

Floor-Standing Type(S2 Series)

Model: MFS2-24CR(N2), MFS2-24HR(N2), MFS2-24AR(N2), MFS2-48CR(N2),
MFS2-48AR(N2)

Part 1. Product Features

Strong air supply.

Wide angle and long distance air supply.

Easy installation.

Streamline stylish appearance.

LCD display, easy operation.

Part 2. Specification

R22

Model		MFS2-24CR	MFS2-24HR	MFS2-24AR
Power supply		Ph-V-Hz	220-240V~, 50Hz	220-240V~, 50Hz
Cooling	Capacity	Btu/h	24000	24000
	Capacity	kW	7.17	7.12
	Input	W	2650	2650
	Rated current	A	12.0	12.0
	EER	Btu/w.h	9.2	9.2
Heating	Capacity	Btu/h	-	28000
	Capacity	kW	-	8.74
	Electric heating	W	-	2100
	Input	W	-	2650+2100
	Rated current	A	-	12.0+10.0
	COP	Btu/w.h	-	11.3
Moisture Removal		L/h	2.7	2.7
Max. input consumption		W	3800	5300
Max. current		A	19	25.0
Compressor	Model		ZR34KH-PFJ-522	ZR34KH-PFJ-522
	Type		Scroll	Scroll
	Brand		Copeland	Copeland
	Capacity	Btu/h	28000	28000
	Input	W	2520	2520
	Rated current(RLA)	A	12.1	12.1
	Locked rotor Amp(LRA)	A	76	76
	Thermal protector		Internal	Internal
	Capacitor	uF	50	50
	Refrigerant oil	ml	1242	1242
Indoor fan motor	Model		YDK72-10Q	YDK72-10Q
	Brand		WELLING/SINYA/ZHONGSHAN BROAD-OCEAN/Tianma	WELLING/SINYA/ZHONGSHAN BROAD-OCEAN/Tianma
	Input	W	132/107	132/107
	Capacitor	uF	2.5	2.5
	Speed(hi/mi/lo)	r/min	470/370	470/370
	Number of rows		2	2
Indoor coil	Tube pitch(a)x row pitch(b)	mm	21X13.37	21X13.37
	Fin spacing	mm	1.3	1.3
	Fin type (code)		Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ 7,Innergroove tube	Φ 7,Innergroove tube
	Coil length x height x width	mm	382x777x26.74	382x777x26.74
	Number of circuits		6	6
	Indoor air flow	m3/h	1000	1000

Indoor noise level		dB(A)	40	40	40
Indoor unit	Dimension (W*H*D)	mm	500×1665×273	500×1665×273	500×1665×273
	Packing (W*H*D)	mm	585×1805×380	585×1805×380	585×1805×380
	Net/Gross weight	kg	63/71	69/74	69/74
Outdoor fan motor	Model		YDK53-6K	YDK53-6K	YDK53-6K
	Brand		WELLING/ZHONGSHAN BROAD-OCEAN/A.O.SM ITT/XINDI	WELLING/ZHONGSHAN BROAD-OCEAN/A.O.SM ITT/XINDI	WELLING/ZHONGSHAN BROAD-OCEAN/A.O.SMI TT/XINDI
	Input	W	130/124/127/133	130/124/127/133	130/124/127/133
	Capacitor	uF	3	3.5	3.5
	Speed	r/min	750	800	800
	Outdoor coil	Number of rows		2	2
Tube pitch(a)x row pitch(b)		mm	25.4x22	25.4x22	25.4x22
Fin spacing		mm	1.7	1.6	1.6
Fin type (code)			Non-hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium
Tube outside dia.and type		mm	Φ9.53,Innergroove tube	Φ9.53,innergroove tube	Φ9.53,innergroove tube
Coil length x height x width		mm	797x660x44	797X660X44	797X660X44
Number of circuits			4	4	4
Outdoor air flow	m3/h	2400	2500	2500	
Outdoor noise level	dB(A)	52	52	52	
Outdoor unit	Dimension(W*H*D)	mm	845X695X335	845X695X335	845X695X335
	Packing (W*H*D)	mm	965X847X395	965X847X395	965X847X395
	Net/Gross weight	Kg	63/71	69/74	69/74
Refrigerant type R22	g	R22/1550	R22/2500	R22/2500	
Design pressure	MPa	2.6	2.6	2.6	
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ9.53/Φ16.0(3/8"-5/8")	Φ9.53/Φ16.0(3/8"-5/8")	Φ9.53/Φ16.0(3/8"-5/8")
	Max. refrigerant pipe length	m	15	15	15
	Max. difference in level	m	8	8	8
Connection wiring		No	No	No	
Plug type		No	No	No	
Controller		Remote	Remote	Remote	
Operation temp	℃	17-30	17-30	17-30	
Ambient temp	℃	18-45	—7-45	—7-45	
Application area	m2	40~56	40~56	40~56	
Qty'per 20' & 40' Fcl	Pieces	43/87/97	43/87/97	43/87/97	

