



Service Manual

DUO EDC 18+18/24+24

DUO Outdoor Models
DUO 18+18
DUO 24+24



REFRIGERANT	HEAT PUMP COOLING ONLY
R410A	

AUGUST - 2006

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 0August 2006

Total number of pages in this publication is 31 consisting of the following:

Page No.	Revision No. #		Page No.	Revision No. #		Page No.	Revision No. #
----------	----------------	--	----------	----------------	--	----------	----------------

Title 0
 A 0
 i 0
 1-1 0
 2-1 - 2-2 0
 3-1 0
 4-1 0
 5-1 - 5-8 0
 6-1 0
 7-1 0
 8-1 0
 9-1 0
 10-1 0
 11-1 0
 12-1-12-2 0
 13-1-13-4 0
 Appendix A 0

- Zero in this column indicates an original page.

*Due to constant improvements please note that the data on this service manual can be modified with out notice.

**Photos are not contractual

Table of Contents

1.	INTRODUCTION	1-1
2.	PRODUCT DATA SHEET	2-1
3.	RATING CONDITIONS	3-1
4.	OUTLINE DIMENSIONS	4-1
5.	PERFORMANCE DATA AND PRESSURE CURVES	5-1
6.	CHARACTERISTICS SOUND LEVEL	6-1
7.	ELECTRICAL DATA.....	7-1
8.	WIRING DIAGRAMS	8-1
9.	ELECTRICAL CONNECTIONS.....	9-1
10.	REFRIGERATION DIAGRAMS.....	10-1
11.	TUBING CONNECTIONS.....	11-1
12.	TROUBLESHOOTING	12-1
13.	EXPLODED VIEWS AND SPARE PARTS LISTS.....	13-1
14.	APPENDIX A	14-1

1. INTRODUCTION

1.1 General

The DUO EDC multi split outdoor unit series, comprise the following ST (cooling only) and RC (heat pump) models:

- **Cooling Only** EDC 18+18 ST, EDC 24+24 ST
- **Heat Pump** EDC 18+18 RC, EDC 24+24 RC

1.2 Main Features

- R410A
- Separate and independent Refrigerant Circuits, Allowing Optimal Capacity.
- Non Depended Operating Mode Among Indoor Units, Allowing Cooling and Heating Operation Simultaneously.
- A Stand Alone Deicer and Discharge Pressure Protection PCB.
- Outdoor coil with hydrophilic louver fins for RC units.
- Easy installation and service.


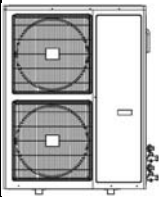
1.3 Tubing Connections

Flare type interconnecting tubing to be produced on site.
For further details please refer to APPENDIX A on this manual.

1.4 Inbox Documentation

Each indoor unit is supplied with its own installation and operation manuals, an additional instillation guide is provided in the DUO EDC outdoor package.

1.5 Matching Table

OUTDOOR UNITS		INDOOR UNITS		
				
	MODEL	REFRIGERANT	WNG 18	WNG 24
	DUO 18+18 ST/RC	R410A	√	
	DUO 24+24 ST/RC	R410A		√

2. PRODUCT DATA SHEET

2.1 DUO 18+18

Model Indoor Unit		WNG 18+18	
Model Outdoor Unit		DUO 18+18 R410A RC	
Installation Method of Pipe		Flared	
Characteristics		Units	Cooling
			Heating
Capacity ⁽⁴⁾		Btu/hr	18250*2
		kW	5.35*2
Power input ⁽⁴⁾		kW	3.32
EER (Cooling) or COP(Heating) ⁽⁴⁾		W/W	3.22
Energy efficiency class			A
Power supply		V/Ph/Hz	220-240V/Single/50Hz
Rated current		A	14.7
Starting current		A	32 / 32
Circuit breaker rating		A	30
INDOOR	Fan type & quantity		Cross flow*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	
Compressor type,model		Rotary TOSHIBA PA200X2CS-4KU1	
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 chargeless distance			kg/m
Additional charge			4≤L≤10:+0g;10<L≤18:+230g;18<L≤25:+430g
Connections between units		Liquid line	In.(mm)
	Suction line	In.(mm)	1/2"(12.7)
	Max.tubing length	m.	25
	Max.height difference	m.	15
Operation control type			Remote control
Heating elements		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 DUO 24+24

Model Indoor Unit		WNG 24+24	
Model Outdoor Unit		DUO 24+24 R410A RC	
Installation Method of Pipe		Flared	
Characteristics		Units	Cooling
			Heating
Capacity ⁽⁴⁾		Btu/hr	22180*2
		kW	6.55*2
Power input ⁽⁴⁾		kW	4.65
EER (Cooling) or COP(Heating) ⁽⁴⁾		W/W	2.82
Energy efficiency class			C
Power supply		V/Ph/Hz	220-240V/Single/50Hz
Rated current		A	20.3
Starting current		A	63 / 63
Circuit breaker rating		A	30
INDOOR	Fan type & quantity		Cross flow*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	
Compressor type,model		NN27VBAMT	
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			
Connections between units	Liquid line	In.(mm)	3/8"(9.53)
	Suction line	In.(mm)	5/8"(15.88)
	Max.tubing length	m.	20
	Max.height difference	m.	15
Operation control type			Remote control
Heating elements		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

Standard conditions in accordance with ISO 5151, ISO 13253 (for ducted units) and EN 14511.

Cooling:

Indoor: 27°C DB 19°C WB

Outdoor: 35°C DB

Heating:

Indoor: 20°C DB

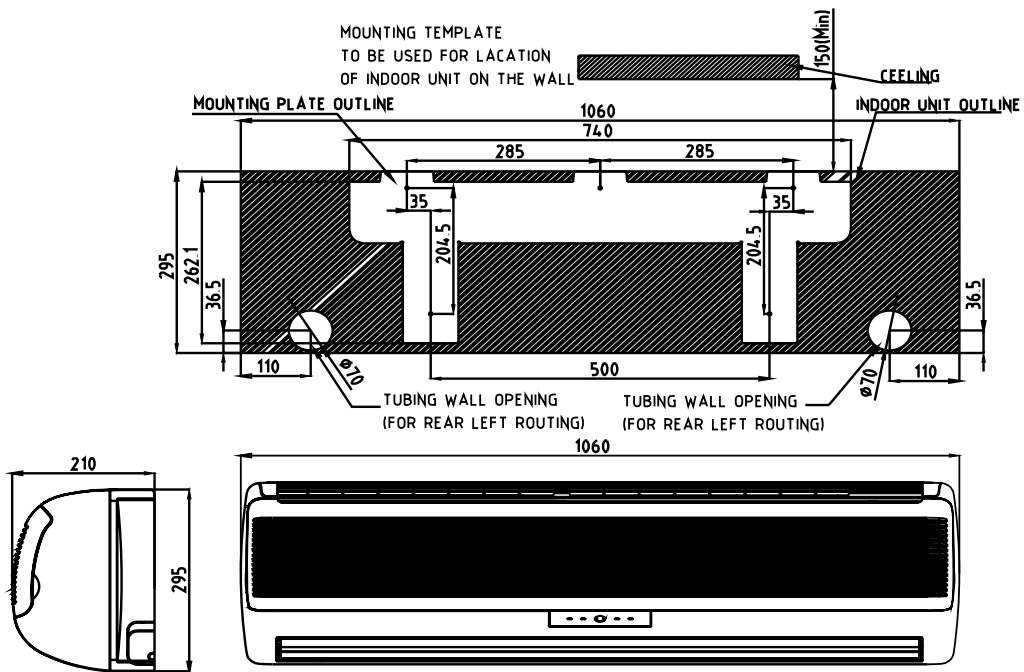
Outdoor: 7°C DB 6°C WB

3.1 Operating Limits

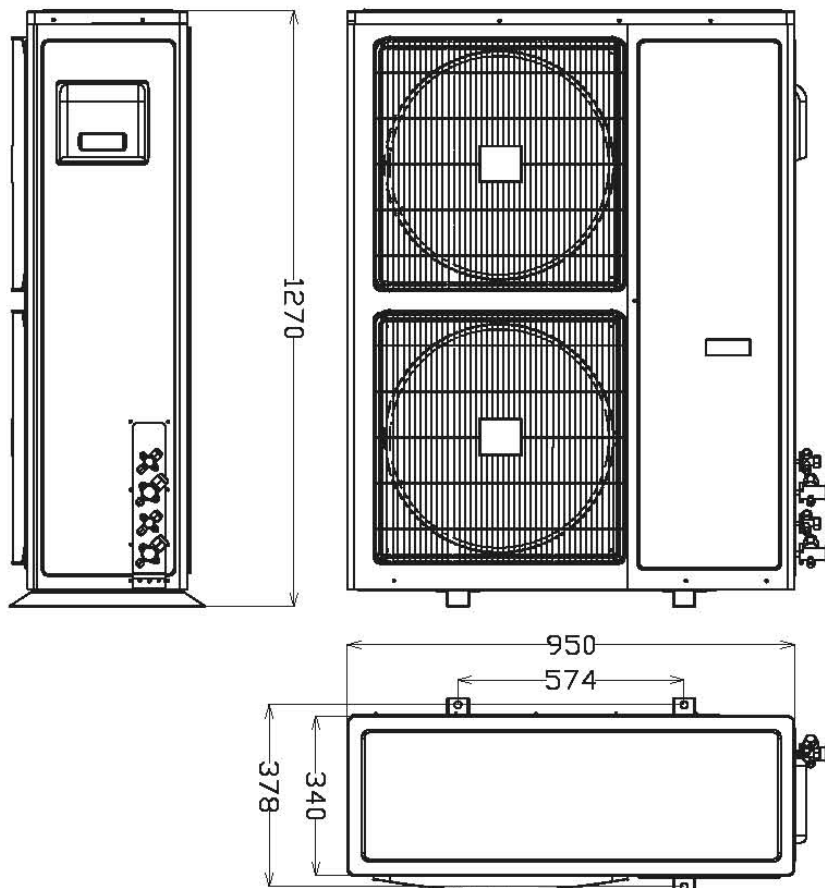
		Indoor	Outdoor
Cooling	Upper limit	32°C DB 23°C WB	46°C DB
	Lower limit	21°C DB 15°C WB	21°C DB
Heating	Upper limit	27°C DB	24°C DB 18°C WB
	Lower limit	20°C DB	-9°C DB -10°C WB
Voltage	1PH	198 – 264 V	
	3PH	360 – 440 V	

