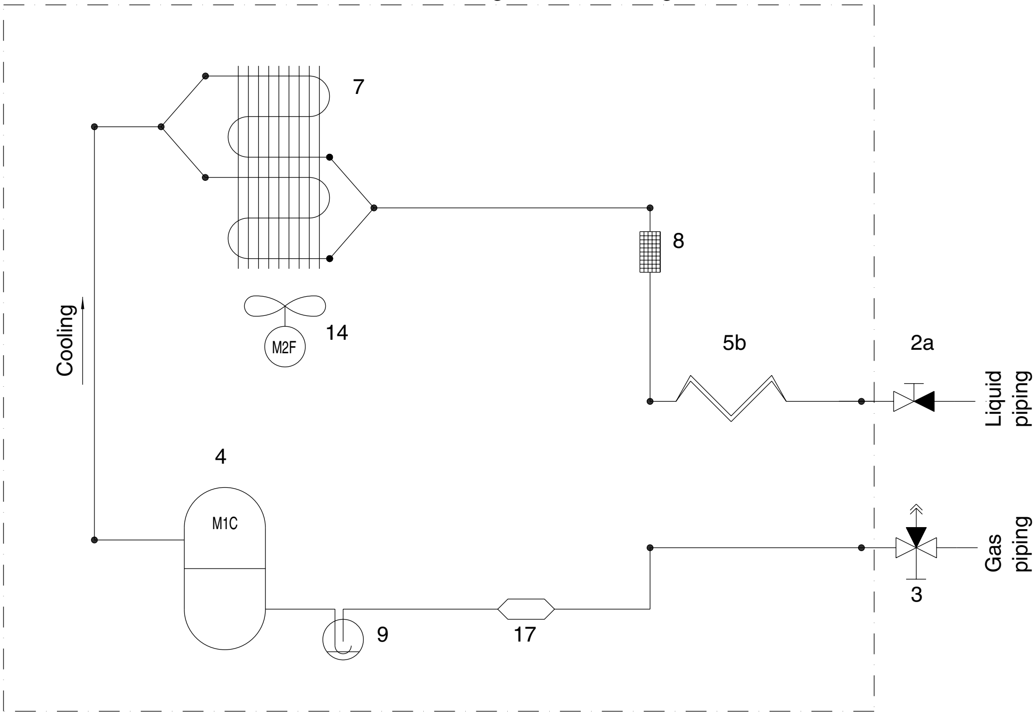
4.4 R60GZ7W1

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

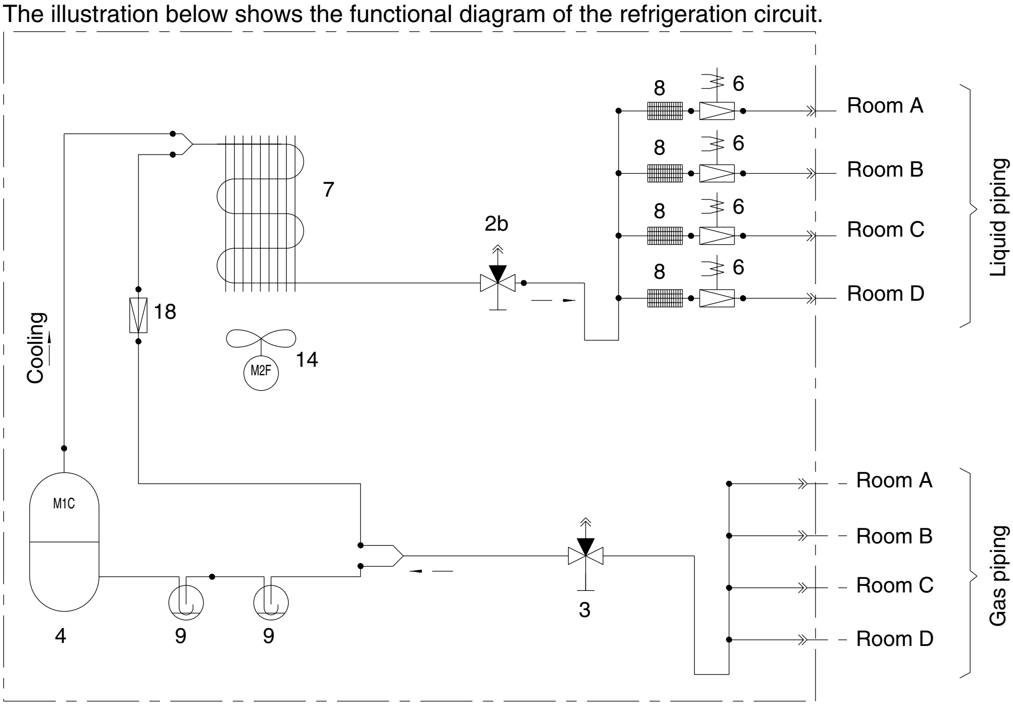
The table below contains the refrigerant pipe connection diameters.

Model	∅ Gas pipe (flare)	∅ Liquid pipe (flare)
R60GZ7W1	15.87 mm	6.35 mm

4.5 MA56GZ7W11

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

The table below contains the refrigerant pipe connection diameters.

Model	Room	∅ Gas pipe (flare)	∅ Liquid pipe (flare)
MA56GZ7W11	A	12.70 mm	6.35 mm
	B	9.52 mm	
	C	15.87 mm	
	D		

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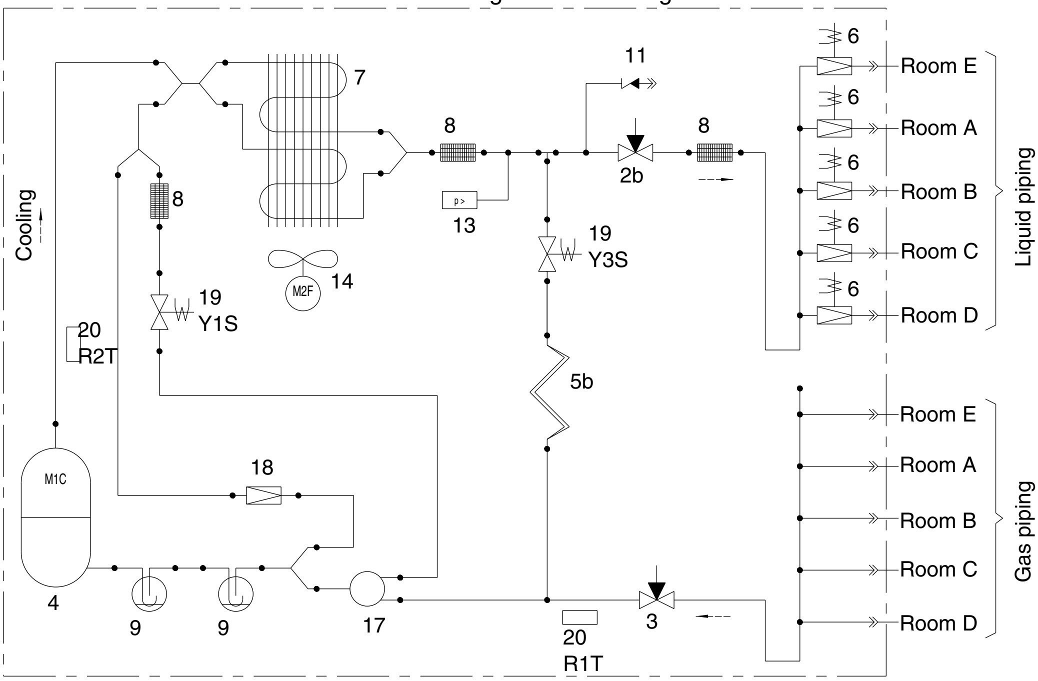
4.6 MA90GZ7W11

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

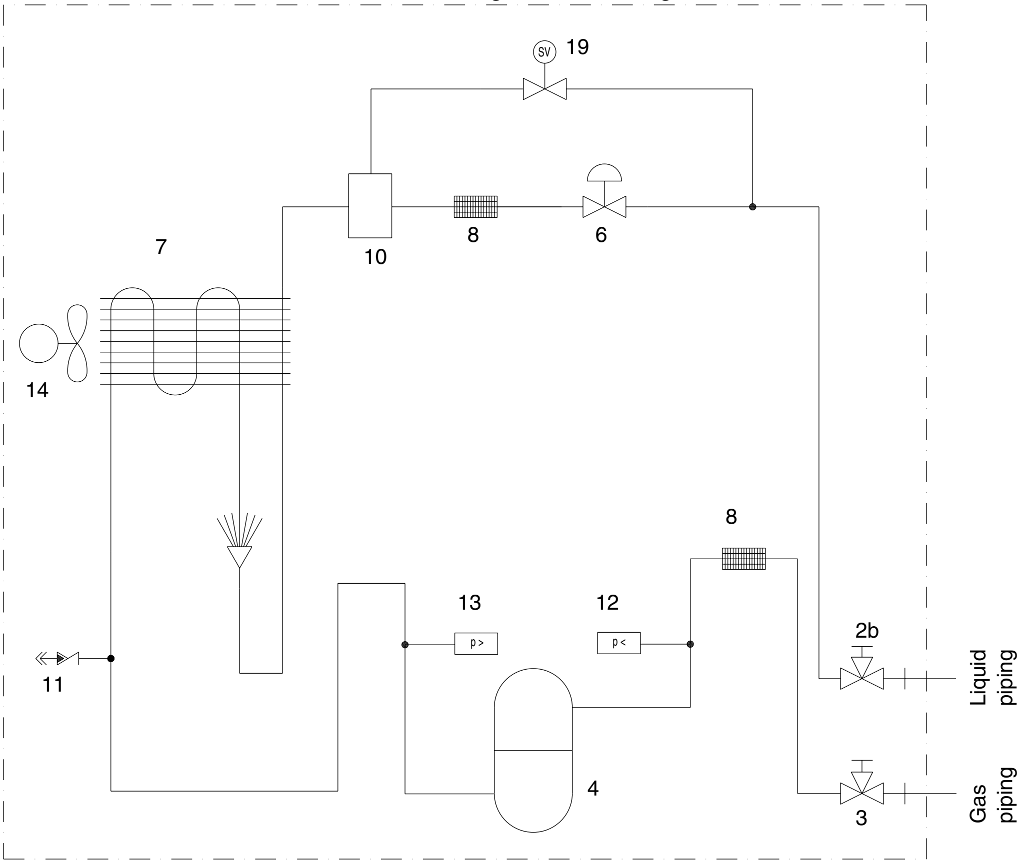
The table below contains the refrigerant pipe connection diameters.

Model	Room	∅ Gas pipe (flare)	∅ Liquid pipe (flare)
MA90GZ7W11	A	12.70 mm	6.35 mm
	B		
	C	15.87 mm	
	D		
	E		

4.7 RP71B7V1, RP71B7W1, RP71B7T1, RP100B7V1, RP100B7W1, RP100B7T1, RP125B7W1 and RP125B7T1

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

The table below contains the refrigerant pipe connection diameters.

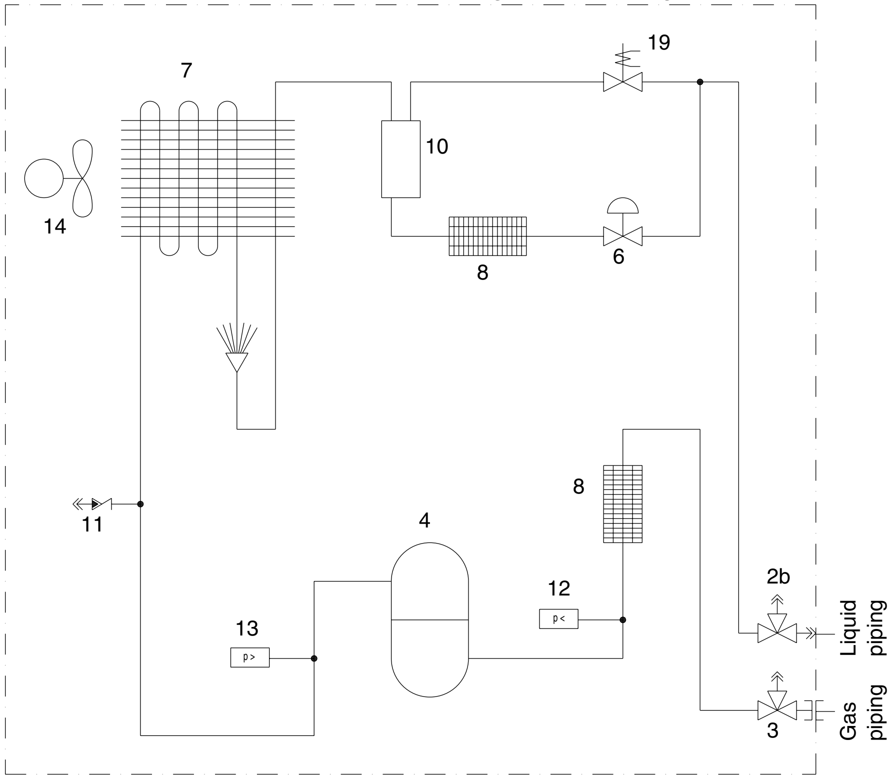
Model	∅ Gas pipe (flare)	∅ Liquid pipe (flare)
RP71B7V1	15.87 mm	9.52 mm
RP71B7W1		
RP71B7T1		
RP100B7V1	19.05 mm	
RP100B7W1		
RP100B7T1		
RP125B7W1		
RP125B7T1		

1

4.8 RP200B7W1 and RP250B7W1: Outdoor Unit

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

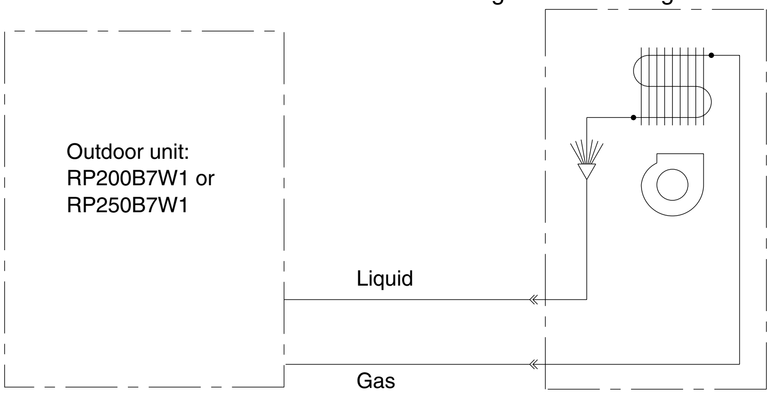
The table below contains the refrigerant pipe connection diameters.

Model	∅ Gas pipe (flange)	∅ Liquid pipe (flare)
RP200B7W1 RP250B7W1	■ For pair, see page 1-79. ■ For twin, see page 1-80. ■ For triple, see page 1-81. ■ For double twin, see page 1-82.	

4.9 RP200B7W1 and RP250B7W1: Pair

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see ’Piping Components’ on page 1–93.

Pipe connection diameters

The table below contains the refrigerant pipe connection diameters.

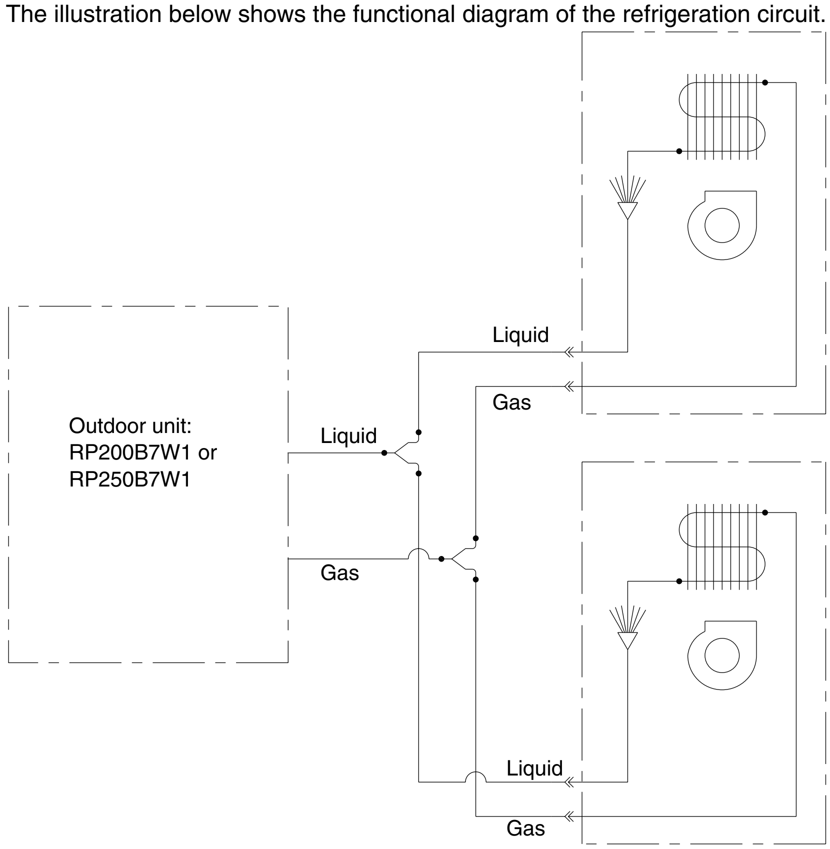
Model	∅ Gas pipe (flange)	∅ Liquid pipe (flare)
RP200B7W1	28.57 mm	12.70 mm
RP250B7W1		15.87 mm

1

4.10 RP200B7W1 and RP250B7W1: Twin

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

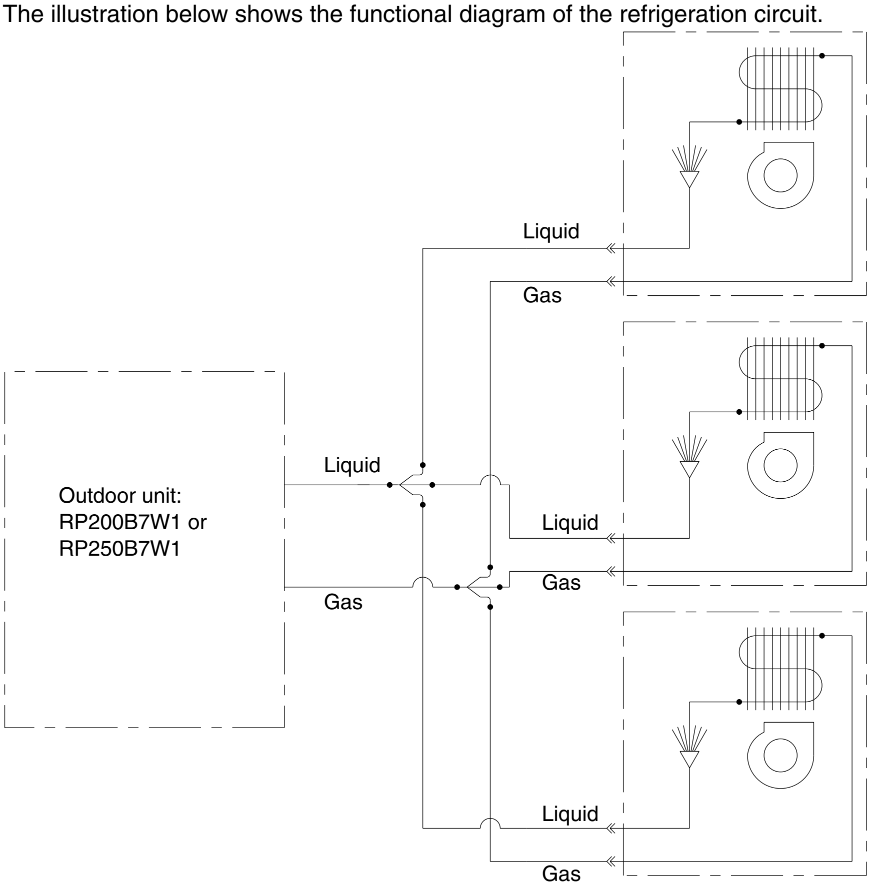
The table below contains the refrigerant pipe connection diameters.

Model	∅ Gas pipe	∅ Liquid pipe
RP200B7W1	28.57 mm	12.70 mm
RP250B7W1		15.87 mm

4.11 RP200B7W1 and RP250B7W1: Triple

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

The table below contains the refrigerant pipe connection diameters.

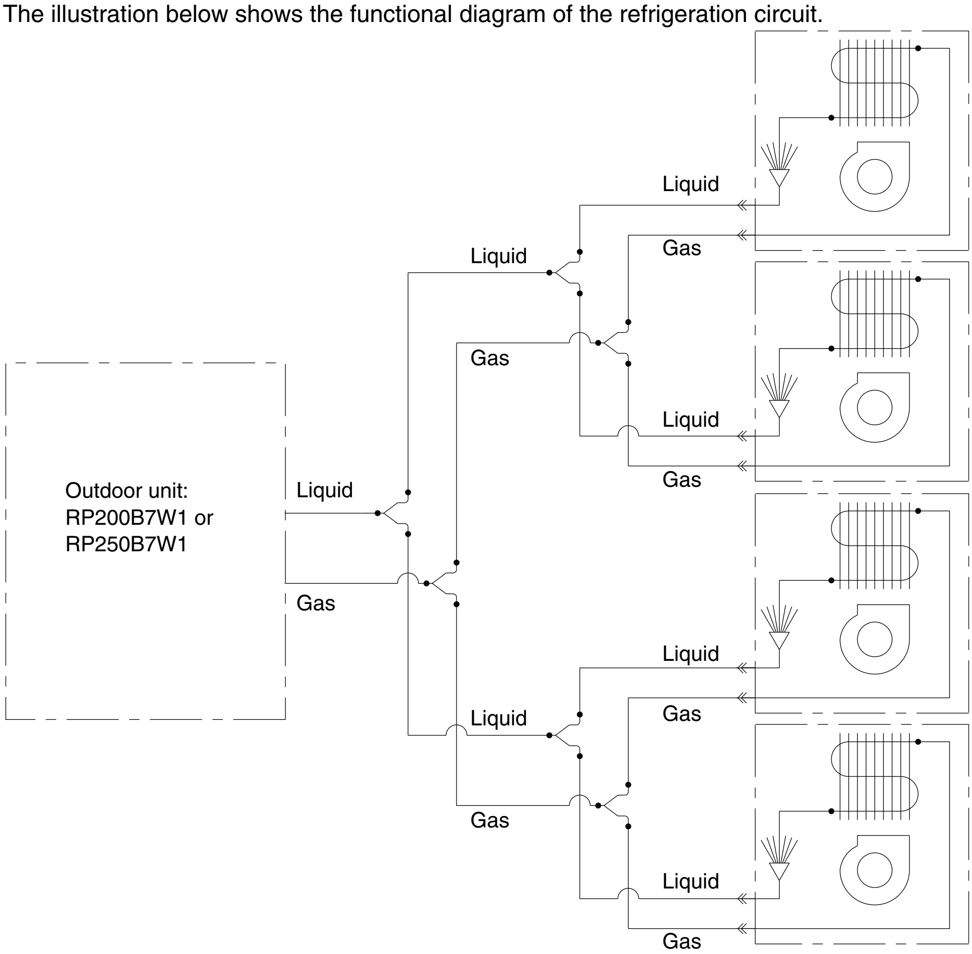
Model	∅ Gas pipe	∅ Liquid pipe
RP200B7W1	28.57 mm	12.70 mm
RP250B7W1		15.87 mm

1

4.12 RP200B7W1 and RP250B7W1: Double Twin

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

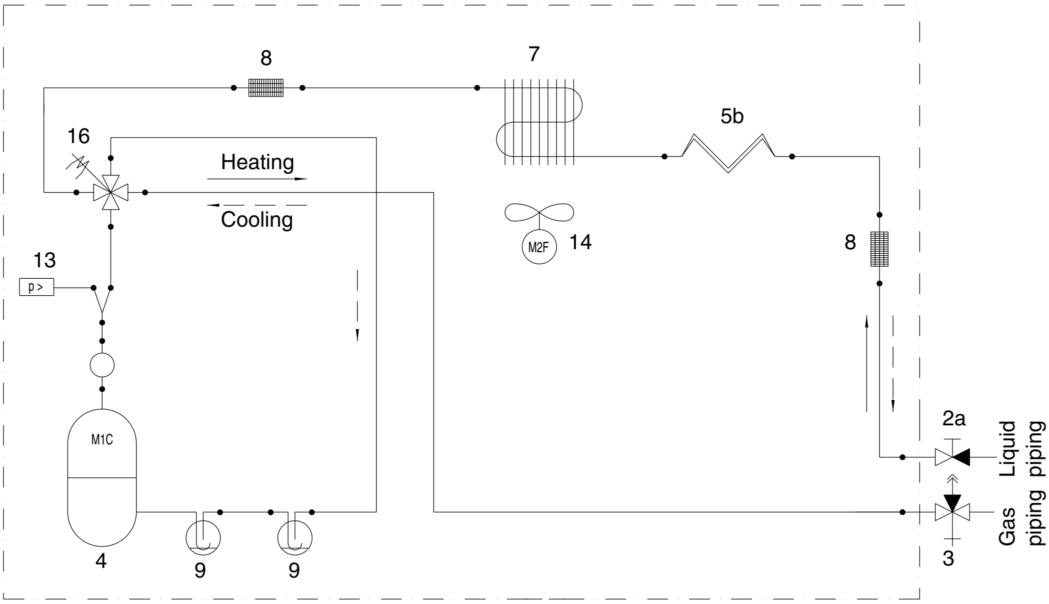
The table below contains the refrigerant pipe connection diameters.

Model	Between	∅ Gas pipe	∅ Liquid pipe
RP200B7W1	Outdoor unit – branch pipe	28.57 mm (flange)	12.70 mm (flare)
	Branch pipe – branch pipe	19.05 mm (flare)	9.52 mm (flare)
	Branch pipe – indoor unit	12.70 mm (flare)	6.35 mm (flare)
RP250B7W1	Outdoor unit – branch pipe	28.57 mm (flange)	15.87 mm (flare)
	Branch pipe – branch pipe	19.05 mm (flare)	9.52 mm (flare)
	Branch pipe – indoor unit	15.87 mm (flare)	9.52 mm (flare)

4.13 RY35EAZ7V1

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

The table below contains the refrigerant pipe connection diameters.

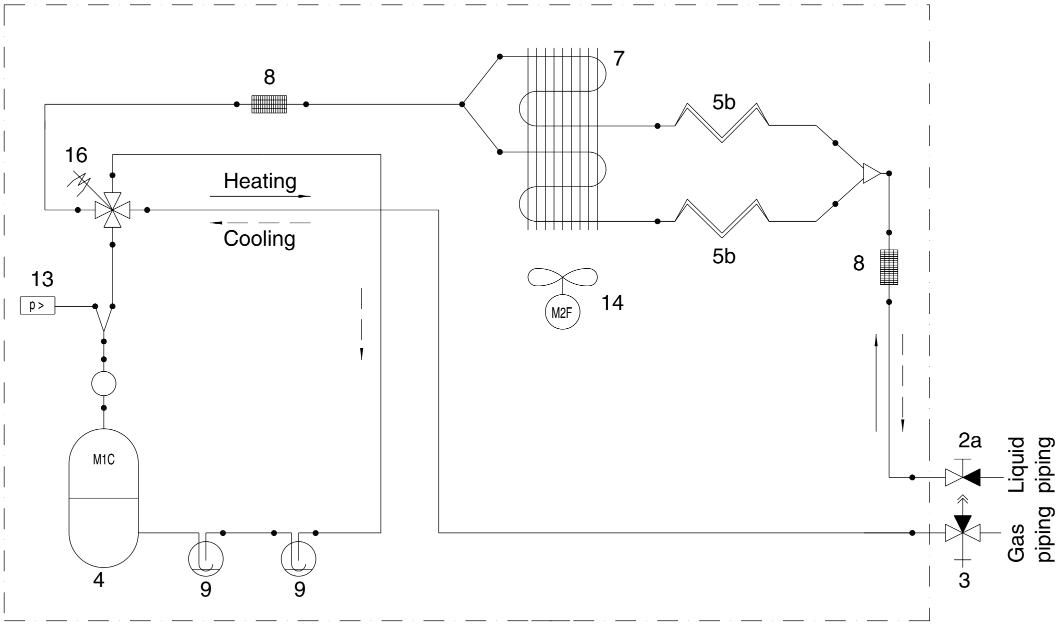
Model	∅ Gas pipe (flare)	∅ Liquid pipe (flare)
RY35EAZ7V1	12.70 mm	6.35 mm

1

4.14 RY45EAZ7V1

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

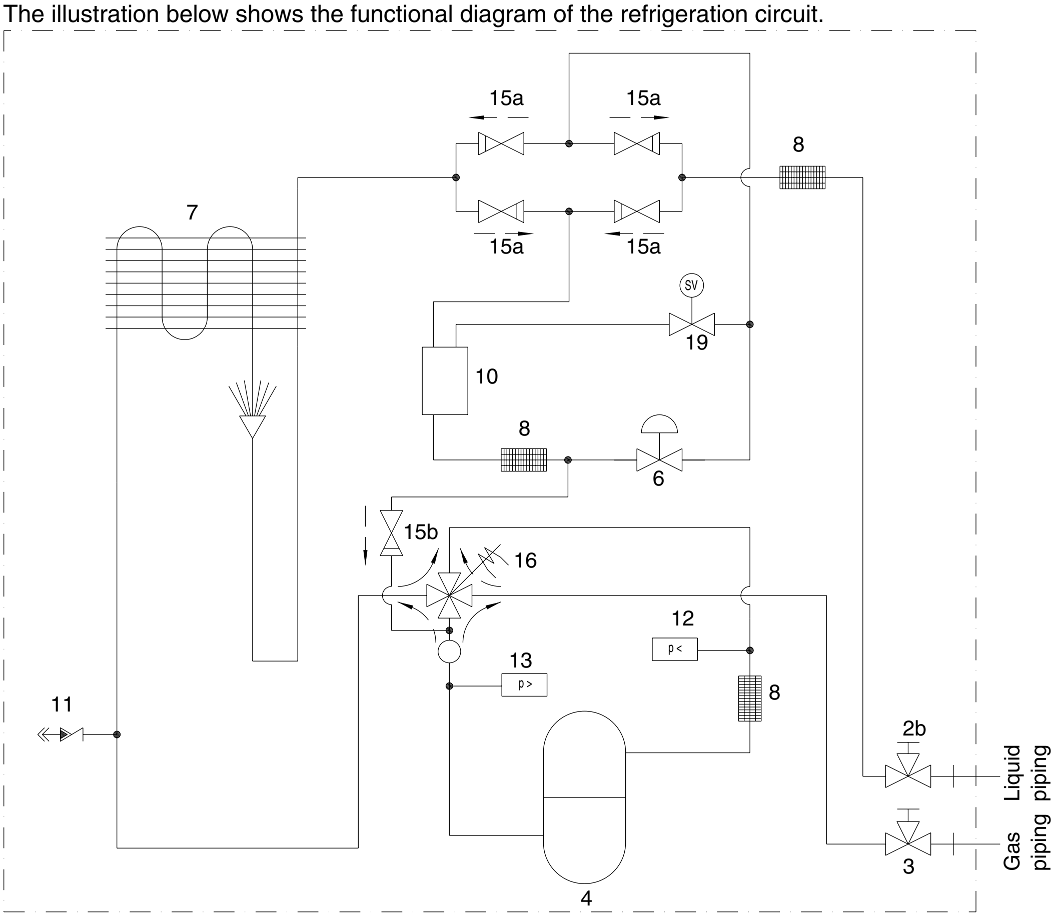
The table below contains the refrigerant pipe connection diameters.

Model	∅ Gas pipe (flare)	∅ Liquid pipe (flare)
RY45EAZ7V1	15.87 mm	6.35 mm

4.15 RYP71B7V1, RYP71B7W1, RYP100B7V1, RYP100B7W1 and RYP125B7W1

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see ’Piping Components’ on page 1–93.

Pipe connection diameters

The table below contains the refrigerant pipe connection diameters.

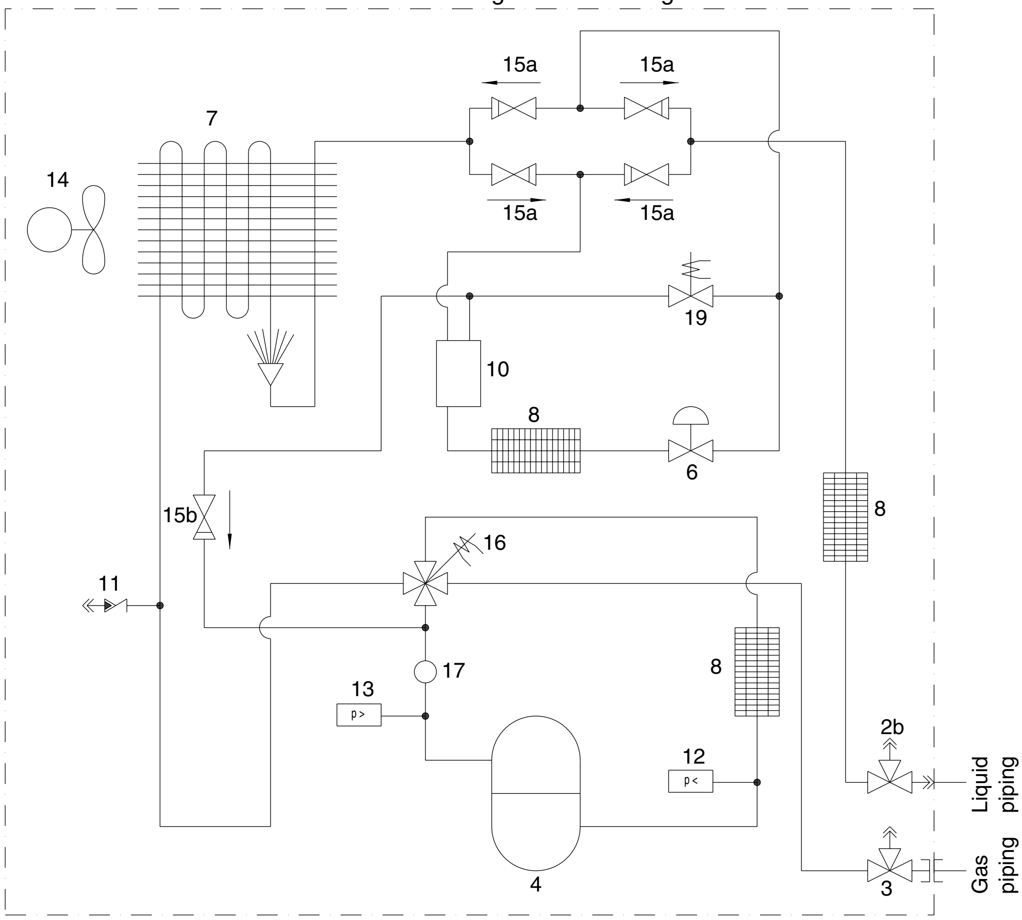
Model	∅ Gas pipe (flare)	∅ Liquid pipe (flare)
RYP71B7V1	15.87 mm	9.52 mm
RYP71B7W1		
RYP100B7V1	19.05 mm	
RYP100B7W1		
RYP125B7W1		

1

4.16 RYP200B7W1 and RYP250B7W1: Outdoor Unit

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

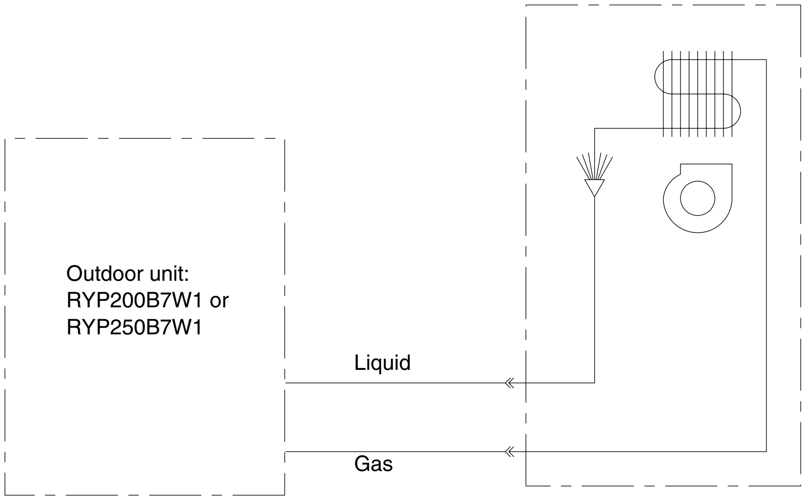
The table below contains the refrigerant pipe connection diameters.

Model	∅ Gas pipe (flange)	∅ Liquid pipe (flare)
RYP200B7W1	■ For pair, see page 1-87 ■ For twin, see page 1-88 ■ For triple, see page 1-89 ■ For double twin, see page 1-90	
RYP250B7W1		

4.17 RYP200B7W1 and RYP250B7W1: Pair

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

The table below contains the refrigerant pipe connection diameters.

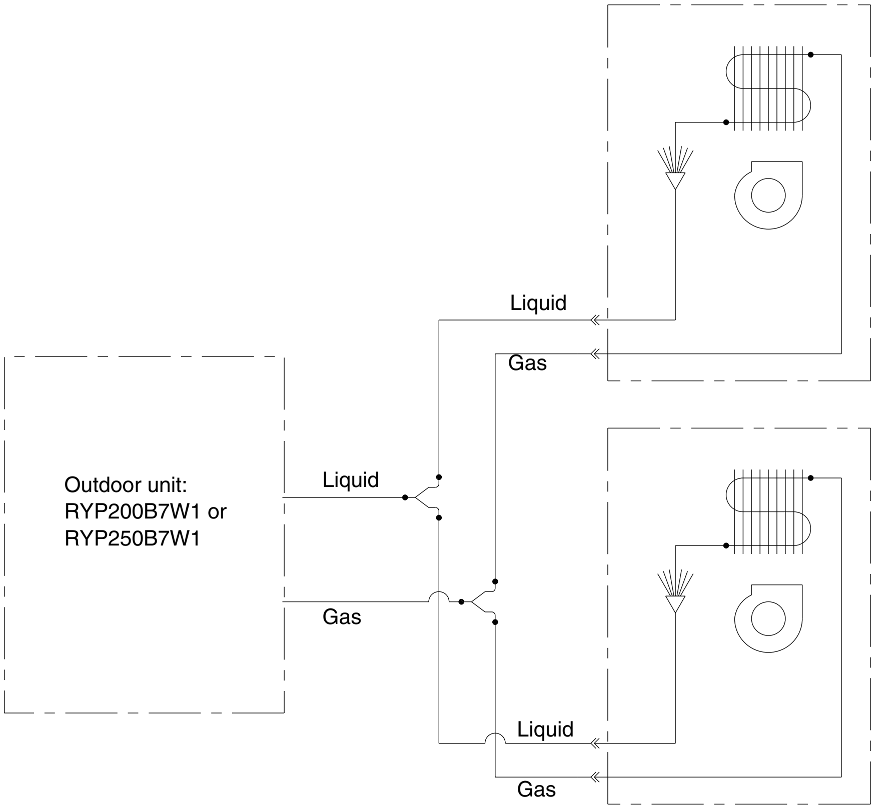
Model	∅ Gas pipe (flange)	∅ Liquid pipe (flare)
RYP200B7W1	28.57 mm	12.70 mm
RYP250B7W1		15.87 mm

1

4.18 RYP200B7W1 and RYP250B7W1: Twin

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

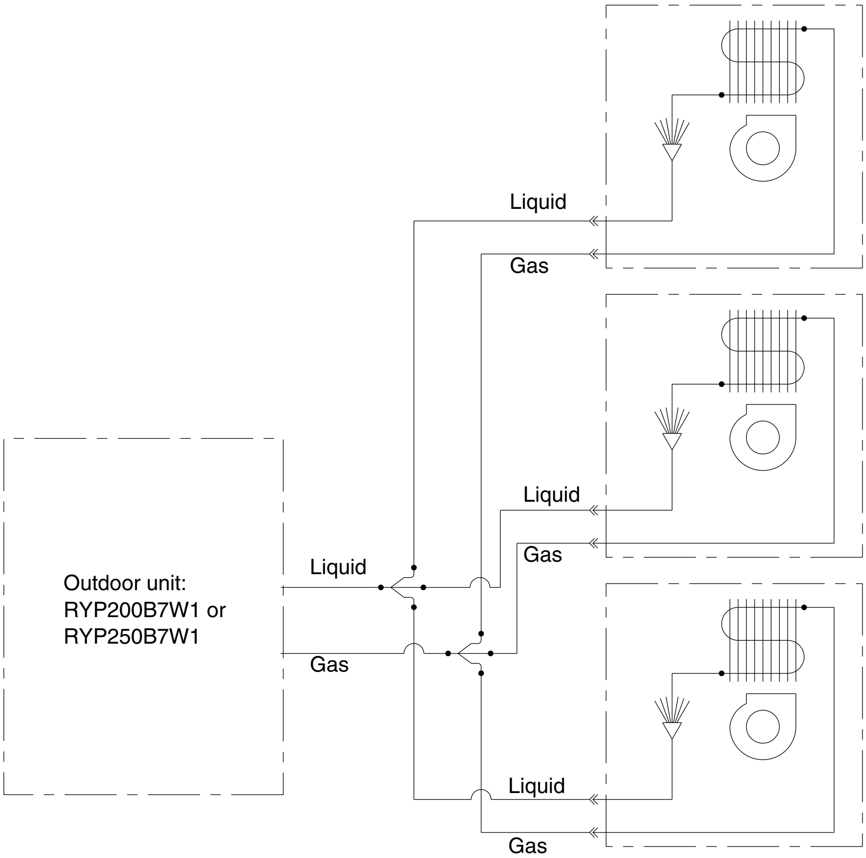
The table below contains the refrigerant pipe connection diameters.

Model	∅ Gas pipe (flange)	∅ Liquid pipe (flare)
RYP200B7W1	28.57 mm	12.70 mm
RYP250B7W1		15.87 mm

4.19 RYP200B7W1 and RYP250B7W1: Triple

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see ’Piping Components’ on page 1–93.

Pipe connection diameters

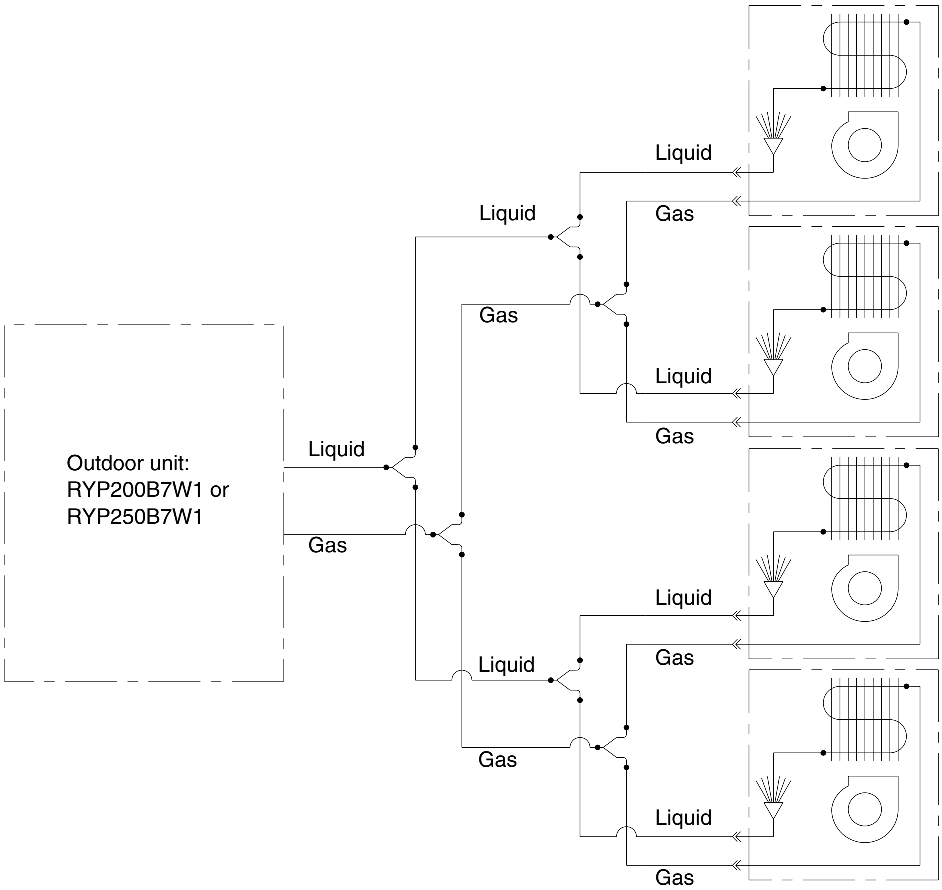
The table below contains the refrigerant pipe connection diameters.

Model	∅ Gas pipe (flange)	∅ Liquid pipe (flare)
RYP200B7W1	28.57 mm	12.70 mm
RYP250B7W1		15.87 mm

4.20 RYP200B7W1 and RYP250B7W1: Double Twin

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

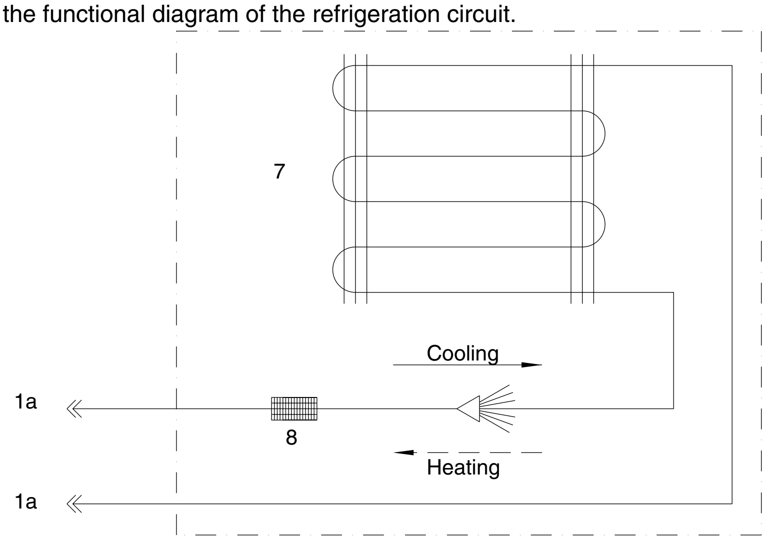
The table below contains the refrigerant pipe connection diameters.

Model	Between	∅ Gas pipe	∅ Liquid pipe
RYP200B7W1	Outdoor unit – branch pipe	28.57 mm	12.70 mm
	Branch pipe – branch pipe	19.05 mm	9.52 mm
	Branch pipe – indoor unit	12.70 mm	6.35 mm
RYP250B7W1	Outdoor unit – branch pipe	28.57 mm	15.87 mm
	Branch pipe – branch pipe	19.05 mm	9.52 mm
	Branch pipe – indoor unit	15.87 mm	

4.21 FHC, FHYBP, FHYC, FHYCP, FUYP, FAYP, FDYP, FHYP and FHYKP

Functional diagram

The illustration below shows the functional diagram of the refrigeration circuit.



Components

For a description of the components, see 'Piping Components' on page 1–93.

Pipe connection diameters

The table below contains the refrigerant pipe connection diameters.

Model	∅ Gas pipe (flare)	∅ Liquid pipe (flare)
FHC35BZ7V1	12.70 mm	6.35 mm
FHC45BZ7V1	15.90 mm	
FHC60BZ7V1		
FHYBP35B7V1	12.70 mm	6.35 mm
FHYBP45B7V1	15.90 mm	
FHYBP60B7V1		9.52 mm
FHYBP71B7V1		
FHYBP100B7V1	19.05	
FHYBP125B7V1		
FHYC35BZ7V1	12.70 mm	6.35 mm
FHYC45BZ7V1	15.90 mm	
FHYCP35B7V1	12.70 mm	6.35 mm
FHYCP45B7V1	15.90 mm	
FHYCP60B7V1		9.52 mm
FHYCP71B7V1		
FHYCP100B7V1	19.05 mm	
FHYCP125B7V1		

Model	∅ Gas pipe (flare)	∅ Liquid pipe (flare)
FUYP71BV17	15.90 mm	9.52 mm
FUYP100BV17	19.05 mm	
FUYP125BV17		
FAYP71BV1	15.90 mm	9.52 mm
FAYP100BV1	19.05 mm	
FDYP125B7V1	19.05 mm	9.52 mm
FDYP200B7V1	28.57 mm	12.70 mm
FDYP250B7V1		15.90 mm
FHYP35BV1	12.70 mm	6.35 mm
FHYP45BV1		
FHYP60BV1	15.90 mm	9.52 mm
FHYP71BV1		
FHYP100BV1	19.05 mm	
FHYP125BV1		
FHYKP35BV1	12.70 mm	6.35 mm
FHYKP45BV1		
FHYKP60BV1	15.90 mm	9.52 mm
FHYKP71BV1		

4.22 Piping Components

Components

The table below contains the different components of the functional diagrams.

No.	Component	Function / remark
1a	Flare connection	See pipe connection diameter.
1b	Flange connection	
2a	Liquid stop valve	The liquid stop valve is used as shut-off valve in case of a pump-down.
2b	Liquid stop valve with service port	
3	Gas stop valve with service port	The gas stop valve is used as shut-off valve in case of a pump-down.
4	Compressor	The compressor can restart after 3 min from last stop.
5a	Capillary tube	The capillary tube allows pressure equalization during a compressor OFF-cycle.
5b		The capillary tube expands the liquid to enable evaporation in the evaporator.
6	Electronic expansion valve	The expansion valve expands the liquid to enable evaporation in the evaporator. The opening degree is controlled to obtain the optimum discharge temperature.
7	Heat exchanger	The heat exchanger is of the multi louvre fin type. Hi-X -tubes and coated waffle louvre fins are used.
8	Filter	The filter is used to collect impurities, which may enter the system during installation and is also used to avoid blockage of the capillaries and other fine mechanical parts of the unit.
9	Accumulator	The accumulator is used to separate the gas from the liquid in order to protect the compressor against liquid pumping.
10	Liquid receiver	The liquid receiver is used to make sure only completely liquefied refrigerant is sent to the expansion valve. It is also used as a container in which surplus refrigerant is stored.
11	Check valve with service port	The check valve allows you to connect a gauge.
12	Low-pressure switch	The low-pressure switch stops the operation of the unit when the pressure becomes abnormally low.
13	High-pressure switch	The high-pressure switch stops the operation of the unit when the pressure becomes abnormally high.
14	Propeller fan and fan motor	The propeller fan creates air displacement across the heat exhanger.
15a	One-way valve	The one-way valve is used to force the refrigerant liquid to flow through the receiver and the expansion valve in the same direction both in cooling and heating.
15b		The one-way valve is used to release overpressure in the liquid receiver during stand-still.
16	4-way valve (reversing solenoid valve)	The 4-way valve is used to select refrigerant flow in cooling or heating mode. When the 4-way valve switches from ON to OFF, a timer starts counting up to 150 as soon as the cooling or defrosting operation is stopped. This delay time is to eliminate the switching sound.
17	Muffler	The muffler is used to absorb the refrigerant noise from the compressor.
18	Low pressure control valve	Control to keep the low pressure > 4.3 bar
19	Solenoid valve	■ Y1S: Capacity control solenoid valve ■ Y3S: Liquid injection solenoid valve ■ —: Solenoid valve
20	Thermistor	■ R1T: Capacity control thermistor ■ R2T: Liquid injection thermistor

5 Switch Box Layout

5.1 What Is in This Chapter?

Introduction

This chapter shows the switch box components.

Outdoor units

This chapter contains the following switch box layouts:

Indoor units

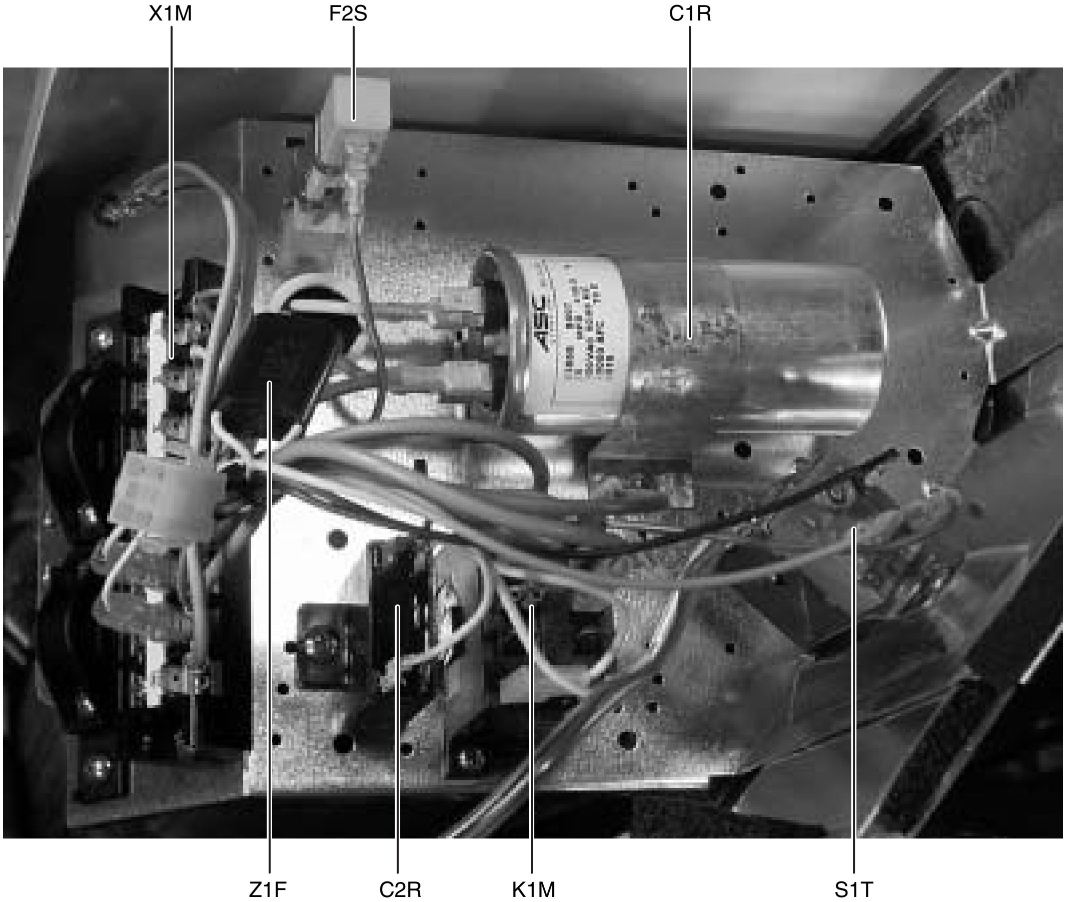
This chapter contains the following switch box layouts:

1

5.2 R35GZ7V11 and R45GZ7V11

Switch box

The illustration below shows the switch box layout.



Components

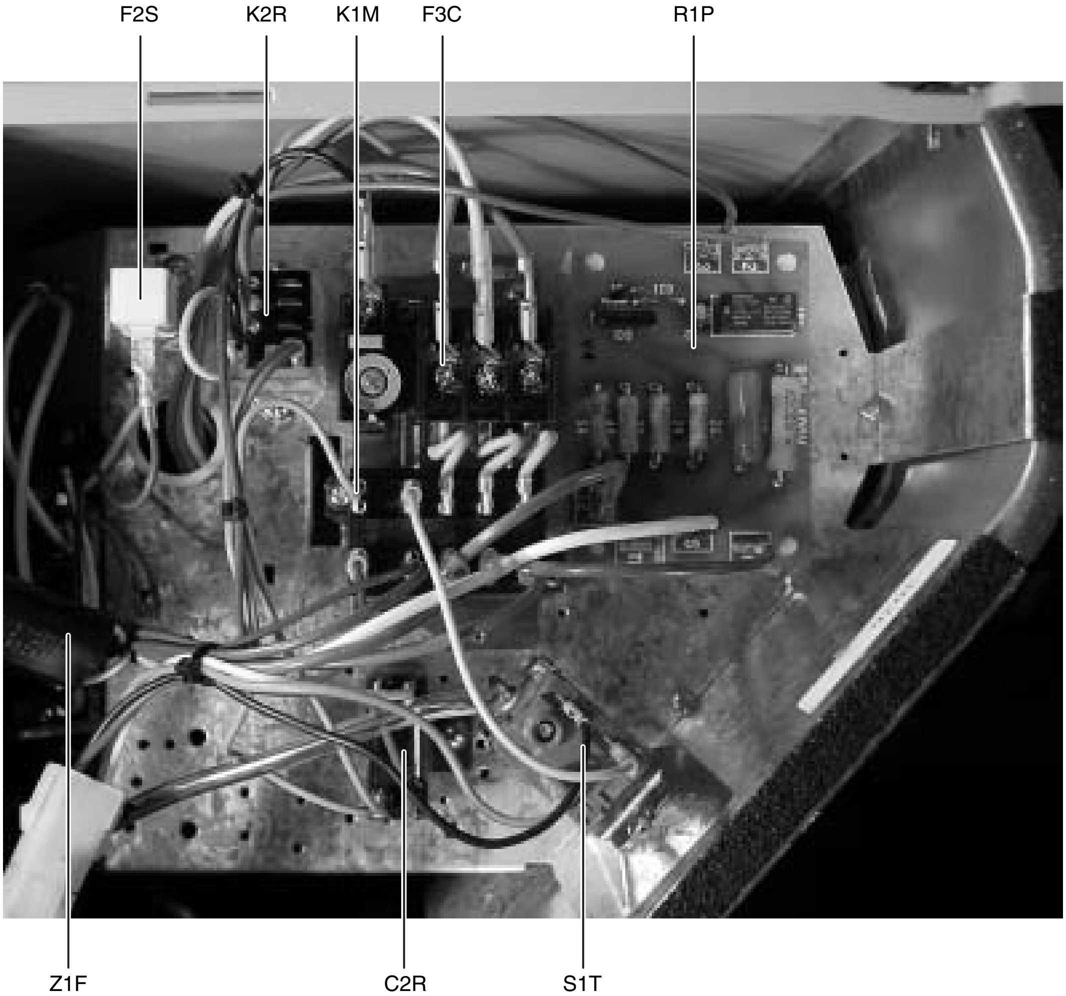
The table below contains the components of the switch box.

Symbol	Component
X1M	Terminal strip (field wiring)
F2S	Surge arrester
C1R	Compressor running capacitor
S1T	Thermostat
K1M	Magnetic contactor (M1C)
C2R	Fan motor capacitor
Z1F	Noise filter

5.3 R45GZ7W11

Switch box

The illustration below shows the switch box layout.



Components

The table below contains the components of the switch box.

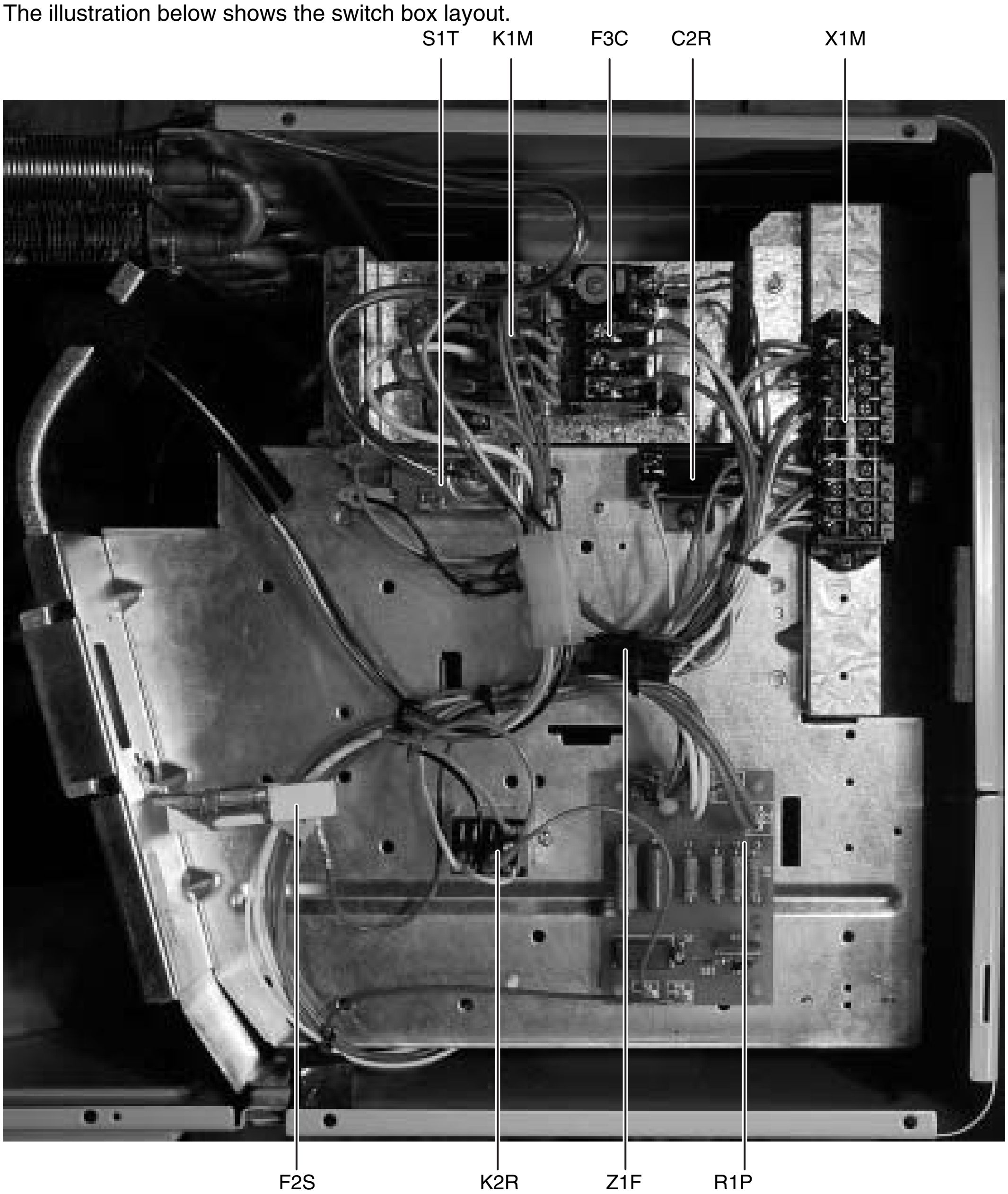
Symbol	Component
F2S	Surge arrester
K2R	Magnetic relay
K1M	Magnetic contactor
F3C	Overcurrent relay
R1P	Reverse phase protector
S1T	Thermostat
C2R	Fan motor capacitor
Z1F	Noise filter

1

5.4 R60GZ7W1

Switch box

The illustration below shows the switch box layout.



Components

The table below contains the components of the switch box.

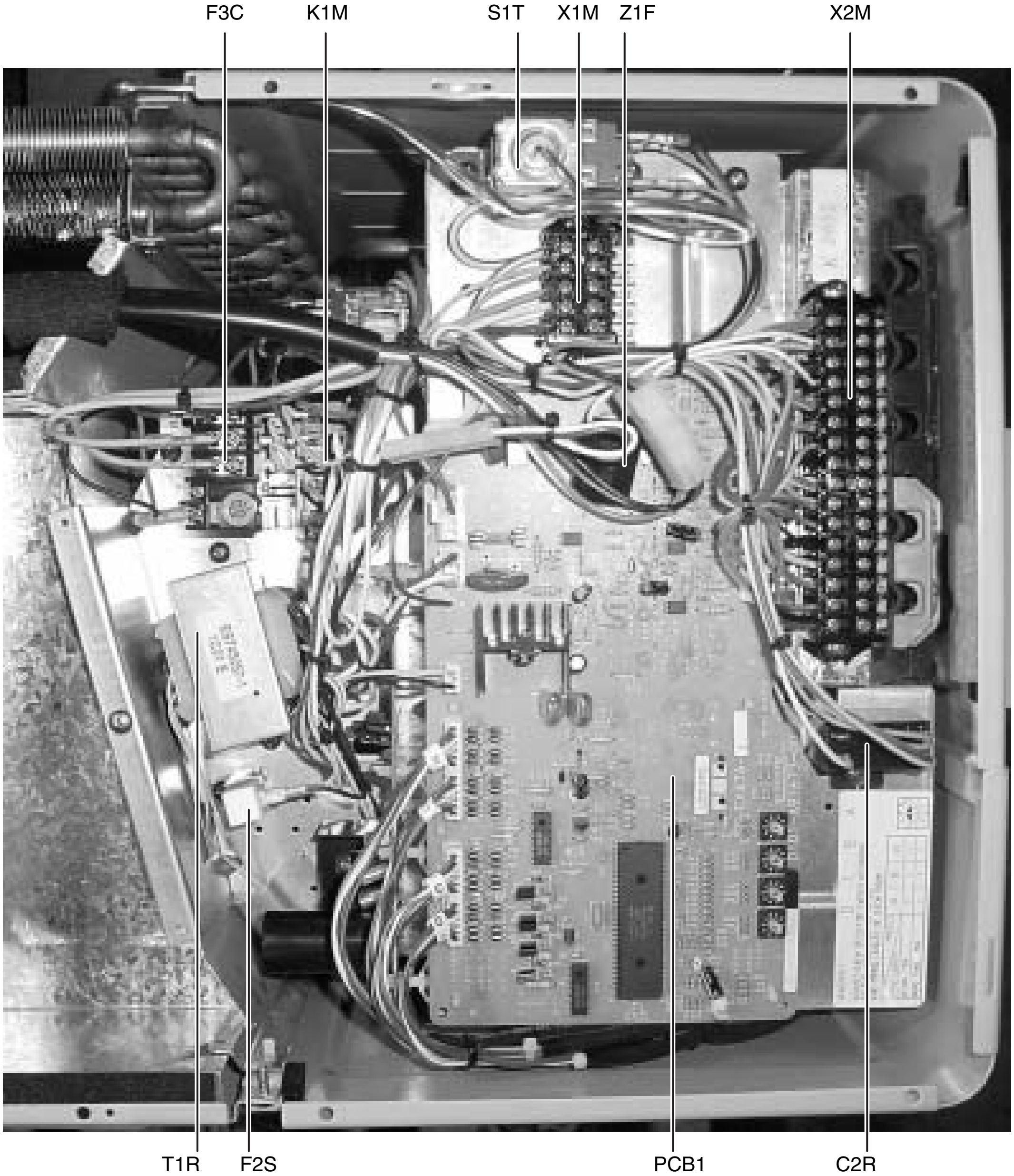
Symbol	Component
S1T	Thermostat
K1M	Magnetic contactor
F3C	Overcurrent relay
C2R	Fan motor capacitor
X1M	Terminal strip

Symbol	Component
R1P	Reverse phase protector
Z1F	Noise filter
K2R	Magnetic relay
F2S	Surge arrester
—	

5.5 MA56GZ7W11

Switch box

The illustration below shows the switch box layout.



Components

The table below contains the components of the switch box.

Symbol	Component
F3C	Overcurrent relay
K1M	Magnetic contactor
S1T	Thermostat
X1M	Terminal strip
Z1F	Noise filter

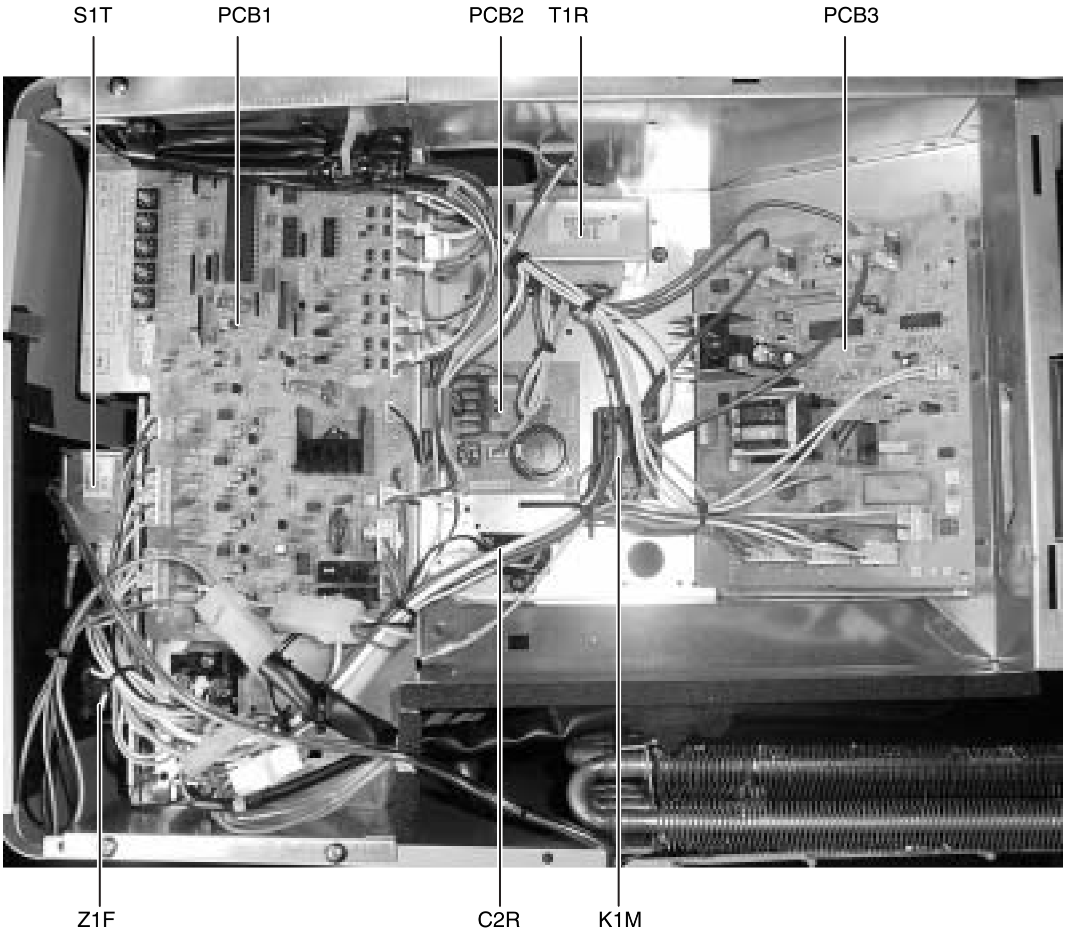
Symbol	Component
X2M	Terminal strip
C2R	Fan motor capacitor
PCB1	Printed circuit board
F2S	Surge arrester
T1R	Transformer

1

5.6 MA90GZ7W11

Switch box

The illustration below shows the switch box layout.



Components

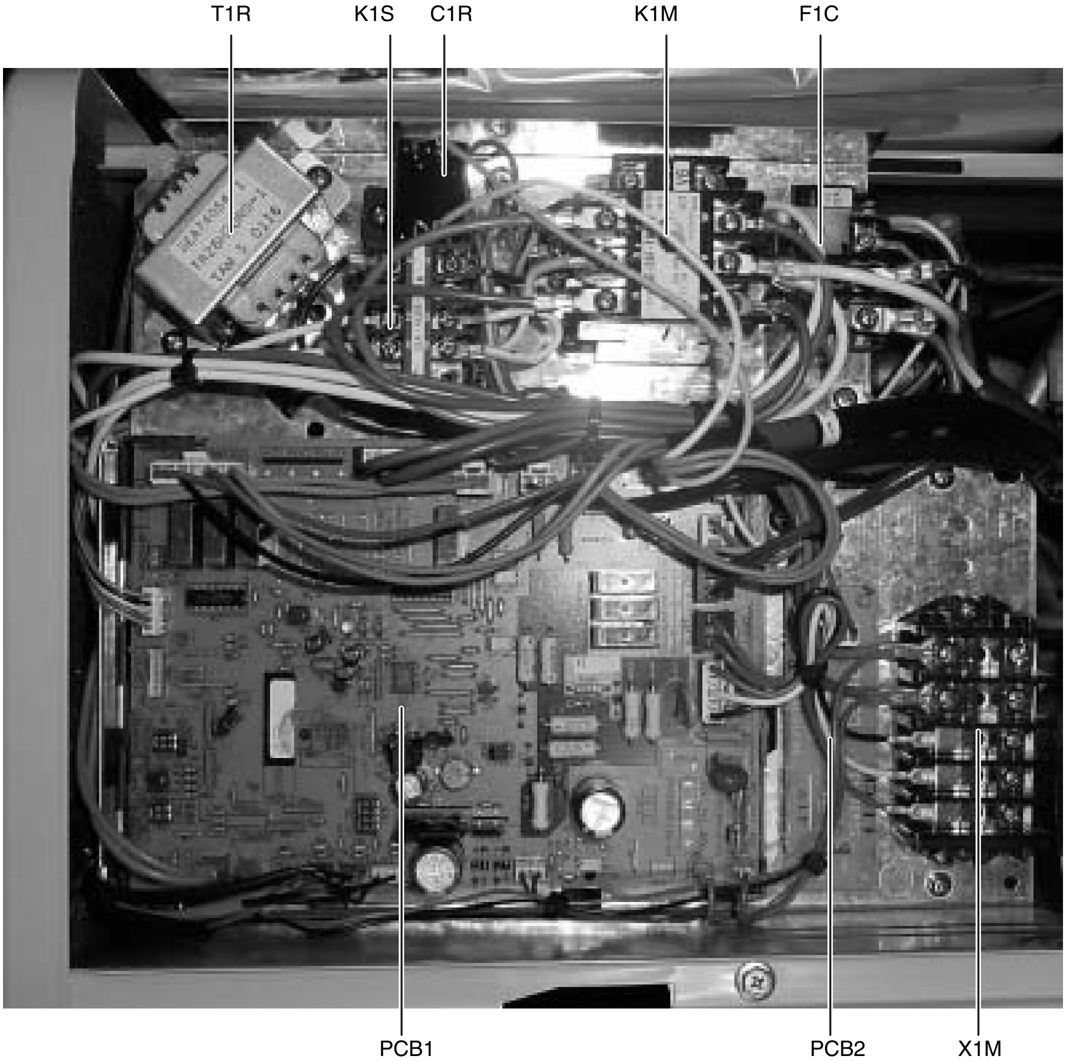
The table below contains the components of the switch box.

Symbol	Component
S1T	Thermostat
PCB1	Printed circuit board
PCB2	Printed circuit board
T1R	Transformer
PCB3	Printed circuit board
K1M	Compressor contactor
C2R	Running capacitor
Z1F	Noise filter

5.7 RP71B7V1 and RYP71B7V1

Switch box

The illustration below shows the switch box layout.



Components

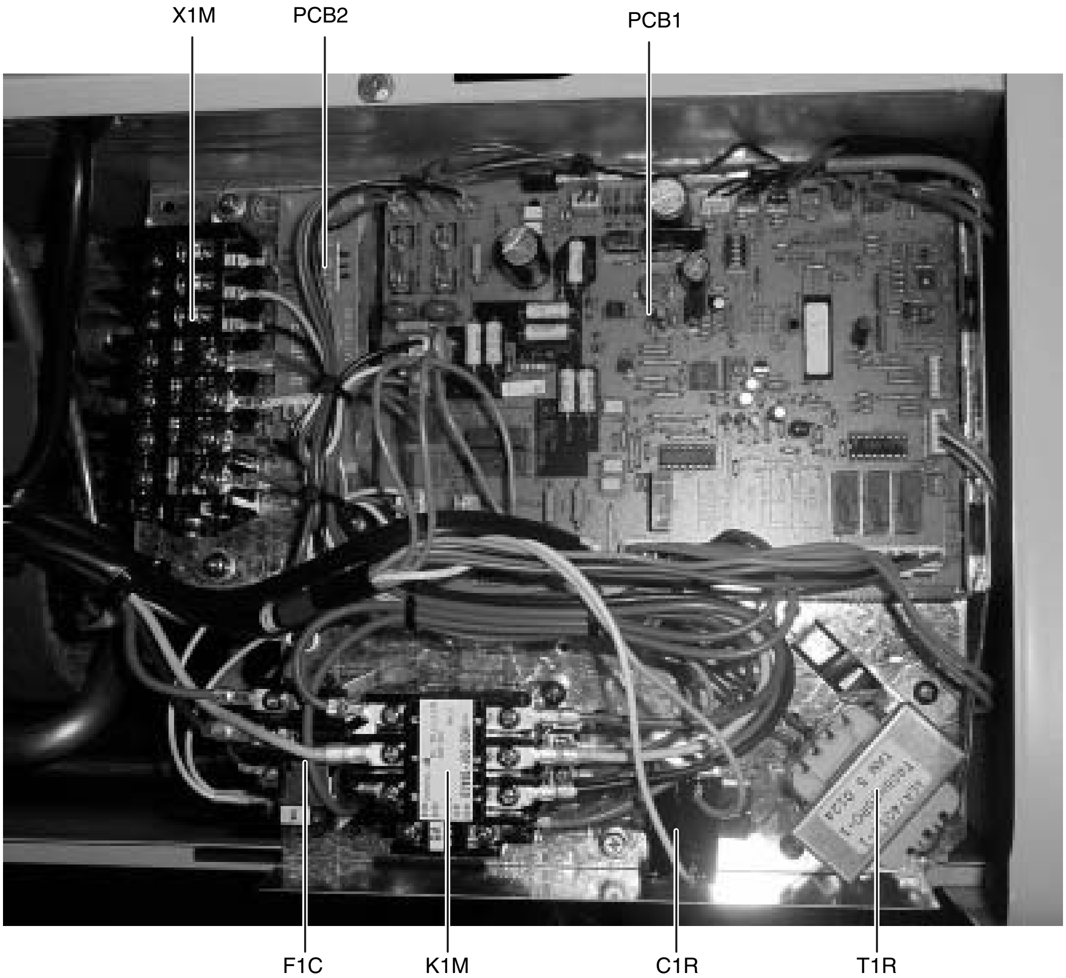
The table below contains the components of the switch box.

Symbol	Component
T1R	Transformer
K1S	Starting contactor
C1R	Fan motor capacitor
K1M	Magnetic contactor
F1C	Overcurrent relay
X1M	Terminal strip
PCB1	Printed circuit board
PCB2	Printed circuit board (interlock PCB)

5.8 RP71B7W1, RP71B7T1 and RYP71B7W1

Switch box

The illustration below shows the switch box layout.



Components

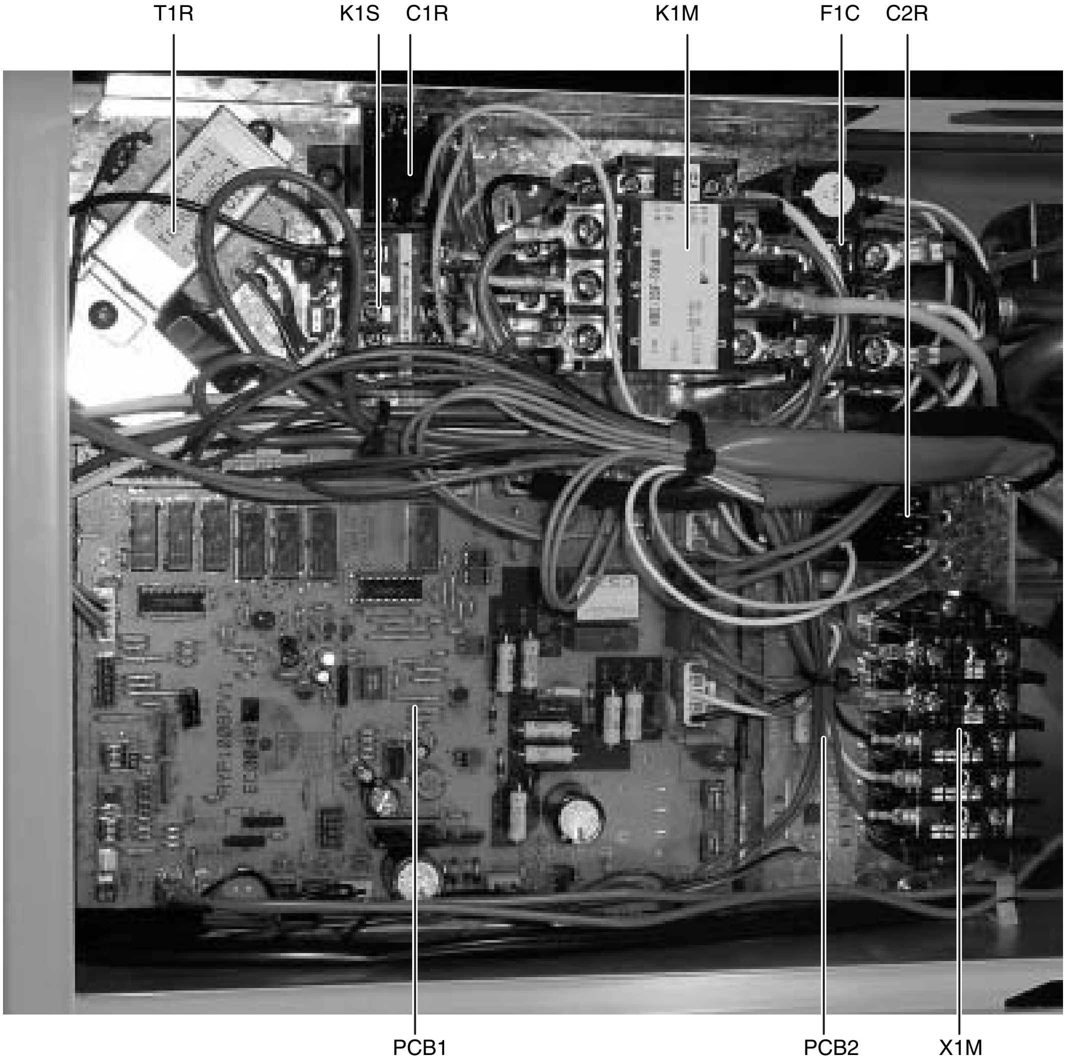
The table below contains the components of the switch box.

Symbol	Component
X1M	Terminal strip
PCB1	Printed circuit board
PCB2	Printed circuit board (interlock PCB)
T1R	Transformer
C1R	Fan motor capacitor
K1M	Magnetic contactor
F1C	Overcurrent relay

5.9 RP100B7V1 and RYP100B7V1

Switch box

The illustration below shows the switch box layout.



Components

The table below contains the components of the switch box.

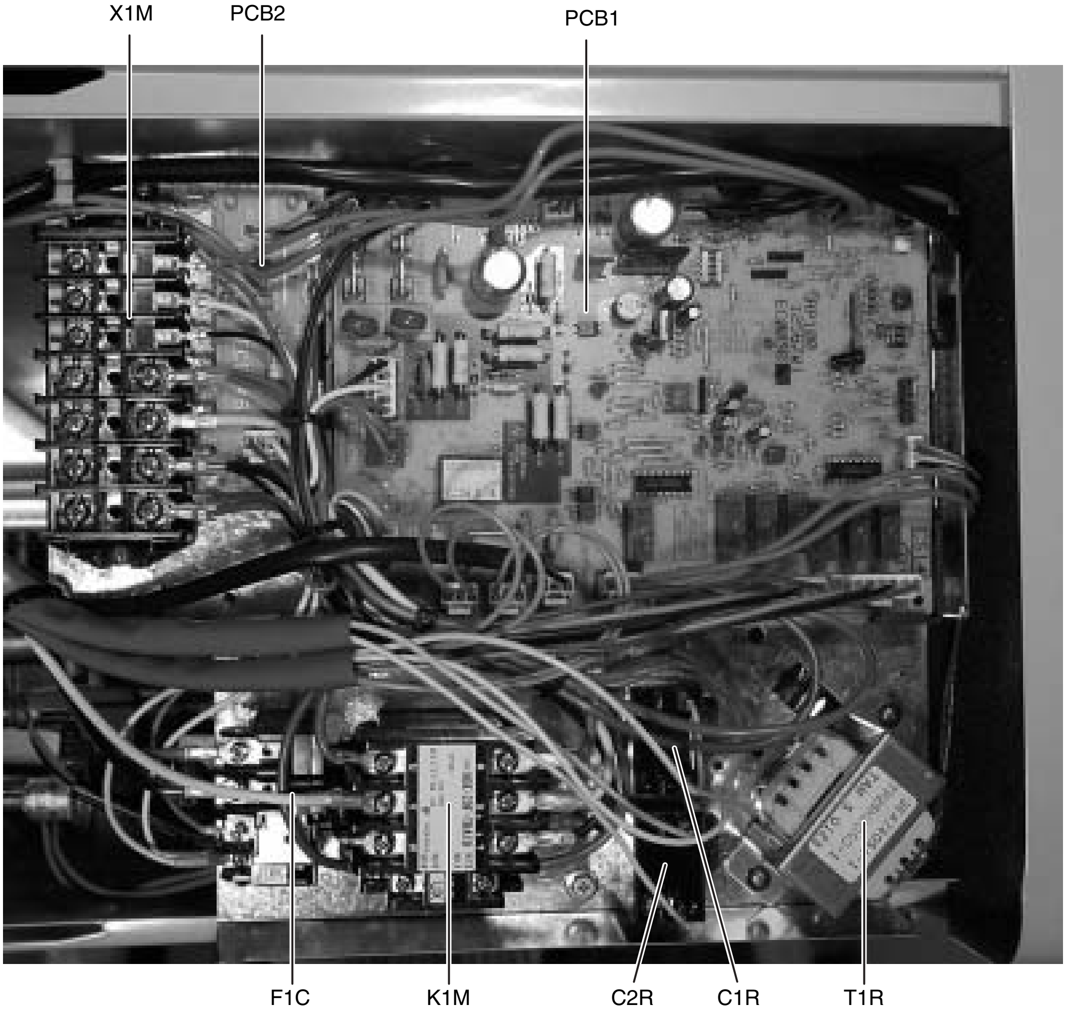
Symbol	Component
T1R	Transformer
K1S	Starting contactor
C1R	Fan motor capacitor 1
C2R	Fan motor capacitor 2
K1M	Magnetic contactor
F1C	Overcurrent relay
X1M	Terminal strip
PCB1	Printed circuit board
PCB2	Printed circuit board (interlock PCB)

1

5.10 RP100B7W1, RP100B7T1, RP125B7W1, RP125B7T1, RYP100B7W1 and RYP125B7W1

Switch box

The illustration below shows the switch box layout.



