

# Airwell

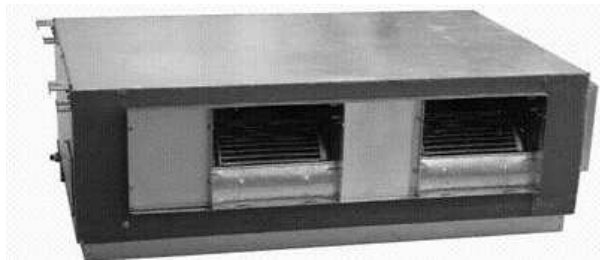
# Service Manual

## HSP Ducted Series

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Indoor Units	Outdoor Units
DAF068	YIF068
DAF085	YIF085
DAF102	YIF102
DAF136	YIF136



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REFRIGERANT

R410A

HEAT PUMP

SM HSP Ducted 1-A.1 GB

DECEMBER - 2010

Version:1

LIST OF EFFECTIVE PAGES

**Note:** Changes in the pages are indicated by a “Revision#” in the footer of each effected page (when none indicates no changes in the relevant page). All pages in the following list represent effected/ non effected pages divided by chapters.

Dates of issue for original and changed pages are:

Original ..... 01 ..... 27 December,10

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## 1. INTRODUCTION

### 1.1 General

The high static pressure ducted range including 4 models with nominal cooling capacity of 20kW,25kW,30kW and 40kw. as follows:

**IDU:**

DAF068 DAF085 DAF102 DAF136

**ODU:**

YIF068 YIF085 YIF102 YIF136

Thanks to its high capacity, high static pressure, large air flow and central control, this range provide the most suitable solution for big space of commercial air conditioning.

### 1.2 Main Features

The unit benefits from the most advanced technological innovations, namely:

- R410A models
- Compact design
- Simple wire connection design
- Low noise
- Long life and washable filter
- Wired remote control and wireless remote control
- Reserved accessibility of fresh air
- Long ducted air supply
- Weekly timer control (Optional)

### 1.3 Indoor Unit

The indoor unit is ducted and can be easily fitted to many types of residential and commercials applications. The unit can be installed with long duct to each corner of air conditioning space

**It includes:**

- Coil with hydrophilic aluminum fins.
- Advanced electronic control box assembly
- the DAF series presents several types of air filters: Easily accessible, and re-

usable pre-filters (mesh)

## 1.4 Control

The microprocessor indoor controller, and an infrared remote control, supplied as standard, provide complete operating function and programming.

Remote control RC 8:

Compact and economically design, it offers excellent user comfort. Combining modern design with high technology, the RC8 remote control offers powerful functions of real considering of user comfort and energy saving of air-conditioner.

For detail of functions, please refer to Appendix 1

## 1.5 Outdoor Unit

The outdoor units can be installed as floor. All outdoor units are pre-charged. For further information please refer to the Product Data Sheet, Chapter 2.

It includes:

- Axial fan.
- Outlet air fan grill.
- Interconnecting wiring terminal block.

## 1.6 Tubing Connections

For further details, please refer to the Installation Manual.

## 1.7 Accessories

### RCW Wall Mounted Remote Control

The RCW remote control is mounted on the wall, and controls the unit either as an infrared remote control or as a wired controller.

The wired remote control with larger LCD display provides the following functions

- Interconnecting wiring terminal block.
- On/OFF unit
- Choose the operating mode (Heating-Cooling-Dehumidification-Fan or Automatic mode),
- Increase or decrease the setting temperature.
- Adjust the fan speeds (Auto/High/Medium/Low)
- Setting ON-OFF timer within 0.5hr-24hrs
- Air exchange (Fresh air) settings
- Sleep mode saves energy by preventing overcooling or overheating during night time


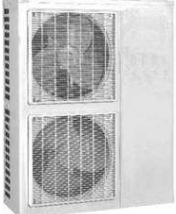

- Energy saving function
- Technician functions
  - Display of Outdoor Ambient Temperature
  - Power-fail Memory Function Setting
  - Setting of Ambient Temp. Sensor
  - Setting of Fan Speed
  - Failure Display

For further details please refer to the Technical Service Manual.

### 1.8 Inbox Documentation

Each unit is supplied with its own installation, operation and remote control manuals.

### 1.9 Matching Table

OUTDOOR UNITS			INDOOR UNITS			
						
	MODEL	REFRIGERANT	DAF068	DAF085	DAF102	DAF136
	YIF068	R410A	√			
	YIF085	R410A		√		
	YIF102	R410A			√	
	YIF136	R410A				√

## 2. PRODUCT DATA SHEET

### 2.1 DAF068 / YIF068

Model Indoor Unit		DAF068	
Model Outdoor Unit		YIF068	
Installation Method of Pipe		ducted	
<b>Characteristics</b>	<b>Units</b>	<b>Cooling</b>	<b>Heating</b>
Capacity (4)	Btu/hr	68240	75060
	kW	20	22
Power input (4)	kW	8.4	7
EER (Cooling) or COP(Heating) (4)	W/W	2.5	3.1
Energy efficiency class			
Power supply	V/Ph/Hz	380-415V/3Ph~50Hz	
Rated current	A		
Starting current	A		
Circuit breaker rating (IDU/ODU)		A	10/25
INDOOR	Fan type & quantity		Centrifugal x 2
	Fan speeds	H	RPM 1380
	Air flow (1)	H/M/L	m3/hr 4000
	External static pressure	Min-Max	Pa 200(100~300)
	Sound power level (2)	H/M/L	dB(A)
	Sound pressure level(3)	H/M/L	dB(A) 56
	Moisture removal		l/hr
	Condensate drain tube I.D		mm
	Dimensions	WxHxD	mm 1463*799*389
	Weight		kg 96
	Package dimensions	WxHxD	mm 1540*880*400
	Packaged weight		kg 106
	Units per pallet		units
	Stacking height		units
OUTDOOR	Refrigerant control		Capillary
	Compressor type,model		Scroll
	Fan type & quantity		Propeller(direct) x 2
	Fan speeds	H/L	RPM 850
	Air flow	H/L	m3/hr
	Sound power level	H/L	dB(A)
	Sound pressure level(3)	H/L	dB(A) 65
	Dimensions	WxHxD	mm 1150X460X1350
	Weight		kg 160
	Package dimensions	WxHxD	mm 1300X500X1370
	Packaged weight		kg 180
	Units per pallet		Units
	Stacking height		units
	Refrigerant type		R410A
	Refrigerant chargeless distance		kg/m 5.3/7.5
	Additional charge per 1 meter		g/m 110g/m
	Connections between units	Liquid line	In.(mm)
Suction line		In.(mm)	3/4"(19.05)
Max.tubing length		m.	Max.50
Max.height		m.	Max.30
Operation control type		Remote control	
Heating elements (Option)		kW	
Others			

- (1)Airflow in ducted units: at nominal external static pressure.  
 (2)Sound power in ducted units is measured at air discharge.  
 (3)Sound pressure level measured at 1-meter distance from unit.  
 (4)Rating conditions in accordance to ISO 5151 and ISO 13253 (for ducted units).

**2.2 DAF085 / YIF085**

Model Indoor Unit		DAF085	
Model Outdoor Unit		YIF085	
Installation Method of Pipe		ducted	
<b>Characteristics</b>		<b>Units</b>	<b>Cooling</b>
			<b>Heating</b>
Capacity (4)		Btu/hr	83590
		kW	24.5
Power input (4)		kW	9.8
EER (Cooling) or COP(Heating) (4)		W/W	2.5
Energy efficiency class			
Power supply		V/Ph/Hz	380-415V/3Ph~50Hz
Rated current		A	
Starting current		A	
Circuit breaker rating (IDU/ODU)		A	10/32
INDOOR	Fan type & quantity		Centrifugal x 1
	Fan speeds	H	RPM
	Air flow (1)	H	m3/hr
	External static pressure	Min-Max	Pa
	Sound power level (2)	H/M/L	dB(A)
	Sound pressure level(3)	H/M/L	dB(A)
	Moisture removal		l/hr
	Condensate drain tube I.D		mm
	Dimensions	WxHxD	mm
	Weight		kg
	Package dimensions	WxHxD	mm
	Packaged weight		kg
	Units per pallet		units
	Stacking height		units
OUTDOOR	Refrigerant control		Capillary
	Compressor type,model		Scroll
	Fan type & quantity		Propeller(direct) x 2
	Fan speeds	H/L	RPM
	Air flow	H/L	m3/hr
	Sound power level	H/L	dB(A)
	Sound pressure level(3)	H/L	dB(A)
	Dimensions	WxHxD	mm
	Weight		kg
	Package dimensions	WxHxD	mm
	Packaged weight		kg
	Units per pallet		Units
	Stacking height		units
	Refrigerant type		R410A
	Refrigerant chargless distance		kg/m
	Additional charge per 1 meter		g/m
	Connections between units	Liquid line	In.(mm)
Suction line		In.(mm)	
Max.tubing length		m.	
Max.height		m.	
Operation control type		Remote control	
Heating elements (Option)		kW	
Others			

- (1)Airflow in ducted units: at nominal external static pressure.
- (2)Sound power in ducted units is measured at air discharge.
- (3)Sound pressure level measured at 1-meter distance from unit.
- (4)Rating conditions in accordance to ISO 5151 and ISO 13253 (for ducted units).



2.3 DAF102 / YIF102

Model Indoor Unit		DAF102	
Model Outdoor Unit		YIF102	
Installation Method of Pipe		ducted	
<b>Characteristics</b>		<b>Units</b>	<b>Cooling</b>
			<b>Heating</b>
Capacity (4)		Btu/hr	102360
		kW	30
Power input (4)		kW	11
EER (Cooling) or COP(Heating) (4)		W/W	2.4
Energy efficiency class			
Power supply		V/Ph/Hz	380-415V/3Ph~50Hz
Rated current		A	
Starting current		A	
Circuit breaker rating (IDU/ODU)		A	10/40
INDOOR	Fan type & quantity		Centrifugal x 1
	Fan speeds	H/M/L	RPM
	Air flow (1)	H/M/L	m3/hr
	External static pressure	Min-Max	Pa
	Sound power level (2)	H/M/L	dB(A)
	Sound pressure level(3)	H/M/L	dB(A)
	Moisture removal		l/hr
	Condensate drain tube I.D		mm
	Dimensions	WxHxD	mm
	Weight		kg
	Package dimensions	WxHxD	mm
	Packaged weight		kg
	Units per pallet		units
	Stacking height		units
OUTDOOR	Refrigerant control		Capillary
	Compressor type,model		Scroll
	Fan type & quantity		Propeller(direct) x 1
	Fan speeds	H/L	RPM
	Air flow	H/L	m3/hr
	Sound power level	H/L	dB(A)
	Sound pressure level(3)	H/L	dB(A)
	Dimensions	WxHxD	mm
	Weight		kg
	Package dimensions	WxHxD	mm
	Packaged weight		kg
	Units per pallet		Units
	Stacking height		units
	Refrigerant type		R410A
	Refrigerant chargeless distance		kg/m
	Additional charge per 1 meter		g/m
	Connections between units	Liquid line	In.(mm)
Suction line		In.(mm)	1-1/8"(28.58)
Max.tubing length		m.	Max.50
Max.height difference		m.	Max.30
Operation control type			Remote control
Heating elements (Option)		kW	
Others			

- (1)Airflow in ducted units; at nominal external static pressure.
- (2)Sound power in ducted units is measured at air discharge.
- (3)Sound pressure level measured at 1-meter distance from unit.
- (4)Rating conditions in accordance to ISO 5151 and ISO 13253 (for ducted units).

**2.4 DAF136 / YIF136**

Model Indoor Unit		DAF136	
Model Outdoor Unit		YIF136	
Installation Method of Pipe		ducted	
<b>Characteristics</b>		<b>Units</b>	<b>Cooling</b> <b>Heating</b>
Capacity (4)		Btu/hr	134770      143300
		kW	39.5      42
Power input (4)		kW	15.8      14
EER (Cooling) or COP(Heating) (4)		W/W	2.5      3.0
Energy efficiency class			
Power supply		V/Ph/Hz	380-415V/3Ph~50Hz
Rated current		A	
Starting current		A	
Circuit breaker rating (IDU/ODU)		A	10/40
INDOOR	Fan type & quantity		Centrifugal x 2
	Fan speeds	H/M/L	RPM 961
	Air flow (1)	H/M/L	m3/hr 7000
	External static pressure	Min-Max	Pa 150 (50~300)
	Sound power level (2)	H/M/L	dB(A)
	Sound pressure level(3)	H/M/L	dB(A) 58
	Moisture removal		l/hr
	Condensate drain tube I.D		mm
	Dimensions	WxHxD	mm 1700*1100*650
	Weight		kg 215
	Package dimensions	WxHxD	mm 1890*1460*835
	Packaged weight		kg 265
	Units per pallet		units
	Stacking height		units
OUTDOOR	Refrigerant control		Capillary+EEV
	Compressor type,model		Scroll
	Fan type & quantity		Propeller(direct) x 1
	Fan speeds	H/L	RPM 730
	Air flow	H/L	m3/hr
	Sound power level	H/L	dB(A)
	Sound pressure level(3)	H/L	dB(A) 69
	Dimensions	WxHxD	mm 1290X880X1772
	Weight		kg 300
	Package dimensions	WxHxD	mm 1370X980X1950
	Packaged weight		kg 330
	Units per pallet		Units
	Stacking height		units
	Refrigerant type		R410A
	Refrigerant chargeless distance		kg/m 10.5/7.5
	Additional charge per 1 meter		g/m 170g/m
	Connections between units	Liquid line	In.(mm)
Suction line		In.(mm)	1-1/8"(28.58)
Max.tubing length		m.	Max.50
Max.height difference		m.	Max.30
Operation control type		Remote control	
Heating elements (Option)		kW	
Others			

(1)Airflow in ducted units; at nominal external static pressure.

(2)Sound power in ducted units is measured at air discharge.

(3)Sound pressure level measured at 1-meter distance from unit.

(4)Rating conditions in accordance to ISO 5151 and ISO 13253 (for ducted units).

### 3. RATING CONDITIONS

Rating conditions in accordance with ISO 5151 and ISO 13253 (for ducted units).

**Cooling:**

Indoor: 27°C DB 19°C WB

Outdoor: 35°C DB

**Heating:**

Indoor: 20°C DB

Outdoor: 7°C DB 6°C WB

#### 3.1 Operating Limits

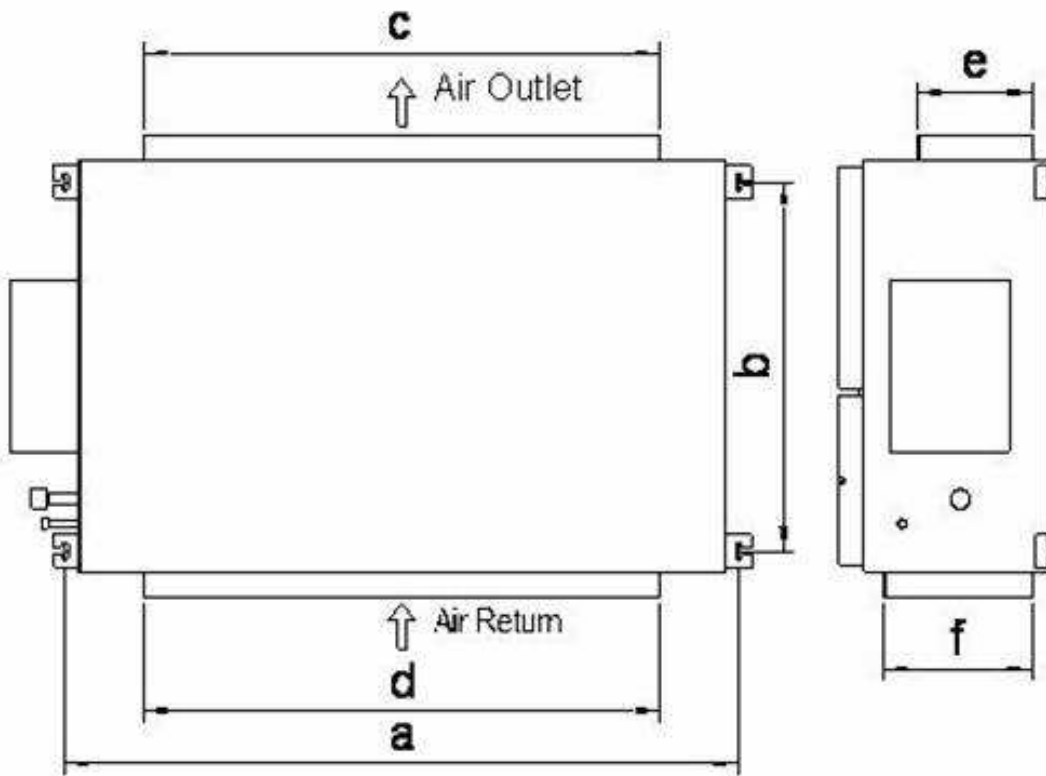
R410A

		Indoor	Outdoor
<b>Cooling</b>	Upper limit	32°C DB 23°C WB	43°C
	Lower limit	21°C DB 15°C WB	18°C (ASK: -15°C)
<b>Heating</b>	Upper limit	27°C DB	24°C DB 18°C WB
	Lower limit	20°C DB	-7°C DB -8°C WB
<b>Voltage</b>	3 PH / 50Hz / 360-440V		



**4. OUTLINE DIMENSION**

**4.1 Indoor units:**

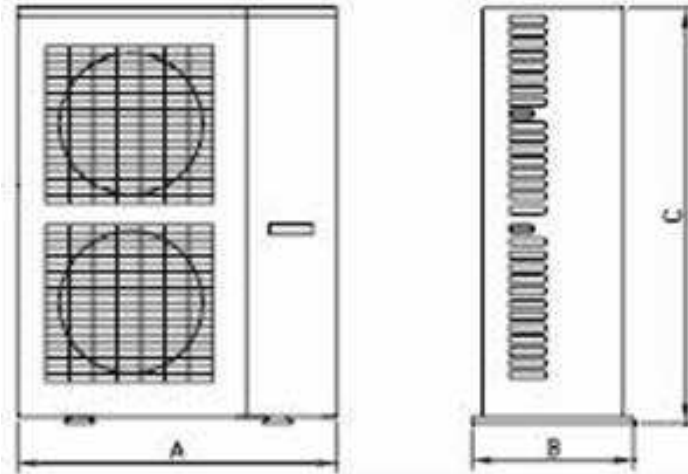


Unit: mm

Model	a	b	c	d	e	f
DAF068	1353	632	992	1150	192	343
DAF085	1560	910	331	1194	292	342
DAF102	1560	910	1194	1194	292	342
DAF136	1780	1040	868	1450	347	555

4.2 Outdoor units:

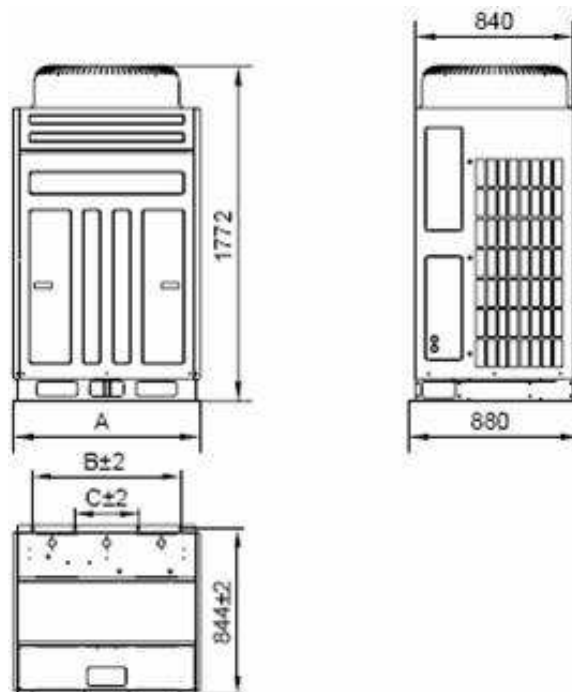
Model 068 / 085



Unit: mm

Model	A	B	C
YIF068	1150	460	1350
YIF085	1150	422	1660

Model 102 / 136



Unit: mm

Model	A	B	C
YIF102	990	787	387
YIF136	1290	1160	850

## 5. PERFORMANCE DATA

### 5.1 DAF068 / YIF068

#### 5.1.1 Cooling Capacity (kW)

Entering Air DB OD Coil(°C)	Data	Entering Air WB/DB ID Coil(°C)				
		15/21	17/24	19/27	21/29	23/32
15	TC	20.40	21.60	22.60	23.60	24.40
	SC	13.18	13.97	14.72	14.39	14.63
	PI	5.96	5.97	5.98	6.01	6.03
20	TC	20.20	21.40	22.40	23.40	24.20
	SC	14.40	15.30	16.17	15.70	16.04
	PI	6.44	6.48	6.51	6.55	6.57
25	TC	19.40	20.80	22.00	23.00	23.80
	SC	12.82	13.72	14.51	14.25	14.62
	PI	6.96	7.01	7.08	7.13	7.15
30	TC	18.20	19.60	21.20	22.00	22.80
	SC	12.17	13.14	14.20	13.91	14.48
	PI	7.53	7.62	7.72	7.78	7.80
35	TC	16.80	18.20	<b>20.00</b>	21.00	21.80
	SC	11.46	12.47	<b>13.63</b>	13.47	14.02
	PI	8.14	8.27	<b>8.40</b>	8.47	8.50
40	TC	15.20	16.60	18.40	19.40	20.20
	SC	10.65	11.72	12.89	12.69	13.31
	PI	8.77	8.90	9.06	9.16	9.22
46	TC	13.20	14.60	16.40	17.40	18.20
	SC	9.68	10.73	12.09	11.86	12.42
	PI	9.62	9.78	9.95	10.08	10.18

#### LEGEND

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.1.2 Heating Capacity (kW)

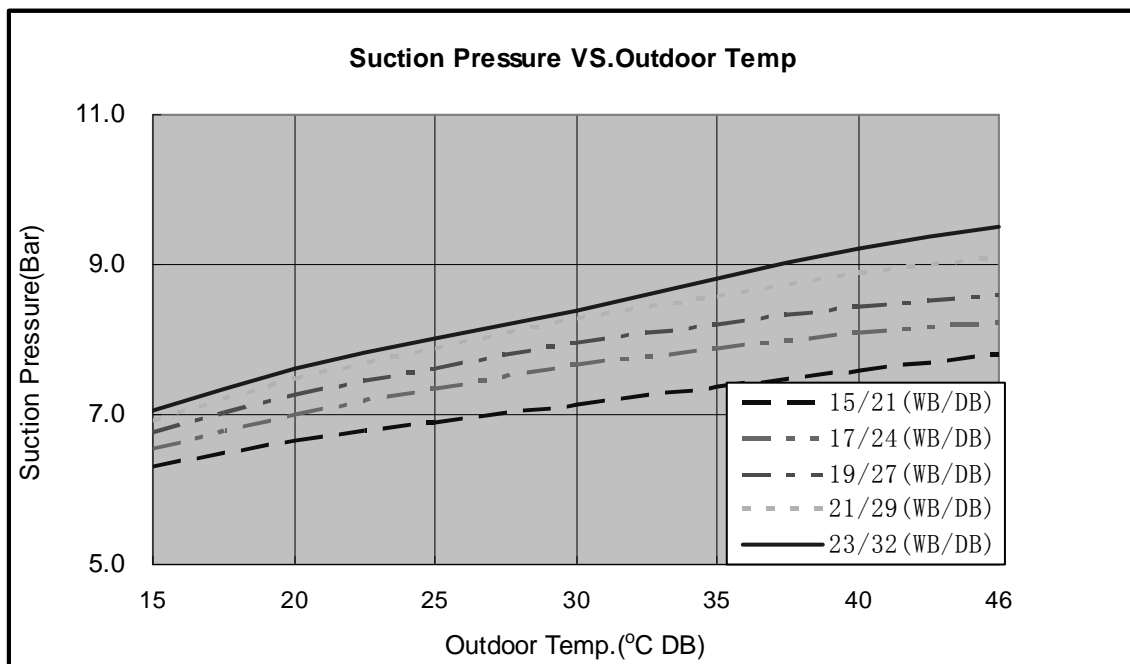
ENTERING WB OD COIL(°C)	ENTERING AIR DB ID COIL(°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	11.55	5.92	11.11	6.30	10.67	6.62
-7	12.43	6.07	11.99	6.40	11.55	6.75
-2	13.20	6.14	12.76	6.51	12.32	6.88
2	16.06	6.44	15.40	6.85	14.74	7.25
6	22.66	6.92	22.00	7.40	21.23	7.86
10	24.64	7.30	23.98	7.81	23.32	8.35
15	26.62	7.62	25.96	8.21	25.30	8.73
20	28.05	7.84	27.39	8.51	26.62	9.18

**LEGEND**

- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

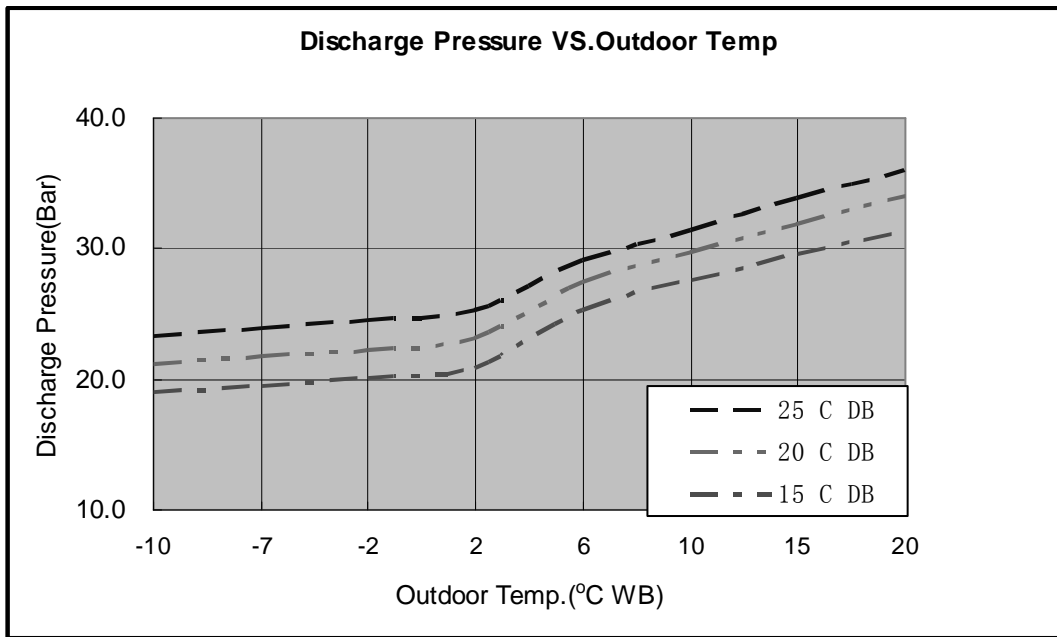
5.1.3 Curves

Cooling





Heating



5.2 DAF085 / YIF085

5.2.1 Cooling Capacity (kW)

Entering Air DB OD Coil(°C)	Data	Entering Air WB/DB ID Coil(°C)				
		15/21	17/24	19/27	21/29	23/32
15	TC	24.99	26.46	27.69	28.91	29.89
	SC	16.13	17.10	18.02	17.61	17.90
	PI	6.96	6.97	6.98	7.02	7.04
20	TC	24.75	26.22	27.44	28.67	29.65
	SC	17.64	18.74	19.81	19.23	19.65
	PI	7.52	7.56	7.60	7.64	7.66
25	TC	23.77	25.48	26.95	28.18	29.16
	SC	15.68	16.79	17.76	17.44	17.89
	PI	8.11	8.18	8.26	8.32	8.34
30	TC	22.30	24.01	25.97	26.95	27.93
	SC	14.90	16.08	17.37	17.03	17.72
	PI	8.78	8.89	9.01	9.07	9.10
35	TC	20.58	22.30	<b>24.50</b>	25.73	26.71
	SC	14.03	15.26	<b>16.68</b>	16.49	17.16
	PI	9.50	9.64	<b>9.80</b>	9.88	9.92
40	TC	18.62	20.34	22.54	23.77	24.75
	SC	13.03	14.34	15.78	15.53	16.28
	PI	10.23	10.39	10.57	10.68	10.76
46	TC	16.17	17.89	20.09	21.32	22.30
	SC	11.85	13.14	14.79	14.51	15.20
	PI	11.22	11.41	11.60	11.76	11.88