4. OUTLINE DIMENSIONS

4.1 Indoor Unit: WNG 18, 24



4.2 Outdoor Unit: DUO EDC 18+18, 24+24



5. PERFORMANCE DATA

5.1 DUO 18+18 (Unit 1 + Unit 2)

5.1.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

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	11.28	11.68	11.96	12.24	12.43
	SC	7.75	8.08	8.39	8.60	8.76
	PI	2.36	2.37	2.37	2.38	2.39
20	TC	10.91	11.50	11.86	12.14	12.41
	SC	7.59	8.00	8.34	8.58	8.74
	PI	2.56	2.57	2.58	2.59	2.60
25	TC	10.32	11.15	11.72	12.07	12.37
	SC	7.40	7.85	8.28	8.52	8.67
	PI	2.77	2.79	2.81	2.83	2.85
30	TC	9.66	10.51	11.36	11.76	12.11
	SC	7.16	7.62	8.10	8.33	8.49
	PI	2.99	3.03	3.06	3.08	3.11
35	TC	8.94	9.70	10.70	11.24	11.77
	SC	6.81	7.30	7.91	8.14	8.30
	PI	3.22	3.28	3.33	3.36	3.37
40	TC	8.13	8.85	9.66	10.56	11.10
	SC	6.42	6.91	7.48	7.72	7.88
	PI	3.48	3.53	3.59	3.63	3.67
46	TC	7.05	7.71	8.48	9.37	10.10
	SC	5.92	6.34	6.82	7.06	7.22
	PI	3.80	3.86	3.94	4.00	4.04

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
- OD – Outdoor

5.1.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING WB OD COIL(°C)	ENTERING AIR DB ID COIL(°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	5.72	2.66	5.50	2.83	5.29	2.97
-7	6.16	2.72	5.94	2.87	5.72	3.03
-2	6.54	2.76	6.32	2.92	6.10	3.09
2	7.96	2.89	7.63	3.07	7.30	3.25
6	11.23	3.10	10.90	3.32	10.52	3.53
10	12.21	3.28	11.88	3.50	11.55	3.75
15	13.19	3.42	12.86	3.69	12.54	3.92
20	13.90	3.52	13.57	3.82	13.19	4.12

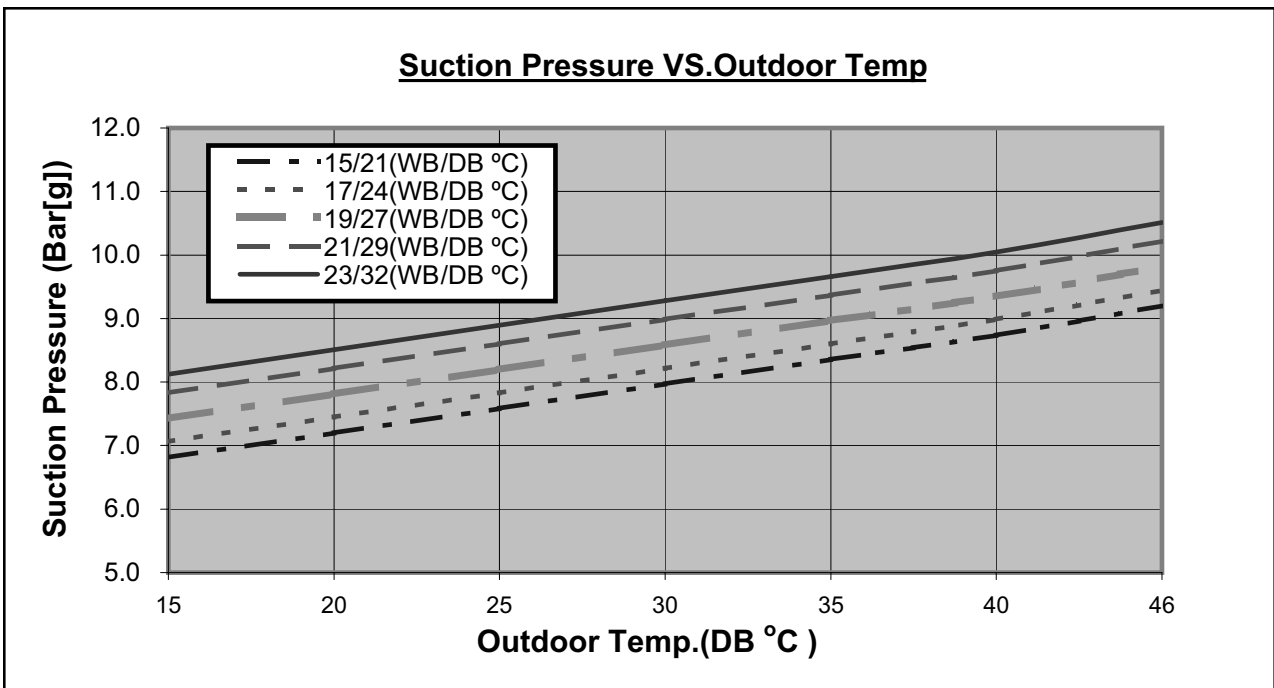
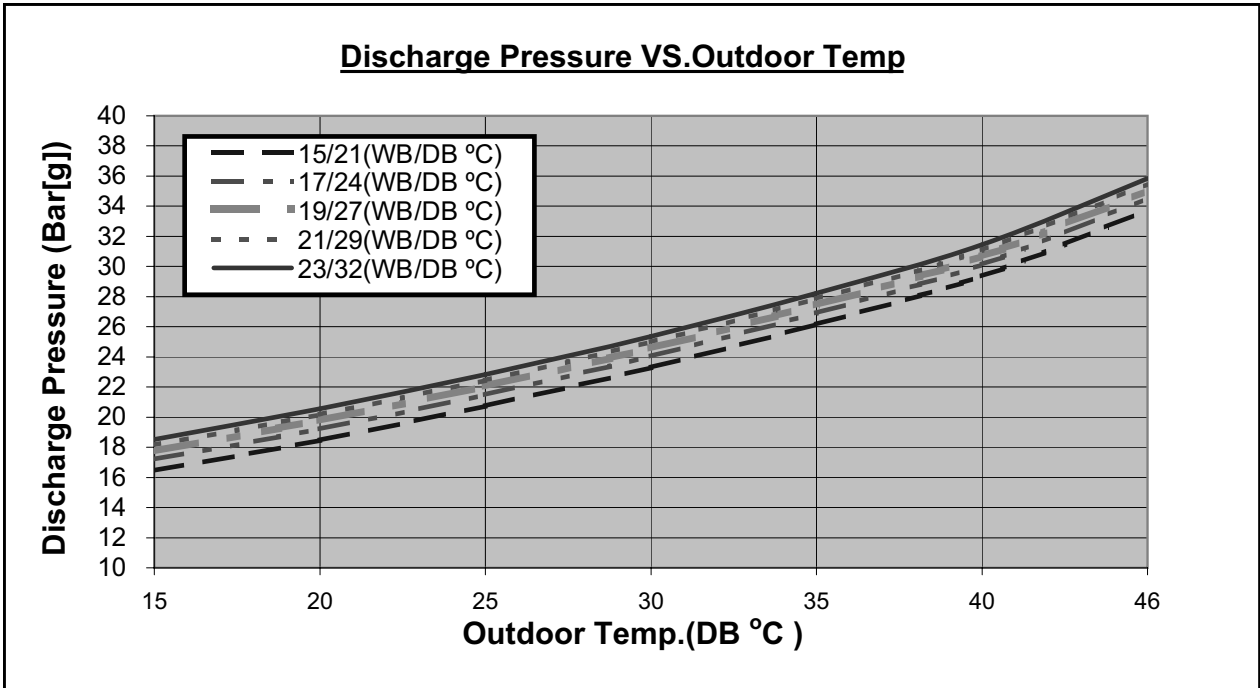
LEGEND