Notes: 1. Nominal cooling capacities are based on the following conditions:

Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB;

2. Nominal heating capacities are based on the following conditions:

Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB;

3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

R22

Model			MFS2-24CR	MFS2-24AR
Power supply		Ph-V-Hz	380-420V, 3N~, 50Hz	380-420V, 3N~, 50Hz
Cooling	Capacity	Btu/h	24000	24000
	Capacity	kW	7.13	7.07
	Input	W	2650	2650
	Rated current	A	4.8	4.8
	EER	Btu/w.h	9.2	9.1
Heating	Capacity	Btu/h	/	28000
	Capacity	kW	/	8.38
	Electric heating	W	/	2500
	Input	W	/	2650+2500
	Rated current	A	/	4.8+4.4
	COP	Btu/w.h	/	10.8
Moisture Removal		L/h	2.7	2.7
Max. input consumption		W	3700	5800
Max. current		A	7.5	11.8
Compressor	Model		JT90BHY1L	ZR34KH-TFD-522
	Type		Scroll	Scroll
	Brand		DAIKIN	Copeland
	Capacity	Btu/h	29170	28000
	Input	W	2670	2480
	Rated current(RLA)	A	4.8	4.6
	Locked rotor Amp(LRA)	A	41.6	40
	Thermal protector		Internal	Internal
	Capacitor	uF	/	/
	Refrigerant oil	ml	1200	1242
Indoor fan motor	Model		YDK72-10Q	YDK72-10Q
	Brand		WELLING/SINYA/ZHONGSHA N BROAD-OCEAN/Tianma	WELLING/SINYA/ZHONGSHA N BROAD-OCEAN/Tianma
	Input	W	132/107	132/107
	Capacitor	uF	2.5	2.5
	Speed(hi/mi/lo)	r/min	470/370	470/370
Indoor coil	Number of rows		2	2
	Tube pitch(a)x row pitch(b)	mm	21X13.35	21X13.35
	Fin spacing	mm	1.3	1.3
	.Fin type (code)		Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ 7,Innergroove tube	Φ 7,Innergroove tube
	Coil length x height x width	mm	382x777x26.74	382x777x26.74
	Number of circuits		6	6
Indoor air flow		m3/h	1000	1000
Indoor noise level		dB(A)	40	40
Indoor unit	Dimension (W*H*D)	mm	500×1665×273	500×1665×273
	Packing (W*H*D)	mm	585×1805×380	585×1805×380

	Net/Gross weight	kg	63/71	69/74
Outdoor motor fan	Model		YDK53-6K	YDK53-6K
	Brand		WELLING/ZHONGSHAN BROAD-OCEAN/A.O.SMITT/XINDI	WELLING/ZHONGSHAN BROAD-OCEAN/A.O.SMITT/XINDI
	Input	W	130/124/127/133	130/124/127/133
	Capacitor	uF	3	3.5
	Speed	r/min	750	800
Outdoor coil	Number of rows		2	2
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22
	Fin spacing	mm	1.7	1.6
	Fin type (code)		Non-hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ 9.53,Innergroove tube	Φ 9.53,innergroove tube
	Coil length x height x width	mm	797x660x44	797X660X44
	Number of circuits		4	4
Outdoor air flow		m ³ /h	2400	2500
Outdoor noise level		dB(A)	52	55
Outdoor unit	Dimension(W*H*D)	mm	845X695X335	845X695X335
	Packing (W*H*D)	mm	965X847X395	965X847X395
	Net/Gross weight	kg	69/74	69/74
Refrigerant type R22		g	R22/1530	R22/2500
Design pressure		MPa	2.6	2.6
Refrigerant piping	Liquid side/ Gas side	mm	Φ 9.53/ Φ 16.0(3/8"-5/8")	Φ 9.53/ Φ 16.0(3/8"-5/8")
	Max. refrigerant pipe length	m	15	15
	Max. difference in level	m	8	8
Connection wiring			No	No
Plug type			No	No
Controller			Remote	Remote
Operation temp		°C	17-30	17-30
Ambient temp		°C	18-45	—7-45
Application area		m ²	40~56	40~56
Qty' per 20' & 40' Fcl		Pieces	43/87/97	43/87/97