**LEGEND**

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

**5.2.2 Heating Capacity (kW)**

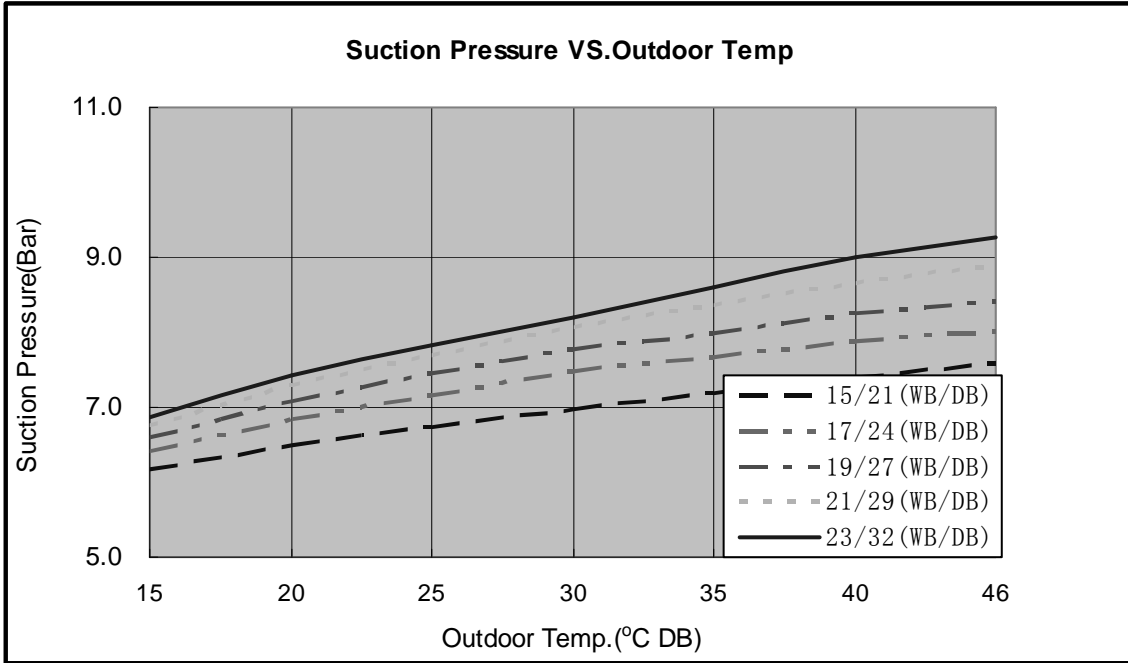
	ENTERING AIR DB ID COIL(°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
ENTERING WB OD COIL(°C)						
-10	14.44	7.20	13.89	7.67	13.34	8.06
-7	15.54	7.38	14.99	7.79	14.44	8.21
-2	16.50	7.47	15.95	7.92	15.40	8.37
2	20.08	7.83	19.25	8.33	18.43	8.82
6	28.33	8.42	<b>27.50</b>	<b>9.00</b>	26.54	9.56
10	30.80	8.88	29.98	9.50	29.15	10.15
15	33.28	9.27	32.45	9.99	31.63	10.62
20	35.06	9.54	34.24	10.35	33.28	11.16

**LEGEND**

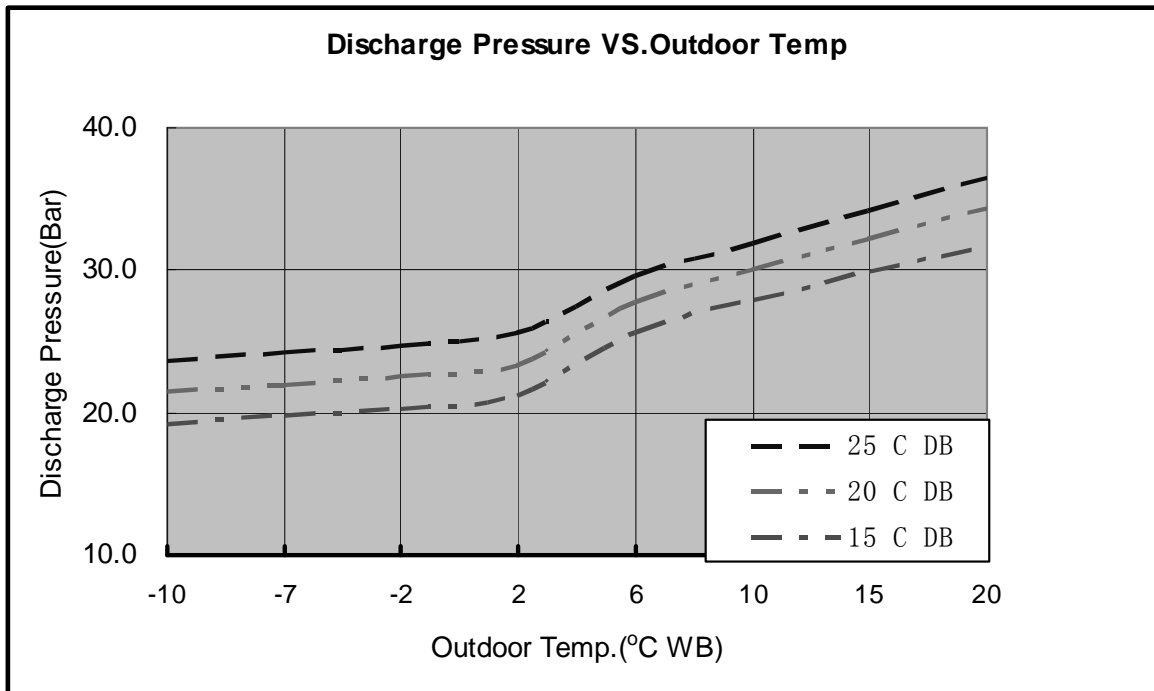
- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.2.3 Curves

Cooling



Heating



**5.3 DAF102 / YIF102**

**5.3.1 Cooling Capacity (kW)**

Entering Air DB OD Coil(°C)	Data	Entering Air WB/DB ID Coil(°C)				
		15/21	17/24	19/27	21/29	23/32
15	TC	30.60	32.40	33.90	35.40	36.60
	SC	19.75	20.94	22.07	21.56	21.93
	PI	7.81	7.82	7.83	7.88	7.90
20	TC	30.30	32.10	33.60	35.10	36.30
	SC	21.60	22.95	24.26	23.55	24.07
	PI	8.44	8.48	8.53	8.58	8.60
25	TC	29.10	31.20	33.00	34.50	35.70
	SC	19.21	20.57	21.75	21.36	21.91
	PI	9.11	9.19	9.27	9.34	9.36
30	TC	27.30	29.40	31.80	33.00	34.20
	SC	18.24	19.70	21.28	20.85	21.70
	PI	9.86	9.98	10.11	10.19	10.22
35	TC	25.20	27.30	<b>30.00</b>	31.50	32.70
	SC	17.18	18.69	<b>20.43</b>	20.19	21.02
	PI	10.66	10.82	<b>11.00</b>	11.09	11.13
40	TC	22.80	24.90	27.60	29.10	30.30
	SC	15.96	17.57	19.32	19.02	19.95
	PI	11.48	11.66	11.87	11.99	12.08
46	TC	19.80	21.90	24.60	26.10	27.30
	SC	14.51	16.09	18.12	17.77	18.62
	PI	12.60	12.80	13.02	13.20	13.33

**LEGEND**

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.3.2 Heating Capacity (kW)

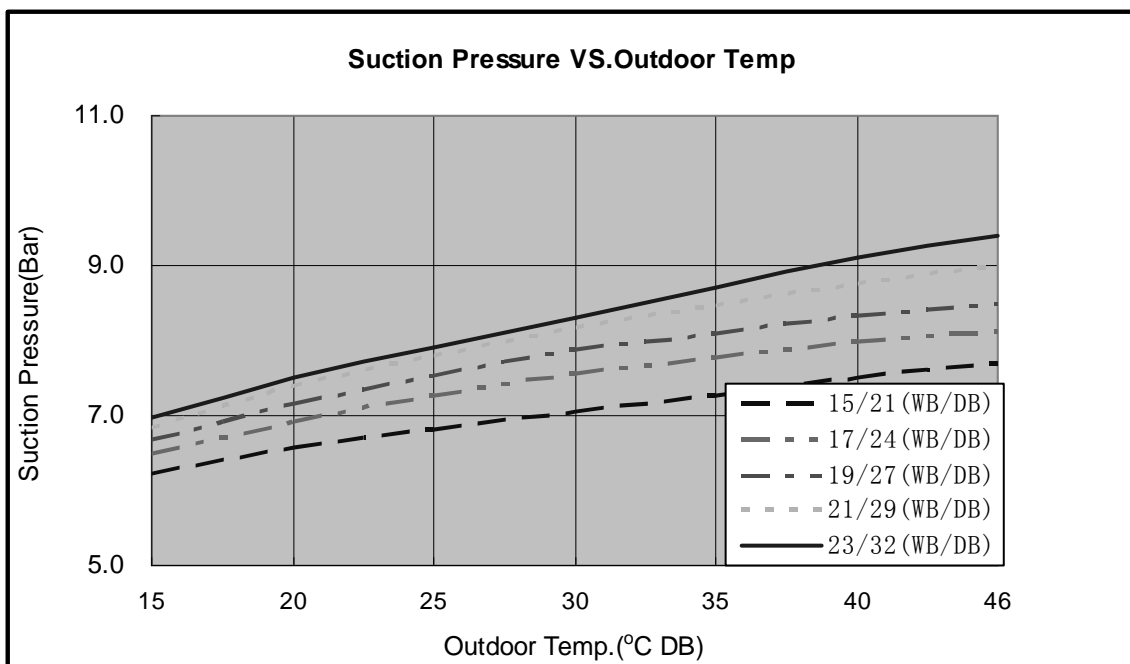
ENTERING WB OD COIL(°C)	ENTERING AIR DB ID COIL(°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	17.33	7.20	16.67	7.67	16.01	8.06
-7	18.65	7.38	17.99	7.79	17.33	8.21
-2	19.80	7.47	19.14	7.92	18.48	8.37
2	24.09	7.83	23.10	8.33	22.11	8.82
6	33.99	8.42	<b>33.00</b>	<b>9.00</b>	31.85	9.56
10	36.96	8.88	35.97	9.50	34.98	10.15
15	39.93	9.27	38.94	9.99	37.95	10.62
20	42.08	9.54	41.09	10.35	39.93	11.16

**LEGEND**

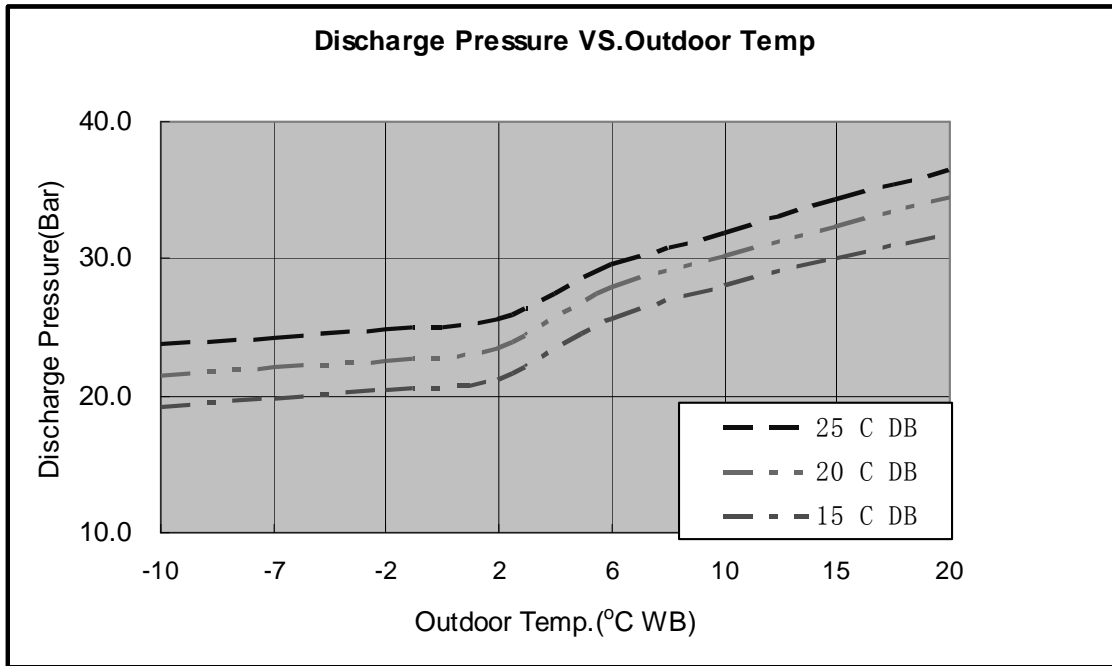
- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.3.3 Curves

Cooling



Heating



5.4 DAF136 / YIF136

5.4.1 Cooling Capacity (kW)

Entering Air DB OD Coil(°C)	Data	Entering Air WB/DB ID Coil(°C)				
		15/21	17/24	19/27	21/29	23/32
15	TC	40.29	42.66	44.64	46.61	48.19
	SC	19.75	20.94	22.07	21.56	21.93
	PI	11.22	11.23	11.25	11.31	11.34
20	TC	39.90	42.27	44.24	46.22	47.80
	SC	28.45	30.22	31.94	31.01	31.69
	PI	12.12	12.18	12.25	12.32	12.36
25	TC	38.32	41.08	43.45	45.43	47.01
	SC	19.21	20.57	21.75	21.36	21.91
	PI	13.08	13.19	13.32	13.41	13.45
30	TC	35.95	38.71	41.87	43.45	45.03
	SC	18.24	19.70	21.28	20.85	21.70
	PI	14.16	14.33	14.52	14.63	14.68
35	TC	33.18	35.95	<b>39.50</b>	41.48	43.06
	SC	17.18	18.69	<b>20.43</b>	20.19	21.02
	PI	15.31	15.55	<b>15.80</b>	15.93	15.99
40	TC	30.02	32.79	36.34	38.32	39.90
	SC	15.96	17.57	19.32	19.02	19.95
	PI	16.50	16.75	17.05	17.22	17.35
46	TC	26.07	28.84	32.39	34.37	35.95
	SC	14.51	16.09	18.12	17.77	18.62
	PI	18.09	18.39	18.71	18.96	19.15

**LEGEND**

- TC – Total Cooling Capacity, kW
- SC – Sensible Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

**5.4.2 Heating Capacity (kW)**

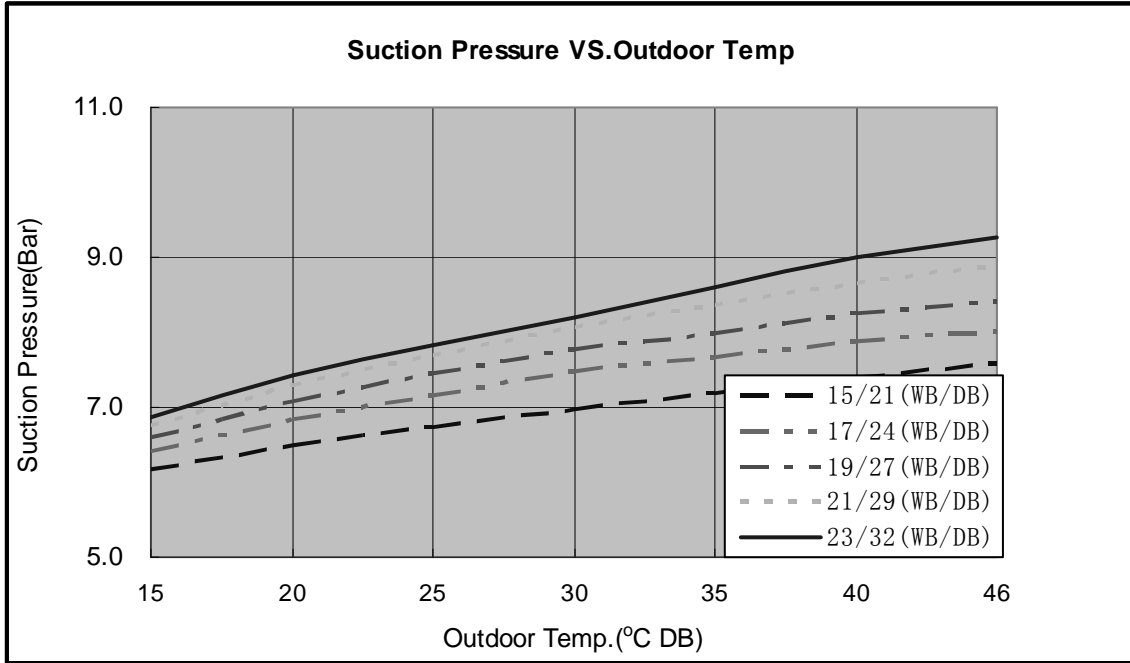
	ENTERING AIR DB ID COIL(°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
ENTERING WB OD COIL(°C)						
-10	22.05	11.20	21.21	11.93	20.37	12.53
-7	23.73	11.48	22.89	12.11	22.05	12.77
-2	25.20	11.62	24.36	12.32	23.52	13.02
2	30.66	12.18	29.40	12.95	28.14	13.72
6	43.26	13.09	<b>42.00</b>	<b>14.00</b>	40.53	14.87
10	47.04	13.82	45.78	14.77	44.52	15.79
15	50.82	14.42	49.56	15.54	48.30	16.52
20	53.55	14.84	52.29	16.10	50.82	17.36

**LEGEND**

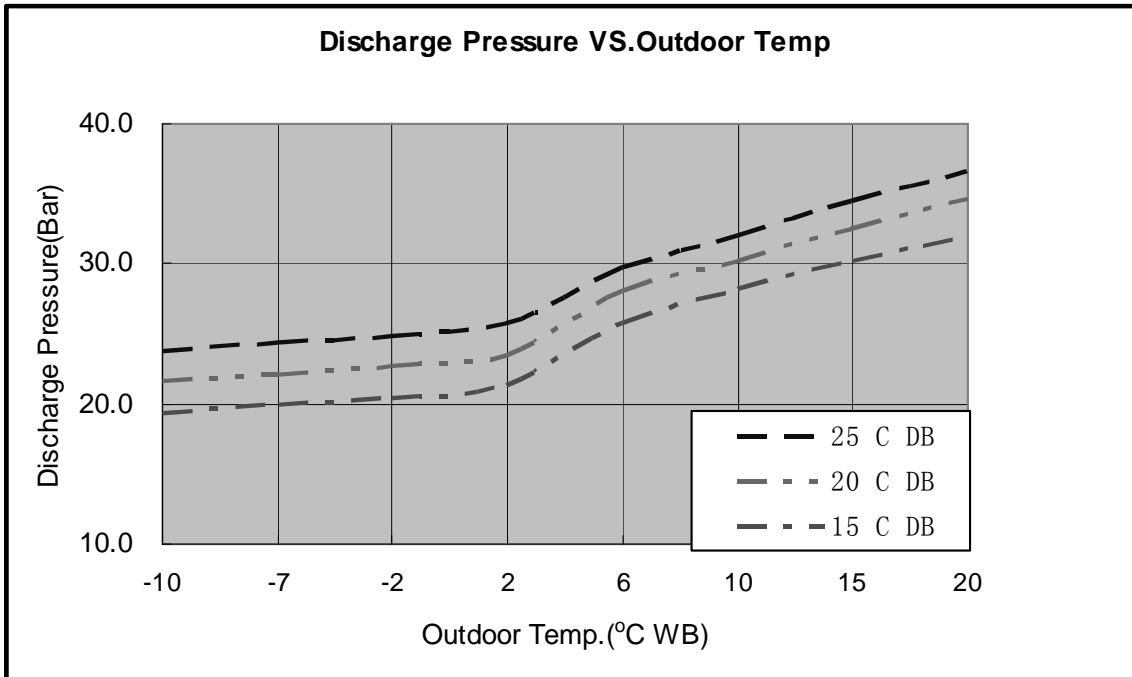
- TH – Total Heating Capacity, kW
- PI – Power Input, kW
- WB – Wet Bulb Temp., (°C)
- DB – Dry Bulb Temp., (°C)
- ID – Indoor
- OU – Outdoor