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

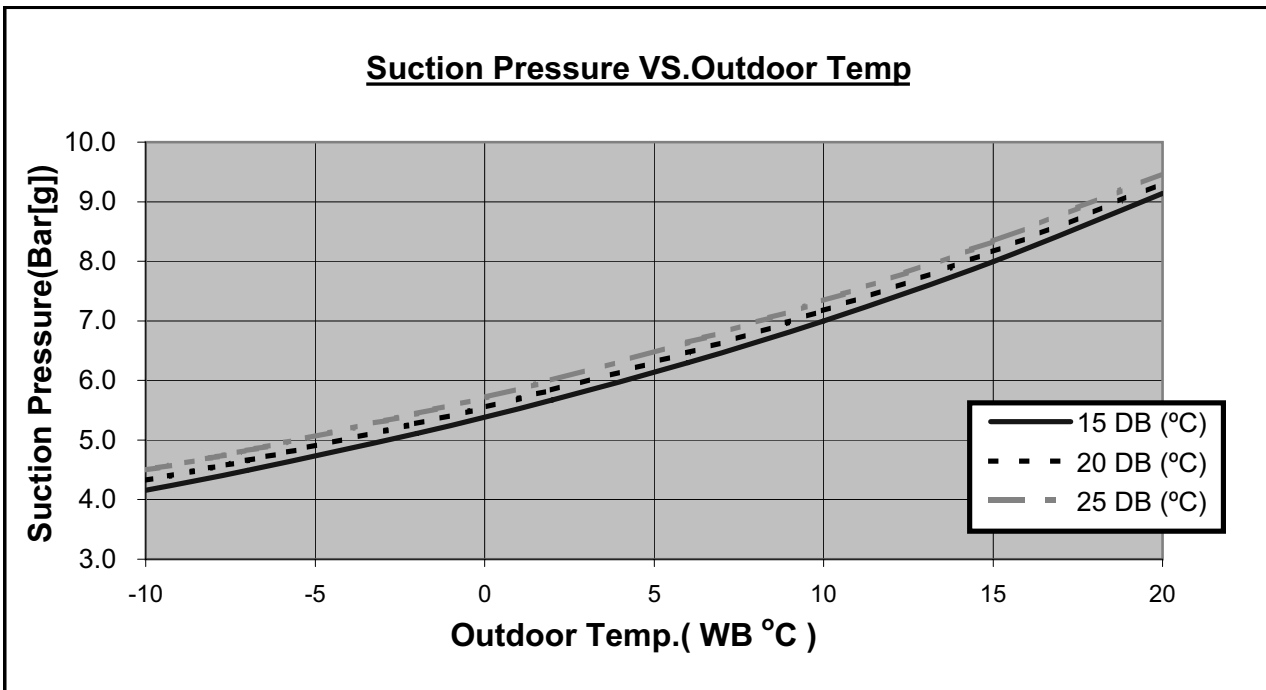
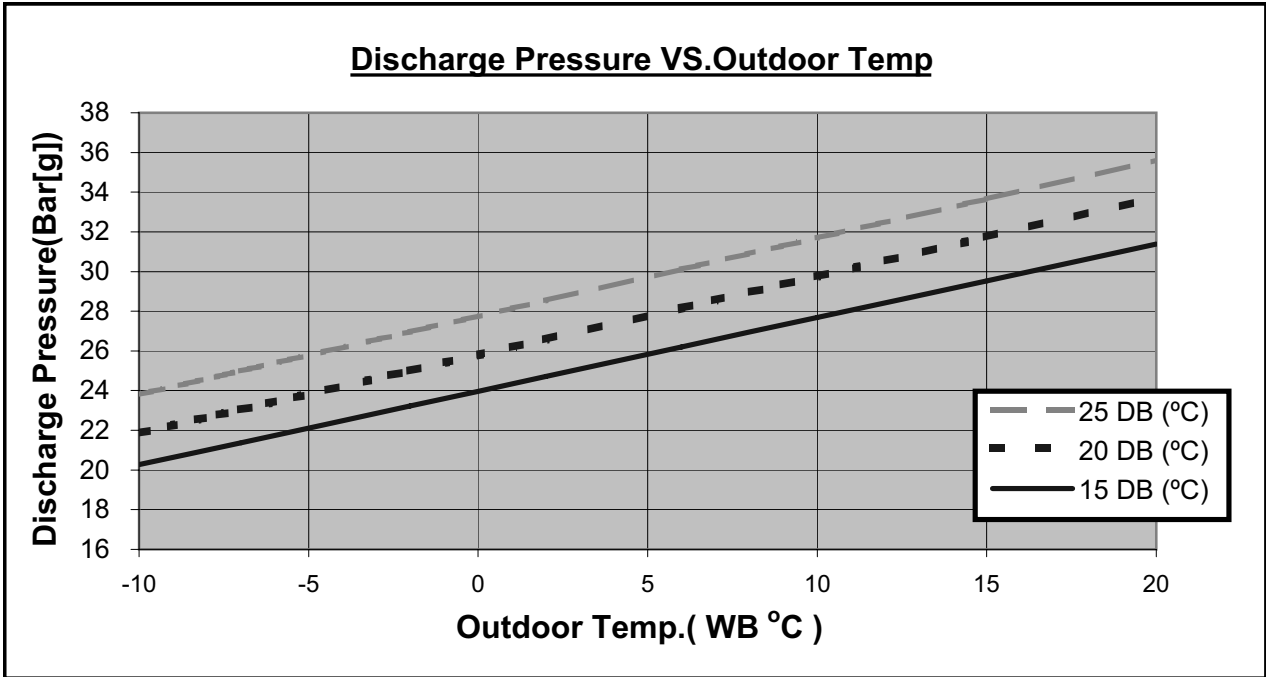
5.2 Pressure Curves.

5.2.1 DUO 18+18 (Unit 1 + Unit 2)

5.2.2 Cooling.



5.2.3 Heating.



5.3 DUO 24+24 (Unit 1 + Unit 2)

5.3.1 Cooling Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

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	13.81	14.30	14.64	14.98	15.21
	SC	8.76	9.14	9.50	9.73	9.91
	PI	3.30	3.30	3.31	3.32	3.33
20	TC	13.36	14.08	14.53	14.87	15.19
	SC	8.59	9.06	9.44	9.71	9.89
	PI	3.58	3.59	3.60	3.62	3.63
25	TC	12.64	13.65	14.35	14.78	15.14
	SC	8.37	8.88	9.37	9.64	9.81
	PI	3.87	3.89	3.92	3.95	3.97
30	TC	11.82	12.87	13.90	14.40	14.83
	SC	8.11	8.62	9.16	9.43	9.61
	PI	4.17	4.23	4.27	4.30	4.34
35	TC	10.94	11.88	13.10	13.76	14.41
	SC	7.71	8.26	8.95	9.21	9.39
	PI	4.50	4.58	4.65	4.69	4.71
40	TC	9.95	10.83	11.82	12.93	13.59
	SC	7.27	7.82	8.47	8.74	8.91
	PI	4.86	4.93	5.01	5.08	5.13
46	TC	8.63	9.44	10.38	11.47	12.36
	SC	6.69	7.17	7.72	7.99	8.17
	PI	5.30	5.38	5.51	5.58	5.65

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
- OD – Outdoor

5.3.2 Heating Mode at 7.5m Tubing Connection.

230V : Indoor Fan at High Speed.

ENTERING WB OD COIL(°C)	ENTERING AIR DB ID COIL(°C)					
	15		20		25	
	TH	PI	TH	PI	TH	PI
-10	7.46	3.88	7.17	4.13	6.89	4.34
-7	8.02	3.98	7.74	4.20	7.46	4.42
-2	8.52	4.03	8.24	4.27	7.95	4.51
2	10.37	4.22	9.94	4.49	9.51	4.75
6	14.63	4.53	14.20	4.85	13.70	5.15
10	15.90	4.79	15.48	5.12	15.05	5.47
15	17.18	5.00	16.76	5.38	16.33	5.72
20	18.11	5.14	17.68	5.58	17.18	6.01

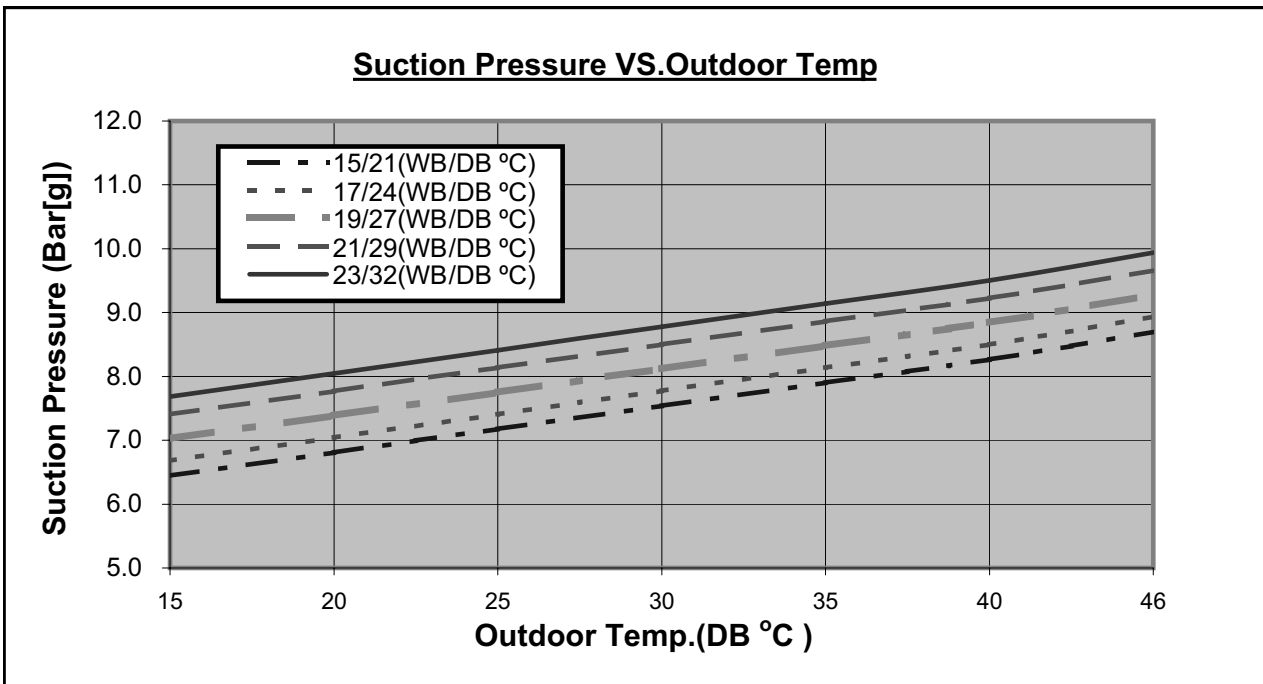
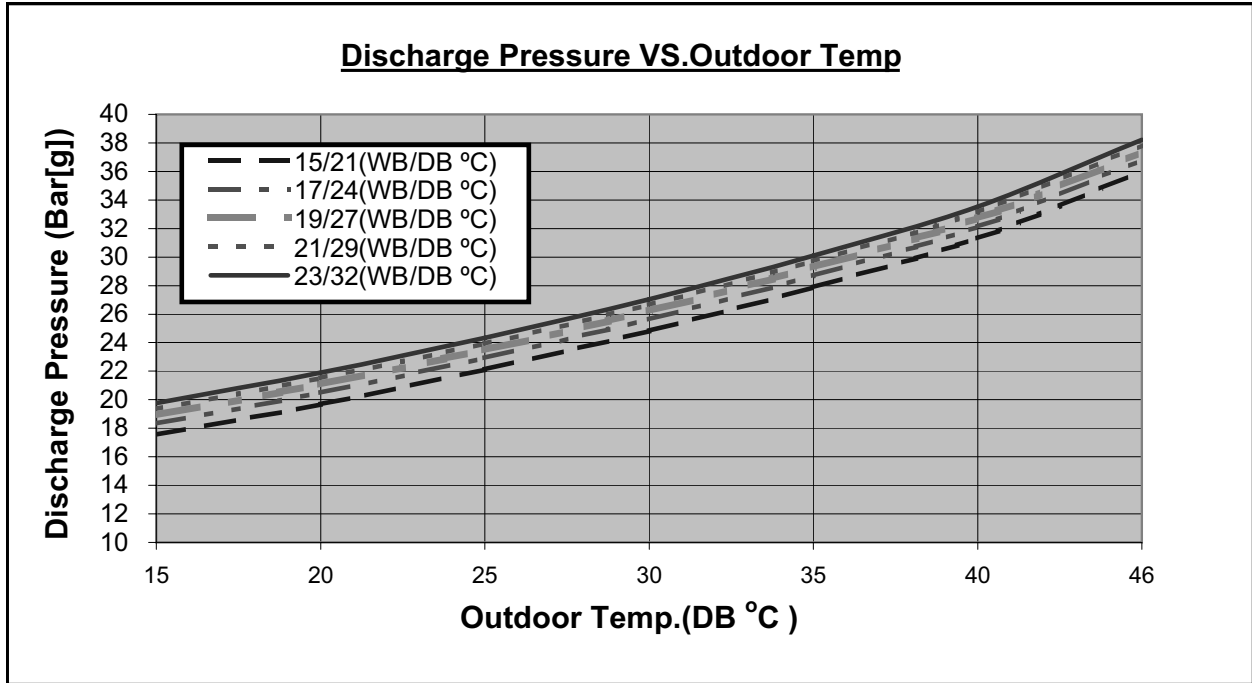
LEGEND

