



TRANE®

Technical Service Manual

R-410A Split System

16~18 SEER, Inverter Systems - 60 and 50 Hz



Single Split

Cooling only
Heat pump

Indoor Unit

4MYW5-A
4MXW5A

Outdoor Unit

4TYK5-A
4TXK5A

June 2010

Warnings, Cautions and Notices

Warnings, Cautions and Notices. Note that warnings, cautions and notices appear at appropriate intervals throughout this manual. Warnings are provide to alert installing contractors to potential hazards that could result in personal injury or death. Cautions are designed to alert personnel to hazardous situations that could result in personal injury, while notices indicate a situation that could result in equipment or property-damage-only accidents.

Your personal safety and the proper operation of this machine depend upon the strict observance of these precautions.

ATTENTION: Warnings, Cautions and Notices appear at appropriate sections throughout this literature. Read these carefully.



WARNING: Indicates a potentially hazardous situation which, if not avoided, could result in death or serious injury.



CAUTION: Indicates a potentially hazardous situation which, if not avoided, could result in minor or moderate injury. It could also be used to alert against unsafe practices.

NOTICE: Indicates a situation that could result in equipment or property-damage only accidents.

Important Environmental Concerns!

Scientific research has shown that certain man-made chemicals can affect the earth's naturally occurring stratospheric ozone layer when released to the atmosphere. In particular, several of the identified chemicals that may affect the ozone layer are refrigerants that contain Chlorine, Fluorine and Carbon (CFCs) and those containing Hydrogen, Chlorine, Fluorine and Carbon (HCFCs). Not all refrigerants containing these compounds have the same potential impact to the environment. Trane advocates the responsible handling of all refrigerants-including industry replacements for CFCs such as HCFCs and HFCs.

Responsible Refrigerant Practices!

Trane believes that responsible refrigerant practices are important to the environment, our customers, and the air conditioning industry. All technicians who handle refrigerants must be certified. The Federal Clean Air Act (Section 608) sets forth the requirements for handling, reclaiming, recovering and recycling of certain refrigerants and the equipment that is used in these service procedures. In addition, some states or municipalities may have additional requirements that must also be adhered to for responsible management of refrigerants. Know the applicable laws and follow them.



WARNING

Electrocution and Fire Hazards with Improperly Installed and Grounded Field Wiring!

Improperly installed and grounded field wiring poses **FIRE & ELECTROCUTION** hazards. To avoid these hazards, you **MUST** follow requirements for field wiring installation and grounding as described in the National Electrical Codes (NEC) and your local/state electrical codes. All field wiring **MUST** be performed by qualified personnel. Failure to follow these requirements could result in death or serious injury.

⚠ WARNING

R410A Refrigerant under Higher Pressure than R22!

The units described in this manual use R410A refrigerant which operates at 50 to 70% higher pressures than R-22. Use only R-410A approved service equipment. Refrigerant cylinders are painted with "pink" color to indicate the type of refrigerant and may contain a "dip" tube to allow for charging of liquid refrigerant into the system. For specific handling concerns with R-410A, please contact your local Trane representative. Failure to use R-410A approved service equipment could result in standard equipment exploding under R-410A higher pressure which could result in death or serious injury.

NOTICE:

Use PVE Oil with R-410A Mini-Split Units!

All R-410A mini-splits use a PVE oil (Polyvinyl Ether Oil) that readily absorbs moisture from the atmosphere. To limit this "hygroscopic" action, the system should remain sealed whenever possible. If a system has been open to the atmosphere for more than 4 hours, the compressor oil must be replaced. Never break a vacuum with air and always change the driers when opening the system for component replacement. For specific handling concerns with PVE oil, contact your local Trane representative.

USE ONLY THE FACTORY RECOMMENDED - DAFNE HERMETIC OIL FV50S - for servicing these units.

Table of Contents

Model Specifications	5
Piping Specifications	13
Capacity Variation Ratio According to Pipe Length	15
System Diagrams	16
Electrical Characteristics	17
Dimensions	18
Indoor Units	18
Outdoor Units	19
Capacity Tables	20
Wiring Diagrams	28
Air Velocity Distribution	32
Sound Level	33
Operating Functions	34
Operation of remote controller	34
Temperature parameters	34
Fundamental functions	34
Other control	36
Common protection function in each mode	38
Disassembly Procedures	40
Indoor Units	40
Outdoor Units	54
Troubleshooting	59
General Section	59
Malfunction Display Section	64

Model Specifications 60Hz Heat pump models

Model		4MXW5509A1 4TXK5509A1		4MXW5512A1 4TXK5512A1	
Function		COOLING	HEATING	COOLING	HEATING
Rated Voltage		208-230V		208-230V	
Frequency(Hz)		60		60	
Total Capacity (W) (High/Standard/Low *):		3370/2579/1113	3370/2608/967	3663/3400/967	3663/3575/996
Total Capacity (Btu/h) (High/ Standard/Low *):		11500/8800/3800	11500/8900/3300	12500/11600/3300	12500/12200/3400
Power Input (W) (High/ Standard/Low *)		1220/760/270	980/650/230	1340/1130/260	1000/940/260
Nominal Input Current (A)		5.3/4.7	6.6/6.0	6.4/5.8	6.9/6.2
SEER/HSPF		17.5	9	18	9
Air Flow Volume (m ³ /h) (SH/H/M/L)**		560/510/440/370		580/520/440/370	
Dehumidifying Volume (l/h)		0.8		1.4	
EER / C.O.P (W/W)		3.4/4.0		3.0/3.8	
Indoor unit	Model of Indoor Unit	4MXW5509A1		4MXW5512A1	
	Fan Motor Speed (r/min) (SH/H/M/L)	1300/1100/900/700	1300/1150/980/820	1350/1150/950/750	1350/1200/100/850
	Output of Fan Motor (w)	15		15	
	Fan Motor RLA(A)	0.19		0.19	
	Fan Motor Capacitor (uF)	1.2		1.2	
	Fan Type-Piece	Cross-flow		Cross-flow	
	Diameter-Length (mm)	φ92X595.5		φ92X595.5	
	Evaporator	Aluminum Fin-copper Tube		Aluminum Fin-copper Tube	
	Pipe Diameter (mm)	φ7		φ7	
	Row-Fin Gap(mm)	2-1.4		2-1.4	
	Coil length (l) x height (H) x coil width (L)	610X24X294		610X24X294	
	Swing Motor Model	MP24BA		MP24BA	
	Output of Swing Motor (W)	1.5		1.5	
	Fuse (A)	PCB 3.15A Transformer 0.2A		PCB 3.15A Transformer 0.2A	
	Sound Pressure Level dB (A) (SH/H/M/L)	43/38/32/26		44/39/33/28	
	Sound Power Level dB (A) (SH/H/M/L)***	53/48/42/36		54/49/43/38	
	Dimension (W/H/D) (mm)	770X283X201		770X283X201	
	Dimension of Package (L/W/H) (mm)	847X264X357		847X264X357	
	Net Weight /Gross Weight (kg)	8.5/11.5		9/12	
	Room Temp. sensor	15K		15K	
	Pipe Temp. sensor	20K		20K	
Outdoor unit	Model of Outdoor Unit	4TXK5509A1		4TXK5512A1	
	Compressor Manufacturer/trademark	Gree		Gree	
	Compressor Model	1YC23AEXD		1YC23AEXD	
	Compressor Type	Rotary		Rotary	
	L.R.A. (A)	6.1		6.1	
	Compressor RLA(A)	6.1		6.1	
	Compressor Power Input(W)	600		600	
	Overload Protector	CS-7SA		CS-7SA	
	Throttling Method	Capillary		Capillary	
	Starting Method	Capacitor		Capacitor	
	Working Temp Range (°C)	(-15)°C≤T≤24°C		(-15)°C≤T≤24°C	
		18°C≤T≤48°C		18°C≤T≤48°C	
	Condenser	Aluminum Fin-copper Tube		Aluminum Fin-copper Tube	
	Pipe Diameter (mm)	φ7		φ7	
	Rows-Fin Gap(mm)	1-1.4		2-1.4	
	Coil length (l) x height (H) x coil width (L)	647X528X19.05		647X528X38.1	
	Fan Motor Speed (rpm)	≤930		≤930	
	Output of Fan Motor (W)	21		21	
	Fan Motor RLA(A)	0.17		0.17	
	Fan Motor Capacitor (uF)	2		2	
	Air Flow Volume of Outdoor Unit m ³ /h	1600		1600	
	Fan Type-Piece	Axial-flow		Axial-flow	
	Fan Diameter (mm)	370		370	
	Defrosting Method	Automatic Defrosting		Automatic Defrosting	
	Climate Type	T1		T1	
	Isolation	I		I	
	Moisture Protection	IP24		IP24	
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)	3.8		3.8	
	Permissible Excessive Operating Pressure for the Suction Side(MPa)	1.2		1.2	
	Sound Pressure Level dB (A)	≤49		≤52	
	Sound Power Level dB (A)	≤59		≤62	
	Dimension (W/H/D) (mm)	710X550X318		710X550X318	
	Dimension of Package (L/W/H)(mm)	774X351X607		774X351X607	
	Net Weight /Gross Weight (kg)	28/32		30/34	
	Refrigerant Charge (kg)	R410A/0.74		R410A/1.00	
	Temp.sensor	15K		15K	
	Pipe Temp. sensor	20K		20K	
	Discharge sensor	50K		50K	

Model		4MXW5518A1 4TXK5518A1		4MXW5524A1 4TXK5524A1	
Function		COOLING		COOLING	
Rated Voltage		208-230V		208-230V	
Frequency(Hz)		60		60	
Total Capacity (W) (High/Standard/Low *):		6154/5334/1318	6687/5715/1172	7033/6447/1875	8030/7913/1201
Total Capacity (Btu/h) (High/ Standard/Low *):		21000/18200/4500	24000/19500/4000	24000/22100/6400	27400/27000/4100
Power Input (W) (High/ Standard/Low *)		2600/1660/200	2750/2110/300	2550/2380/300	2850/2720/320
Nominal Input Current (A)		8.1/7.3	9.3/8.4	11.5/10.5	14.2/12.8
SEER/HSPF		16.5	8.2	17	9.7
Air Flow Volume (m ³ /h) (SH/H/M/L)**		800/680/560/460		1000/800/700/600	
Dehumidifying Volume (l/h)		1.8		2	
EER / C.O.P (W/W)		3.2/2.7		2.7/2.9	
Indoor unit	Model of Indoor Unit	4MXW5518A1		4MXW5524A1	
	Fan Motor Speed (r/min) (SH/H/M/L)	1400/1150/1000/850	1450/1250/1100/950	1350/1150/1000/850	1350/1150/1000/900
	Output of Fan Motor (w)	20		35	
	Fan Motor RLA(A)	0.31		0.31	
	Fan Motor Capacitor (uF)	1.5		2.5	
	Fan Type-Piece	Cross-flow		Cross-flow	
	Diameter-Length (mm)	Φ98X650		Φ98X765	
	Evaporator	Aluminum Fin-copper Tube		Aluminum Fin-copper Tube	
	Pipe Diameter (mm)	Φ7		Φ7	
	Row-Fin Gap(mm)	2-1.4		2-1.5	
	Coil length (l) x height (H) x coil width (L)	657X304.8X25.4		765X342.9X25.4	
	Swing Motor Model	MP28VB		MP35XX	
	Output of Swing Motor (W)	2		2.5	
	Fuse (A)	PCB 3.15A Transformer 0.2A		PCB 3.15A Transformer 0.2A	
	Sound Pressure Level dB (A) (SH/H/M/L)	48/43/38/34		49/43/39/34	
	Sound Power Level dB (A) (SH/H/M/L)***	58/53/48/44		59/53/49/44	
	Dimension (W/H/D) (mm)	865x305x215		1008x319x221	
	Dimension of Package (L/W/H) (mm)	948X383X310		1076x398x328	
	Net Weight /Gross Weight (kg)	12/16		15/20	
	Room Temp. sensor	15K		15K	
	Pipe Temp. sensor	20K		20K	
Outdoor unit	Model of Outdoor Unit	4TXK5518A1		4TXK5524A1	
	Compressor Manufacturer/trademark	Sanyo		Sanyo	
	Compressor Model	C-6RZ146H1A		C-6RZ146H1A	
	Compressor Type	Twin Rotary		Twin Rotary	
	L.R.A. (A)	41		41	
	Compressor RLA(A)	8.4		8.4	
	Compressor Power Input(W)	1640		1640	
	Overload Protector	1NT11L-3979		1NT11L-3979	
	Throttling Method	Electronic expansion valve		Electronic expansion valve	
	Starting Method	Capacitor		Capacitor	
	Working Temp Range (°C)	(-15)°C≤T≤24°C		(-15)°C≤T≤24°C	
	Condenser	AluminumFin-copperTube		AluminumFin-copperTube	
	Pipe Diameter (mm)	Φ7		Φ7	
	Rows-Fin Gap(mm)	2-1.4		2-1.4	
	Coil length (l) x height (H) x coil width (L)	837x660x38.1		853X660X38.1	
	Fan Motor Speed (rpm)	≤690		≤690	
	Output of Fan Motor (W)	60		60	
	Fan Motor RLA(A)	0.58		0.59	
	Fan Motor Capacitor (uF)	3.5		3.5	
	Air Flow Volume of Outdoor Unit m ³ /h	3200		3200	
	Fan Type-Piece	Axial-flow		Axial-flow	
	Fan Diameter (mm)	520		520	
	Defrosting Method	Automatic Defrosting		Auto defrosting	
	Climate Type	T1		T1	
	Isolation	I		I	
	Moisture Protection	IP24		IP24	
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)	3.8		3.8	
	Permissible Excessive Operating Pressure for the Suction Side(MPa)	1.2		1.2	
	Sound Pressure Level dB (A)	≤56		≤56	
	Sound Power Level dB (A)	≤66		≤56	
	Dimension (W/H/D) (mm)	955X700X396		955X700X396	
	Dimension of Package (L/W/H)(mm)	1029X458X750		1029X458X750	
	Net Weight /Gross Weight (kg)	52/57		51/56	
	Refrigerant Charge (kg)	R410A/1.25		R410A/1.55	
	Temp.sensor	15K		15K	
	Pipe Temp. sensor	20K		20K	
	Discharge sensor	50K		50K	

60Hz Cooling only models

Model		4MYW5509A1 4TYK5509A1	4MYW5512A1 4TYK5512A1
Function		COOLING	COOLING
Rated Voltage		208-230V	208-230V
Frequency(Hz)		60	60
Total Capacity (W) (High/Standard/Low *):		3370/2579/1113	3663/3400/967
Total Capacity (Btu/h) (High/ Standard/Low *):		11500/8800/3800	12500/11600/3300
Power Input (W) (High/ Standard/Low *)		1220/760/270	1340/1130/260
Nominal Current (A)		5.3/4.7	6.4/5.8
SEER/HSPF		17.5	18
Air Flow Volume (m ³ /h) (SH/H/M/L)**		560/510/440/370	580/520/440/370
Dehumidifying Volume (l/h)		0.8	1.4
EER / C.O.P (W/W)		3.4	3.0
Indoor unit	Model of Indoor Unit	4MYW5509A1	4MYW5512A1
	Fan Motor Speed (r/min) (SH/H/M/L)	1300/1100/900/700	1350/1150/950/750
	Output of Fan Motor (w)	15	15
	Fan Motor Capacitor (uF)	1.2	1.2
	Fan Motor RLA(A)	0.19	0.19
	Fan Type-Piece	Cross-flow	Cross-flow
	Diameter-Length (mm)	φ92X595.5	φ92X595.5
	Evaporator	Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter (mm)	φ7	φ7
	Row-Fin Gap(mm)	2-1.4	2-1.4
	Coil length (l) x height (H) x coil width (L)	610X24X294	610X24X294
	Swing Motor Model	MP24BA	MP24BA
	Output of Swing Motor (W)	1.5	1.5
	Fuse (A)	PCB 3.15A Transformer 0.2A	PCB 3.15A Transformer 0.2A
	Sound Pressure Level dB (A) (SH/H/M/L)	43/38/32/26	44/39/33/28
	Sound Power Level dB (A) (SH/H/M/L)***	53/48/42/36	54/49/43/38
	Dimension (W/H/D) (mm)	770X283X201	770X283X201
	Dimension of Package (L/W/H) (mm)	847X264X357	847X264X357
	Net Weight /Gross Weight (kg)	8.5/11.5	9/12
	Room Temp. sensor	15K	15K
	Pipe Temp. sensor	20K	20K
Outdoor unit	Model of Outdoor Unit	4TYK5509A1	4TYK5512A1
	Compressor Manufacturer/trademark	Gree	Gree
	Compressor Model	1YC23AEXD	1YC23AEXD
	Compressor Type	Rotary	Rotary
	L.R.A. (A)	6.1	6.1
	Compressor RLA(A)	6.1	6.1
	Compressor Power Input(W)	600	600
	Overload Protector	CS-7SA	CS-7SA
	Throttling Method	Capillary	Capillary
	Starting Method	Capacitor	Capacitor
	Working Temp Range (°C)	18°C≤T≤48°C	18°C≤T≤48°C
	Condenser	AluminumFin-copperTube	AluminumFin-copperTube
	Pipe Diameter (mm)	φ7	φ7
	Rows-Fin Gap(mm)	1-1.4	2-1.4
	Coil length (l) x height (H) x coil width (L)	647X528X19.05	647X528X38.1
	Fan Motor Speed (rpm)	≤930	≤930
	Output of Fan Motor (W)	21	21
	Fan Motor RLA(A)	0.17	0.17
	Fan Motor Capacitor (uF)	2	2
	Air Flow Volume of Outdoor Unit m ³ /h	1600	1600
	Fan Type-Piece	Axial-flow	Axial-flow
	Fan Diameter (mm)	370	370
	Defrosting Method	-	-
	Climate Type	T1	T1
	Isolation	I	I
	Moisture Protection	IP24	IP24
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)	3.8	3.8
	Permissible Excessive Operating Pressure for the Suction Side(MPa)	1.2	1.2
	Sound Pressure Level dB (A)	≤49	≤52
	Sound Power Level dB (A)	≤59	≤62
	Dimension (W/H/D) (mm)	710X550X318	710X550X318
	Dimension of Package (L/W/H)(mm)	774X351X607	774X351X607
	Net Weight /Gross Weight (kg)	28/32	30/34
	Refrigerant Charge (kg)	R410A/0.74	R410A/1.00
	Temp.sensor	15K	15K
	Pipe Temp. sensor	20K	20K
	Discharge sensor	50K	50K

Model		4MYW5518A1 4TYK5518A1	4MYW5524A1 4TYK5524A1
Function		COOLING	COOLING
Rated Voltage		208-230V	208-230V
Frequency(Hz)		60	60
Total Capacity (W) (High/Standard/Low *):		6154/5334/1318	7033/6447/1875
Total Capacity (Btu/h) (High/ Standard/Low *):		21000/18200/4500	24000/22100/6400
Power Input (W) (High/ Standard/Low *)		2600/1660/200	2550/2380/300
Nominal Current (A)		8.1/7.3	11.5/10.5
SEER/HSPF		16.5	17
Air Flow Volume (m ³ /h) (SH/H/M/L)**		800/680/560/460	1000/800/700/600
Dehumidifying Volume (l/h)		1.8	2
EER / C.O.P (W/W)		3.2	2.7
Indoor unit	Model of Indoor Unit	4MYW5518A1	4MYW5524A1
	Fan Motor Speed (r/min) (SH/H/M/L)	1400/1150/1000/850	1350/1150/1000/850
	Output of Fan Motor (w)	20	35
	Fan Motor Capacitor (uF)	1.5	2.5
	Fan Motor RLA(A)	0.31	0.31
	Fan Type-Piece	Cross-flow	Cross-flow
	Diameter-Length (mm)	Φ98X650	Φ98X765
	Evaporator	Aluminum Fin-copper Tube	Aluminum Fin-copper Tube
	Pipe Diameter (mm)	φ7	φ7
	Row-Fin Gap(mm)	2-1.4	2-1.5
	Coil length (l) x height (H) x coil width (L)	657X304.8X25.4	765X342.9X25.4
	Swing Motor Model	MP28VB	MP35XX
	Output of Swing Motor (W)	2	2.5
	Fuse (A)	PCB 3.15A Transformer 0.2A	PCB 3.15A Transformer 0.2A
	Sound Pressure Level dB (A) (SH/H/M/L)	48/43/38/34	49/43/39/34
	Sound Power Level dB (A) (SH/H/M/L)***	58/53/48/44	59/53/49/44
	Dimension (W/H/D) (mm)	865x305x215	1008x319x221
	Dimension of Package (L/W/H) (mm)	948X383X310	1076x398x328
	Net Weight /Gross Weight (kg)	12/16	15/20
	Room Temp. sensor	15K	15K
	Pipe Temp. sensor	20K	20K
Outdoor unit	Model of Outdoor Unit	4TYK5518A1	4TYK5524A1
	Compressor Manufacturer/trademark	Sanyo	Sanyo
	Compressor Model	C-6RZ146H1A	C-6RZ146H1A
	Compressor Type	Rotary	Rotary
	L.R.A. (A)	41.00	41.00
	Compressor RLA(A)	8.40	8.40
	Compressor Power Input(W)	1640	1640
	Overload Protector	1NT11L-3979	1NT11L-3979
	Throttling Method	Electron expansion valve	Electron expansion valve
	Starting Method	Capacitor	Capacitor
	Working Temp Range (°C)	18°C≤T≤48°C	18°C≤T≤48°C
	Condenser	AluminumFin-copperTube	AluminumFin-copperTube
	Pipe Diameter (mm)	φ7	φ7
	Rows-Fin Gap(mm)	2-1.4	2-1.4
	Coil length (l) x height (H) x coil width (L)	837x660x38.1	853x660X38.1
	Fan Motor Speed (rpm)	≤690	≤690
	Output of Fan Motor (W)	60	60
	Fan Motor RLA(A)	0.58	0.59
	Fan Motor Capacitor (uF)	3.5	3.5
	Air Flow Volume of Outdoor Unit m ³ /h	3200	3200
	Fan Type-Piece	Axial-flow	Axial-flow
	Fan Diameter (mm)	520	520
	Defrosting Method	-	-
	Climate Type	T1	T1
	Isolation	I	I
	Moisture Protection	IP24	IP24
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)	3.8	3.8
	Permissible Excessive Operating Pressure for the Suction Side(MPa)	1.2	1.2
	Sound Pressure Level dB (A)	≤56	≤56
	Sound Power Level dB (A)	≤66	≤56
	Dimension (W/H/D) (mm)	955X700X396	955X700X396
	Dimension of Package (L/W/H)(mm)	1029X458X750	1029X458X750
	Net Weight /Gross Weight (kg)	51/56	51/56
	Refrigerant Charge (kg)	R410A/1.20	R410A/1.55
	Temp.sensor	15K	15K
	Pipe Temp. sensor	20K	20K
	Discharge sensor	50K	50K