5.4.3 Curves

Cooling



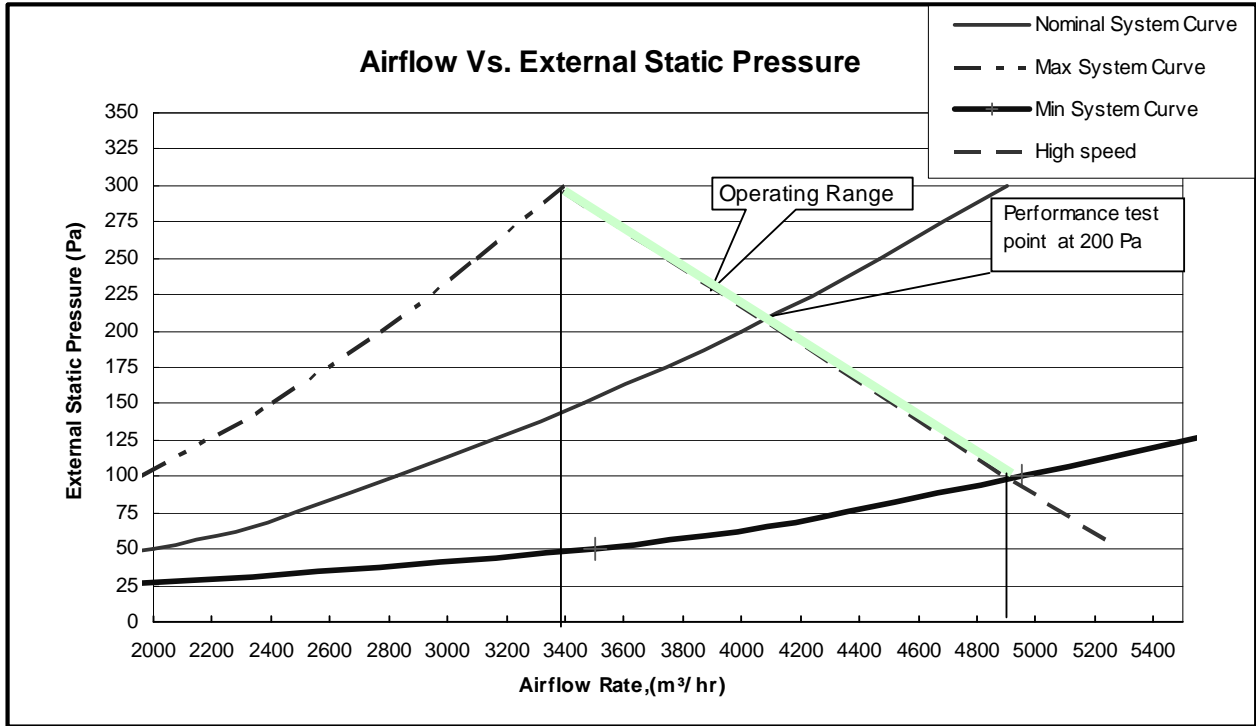
Heating



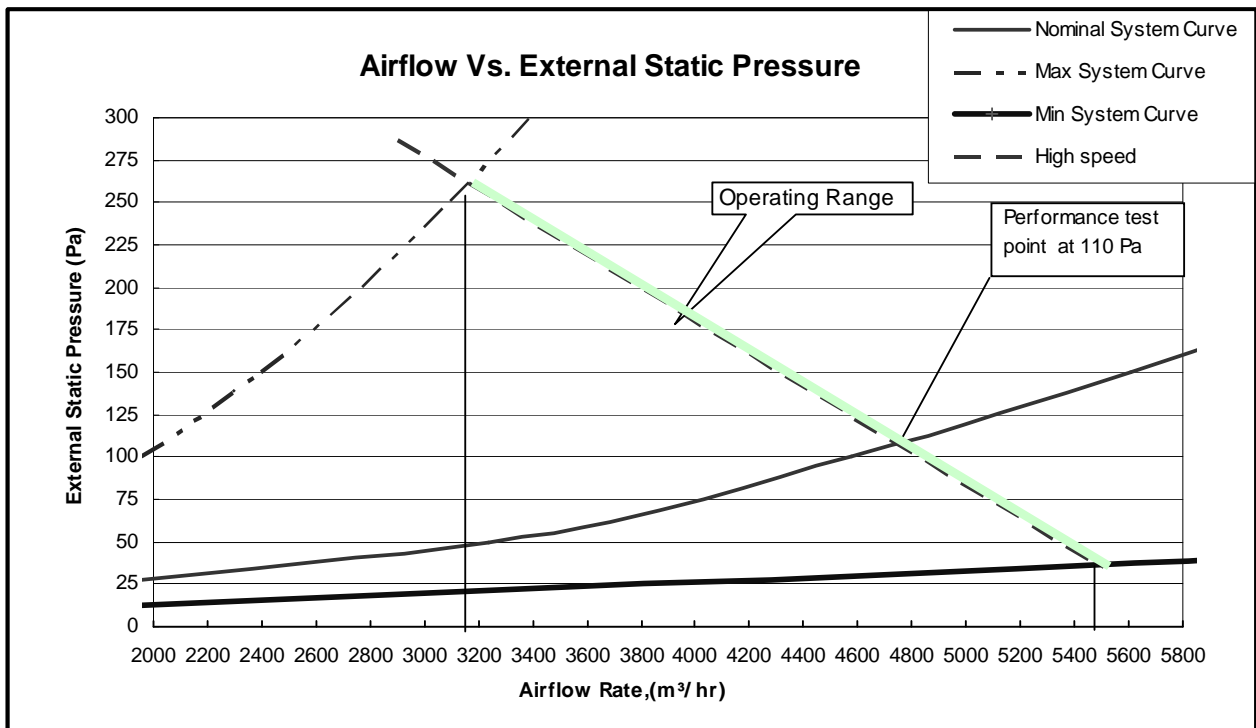


## 6. AIRFLOW CURVES

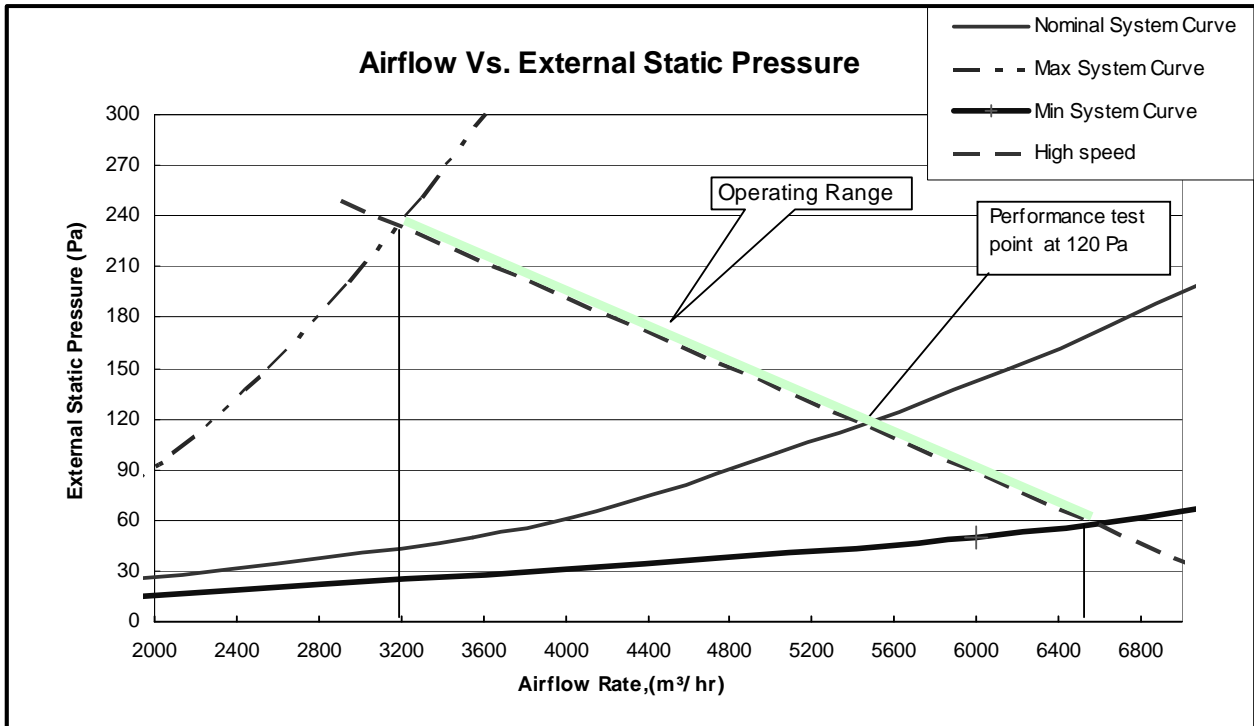
### 6.1 DAF068



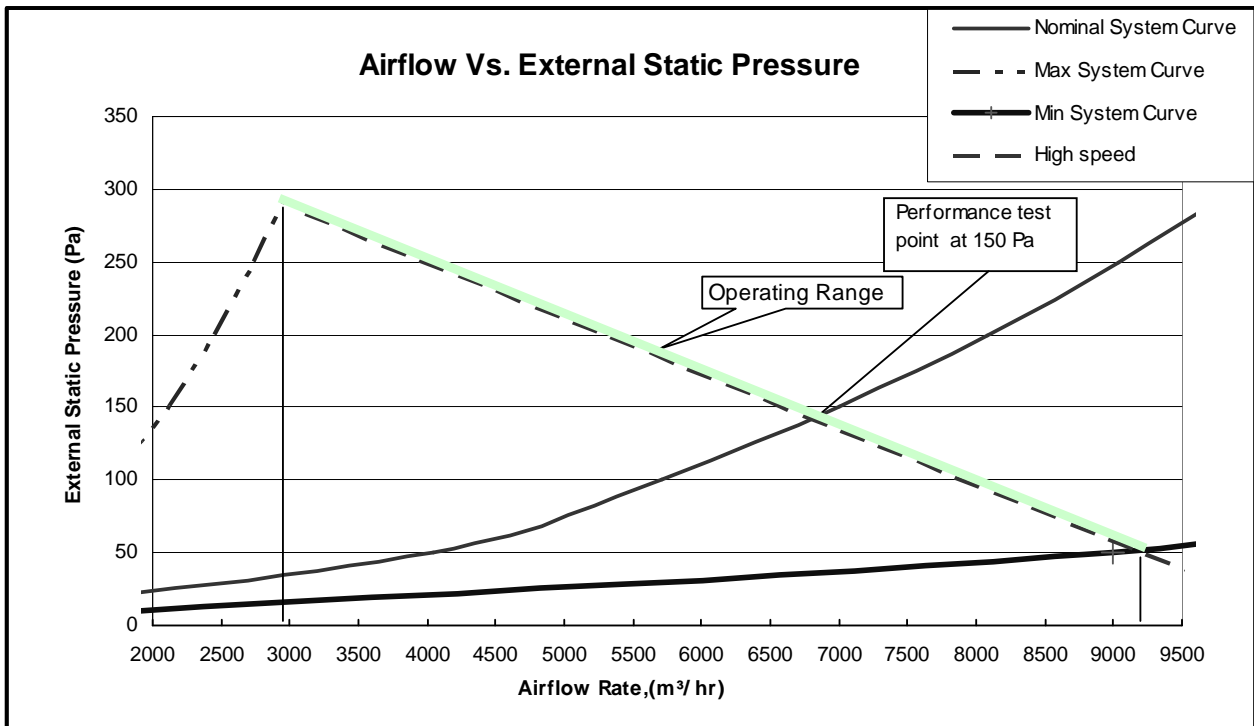
### 6.2 Model: DAF085



6.3 Model: DAF102

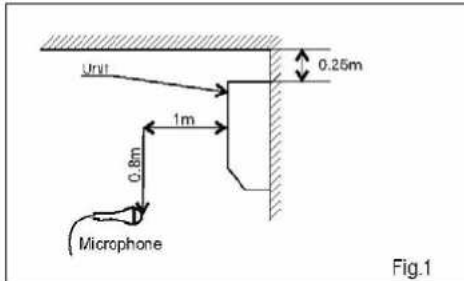


6.4 Model: DAF136

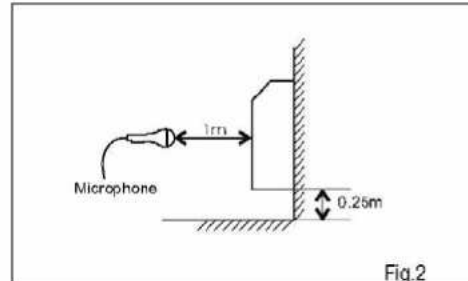


**7. SOUND LEVEL CHARACTERISTICS**

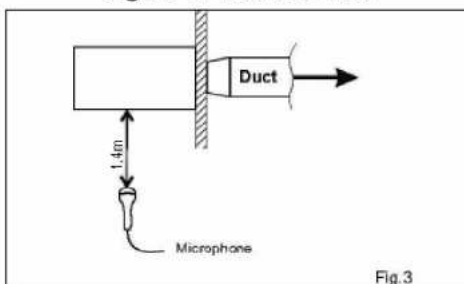
**7.1 Sound Pressure Level**



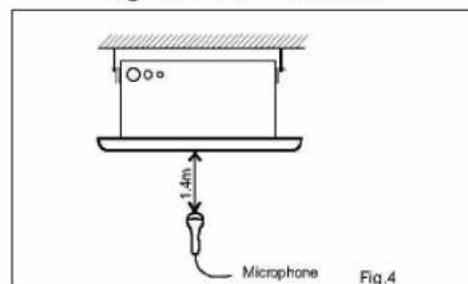
**Figure 1. Wall Mounted**



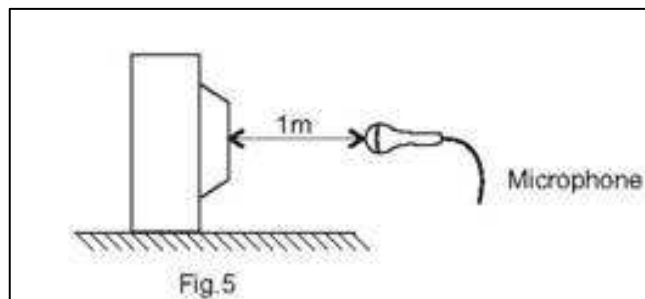
**Figure 2. Floor Mounted**



**Figure 3. Ducted**



**Figure 4. Cassette**

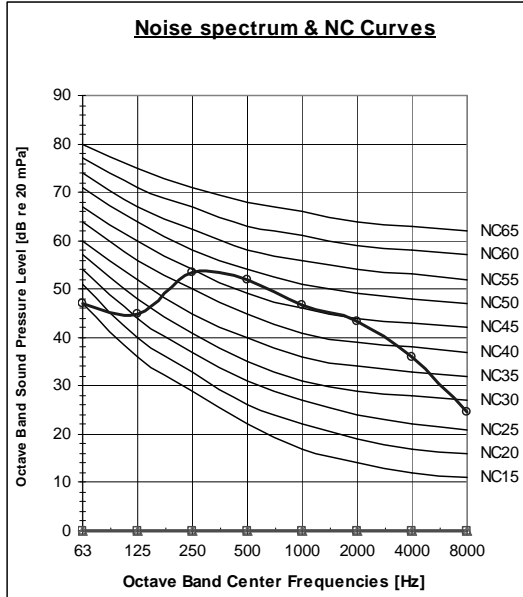


**Fig.5**

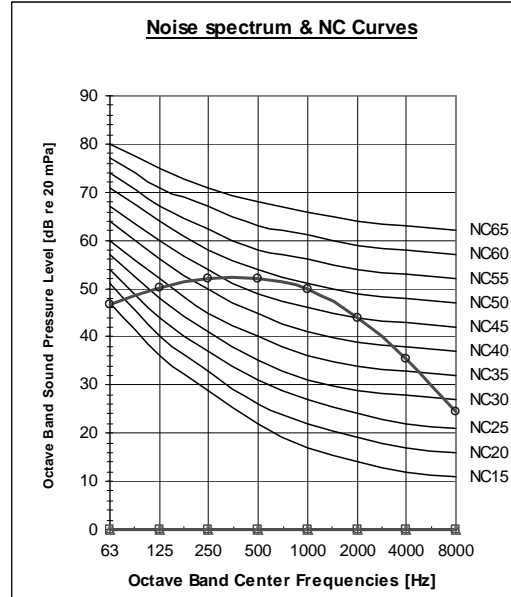
## 7.2 IDU Sound Pressure Level

Measured as Figure 3

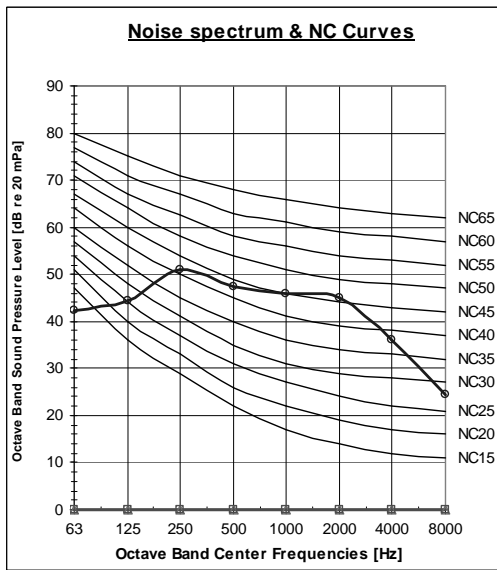
DAF068 - Cooling



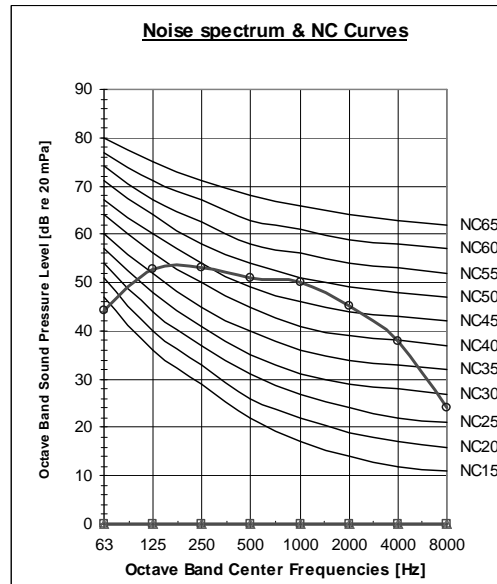
DAF068 - Heating



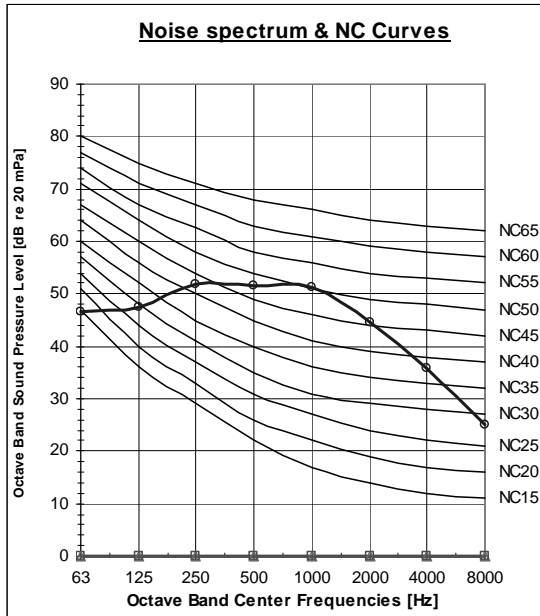
DAF085 - Cooling



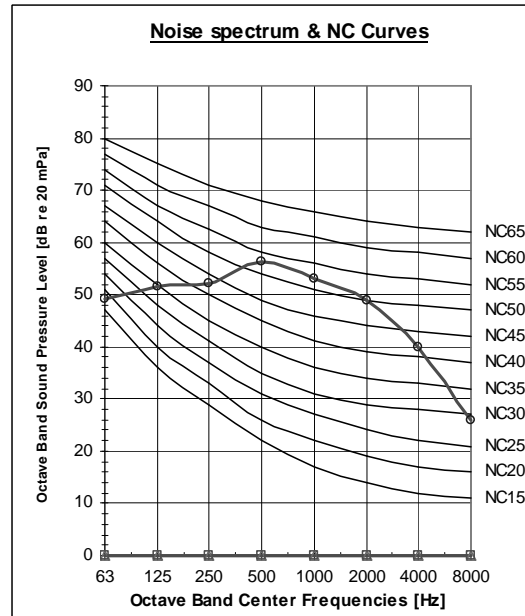
DAF085 - Heating



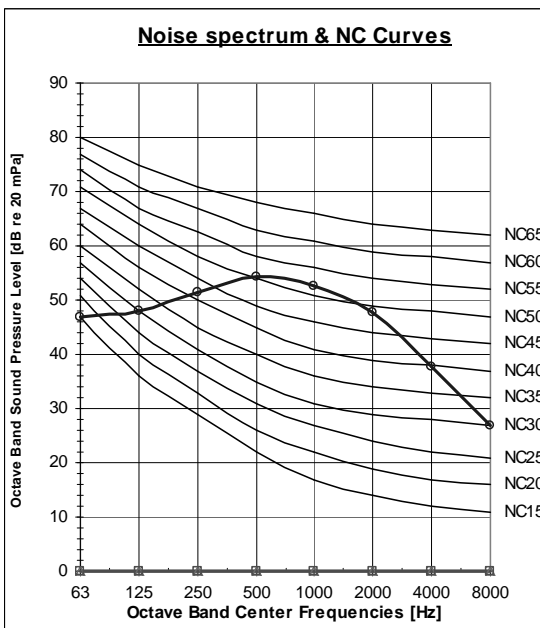
DAF102 - Cooling



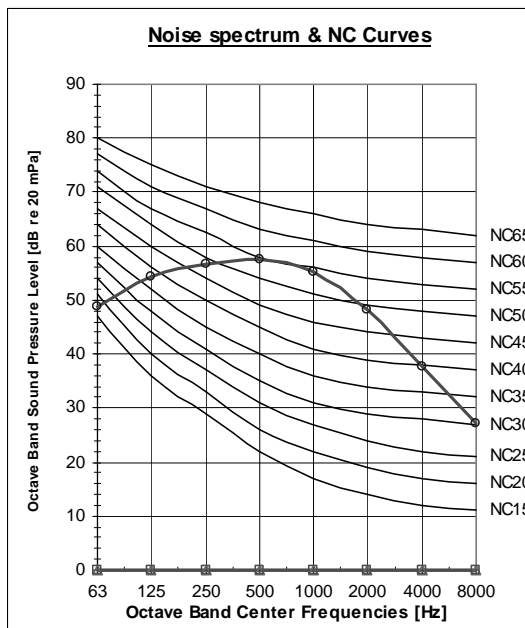
DAF102 - Heating



DAF136 - Cooling

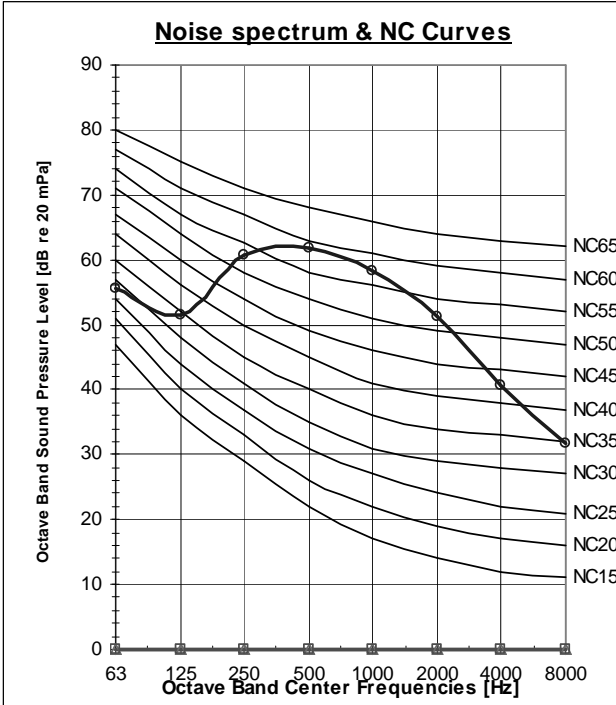


DAF136 - Heating

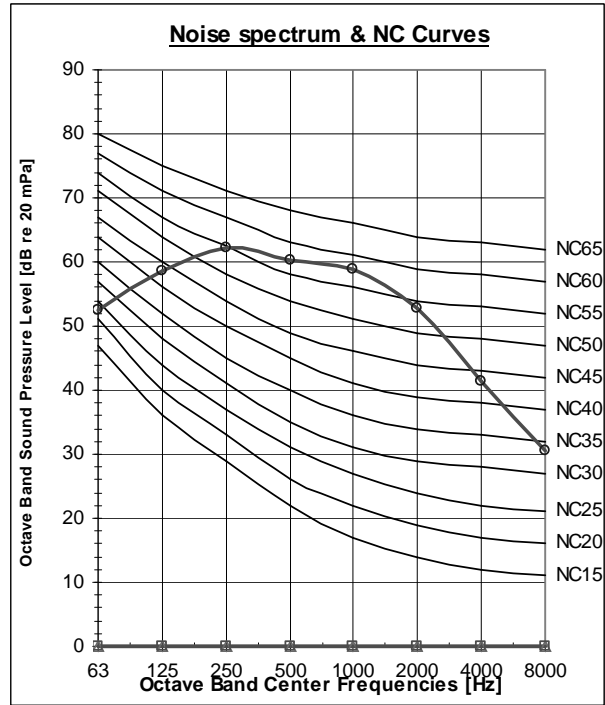


7.3 ODU Sound Pressure Level Spectrum (Measured as Figure 5)

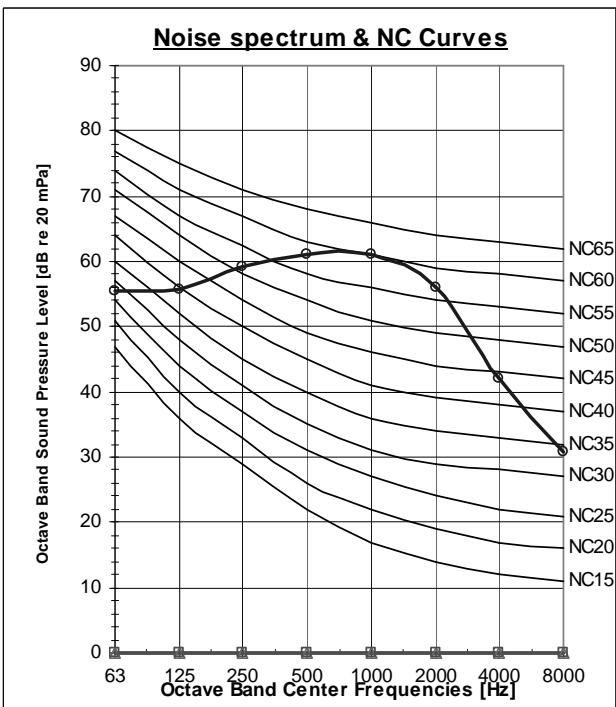
YIF068 - Cooling



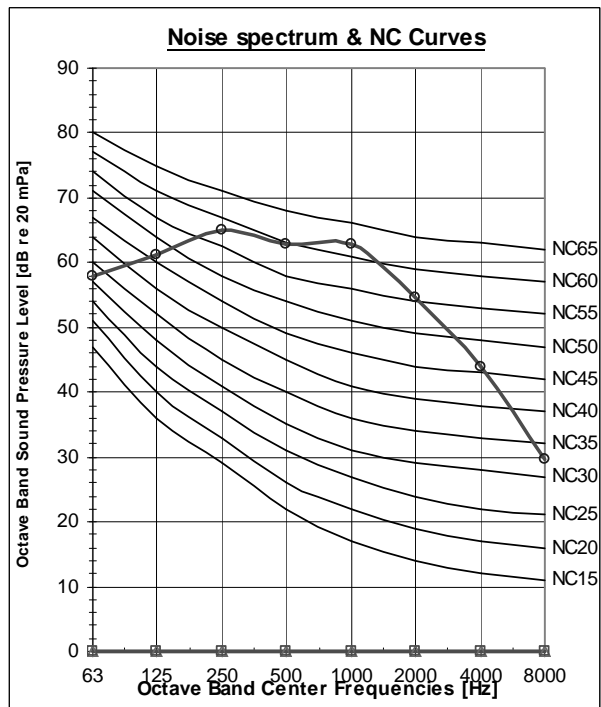
YIF068 - Heating



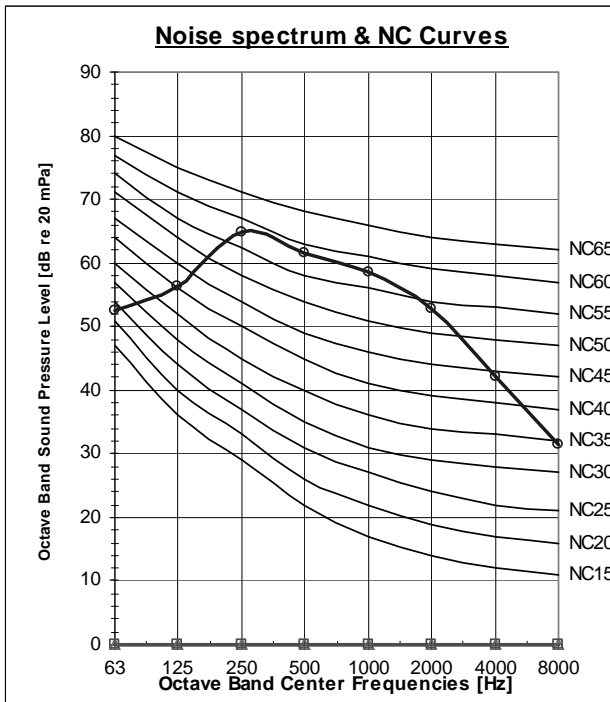
YIF085 - Cooling



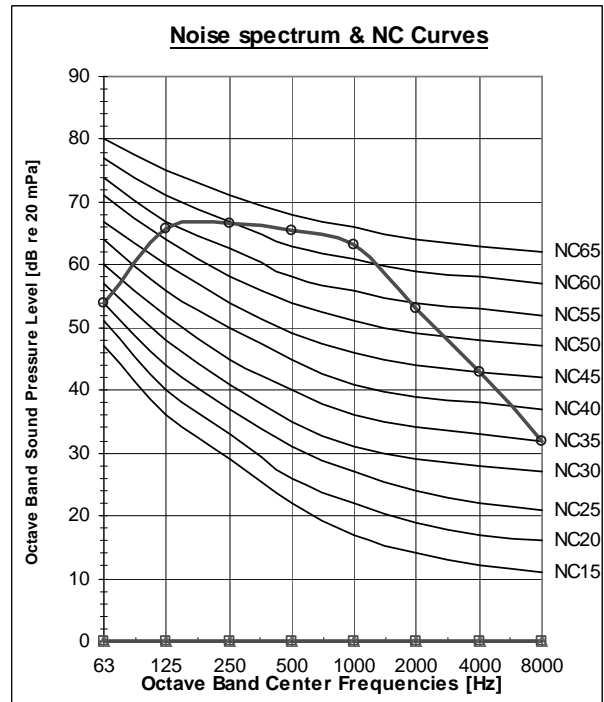
YIF085 - Heating



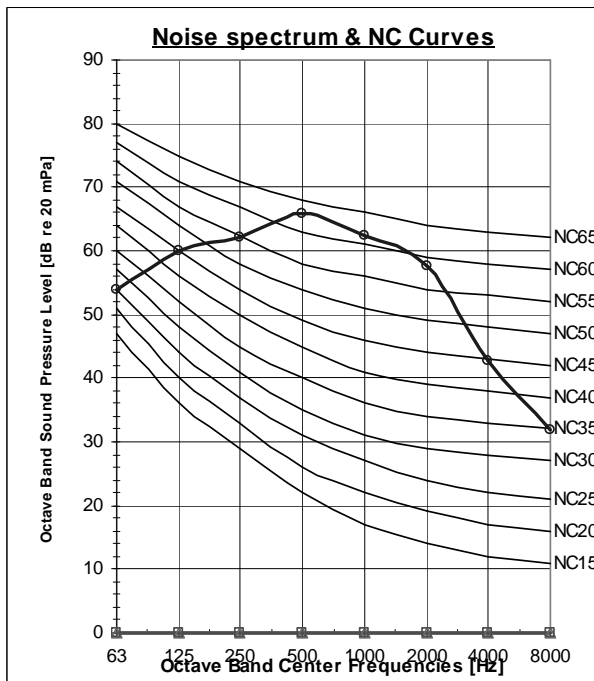
YIF102 - Cooling



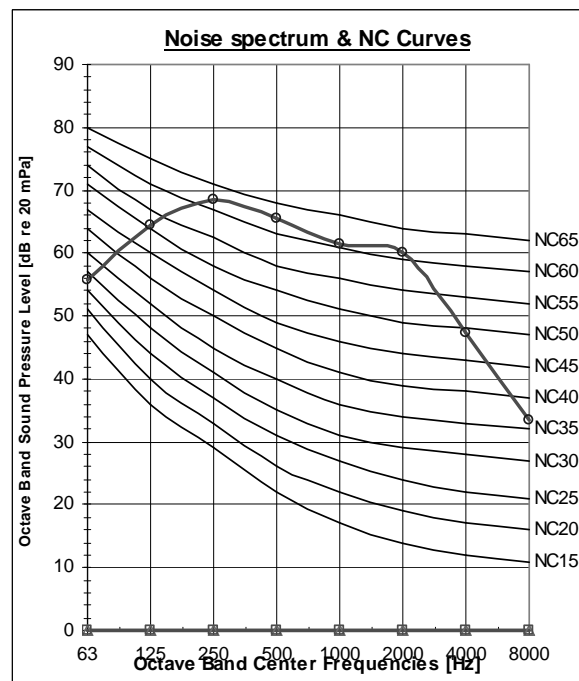
YIF102 - Heating



YIF136 - Cooling



YIF136 - Heating







## 8. ELECTRICAL DATA

### 8.1 Indoor units

Model	Power Supply (V, Ph, Hz)	Circuit Breaker	Power Supply Wiring
		(A)	(mm <sup>2</sup> )
DAF068	380-415, 3, 50	10	5 X1.0
DAF085	380-415, 3, 50	10	5 X1.0
DAF102	380-415, 3, 50	10	5 X1.0
DAF136	380-415, 3, 50	10	5 X1.5