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

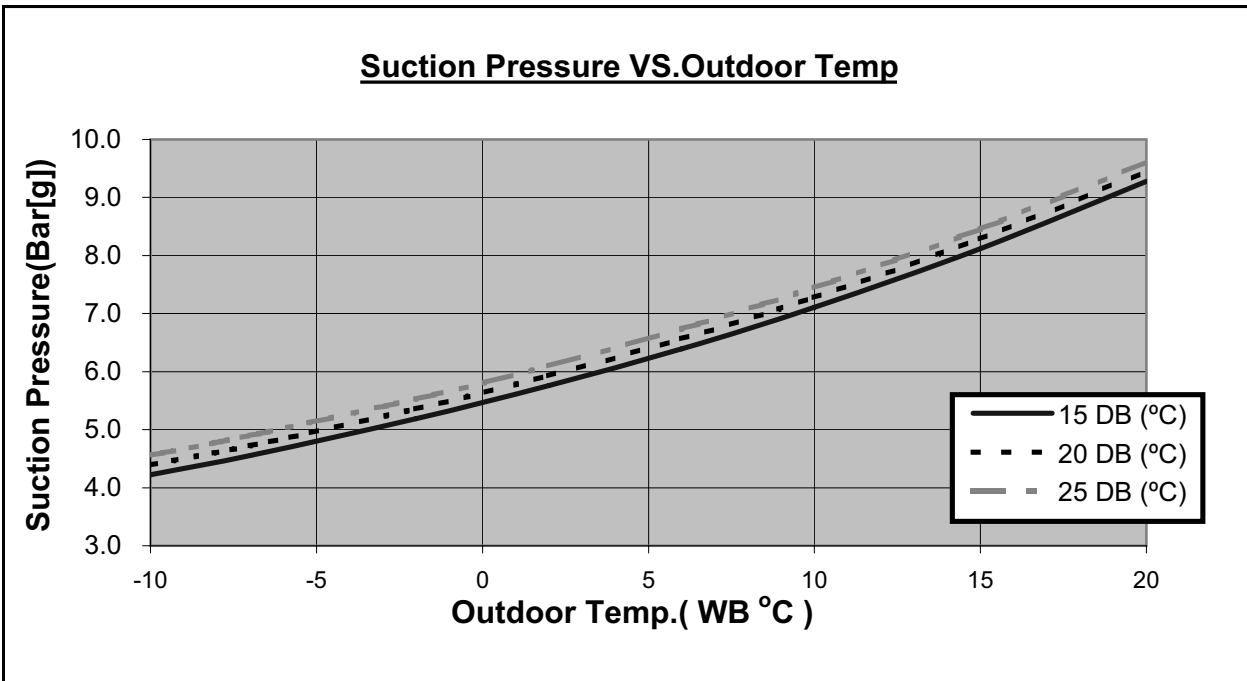
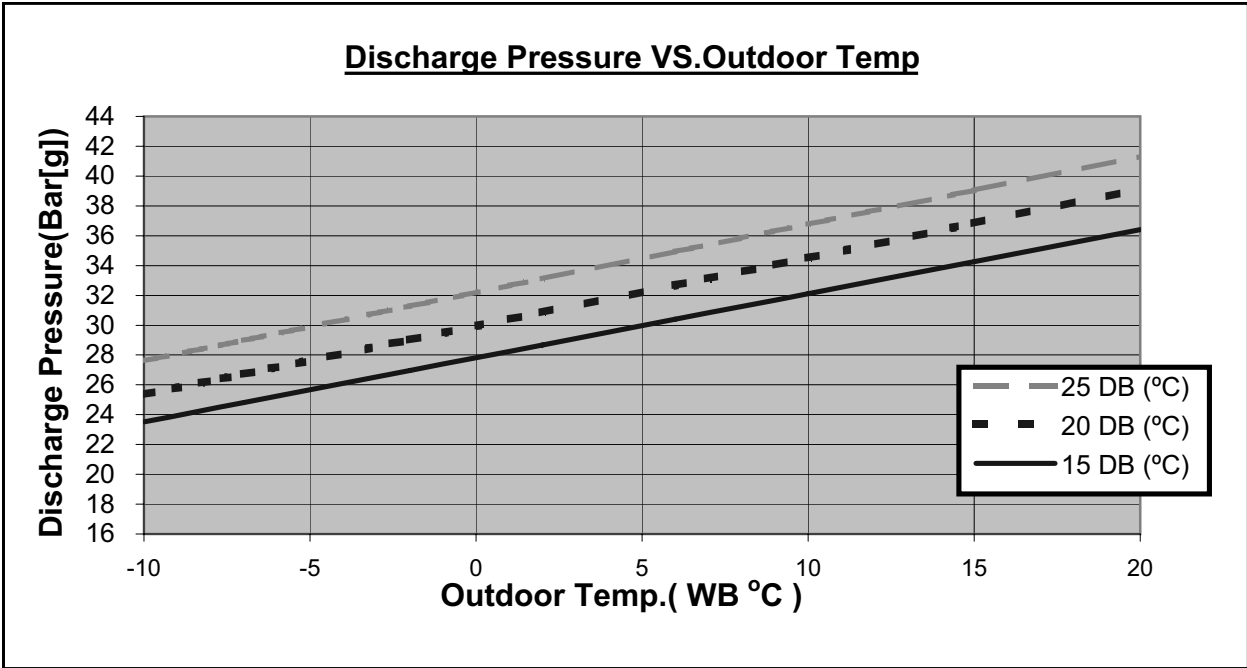
5.4 Pressure Curves.