50Hz Heat pump models

Model		4MXW5509AB 4TXK5509AB		4MXW5512AB 4TXK5512AB	
Function		COOLING		COOLING	
Rated Voltage		220-240V		220-240V	
Frequency(Hz)		50		50	
Total Capacity (W) (High/Standard/Low *):		3230/2650/440	4100/3520/440	3960/3530/586	5130/4260/586
Total Capacity (Btu/h) (High/ Standard/Low *):		11000/9000/1500	14000/12000/1500	13500/12000/2000	17500/14500/2000
Power Input (W) (High/ Standard/Low *)		1350/800/200	1450/950/200	1450/1100/220	1550/1180/220
Nominal Current (A)		6.3	6.8	6.5	7.8
SEER/HSPF		17	9	17	9
Air Flow Volume (m ³ /h) (SH/H/M/L)**		560/520/370/280		580/520/410/300	
Dehumidifying Volume (l/h)		0.8		1.4	
EER / C.O.P (W/W)		3.3	3.7	3.2	3.6
Indoor unit	Model of Indoor Unit	4MXW5509AB		4MXW5512AB	
	Fan Motor Speed (r/min) (SH/H/M/L)	1300/1100/900/700	1300/1150/980/820	1350/1150/950/750	1350/1200/100/850
	Output of Fan Motor (w)	10		10	
	Fan Motor Capacitor (uF)	1.2		1.2	
	Fan Motor RLA(A)	0.16		0.16	
	Fan Type-Piece	Cross flow fan – 1		Cross flow fan – 1	
	Diameter-Length (mm)	φ92x594		φ92x594	
	Evaporator	Aluminum fin-copper tube		Aluminum fin-copper tube	
	Pipe Diameter (mm)	φ7		φ7	
	Row-Fin Gap(mm)	2-1.4		2-1.4	
	Coil length (l) x height (H) x coil width (L)	610X294X24		610X294X24	
	Swing Motor Model	MP24BA		MP24BA	
	Output of Swing Motor (W)	1.5		1.5	
	Fuse (A)	PCB 3.15A		PCB 3.15A	
	Sound Pressure Level dB (A) (H/M/L)	43/36/30/24		44/37/31/25	
	Sound Power Level dB (A) (H/M/L)***	53/46/40/34		54/47/41/35	
	Dimension (W/H/D) (mm)	770x283x201		770x283x201	
	Dimension of Package (L/W/H) (mm)	844x342x261		844x342x261	
	Net Weight /Gross Weight (kg)	8/11		9/12	
	Room Temp.Sensor	15K		15K	
	Pipe Temp.Sensor	20K		20K	
Outdoor unit	Model of Outdoor Unit	4TXK5509AB		4TXK5512AB	
	Compressor Manufacturer/trademark	Gree		Gree	
	Compressor Model	1YC23AEXD		1YC23AEXD	
	Compressor Type	Rotary		Rotary	
	L.R.A. (A)	6.1		6.1	
	Compressor RLA(A)	6.1		6.1	
	Compressor Power Input(W)	600		600	
	Overload Protector	CS-7SA		CS-7SA	
	Throttling Method	Capillary		Capillary	
	Starting Method	Transducer starting		Transducer starting	
	Working Temp Range (°C)	(-15)°C≤T≤24°C		(-15)°C≤T≤24°C	
		18°C≤T≤48°C		18°C≤T≤48°C	
	Condenser	Aluminum fin-copper tube		Aluminum fin-copper tube	
	Pipe Diameter (mm)	φ7		φ7	
	Rows-Fin Gap(mm)	1-1.4		2-1.4	
	Coil length (l) x height (H) x coil width (L)	647X528X19.05		647X528X38.1	
	Fan Motor Speed (rpm)	≤930		≤930	
	Output of Fan Motor (W)	30		30	
	Fan Motor RLA(A)	0.23		0.23	
	Fan Motor Capacitor (uF)	2		2	
	Air Flow Volume of Outdoor Unit m ³ /h	1600		1600	
	Fan Type-Piece	Axial fan –1		Axial fan –1	
	Fan Diameter (mm)	370		370	
	Defrosting Method	Automatic Defrosting		Automatic Defrosting	
	Climate Type	T1		T1	
	Isolation	I		I	
	Moisture Protection	IP24		IP24	
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)	3.8		3.8	
	Permissible Excessive Operating Pressure for the Suction Side(MPa)	1.2		1.2	
	Sound Pressure Level dB (A)	≤50		≤52	
	Sound Power Level dB (A)	≤60		≤62	
	Dimension (W/H/D) (mm)	658x550x275		658x550x275	
	Dimension of Package (L/W/H) (mm)	771x348x592		771x348x592	
	Net Weight /Gross Weight (kg)	28/32		30/34	
	Refrigerant Charge (kg)	R410A/0.70		R410A/0.96	
	Temp.sensor	15K		15K	
	Pipe Temp. sensor	20K		20K	
	Discharge sensor	50K		50K	

Model		4MXW5518AB 4TXK5518AB		4MXW5524AB 4TXK5524AB	
Function		COOLING	HEATING	COOLING	HEATING
Rated Voltage		220-240V		220-240V	
Frequency(Hz)		50		50	
Total Capacity (W) (High/Standard/Low *):		6500/5300/1050	7000/5700/1000	7000/6450/1500	7800/7000/1200
Total Capacity (Btu/h) (High/ Standard/Low *):		22178/18080/3582	23884/19448/3412	23884/22007/5118	26613/23884/4094
Power Input (W) (High/ Standard/Low *)		2500/1600/360	2600/1578/350	2500/1985/350	2700/1930/350
Nominal Current (A)		11.6		11.98	
SEER/HSPF		16.5	9	16.5	9
Air Flow Volume (m ³ /h) (SH/H/M/L)**		800/680/560/460		950/800/650/550	
Dehumidifying Volume (l/h)		1.8		2	
EER / C.O.P (W/W)		3.2	3.6	3.2	3.6
Indoor unit	Model of Indoor Unit	4MXW5518AB		4MXW5524AB	
	Fan Motor Speed (r/min) (SH/H/M/L)	1300/1100/950/800	1400/1200/1050/900	1250/1100/950/800	1300/1100/1000/850
	Output of Fan Motor (w)	20		35	
	Fan Motor Capacitor (uF)	1.5		2.5	
	Fan Motor RLA(A)	0.31		0.31	
	Fan Type-Piece	Cross flow fan – 1		Cross flow fan – 1	
	Diameter-Length (mm)	φ98X650		φ98X765	
	Evaporator	Aluminum Fin-copper Tube		Aluminum Fin-copper Tube	
	Pipe Diameter (mm)	φ7		φ7	
	Row-Fin Gap(mm)	2-1.4		2-1.5	
	Coil length (l) x height (H) x coil width (L)	657X25.4X304.8		765X342.9X25.4	
	Swing Motor Model	MP28VB		MP35XX	
	Output of Swing Motor (W)	2		2.5	
	Fuse (A)	PCB 3.15A		PCB 3.15A Transformer 0.2A	
	Sound Pressure Level dB (A) (H/M/L)	(45)/40/37/32		(46)/42/37/32	
	Sound Power Level dB (A) (H/M/L)***	55/50/47/42/-		(56)/52/47/42	
	Dimension (W/H/D) (mm)	865x305x215		1008x319x221	
	Dimension of Package (L/W/H) (mm)	948X383X310		1076x398x328	
	Net Weight /Gross Weight (kg)	12/16		15/20	
	Room Temp.Sensor	15K		15K	
	Pipe Temp.Sensor	20K		20K	
Outdoor unit	Model of Outdoor Unit	4TXK5518AB		4TXK5524AB	
	Compressor Manufacturer/trademark	Sanyo		Sanyo	
	Compressor Model	C-6RZ146H1A		C-6RZ146H1A	
	Compressor Type	Twin Rotary		Twin Rotary	
	L.R.A. (A)	41		41	
	Compressor RLA(A)	8.4		8.4	
	Compressor Power Input(W)	1640		1640	
	Overload Protector	1NT11L-3979		1NT11L-3979	
	Throttling Method	Capillary		Electron expansion valve	
	Starting Method	Transducer starting		Transducer starting	
	Working Temp Range (°C)	(-15)°C ≤ T ≤ 24°C		(-15)°C ≤ T ≤ 24°C	
		18°C ≤ T ≤ 48°C		18°C ≤ T ≤ 48°C	
	Condenser	Aluminum Fin-copper Tube		Aluminum Fin-copper Tube	
	Pipe Diameter (mm)	φ7		φ7	
	Rows-Fin Gap(mm)	2-1.4		2-1.4	
	Coil length (l) x height (H) x coil width (L)	853x660x38.1		853x660x38.1	
	Fan Motor Speed (rpm)	≤690		≤690	
	Output of Fan Motor (W)	60		60	
	Fan Motor RLA(A)	0.58		0.58	
	Fan Motor Capacitor (uF)	3.5		3.5	
	Air Flow Volume of Outdoor Unit m ³ /h	3200		3200	
	Fan Type-Piece	Axial fan –1		Axial fan –1	
	Fan Diameter (mm)	520		520	
	Defrosting Method	Automatic Defrosting		Automatic Defrosting	
	Climate Type	T1		T1	
	Isolation	I		I	
	Moisture Protection	IP24		IP24	
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)	3.8		3.8	
	Permissible Excessive Operating Pressure for the Suction Side(MPa)	1.2		1.2	
	Sound Pressure Level dB (A)	≤54		≤54	
	Sound Power Level dB (A)	≤64		≤64	
	Dimension (W/H/D) (mm)	955X700X396		955X700X396	
	Dimension of Package (L/W/H)(mm)	1029X458X750		1029X458X750	
	Net Weight /Gross Weight (kg)	52/57		52/57	
	Refrigerant Charge (kg)	R410A/1.25		R410A/1.40	
	Temp.sensor	15K		15K	
	Pipe Temp. sensor	20K		20K	
	Discharge sensor	50K		50K	

50Hz Cooling only models

Model		4MYW5509AB 4TYK5509AB	4MYW5512AB 4TYK5512AB
Function		COOLING	COOLING
Rated Voltage		220-240V	220-240V
Frequency(Hz)		50	50
Total Capacity (W)		3230/2650/440	3960/3530/586
Total Capacity (Btu/h) (High/ Standard/Low *):		11000/9000/1500	13500/12000/2000
Power Input (W) (High/ Standard/Low *)		1350/800/200	1450/1100/220
Nominal Current (A)		6.3	6.5
SEER/HSPF		17	17
Air Flow Volume (m ³ /h) (SH/H/M/L)**		560/520/370/280	580/520/410/300
Dehumidifying Volume (l/h)		0.8	1.4
EER / C.O.P (W/W)		3.3	3.2
Indoor unit	Model of Indoor Unit	4MYW5509AB	4MYW5512AB
	Fan Motor Speed (r/min) (SH/H/M/L)	1300/1100/900/700	1350/1150/950/750
	Output of Fan Motor (w)	10	10
	Fan Motor Capacitor (uF)	1.2	1.2
	Fan Motor RLA(A)	0.16	0.16
	Fan Type-Piece	Cross flow fan – 1	Cross flow fan – 1
	Diameter-Length (mm)	φ92X594	φ92X594
	Evaporator	Aluminum fin-copper tube	Aluminum fin-copper tube
	Pipe Diameter (mm)	φ7	φ7
	Row-Fin Gap(mm)	2-1.4	2-1.4
	Coil length (l) x height (H) x coil width (L)	610X294X24	610X294X24
	Swing Motor Model	MP24BA	MP24BA
	Output of Swing Motor (W)	1.5	1.5
	Fuse (A)	PCB 3.15A	PCB 3.15A
	Sound Pressure Level dB (A) (H/M/L)	36/30/24	37/31/25
	Sound Power Level dB (A) (H/M/L)***	46/40/34	47/41/35
	Dimension (W/H/D) (mm)	770x283x201	770x283x201
	Dimension of Package (L/W/H) (mm)	844x342x261	844x342x261
	Net Weight /Gross Weight (kg)	8/11	9/12
	Room Temp. sensor	15K	15K
	Pipe Temp. sensor	20K	20K
	Room Temp. sensor	15K	15K
	Pipe Temp. sensor	20K	20K
Outdoor unit	Model of Outdoor Unit	4TYK5509AB	4TYK5512AB
	Compressor Manufacturer/trademark	Gree	Gree
	Compressor Model	1YC23AEXD	1YC23AEXD
	Compressor Type	Rotary	Rotary
	L.R.A. (A)	5.0	5.0
	Compressor RLA(A)	5.0	5.0
	Compressor Power Input(W)	600	600
	Overload Protector	CS-7SA	CS-7SA
	Throttling Method	Capillary	Capillary
	Starting Method	Transducer starting	Transducer starting
	Working Temp Range (°C)	-7°C≤T≤43°C	-7°C≤T≤43°C
	Condenser	Aluminum fin-copper tube	Aluminum fin-copper tube
	Pipe Diameter (mm)	7	7
	Rows-Fin Gap(mm)	1-1.4	2-1.4
	Coil length (l) x height (H) x coil width (L)	647X528X19.05	647X528X38.1
	Fan Motor Speed (rpm)	≤930	≤930
	Output of Fan Motor (W)	30	30
	Fan Motor RLA(A)	0.236	0.236
	Fan Motor Capacitor (uF)	2	2
	Air Flow Volume of Outdoor Unit m ³ /h	1600	1600
	Fan Type-Piece	Axial fan –1	Axial fan –1
	Fan Diameter (mm)	370	370
	Defrosting Method	Auto defrost	Auto defrost
	Climate Type	T1	T1
	Isolation	I	I
	Moisture Protection	IP24	IP24
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)	3.8	3.8
	Permissible Excessive Operating Pressure for the Suction Side(MPa)	1.2	1.2
	Sound Pressure Level dB (A)	≤47	≤48
	Sound Power Level dB (A)	≤57	≤58
	Dimension (W/H/D) (mm)	658x550x275	658x550x275
	Dimension of Package (L/W/H)(mm)	771x348x592	771x348x592
	Net Weight /Gross Weight (kg)	27/31	29/33
	Refrigerant Charge (kg)	R410A/0.74	R410A/1.0
	Temp.sensor	15K	15K
	Pipe Temp. sensor	20K	20K
	Discharge sensor	50K	50K

Model		4MYW5518AB 4TYK5518AB	4MYW5524AB 4TYK5524AB
Function		COOLING	COOLING
Rated Voltage		220-240V	220-240V
Frequency(Hz)		50	50
Total Capacity (W)		6500/5300/1050	7000/6450/1500
Total Capacity (Btu/h) (High/ Standard/Low *):		22170/18080/3580	23880/22000/5100
Power Input (W) (High/ Standard/Low *)		2650/1650/360	2500/1985/350
Nominal Current (A)		12	11.1
SEER/HSPF		16.5	16.5
Air Flow Volume (m³/h) (SH/H/M/L)**		800/680/560/460	950/800/650/550
Dehumidifying Volume (l/h)		1.8	2
EER / C.O.P (W/W)		3.2	3.20
Indoor unit	Model of Indoor Unit	4MYW5518AB	4MYW5524AB
	Fan Motor Speed (r/min) (SH/H/M/L)	1300/1100/950/800	1250/1100/950/800
	Output of Fan Motor (w)	20	35
	Fan Motor Capacitor (uF)	1.5	2.5
	Fan Motor RLA(A)	0.31	0.31
	Fan Type-Piece	Cross-flow	Cross-flow
	Diameter-Length (mm)	Φ98X650	Φ98X765
	Evaporator	Aluminum fin-copper tube	Aluminum fin-copper tube
	Pipe Diameter (mm)	φ7	φ7
	Row-Fin Gap(mm)	2-1.4	2-1.5
	Coil length (l) x height (H) x coil width (L)	657X25.4X304.8	765X342.9X25.4
	Swing Motor Model	MP28VB	MP35XX
	Output of Swing Motor (W)	2.0	2.5
	Fuse (A)	PCB 3.15A	PCB 3.15A
	Sound Pressure Level dB (A) (H/M/L)	45/40/37/32/-	46/42/37/32/-
	Sound Power Level dB (A) (H/M/L)***	55/50/47/42/-	56/52/47/42/-
	Dimension (W/H/D) (mm)	865x305x215	1008x319x221
	Dimension of Package (L/W/H) (mm)	948X383X310	1076x398x328
	Net Weight /Gross Weight (kg)	12/16	15/20
Outdoor unit	Room Temp. sensor	15K	15K
	Pipe Temp. sensor	20K	20K
	Model of Outdoor Unit	4TYK5518AB	4TYK5524AB
	Compressor Manufacturer/trademark	Sanyo	Sanyo
	Compressor Model	C-6RZ146H1A	C-6RZ146H1A
	Compressor Type	Twin Rotary	Twin Rotary
	L.R.A. (A)	41	41
	Compressor RLA(A)	8.4	8.4
	Compressor Power Input(W)	1640	1640
	Overload Protector	1NT11L-3979	1NT11L-3979
	Throttling Method	Capillary	Capillary
	Starting Method	Transducer starting	Transducer starting
	Working Temp Range (°C)	-7°C ≤ T ≤ 43°C	-7°C ≤ T ≤ 43°C
	Condenser	Aluminum fin-copper tube	Aluminum fin-copper tube
	Pipe Diameter (mm)	7	7
	Rows-Fin Gap(mm)	1-1.4	1-1.4
	Coil length (l) x height (H) x coil width (L)	870x660x19.05	853X660X38.1
	Fan Motor Speed (rpm)	≤690	≤690
	Output of Fan Motor (W)	60	60
	Fan Motor RLA(A)	0.58	0.58
	Fan Motor Capacitor (uF)	3.5	3.5
	Air Flow Volume of Outdoor Unit m³/h	3200	3200
	Fan Type-Piece	Axial fan -1	Axial fan -1
	Fan Diameter (mm)	520	520
	Defrosting Method	Auto defrost	Auto defrost
	Climate Type	T1	T1
	Isolation	I	I
	Moisture Protection	IP24	IP24
	Permissible Excessive Operating Pressure for the Discharge Side(MPa)	3.8	3.8
	Permissible Excessive Operating Pressure for the Suction Side(MPa)	1.2	1.2
	Sound Pressure Level dB (A)	≤54	≤54
	Sound Power Level dB (A)	≤64	≤64
	Dimension (W/H/D) (mm)	955X700X396	955X700X396
	Dimension of Package (L/W/H)(mm)	1029X458X750	1029X458X750
	Net Weight /Gross Weight (kg)	46/51	51/56
	Refrigerant Charge (kg)	R410A/0.95	R410A/1.40
	Temp.sensor	15K	15K
	Pipe Temp. sensor	20K	20K
	Discharge sensor	50K	50K

Piping Specifications

60Hz Heat pump

Model		4MXW5509A1000AA 4TXK5509A1000AA	4MXW5512A1000AA 4TXK5512A1000AA
Connection Pipe	Length (m)	7.6	7.6
	Gas additional charge(g/m)	20	20
	Outer Diameter	Liquid Pipe (mm)	φ6
		Gas Pipe (mm)	φ9.52
	Max Distance	Height (m)	15
		Length (m)	30

Model		4MXW5518A1000AA 4TXK5518A1000AA	4MXW5524A1000AA 4TXK5524A1000AA
Connection Pipe	Length (m)	7.6	7.6
	Gas additional charge(g/m)	20	20
	Outer Diameter	Liquid Pipe (mm)	φ6
		Gas Pipe (mm)	φ12
	Max Distance	Height (m)	20
		Length (m)	40

60Hz Cooling only

Model		4MYW5509A1000AA 4TYK5509A1000AA	4MYW5512A1000AA 4TYK5512A1000AA
Connection Pipe	Length (m)	7.6	7.6
	Gas additional charge(g/m)	15	15
	Outer Diameter	Liquid Pipe (mm)	φ6
		Gas Pipe (mm)	φ9.52
	Max Distance	Height (m)	15
		Length (m)	30

Model		4MYW5518A1000AA 4TYK5518A1000AA	4MYW5524A1000AA 4TYK5524A1000AA
Connection Pipe	Length (m)	7.6	7.6
	Gas additional charge(g/m)	15	15
	Outer Diameter	Liquid Pipe (mm)	φ6
		Gas Pipe (mm)	φ12
	Max Distance	Height (m)	20
		Length (m)	40

Piping Specifications

50Hz Heat pump

Model		4MXW5509AB000AA 4TXK5509AB000AA		4MXW5512AB000AA 4TXK5512AB000AA	
Connection Pipe	Length (m)	5		5	
	Gas additional charge(g/m)	15		15	
	Outer Diameter	Liquid Pipe (mm)	φ6(1/4")	φ6(1/4")	
		Gas Pipe (mm)	φ9.52(3/8")	φ9.52(3/8")	
	Max Distance	Height (m)	15	15	
		Length (m)	30	30	

Model		4MXW5518AB000AA 4TXK5518AB000AA		4MXW5524AB000AA 4TXK5524AB000AA	
Connection Pipe	Length (m)	5		5	
	Gas additional charge(g/m)	20		20	
	Outer Diameter	Liquid Pipe (mm)	φ6(1/4")	φ6(1/4")	
		Gas Pipe (mm)	φ9.52(3/8")	φ9.52(3/8")	
	Max Distance	Height (m)	20	20	
		Length (m)	40	40	

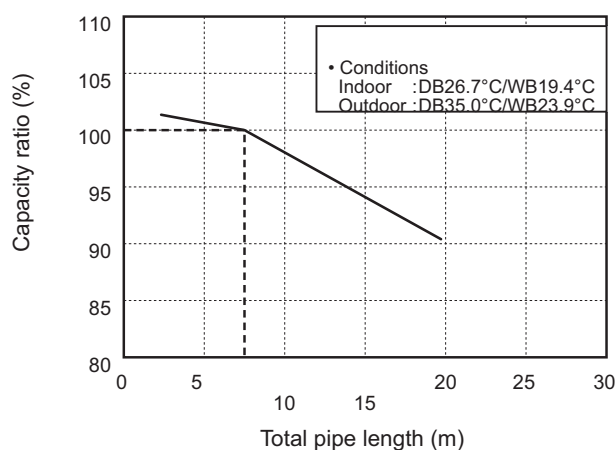
50Hz Cooling only

Model		4MYW5509AB000AA 4TYK5509AB000AA		4MYW5512AB000AA 4TYK5512AB000AA	
Connection Pipe	Length (m)	5		5	
	Gas additional charge(g/m)	15		15	
	Outer Diameter	Liquid Pipe (mm)	φ6(1/4")	φ6(1/4")	
		Gas Pipe (mm)	φ9.52(3/8")	φ9.52(3/8")	
	Max Distance	Height (m)	15	15	
		Length (m)	30	30	

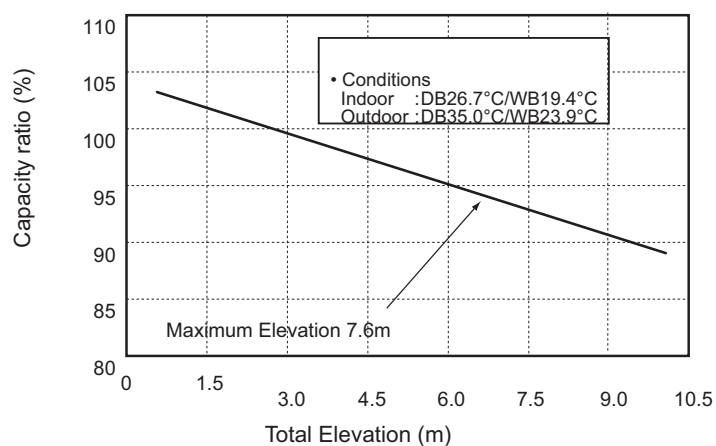
Model		4MYW5518AB000AA 4TYK5518AB000AA		4MYW5524AB000AA 4TYK5524AB000AA	
Connection Pipe	Length (m)	5		5	
	Gas additional charge(g/m)	20		20	
	Outer Diameter	Liquid Pipe (mm)	φ6	φ6	
		Gas Pipe (mm)	φ12	φ12	
	Max Distance	Height (m)	20	20	
		Length (m)	40	40	

Capacity Variation Ratio According to Pipe Length

**For 9/12Mbh models :

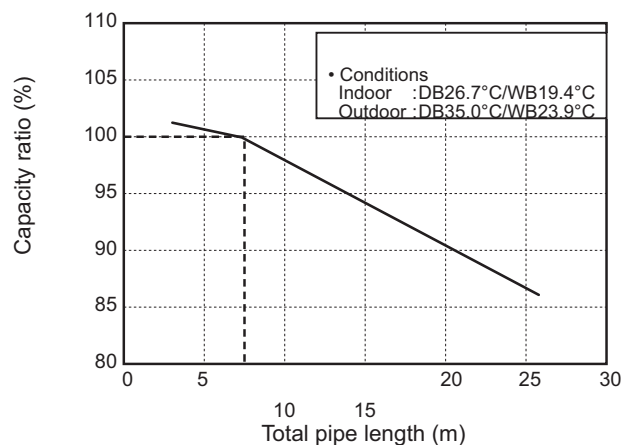


Standard pipe length 7.6m
Maximum pipe length: 20m

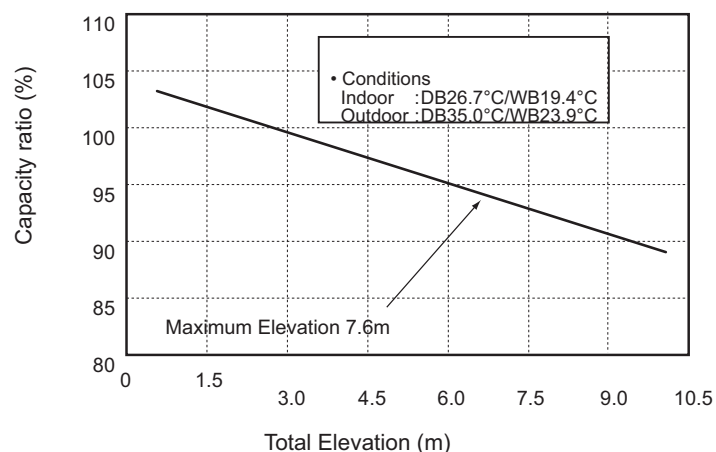


Maximum pipe length: 10m

**For 18/24Mbh models:



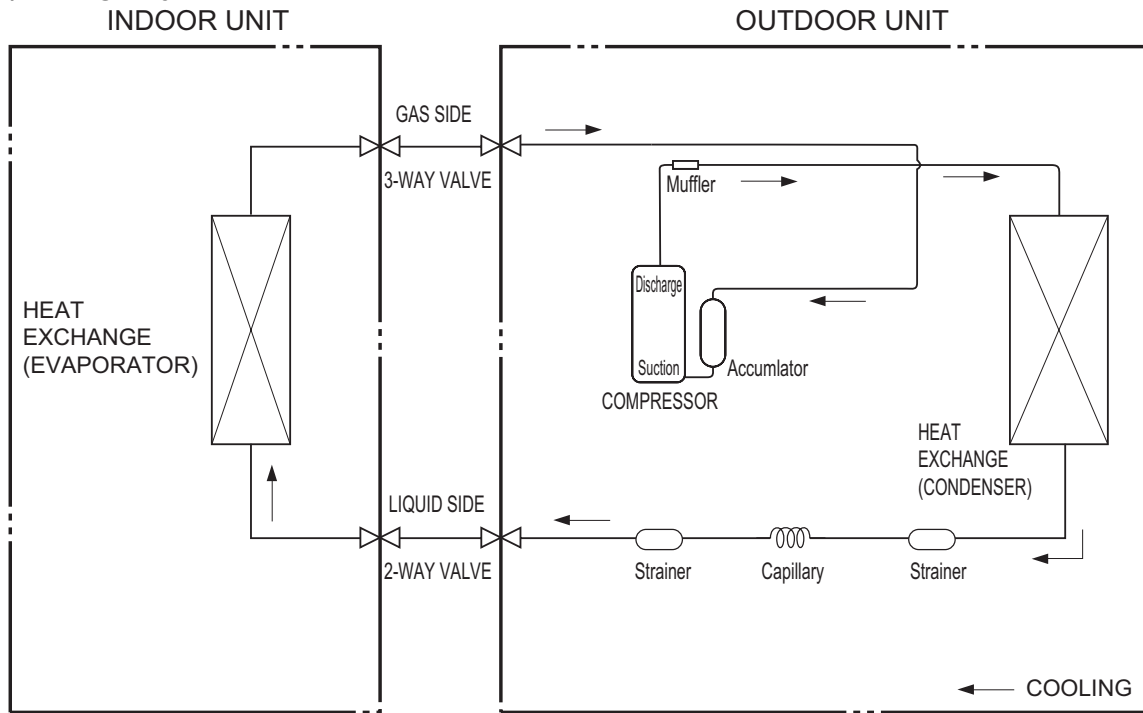
Standard pipe length 7.6m
Maximum pipe length 25m