### 8.2 Outdoor units

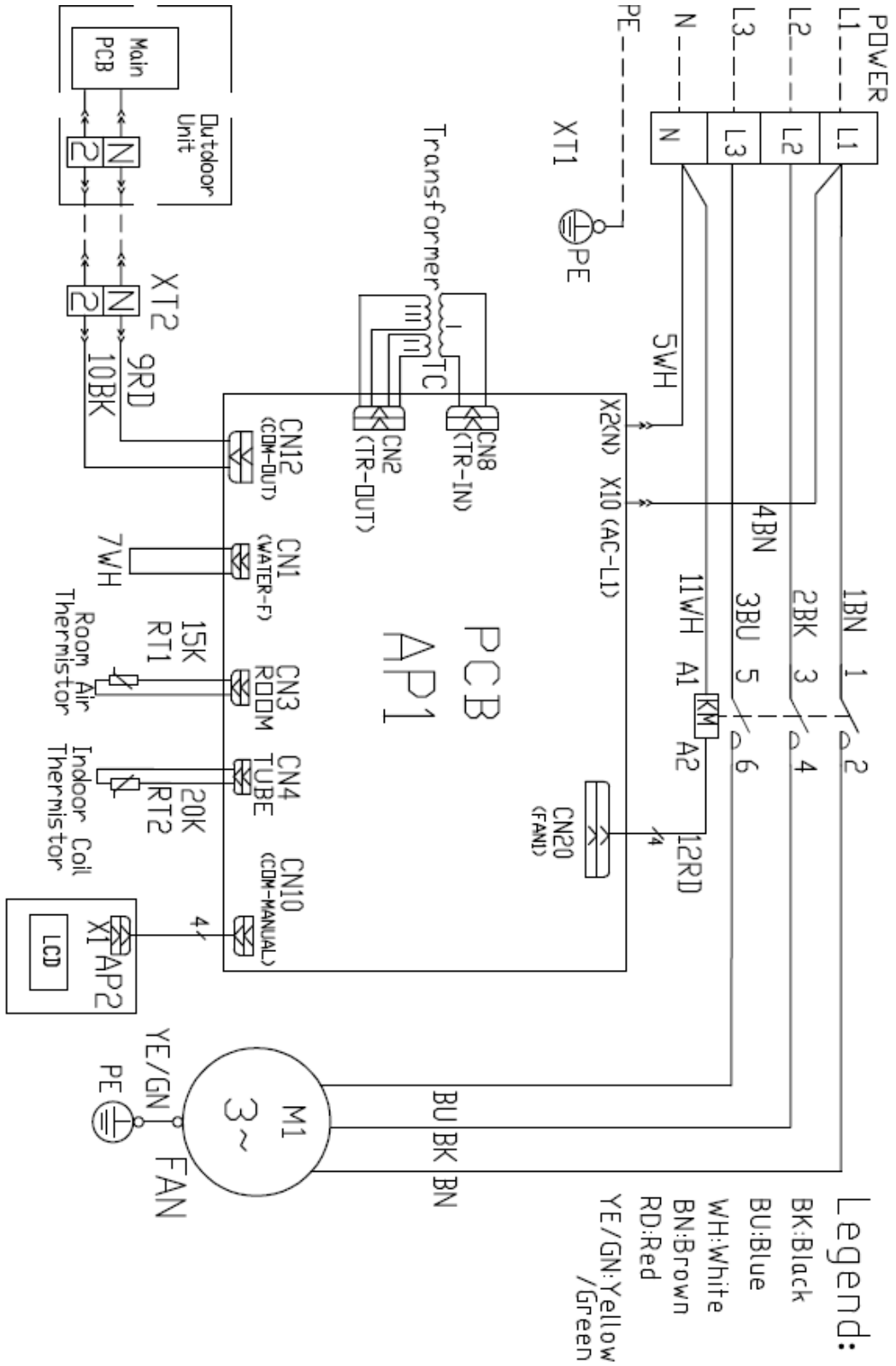
Model	Power Supply (V, Ph, Hz)	Circuit Breaker	Power Supply Wiring	Interconnecting Cable
		(A)	(mm <sup>2</sup> )	(mm <sup>2</sup> )
YIF068	220-240, 1, 50	25	5 X4.0	2 X0.75
YIF085	380-415, 3, 50	32	5 X6.0	2 X0.75
YIF102	380-415, 3, 50	40	5 X10.0	2 X0.75
YIF136	380-415, 3, 50	40	5 X10.0	2 X0.75

#### NOTE

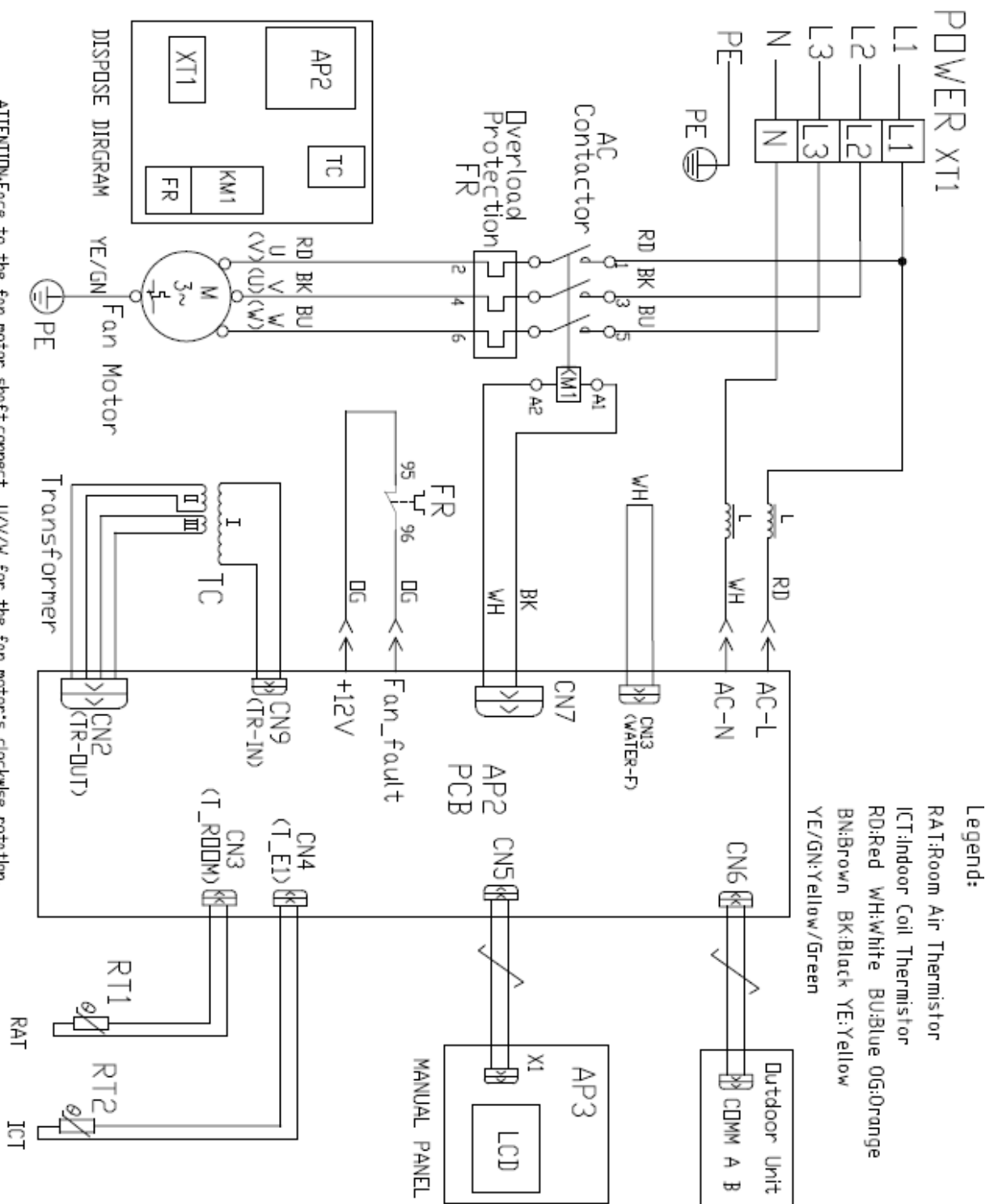
Power wiring cord should comply with local laws and electrical regulations requirements.