Components

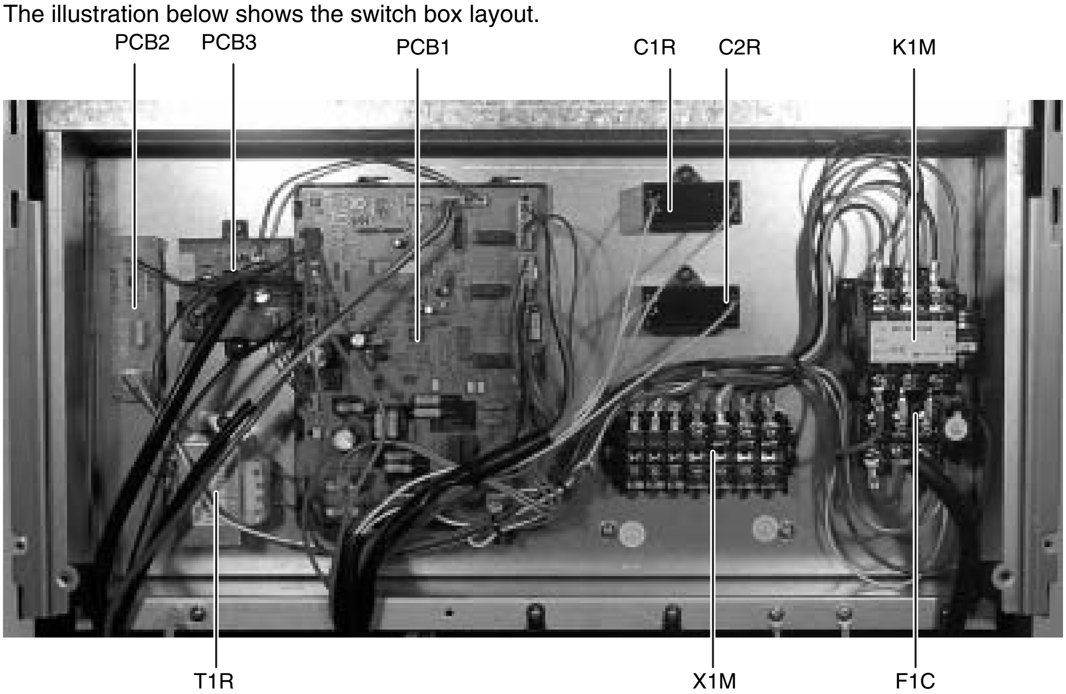
The table below contains the components of the switch box.

Symbol	Component
X1M	Terminal strip
PCB1	Printed circuit board
PCB2	Printed circuit board (interlock PCB)
T1R	Transformer
C1R	Fan motor capacitor 1
C2R	Fan motor capacitor 2
K1M	Magnetic contactor
F1C	Overcurrent relay

5.11 RP200B7W1, RP250B7W1, RYP200B7W1 and RYP250B7W1

Switch box

The illustration below shows the switch box layout.



Components

The table below contains the components of the switch box.

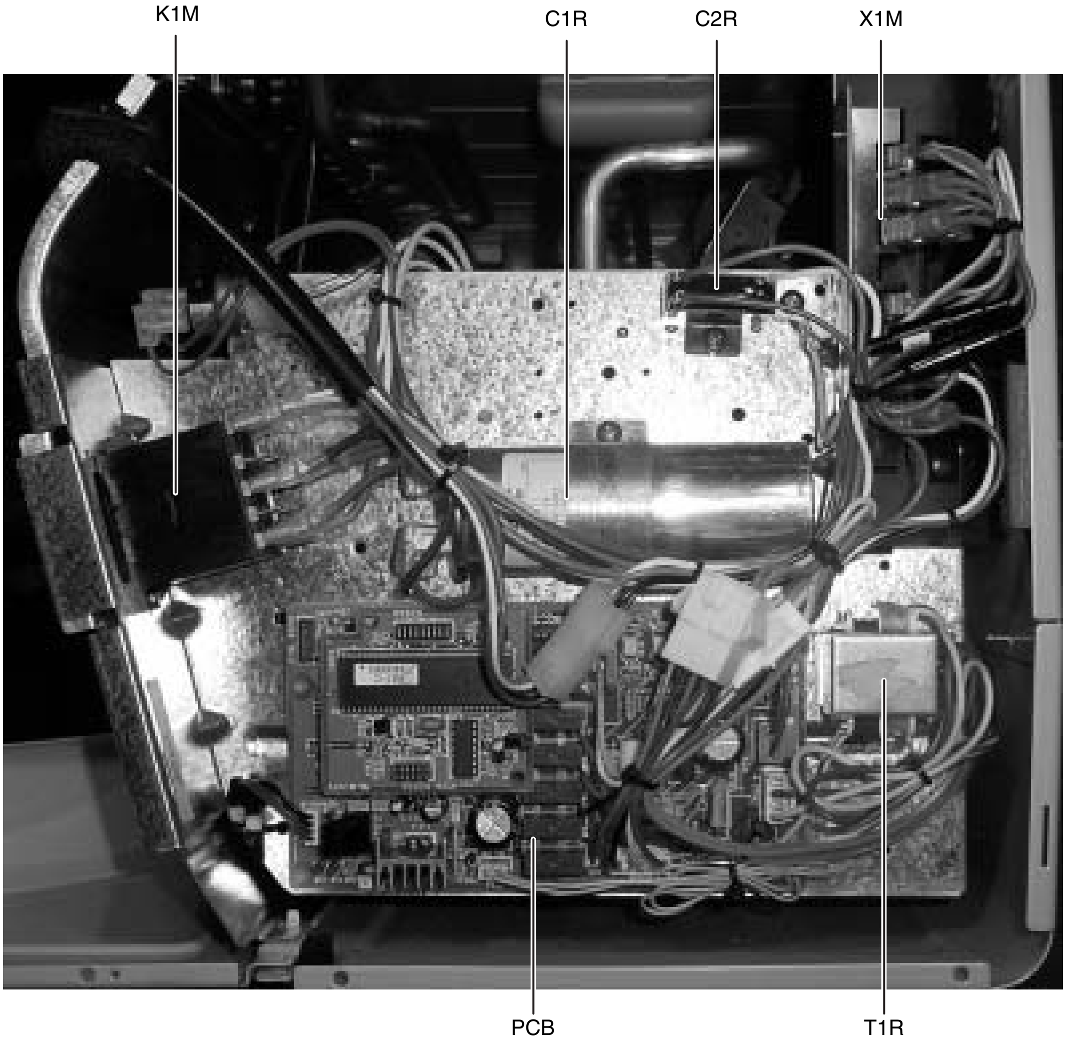
Symbol	Component
PCB1	Printed circuit board
PCB2	Printed circuit board (interlock PCB)
PCB3	Printed circuit board (power supply PCB)
C1R	Fan motor capacitor 1
C2R	Fan motor capacitor 2
K1M	Magnetic contactor
F1C	Overcurrent relay
X1M	Terminal strip
T1R	Transformer

1

5.12 RY35EAZ7V1 and RY45EAZ7V1

Switch box

The illustration below shows the switch box layout.



Components

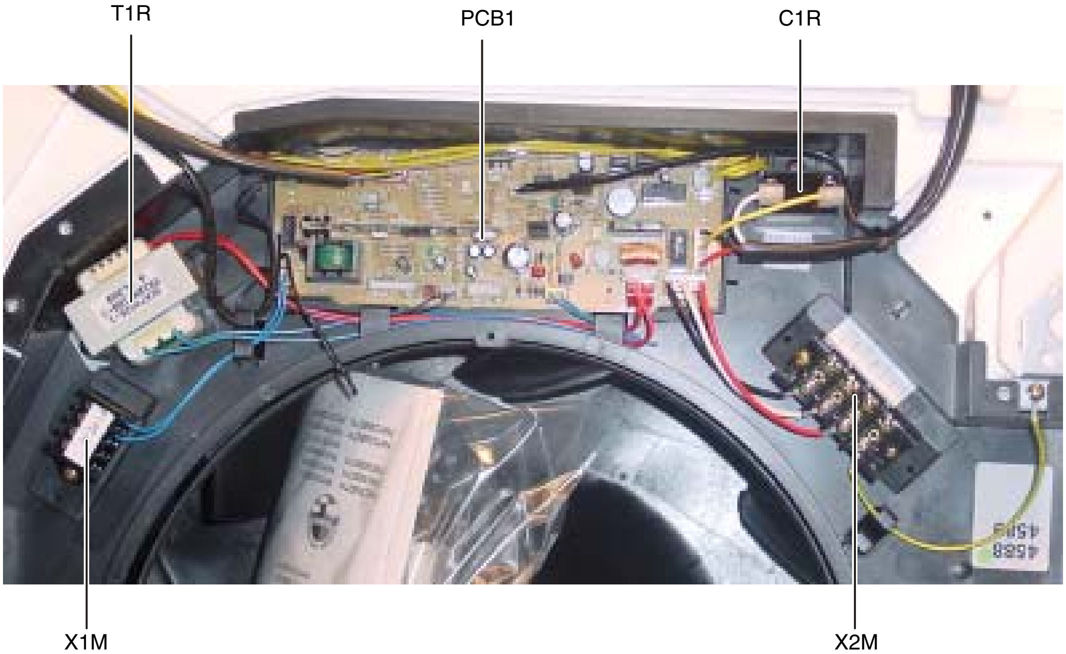
The table below contains the components of the switch box.

Symbol	Component
K1M	Magnetic contactor
C1R	Compressor running capacitor
C2R	Fan motor capacitor
X1M	Terminal strip
T1R	Transformer
PCB	Printed circuit board

5.13 FHC35BZ7V1, FHC45BZ7V1, FHC60BZ7V1, FHYC35BZ7V1, FHYC45BZ7V1, FHYCP35B7V1, FHYCP45B7V1, FHYCP60B7V1, FHYCP71B7V1, FHYCP100B7V1 and FHYCP125B7V1

Switch box

The illustration below shows the switch box layout.



Components

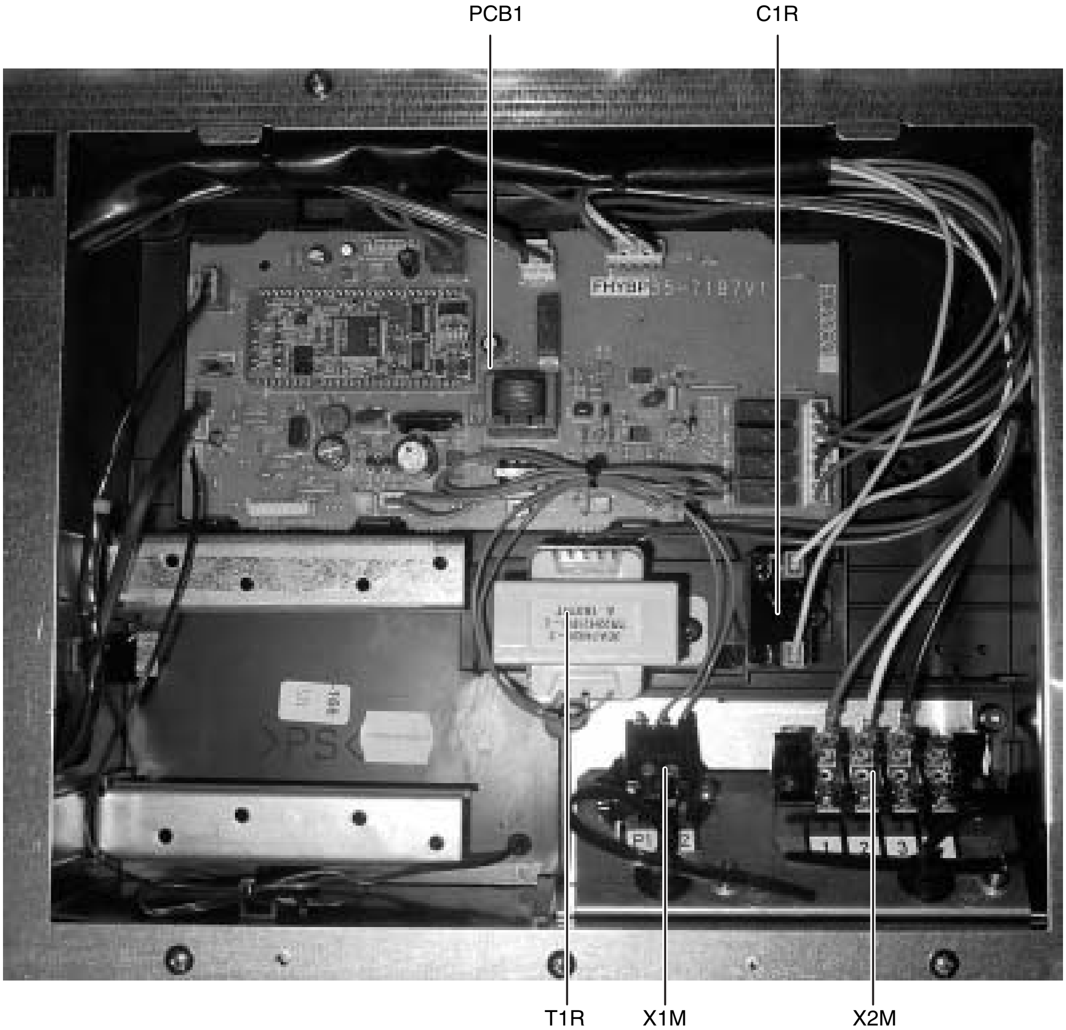
The table below contains the components of the switch box.

Symbol	Component
T1R	Transformer
PCB1	Printed circuit board
C1R	Fan motor capacitor
X2M	Terminal strip (interconnection wiring)
X1M	Terminal strip (for remote control P1/P2)

5.14 FHYBP35B7V1, FHYBP45B7V1, FHYBP60B7V1, FHYBP71B7V1, FHYBP100B7V1 and FHYBP125B7V1

Switch box

The illustration below shows the switch box layout.



Components

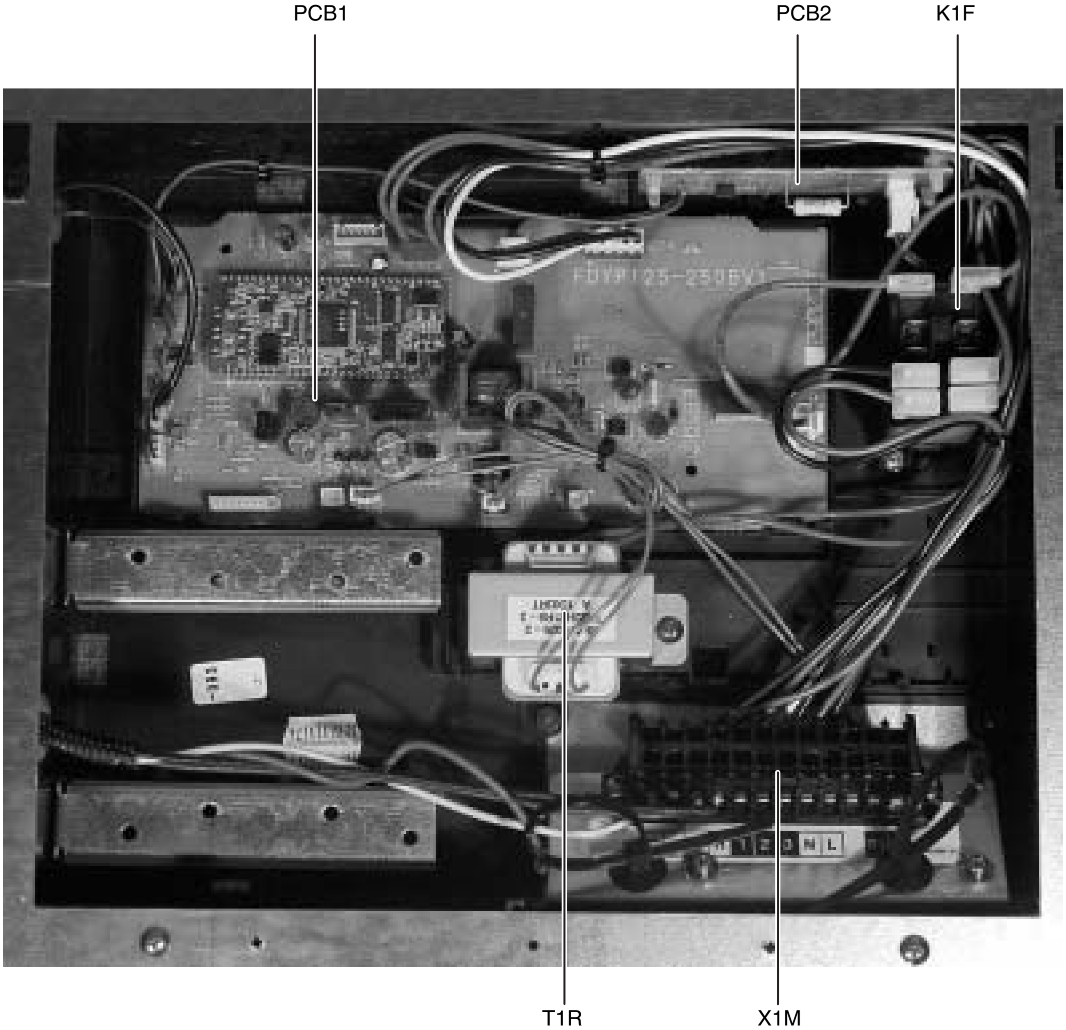
The table below contains the components of the switch box.

Symbol	Component
PCB1	Printed circuit board
C1R	Fan motor capacitor
X2M	Terminal strip (interconnection wiring)
X1M	Terminal strip (for remote control P1/P2)
T1R	Transformer

5.15 FDYP125B7V1, FDYP200B7V1 and FDYP250B7V1

Switch box

The illustration below shows the switch box layout.



Components

The table below contains the components of the switch box.

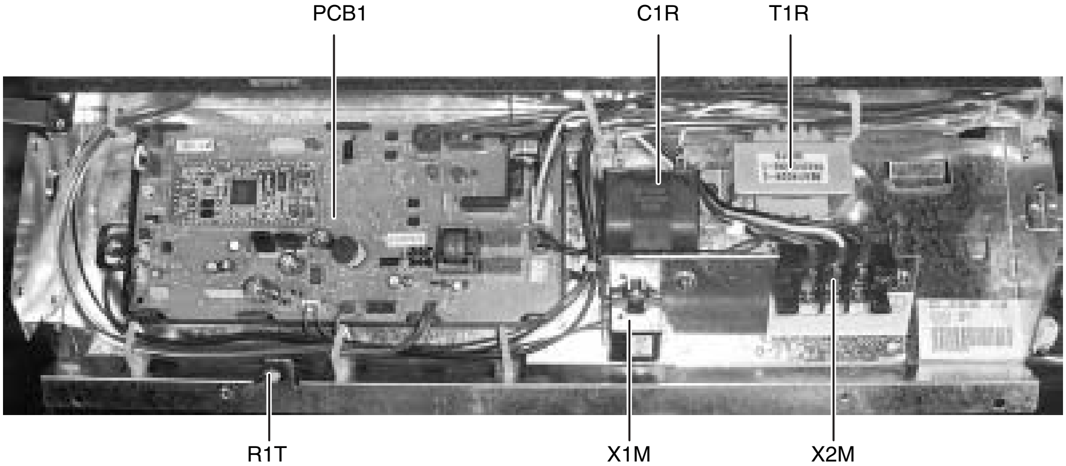
Symbol	Component
PCB1	Printed circuit board
PCB2	Printed circuit board (interlock PCB)
K1F	Magnetic contactor
X1M	Terminal strip
T1R	Transformer

1

5.16 FHYP35BV1, FHYP45BV1, FHYP60BV1, FHYP71BV1, FHYP100BV1 and FHYP125BV1

Switch box

The illustration below shows the switch box layout.



Components

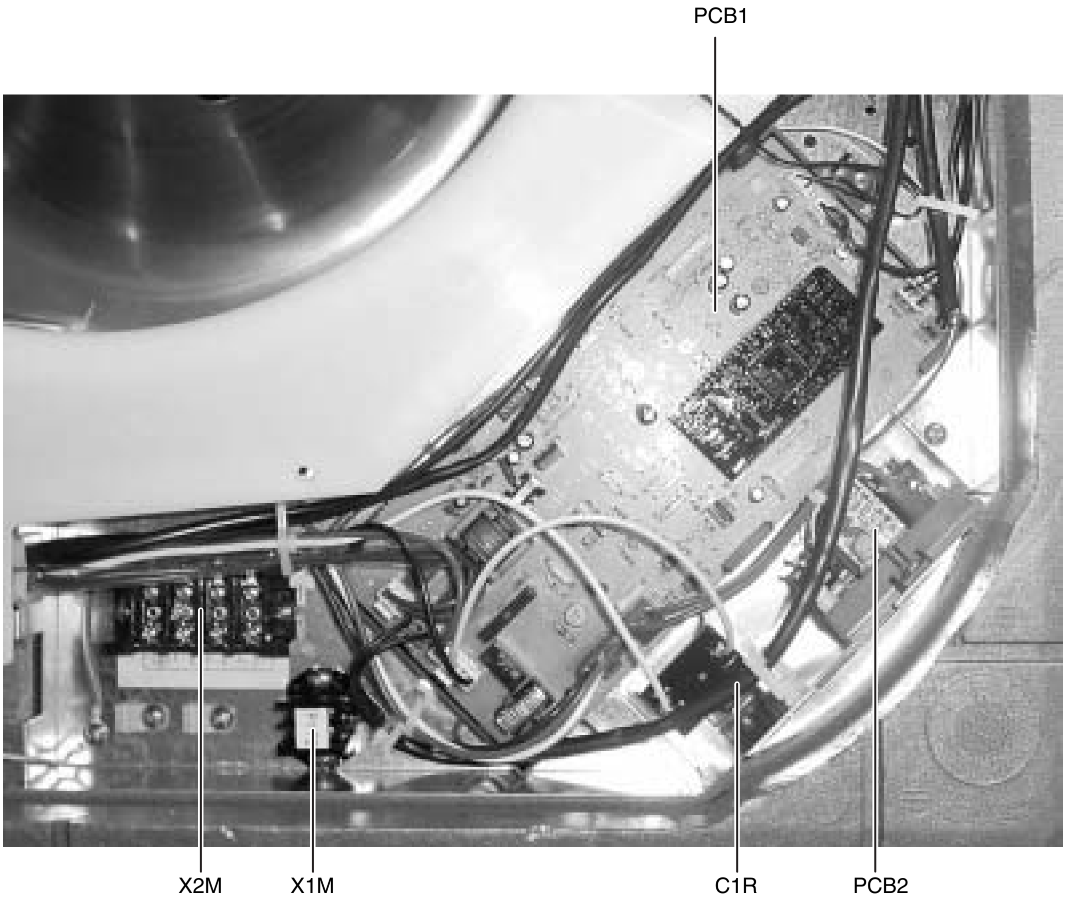
The table below contains the components of the switch box.

Symbol	Component
PCB1	Printed circuit board
C1R	Fan motor capacitor
T1R	Transformer
X2M	Terminal strip (interconnection wiring)
X1M	Terminal strip (for remote control P1/P2)
R1T	Air thermistor

5.17 FUYP71BV17, FUYP100BV17 and FUYP125BV17

Switch box

The illustration below shows the switch box layout.



Components

The table below contains the components of the switch box.

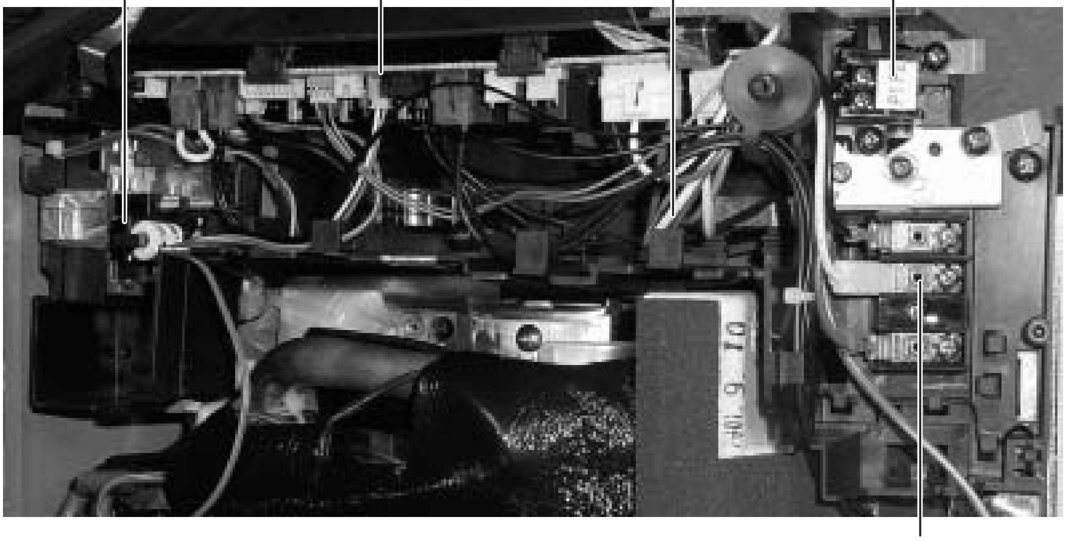
Symbol	Component
PCB1	Printed circuit board
PCB2	Printed circuit board (power supply PCB)
C1R	Fan motor capacitor
X1M	Terminal strip (for remote control P1/P2)
X2M	Terminal strip (interconnection wiring)

1

5.18 FAYP71BV1 and FAYP100BV1

Switch box

The illustration below shows the switch box layout.



Components

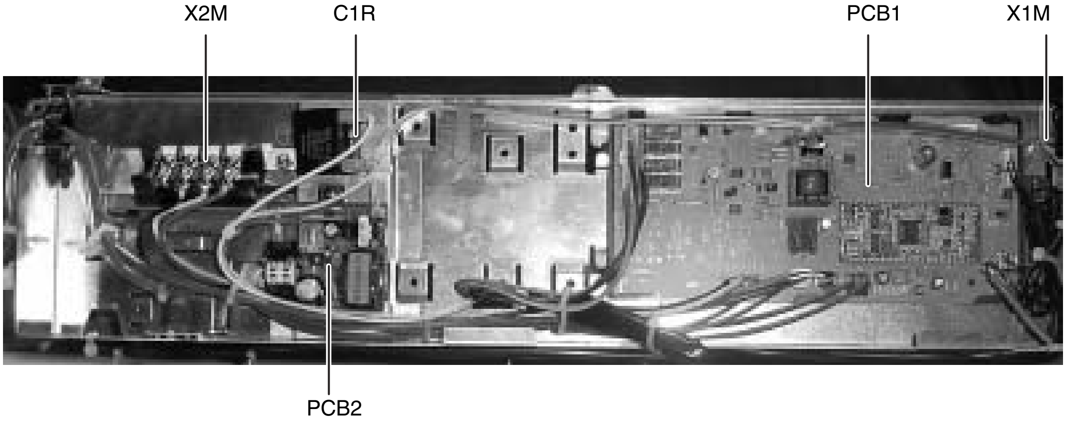
The table below contains the components of the switch box.

Symbol	Component
PCB1	Printed circuit board
PCB2	Printed circuit board
C1R	Fan motor capacitor
X1M	Terminal strip (for remote control P1/P2)
X2M	Terminal strip (for interconnection wiring)

5.19 FHYKP35BV1, FHYKP45BV1, FHYKP60BV1 and FHYKP71BV1

Switch box

The illustration below shows the switch box layout.



Components

The table below contains the components of the switch box.

Symbol	Component
X2M	Terminal strip (interconnection wiring)
C1R	Fan motor capacitor
PCB1	Printed circuit board
X1M	Terminal strip (for remote control P1/P2)
PCB2	Printed circuit board (power supply PCB)

6 Wiring Diagrams: Outdoor Units

6.1 What Is in This Chapter?

Introduction

This chapter contains the wiring diagrams of the outdoor units.

Wiring diagrams

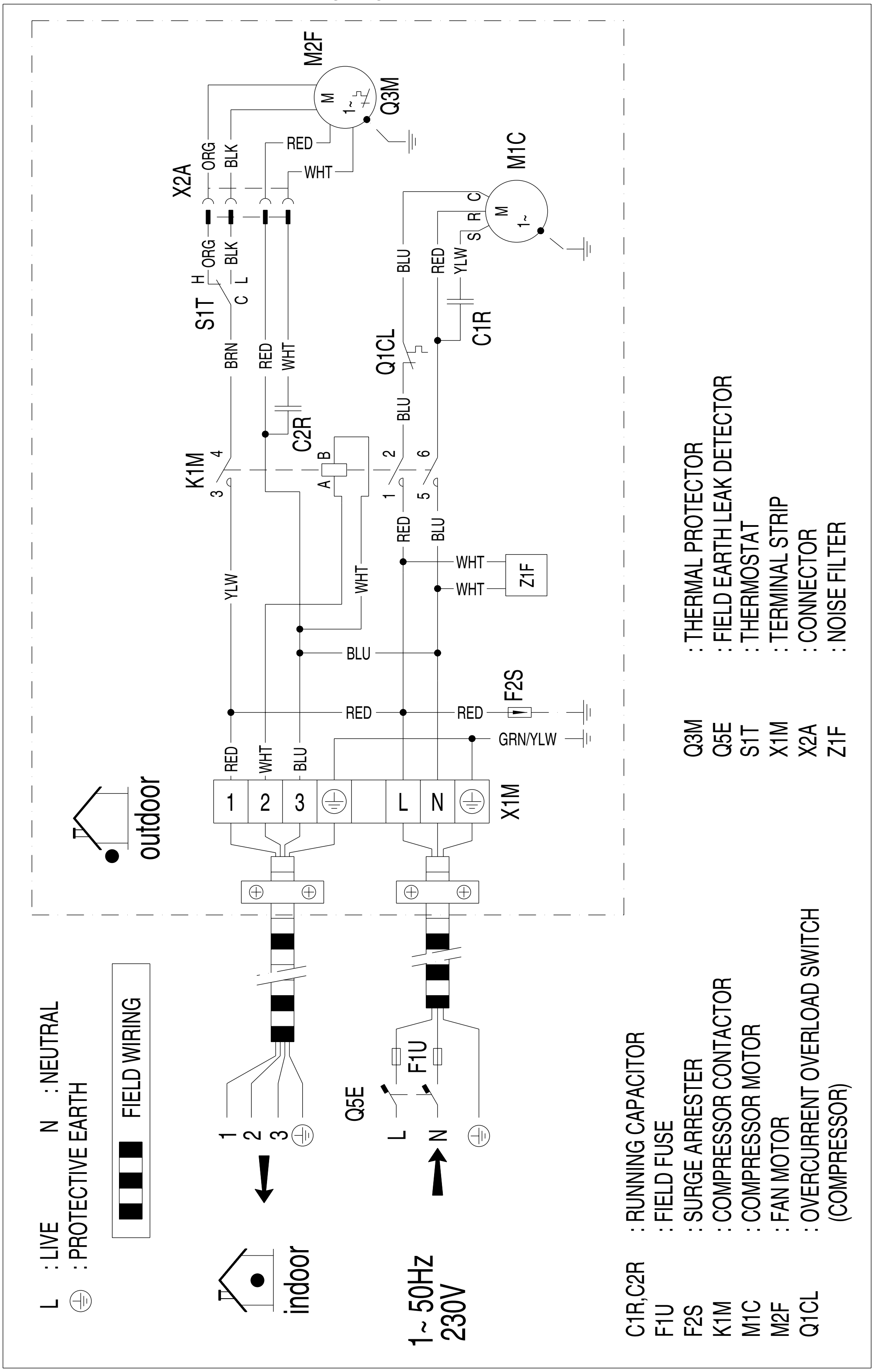
This chapter contains the following wiring diagrams:

1

6.2 R35GZ7V11

Wiring diagram

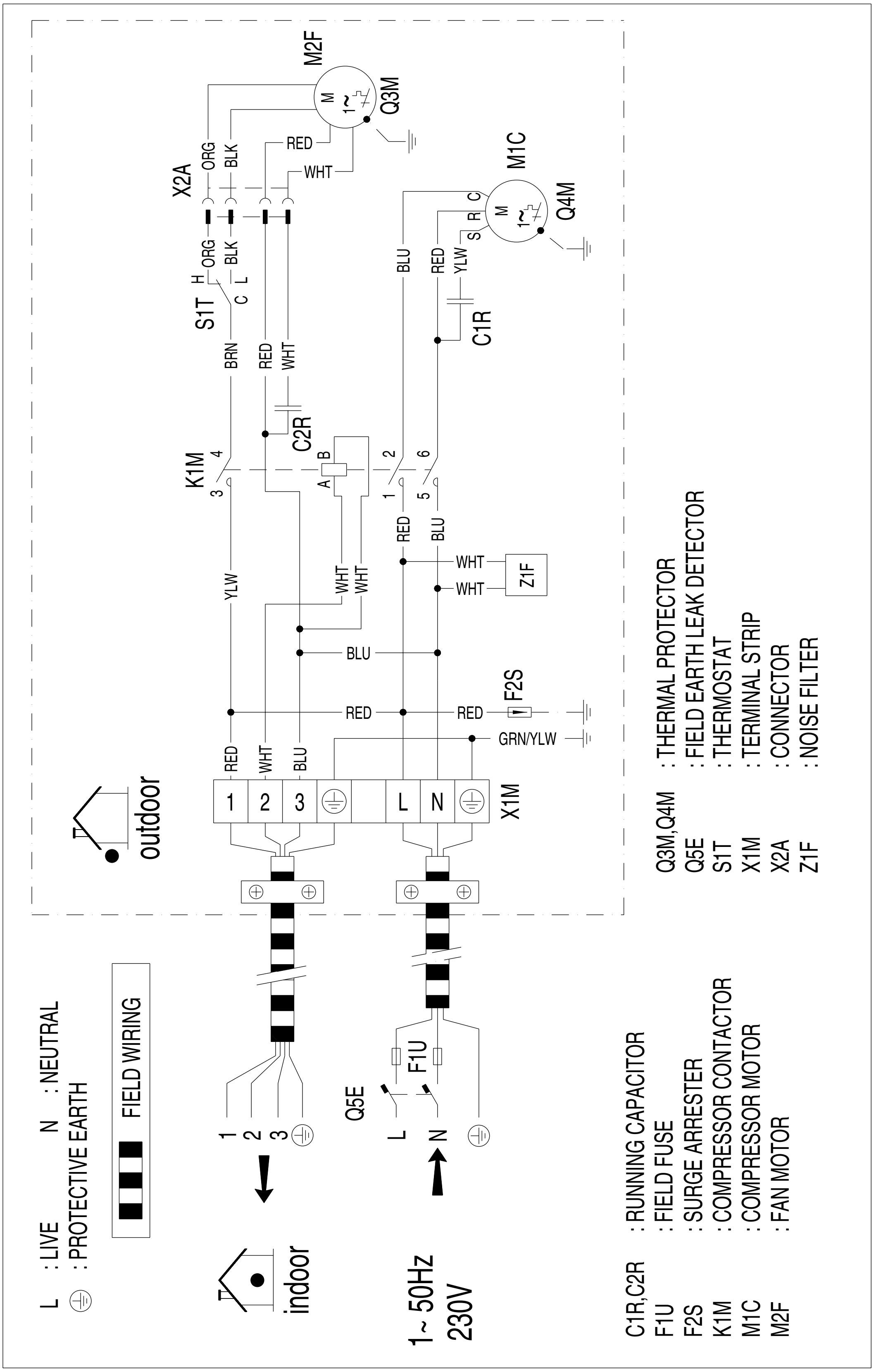
The illustration below shows the wiring diagram of the unit.



6.3 R45GZ7V11

Wiring diagram

The illustration below shows the wiring diagram of the unit.



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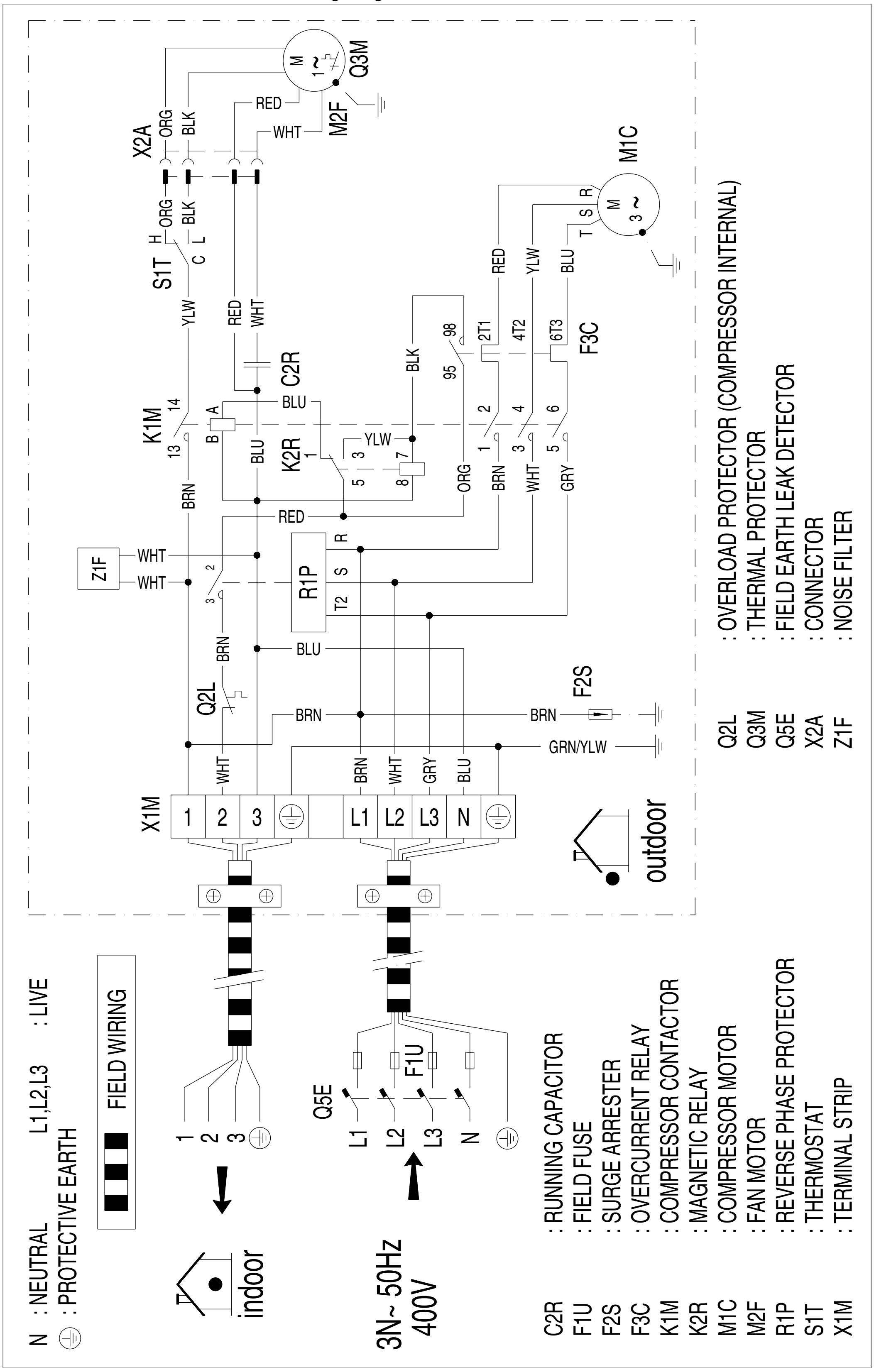
6.4 R45GZ7W11

Wiring diagram

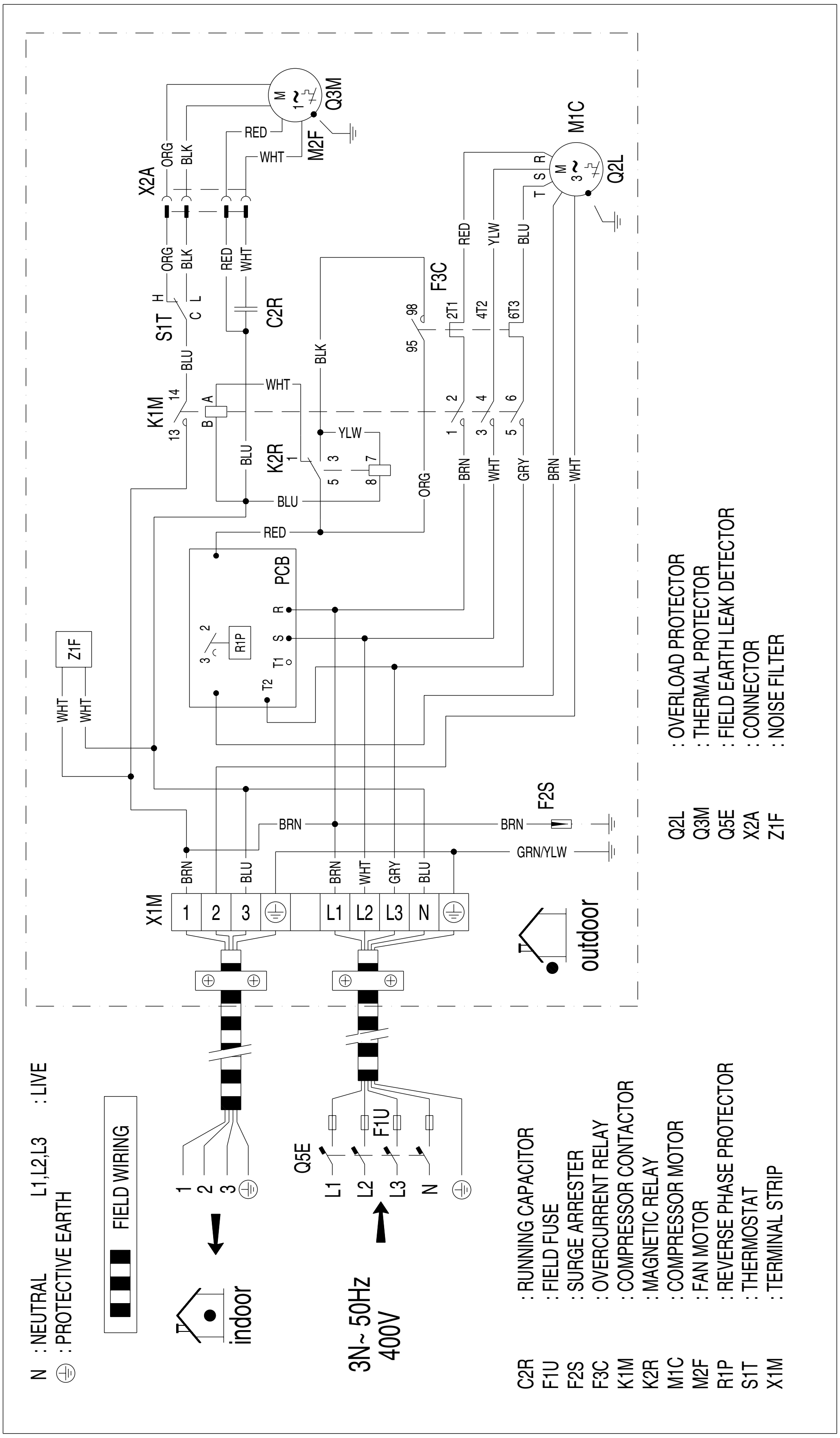
The illustration below shows the wiring diagram of the unit.



6.5 R60GZ7W11

Wiring diagram

The illustration below shows the wiring diagram of the unit.



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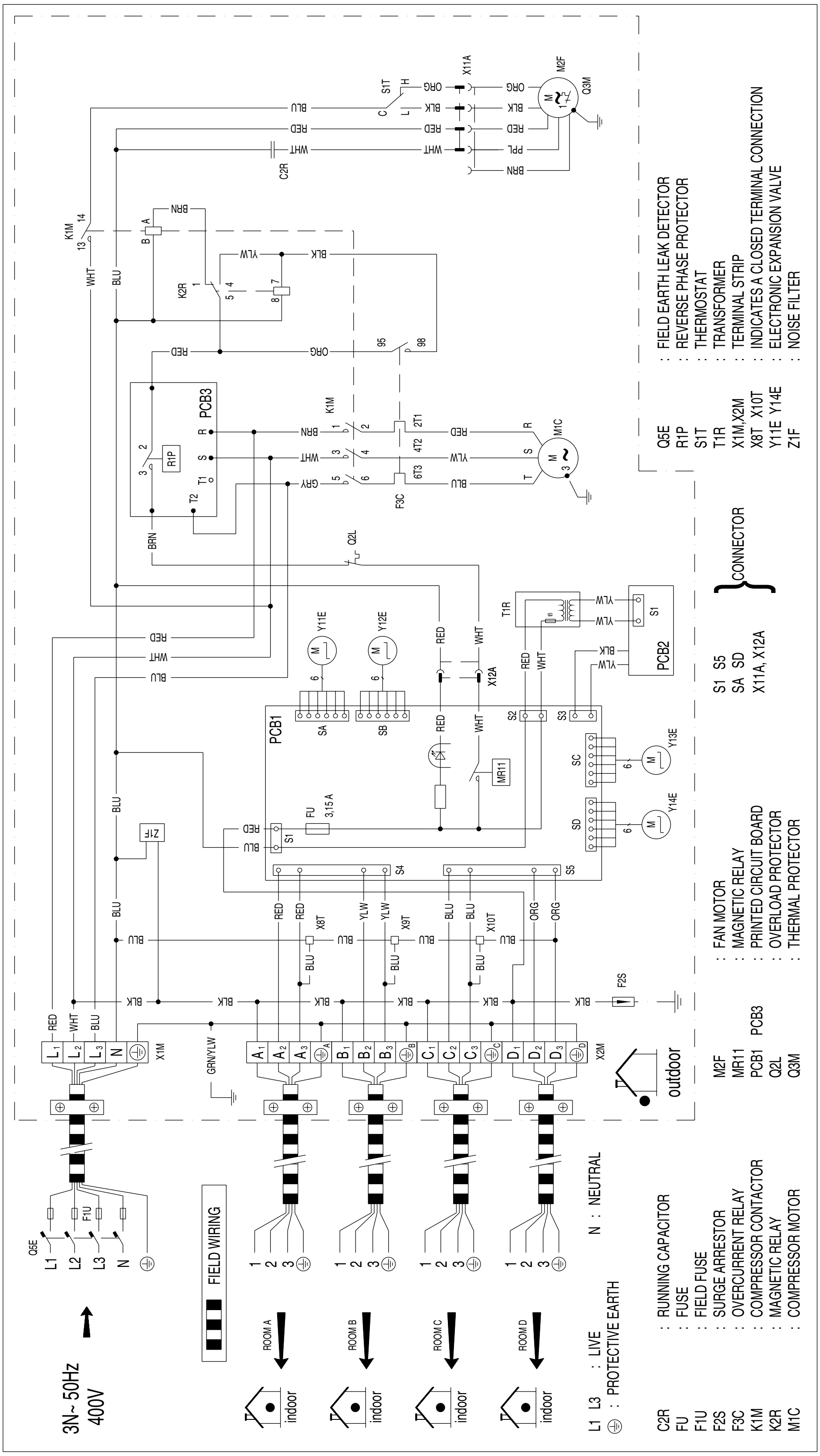
6.6 MA56GZ7W11

Wiring diagram

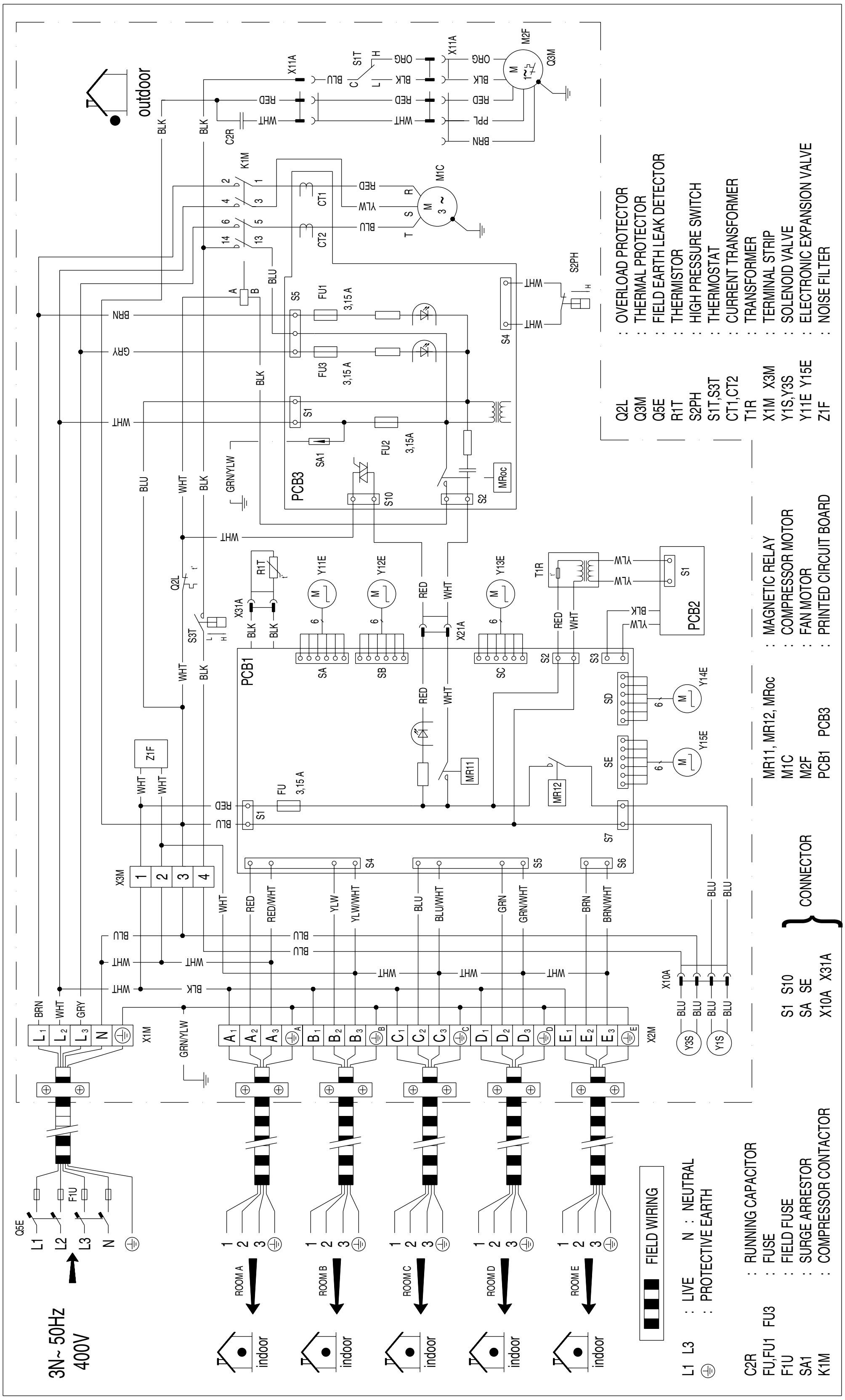
The illustration below shows the wiring diagram of the unit.



6.7 MA90GZ7W11

Wiring diagram

The illustration below shows the wiring diagram of the unit.

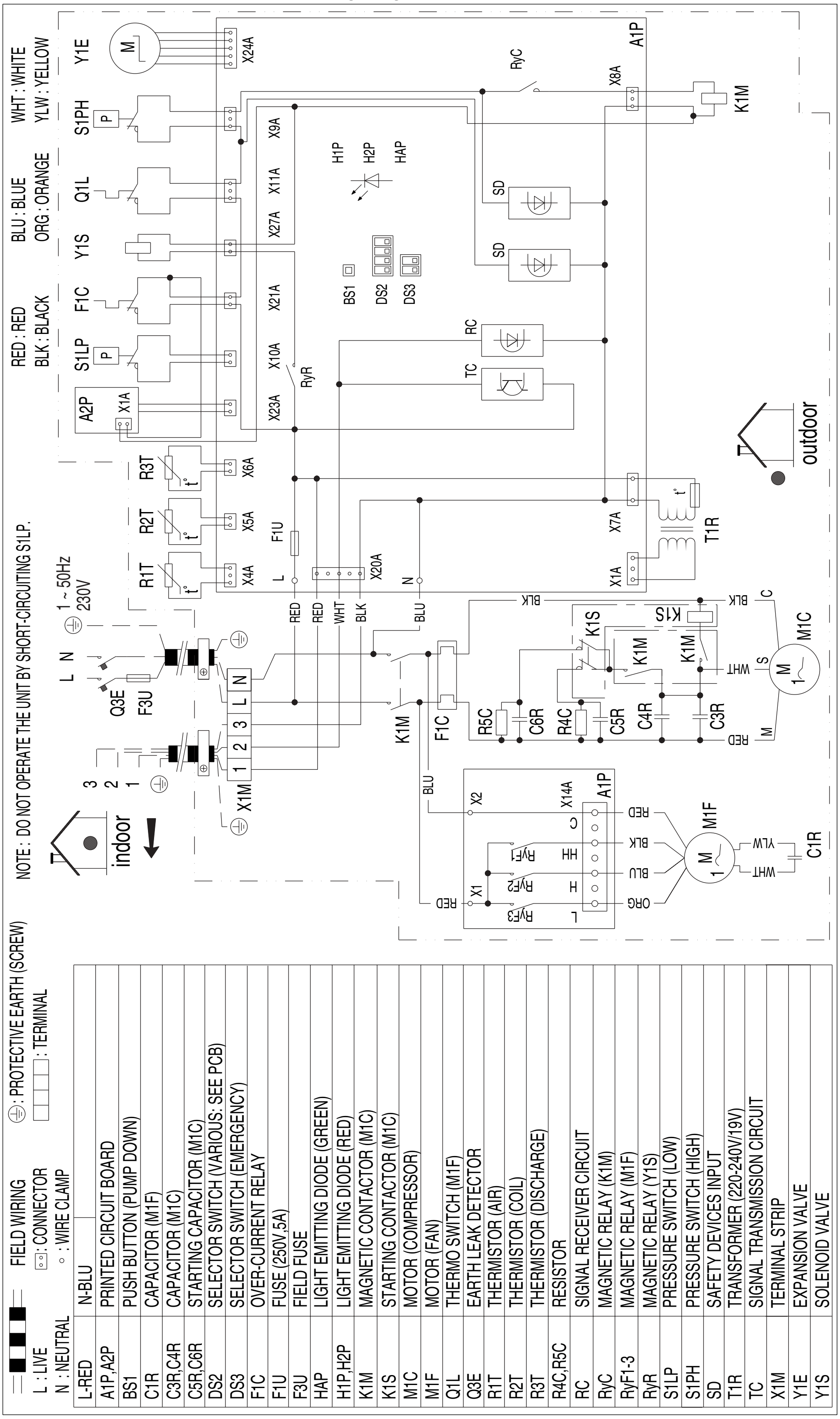


1

6.8 RP71B7V1

Wiring diagram

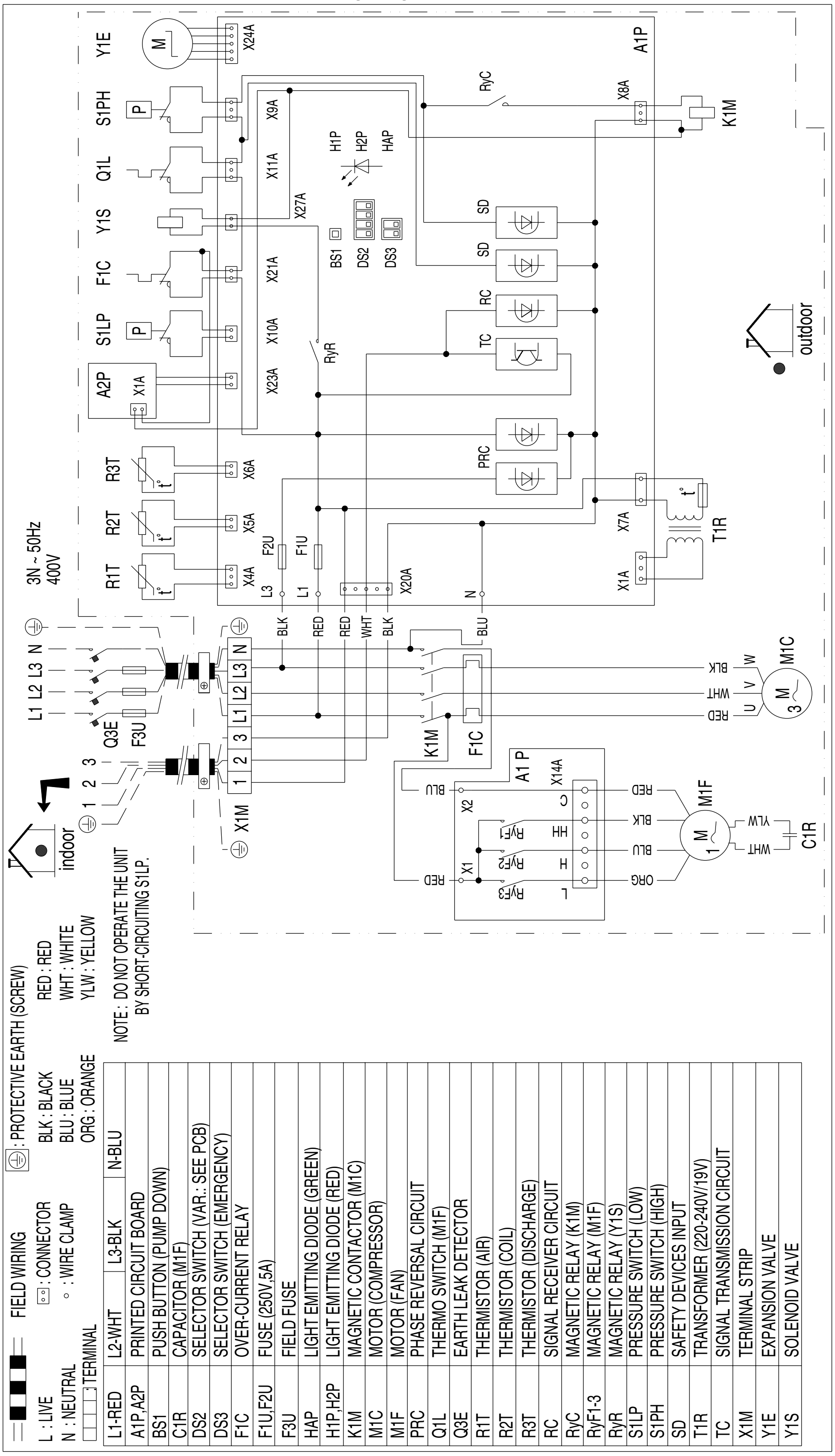
The illustration below shows the wiring diagram of the unit.



6.9 RP71B7W1

Wiring diagram

The illustration below shows the wiring diagram of the unit.

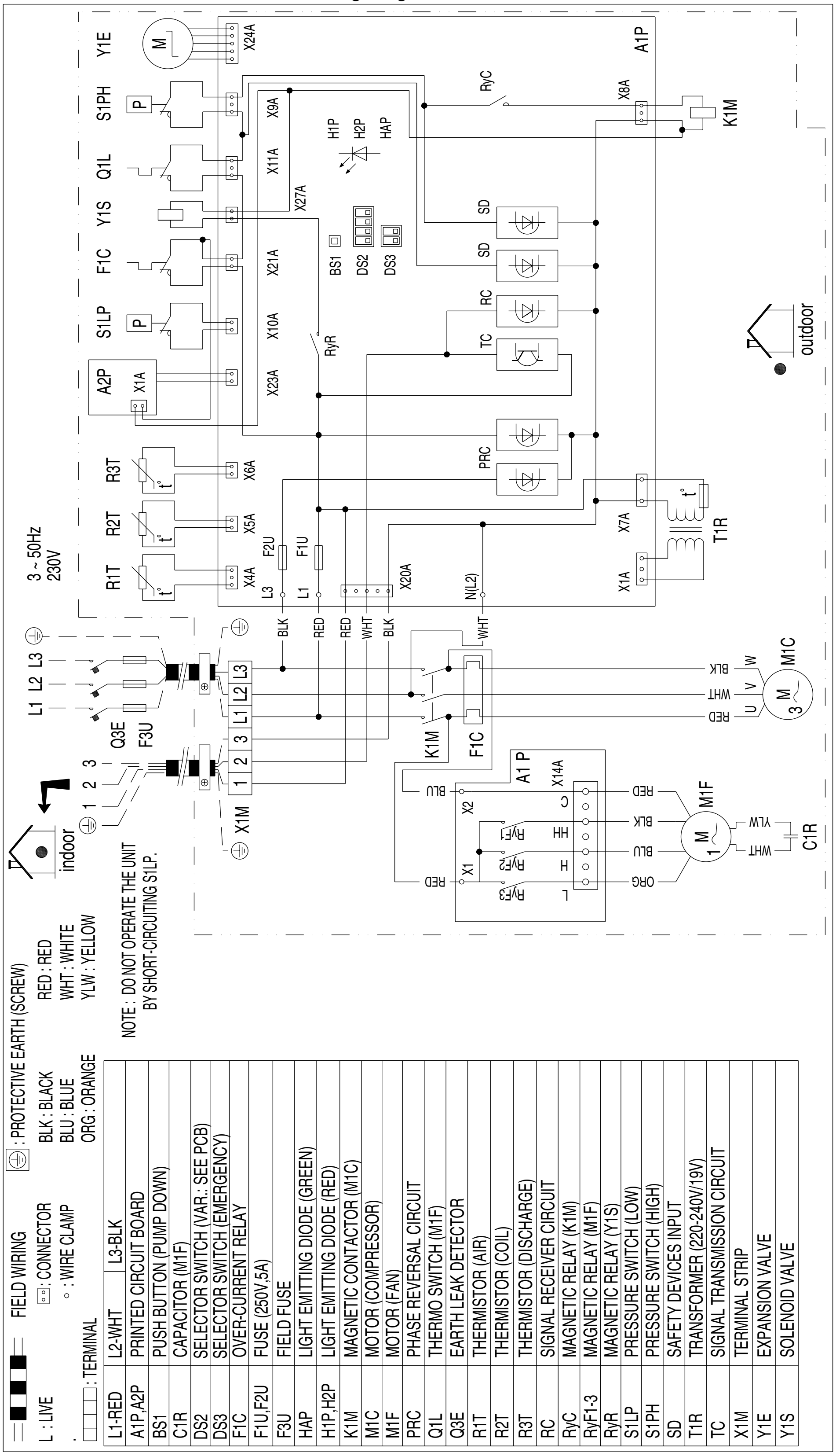


1

6.10 RP71B7T1

Wiring diagram

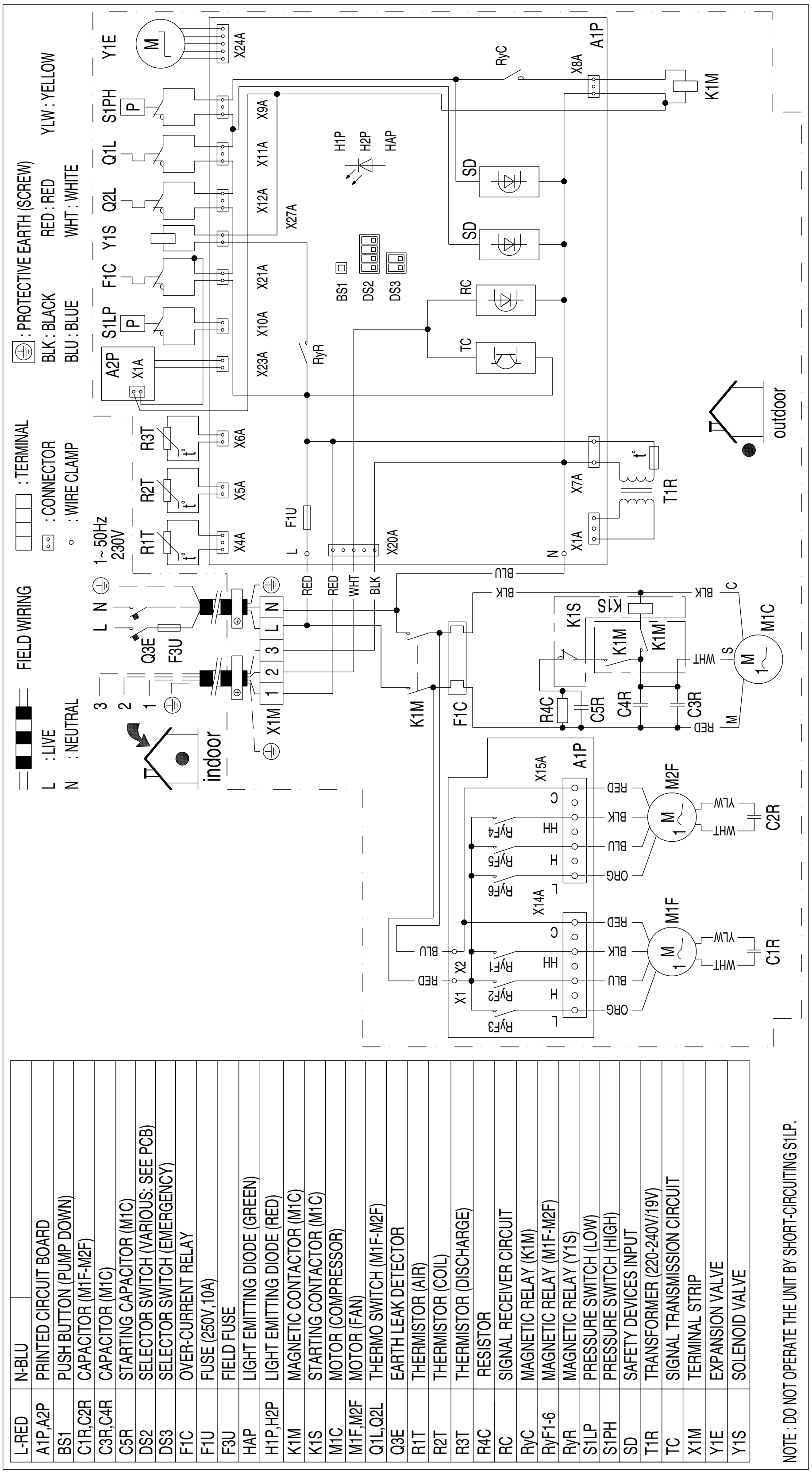
The illustration below shows the wiring diagram of the unit.



6.11 RP100B7V1

Wiring diagram

The illustration below shows the wiring diagram of the unit.



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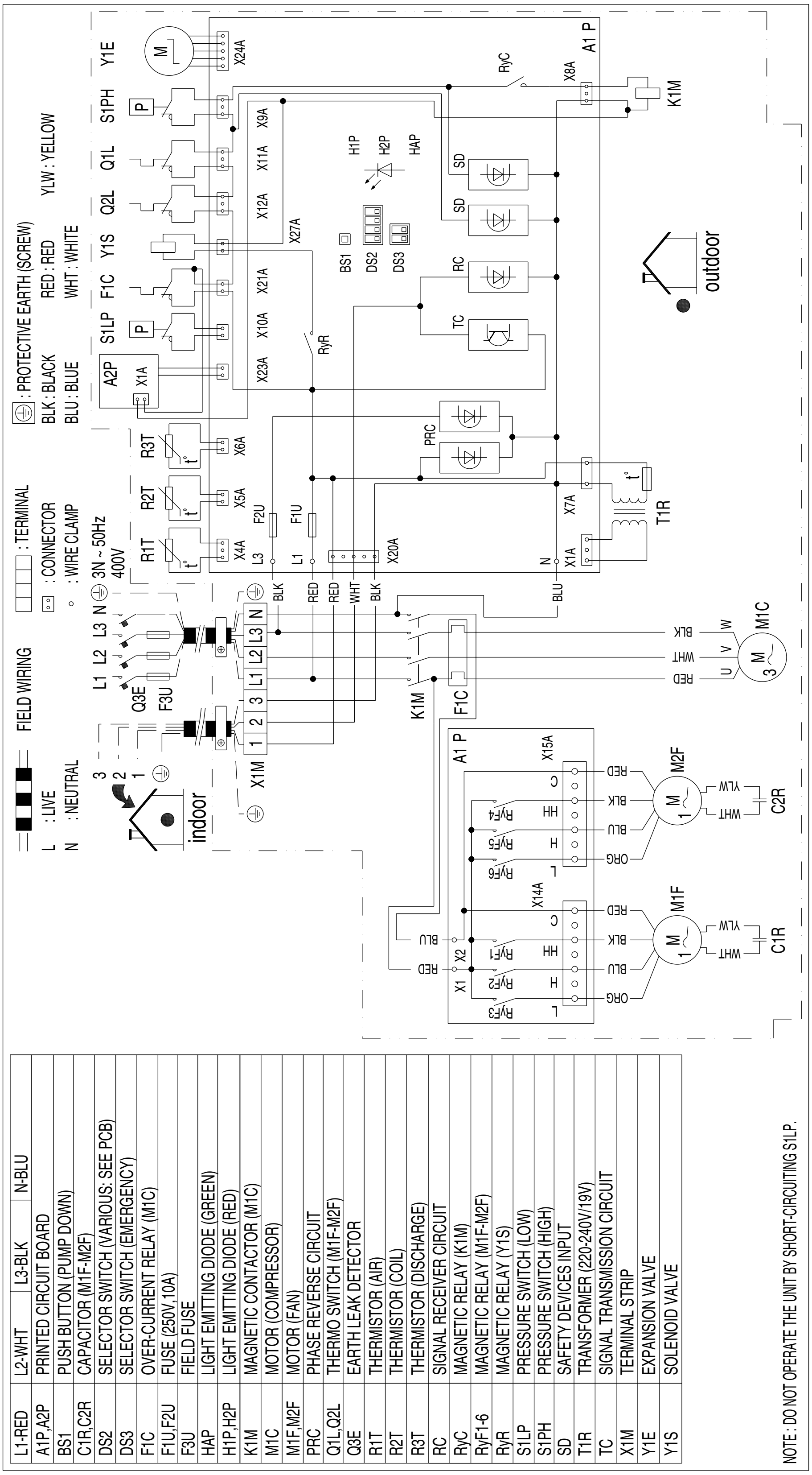
6.12 RP100B7W1 and RP125B7W1

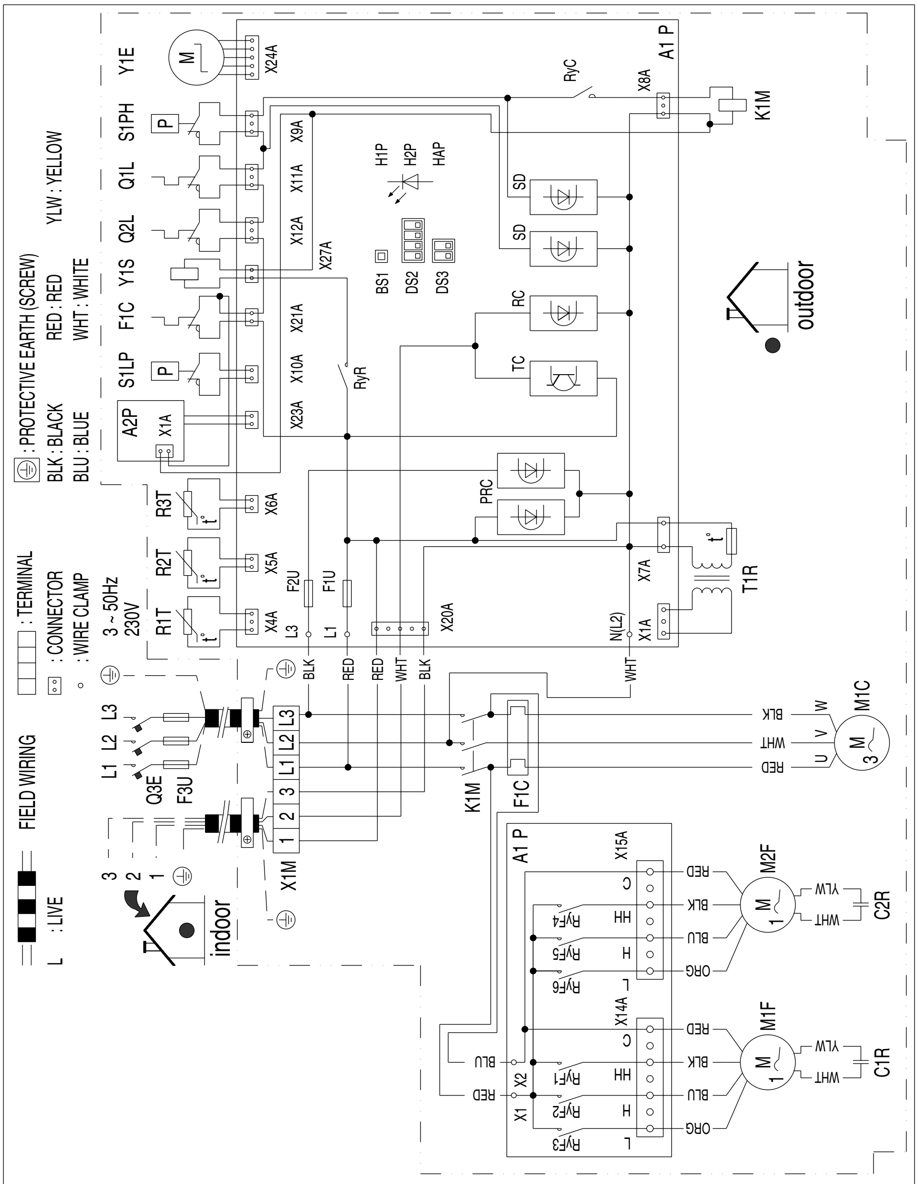
Wiring diagram

The illustration below shows the wiring diagram of the unit.



6.13 RP100B7T1and RP125B7T1

Wiring diagram The illustration below shows the wiring diagram of the unit.



L1-RED	L2-WHT	L3-BLK
A1P,A2P	PRINTED CIRCUIT BOARD	
BS1	PUSH BUTTON (PUMP DOWN)	
C1R,C2R	CAPACITOR (M1F-M2F)	
DS2	SELECTOR SWITCH (VARIOUS: SEE PCB)	
DS3	SELECTOR SWITCH (EMERGENCY)	
F1C	OVER-CURRENT RELAY	
F1U,F2U	FUSE (250V,10A)	
F3U	FIELD FUSE	
HAP	LIGHT EMITTING DIODE (GREEN)	
H1P,H2P	LIGHT EMITTING DIODE (RED)	
K1M	MAGNETIC CONTACTOR (M1C)	
M1C	MOTOR (COMPRESSOR)	
M1F,M2F	MOTOR (FAN)	
PRC	PHASE REVERSE CIRCUIT	
Q1L,Q2L	THERMO SWITCH (M1F-M2F)	
Q3E	EARTH LEAK DETECTOR	
R1T	THERMISTOR (AIR)	
R2T	THERMISTOR (COIL)	
R3T	THERMISTOR (DISCHARGE)	
RC	SIGNAL RECEIVER CIRCUIT	
RyC	MAGNETIC RELAY (K1M)	
RyF1-6	MAGNETIC RELAY (M1F-M2F)	
RyR	MAGNETIC RELAY (Y1S)	
S1LP	PRESSURE SWITCH (LOW)	
S1PH	PRESSURE SWITCH (HIGH)	
SD	SAFETY DEVICES INPUT	
T1R	TRANSFORMER (220-240V/19V)	
TC	SIGNAL TRANSMISSION CIRCUIT	
X1M	TERMINAL STRIP	
Y1E	EXPANSION VALVE	
Y1S	SOLENOID VALVE	

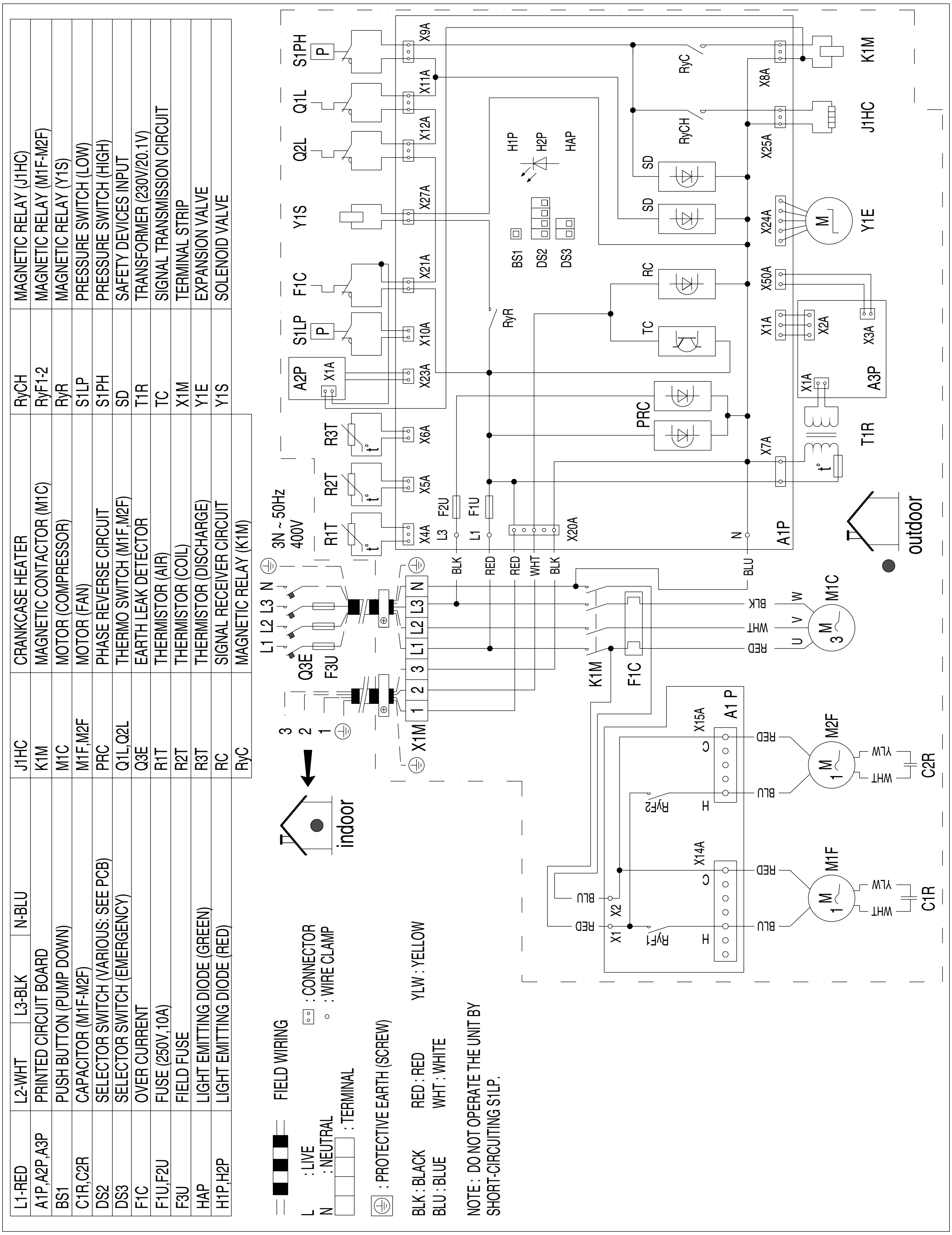
NOTE : DO NOT OPERATE THE UNIT BY SHORT-CIRCUITING S1LP.

1

6.14 RP200B7W1 and RP250B7W1

Wiring diagram

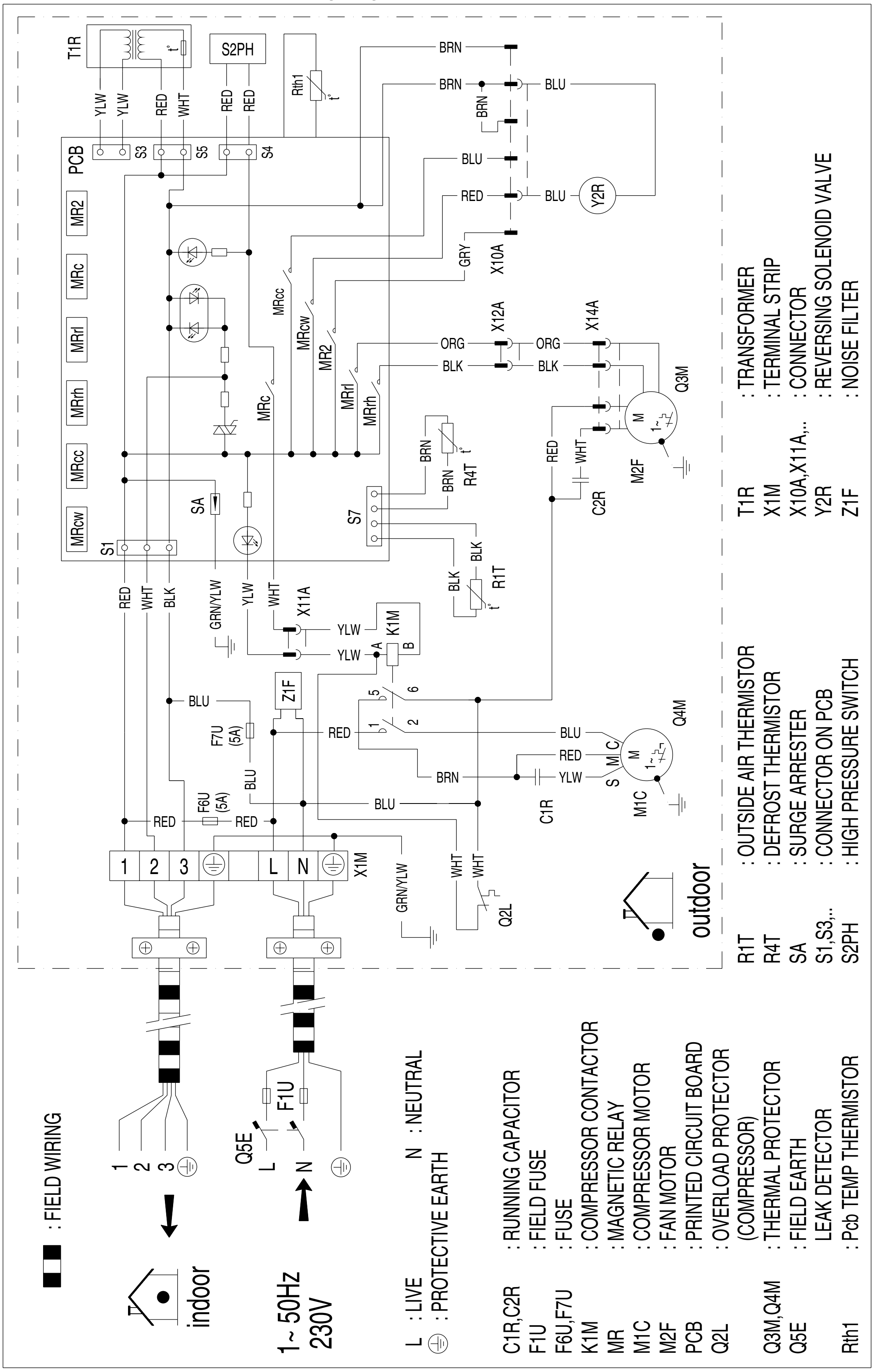
The illustration below shows the wiring diagram of the unit.



6.15 RY35EAZ7V1 and RY45EAZ7V1

Wiring diagram

The illustration below shows the wiring diagram of the unit.