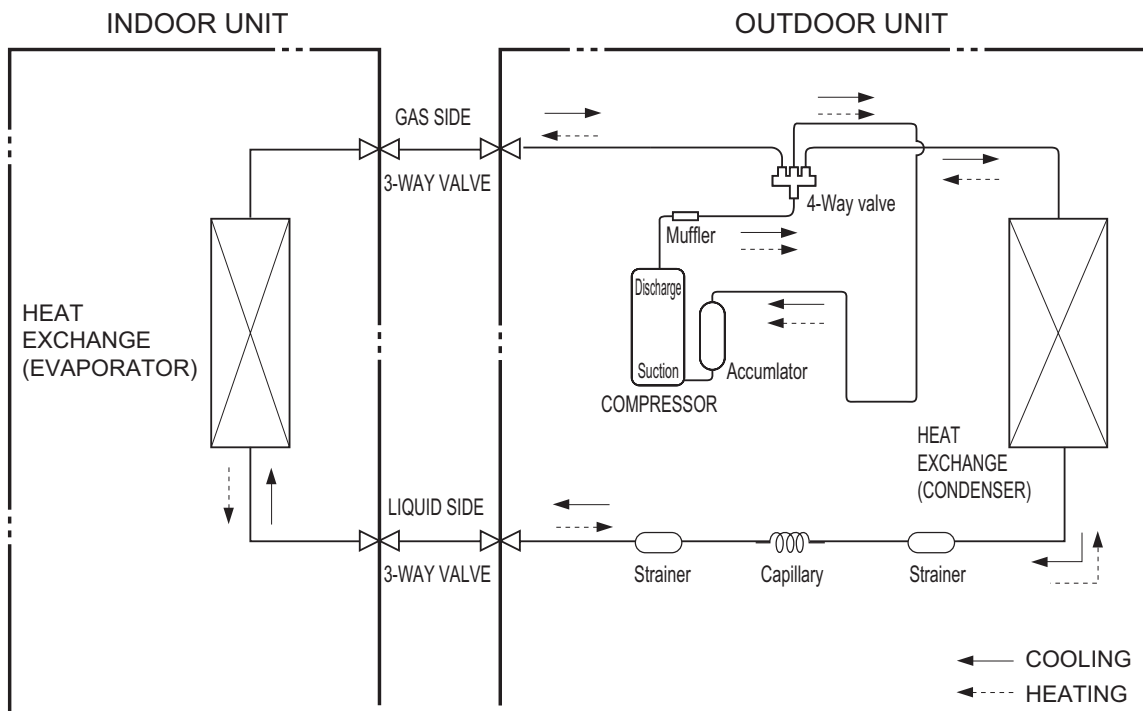
Maximum pipe length: 10m

System Diagram

(1) Cooling Only Models



(2) Cooling & Heating Models



Refrigerant pipe diameter

Liquid : 1/4" (6 mm)

Gas : 3/8" (9.52 mm)

Electrical Characteristics

60Hz Models

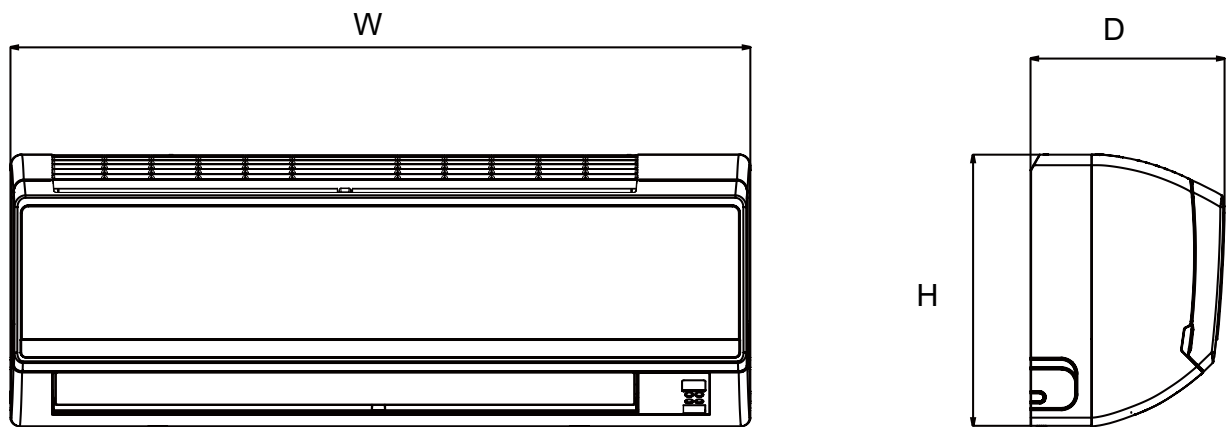
Model		Power Supply				Current		OMF	
Indoor	Outdoor	Hz	Voltage	Min.	Max.	MCA	MFA	W	FLA
4MXW5509A1	4TXK5509A1	60Hz	220V	198V	242V	8.1	15	21	0.17
4MXW5512A1	4TXK5512A1	60Hz	220V	198V	242V	8.1	15	21	0.17
4MXW5518A1	4TXK5518A1	60Hz	220V	198V	242V	11.6	25	60	0.58
4MXW5524A1	4TXK5524A1	60Hz	220V	198V	242V	11.6	25	60	0.58
4MYW5509A1	4TYK5509A1	60Hz	220V	198V	242V	8.1	15	21	0.17
4MYW5512A1	4TYK5512A1	60Hz	220V	198V	242V	8.1	15	21	0.17
4MYW5518A1	4TYK5518A1	60Hz	220V	198V	242V	11.6	25	60	0.58
4MYW5524A1	4TYK5524A1	60Hz	220V	198V	242V	11.6	25	60	0.58

50Hz Models

Model		Power Supply				Current		OMF	
Indoor	Outdoor	Hz	Voltage	Min.	Max.	MCA	MFA	W	FLA
4MXW5509AB	4TXK5509AB	50Hz	220V	198V	242V	8.1	15	30	0.23
4MXW5512AB	4TXK5512AB	50Hz	220V	198V	242V	8.1	15	30	0.23
4MXW5518AB	4TXK5518AB	50Hz	220V	198V	242V	11.6	25	60	0.58
4MXW5524AB	4TXK5524AB	50Hz	220V	198V	242V	11.6	25	60	0.58
4MYW5509AB	4TYK5509AB	50Hz	220V	198V	242V	6.8	15	30	0.23
4MYW5512AB	4TYK5512AB	50Hz	220V	198V	242V	6.8	15	30	0.23
4MYW5518AB	4TYK5518AB	50Hz	220V	198V	242V	11.6	25	60	0.58
4MYW5524AB	4TYK5524AB	50Hz	220V	198V	242V	11.6	25	60	0.58

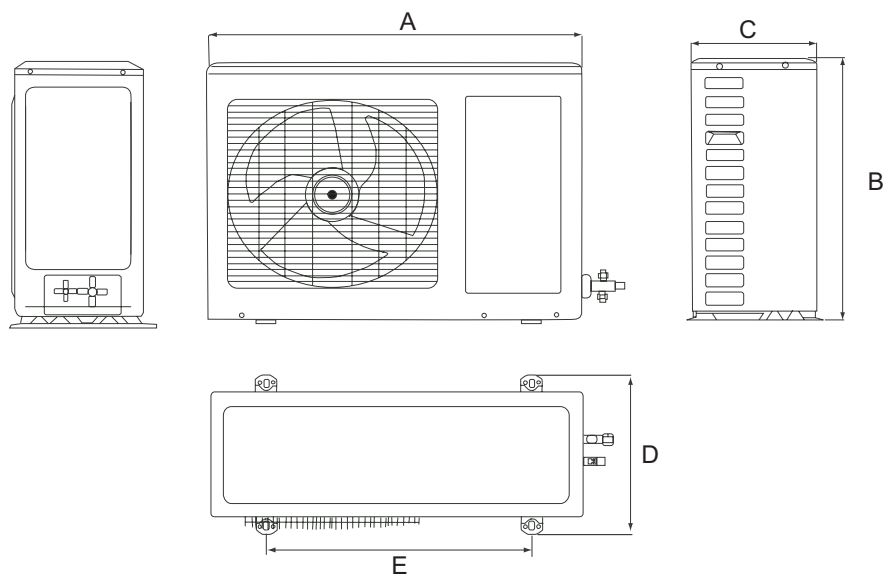
Dimensions

Indoor Units

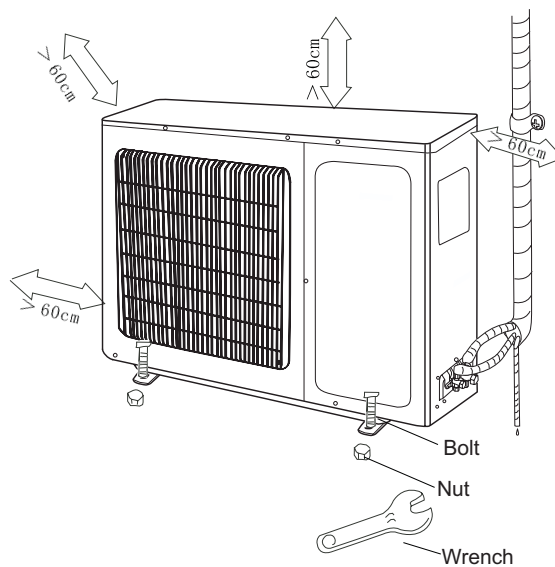


Unit	Dimensions (mm)		
	W (width)	H (height)	D (depth)
4MXW5509A	770	283	201
4MXW5512A	770	283	201
4MXW5518A	865	305	215
4MXW5524A	1008	319	321

Outdoor Units



Unit: mm



Unit	Dimensions (mm)				
	A (width)	B (height)	C (depth)	D	E
4TXK5509A	658	550	273	318	470
4TXK5512A	658	550	273	318	470
4TXK5518A	890	700	340	396	560
4TXK5524A	890	700	340	396	560

Capacity Tables

Model	4MYW5509A1/4TYK5509A1 4MXW5509A1/4TXK5509A1
-------	--

SUMMER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total Capacity (Btu/h)	9025	8636	7879	7159	7903	7643
	Sensible Capacity (Btu/h)	6770	6572	6084	5606	6275	6152
	Input (W)	647	684	703	797	1026	1119
	Compressor Frequency (Hz)	54	54	54	54	54	54
24°C D 17°C W	Total Capacity (Btu/h)	9588	9240	8575	7742	8687	8319
	Sensible Capacity (Btu/h)	7142	6947	6507	5930	6715	6490
	Input (W)	665	695	729	815	1052	1147
	Compressor Frequency (Hz)	54	54	54	54	54	54
27°C D 19°C W	Total Capacity (Btu/h)	10161	9721	8800	8455	9281	8462
	Sensible Capacity (Btu/h)	7660	7408	7067	6579	7295	6719
	Input (W)	677	715	760	855	1087	1172
	Compressor Frequency (Hz)	54	54	54	54	54	54
32°C D 23°C W	Total Capacity (Btu/h)	10421	10540	9984	9619	10438	9936
	Sensible Capacity (Btu/h)	7712	7957	7688	7551	8350	8097
	Input (W)	683	723	785	884	1172	1238
	Compressor Frequency (Hz)	54	54	54	54	54	54

WINTER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		12°C D 11°C W	7°C D 6°C W	4°C D 3°C W	0°C D -1°C W	-4°C D -6°C W	-7°C D -8°C W
15°C	Total Capacity (Btu/h)	11436	10308	12106	12854	11282	10021
	Input (W)	736	610	894	1190	1159	1142
	Compressor Frequency (Hz)	57	57	57	57	57	57
18°C	Total Capacity (Btu/h)	10418	9279	11662	12571	11204	9621
	Input (W)	765	644	928	1221	1185	1165
	Compressor Frequency (Hz)	57	57	57	57	57	57
20°C	Total Capacity (Btu/h)	10209	8900	11457	12431	11101	9679
	Input (W)	771	650	939	1230	1194	1167
	Compressor Frequency (Hz)	57	57	57	57	57	57
22°C	Total Capacity (Btu/h)	9679	8685	10893	12106	11193	9563
	Input (W)	808	659	989	1281	1235	1240
	Compressor Frequency (Hz)	57	57	57	57	57	57

Model	4MYW5509AB/4TYK5509AB 4MXW5509AB/4TXK5509AB
-------	--

SUMMER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total Capacity (Btu/h)	9230	8832	8058	7321	8082	7817
	Sensible Capacity (Btu/h)	6924	6721	6222	5734	6418	6292
	Input (W)	681	720	740	839	1080	1178
	Compressor Frequency (Hz)	54	54	54	54	54	54
24°C D 17°C W	Total Capacity (Btu/h)	9806	9450	8770	7918	8885	8508
	Sensible Capacity (Btu/h)	7304	7105	6655	6065	6868	6637
	Input (W)	700	731	767	858	1108	1207
	Compressor Frequency (Hz)	54	54	54	54	54	54
27°C D 19°C W	Total Capacity (Btu/h)	10392	9942	9000	8648	9492	8655
	Sensible Capacity (Btu/h)	7834	7576	7227	6728	7461	6871
	Input (W)	713	753	800	900	1145	1233
	Compressor Frequency (Hz)	54	54	54	54	54	54
32°C D 23°C W	Total Capacity (Btu/h)	10658	10780	10211	9838	10675	10162
	Sensible Capacity (Btu/h)	7887	8138	7862	7723	8539	8281
	Input (W)	719	761	826	931	1233	1303
	Compressor Frequency (Hz)	54	54	54	54	54	54

WINTER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		12°C D	7°C D	4°C D	0°C D	-4°C D	-7°C D
		11°C W	6°C W	3°C W	-1°C W	-6°C W	-8°C W
15°C	Total Capacity (Btu/h)	15419	13899	16323	17332	15212	13512
	Input (W)	1076	892	1306	1739	1693	1670
	Compressor Frequency (Hz)	57	57	57	57	57	57
18°C	Total Capacity (Btu/h)	14046	12512	15724	16949	15106	12972
	Input (W)	1118	942	1356	1785	1732	1703
	Compressor Frequency (Hz)	57	57	57	57	57	57
20°C	Total Capacity (Btu/h)	13765	12000	15447	16760	14968	13051
	Input (W)	1126	950	1373	1797	1745	1706
	Compressor Frequency (Hz)	57	57	57	57	57	57
22°C	Total Capacity (Btu/h)	13051	11710	14687	16323	15092	12894
	Input (W)	1180	962	1445	1872	1806	1813
	Compressor Frequency (Hz)	57	57	57	57	57	57

Model	4MYW5512A1/4TYK5512A1 4MXW5512A1/4TXK5512A1
-------	--

SUMMER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total Capacity (Btu/h)	11672	11081	10389	9297	8645	8093
	Sensible Capacity (Btu/h)	8287	8072	7762	7117	6779	6496
	Input (W)	920	1020	1113	1256	1365	1485
	Compressor Frequency (Hz)	74	74	74	74	74	74
24°C D 17°C W	Total Capacity (Btu/h)	12548	11948	11184	10437	9706	9034
	Sensible Capacity (Btu/h)	9184	8912	8499	8079	7649	7247
	Input (W)	928	1031	1126	1263	1374	1510
	Compressor Frequency (Hz)	74	74	74	74	74	74
27°C D 19°C W	Total Capacity (Btu/h)	13347	12927	11600	11269	10665	9594
	Sensible Capacity (Btu/h)	9727	9590	8792	8662	8338	7629
	Input (W)	929	1036	1130	1257	1388	1503
	Compressor Frequency (Hz)	74	74	74	74	74	74
32°C D 23°C W	Total Capacity (Btu/h)	13753	13688	13408	13006	12815	12020
	Sensible Capacity (Btu/h)	9352	9689	9867	9935	10150	9857
	Input (W)	1032	1128	1206	1359	1445	1570
	Compressor Frequency (Hz)	74	74	74	74	74	74

WINTER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		12°C D	7°C D	4°C D	0°C D	-4°C D	-7°C D
		11°C W	6°C W	3°C W	-1°C W	-6°C W	-8°C W
15°C	Total Capacity (Btu/h)	14609.8	13077	11456	12575	11483	10785
	Input (W)	922	915	908	1271	1300	1347
	Compressor Frequency (Hz)	68	68	68	68	68	68
18°C	Total Capacity (Btu/h)	13932	12421	11154	12130	11266	10613
	Input (W)	941	930	915	1322	1383	1426
	Compressor Frequency (Hz)	68	68	68	68	68	68
20°C	Total Capacity (Btu/h)	13721	12200	10921	11961	11121	10519
	Input (W)	958	940	920	1335	1379	1456
	Compressor Frequency (Hz)	68	68	68	68	68	68
22°C	Total Capacity (Btu/h)	13237	11728	10468	11251	10827	10344
	Input (W)	962	952	937	1374	1397	1499
	Compressor Frequency (Hz)	68	68	68	68	68	68

Model	4MYW5512AB/4TYK5512AB 4MXW5512AB/4TXK5512AB
-------	--

SUMMER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total Capacity (Btu/h)	12074	11464	10747	9618	8944	8372
	Sensible Capacity (Btu/h)	8573	8351	8029	7362	7013	6720
	Input (W)	896	993	1083	1223	1329	1446
	Compressor Frequency (Hz)	74	74	74	74	74	74
24°C D 17°C W	Total Capacity (Btu/h)	12981	12360	11569	10796	10041	9346
	Sensible Capacity (Btu/h)	9501	9219	8792	8358	7913	7496
	Input (W)	904	1003	1096	1230	1337	1470
	Compressor Frequency (Hz)	74	74	74	74	74	74
27°C D 19°C W	Total Capacity (Btu/h)	13807	13373	12000	11658	11033	9925
	Sensible Capacity (Btu/h)	10062	9921	9095	8961	8626	7892
	Input (W)	905	1008	1100	1224	1351	1463
	Compressor Frequency (Hz)	74	74	74	74	74	74
32°C D 23°C W	Total Capacity (Btu/h)	14227	14160	13871	13454	13256	12434
	Sensible Capacity (Btu/h)	9674	10024	10207	10278	10500	10196
	Input (W)	1004	1098	1174	1323	1407	1528
	Compressor Frequency (Hz)	74	74	74	74	74	74

WINTER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		12°C D	7°C D	4°C D	0°C D	-4°C D	-7°C D
		11°C W	6°C W	3°C W	-1°C W	-6°C W	-8°C W
15°C	Total Capacity (Btu/h)	17364	15542	13616	14946	13648	12818
	Input (W)	1158	1148	1139	1595	1632	1691
	Compressor Frequency (Hz)	68	68	68	68	68	68
18°C	Total Capacity (Btu/h)	16559	14762	13257	14417	13390	12613
	Input (W)	1181	1168	1148	1659	1736	1790
	Compressor Frequency (Hz)	68	68	68	68	68	68
20°C	Total Capacity (Btu/h)	16308	14500	12980	14216	13217	12502
	Input (W)	1202	1180	1155	1675	1731	1828
	Compressor Frequency (Hz)	68	68	68	68	68	68
22°C	Total Capacity (Btu/h)	15733	13939	12441	13372	12869	12294
	Input (W)	1207	1195	1176	1725	1754	1882
	Compressor Frequency (Hz)	68	68	68	68	68	68

Model	4MYW5518A1/4TYK5518A1 4MXW5518A1/4TXK5518A1
-------	--

SUMMER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total Capacity (Btu/h)	17835	17033	16078	14976	13652	12655
	Sensible Capacity (Btu/h)	13000	12655	12123	11546	10676	10100
	Input (W)	1263	1393	1508	1630	1754	1878
	Compressor Frequency (Hz)	68	68	68	68	68	68
24°C D 17°C W	Total Capacity (Btu/h)	18708	17975	17050	16166	15143	14068
	Sensible Capacity (Btu/h)	13563	13249	12720	12335	11690	11001
	Input (W)	1287	1530	1603	1698	1796	1898
	Compressor Frequency (Hz)	68	68	68	68	68	68
27°C D 19°C W	Total Capacity (Btu/h)	19862	19063	18200	17562	16634	15713
	Sensible Capacity (Btu/h)	14259	13972	13645	13208	12676	12147
	Input (W)	1402	1520	1660	1786	1897	2010
	Compressor Frequency (Hz)	68	68	68	68	68	68
32°C D 23°C W	Total Capacity (Btu/h)	20998	20203	19602	19172	18521	17651
	Sensible Capacity (Btu/h)	15013	14566	14252	14054	13686	13150
	Input (W)	1508	1682	1763	1917	1979	2062
	Compressor Frequency (Hz)	68	68	68	68	68	68

WINTER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		12°C D 11°C W	7°C D 6°C W	4°C D 3°C W	0°C D -1°C W	-4°C D -6°C W	-7°C D -8°C W
15°C	Total Capacity (Btu/h)	22289	20078	19294	16405	15236	14240
	Input (W)	2267	2132	1931	1841	1722	1722
	Compressor Frequency (Hz)	82	82	82	82	82	82
18°C	Total Capacity (Btu/h)	21610	19849	18879	15846	14856	13693
	Input (W)	2286	2168	1958	1846	1747	1728
	Compressor Frequency (Hz)	82	82	82	82	82	82
20°C	Total Capacity (Btu/h)	21250	19500	18492	15211	14197	13407
	Input (W)	2305	2110	1990	1860	1754	1736
	Compressor Frequency (Hz)	82	82	82	82	82	82
22°C	Total Capacity (Btu/h)	20854	19228	18037	14801	13713	13037
	Input (W)	2344	2116	2038	1882	1793	1759
	Compressor Frequency (Hz)	82	82	82	82	82	82

Model	4MYW5518AB/4TYK5518AB 4MXW5518AB/4TXK5518AB
-------	--

SUMMER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total Capacity (Btu/h)	17717	16921	15972	14877	13562	12572
	Sensible Capacity (Btu/h)	12914	12572	12043	11470	10606	10033
	Input (W)	1217	1343	1453	1571	1691	1810
	Compressor Frequency (Hz)	68	68	68	68	68	68
24°C D 17°C W	Total Capacity (Btu/h)	18585	17856	16938	16060	15043	13975
	Sensible Capacity (Btu/h)	13474	13162	12636	12253	11613	10928
	Input (W)	1241	1475	1545	1636	1732	1830
	Compressor Frequency (Hz)	68	68	68	68	68	68
27°C D 19°C W	Total Capacity (Btu/h)	19731	18938	18080	17446	16524	15609
	Sensible Capacity (Btu/h)	14165	13880	13555	13121	12592	12067
	Input (W)	1351	1465	1600	1721	1829	1937
	Compressor Frequency (Hz)	68	68	68	68	68	68
32°C D 23°C W	Total Capacity (Btu/h)	20859	20070	19473	19046	18399	17534
	Sensible Capacity (Btu/h)	14914	14470	14158	13962	13596	13063
	Input (W)	1453	1621	1699	1848	1908	1988
	Compressor Frequency (Hz)	68	68	68	68	68	68