9. WIRING DIAGRAM

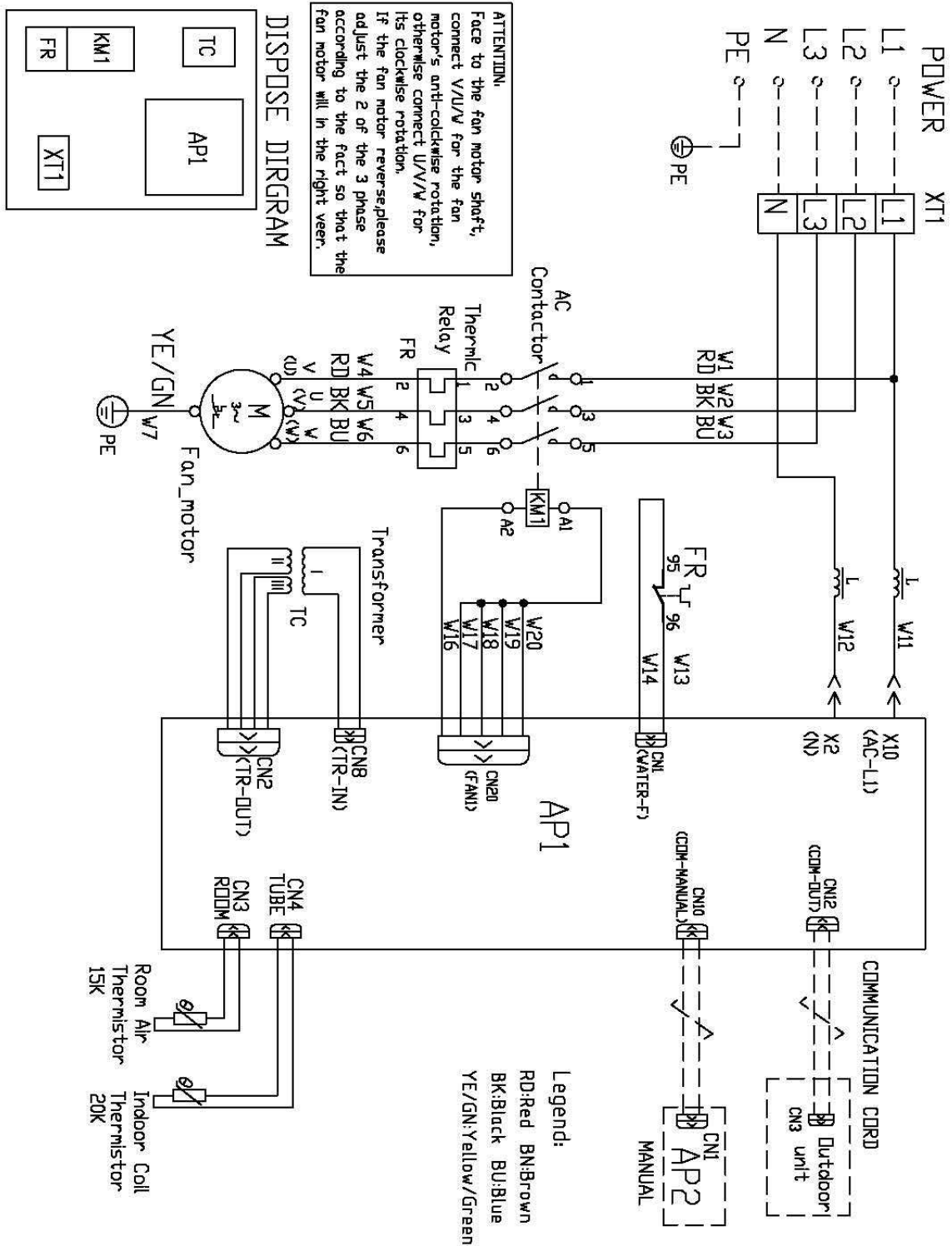
9.1 Indoor unit: DAF068



9.2 Indoor unit: DAF085

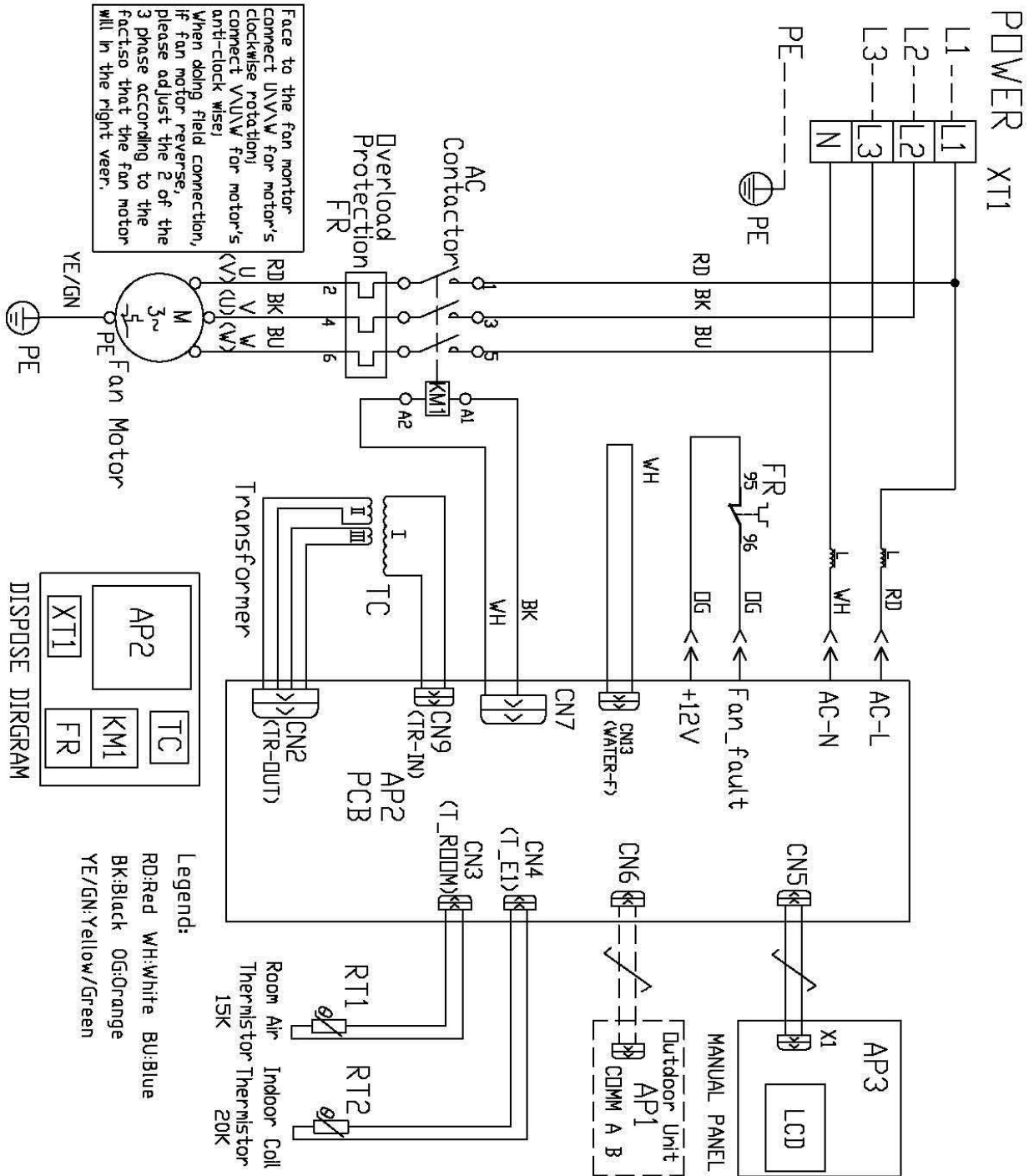


9.3 Indoor unit: DAF102

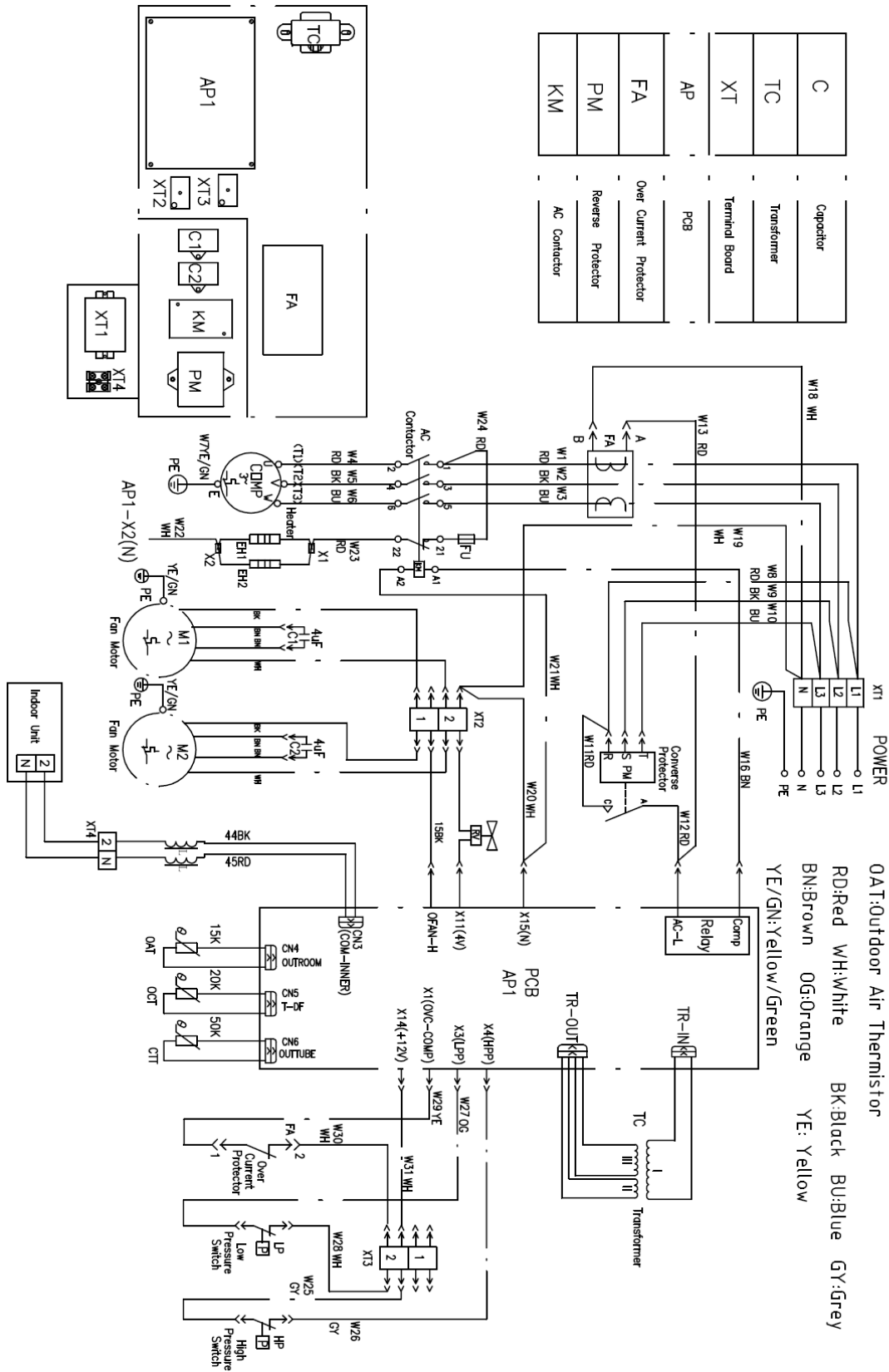


WIRING DIAGRAM

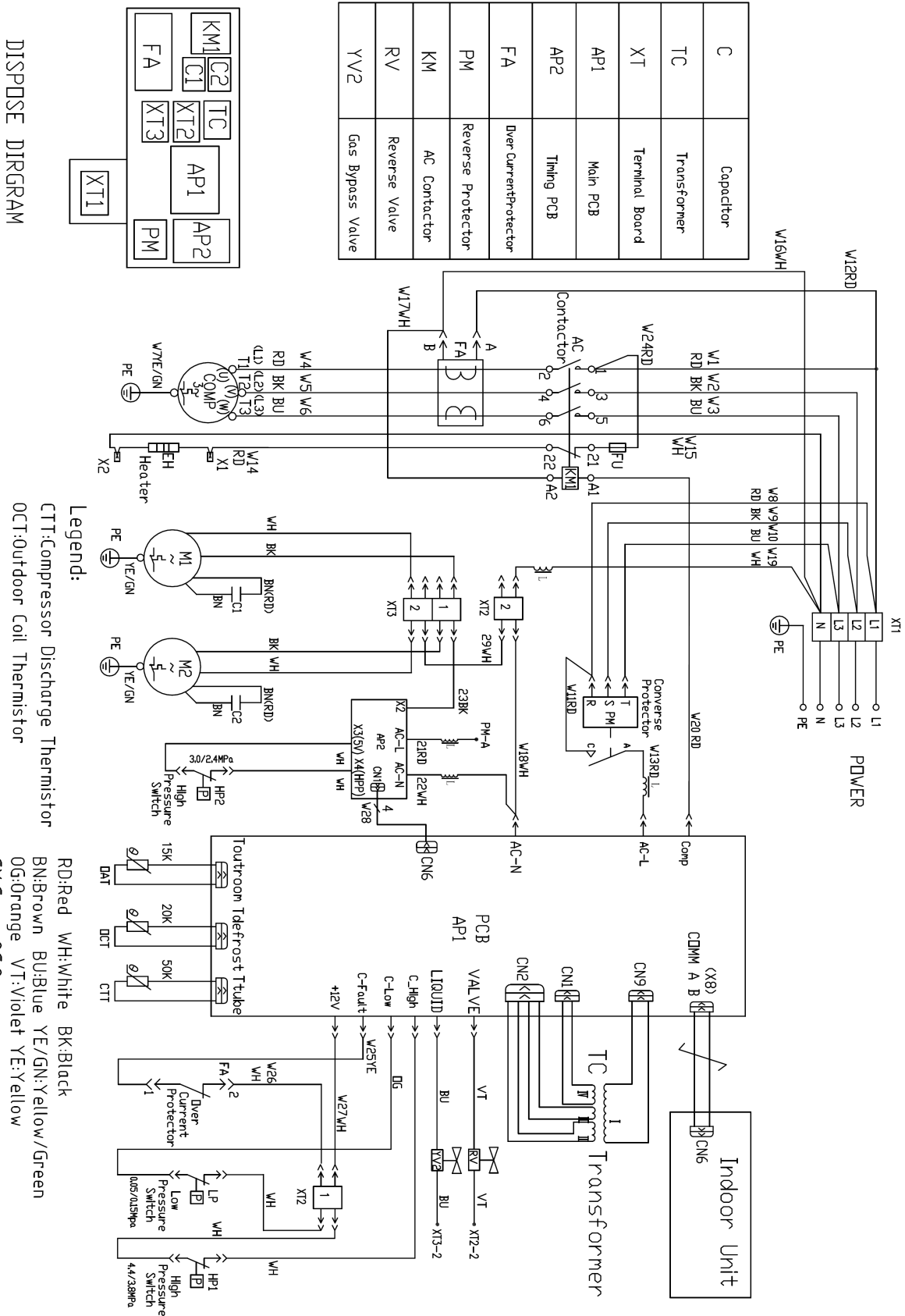
9.4 Indoor unit: DAF136



9.5 Outdoor unit: YIF068

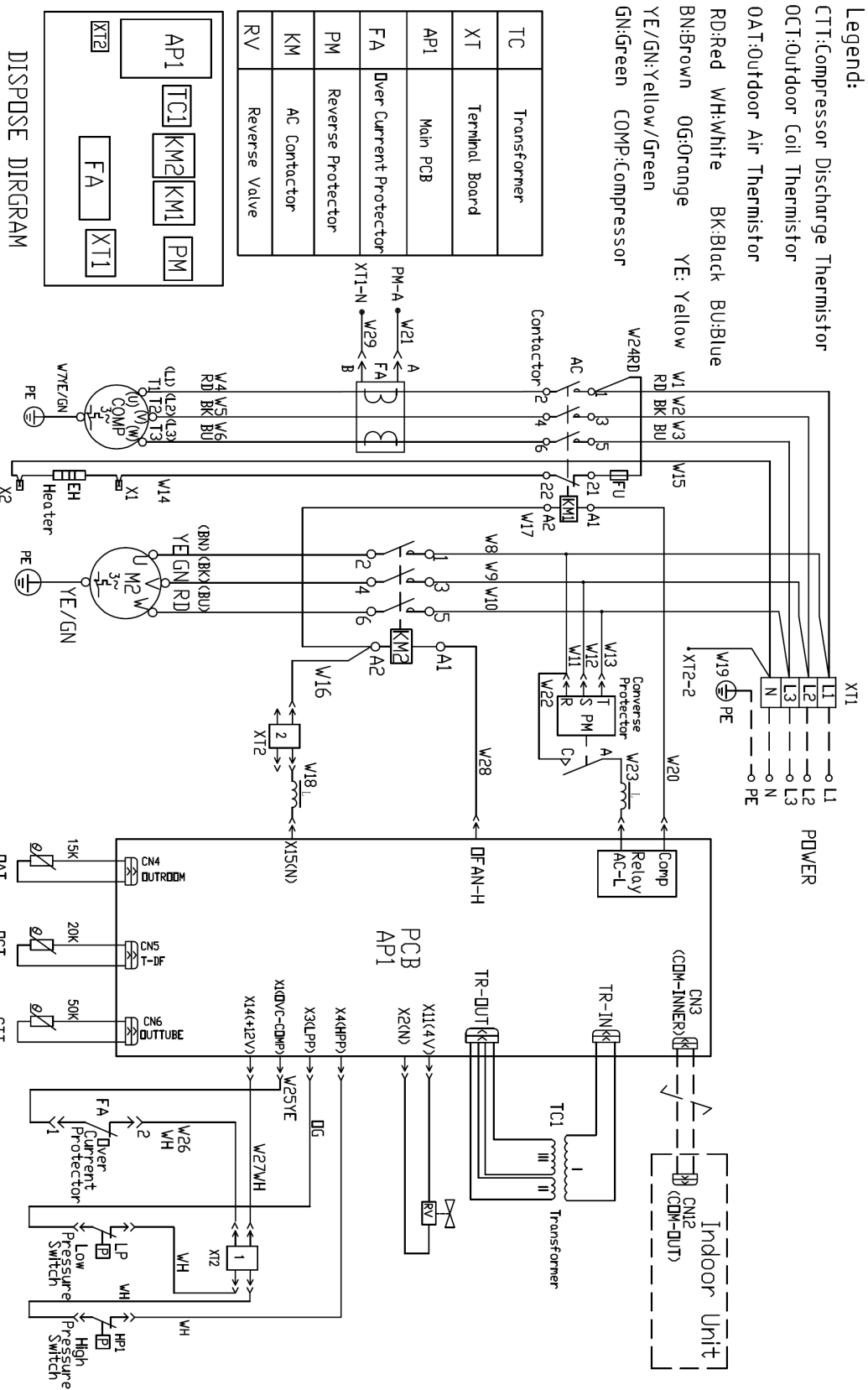


9.6 Outdoor unit: YIF085



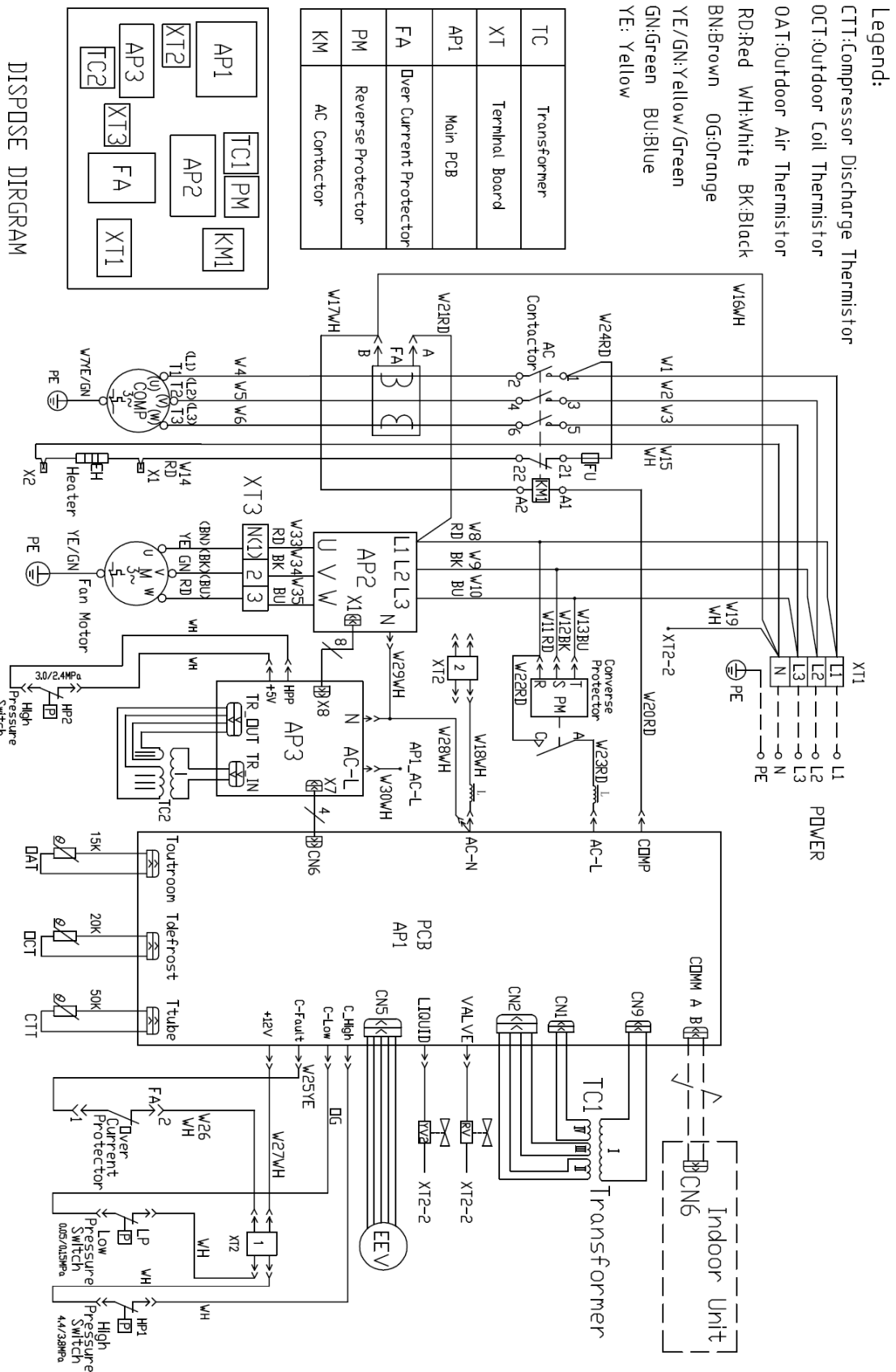
DISPOSE DIRGRAM

9.7 Outdoor unit: YIF102

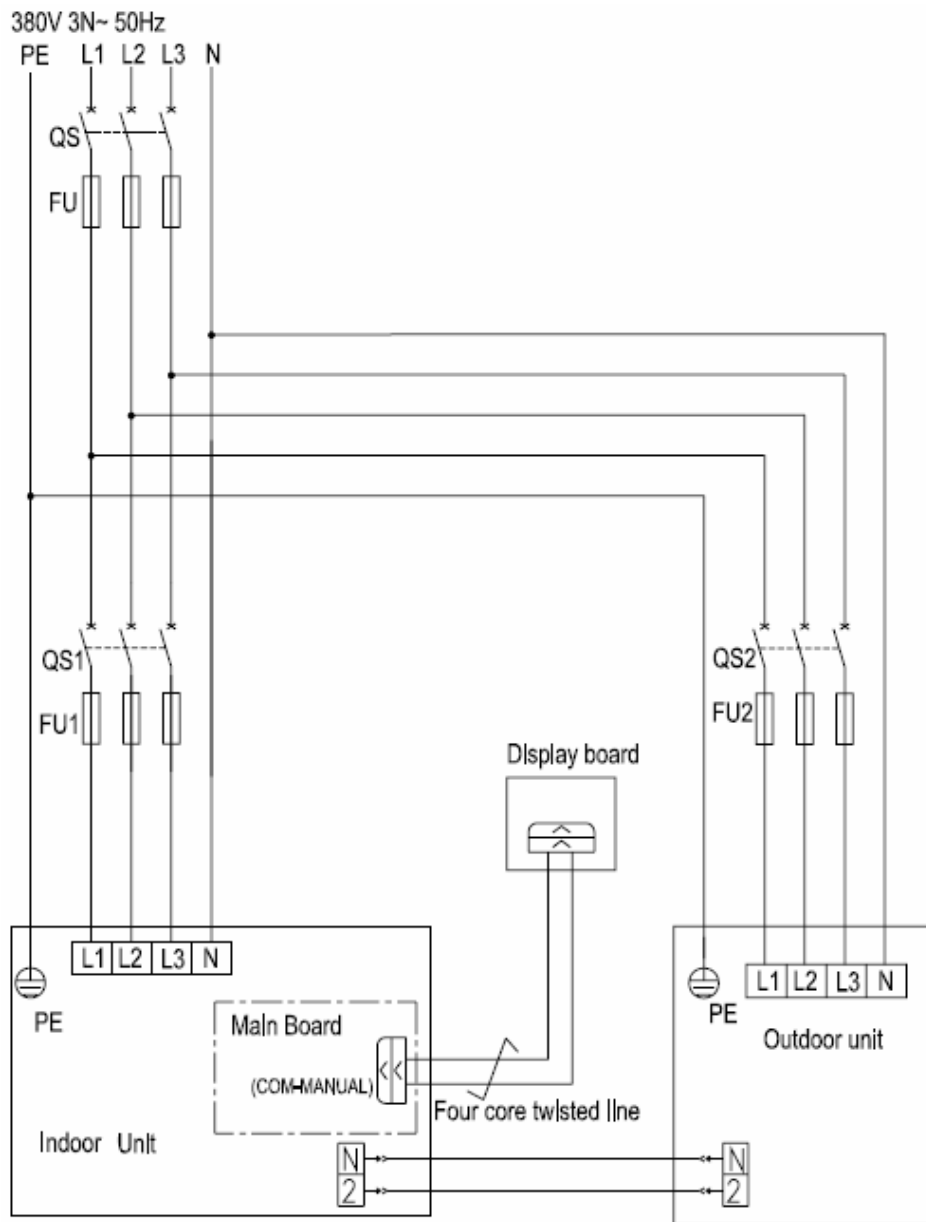




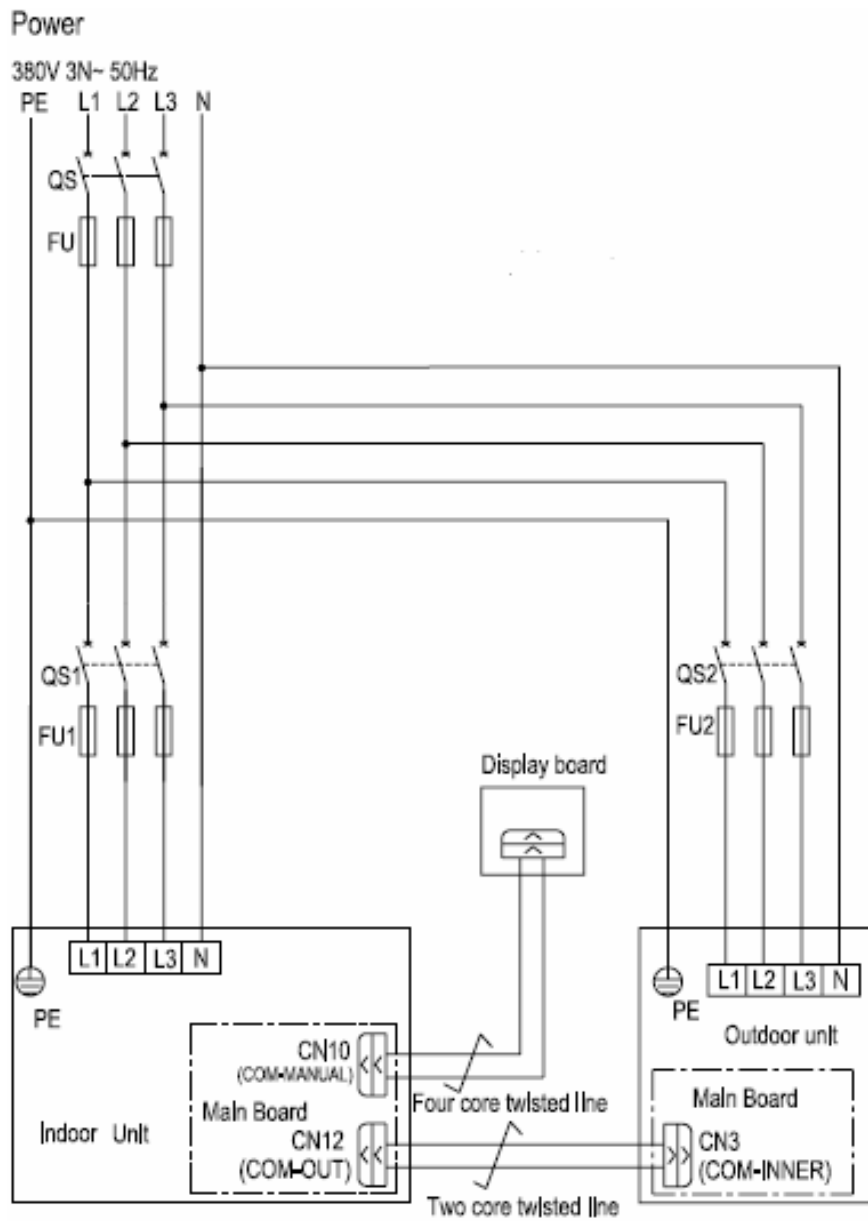
9.8 Outdoor unit: YIF136



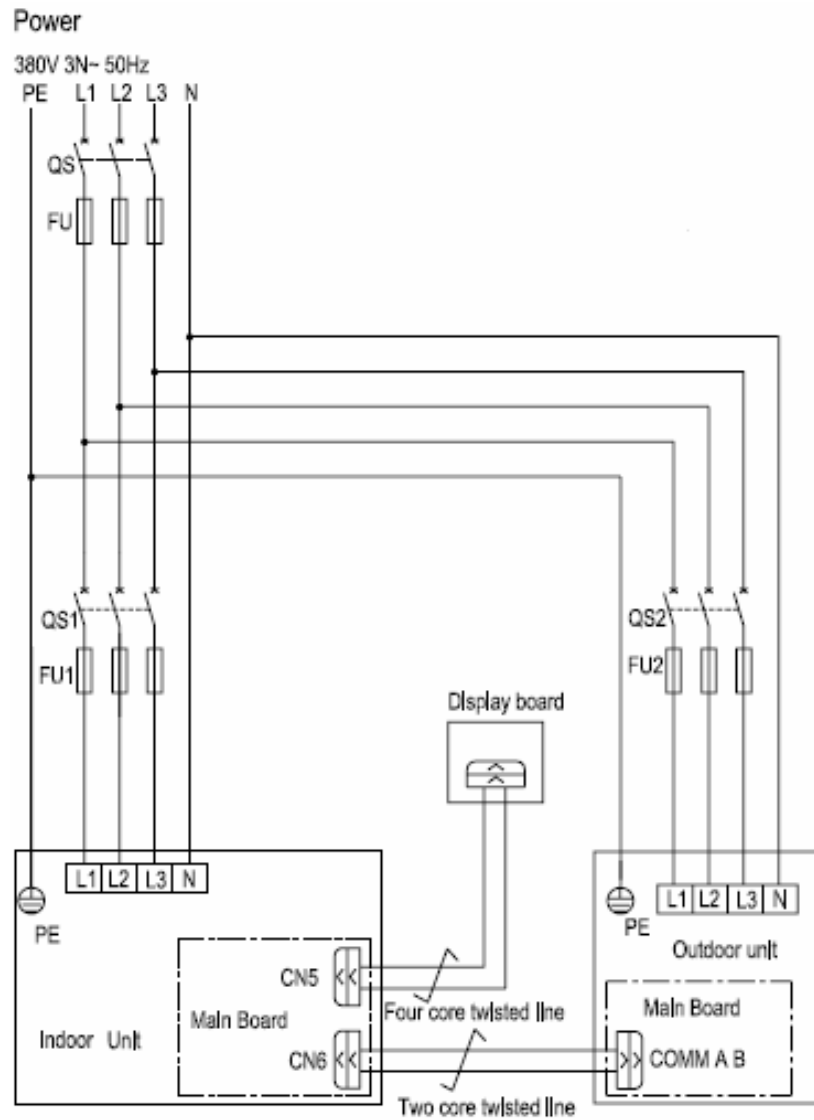
9.9 DAF068 / YIF068



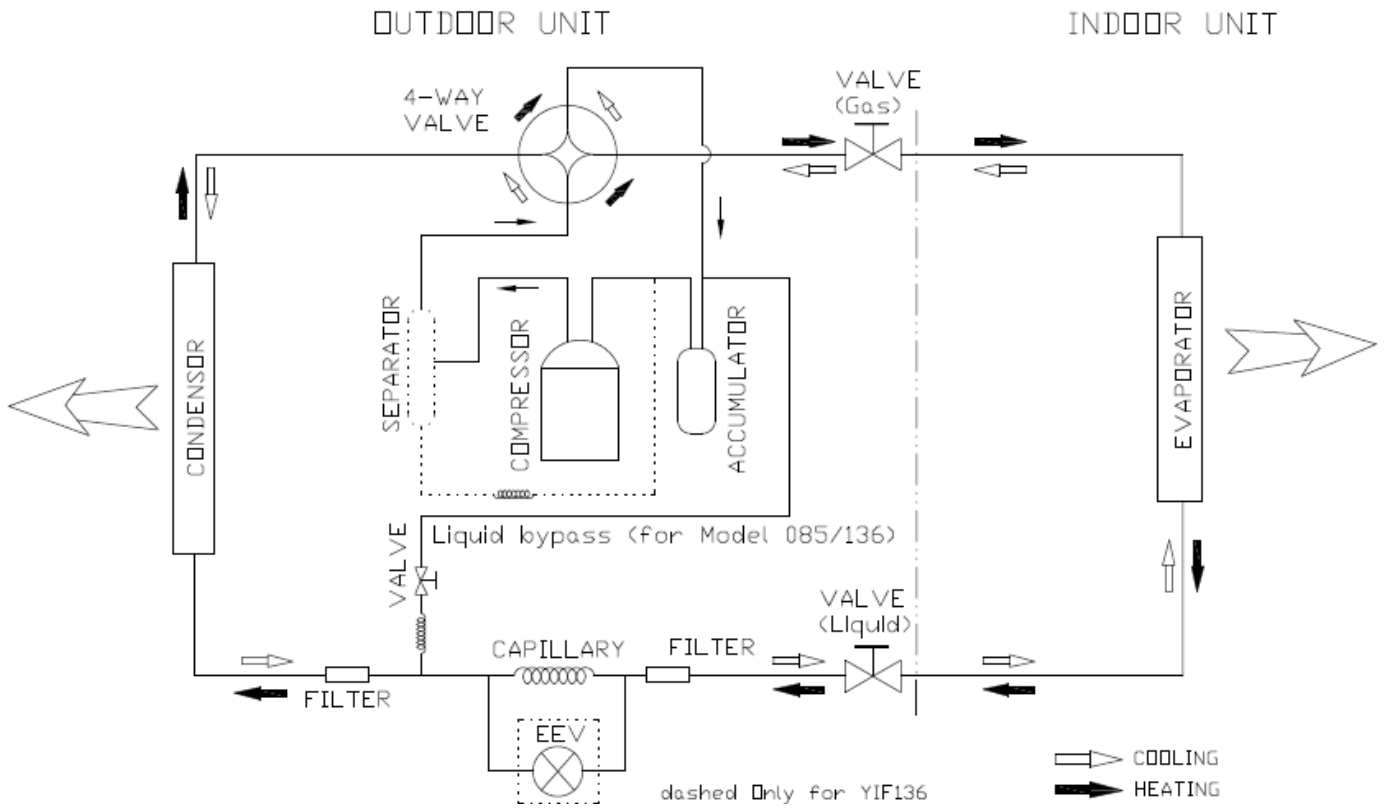
9.10 DAF102 / YIF102



9.11 DAF085 / YIF085 and DAF136 / YIF136



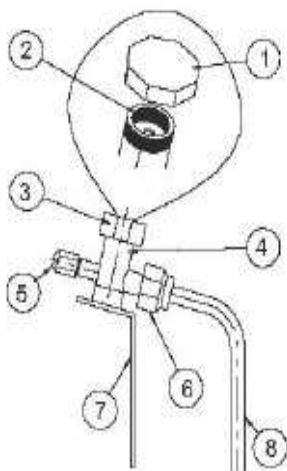
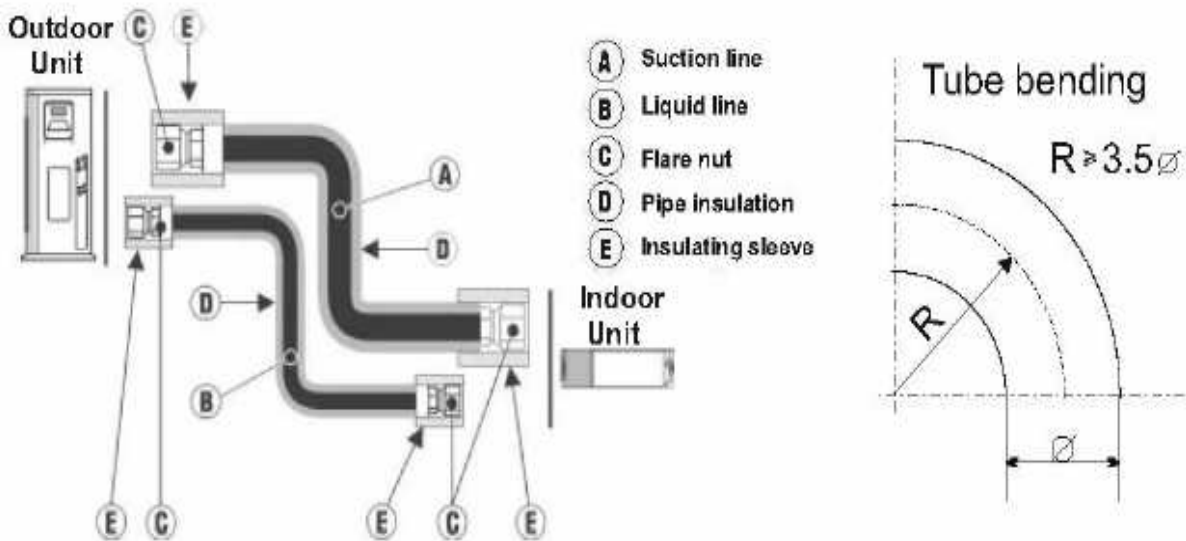
10. REFRIGERATION DIAGRAMS





# 11. TUBING CONNECTIONS

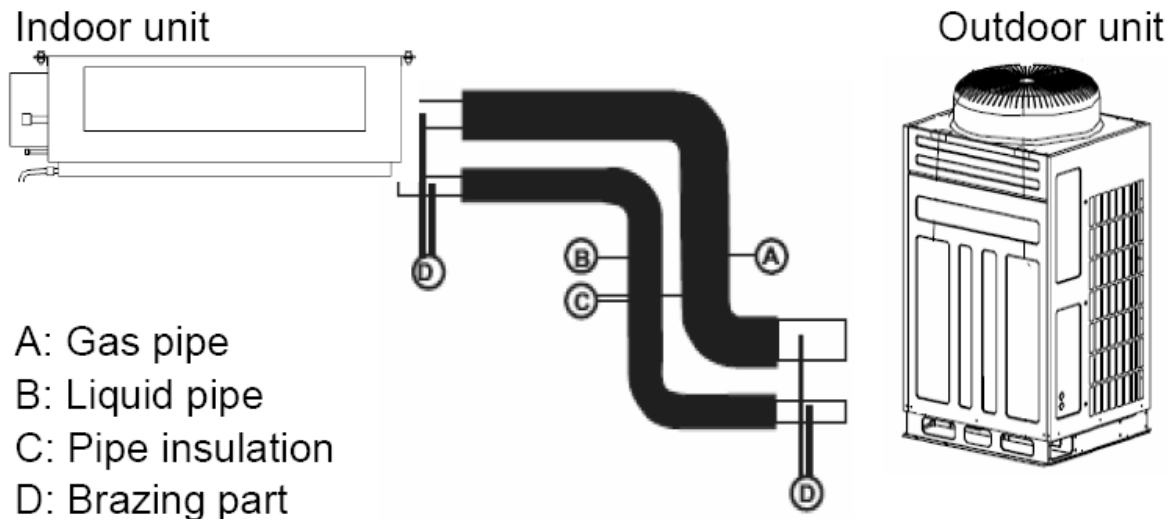
## 11.1 DAF068 / YIF068 and DAF085 / YIF085



TUBE (Inch)	1/4"	3/8"	1/2"	5/8"	3/4"
<b>TORQUE (Nm)</b>					
<b>Flare Nuts</b>	15-18	40-45	60-65	70-75	80-85
<b>Valve Cap</b>	13-20	13-20	18-25	18-25	40-50
<b>Service Port Cap</b>	11-13	11-13	11-13	11-13	11-13

1. Valve Protection Cap-end
2. Refrigerant Valve Port (use Allen wrench to open/close)
3. Valve Protection Cap
4. Refrigerant Valve
5. Service Port Cap
6. Flare Nut
7. Unit Back Side
8. Copper Tube

For IDU DAF085, the tube is connected from braing

**11.2 DAF102 / YIF102 and DAF136 / YIF136**

1. The refrigerant in the conditioner unit is enough for the connecting pipes of 7.5 meters, if the pipe is longer than 7.5 meters, additional supplement refrigerant should be supplied. The maximum pipe length is 50 meters
2. When the outdoor unit is installed above the indoor unit an oil trap is required every 6m along the suction line at the lowest point of the riser. In case the indoor unit is installed above the outdoor, no trap is required.



## 12. CONTROL SYSTEM

### 12.1 Electronic Control

#### 12.1.1 Abbreviations

AC	-Alternate Current
A/C	- Air-Conditioner
ANY	- ON or OFF status
COMP	- Compressor
H/W	- Hardware
ICT	- Indoor Coil Temperature sensor
IF, IFAN	- Indoor Fan
IR	- Infra Red
Max	- Maximum
Min	- Minimum
min	- Minute (time)
NA	- Not Applicable
OCT	- Outdoor Coil Temperature sensor
OF, OFAN	- Outdoor Fan OPER - Operate Para. - Paragraph
RAT	- Return Air Temperature (RT1) sensor
RC	- Reverse Cycle (Heat Pump)
R/C	- Remote Control
RCT	- Remote Control Temperature
RH	- Resistance Heater
RV	- Reversing Valve
SB, STBY	- Stand-By
Sec	- Second (time)
Sect	- Section
SH	- Supplementary Heater
SPT	- Set Point Temperature
ST	- Standard (a Model with Cooling Only)
S/W	- Software
TEMP	- Temperature
W/O	- Without

### 12.1.2 Compressor operation

For each Mode including POWER OFF & SB, a Min time delay of 3 min before COMP restarting except during outdoor deicing.

### 12.1.3 Indoor Fan Control

Only one Indoor fan speed is determined for each model.

### 12.1.4 Outdoor Fan Control

#### 12.1.4.1 OFAN Speed Type

The OFAN motor is a one-speed AC motor and controlled by outdoor controller.

#### 12.1.4.2 General rules

1. The OFAN is ON when COMP is ON during Cool, Dry and Heat Mode.
2. When the unit is off by remote control, in safety stops and stop after reaching to the temperature point, the outdoor fan stops.

### 12.1.5 Refrigerant control

Capillary is used for the refrigerant besides YIF132 (capillary + EEV)

### 12.1.6 Reversing Valve (RV) Control

Reversing valve is on in heat mode.

## 12.2 Fan Mode

In this mode, the COMP, OFAN and RV will be OFF.

## 12.3 Cool Mode

If  $RAT \geq SPT+1$ , the unit starts cooling operation. In this case, the COMP and OFAN will operate.

If  $RAT \leq SPT-1$ , the COMP and OFAN will stop operating, while the IFAN will run.

If  $SPT-1 < RAT \leq SPT+1$ , the unit will maintain the previous status.

## 12.4 Heat Mode

If  $RAT \leq SPT+1$ , the unit will operate in heating mode. The COMP, OFAN and RV will operate.

If  $SPT+1 \leq RAT \leq SPT+1$ , the unit will maintain the previous status.

If  $RAT \geq SPT+1$ , the COMP and OFAN will stop and according to residual heat blowing function.

### Residual heat blowing function

During heating, when the stopping condition for the compressor is reached. The indoor fan will blow for 60s.

## 12.5 Auto Cool/Heat Mode

In AUTO mode, the system selects the running mode (COOL/HEAT/FAN) automatically according to the room temperature. The display shows the actual running mode and setting temperature.

There will be 30s delay for mode conversion.

1. When  $RAT \geq 25$  degree, the cooling mode is selected.
2. When  $RAT \leq 20$  degree, the unit runs in heating mode
3. When  $20 \text{ degree} < RAT < 25 \text{ degree}$ , the previous running mode will remain.

## 12.6 Dry Mode

If  $RAT \geq SPT + 2$ , the unit starts cooling operation. In this case, the COMP and OFAN will operate.

If  $RAT \leq SPT - 2$ , the COMP and OFAN will stop.

If  $SPT - 2 < RAT \leq SPT + 2$ , While IFAN will run at low speed. COMP and OFAN will operation in 6 min ON and 4 min OFF in cycling.

In this mode, the RV will be OFF and the temperature setting range is 16~30.

## 12.7 Protections

### 12.7.1 Indoor Coil Defrost Protection

When the unit has been running for refrigeration or dehumidification for a period of time and the  $ICT < -2^{\circ}\text{C}$ , the unit will report a fault code E2 and stops the compressor and the outdoor unit. The unit will begin to operate after  $ICT \geq 10^{\circ}\text{C}$  and the compressor will run again after 3 minutes stop.

### 12.7.2 Compressor over Heating Protection

Defrosting start conditions:

After the heating operation runs for an accumulated period of 44 minutes and the compressor continues to operate for 4 mins and 50 seconds, and a one-minute duration of  $OCT \leq -5^{\circ}\text{C}$  is detected, the unit begins defrosting. If an auxiliary heater is available, it must be stopped firstly, and after 10 seconds, the four-way valve, the indoor fan, the outdoor fan and the compressor will run compulsively.

Defrosting completion conditions:

When defrosting runs 10 minutes or  $OCT \geq 10^{\circ}\text{C}$ , defrosting will be completed. In such case, the four-way valve is running, the outdoor fan is running, the compressor is running compulsively, and the indoor fan operates according to anti cold prevention conditions.

### 12.7.3 Compressor over Heating Protection

After the running of compressor, if  $CTT > 130^{\circ}\text{C}$  in continuously 30s, compressor, IFAN and OFAN will OFF. LED blinks and displays error code "E4".

After 3min stop of compressor, if CTT is  $< 90^{\circ}\text{C}$  for continuously 5s, the compressor will restart.

If 3 times of protection are detected in 30min, compressor, IFAN and OFAN will be OFF. LED blinks and displays error code “E4”. The unit cannot recover automatically which requires pressing ON/OFF, and then clearing error code and turning off LED.

#### **12.7.4 Compressor high pressure Protection**

When high pressure protection has been detected in continuously 3 seconds, all loadings are OFF, shield all buttons except for ON/OFF button, fault LED blinks and displays fault E1.

The unit cannot be recovered automatically. Turn off the unit by pressing ON/OFF, clearing “E1” and turn off the LED.

#### **12.7.5 Compressor low pressure Protection**

After 3min running of compressor, If low pressure switch is cut off in continuously 30s, the complete unit will stop and error code “E3” will be displayed.

3min later, if the error is removed, the unit will restart.

If the low pressure switch protection has been detected for 3 times during 30min, the LED will blink and displays “E3”. The unit cannot recover automatically which requires pressing ON/OFF button, and then clear the error code and OFF the LED.

#### **12.7.6 Compressor over load Protection**

If overloading switch is cut off for continuously 3 seconds, it is believed that compressor is in the condition of overloading protection. Compressor and OFAN will be OFF, LED blinks and displays the error code E5.

After 3 min stop of compressor, if the error has disappeared, the compressor will restart.

If 3 times protection is detected in 30 min, all loads will be OFF (except for 4-way valve). Except for ON/OFF button, all buttons and remote control signal are not effective. LED will blink and display the error code E5. The unit cannot be automatically recovered. After turning off the unit by press ON/OFF button, if the error disappears, the error code will be cleaned and the LED will be OFF.

#### **12.7.7 Over Current Protection**

Detect an input current by the CT during the COMP is running. Fault code E5 is displayed.

If the current is high for 3 sec, COMP and OFAN will stop, IFAN will run.

The system will resume its previous status if the protection is cleared and COMP stops for 3 min.

If the unit stops as such protection for 6 times,(the counter will be cleared after the compressor has run for 6min), it cannot resume running automatically and display malfunction, it can resume by pressing ON/OFF.

**12.7.8 Indoor coil overheating in heating mode**

During Heat Mode, the protection of indoor coil overheating prevents abnormal high pressure. When ICT reaches 58C, OFAN will stop operating and resume operating if the ICT go to normal.

**12.7.9 Communication failure Protection**

If outdoor unit continuously shows that there is not any feedback from indoor unit main board, communication malfunction occurs. In this case, compressor will be stop and fault code E6 will be displayed. After that, outdoor fan stops. If heating, the 4 way valve will stop after the compressor stops.

If the indoor unit hasn't received information from outdoor unit for a period of time, communication malfunction occurs. In this case, indoor unit stop (during heating, E-heater stopped firstly and the indoor fan blows residual heat).

If the display board hasn't received information from indoor unit for a period of time, communication malfunction occurs. In this case, malfunction code is displayed and the unit will not act.