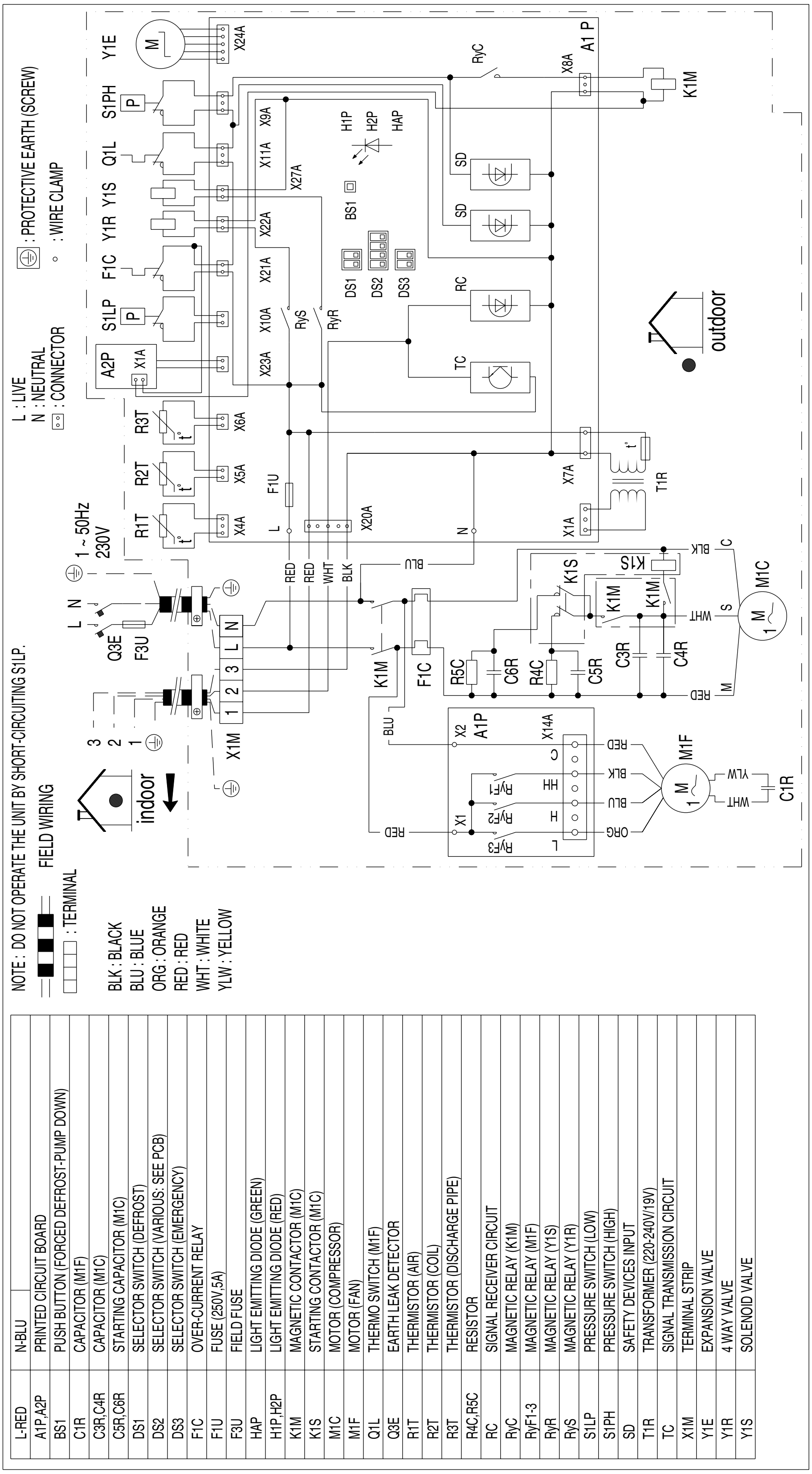


1

6.16 RYP71B7V1

Wiring diagram

The illustration below shows the wiring diagram of the unit.



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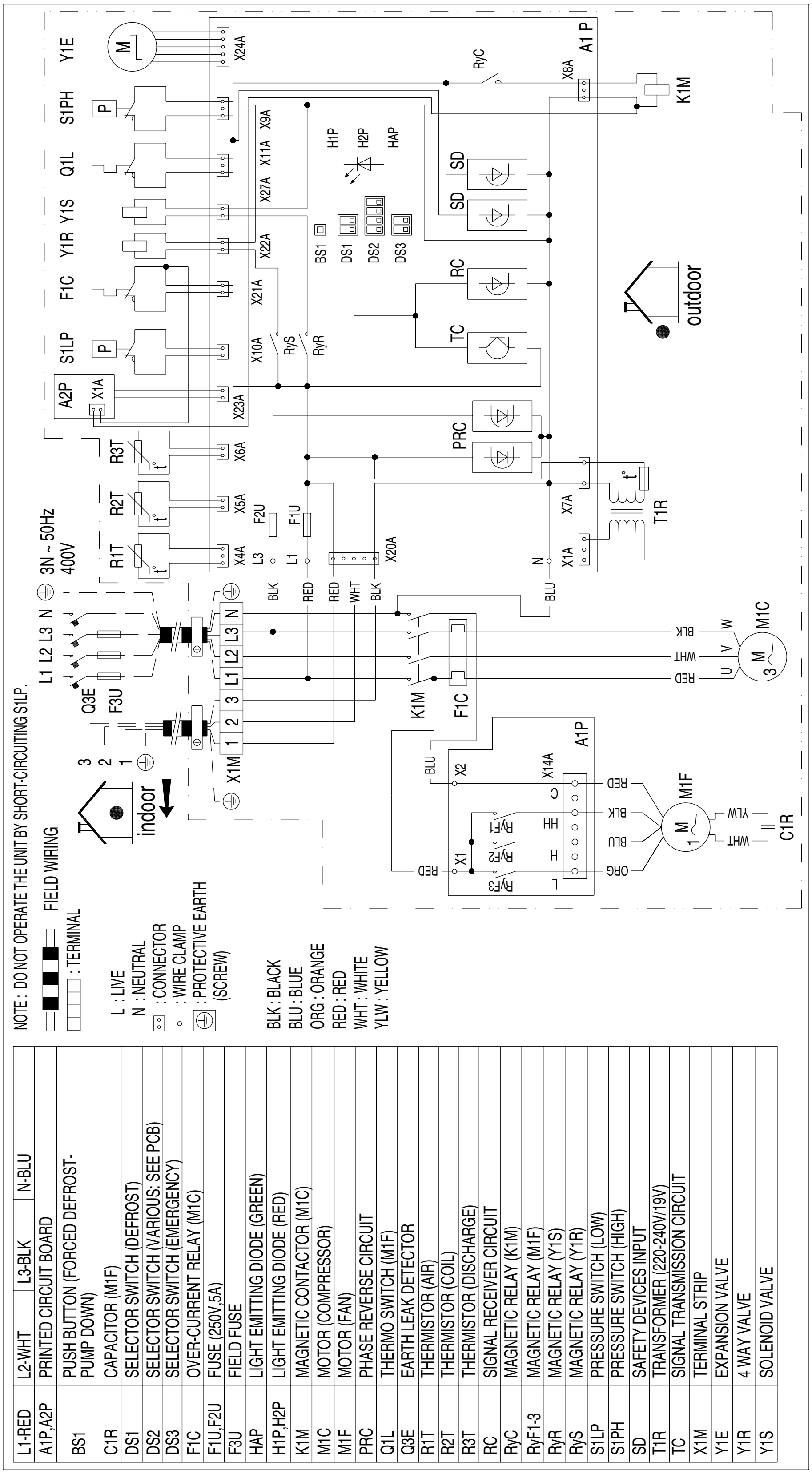
6.17 RYP71B7W1

Wiring diagram

The illustration below shows the wiring diagram of the unit.



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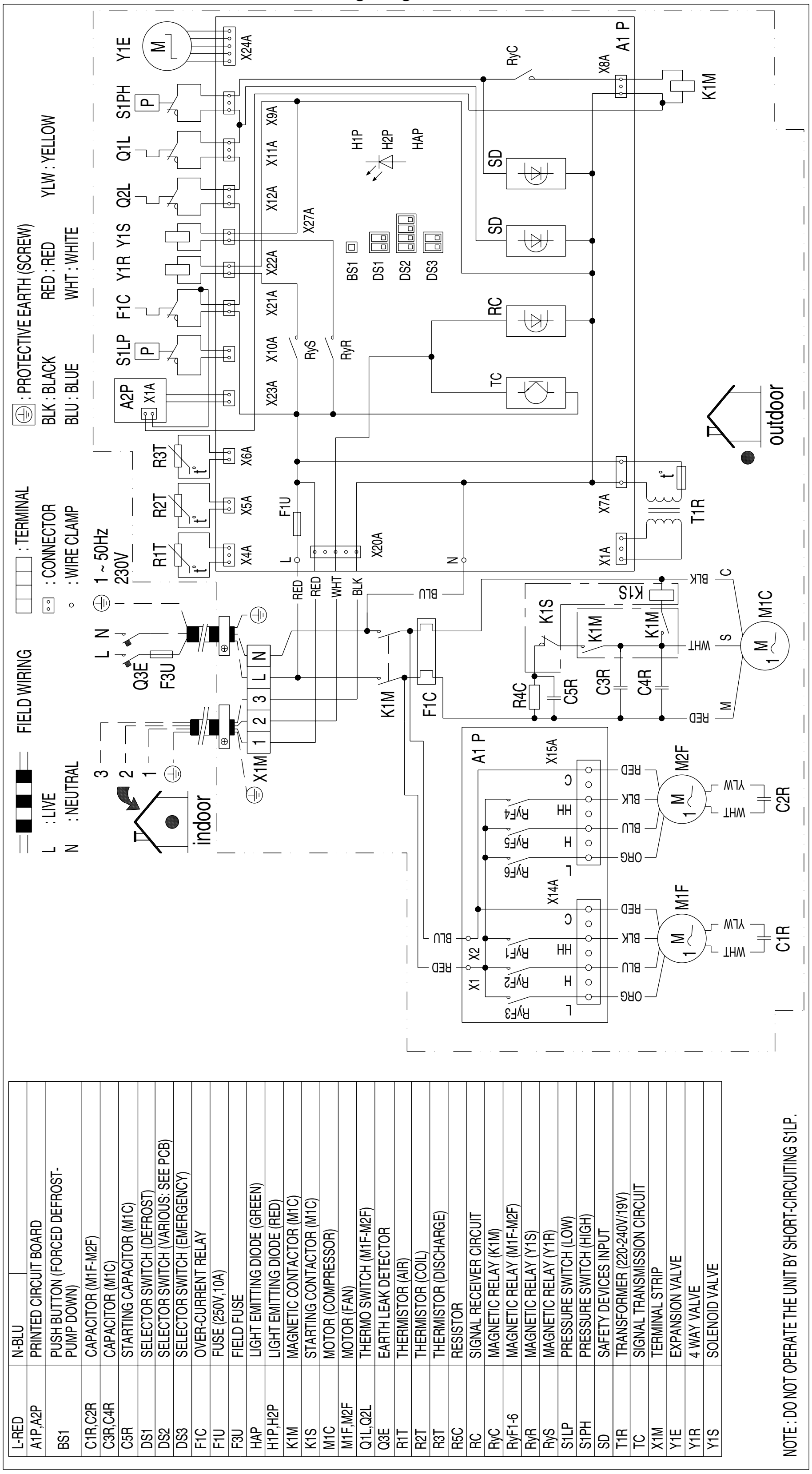
6.18 RYP100B7V1

Wiring diagram

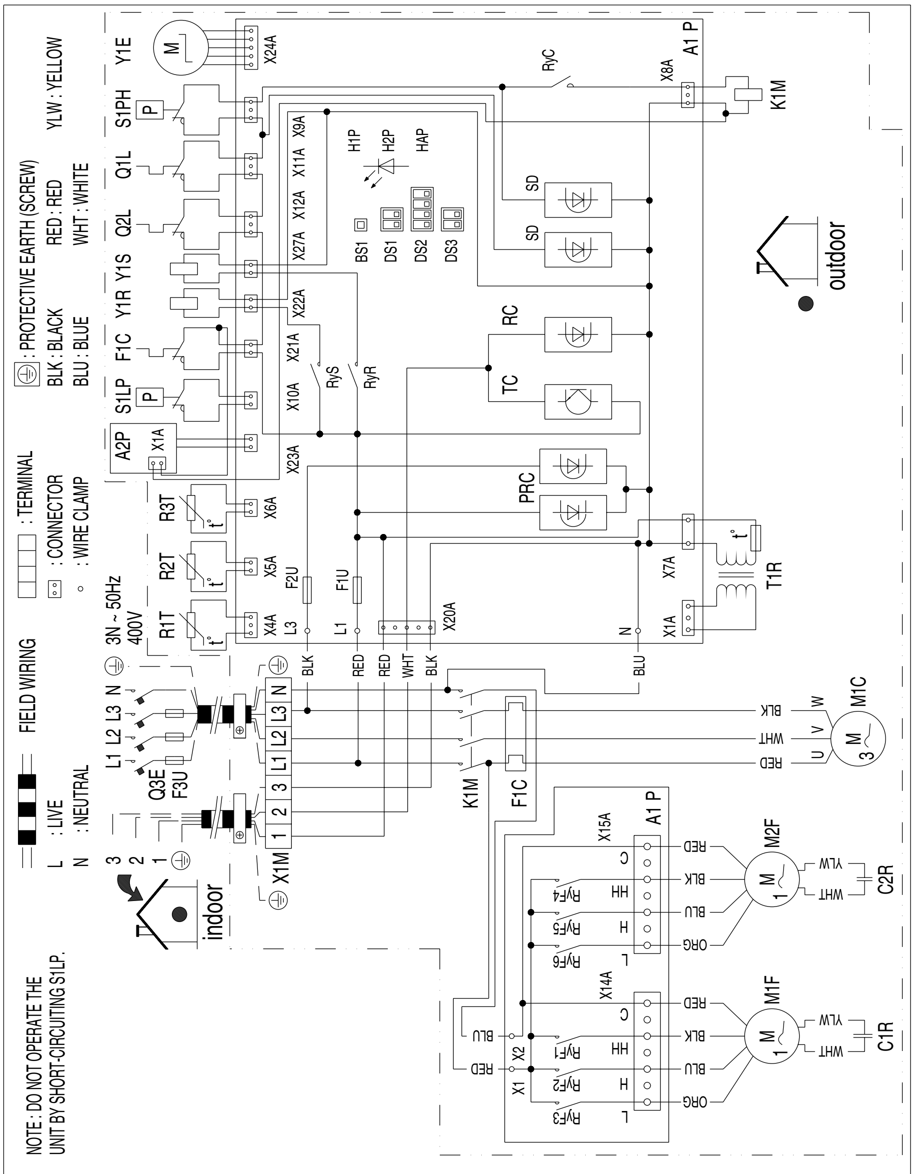
The illustration below shows the wiring diagram of the unit.



6.19 RYP100B7W1 and RYP125B7W1

Wiring diagram

The illustration below shows the wiring diagram of the unit.

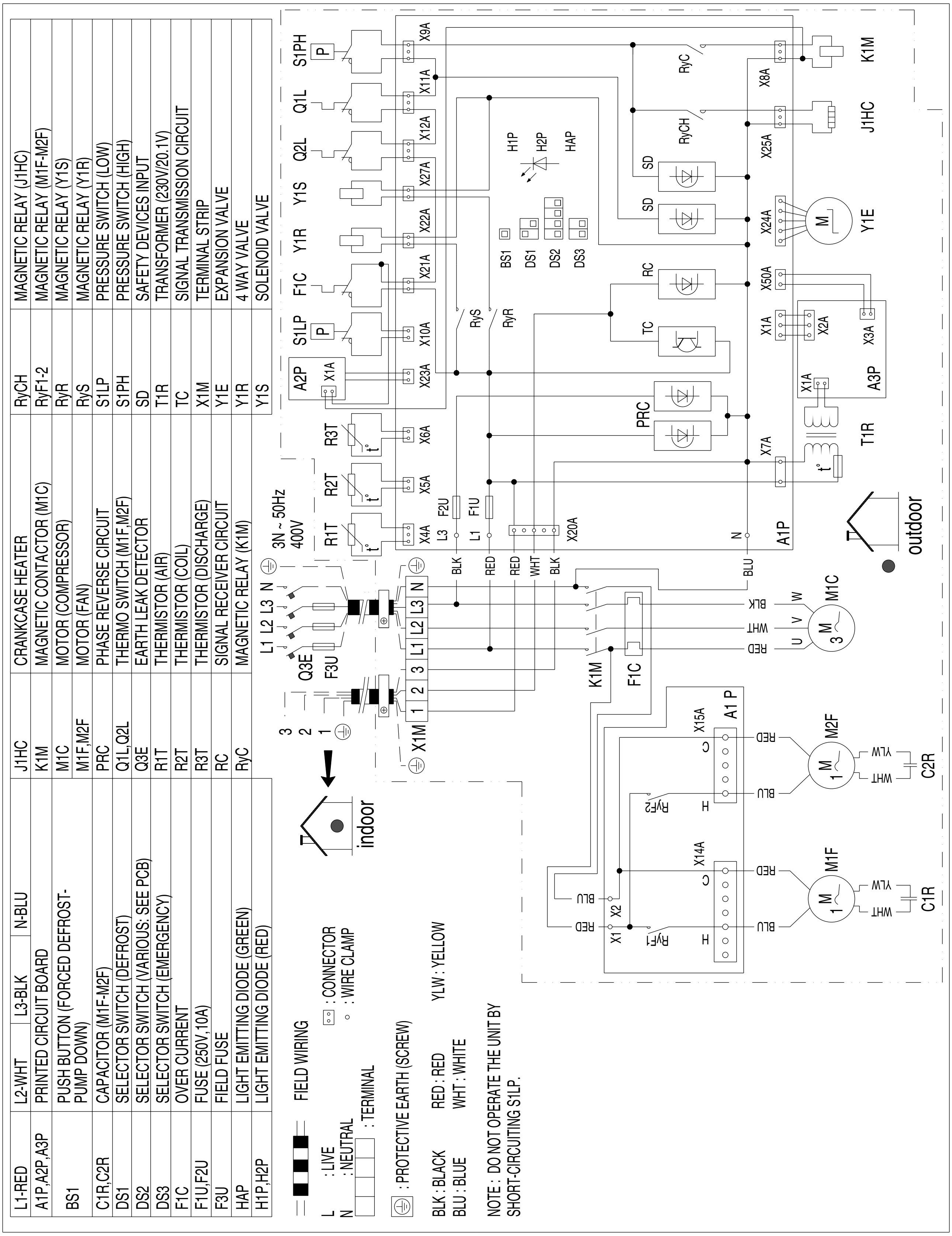


L1-RED	L2-WHT	L3-BLK	N-BLU
A1P,A2P	PRINTED CIRCUIT BOARD		
BS1	PUSH BUTTON (FORCED DEFROST-PUMP DOWN)		
C1R,C2R	CAPACITOR (M1F-M2F)		
DS1	SELECTOR SWITCH (DEFROST)		
DS2	SELECTOR SWITCH (VARIOUS: SEE PCB)		
DS3	SELECTOR SWITCH (EMERGENCY)		
F1C	OVER-CURRENT RELAY (M1C)		
F1U,F2U	FUSE (250V,10A)		
F3U	FIELD FUSE		
HAP	LIGHT EMITTING DIODE (GREEN)		
H1P,H2P	LIGHT EMITTING DIODE (RED)		
K1M	MAGNETIC CONTACTOR (M1C)		
M1C	MOTOR (COMPRESSOR)		
M1F,M2F	MOTOR (FAN)		
PRC	PHASE REVERSE CIRCUIT		
Q1L,Q2L	THERMO SWITCH (M1F-M2F)		
Q3E	EARTH LEAK DETECTOR		
R1T	THERMISTOR (AIR)		
R2T	THERMISTOR (COIL)		
R3T	THERMISTOR (DISCHARGE)		
RC	SIGNAL RECEIVER CIRCUIT		
RyC	MAGNETIC RELAY (K1M)		
RyF1-6	MAGNETIC RELAY (M1F-M2F)		
RyR	MAGNETIC RELAY (Y1S)		
RyS	MAGNETIC RELAY (Y1R)		
S1LP	PRESSURE SWITCH (LOW)		
S1PH	PRESSURE SWITCH (HIGH)		
SD	SAFETY DEVICES INPUT		
T1R	TRANSFORMER (220-240V/19V)		
TC	SIGNAL TRANSMISSION CIRCUIT		
X1M	TERMINAL STRIP		
Y1E	EXPANSION VALVE		
Y1R	4 WAY VALVE		
Y1S	SOLENOID VALVE		

1

6.20 RYP200B7W1 and RYP250B7W1

Wiring diagram The illustration below shows the wiring diagram of the unit.



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7 Wiring Diagrams: Indoor Units

7.1 What Is in This Chapter?

Introduction

This chapter contains the wiring diagrams of the indoor units.

Wiring diagrams

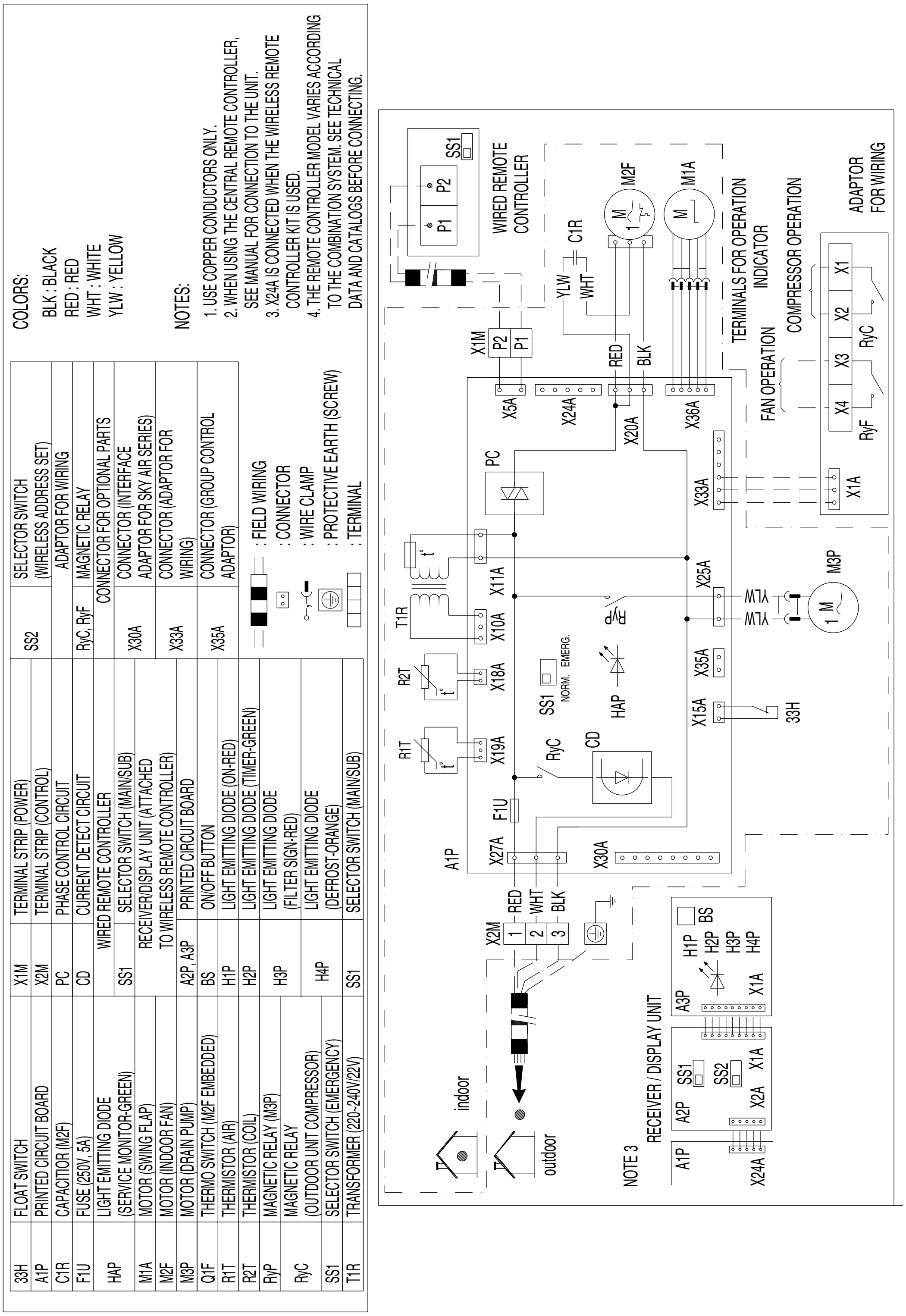
This chapter contains the following wiring diagrams:

1

7.2 FHC35BZ7V1, FHC45BZ7V1 and FHC60BZ7V1

Wiring diagram

The illustration below shows the wiring diagram of the unit.

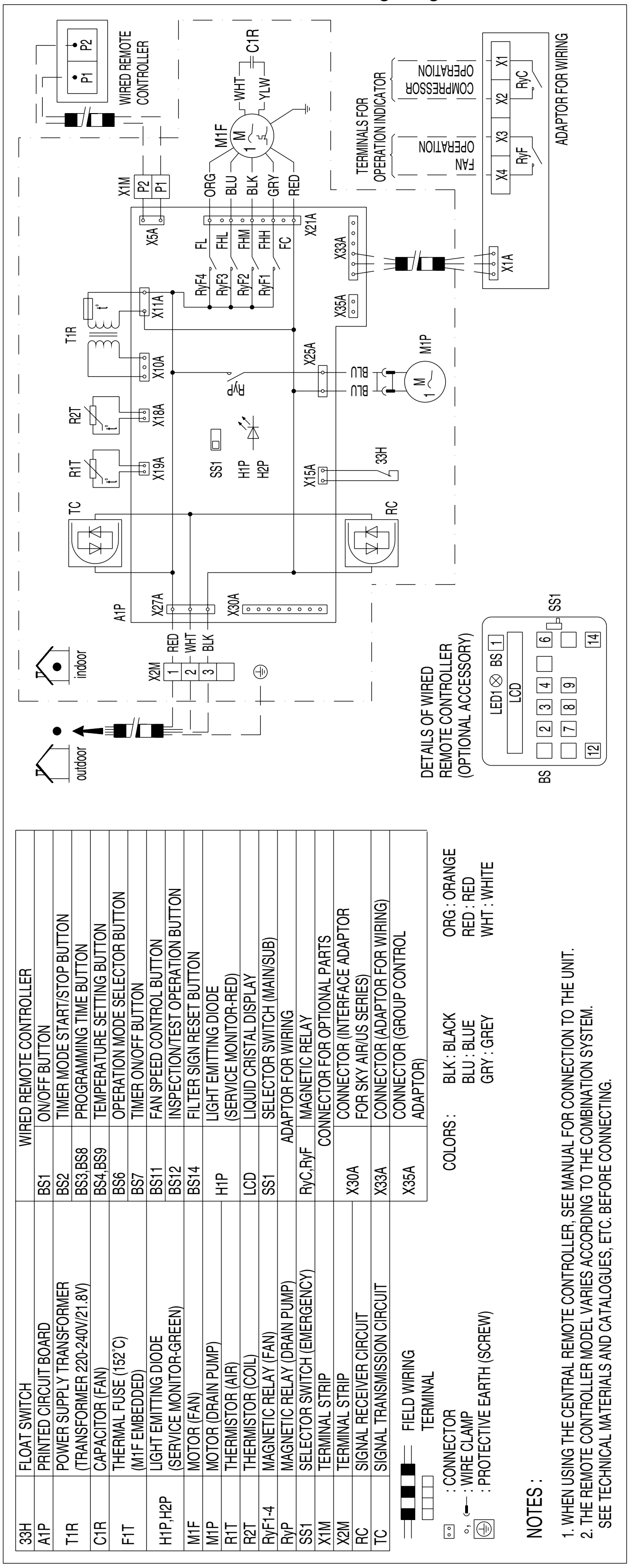


1

7.3 FHYBP35B7V1, FHYBP45B7V1, FHYBP60B7V1 and FHYBP71B7V1

Wiring diagram

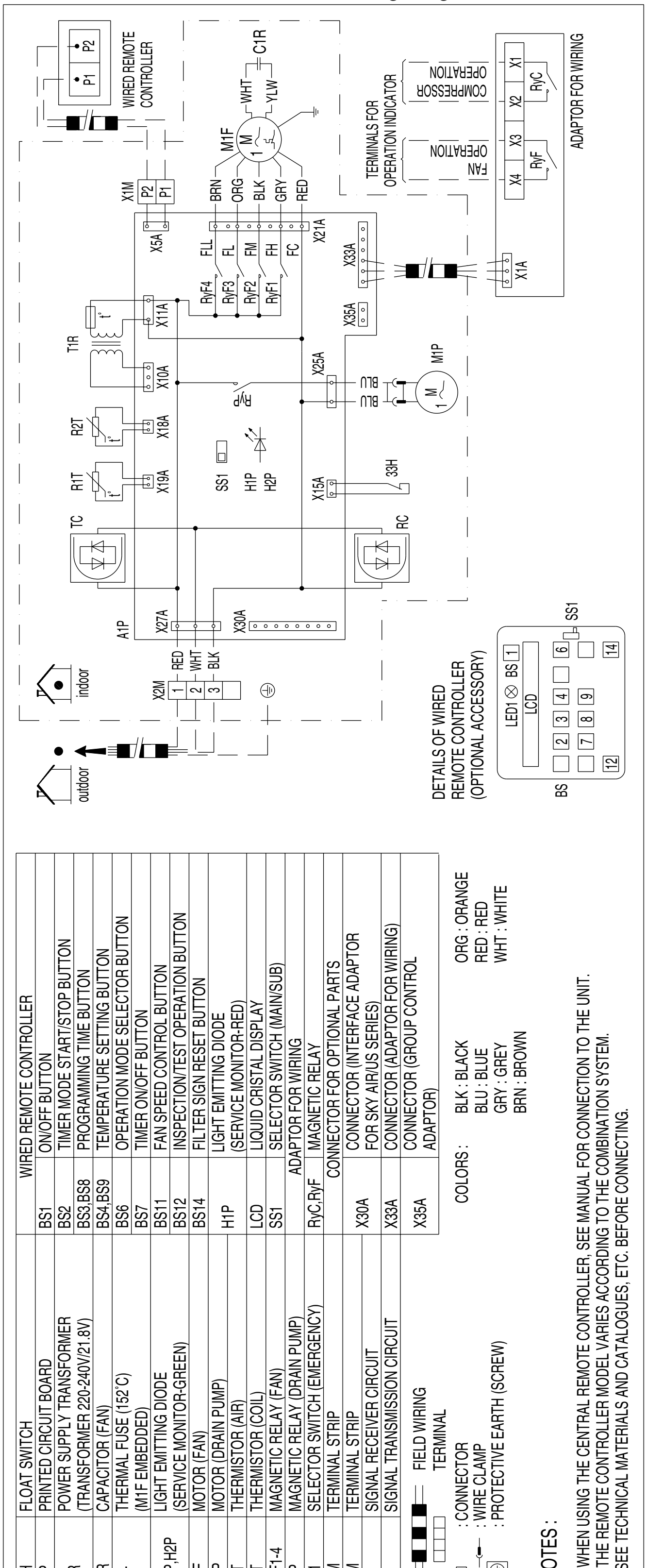
The illustration below shows the wiring diagram of the unit.



7.4 FHYBP100B7V1 and FHYBP125B7V1

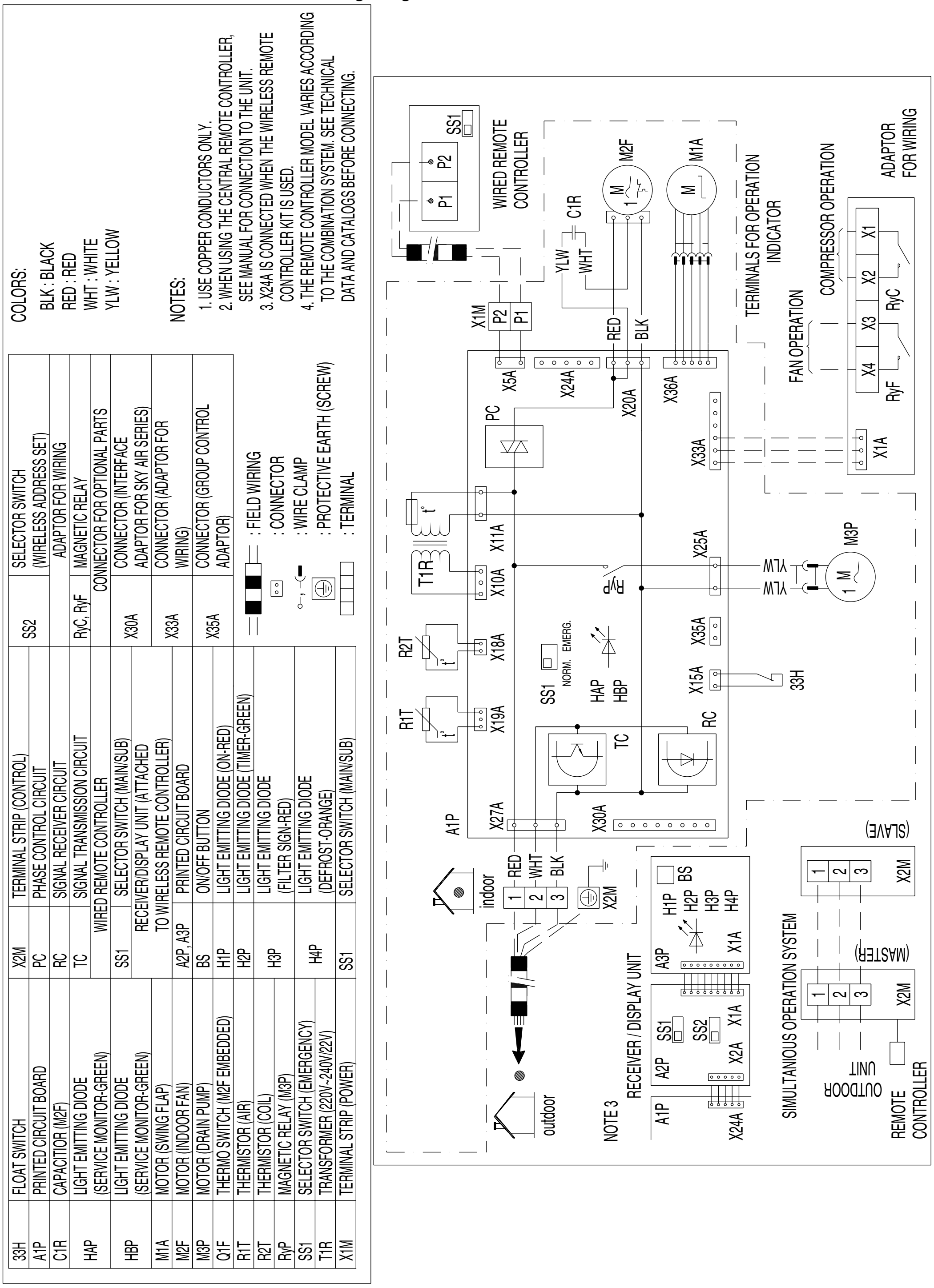
Wiring diagram

The illustration below shows the wiring diagram of the unit.



7.5 FHYC35BZ7V1, FHYC45BZ7V1, FHYCP35BZ7V1, FHYCP45BZ7V1, FHYCP60BZ7V1, FHYCP71BZ7V1, FHYCP100BZ7V1 and FHYCP125BZ7V1

Wiring diagram The illustration below shows the wiring diagram of the unit.

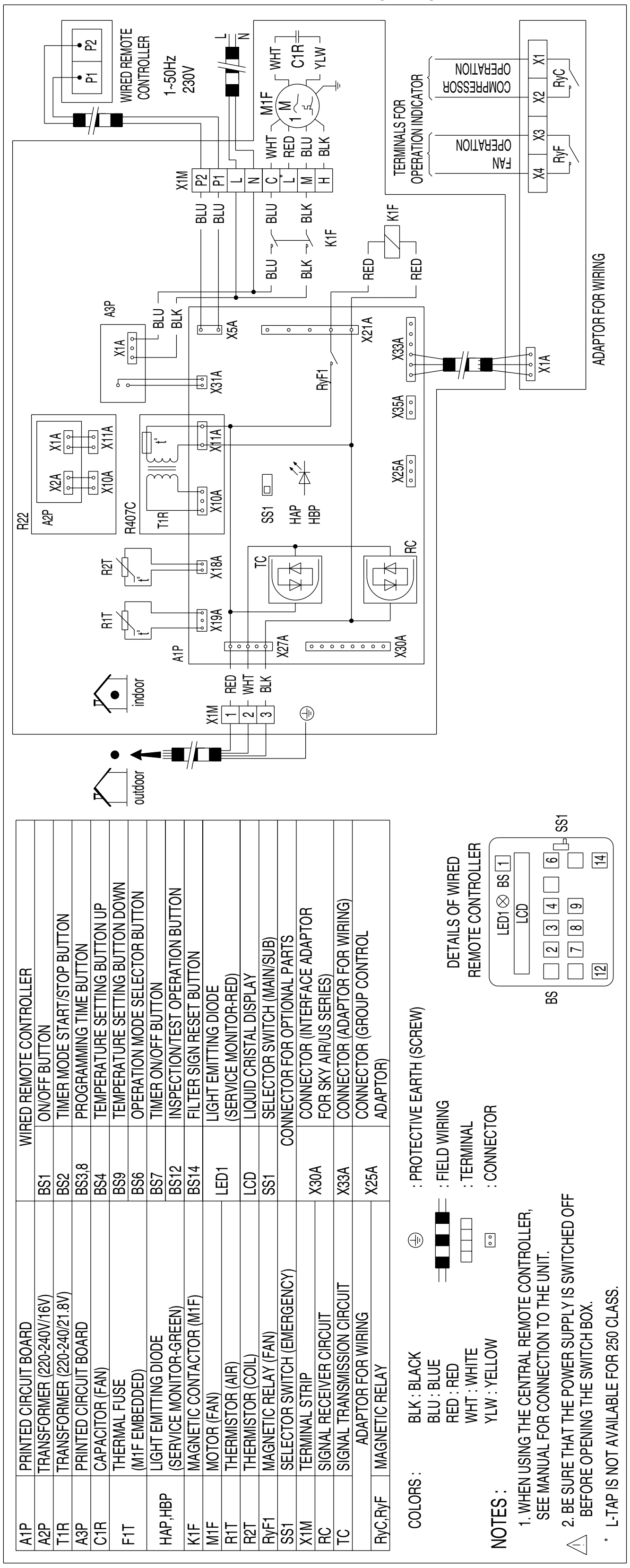


1

7.6 FDYP125B7V1, FDYP200B7V1 and FDYP250B7V1

Wiring diagram

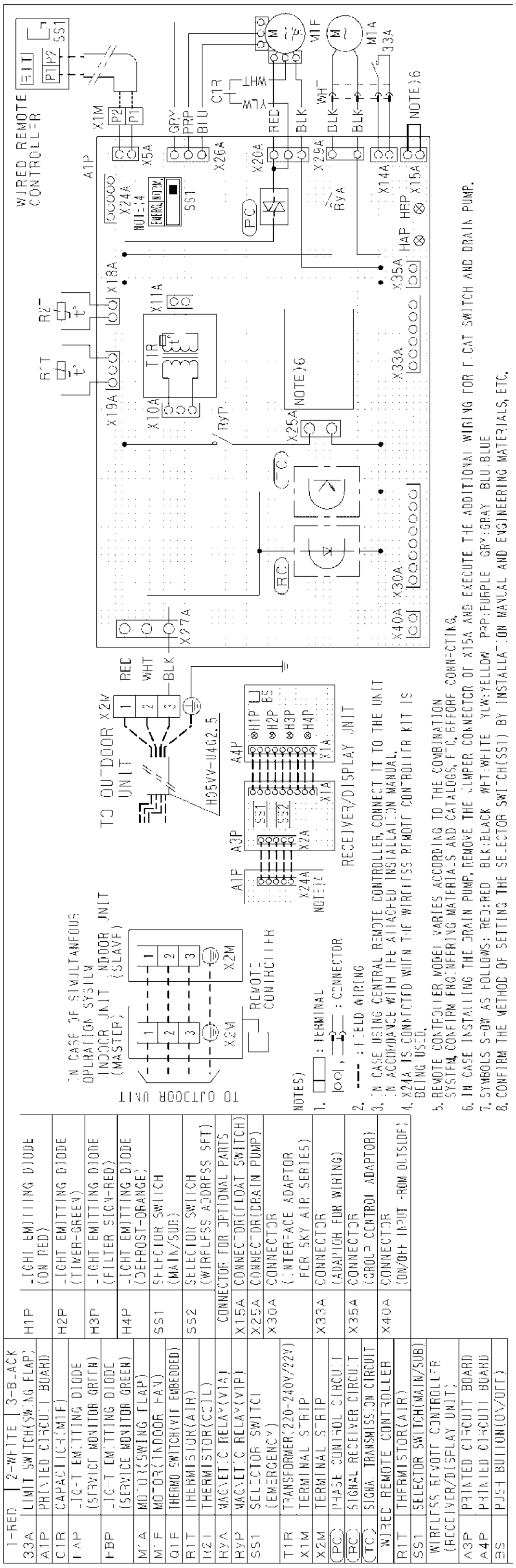
The illustration below shows the wiring diagram of the unit.



7.7 FHYP35BV1, FHYP45BV1, FHYP60BV1, FHYP71BV1, FHYP100BV1 and FHYP125BV1

Wiring diagram

The illustration below shows the wiring diagram of the unit.

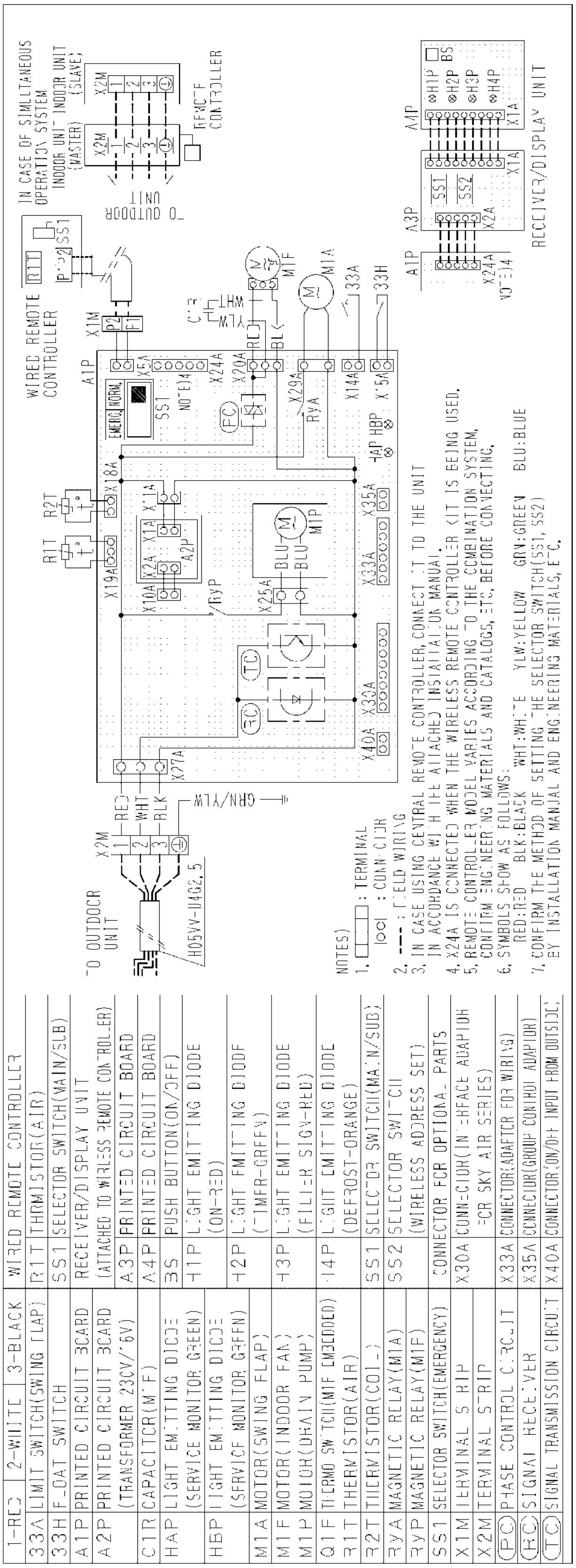


1

7.8 FUYP71BV17, FUYP100BV17 and FUYP125BV17

Wiring diagram

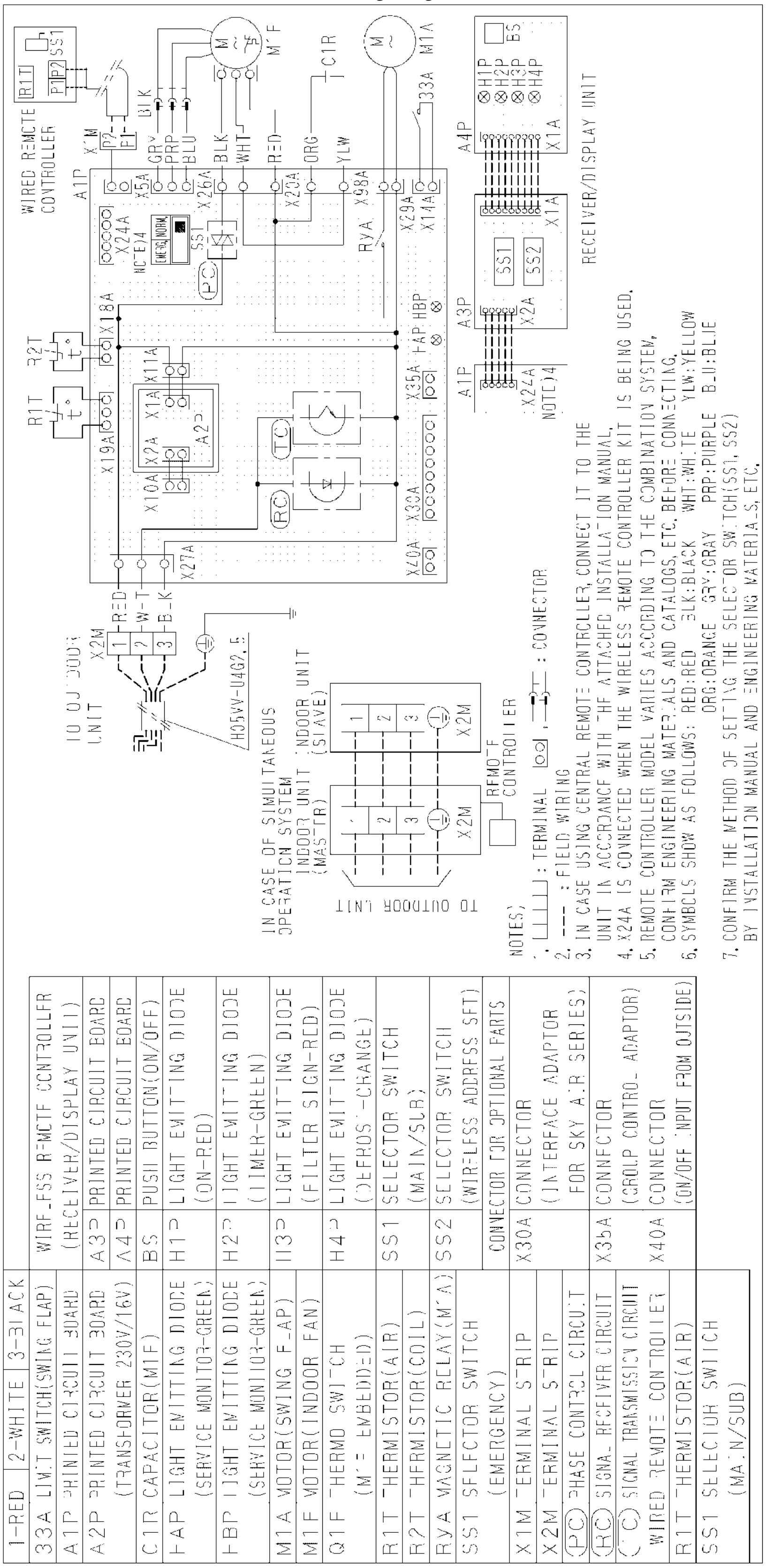
The illustration below shows the wiring diagram of the unit.



7.9 FAYP71BV1 and FAYP100BV1

Wiring diagram

The illustration below shows the wiring diagram of the unit.



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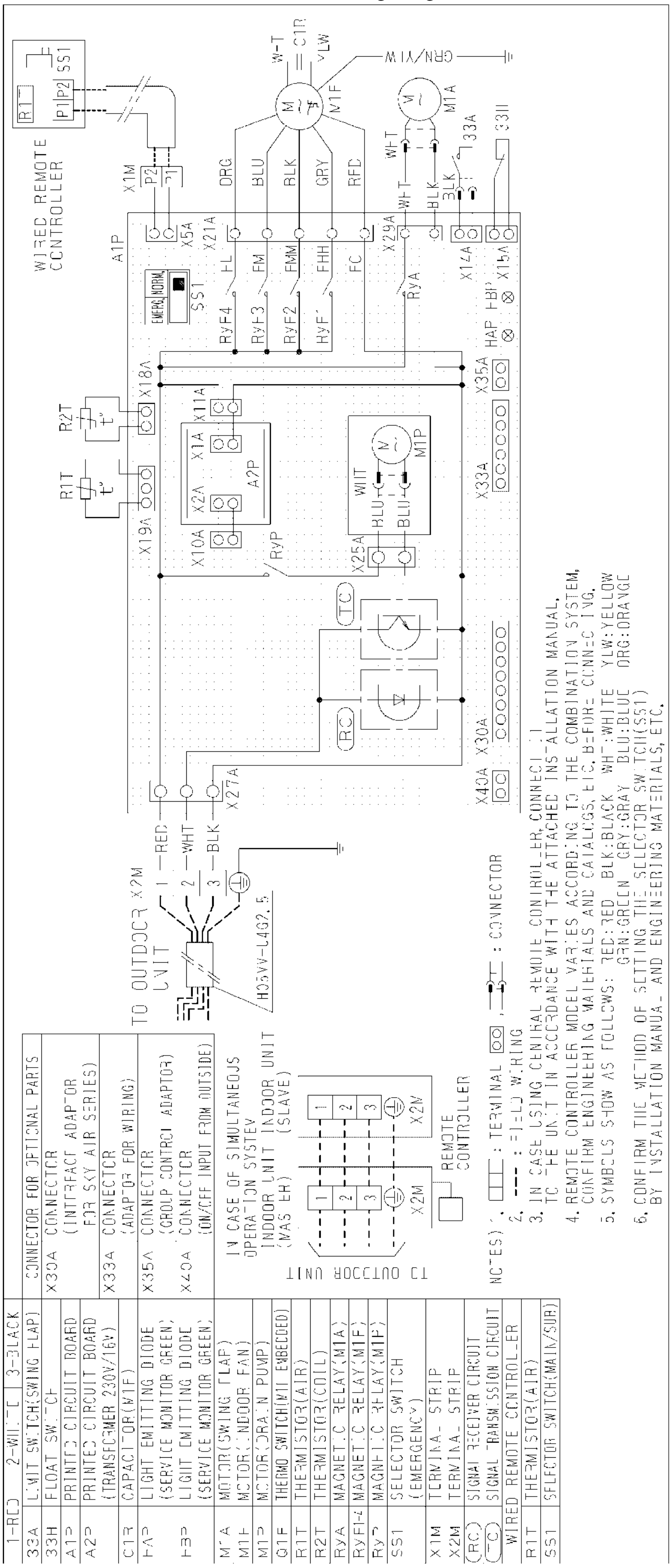
7.10 FHYKP35BV1, FHYKP45BV1, FHYKP60BV1 and FHYKP71BV1

Wiring diagram

The illustration below shows the wiring diagram of the unit.



8 PCB Layout

8.1 What Is in This Chapter?

Introduction

This chapter contains the following information:

- It describes which unit uses which PCB types
- It shows the PCB connectors.

PCB layouts

This chapter contains the following PCB layouts:

8.2 Outdoor Units: PCB Numbers and Types

No. and types

The table below contains the PCB numbers and types of the outdoor units.

Outdoor unit	PCB 1	PCB 2	PCB 3
R35GZ7V11	—	—	—
R45GZ7V11			
R45GZ7W11			
R60GZ7W1			
MA56GZ7W11	3SW00942-1 (type L)	2P068330-1 (type H)	3SA42153-1 (type K)
MA90GZ7W11	2PB38042-21 (type J)	3SW00942-1 (type L)	2PB32067-3 (type I)
RP71B7V1	3SW00943-1 (type M)	4SW00962-1 (type N)	—
RP71B7W1		4SW00954-1 (type N)	
RP71B7T1			
RP100B7V1		4SW00963-1 (type N)	
RP100B7W1		4SW00955-1 (type N)	
RP100B7T1			
RP125B7W1			
RP125B7T1			
RP200B7W1		2P050150-1 (type C)	4SW00958-1 (type N)
RP250B7W1			4SW00959-1 (type N)
RY35EAZ7V1	2P019606-1 (type B)	—	—
RY45EAZ7V1	2P019607-1 (type B)		
RYP71B7V1	3SW00943-1 (type M)	4SW00964-1 (type N)	—
RYP71B7W1		4SW00956-1 (type N)	
RYP100B7V1		4SW00965-1 (type N)	
RYP100B7W1		4SW00957-1 (type N)	
RYP125B7W1			
RYP200B7W1	2P050150-1 (type C)	3SW00943-1 (type M)	4SW00960-1 (type N)
RYP250B7W1			

8.3 Indoor Units: PCB Numbers and Types

No. and types

The table below contains the PCB numbers and types of the indoor units.

Indoor unit	PCB 1	PCB 2
FHC35BZ7V1	2P053997-1 (type D)	—
FHC45BZ7V1		
FHC60BZ7V1		
FHYBP35B7V1	2P060444-1 (or EC0060A) (type F)	—
FHYBP45B7V1		
FHYBP60B7V1		
FHYBP71B7V1		
FHYBP100B7V1	2P060445-1 (or EC0061A) (type F)	
FHYBP125B7V1		
FHYC35BZ7V1	2P018671-1 (type A)	—
FHYC45BZ7V1		
FHYCP35B7V1	2P060443-1 (type E)	—
FHYCP45B7V1		
FHYCP60B7V1		
FHYCP71B7V1		
FHYCP100B7V1		
FHYCP125B7V1		
FDYP125B7V1	3SW00943-1 (type M)	2P060446-1 (or EC0062A) (type G)
FDYP200B7V1		
FDYP250B7V1		
FHYP35BV1	2P064849-1 (type Q)	—
FHYP45BV1		
FHYP60BV1		
FHYP71BV1		
FHYP100BV1		
FHYP125BV1		
FUYP71BV17	2P060449-1 (type O)	—
FUYP100BV17		
FUYP125BV17		
FAYP71BV1	2P060448-1 (type R)	—
FAYP100BV1		
FHYKP35BV1	2P060447-1 (type P)	—
FHYKP45BV1		
FHYKP60BV1		
FHYKP71BV1		

1

8.4 PCB Types

PCB types

The table below is an overview of the PCB types.

PCB type	PCB No.	Unit	See page
A	2P018671-1	FHYC35/45BZ7V1	1–149
B	2P019606-1	RY35EAZ7V1	1–150
	2P019607-1	RY45EAZ7V1	
C	2P050150-1	RP200/250B7W1 RYP200/250B7W1 (not described in this manual)	—
D	2P053997-1	FHC35/45/60BZ7V1	1–151
E	2P060443-1	FHYCP35/45/60/71/100/125B7V1	1–152
F	2P060444-1 (or EC0060A)	FHYBP35/45/60/71B7V1	1–153
	2P060445-1 (or EC0061A)	FHYBP100/125B7V1	
G	2P060446-1 (or EC0062A)	FDYP125/200/250B7V1	1–154
H	2P068330-1	MA56GZ7W11	1–155
I	2PB32067-3	MA90GZ7W11	1–156
J	2PB38042-21	MA90GZ7W11	1–157
K	3SA42153-1	MA56GZ7W11 (not described in this manual)	—
L	3SW00942-1	MA90GZ7W11 MA56GZ7W11 (not described in this manual)	
M	3SW00943-1	RP71/100B7V1/W1/T1 RP125B7W1/T1 RP200/250B7W1 RYP71/100B7V1/W1 RYP125/200/250B7W1 FDYP125/200/250B7V1 (not described in this manual)	
N	4SW00954-1	RP71B7W1/T1	1–158
	4SW00955-1	RP100/125B7W1/T1	
	4SW00956-1	RYP71B7W1	
	4SW00957-1	RYP100/125B7W1	
	4SW00958-1	RP200B7W1	
	4SW00959-1	RP250B7W1	
	4SW00960-1	RYP200/250B7W1	
	4SW00962-1	RP71B7V1	
	4SW00963-1	RP100B7V1	
	4SW00964-1	RYP71B7V1	
	4SW00965-1	RYP100B7V1	
O	2P060449-1	FUYP71/100/125BV17	1–160
P	2P060447-1	FHYKP35/45/60/71BV1	1–161
Q	2P064849-1	FHYP35/45/60/71/100/125BV1	1–162
R	2P060448-1	FAYP71/100BV1	1–163

8.5 PCB Type A

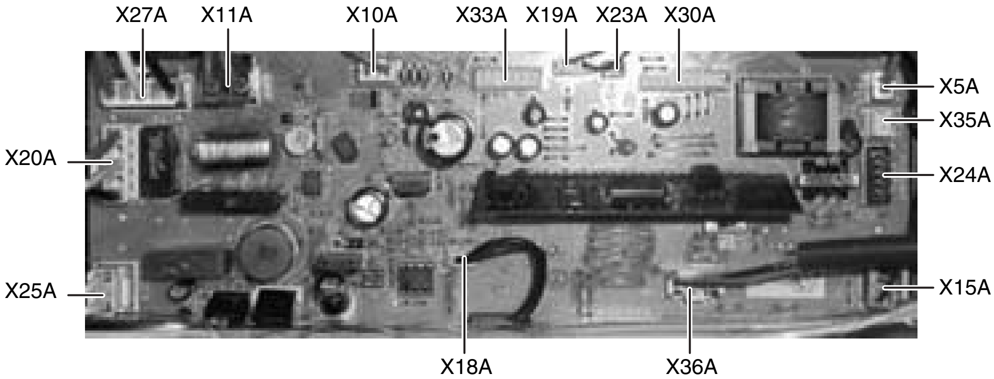
Applicable

The table below contains the applicable PCB number and unit of this PCB type.

PCB No.	Unit
2P018671-1 (illustrated below)	FHYC35/45BZ7V1

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
X5A	X1M	Terminal strip (P1 and P2)
X10A	T1R	Transformer 230V/22V secundary
X11A	T1R	Transformer 230V/22V primary
X15A	33H	Float switch
X18A	R2T	Heat exchanger thermistor
X19A	R1T	Air thermistor
X20A	M2F	Fan motor
X23A	—	Connector to capacity adaptor
X24A	X2A on A2P	Receiver IR remote control (option)
X25A	M3P	Drain pump motor
X27A	X2M	Power supply and communication to the outdoor unit
X30A	—	Connector to interface adaptor for Sky Air series (DTA102)
X33A	—	Connector to X1A on the adaptor for wiring (option KRP1B)
X35A	X1A (KRP4)	Connector to group control adaptor power supply (16 VDC) for optional PCB KRP4
X36A	M1A	Swing flap motor

1

8.6 PCB Type B

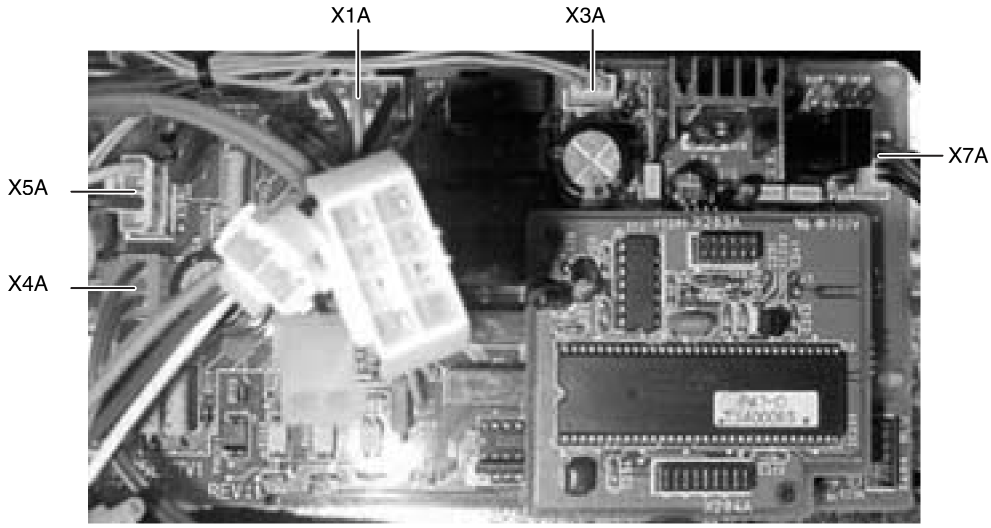
Applicable

The table below contains the applicable PCB numbers and units of this PCB type.

PCB No.	Unit
2P019606-1	RY35EAZ7V1
2P019607-1 (illustrated below)	RY45EAZ7V1

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
X1A	X1M	Terminal strip (power supply PCB and communication to the indoor units)
X3A	T1R	Transformer
X4A	S2PH	High-pressure switch
X5A	T1R	Transformer
X7A	R1T and R4T	Outside air thermistor

8.7 PCB Type D

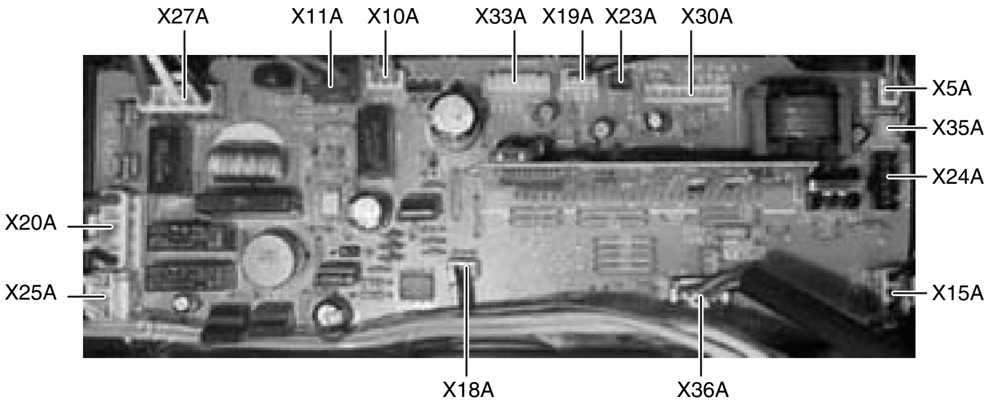
Applicable

The table below contains the applicable PCB number and unit of this PCB type.

PCB No.	Unit
2P053997-1 (illustrated below)	FHC35/45/60BZ7V1

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
X5A	X1M	Terminal strip (P1 and P2)
X10A	T1R	Transformer 230V/22V secundary
X11A	T1R	Transformer 230V/22V primary
X15A	33H	Float switch
X18A	R2T	Heat exchanger thermistor
X19A	R1T	Air thermistor
X20A	M2F	Fan motor
X23A	—	Connector to capacity adaptor
X24A	X2A on A2P	Receiver IR remote control (option)
X25A	M3P	Drain pump motor
X27A	X2M	Power supply and communication to the outdoor unit
X30A	—	Connector to interface adaptor for Sky Air series (DTA102)
X33A	—	Connector to adaptor for wiring (option KRP1B)
X35A	X1A (KRP4)	Connector to group control adaptor power supply (16 VDC) for optional PCB KRP4
X36A	M1A	Swing flap motor

1

8.8 PCB Type E

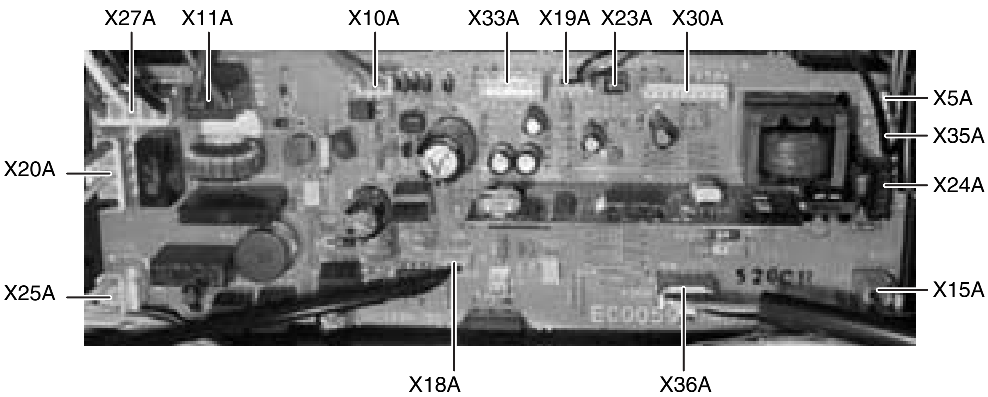
Applicable

The table below contains the applicable PCB number and unit of this PCB type.

PCB No.	Unit
2P060443-1 (illustrated below)	FHYCP35/45/60/71/100/125B7V1

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
X5A	X1M	Terminal strip (P1 and P2)
X10A	T1R	Transformer 230V/22V secundary
X11A	T1R	Transformer 230V/22V primary
X15A	33H	Float switch
X18A	R2T	Heat exchanger thermistor
X19A	R1T	Air thermistor
X20A	M2F	Fan motor
X23A	—	Connector to capacity adaptor
X24A	X2A on A2P	Receiver IR remote control (option)
X25A	M3P	Drain pump motor
X27A	X2M	Power supply and communication to the outdoor unit
X30A	—	Connector to interface adaptor for Sky Air series (DTA102)
X33A	—	Connector to adaptor for wiring (option KRP1B)
X35A	X1A (KRP4)	Connector to group control adaptor power supply (16 VDC) for optional PCB KRP4
X36A	M1A	Swing flap motor

8.9 PCB Type F

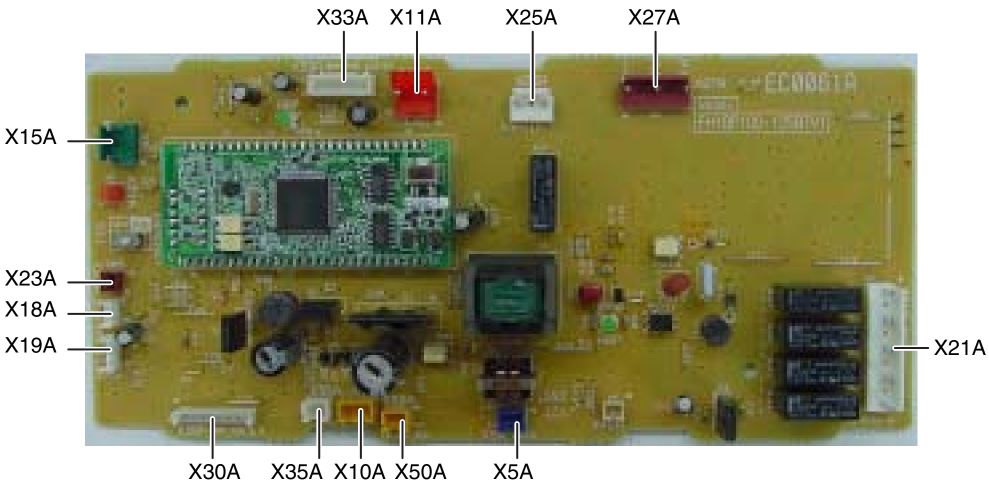
Applicable

The table below contains the applicable PCB numbers and units of this PCB type.

PCB No.	Unit
2P060444-1 (or EC0060A)	FHYBP35/45/60/71B7V1
2P060445-1 (or EC0061A) (illustrated below)	FHYBP100/125B7V1

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
X5A	X1M	Terminal strip (P1 and P2)
X10A	T1R	Transformer 230V/22V secundary
X11A	T1R	Transformer 230V/22V primary
X15A	33H	Float switch
X18A	R2T	Heat exchanger thermistor
X19A	R1T	Air thermistor
X21A	M1F	Fan motor
X23A	—	Connector to capacity adaptor
X25A	M3P	Drain pump motor
X27A	X2M	Power supply and communication to the outdoor unit
X30A	—	Connector to interface adaptor for Sky Air series (DTA102)
X33A	—	Connector to adaptor for wiring (option KRP1B)
X35A	X1A (KRP4)	Connector to group control adaptor power supply (16 VDC) for optional PCB KRP4
X50A		In case no transfo is used: Connector to power supply PCB

1

8.10 PCB Type G

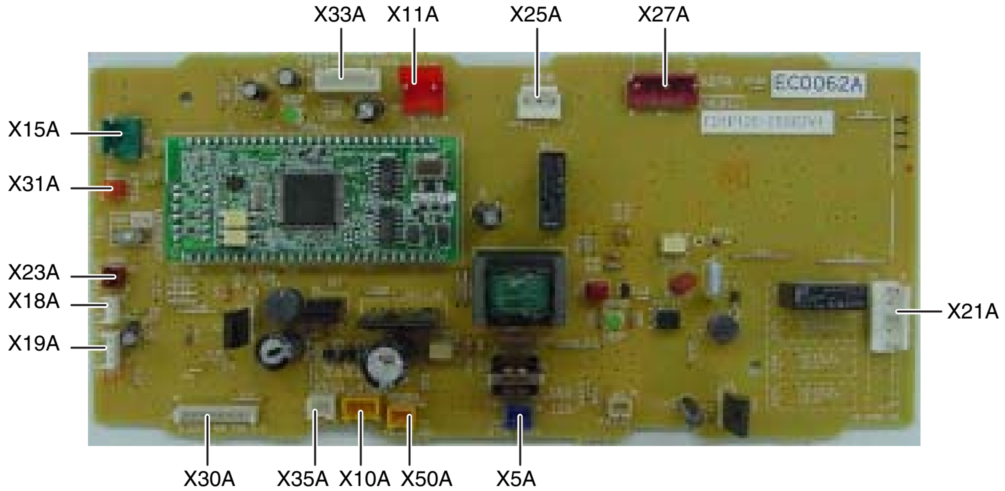
Applicable

The table below contains the applicable PCB number and unit of this PCB type.

PCB No.	Unit
2P060446-1 (or EC0062A) (illustrated below)	FDYP125/200/250B7V1

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
X5A	X1M	Terminal strip (P1 and P2)
X10A	T1R	Transformer 230V/22V secundary
X11A	T1R	Transformer 230V/22V primary
X15A	33H	Float switch
X18A	R2T	Heat exchanger thermistor
X19A	R1T	Air thermistor
X21A	K1F	Magnetic contactor for fan motor (M1F)
X23A	—	Connector to capacity adaptor
X25A	M3P	Drain pump motor
X27A	X2M	Power supply and communication to the outdoor unit
X30A	—	Connector to interface adaptor for Sky Air series (DTA102)
X31A	—	Connector to A3P (interlock PCB)
X33A	—	Connector to adaptor for wiring (option KRP1B)
X35A	X1A (KRP4)	Connector to group control adaptor power supply (16 VDC) for optional PCB KRP4
X50A	—	In case no transfo is used: Connector to power supply PCB

8.11 PCB Type H

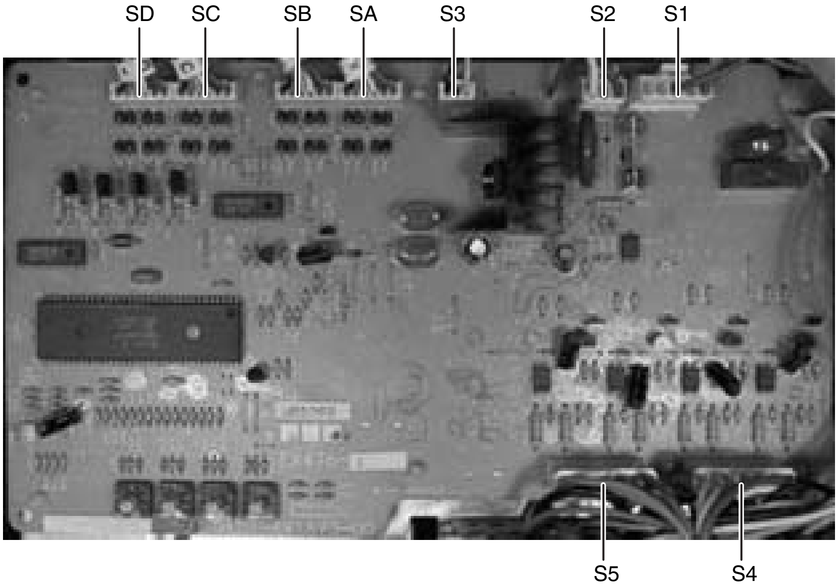
Applicable

The table below contains the applicable PCB number and unit of this PCB type.

PCB No.	Unit
2P068330-1 (illustrated below)	MA56GZ7W11

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
S1	—	Power supply
S2	T1R	Transformer
S3	PCB2	—
S4	X2M	Room A and B
S5	X2M	Room C and D
SA	Y11E	Electronic expansion valve
SB	Y12E	
SC	Y13E	
SD	Y14E	

1

8.12 PCB Type I

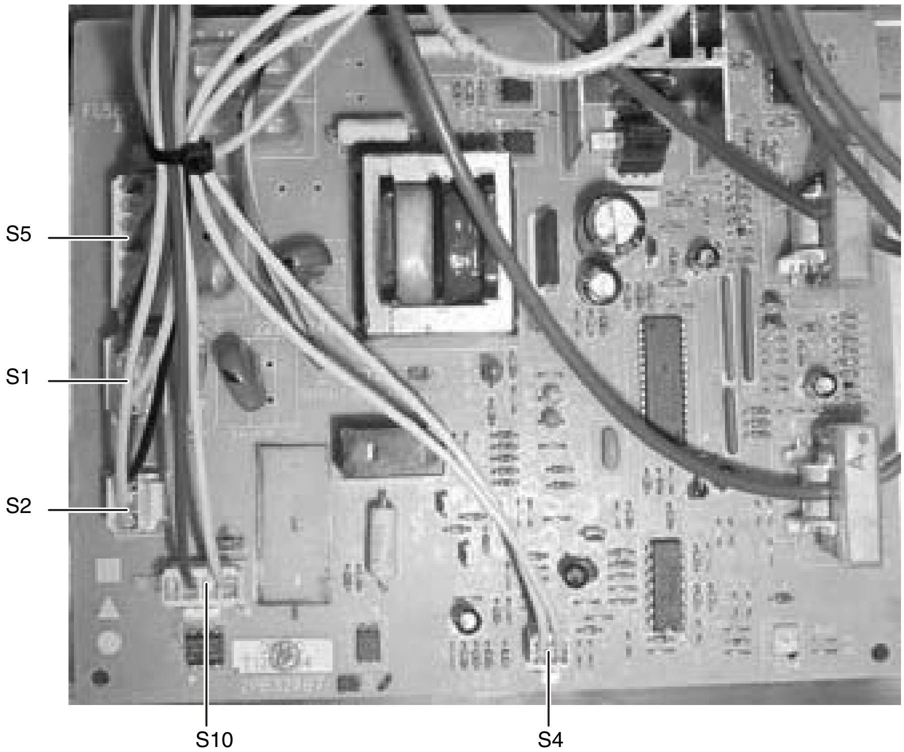
Applicable

The table below contains the applicable PCB number and unit of this PCB type.

PCB No.	Unit
2PB32067-3 (illustrated below)	MA90GZ7W11

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
S1	—	Transformer
S2	X21A	Connector
S4	S2PH	High-pressure switch
S5	—	Power supply
S10	—	Connector for compressor overload/overcurrent

8.13 PCB Type J

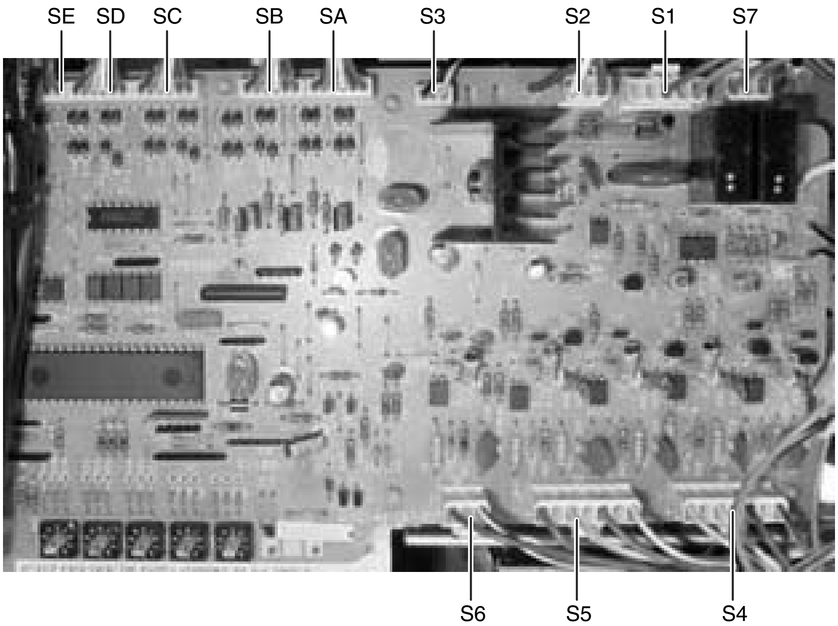
Applicable

The table below contains the applicable PCB number and unit of this PCB type.

PCB No.	Unit
2PB38042-21 (illustrated below)	MA90GZ7W11

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
S1	X3M	Terminal strip
S2	T1R	Transformer
S3	PCB2	—
S4	X2M	Room A and B
S5	X2M	Room C and D
S6	X2M	Room E
S7	Y1S	Solenoid valve
SA	Y11E	Electronic expansion valve
SB	Y12E	
SC	Y13E	
SD	Y14E	
SE	Y15E	

1

8.14 PCB Type N

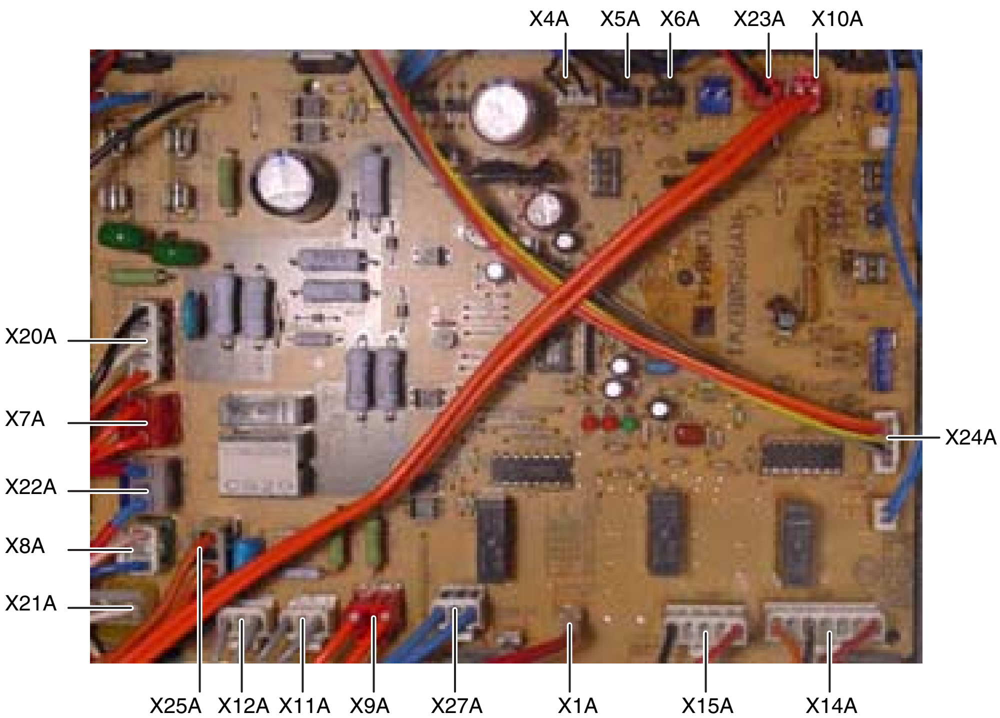
Applicable

The table below contains the applicable PCB numbers and units of this PCB type.

PCB No.	Unit
4SW00954-1	RP71B7W1/T1
4SW00955-1	RP100/125B7W1/T1
4SW00956-1	RYP71B7W1
4SW00957-1	RYP100/125B7W1
4SW00958-1	RP200B7W1
4SW00959-1	RP250B7W1
4SW00960-1 (illustrated below)	RYP200/250B7W1
4SW00962-1	RP71B7V1
4SW00963-1	RP100B7V1
4SW00964-1	RYP71B7V1
4SW00965-1	RYP100B7V1

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
X1A	X2A on A3P	
X4A	R1T	Air thermistor
X5A	R2T	Heat exchanger thermistor
X6A	R3T	Discharge thermistor
X7A	T1R	Transformer
X8A	K1M	Magnetic contactor (M1C)
X9A	S1PH	High-pressure switch
X10A	S1LP	Low-pressure switch
X11A	Q1L	Thermo switch (M1F)
X12A	Q2L	Thermo switch (M2F)
X14A	M1F	Fan motor 1
X15A	M2F	Fan motor 2
X20A	X1M	Terminal strip
X21A	F1C	Over current relay
X22A	Y1R	4-way valve
X23A	X1A on A2P	—
X24A	Y1E	Expansion valve
X25A	J1HC	Crankcase heater
X27A	Y1S	Solenoid valve

1

8.15 PCB Type O

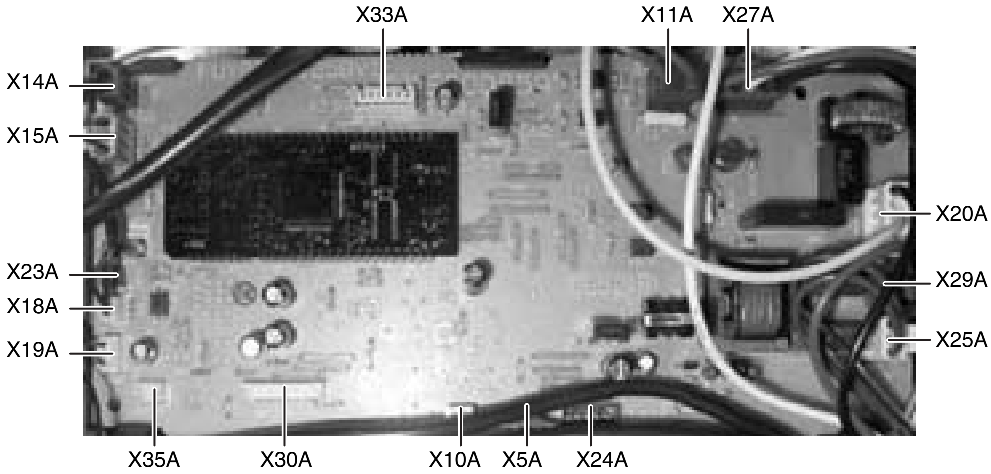
Applicable

The table below contains the applicable PCB number and unit of this PCB type.

PCB No.	Unit
2P060449-1 (illustrated below)	FUYP71/100/125BV17

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
X5A	X1M	Terminal strip (P1 and P2)
X10A	X2A on A2P	PCB (transformer 230 V/16 VDC)
X11A	X1A on A2P	PCB (transformer 230 V/16 VDC)
X14A	33A	Limit switch (swing flap)
X15A	33H	Float switch
X18A	R2T	Heat exchanger thermistor
X19A	R1T	Air thermistor
X20A	M1F	Fan motor
X23A	—	Connector for capacity adaptor
X24A	X2A on A3P	Connected when the infrared remote control kit is used
X25A	M1P	Drain pump motor
X27A	X2M	Power supply and communication to the outdoor unit
X29A	M1A	Swing flap motor
X30A	—	Connector to interface adaptor for Sky Air series (DTA102)
X33A	—	Connector to adaptor for wiring (option KRP1B)
X35A	X1A (KRP4)	Connector to group control adaptor power supply (16 VDC) for optional PCB KRP4

8.16 PCB Type P

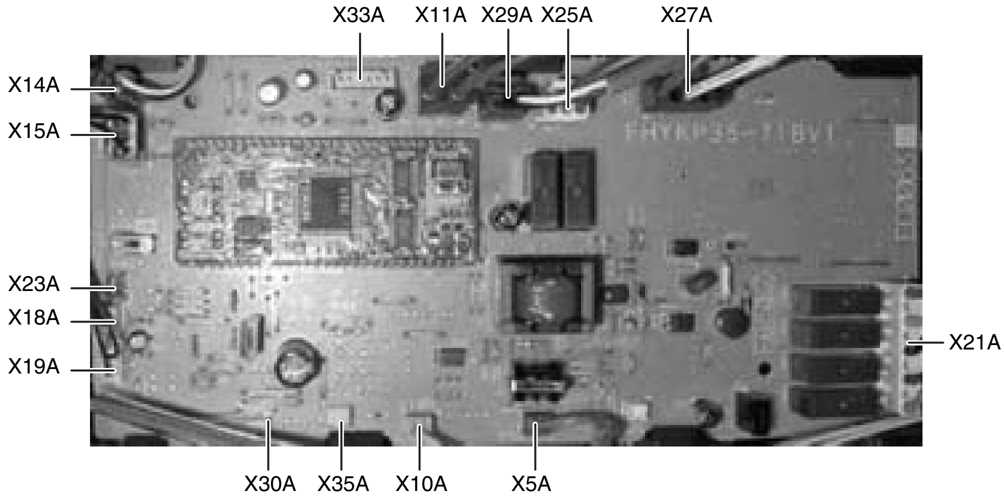
Applicable

The table below contains the applicable PCB number and unit of this PCB type.