WINTER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		12°C D	7°C D	4°C D	0°C D	-4°C D	-7°C D
		11°C W	6°C W	3°C W	-1°C W	-6°C W	-8°C W
15°C	Total Capacity (Btu/h)	22230	20025	19242	16361	15196	14202
	Input (W)	1695	1594	1444	1376	1288	1288
	Compressor Frequency (Hz)	82	82	82	82	82	82
18°C	Total Capacity (Btu/h)	21553	19796	18828	15804	14816	13656
	Input (W)	1710	1621	1464	1380	1306	1292
	Compressor Frequency (Hz)	82	82	82	82	82	82
20°C	Total Capacity (Btu/h)	21193	19448	18443	15170	14159	13371
	Input (W)	1724	1578	1488	1391	1312	1299
	Compressor Frequency (Hz)	82	82	82	82	82	82
22°C	Total Capacity (Btu/h)	20799	19177	17989	14762	13676	13002
	Input (W)	1753	1583	1524	1407	1341	1316
	Compressor Frequency (Hz)	82	82	82	82	82	82

Model	4MYW5524A1/4TYK5524A1 4MXW5524A1/4TXK5524A1
-------	--

SUMMER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total Capacity (Btu/h)	20561	19694	18538	17253	15899	13537
	Sensible Capacity (Btu/h)	15011	14672	14089	13372	12560	10897
	Input (W)	1848	2127	2296	2447	2602	2435
	Compressor Frequency (Hz)	84	84	84	84	84	84
24°C D 17°C W	Total Capacity (Btu/h)	22453	21003	19923	18573	17140	14925
	Sensible Capacity (Btu/h)	16279	15354	14682	13801	12838	11268
	Input (W)	1882	2141	2339	2486	2641	2448
	Compressor Frequency (Hz)	84	84	84	84	84	84
27°C D 19°C W	Total Capacity (Btu/h)	23660	22995	22100	20561	19015	15799
	Sensible Capacity (Btu/h)	17366	17061	16584	15583	14565	12228
	Input (W)	1913	2176	2380	2527	2686	2473
	Compressor Frequency (Hz)	84	84	84	84	84	84
32°C D 23°C W	Total Capacity (Btu/h)	24428	24702	24297	23656	22563	19457
	Sensible Capacity (Btu/h)	17099	17661	17736	17623	17147	15080
	Input (W)	1938	2202	2416	2593	2773	2609
	Compressor Frequency (Hz)	84	84	84	84	84	84

WINTER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		12°C D	7°C D	4°C D	0°C D	-4°C D	-7°C D
		11°C W	6°C W	3°C W	-1°C W	-6°C W	-8°C W
15°C	Total Capacity (Btu/h)	29608.9	27946	25531	21706	19742	19108
	Input (W)	2811	2637	2505	2405	2332	2199
	Compressor Frequency (Hz)	100	100	100	100	100	100
18°C	Total Capacity (Btu/h)	28874	27340	25590	21592	19537	19319
	Input (W)	2825	2677	2529	2422	2329	2224
	Compressor Frequency (Hz)	100	100	100	100	100	100
20°C	Total Capacity (Btu/h)	28639	27000	25285	21325	19295	19083
	Input (W)	2852	2720	2575	2454	2339	2280
	Compressor Frequency (Hz)	100	100	100	100	100	100
22°C	Total Capacity (Btu/h)	27184	26789	24447	20334	19038	18622
	Input (W)	2809	2703	2639	2502	2391	2291
	Compressor Frequency (Hz)	100	100	100	100	100	100

Model	4MYW5524AB/4TYK5524AB 4MXW5524AB/4TXK5524AB
-------	--

SUMMER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total Capacity (Btu/h)	20474	19611	18460	17180	15832	13480
	Sensible Capacity (Btu/h)	14948	14610	14030	13316	12507	10852
	Input (W)	1541	1774	1915	2041	2170	2031
	Compressor Frequency (Hz)	84	84	84	84	84	84
24°C D 17°C W	Total Capacity (Btu/h)	22359	20915	19839	18494	17068	14862
	Sensible Capacity (Btu/h)	16211	15289	14620	13743	12784	11220
	Input (W)	1570	1786	1951	2073	2202	2042
	Compressor Frequency (Hz)	84	84	84	84	84	84
27°C D 19°C W	Total Capacity (Btu/h)	23560	22898	22007	20474	18935	15733
	Sensible Capacity (Btu/h)	17293	16989	16515	15518	14504	12176
	Input (W)	1595	1814	1985	2108	2240	2063
	Compressor Frequency (Hz)	84	84	84	84	84	84
32°C D 23°C W	Total Capacity (Btu/h)	24325	24598	24195	23557	22468	19375
	Sensible Capacity (Btu/h)	17027	17586	17662	17549	17074	15016
	Input (W)	1616	1836	2015	2163	2313	2176
	Compressor Frequency (Hz)	84	84	84	84	84	84

WINTER		OUTDOOR TEMPERATURE DRY					
Indoor conditions		12°C D 11°C W	7°C D 6°C W	4°C D 3°C W	0°C D -1°C W	-4°C D -6°C W	-7°C D -8°C W
15°C	Total Capacity (Btu/h)	26192	24721	22585	19201	17463	16902
	Input (W)	1995	1871	1778	1707	1655	1561
	Compressor Frequency (Hz)	100	100	100	100	100	100
18°C	Total Capacity (Btu/h)	25542	24184	22637	19100	17282	17089
	Input (W)	2004	1900	1794	1718	1652	1578
	Compressor Frequency (Hz)	100	100	100	100	100	100
20°C	Total Capacity (Btu/h)	25334	23884	22367	18864	17068	16881
	Input (W)	2024	1930	1827	1741	1660	1618
	Compressor Frequency (Hz)	100	100	100	100	100	100
22°C	Total Capacity (Btu/h)	24046	23697	21625	17987	16841	16473
	Input (W)	1993	1918	1873	1776	1696	1625
	Compressor Frequency (Hz)	100	100	100	100	100	100