**12.7.10 Water overflow Protection**

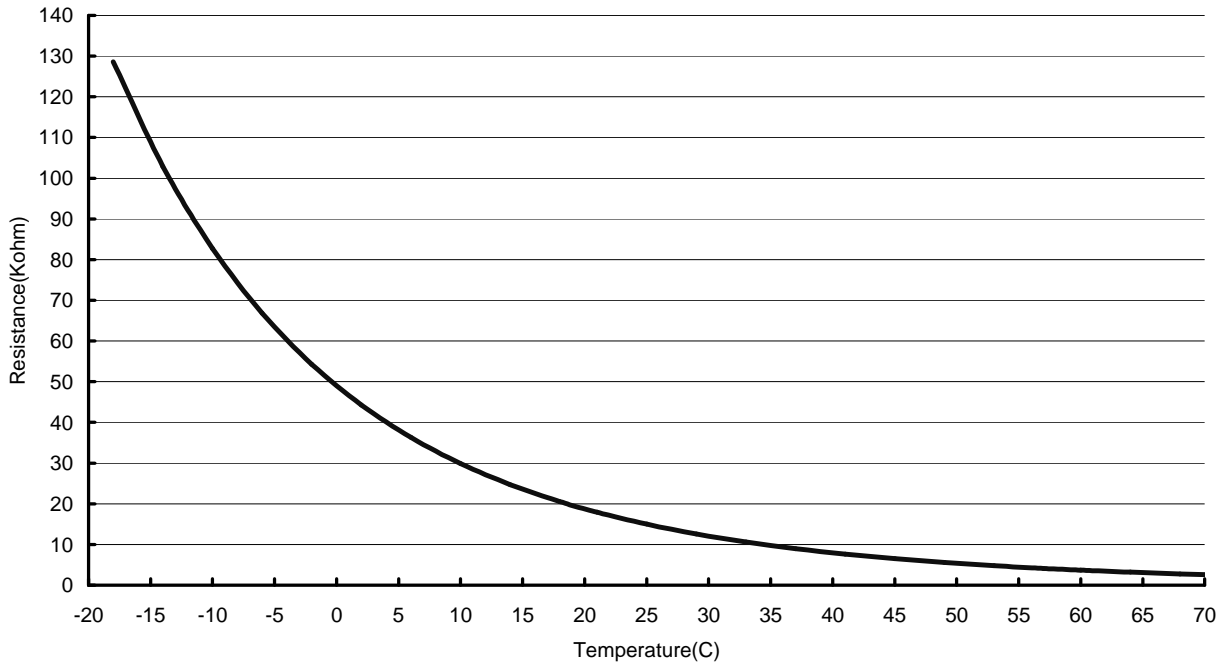
If Water Over Flow is detected after the system is powered on, the water full protection is initiated and fault code E9 is displayed.

compressor will stop, Pump keeps operating. Unit will resume operating after water level is normal

## 12.8 Characteristics of sensor

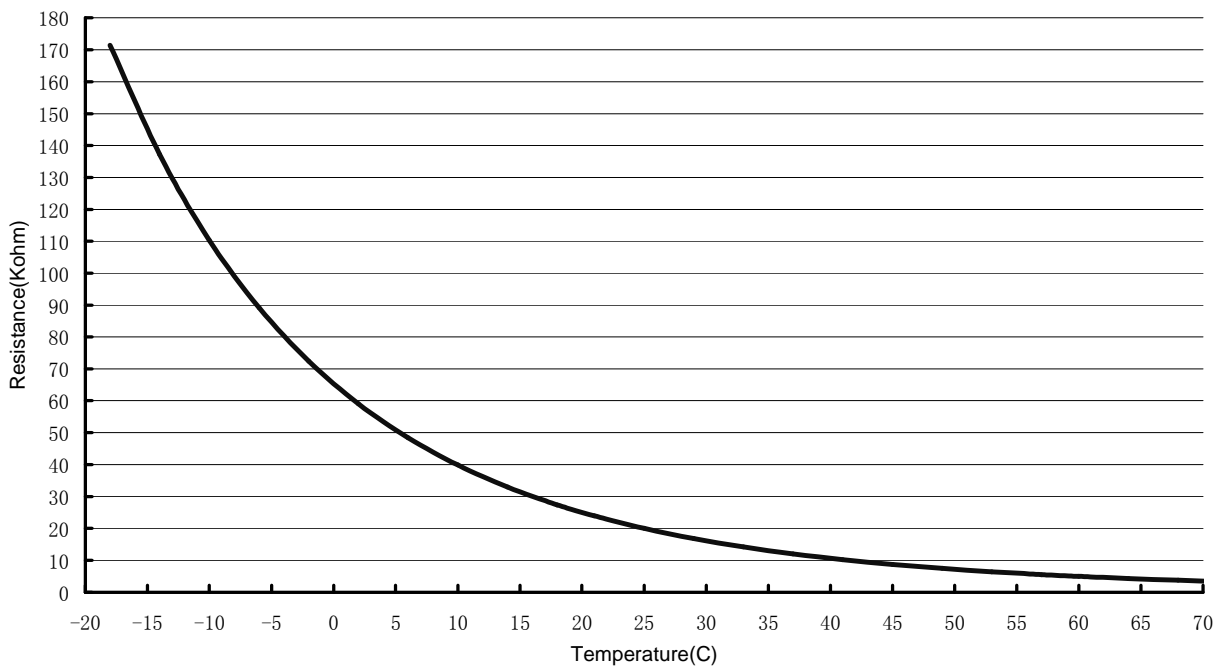
### 12.8.1 RAT/OAT

RAT/OAT R-T chart



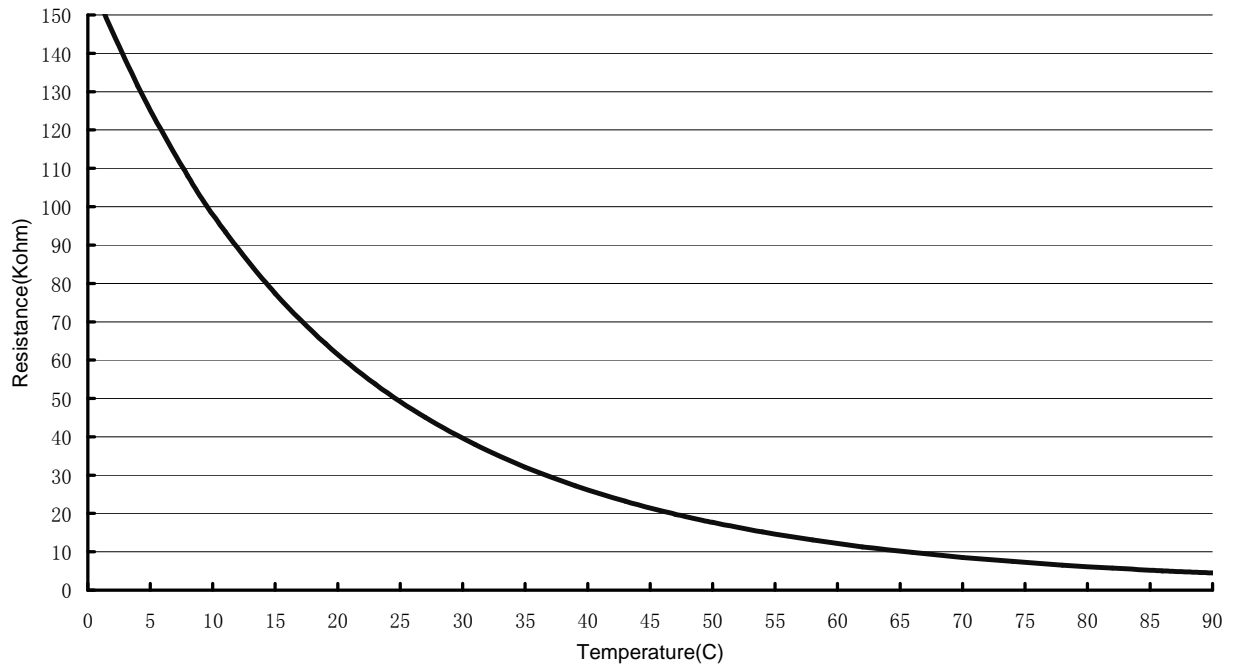
### 12.8.2 ICT/OCT

ICT/OCT R-T Chart



12.8.3 CTT

CTT R-T Chart







## 13. TROUBLESHOOTING

### 13.1 ELECTRICAL & CONTROL TROUBLESHOOTING

#### 13.1.1 Precautions before Performing Inspection or Repair

Be cautious during installation and maintenance. Do operation following the regulations to avoid electric shock and casualty or even death due to drop from high attitude.

\* **Static maintenance** is the maintenance during de-energization of the air conditioner. For static maintenance, make sure that the unit is de-energized and the plug is disconnected.

\***Dynamic maintenance** is the maintenance during energization of the unit. Before dynamic maintenance, check the electricity and ensure that there is ground wire on the site. Check if there is electricity on the housing and connection copper pipe of the air conditioner with voltage tester. After ensure insulation place and the safety, the maintenance can be performed.

Take sufficient care to avoid directly touching any of the circuit parts without first turning off the power. At time such as when the circuit board is to be replaced, place the circuit board assembly in a vertical position. Normally, diagnose troubles according to the trouble diagnosis procedure as described below. (Refer to the checkpoints in servicing written on the wiring diagrams attached to the indoor/outdoor units.)

#### 13.1.2 Confirmation

13.1.2.1 Confirmation of Power Supply Confirm that the power breaker operates(ON) normally;

13.1.2.2 Confirmation of Power Voltage Confirm that power voltage is AC 380~415V +/- 10% (3ph). If power voltage is not in this range, the unit may not operate normally.

#### 13.1.3 Judgment by Indoor/Outdoor Unit Diagnostics

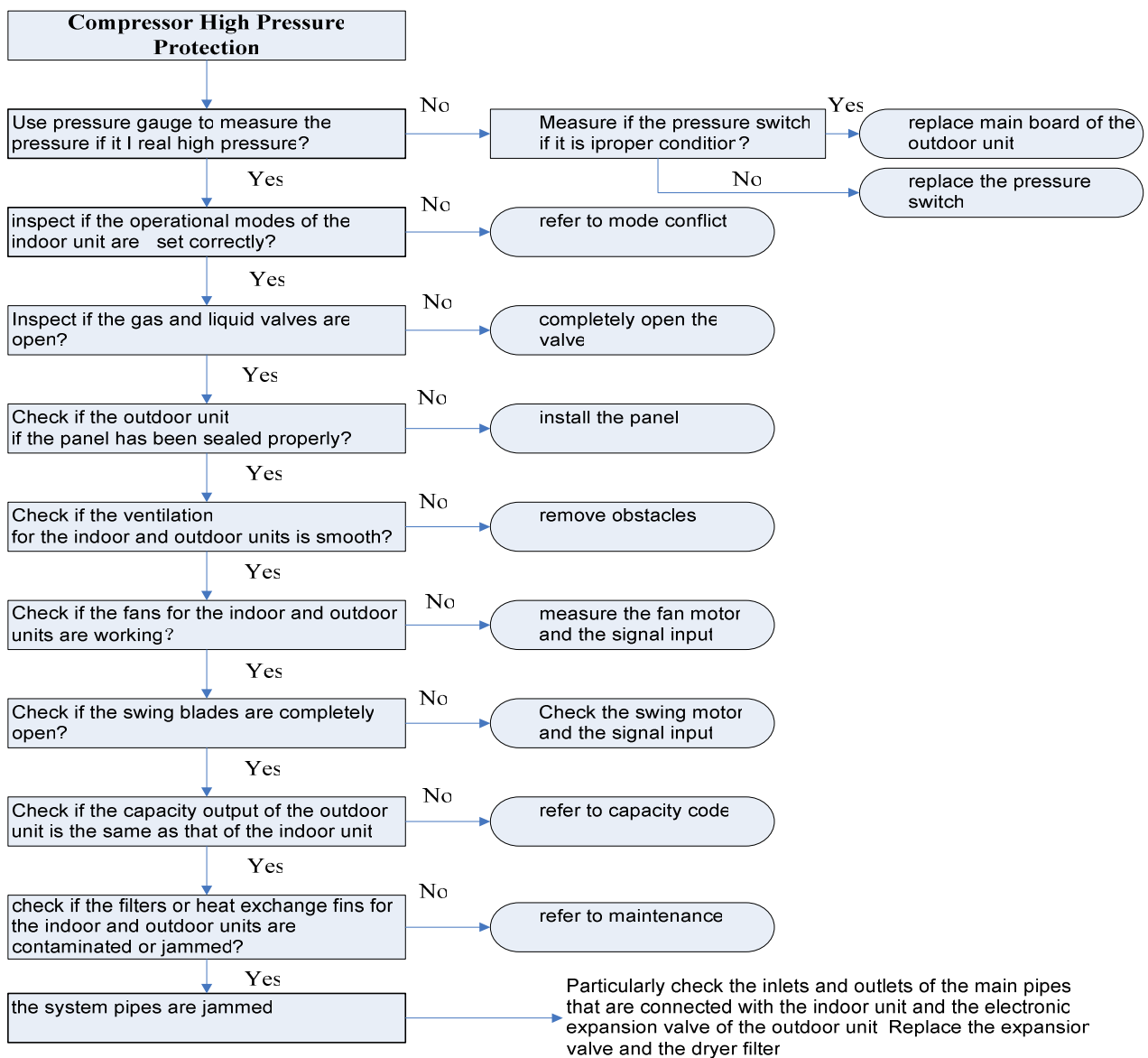
If the malfunction still exists 4min later after stop of unit due to compressor protection, error code will be directly displayed though the RCW

Trouble Code	Trouble Name	Origin of Trouble Signal
E1	Compressor High Pressure Protection	High pressure switch
E3	Compressor Low Pressure Protection	Low pressure switch
E4	Compressor Over Heating Protection	CTT
E5	Compressor Overload Protection	Overload protector
E6	Communications Failure	Communication

Trouble Code	Trouble Name	Origin of Trouble Signal
F0	Failure of RAT	RAT
F1	Failure of ICT	ICT
F2	Failure of OCT	OCT
F3	Failure of OAT	OAT
F4	Failure of CTT	CTT

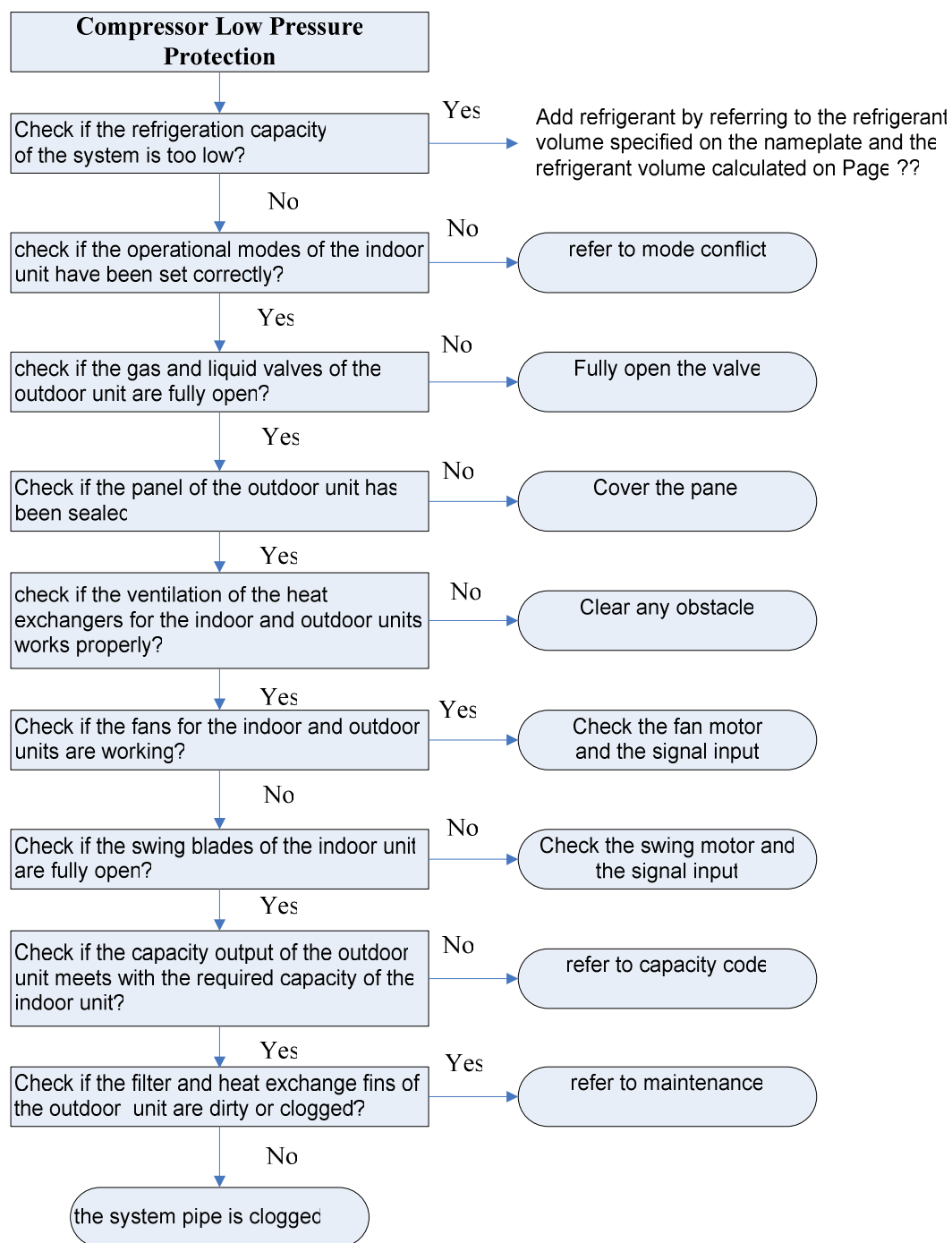
## 13.2 FLOW CHART OF TROUBLESHOOTING

### 13.2.1 E1: Compressor High Pressure Protection

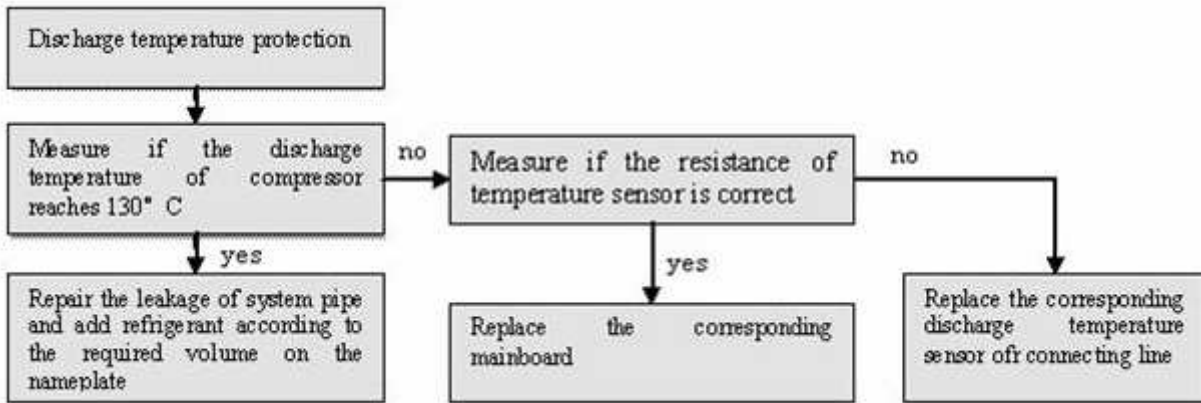


**TROUBLESHOOTING**

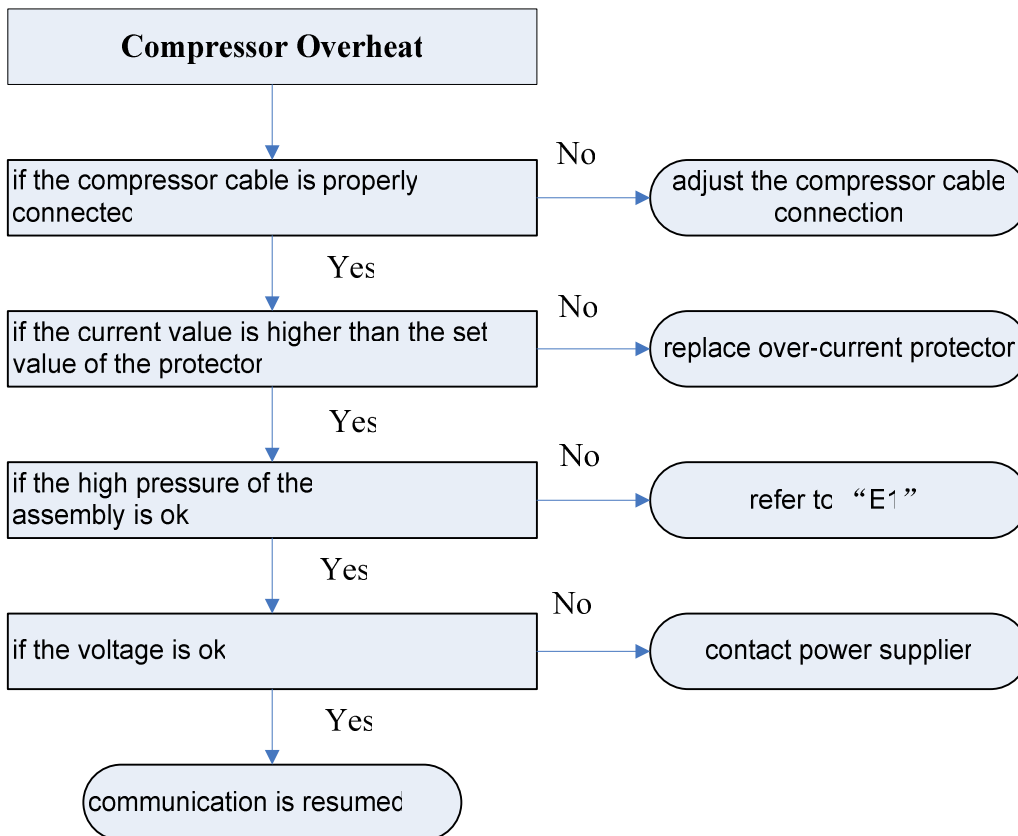
**13.2.2 E3: Compressor Low Pressure Protection**



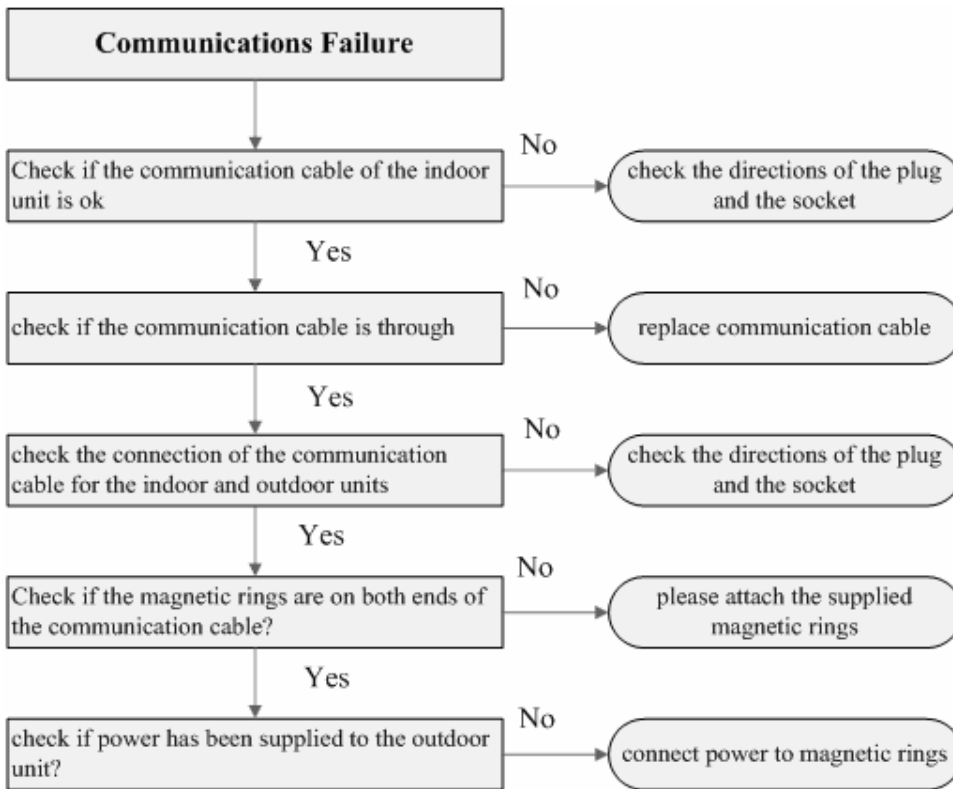
13.2.3 E4: Compressor Over Heating Protection