PCB No.	Unit
2P060447-1 (illustrated below)	FHYKP35/45/60/71BV1

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
X5A	X1M	Terminal strip (P1 and P2)
X10A	X2A on A2P	PCB (transformer 230 V/16 VDC)
X11A	X1A on A2P	PCB (transformer 230 V/16 VDC)
X14A	33A	Limit switch (swing flap)
X15A	33H	Float switch
X18A	R2T	Heat exchanger thermistor
X19A	R1T	Air thermistor
X21A	—	Fan motor
X23A	—	Connector to capacity adaptor
X25A	M1P	Drain pump motor
X27A	X2M	Power supply and communication to the outdoor unit
X29A	M1A	Swing flap motor
X30A	—	Connector to interface adaptor for Sky Air series (DTA102)
X33A	—	Connector to adaptor for wiring (option KRP1B)
X35A	X1A (KRP4)	Connector to group control adaptor power supply (16 VDC) for optional PCB KRP4

8.17 PCB Type Q

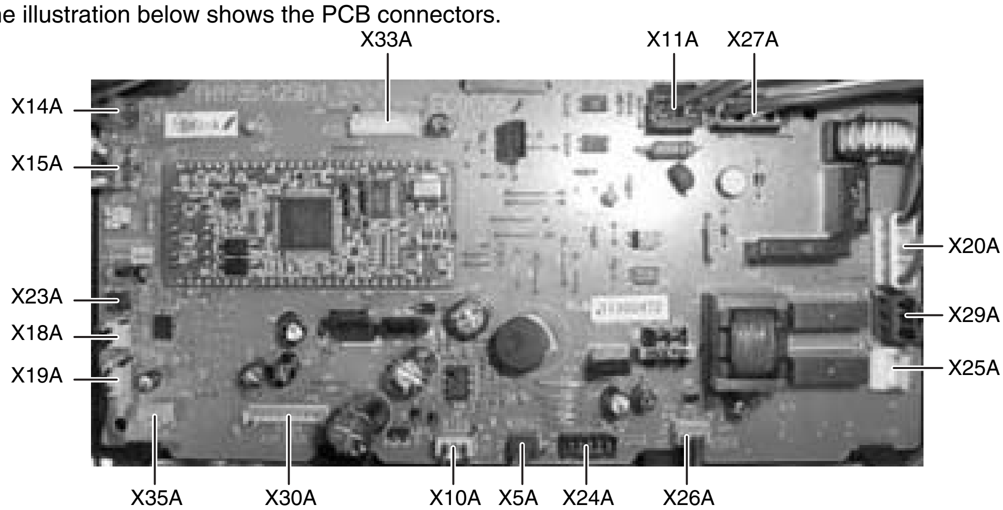
Applicable

The table below contains the applicable PCB number and unit of this PCB type.

PCB No.	Unit
2P064849-1 (illustrated below)	FHYP35/45/60/71/100/125BV1

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
X5A	X1M	Terminal strip (P1 and P2)
X10A	T1R	Transformer 230 V/22 V
X11A	T1R	Ttransformer 230 V/22 V
X14A	33A	Limit switch (swing flap)
X15A	—	When installing the drain pump, remove the jumper connector of X15A and carry out the additional wiring for float switch and drain pump. Connector to float switch
X18A	R2T	Heat exchanger thermistor
X19A	R1T	Air thermistor
X20A	M1F	Fan motor
X23A	—	Connector for capacity adaptor
X24A	X2A on A3P	X24A is connected when the infrared remote control kit is used
X25A	—	Connector to drain pump motor
X26A	M1F	Fan motor feedback cable
X27A	X2M	Power supply and communication to the outdoor unit
X29A	M1A	Swing flap motor
X30A	—	Connector to interface adaptor for Sky Air series (DTA102)
X33A	—	Connector to adaptor for wiring (option KRP1B)
X35A	X1A (KRP4)	Connector to group control adaptor power supply (16 VDC) for opitonal PCB KRP4

8.18 PCB Type R

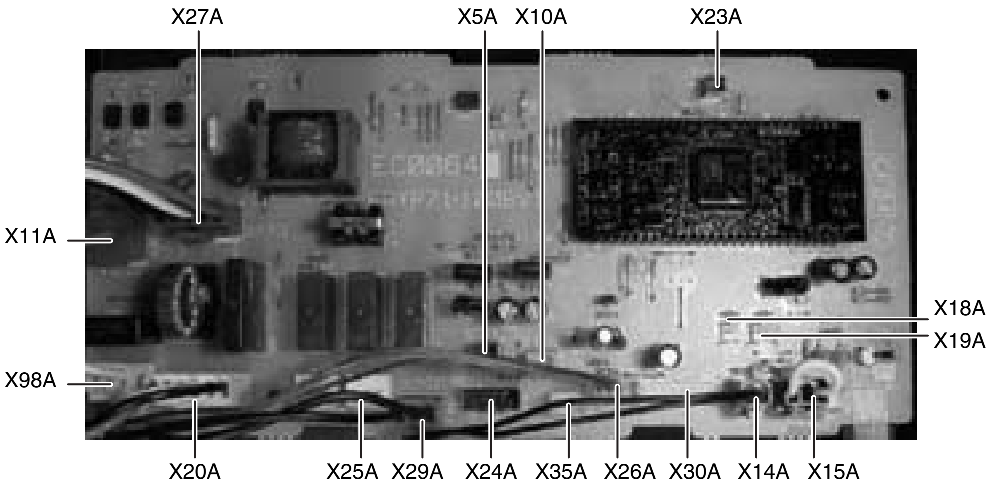
Applicable

The table below contains the applicable PCB number and unit of this PCB type.

PCB No.	Unit
2P060448-1 (illustrated below)	FAYP71/100BV1

PCB

The illustration below shows the PCB connectors.



Connectors

The table below describes the PCB connectors.

Connector	Connected to	Description
X5A	X1M	Terminal strip (P1 and P2)
X10A	X2A on A2P	Power supply PCB
X11A	X1A on A2P	Power supply PCB
X14A	33A	Limit switch (swing flap)
X15A	—	Float switch
X18A	R2T	Heat exchanger thermistor
X19A	R1T	Air thermistor
X20A	M1F	Fan motor power supply
X23A	—	Connector for capacity adaptor
X24A	X2A on A3P	X24A is connected when the wirelesss remote control is used
X25A	—	Drain pump motor
X26A	M1F	Fan motor feedback cable
X27A	X2M	Power supply and communication to the outdoor unit
X29A	M1A	Swing flap motor
X30A	—	Connector to interface adaptor for Sky Air series (DTA102)
X35A	X1A (KRP4)	Connector to group control adaptor power supply (16 VDC) for optional PCB KRP4
X98A	C1R	Capacitor (M1F)

Part 2
Functional Description

2

What is in this part?

This part contains the following chapters:

2

1 General Functionality

1.1 What Is in This Chapter?

Introduction

This chapter contains information on the functions used to control the system. Understanding these functions is vital when diagnosing a malfunction that is related to the functional control.

Overview

This chapter contains the following topics:

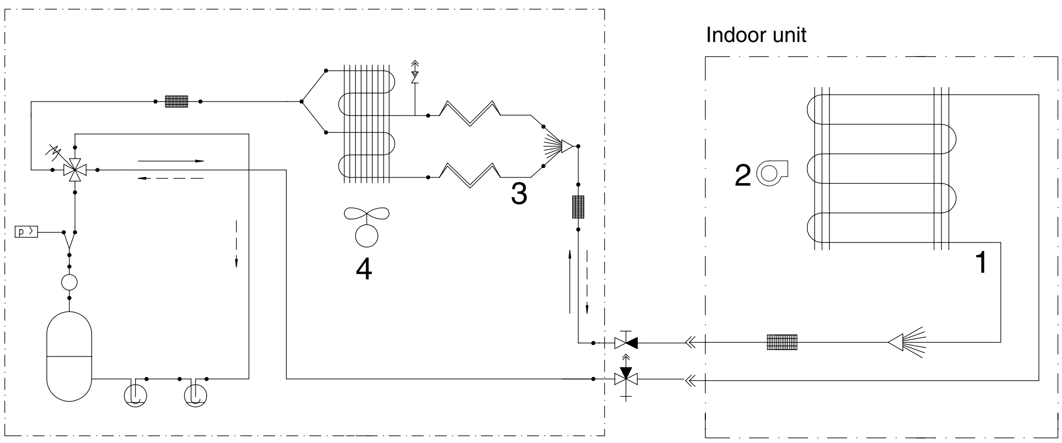
2

1.2 Functions of Thermistors: Small Heat Pumps

Locating the thermistors

The thermistors on the illustration below are used to control the system. This control secures a proper operation and prevents problems of the unit.

Outdoor unit



Functions of the thermistors

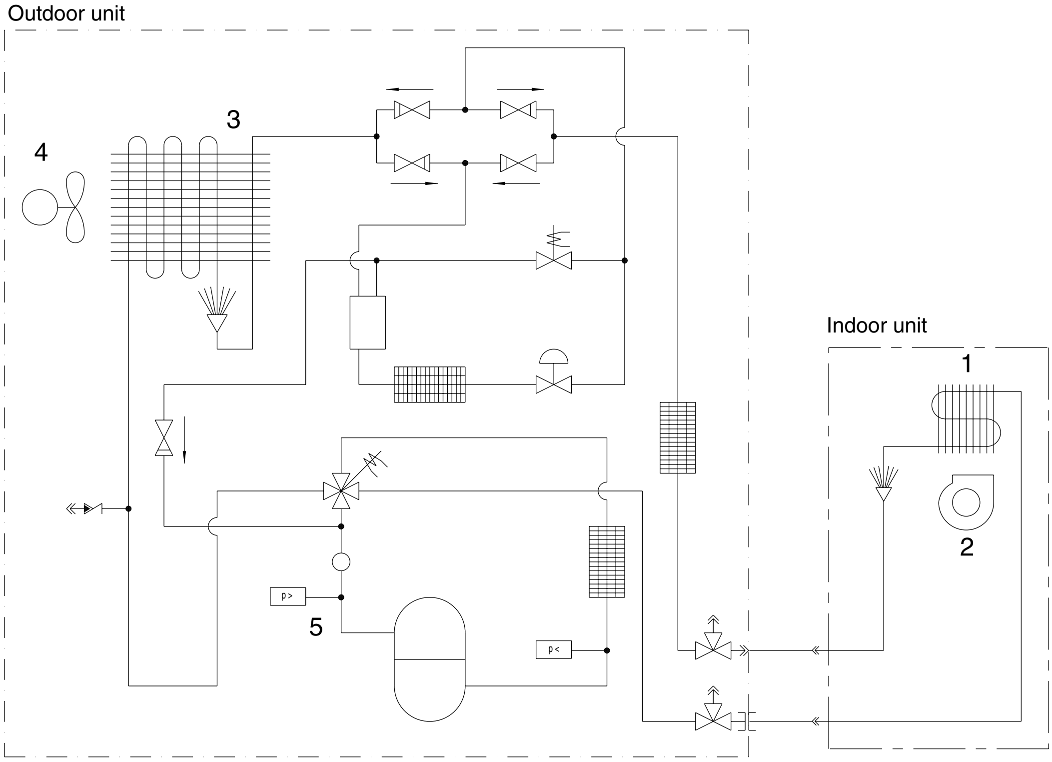
The table below contains the functions of the small h/p.

Ther-mistor	Location	Wiring symbol	Mode	Function
1	Indoor heat exchanger	R2T	Cooling	Freeze-up thermostat
			Heating	■ Hot start indoor fan ■ Peak cut-off
2	Indoor air return	R1T	Cooling	Thermostat control
			Heating	Thermostat control
3	Outdoor heat exchanger	R2T	Cooling	Not used
			Heating	■ Frost prevention and overload prevention ■ Defrost initiation and termination
4	Outdoor air return	R1T	Cooling	Low ambient control
			Heating	■ Frost prevention ■ Defrost initiation

1.3 Functions of Thermistors: Large Heat Pumps

Locating the thermistors

The thermistors on the illustration below are used to control the system. This control secures a proper operation and prevents problems of the unit.



Functions of the thermistors

The table below contains the thermistor functions of the large h/p.

Thermistor	Location	Wiring symbol	Mode	Function
1	Indoor heat exchanger	R2T	Cooling	■ Optimise discharge temp. (evap. temp.) ■ Freeze-up thermostat
			Heating	■ Optimise discharge temp. (cond. temp.) ■ Integral capacity calculation (to determine defrost) ■ Hot start indoor fan ■ Peak cut-off ■ Outdoor unit fan control
2	Indoor air return	R1T	Cooling	■ Thermostat control ■ Start-up control expansion valve and outdoor unit fan ■ Outdoor fan speed control
			Heating	■ Thermostat control ■ Start-up control expansion valve and outdoor unit fan ■ Integral capacity calculation (to determine defrost) ■ Peak cut-off

Ther-mistor	Location	Wiring symbol	Mode	Function
3	Outdoor heat exchanger	R2T	Cooling	■ Optimise discharge temp. (cond. temp.) ■ Integral capacity calculation (to determine freeze-up)
			Heat-ing	■ Optimise discharge temp. (evap. temp.) ■ Defrost start/stop
4	Outdoor air return	R1T	Cooling	■ Outdoor fan speed control ■ Start-up control expansion valve and outdoor unit fan ■ Integral capacity calculation (to determine freeze-up)
			Heat-ing	■ Integral capacity calculation (to determine defrost) ■ Start-up control expansion valve and outdoor unit fan
5	Discharge pipe com-pressor	R3T	Cooling	■ Cooling overload ■ Check refrigerant shortage/too much refrigerant ■ Expansion valve control
			Heat-ing	■ Heating overload ■ Check refrigerant shortage/too much refrigerant ■ Expansion valve control

1.4 Operating Modes and Control Modes

Operating modes

The two operating modes are:

- Normal operating mode
- Forced operating mode.

Control modes

The table below contains the different control modes of the Sky Air B-series air conditioners.

Operating mode	**Control mode**
Normal operating mode	Cooling
	Dry keep
	Heating
	Defrosting (automatic)
	Pump down
	Stop mode
Forced operating mode	Forced cooling
	Forced heating
	Forced defrosting

2

1.5 Forced Operating Mode (Emergency Operation)

Applicable units

The forced operating mode is applicable for the following units:

Model type	For this unit, you can go to...
RY35-45E(A)Z7V1	■ Forced cooling mode ■ Capacity control
RP71-250B	Forced cooling mode
RYP71-250B	■ Forced cooling mode ■ Forced heating mode

Purpose

The table below describes the purpose of the forced operating mode.

If...	Then...
■ Remocon is malfunctioning, or ■ Indoor PCB is off line, or ■ Outdoor PCB is off line	Forced operating mode can be used to go to cooling or heating. In forced operating mode, the compressor is forced to operate until the malfunctioning indoor or outdoor PCB is back online.

Starting conditions

You can operate the system manually by changing the emergency switch on the indoor and outdoor PCB from “normal” to “emergency”. However, when in emergency operation, the equipment cannot control the temperature.

Make sure to set both indoor and outdoor unit to emergency. See page 2–10.

Ending conditions

You can end the emergency operation by changing the emergency switch back to “normal” while the power is OFF.

Emergency operation

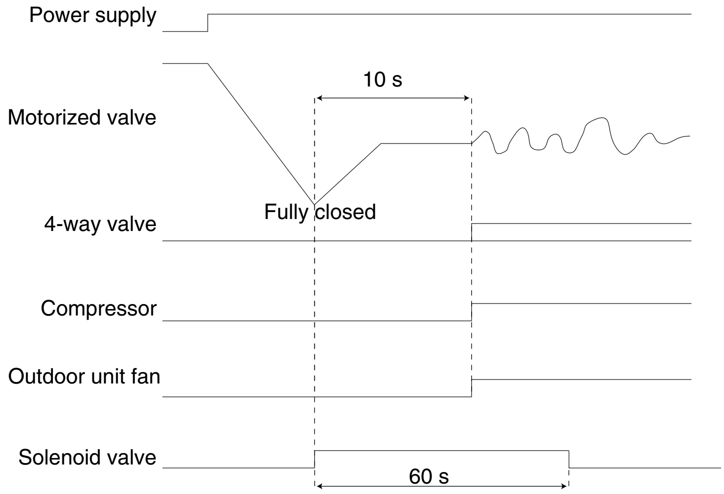
The table below describes what happens when you change the emergency switch to “emergency”.

Changing the emergency switch to “emergency” for the...	Switches ON...
Indoor unit	■ Indoor fan ■ Drain pump
Outdoor unit	■ Compressor ■ Outdoor fan(s)

Time chart

The time chart below illustrates emergency operation.

- In cooling, the unit runs for 20 min and then stops for 10 min in order to avoid freeze-up of the indoor coil.
- During emergency operation, do not attempt to operate the equipment from the remote control. The remote control shows 88 while the emergency operation is active on the indoor unit.



Active components

The table below shows when the most important components are active in the different forced operating modes.

Component	Forced cooling	Forced heating	Forced defrosting
Compressor	ON	ON	ON
4-way valve	■ RY35-45E(A)Z7V1: ON ■ RYP71-250B: OFF	■ RY35-45E(A)Z7V1: OFF ■ RYP71-250B: ON	■ RY35-45E(A)Z7V1: ON ■ RYP71-250B: OFF
Outdoor unit fan	H fan speed	H fan speed	OFF
Indoor unit fan	H fan speed	H fan speed	H fan speed
Drain pump	ON	OFF	ON

Additional info

To avoid misunderstandings, take the following into account:

- If the PCB or the motorized valve is malfunctioning, emergency operation cannot be carried out.
- No signal is transmitted between the indoor and outdoor units and remocon.
- If a safety device should be activated during emergency operation, all actuators are turned OFF.
- “Heat” cannot be set for c/o air conditioners.
- Emergency operation uses (and switches ON) both indoor and outdoor control PCBs. The outdoor control PCB determines the changeover.
- In heating, defrosting is activated once every hour.

2

1.6 Switching to Forced Operating Mode (Emergency Operation)

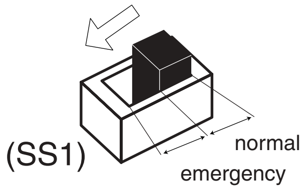
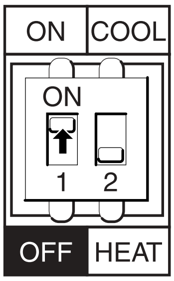
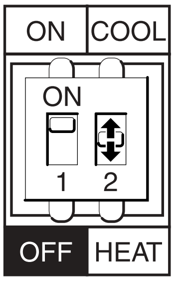
Before switching

Before moving the switches to emergency operation, make sure to turn OFF the power firstly.

During emergency operation, do not attempt to operate the equipment from the remote control. The remote control displays 88 while the emergency operation is active on the indoor unit.

Switching

To switch to forced operating mode, proceed as follows:

Step	Action
1	Turn OFF the power.
2	Switch ON the emergency switch (SS1) on the indoor PCB. 
3	Switch ON the emergency switch on the outdoor PCB.  Switch 2 is not applicable for the c/o units.
4	Switch the emergency switch on the outdoor PCB to the forced mode you prefer.  Switch 2 is not applicable for the c/o units.
5	Turn ON the power.

Before switching back

Before moving the switches back to normal operating mode, make sure to turn OFF the power firstly.

1.7 Thermostat Control

Applicable units

All units

Purpose

The purpose of thermostat control is to control the compressor operation, by sensing the suction air.

Preventing thermostat OFF conditions

The thermostat control prevents the thermostat from turning OFF in the following conditions:

- Initial operation for the first 2.5 min, or
- Defrosting, or
- Forced operating mode.

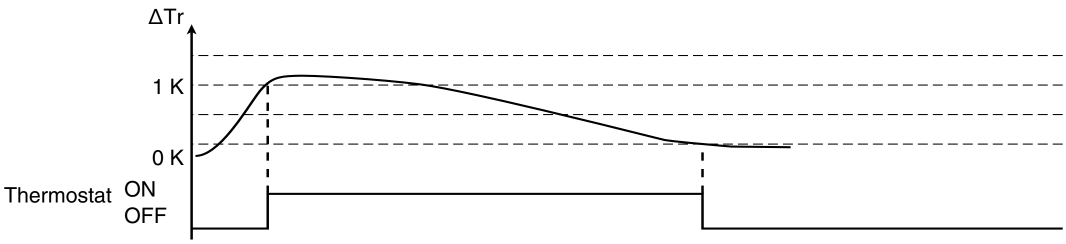
ΔTr

The table below shows how to calculate ΔTr.

In...	ΔTr =	Remark
Cooling	Tr - Ts	■ Tr = indoor unit suction air temp. ■ Ts = temp. set by the remote control
Heating	Ts - Tr	

Time chart

The time chart below illustrates the thermostat control.



Thermostat

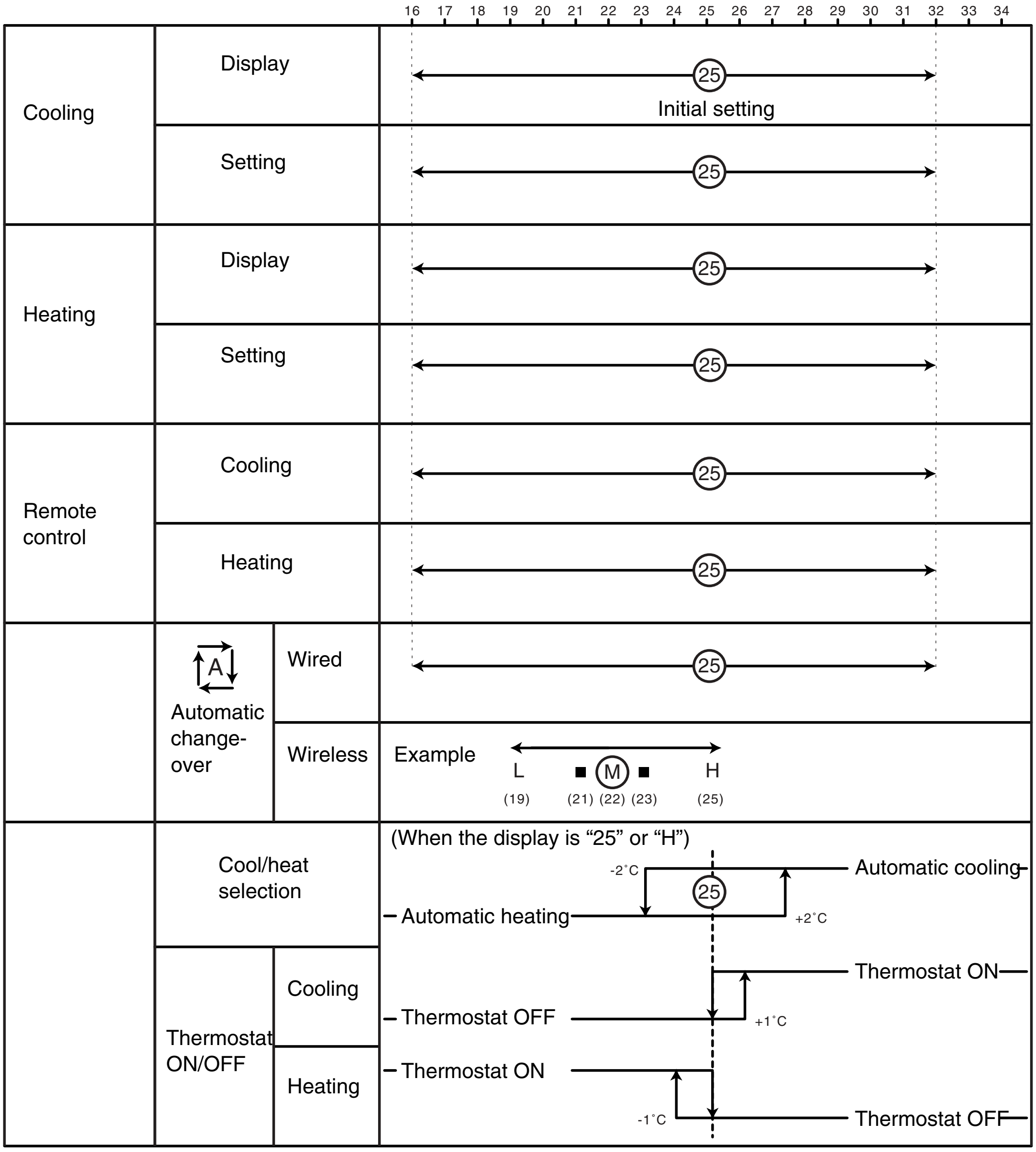
The table below describes when the thermostat turns ON and OFF.

When...	Then the thermostat turns...
■ $\Delta Tr \geq 1$ K ■ Guard timer of the compressor has counted down (3 min)	ON
■ $\Delta Tr \leq 0$ K ■ Thermostat is ON for min. 2 min	OFF

2

Preset temp. range

The table below illustrates the preset temperature range.



1.8 Forced Thermostat OFF

Applicable units

All indoor units

Purpose

The outdoor unit independently turns its thermostat OFF by means of control other than thermostat OFF commands from the indoor unit.

Method

The table below contains the different conditions for which the thermostat is turned OFF by the outdoor unit.

<table>
<tr><th>Thermostat OFF control</th><th>Indicator</th><th>Starting conditions</th><th>Result</th><th>Reset</th></tr>
<tr><td colspan="5">Freeze-up function: See page 2–27.</td></tr>
<tr><td>Cooling overload
Only for
R(Y)P71-250B</td><td>Outdoor heat exchanger temperature Tc</td><td>Tc > 63°C for 90 s continuously
(min. 60 - max. 66°C for practice function)</td><td rowspan="3">The thermostat is turned OFF.
Next start, initial opening E.V.:
+ 70 pulses (cooling)
+ 80 pulses (heating)</td><td rowspan="4">Remocon OFF</td></tr>
<tr><td>Heating overload (peak cut-off)</td><td>Indoor heat exchanger temperature Tc</td><td>Tc > 62.5°C for 30 s continuously
(min. 59.5 - max. 65.5°C for practice function)</td></tr>
<tr><td>Discharge pipe high temperature
Only for
R(Y)P71-250B</td><td>Discharge pipe temperature T2</td><td>Td > 125°C for 20 s continuously</td></tr>
<tr><td>Td disconnection
Only for
R(Y)P71-250B</td><td>Discharge pipe thermistor T2</td><td>Td is determined to be disconnected from the piping 5 min after the compressor starts.
Td < 55°C
Td < Ta + 10°C
ΔTd $\leq$ 5 K</td><td>Retry 6 x until final error “F3”</td></tr>
</table>

Used input

The forced thermostat OFF control uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Outdoor heat exchanger thermistor	—	R2T
Indoor heat exchanger thermistor	R2T	—
Discharge pipe thermistor	—	R3T

2

1.9 HPS and LPS Function

Applicable units

R(Y)P71-250B

Purpose

HPS (High-Pressure Switch)

If the pressure at the discharge side of the compressor becomes abnormally high, the HPS stops the unit automatically in order to prevent it from breaking down.

LPS (Low-Pressure Switch)

If the pressure at the suction side of the compressor becomes abnormally low, the LPS stops the unit automatically in order to prevent it from breaking down.

Method

The table below describes what happens in case of HPS or LPS activation.

If the... is activated	Then...	Remark
HPS	The compressor stops and stands by for 3 min.	If this is activated an additional 6 times from the first detection and before it is turned OFF by the remote control, the operation stops due to malfunction.
LPS	The compressor stops and stands by for 3 min. However, depending on the operating conditions, the compressor may not turn OFF.	

Used input

The HPS and LPS detection function uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
High-pressure switch	—	X9A
Low-pressure switch	—	X10A

1.10 Simulated Operation Function

Applicable units

- R(Y)P71-250B
- RY35-45E(A)Z7V1

Purpose

The purpose of the simulated operation function is to avoid the unit from stopping if the heat exchanger thermistor or air thermistor is malfunctioning.

Method

If the air thermistor (for all models listed) or the heat exchanger thermistor is malfunctioning (out of its normal range), simulated operation is carried out while malfunction is displayed on the remote control. If the air or heat exchanger thermistor becomes normal again, the simulated operation function is interrupted and the normal operation restarts. The malfunctioning error disappears.

Used input

The simulated operation function uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Outdoor air thermistor	—	R1T-X4A
Outdoor heat exchanger thermistor	—	R2T-X5A
Indoor air thermistor	R1T-X19A	—
Indoor heat exchanger thermistor	R2T-X18A	—

2

2

1.11 Discharge Pipe Temperature Control

Applicable units

R(Y)P71-250B

Purpose

The purpose of the discharge pipe temperature control is to prevent a discharge pipe temperature that is too high or too low.

Low temp. starting conditions

The table below contains the low temperature conditions to start the discharge pipe temperature control.

Function	Description	Starting conditions	F3-error occurs if the conditions...
Wet operation	Prevents liquid suction to the compressor.	■ Change in E.V. opening < 50 pulses ■ $Td < Tc + 10^{\circ}C$	Are met for 15 min continuously.
Thermistor out	Detects if the discharge thermistor is not in the correct position.	■ $Td < 55^{\circ}C$ ■ After start-up + 5 min: - $\Delta Td \leq 5$ K - $Td < Ta + 10^{\circ}C$	Are repeated 6 times.

High temp. starting conditions

The table below contains the high temperature conditions to start the discharge pipe temperature control.

Function / description	Starting conditions	F3-error occurs if the conditions...
Detects too high discharge gas temperatures.	$Td \geq 125^{\circ}C$ for 20 s continuously	Are repeated 6 times.

Used input

The discharge pipe temperature control uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Outdoor discharge thermistor	—	R3T-X6A
Outdoor heat exchanger thermistor	—	R2T-X5A
Indoor heat exchanger thermistor	R2T-X18A	—

1.12 Gas Shortage Function

Applicable units

R(Y)P71-250B

Purpose

The purpose of the gas shortage function is to detect refrigerant shortage before the unit stops due to a discharge temperature that is too high.

Method

When the thermostat is turned OFF due to a discharge pipe temperature that is too high and the E.V. opening is 450 pulses or more, the gas shortage error is activated. However, operation does not stop due to gas shortage.

To check the gas shortage error (U0), see page 3–54.

Used input

The gas shortage function uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Outdoor discharge thermistor	—	R3T-X6A
Outdoor expansion valve	—	Y1E-X24A

1.13 Crankcase Heater Control (R(Y)P200-250B Only)

Applicable units

R(Y)P200-250B

Purpose

The purpose of the crankcase heater control is to prevent refrigerant from remaining in the compressor by heating the crankcase heater of the compressor.

Method

Check the discharge temperature of the compressor during an OFF-cycle.

Starting and ending conditions

The table below describes the starting and ending conditions.

<table>
<tr><th>If...</th><th>And</th><th>Then the crankcase heater is...</th></tr>
<tr><td rowspan="2">Compressor OFF (K1M not energized)</td><td>Td < 70˚C</td><td>ON</td></tr>
<tr><td>Td > 75˚C</td><td rowspan="2">OFF</td></tr>
<tr><td>Compressor ON (K1M energized)</td><td>—</td></tr>
</table>

1.14 Drain Pump Control

Applicable units

The drain pump control is applicable for the following units:

Model type	Model name
Cassette	FHYCP (standard) and FUYP (standard)
Duct	FHYBP (standard) and FDYP (optional)
Corner	FHYKP (standard)
Ceiling	FHYP (optional)

Purpose

The purpose of the drain pump control is to control the water draining from the drain pan.

Starting conditions

The drain pump control starts the drain pump when one of the following conditions is fulfilled:

- The cooling operation is activated, or
- The level in the drain pan becomes abnormally high, or
- Freeze-up prevention is detected in cooling operation.

Method

The float switch opens because an abnormal drain level is detected in the drain pan.

The table below describes the activation at open float switch.

Situation	Activation at open float switch
Thermostat ON	1. The thermostat is immediately turned OFF. 2. The drain pump continues to operate for minimum 10 min. 3. If the float switch closes again within 80 s, cooling can restart after the 10 min recovery.
Thermostat OFF	1. The thermostat stays forced OFF. 2. The drain pump starts to operate for minimum 10 min. 3. If the float switch closes again within 80 s, cooling can restart after the 10 min recovery.
Float switch opens each time the drain pump stops.	After five retrials the error code “AF” flashes on the remote control.

Used input

The drain pump control uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Float switch (33H)	X15A	—
Magnetic relay drain pump (RyP)	X25A	—

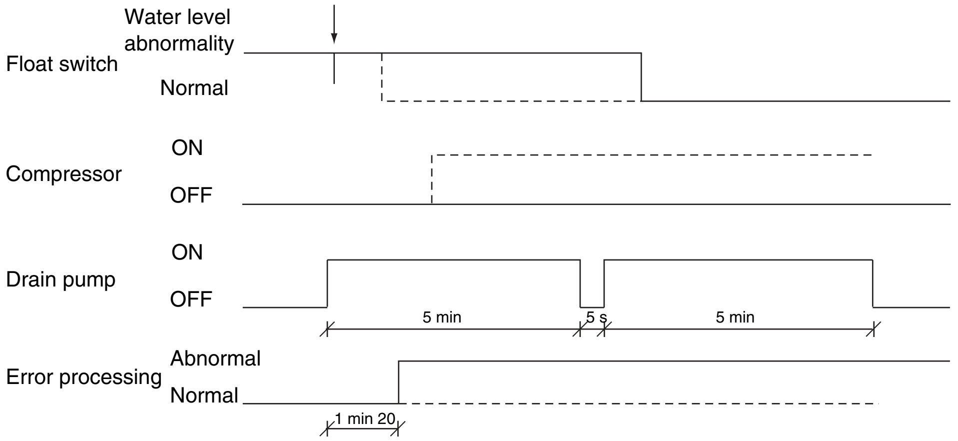
2

Detection system

All applicable units use a drain pan water level detection system of the float type.

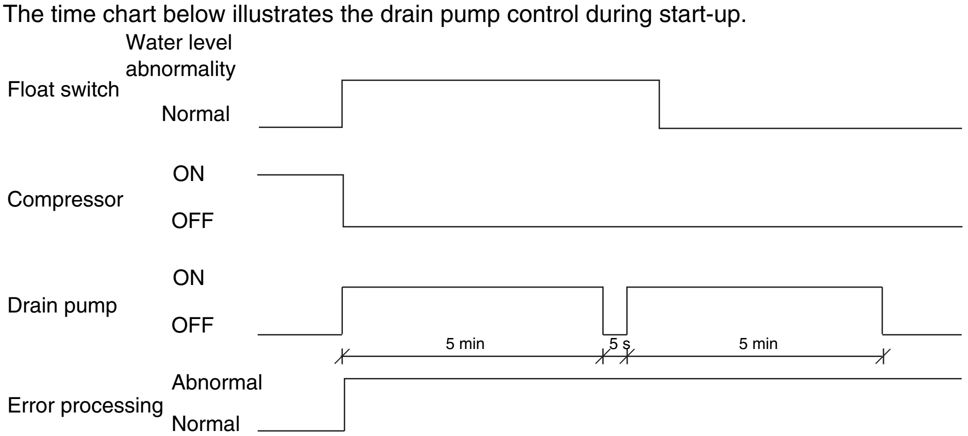
Float type: During start-up

The time chart below illustrates the drain pump control during start-up.



Float type: During operation (compr. ON)

The time chart below illustrates the drain pump control during start-up.



1.15 Fan and Flap Operations

Heating operation The table below contains the fan and flap operations.

Function	In...	Fan	Flap (FHYCP, FHYKP and FHYP)	Flap (FAYP)	Remote control indication
Hot start after defrost	Swing operation	OFF	Horizontal	Horizontal	Swing
	Airflow direction setting				Set position
Defrost	Swing operation				Swing
	Airflow direction setting				Set position
Thermostat OFF	Swing operation	LL			Swing
	Airflow direction setting				Set position
Hot start after thermostat OFF (cold air prevention)	Swing operation				Swing
	Airflow direction setting				Set position
Stop (error)	Swing operation	OFF		Fully closed (horizontal)	—
	Airflow direction setting			Fully closed	
Overload thermostat OFF	Swing operation	LL		Horizontal	Swing
	Airflow direction setting				Set position

Cooling operation The table below contains the fan and flap operations.

Function	In...	Fan	Flap (FHYCP, FHYKP and FHYP)	Flap (FAYP)	Remote control indication
Thermostat ON (microcomputer controlled dry keep mode)	Swing operation	L	Swing	Swing	Swing
	Airflow direction setting		Setting	Setting	Set position
Thermostat OFF (microcomputer controlled dry keep mode)	Swing operation	OFF	Horizontal	Horizontal	Swing
	Airflow direction setting		Setting	Setting	Set position
Thermostat OFF (cooling)	Swing operation	Setting	Horizontal	Horizontal	Swing
	Airflow direction setting		Setting	Setting	Set position
Stop (error)	Swing operation	OFF	Horizontal	Downward (horizontal)	—
	Airflow direction setting		Setting	Downward	
Freeze-up prevention in microcomputer controlled dry keep mode (including cooling operation)	Swing operation	L	Horizontal	Horizontal	Swing
	Airflow direction setting		Setting	Setting	Set position

2

1.16 Auto-Restart Function

Applicable units

All units

Purpose

The purpose of the auto-restart function is to resume the same operating mode after the power was turned OFF as when the unit was operating.

Turning OFF power

When you have to turn OFF the power supply in order to carry out maintenance, make sure to turn the remote control's ON/OFF switch OFF firstly.

If you turn OFF the power supply while the remote control's ON/OFF switch is still ON, the "auto-restart function" automatically starts the indoor fan immediately or the outdoor unit fan starts automatically 3 min after the power supply is turned back ON.

1.17 Using Conditions for Remote Control Thermostat

Applicable units

All units

Wired remote controls

The remote control thermostat is only available in wired remote controls.

Conditions in which the rem. contr. thermostat is not used

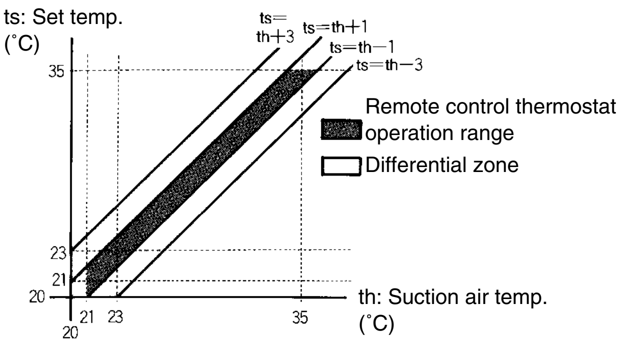
Even when the “use remote control thermostat” is selected in service mode, the remote control thermostat is not always used.

The table below contains the conditions in which the remote control thermostat is not used.

Condition	The remote control thermostat is not used when...	Except...
1	The remote control thermostat malfunctions.	—
2	The “one remote control group control” is selected.	For simultaneous ON/OFF operation.
3	The set temp./air suction temp. combination is out of range. See further in this section.	When the automatic operation is selected. If so, the remote control can be used.

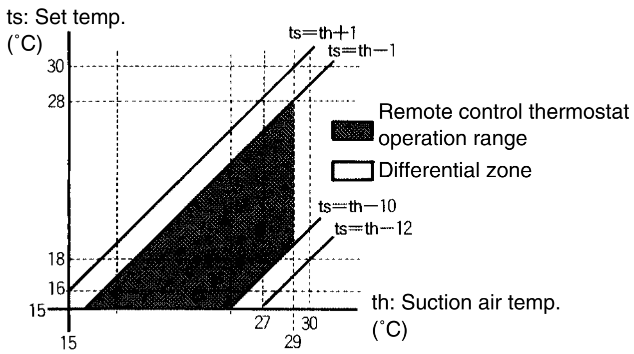
Cooling

The diagram below shows the operation range of the set temperature/air suction temperature combination.



Heating

The diagram below shows the operation range of the set temperature/air suction temperature combination.



2

2 Overview of the cooling mode functions

2

2.1 What Is in This Chapter?

Introduction

This chapter contains information on the functions used to control the system when the system is in cooling mode. Understanding these functions is vital when diagnosing a malfunction that is related to the functional control.

Overview

This chapter contains the following topics:

2.2 Dry Keep Mode

Applicable units

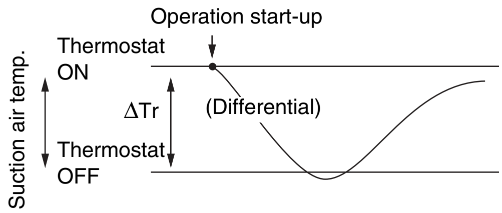
All units

Purpose

The purpose of the dry keep mode is to remove humidity while maintaining the room temperature.

Method

The points of thermostat ON or OFF are determined according to the suction air temperature at start-up of the unit operation. The set temperature and flow rate are not displayed on the remote control.



Thermostat

When dry keep is selected on the remote control, the unit detects the ambient temperature. This ambient temperature is then the setpoint. The thermostat is turned OFF when the air return temperature drops below this setpoint. The thermostat is turned ON in one of the following conditions:

Suction air temperature	Thermostat ON	ΔTr
Tr ≥ 24˚C	Tr	1.5˚C
18˚C ≤ Tr < 24˚C	Tr	1.0˚C
Tr < 18˚C	18˚C	

Operation condition

The table below describes the operation condition.

Compressor condition	ON	OFF
Fan speed	L	OFF
Flap angle	Set angle	PoO
Air flow direction set with remote control		Setting indication

Used input

The dry keep function uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
indoor air temperature R1T	X19A	—

2.3 Freeze-Up Function in Cooling or Dry Keep

Applicable units

- R(Y)P71-250B
- FHYCP, FHYBP, FDYP, FUYP, FAYP and FHYKP

Starting conditions

In order to avoid formation of ice on the indoor heat exchanger in cooling and dry mode, the system automatically starts up a freeze-up cycle when a number of specific conditions are fulfilled.

Starting conditions 1

- The compressor has been running for less than **A** min.
- The integral cooling capacity decreases for 200 s continuously (see integral capacity calculation further in this section).
- Te < -1˚C for 1 min continuously (0˚C for FAY indoor units).

Starting conditions 2 (FAYP indoor units)

- The compressor has been running for more than **A** min.
- The integral cooling capacity decreases for **B** s continuously and Te < **F**˚C for 1 min continuously (see integral capacity calculation further in this section), **or**
  Te < -1˚C for 1 min continuously.

Starting conditions 2 (not-FAYP indoor units)

- The compressor has been running for more than **A** min.
- The integral cooling capacity decreases for **B** s continuously (see integral capacity calculation further in this section).
- Te < **C**˚C for 1 min continuously.

Starting condition 3

- Te < **D**˚C for **E** min accumulated.

Starting conditions 4

- The compressor has been running for more than 1 min continuously while Te ≤ -5˚C.
- Compressor ON ⟶ OFF.

Starting conditions 5

- The compressor has been running for more than 8 min continuously while
  the outdoor ambient temp. < -2.9 x room temp. + 79˚C.
- The compressor has been running for more than 8 min continuously while Te < -5˚C for 1 min continuously.

A, B, C, D, E and F

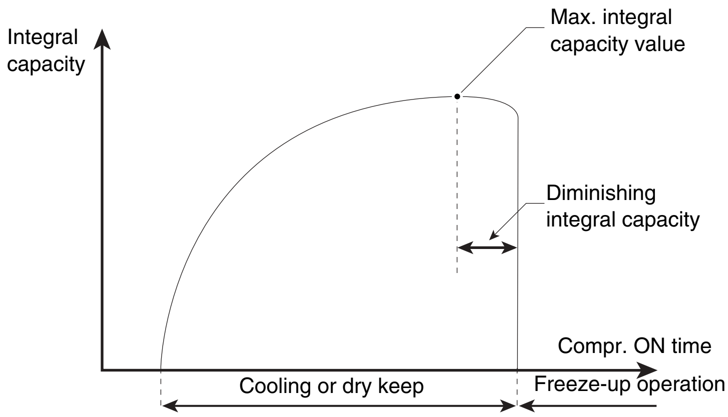
The table below contains the values of A, B, C, D, E and F in function of the DIP switch settings on the outdoor PCB.

<table>
<tr><th rowspan="2">Mode</th><th colspan="2">DIP switch</th><th rowspan="2">A</th><th rowspan="2">B</th><th rowspan="2">C</th><th rowspan="2">D</th><th rowspan="2">E</th><th rowspan="2">F</th></tr>
<tr><th>2-3</th><th>2-4</th></tr>
<tr><td>0</td><td>OFF</td><td rowspan="2">OFF</td><td rowspan="2">20 min</td><td rowspan="2">100 s</td><td rowspan="2">-1˚C</td><td rowspan="2">-1˚C</td><td rowspan="2">25 min</td><td rowspan="3">0˚C</td></tr>
<tr><td>1</td><td>ON</td></tr>
<tr><td>2</td><td>OFF</td><td rowspan="2">ON</td><td>8 min</td><td rowspan="2">0 s</td><td>0˚C</td><td>+1˚C</td><td rowspan="2">15 min</td></tr>
<tr><td>3</td><td>ON</td><td>5 min</td><td>+2˚C</td><td>+3˚C</td><td>+2˚C</td></tr>
</table>

2

Integral capacity

The illustration below shows the integral capacity in function of the compressor running time.



Mode 0

Intelligent control mode

When the DIP switches are in mode 0, "intelligent freeze-up prevention control" determines the freeze-up activation. The outdoor unit can determine the freeze-up activation.

Mode 1

Disabled intelligent control mode

The table below contains the freeze-up conditions, these are the same as for the Sky Air G- and K-series.

Condition (OR)	Evap. temp.	Timers	Remarks
1	-1˚C	40 min compressor accumulated time	—
2	-3˚C	Te ≤ -3˚C for 1 min continuously after minimum 8 min of operation	Only for FHYP
3	-5˚C	Te ≤ -5˚C for 1 min continuously after minimum 8 min of operation	For indoor units other than FHYP

Mode 2

Added countermeasure to avoid ice/water blow out during freeze-up cycle.

Mode 2 enables the possibility to start a freeze-up activation decision by the outdoor unit, but with more severe conditions than in mode 0.

Model	Used in case of...
FAY	Reverse angle installation for water drain flow.
4-way cassette	2- or 3-way air outlet.

Mode 3

Mode 3 is used in case mode 2 is insufficient as countermeasure.

Ending condition

The table below contains the freeze-up operation ending conditions.

In case of...	The freeze-up operation is ended when...
Mode 0, 2 or 3	Te > +10˚C for 10 min continuously
Mode 1	Te > +7˚C for 10 min continuously

Heating operation during freeze-up

Heating operation activation during freeze-up activation is possible.

2.4 Outdoor Fan Starting Control in Cooling or Dry Keep Mode

Applicable units

- R(Y)P71-250B
- R35-45EZ7V11
- RY35-45E(A)Z7V1

Purpose

The purpose is to avoid that the discharge pressure would start to rise, and stop the unit.

Unit specifications: R35-45EZ7V11 and RY35-45E(A)Z7V1

- R35-45EZ7V11 has a mechanical thermostat.
- RY35-45E(A)Z7V1 has an air thermistor and a low-high speed shift.

Method: R35-45EZ7V11 and RY35-45E(A)Z7V1

When the compressor starts, the fan keeps running at starting fan speed (no delay). The fan speed depends on the ambient temperature. The different fan speeds for the according outdoor air temperatures are shown in the table below.

Operating mode	Outdoor air temperature Ta	Starting fan speed
Cooling mode, dry keep mode	Ta > 20˚C	H speed
	Ta < 17˚C	L speed

Method: R(Y)P71-250B

When the compressor starts, the fan keeps running for 3 min at starting fan speed. The starting fan speed depends on the ambient temperature. The different fan speeds for the according outdoor air temperatures are shown in the table below.

Operating mode	Outdoor air temp. Ta	Starting fan speed	See further in this section...
Cooling mode, dry keep mode	Ta < 3˚C	■ When the compressor is ON for the first 20 s: Fan speed = OFF ■ After 20 s: Fan speed = L speed	Fan speed for Ta < 3˚C: R(Y)P71-250B
	3˚C ≤ Ta < 10˚C	L speed	Different fan speeds
	10˚C ≤ Ta < 23˚C	H speed	
	Ta ≥ 23˚C	HH speed	

Fan speed for Ta < 3˚C: R(Y)P71-250B

This fan starting control is made to be able to build up the compression ratio as soon as possible because this has two advantages:

- It is better for the compressor to increase the compression ratio because the lubrication must be done by the pressure difference between low and high pressure.
- The pressure difference is necessary for the h/p models to keep the 4-way valve in its correct position.

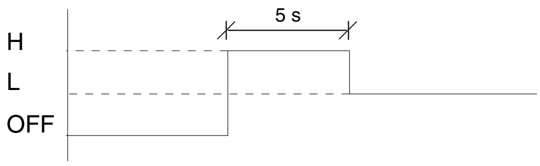
Different fan speeds

The table below explains the meaning of L, H and HH fan speed.

Fan operation	71	100 and 125		200 and 250	
	1 fan	Upper fan (MF1)	Lower fan (MF2)	Fan 1	Fan 2
OFF	OFF	OFF	OFF	OFF	OFF
L	L	L	L	H	OFF
H	H	H	H	H	H
HH	HH	HH	HH	H	H

L-tap starting compensation

When the outdoor fan is operated from OFF to L-tap, the fan motor does not turn, because of lack of starting torque. To avoid this, the fan motor operates at H-tap for the first 5 s after start-up, before changing to L-tap.



Used input

The fan starting control in cooling or dry keep mode uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Outdoor air temperature R1T	—	X4A

2.5 Normal Outdoor Fan Control in Cooling Operation

Applicable units

R(Y)P71-250B

Purpose

The purpose of this normal outdoor fan control is to ensure a correct discharge pressure in function of the outdoor air and indoor room temperature.

Method

The table below shows in which conditions the outdoor fan works at low or high speed.

Condition	Fan Speed
Ta < 41.7 - 0.84 x Tr	L
Ta > 45.7 - 0.84 x Tr	H

Ta = ambient temperature = outdoor air temperature; Tr = room suction temperature.

Different fan speeds

The table below explains the meaning of L, H and HH fan speed.

Fan operation	71	100 and 125		200 and 250	
	1 fan	Upper fan (MF1)	Lower fan (MF2)	Fan 1	Fan 2
OFF	OFF	OFF	OFF	OFF	OFF
L	L	L	L	H	OFF
H	H	H	H	H	H
HH	HH	HH	HH	H	H

Used input

The normal outdoor fan control during cooling operation uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Indoor room temperature R1T	X19A	—
Outdoor air temperature R1T	—	X4A

2.6 Low Outside Temperature Control in Cooling Operation (Year Round Cooling)

Applicable units

R(Y)P71-250

Purpose

The purpose of the control is to prevent freezing of the indoor heat exchanger due to:

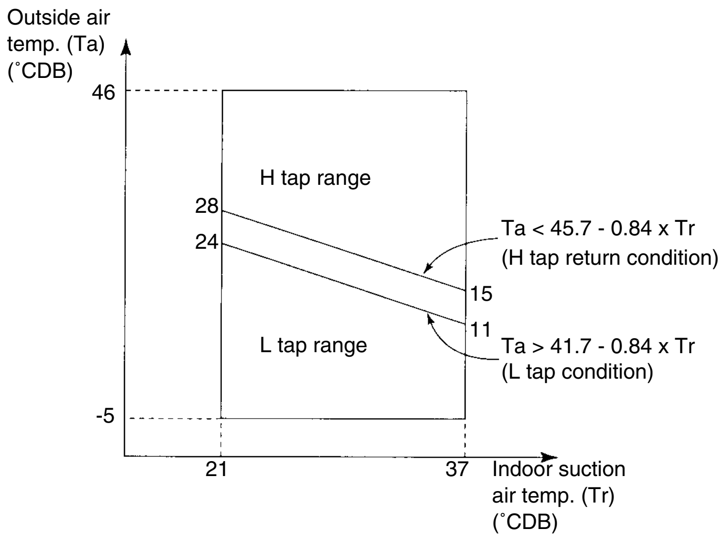
- Drop of the low pressure
- Indoor heat exchanger temperature (Te).

Method

The method to control is reduction of the air flow volume of the outdoor unit fan.

Starting and ending conditions

- The control is not activated during start-up control.
- The control is activated when the outdoor temperature drops below (41.7 - 0.84 x room suction temperature). At this temperature, the outdoor fan speed switches to L-tap.
- The differential for the return condition is 4 K.

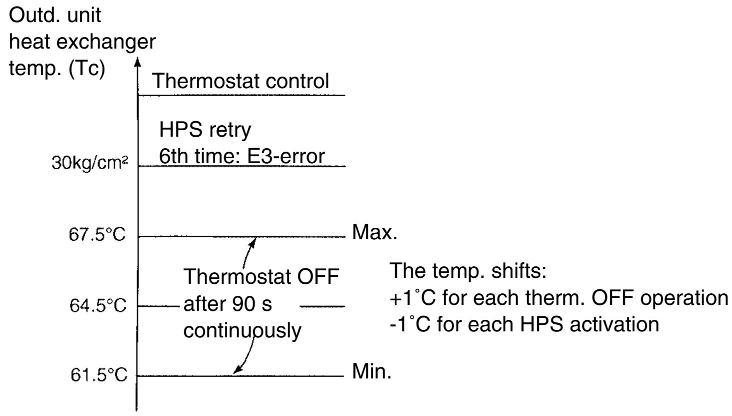


2.7 High Pressure Protection Control in Cooling Operation

Applicable units R(Y)P71-250B

Purpose The purpose of the high pressure protection is to prevent a shutdown due to an error.

Method The thermostat turns OFF immediately before HPS activation according to the outdoor heat exchanger temperature (Tc).



2.8 Condensation Avoidance Control

Applicable units

FHYP

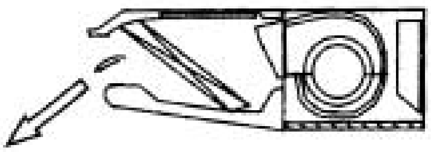
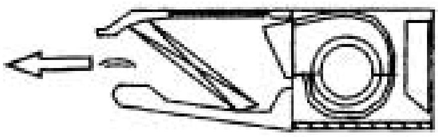
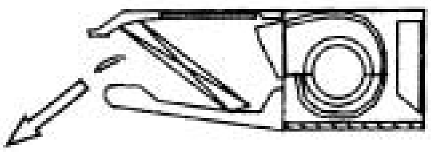
Operating modes

Regardless of whether the thermostat is ON or OFF, the condensation avoidance control can function in the following operating modes:

- Cooling (automatic), or
- Dry keep.

Method

To avoid condensation on the swing flap, the condensation avoidance control is activated:

Stage	Description
1	The fan operates in cooling mode with the blade in downward position (set on the remote control). 
2	After 30 min, the blade moves to a horizontal position. However, the remote control still shows the downward position. 
3	After 1 h operation in horizontal position, the blade moves back to its downward position for 30 min. 
4	The unit operation is reset by: ■ Changing the operating mode into “heating” or “fan”, or ■ Changing the air flow direction, or ■ Turning the unit operation ON or OFF.

2

3 Overview of the heating mode functions

3.1 What Is in This Chapter?

Introduction

This chapter contains information on the functions used to control the system during heating mode. Understanding these functions is vital when diagnosing a malfunction that is related to the functional control. This chapter is only applicable to h/p units.

Overview

This chapter contains the following topics:

3.2 Defrost Control

Applicable units

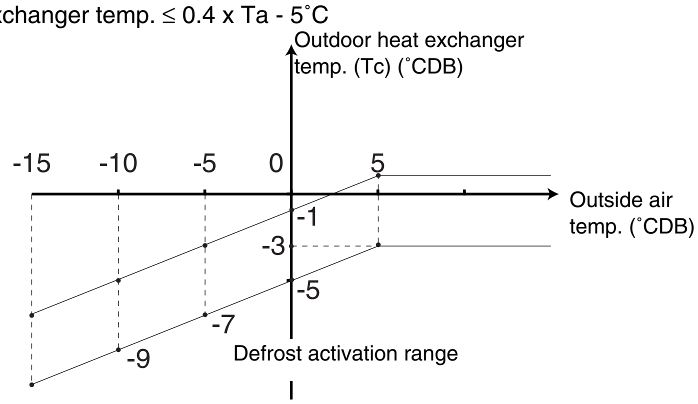
- RY35-45E(A)Z7V1
- RYP71-250B

Purpose

The purpose of the defrost control is to prevent frost on the outdoor heat exchanger coil. This frost forms when the unit is in heating position.

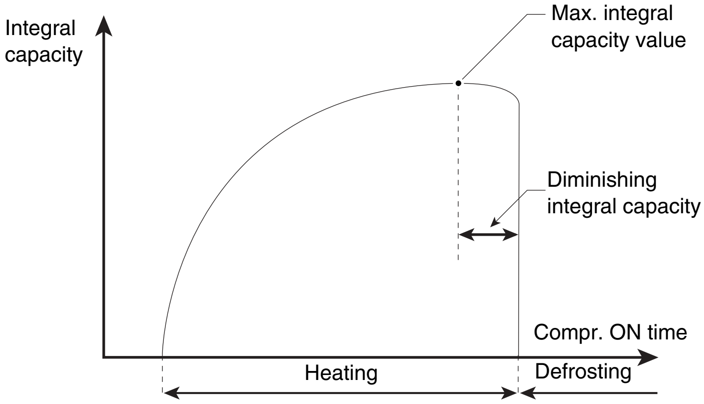
Starting conditions: RYP71-250B

The defrosting starts when either condition 1 or 2 has been realized.

Condition 1	**Condition 2**
The compressor has been running for a total of 25 min since the start of heating or since the end of the previous defrosting.	
■ Outdoor heat exchanger temp. ≤ -3˚C, and ■ Outdoor heat exchanger temp. ≤ 0.4 x Ta - 5˚C  	
■ Compressor ON ≥ 5 min continuously, and integral heating capacity diminishes (see further in this section), or ■ Ta > -5˚C for 3 h accumulated (if DS1-2 is ON, 40 min; if DS2-1 is ON, 24 h), or ■ Ta ≤ -5˚C for 6 h accumulated	Above condition for 10 min accumulated.
Outdoor fan is ON (not in overload control)	Outdoor fan is OFF (overload control)

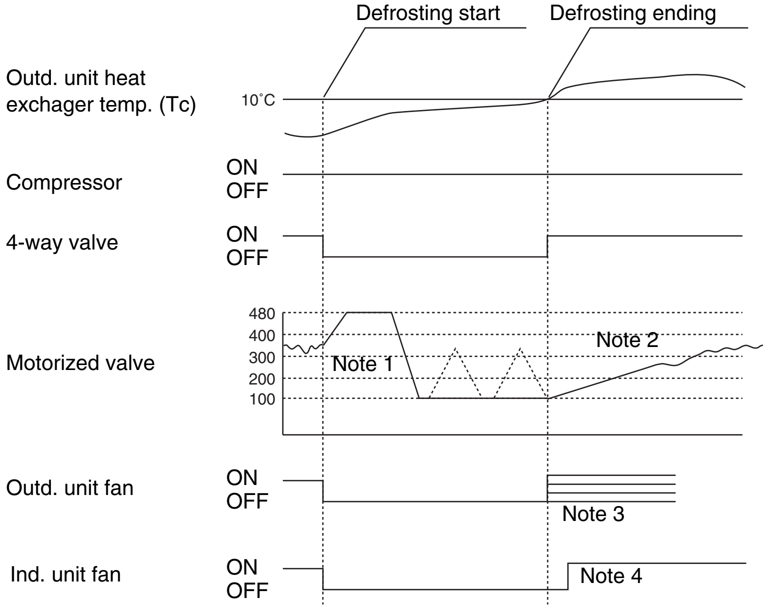
Heating integral capacity

The integral heating capacity is calculated by using the indoor unit data (R2T - R1T) divided by the compressor running time.



Defrost control RYP71-250B

The illustration below shows the defrost control.



Note	Control and time	Description
1	Motorized valve control during defrost operation	After a defrost activation, the defrost motorized valve is at 480 pulses for a certain amount of time, and is then closed gradually to 100 pulses. Only when the discharge pipe temperature is high during defrost, the motorized valve opens at intervals.
2	Motorized valve control after defrost operation	The motorized valve is controlled to an optimum opening and the most suitable operating speed, according to the operating conditions at defrost activation.
3	Outdoor unit fan after defrost operation	The fan operates at optimum fan tap, according to the operating conditions at defrost activation.
4	Hot start after defrost	The unit remains in the hot start standby (indoor unit fan OFF) mode for: ■ 40 s after defrost ending, or ■ Until the indoor heat exchanger temperature increases.

Defrost ending RYP71-250B

The defrost operation ends:

- After 10 min, or
- As soon as one of the following conditions is met after 1 min or more:
  - Outdoor heat exchanger temp. ≥ 10˚C
  - Discharge pipe temp. > 120˚C.

2

Starting and ending conditions: RY35-45E(A)Z7V1

Starting conditions

The defrosting starts when all of the following conditions are fulfilled:

- The compressor has been running over 40 min
- If Ta ≥ 5˚C, outdoor heat exchanger temperature < -3˚C
- Outdoor heat exchanger temperature < (Ta x 0,4) - 5˚C.

Ending conditions

The defrosting stops when one of the following conditions is fulfilled:

- Defrosting has been running over 10 min, or
- Outdoor heat exchanger temperature > 12.5˚C, or
- High-pressure switch has been activated, or
- Indoor unit has been switched OFF, or
- Unit is in another mode than heating.

Hot start after defrosting

The hot start function is activated:

- 40 s after the defrosting ending, or
- When Tc > 34˚C (indoor heat exchanger temperature).

Used input

The defrost control uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Outdoor thermistor	—	R1T
Outdoor heat exchanger thermistor	—	R2T
Discharge pipe thermistor	—	R3T
Defrosting start temperature changeover switch	—	DS1-2
Defrosting forced time changeover switch	—	DS2-1

3.3 Draft Avoidance Control 1

Applicable units

The draft avoidance control 1 is applicable for the following units:

Model type	Model name
Cassette	FHYCP and FUYP
Corner	FHYKP
Ceiling	FUYP
Wall	FAYP

Purpose

The purpose of the draft avoidance control 1 is to avoid draft, which is very uncomfortable for the end users.

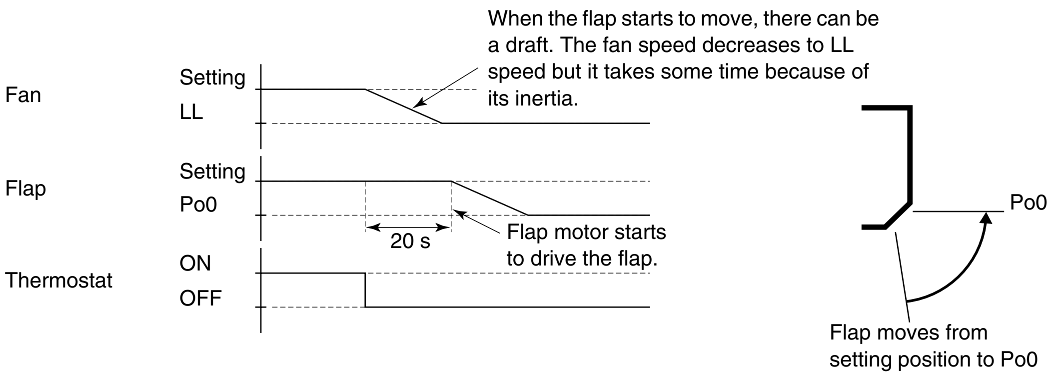
Method

The draft avoidance control 1 delays the moving of the flap setting to the Po0 position (= upper) for a certain amount of time in the following conditions:

- In heating mode and thermostat OFF, or
- In defrosting.

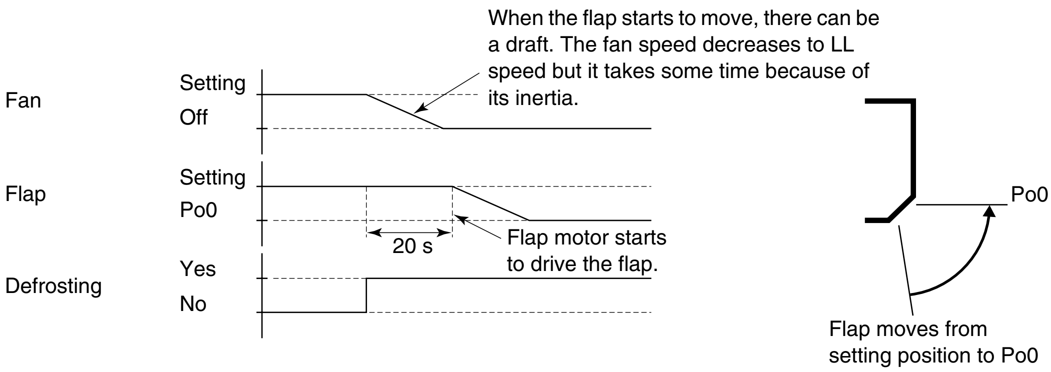
Heating mode and thermostat OFF

The time chart below illustrates the draft avoidance control 1 in heating mode and thermostat OFF.



Defrosting

The time chart below illustrates the draft avoidance control 1 in defrosting.



Used inputs

The draft avoidance control 1 uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Limit switch for flap	33S	—
No. of fan turns	X26A	—
Outdoor heat exchanger thermistor (start and end defrosting)	—	R2T

3.4 Draft Avoidance Control 2

Applicable units

The draft avoidance control 2 is applicable for the following units:

Model type	Model name
Cassette	FHYCP and FUYP
Corner	FHYKP
Ceiling	FUYP
Wall	FAYP

Purpose

The purpose of the draft avoidance control 2 is to avoid draft when the flap is moving.

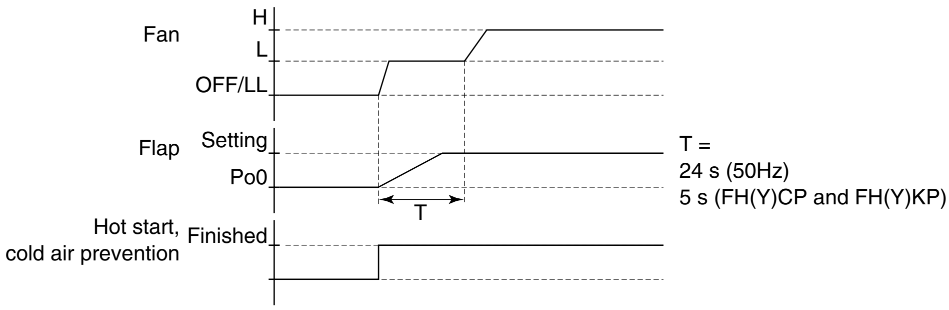
Starting conditions

The draft avoidance control 2 is activated when:

- Hot start is finished, or
- Cold air prevention control is finished.

Time chart

If the fan speed is set to “H”, the fan turns at low speed for a certain amount of time.



Used input

Draft avoidance control 2 uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Limit switch for flap	33S	—
No. of fan turns	X26A	—

2

3.5 Outdoor Unit Identification Function

Applicable units

The outdoor unit identification function is applicable for the following units:

Model type	Model name
Cassette	FHYCP and FUYP
Corner	FHYKP
Ceiling	FUYP
Wall	FAYP
Duct	FDYP and FHYBP

Purpose

The purpose of the outdoor unit identification function is to enable the indoor unit to automatically determine which operating mode has to be set in function of the outdoor unit type (c/o or h/p).

Operating modes

The possible operating modes are:

Outdoor unit	Operating modes
h/p	■ Fan ■ Cooling ■ Dry keep ■ Heating
c/o	■ Fan ■ Cooling ■ Dry keep

Used input

The outdoor unit identification function uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Indoor PCB	TC & RC	—
Outdoor PCB	—	TC &RC

TC: Transmission circuit
RC: Receiving circuit

3.6 4-way Valve Control

Applicable units

RYP71-250B

Purpose

The purpose of the 4-way valve control is to control how the superheated refrigerant passes through the 4-way valve. The 4-way valve control carries out the changeover switching of the 4-way valve. This changeover switching is only carried out during operation, because pressure difference is required to move the internal cylinder.

When...	Then the 4-way valve connects the outlet of the compressor with...
Cooling	Outdoor heat exchanger.
Heating	Indoor heat exchanger.

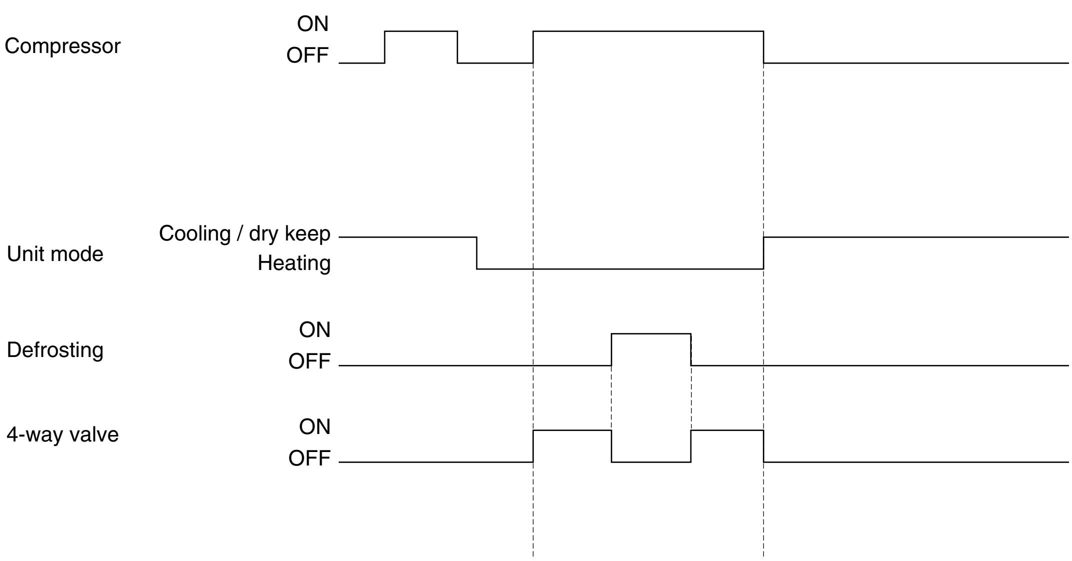
Method

The table below describes the 4-way valve control operation.

In...	The 4-way valve is...
Heating, except for defrosting	ON
■ Cooling ■ Dry keep ■ Defrosting	OFF

Time chart

The time chart below illustrates the 4-way valve control.



Used input

The 4-way valve control uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Indoor air temperature R1T (auto changeover)	X19A	—
Outdoor heat exchanger temperature R2T (defrost)	—	X5A

3.7 Starting Outdoor Fan Control in Heating Mode

Applicable units

RYP71-250B

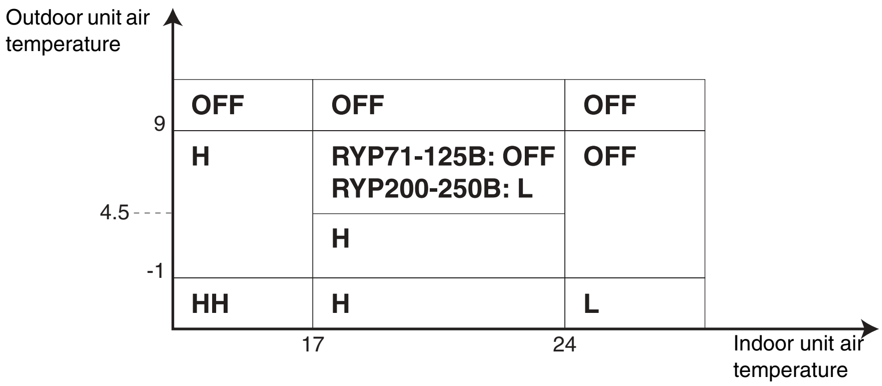
Purpose

The purpose of the starting outdoor fan control is to control the fan speed in function of the indoor and outdoor unit air temperature.

Method

The illustration below shows the fan starting control in heating mode.

- LPS is not detected for 3 min after start-up.
- The starting fan speed lasts 5 min. When the outside temperature is 10˚C or lower, the fan speed stays at H for the first 5 s if it is switched from OFF to L.



Different fan speeds

The table below explains the meaning of L, H and HH fan speed.

Fan operation	71	100 and 125		200 and 250	
	1 fan	Upper fan (MF1)	Lower fan (MF2)	Fan 1	Fan 2
OFF	OFF	OFF	OFF	OFF	OFF
L	L	L	L	H	OFF
H	H	H	H	H	H
HH	HH	HH	HH	H	H

Used input

The outdoor fan starting control in heating mode uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Outdoor thermistor	—	R1T
Suction thermistor	R1T	—

3.8 Normal Outdoor Fan Control in Heating Mode

Applicable units

RYP71-250B

Purpose

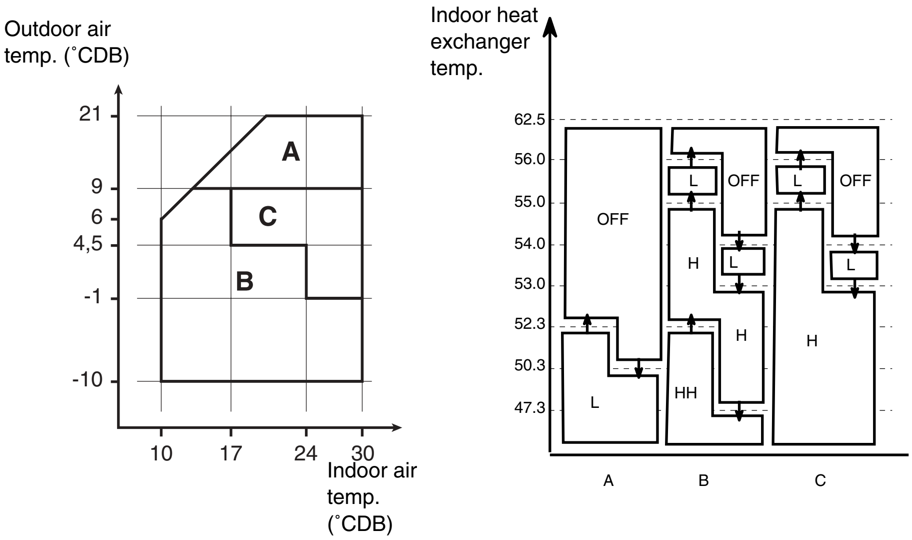
The purpose of the normal outdoor fan control is to:

- Reduce the chance of overload during high ambient temperature.
- Reduce the chance of icing up.

Method

Normal fan control operation is done after 5 min of starting fan control operation.

The operation range is divided into three areas (A, B and C).



Example

For area A, the fans go:

- From L speed to OFF at 52.3˚C
- From OFF to L speed at 50.3˚C.

2

Different fan speeds

The table below explains the meaning of L, H and HH fan speed.

Fan operation	71	100 and 125		200 and 250	
	1 fan	Upper fan (MF1)	Lower fan (MF2)	Fan 1	Fan 2
OFF	OFF	OFF	OFF	OFF	OFF
L	L	L	L	H	OFF
H	H	H	H	H	H
HH	HH	HH	HH	H	H

Used input

The normal outdoor fan control during heating operation uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Outdoor thermistor	—	R1T
Suction thermistor	R1T	—
Indoor heat exchanger thermistor	R2T	—

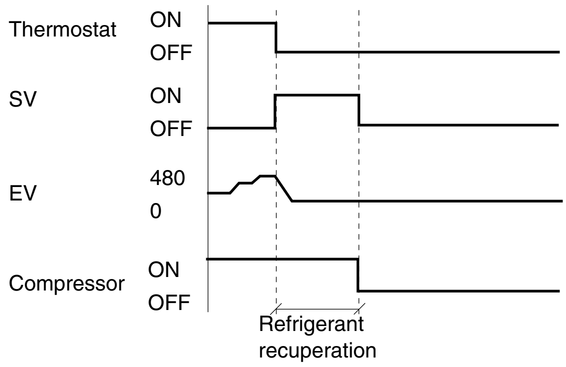
3.9 Motor Operated Valve Control

Applicable units

R(Y)P71-250B

Pump down residual operation

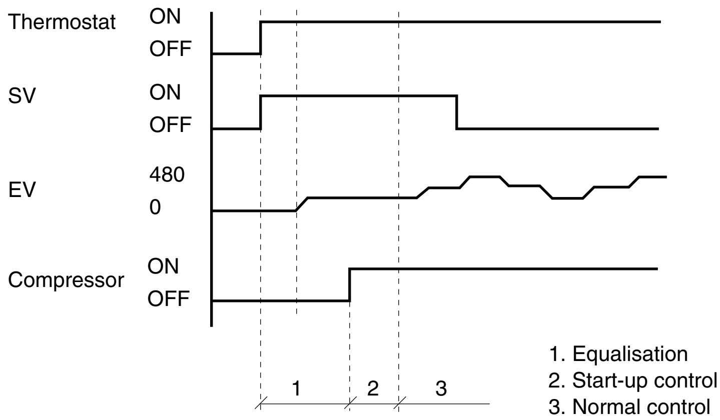
The unit conducts a pump down residual operation after each compressor stop command. The purpose of this function is to collect the refrigerant in the liquid receiver in order to prevent refrigerant from remaining in the indoor heat exchanger.



Start-up control

When the compressor starts, a pump down operation is carried out in order to avoid liquid pumping. The liquid receiver fills up and a minimum refrigerant amount is passed to the compressor. This minimum refrigerant amount is required to avoid discharge pipe temperatures that are too high.

The opening degree of the expansion valve depends on the start-up number. If the first start-up fails, the opening degree of the following start-up is adapted by the self-learning function.



Initial opening degree

The initial opening degree of the outdoor expansion valve depends on the indoor and outdoor air temperature. The calculation of the opening degree is made at a thermostat ON and at the end of a defrosting cycle.

Opening degree: Self-learning function

When the system was stopped due to abnormal suction or discharge pressure, or due to a discharge temperature that is too high, the expansion valve control tries to avoid the same breakdown. The expansion valve increases the previous opening degree with 70 (in cooling mode) or 80 (in heating mode) pulses at the next start-up.

There are maximum five start-up attempts. When the compressor stops again after the fifth start-up, something is wrong with the unit and a unit check is necessary. The relevant error code appears on the remote control.

Normal control

The optimum discharge pipe temperature is calculated based on:

- Indoor and outdoor heat exchanger temperature
- Actual discharge pipe temperature
- Outdoor ambient temperature.

The expansion valve is controlled in order for the discharge temperature to approach the optimum temperature.

2

Used input

The motor operated valve control uses the following inputs:

Input	Connection on indoor PCB	Connection on outdoor PCB
Outdoor thermistor	—	R1T
Outdoor heat exchanger thermistor	—	R2T
Discharge pipe thermistor	—	R3T
Indoor heat exchanger thermistor	R2T	—

Part 3
Troubleshooting

What is in this part?

This part contains the following chapters:

3

1 Troubleshooting

1.1 What Is in This Chapter?

Introduction

When a problem occurs, you have to check all possible malfunctions. This chapter gives a general idea of where to look for malfunctions.

Not all repair procedures are described. Some procedures are considered common practice.

Overview

This chapter contains the following topics:

1.2 Overview of General Problems

Introduction

The general problems are:

- None of the indoor units operates
- Equipment operates but stops sometimes
- Some indoor units do not operate (twin / triple)
- Equipment operates but is not able to cool
- Abnormal operating noise and vibrations
- Equipment does not operate (operation light OFF)
- Poor cooling or heating
- Operation stops suddenly (operation light flashes)
- Abnormal functioning.

None of the indoor units operates

To troubleshoot, check the following:

- Make sure the rated voltage is supplied.
- Make sure the indoor unit type is compatible with the outdoor unit.
- Troubleshoot with the indoor unit LEDs. See page 3–11.
- Troubleshoot with the outdoor unit LEDs. See page 3–12 and 3–13.
- Make sure the address for the remote control and indoor unit are set correctly. See page 4–5.

Equipment operates but stops sometimes

To troubleshoot, check the following:

- A power failure of 2 to 10 sine wave cycles can stop air conditioner operation.
- Cooling operation cannot be used when the outside temperature is below 0˚C.
- Troubleshoot with the indoor unit LEDs. See page 3–11.
- Troubleshoot with the outdoor unit LEDs. See page 3–12 and 3–13.

Some indoor units do not operate (twin / triple)

To troubleshoot, check the following:

- Make sure the indoor unit type is compatible with the outdoor unit.
- Troubleshoot with the indoor unit LEDs. See page 3–11.
- Troubleshoot with the outdoor unit LEDs. See page 3–12 and 3–13.

Equipment operates but is not able to cool

To troubleshoot, check the following:

- Make sure the thermistor has not disconnected from the pipe holder.
- Troubleshoot with the indoor unit LEDs. See page 3–11.
- Troubleshoot with the outdoor unit LEDs. See page 3–12 and 3–13.
- Check for gas shortage. See page 3–54.

Abnormal operating noise and vibrations

Make sure the required space for installation is provided. See chapters “General Outline: Indoor Units” and “General Outline: Outdoor Units”.

Equipment does not operate (operation light OFF)

To troubleshoot, check the following:

- Check if the breaker has switched OFF or the fuse has blown.
- Check if the batteries are placed in the remote control.
- Check if the address switch is set correctly. See page 4–5.
- Check if the timer is set correctly.

Poor cooling or heating

To troubleshoot, check the following:

- Check if the filters are clean.
- Check if there is no obstruction of the air inlet or outlet of the indoor and outdoor units.
- Check if the temperature settings are correct.
- Check if all windows and doors are closed.
- Check if the air flow and air direction are set correctly.
- Check if there is no ventilation operation.

Operation stops suddenly (operation light flashes)

To troubleshoot, check the following:

- Check if the air filters are clean.
- Check if there is no obstruction of the air inlet or outlet of the indoor and outdoor units.

The operation light flashes when the following errors are detected:

- Activation of a safety device or malfunctioning thermistors.
- Transmission error between the indoor and the outdoor unit.

Abnormal functioning

The air conditioner may malfunction due to lightning or radio waves. To check, proceed as follows:

Step	Action
1	Switch OFF the breaker.
2	Switch it back ON.
3	Check the operation by trying to operate with the remote control.

3

1.3 Emergency Operation and Checking with the Wired Remote Control

Emergency operation

When the remote control is not available or its battery is dead, you can use the emergency button on the front panel of the indoor unit :

- To start the automatic mode, press the emergency button.
- To stop the automatic mode, press the button again.

Checking with the wired remote control

If the operation stops due to a malfunction, the remote control‘s operation LED flashes, and the remote control displays the error code. The error code helps you to troubleshoot. See page 3–11, 3–12 and 3–13.

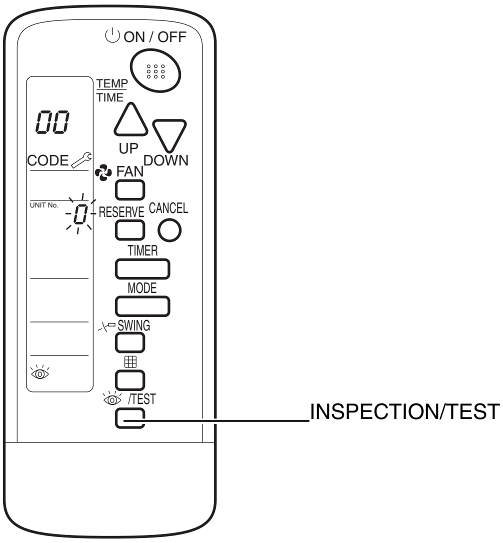
1.4 Checking with the Infrared Remote Control Display

Introduction

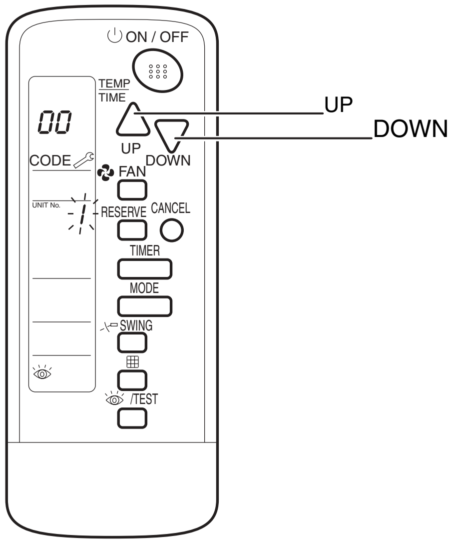
Contrary to the wired remote control, the infrared remote control does not display the error code. Instead, the operation LED on the light reception section flashes.