Wiring Diagrams

Figure 1 4MYW5509A1 -4TYK5509A1

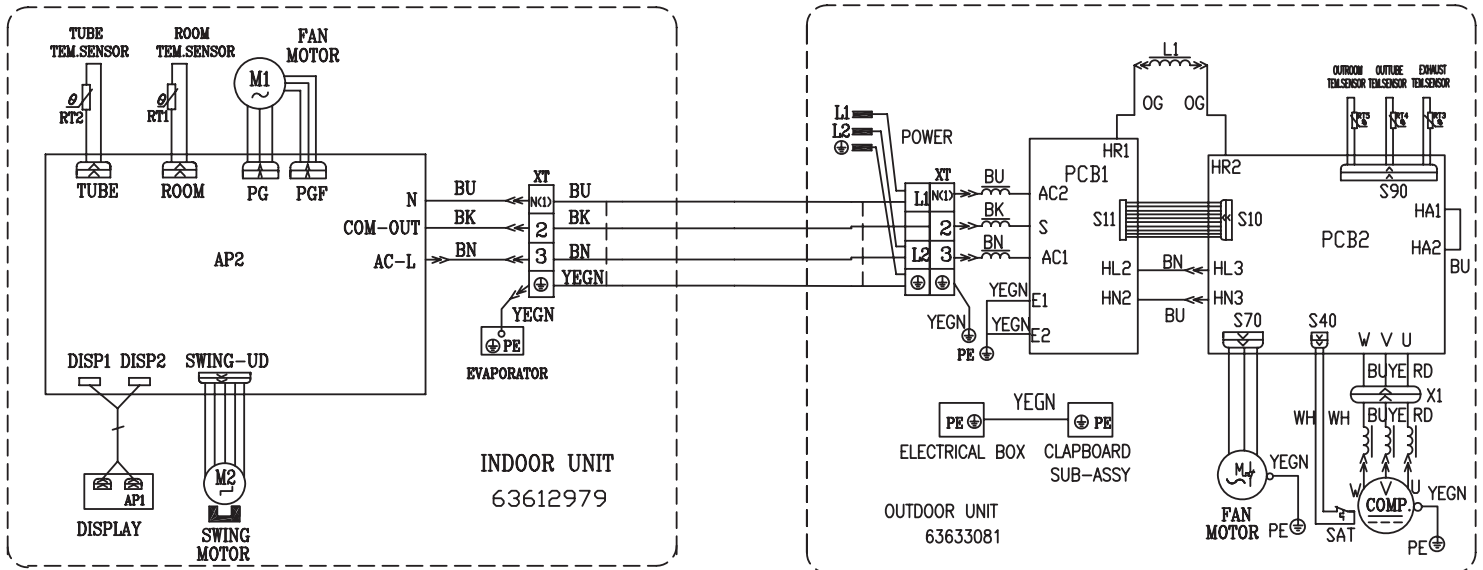


Figure 2. 4MYW5512A1 - 4TYK5512A1

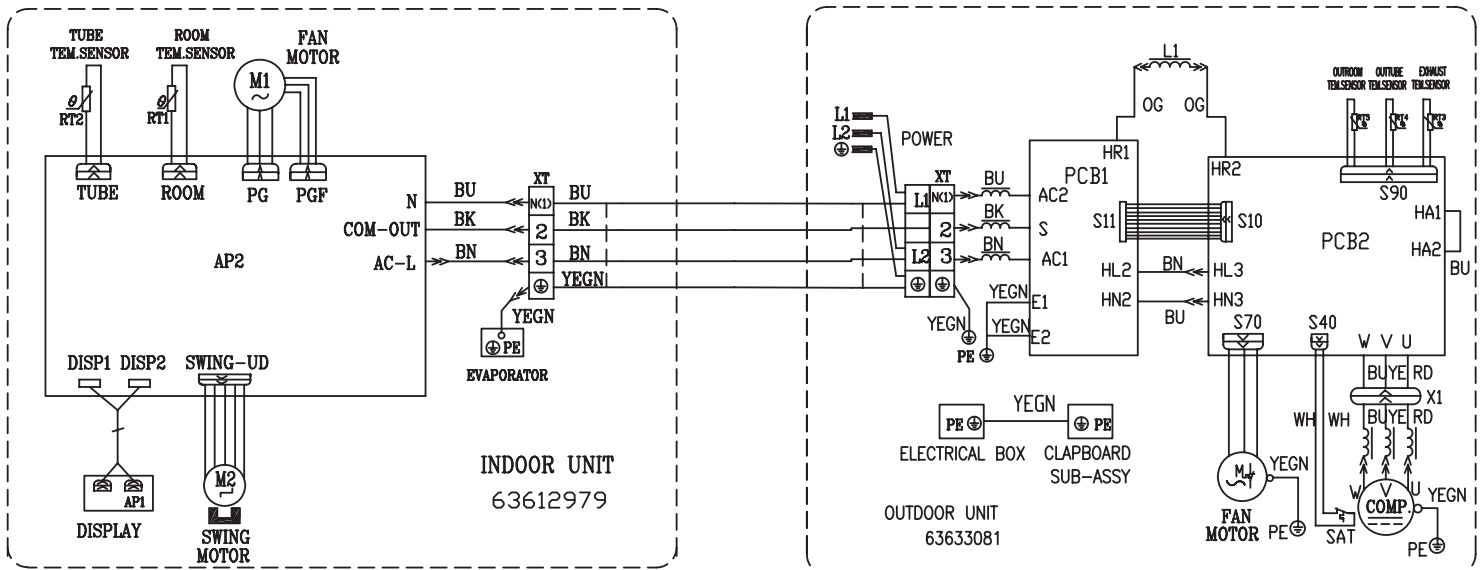


Figure 3. 4MYW5518A1 - 4TYK5518A1

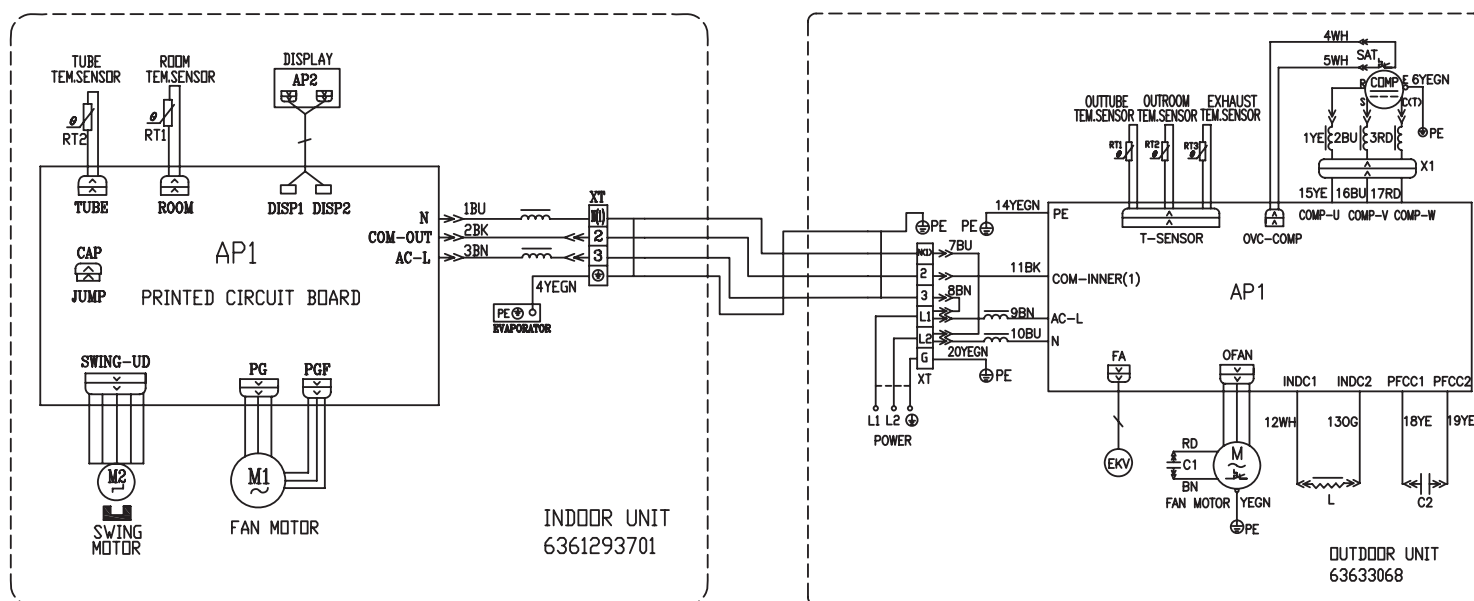


Figure 4. 4MYW5524A1 - 4TYK5524A1

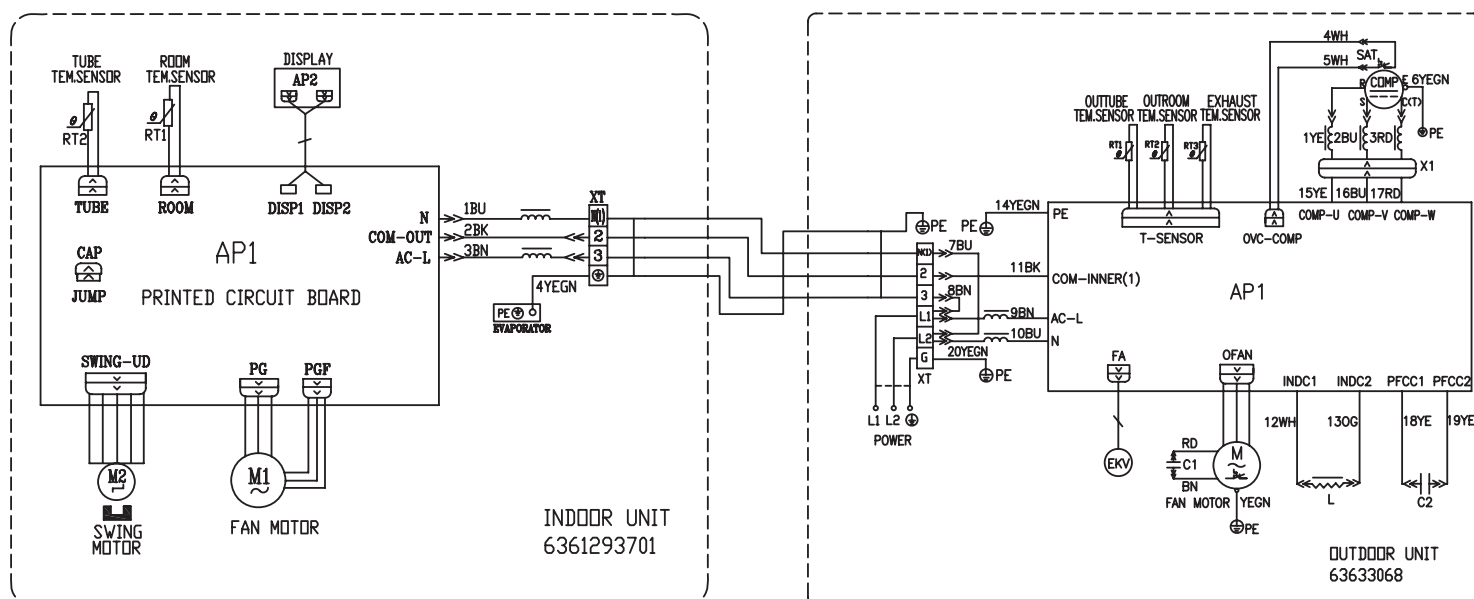


Figure 5. 4MXW5509A1 - 4TXK5509A1

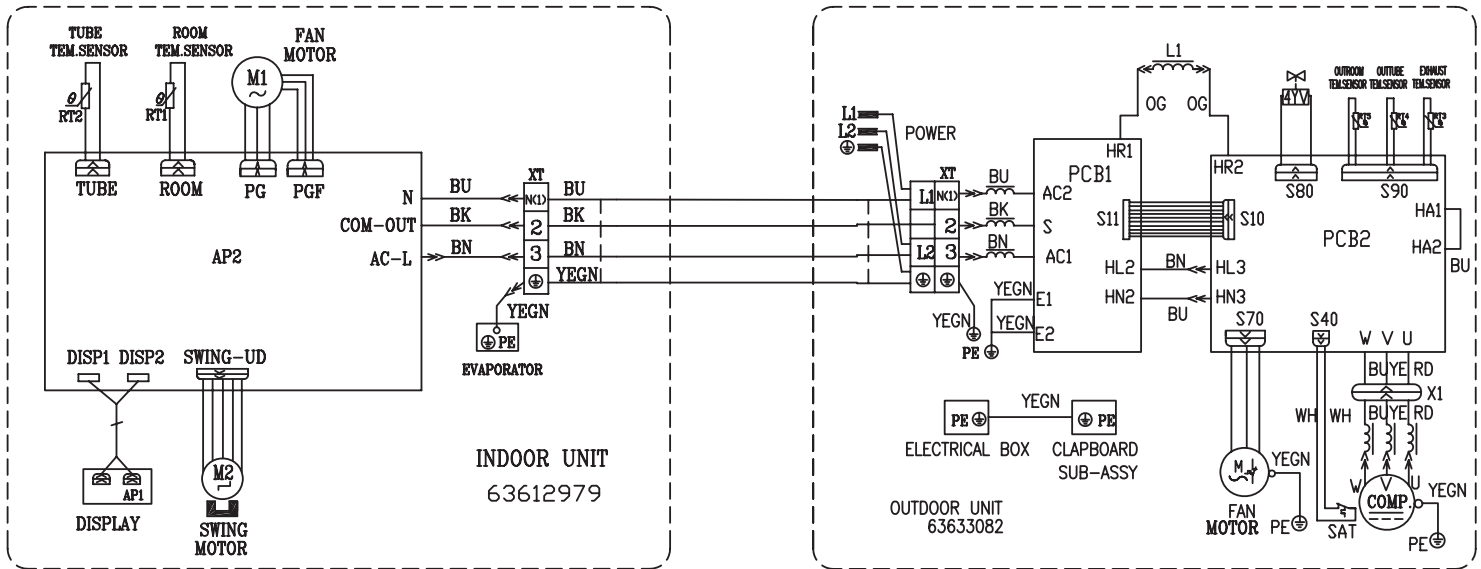


Figure 6. 4MXW5512A1 - 4TXK5512A1

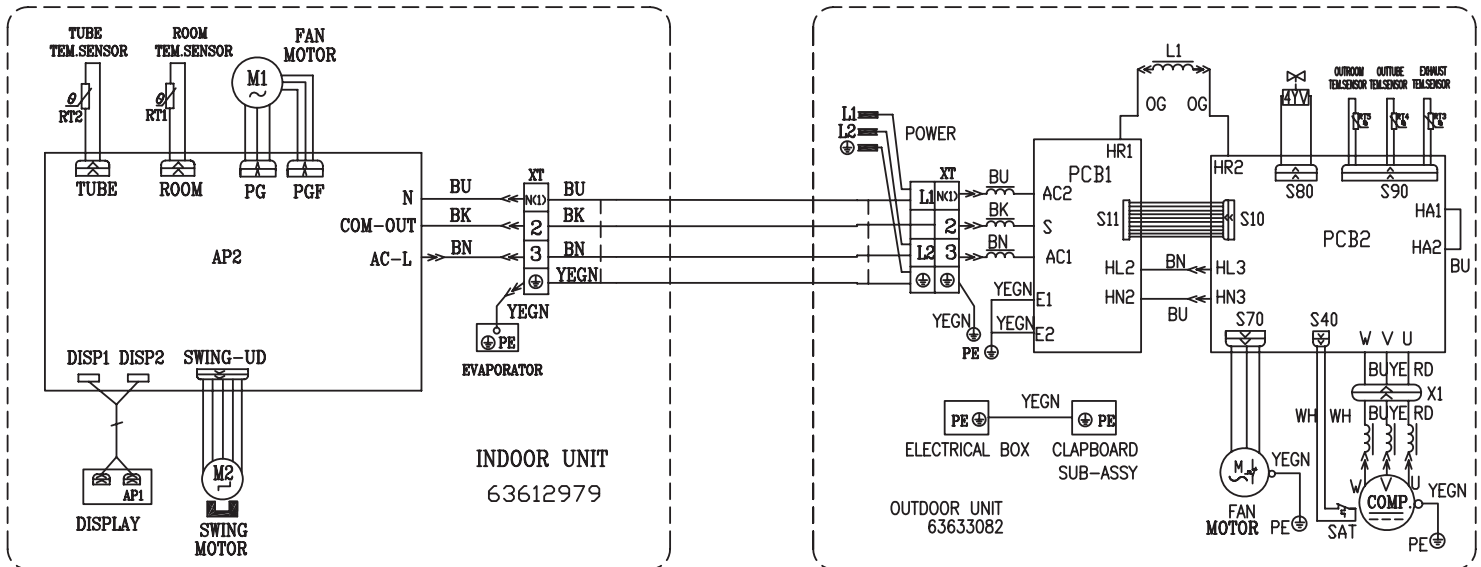


Figure 7. 4MXW5518A1 - 4TXK5518A1

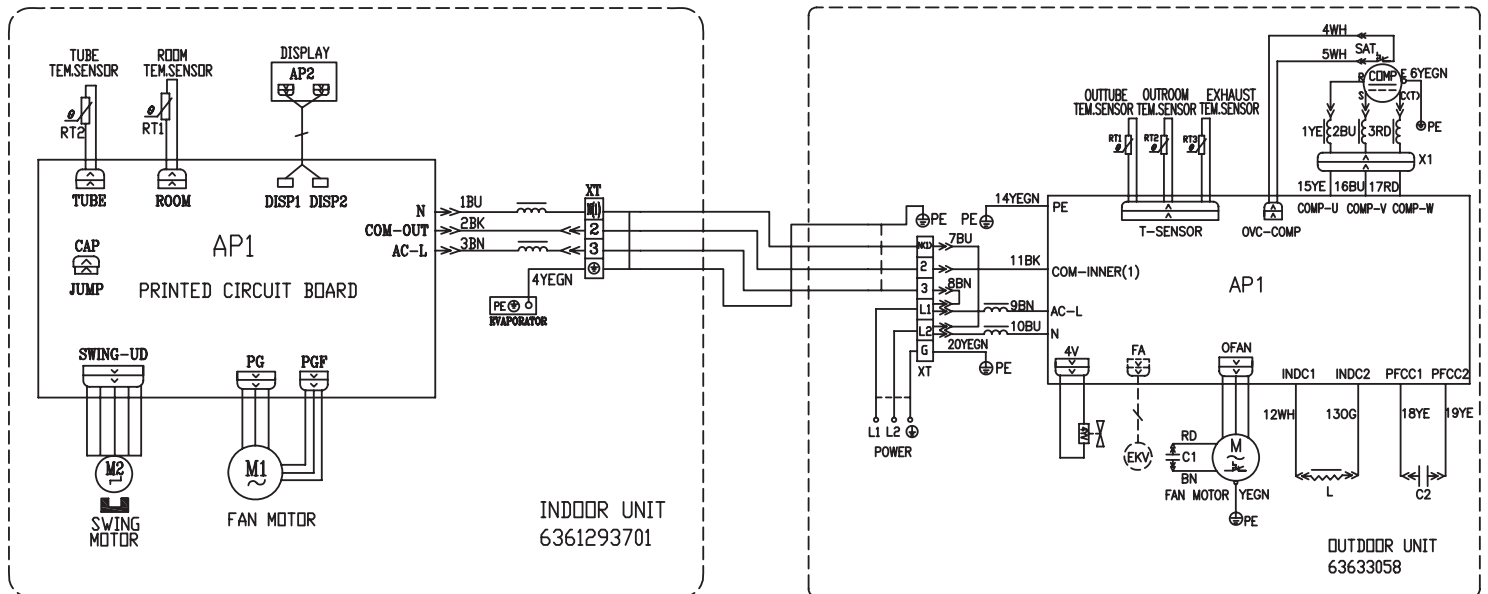
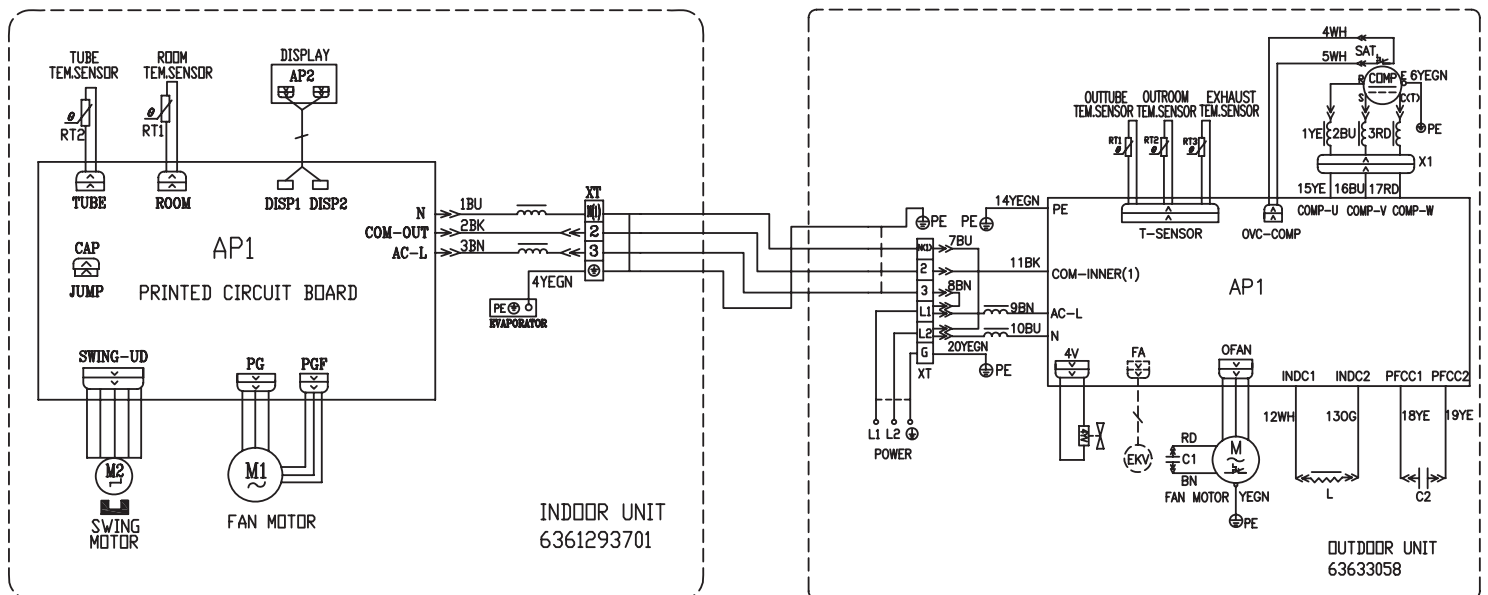
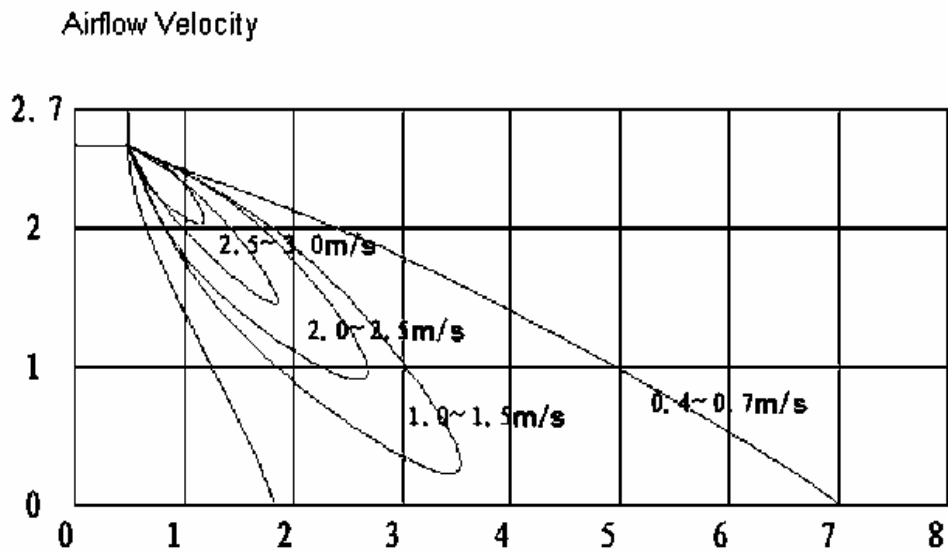


Figure 8. 4MXW5524A1 - 4TXK5524A1



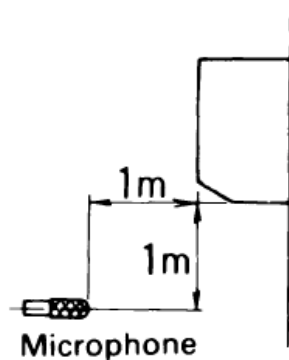
Air Velocity Distribution



Sound Level

Test condition

■ Wall Mounted Type



(V0477)

Test value

60Hz models

Unit Number	Model		Indoor Sound Pressure level (dB(A))			
	Outdoor	Indoor	SH	H	M	L
1	4TXK5509A1	4MXW5509A1	43	38	32	26
2	4TXK5512A1	4MXW5512A1	44	39	33	28
3	4TXK5518A1	4MXW5518A1	48	43	38	34
4	4TXK5524A1	4MXW5524A1	49	43	39	34
7	4TYK5509A1	4MYW5509A1	43	38	32	26
8	4TYK5512A1	4MYW5512A1	44	39	33	28
9	4TYK5518A1	4MYW5518A1	48	43	38	34
10	4TYK5524A1	4MYW5524A1	49	43	39	34

50Hz models

Unit Number	Model		Indoor Sound Pressure level (dB(A))			
	Outdoor	Indoor	SH	H	M	L
1	4TXK5509AB	4MXW5509AB	43	36	30	24
2	4TXK5512AB	4MXW5512AB	44	37	31	25
3	4TXK5518AB	4MXW5518AB	45	40	37	32
4	4TXK5524AB	4MXW5524AB	46	42	37	32
5	4TYK5509AB	4MYW5509AB	/	36	30	24
6	4TYK5512AB	4MYW5512AB	/	37	31	25
7	4TYK5518AB	4MYW5518AB	45	40	37	32
8	4TYK5524AB	4MYW5524AB	46	42	37	32

Operating Functions

Operation of remote controller

Temperature parameters

- Room set temperature (T set)
- Room ambient temperature (T amb)

Fundamental functions

After powered on, no matter when the compressor is started, the time interval between two startups cannot be less than 3 minutes.

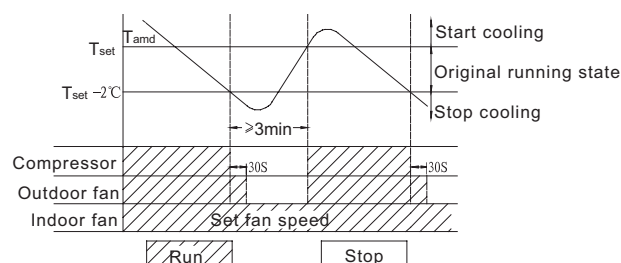
COOL mode

The condition and process of cooling

- If T amb is superior or equal T set, COOL mode will act, the compressor and outdoor fan will run, and the indoor fan will run at the set speed.
- If T amb is inferior or equal T set -2 °C, the compressor will stop, the outdoor fan will delay 30 seconds to stop, and the indoor fan will run at the set speed.
- If T set -2°C < T amb < Tset, the unit will keep running in the previous mode.

In this mode, the reversal valve will not be powered on and the temperature setting range is 16°C~30°C.

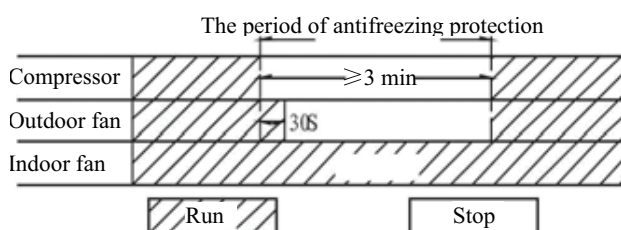
The unit will adjust the running frequency of the compressor automatically according to the change of ambient temperature.



Protection function

- Antifreezing protection

Under cooling and drying mode, after the compressor run about 10 mins, when the pipe temp.of the evaporator is to low, the compressor will stop, the outdoor fan will stop after 30s, under cooling mode the indoor fan and swing motor will keep running in the original mode, under drying mode the indoor fan will run at low fan speed, the swing motor will run in the original mode. When antifreezing protection is eliminated and the compressor has stopped for 3 minutes, the unit will resume running in the original mode.



Overcurrent protection

If total current is high, the compressor will run in limited or dropped frequency. When total current goes on rising over the stated value, the compressor will stop, the outdoor fan will delay 30 seconds to stop.

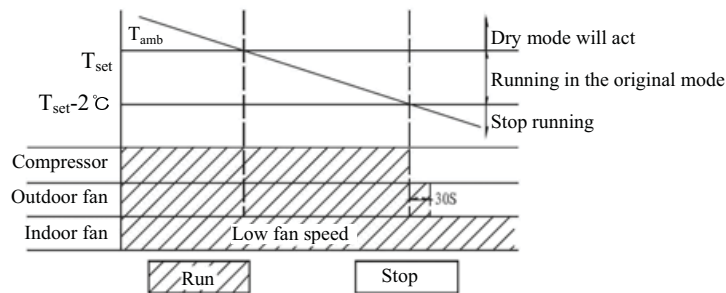
DRY mode

The condition and process of drying

- If $T_{amb} > T_{set}$, DRY mode will act, the indoor fan, outdoor fan and compressor will run, and indoor fan will run at low speed.
- If $T_{set} - 2^{\circ}\text{C}$ inferior or equal T_{amb} inferior or equal T_{set} , the unit will keep running in the original mode.
- If $T_{amb} < T_{set} - 2^{\circ}\text{C}$, the compressor will stop running, the outdoor fan will delay 30 seconds to stop and the indoor fan will run at low speed.

In this mode, the reversal valve will not be powered on and the temperature setting range is $16^{\circ}\text{C} \sim 30^{\circ}\text{C}$.

The unit will adjust the running frequency of the compressor automatically according to the change of ambient temperature.



Protection

Protection is the same with that in COOL mode.

HEAT mode

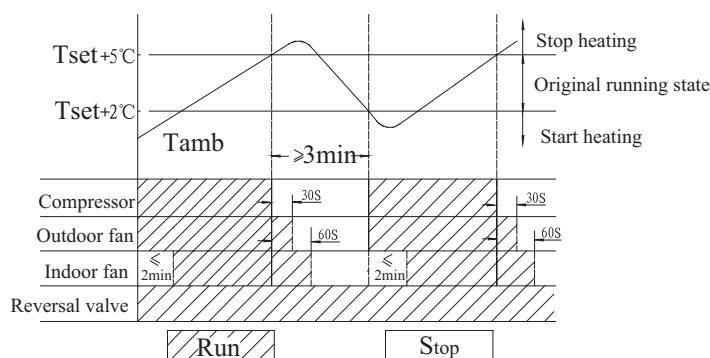
The condition and process of heating

- If T_{amb} inferior or equal $T_{set} + 2^{\circ}\text{C}$, HEAT mode will act, the compressor, outdoor fan and 4-way valve will run simultaneously, the indoor fan will delay at most for 2min to run.
- If $T_{set} + 2^{\circ}\text{C} < T_{amb} < T_{set} + 5^{\circ}\text{C}$, the unit will keep running in the original mode.
- If T_{amb} superior or equal $T_{set} + 5^{\circ}\text{C}$, the compressor will stop, the outdoor fan will delay 30 sec to stop and the indoor fan will blow for 60 sec at the original speed and then stop.

In this mode, the temperature setting range is $16^{\circ}\text{C} \sim 30^{\circ}\text{C}$.

The air conditioner will adjust the running frequency of the compressor automatically according to the change of ambient temperature.

When the unit is turned off in HEAT mode, or switched to other mode from HEAT mode, the four-way valve will be powered off 2min later after the compressor stops.



The condition and process of defrosting

When frost is detected in the condenser, the system will enter into defrosting state. When defrosting starts, the compressor and indoor fan will stop, and the outdoor fan and four-way valve will delay 30 seconds to stop. The compressor will start again after 30s and. When the compressor has run for 8mins, the compressor will stop.

After 30 seconds the four-way valve opens and after another 60 seconds, the compressor and outdoor fan resume running. The indoor fan will delay 2 minutes to run at the latest and temperature on the display panel shows H1.

Under heating mode, when the compressor is stopped by malfunction, the indoor fan will blow at low fan speed for 60s and then stop.

Protection

- Overcurrent protection

If total current is high, the compressor will run in limited or dropped frequency. When total current go on rising over the stated value, the compressor will stop, the outdoor fan will delay 30 seconds to stop.

FAN mode

In this mode, the indoor fan will run the fan in High, Med, Low and Auto mode. The compressor, outdoor fan and four-way valve will stop.

In this mode, the temperature setting range is 16~30°C.

The unit will adjust the running frequency of the compressor automatically according to the change of ambient temperature.

AUTO mode

In this mode, the system selects COOL, HEAT and FAN mode automatically according to the change of ambient temperature. The protection function is the same with that of COOL/HEAT mode.

The unit will adjust the running frequency of the compressor automatically according to the change of ambient temperature.

Other control

ON / OFF

Each time the On/Off button of the remote controller is pressed, the On/Off state will switch once.

MODE selection

Press the MODE button on the remote controller to select and display the following modes: AUTO, COOL, DRY, FAN, and HEAT.

TEMP. setting button

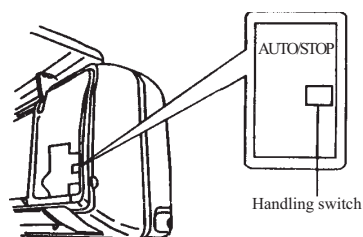
Each time TEMP + or TEMP - button is pressed, the set temperature will be increased or decreased by 1°C.

Adjusting range is 16~30°C . In AUTO mode, this button does not function.

AUTO key

When the unit is stop, press AUTO key, the unit will run under AUTO mode and the swing motor starts.

When the unit is running, press AUTO key, the unit will be stopped.

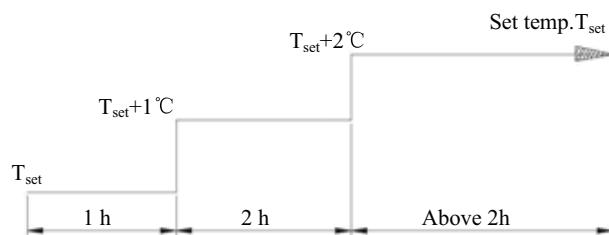


Timer control

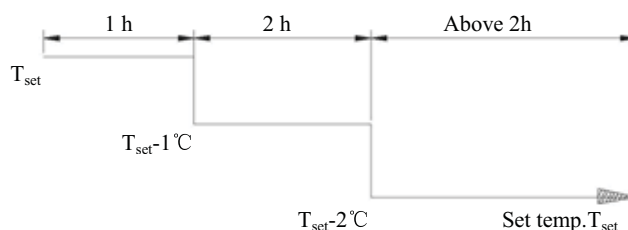
The unit is turned on or off according to the timer set by the remote controller.

Sleep control

When the air conditioner is in COOL or DRY mode, after Sleep mode has been set properly, the preset Tset will be increased by 1°C after the sleep program has run for 1 hour, and Tset will be increased by another 1°C after 2 hours. Tset has been increased by 2°C total in two hours. Then the unit will run at this set temperature and at the set speed.



When the air conditioner is in HEAT mode, after Sleep mode has been set properly, the preset Tset will be decreased by 1°C after the sleep program has run for 1 hour, and Tset will be decreased by another 1°C after 2 hours. Tset has been increased by 2°C totally in two hours. Then the unit will run at this set temperature and at the set speed.



In AUTO or FAN mode, the setting temp. will not change.

Indoor fan control

Use the remote controller to set the indoor fan running at HIGH, MED or LOW speed. At this time the fan will run at high, medium or low speed. It can also be set to AUTO and the indoor fan will select fan speed(HIGH, MED or LOW) automatically according to ambient temperature.

There are at least 3 mins and 30s delay for fan speed shift.

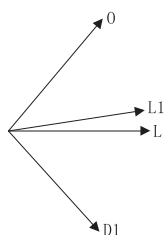
Power supply for outdoor unit

The power supply for outdoor unit is turned on in AUTO, COOL, HEAT and DRY mode under turn-on state.

The power supply for outdoor unit will delay 3 minutes to turn off under turn-off state or in the FAN mode under turn-on state.

Swing control

Use the SWING button of the wireless remote control to control SWING On and Off. Swing will only act when indoor fan is running. After power on, the swing motor turns back to 0 position and closes the air outlet vent; if it does not preset swing, after the unit is turned on, it will turn to the max. air outlet D1 position; then turn back to L position under COOL mode. Under HEAT mode, the guide louver stays at D1; when in swinging state, it will swing between L1 and D1 position. When the unit is turned off, it will turn back to 0 position.



Buzzer control

When the unit is power on or receives remote control signal or the auto key be pressed, the buzzer will give out a beep.

Power-off memory function

Contents of memory: Mode; Swing; Set fan speed, Set temperature, Timing etc.

Under turn-on state, when power off and power on, the power supply for outdoor unit will be turn on after 3 mins.

Under turn-off state, when power off and power on, the power supply for outdoor unit will be turn on immediately.

Delay Protection of Compressor

Under COOL; DRY; HEAT mode, before each time the compressor starts, there will be 3 mins delay.

Common protection function in each mode

Overload protection

Ttube: at cooling, it detects the temp. of outdoor heat exchanger, at heating, it detects the temp. of indoor heat exchanger.

When Ttube is detected high, the compressor will run in limited frequency. When Ttube goes on rising over the stated value, the compressor will stop; under AUTO HEAT or HEAT mode, indoor fan will blow 60s at low fan speed and then stop; under other mode, the indoor fan will run at set speed.

Compressor discharge temperature protection

When discharge temperature is too high to over the stated value, the compressor will stop, and When discharge temp. resume normal and the compressor has stopped for 3 minutes, the unit will resume its original operating status.

Communication malfunction

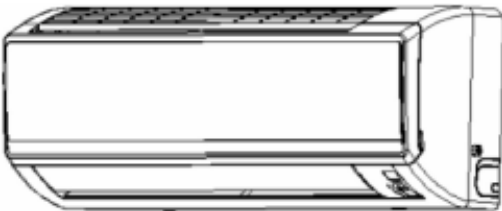
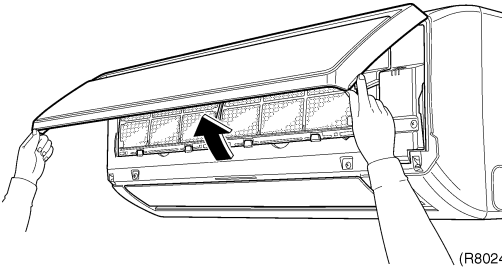
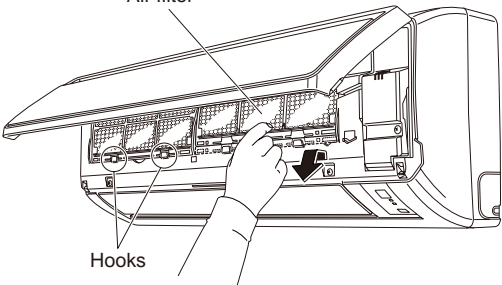
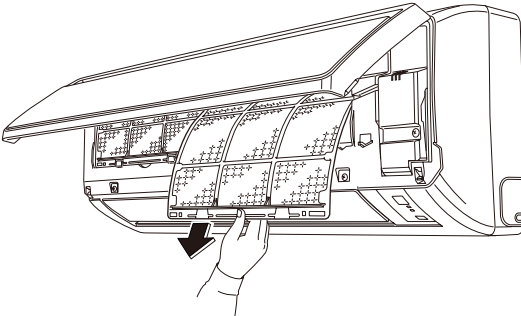
When not receiving correct signal for 3 minutes, the unit has communication malfunction and the outdoor unit stops, it is the same as normal stop when meeting the set temp.

Module protection

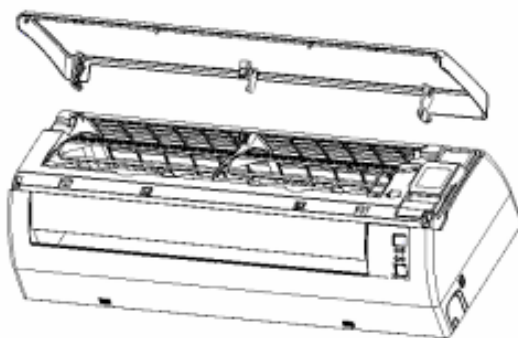
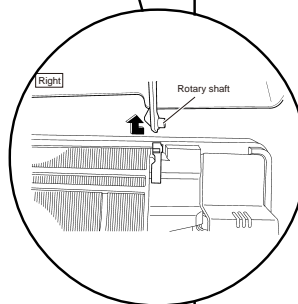
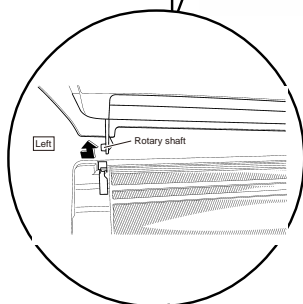
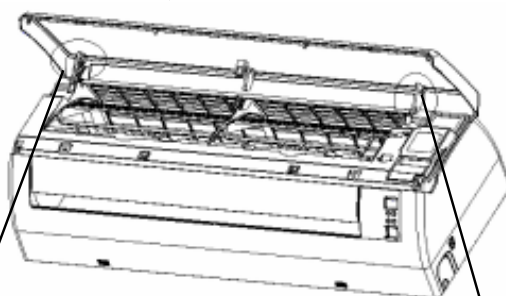
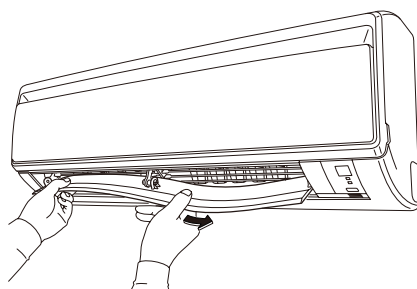
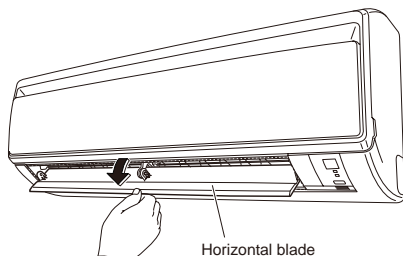
When module is in protection, the compressor will stop, after the compressor has stopped for 3 minutes, it will resume to running. During module protection period, the indoor unit displays malfunction and the whole unit stops.