5.4.1 DUO 24+24 (Unit 1 + Unit 2)

5.4.2 Cooling.

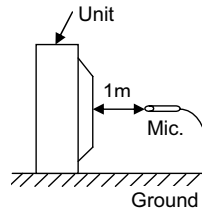


5.4.3 Heating.



6. SOUND LEVEL CHARACTERISTICS

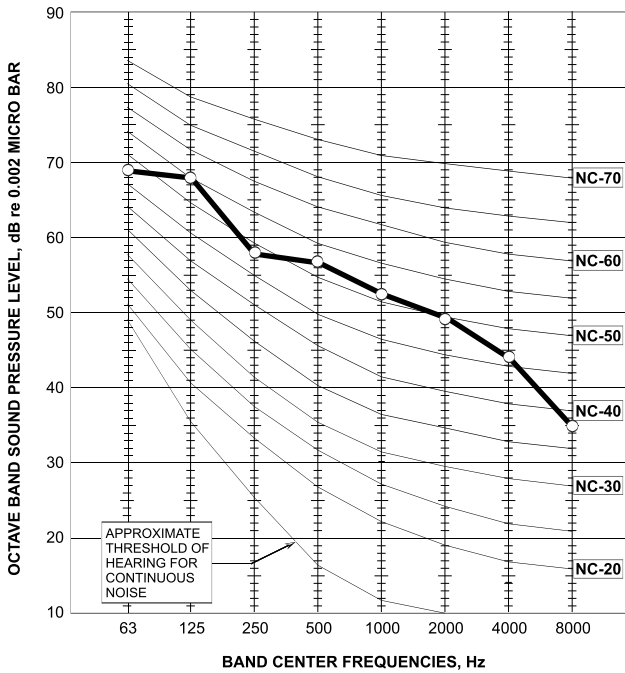
6.1 Outdoor Units



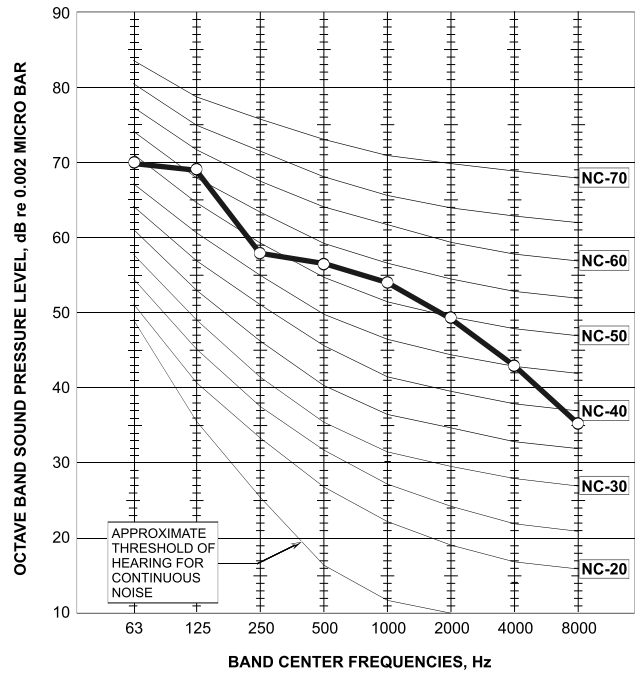
Drawing of microphone position

6.2 Sound Pressure Level Spectrum (Measured as drawing)

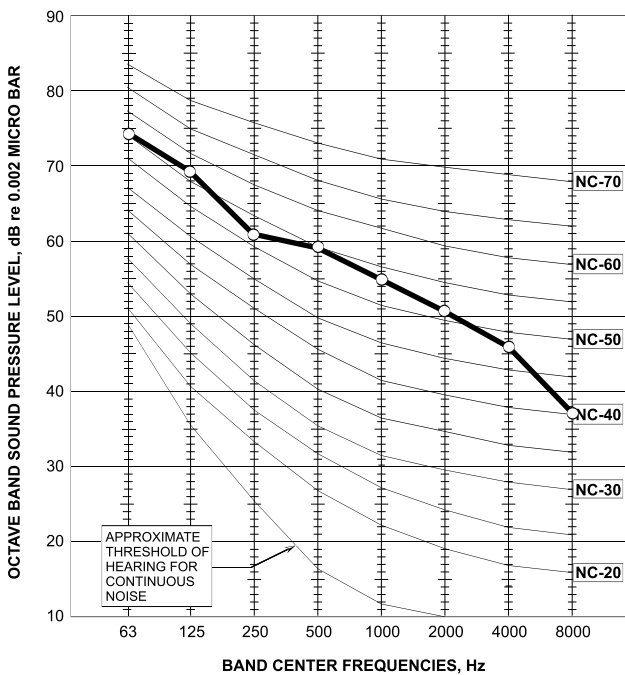
DUO EDC 18+18 Cooling



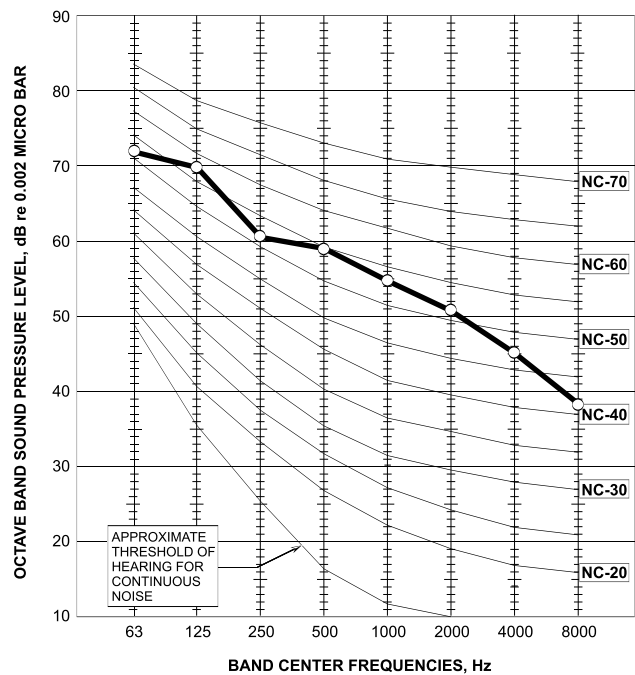
DUO EDC 18+18 Heating



DUO EDC 24+24 Cooling



DUO EDC 24+24 Heating



7. ELECTRICAL DATA

7.1 DUO EDC 18+18

Power Supply	1 PH, 220-240 VAC, 50Hz
Connected to	Outdoor
Starting Current	32 / 32 A
Circuit breaker	30 A
Power supply wiring - No. x cross section	3 X 2.5 mm ²
Interconnecting cable - No. x cross section	6 X 1.5 mm ²

7.2 DUO EDC 24+24

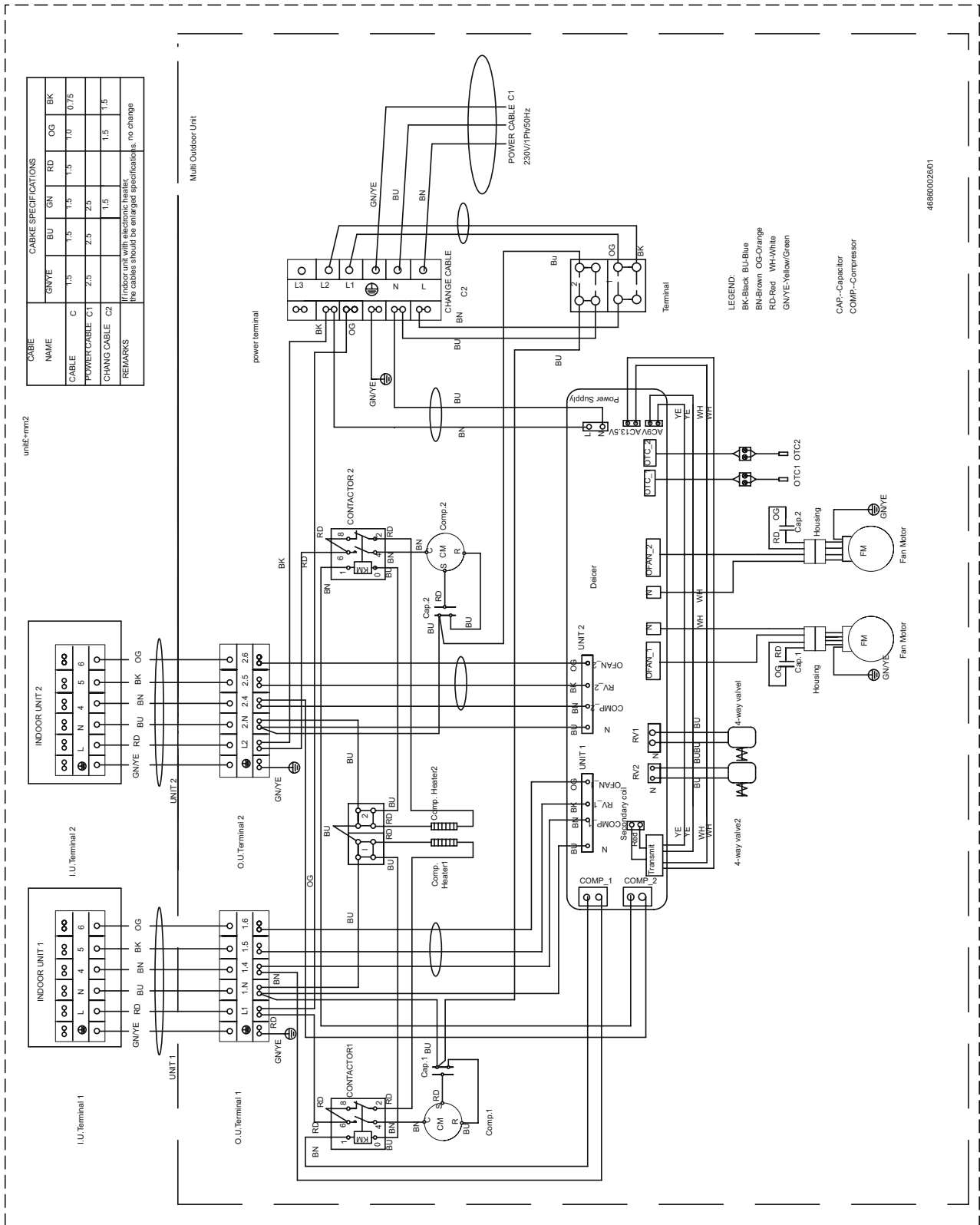
Power Supply	1 PH, 220-240 VAC, 50Hz
Connected to	Outdoor
Starting Current	63 / 63 A
Circuit breaker	30 A
Power supply wiring - No. x cross section	3 X 2.5 mm ²
Interconnecting cable - No. x cross section	6 X 1.5 mm ²