Checking

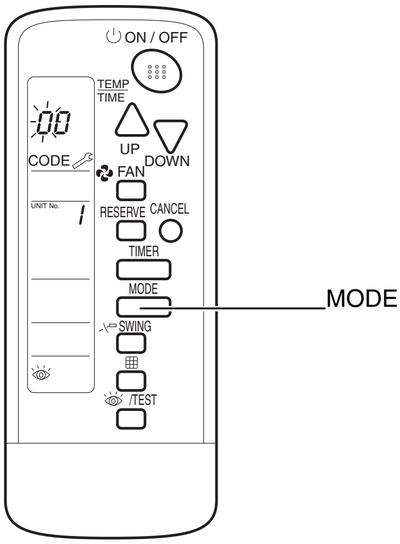
To find the error code, proceed as follows:

Step	Action
1	Press the INSPECTION/TEST button to select “inspection”. The equipment enters the inspection mode. “0” flashes in the UNIT No. display. 

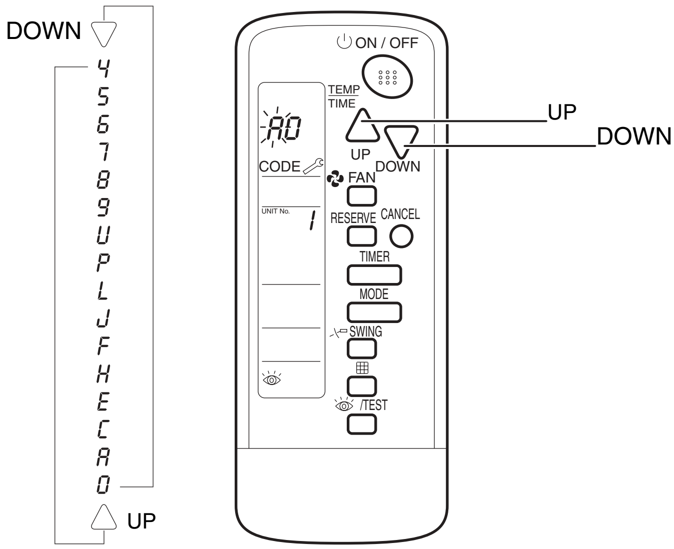
<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>2</td><td>Press the UP or DOWN button and change the UNIT No. until the receiver of the remote control starts to beep.

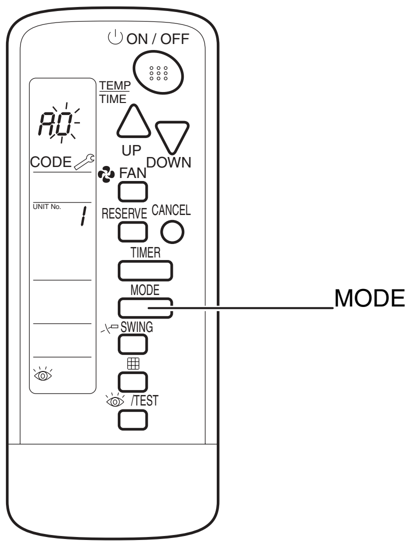


<table>
<tr><th>If you hear...</th><th>Then...</th></tr>
<tr><td>3 short beeps</td><td>Follow all steps below.</td></tr>
<tr><td>1 short beep</td><td>Follow steps 3 and 4. Continue the operation in step 4 until you hear a continuous beep. This continuous beep indicates that the error code is confirmed.</td></tr>
<tr><td>1 continuous beep</td><td>There is no abnormality.</td></tr>
</table>
</td></tr>
<tr><td>3</td><td>Press the MODE selector button.The left “0” (upper digit) indication of the error code flashes.’

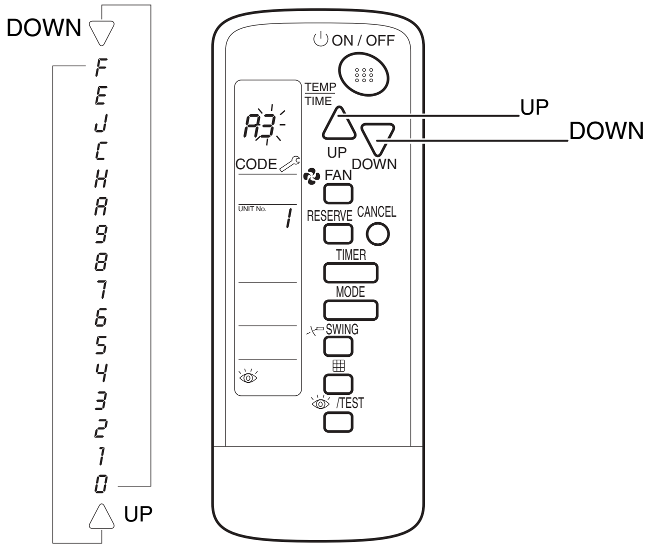
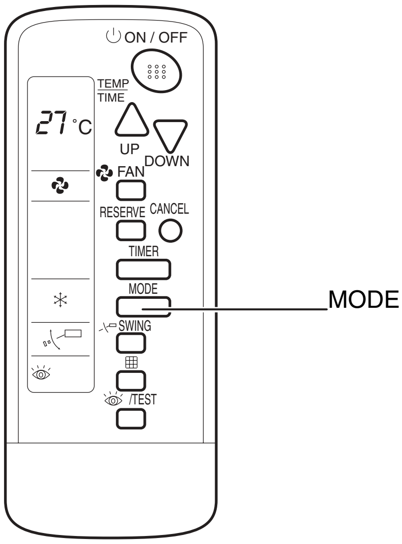


</td></tr>
</table>

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>4</td><td>Press the UP or DOWN button to change the error code upper digit until the receiver of the remote control starts to beep.


<table>
<tr><th>If you hear...</th><th>Then...</th></tr>
<tr><td>2 short beeps</td><td>The upper digit matches.</td></tr>
<tr><td>1 short beep</td><td>No digits match.</td></tr>
<tr><td>1 continuous beep</td><td>Both upper and lower digits match.</td></tr>
</table>
</td></tr>
<tr><td>5</td><td>Press the MODE selector button.The right “0” (lower digit) indication of the error code flashes.


</td></tr>
</table>

Step	Action
6	Press the UP or DOWN button and change the error code lower digit until the receiver of the remote control generates a continuous beep. 
7	Press the MODE button to return to normal status. If you do not press any button for at least 1 min, the remote control returns automatically to normal status. 

1.5 Troubleshooting with the Indoor Unit LEDs and the Remote Control

Shutdown

For some errors, the system only shuts down when the error occurs several times. This means that you have to wait until the system shuts down to be able to see the flashing LED on the front panel and the error code on the remote control.

Malfunction overview

The table below contains an overview of the indoor unit malfunctions.

If...				Then...			
LED front panel	**Indoor unit LED**		**Remote control display**	**Location of the malfunction**		**Malfunction description**	**See page**
	H1P (HAP)	**H2P (HBP)**		**Other than PCB**	**PCB ind. unit**		
●	☀	☀	Note 1	—	—	Normal	—
☀	☀	☼	A1	—	○	Malfunctioning Indoor PCB (A1)	3–22
	☀	●					
	☼	—					
	●	—					
	☀	☀	A3	◎	—	Malfunctioning Drain Water Level System (A3)	3–23
			A6	◎	☐	Indoor Unit Fan Motor Lock (A6)	3–25
			AF	◎	○	Malfunctioning Drain System (AF)	3–27
			AJ	◎	○	Malfunctioning Capacity Setting (AJ)	3–28
			C4, or C9	◎	☐	Thermistor Abnormality (C4 or C9)	3–30
			CJ	◎	○	Malfunctioning Remote Control Air Thermistor (CJ)	3–32

Symbols and notes

The table below describes the symbols and notes used in the malfunction overview.

Symbol / note	Description
Note 1	Variety of circumstances
☼	LED is ON
☀	LED is flashing
●	LED is OFF
◎	High probability of malfunction
○	Low probabiltiy of malfunction
☐	No possibility of malfunction (do not replace)

1.6 Troubleshooting with the Outdoor Unit LEDs and the Remote Control: Outdoor Malfunctions

Malfunction overview

The table below contains an overview of the outdoor unit malfunctions.

If...				Then...			
Outdoor unit LED			Rem. contr. display	Location of the malfunction		Malfunction description	See page
HAP	H1P	H2P		Other than PCB	PCB outd. unit		
✹	●	●	Note 1	—	—	Normal	—
✹	☼	●	E0	◎	□	Activation of Safety Device (E0)	3–34
☼	—	—	Note 1	—	○	Malfunctioning outdoor unit PCB	—
●	—	—	Note 1	—	○	Malfunctioning power supply or outdoor unit PCB	—
✹	☼	●	E3	◎	—	Abnormal High Pressure (Detected by the HPS) (E3)	3–39
✹	☼	●	E4	◎	—	Abnormal Low Pressure (Detected by the LPS) (E4)	3–41
✹	●	●	E9	◎	□	Malfunctioning Electronic Expansion Valve (E9)	3–43
✹	●	●	F3	◎	□	Malfunctioning in Discharge Pipe Temperature (F3)	3–45
✹	☼	☼	H3	◎	□	Malfunctioning HPS (H3)	3–47
✹	☼	☼	H9	◎	□	Malfunctioning Outdoor Thermistor System (H9)	3–48
✹	☼	☼	J3	◎	□	Malfunctioning Discharge Pipe Thermistor System (J3)	3–50
✹	☼	☼	J6	◎	□	Malfunctioning Heat Exchanger Thermistor System (J6)	3–51

Symbols and notes

The table below describes the symbols and notes used in the malfunction overview.

Symbol / note	Description
Note 1	Variety of circumstances
☼	LED is ON
✹	LED is flashing
●	LED is OFF
◎	High probability of malfunction
○	Low probabiltiy of malfunction
□	No possibility of malfunction (do not replace)

1.7 Troubleshooting with the Outdoor Unit LEDs and the Remote Control: System Malfunctions

Malfunction overview

The table below contains an overview of the system malfunctions.

If...				Then...					
Outdoor unit LED			Rem. contr. display	Location of the malfunction				Malfunction description	See page
HAP	H1P	H2P		Other than PCB	PCB outd. unit	PCB ind. unit	Rem. contr.		
☀	●	●	Note 1	—	—	—	—	Normal	—
Note 2			U0	◎	—	—	—	Gas Shortage Detection (U0)	3–54
☀	●	☼	U1	◎	□	—	—	Reverse Phase (U1)	3–55
Note 2			U4 or UF	◎	○	○	—	Transmission Error between Indoor and Outdoor Unit (U4 or UF)	3–57
			U5	◎	—	○	○	Transmission Error between Indoor Unit and Remote Control (U5)	3–60
			U8	◎	—	○	○	Transmission Error between MAIN Remote Control and SUB Remote Control (U8)	3–61
			UA	◎	—	○	—	Malfunctioning Field Setting Switch (UA)	3–62

Symbols and notes

The table below describes the symbols and notes used in the malfunction overview.

Symbol / note	Description
Note 1	Variety of circumstances
Note 2	All combinations that are not “normal” are possible
☼	LED is ON
☀	LED is flashing
●	LED is OFF
◎	High probability of malfunction
○	Low probabiltiy of malfunction
□	No possibility of malfunction (do not replace)

1.8 Overview of the Indoor Safety Devices

Overview

The table below contains an overview of the indoor safety devices.

Applicable unit	Thermal protector fan motor		Thermal fuse fan motor	Fuse PCB
	Abnormal	Reset (automatic)		
FH(Y)C(P)	> 130 ± 5˚C	< 83 ± 20˚C	N.A.	5 A
FHYBP	N.A.	N.A.	> 152˚C	
FH(Y)(P)	> 130 ± 5˚C	< 83 ± 20˚C	N.A.	
FUYP	> 130 ± 5˚C	< 83 ± 20˚C	N.A.	
FDYP	N.A.	N.A.	> 160˚C	
FAYP	> 130 ± 5˚C	< 83 ± 20˚C	N.A.	
FH(Y)K(P)	> 120 ± 5˚C	< 105˚C	N.A.	

1.9 Overview of the Outdoor Safety Devices

Overview

The table below contains an overview of the outdoor safety devices.

<table>
<tr><th>Applicable outdoor unit</th><th>Reverse phase protector</th><th>Overload contact compressor</th><th>Thermal protector fan motor</th><th>Overcurrent relay compressor</th><th>High-pressure switch</th><th>Low-pressure switch</th></tr>
<tr><td>RP71B7V1</td><td rowspan="2">—</td><td rowspan="17">—</td><td rowspan="17">X</td><td rowspan="17">X</td><td rowspan="17">X</td><td rowspan="17">X</td></tr>
<tr><td>RYP71B7V1</td></tr>
<tr><td>RP71B7W1</td><td rowspan="3">X</td></tr>
<tr><td>RYP71B7W1</td></tr>
<tr><td>RP71B7T1</td></tr>
<tr><td>RP100B7V1</td><td rowspan="2">—</td></tr>
<tr><td>RYP100B7V1</td></tr>
<tr><td>RP100B7W1</td><td rowspan="10">X</td></tr>
<tr><td>RYP100B7W1</td></tr>
<tr><td>RP100B7T1</td></tr>
<tr><td>RP125B7W1</td></tr>
<tr><td>RYP125B7W1</td></tr>
<tr><td>RP125B7T1</td></tr>
<tr><td>RP200B7W1</td></tr>
<tr><td>RYP200B7W1</td></tr>
<tr><td>RP250B7W1</td></tr>
<tr><td>RYP250B7W1</td></tr>
</table>

1.10 Outdoor Safety Device: Thermal Protector Fan Motor

Thermal protector fan motor

The table below describes the thermal protector of the fan motor.

<table>
<tr><th rowspan="2">Applicable outdoor unit</th><th rowspan="2">Wiring symbol</th><th rowspan="2">Location safety</th><th colspan="2">Settings</th><th>Type</th></tr>
<tr><th>Abnormal</th><th>Reset</th><th>Reset</th></tr>
<tr><td>RP71B7V1</td><td rowspan="5">Q1L</td><td rowspan="17">Outdoor fan motor

Q1L connected to X11A

Q2L connected to X12A</td><td rowspan="17">> 140˚C</td><td rowspan="17">< 45 ±15˚C</td><td rowspan="17">Automatic</td></tr>
<tr><td>RYP71B7V1</td></tr>
<tr><td>RP71B7W1</td></tr>
<tr><td>RYP71B7W1</td></tr>
<tr><td>RP71B7T1</td></tr>
<tr><td>RP100B7V1</td><td rowspan="12">Q1L and Q2L</td></tr>
<tr><td>RYP100B7V1</td></tr>
<tr><td>RP100B7W1</td></tr>
<tr><td>RYP100B7W1</td></tr>
<tr><td>RP100B7T1</td></tr>
<tr><td>RP125B7W1</td></tr>
<tr><td>RYP125B7W1</td></tr>
<tr><td>RP125B7T1</td></tr>
<tr><td>RP200B7W1</td></tr>
<tr><td>RYP200B7W1</td></tr>
<tr><td>RP250B7W1</td></tr>
<tr><td>RYP250B7W1</td></tr>
</table>

1.11 Outdoor Safety Device: Overcurrent Relay Compressor

Overcurrent relay compressor

The table below describes the overcurrent relay of the compressor.

Applicable outdoor unit	Wiring symbol	Location safety	Settings	Type
			Abnormal	**Reset**
RP71B7V1	F1C	Switch box	> 22.0 A (±10 %)	Automatic
RYP71B7V1				
RP71B7W1			> 10.0 A (±10 %)	
RYP71B7W1				
RP71B7T1			> 15.0 A (±10 %)	
RP100B7V1			> 33.0 A (±10 %)	
RYP100B7V1				
RP100B7W1			> 10.0 A (±10 %)	
RYP100B7W1				
RP100B7T1			> 22.0 A (±10 %)	
RP125B7T1			> 24.0 A (±10 %)	
RP125B7W1			> 13.0 A (±10 %)	
RYP125B7T1				
RP200B7W1			> 16.0 A (±10 %)	
RYP200B7W1				
RP250B7W1			> 20.0 A (±10 %)	
RYP250B7W1				

1.12 Outdoor Safety Device: Reverse Phase Protector

Reverse phase protector

The table below describes the reverse phase protector.

<table>
<tr><th rowspan="2">Applicable outdoor unit</th><th rowspan="2">Wiring symbol</th><th rowspan="2">Location safety</th><th>Type</th></tr>
<tr><th>Reset</th></tr>
<tr><td>RP71B7V1</td><td rowspan="2" colspan="3">No reverse phase protector</td></tr>
<tr><td>RYP71B7V1</td></tr>
<tr><td>RP71B7W1</td><td rowspan="3">PRC</td><td rowspan="3">Switch box</td><td rowspan="3">Automatic and power OFF</td></tr>
<tr><td>RYP71B7W1</td></tr>
<tr><td>RP71B7T1</td></tr>
<tr><td>RP100B7V1</td><td rowspan="2" colspan="3">No reverse phase protector</td></tr>
<tr><td>RYP100B7V1</td></tr>
<tr><td>RP100B7W1</td><td rowspan="10">PRC</td><td rowspan="10">Switch box</td><td rowspan="10">Automatic and power OFF</td></tr>
<tr><td>RYP100B7W1</td></tr>
<tr><td>RP100B7T1</td></tr>
<tr><td>RP125B7W1</td></tr>
<tr><td>RYP125B7W1</td></tr>
<tr><td>RP125B7T1</td></tr>
<tr><td>RP200B7W1</td></tr>
<tr><td>RYP200B7W1</td></tr>
<tr><td>RP250B7W1</td></tr>
<tr><td>RYP250B7W1</td></tr>
</table>

1.13 Outdoor Safety Device: High-Pressure Switch

High-pressure switch

The table below describes the high-pressure switch.

Applicable outdoor unit	Wiring symbol	Location safety	Settings		Type
			Abnormal	Reset	Reset
RP71B7V1					
RYP71B7V1					
RP71B7W1					
RYP71B7W1					
RP71B7T1					
RP100B7V1					
RYP100B7V1			> 33 bar	< 25.5 bar	
RP100B7W1					
RYP100B7W1	S1PH	Discharge pipe			Automatic
RP100B7T1					
RP125B7W1					
RYP125B7W1					
RP125B7T1					
RP200B7W1					
RYP200B7W1			> 32.5 bar	< 25 bar	
RP250B7W1					
RYP250B7W1					

3

1.14 Outdoor Safety Device: Low-Pressure Switch

Low-pressure switch

The table below describes the low-pressure switch.

Applicable outdoor unit	Wiring symbol	Location safety	Settings		Type
			Abnormal	Reset	Reset
RP71B7V1	S1LP	Low-pressure switch located in suction pipe	< -0.3 bar	> +0.5 bar	Automatic
RYP71B7V1					
RP71B7W1					
RYP71B7W1					
RP71B7T1					
RP100B7V1					
RYP100B7V1					
RP100B7W1					
RYP100B7W1					
RP100B7T1					
RP125B7W1					
RYP125B7W1					
RP125B7T1					
RP200B7W1					
RYP200B7W1					
RP250B7W1					
RYP250B7W1					

2 Error Codes: Indoor Units

2.1 What Is in This Chapter?

Introduction

In the first stage of the troubleshooting sequence, it is important to correctly interpret the error code on the remote control display. The error code helps you to find the cause of the problem.

Shutdown

For some errors, the system only shuts down when the error occurs several times. This means that you have to wait until the system shuts down to be able to see the flashing LED on the front panel and the error code on the remote control.

Overview

This chapter contains the following topics:

3

2.2 Malfunctioning Indoor PCB (A1)

Error code

A1

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☀	☀
Malfunctioning	☀	☼
	☀	●
	☼	—
	●	—

Error generation

The error is generated when the data from the EEPROM is not received correctly.

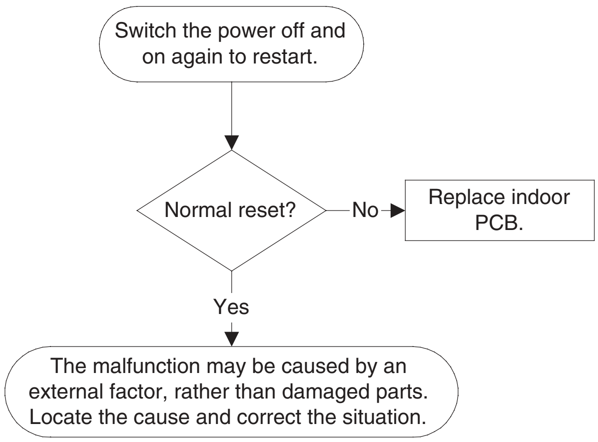
EEPROM (Electrically Erasable Programmable Read Only Memory): A memory chip that holds its content without power. It can be erased, either within the computer or externally and usually requires more voltage for erasure than the common +5 volts used in logic circuits. It functions like non-volatile RAM, but writing to EEPROM is slower than writing to RAM.

Causes

The possible cause is a malfunctioning indoor PCB.

Troubleshooting

To troubleshoot, proceed as follows:



2.3 Malfunctioning Drain Water Level System (A3)

Error code

A3

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☼	☼
Malfunctioning	☼	☼

Error generation

The error is generated when the water level reaches its upper limit and when the float switch turns OFF.

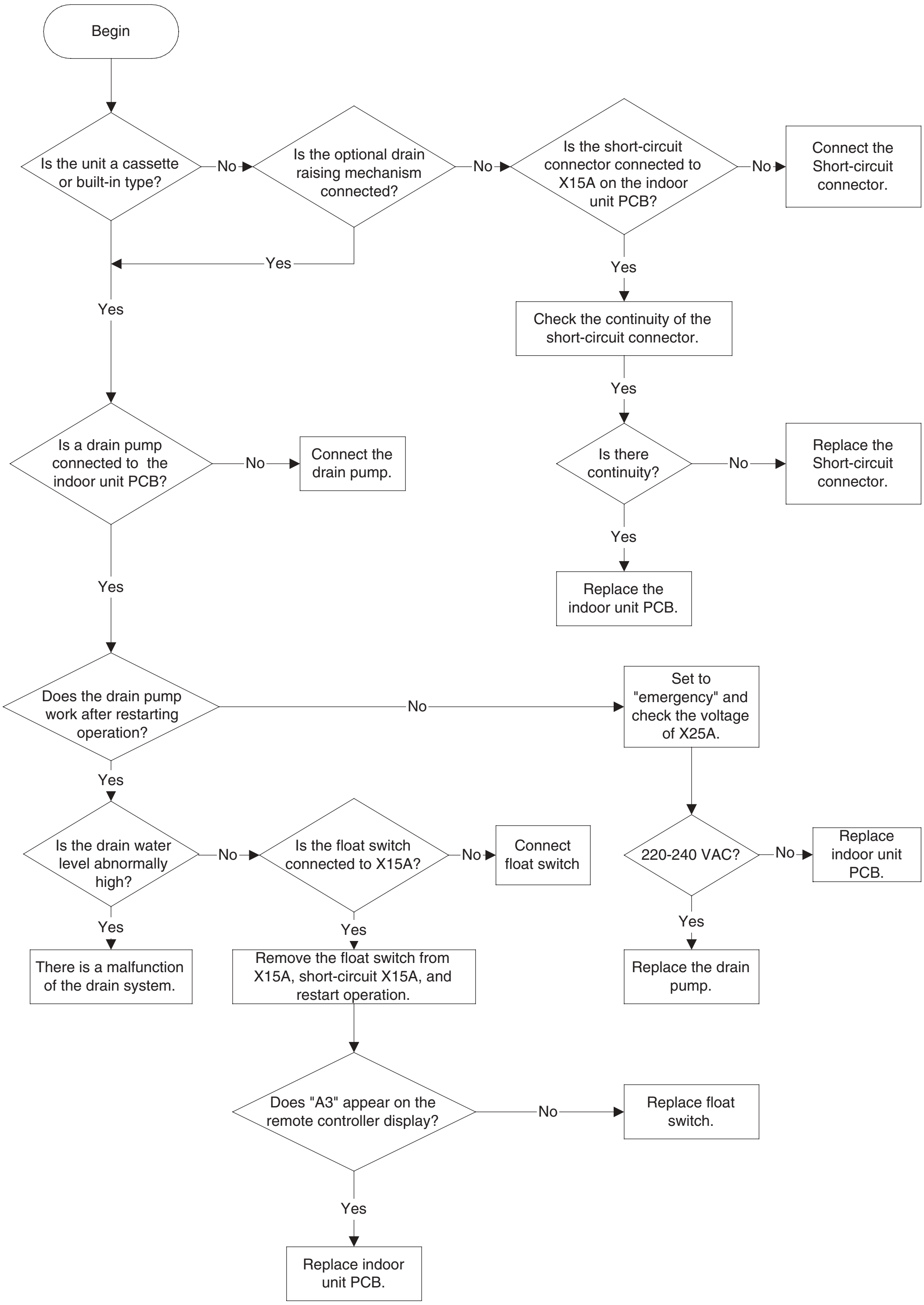
Causes

The possible causes are:

- Malfunctioning drain pump
- Improper drain piping work
- Drain piping clogging
- Malfunctioning float switch
- Malfunctioning indoor unit PCB
- Malfunctioning short-circuit connector X15 on PCB.

Troubleshooting

To troubleshoot, proceed as follows:



2.4 Indoor Unit Fan Motor Lock (A6)

Error code

A6

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☼	☼
Malfunctioning	☼	☼

Error generation

The error is generated when the fan rotations are not detected while the output voltage to the fan is at its maximum.

Causes

The possible causes are:

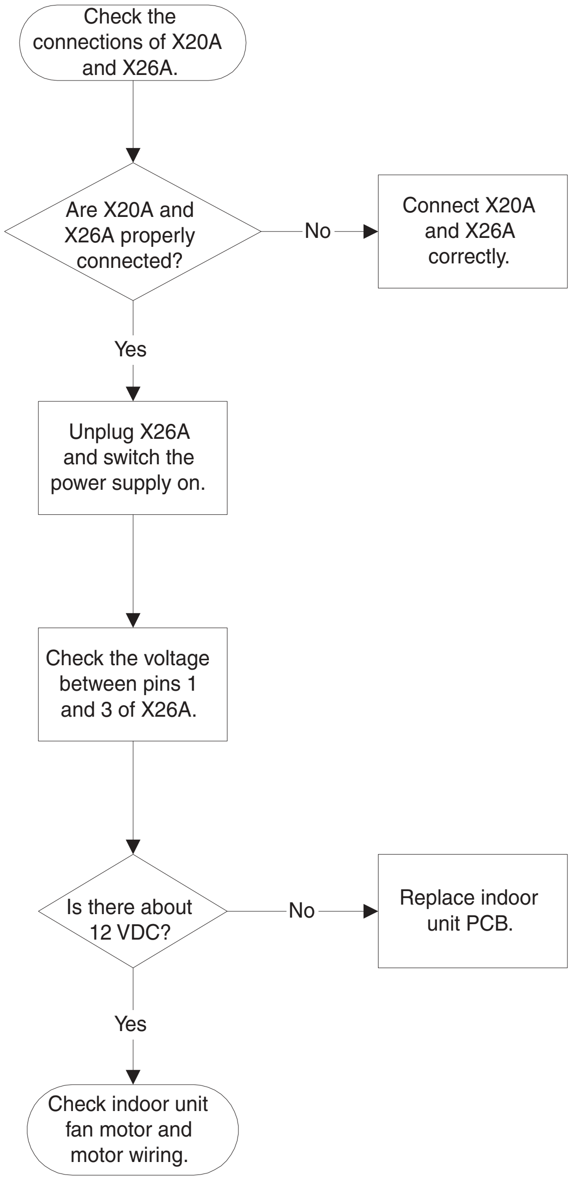
- Malfunctioning indoor unit fan motor
- Broken or disconnected wire
- Malfunctioning contact
- Malfunctioning indoor unit PCB.

3

3

Troubleshooting

To troubleshoot, proceed as follows:



2.5 Malfunctioning Drain System (AF)

Error code

AF

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☼	☼
Malfunctioning	☼	☼

Error generation

The error is generated when the float switch changes from ON to OFF while the compressor is OFF.

3

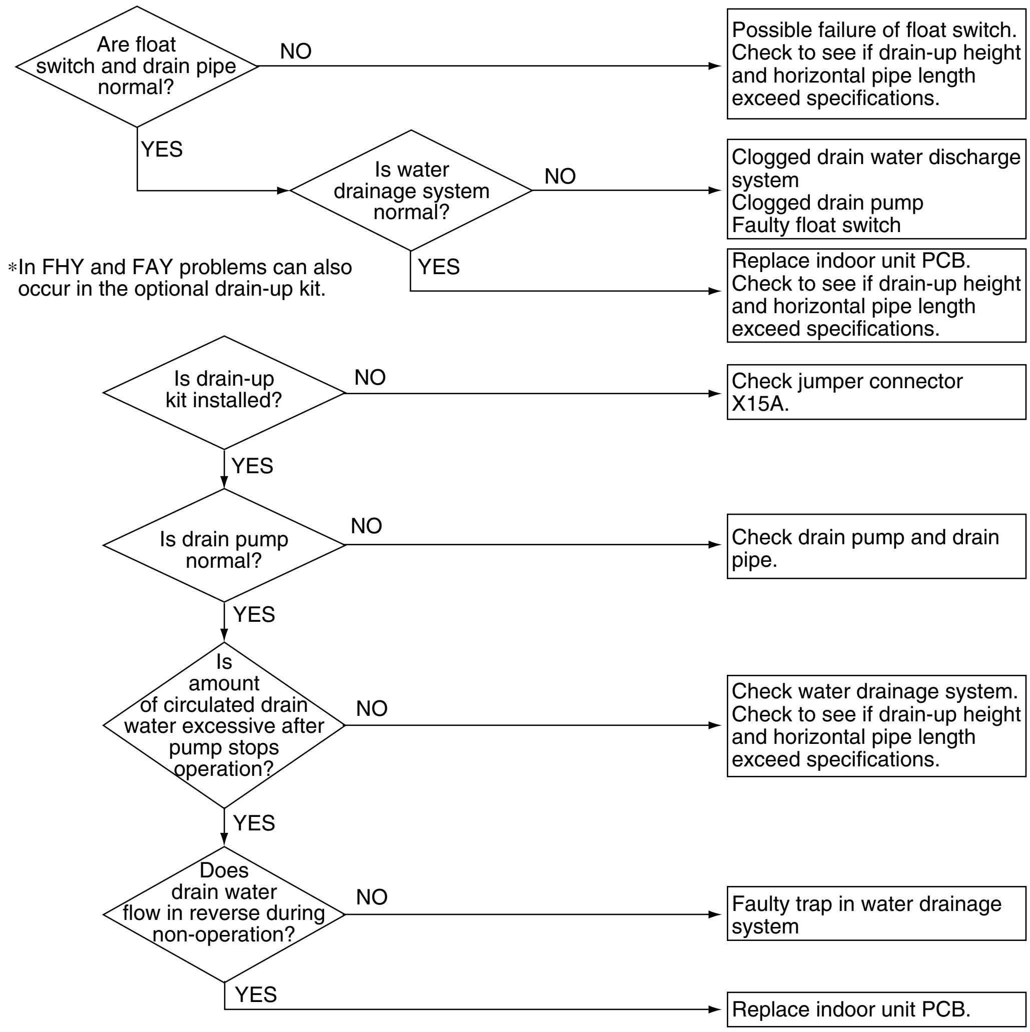
Causes

The possible causes are:

- Error in the drain pipe installation
- Malfunctioning float switch
- Malfunctioning indoor unit PCB.

Troubleshooting

To troubleshoot, proceed as follows:



2.6 Malfunctioning Capacity Setting (AJ)

Error code

AJ

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☀	☀
Malfunctioning	☀	☀

Error generation

The error is generated when the following conditions are fulfilled:

Condition	Description
1	■ The unit is in operation. ■ The PCB’s memory IC does not contain the capacity code. ■ The capacity setting adapter is not connected.
2	■ The unit is in operation. ■ The capacity that is set, does not exist for that unit.

Causes

The possible causes are:

- Malfunctioning capacity setting adapter connection
- Malfunctioning indoor unit PCB.

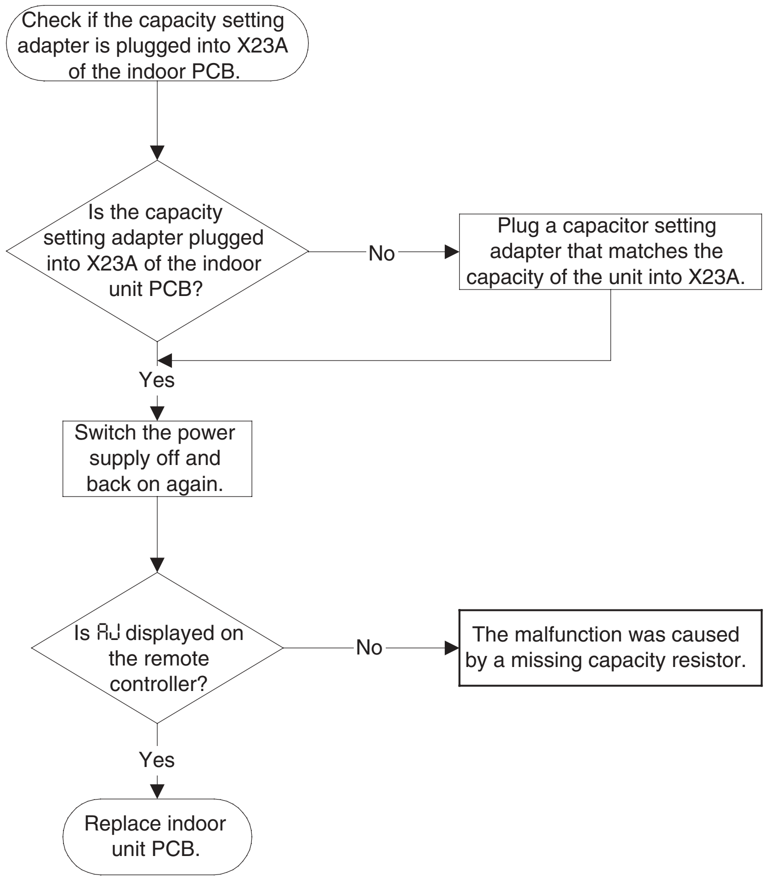
Capacity setting adapter

The capacity is set in the PCB’s memory IC. A capacity setting adapter that matches the capacity of the unit is required in the following case:

In case the indoor PCB installed at the factory is for some reason changed at the installation site, the capacity will not be contained in the replacement PCB. To set the correct capacity for the PCB you have to connect a capacity setting adapter with the correct capacity setting to the PCB. The capacity setting for the PCB will become the capacity setting of the adapter because the capacity setting adapter has priority.

Troubleshooting

To troubleshoot, proceed as follows:



3

2.7 Thermistor Abnormality (C4 or C9)

Error code

The table below describes the two thermistor abnormalities.

Error	Description
C4	Malfunctioning heat exchanger thermistor system.
C9	Malfunctioning suction air thermistor system.

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☼	☼
Malfunctioning	☼	☼

Error generation

The error is generated when during compressor operation:

- Thermistor input > 4.96 V, or
- Thermistor output < 0.04 V.

Causes

The possible causes are:

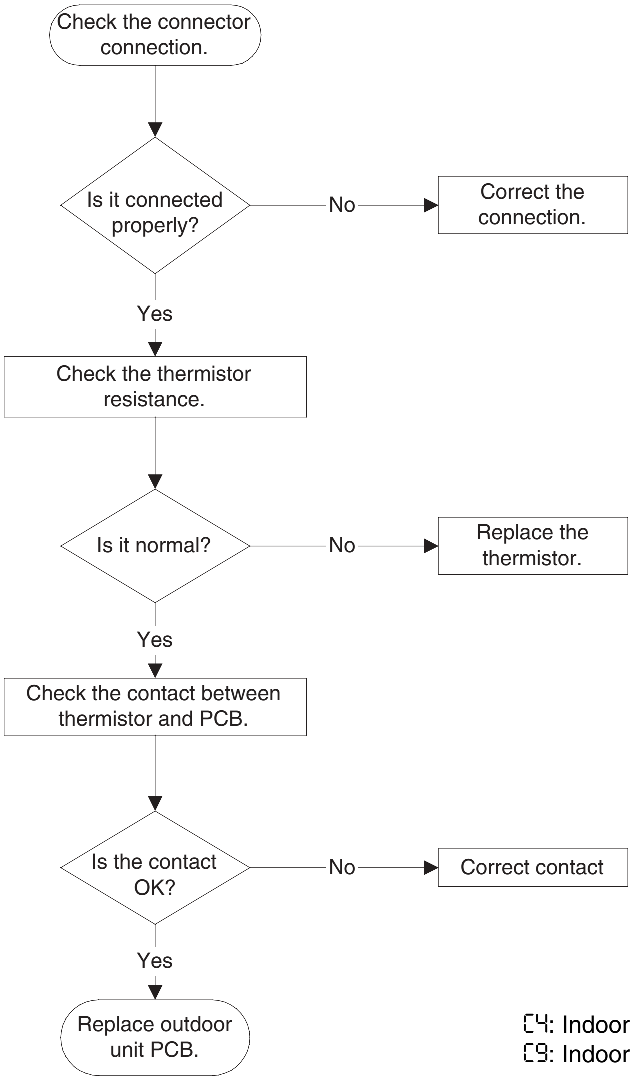
- Malfunctioning connector connection
- Malfunctioning thermistor
- Malfunctioning PCB
- Broken or disconnected wire.

Checking thermistors

See page 3–72.

Troubleshooting

To troubleshoot, proceed as follows:



C4: Indoor liquid pipe thermistor (R2T).
C9: Indoor ambient temperature thermistor (R1T).

2.8 Malfunctioning Remote Control Air Thermistor (CJ)

Error code

CJ

LED indications

The table below shows the LED indications.

Operation	HAP (green)	HBP (green)
Normal	☼	☼
Malfunctioning	☼	☼

Error generation

The error is generated when the remote control thermistor becomes disconnected or shorted while the unit is running.

Even if the remote control thermistor is malfunctioning, the system can operate with the system thermistor.

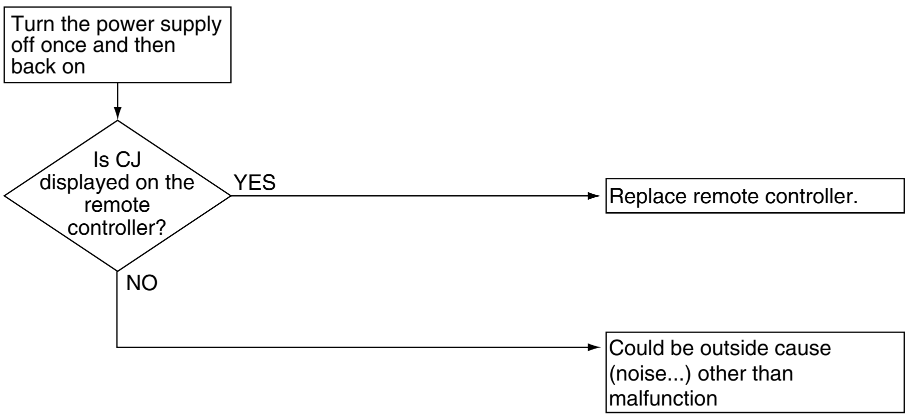
Causes

The possible causes are:

- Malfunctioning thermistor
- Broken wire.

Troubleshooting

To troubleshoot, proceed as follows:



3 Error Codes: Outdoor Units

3.1 What Is in This Chapter?

Introduction

In the first stage of the troubleshooting sequence, it is important to correctly interpret the error code on the remote control display. The error code helps you to find the cause of the problem.

Overview

This chapter contains the following topics:

3.2 Activation of Safety Device (E0)

Error code

E0

LED indications

The table below shows the LED indications.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☀	●	●
Malfunction	☀	☼	●

Error generation

The error is generated when a safety device has detected an abnormality.

Causes

The possible causes are:

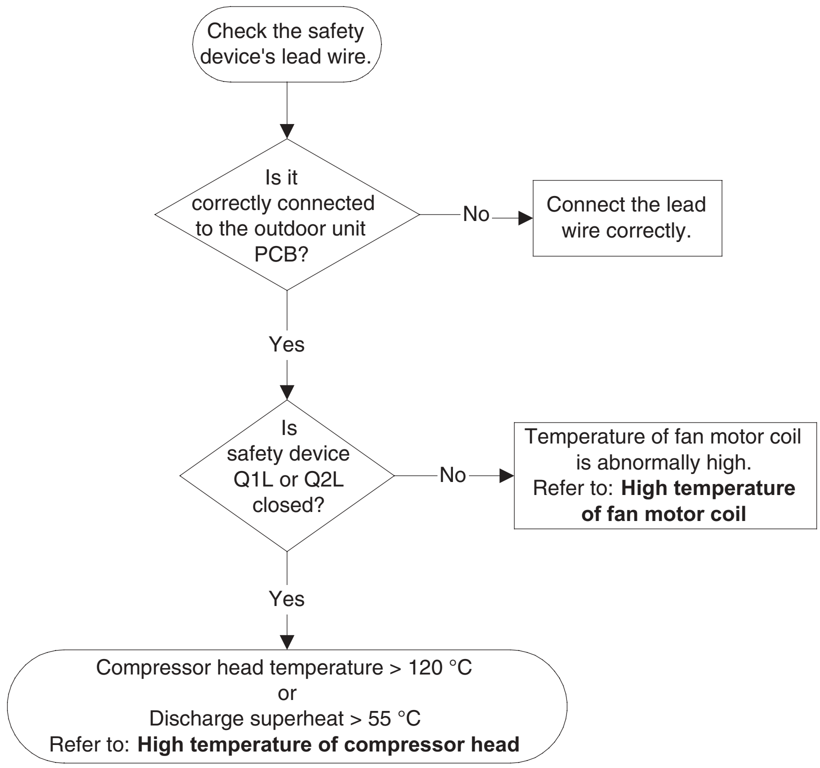
- Malfunctioning safety device input connection
- Broken or disconnected safety device harness
- Stop valve is set to “close”
- Clogging refrigerant piping circuit
- Air short-circuit
- Malfunctioning outdoor PCB.

Overview outdoor safety devices

See page 3–15.

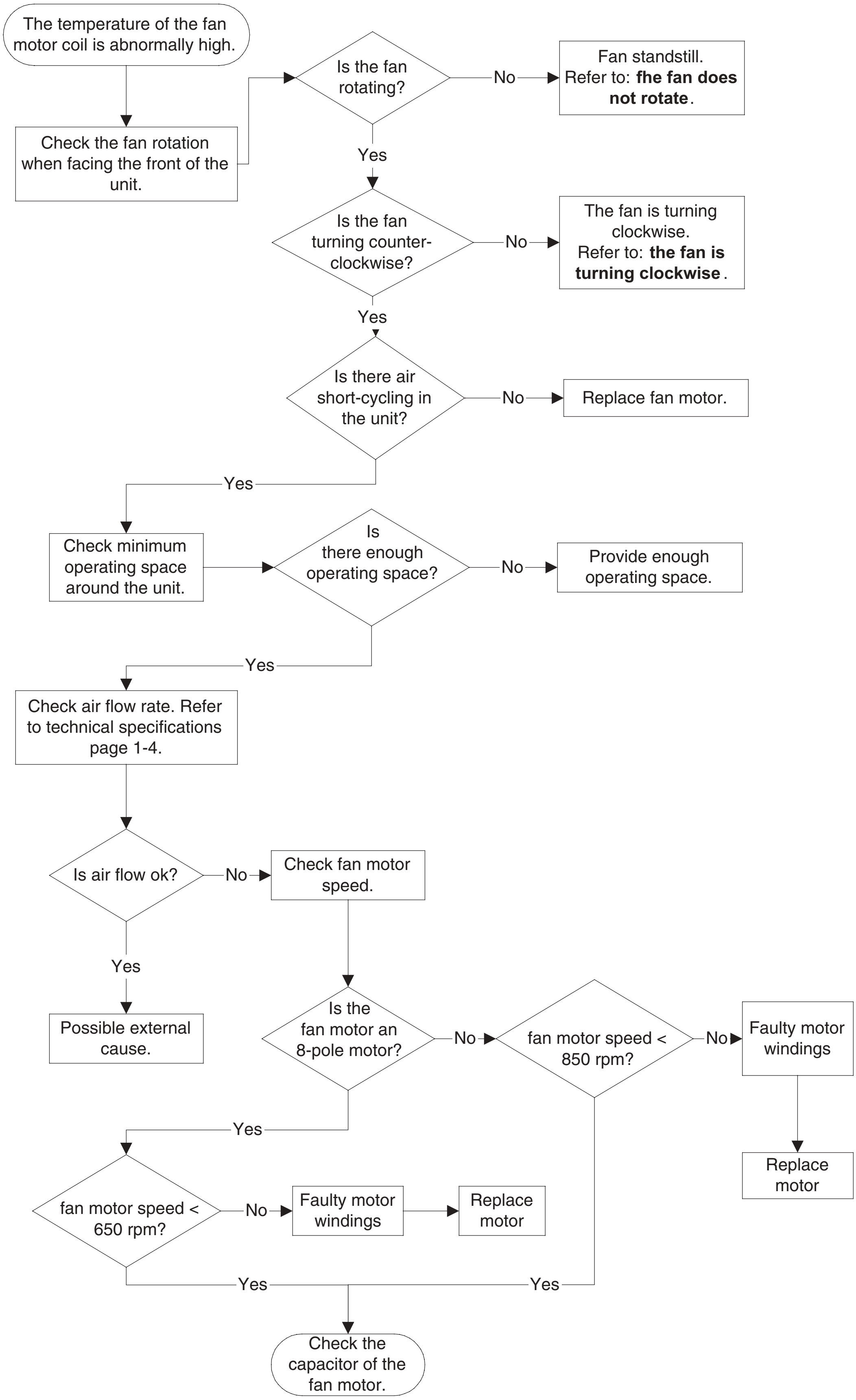
Troubleshooting

To troubleshoot, proceed as follows:



High temperature of fan motor coil

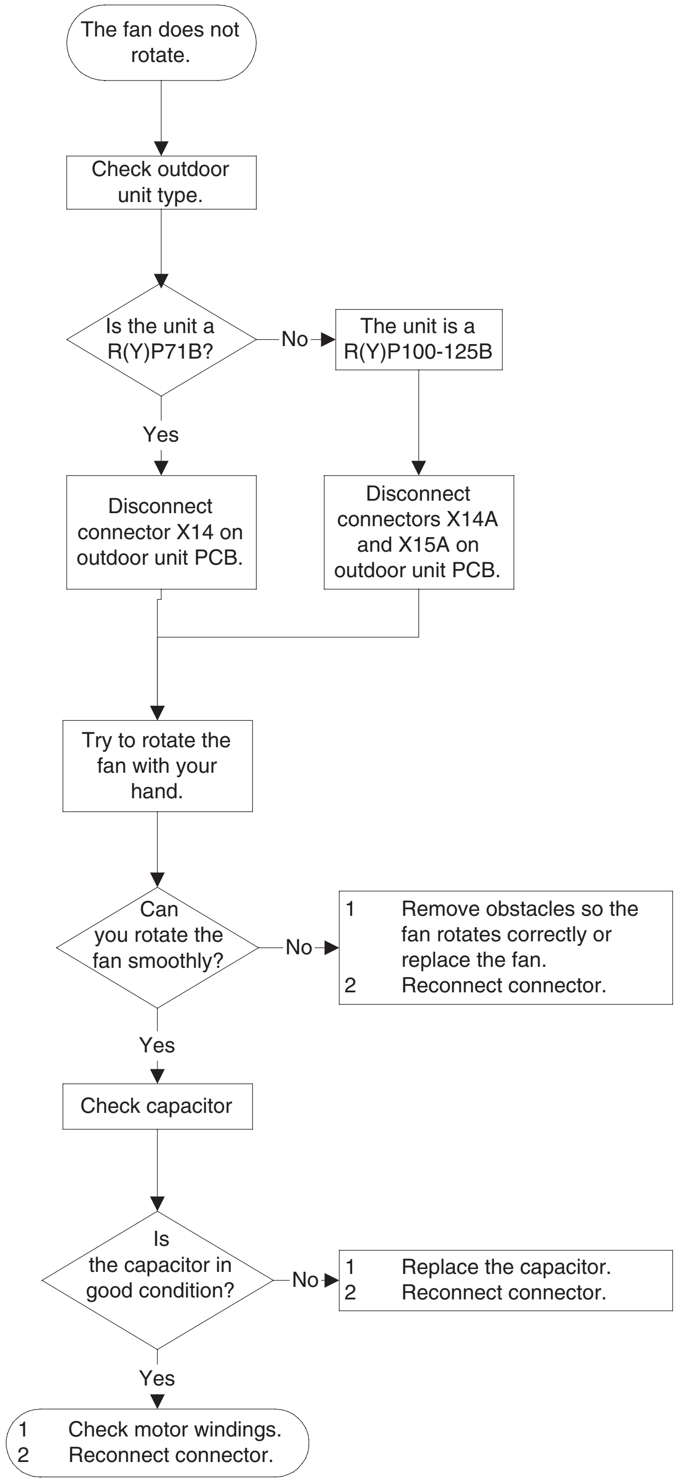
To troubleshoot, proceed as follows:



3

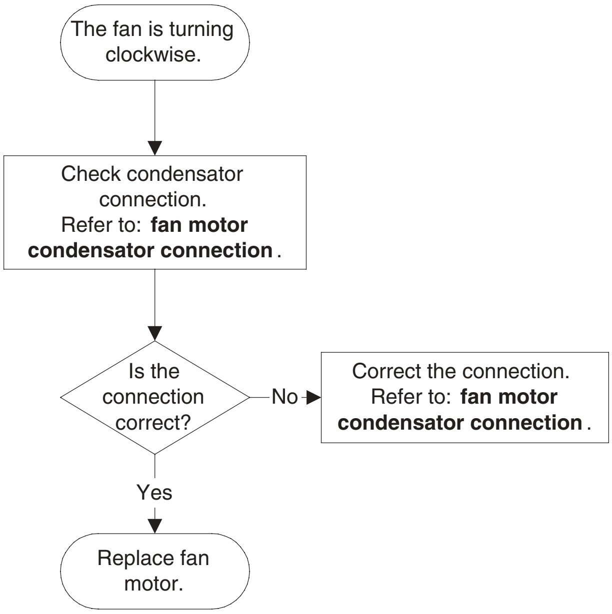
The fan does not rotate

To troubleshoot, proceed as follows:



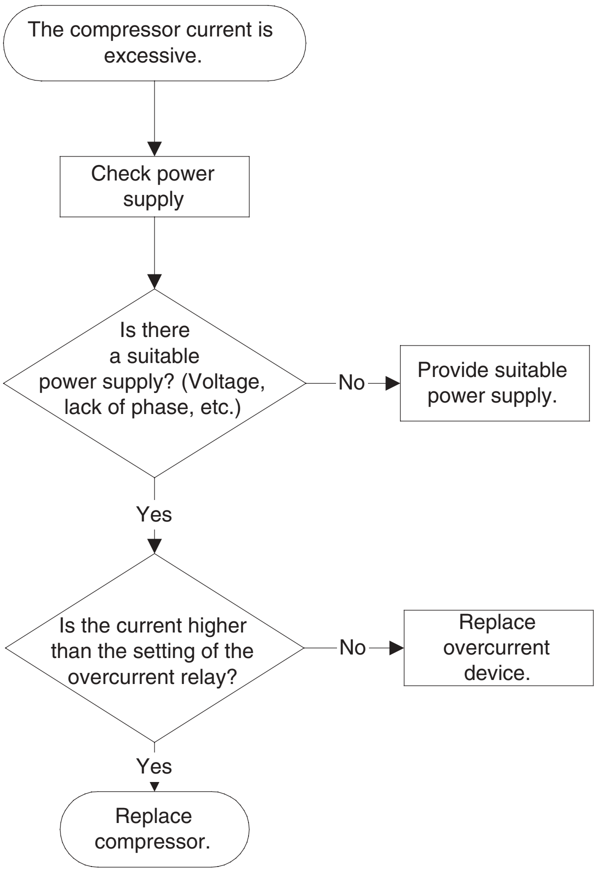
The fan is turning clockwise

To troubleshoot, proceed as follows:



Excessive compressor current

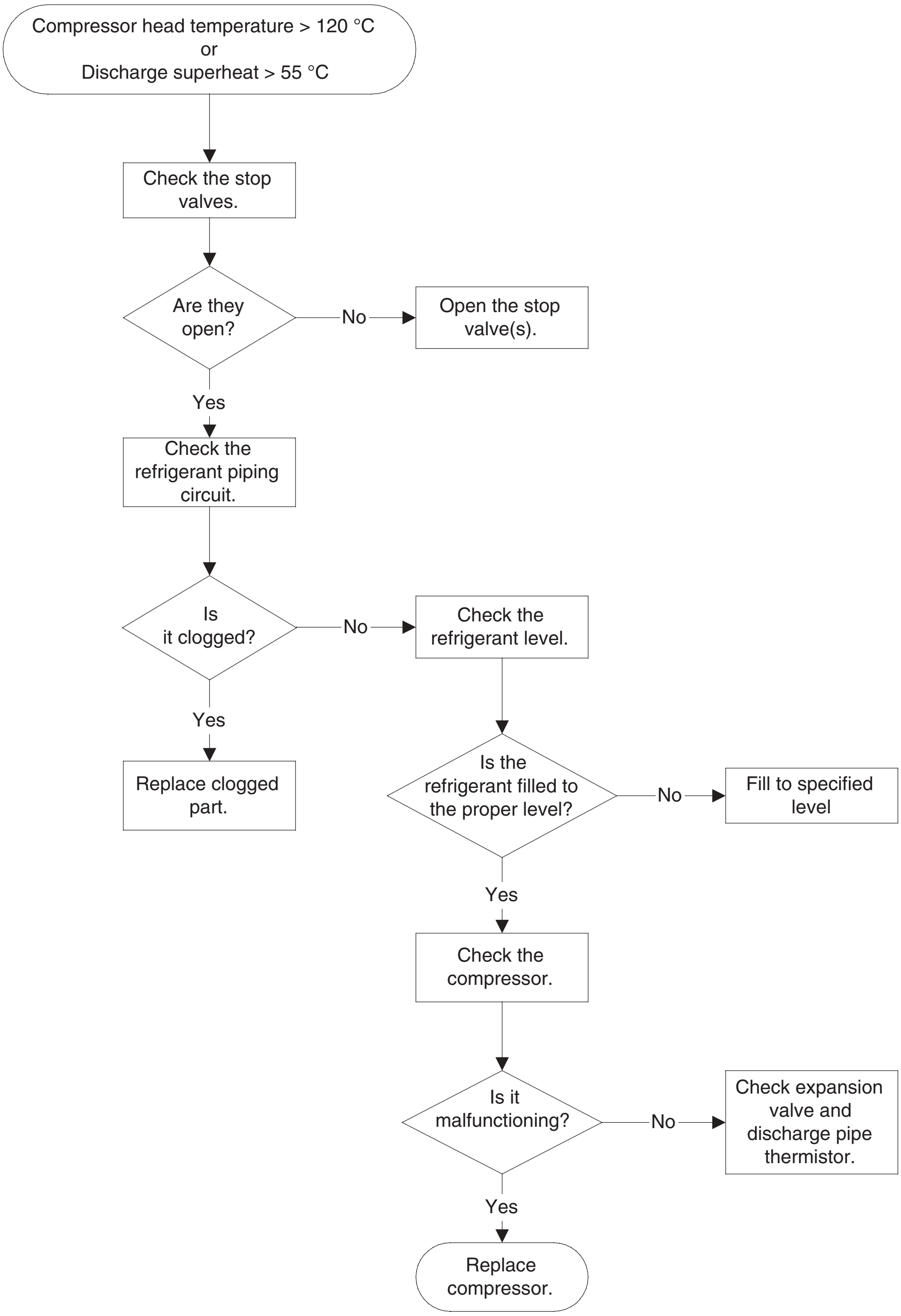
To troubleshoot, proceed as follows:



3

High temperature of compressor head

To troubleshoot, proceed as follows:



3.3 Abnormal High Pressure (Detected by the HPS) (E3)

Error code

E3

LED indications

The table below shows the LED indications.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☀	●	●
Malfunction	☀	☼	●

Error generation

The error is generated when the high-pressure switch is activated during compressor operation.

Causes

The possible causes are:

- Abnormal high pressure caused by too much refrigerant or by non-condensable gas (air or nitrogen)
- Inaccuracy of the high-pressure switch
- Broken or disconnected high-pressure switch harness
- Malfunctioning high-pressure switch connector connection
- Malfunctioning outdoor unit PCB
- Malfunctioning refrigerant piping circuit.

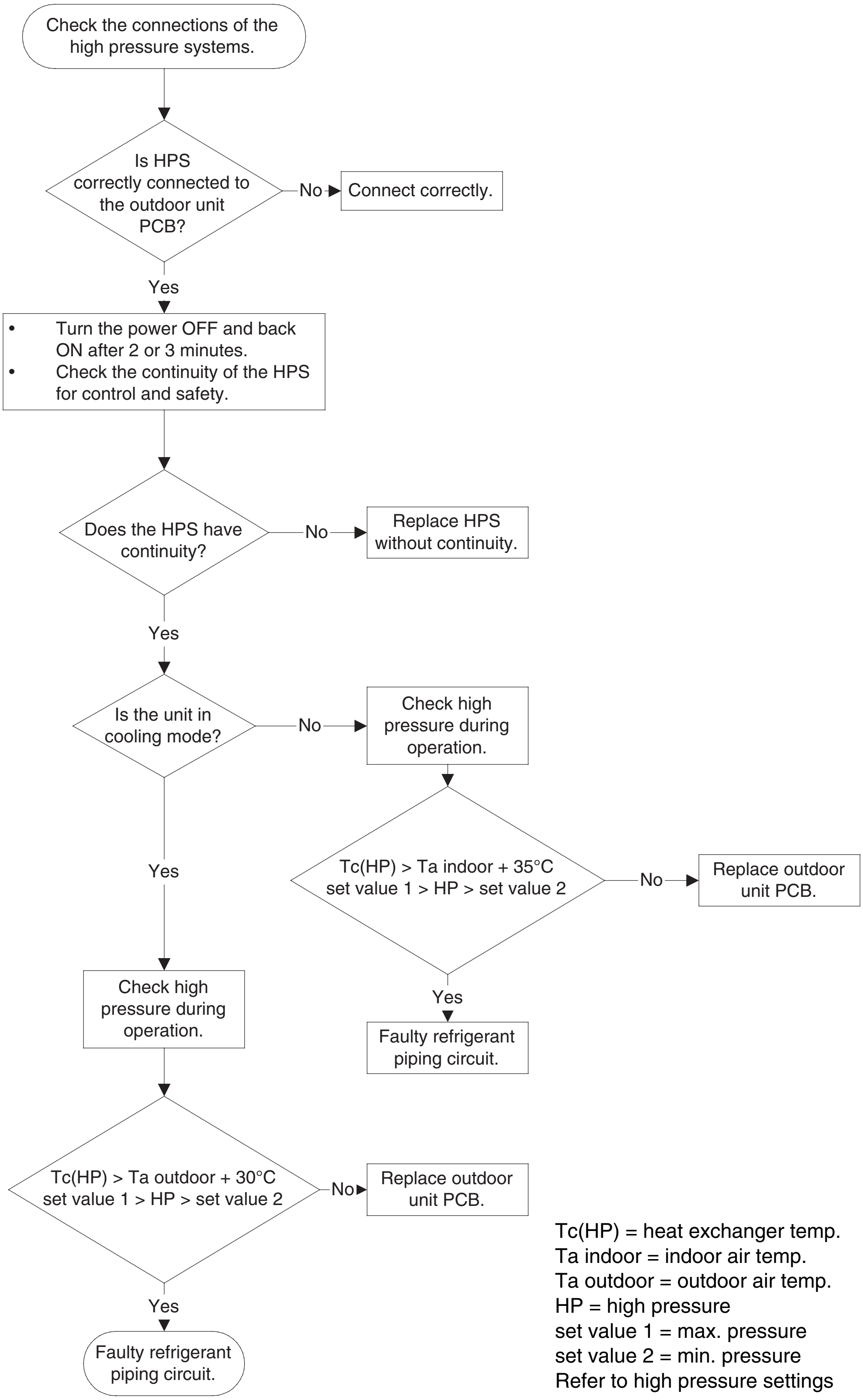
HPS settings

The table below contains the preset HPS values.

Applicable units	Abnormal	Reset
R(Y)P71/100/125B	> 33 bar	< 25.5 bar
R(Y)P200/250	> 32.5 bar	< 25 bar

Troubleshooting

To troubleshoot, proceed as follows:



Tc(HP) = heat exchanger temp.
Ta indoor = indoor air temp.
Ta outdoor = outdoor air temp.
HP = high pressure
set value 1 = max. pressure
set value 2 = min. pressure
Refer to high pressure settings

Some models are not equipped with a HPS.

3.4 Abnormal Low Pressure (Detected by the LPS) (E4)

Error code

E4

LED indications

The table below shows the LED indications.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☀	●	●
Malfunction	☀	☼	●

Error generation

The error is generated when the low-pressure switch is activated during compressor operation.

Causes

The possible causes are:

- Malfunctioning refrigerant piping circuit
- Malfunctioning low-pressure switch
- Disconnected or broken low-pressure switch harness
- Malfunctioning low-pressure switch connector connection
- Malfunctioning outdoor unit PCB.

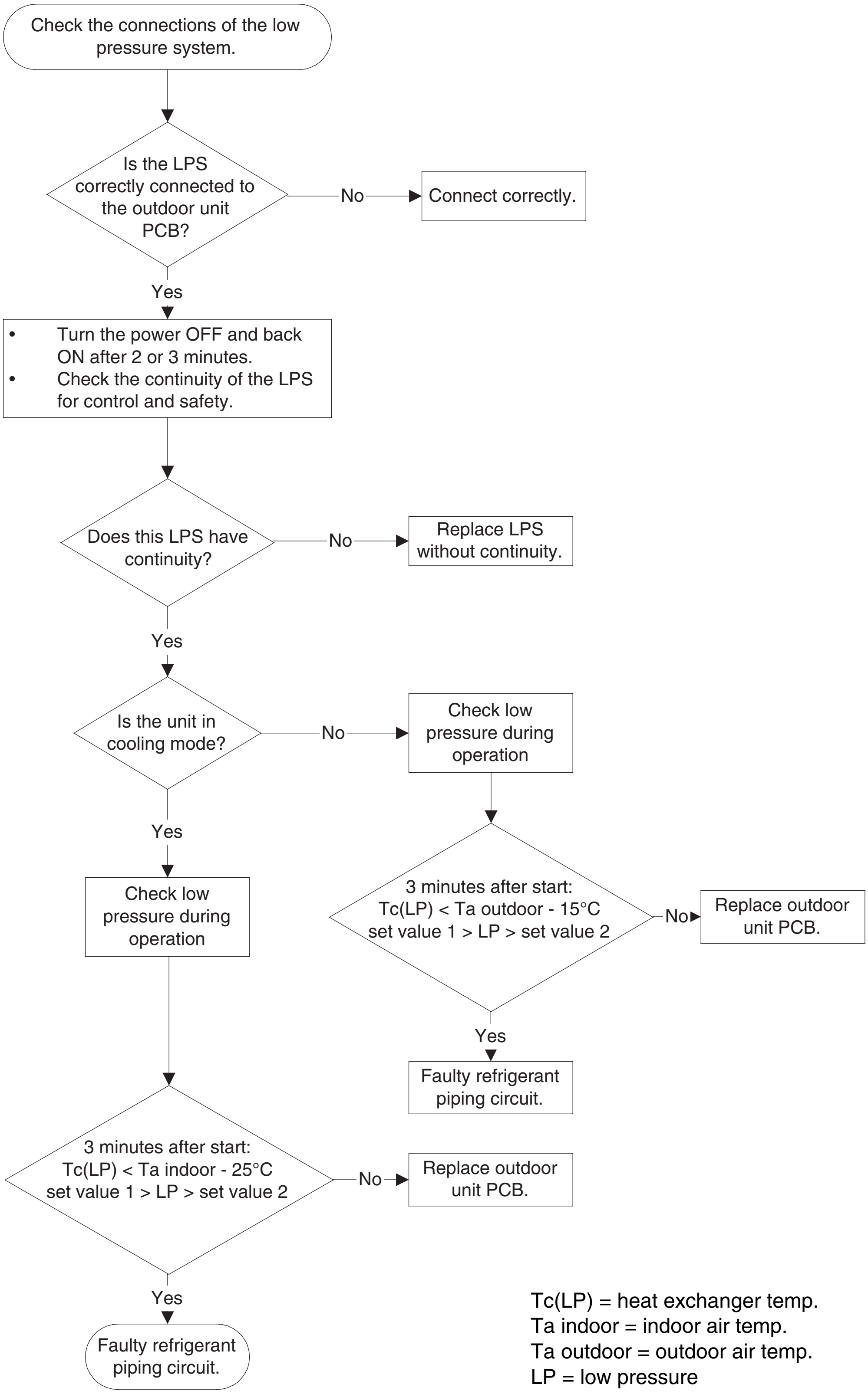
LPS settings

The table below contains the preset LPS values.

Applicable units	Abnormal	Reset
R(Y)P71/100/125/200/250B	< -0.3 bar	> +0.5 bar

Troubleshooting

To troubleshoot, proceed as follows:



Tc(LP) = heat exchanger temp.
Ta indoor = indoor air temp.
Ta outdoor = outdoor air temp.
LP = low pressure
set value 1 = max. pressure
set value 2 = min. pressure
Refer to low pressure settings

3.5 Malfunctioning Electronic Expansion Valve (E9)

Error code

E9

LED indications

The table below shows the LED indications.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☼	●	●
Malfunction	☼	●	●

Error generation

The error is generated when the following coil current condition is not met:

Open circuit < coil current < short circuit.

Resistance values

The table below contains the reference resistance values.

—	Grey	Black	Yellow	Red	Orange
Grey	—	40-50 Ω	40-50 Ω	40-50 Ω	40-50 Ω
Black	40-50 Ω	—	80-100 Ω	80-100 Ω	80-100 Ω
Yellow	40-50 Ω	80-100 Ω	—	80-100 Ω	80-100 Ω
Red	40-50 Ω	80-100 Ω	80-100 Ω	—	80-100 Ω
Orange	40-50 Ω	80-100 Ω	80-100 Ω	80-100 Ω	—

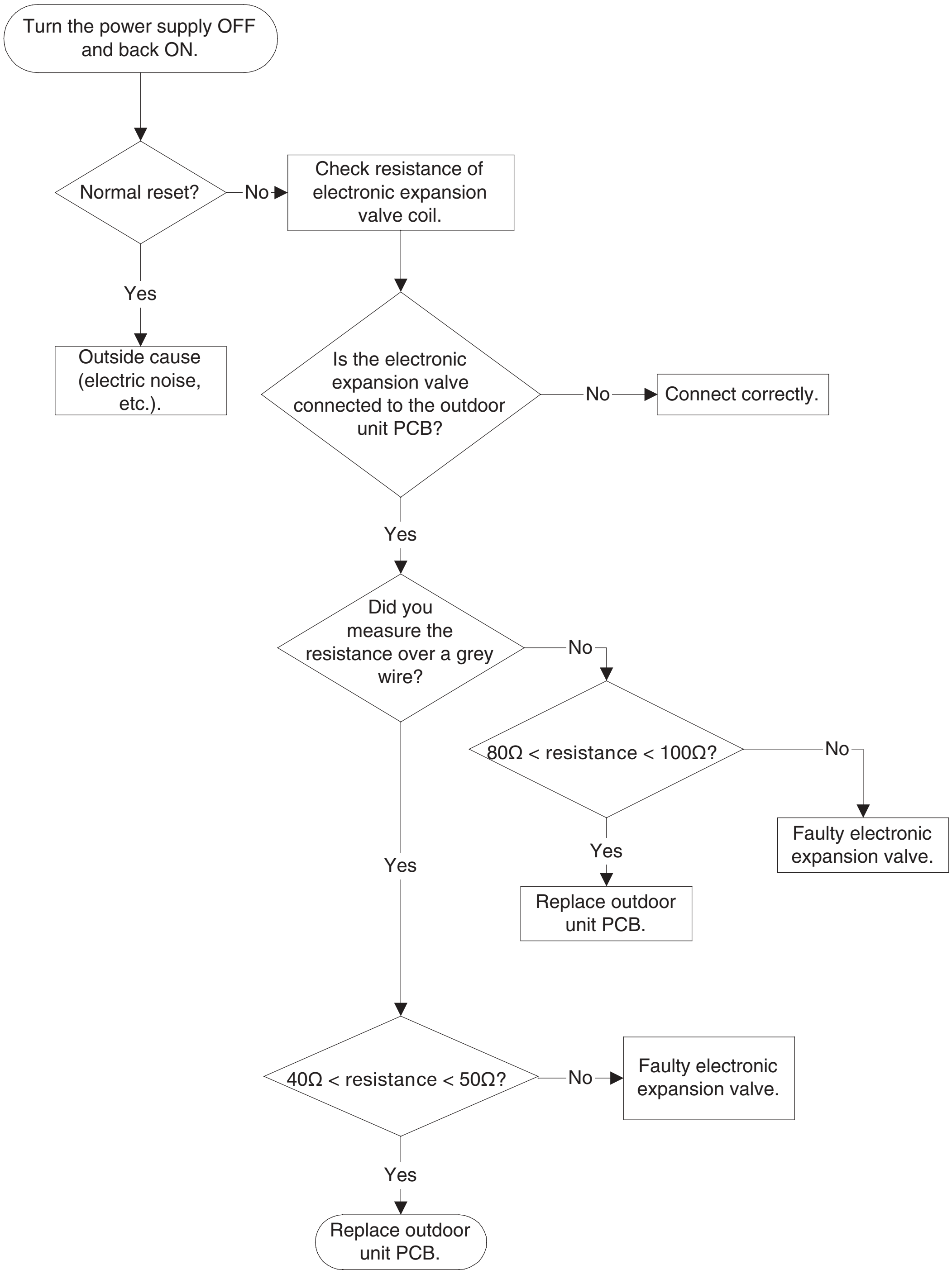
Causes

The possible causes are:

- Malfunctioning electronic expansion valve
- Broken or disconnected electronic expansion valve harness
- Malfunctioning electronic expansion valve connector connection
- Malfunctioning outdoor unit PCB
- Outside cause (electric noise...).

Troubleshooting

To troubleshoot, proceed as follows:



3.6 Malfunctioning in Discharge Pipe Temperature (F3)

Error code

F3

LED indications

The table below shows the LED indications.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☼	●	●
Malfunction	☼	●	●

Error generation

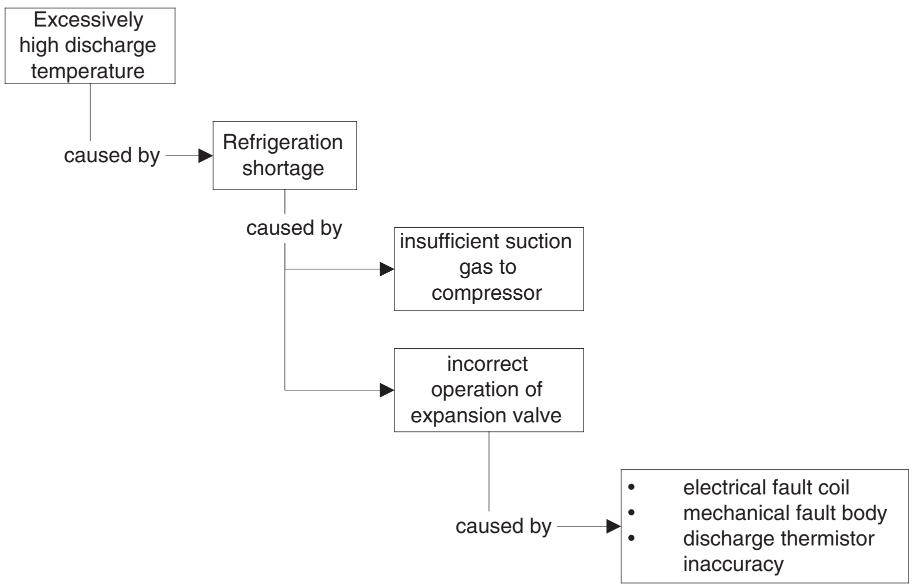
The error is generated when:

- Discharge pipe temperature becomes abnormally high
- Discharge pipe temperature rises suddenly
- Discharge pipe thermistor is not in its holder.

Causes

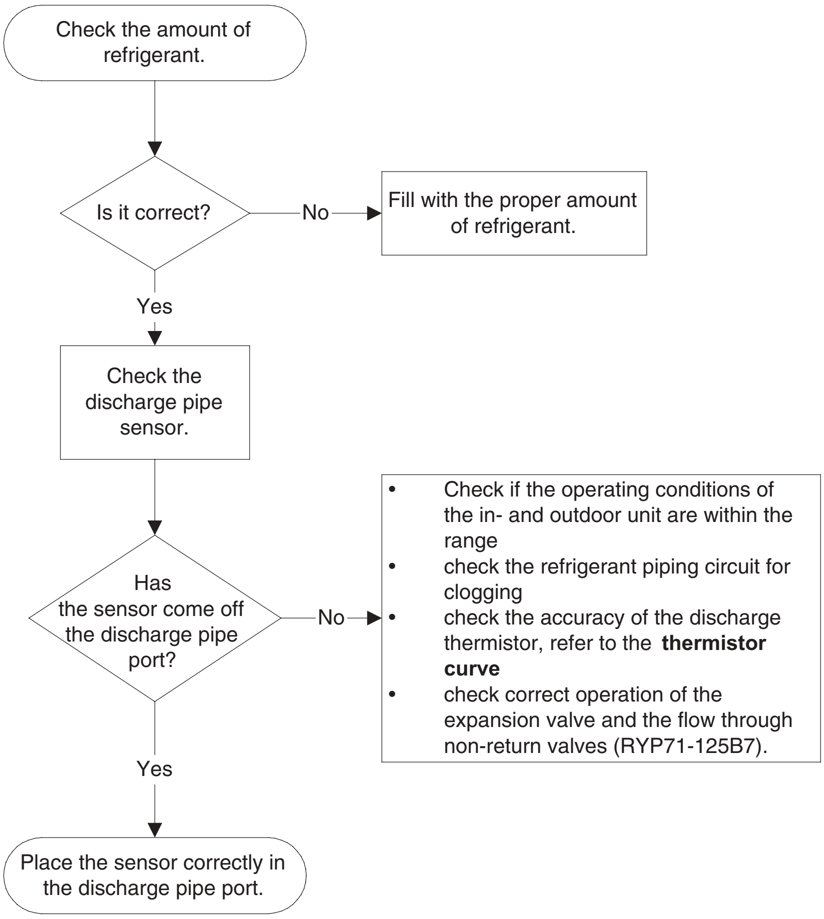
The possible causes are:

- Improper refrigerant amount
- Clogging refrigerant piping circuit
- Discharge temperature that is too low due to too much refrigerant or due to the discharge thermistor being out of its holder
- Discharge temperature that is too high.The possible causes are:



Troubleshooting

To troubleshoot, proceed as follows:



Thermistor curve

See page 3–74.

3.7 Malfunctioning HPS (H3)

Error code

H3

LED indications

The table below shows the LED indications.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☀	●	●
Malfunction	☀	☼	☼

Error generation

The error is generated when there is no continuity in the high-pressure switch during compressor OFF.

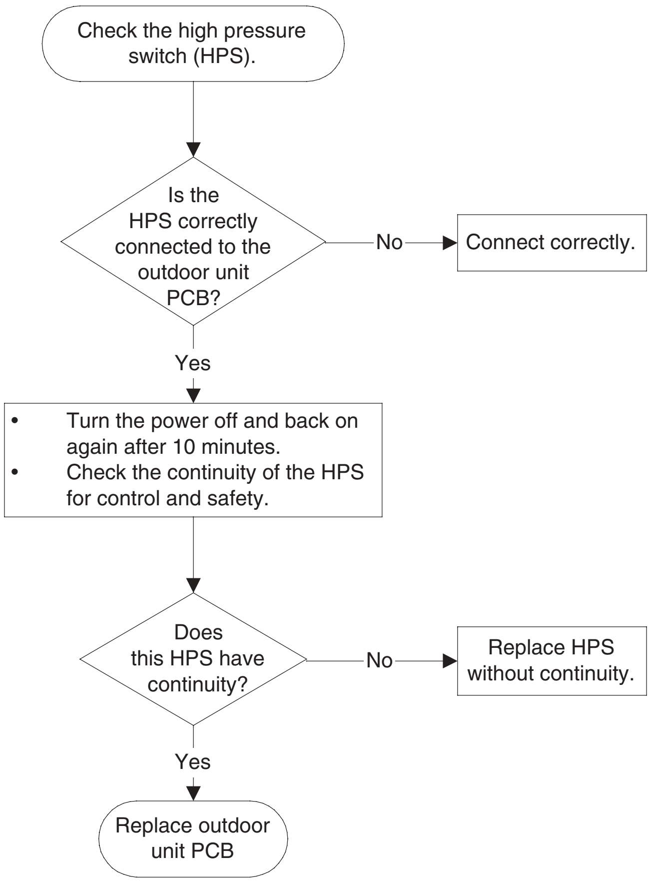
Causes

The possible causes are:

- Malfunctioning high-pressure switch
- Broken or disconnected high-pressure switch harness
- Malfunctioning high-pressure switch connector connection
- Malfunctioning outdoor unit PCB.

Troubleshooting

To troubleshoot, proceed as follows:



3.8 Malfunctioning Outdoor Thermistor System (H9)

Error code

H9

LED indications

The table below shows the LED indications.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☀	●	●
Malfunction	☀	☼	☼

Error generation

The error is generated when the thermistor resistance is out of its range (60Ω to 600kΩ).

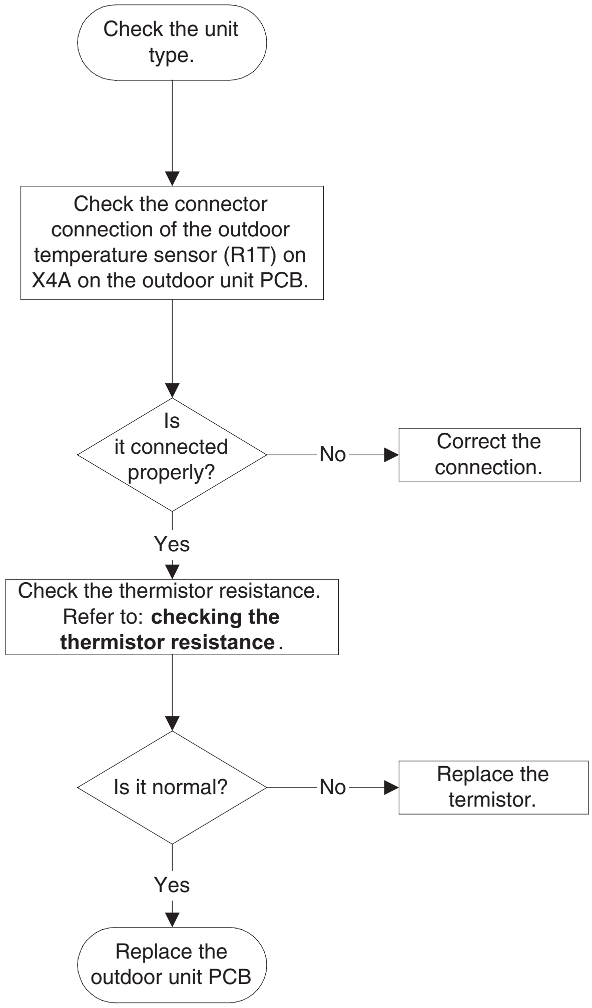
Causes

The possible causes are:

- Malfunctioning outdoor thermistor
- Malfunctioning outdoor thermistor connector connection
- Malfunctioning outdoor unit PCB.

Troubleshooting

To troubleshoot, proceed as follows:



Checking the thermistor resistance

See page 3–73.

3

3.9 Malfunctioning Discharge Pipe Thermistor System (J3)

Error code

J3

LED indications

The table below shows the LED indications.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☀	●	●
Malfunction	☀	☼	☼

3

Error generation

The error is generated when the thermistor resistance is out of its range.

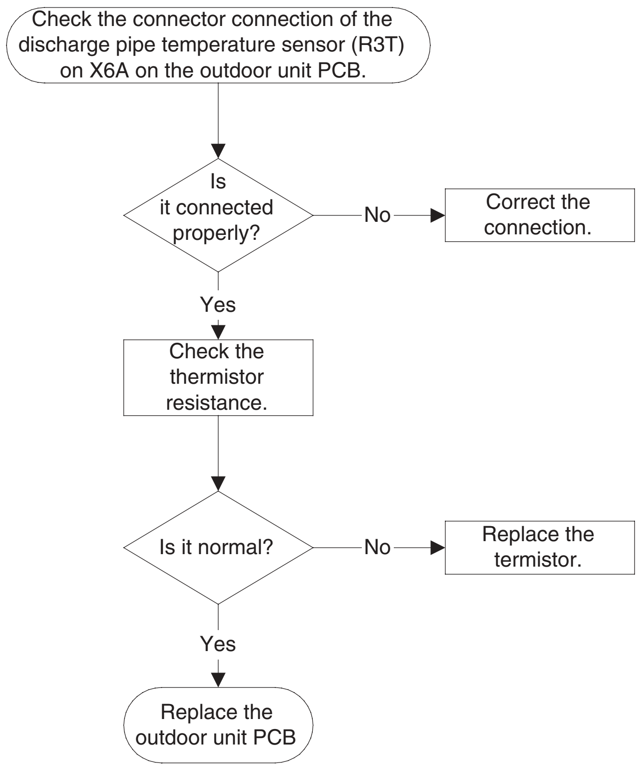
Causes

The possible causes are:

- Malfunctioning discharge pipe thermistor
- Malfunctioning discharge pipe thermistor connector connection
- Malfunctioning outdoor unit PCB.

Troubleshooting

To troubleshoot, proceed as follows:



3.10 Malfunctioning Heat Exchanger Thermistor System (J6)

Error code

J6

LED indications

The table below shows the LED indications.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☀	●	●
Malfunction	☀	☼	☼

Error generation

The error is generated when the thermistor resistance is out of its range.

Causes

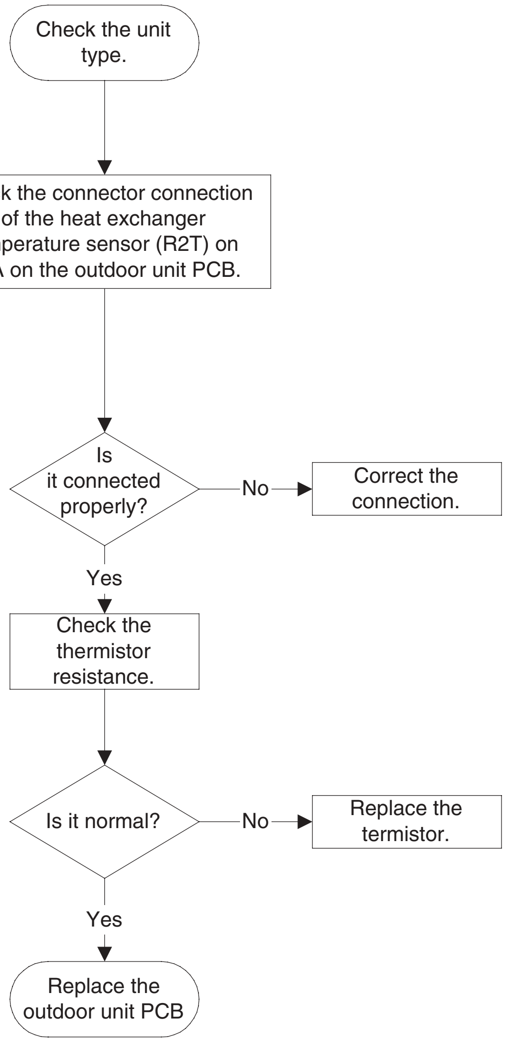
The possible causes are:

- Malfunctioning heat exchanger thermistor
- Malfunctioning heat exchanger thermistor connector connection
- Malfunctioning outdoor unit PCB.