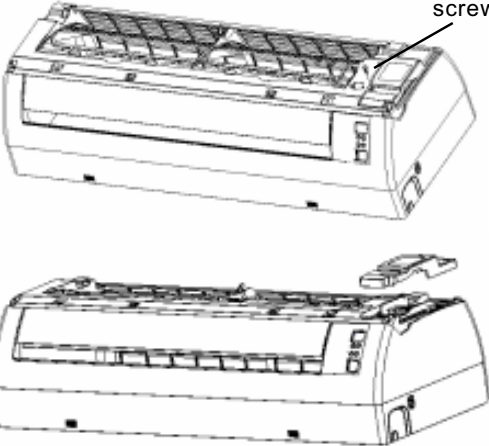
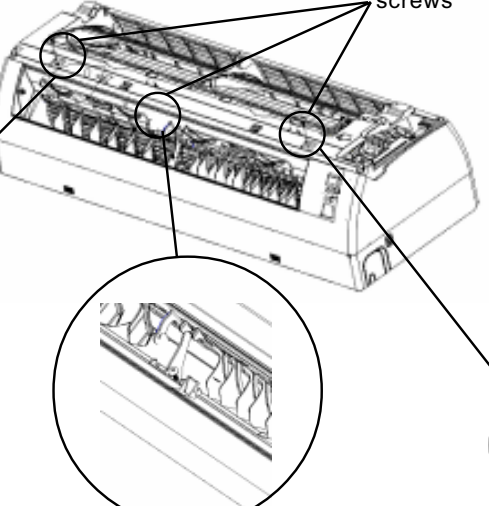
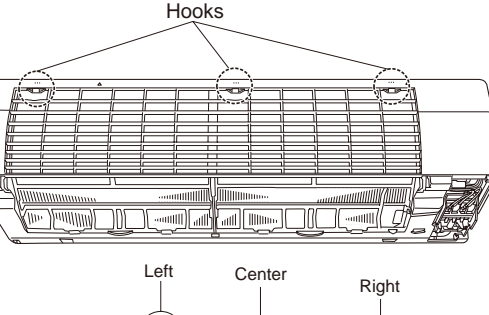
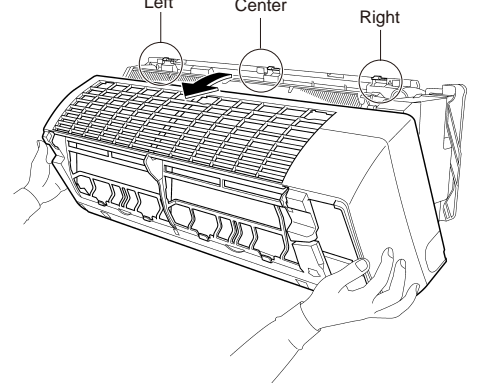
Disassembly Procedures

Removal Procedure of Indoor Unit

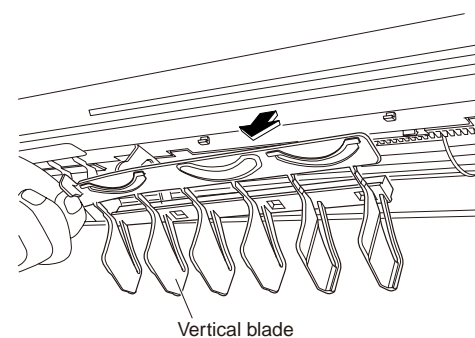
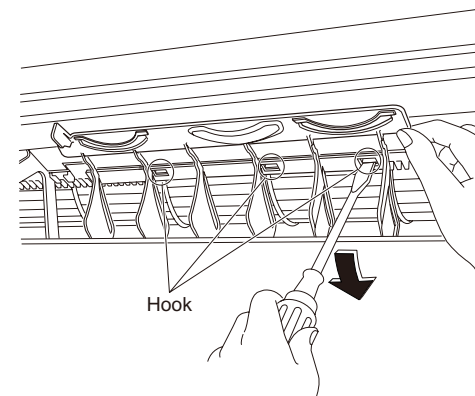
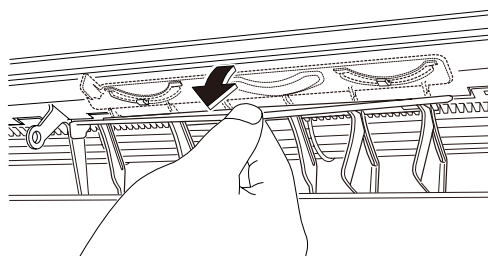
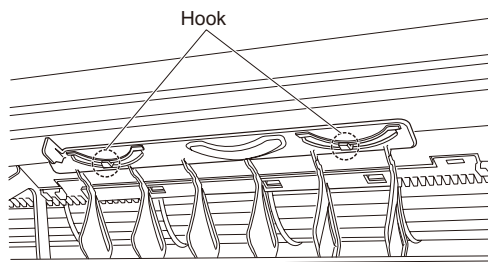
Step	Procedure	Points
1. External features		<ul style="list-style-type: none"> ■ If ON/OFF button is kept pushing for 5 seconds, a forced cooling operation will be carried out for approx. 15 minutes.
2. Removing air filters		
1	<p>Pull protrusions on left and right sides of panel with fingers and open front grille all the way.</p>  <p>(R8024)</p>	<ul style="list-style-type: none"> ■ Left and right filters are interchangeable. ■ To re-install, insert air filter along the guide.
2	<p>Lift center section of air filter and disengage hooks.</p>  <p>Air filter Hooks</p>	
3	<p>Remove air filter by pulling forward.</p> 	

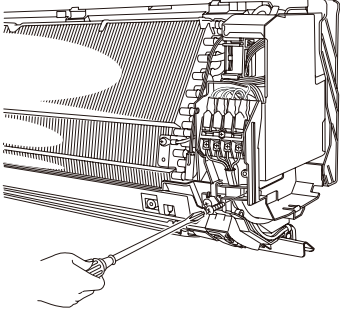
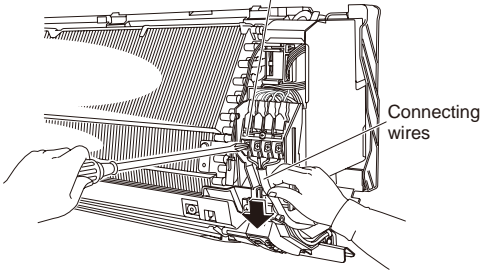
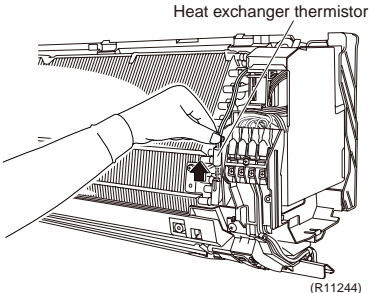
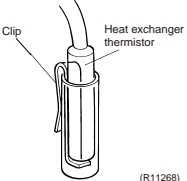
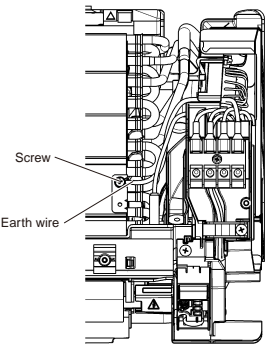
Step	Procedure	Points
3. Opening and shutting front panel		
1	Pull down horizontal blade by pulling forward.	
2	Remove horizontal blade by pulling forward.	<p>Support the front panel by one hand, while remove the rotation axis at the upper center by the other hand.</p> <p>■ And pull out the front panel forward to remove.</p>
3	<p>Hook a finger onto the projection part provided on the both sides of the unit's panel and open up the panel to the position higher than it will stop.</p>	<p>■ Left and right filters are interchangeable.</p> <p>■ To re-install, insert air filter along the guide.</p>
4	<p>Remove the front panel from the unit.</p>	

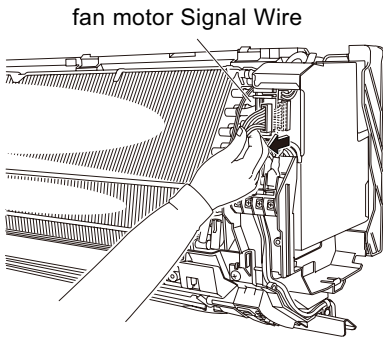
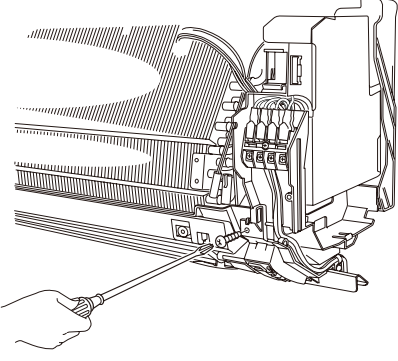
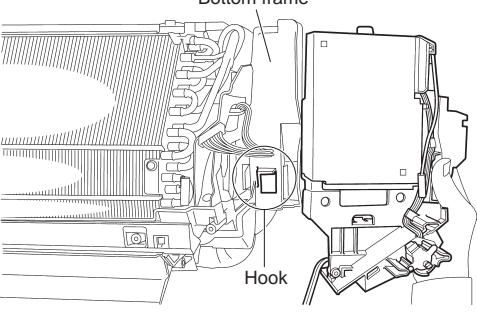


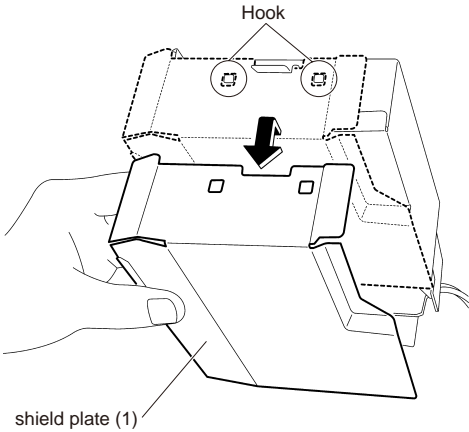
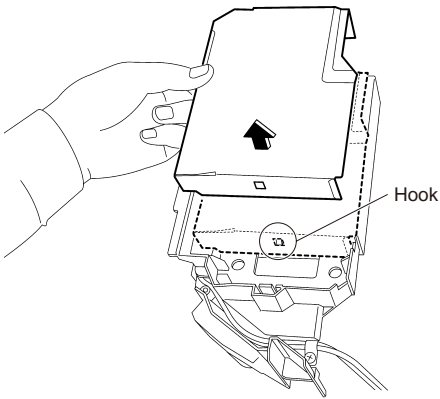
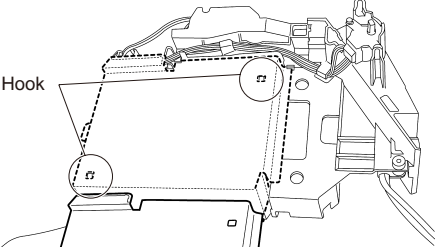
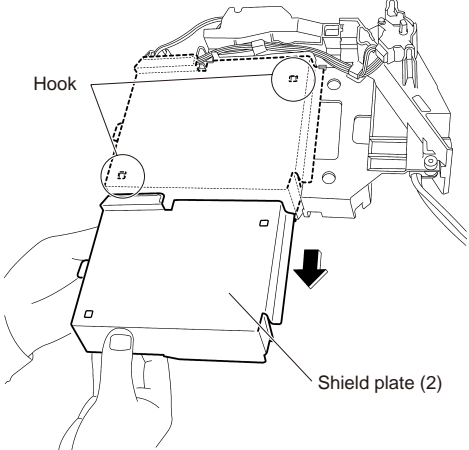
Step	Procedure	Points
4. Opening and closing of service cover		
1	<p>Remove a service cover mounting screw. Open service cover upward.</p>	 <p>screws</p> <ul style="list-style-type: none"> ■ A switch for field setting is not provided in particular.
5. Removal of front grille assembly		
1	<p>Remove the 3 screws, in the right and the left, which fix the main body with the front grille.</p>	 <p>screws</p> <ul style="list-style-type: none"> ■ Screw stoppers inside the flap which were equipped in the existing models are not provided.
2	<p>Disengage the 3 hooks on the upper part. In case that the hooks are not pressed from above, remove the front panel and then remove the grille while pushing the hook through a clearance between the front grille and the heat exchanger.</p>	 <p>Hooks</p> <ul style="list-style-type: none"> ■ At the upper part there are 2 hooks in the left and the right.
3	<p>The front grille can be removed in a manner to pull out the upper part forward and lift up the lower part.</p>	 <p>Left Center Right</p> <ul style="list-style-type: none"> ■ Disengage the hooks by pressing knobs with a screwdriver.

Step	Procedure	Points
6. Remove the Vertical blade		<ul style="list-style-type: none"> ■ A set of vertical blade has 6 fins as on ASSY. (It is impossible to replace only one fin.) ■ The set of vertical blades is not marked for difference between right and left. ■ Repeat the same procedure to remove the vertical blade on the other side.
1	Unfasten the hooks at the upper 2 positions.	
2	Unfasten the 3 hooks at the shaft mounting part by pressing them with a flat screwdriver.	
3	Remove the vertical blade.	

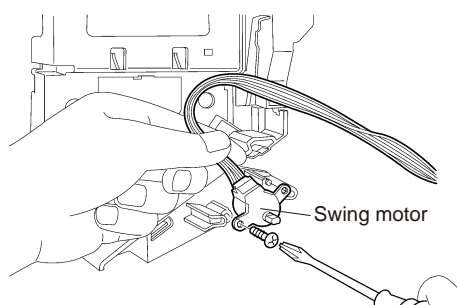
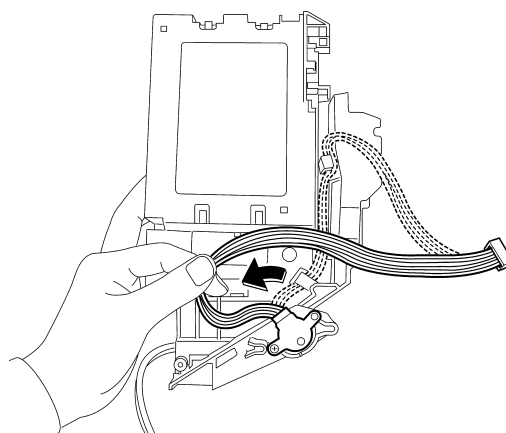
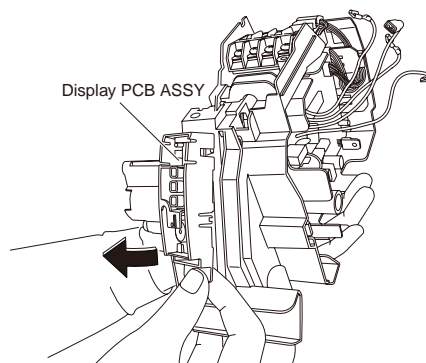
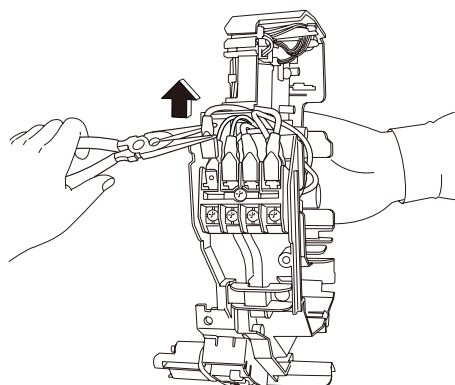


Step	Procedure	Points
7. Remove electrical box		
1	Disconnect the Cable clamp 	<ul style="list-style-type: none"> ■ Pay attention to the direction of the retainer of the thermistor so that the retainer will not touch the harness (same as the existing models.)
2	Disconnect the connection wires. 	
3	Remove Temperature Sensor 	<ul style="list-style-type: none"> ■ Take care not to lose the clip of thermistor.  <p>(R11268)</p>
4	Remove a screw on the terminal board. 	<ul style="list-style-type: none"> ■ The electrical box can be removed instead of disengaging the terminal board.

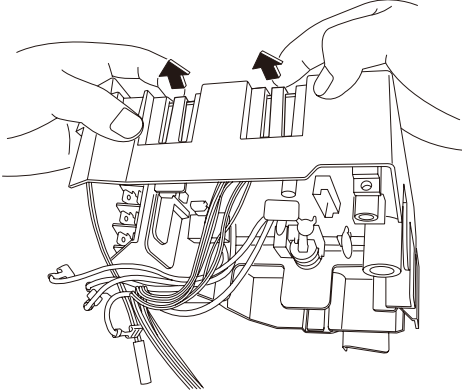
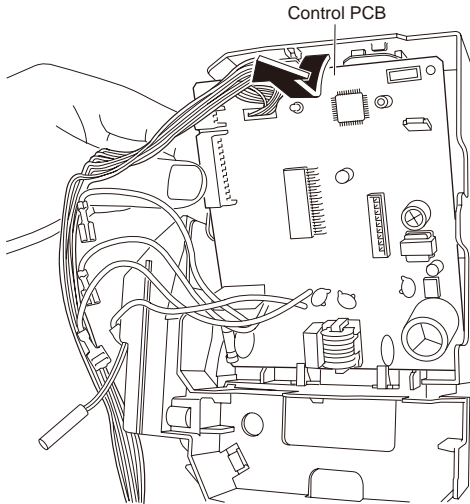
Step	Procedure	Points
5	<p>Remove fan motor Signal Wire</p> 	
6	<p>Remove a screw on the electrical box.</p> 	
7	<p>Pull up the electrical box forward to remove.</p> 	

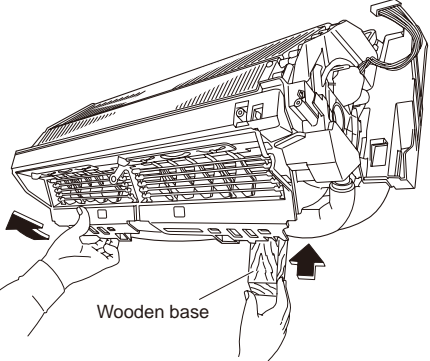
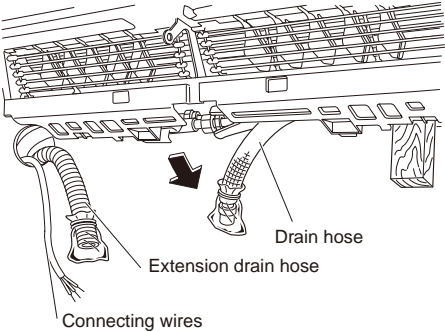
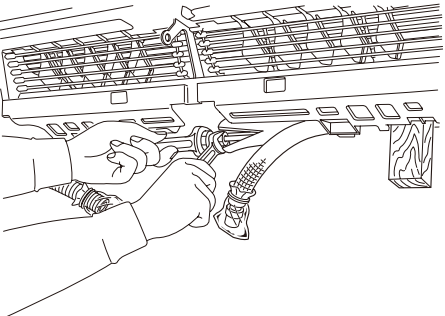
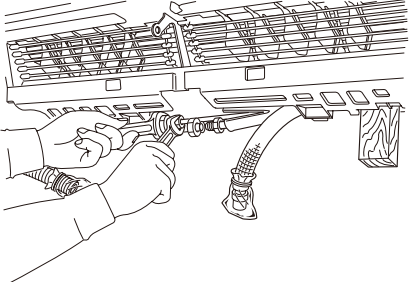
Step	Procedure	Points
8. Remove the shield plate.		
1	<p>Unfasten the hooks at the upper 2 positions of the shield plate.</p> 	<p>■ Remove the electrical box according to the "Removal of Electrical Box".</p>
2	<p>Unfasten the hook at the lower position, and remove the shield plate (1).</p> 	
3	<p>Lift the shield plate (2) and unfasten the 2 hooks.</p> 	
4	<p>Slide the shield plate (2) and remove it.</p> 	

Step	Procedure	Points
2	Take off Wiring terminal	
3	Remove Display PCB Sub-Assy.	
4	Remove Swing motor.	

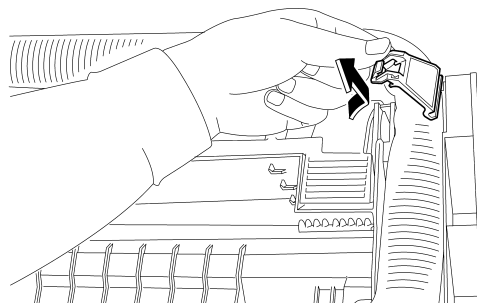
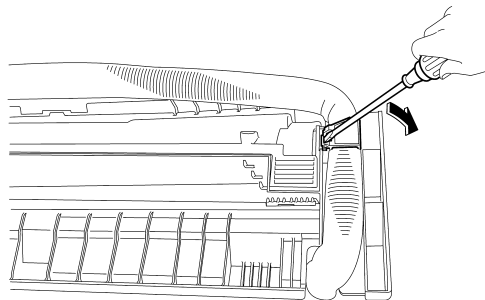
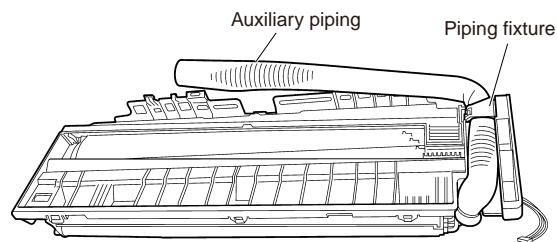
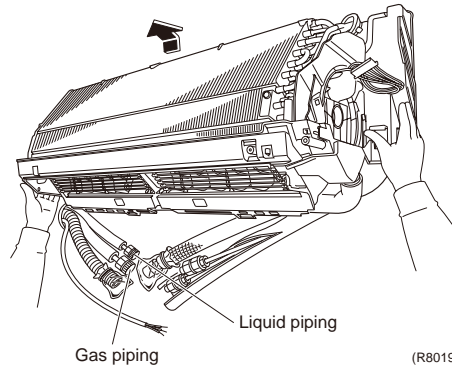


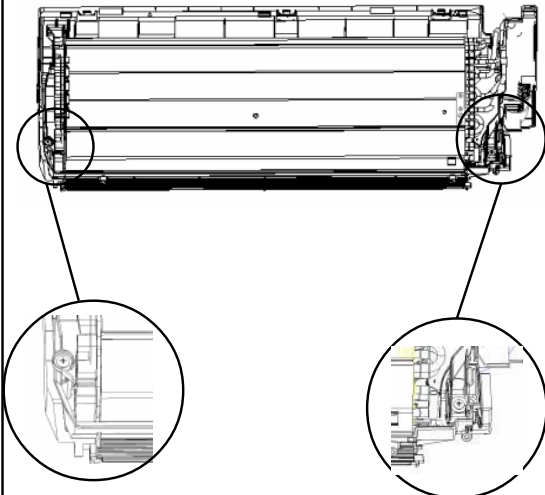
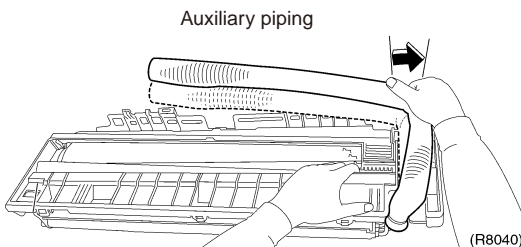
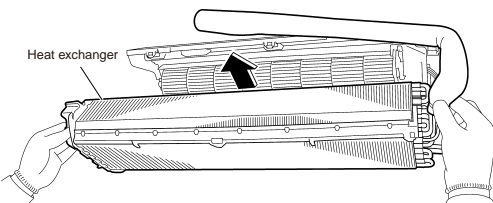
(R8036)

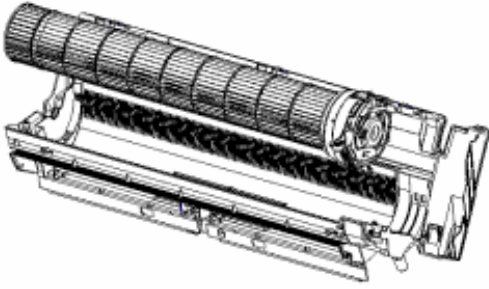
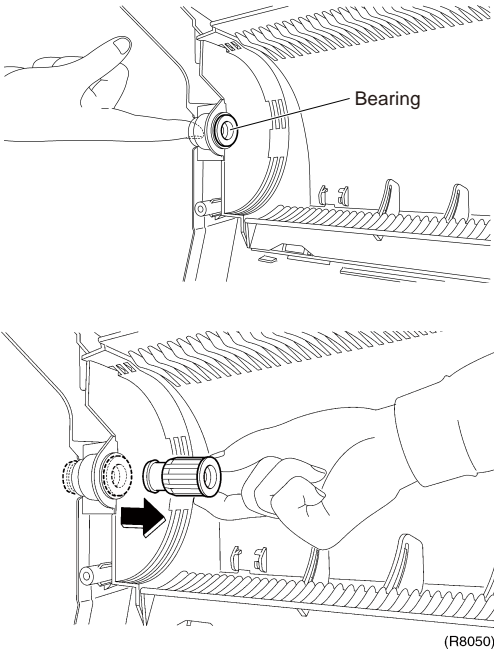
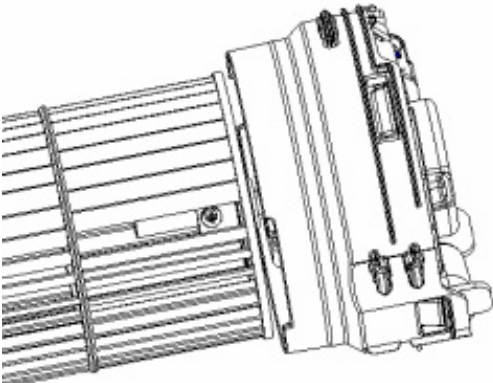
Step	Procedure	Points
5	<p>To remove the control PCB, unfasten the 2 hooks at the upper part from the rear side.</p> 	<p>■ The control PCB is integrated with the power supply PCB.</p>
6	<p>Lift up the upper part of the control PCB, and remove it.</p> 	

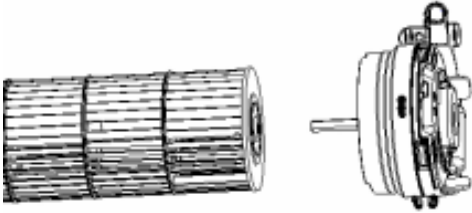
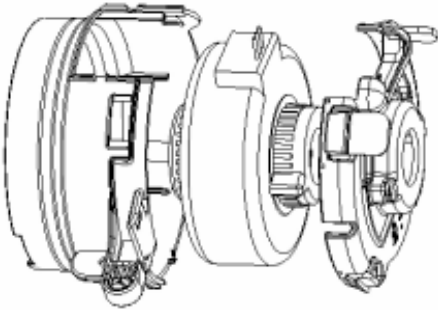
Step	Procedure	Points
9. Disconnect the refrigerant piping.		
1	<p>Lift the indoor unit by a wooden base.</p>  <p>Wooden base</p>	<p>CAUTION</p> <p>If gas leaks, repair the spot of leaking, then collect all refrigerant from the unit. After conducting vacuum drying, recharge proper amount of refrigerant.</p> <p>CAUTION</p> <p>Do not contaminate any gas (including air) other than the specified refrigerant (R-410A) into refrigerant cycle. (Contaminating of air or other gas causes abnormal high pressure in refrigerating cycle, and this results in pipe breakage or personal injuries.)</p>
2	<p>Place a plastic sheet under the drain pan as remaining drain may leak.</p>  <p>Drain hose Extension drain hose Connecting wires</p>	<p>■ Pay attention so that the residual water in the drain will not make the floor wet.</p>
3	<p>Disconnect the flare nut for gas piping by 2 wrenches.</p> 	<p>■ In case that a drain hose is buried inside a wall, remove it after the drain hose in the wall is pulled out.</p>
4	<p>Disconnect the flare nut for liquid piping by 2 wrenches.</p> 	<p>■ Use two wrenches to disconnected pipes.</p> <p>■ When disconnecting pipes, cover every nozzle with caps so as not to let dust and moisture in.</p>

Step	Procedure	Points
9. Remove the indoor unit.		
1	Remove the indoor unit from the installation plate.	<ul style="list-style-type: none"> When the pipings are disconnected, protect the both openings from entering moisture.
2	Release the hook of the piping fixture on the back of the unit.	