NOTE

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

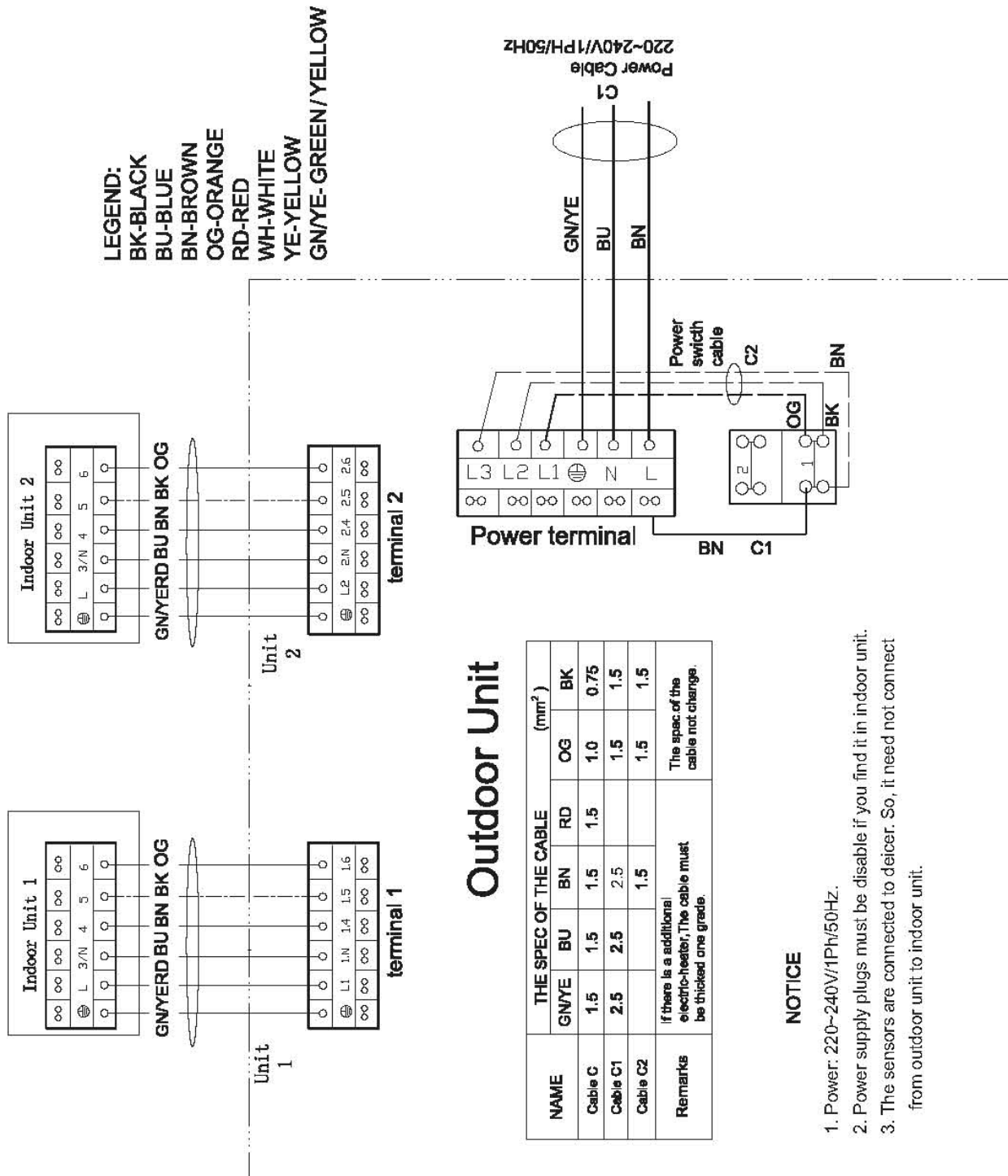
8. WIRING DIAGRAMS

8.1 DUO EDC 18+18, 24+24



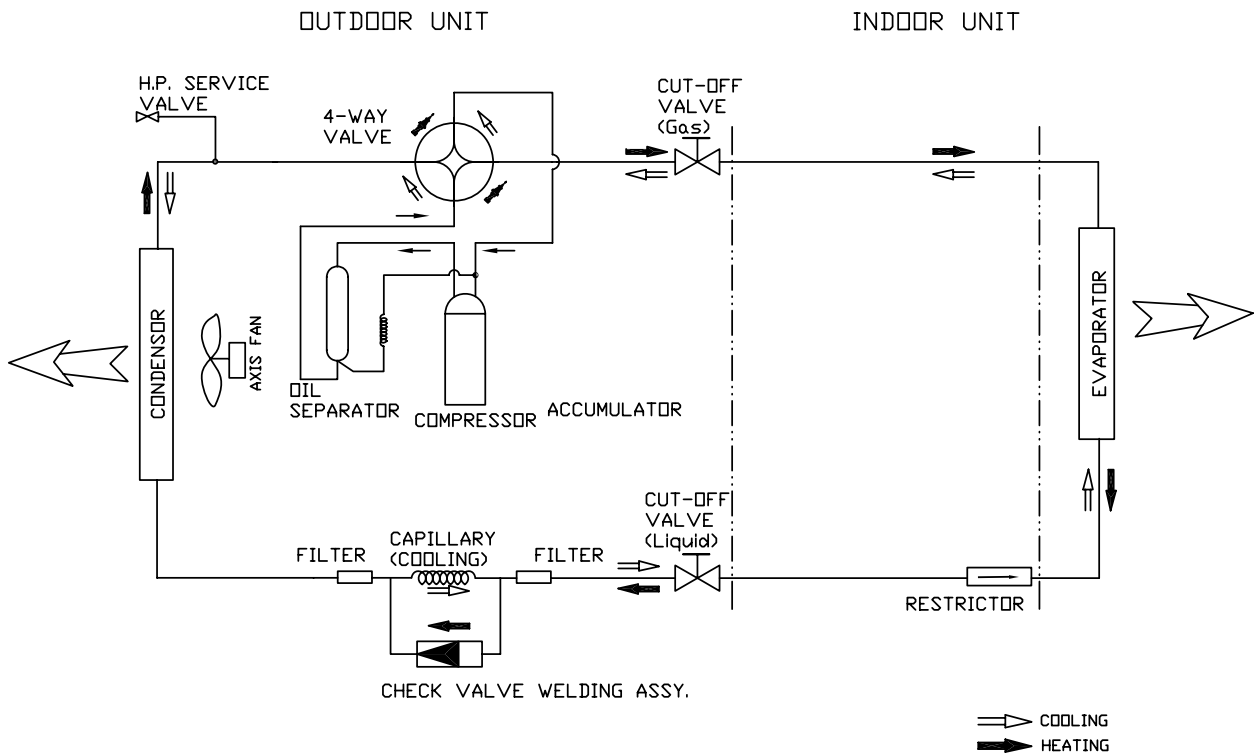
9. ELECTRICAL CONNECTIONS

9.1 DUO EDC 18+18, 24+24

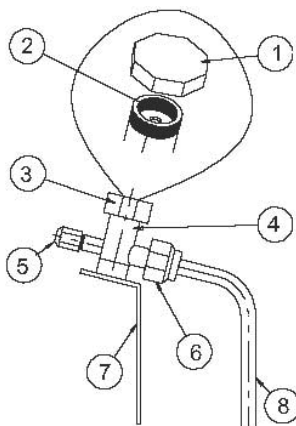
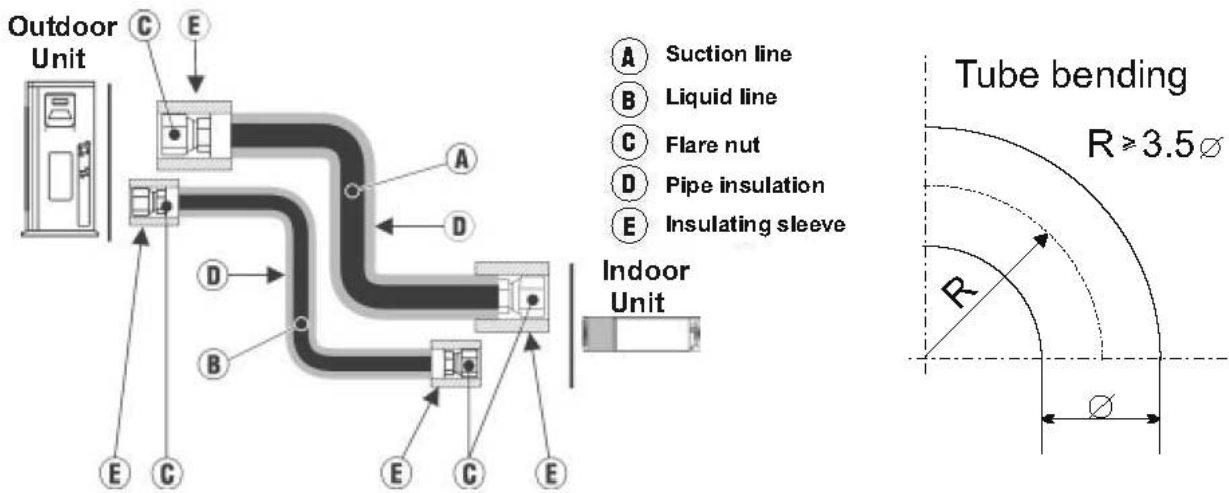


10. REFRIGERATION DIAGRAMS

10.1 DUO EDC 18+18, 24+24



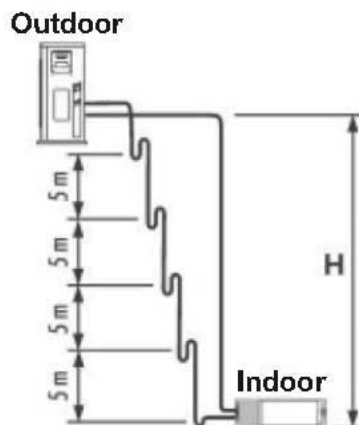
11. TUBING CONNECTIONS



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

When the outdoor unit is installed above the indoor unit an oil trap is required every 5m 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. TROUBLESHOOTING

ELECTRICAL & CONTROL TROUBLESHOOTING

ATTENTION : check for broken or loose cable lugs first.

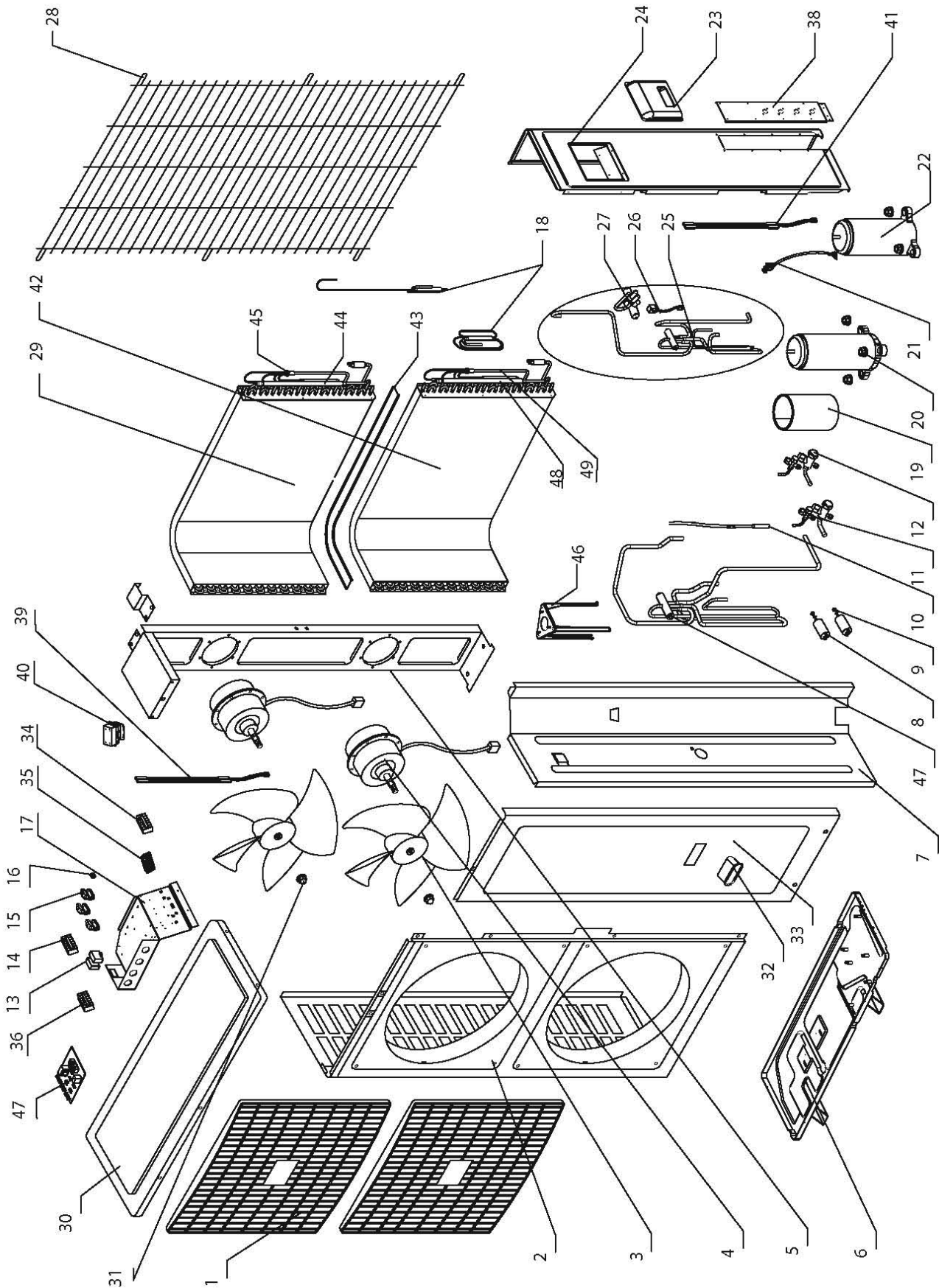
NO	SYMPTON	PROBABLE CAUSE	CORRECTIVE ACTION
1.	The power supply indicator (red led) doesn't light up.	There is no correct voltage between the line and neutral terminals on main P.C.B.	-If the voltage is low repair power supply. -If there is no voltage repair general wiring. -If there is correct voltage replace main or display P.C.B'S
2.	The operating indicator (green led) does not light up.	The remote control batteries are discharged	-Replace batteries of the remote control
3.	The operating indicator (green led) does not light up when starting from unit..	Check main P.C.B and display P.C.B.	-Replace P.C.B if necessary.
4.	The indoor fan does not function correctly.	Check the voltage between indoor fan terminals on the main P.C.B	- If there is voltage replace capacitor or motor.
5.	The outdoor fan does not function correctly.	Check the voltage between indoor fan terminals on the main P.C.B. There is voltage between outdoor fan terminals on the outdoor unit. There is no voltage between outdoor fan terminals on the outdoor unit.	- If there is no voltage replace main P.C.B - Replace capacitor or motor. - Check and repair electrical wiring between indoor and outdoor units.
6.	The compressor does not start up.	Check voltage on compressor terminals on the outdoor unit. (with ampmeter) Check if there is correct voltage between compressor terminals on the outdoor unit.	-If no voltage replace main P.C.B. - If low voltage repair power supply. -If the voltage correct replace capacitor or compressor. -If there is no voltage repair electrical wiring between indoor and outdoor units.
7.	The refrigeration system does not function correctly.	Check for leaks or restrictions, with ampmeter, pressure gauge or surface thermometer.	- Repair refrigeration system and charge refrigerant if necessary.
8.	No cooling or heating only indoor fan works.	Outdoor fan motor faulty or other fault caused, compressor overload protection cut out.	-Replace P.C.B. - Outdoor fan blocked remove obstructions.