3

Troubleshooting

To troubleshoot, proceed as follows:



4 Error Codes: System Malfunctions

4.1 What Is in This Chapter?

Introduction

In the first stage of the troubleshooting sequence, it is important to correctly interpret the error code on the remote control display. The error code helps you to find the cause of the problem.

Overview

This chapter contains the following topics:

4.2 Gas Shortage Detection (U0)

Error code

U0

LED indication

The table below shows the LED indication.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☼	●	●
Malfunctioning	—	—	—

Error method

The discharge pipe thermistor detects the malfunction temperature at which there can be a gas shortage. If the discharge temperature exceeds 125˚C during more than 20 s, the outdoor unit will stop and retry when the guard timer is OFF (3 min have passed).

During the retrial, the expansion valve will be opened 90 pulses more than in case of the previous start. When the unit restarts with a fully opened expansion valve, the remote control displays “U0” after pressing the test button.

Error generation

The error is generated when the microcomputer detects gas shortage. However, the unit can still operate.

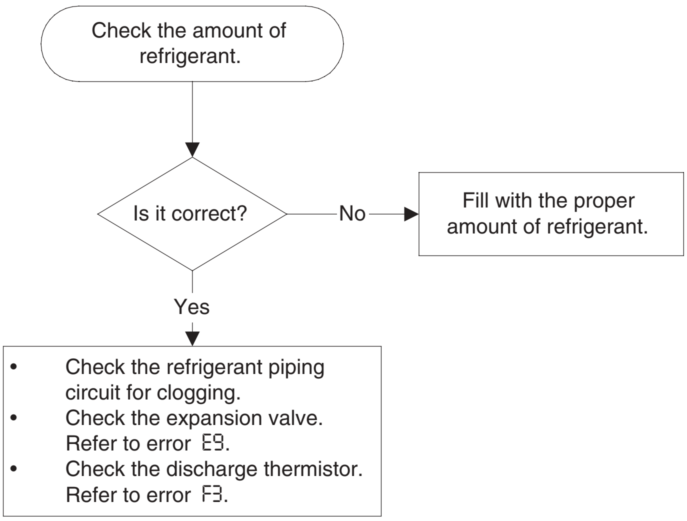
Causes

The possible causes are:

- Refrigerant shortage
- Clogging of the refrigerant piping circuit.

Troubleshooting

To troubleshoot, proceed as follows:



4.3 Reverse Phase (U1)

Error code

U1

This error code is only for 3-phase equipment.

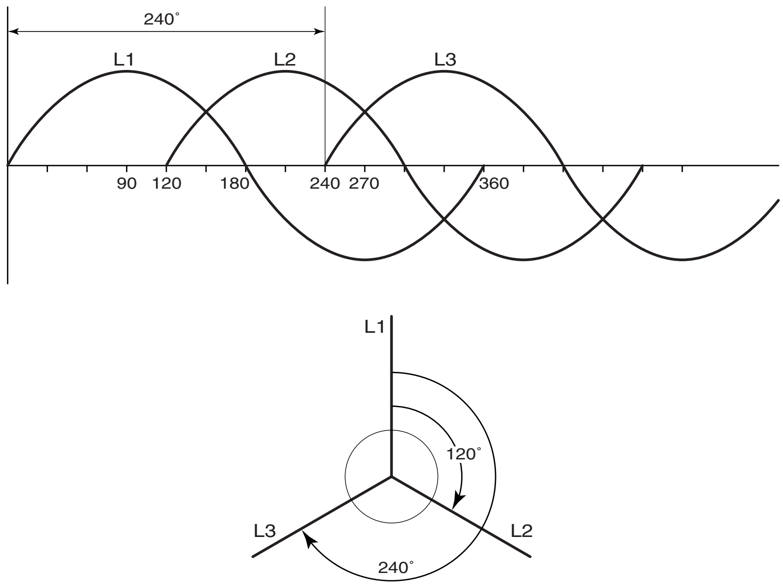
LED indication

The table below shows the LED indication.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	◐	●	●
Malfunctioning	◐	●	☼

Error generation

The error is generated when the difference between phase L1 and L3 is not 240˚. The illustration below shows the 3-phase network.



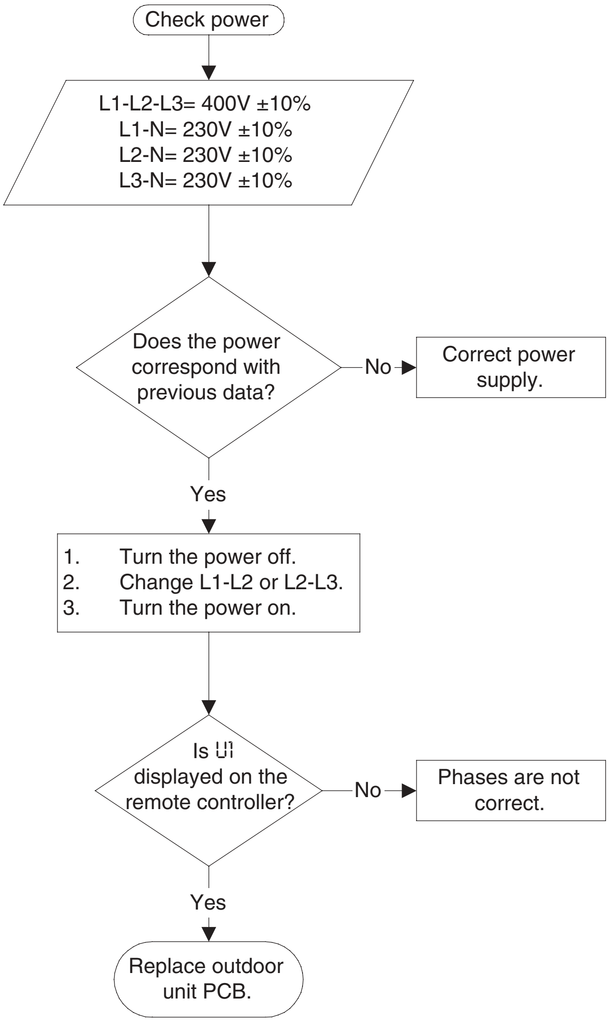
Causes

The possible causes are:

- Malfunctioning power supply wiring connection
- Broken or disconnected power supply wiring
- Malfunctioning outdoor unit PCB

Troubleshooting

To troubleshoot, proceed as follows:



4.4 Transmission Error between Indoor and Outdoor Unit (U4 or UF)

Error code

U4 or UF

LED indication

The table below shows the LED indication.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☼	●	●
Malfunctioning	—	—	—

Error generation

The error is generated when the microprocessor detects that the transmission between the indoor and the outdoor unit is not normal over a certain amount of time.

Causes

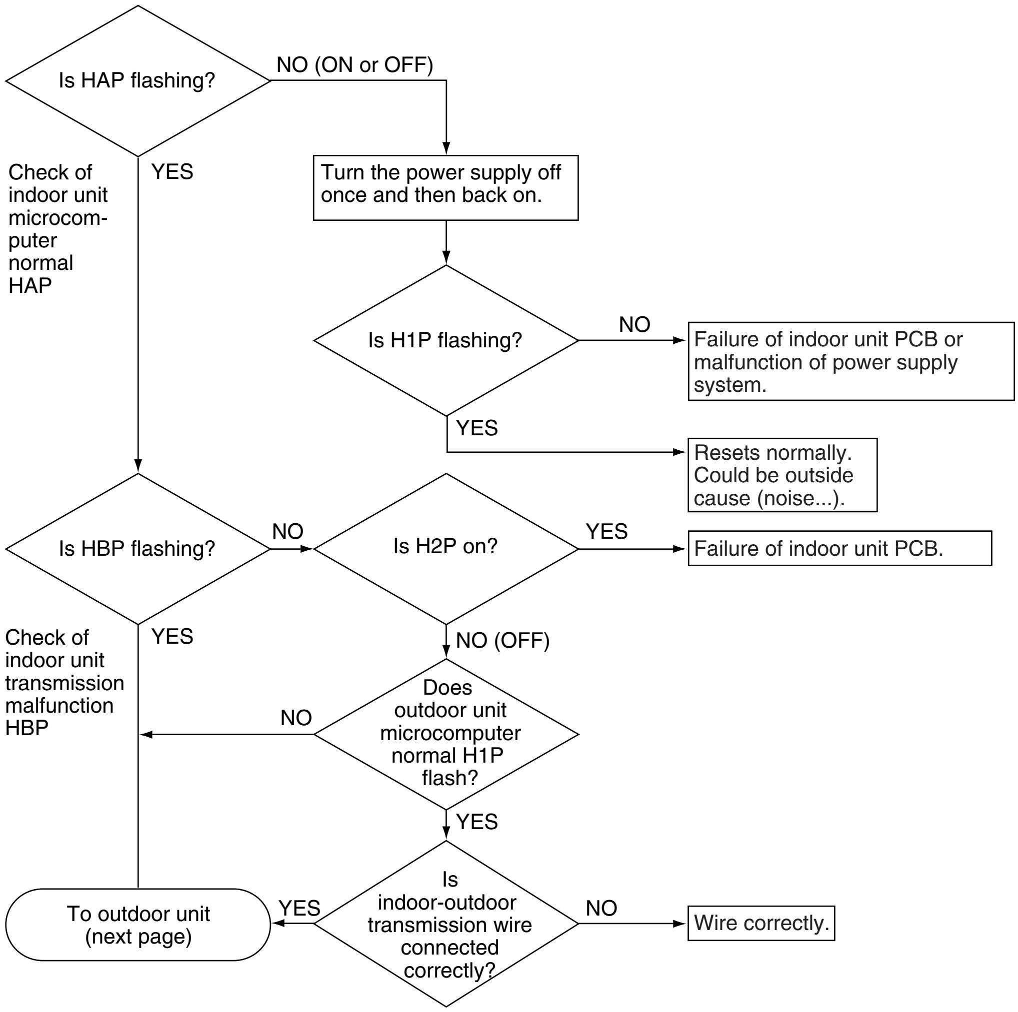
The possible causes are:

- Wiring indoor-outdoor transmission wire is incorrect
- Malfunctioning indoor unit PCB
- Malfunctioning outdoor unit PCB
- Outside cause (noise...).

3

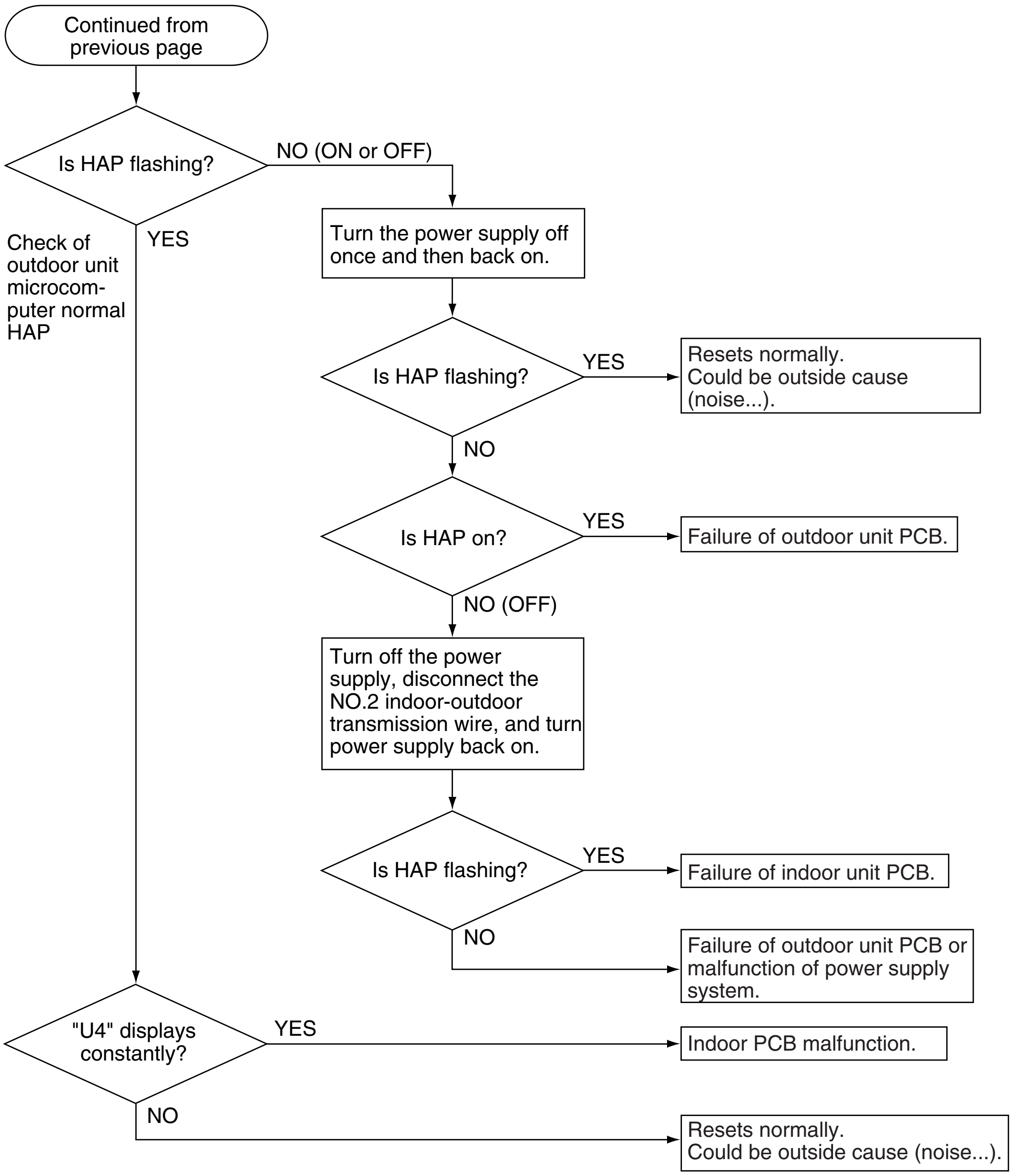
Troubleshooting 1

To troubleshoot, proceed as follows:



Troubleshooting 2

To troubleshoot, proceed as follows:



4.5 Transmission Error between Indoor Unit and Remote Control (U5)

Error code

U5

LED indication

The table below shows the LED indication.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☼	●	●
Malfunctioning	—	—	—

Error generation

The error is generated when the microprocessor detects that the transmission between the indoor unit and the remote control is not normal over a certain amount of time.

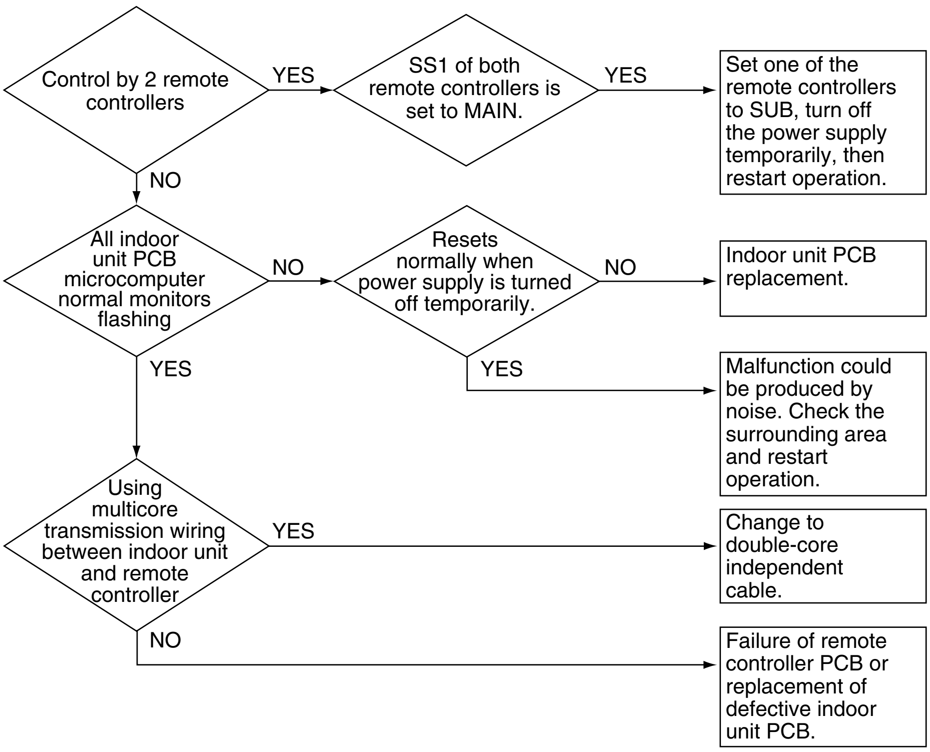
Causes

The possible causes are:

- Malfunctioning remote control
- Malfunctioning indoor PCB
- Outside cause (noise...)
- Connection of two master remote controls (when using two remote controls).

Troubleshooting

To troubleshoot, proceed as follows:



4.6 Transmission Error between MAIN Remote Control and SUB Remote Control (U8)

Error code

U8

LED indication

The table below shows the LED indication.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☼	●	●
Malfunctioning	—	—	—

Error generation

The error is generated when, in case of controlling with two remote controls, the microprocessor detects that the transmission between the indoor unit and the remote controls (MAIN and SUB) is not normal over a certain amount of time.

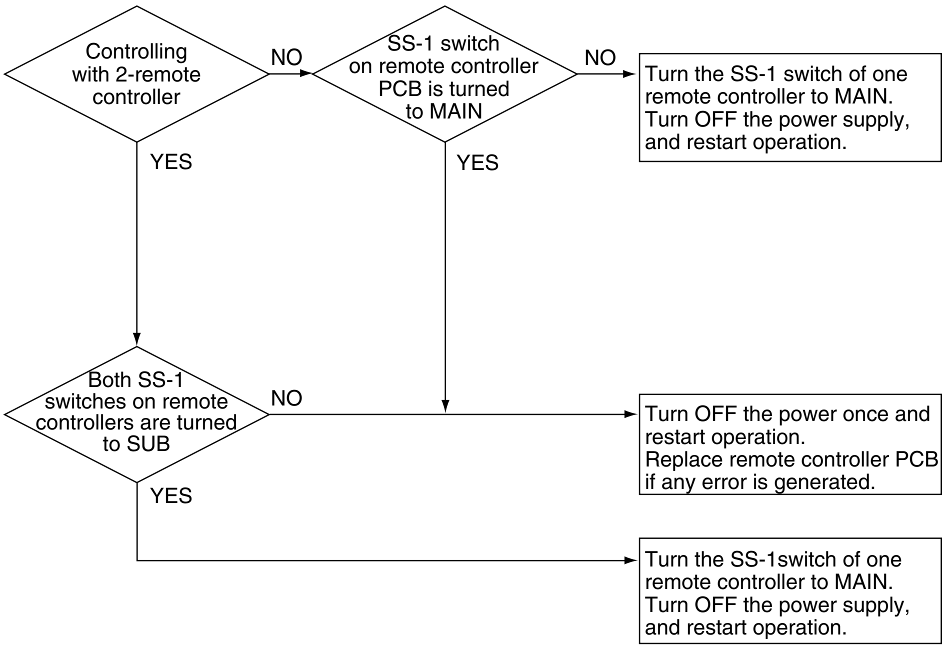
Causes

The possible causes are:

- Transmission error between MAIN remote control and SUB remote control
- Connection among SUB remote controls
- Malfunctioning remote control PCB.

Troubleshooting

To troubleshoot, proceed as follows:



4.7 Malfunctioning Field Setting Switch (UA)

Error code

UA

LED indication

The table below shows the LED indication.

Operation	HAP (green)	H1P (red)	H2P (red)
Normal	☼	●	●
Malfunctioning	—	—	—

Error generation

The error is generated when incorrect field settings have been set for pair/twin/triple/double twin.

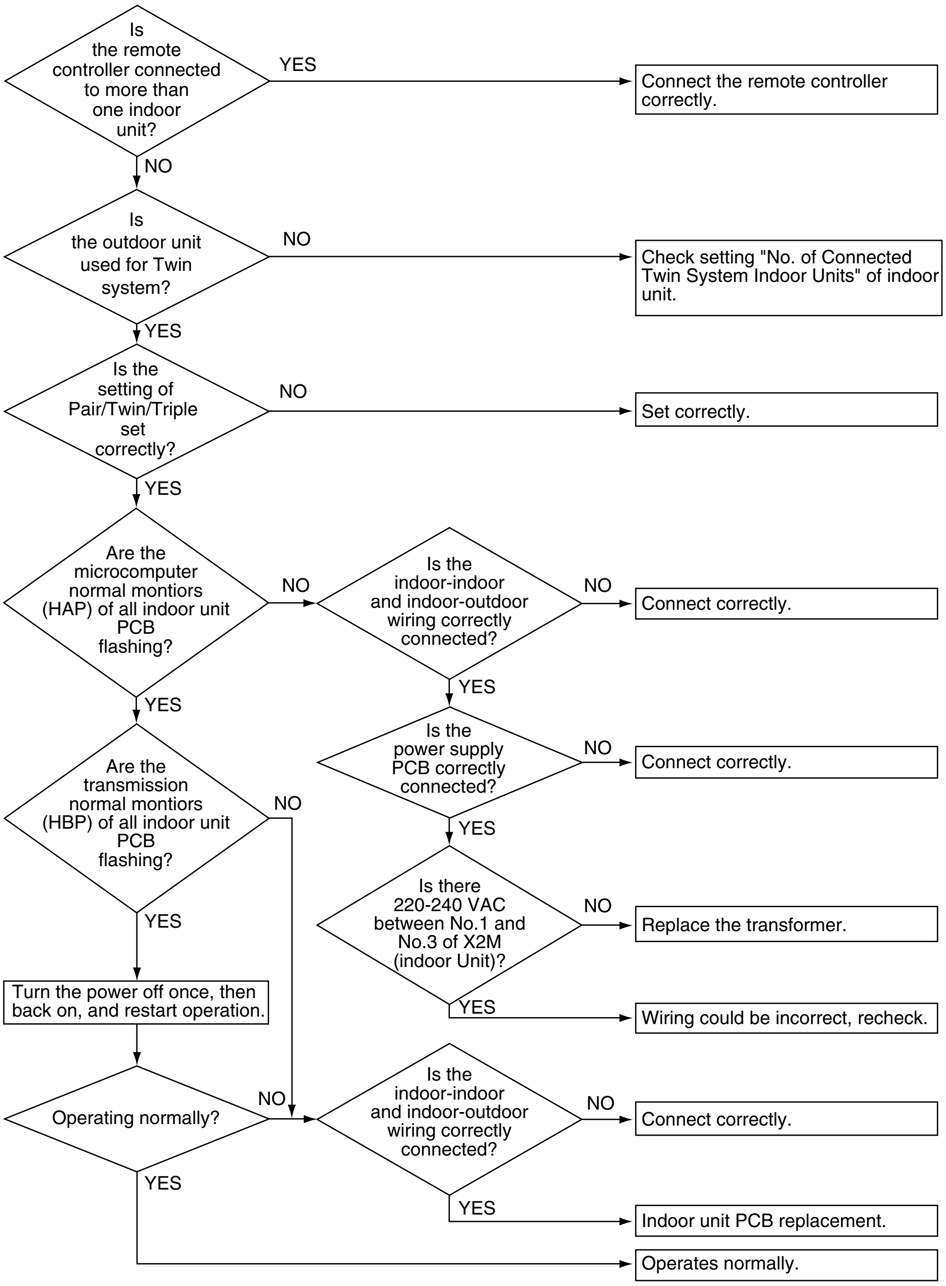
Causes

The possible causes are:

- Malfunctioning indoor or outdoor unit PCB
- Malfunctioning power supply PCB
- Indoor-outdoor, indoor-indoor unit transmission wiring
- Malfunctioning remote control wiring.

Troubleshooting

To troubleshoot, proceed as follows:



5 Additional Checks for Troubleshooting

5.1 What Is in This Chapter?

Introduction

This chapter explains how you must check the units to carry out troubleshooting correctly.

Overview

This chapter contains the following topics:

5.2 Indoor Unit: Checking the Fan Motor Hall IC

Applicable units

Units using phase cut controlled fan motor with feedback signal.

Checking

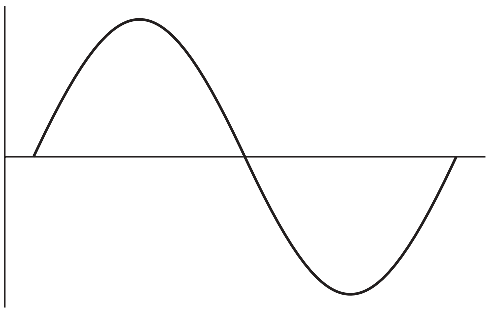
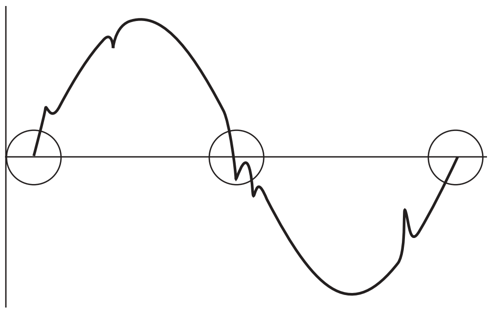
To check the indoor unit fan motor hall IC, proceed as follows:

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>Make sure connector S7 on PCB 1 is properly connected.</td></tr>
<tr><td>2</td><td>Make sure the power is ON and that there is no operation.</td></tr>
<tr><td>3</td><td>Measure the voltage between pin 1 and 3 of S7.</td></tr>
<tr><td>4</td><td>Turn the fan one rotation with your hand and measure the generated pulses.</td></tr>
<tr><td>5</td><td>Proceed as follows:
<table>
<tr><th>If...</th><th>Then...</th></tr>
<tr><td>The measured voltage between pin 1 and 3 does not equal 5 V</td><td>Replace the PCB 1.</td></tr>
<tr><td>The generated pulses do not equal 3 pulses between pin 2 and 3</td><td>Replace the fan motor.</td></tr>
<tr><td>The measured voltage does not equal 5 V and the generated pulses do not equal 3 pulses between pin 2 and 3</td><td>Replace the PCB 1.</td></tr>
</table>
</td></tr>
</table>

5.3 Indoor Unit: Checking the Power Supply Wave Form

Checking

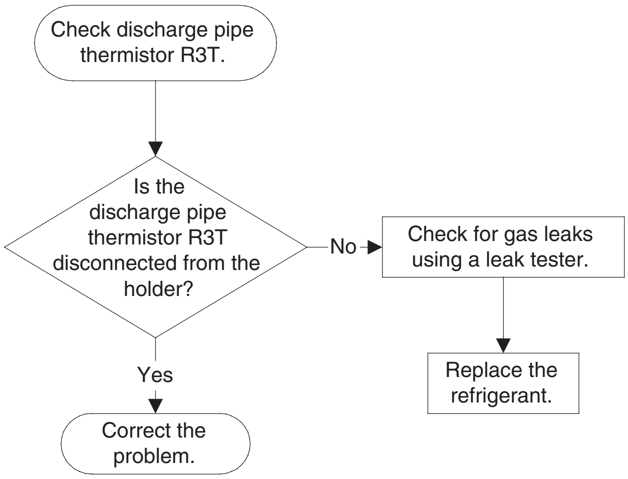
To check the power supply wave form, proceed as follows:

Step	Action
1	Measure the power supply wave form between pin 1 and 3 of X1M for the outdoor units or between pin 1 and 3 of X2M for the indoor units.
2	Check whether the power supply wave form is a sine wave: 
3	Check whether there is wave form disturbance near the zero cross: 
4	Adjust the supply voltage.

5.4 Outdoor Unit: Checking the Refrigerant System

Checking

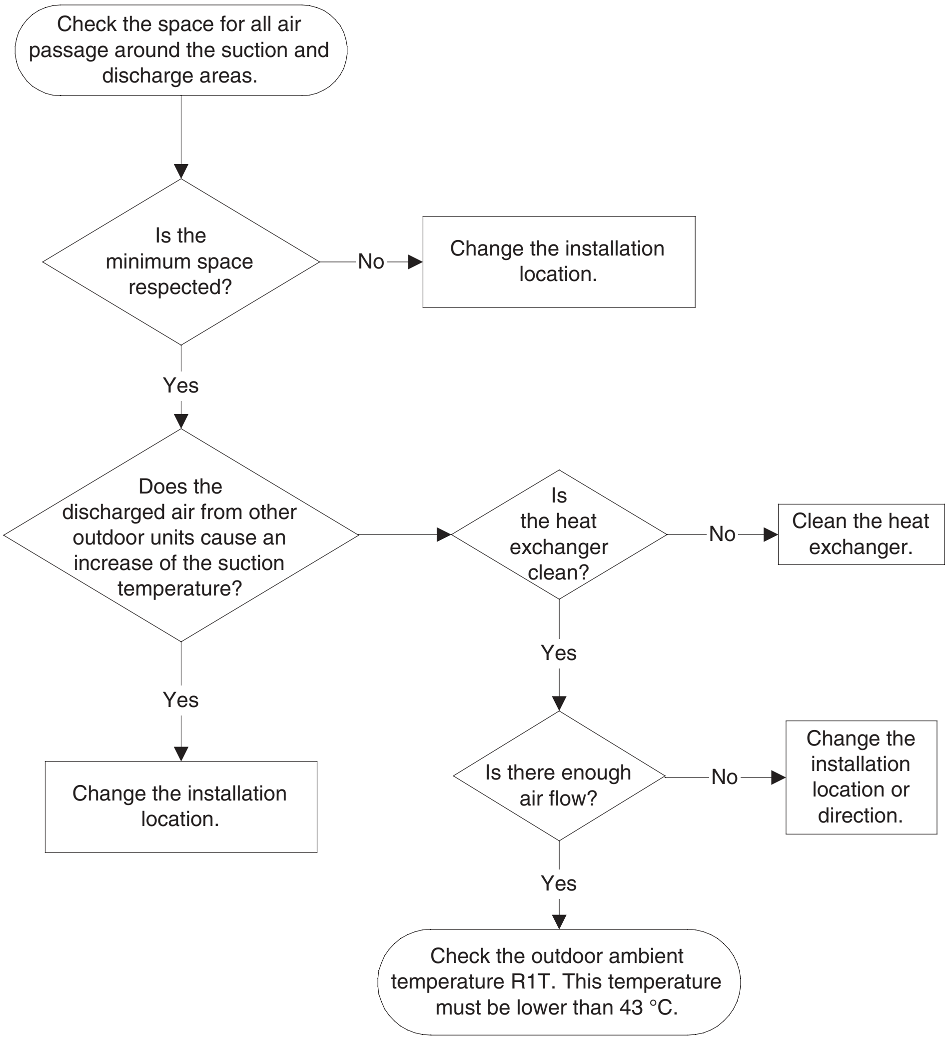
To check the refrigerant system, proceed as follows:



5.5 Outdoor unit: Checking the Installation Condition

Checking

To check the installation condition, proceed as follows:

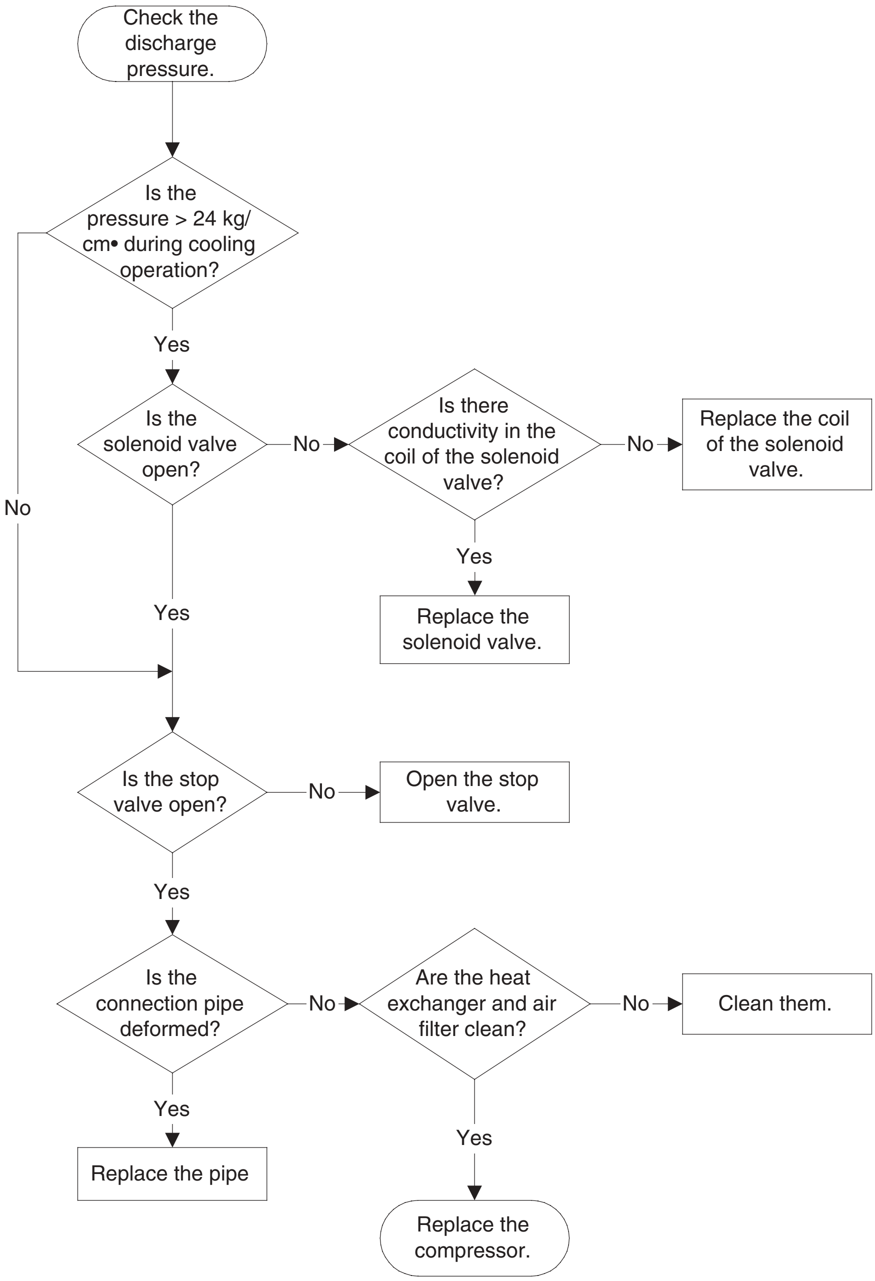


3

5.6 Outdoor Unit: Checking the Discharge Pressure

Checking

To check the discharge pressure, proceed as follows:



5.7 Outdoor Unit: Checking the Expansion Valve

Checking

To check the electronic expansion valve, proceed as follows:

<table>
<tr><th>Step</th><th>Action</th></tr>
<tr><td>1</td><td>Check if the expansion valve connector is correctly inserted in the X24A of PCB 1.</td></tr>
<tr><td>2</td><td>Compare the expansion valve unit with the number of the connector to make sure it is correctly connected.</td></tr>
<tr><td>3</td><td>Switch the power OFF.</td></tr>
<tr><td>4</td><td>Switch the power ON to check whether the expansion valve is producing a clicking sound.
<table>
<tr><th>If...</th><th>Then...</th></tr>
<tr><td>The expansion valve has no clicking sound</td><td>Disconnect the valve connector without the clicking sound and proceed to step 5.</td></tr>
</table>
</td></tr>
<tr><td>5</td><td>Check the coil current: Open circuit < normal < short circuit
The table below contains the reference resistance values.
<table>
<tr><th>—</th><th>Grey</th><th>Black</th><th>Yellow</th><th>Red</th><th>Orange</th></tr>
<tr><td>Grey</td><td>—</td><td>40-50 Ω</td><td>40-50 Ω</td><td>40-50 Ω</td><td>40-50 Ω</td></tr>
<tr><td>Black</td><td>40-50 Ω</td><td>—</td><td>80-100 Ω</td><td>80-100 Ω</td><td>80-100 Ω</td></tr>
<tr><td>Yellow</td><td>40-50 Ω</td><td>80-100 Ω</td><td>—</td><td>80-100 Ω</td><td>80-100 Ω</td></tr>
<tr><td>Red</td><td>40-50 Ω</td><td>80-100 Ω</td><td>80-100 Ω</td><td>—</td><td>80-100 Ω</td></tr>
<tr><td>Orange</td><td>40-50 Ω</td><td>80-100 Ω</td><td>80-100 Ω</td><td>80-100 Ω</td><td>—</td></tr>
</table>
</td></tr>
<tr><td>6</td><td>Check the clicking sound again.
<table>
<tr><th>If...</th><th>Then...</th></tr>
<tr><td>There is a clicking sound</td><td>The expansion valve works properly.</td></tr>
<tr><td>There is no clicking sound</td><td>Replace the expansion valve unit.</td></tr>
<tr><td>There is still no clicking sound</td><td>Replace outdoor PCB 1.</td></tr>
</table>
</td></tr>
</table>

5.8 Checking the Thermistors

Thermistors

If the cause of the problem is related to the thermistors, then the thermistors should be checked prior to changing the PCB.

For more information about these thermistors, see:

- ’Wiring Diagrams: Outdoor Units’
- ‘Wiring Diagrams: Indoor Units’
- "Functions of Thermistors: Large Heat Pumps" on page 5.

Overview of thermistors

3

The table below contains an overview of the thermistors:

Thermistor		Description
Indoor	R1T	Suction air thermistor
	R2T	Heat exchanger thermistor (coil thermistor)
Outdoor	R1T	Ambient air thermistor
	R2T	Heat exchanger thermistor (coil thermistor)
	R3T	Discharge pipe thermistor

Checking

To check the thermistors, proceed as follows:

Step	Action
1	Disconnect the thermistor from the PCB.
2	Read the temperature and the resistor value.
3	Check if the measured values correspond with the values in the table on the next pages.

5.9 R1T and R2T

Temperature – resistance

The table below is the thermistor (R1T and R2T) temperature – resistance conversion table.

Temp. (˚C)	R1T (kΩ)	R2T (kΩ)
-20	197.81	192.08
-19	186.53	181.16
-18	175.97	170.94
-17	166.07	161.36
-16	156.80	152.38
-15	148.10	143.96
-14	139.94	136.05
-13	132.28	128.63
-12	125.09	121.66
-11	118.34	115.12
-10	111.99	108.96
-9	106.03	103.18
-8	100.41	97.73
-7	95.14	92.61
-6	90.17	87.79
-5	85.49	83.25
-4	81.08	78.97
-3	76.93	74.94
-2	73.01	71.14
-1	69.32	67.56
0	65.84	64.17
1	62.54	60.96
2	59.43	57.94
3	56.49	55.08
4	53.71	52.38
5	51.09	49.83
6	48.61	47.42
7	46.26	45.14
8	44.05	42.98
9	41.95	40.94
10	39.96	39.01
11	38.08	37.18
12	36.30	35.45
13	34.62	33.81
14	33.02	32.25
15	31.50	30.77
16	30.06	29.37
17	28.70	28.05
18	27.41	26.78
19	26.18	25.59
20	25.01	24.45
21	23.91	23.37
22	22.85	22.35
23	21.85	21.37
24	20.90	20.45
25	20.00	19.56
26	19.14	18.73
27	18.32	17.93
28	17.54	17.17
29	16.80	16.45
30	16.10	15.76
31	15.43	15.10
32	14.79	14.48
33	14.18	13.88
34	13.59	13.31
35	13.04	12.77
36	12.51	12.25
37	12.01	11.76
38	11.52	11.29
39	11.06	10.84
40	10.63	10.41
41	10.21	10.00
42	9.81	9.61
43	9.42	9.24
44	9.06	8.88
45	8.71	8.54
46	8.37	8.21
47	8.05	7.90
48	7.75	7.60
49	7.46	7.31
50	7.18	7.04
51	6.91	6.78
52	6.65	6.53
53	6.41	6.53
54	6.65	6.53
55	6.41	6.29
56	6.18	6.06
57	5.95	5.84
58	5.74	5.43
59	5.14	5.05
60	4.96	4.87
61	4.79	4.70
62	4.62	4.54
63	4.46	4.38
64	4.30	4.23
65	4.16	4.08
66	4.01	3.94
67	3.88	3.81
68	3.75	3.68
69	3.62	3.56
70	3.50	3.44
71	3.38	3.32
72	3.27	3.21
73	3.16	3.11
74	3.06	3.01
75	2.96	2.91
76	2.86	2.82
77	2.77	2.72
78	2.68	2.64
79	2.60	2.55
80	2.51	2.47
—		

5.10 R3T

Temperature – resistance

The table below is the thermistor (R3T) temperature – resistance conversion table.

Temp. (˚C)	Resist. (kΩ)
—	—
—	—
-6.0	1120.0
-4.0	1002.5
-2.0	898.6
0.0	806.5
2.0	724.8
4.0	652.2
6.0	587.6
8.0	530.1
10.0	478.8
12.0	432.9
14.0	392.0
16.0	355.3
18.0	322.4
20.0	292.9
22.0	266.3
24.0	242.5
26.0	221.0
28.0	201.6
30.0	184.1
32.0	168.3
34.0	154.0
36.0	141.0
38.0	129.3
40.0	118.7
42.0	109.0
44.0	100.2
46.0	92.2
48.0	84.9
50.0	78.3
52.0	72.2
54.0	66.7
56.0	61.6
48.0	57.0

Temp. (˚C)	Resist. (kΩ)
60.0	52.8
62.0	48.9
64.0	45.3
66.0	42.0
68.0	39.0
70.0	36.3
72.0	33.7
74.0	31.4
76.0	29.2
78.0	27.2
80.0	25.4
82.0	23.7
—	—
—	—
—	—
—	—
92.0	16.9
94.0	15.8
96.0	14.8
98.0	13.9
100.0	13.1
102.0	12.3
104.0	11.5
106.0	10.8
108.0	10.2
110.0	9.6
112.0	9.0
114.0	8.5
116.0	8.0
118.0	7.6
120.0	7.1
122.0	6.7
124.0	6.4
126.0	6.0
128.0	5.7

Temp. (˚C)	Resist. (kΩ)
130.0	5.4
132.0	5.4
134.0	4.8
136.0	4.6
138.0	4.3
140.0	4.1
142.0	3.9
144.0	3.7
146.0	3.5
148.0	3.3
150.0	3.2
152.0	3.0
154.0	2.9
156.0	2.7
158.0	2.6
160.0	2.5
162.0	2.3
164.0	2.5
166.0	2.1
168.0	2.0
170.0	1.9
172.0	1.9
174.0	1.8
176.0	1.7
178.0	1.6
180.0	1.5
—	

Part 4
Commissioning and Test Run

What is in this part?

This part contains the following chapters:

4

1 Pre-Test Run Checks

1.1 What Is in This Chapter?

Introduction

This chapter contains the following information:

- Checks before test run
- Test run checks
- Setting the address for the receiver of the infrared remote control
- Setting the address for the infrared remote control.

4

Overview

This chapter contains the following topics:

1.2 Test Run Checks

Checks before test run

Before carrying out a test run, proceed as follows:

Step	Action
1	Make sure the voltage at the primary side of the safety breaker is: ■ 230 V ± 10% for 1-phase units ■ 400V ± 10% for 3-phase units.
2	Fully open the liquid and the gas stop valve.

Test run checks

To carry out a test run, check the following:

- Check that the temperature setting of the remote control is at the lowest level or test mode.
- Switch ON the indoor units one by one to check whether they operate correctly. Afterwards, switch ON all units to check whether they all operate simultaneously.
- Go through the following checklist:

Checkpoints	Cautions or warnings
Are all units securely installed?	■ Dangerous for turning over during storm. ■ Possible damage to pipe connections.
Is the earth wire installed according to the applicable local standard?	Dangerous if electric leakage occurs.
Are all air inlets and outlets of the indoor and outdoor units unobstructed?	■ Poor cooling. ■ Poor heating.
Does the drain flow out smoothly?	Water leakage.
Is piping adequately heat-insulated?	Water leakage.
Have the connections been checked for gas leakage?	■ Poor cooling. ■ Poor heating. ■ Stop.
Is the supply voltage conform to the specifications on the name plate?	Incorrect operation.
Are the cable sizes as specified?	Damage of cables.
Are the remote control signals received by the unit?	No operation.

1.3 Setting the Infrared Remote Control

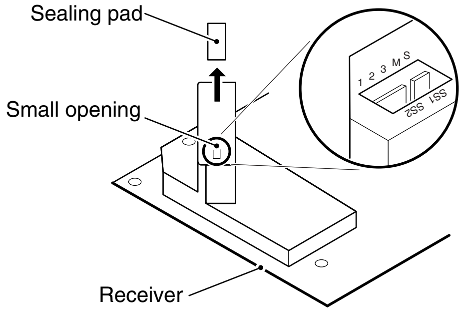
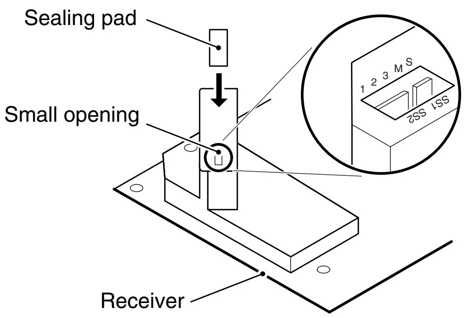
Introduction

To set the infrared remote control, you have to set the address for:

- The receiver of the infrared remote control
- The infrared remote control.

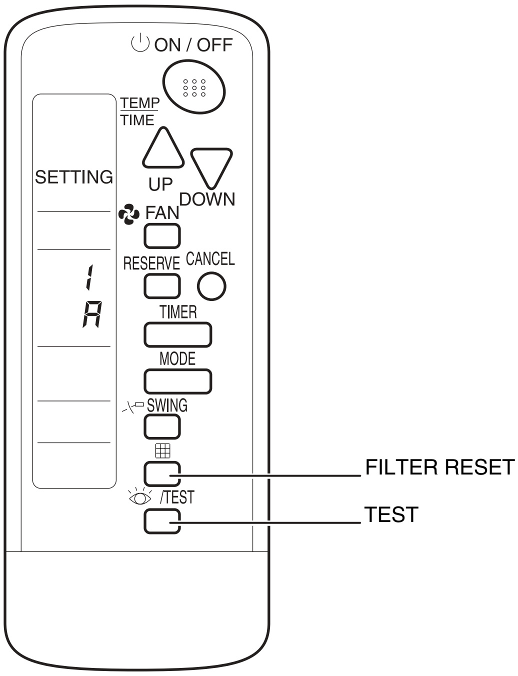
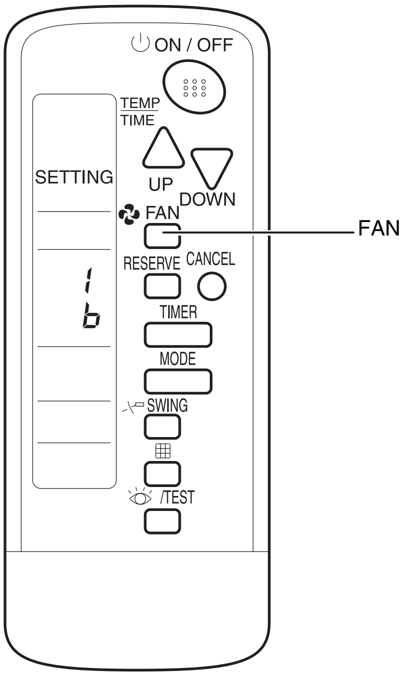
Setting the address for the receiver

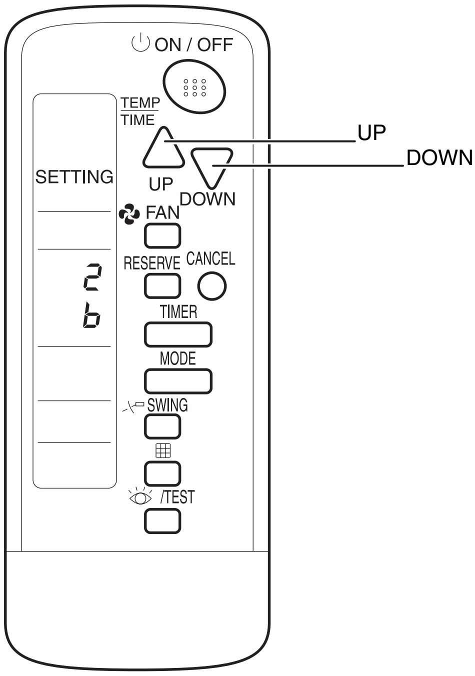
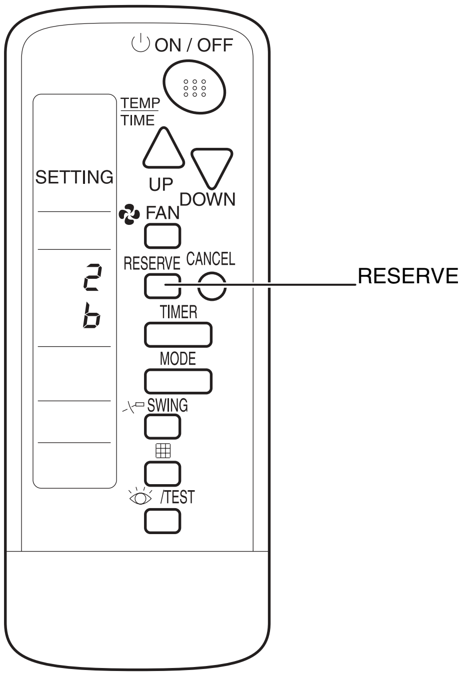
The address for the receiver of the infrared remote control is factory set to 1. To change this setting, proceed as follows:

Step	Action
1	Turn OFF the power.
2	Remove the sealing pad on the top of the receiver. 
3	Set the wireless address switch (SS2) according to the table below. You can find the wireless address switch attached on the PCB of the receiver and it is visible through the small opening on the back of the receiver. **Unit No.** / No. 1 / No. 2 / No. 3 **SS2** /  1 2 3 /  1 2 3 /  1 2 3
4	If you use a wired and an infrared remote control for one indoor unit, proceed as follows: 1. Set the wired remote control to MAIN: On the remote control. 2. Set the infrared remote control to SUB: On the receiver with the MAIN/SUB switch (SS1). **MAIN/SUB** / MAIN / SUB **SS1** /  S M /  S M
5	Seal off the opening of the address switch and the MAIN/SUB switch with the attached sealing pad. 
6	Make sure to also change the address on the remote control.

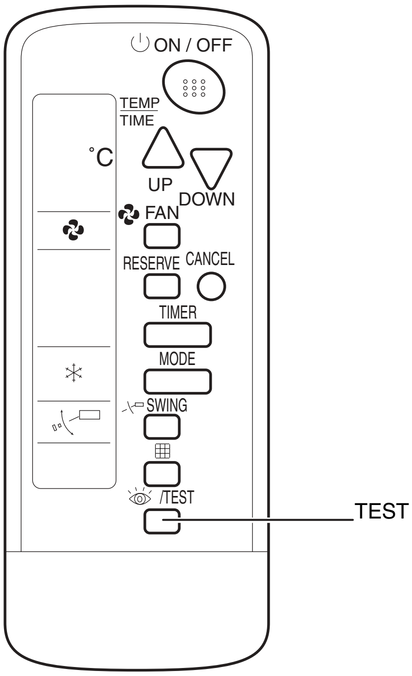
Setting the address for the infrared remote control

The address for the infrared remote control is factory set to 1. To change this setting, proceed as follows:

Step	Action
1	Hold down the FILTER RESET button and the TEST button for at least 4 s, to go to field set mode. The display indicates the field set mode. 
2	Press the FAN button to select a multiple setting (A/b), see ‘Multiple settings A/b’ further in this section. Each time you press the button, the display switches between “A” and “b”. 

Step	Action
3	Press the UP and DOWN buttons to set the address. Set the same address as the receiver (1, 2 or 3). The receiver does not work with addresses 4, 5 and 6. 
4	Press the RESERVE button to confirm the setting. 

4

Step	Action
5	Press the TEST button to quit the field set mode and return to the normal display. 

Multiple settings A/b

When an outside control (central remote control...) controls an indoor unit, sometimes the indoor unit does not respond to ON/OFF and temperature settings commands from this remote control.

Remote control		**Indoor unit**	
Setting	**Remote control display**	**Control of other air conditioners and units**	**No other control**
A: Standard	All items are displayed.	Commands other than ON/OFF and temperature setting accepted. (1 long beep or 3 short beeps emitted)	
b: Multi System	Only one item is displayed. This item is only shown for a few seconds.	All commands accepted (2 short beeps)	

2 Field settings

2.1 What Is in This Chapter?

Introduction

This chapter contains the following information:

- How to change the field settings
- The field settings
- The factory settings.

Overview

This chapter contains the following topics:

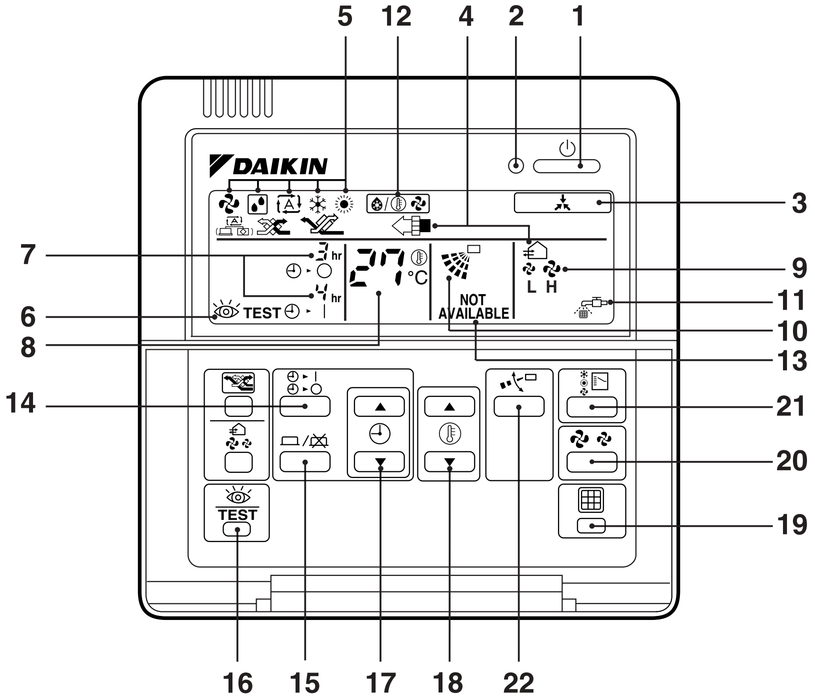
2.2 How to Change the Field Settings with the Wired Remote Control

Installation conditions

The field settings have to be changed with the remote control according to the installation conditions.

Wired remote control

The illustration below shows the wired remote control.



Components

The table below contains the components of the wired remote control.

No.	Component		No.	Component	
1	ON/OFF button		12	Display	Defrost
2	Operation lamp (red)		13		Non-functioning
3	Display	Under centralized control	14	Timer mode start/stop button	
4		Ventilation/air cleaning	15	Timer ON/OFF button	
5		Operating mode	16	Inspection/test operation button	
6		Inspection/test operation	17	Programming time button	
7		Programmed time	18	Temperature setting button	
8		Set temperature	19	Filter counter reset button	
9		Fan speed	20	Fan speed control button	
10		Air flow flap	21	Operating mode selector button	
11		Time to clean air filter	22	Air flow direction adjust button	

Setting

To set the field settings, you have to change:

- "Mode No."
- "First code No."
- "Second code No.".

To change the field settings, proceed as follows:

Step	Action
1	Hold down the INSPECTION/TEST button for at least 4 s during normal mode to enter the "Field setting mode".
2	Press the TEMPERATURE CONTROL button until the desired "Mode No." appears.
3	■ If the indoor unit is under group control, all settings for all the indoor units are set at the same time. Use the codes 10 to 15 to apply this group control and proceed to the next step. ■ If you want to set the indoor units of one group individually or if you want to read out the last settings, use the codes 20 to 25 which are displayed in brackets. Press the TIMER SELECTION button to select the "Indoor unit No." for which you want to adjust the field settings.
4	Press the upper part of the PROGRAMMING TIME button to select the "First code No.".
5	Press the lower part of the PROGRAMMING TIME button to select the "Second code No".
6	Press the CONFIRMATION button to confirm the changed setting.
7	Press the INSPECTION/TEST button to return to "Normal mode".

4

2.3 How to Change the Field Settings with the Infrared Remote Control

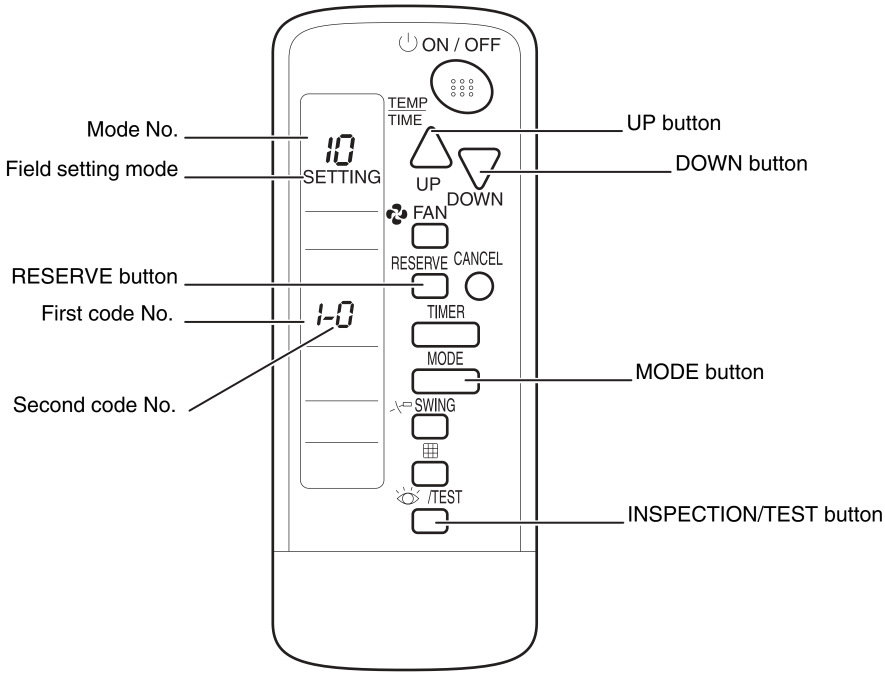
Optional accessories

If optional accessories are mounted on the indoor unit, the indoor unit setting may have to be changed.

Refer to OH98-2 or the installation manual (optional handbook) for each optional accessory.

Infrared remote control

The illustration below shows the infrared remote control.



Setting

To set the field settings, you have to change:

- "Mode No."
- "First code No."
- "Second code No.".

To change the field settings, proceed as follows:

Step	Action
1	Hold down the INSPECTION/TEST button for at least 4 s during normal mode to enter the "Field setting mode".
2	Press the MODE button to select the desired "Mode No.".
3	Press the UP button to select the "First code No.".
4	Press the DOWN button to select the "Second code No."
5	Press the RESERVE button to set the present settings.
6	Press the INSPECTION/TEST button to return to the "Normal mode".

2.4 Overview of the Field Settings of the Indoor Units

Field settings

The table below contains the possible field settings of all indoor units.

Mode No.	First code No.	Description of the setting	Second code No.			
			01	02	03	04
10 or 20	0	Filter counter	Long	Short	—	—
	1	Filter type	Long	Super long	External	Oil mist
	2	Remote thermistor of the remote control	TH1 = rem. control	TH1 = air return	—	—
	3	Filter display	Filter indic.	No filter indic.	—	—
	9	Centralized control	Yes	No	—	—
11 or 21	0	Number indoor to 1 outdoor	Pair	Twin	Triple	Double twin
	1	Unified or indiv. set twin	Group setting	Indiv. setting	—	—
	2	Fan OFF at thermostat OFF	LL-speed	OFF	—	—
12 or 22	0	KRP1B51/52/53 X1/X2 output	Thermostat ON	Option	Operation	Malfunction
	3	Fan speed heating thermostat OFF	LL-speed	Set speed	—	—
	5	Automatic restart	Disabled	Enabled	—	—
13 or 23	0	Ceiling height setting	Normal	High	Extra high	—
	1	4-, 3- or 2-way air outlet	4-way	3-way	2-way	—
	3	Horizontal discharge grill	Enabled	Disabled	—	—
	4	Air flow direction adjust range setting	Draft prevention	Standard	Ceil soil prevention	—
	5	Field fan speed changeover air outlet	Standard	Option 1	Option 2	—
	6	External static pressure	Normal	High	Low	—
14 or 24	0	Additional timer to guard timer	0 s	5 s	10 s	15 s
15 or 25	1	Humidifier during thermostat OFF	No	Yes	—	—
	3	Drain pump during humidifying (heating)	No	Yes	—	—
	5	Ventilation unit indiv. setting	No	Yes	—	—
	6	Air-cleaner unit indiv. setting	No	Yes	—	—

2.5 Overview of the Factory Settings of the Indoor Units

Factory settings The table below contains the factory settings of all indoor units

Mode No.	First code No.	Second code No.						
		FHYCP	FHYKP	FHYBP	FAYP	FDYP	FUYP	FHYP
10 or 20	0	01	01	01	01	01	01	01
	1	01	—	—	—	02	01	—
	2	02	—	—	—	02	02	—
	3	01	01	01	01	01	01	01
	9	—	—	—	—	01	—	—
11 or 21	0	01	01	01	01	01	01	01
	1	01	01	01	01	01	01	01
	2	01	01	01	01	01	01	01
12 or 22	0	01	01	01	01	01	01	01
	3	01	—	01	—	—	—	—
	5	02	02	02	02	02	02	02
13 or 23	0	01	—	—	01	—	01	01
	1	01	—	—	—	—	—	—
	3	—	01	—	—	—	—	—
	4	02	02	—	—	—	—	—
	5	01	—	—	01	—	01	01
	6	—	01	01	—	—	—	—
14 or 24	0	01	01	01	—	01	01	01
15 or 25	1	—	—	—	—	01	—	—
	3	—	—	—	—	01	—	—
	5	01	01	01	01	—	01	01
	6	01	01	01	01	—	01	01

2.6 Setting the Ceiling Height

Incorrectly setting

If you set the remote control incorrectly, a connection mistake malfunction “UA” will appear on the remote control display.

See ’Malfunctioning Field Setting Switch (UA)’ on page 3–62.

Mode No. 13 or 23
First code No. 0

Set the second code No., according to the tables below.

FHYP

Second code No.	Ceiling-suspended type
01	Height < 2.7 m
02	2.7 m < height < 3.5 m
03	Not used

FAYP

Second code No.	Wall-mounted type
01	Normal
02	High
03	Extra high

FHYCP and FUYP

Indoor unit	Second code No.	4-way outlet	3-way outlet	2-way outlet
FHYCP35-71	01	< 2.7 m	< 3.0 m	< 3.5 m
	02	< 3.0 m	< 3.3 m	< 3.8 m
	03	< 3.5 m	< 3.5 m	—
FHYCP100-125	01	< 3.2 m	< 3.6 m	< 4.2 m
	02	< 3.6 m	< 4.0 m	< 4.2 m
	03	< 4.2 m	< 4.2 m	—
FUYP	01	< 2.7 m	< 3.0 m	< 3.5 m
	02	< 3.0 m	< 3.5 m	< 3.8 m
	03	< 3.5 m	< 3.8 m	—

2.7 Setting the Filter Counter

Mode No. 10 or 20
First code No. 0

When the filter counter indication time is set to ON, set the second code No., according to the table below

Second code No.	Contamination	Filter specifications		
		Long life	Standard	Ultra long life
01	Light contamination	2 500 h	200 h	10 000 h
02	Heavy contamination	1 100 h	100 h	5 000 h

When there is a heavy contamination and a long life filter is installed, the setting hours for the units FHYCP and FHYP are 1 250 h.

Fan speed OFF when thermostat OFF

When the cool/heat thermostat is OFF, you can stop the indoor unit fan by switching the setting to “Fan OFF”. This setting is used as a countermeasure against odour, for example for barber shops and restaurants.

Mode No.	First code No.	Second code No.	Setting
11 or 21	2	01	—
		02	Fan OFF

Fan speed changeover when thermostat OFF

You can switch the fan speed to the set fan speed when the heating thermostat is OFF. This setting is called “Set Fan Speed”.

Mode No.	First code No.	Second code No.	Setting
12 or 22	3	01	LL fan speed
		02	Set fan speed

Air flow direction setting

Set the air flow direction of the indoor units as given in the table below. This setting is needed when the optional air outlet blocking pad has been installed. The “Second code No” is factory set to “01”.

Mode No	First code No	Second code No	Setting
13 or 23	1	01	F: four-direction air flow
		02	T: three-direction air flow
		03	W: two direction air flow

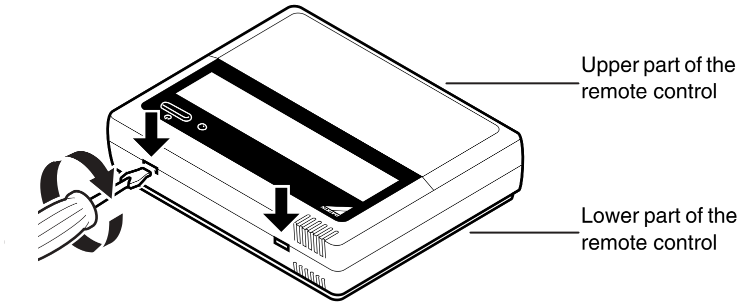
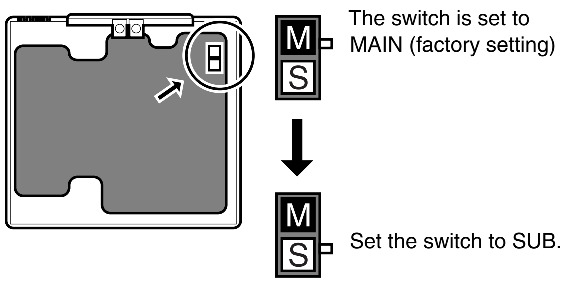
2.8 MAIN/SUB Setting when Using Two Remote Controls

Situation

The MAIN/SUB setting is necessary when one indoor unit is controlled by two remote controls. When you use two remote controls (control panel and separate remote control), set one to MAIN and the other to SUB. You can do this by setting the switch on the remote control's PCB.

Setting

The remote controls are factory set to MAIN, so you only have to change one remote control from MAIN to SUB. To change a remote control from MAIN to SUB, proceed as follows:

Step	Action
1	Insert a flathead screwdriver into the recess between the upper and lower part of the remote control, as shown in the illustration below. Gently pry off the upper part of the remote control, working from the two possible positions. 
2	Turn the MAIN/SUB changeover switch on the PCB to "S". 

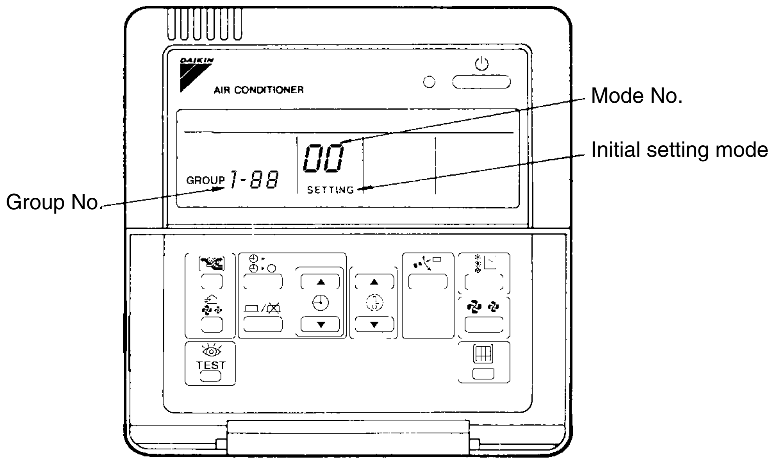
2.9 Setting the Centralized Group No.

When?

If you want to carry out centralized control with a central remote control and a unified ON/OFF control, you have to set the group No. for each group with the remote control.

Wired remote control

The illustration below shows the wired remote control.



Setting

To set the “Centralized group No.”, proceed as follows:

Step	Action
1	Switch ON the power supply of the central remote control, the unified ON/OFF control and the indoor unit(s).
2	Hold down the INSPECTION/TEST button for at least 4 s during normal mode to enter the “Field setting mode”.
3	Press the TEMPERATURE CONTROL button until “Mode No.” “00” appears.
4	Press the INSPECTION/TEST button to inspect the group No. display.
5	Set the “Group No.” for each group by pressing the PROGRAMMING TIME button. The “Group No.” rises in the order of 1—00, 1—01, ..., 1—15, 2—00, ..., 2—15, 3—00, etc. The unified ON/OFF control however displays only the range of group numbers selected by the switch for setting each address.
6	Press the CONFIRMATION button to enter the selected group No.
7	Press the INSPECTION/TEST button to return to normal mode.

Individually address setting

If the address must be set individually for each unit, set the “Mode No.” to “30”. For example, for power consumption counting.

2.10 The Field Setting Levels

Introduction

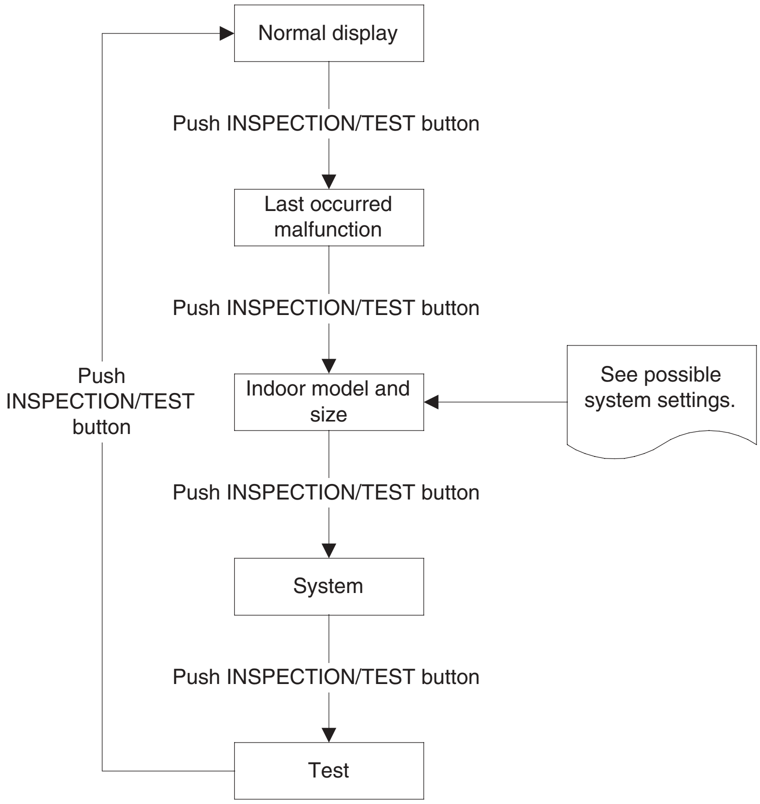
The three field setting levels are:

- Inspection level
- Monitoring level
- Maintenance mode settings.

The inspection level

The inspection level is the highest level of the three field setting levels. You can change the views in the inspection level by pressing the INSPECTION/TEST button.

The flow chart below explains the different windows of the inspection level.



4

4

Possible system settings

The table below contains the possible system settings, which are displayed on the remote control if the TEST button is pushed twice shortly.

Size		Software	Type	
Settings	**Display**		**Settings**	**Display**
35	35	5	FHYCP	FC
45	45		FHYP	HC
60	63		FAYP	AC
71	71		FHYKP	EC
100	100		FHYBP	JC
125	125		FUYP	3C
200	200		FDYP	UC
250	250		—	

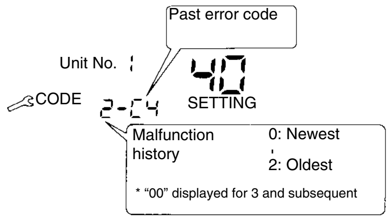
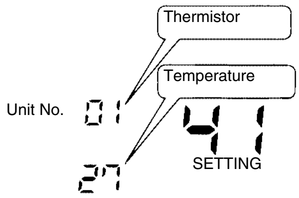
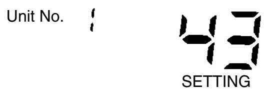
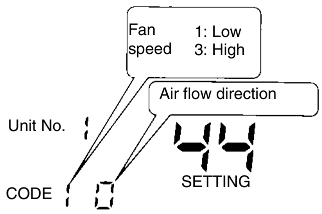
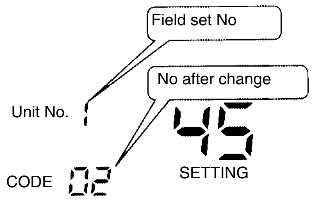
Changing the mode settings

To enter the monitoring level and to change the maintenance mode settings, proceed as follows:

Step	Action
1	Hold down the INSPECTION/TEST button for at least 4 s to enter the field setting mode.
2	Hold down the INSPECTION/TEST button for at least 4 s to enter the maintenance mode.
3	Press the TEMPERATURE CONTROL buttons as many times as needed to select the mode No. you want.
4	Press the TIMER SELECTION button as many times as needed to select the unit No. you want.
5	Carry out the settings for modes 44 and 45. See “Maintenance Mode Settings” further in this section.
6	Press the CONFIRMATION button to confirm the settings of modes 44 and 45.
7	Press the INSPECTION/TEST button to return to the normal operating mode.

Maintenance Mode Settings

The table below describes the maintenance mode settings.

Mode No.	Function	Content and operation method	Example of the remote control display
40	History error codes	Display malfunction history The history No. can be changed with the programming time button.	
41	Thermistor data display	Select the display thermistor with the programming time button. Thermistor: 0. Remote control thermistor 1. Suction thermistor 2. Heat exchanger thermistor.	
43	Forced fan ON	Turns the fan ON for each unit individually.	
44	Individual setting	Sets fan speed and air flow direction for each unit individually when using group control. Settings are made using the “air flow direction adjust” and “fan speed adjust” buttons. Confirmation by the confirmation button is required.	
45	Unit No. change	Changes unit No. Set the unit No. after changing with the programming time buttons. Confirmation by the confirmation button is required.	

2.11 Overview of the Field Settings: R(Y)P71-250B

Jumpers

The table below contains the jumper field settings.

Jumper	Label on PCB	Function	Applicable units	See page
J1	Thermo CTR	Change thermostat OFF control indoor unit	■ RP71-250B ■ RYP71-250B	4–23
J3	Thermo CTR2	Change thermostat ON control indoor unit		4–23

DIP switches

The table below contains the DIP switch field settings.

DIP switch	Label on PCB	Function	Applicable units	Details
DS1-1	E.V. open during defrost	Increase E.V. opening degree during defrost	RYP71-250B	4–24
DS1-2	Defrost starting condition	Increase possibility to start defrost		4–24
DS2-1	Defrost starting time	Change defrost interval	RYP71-250B	4–25
DS2-2	Mode B	Reduce E.V. opening degree during defrost		4–25
DS2-3	Freeze 1	Disable intelligent function	■ RP71-250B ■ RYP71-250B	4–26
DS2-4	Freeze 2	Increase possibility to start freeze-up		4–26
DS3-1	Emergency ON/OFF	Switch emergency operation outdoor unit ON	■ RP71-250B ■ RYP71-250B	—
DS3-2	Cool / Heat	Select emergency cooling / heating operation on outdoor unit	RYP71-250B	—

BS

The table below contains the BS field setting.

BS	Label on PCB	Function	Applicable units	Details
BS	Pump down / forced defrost	Cooling/fan only: Pump down (see further in this section) Heating: Forced defrosting	■ RP71-250B ■ RYP71-250B	—

Pump down

Pump down is preferably carried out with the indoor unit set to “fan only” in order to avoid compressor restart with closed stop valves after finishing the previous pump down operation (close stop valves, turn OFF the power supply).

If accidentally, the power was switched back ON, the unit will automatically restart with closed stop valves, which may result in a possible compressor breakdown.

2.12 Jumpers

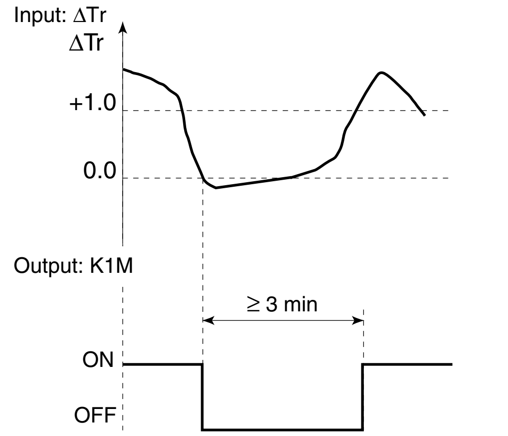
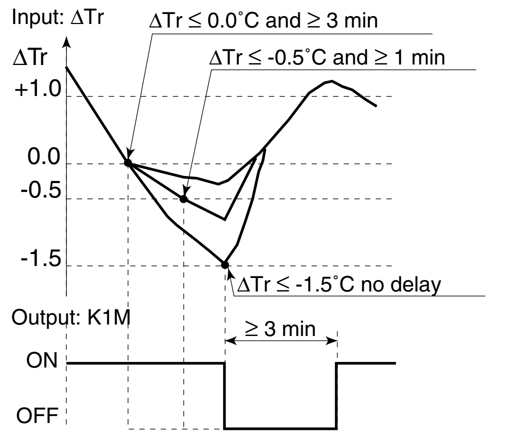
Input and output

The table below describes the input and the output of the jumpers.

Item	Description			
Input	ΔTr	Cooling	ΔTr = Tr - Ts	■ Tr = indoor unit suction air temp.
		Heating	ΔTr = Ts - Tr	■ Ts = temp. set by the remote control
Output	Magnetic switch compressor K1M			

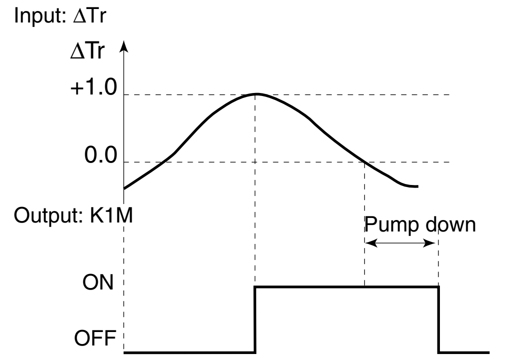
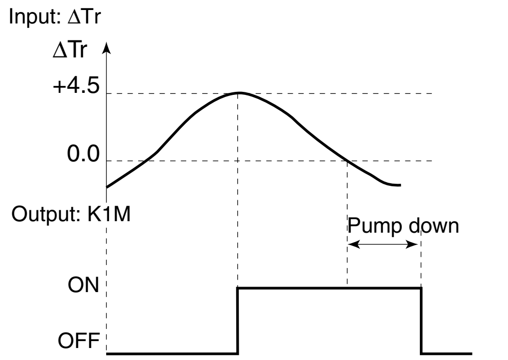
J1

The function of jumper J1 is to reduce the possibility of thermostat OFF (reduce ON/OFF cycle compr.).

Factory setting (closed state)	Field setting (open state)
Thermostat goes into OFF-state when ΔTr ≤ 0.0˚C	Thermostat goes into OFF-state when ■ -0.5˚C < ΔTr ≤ 0.0˚C for 3 min, or ■ -1.5˚C < ΔTr ≤ -0.5˚C for 1 min, or ■ ΔTr ≤ -1.5˚C
	

J3

The function of jumper J3 is to increase the differential for thermo ON.

Factory setting (closed state)	Field setting (open state)
Thermostat goes into ON-state when ΔTr ≥ 1.0˚C	Thermostat goes into ON-state when ΔTr ≥ 4.5˚C
	

2.13 DIP switch DS1

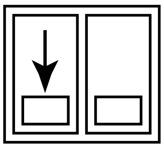
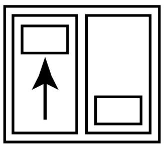
Priority

The table below contains the priority of the DIP switches.

When... are ON	Then... has priority.
■ DS1-2 ■ DS2-1	DS1-2
■ DS1-1 ■ DS2-2	DS1-1

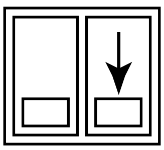
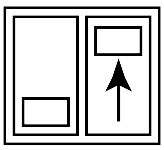
DS1-1: E.V. opening during defrost

The table below describes the DIP switch.

Setting	Illustration	Function
Factory setting	OFF 1 2 	At the start-up of the defrost operation, the E.V. will be opened to the max. (480 pulses) for a limited time (1 or 2 min), before closing to 100 pulses.
Field setting	ON 1 2 	The opening of the E.V. can change to the max. (480 pulses) in order to increase the defrost capacity. Mind the increased risk of liquid back.

DS1-2: Defrost starting condition

The table below describes the DIP switch.

Setting	Illustration	Function
Factory setting	OFF 1 2 	For temperature settings at defrosting, see page 2–38. Accumulated operation time for defrost activation = 3 h.
Field setting	ON 1 2 	■ Increases the temp. conditions for defrost activation with 4˚C. ■ Changes the accumulated operation time from 3 h to 40 min in order to advance the defrosting operation.

2.14 DIP switch DS2

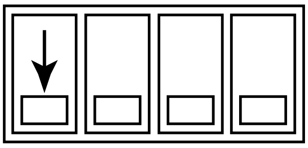
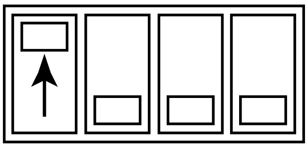
Priority

The table below contains the priority of the DIP switches.

When... are ON	Then... has priority.
■ DS1-2 ■ DS2-1	DS1-2
■ DS1-1 ■ DS2-2	DS1-1

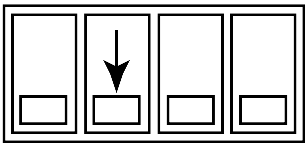
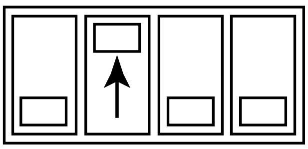
DS2-1: Defrost starting time

The table below describes the DIP switch.

Setting	Illustration	Function
Factory setting	OFF 1 2 3 4 	Accumulated operation time for defrost operation = 3 h.
Field setting	ON 1 2 3 4 	Changes the accumulated operation time for the defrost operation from 3 h to 24 h in order to delay the defrosting operation.

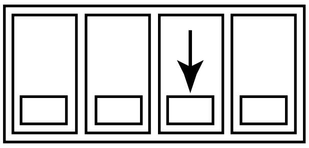
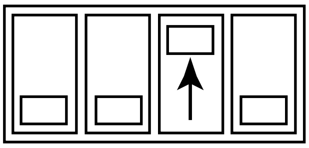
DS2-2: Mode B

The table below describes the DIP switch.

Setting	Illustration	Function
Factory setting	OFF 1 2 3 4 	At the start-up of the defrost operation, the E.V. opens at the max. (480 pulses) for a limited time (1 or 2 min), before closing to 100 pulses.
Field setting	ON 1 2 3 4 	Changes the following in order to avoid liquid back to the compressor: ■ Changes the limited time of E.V. opening at max. (480 pulses) from 1 or 2 min to 30 s. ■ Stops the compressor at defrost start and stop.

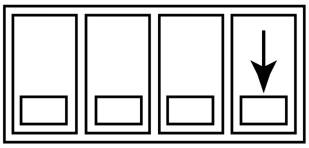
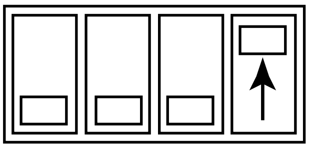
DS2-3: Freeze 1

The table below describes the DIP switch.

Setting	Illustration	Function
Factory setting	OFF 1 2 3 4 	Enables the “intelligent” control function. See page 2–28.
Field setting	ON 1 2 3 4 	Disables the “intelligent” control function. It returns to the freeze-up activation conditions similar as for the G- and K-types.

DS2-4: Freeze 2

The table below describes the DIP switch.

Setting	Illustration	Function
Factory setting	OFF 1 2 3 4 	Normal operation.
Field setting	ON 1 2 3 4 	Enables the countermeasure to avoid ice/water blow-out during freeze-up cycle.

3 Test Run and Operation Data

Introduction

This chapter contains the following information:

- General operation data
- Operation ranges.