Step	Procedure	Points
3	<p>Loosen the 2 screws, in the right and the left, which fix the Evaporator Assy.</p> 	
4	<p>Widen the auxiliary piping to the extent of 10°~20°.</p> 	
5	<p>Pull the heat exchanger to the front side to undo the hooks completely, and then lift it.</p> 	

Step	Procedure	Points
10. Remove Cross Flow Fan Fan Motor		
1		
11. Remove Ring of Bearing		
12. Remove Cross Flow Fan and Motor Sub-Assy screw.		
		

Step	Procedure	Points
13. Remove Motor Sub-Assy		
1	Remove Motor Sub-Assy 	
14. Remove Fan Motor		
		

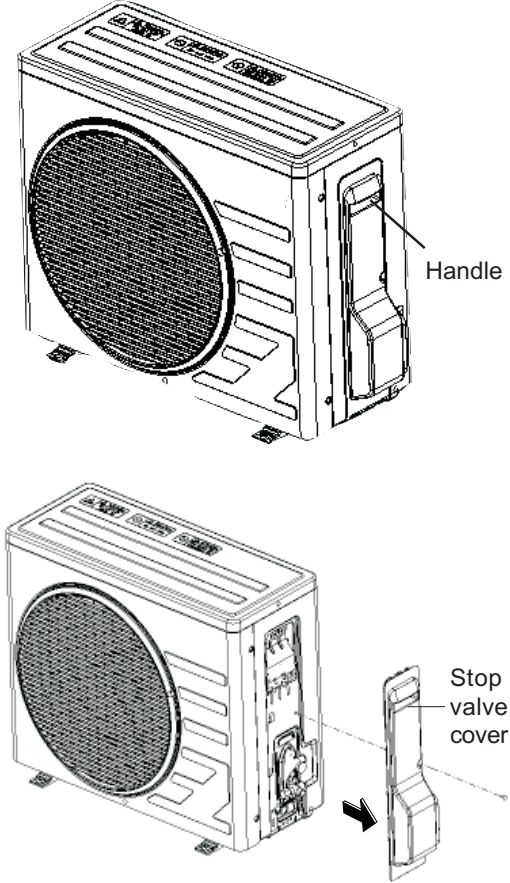
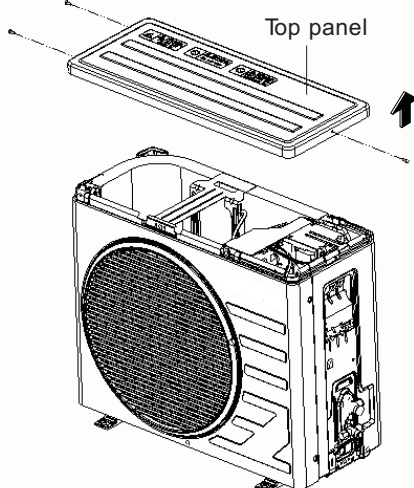
Removal Procedure of Outdoor Unit

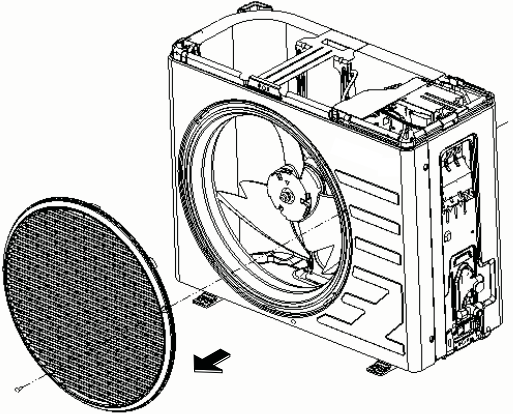
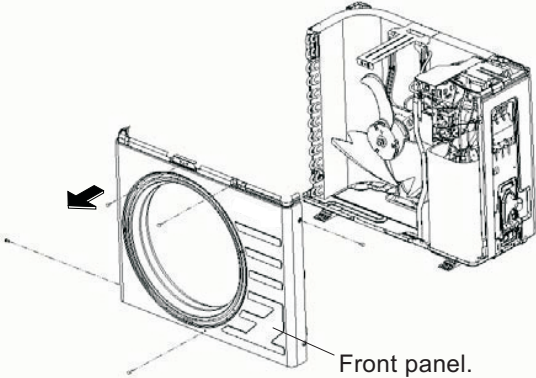
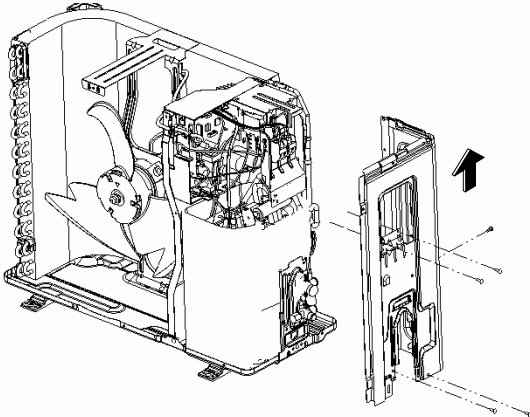
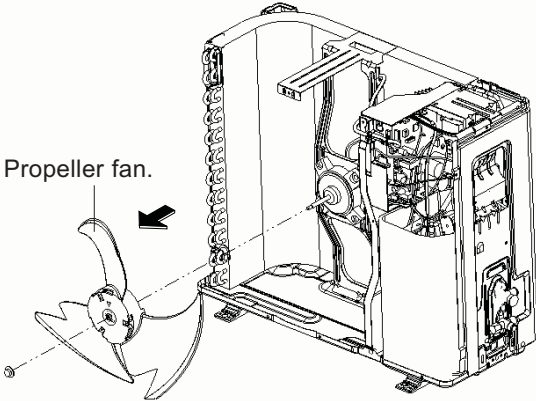
Procedure

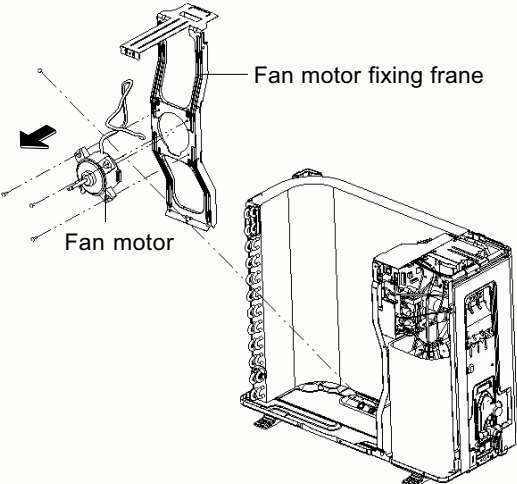
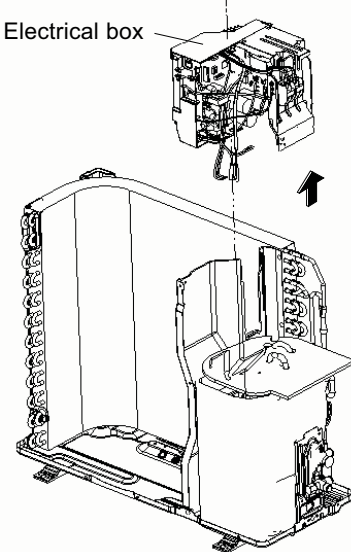
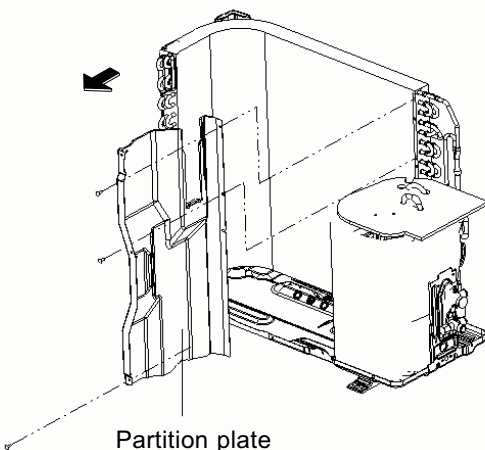


Warning

Be sure to wait 10 minutes or more after turning off all power supplies before disassembling work.

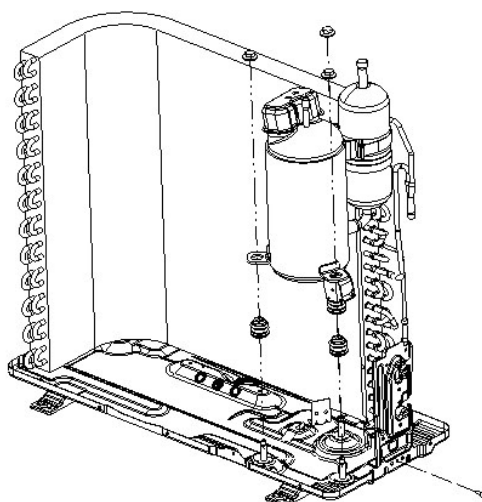
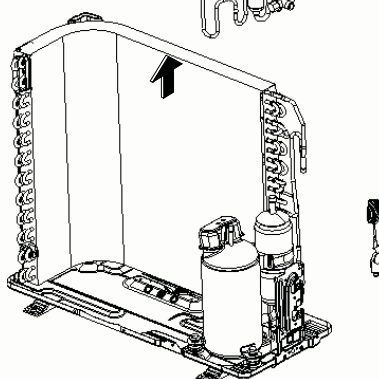
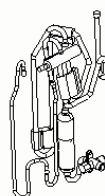
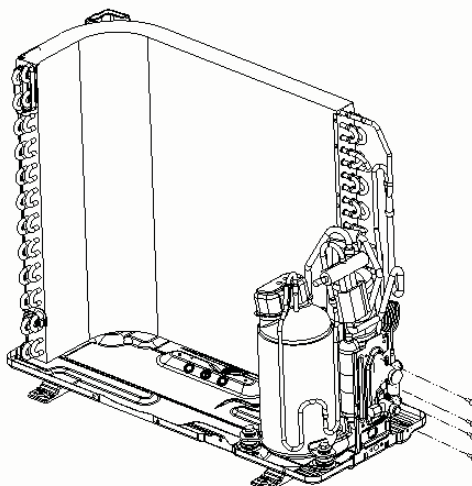
Step	Procedure	Points
1. Features		
1	<p>Loosen the screw of the stop valve cover. Pull down the stop valve cover and remove it.</p> 	<p>■ The stop valve cover has 6 hooks.</p>
2. Removing air filters		
1	<p>Loosen the 3 screws (front, right, left) and lift the top panel.</p> 	

Step		Procedure	Points
2	Loosen the 1 screws and remove the discharge grille.		
3	Loosen the 5 screws of the front panel.	 <p>Front panel.</p>	<ul style="list-style-type: none"> ■ Lift the front panel and remove it while pushing the right side panel inwards.
3	Remove the 5 screws from the edge between right-side board and condenser and from valve. Lift to remove the right-side board subassembly.		<p>Step Procedure Points</p>
4. Remove the fan motor			
1	Remove the screws of the fan wrench and then remove the propeller fan.	 <p>Propeller fan.</p>	<ul style="list-style-type: none"> ■ The screw has reverse winding. ■ Remove the propeller fan.

Step	Procedure	Points
2	<p>Remove the 4 tapping screws fixing the motor. Pull out the lead-out wire and remove the motor. Remove the 2 tapping screws fixing the motor support. Lift to remove the motor support.</p>  <p>Fan motor fixing frame</p> <p>Fan motor</p>	<ul style="list-style-type: none"> ■ M4×16 ■ DC fan motor
5.Remove the electrical box.		
1	<p>Remove the 2 screws fixing the cover of electric box. Lift to remove the cover. Remove the screws fixing the electric box subassembly. Loosen the wire and disconnect the terminal. Lift to remove the electric box subassembly.</p>  <p>Electrical box</p>	
6.Remove the partition plate.		<ul style="list-style-type: none"> ■ The partition plate is fixed to the bottom frame with a hook.
1	<p>Loosen the 2 screws.</p>	
2	<p>The partition plate has a hook on the lower side. Lift and pull the partition plate to remove.</p>  <p>Partition plate</p>	

Step	Procedure	Points
7.Remove the sound blanket.		
1	Lift and remove the sound blanket (top).	<ul style="list-style-type: none"> ■ Since the piping ports on the sound blanket are torn easily, remove the blanket carefully.
2	Untie the strings and open the sound blanket.	
3	Lift and remove the sound blanket (body) as it is opened.	
4	Pull the sound blanket (inner) out.	
8.Remove the partition plate.		
1	Loosen the screw of the four way valve coil.	<ul style="list-style-type: none"> ■ Provide a protective sheet or a steel plate so that the brazing flame cannot influence peripheries. ■ Be careful so as not to break the pipes by pressing it excessively by pliers when withdrawing it. <p>⚠ Caution</p> <p>Be careful about the four way valve, pipes and so on, which were heated up by a gas brazing machine, so as not to get burnt your hands.</p>

Step	Procedure	Points
9.Remove compressor		
1	Solder off the welding spot of capillary and valve and outlet pipe of condenser.	
2	<p>Remove the 2 screws fixing the gas valve. Solder off the weld spot connecting gas valve and air return pipe and remove the gas valve.</p> <p>(Note: it is necessary to warp the gas valve when soldering off the welding spot.)</p> <p>Remove the 2 screws fixing liquid valve. Solder off the welding spot connecting liquid valve and remove the liquid valve.</p>	
3	Solder off the pipe connected with the compressor.	
4	Remove the 3 footing screws of the compressor and remove the compressor.	



Troubleshooting

⚠ WARNING

Hazardous Service Procedures!

The maintenance and troubleshooting procedures recommended in this section of the manual could result in exposure to electrical, mechanical or other potential safety hazards. Always refer to the safety warnings provided throughout this manual concerning these procedures. Unless specified otherwise, disconnect all electrical power including remote disconnect and discharge all energy storing devices such as capacitors before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. When necessary to work with live electrical components, have a qualified licensed electrician or other individual who has been trained in handling live electrical components perform these tasks. Failure to follow all of the recommended safety warnings provided, could result in death or serious injury.

General Section

⚠ WARNING

Hazardous Voltage!

Disconnect all electric power, including remote disconnects before servicing. Follow proper lockout/tagout procedures to ensure the power can not be inadvertently energized. Failure to disconnect power before servicing could result in death or serious injury.