ATTENTION : check for broken or loose cable lugs first

NO	SYMPTON	PROBABLE CAUSE	CORRECTIVE ACTION
9.	Only indoor fan and compressor working.	Outdoor fan blocked.	- Remove obstructions.
10.	Only indoor fan working.	-Run capacitor of outdoor fan motor faulty. -Windings of outdoor fan are shorted.	- Replace capacitor. -Replace motor.
11.	No cooling or heating takes place, indoor and outdoor fans working.	- Overload safety device on compressor is cut out (low voltage or high temperature) - Compressor run capacitor faulty. - Compressor windings are shorted.	- Check for proper voltage, switch off power and try again after one hour. - Replace compressor capacitor. - Replace compressor.
12.	No air supply at indoor unit, compressor operates.	-Indoor fan motor is blocked or turns slowly. -indoor fan run capacitor faulty. - motor windings are shorted.	- Check voltage,repair wiring if necessary. -Check fan wheel if it is tight enough on motor shaft,tighten if necessary. -Replace indoor fan motor.
13.	Partial, limited air supply at indoor indoor unit.	Lack of refrigerant (will accompanied by whisteling noise) cause ice formation on indoor unit coil in cooling mode.	-Charge the unit after localizing leak.
14.	Water accumulates and overflow from indoor unit section.	Drain tube or spout of drain pan clogged.	-Disassemble plastic drain tube from spout of indoor unit drain pan.
15.	Water dripping from outdoor unit base. (in heating mode)	Water drain outlet is clogged.	-Open outdoor unit cover clean out water outlet ,clean the base inside throughly.
16.	Freeze-up of outdoor coil in heating mode, poor heating effect in room, indoor fan operates.	-Faulty outdoor thermistor. -Faulty control cable. -Outdoor unit air outlet is blocked.	-Replace thermistor. -Repair control cable. -Remove obstructions.

13. EXPLODED VIEWS AND SPARE PARTS LISTS

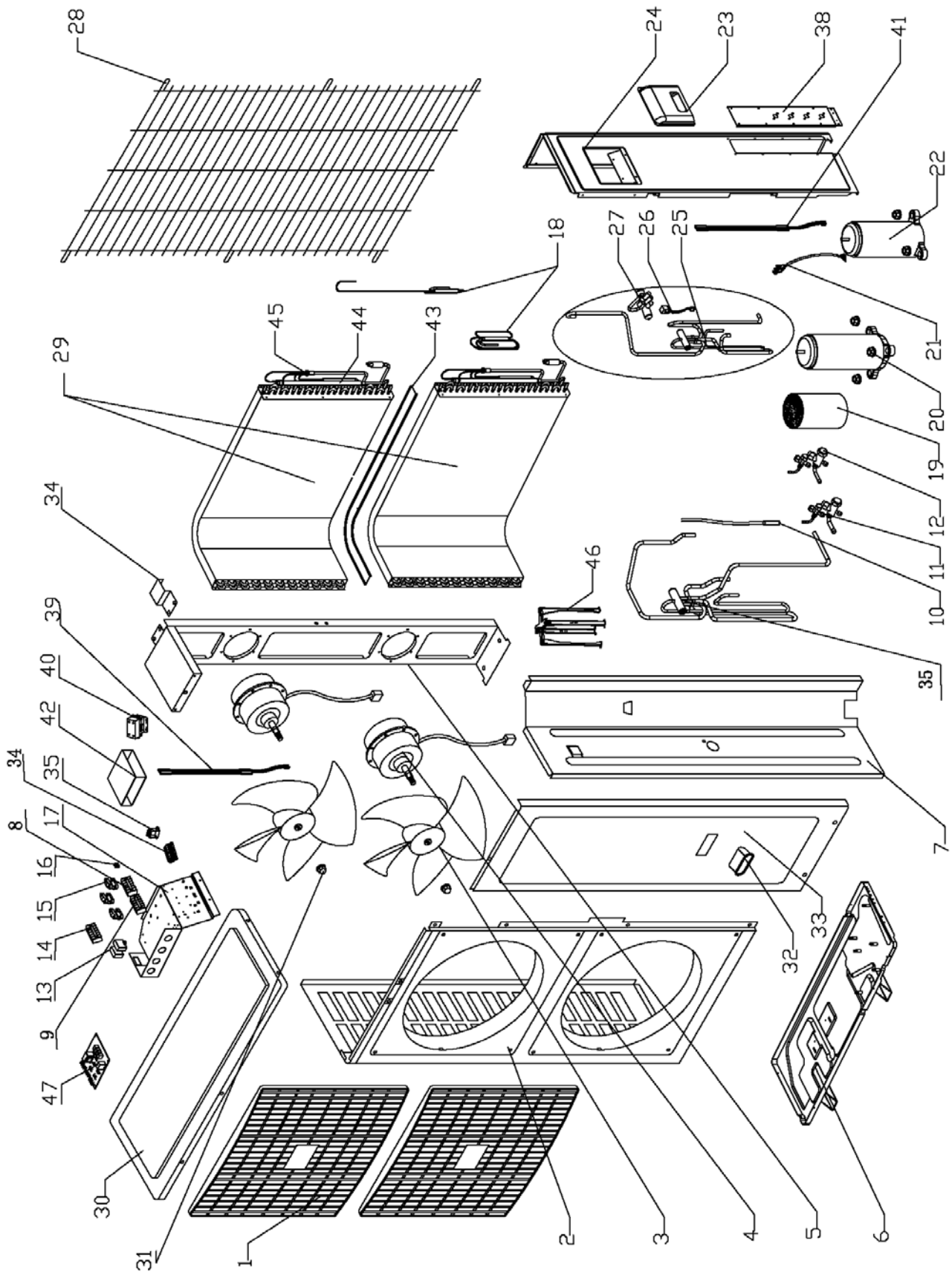
13.1 Outdoor Unit: DUO EDC 18+18



13.2 Outdoor Unit: DUO EDC 18+18

No.	Item	Description	Qty
1	4517144	FAN COVER PP+UV/GRILL A	2
2	4522238	Left front panel painted assy.	1
3	4517004	FAN D=450mm	2
4	4517740R	MOTOR YYK60B-6	2
5	4519199	MOTOR KICKSTAND	1
6	464600018	Base Plate Painting Assy./Duo 18+18 1ph	1
7	4522129	Partion plate assy.	1
8	455000506	Compressor Capacitor With Screw 45uF (CBB65)	2
9	201019	Nut M8	2
10	232299	Indoor Sensor BLACK	2
11	4524176	Liquid Valve(R410A)	2
12	461010008	Gas Valve 1/2" R410A	2
13	455000102	Double patch Capacitor for fan motor 3uF (CBB61S)	2
14	4522319	Terminal 1 (6 bit)	1
15	204107	Cable clip Nylon	3
16	4517048	TERMINAL BLOCK OF NUETRAL	1
17	4525695	control box	1
18	463600004	Capillary Assy. 1/Duo 18+18	2
19	452988800	Insulation for compressor PA215/240	2
20	4510677	Nut With Flange M8 -D=24 GB6187-86	6
21	4525867	Ccompressor cable assy (L=1500)	2
22	453089900	Compressor Assy.PA200X2CS-4KU1	2
23	4525681	Bbig handle	1
24	4521791	Right-back cabinet paint assy.(no handle)	1
25	461600011	4-Way Valve Assy. 1/Duo 18+18 R410A 1ph	1
26	4526522	FOUR-WAY VALVE R410A	2
27	4526589	4-Way Valve Coil FOR R410A	2
28	4524731	Back grille paint assy	1
29	462300027	Condenser Assy. 1/Duo 18+18	1
29	462300028	Condenser Assy.2/Duo 18+18	1
30	4517832	TOP COVER PAINT ASSY	1
31	4523141	Hexagon locked nut M10	2
32	4517772	Little Handle	1
33	4517834	RIGHT FRONT PANEL PAINT ASSY	1
34	4522320	Terminal 2 (6 bit)	1
35	4522322	Power supply terminal (6 bit)	1
36	4510859	Terminal block	1
37	461600012	4-Way Valve Assy. 2/Duo 18+18 R410A 1ph	1
38	4524577	Valve plate(trio 18+18 r407c)	1
39	4525784	Cconnect cable assy for contactor	2
40	4524907	Contactore (CJX9B-25S/01)	2
41	452988900	Heater for compressor for PA215/240	2
43	4525525	Drain plate	1
44	463150000	Manifold 1/Duo 18+18/1ph	1
45	4522221	Division capillary assy. 52+52(up)	1
46	4525816	Support foot painted assy	1
47	4526184	Deicer for trio unit (modle:COR251A)	1
48	463150001	Manifold 2/Duo 18+18/1ph	1
49	4522223	Division capillary assy. 52+52(down)	1