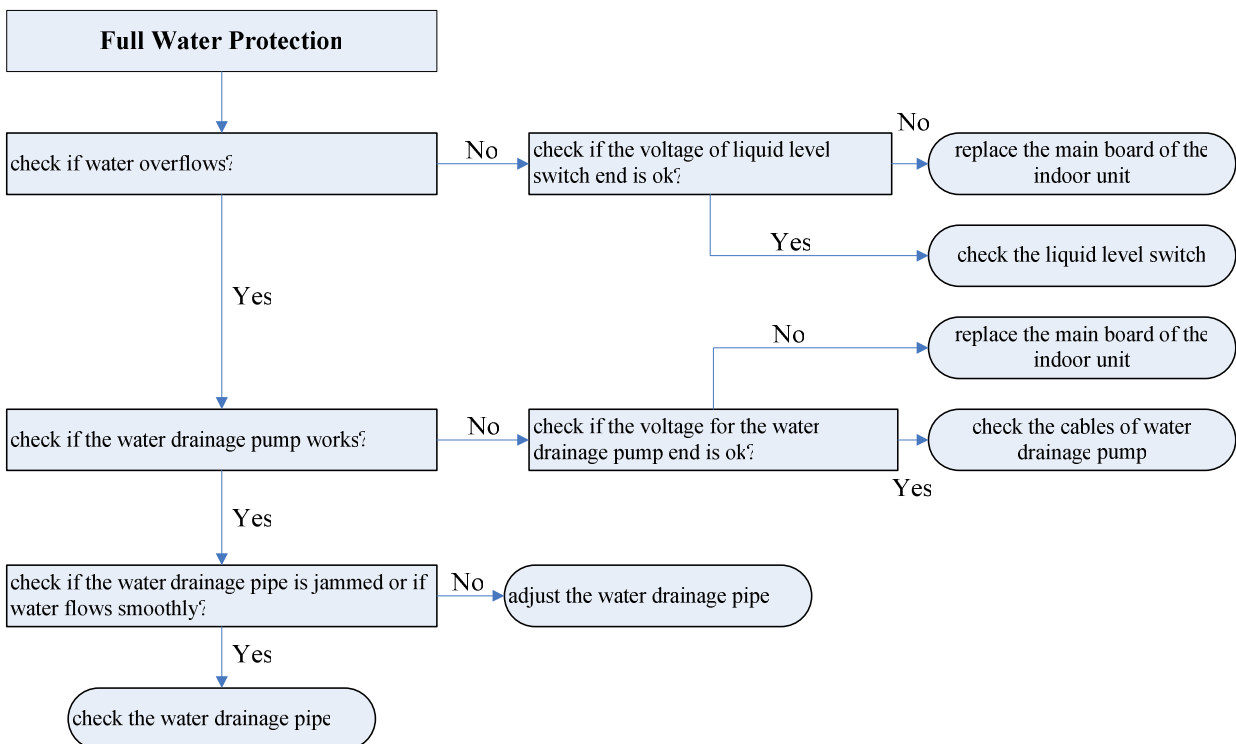
13.2.4 E5: Compressor Overload



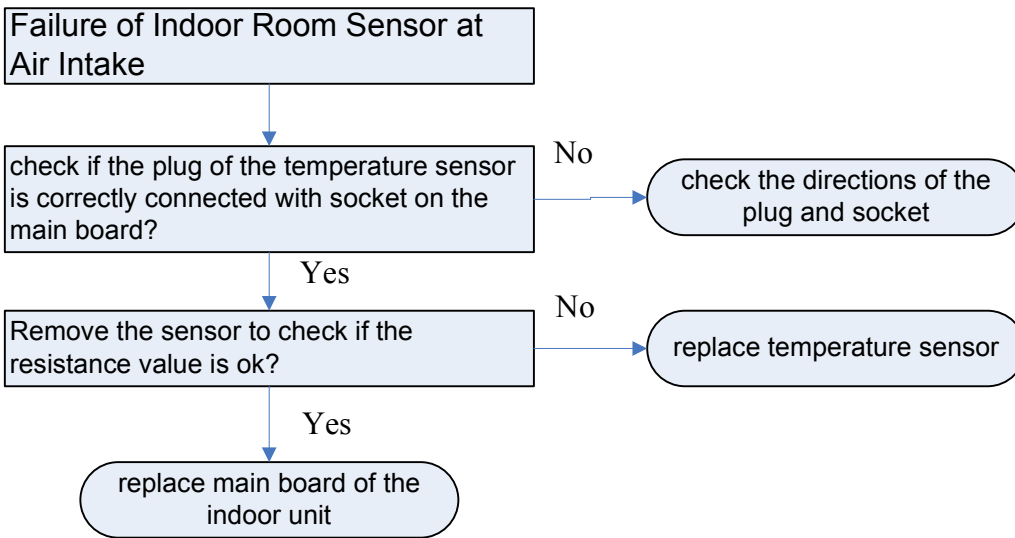
**13.2.5 E6: Communications Failure**



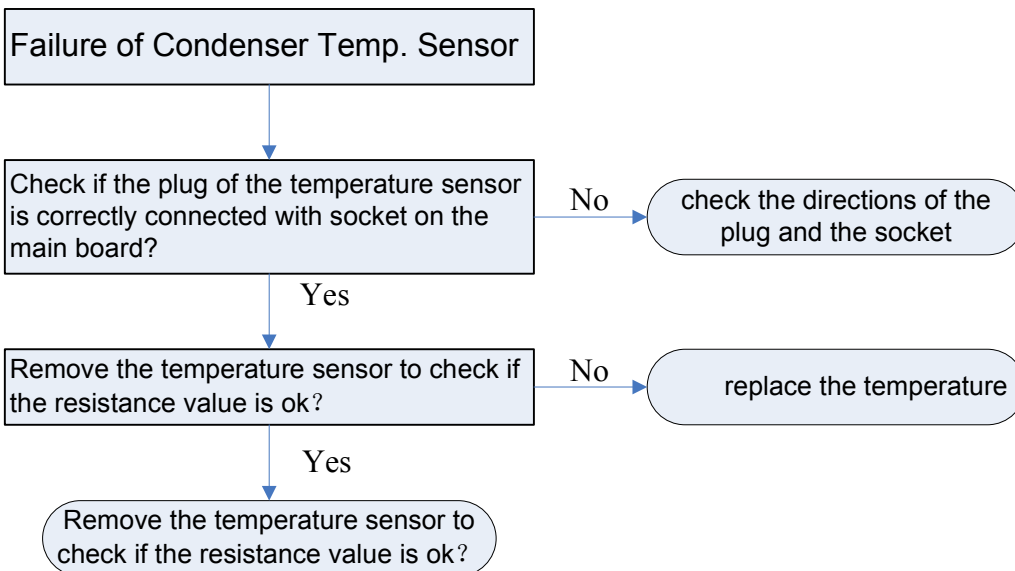
**13.2.6 E9: Water Full Protection**



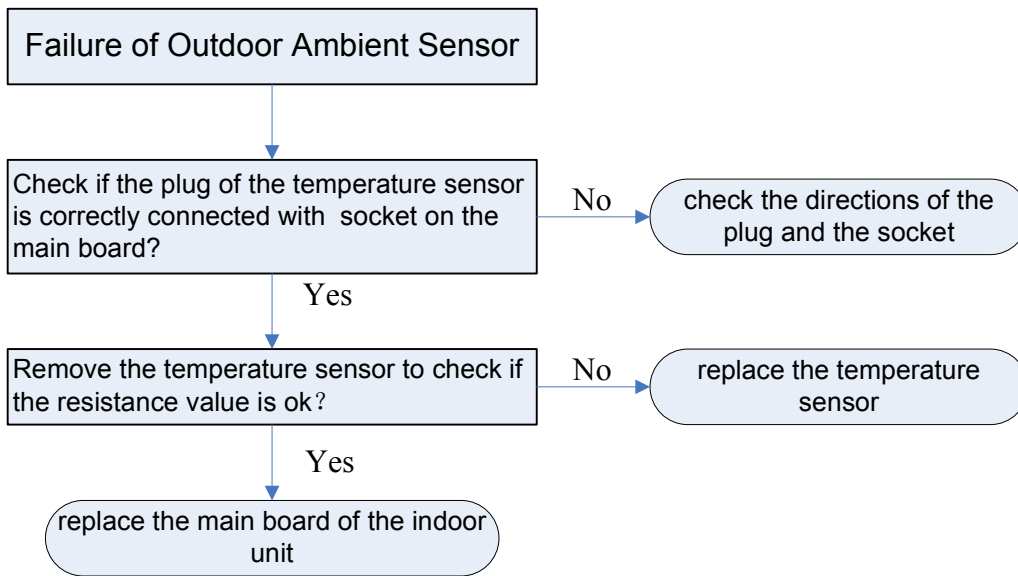
**13.2.7 F0: Failure of RAT**



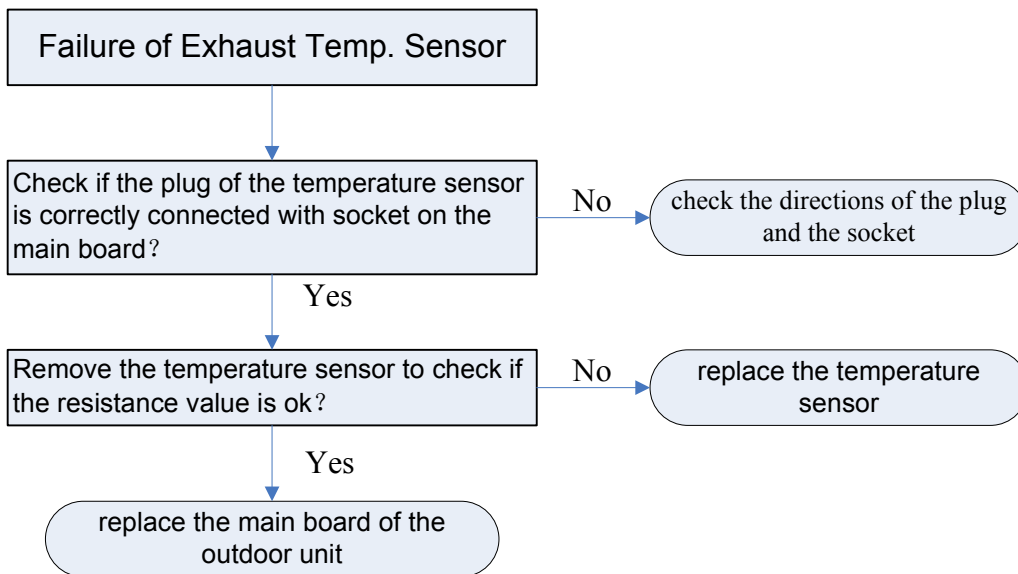
**13.2.8 F1: Failure of ICT**



**13.2.9 F3: Failure of OAT**

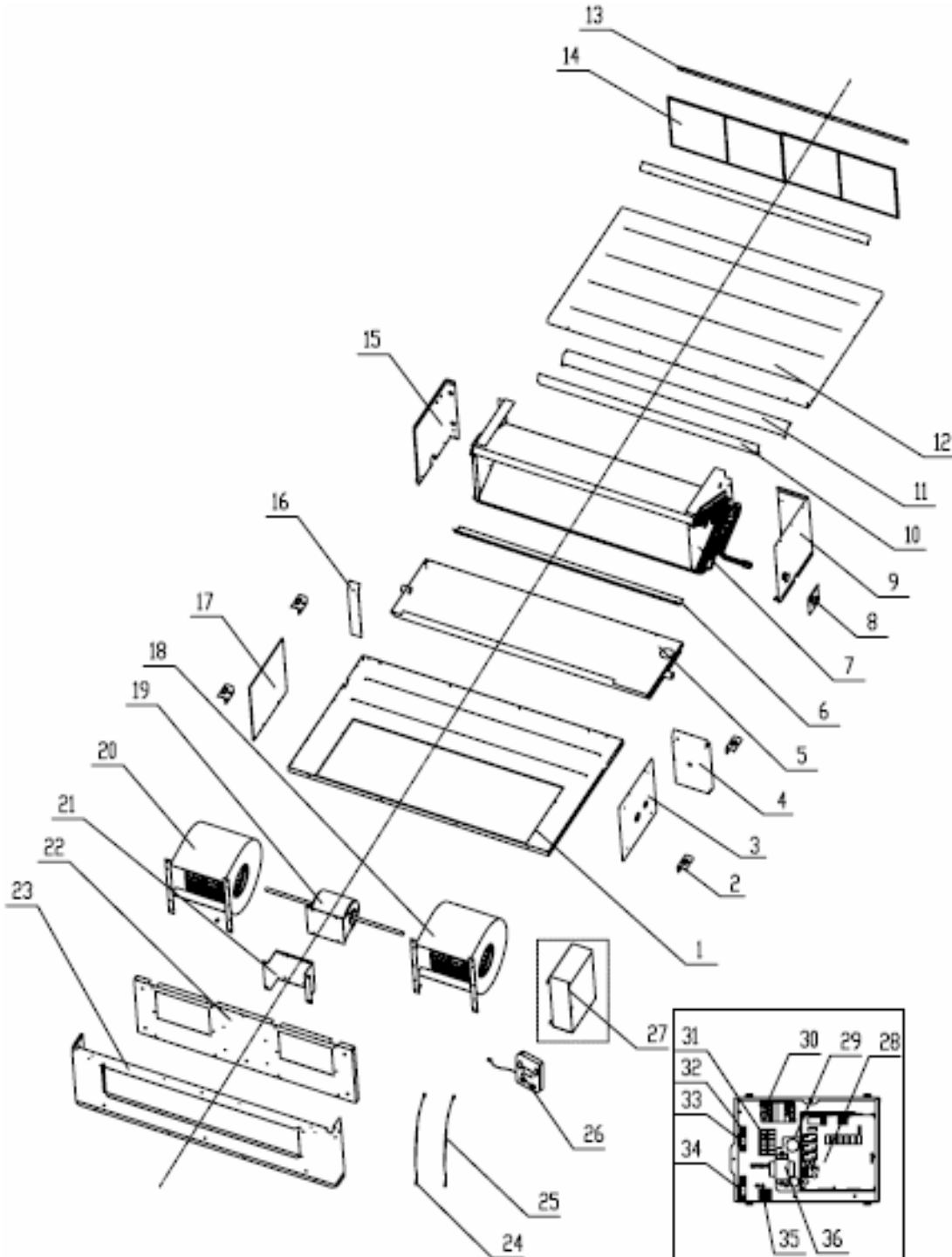


**13.2.10 F4: Failure of CTT**



**14. EXPLODED VIEW & SPARE PART LIST**

**14.1 Exploded view of Indoor unit: DAF068**

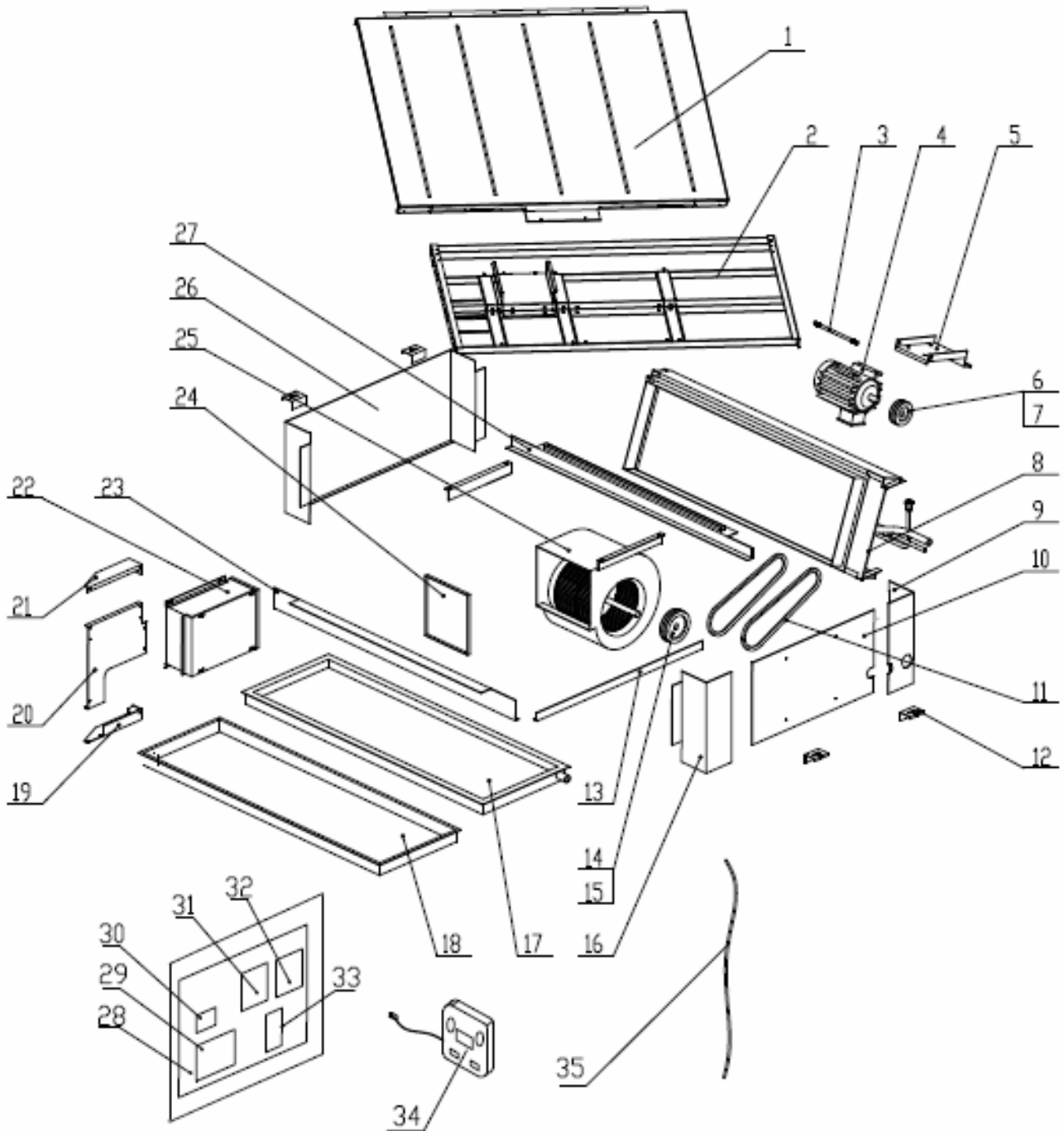




## 14.2 Spare part list of Indoor Unit DAF068

NO.	Part Code	Part Description	qty
1	01265357	Lower cover plate assy	1
2	02112466	Hook	4
3	01315378	Right Side Plate Sub-Assy 2	1
4	01345218	Sealing plate 1	1
5	01285283	Water tray assy	1
6	01095271	Upper side Plate(evaporator)	1
7	01025356	Evaporator Assy(pipeline)	1
8	01495241	Seal plate sub-assy(connection pipe)	1
9	01315370	Right Side Plate Assy	1
10	01095270	Upper side Plate(evaporator)	1
11	01095272	Rear side Plate(evaporator)	1
12	01265359	Upper cover plate assy	1
13	02285220	Guide slot (filter)	2
14	11725211	Filter sub-assy	2
15	01315367	Left Side Plate Assy 2	1
16	01345219	Sealing plate 1	1
17	01315376	Left Side Plate Sub-assy	1
18	15705306	Fan (Left type)	1
19	15705229	Fan Motor	1
20	15705307	Fan (right type)	1
21	01804715	Motor Support Sub-Assy	1
22	01324259	Fan Mounting Plate Assy	1
23	01315374	Front Side Plate Sub-Assy	1
24	3900012123G	Temperature Sensor	1
25	3900012121G	Temperature Sensor	1
26	30294219_K38101	Display Board	1
27	01395678	Electric Box Assy	1
28	30224056	Main Board	1
29	01845221	Electrical Retaining Plate	1
30	44010232	AC Contactor	1
31	420100071	Connection Board	1
32	70410503	Isolation Washer	1
33	71010102	Fixed Clamp	1
34	02141009	Wire clamp(communication)	1
35	420101851	Terminal Board	1
36	43110239	Transformer	1
	76712454	Choke Plug of Water Pipe	1
	01025355	Evaporator Assy	1

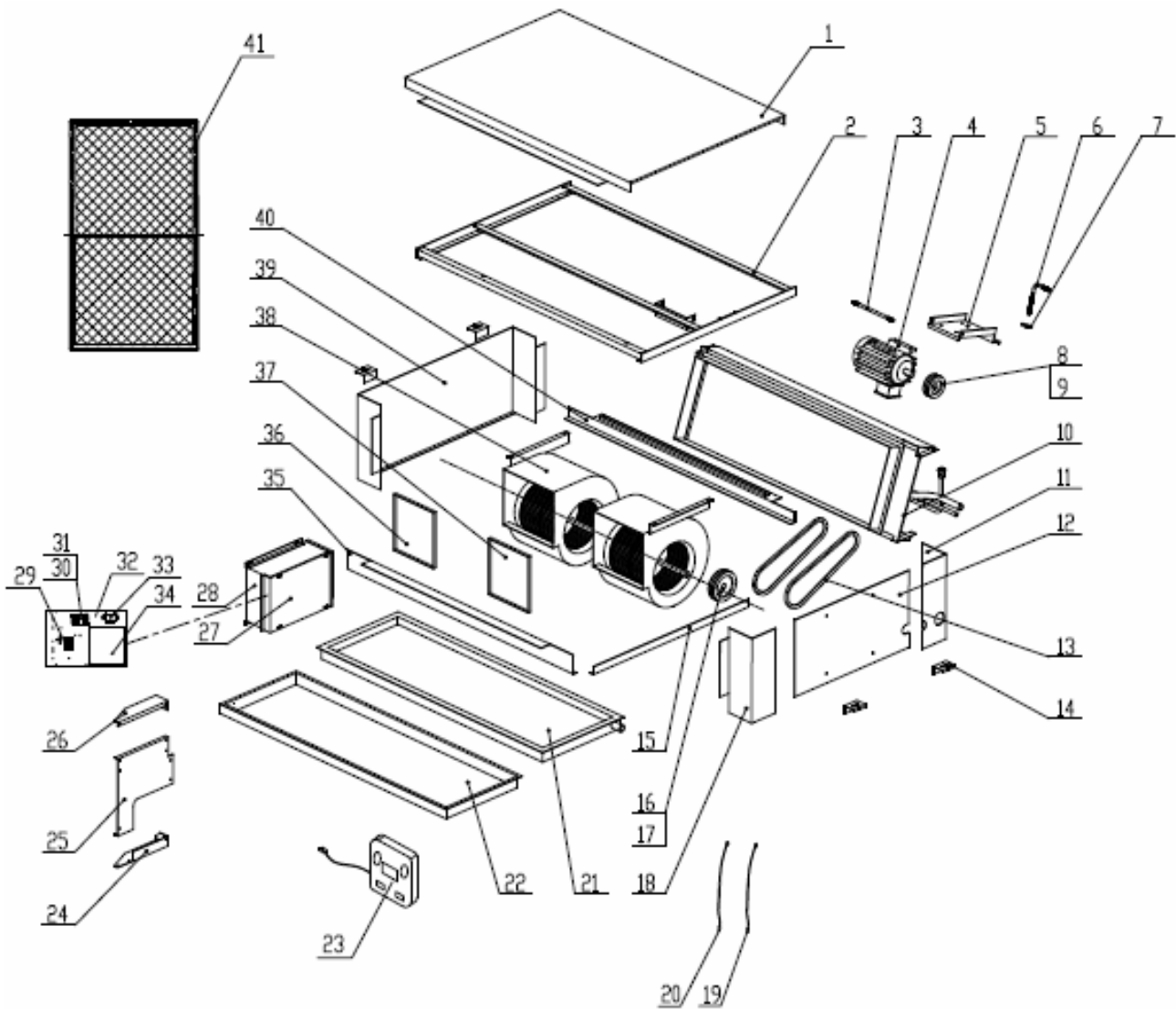
14.3 Exploded view of Indoor unit: DAF085



## 14.4 Spare part list of Indoor Unit DAF085

NO.	Part Code	Part Description	qty
1	01265351	Top Cover Sub-Assy	1
2	01805367	Hanger frame assy	1
3	10549057	rotate axletree	1
4	1501861102	Fan Motor	1
5	01845223P	Motor Fixed Board	1
6	10548155	Belt Pulley 2-SPA132	1
7	10548218	Taper Sleeve 2012-25	1
8	01025344	Heat-exchange equipment	1
9	01315319	Right Side Plate	1
10	01545322	Hanger frame assy	1
11	76318315	Belt SPA(1000mm)	2
12	02205302	Hook	4
13	01874178	Side beam assy	1
14	10548150	Belt Pulley 2-SPA100	1
15	10548213	Taper Sleeve 1610-28	1
16	01315350	Right Side Plate Sub-Assy	1
17	01284142	Collecting water tray assy	1
18	01194136	Chassis Sub-assy	1
19	01749056	Electric Box fixity	1
20	01749057	Electric Box fixity	1
21	01749058	Electric Box fixity	1
22	01395937	Electric Box Assy	1
23	01875330	Back beam sub-assy	1
24	01375225	Air Outlet Sub-Assy	2
25	15705225	Centrifugal Fan	1
26	01315347	Left Side Plate Assy	1
27	01779106	front girder	1
28	01339099	Electric Fixed Plate	1
29	30224217	Main Board	1
30	43110239	Transformer	1
31	44010232	AC Contactor	1
32	44020362	Thermal Overload Relay	1
33	42011043	Terminal Board	1
34	30294219_K38101	Display Board	1
35	40010232	4-core Cable	1
	49010104	Magnetic Ring	1
	01354111	Air Guard 1	1
	01354112	Air Guard 2	1
	01419141	cover of the Electric Box	1
	02169050	Regulator handle	2
	01094109	Cover Plate Sub-Assy of Evaporator	1
	11129070	Filter Sub-assy1	2
	76515202	Cable-Cross Loop	1
	390001913	Tube Sensor	1
	01025346	Evaporator Assy	1
	3900020720G	Tube sensor	1

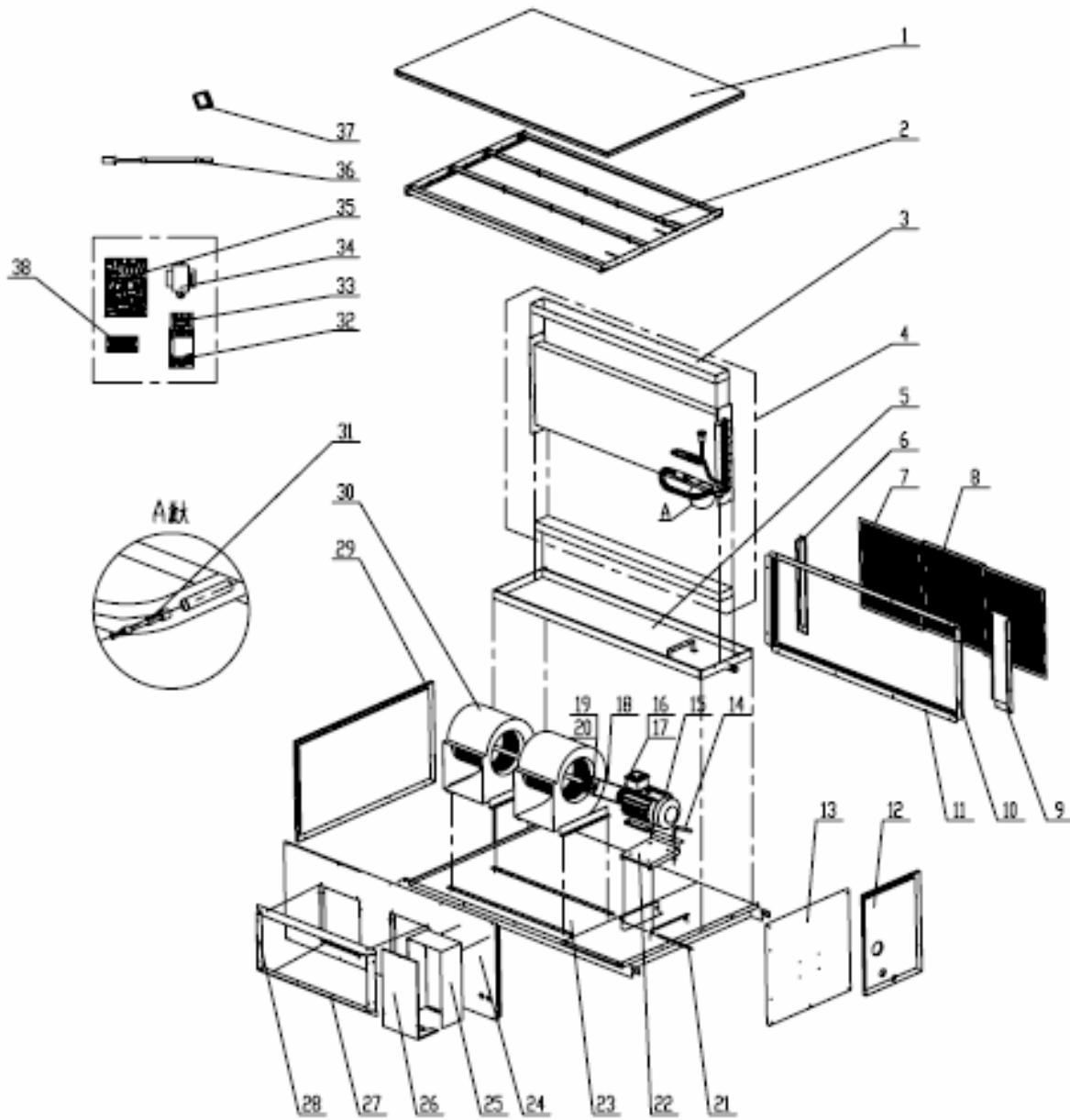
14.5 Exploded view of Indoor unit: DAF102



## 14.6 Spare part list of Indoor Unit DAF0102

NO.	Part Code	Part Description	qty
1	01259106	Top Cover	1
2	01805444	suspending rack	1
3	02285304	rotate axletree	1
4	1501861102	Fan Motor	1
5	01845328P	Fan Fixed Plate	1
6	02169050	Regulator handle	1
7	02139056	Hook	1
8	10548156	Belt Pulley 2-SPA140	1
9	10548218	Taper Sleeve 2012-25	1
10	01025208	Evaporator Assy	1
11	01315319	Right Side Plate	1
12	01539148	overhauling side	1
13	76318317	Belt SPA(1120mm)	2
14	02205302	Hook	4
15	01875301	Side girder	1
16	10548152	Belt Pulley 2-SPA112	1
17	10548213	Taper Sleeve 1610-28	1
18	01309105	Right Side Plate	1
19	3900020720G	Tube sensor	1
20	390001913	Tube Sensor	1
21	01285309	Water Tray	1
22	01285312	Metal Base	1
23	30294219_K38101	Display Board	1
24	01749056	Electric Box fixity	1
25	01749057	Electric Box fixity	1
26	01749058	Electric Box fixity	1
27	01419141	cover of the Electric Box	1
28	01395813	Electric Box Assy	1
29	42011043	Terminal Board	1
30	44020362	Thermal Overload Relay	1
31	44010232	AC Contactor	1
32	01325321	Electric Fixed Plate	1
33	43110239	Transformer	1
34	30224056	Main Board	1
35	01779108	back girder	1
36	01389077	place with a draught of Connection board	1
37	01389079	place with a draught of Connection board	1
38	15009059	Fan Motor Sub-assy	1
39	01315312	Right Side Plate	1
40	01779106	front girder	1
41	11129070	Filter Sub-assy1	2
	49010104	Magnetic Ring	1
	01025209	Evaporator Assy	1
	01265313	Cover Plate Sub-Assy of Evaporator	1