Figure 5. Air conditioner cannot start up

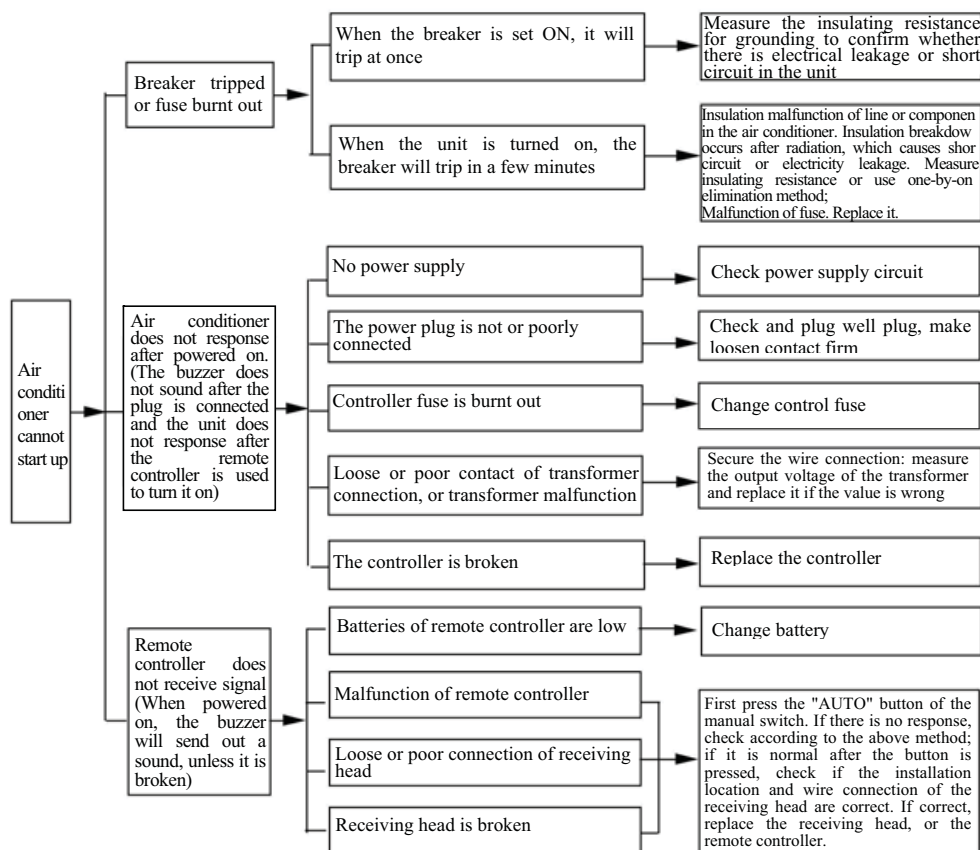


Figure 6. Troubleshooting chart

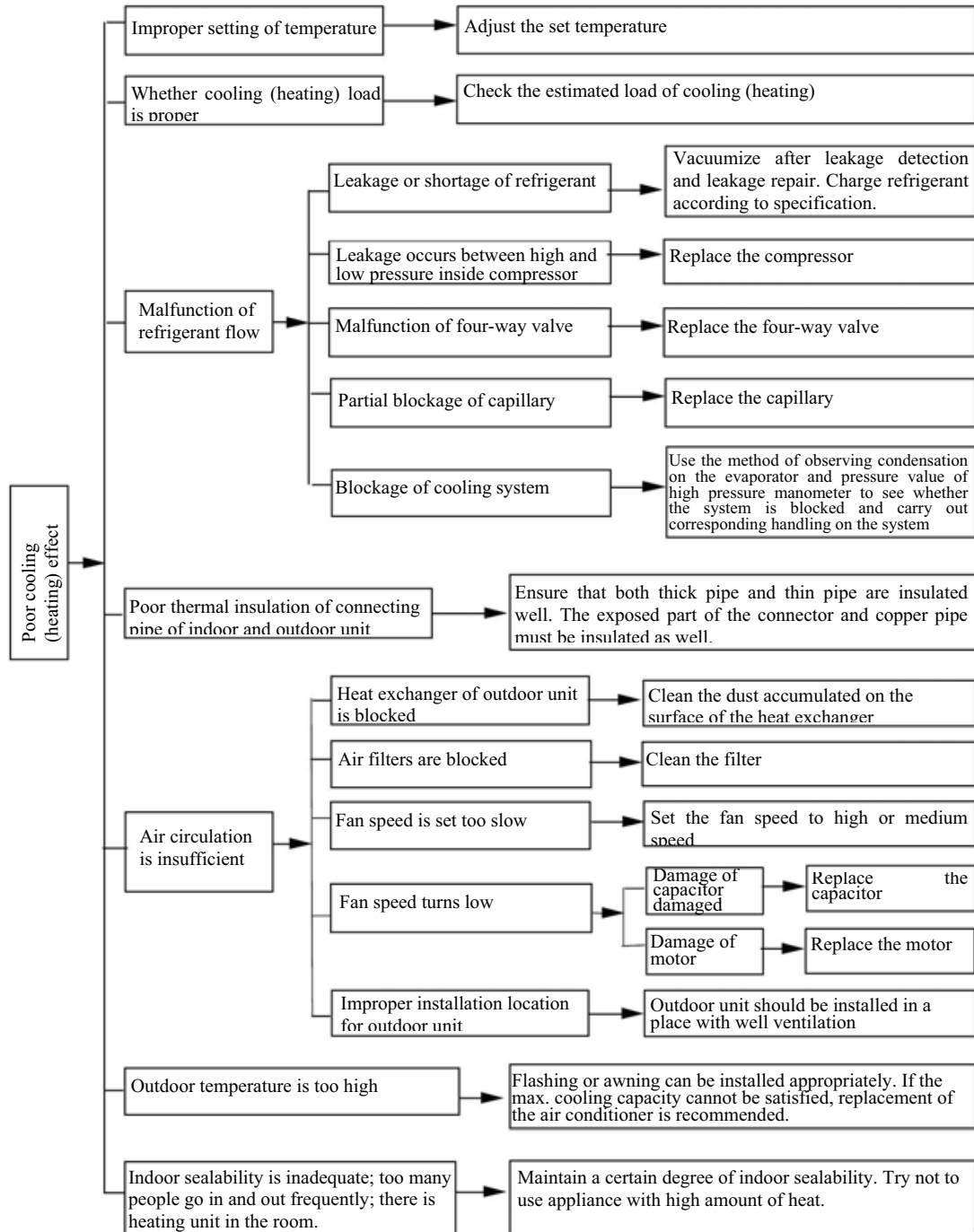


Figure 7. Troubleshooting chart

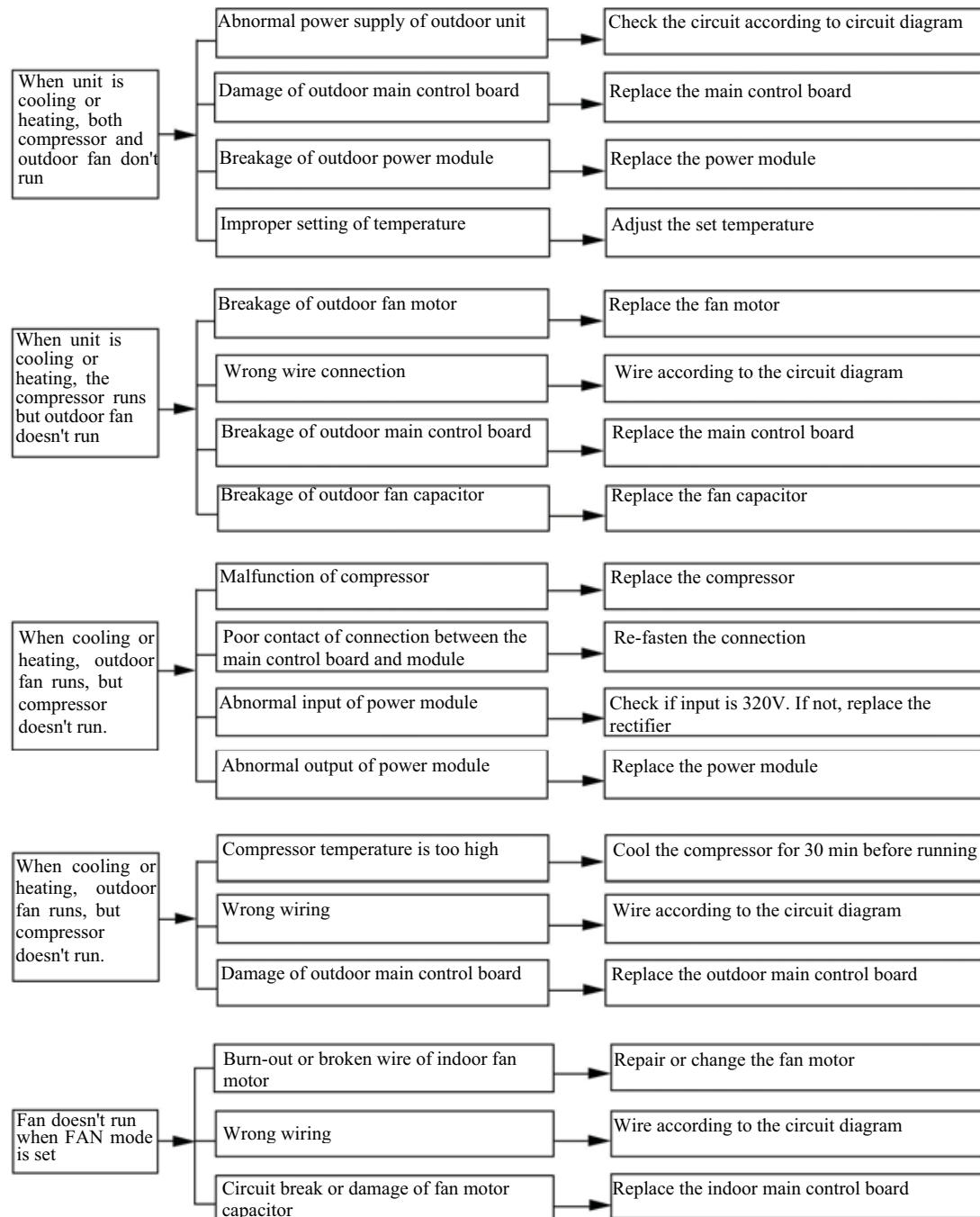
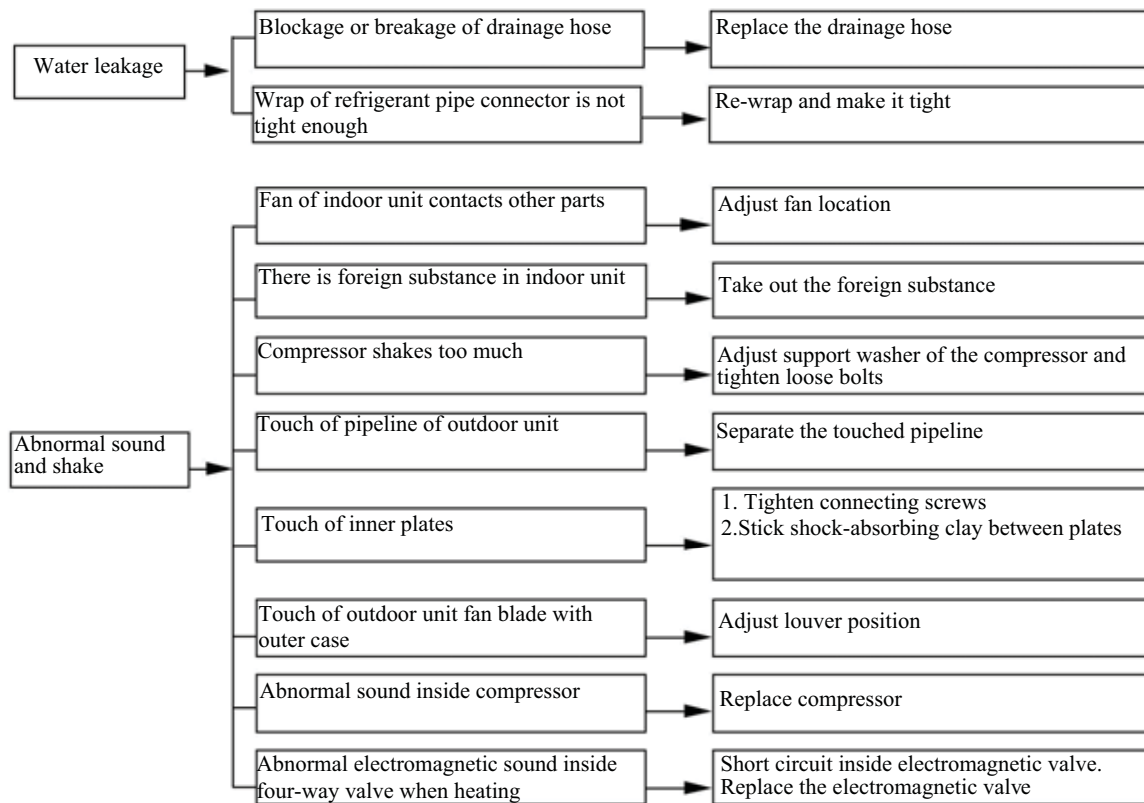
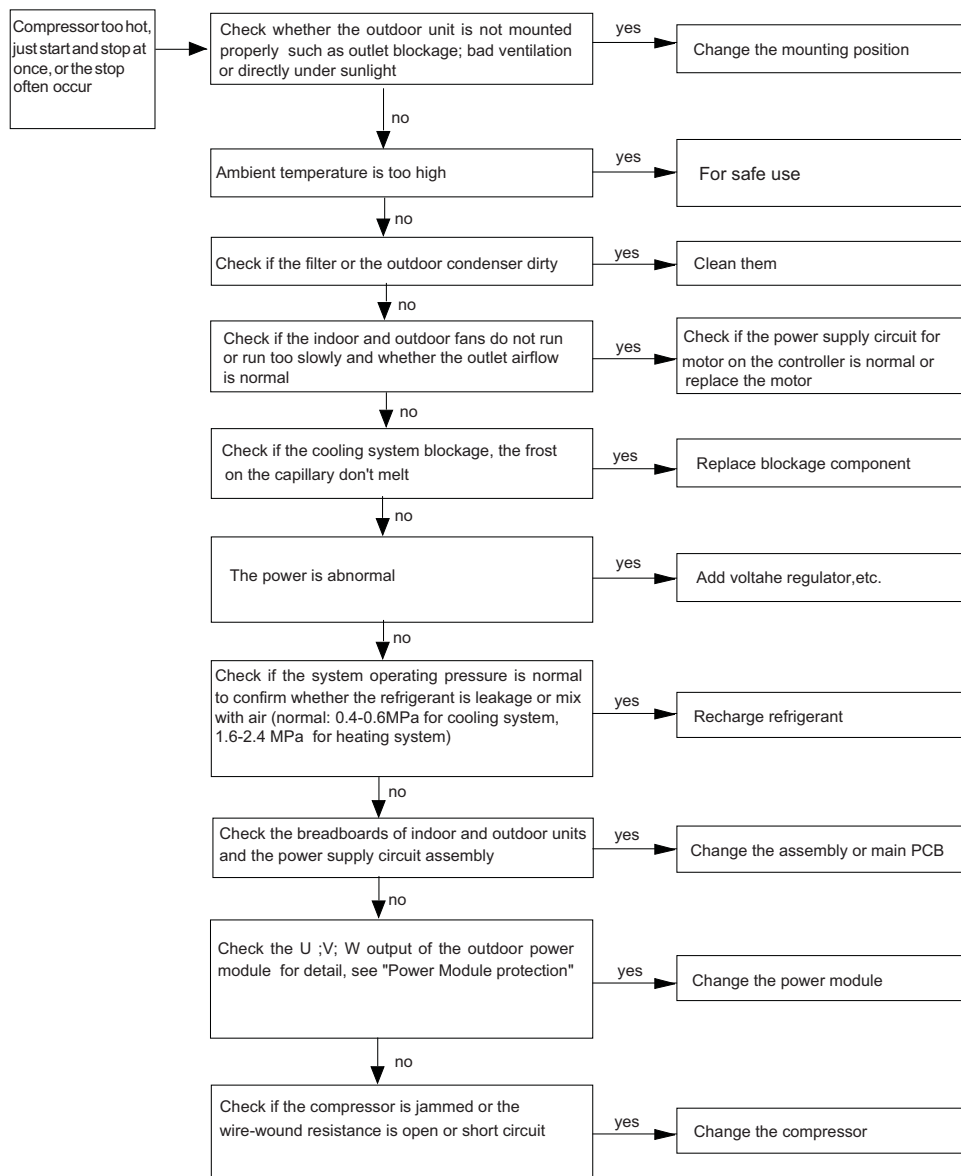


Figure 8. Troubleshooting chart



Note: When replacing power module and rectifier, be sure to spread the radiating paste evenly.

Figure 9. Compressor is too hot



Malfunction Display Section

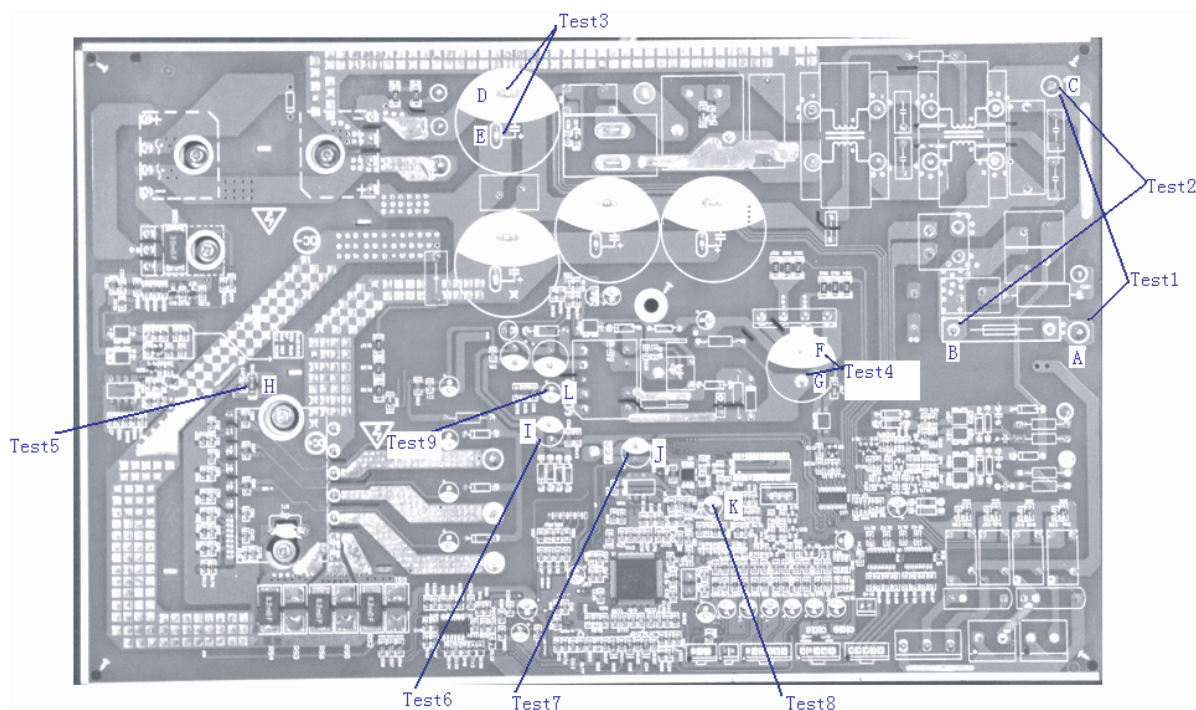
When malfunction or protection occurs in the air conditioner, corresponding code will be displayed on the screen of the indoor unit and the indicator of outdoor unit will blink accordingly as well.

When protection or malfunction is eliminated, display will be back to normal.

9, 12 MBH - 60 and 50 Hz (No LED lights on outdoor PCB)

code	malfunction	Error display		Repair method	code	malfunction	Error display		Repair method
		Dual 8 display	LED				Dual 8 display	LED	
1	Storage slug	EE	Heating LED-pause 3s and blink 15 times	Replace indoor main board	15	Sync failure	H7	Heating LED-pause 3s and blink 7 times	Check if the resistance of compressor and resistance to ground is normal. If the compressor is normal, the outdoor main board may be wrong.
2	Indoor PCB malfunction	EE	Heating LED-pause 3s and blink 15 times	Replace indoor main board	16	Current detection of complete unit	U5	Cooling LED-pause 3s and blink 13 times	Replace outdoor main board
3	Anti-freezing protection	E2	Running LED-pause 3s and blink 2 times	Outdoor ambient temperature is too low	17	Outdoor ambient temperature sensor malfunction	F3	Cooling LED-pause 3s and blink 3 times	Is it loose? Measure the resistance value with universal meter
4	Overload of system	H4	Heating LED-pause 3s and blink 4 times	System is abnormal, check if the evaporator and condenser is dirty and blocked	18	Discharge protection of compressor	E4	Running LED-pause 3s and blink 4 times	Is it loose? Measure the resistance value with universal meter
5	No motor of indoor unit feedback	H6	Running LED-pause 3s and blink 11 times	Is electromotor mounted normally?	19	Break-circuit and short-circuit of outdoor discharge temperature sensor	F5	cooling LED-pause 3s and blink 5 times	Is it loose? Measure the resistance value with universal meter
6	Indoor pipe temperature sensor malfunction	F2	cooling LED-pause 3s and blink 2 times	Is it loose? Measure the resistance value with universal meter	20	Break-circuit and short-circuit of outdoor condenser temperature sensor	F4	cooling LED-pause 3s and blink 18 times	Is it loose? Measure the resistance value with universal meter
7	Internal ambient temperature sensor malfunction	F1	Cooling LED-pause 3s and blink 1 times	Is it loose? Measure the resistance value with universal meter	21	Overheat of carbon fin	P8	heating LED-pause 3s and blink 19 times	Is outdoor ambient temperature is too high? Is radiator mounted correctly?
8	Zero passage abnormal	UF	Heating and cooling LED blinks 7 times at the same time	Replace indoor main board	22	DC overcurrent	UU	Heating and cooling LED blink 11 times at the same time	
9	Overload of compressor	H3	heating LED-pause 3s and blink 3 times	Inspect connection state of the overload wire.	23	Temperature sensor malfunction of carbon fin	P7	heating LED-pause 3s and blink 18 times	Replace outdoor main board.
10	Startup failure	Lc	heating LED-pause 3s and blink 11 times	Check if the resistance of compressor and resistance to ground is normal. If the compressor is normal, the outdoor main board may be wrong.	24	Lack of Freon or block protection	F0	cooling LED-pause 3s and blink 10 times	
11	No motor of outdoor unit feedback	UH	Heating and cooling LED blink 8 times at the same time	This malfunction may happen when outdoor DC electromotor is used.	25	DC input voltage is too high	PH	cooling LED-pause 3s and blink 11 times	Is voltage of AC power supply normal?
12	Overcurrent protection	E5	Running LED-pause 3s and blink 5 times	Is electric network variable?	26	DC input voltage is too low	PL	Heating LED-pause 3s and blink 21 times	Is voltage of AC power supply normal?
13	4-way valve conversion abnormal	U7	cooling LED-pause 3s and blink 20 times	Replace 4-way valve.	27	Communication malfunction	E6	Running LED-pause 3s and blink 6 times	Is outdoor connecting wire reliably connected?
14	Phase current detection malfunction of compressor	U1	Heating LED-pause 3s and blink 13 times	Replace outdoor main board.	28	Setting error, indoor and outdoor unit abnormal	UA	Heating and cooling LED blink 12 times at the same time	Outdoor unit is not matched with indoor unit.
remarks	4min after protection stop of compressor, the malfunction is shown in error code. In other situation, the malfunction will be displayed by press the light button for 6 times within 4s.								

18, 24 MBH - 60 and 50 Hz



No.	Name of malfunction	Indoor unit displaying method				Outdoor unit display (LEDs have 3 status; □ Off ■ On ☆ Blinks				AC status	Malfunctions
		Double 8 code display	Indicator display (LED blinks 0.5s-ON/ 0.5s-OFF)								
			Running LED	Cooling LED	Heating LED	D40	D41	D42	D43		
1	System high pressure protection	E1	3s Off blink once			□	☆	☆	☆	cooling, dehumidifying, except the indoor fan motor is running, others will stop to run. heating; all stop running	High pressure of system, might be: 1.Refrigerant is too much; 2.Poor heating exchanging for units (including heat exchanger is dirty and unit heating radiating ambient is poor); 3.Ambient temp. is too high.
2	Anti-freezing protection	E2	3s Off blink twice			■	□	■	□	cooling, dehumidifying, compressor, outdoor fan motor will stop running, indoor fan motor will keep running.	1.Poor indoor unit air returning; 2.Indoor fan motor rotating speed abnormal; 3.Evaporator is dirty;
3	Compressor air exhaust high temp. protection	E4	3s Off blink four times			■	□	■	☆	cooling, dehumidifying, compressor, outdoor fan motor will stop running, indoor fan motor works. heating: all stop running.	Pls refer to trouble shoot (air exhaust protection, overload)

4	AC overload protection	E5	Off 3s blink 5 times			□	■	☆	□	Cooling, dehumidifying, compressor, outdoor fan motor will stop, indoor fan will work. heating; all will stop	1.Power supply is not stable, fluctuation is too much 2.Power supply is too low, overload is too much
5	Indoor and outdoor units communication malfunction	E6	Off 3s blink 6 times			□	□	□	☆	Cooling, compressor will stop, indoor fan motor works. Heating: all will stop.	Please refer to troubleshooting
6	Anti-high temp. protection	E8	Off 3s blink 8 times			■	□	■	■	Cooling, compressor will stop, indoor fan motor works. Heating: all will stop.	Please refer to troubleshooting
7	Indoor unit motor no feedback	H6	Off 3s blink 11 times							Whole unit will stop to run	1.Poor insert for GPF 2. Indoor control board API malfunction 3. Indoor motor MI malfunction
8	Jump wire cap malfunction protection	C5	Off 3s blink 15 times							Whole unit will stop to run	Indoor control board API jump cap poor connected, please reinsert or replace the jump cap.
9	Indoor ambient sensor open circuit, short circuit	F1	Off 3s blink once							Cooling, dehumidifying: indoor fan motor is running, other overloads will stop; Heating, whole unit will stop to run.	1.Room temp. sensor is not connected with the control panel API 2.Room temp. sensor is damaged
10	Indoor evaporator sensor circuit open, short circuit	F2	Off 3s blink twice							Cooling, dehumidifying; indoor fan motor running, other overload will stop; Heating, whole unit will stop.	1.Tube temp. sensor is not connected with the control panel API 2.Tube temp. sensor is damaged
11	Outdoor ambient sensor circuit open, circuit short	F3	Off 3s blink three times			□	□	☆	■	Cooling, dehumidifying; compressor will stop, indoor fan motor will work. Heat: all will stop	Outdoorroom temp. sensor hasn' t connected well, or damaged, please refer to the sensor resistance value for checking.
12	Outdoor condensor sensor open circuit, short circuit	F4	Off 3s blink 18 times			□	□	☆	□	Cooling, dehumidifying; compressor will stop, indoor fan motor will work. Heat: all will stop	Outdoortub temp. sensor hasn' t connected well, or damaged, please refer to the sensor resistance value for checking.
13	Outdoor air exhaust sensor open circuit, short circuit	F5	Off 3s blinks 5 times			□	□	☆	☆	Cooling, dehumidifying: after running for 3mins later, the compressor will stop to run, indoor fan motor will start to run. heating: after run 3 mins later, all will stop to run.	1.Exhaust temp sensor hasn' t connected well, or damaged, please refer to the sensor resistance value for checking. 2.Sensor head hasn' t insert into the copper tube.
14	Overload limit/ descending frequency	F6	Off 3s blink 6 times			■	□	☆	☆	Overload normal operation, compressor is running, frequency descending	Please refer to troubleshooting
15	Over current need frequency descending	F8	Off 3s blink 8 times			■	■	□	■	Overload normal operation, compressor is running, frequency descending	1.Input power supply is too low 2.System voltage is too high, overload is too much
16	Air exhaust over high need frequency descending	F9	Off 3s blink 9 times			■	■	□	□	Overload normal operation, compressor is running, frequency descending	1.Overload is too much, ambient temp. is too high 2.Refrigerant is short 3.Electric expansion malfunction
17	DC generatrix voltage	PH	Off 3s			□	■	□	☆	Cooling, dehumidifying, compressor stop running	1.Testing wire terminal L and N position

4	AC overload protection	E5	Off 3s blink 5 times			□	■	☆	□	Cooling, dehumidifying, compressor, outdoor fan motor will stop, indoor fan will work. heating; all will stop	1.Power supply is not stable, fluctuation is too much 2.Power supply is too low, overload is too much
5	Indoor and outdoor units communication malfunction	E6	Off 3s blink 6 times			□	□	□	☆	Cooling, compressor will stop, indoor fan motor works. Heating: all will stop.	Please refer to troubleshooting
6	Anti-high temp. protection	E8	Off 3s blink 8 times			■	□	■	■	Cooling, compressor will stop, indoor fan motor works. Heating: all will stop.	Please refer to troubleshooting
7	Indoor unit motor no feedback	H6	Off 3s blink 11 times							Whole unit will stop to run	1.Poor insert for GPF 2. Indoor control board API malfunction 3. Indoor motor M1 malfunction
8	Jump wire cap malfunction protection	C5	Off 3s blink 15 times							Whole unit will stop to run	Indoor control board API jump cap poor connected, please reinsert or replace the jump cap.
9	Indoor ambient sensor open circuit, short circuit	F1		Off 3s blink once						Cooling, dehumidifying: indoor fan motor is running, other overloads will stop; Heating, whole unit will stop to run.	1.Room temp. sensor is not connected with the control panel API 2.Room temp. sensor is damaged
10	Indoor evaporator sensor circuit open, short circuit	F2		Off 3s blink twice						Cooling, dehumidifying; indoor fan motor running, other overload will stop; Heating, whole unit will stop.	1.Tube temp. sensor is not connected with the control panel API 2.Tube temp. sensor is damaged
11	Outdoor ambient sensor circuit open, circuit short	F3		Off 3s blink three times		□	□	☆	■	Cooling, dehumidifying; compressor will stop, indoor fan motor will work. Heat: all will stop	Outdoor room temp. sensor hasn't connected well, or damaged, please refer to the sensor resistance value for checking.
12	Outdoor condensor sensor open circuit, short circuit	F4		Off 3s blink 18 times		□	□	☆	□	Cooling, dehumidifying; compressor will stop, indoor fan motor will work. Heat: all will stop	Outdoor tube temp. sensor hasn't connected well, or damaged, please refer to the sensor resistance value for checking.
13	Outdoor air exhaust sensor open circuit, short circuit	F5		Off 3s blinks 5 times		□	□	☆	☆	Cooling, dehumidifying: after running for 3mins later, the compressor will stop to run, indoor fan motor will start to run. heating: after run 3 mins later, all will stop to run.	1.Exhaust temp sensor hasn't connected well, or damaged, please refer to the sensor resistance value for checking. 2.Sensor head hasn't insert into the copper tube.
14	Overload limit/ descending frequency	F6		Off 3s blink 6 times		■	□	☆	☆	Overload normal operation, compressor is running, frequency descending	Please refer to troubleshooting
15	Over current need frequency descending	F8		Off 3s blink 8 times		■	■	□	■	Overload normal operation, compressor is running, frequency descending	1.Input power supply is too low 2.System voltage is too high, overload is too much
16	Air exhaust over high need frequency descending	F9		Off 3s blink 9 times		■	■	□	□	Overload normal operation, compressor is running, frequency descending	1.Overload is too much, ambient temp. is too high 2.Refrigerant is short 3.Electric expansion malfunction
17	DC generatrix voltage	PH		Off 3s		□	■	□	☆	Cooling, dehumidifying, compressor stop running	1.Testing wire terminal L and N position

34	DC Bus voltage dips	U3			Off 3s blink 20 times	□	■	■	■	Cooling, dehumidifying: compressor will stop, indoor fan motor works. Heating: all will stop	Power voltage is not stable
35	Low DC Bus voltage protection	PL			Off 3s blink 21 times	□	■	■	□	Cooling, dehumidifying: compressor will stop, indoor fan motor works. Heating: all will stop	1. Check the Input voltage if the Voltage is lower than 150VAC, restart the machine when the power supply is normal 2. Checking the reactor L connection
36	IPM temp. is too high limit/decrease frequency	EU				■	■	■	☆	Overload normal works, compressor running frequency declines	Whole unit break for 20mins and discharge, to check the outdoor control board AP1's IPM module coolant whether is short, the radiator is tightened. If above phenomenon is not ok, please improve or replace the control board AP1
37	Four-way valve abnormal	U7				■	□	☆	□	This malfunction happened, only in heating mode, all will stop to run	1. Power supply voltage is lower than AC175V 2. Wire terminal 4V loosen or wire break 3. 4V damaged, replace 4V
38	Outdoor unit zero-cross detecting error	U9				■	■	☆	□	Cooling: compressor will stop, indoor fan motor works. Heating: all will stop	Replace the outdoor control board AP1
39	Anti-freezing limit/decrease frequency	FH				■	■	■	□	All load work normally but the running frequency limited or decrease	Indoor unit air return is poor or fan speed is too low



www.trane.com

*For more information, contact your local Trane
office or e-mail us at comfort@trane.com*

Literature Order Number

Date

Supersedes

New

Trane has a policy of continuous product and product data improvement and reserves the right to change design and specifications without notice.