Overview

This chapter contains the following topics:

3.1 General Operation Data

During cooling mode and dry keep

The operating conditions must be as follows:

Items	Operating modes	If the operation is out this range...
Outdoor temp.	■ c/o: -15 to +46˚CDB ■ h/p: -5 to +46˚CDB	■ A safety device may stop the operation. ■ Condensation may occur on the indoor unit and start dripping.
Indoor temp.	+14 to +28˚CWB	
Indoor humidity	80%	

The operation values are guidelines in the operation range:

- LP: 3.0~6.5 barg (low pressure)
- HP: 12.0~28.0 barg (high pressure)
- Td: 60~95˚C (discharge pipe temperature compressor)
- Ts: -2~15˚C (suction pipe temperature compressor)
- ΔTi: 8~16˚C (indoor temperature difference |air return – air outlet|).

4

During heating mode

The operating conditions must be as follows:

Items	Operating modes	If the operation is out this range...
Outdoor temp.	-10 to +15.5˚CWB	A safety device may stop the operation.
Indoor temp.	+15 to +27˚CDB	

The operation values are guidelines in the operation range:

- LP: 1.8~6.4 barg (low pressure)
- HP: 13.0~28.0 barg (high pressure)
- Td: 55~95˚C (discharge pipe temperature compressor)
- Ts: -15~10˚C (suction pipe temperature compressor)
- ΔTi: 12~32˚C (indoor temperature difference |air return – air outlet|).

3.2 RP71B7V1, RP71B7W1, RP71B7T1, RP100B7V1, RP100B7W1, RP100B7T1, RP125B7W1 and RP125B7T1

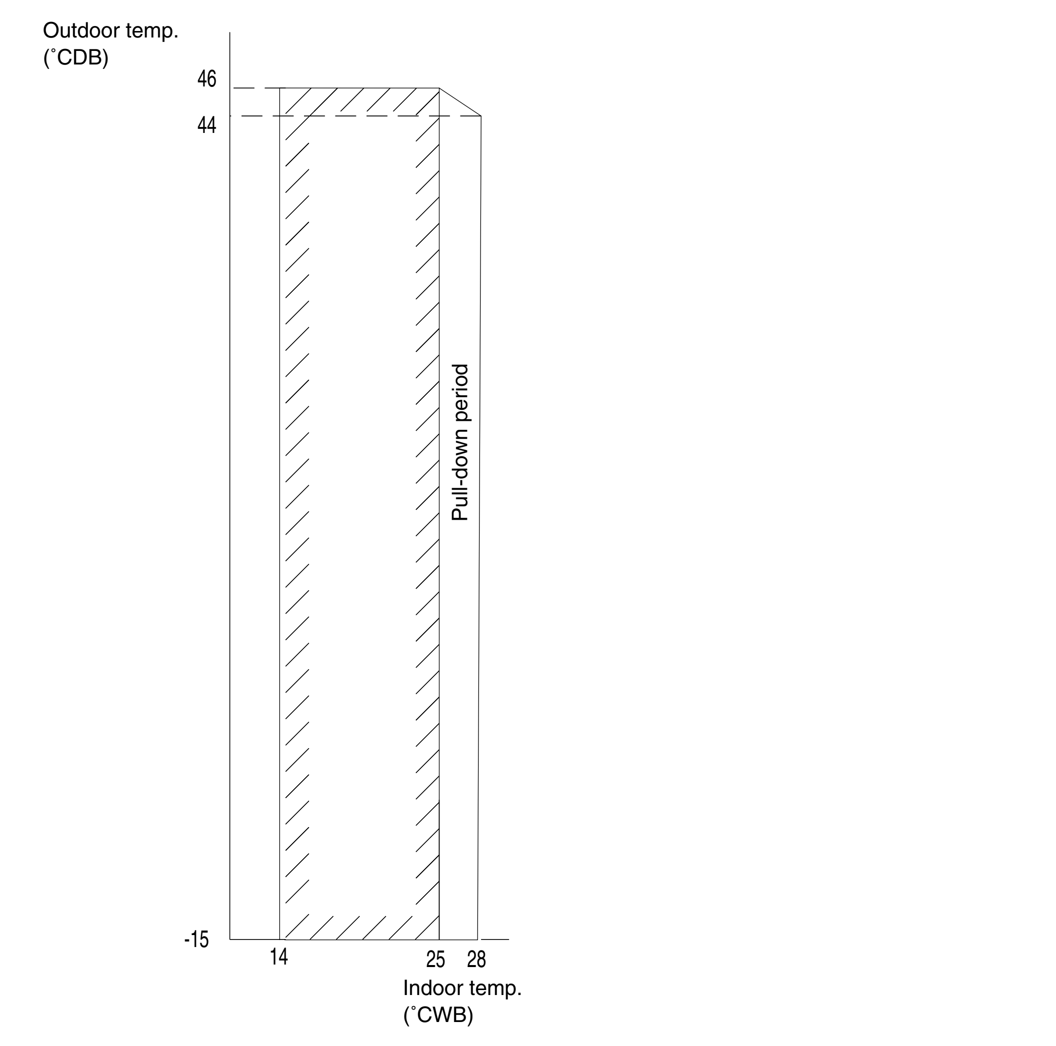
Conditions

The illustration in this section is based on the following conditions:

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

Operation range

The illustration below shows the operation range.



3.3 RP200B7W1 and RP250B7W1

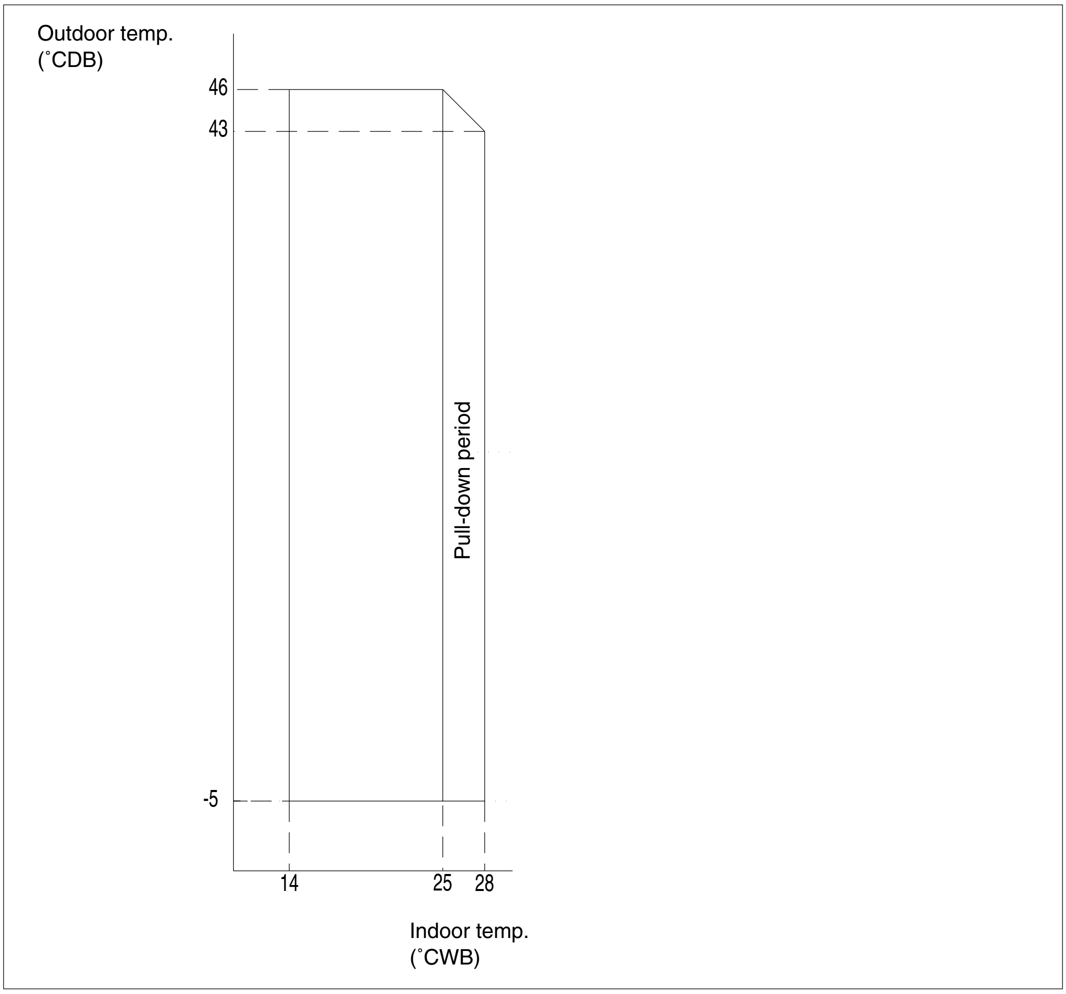
Conditions

The illustration in this section is based on the following conditions:

- Equivalent piping length: 70 m
- Level difference: 30 m
- Indoor air flow rate: 72 m^3/min (200 class), 90 m^3/min (250 class).

Operation range

The illustration below shows the operation range.



3.4 RYP71B7V1, RYP71B7W1, RYP100B7V1, RYP100B7W1 and RYP125B7W1

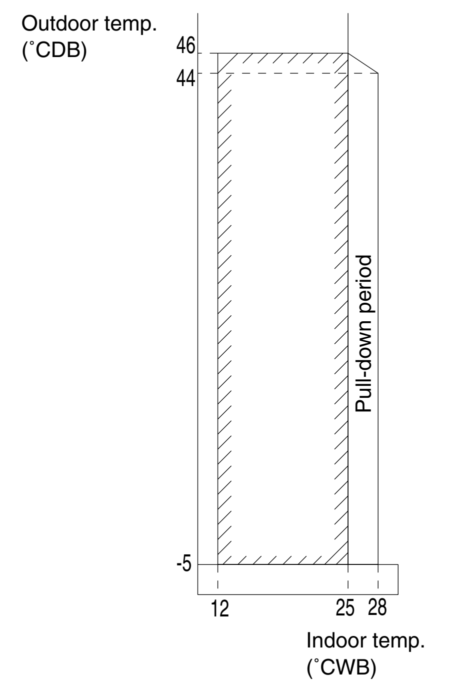
Conditions

The illustrations in this section are based on the following conditions:

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

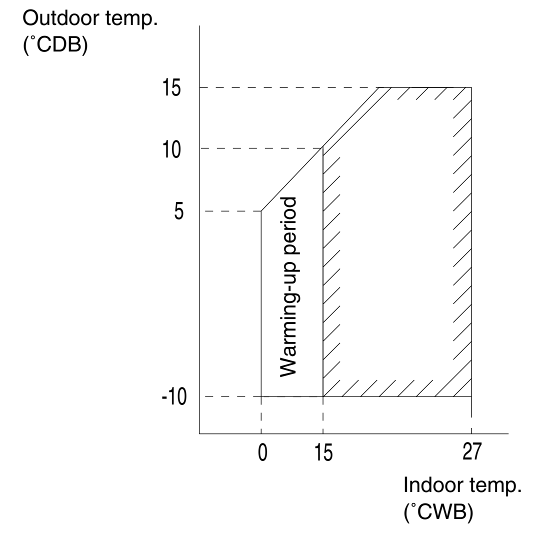
Operation range: Cooling

The illustration below shows the operation range.



Operation range: Heating

The illustration below shows the operation range.



3.5 RYP200B7W1 and RYP250B7W1

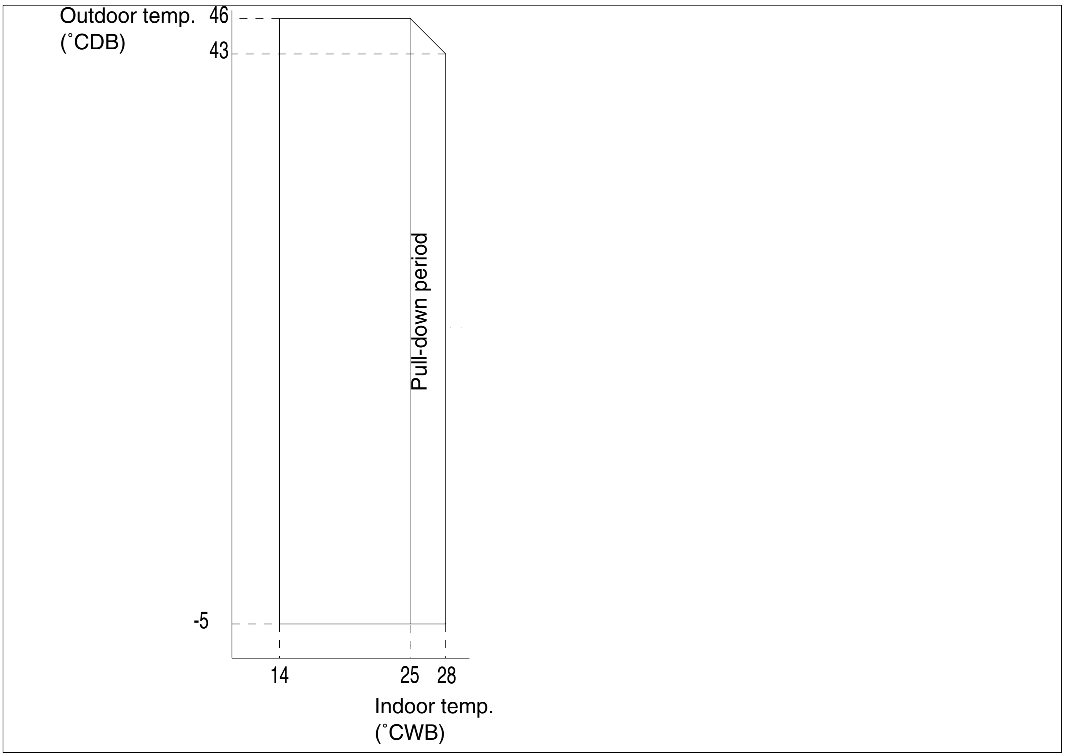
Conditions

The illustrations in this section are based on the following conditions:

- Equivalent piping length: 70 m
- Level difference: 30 m
- Indoor air flow rate: 72 m³/min (200 class), 90 m³/min (250 class).

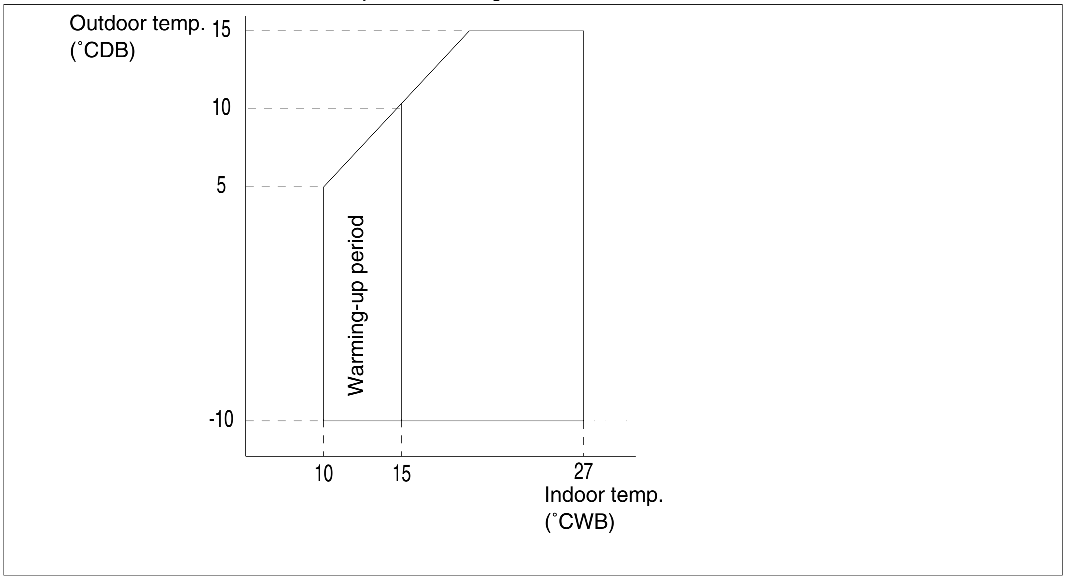
Operation range: Cooling

The illustration below shows the operation range.



Operation range: Heating

The illustration below shows the operation range.



Part 5 Disassembly and Maintenance

What is in this part?

This part contains the following chapters:

5

5

1 Disassembly and Maintenance: Outdoor Units

1.1 What Is in This Chapter?

Introduction

This chapter contains the following information on the outdoor units:

- Exploded views
- Components.

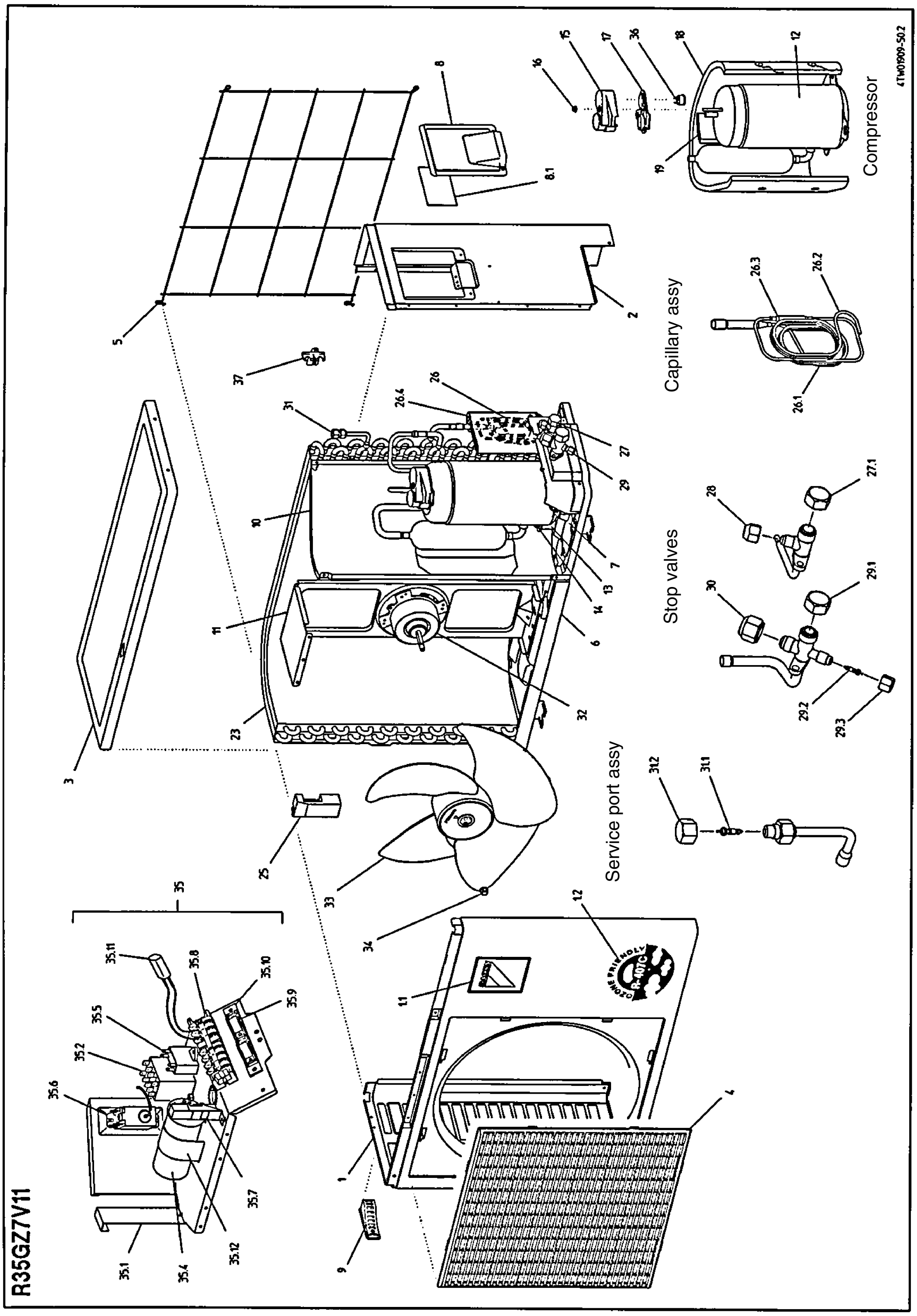
Overview

This chapter contains the following topics:

1.2 R35GZ7V11

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

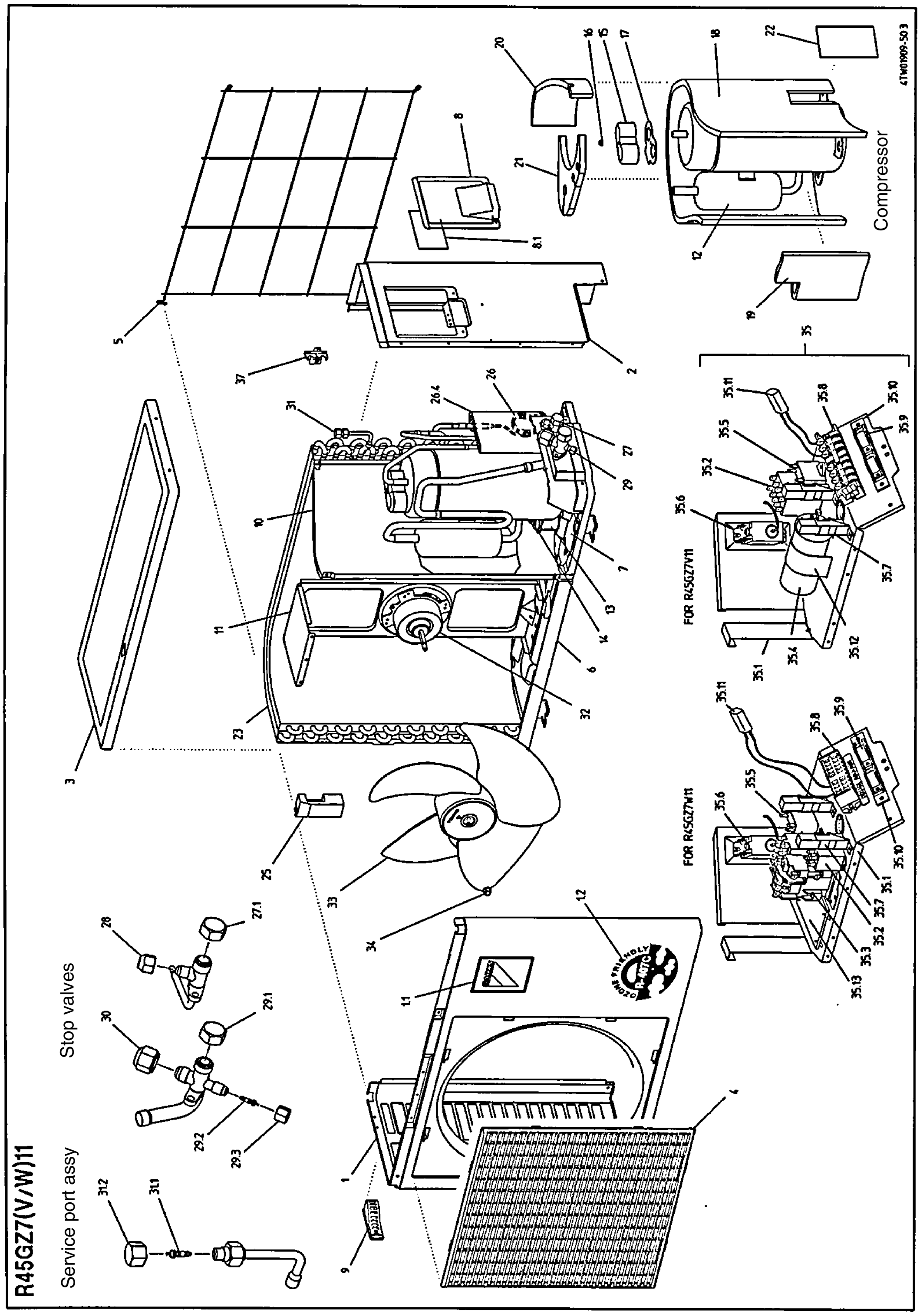
No.	Component	No.	Component
1	Front plate assy	27	Stop valve assy (liquid line)
1.1	DAIKIN name plate	27.1	Stop valve cover
1.2	R407C sticker	28	Flare nut
2	Right side plate	29	Stop valve assy (gas line)
3	Top plate	29.1	Stop valve cover
4	Discharge grille	29.2	Valve core
5	Suction grille	29.3	Blind cap
6	Bottom frame	30	Flare nut
7	Set plate for compressor	31	Service port assy
8	Service cover assy	31.1	Valve core
8.1	Wiring diagram sticker	31.2	Blind cap
9	Handle	32	Fan motor
10	Partition plate	33	Propeller fan
11	Fan motor stand	34	Fan nut
12	Compressor	35	Switch box assy
13	Compressor rubber	35.1	Switch box set plate
14	Nut	35.2	Magnetic contactor
15	Terminal cover	35.3	Magnetic switch
16	Terminal nut	35.4	Running capacitor
17	Terminal rubber	35.5	Capacitor (fan motor)
18	Compressor sound absorber 1	35.6	Thermostat
19	Compressor sound absorber 2	35.7	Surge absorber
20	Compressor sound absorber 3	35.8	Wire terminal
21	Compressor sound absorber top	35.9	Wire clamp
22	Sound absorber	35.10	Insulation strip
23	Outdoor heat exchanger assy	35.11	Noise filter assy
24	Bypass sealing plate	35.12	Capacitor fixing band
25	Cushion for heat exchanger assy	35.13	Reverse phase protector
26	Capillary tube assy	36	Overload protector
26.1	Capillary tube 1	37	Set plate for thermistor
26.2	Capillary tube 2	—	
26.3	Capillary joint		
26.4	Sound absorber putty		

5

1.3 R45GZ7V11 and R45GZ7W11

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

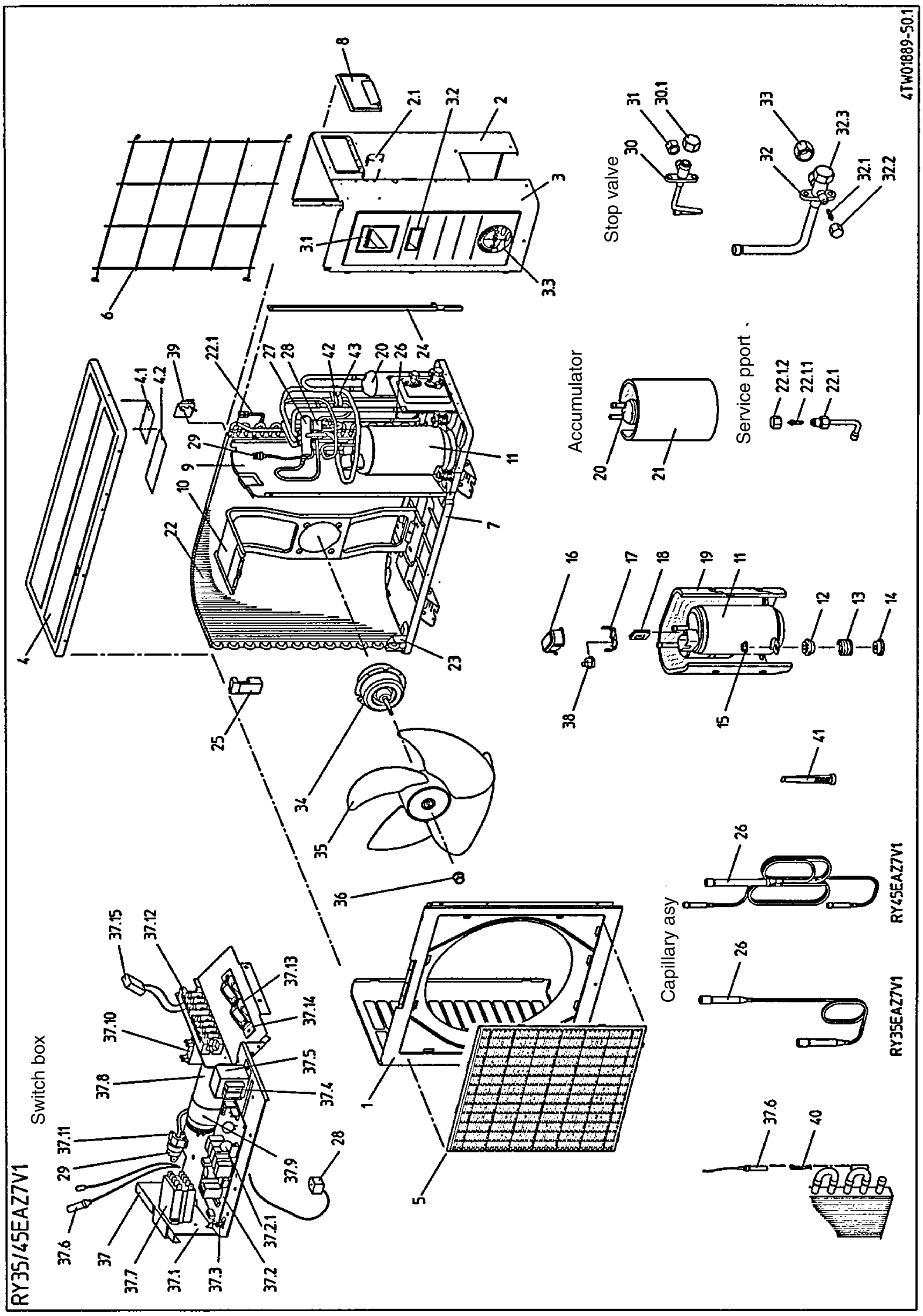
No.	Component	No.	Component
1	Front plate assy	27	Stop valve assy (liquid line)
1.1	DAIKIN name plate	27.1	Stop valve cover
1.2	R407C sticker	28	Flare nut
2	Right side plate	29	Stop valve assy (gas line)
3	Top plate	29.1	Stop valve cover
4	Discharge grille	29.2	Valve core
5	Suction grille	29.3	Blind cap
6	Bottom frame	30	Flare nut
7	Set plate for compressor	31	Service port assy
8	Service cover assy	31.1	Valve core
8.1	Wiring diagram sticker	31.2	Blind cap
9	Handle	32	Fan motor
10	Partition plate	33	Propeller fan
11	Fan motor stand	34	Fan nut
12	Compressor	35	Switch box assy
13	Compressor rubber	35.1	Switch box set plate
14	Nut	35.2	Magnetic contactor
15	Terminal cover	35.3	Magnetic switch
16	Terminal nut	35.4	Running capacitor
17	Terminal rubber	35.5	Capacitor (fan motor)
18	Compressor sound absorber 1	35.6	Thermostat
19	Compressor sound absorber 2	35.7	Surge absorber
20	Compressor sound absorber 3	35.8	Wire terminal
21	Compressor sound absorber top	35.9	Wire clamp
22	Sound absorber	35.10	Insulation strip
23	Outdoor heat exchanger assy	35.11	Noise filter assy
24	Bypass sealing plate	35.12	Capacitor fixing band
25	Cushion for heat exchanger assy	35.13	Reverse phase protector
26	Capillary tube assy	36	Overload protector
26.1	Capillary tube 1	37	Set plate for thermistor
26.2	Capillary tube 2	—	
26.3	Capillary joint		
26.4	Sound absorber putty		

5

1.4 RY35EAZ7V1 and RY45EAZ7V1

Exploded view

The illustration below shows the exploded view.



Components

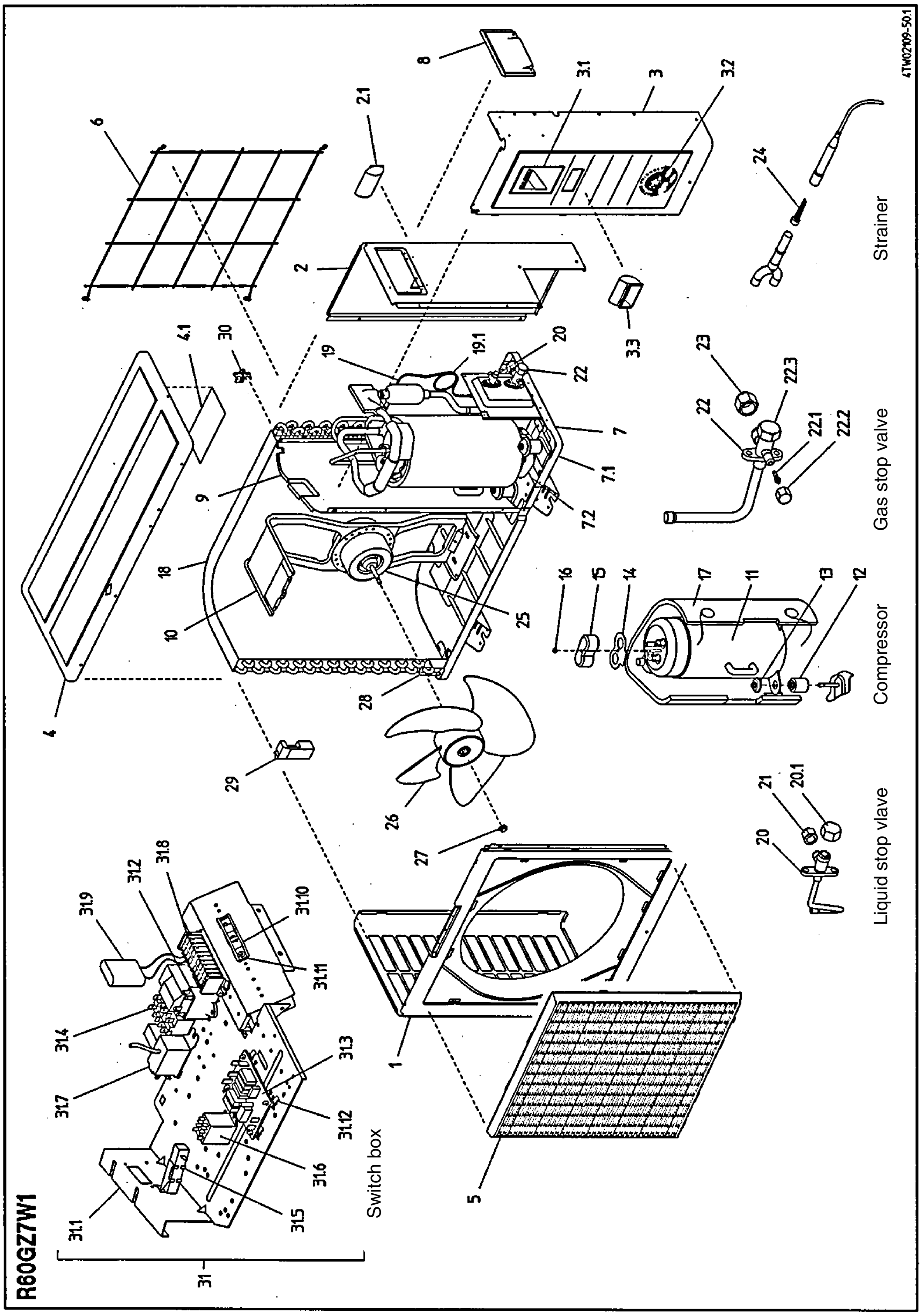
The table below contains the components of the exploded view.

No.	Component	No.	Component
1	Front plate	28	Solenoid valve assy
2	Side plate right rear	29	High-pressure switch
2.1	Handgrip	30	Stop valve assy (liquid line)
3	Side plate right left	30.1	Valve cap (stop valve)
3.1	DAIKIN name plate	31	Flare nut
3.2	Handgrip	32	Stop valve assy (gas line)
3.3	R407C sticker	32.1	Valve core (service port)
4	Top plate	32.2	Cover for service port
4.1	Wiring diagram	32.3	Stop valve cover
4.2	Fault diagnosis name plate	33	Flare nut
5	Air discharge grille assy	34	Fan motor
6	Suction grille	35	Propeller fan assy
7	Bottom frame assy	36	Fan nut
8	Service cover assy	37	Switch box assy
9	Partition plate	37.1	Switch box plate
10	Fan motor stand	37.2	PCB assy
11	Compressor	37.2.1	Varistor
12	Spring holder upper	37.3	Locking guard spacer
13	Spring	37.4	Power transformer
14	Spring holder lower	37.5	Transformer fixing plate
15	Flange nut	37.6	Thermistor assy
16	Terminal cover	37.7	Magnetic contactor
17	Retainer o.l. relay	37.8	Running capacitor
18	Lead wire protection bush	37.9	Capacitor fixing band
19	Compressor sound absorber shell	37.10	Fan capacitor
20	Accumulator	37.11	Set plate for high-pressure switch
21	Accumulator sound absorber shell	37.12	Terminal strip
22	Heat exchanger assy	37.13	Wire clamp
22.1	Service port assy	37.14	Insulation strip for wire clamp
22.1.1	Valve core (service port)	37.15	Filter capacitor assy
22.1.2	Cover for service port	38	Overload protector
23	Heat exchanger fixing plate	39	Outdoor thermistor mounting plate
24	Bypass seal plate	40	Set metal (thermistor use)
25	Cushion outdoor heat exchanger	41	Strainer
26	Capillary assy	42	Accumulator cushion rubber
27	4-way valve body	43	Plate spring

5

1.5 R60GZ7W11

Exploded view The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

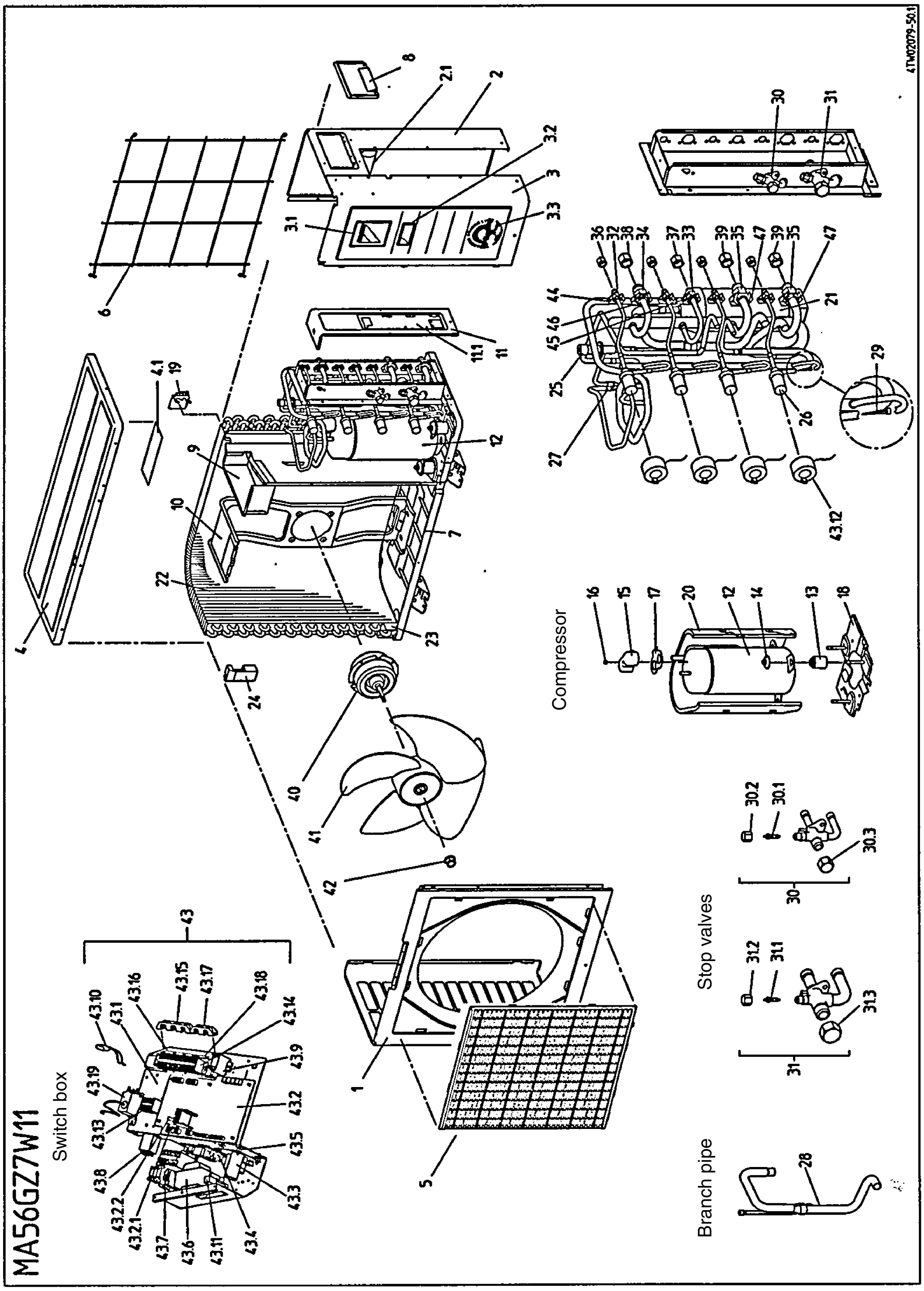
No.	Component	No.	Component
1	Front plate assy	21	Flare nut
2	Side plate back assy	22	Gas stop valve assy
2.1	Handgrip	22.1	Valve core service port
3	Side plate front assy	22.2	Cover for service port
3.1	DAIKIN name plate	22.3	Stop valve cover
3.2	R407C sticker	23	Flare nut
3.3	Handgrip	24	Strainer
4	Top plate	25	Fan motor
4.1	Wiring diagram	26	Propeller fan assy
5	Discharge grille	27	Fan nut
6	Suction grille	28	Heat exchanger fixing plate
7	Bottom frame + set plate assy	29	Cushion outdoor heat exchanger
7.1	Bottom frame assy	30	Outdoor thermistor mounting plate
7.2	Compressor set plate assy	31	Switch box assy
8	Service cover assy	31.1	Switch box plate
9	Partition plate	31.2	Fan capacitor
10	Fan motor stand	31.3	Reverse phase protector
11	Compressor with accumulator	31.4	Magnetic switch
12	Compressor rubber	31.5	Surge absorber
13	Compressor nut	31.6	Magnetic contactor
14	Terminal rubber	31.7	Thermostat
15	Terminal cover	31.8	Terminal strip
16	Terminal nut	31.9	Noise filter
17	Compresssor sound absorber shell	31.10	Wire clamp
18	Heat exchanger assy	31.11	Insulation strip for wire clamp
19	Liquid pipe asy	31.12	Locking guard spacer
19.1	Capillary tube	—	
20	Liquid stop valve assy		
20.1	Valve cap (stop valve)		

5

1.6 MA56GZ7W11

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

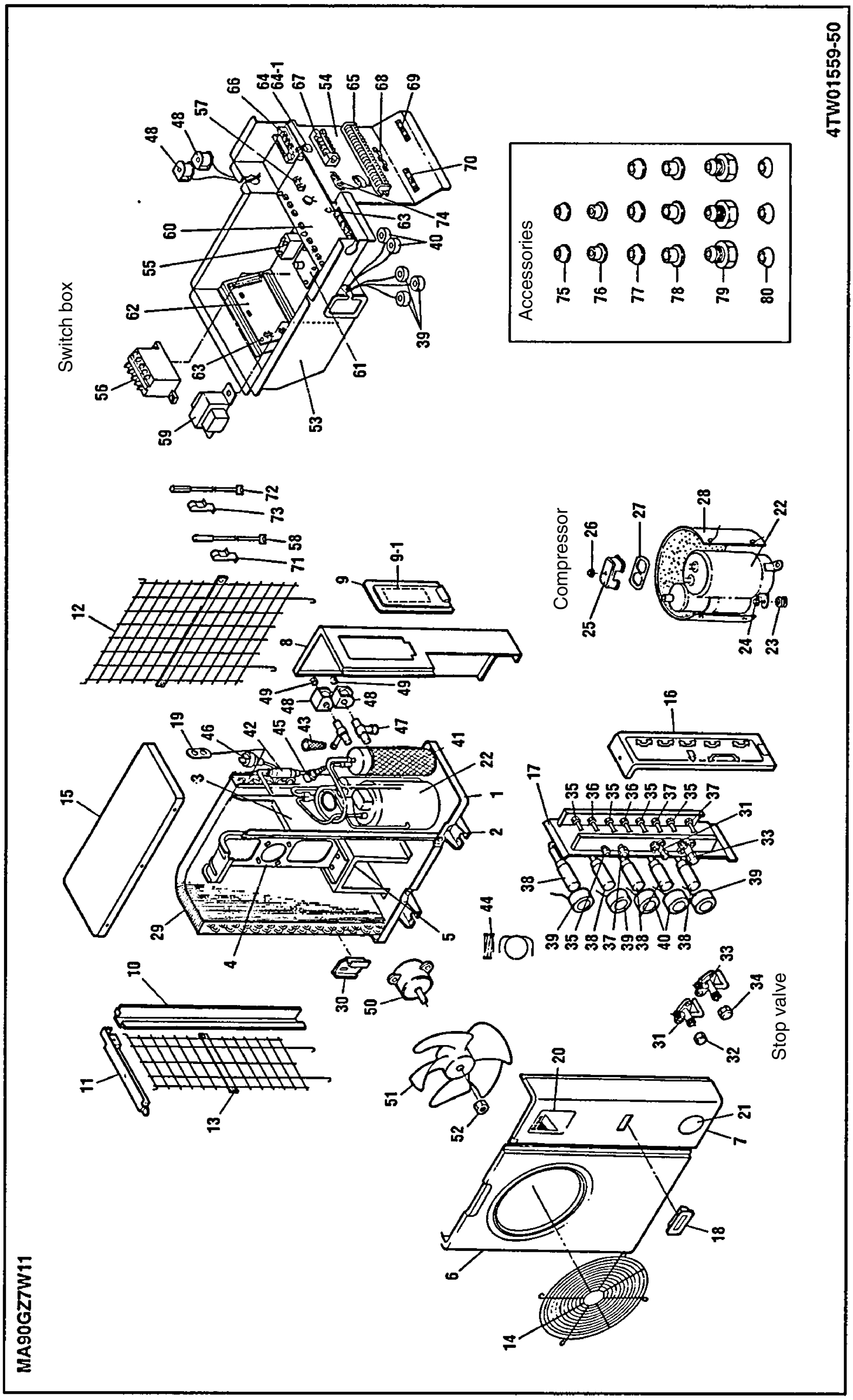
No.	Component	No.	Component
1	Front plate	32	Union joint (liquid line)
2	Side plate back assy	33	Union joint (gas line)
2.1	Handgrip	34	Union joint (gas line)
3	Side plate front assy	35	Union joint (gas line)
3.1	DAIKIN name plate	36	Flare nut
3.2	Handgrip	37	Flare nut
3.3	R407C sticker	38	Flare nut
4	Top plate assy	39	Flare nut
4.1	Wiring diagram	40	Fan motor
5	Air discharge grille assy	41	Propeller fan
6	Suction grille	42	Fan nut
7	Bottom frame assy	43	Switch box assy
8	Service cover assy	43.1	Switch box plate
9	Partition plate	43.2	PCB assy
10	Fan motor stand	43.2.1	Fuse (printed circuit)
11	Piping mounting plate cover assy	43.2.2	Varistor
11.1	Liquid/gas indication N/P	43.3	PCB assy
12	Compressor	43.4	Reverse phase protector
13	Compressor rubber	43.5	Locking card spacer
14	Compressor nut	43.6	Power transformer
15	Terminal cover	43.7	Magnetic contactor
16	Terminal nut	43.8	Magnetic contactor
17	Terminal rubber	43.9	Fan capacitor
18	Compressor set plate assy	43.10	Noise filter
19	Set plate for thermistor	43.11	Surge absorber
20	Compressor sound absorber shell	43.12	Electronic expansion valve coil
21	Accumulator assy	43.13	Terminal strip
22	Heat exchanger assy	43.14	Terminal strip
23	Heat exchanger assy	43.15	Wire clamp (lead wire)
24	Cushion outdoor heat exchanger	43.16	Insulation strip for wire clamp
25	Low pressure control valve	43.17	Wire clamp
26	Motor valve	43.18	Insulation strip for wire clamp
27	Branch pipe	43.19	Low ambient thermostat
28	Stop valve outlet pipe assy	44	Set plate half union joint
29	Strainer	45	Set plate half union joint
30	Stop valve assy (liquid line)	46	Set plate half union joint
30.1	Valve core	47	Set plate half union joint
30.2	Blind cap	—	
30.3	Valve cap (stop valve)		
31	Stop valve assy (gas line)		
31.1	Valve core		
31.2	Blind cap		
31.3	Valve cap (stop valve)		

5

1.7 MA90GZ7W11

Exploded view

The illustration below shows the exploded view.



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Components

The table below contains the components of the exploded view.

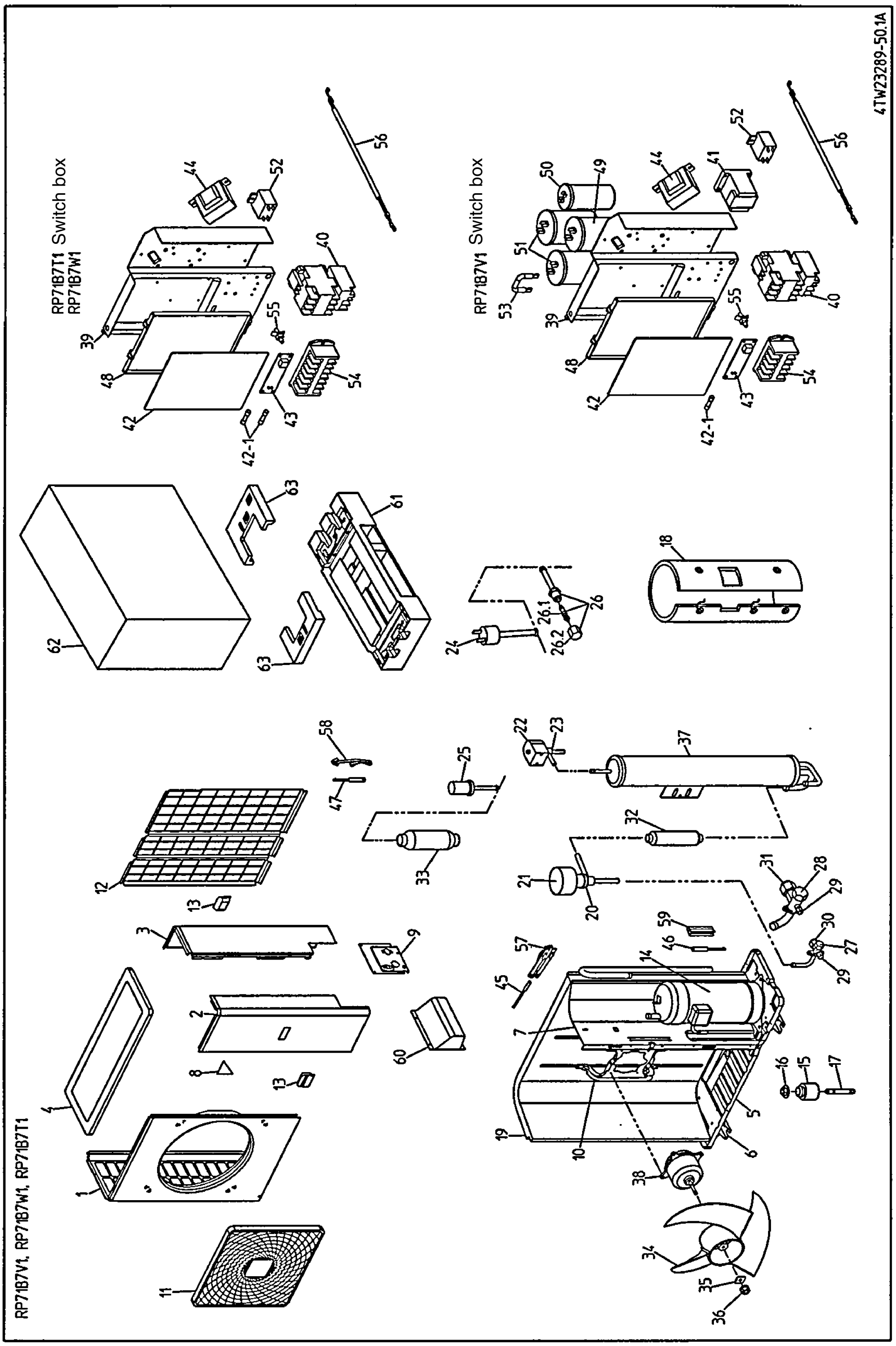
No.	Component	No.	Component
1	Bottom frame assy	41	Accumulator assy
2	Installation leg	42	Strainer
3	Partition plate	43	Strainer
4	Fan motor stand	44	Capillary tube bended
5	Fan motor stand mounting plate	45	Low pressure control valve
6	Front plate	46	High-pressure switch
7	Side plate front assy	47	Solenoid valve body
8	Side plate back assy	48	Solenoid valve coil assy
9	Service cover assy	49	Set screw (solenoid valve)
9.1	Wiring diagram	50	Fan motor
10	Stay	51	Fan propeller assy
11	Frame plate	52	Fan nut
12	Suction grille 1	53	Switch box metal assy
13	Suction grille 2	54	Switch box plate
14	Discharge grille assy	55	Running capacitor (fan motor)
15	Top plate assy	56	Magnetic contactor
16	Piping mounting plate cover	57	Fuse (printed circuit)
17	Piping mounting plate assy	58	Thermistor
18	Handgrip	59	Power transformer
19	Connection plate	60	PCB assy
20	DAIKIN name plate	61	PCB assy
21	R407C sticker	62	PCB assy
22	Compressor with accumulator	63	Locking card spacer
23	Compressor rubber	64	Film capacitor
24	Compressor nut	64.1	Noise filter
25	Terminal cover (compressor)	65	Terminal strip (control circuit)
26	Termnal nut (compressor)	66	Terminal strip 4p ((control circuit)
27	Terminal rubber (compressor)	67	Terminal strip (power source)
28	Compressor sound absorber shell	68	Cable clamp
29	Heat exchanger assy	69	Cable clamp
30	Heat exchanger fixing plate	70	Cable clamp
31	Stop valve assy (liquid line)	71	Thermistor set spring
32	Valve cap	72	Discharge thermostat
33	Stop valve assy (gas line)	73	Thermistor set spring
34	Cap. stop valve	74	Low ambient thermostat
35	Union joint (liquid line)	75	Packing (reducing joint)
36	Union joint (gas line)	76	Packing (reducing joint)
37	Union joint (gas line)	77	Packing (reducing joint)
38	Motor operated body	78	Packing (reducing joint)
39	Motor valve coil	79	Reducing joint
40	Motor valve coil	80	Packing (flare nut)

5

1.8 RP71B7V1, RP71B7W1 and RP71B7T1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

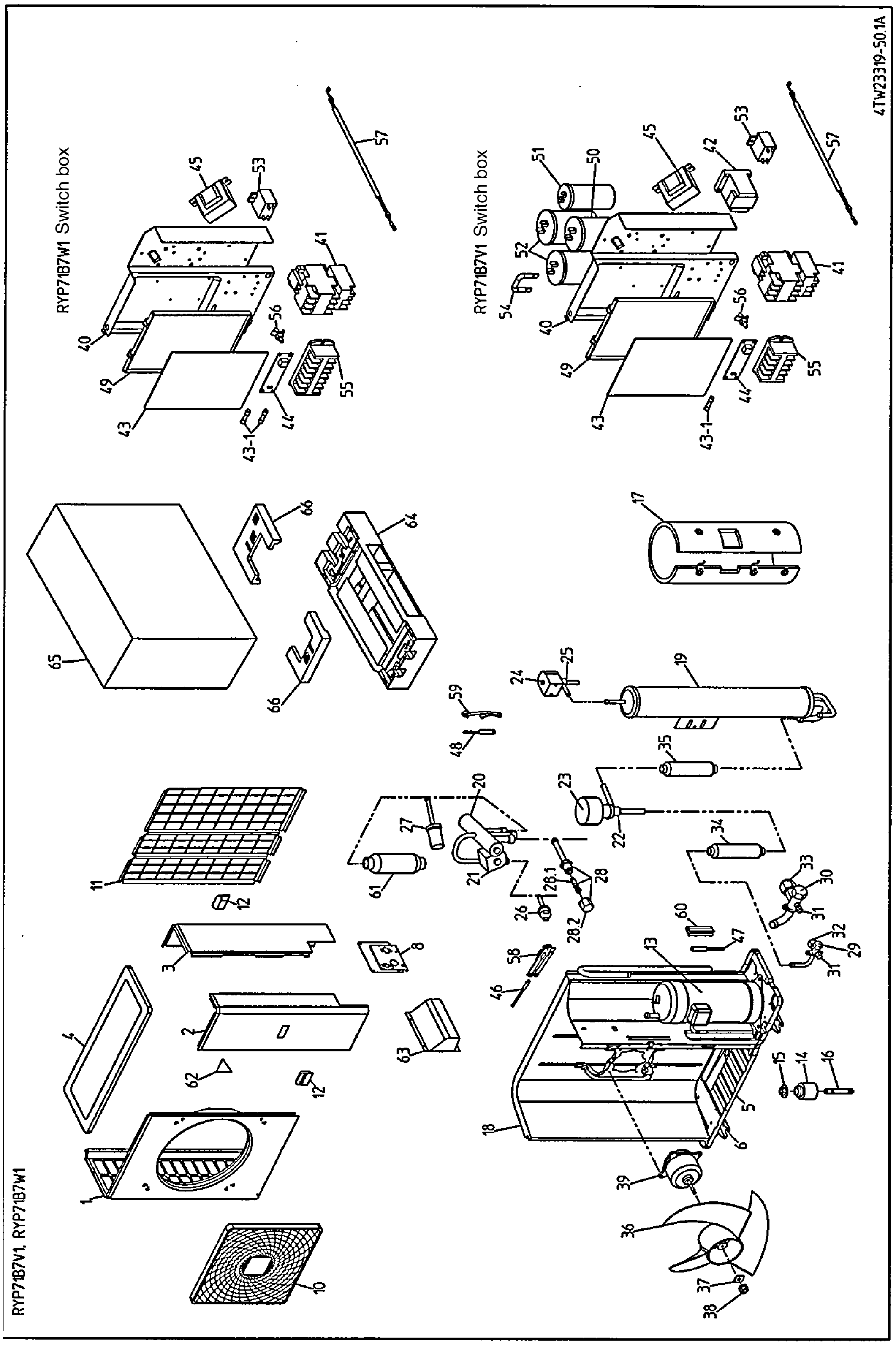
No.	Component	No.	Component
1	Front plate 1	32	Filter
2	Front plate 2	33	Filter
3	Assy sealing side plate	34	Fan propeller
4	Top plate assy	35	Washer
5	Bottom frame assy	36	Nut with washer
6	Fixation leg	37	Receiver
7	Partition plate assy	38	Fan motor
8	DAIKIN name plate	39	Switch box body
9	Stop valve mounting plate	40	Magnetic contactor + OC
10	Fan motor base	41	Starting relay
11	Air discharge grille	42	PCB assy
12	Air suction grille	42.1	Glass tube fuse
13	Handle	43	PCB assy
14	Compressor scroll	44	Transformer
15	Rubber cushion pre-assy	45	Air thermistor
16	Nut with washer	46	Heat exchanger thermistor
17	Bolt for compressor	47	Discharge thermistor
18	Compresser sound absorber	48	Resin PCB support
19	Heat exchanger	49	Running capacitor compressor
20	Motor valve body	50	Running capacitor compressor
21	Coil motor valve	51	Start capacitor compressor
22	Solenoid valve coil	52	Capacitor fan motor
23	Solenoid valve	53	Resistor assy
24	High-pressure switch	54	Terminal strip
25	Low-pressure switch	55	Locking card spacer
26	Charge valve	56	Compressor cable assy
26.1	Valve core (service port)	57	Thermistor fixing plate
26.2	Blinde cap (service port)	58	Thermistor mounting spring
27	Stop valve assy	59	Thermistor mounting spring
28	Stop valve assy	60	Stop valve cover
29	Service cap	61	Bottom tray assy
30	Flare nut	62	Packing case shell
31	Flare nut	63	Packing cushion assy

5

1.9 RYP71B7V1 and RYP71B7W1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

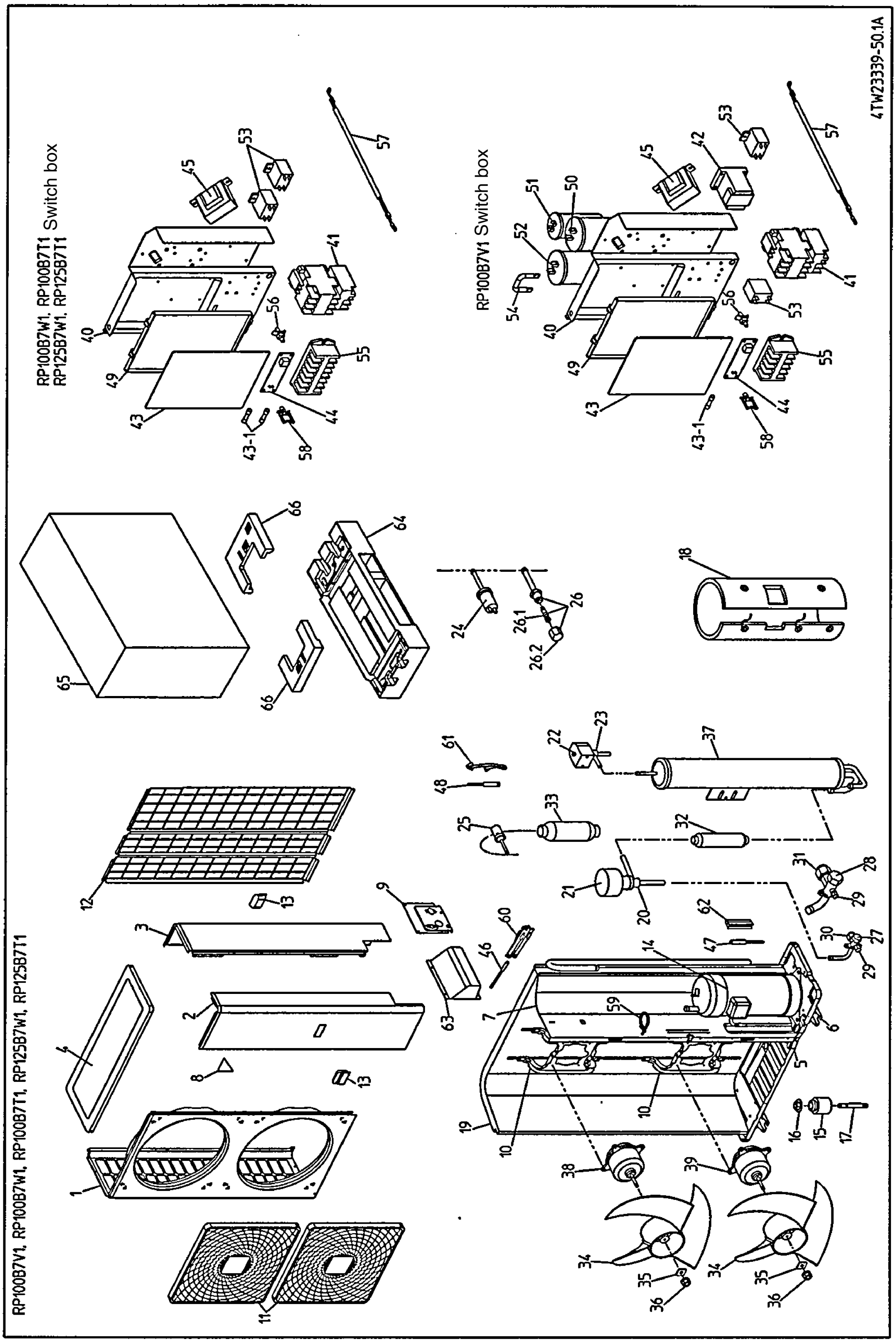
No.	Component	No.	Component
1	Front plate 1	34	Filter
2	Front plate 2	35	Filter
3	Assy sealing side plate	36	Fan propeller
4	Top plate assy	37	Washer
5	Bottom plate assy	38	Nut with washer
6	Fixation leg	39	Fan motor
7	Partition plate assy	40	Switch box body
8	Stop valve mounting plate	41	Magnetic contactor + OC
9	Fan motor base	42	Starting relay
10	Air discharge grille	43	PCB assy
11	Suction grille	43.1	Glass tube fuse
12	Handle	44	PCB assy
13	Compressor scroll	45	Transformer
14	Rubber cushion pre-assy	46	Air thermistor
15	Nut with washer	47	Heat exchanger thermistor
16	Bolt for compressor	48	Discharge thermistor
17	Compressor sound absorber	49	Resin PCB support
18	Heat exchanger	50	Running capacitor compressor
19	Receiver	51	Running capacitor compressor
20	4-way valve	52	Start capacitor compressor
21	Coil 4-way valve	53	Capacitor fan motor
22	Motor valve body	54	Resistor assy
23	Coil motor valve	55	Terminal strip
24	Solenoid valve coil	56	Locking card spacer
25	Solenoid valve	57	Compressor cable assy
26	High-pressure switch	58	Thermistor fixing plate
27	Low-pressure switch	59	Thermistor mounting spring
28	Charge valve	60	Thermistor mounting spring
28.1	Valve core (service port)	61	Filter
28.2	Blind cap (service port)	62	DAIKIN name plate
29	Stop valve assy	63	Stop valve cover
30	Stop valve assy	64	Bottom tray assy
31	Service cap	65	Packing case shell
32	Flare nut	66	Packing cushion assy
33	Flare nut	—	

5

1.10 RP100B7V1, RP100B7W1, RP100B7T1, RP125B7W1 and RP125B7T1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

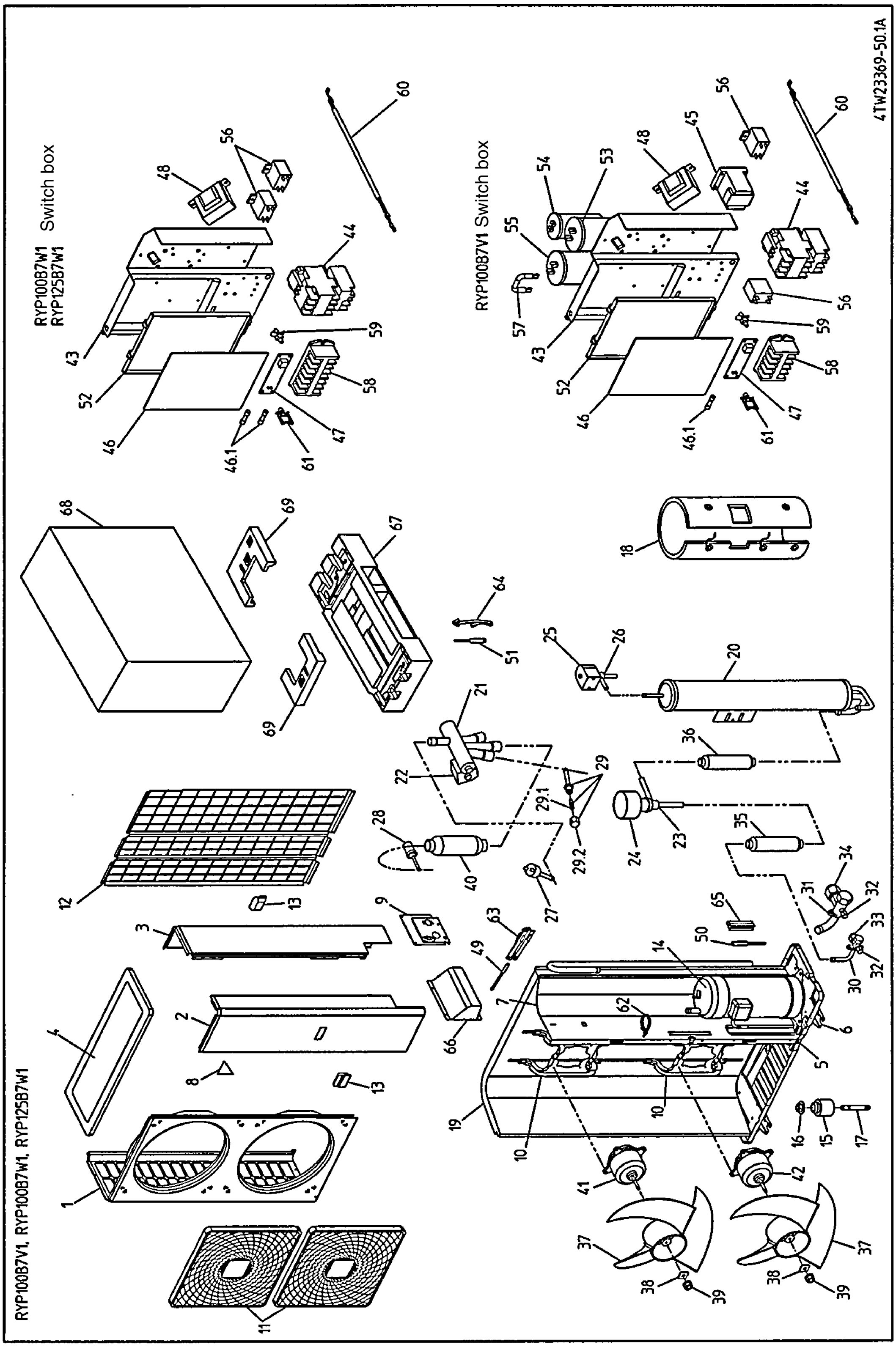
No.	Component	No.	Component
1	Front plate 1	34	Fan propeller
2	Front plate 2	35	Washer
3	Side plate	36	Nut with washer
4	Top plate assy	37	Receiver
5	Bottom frame assy	38	Fan motor
6	Fixation leg	39	Fan motor
7	Partition plate assy	40	Switch box body
8	DAIKIN name plate	41	Magnetic contactor + OC
9	Stop valve mounting plate	42	Starting relay
10	Fan motor base	43	PCB assy
11	Air discharge grille	43.1	Glass tube fuse
12	Air suction grille	44	PCB assy
13	Handle	45	Transformer
14	Compressor scroll	46	Air thermistor
15	Rubber cushion pre-assy	47	Heat exchanger thermistor
16	Nut with washer	48	Discharge thermistor
17	Bolt for compressor	49	Resin PCB support
18	Compressor sound absorber	50	Running capacitor compressor
19	Heat exchanger assy	51	Running capacitor compressor
20	Motorized expansion valve	52	Start capacitor compressor
21	Coil of motor valve	53	Capacitor fan motor
22	Solenoid valve coil	54	Resistor assy
23	Solenoid valve	55	Terminal strip
24	High-pressure switch	56	Locking card spacer
25	Low-pressure switch	57	Compressor cable assy
26	Charge valve	58	Compressor cable assy
26.1	Valve core (service port)	59	Clamp for harness
26.2	Blind cap (service port)	60	Thermistor fixing plate
27	Stop valve assy	61	Thermistor mounting spring
28	Stop valve assy	62	Thermistor mounting spring
29	Service cap	63	Stop valve cover
30	Flare nut	64	Bottom tray assy
31	Flare nut	65	Packing case shell
32	Filter	66	Packing cushion assy
33	Filter	—	

5

1.11 RYP100B7V1, RYP100B7W1 and RYP125B7W1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

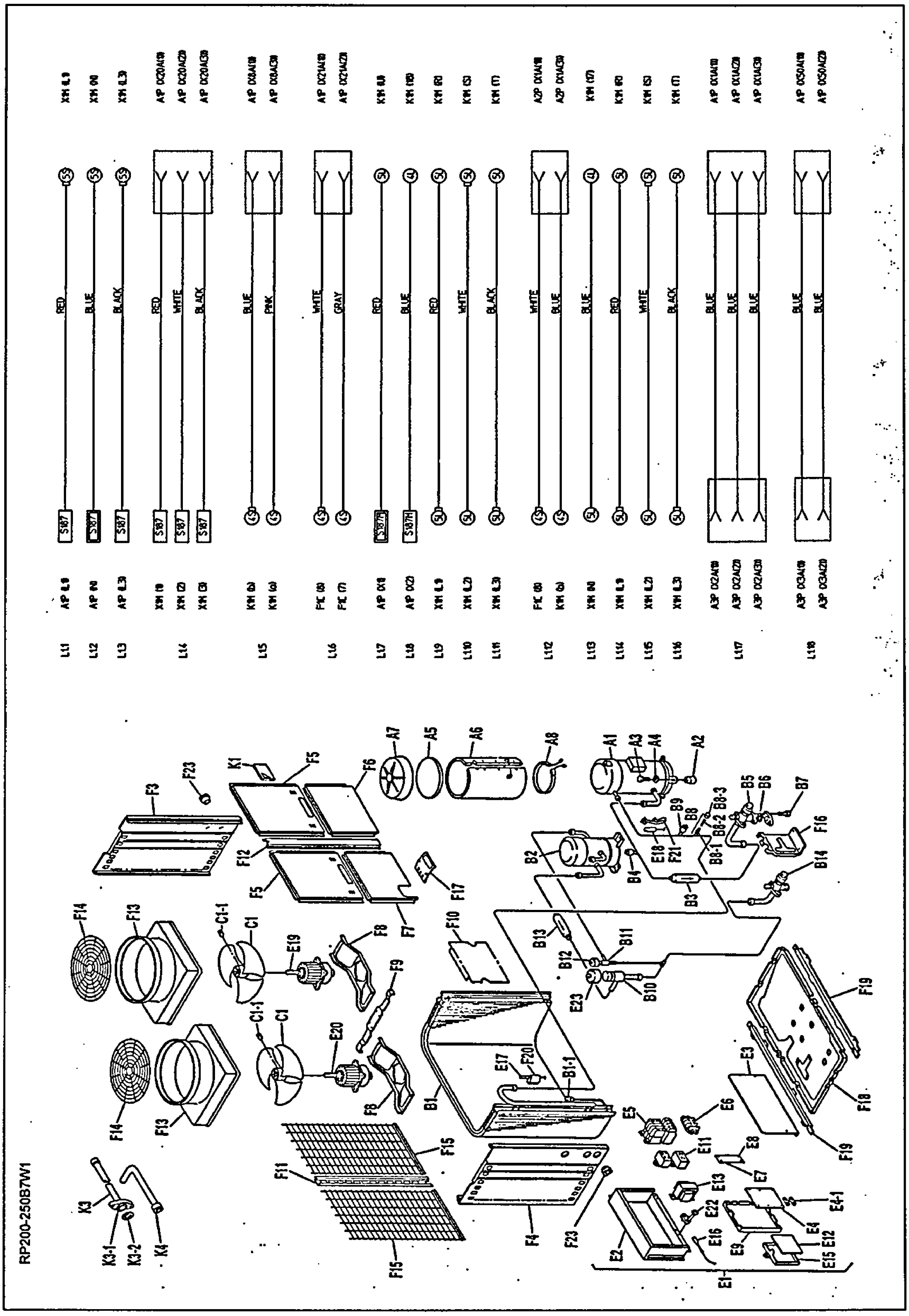
No.	Component	No.	Component
1	Front plate 1	35	Filter
2	Front plate 2	36	Filter
3	Side plate	37	Fan propeller
4	Top plate assy	38	Washer
5	Bottom frame assy	39	Nut with washer
6	Fixation leg	40	Filter
7	Partition plate assy	41	Fan motor
8	DAIKIN name plate	42	Fan motor
9	Stop valve mounting plate	43	Switch box body
10	Fan motor base	44	Magnetic contactor + OC
11	Air discharge grille	45	Starting relay
12	Air suction grille	46	PCB assy
13	Handle	46.1	Glass tube fuse
14	Compressor scroll	47	PCB assy
15	Rubber cushion pre-assy	48	Transformer
16	Nut with washer	49	Air thermistor
17	Bolt for compressor	50	Heat exchanger thermistor
18	Compressor sound absorber	51	Discharge thermistor
19	Heat exchanger	52	Resin PCB support
20	Receiver	53	Running capacitor compressor
21	4-way valve	54	Running capacitor compressor
22	Coil 4-way valve	55	Start capacitor compressor
23	Motor valve body	56	Capacitor fan motor
24	Coil of motor valve	57	Resistor assy
25	Solenoid valve coil	58	Terminal strip
26	Solenoid valve	59	Locking card spacer
27	High-pressure switch	60	Compressor cable assy
28	Low-pressure switch	61	Cable holders
29	Charge valve	62	Clamp for harness
29.1	Valve core (service port)	63	Thermistor fixing plate
29.2	Blind cap (service port)	64	Thermistor mounting spring
30	Stop valve assy	65	Thermistor mounting spring
31	Stop valve assy	66	Stop valve cover
32	Service cap	67	Bottom tray assy
33	Flare nut	68	Packing case shell
34	Flare nut	69	Packing cushion assy

5

1.12 RP200B7W1 and RP250B7W1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

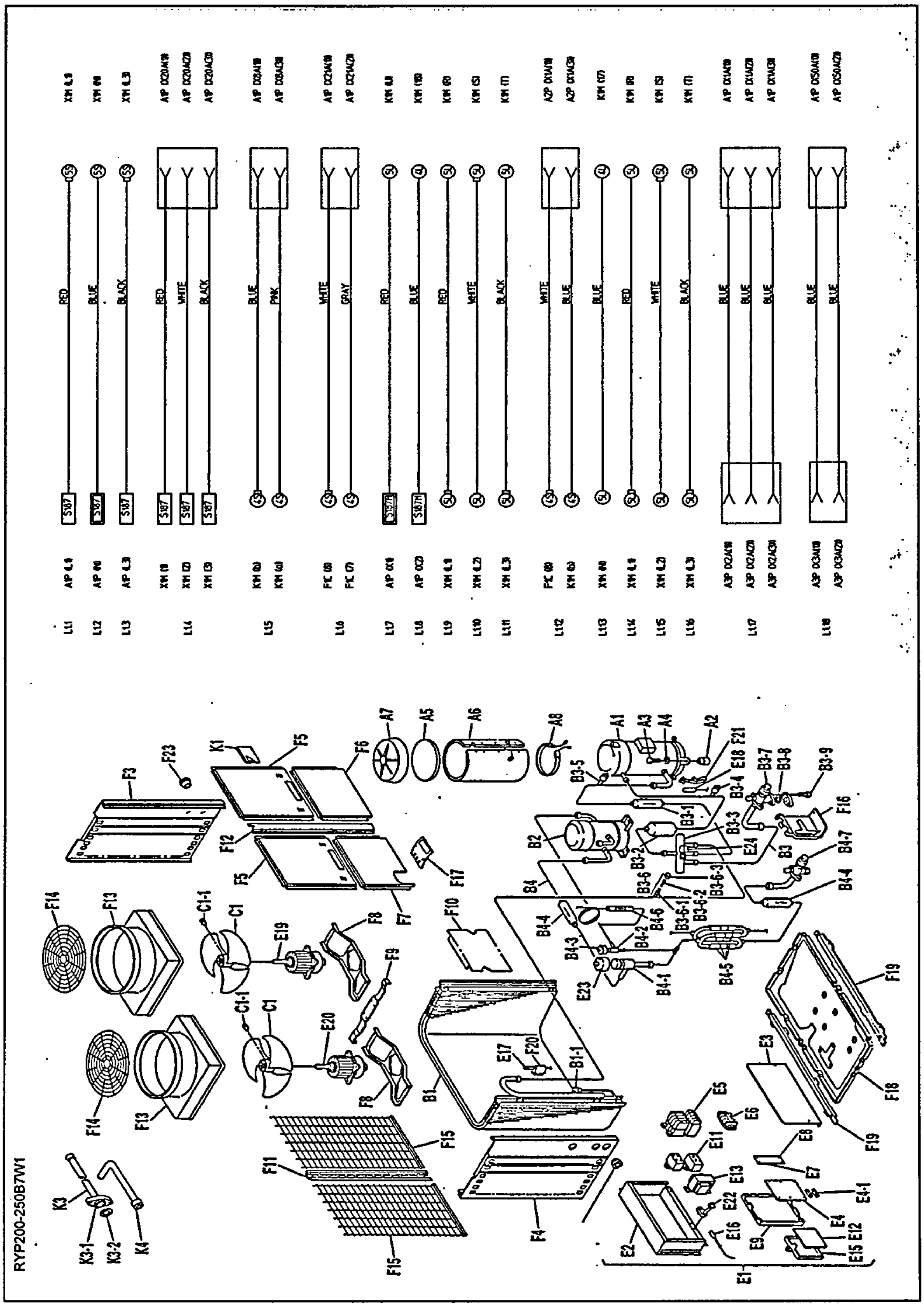
No.	Component	No.	Component
A1	Compressor	E20	Fan motor
A2	Rubber cushion pre-assy	E22	Thermistor clamp
A3	Hexagon bolt	E23	Coil motorized valve
A4	Round plain washer for wood	F3	Side plate right
A5	Insulation cover	F4	Side plate left
A6	Head cover	F5	Front plate upper
A7	Insulation cover	F6	Front plate lower
A8	Crankcase heater	F7	Front plate lower
B1	Heat exchanger assy	F8	Fan motor base
B1.1	Distributor assy	F9	Upper stay
B2	Liquid receiver assy	F10	Bypass prevention plate
B3	Filter	F11	Support rear
B4	Low-pressure switch	F12	Support front
B5	Stop valve assy	F13	Top plate air outlet
B6	Packing for flange	F14	Discharge grille
B7	Hexagon bolt	F15	Suction grille
B8	Check valve	F16	Stop valve mounting plate assy
B8.1	Fitting body	F17	Cover
B8.2	Valve core	F18	Bottom plate (sheet metal)
B8.3	Service port	F19	Foundation leg
B9	High-pressure switch	F20	Thermistor mounting spring
B10	Motor operated valve body	F21	Thermistor mounting spring
B11	Solenoid valve body	F23	Trough hole cover
B12	Solenoid valve coil	K1	DAIKIN name plate
B13	Filter	K3	Supplied pip (gas side)
B14	Stop valve assy	K3.1	Mating flange
C1	Fan blade assy	K3.2	Packing for flange
C1.1	Set screw	K4	Supplied pipe (gas side)
E1	Switch box assy	L1.1	Wire harness
E2	Switch box main body	L1.2	
E3	Switch box cover assy	L1.3	
E4	PCB assy	L1.4	
E4.1	Glass tube fuse	L1.5	
E5	Magnetic contactor / Electromagnetic switch	L1.6	
E6	Terminal and cover	L1.7	
E7	PCB assy	L1.8	
E8	Locking guard spacer	L1.9	
E9	Resin PCB support	L1.10	
E11	Capacitor	L1.11	
E12	PCB assy	L1.12	
E13	Power supply transformer	L1.13	
E15	Power supply fixing case	L1.14	
E16	Air thermistor	L1.15	
E17	Heat exchanger thermistor	L1.16	
E18	Discharge thermistor	L1.17	
E19	Fan motor	L1.18	

5

1.13 RYP200B7W1 and RYP250B7W1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

No.	Component	No.	Component
A1	Compressor	E18	Discharge thermistor
A2	Rubber cushion pre-assy	E19	Fan motor
A3	Hexagon bolt	E20	Fan motor
A4	Round plain washer for wood	E22	Thermistor clamp
A5	Insulation cover	E23	Coil motorized valve
A6	Head cover	E24	4-way valve coil assy
A7	Insulation cover	F3	Side plate right
A8	Crankcase heater	F4	Side plate left
B1	Heat exchanger assy	F5	Front plate upper
B1.1	Distributor assy	F6	Front plate lower
B2	Liquid receiver assy	F7	Front plate lower
B3	4-way valve assy	F8	Fan motor base
B3.1	Filter	F9	Upper stay
B3.2	Muffler	F10	Bypass prevention plate
B3.3	4-way valve body	F11	Support rear
B3.4	High-pressure switch	F12	Support front
B3.5	Low-pressure switch	F13	Top plate air outlet
B3.6	Check valve	F14	Discharge grille
B3.6.1	Fitting body	F15	Suction grille
B3.6.2	Valve core	F16	Stop valve mounting plate assy
B3.6.3	Service port	F17	Cover
B3.7	Stop valve assy	F18	Bottom plate (sheet metal)
B3.8	Packing for flange	F19	Foundation leg
B3.9	Hexagon bolt	F20	Thermistor mounting spring
B4	Motor operated valve assy	F21	Thermistor mounting spring
B4.1	Motor operated valve body	F23	Trough hole cover
B4.2	Solenoid valve	K1	DAIKIN name plate
B4.3	Solenoid valve coil assy	K3	Supplied pipe (gas side)
B4.4	Filter	K3.1	Mating flange
B4.5	Check valve	K3.2	Packing for flange
B4.6	Check valve	K4	Supplied pipe (gas side)
B4.7	Stop valve assy	L1.1	Wire harness
C1	Fan blade assy	L1.2	
C1.1	Set screw	L1.3	
E1	Switch box assy	L1.4	
E2	Switch box main body	L1.5	
E3	Switch box cover assy	L1.6	
E4	PCB assy	L1.7	
E4.1	Glass tube fuse	L1.8	
E5	Magnetic contactor / Electromagnetic switch	L1.9	
E6	Terminal and cover	L1.10	
E7	PCB assy	L1.11	
E8	Locking guard spacer	L1.12	
E9	Resin PCB support	L1.13	
E11	Capacitor	L1.14	
E12	PCB assy	L1.15	
E13	Power supply transformer	L1.16	
E15	Power supply fixing case	L1.17	
E16	Air thermistor	L1.18	
E17	Heat exchanger thermistor	—	

5

2 Disassembly and Maintenance: Indoor Units

2.1 What Is in This Chapter?

Introduction

This chapter contains the following information on the indoor units:

- Exploded views
- Components.