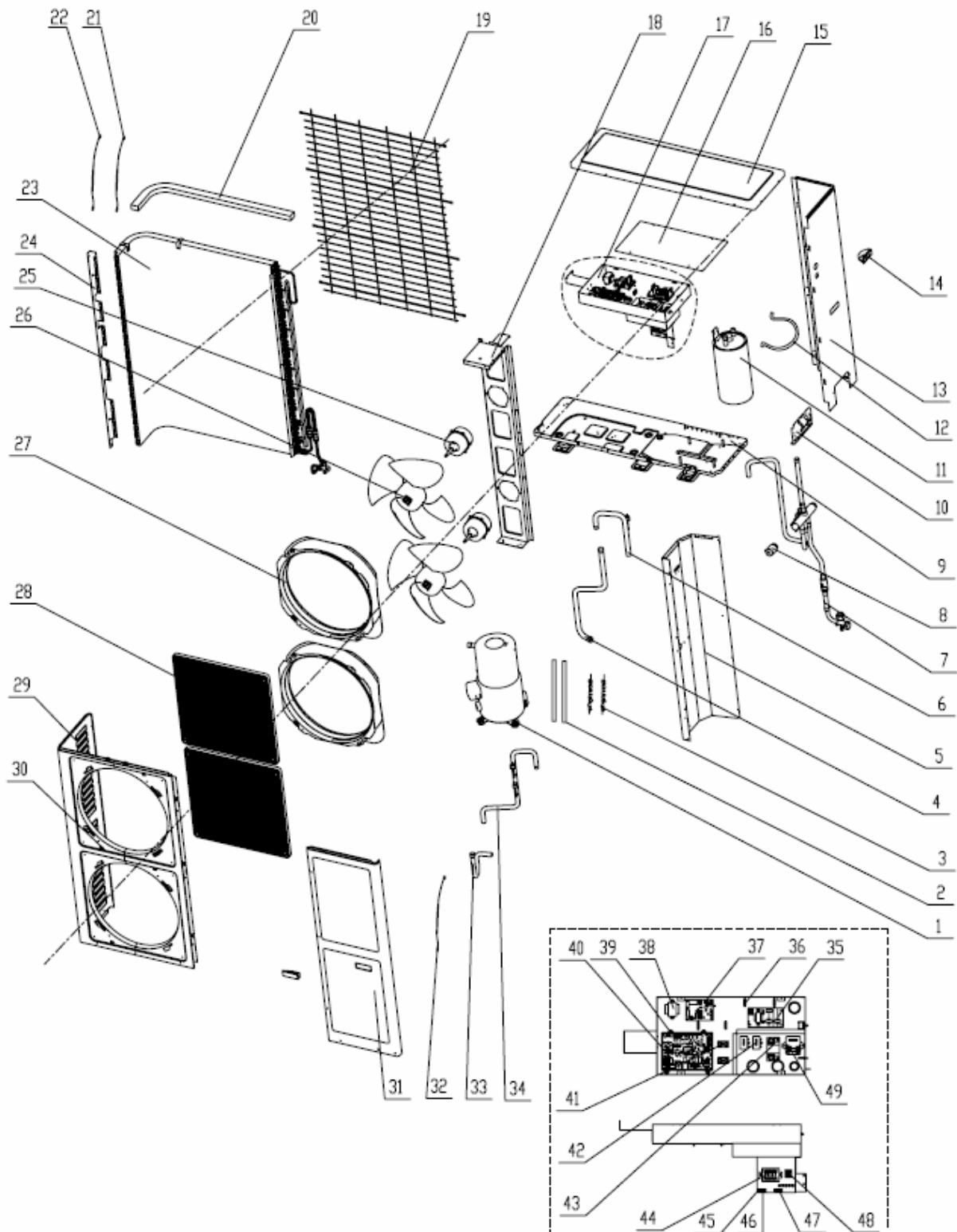
14.7 Exploded view of Indoor unit: DAF136



## 14.8 Spare part list of Indoor Unit DAF136

NO.	Part Code	Part Description	qty
1	01265209	Top Cover Sub-Assy	1
2	01805212P	Hange frame sub-assy	1
3	01095206	Cover Plate of Evaporator	2
4	01025362	Evaporator Assy	1
5	01285219	Water Collecting Tray Assy	1
6	01845205	Retaining Plate Sub-Assy	1
7	11129078	Filter Sub-Assy1	2
8	11129079	Filter Sub-Assy2	1
9	01845207	Retaining Plate Sub-Assy	1
10	01875208P	Longitudinal Beam of return air frame	2
11	01375208P	Return Air Frame Sub-Assy	2
12	01545210	Side Plate Sub-Assy2	1
13	01545208	Side Plate Sub-Assy3	1
14	02169050	Regulator handle	2
15	1501861102	Fan Motor	1
16	10548157	Belt Pulley 2-SPA150	1
17	10548218	Taper Sleeve 2012-25	1
18	76318315	Belt SPA(1000mm)	2
19	10548150	Belt Pulley 2-SPA100	1
20	10548213	Taper Sleeve 1610-28	1
21	10549057	rotate axletree	1
22	01845319	Retaining Plate	1
23	01285222P	Chassis Sub-assy	1
24	01545213	Air Outlet Panel sub-assy	1
25	01395812	Electric Box Assy	1
26	01425304P	Electric Box Cover	1
27	01375210P	Air outlet frame	2
28	01375209P	Air Outlet Side Board	2
29	01545212	Side Plate Sub-Assy1	1
30	15705214	Fan	1
31	390001923G	Tube sensor	1
32	44010232	AC Contactor	1
33	44020362	Thermal Overload Relay	1
34	43110239	Transformer	1
35	30224217	Main Board	1
36	390001913	Tube Sensor	1
37	30294219_K38101	Display Board	1
38	42011043	Terminal Board	1
	75080028	Heat insulating hose	1
	49010104	Magnetic Ring	1
	07219059	Filter	1
	06328625	Joint	1

14.9 Exploded view of Outdoor unit: YIF068

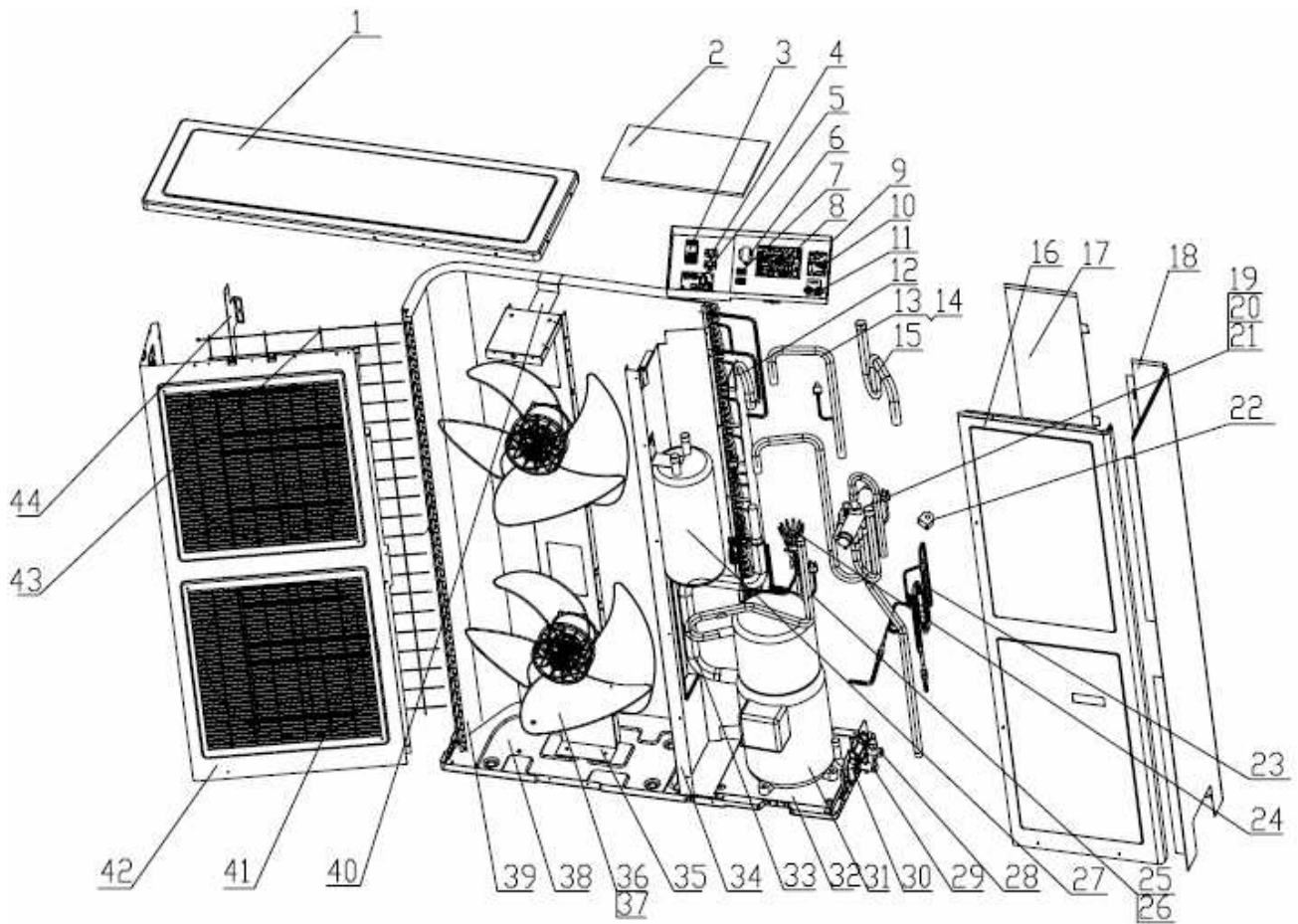




## 14.10 Spare part list of Outdoor Unit YIF068

NO.	Part Code	Part Description	qty
1	00205243	Compressor and fittings	1
2	76515211	Electric Heater Band	2
3	73028761	Spring	1
4	04655491	Inhalation Tube	1
5	01245248	Mid Clapboard	1
6	04675410	Inhalation Tube Sub-Assy	1
7	04145324	4-way Valve Sub-Assy	1
8	430004008	4-way Valve Accessary	1
9	01195239P	Chassis Sub-assy	1
10	01715001	Valve Support Sub-Assy	1
11	07228767	Gas-liquid Separator	1
12	02264107	Fixer (Steam separator)	1
13	01314207P	Rear Side Plate Sub-Assy	1
14	26235253	Handle	2
15	01258730	Top Cover	1
16	01264157	Electric Box Cover	1
17	01395876	Electric Box Assy	1
18	01804174	Motor Support Sub-Assy	1
19	01574101	Rear Grill	1
20	12204705	sponge	1
21	390002063G	Temperature Sensor	1
22	3900012136	Temperature Sensor	1
23	01125354	Condenser Assy	1
24	01845228	fixation Plate	1
25	15705701	Fan Motor	2
26	10338701	Axial Flow Fan	2
27	26904120	Diversion Circle	2
28	26904119	Front Grill	2
29	01314163P	Left Side Plate	1
30	01514101P	Cabinet	1
31	01314205P	Front Side Plate	1
32	390001923G	Tube sensor	1
33	04635732	Discharge tube sub-assy 1	1
34	04635742	Discharge Tube Sub-Assy	1
35	46020122	Over Current Protector	1
37	30224058	Main Board	1
38	43110171	Transformer	1
39	01845323	Electrical Retaining Plate	1
40	none	Main PCB	0
41	42011043	Terminal Board	1
42	33010013	Capacitor CBB61	2
43	44010213	AC Contactor	1
44	42011103	Terminal Board 2-8	2
45	70410523	Isolation Washer	1
46	02141009	Wire clamp(communication)	1
47	71010102	Fixed Clamp	1
48	420101851	Terminal Board	1
49	46020052	Anti-phase Protector	1
	06123401	Drainage Connector	1
	06813401	Choke Plug	2
	76815211	Compressor Gasket	3
	07130212	Cut-off Valve	1
	07219051	Filter	1
	43000413	4-way Valve	1
	46020007	Low Pressure Switch	1
	460200061	Pressure Switch	1
	071302391	Cut-off Valve	1

14.11 Exploded view of Outdoor unit: YIF085

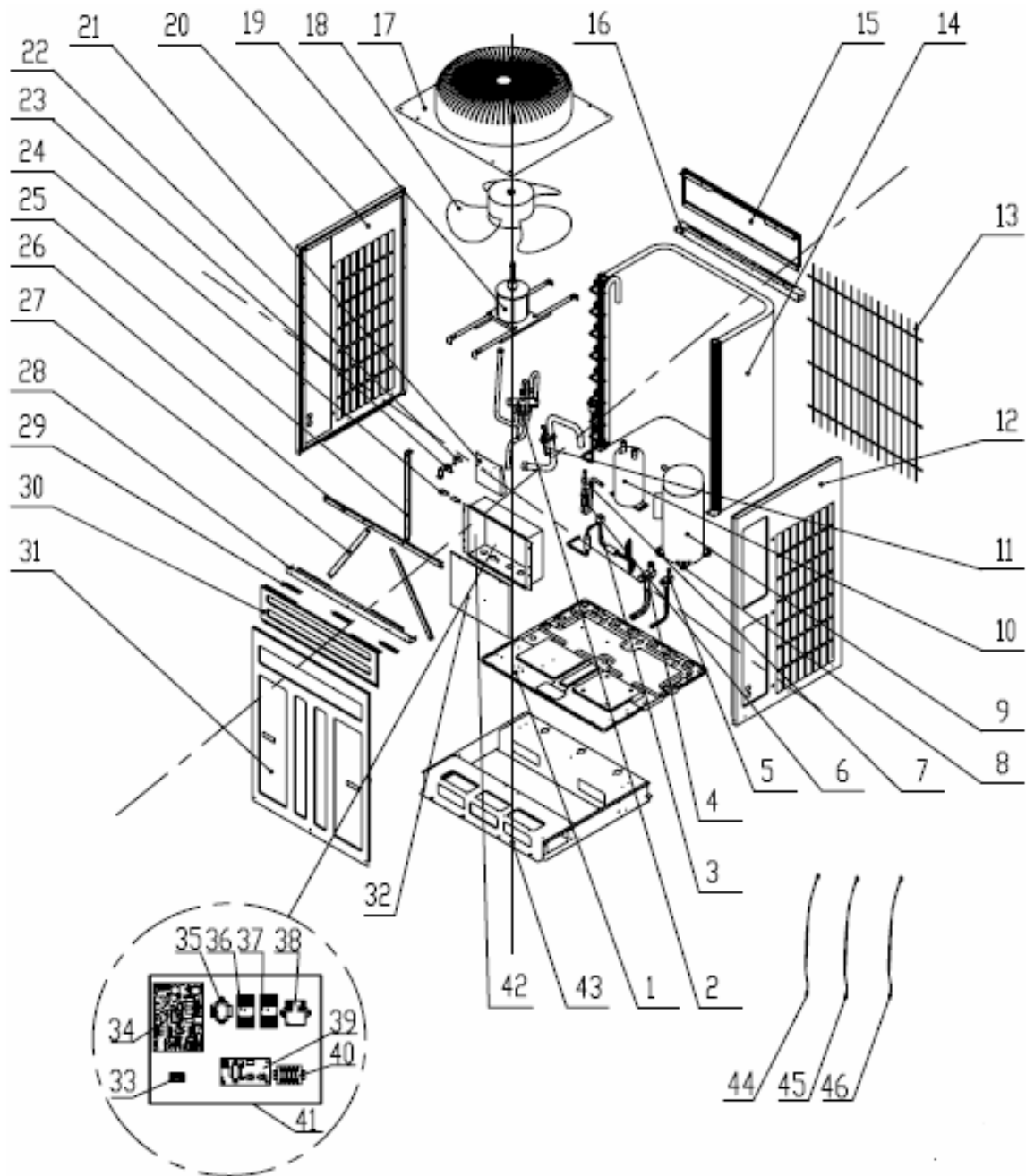


## 14.12 Spare part list of Outdoor Unit YIF085

NO.	Part Code	Part Description	qty
1	01258730	Top Cover	1
2	01424002	Electric Box Cover	1
3	44010213	AC Contactor	1
4	33010014	Capacitor	2
5	46020114	Over Current Protector	1
6	43110290	transformer	1
7	42011043	Terminal Board	1
8	30224309	Main Board	1
9	01395936	Electric Box Assy	1
10	30224072	Main Board	1
11	46020052	Anti-phase Protector	1
12	04675386	Collecting Gas Pipe Sub-Assy	1
13	04675388	Inhalation Tube sub-assy2	1
14	460200157	Pressure Protect Switch	1
15	05025619	Connecting pipe sub-assy	1
16	01308730	Front Side Plate	1
17	01315358P	Rear Side Plate Sub-Assy	1
18	0131535901P	Rear Side Plate Sub-Assy	1
19	04145376	4-way Valve Sub-Assy	1
20	43000413	4-way Valve	1
21	460200156	Pressure Protect Switch	1
22	430004008	4-way Valve Accessary	1
23	04105332	Capillary Sub-Assy	1
24	04325563	Collecting Liquid Pipe Sub-Assy	1
25	04635380	Discharge Tube Sub-Assy	1
26	4602001547	Pressure Protect Switch	1
27	07424141	Gas-liquid Separator	1
28	07130209	Cut-off Valve	1
29	07130212	Cut-off Valve	1
30	01715402	Valve Support Sub-Assy	1
31	00205238	Compressor and fittings	1
32	01845224P	Retaining Plate Sub-Assy	1
33	04675387	Inhalation Tube sub-assy1	1
34	01245238	Clapboard Sub-Assy	1
35	01805423	Motor Support Sub-Assy	
36	10338701	Axial Flow Fan	2
37	15705236	Fan Motor	2
38	01195235P	Chassis Sub-assy	1
39	01125336	Condenser Assy	1
40	01895233	Shoe Plate of Motor Support	1
41	26904119	Front Grill	2
42	01438707	Cabinet	1
43	01575203	Grill	1
44	01895231	Condenser support plate sub-assy	1
	76515202	Cable-Cross Loop	1
	42011103	Terminal Board 2-8	2
	06813401	Choke Plug	2
	390001923G	Tube sensor	1
	06123401	Drainage Connector	1
	07210022	Filter	1
	07212001	Filter	2

	02141009	Wire clamp(communication)	1
	3900012129G	Discharge sensor	1
	3900012132G	Ambient Temperature Sensor	1
	70414202	Washer of Fan	2
	76515211	Electric Heater Band	2
	4300008302	Magnet Coil	1
	43000054	Electromagnetic Valve	1
	07219051	Filter	1
	76815212	Compressor Gasket	3
	01845224P	Retaining Plate Sub-Assy	1
	4202300115	Jumper	1
	26235253	Handle	2

14.13 Exploded view of Outdoor unit: YIF102



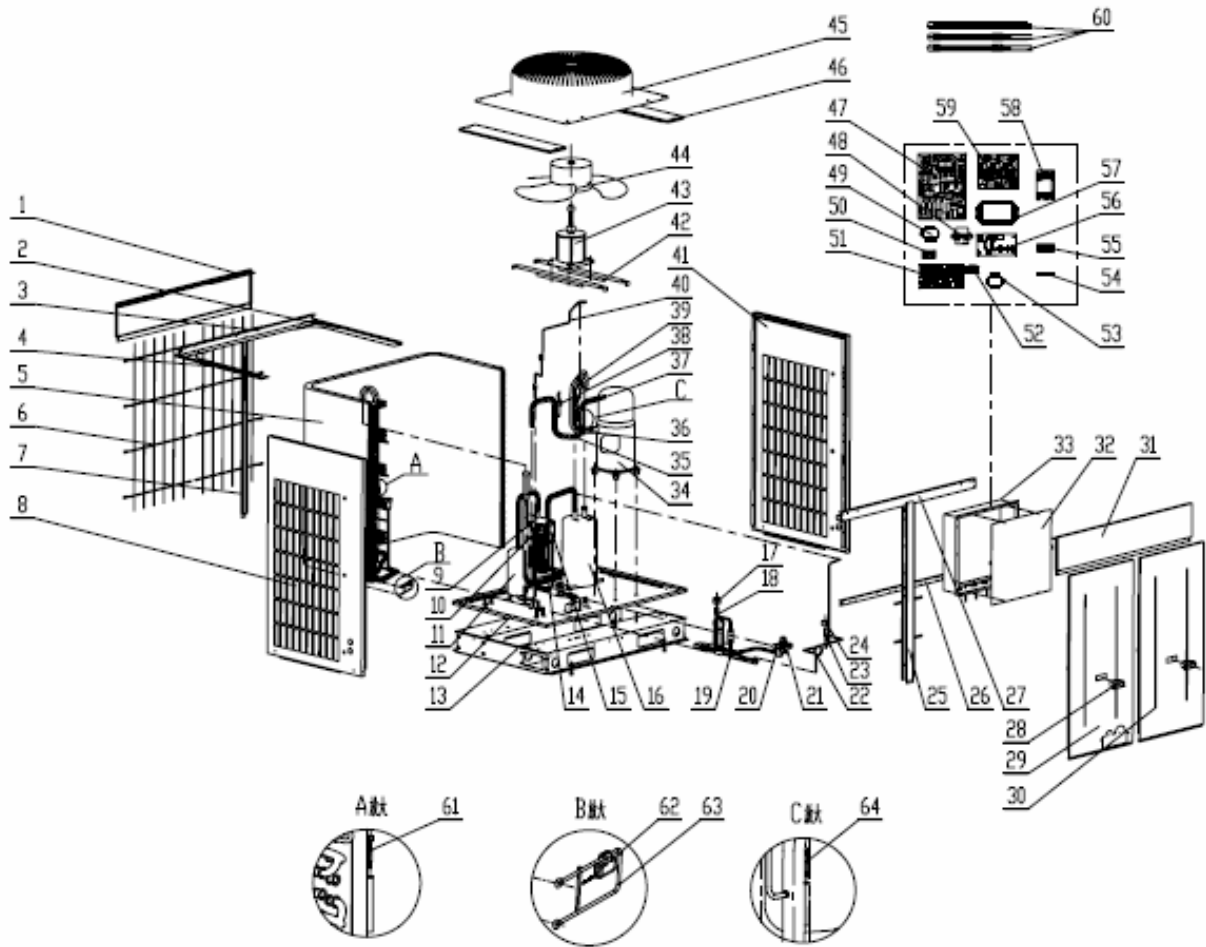
## 14.14 Spare part list of Outdoor Unit YIF102

NO.	Part Code	Part Description	qty
1	01195703P	Chassis Sub-assy	1
2	43000339	4-way Valve	1
3	04105219	Capillary assembly	1
4	07138799	cut-off valve 1-1/8(R410A)	1
5	07138800	cut-off valve 1/2(R410A)	1
6	4602001547	Pressure Protect Switch	1
7	07335210	single-phase Valve	1
8	76815208	Compressor Gasket	3
9	00205213	compressor	1
10	07425215	Gas-liquid Separator	1
11	460200151	Pressure Protection Switch	1
12	01318759	Right side plate	1
13	01238740	Rear Grille	1
14	01125211	Condenser assembly	1
15	01258737	Back Cover Board	1
16	02225205P	Back scaleboard	1
17	22265801	Streamlined Dome	1
18	10355801	Fan Blade	1
19	15015802	Fan Motor	1
20	01314301P	Left side plate sub-assy	1
21	01803259	Supporter1	1
22	02140005	Pipe clamp	1
23	01729161	filter plank	1
24	24210001	Double-edged Support	1
25	01894602	underprop of sustaining Electric Box	1
26	01894607	Supporting board Sub-assy	1
27	01798797	underprop	2
28	01894605	underprop	1
29	01798808	underprop	3
30	01538736	Front plate 1	1
31	01538734	Front plate 2	1
32	01419059	Electric Box Cover	1
33	42011103	Terminal Board 2-8	1
34	30224058	Main Board	1
35	43110233	Transformer 48X26G	1
36	44010229	AC Contactor	1
37	44010214	AC Contactor	1
38	46020052	Anti-phase Protector	1
39	46020113	Over Current Protector	1
40	42011043	Terminal Board	1
41	01325322	Original PCB Mounting Plate Sub-Assy	1
42	01395902	Electric Box Assy	1
43	01284609	pedestal	1
44	3900012129G	Discharge sensor	1
45	390001923G	Tube sensor	1
46	390002063G	Temperature Sensor	1
	01335801	MOTOR SUPPORT	2
	05212423	Tube Sensor Bushing	1
	072200032	Filter	2
	07218603	Filter	1
	76515202	Cable-Cross Loop	4
	01258738	Rear Cover Plate	1
	26235253	Handle	2
	07305208	Gas Valve	1

**EXPLODED VIEW & SPARE PART LIST**

	06640106	Sealing Cap	1
	01368731	Air Guard	1
	01368732	Air Guard (Left)	1
	430004009	4-way Valve Accessary	1
	15018761	Motor	1
	76515211	Electric Heater Band	2
	42020063	Sensor Insert	1
	42020063	Sensor Insert	1
	76515202	Cable-Cross Loop	4
	06640112	Pipe Closure Sub-assy	1
	42010157	Terminal	2
	04145336	4-way Valve Sub-Assy	1
	4202300115	Jumper	1
	04675426	Inhalation Tube Sub-Assy	1
	07305207	Liquid Valve	1
	49010104	Magnetic Ring	1

14.15 Exploded view of Outdoor unit: YIF136





## 14.16 Spare part list of Outdoor Unit YIF136

NO.	Part Code	Part Description	qty
1	01544104P	Rear plate	1
2	01264116P	Right cover plate	1
3	01264113P	Rear lining board sub-assy	1
4	01264115P	Right cover plate	1
5	01125385	Condenser Sub-Assy	1
6	22414101	Rear isolation sheet	2
7	01854102P	Rear Column	1
8	01314136P	Left side plate sub-assy	1
9	43000339	4-way Valve	1
10	4300008302	Magnet Coil	1
11	07423204	Oil Separator	1
12	01195312P	Chassis Sub-assy	1
13	01285341	Base Frame Sub-Assy	1
14	04145346	4-way Valve Assy	1
15	04633766	Gas by-pass valve Sub-Assy	1
16	07424148	Gas-liquid Separator	1
17	43000110	Magnet Coil for Electronic Expansion Valve	1
18	07130364	Electric expand vavle	1
19	07335265	Electric Expansion Valve Sub-Assy	1
20	07138799	cut-off valve 1-1/8(R410A)	1
21	07130128	Liquid Valve Assy	1
22	04325634	Liquid by-pass sub-assy	1
23	43000054	Electromagnetic Valve	1
24	430004008	4-way Valve Accessary	1
25	01854103P	Front vertical prop sub-assy	1
26	01894101P	Support plate	1
27	01264111P	Front lining board sub-assy	1
28	26235253	Handle	2
29	01544102P	Front panel	1
30	01544101P	Front panel 1	1
31	01544103P	Front plate	1
32	01424108P	Eletric box cover 1	1
33	01395818	Electric Box Assy	1
34	00205244	Compressor and fittings	1
35	04635442	Discharge Tube Sub-Assy	1
36	04675434	Collecting Gas Pipe Sub-Assy	1
37	460200156	Pressure Protect Switch	1
38	4602001547	Pressure Protect Switch	1
39	4602001512	Pressure Protect Switch	1
40	04325771	Circle Vitta Sub-Assy	1
41	01315344P	Right Side Plate	1
42	01335801	MOTOR SUPPORT	2
43	1570460101	Fan Motor	1
44	10355801	Fan Blade	1
45	22265801	Streamlined Dome	1
46	01264110P	Top cover plate	2
47	30224309	Main Board	1
48	46020052	Anti-phase Protector	1
49	43110290	transformer	1

50	42011051	Terminal Board	1
51	30225055	Main Board	1
52	42010196	Terminal Board	1
53	43110233	Transformer 48X26G	1
54	71010102	Fixed Clamp	1
55	42011103	Terminal Board 2-8	1
56	46020121	Over Current Protector	1
57	43130013	Filter	1
58	44010240	AC Contactor	1
59	30225007	Mainboard 1 ZS501	1
60	76515211	Electric Heater Band	3
61	390001923G	Tube sensor	1
62	3900012129G	Discharge sensor	1
63	24215101	Temperature Sensor	1
64	3900028502	Ambient temperature sensor	1
	42020063	Sensor Insert	1
	42020063	Sensor Insert	1
	76515202	Cable-Cross Loop	2
	4202300115	Jumper	1
	4202300121	Jumper	1
	07216221	Filter	1
	02224103P	Reinforced bar	2
	05212423	Tube Sensor Bushing	1
	072190511	Filter	1
	07218603	Filter	1

# APPENDIX