13.3 Outdoor Unit: DUO EDC 24+24



13.4 Outdoor Unit: DUO EDC 24+24

No.	Item	Description	Qty
1	4517144	FAN COVER PP+UV/GRILL A	2
2	4522238	Left front panel painted assy.	1
3	4517004	FAN D=450mm	2
4	4517740R	MOTOR YYK60B-6	2
5	4519199	MOTOR KICKSTAND	1
6	464600011	Base Plate Painting Assy./Duo 24+24 1ph	1
7	4522129	Partion plate assy.	1
8	455000506	Compressor Capacitor With Screw 45uF (CBB65)	2
9	201019	Nut M8	2
10	232299	Indoor SensorBLACK	2
11	452630200	Liquid Valve(R410A)	2
12	461010009	Gas Valve 1/2" R410A	2
13	455000104	Double patch Capacitor for fan motor 4uF (CBB61S)	2
14	4522319	Terminal 1 (6 bit)	1
15	204107	Cable clip Nylon	3
16	4517048	TERMINAL BLOCK OF NUETRAL	1
17	464220003	Control box	1
18	463600007	Capillary Assy. 1/Duo 24+24	2
19	452891300	Insulation for compressor NN27	2
20	4510677	Nut With Flange M8 -D=24 GB6187-86	6
21	4525867	Compressor cable assy (L=1500)	2
22	452864700	Compressor Assy.NN27VBAMT assy. for GC24RC R410A	2
23	4525681	Big handle	1
24	4521791	Right-back cabinet paint assy.(no handle)	1
25	461600008	4-Way Valve Assy. 1/Duo 24+24 R410A 1ph	1
26	4526522	FOUR-WAY VALVE R410A	2
27	4526589	4-Way Valve Coil FOR R410A	2
28	4524731	Back grille paint assy	1
29	470660016	Condenser Assy.1/Duo 24+24	1
29	470660017	Condenser Assy.2/Duo 24+24	1
30	4517832	TOP COVER PAINT ASSY	1
31	4523141	Hexagon locked nut M10	2
32	4517772	Little Handle	1
33	4517834	RIGHT FRONT PANEL PAINT ASSY	1
34	4522320	Terminal 2 (6 bit)	1
35	4522322	Power supply terminal (6 bit)	1
36	4510859	Terminal block	1
37	461600009	4-Way Valve Assy. 2	1
38	4524577	Valve plate(trio 18+18 r407c)	1
39	467030022	Connect cable assy for contactor	2
40	452872000	Contacto (GC3-18S/01TKKH)	2
41	4520870	Heater for compressor for PA215/240	2
42	4523291	Soft-starter	1
43	4525525	Drain plate	1
44	463150002	Manifold 1/Duo 24+24/1ph	1
45	463700006	Distributing Pipe Assy.	1
46	4525816	Support foot painted assy	1
47	4526184	Deicer for trio unit (modle:COR251A)	1
48	463150003	Manifold 2/Duo 24+24/1ph	1
49	463700007	Distributing Pipe Assy.	1

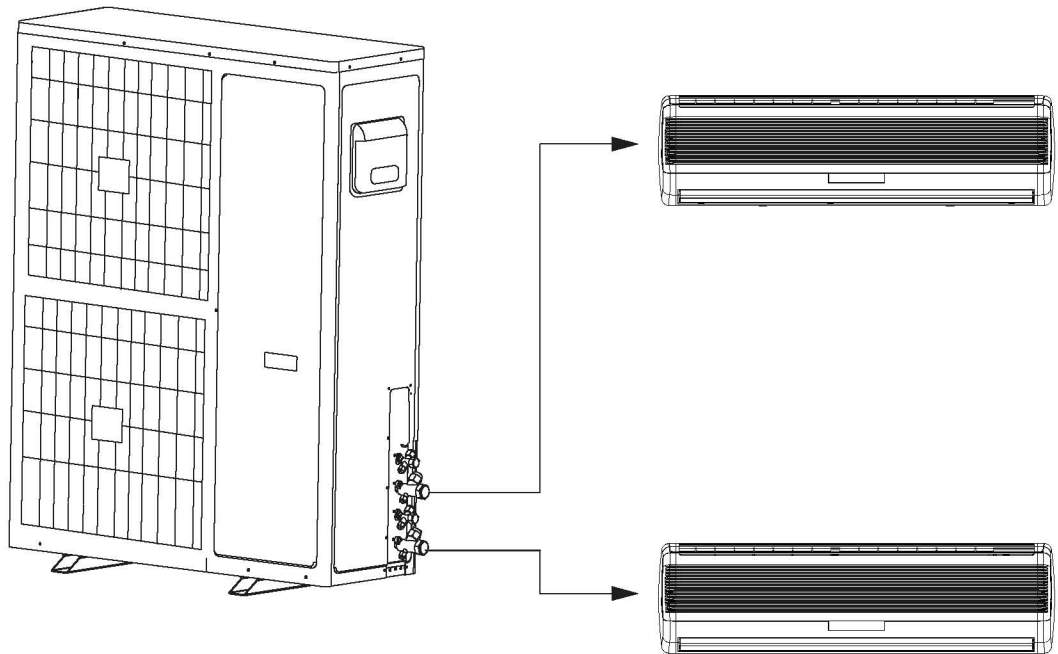
APPENDIX A

INSTALLATION AND OPERATION MANUAL

- ▶ **INSTALLATION INSTRUCTION**

Additional Installation Manual

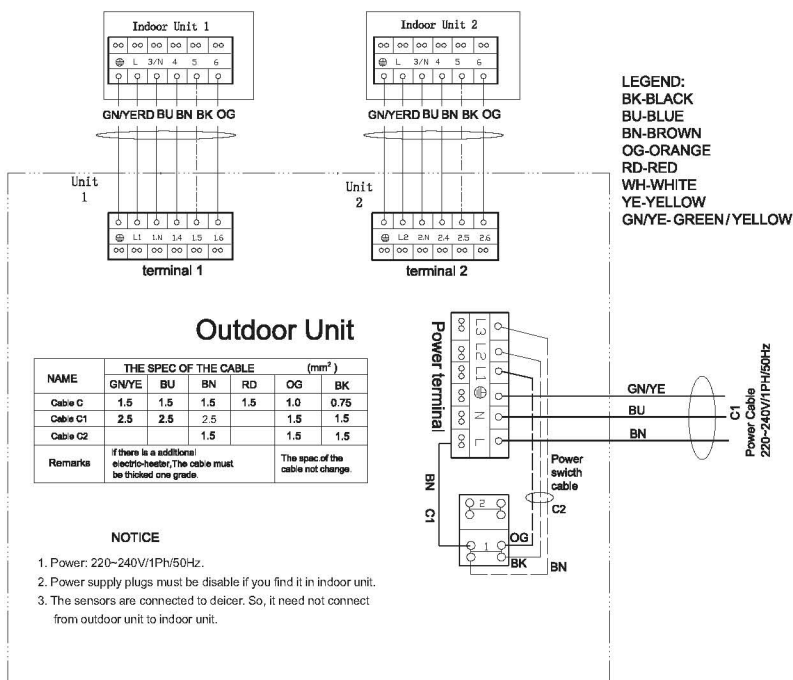
- ❄ *Language: English, French, Greek, Italian, Spanish and Portuguese.*
- ❄ *Wiring diagram.*
- ❄ *Installation dimension.*
- ❄ *The connection tubing between indoor unit and outdoor unit.*
- ❄ *The drawing of refrigerant system.*



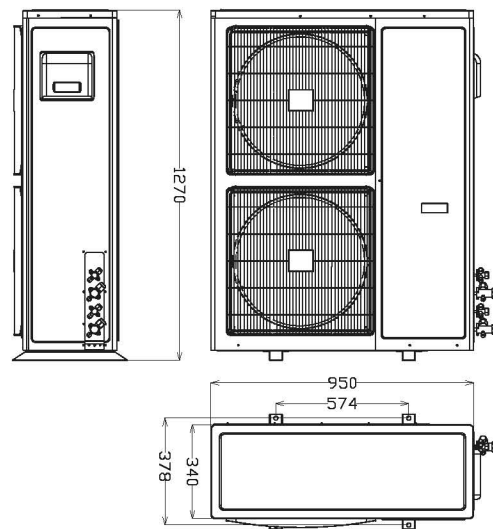
INSTALLATION ADDITIONAL MANUAL

Detail information is in installation manual of indoor unit, the following content is special requirement of duo unit.

1. Wiring diagram

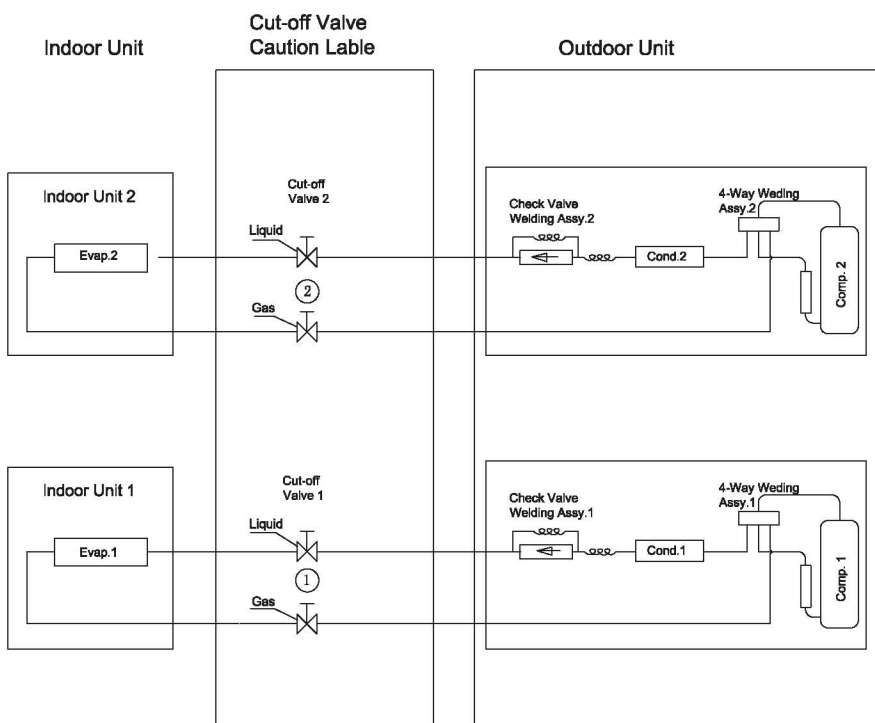


2. Installation dimensions



A

3. The connection tubing between indoor unit and outdoor unit



The Spec. Of Connection Tube	Gas tube		12.7mm	15.88mm
	Liquid tube	WNG		
Cut-off Valve Caution Lable	(2)	WNG	6.35mm	9.35mm
	(1)	WNG	18	24
I.D Module	EDC18	18RC	18	24
	EDC24	24RC	18	24
Series	DUO	DUO		

B