Overview

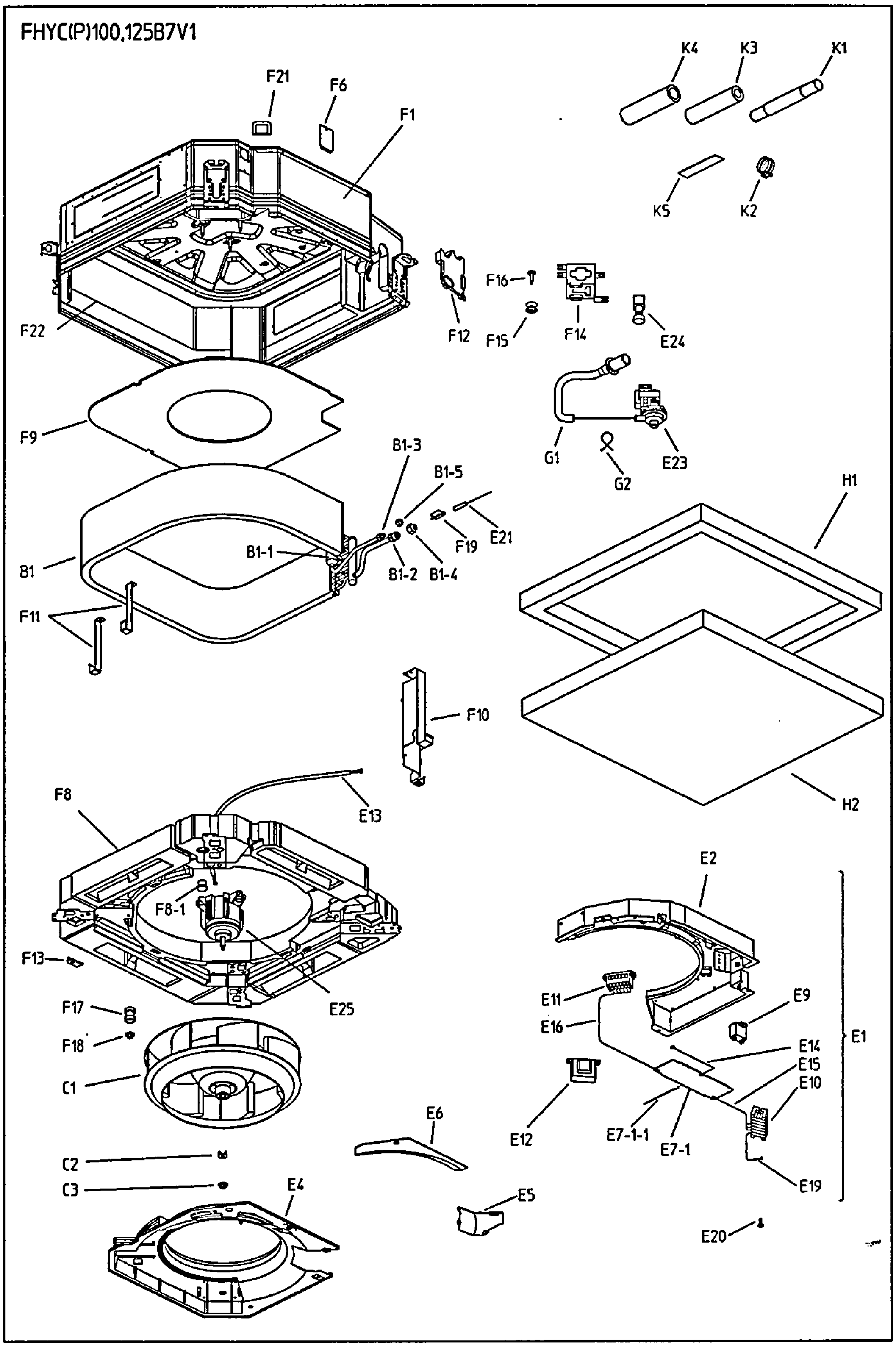
This chapter contains the following topics:

5

2.2 FHC35BZ7V1, FHC45BZ7V1, FHC60BZ7V1, FHYC35BZ7V1, FHYC45BZ7V1, FHYCP35B7V1, FHYCP45B7V1, FHYCP60B7V1 and FHYCP71B7V1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

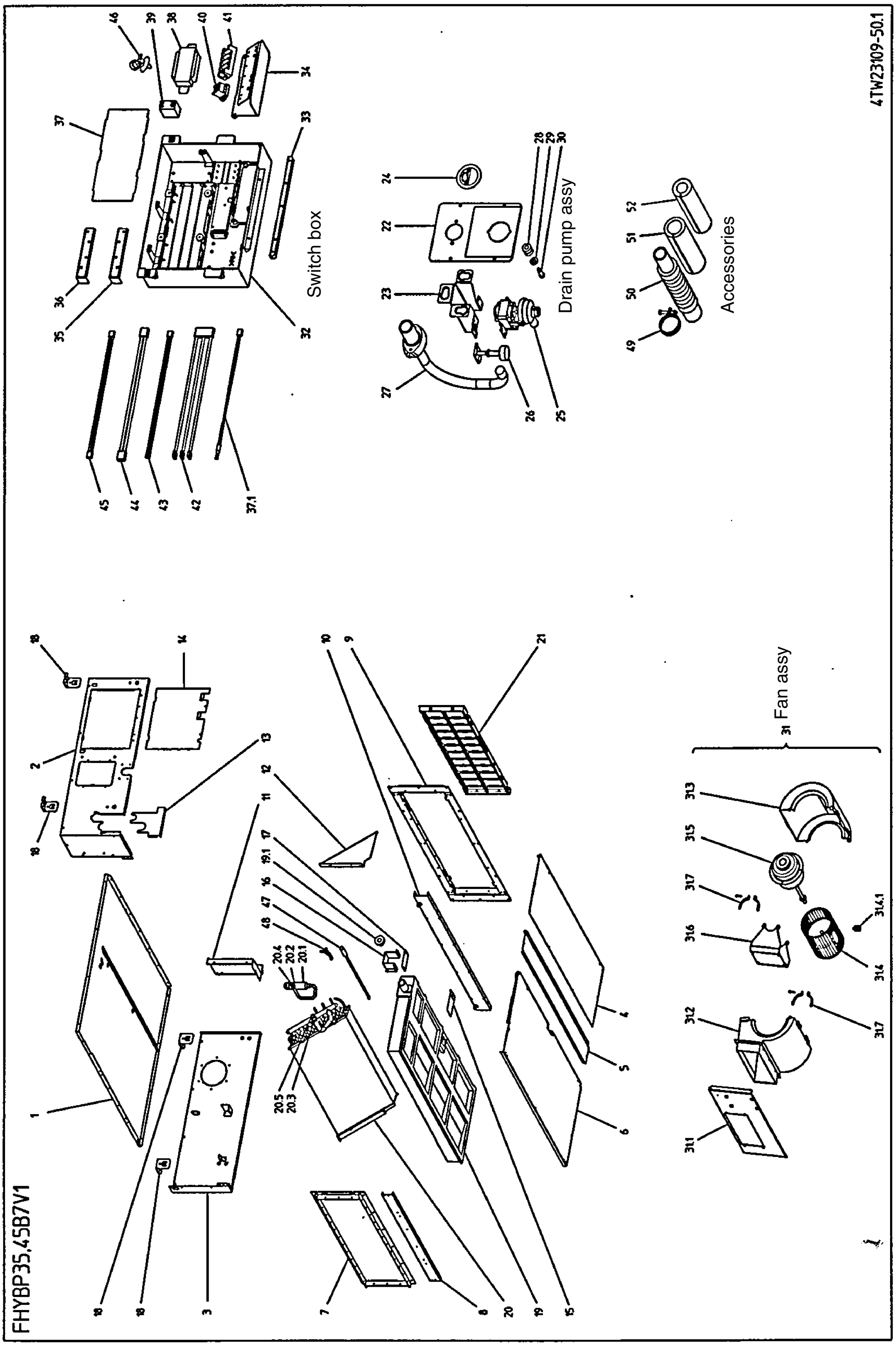
No.	Component	No.	Component
B1	Heat exchanger assy	E24	Float switch
B1.1	Distributor with filter	E25	Fan motor
B1.2	Single union joint	F1	Casing assy
B1.3	Single union joint	F6	Inspection cover assy
B1.4	Flare nut	F8	Drain pan assy
B1.5	Flare nut	F8.1	Drain plug
C1	Fan rotor (turbo)	F9	Sound absorbing material
C2	Lock washer	F10	Heat exchanger blind plate assy
C3	Nut with washer	F11	Heat exchanger mounting plate
E1	Switch box assy	F12	Hold plate assy
E2	Switch box body	F13	Panel mounting plate
E4	Bell mouth	F14	Drain pump mounting plate
E5	Switch box cover assy 1	F15	Vibration isolator
E6	Switch box cover 2	F16	Hexagon mounting bolt
E7.1	PCB assy	F17	Vibration isolator
E7.1.1	Air thermistor	F18	Nut with washer
E9	Capacitor	F19	Feeler bulb clamp
E10	Terminal	F21	Rubber bush
E11	Terminal block	F22	Inner heat insulator
E12	Power supply transformer	G1	Drain hose
E13	Wire harness	G2	Hose band
E14	Wire harness	H1	Top tray assy
E15	Wire harness	H2	Bottom tray assy
E16	Wire harness	K1	Drain hose assy
E19	Grounding wire	K2	Hose band
E20	Grounding screw	K3	Insulation for joint (liquid)
E21	Thermistor (liquid)	K4	Insulation for joint (gas)
E23	Drain pump	K5	Sealing material

5

2.3 FHYBP35B7V1 and FHYBP45B7V1

Exploded view

The illustration below shows the exploded view.



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Components

The table below contains the components of the exploded view.

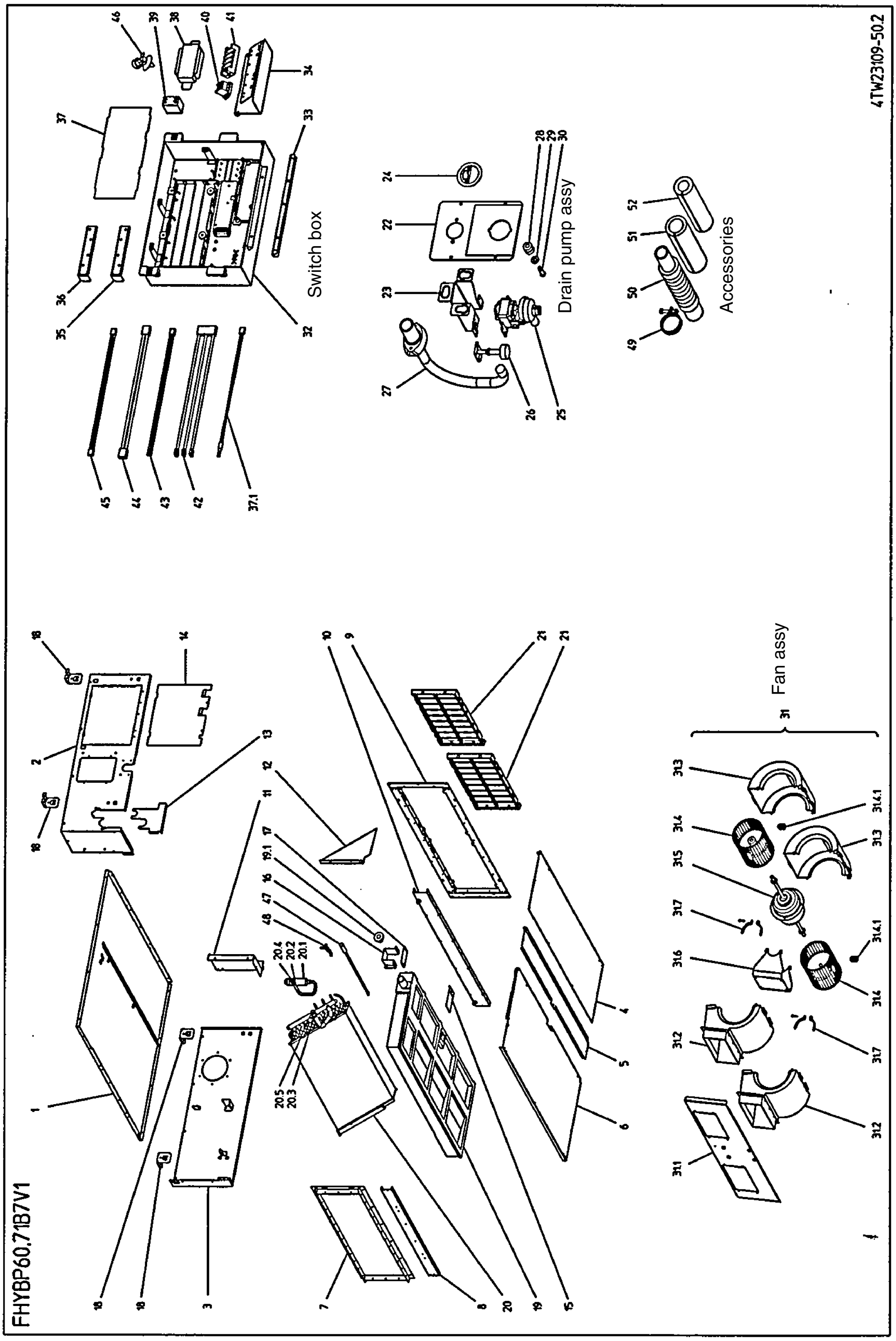
No.	Component	No.	Component
1	Top plate assy	31.1	Fan top plate
2	Right plate assy	31.2	Fan housing bottom
3	Left plate assy	31.3	Fan housing top
4	Interchangeable plate	31.4	Rotor assy
5	Small bottom plate	31.4.1	Hexagon socket screw
6	Large bottom plate	31.5	Fan motor
7	Air outlet flange	31.6	Fan motor stand
8	Center stay assy	31.7	Motor fixing plate assy
9	Air filter holding plate assy	31.8	Rotor assy
10	Stay for fan top panel assy	31.8.1	Hexagon socket screw
11	Fan side blind plate assy	31.9	Shaft assy
12	Cooler side blind plate assy	31.10	Coupling
13	Pipe setting plate assy	31.11	Vibro proof rubber assy
14	Swtich box cover assy	31.12	Bearing board
15	Drain pan setting plate	31.13	Bearing fixing plate
16	Drain socket cover assy 1	32	Switch box body
17	Drain socket cover assy 2	33	Switch box fixing plate
18	Suspension bracket	34	Terminal fixing plate
19	Drain pan assy	35	Option fixing plate left
19.1	Drain socket cap	36	Option fixing plate right
20	Heat exchanger assy	37	PCB assy
20.1	Distributor with filter assy	37.1	Air thermistor
20.2	Single union joint	38	Power supply transformer
20.3	Single union joint	39	Fan motor capacitor
20.4	Flare nut	40	Terminal for remote control
20.5	Flare nut	41	Terminal for power supply
21	Air filter assy	42	Wire harness
22	Service cover assy	43	Wire harness
23	Drain pump fixing plate	44	Wire harness
24	Service cover cap assy	45	Wire harness
25	Drain pump	46	Tie wrap with clip
26	Float switch	47	Thermistor (liquid)
27	Drain hose assy	48	Thermistor fixing blade
28	Vibration absorber	49	Metal clamp
29	Plain washer	50	Drain hose
30	Fitting bolt drain pump	51	Insulation for joint (gas)
31	Fan assy	52	Insulation for joint (liquid)

5

2.4 FHYBP60B7V1 and FHYBP71B7V1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

No.	Component	No.	Component
1	Top plate assy	31.1	Fan top plate
2	Right plate assy	31.2	Fan housing bottom
3	Left plate assy	31.3	Fan housing top
4	Interchangeable plate	31.4	Rotor assy
5	Small bottom plate	31.4.1	Hexagon socket screw
6	Large bottom plate	31.5	Fan motor
7	Air outlet flange	31.6	Fan motor stand
8	Center stay assy	31.7	Motor fixing plate assy
9	Air filter holding plate assy	31.8	Rotor assy
10	Stay for fan top panel assy	31.8.1	Hexagon socket screw
11	Fan side blind plate assy	31.9	Shaft assy
12	Cooler side blind plate assy	31.10	Coupling
13	Pipe setting plate assy	31.11	Vibro proof rubber assy
14	Swtich box cover assy	31.12	Bearing board
15	Drain pan setting plate	31.13	Bearing fixing plate
16	Drain socket cover assy 1	32	Switch box body
17	Drain socket cover assy 2	33	Switch box fixing plate
18	Suspension bracket	34	Terminal fixing plate
19	Drain pan assy	35	Option fixing plate left
19.1	Drain socket cap	36	Option fixing plate right
20	Heat exchanger assy	37	PCB assy
20.1	Distributor with filter assy	37.1	Air thermistor
20.2	Single union joint	38	Power supply transformer
20.3	Single union joint	39	Fan motor capacitor
20.4	Flare nut	40	Terminal for remote control
20.5	Flare nut	41	Terminal for power supply
21	Air filter assy	42	Wire harness
22	Service cover assy	43	Wire harness
23	Drain pump fixing plate	44	Wire harness
24	Service cover cap assy	45	Wire harness
25	Drain pump	46	Tie wrap with clip
26	Float switch	47	Thermistor (liquid)
27	Drain hose assy	48	Thermistor fixing blade
28	Vibration absorber	49	Metal clamp
29	Plain washer	50	Drain hose
30	Fitting bolt drain pump	51	Insulation for joint (gas)
31	Fan assy	52	Insulation for joint (liquid)

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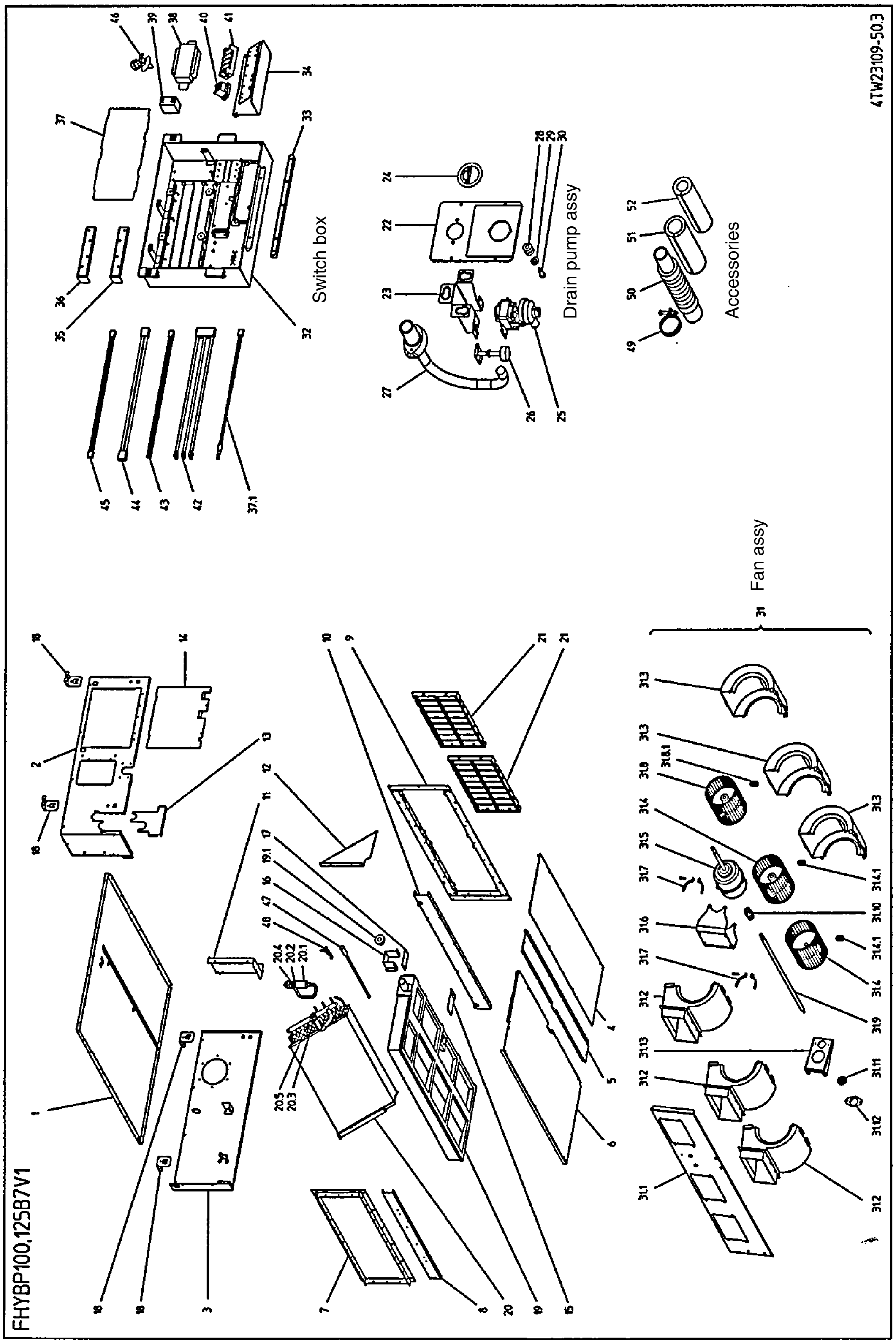
2.5 FHYBP100B7V1 and FHYBP125B7V1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

No.	Component	No.	Component
1	Top plate assy	31.1	Fan top plate
2	Right plate assy	31.2	Fan housing bottom
3	Left plate assy	31.3	Fan housing top
4	Interchangeable plate	31.4	Rotor assy
5	Small bottom plate	31.4.1	Hexagon socket screw
6	Large bottom plate	31.5	Fan motor
7	Air outlet flange	31.6	Fan motor stand
8	Center stay assy	31.7	Motor fixing plate assy
9	Air filter holding plate assy	31.8	Rotor assy
10	Stay for fan top panel assy	31.8.1	Hexagon socket screw
11	Fan side blind plate assy	31.9	Shaft assy
12	Cooler side blind plate assy	31.10	Coupling
13	Pipe setting plate assy	31.11	Vibro proof rubber assy
14	Swtich box cover assy	31.12	Bearing board
15	Drain pan setting plate	31.13	Bearing fixing plate
16	Drain socket cover assy 1	32	Switch box body
17	Drain socket cover assy 2	33	Switch box fixing plate
18	Suspension bracket	34	Terminal fixing plate
19	Drain pan assy	35	Option fixing plate left
19.1	Drain socket cap	36	Option fixing plate right
20	Heat exchanger assy	37	PCB assy
20.1	Distributor with filter assy	37.1	Air thermistor
20.2	Single union joint	38	Power supply transformer
20.3	Single union joint	39	Fan motor capacitor
20.4	Flare nut	40	Terminal for remote control
20.5	Flare nut	41	Terminal for power supply
21	Air filter assy	42	Wire harness
22	Service cover assy	43	Wire harness
23	Drain pump fixing plate	44	Wire harness
24	Service cover cap assy	45	Wire harness
25	Drain pump	46	Tie wrap with clip
26	Float switch	47	Thermistor (liquid)
27	Drain hose assy	48	Thermistor fixing blade
28	Vibration absorber	49	Metal clamp
29	Plain washer	50	Drain hose
30	Fitting bolt drain pump	51	Insulation for joint (gas)
31	Fan assy	52	Insulation for joint (liquid)

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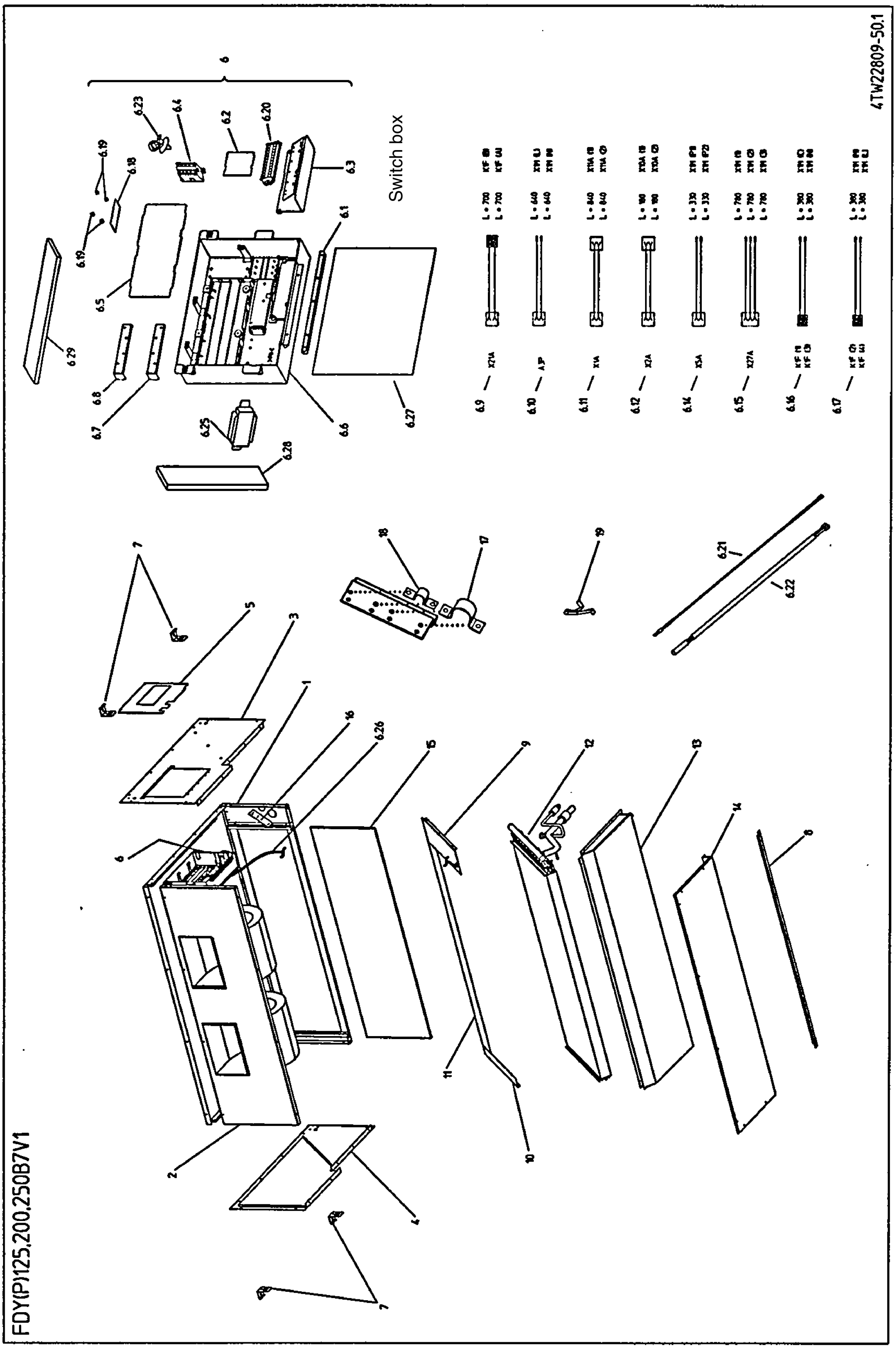
2.6 FDYP125B7V1, FDYP200B7V1 and FDYP250B7V1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

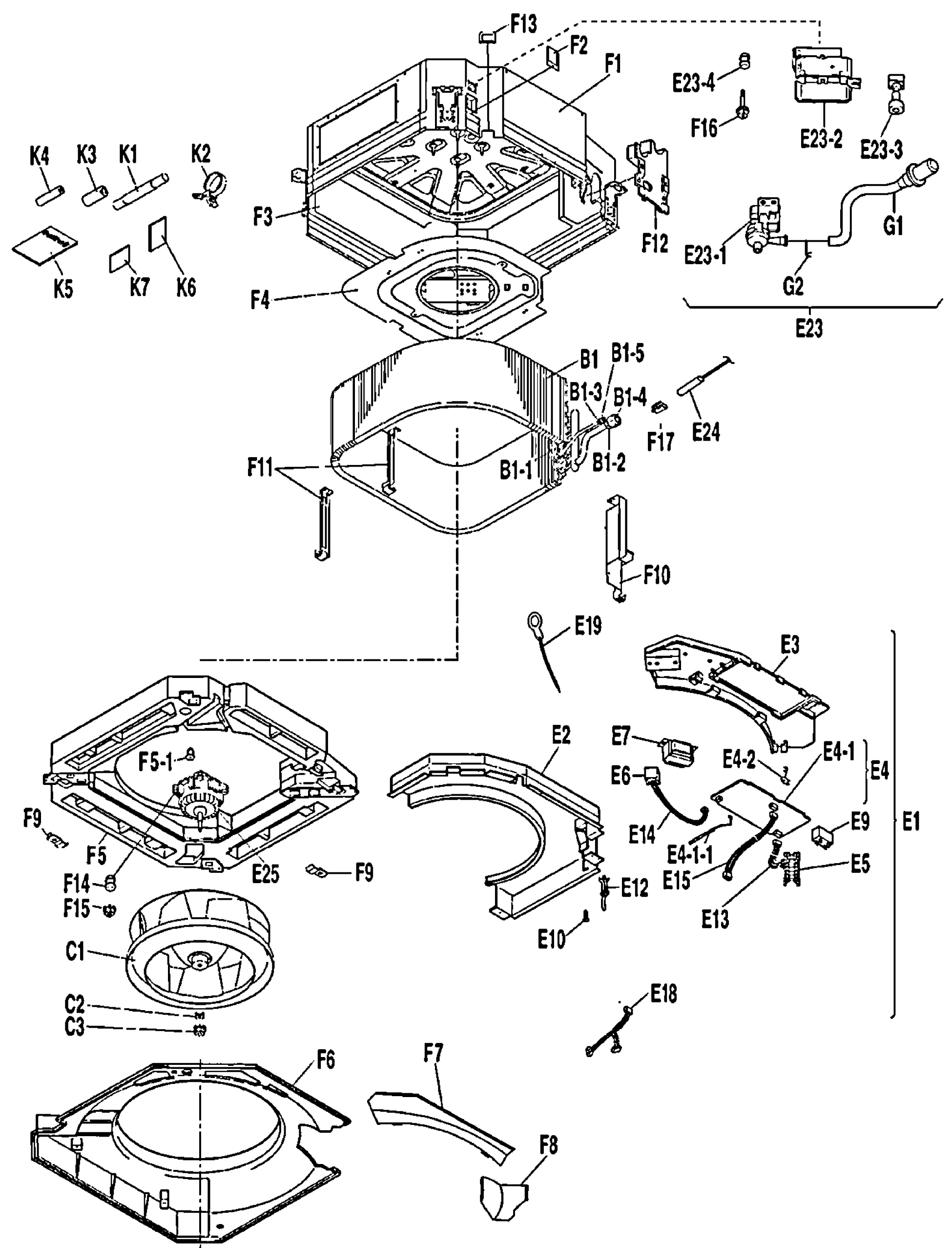
No.	Component	No.	Component
1	Top plate assy	6.20	Terminal strip
2	Fan assy + fan mounting plate	6.21	Thermistor
3	Side plate right	6.22	Thermistor
4	Side plate left	6.23	Tie wrap with clip
5	Service cover assy	6.24	PCB assy
6	Switch box assy	6.25	Power supply transformer
6.1	Switch box fixing plate	6.26	Grounding wire
6.2	PCB assy power supply	6.27	Insulation switch box
6.3	Terminal fixing plate	6.28	Insulation switch box
6.4	Magnetic contactor	6.29	Insulation switch box
6.5	PCB assy	7	Hook
6.6	Switch box body	8	Filter cover
6.7	Option fixing plate left	9	Fixture heat exchanger right
6.8	Option fixing plate right	10	Fixture heat exchanger left
6.9	Wire harness	11	Bypass sealing plate
6.10	Wire harness	12	Heat exchanger assy
6.11	Wire harness power supply	13	Drain pan assy
6.12	Wire harness power supply	14	Bottom plate assy
6.14	Wire harness	15	Air filter
6.15	Wire harness	16	Pipe fixing plate
6.16	Wire harness	17	Clamp
6.17	Wire harness	18	Clamp
6.18	PCB assy	19	Thermistor (fixing)
6.19	Locking guard spacer	—	

2.7 FHYC71BZV1, FHYC100BZV1 and FHYC125BZV1

Exploded view

The illustration below shows the exploded view.

FHYC35BZV1, FHYC45BZV1, FHYC71BZV1, FHYC100BZV1, FHYC125BZV1



Components

The table below contains the components of the exploded view.

No.	Component	No.	Component
B1	Evaporator assy	E24	Heat exchanger thermistor
B1.1	Distributor with strainer	E25	Fan motor
B1.2	Union joint (gas line)	F1	Casing frame assy
B1.3	Union joint (liquid line)	F2	Cover inspection window
B1.4	Flare nut	F3	Heat insulation cover assy
B1.5	Flare nut	F4	Top flat plate
C1	Fan rotor (turbo)	F5	Drain pan assy
C2	Lock washer	F5.1	Drain plug
C3	Hexagon lock nut	F6	Bell mouth
E1	Electric component assy	F7	Cover switch box
E2	Switch box	F8	Cover switch box
E3	Set plate electric devices	F9	Fixture panel
E4	Printed circuit	F10	Blind plate heat exchanger
E4.1	Printed circuit	F11	Set plate heat exchanger
E4.1.1	Air thermistor	F12	Retainer piping
E4.2	Adaptor (capacity control)	F13	Rubber bush
E5	Terminal block	F14	Vibration isolator fan motor
E6	Terminal block	F15	Flange nut
E7	Power transformer	F16	Set bolt drain pump
E9	Capacitor	F17	Fixture feeler
E10	Tapping screw	F20	Bolts and nuts list
E12	Tie wrap	G1	Drain hose assy
E13	Wire harness	G2	Hose band
E14	Wire harness	K1	Drain hose assy
E15	Wire harness	K2	Hose band
E18	Wire harness	K3	Insulation tube (gas line)
E19	Grounding terminal	K4	Insulation tube (liquid line)
E23	Drain pump assy	K5	Operation manual
E23.1	Drain pump	K6	Sealer drain hose
E23.2	Set plate drain pump	K7	Sealer drain hose
E23.3	Float switch	—	
E23.4	Vibration isolator drain pump		

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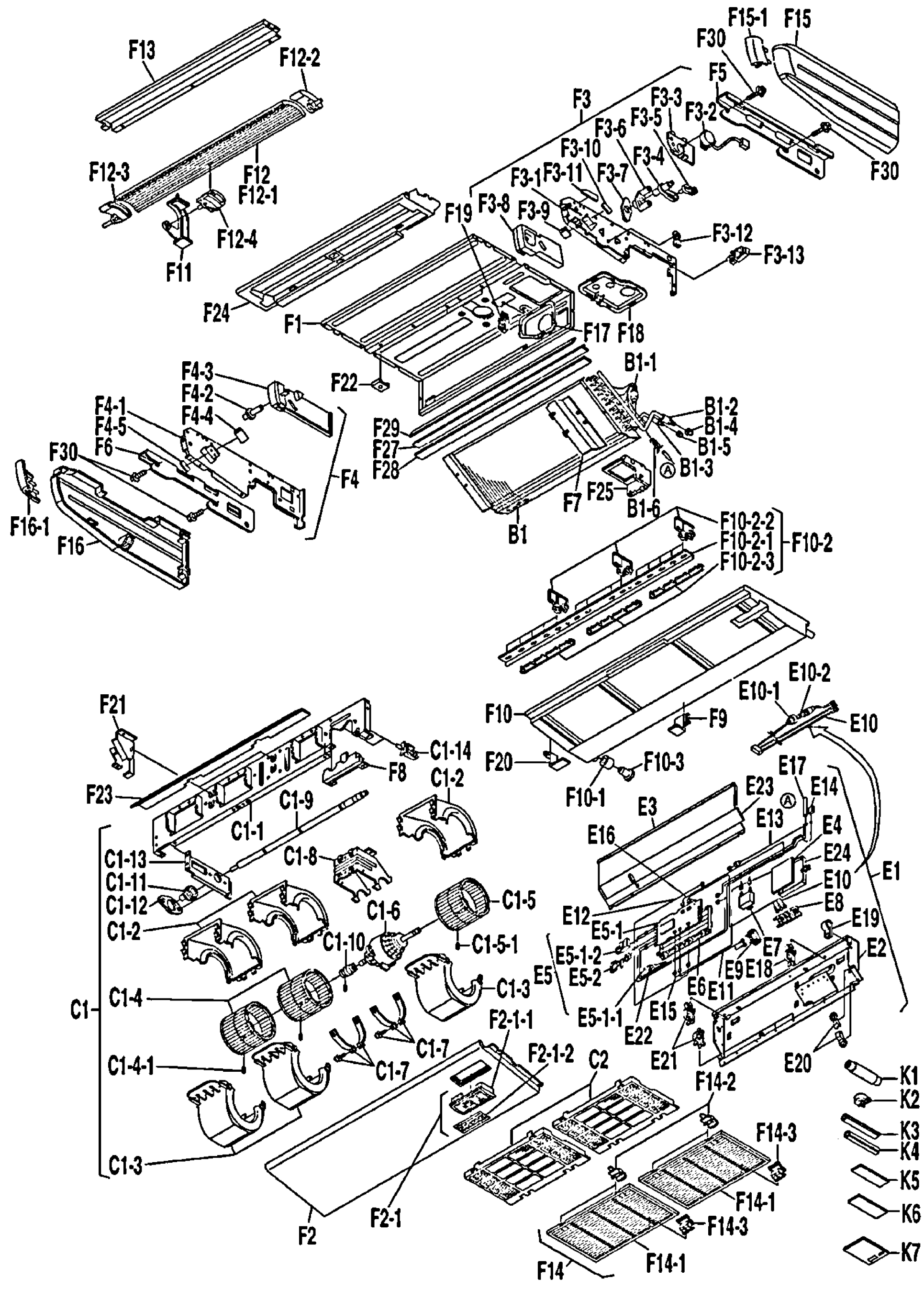
2.8 FH35BZV1, FH45BZV1, FHYP35BV1 and FHYP45BV1

Exploded view

The illustration below shows the exploded view.

FH35BVE, FH35BVE5, FH35BJV1, FH35BZV1



Components The table below contains the components of the exploded view.

No.	Component	No.	Component	No.	Component
B1	Evaporator assy	E12	Wire harness (feed back)	F9	Set plate drain pan
B1.1	Distributor	E13	Wire harness (fan motor)	F10	Drain pan assy
B1.2	Union joint (gas line)	E14	Wire harness (swing motor)	F10.1	Insulation tube
B1.3	Union joint (liquid line)	E15	Wire harness (power unit)	F10.2	Vertical vane air discharge
B1.4	Flare nut	E16	Wire harness (power unit)	F10.2.1	Set plate vertical vane
B1.5	Flare nut	E17	Thermistor	F10.2.2	Vertical vane air discharge
B1.6	Retainer thermistor	E18	Wire clip	F10.2.3	Connecting bar vertical vane
C1	Fan assy	E19	Clamp	F10.3	Cap drain socket
C1.1	Top plate fan assy	E20	Lock metal	F11	Supporter
C1.2	Fan housing	E21	Wire clip	F12	Horizontal vane assy
C1.3	Fan housing	E22	Bush thermistor	F12.1	Horizontal vane
C1.4	Fan rotor	E23	Sound absorbing material	F12.2	Rod horizontal vane
C1.4.1	Hexagon socket screw	E24	Housing power unit	F12.3	Rod horizontal vane
C1.5	Fan rotor	F1	Top plate assy	F12.4	Rod horizontal vane
C1.5.1	Hexagon socket screw	F2	Bottom plate assy	F13	Decorative plate
C1.6	Fan motor	F2.1	Name plate assy	F14	Air suction grille assy
C1.7	Lock metal fan motor	F2.1.1	Housing signal receiver	F14.1	Air suction grille
C1.8	Motor base	F2.1.2	DAIKIN name plate	F14.2	Fixture air suction grille
C1.9	Fan shaft	F3	Side plate assy (right)	F14.3	Hinge air suction grille
C1.10	Coupling fan shaft	F3.1	Side plate (right)	F15	Side plate assy
C1.11	Fan bearing	F3.2	Swing motor assy	F15.1	Cover side plate
C1.12	Bearing holder	F3.3	Set plate swing motor	F16	Side plate (left)
C1.13	Set plate bearing holder	F3.4	Connecting arm horizontal vane	F17	Blind plate piping hole
C1.14	Wire clip	F3.5	Crank air swing	F18	Blind plate piping hole
C2	Air filter	F3.6	Bearing horizontal vane	F19	Wire clip
E1	Electric components assy	F3.7	Heat insulation material	F20	Set plate drain pan
E2	Switch box	F3.8	Heat insulation material	F21	Supporter fan
E3	Cover switch box	F3.9	Heat insulation material	F22	Retainer
E4	Printed circuit (power unit)	F3.10	Sealer	F23	Air guide plate
E5	Printed circuit	F3.11	Sealer	F24	Heat insulation cover top plate
E5.1	Printed circuit (control unit)	F3.12	Lock metal	F25	Insulation cover piping hole
E5.1.1	Air thermistor	F3.13	Wire clip	F27	Protector heat exchanger
E5.1.2	Connector	F4	Side plate assy	F28	Heat insulation cover
E5.2	Capacity control adaptor	F4.1	Side plate (left)	F29	Heat insulation cover
E6	Plastic case	F4.2	Bearing horizontal vane	F30	Suspension bolt
E7	Capacitor fan motor	F4.3	Heat insulation material	K1	Drain hose
E8	Terminal block	F4.4	Heat insulation material	K2	Hose band
E9	Terminal block	F4.5	Heat insulation material	K3	Insulation tube (liquid line)
E10	Wire harness (transmission)	F5	Hook metal	K4	Insulation tube (gas line)
E10.1	Fuse holder	F6	Hook metal	K5	Sealer
E10.2	Fuse	F7	Side plate heat exchanger	K6	Sealer
E11	Wire harness (remote control)	F8	Retainer refrigerant piping	K7	Operation manual

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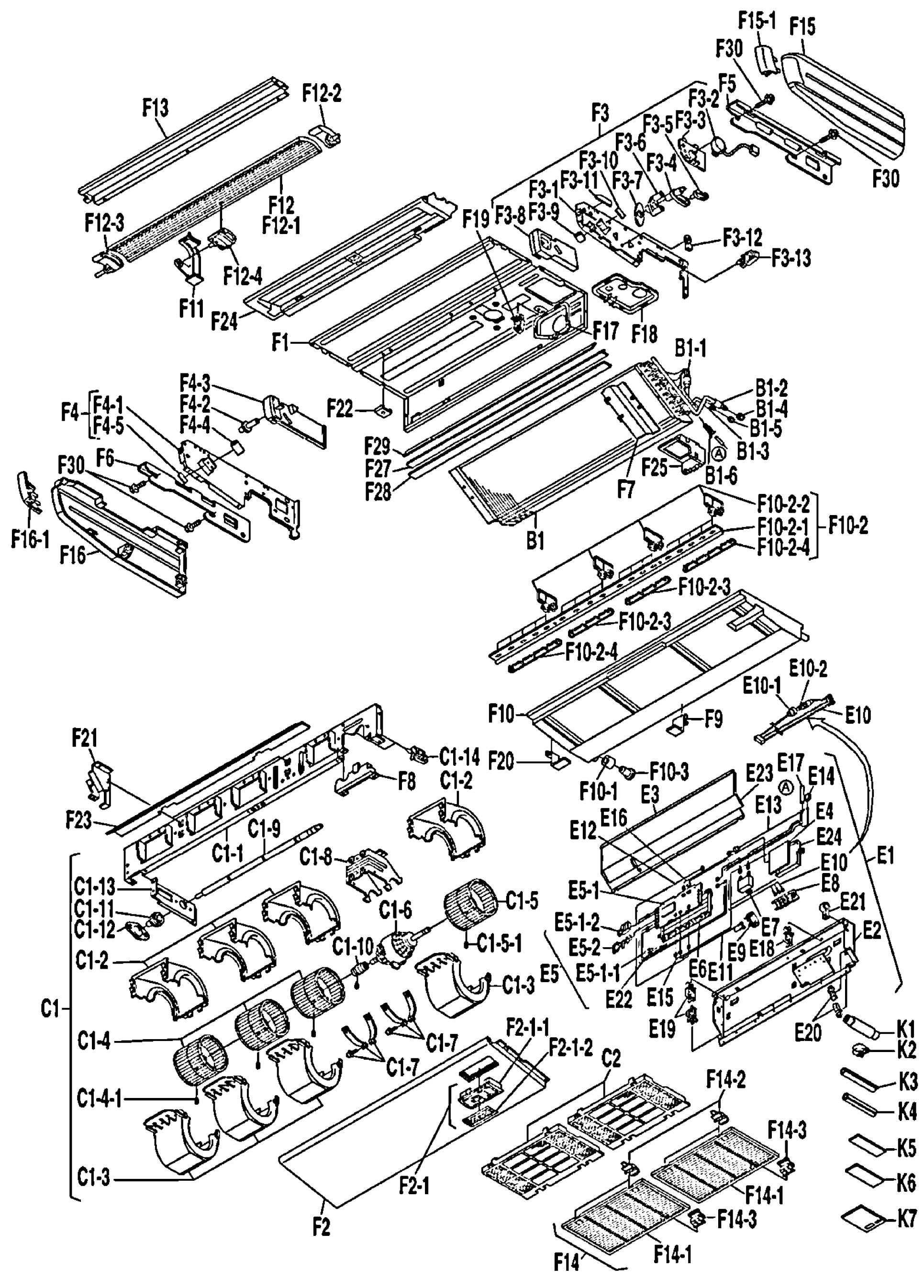
2.9 FH60BZV1, FHYP60BV1 and FHYP71BV1

Exploded view

The illustration below shows the exploded view.

FH60BVE, FH60BVE5, FH60BJV1, FH60BZV1



Components

The table below contains the components of the exploded view.

No.	Component	No.	Component	No.	Component
B1	Evaporator assy	E13	Wire harness (fan motor)	F10.1	Insulation tube
B1.1	Distributor	E14	Wire harness (swing motor)	F10.2	Vertical vane air discharge
B1.2	Union joint (gas line)	E15	Wire harness (power unit)	F10.2.1	Set plate vertical vane
B1.3	Union joint (liquid line)	E16	Wire harness (power unit)	F10.2.2	Vertical vane air discharge
B1.4	Flare nut	E17	Thermistor	F10.2.3	Connect. bar vertical vane
B1.5	Flare nut	E18	Wire clip	F10.2.4	Connect. bar vertical vane
B1.6	Retainer thermistor	E19	Wire clip	F10.3	Cap drain socket
C1	Fan assy	E20	Lock metal	F11	Supporter
C1.1	Top plate fan assy	E21	Clamp	F12	Horizontal vane assy
C1.2	Fan housing	E22	Bush thermistor	F12.1	Horizontal vane
C1.3	Fan housing	E23	Sound absorbing material	F12.2	Rod horizontal vane
C1.4	Fan rotor	E24	Housing power unit	F12.3	Rod horizontal vane
C1.4.1	Hexagon socket screw	F1	Top plate assy	F12.4	Rod horizontal vane
C1.5	Fan rotor	F2	Bottom plate assy	F13	Decorative plate
C1.5.1	Hexagon socket screw	F2.1	Name plate assy	F14	Air suction grille assy
C1.6	Fan motor	F2.1.1	Housing signal receiver	F14.1	Air suction grille
C1.7	Lock metal fan motor	F2.1.2	DAIKIN name plate	F14.2	Fixture air suction grille
C1.8	Motor base	F3	Side plate assy (right)	F14.3	Hinge air suction grille
C1.9	Fan shaft	F3.1	Side plate (right)	F15	Side plate assy
C1.10	Coupling fan shaft	F3.2	Swing motor assy	F15.1	Cover side plate
C1.11	Fan bearing	F3.3	Set plate swing motor	F16	Side plate (left)
C1.12	Bearing holder	F3.4	Connecting arm horizontal vane	F17	Blind plate piping hole
C1.13	Set plate bearing holder	F3.5	Crank air swing	F18	Blind plate piping hole
C1.14	Wire clip	F3.6	Bearing horizontal vane	F19	Wire clip
C2	Air filter	F3.7	Heat insulation material	F20	Set plate drain pan
E1	Electric components assy	F3.8	Heat insulation material	F21	Supporter fan
E2	Switch box	F3.9	Heat insulation material	F22	Retainer
E3	Cover switch box	F3.10	Sealer	F23	Air guide plate
E4	Printed circuit (power unit)	F3.11	Sealer	F24	Heat insulation cover top plate
E5	Printed circuit	F3.12	Lock metal	F25	Insulation cover piping hole
E5.1	Printed circuit (control unit)	F3.13	Wire clip	F27	Protector heat exchanger
E5.1.1	Air thermistor	F4	Side plate assy	F28	Heat insulation cover
E5.1.2	Connector	F4.1	Side plate (left)	F29	Heat insulation cover
E5.2	Capacity control adaptor	F4.2	Bearing horizontal vane	F30	Suspension bolt
E6	Plastic case	F4.3	Heat insulation material	K1	Drain hose
E7	Capacitor fan motor	F4.4	Heat insulation material	K2	Hose band
E8	Terminal block	F4.5	Heat insulation material	K3	Insulation tube (liquid line)
E9	Terminal block	F5	Hook metal	K4	Insulation tube (gas line)
E10	Wire harness (transmission)	F6	Hook metal	K5	Sealer
E10.1	Fuse holder	F7	Side plate heat exchanger	K6	Sealer
E10.2	Fuse	F8	Retainer refrigerant piping	K7	Operation manual
E11	Wire harness (remote control)	F9	Set plate drain pan	—	
E12	Wire harness (feed back)	F10	Drain pan assy		

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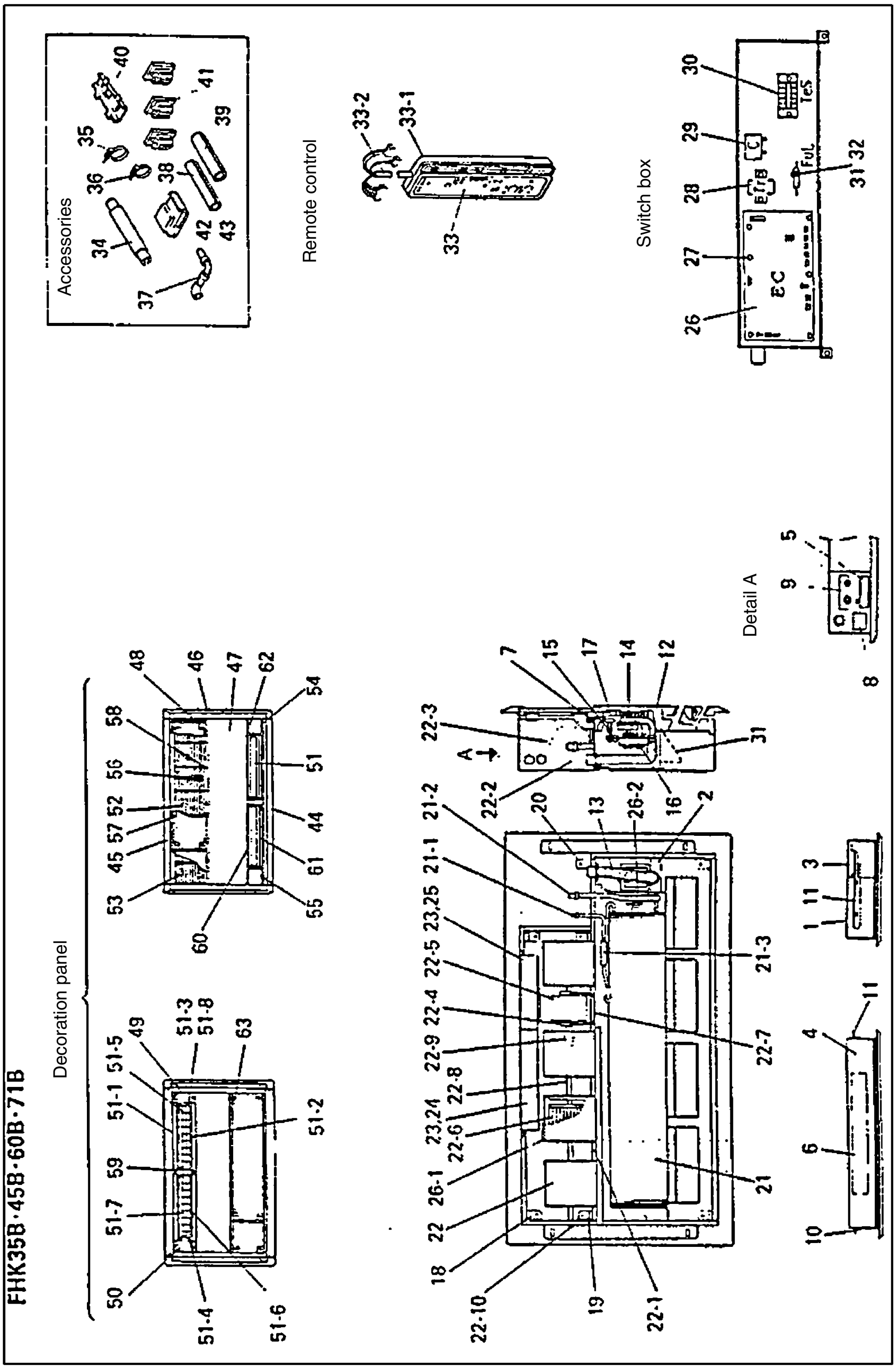
2.10 FHK35BZV1, FHK45BZV1, FHK60BZV1, FHYKP35BV1, FHYKP45BV1, FHYKP60BV1 and FHYKP71BV1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

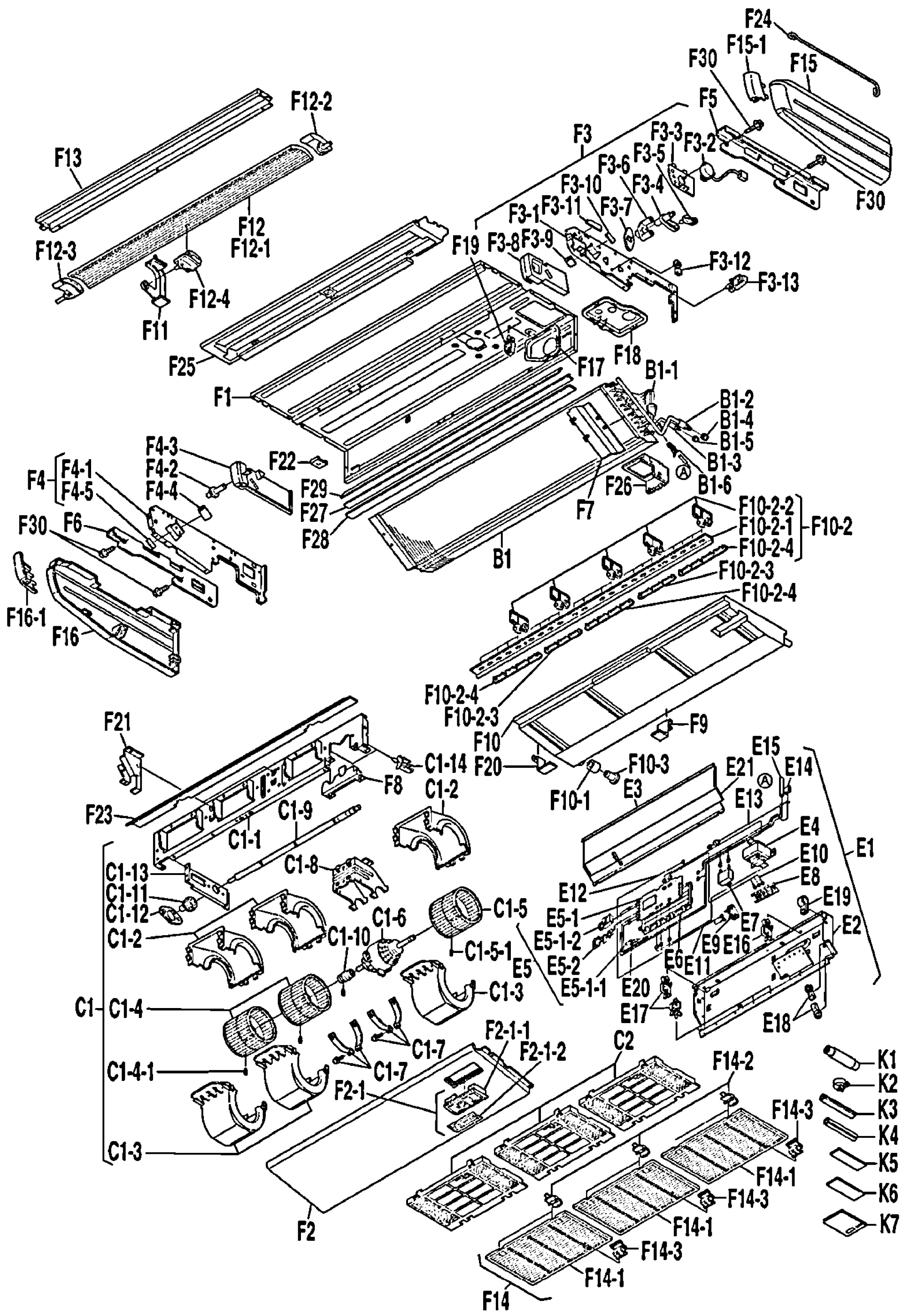
No.	Component	No.	Component
1	Top plate	22.6	Fan motor
2	Partition plate drain pump	22.7	Motor base
3	Side plate fan chamber	22.8	Fan shaft
4	Front plate assy	22.9	Coupling
5	Wiring cover	22.10	Fan bearing
6	Blind plate ducting hole	23	Swtich box without devices
7	Drain pan holder	24	Cover switch box
8	Blind cover	25	Cover switch box
9	Cover piping hole	26	Printed circuit (control unit)
10	Suspend metal	26.1	Air thermistor
11	Suspend metal	26.2	Thermistor
12	Drain pan assy	27	Locking guard spacer
13	Drain hose	28	Transformer
14	Drain pump	29	Running capacitor
15	Buffer rubber drain pump	30	Terminal block
16	Set plate drain pump	31	Fuse holder
17	Float switch	32	Fuse control circuit
18	Fitting metal decoration panel	33	Remote control
19	Fitting metal decoration panel	33.1	Bottom case remote control
20	Fitting metal decoration panel	33.2	Lead wire remote control
21	Evaporator	34	Drain hose
21.1	Union joint (liquid line)	35	Hose band
21.2	Union joint (gas line)	36	Hose band
21.3	Filter	37	Drain pipe
22	Fan assy with motor	38	Insulation tube
22.1	Top plate fan assy	39	Insulation tube
22.2	Fan housing	40	Hook remote control
22.3	Fan housing	41	Staple
22.4	Clamp metal fan motor	42	Blind air discharge
22.5	Fan motor	43	Blind air discharge

2.11 FHYP100BV1 and FHYP125BV1

Exploded view

The illustration below shows the exploded view.

FHYP100BV1



Components The table below contains the components of the exploded view.

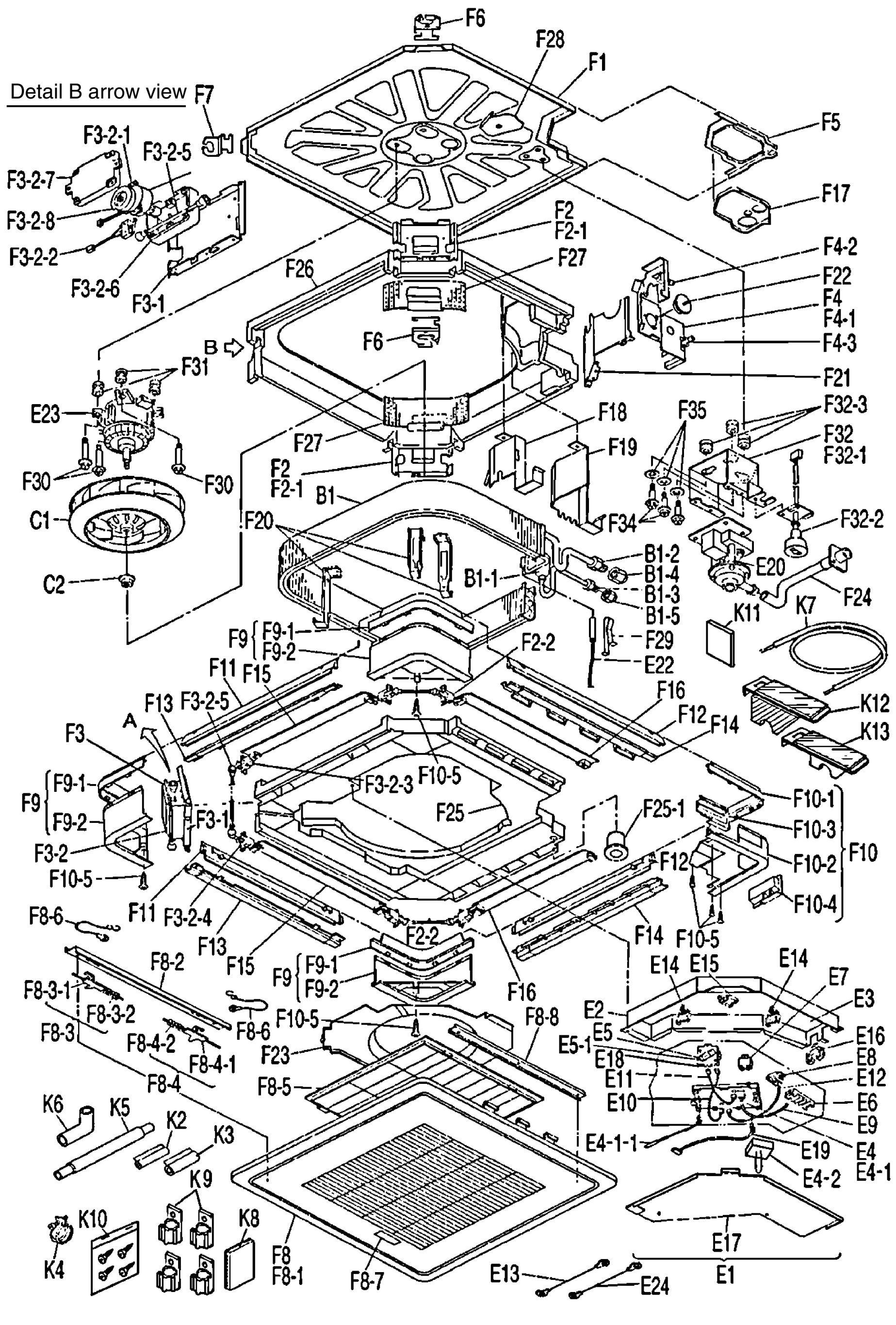
No.	Component	No.	Component	No.	Component
B1	Evaporator assy	E13	Wire harness (fan motor)	F10.1	Insulation tube
B1.1	Distributor	E14	Wire harness (swing motor)	F10.2	Vertical vane air discharge
B1.2	Union joint (gas line)	E15	Thermistor	F10.2.1	Set plate vertical vane
B1.3	Union joint (liquid line)	E16	Wire clip	F10.2.2	Vertical van air discharge
B1.4	Flare nut	E17	Wire clip	F10.2.3	Connect. bar vertical vane
B1.5	Flare nut	E18	Lock metal	F10.3	Cap drain socket
B1.6	Retainer thermistor	E19	Clamp	F11	Supporter horizontal vane
C1	Fan assy	E20	Bush thermistor	F12	Horizontal vane assy
C1.1	Top plate fan assy	E21	Sound absorbing material	F12.1	Horizontal vane
C1.2	Fan housing	E21	Sound absorbing material	F12.2	Rod horizontal vane
C1.3	Fan housing	F1	Top plate assy	F12.3	Rod horizontal vane
C1.4	Fan rotor	F2	Bottom plate assy	F12.4	Rod horizontal vane
C1.4.1	Hexagon socket screw	F2.1	Name plate assy	F13	Decorative plate
C1.5	Fan rotor	F2.1.1	Housing signal receiver	F14	Air suction grille assy
C1.5.1	Hexagon socket screw	F2.1.2	DAIKIN name plate	F14.1	Air suction grille
C1.6	Fan motor	F3	Side plate assy (right)	F14.2	Fixture air suction grille
C1.7	Lock metal fan motor	F3.1	Side plate (right)	F14.3	Hinge air suction grille
C1.8	Motor base	F3.2	Swing motor assy	F15	Side plate assy
C1.9	Fan shaft assy	F3.3	Set plate swing motor	F16	Side plate assy
C1.10	Coupling fan shaft	F3.4	Connecting arm horizontal vane	F16.1	Cover side plate
C1.11	Fan bearing	F3.5	Crank air swing	F17	Blind plate piping hole
C1.12	Bearing holder	F3.6	Bearing horizontal vane	F18	Blind plate piping hole
C1.13	Set plate bearing holder	F3.7	Heat insulation material	F19	Wire clip
C1.14	Wire clip	F3.8	Heat insulation material	F20	Set plate drain pan
C2	Air filter	F3.9	Heat insulation material	F21	Supporter fan
E1	Electronic components assy	F3.10	Heat insulation material	F22	Retainer
E2	Switch box	F3.11	Sealer	F23	Air guide plate
E3	Cover switch box	F3.12	Lock metal	F24	Heat insulation cover piping hole
E4	Power transformer	F3.13	Wire clip	F25	Insulation cover piping hole
E5	Printed circuit	F4	Side plate assy	F27	Protector heat exchanger
E5.1	Printed circuit (control unit)	F4.1	Side plate (left)	F28	Heat insulation cover
E5.1.1	Air thermistor	F4.2	Bearing horizontal vane	F29	Heat insulation cover
E5.1.2	Connector	F4.3	Heat insulation material	F30	Suspension bolt
E5.2	Capacity control adaptor	F4.4	Heat insulation material	K1	Drain hose
E6	Platic case	F4.5	Heat insulation material	K2	Hose band
E7	Capacitor fan motor	F5	Hook metal	K3	Insulation tube (liquid line)
E8	Terminal block	F6	Hook metal	K4	Insulation tube (gas line)
E9	Terminal block	F7	Side plate heat exchanger	K5	Sealer
E10	Wire harness (transmission)	F8	Retainer	K6	Sealer
E11	Wire harness (remote control)	F9	Set plate drain pan	K7	Operation manual
E12	Wire harness (feed back)	F10	Drain pan assy	—	

2.12 FUYP71BV17

Exploded view

The illustration below shows the exploded view.

FUYP71BV1



Components

The table below contains the components of the exploded view.

No.	Component	No.	Component	No.	Component
B1	Heat exchanger assy	F3	Side plate assy swing unit	F12	Decorative frame air discharge
B1.1	Distributor	F3.1	Side plate	F13	Decorative frame air discharge
B1.2	Union joint (gas line)	F3.2	Air swing unit	F14	Decorative frame air discharge
B1.3	Union joint (liquid line)	F3.2.1	Air swing motor	F15	Horizontal vane air discharge
B1.4	Flare nut	F3.2.2	Limit switch	F16	Horizontal vane air discharge
B1.5	Flare nut	F3.2.3	Bearing assy (right)	F17	Blind plate pipng hole
C1	Rotor assy	F3.2.4	Bearing assy (left)	F18	Partition plate evaporator
C2	Lock nut fan rotor	F3.2.5	Joint	F19	Blind plate heat exchanger
E1	Electric components assy	F3.2.6	Air swing motor base	F20	Fitting plate evaporator
E2	Switch box	F3.2.7	Cover air swing motor	F21	Retainer refrigerant piping
E3	Set plate control devices	F3.2.8	Cam air swing	F22	Cover inspection hole
E4	PCB assy	F4	Side plate assy	F23	Bell mouth
E4.1	Printed circuit (control)	F4.1	Side plate	F24	Drain hose assy
E4.1.1	Air thermistor	F4.2	Bearing assy (right)	F25	Drain pan assy
E4.2	Capacity setting adaptor	F4.3	Bearing assy (left)	F25.1	Drain plug
E5	Printed circuit (power unit)	F5	Hook metal refrigerant piping	F26	Heat insulator (internal)
E5.1	Fuse	F6	Hook metal	F27	Air adjust plate
E6	Terminal block	F7	Hook metal	F28	Retainer lead wire
E7	Capacitor	F8	Air suction grille assy	F29	Retainer thermistor
E8	Terminal block	F8.1	Air suction grille	F30	Set bolt fan motor
E9	Wire harness (transmission)	F8.2	Reinforcement plate	F31	Vibration isolator fan motor
E10	Wire harness (power unit)	F8.3	Air dilection lever assy	F32	Set plate drain pump
E11	Wire harness (power unit)	F8.3.1	Lever air suction grille	F32.1	Set base drain pump
E12	Wire harness (PCB terminal)	F8.3.2	Spring air suction grille	F32.2	Float switch
E13	Grounding wire	F8.4	Air direction lever assy	F32.3	Buffer rubber drain pump
E14	Wire clip	F8.5	Air filter	F34	Set bolt fan motor
E15	Wire clip	F8.6	Reinforcement metal grille	F35	Plain washer
E16	Edge saddle	F8.7	DAIKIN name plate	K2	Insulation cover (liquid line)
E17	Cover switch box	F8.8	Reinforcement plate	K3	Insulation tube (gas line)
E18	Housing power unit	F9	Corner cover assy	K4	Hose band
E19	Wire harness (fan motor)	F9.1	Corner cover	K5	Drain hose
E20	Drain pump	F9.2	Corner cover	K6	Drain pipe joint
E22	Heat exchanger thermistor	F10	Corner cover refrigerant piping	K7	Lead wire remote control
E23	Fan motor	F10.1	Corner cover upper	K8	Sealer drain hose
E24	Grounding wire	F10.2	Corner cover lower	K9	Staple
F1	Top plate	F10.3	Internal corner cover	K10	Pan head wood screw
F2	Side plate assy	F10.4	Internal corner cover	K11	Shelter air discharge grille
F2.1	Side plate	F10.5	Tapping screw	K12	Lock plate insulator
F2.2	Joint assy	F11	Decorative frame air discharge	K13	Lock plate insulator

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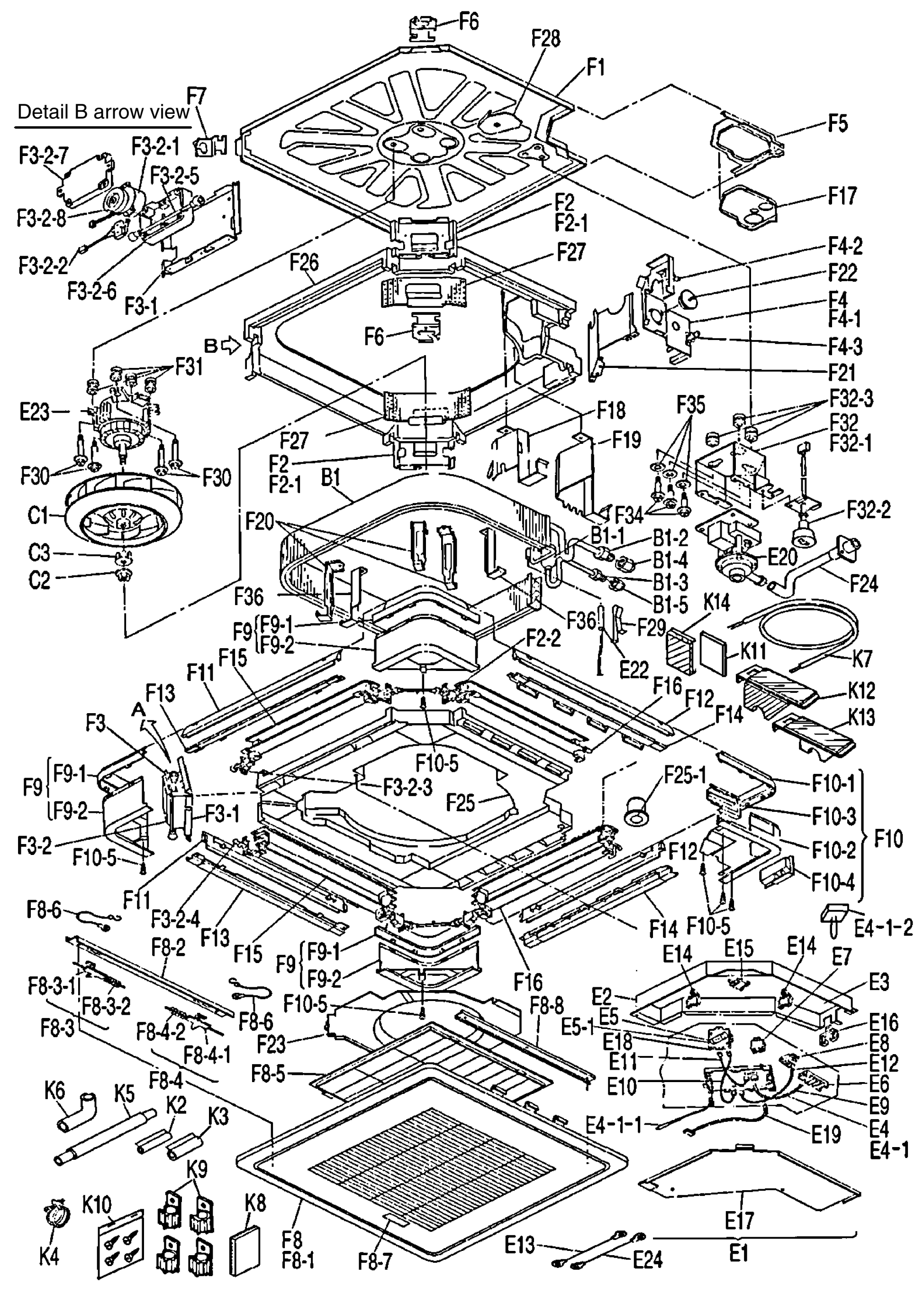
2.13 FUYP100BV17 and FUYP125BV17

Exploded view

The illustration below shows the exploded view.

FUYP100BV1, FUYP125BV1



Components

The table below contains the components of the exploded view.

No.	Component	No.	Component	No.	Component
B1	Heat exchanger assy	F3	Side plate assy swing unit	F13	Decorative frame air discharge
B1.1	Distributor	F3.1	Side plate	F14	Decorative frame air discharge
B1.2	Union joint (gas line)	F3.2	Air swing unit	F15	Horizontal vane air discharge
B1.3	Union joint (liquid line)	F3.2.1	Air swing motor	F16	Horizontal vane air discharge
B1.4	Flare nut	F3.2.2	Limit switch	F17	Blind plate pipng hole
B1.5	Flare nut	F3.2.3	Bearing assy (right)	F18	Partition plate evaporator
C1	Rotor assy	F3.2.4	Bearing assy (left)	F19	Blind plate heat exchanger
C2	Lock nut fan rotor	F3.2.5	Joint	F20	Fitting plate evaporator
C3	Lock washer	F3.2.6	Air swing motor base	F21	Retainer refrigerant piping
E1	Electric components assy	F3.2.7	Cover air swing motor	F22	Cover inspection hole
E2	Switch box	F3.2.8	Cam air swing	F23	Bell mouth
E3	Set plate control devices	F4	Side plate assy	F24	Drain hose assy
E4	PCB assy	F4.1	Side plate	F25	Drain pan assy
E4.1	Printed circuit (control)	F4.2	Bearing assy (right)	F25.1	Drain plug
E4.1.1	Air thermistor	F4.3	Bearing assy (left)	F26	Heat insulator (internal)
E4.2	Capacity setting adaptor	F5	Hook metal refr. piping	F27	Air adjust plate
E5	Printed circuit (power unit)	F6	Hook metal	F28	Retainer lead wire
E5.1	Fuse	F7	Hook metal	F29	Retainer thermistor
E6	Terminal block	F8	Air suction grille assy	F30	Set bolt fan motor
E7	Capacitor	F8.1	Air suction grille	F31	Vibration isolator fan motor
E8	Terminal block	F8.2	Reinforcement plate	F32	Set plate drain pump
E9	Wire harness (transmission)	F8.3	Air dilection lever assy	F32.1	Set base drain pump
E10	Wire harness (power unit)	F8.3.1	Lever air suction grille	F32.2	Float switch
E11	Wire harness (power unit)	F8.3.2	Spring air suction grille	F32.3	Buffer rubber drain pump
E12	Wire harness (PCB terminal)	F8.4	Air direction lever assy	F34	Set bolt fan motor
E13	Grounding wire	F8.5	Air filter	F35	Plain washer
E14	Wire clip	F8.6	Reinforcement metal grille	F36	Air guide plate assy
E15	Wire clip	F8.7	DAIKIN name plate	K2	Insulation cover (liquid line)
E16	Edge saddle	F8.8	Reinforcement plate	K3	Insulation tube (gas line)
E17	Cover switch box	F9	Corner cover assy	K4	Hose band
E18	Housing power unit	F9.1	Corner cover	K5	Drain hose
E19	Wire harness (fan motor)	F9.2	Corner cover	K6	Drain pipe joint
E20	Drain pump	F10	Corner cover refrigerant piping	K7	Lead wire remote control
E22	Heat exchanger thermistor	F10.1	Corner cover upper	K8	Sealer drain hose
E23	Fan motor	F10.2	Corner cover lower	K9	Staple
E24	Grounding wire	F10.3	Internal corner cover	K10	Pan head wood screw
F1	Top plate	F10.4	Internal corner cover	K11	Shelter air discharge grille
F2	Side plate assy	F10.5	Tapping screw	K12	Lock plate insulator
F2.1	Side plate	F11	Decorative frame air discharge	K13	Lock plate insulator
F2.2	Joint assy	F12	Decorative frame air discharge	K14	Lock plate insulator

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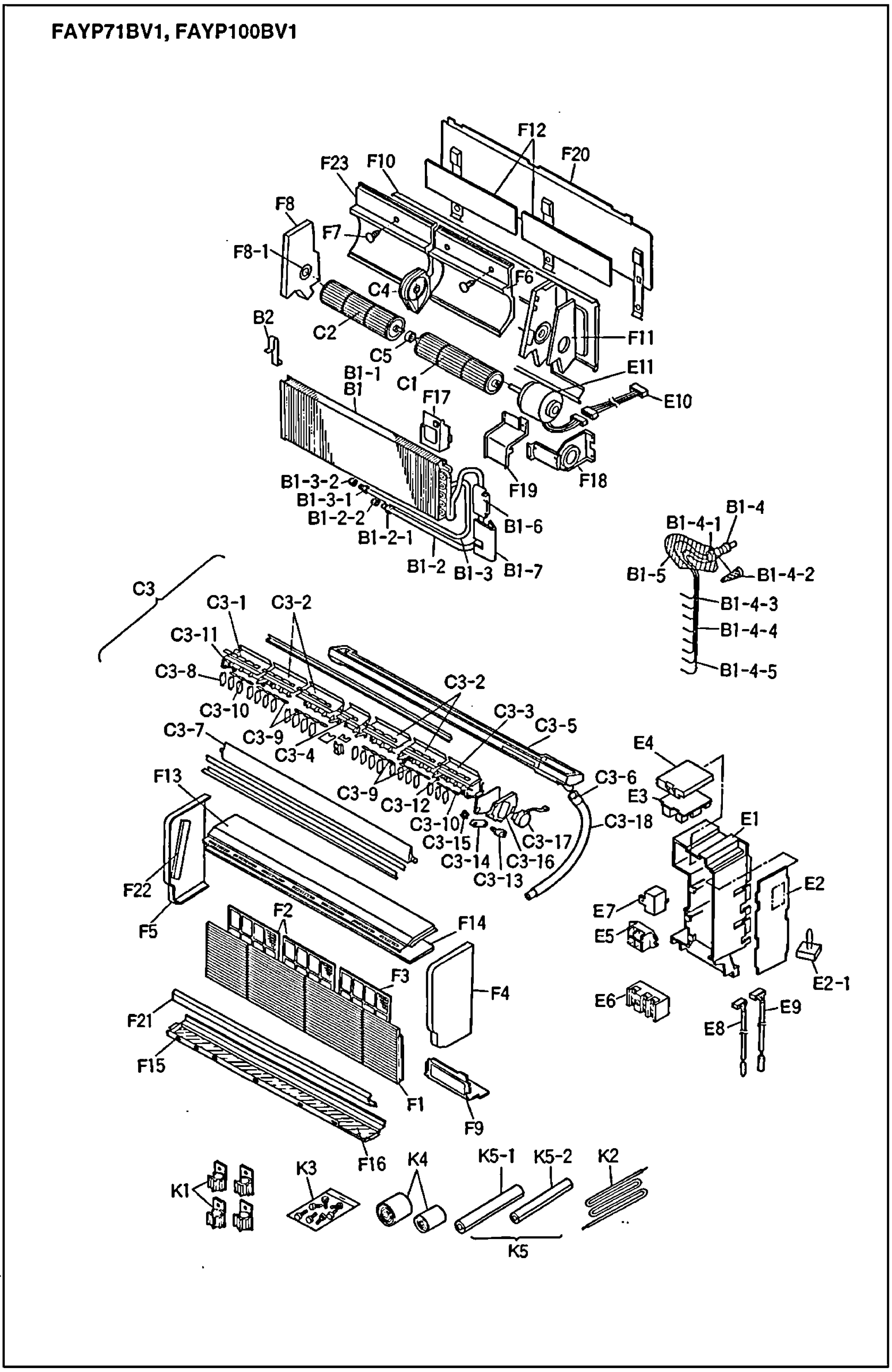
2.14 FAYP71BV1 and FAYP100BV1

Exploded view

The illustration below shows the exploded view.



Components

The table below contains the components of the exploded view.

No.	Component	No.	Component
B1	Evaporator assy	E2	Printed circuit
B1.1	Evaporator assy	E2.1	Capacity setting adaptor
B1.2	Auxiliary pipe (gas line)	E3	Printed circuit (power unit)
B1.2.1	Union joint (gas line)	E4	Housing power unit
B1.2.2	Flare nut	E5	Terminal block
B1.3	Auxiliary pipe (liquid line)	E6	Terminal block
B1.3.1	Union joint	E7	Running capacitor
B1.3.2	Flare nut	E8	Thermistor
B1.4	Capillary tube assy	E9	Heat exchanger thermistor
B1.4.1	Distributor	E10	Wire harness
B1.4.2	Strainer	E11	Fan motor
B1.4.3	Capillary tube	F1	Front grille assy
B1.4.4	Capillary tube	F2	Air filter
B1.4.5	Capillary tube	F3	Air filter
B1.5	Sound absorbing putty	F4	Side plate assy (right)
B1.6	Sound absorbing putty	F5	Side plate assy (left)
B1.7	Sound absorbing putty	F6	Fan scroll assy (right)
B2	Fitting spring thermistor	F7	Fastener
C1	Fan rotor	F8	Partition plate (left)
C2	Fan rotor	F8.1	Fan bearing assy
C3	Air discharge grille assy	F9	Indicator cover
C3.1	Air discharge grille	F10	Bottom frame assy
C3.2	Air discharge grille	F11	Heat insulation cover (right)
C3.3	Air discharge grille	F12	Drip proof cover bottom frame
C3.4	Air discharge unit	F13	Top plate
C3.5	Drain pan assy	F14	Insulation cover bottom plate
C3.6	Drain socket	F15	Bottom plate
C3.7	Horizontal vane assy	F16	Insulation cover bottom plate
C3.8	Vertical vane air discharge	F17	Clamp refrigerant piping
C3.9	Connecting arm	F18	Motor base
C3.10	Connecting arm	F19	Cover fan motor
C3.11	Bearing	F20	Mounting plate
C3.12	Rod	F21	Plate air discharge grille
C3.13	Crank air swing	F22	Heat insulation cover (left)
C3.14	Crank rod air swing	F23	Fan scroll assy (left)
C3.15	Crank. air swing	K1	Staple
C3.16	Swing motor base	K2	Lead wire remote control
C3.17	Air swing motor	K3	Screw kit
C3.18	Drain hose	K4	Insulation tape
C4	Bearing holder	K5	Insulation cover joint
C5	Fan bearing	K5.1	Insulation tube gas line
E1	Switch box	K5.2	Heat insulation material

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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.

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.

Specifications are subject to change without prior notice

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

DAIKIN EUROPE N.V.
Zandvoordestraat 300
B-8400 Ostend - Belgium
Internet: http://www.daikineurope.com

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Prepared in Belgium by Vanmelle