Notes: 1. Nominal cooling capacities are based on the following conditions:

Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB;

2. Nominal heating capacities are based on the following conditions:

Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB;

3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

R22

Model			MFS2-48CR	MFS2-48AR
Power supply		Ph-V-Hz	380-420V,3N~, 50Hz	380-420V,3N~, 50Hz
Cooling	Capacity	Btu/h	42000	42000
	Capacity	kW	12	12
	Input	W	5000	5000
	Rated current	A	8.6	8.6
	EER	Btu/w.h	8.2	8.2
Heating	Capacity	Btu/h	/	52000
	Capacity	kW	/	14
	Electric heating	W	/	3500
	Input	W	/	5100+3500
	Rated current	A	/	8.6+5.8
	COP	Btu/w.h	/	9.4
Moisture Removal		L/h	4.2	4.2
Max. input consumption		W	6500	9000
Max. current		A	12.5	15.0
Compressor	Model		JT160BCBY1L	JT160BCBY1L
	Type		Scroll	Scroll
	Brand		DAIKIN	DAIKIN
	Capacity	Btu/h	51180	51180
	Input	W	4660	4660
	Rated current(RLA)	A	8.6	8.6
	Locked rotor Amp(LRA)	A	58	58
	Thermal protector		internal	internal
	Capacitor	uF	/	/
	Refrigerant oil	ml	1500	1500
Indoor fan motor	Model		YDK120-8N	YDK120-8N
	Brand		WELLING	WELLING
	Input	W	341/268	341/268
	Capacitor	uF	6.5	6.5
	Speed(hi/mi/lo)	r/min	580/480	580/480
Indoor coil	Number of rows		2	2
	Tube pitch(a)x row pitch(b)	mm	21X13.37	21X13.37
	Fin spacing	mm	1.4	1.4
	Fin type (code)		Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ7,Innergroove tube	Φ7,Innergroove tube
	Coil length x height x width	mm	422x966x26.74	422x966x26.74
	Number of circuits		10	10
Indoor air flow		m3/h	2000	2000
Indoor noise level		dB(A)	44	44
Indoor unit	Dimension (W*H*D)	mm	540×1775×379	540×1775×379
	Packing (W*H*D)	mm	665×1915×475	665×1915×475
	Net/Gross weight	kg	56/71	58/73

Outdoor fan motor	Model		YDK250-6D	YDK250-6D
	Brand		WELLING/HESHAN/ZHONGSHAN BROAD-OCEAN	WELLING/HESHAN/ZHONGSHAN BROAD-OCEAN
	Input	W	307/292/290	307/292/290
	Capacitor	uF	10	10
	Speed	r/min	740	740
Outdoor coil	Number of rows		2	2
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22
	Fin spacing	mm	1.7	1.7
	Fin type (code)		Non-hydrophilic aluminium	Non-hydrophilic aluminium
	Tube outside dia.and type	mm	Φ9.53,Innergroove tube	Φ9.53,Innergroove tube
	Coil length x height x width	mm	890x914x44	890x914x44
	Number of circuits		2	8
Outdoor air flow	m ³ /h	5000	5000	
Outdoor noise level	dB(A)	57	57	
Outdoor unit	Dimension(W*H*D)	mm	990×960×360	990×960×360
	Packing (W*H*D)	mm	1120×1090×435	1120×1090×435
	Net/Gross weight	kg	90/105	101/116
Refrigerant type R22	g	1650	3100	
Design pressure	MPa	2.6	2.6	
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ 12.7/Φ 19(1/2"-3/4")	Φ 12.7/Φ 19(1/2"-3/4")
	Max. refrigerant pipe length	m	15	15
	Max. difference in level	m	8	8
Connection wiring		No	No	
Plug type		No	No	
Controller		Remote	Remote	
Operation temp	°C	17-30	17-30	
Ambient temp	°C	18-45	—7-45	
Application area	m ²	40~56	40~56	
Qty' per 20' & 40' Fcl	Pieces	25/48/60	25/48/60	

Notes: 1. Nominal cooling capacities are based on the following conditions:

Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB;

2. Nominal heating capacities are based on the following conditions:

Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB;

3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

R407C

Model		MFS2-24CRN2	MFS2-24HRN2	MFS2-24ARN2
Power supply		Ph-V-Hz	220-240V~, 50Hz	220-240V~, 50Hz
Cooling	Capacity	Btu/h	24000	24000
	Capacity	kW	7.17	7.12
	Input	W	2900	2900
	Rated current	A	13.2	13.2
	EER	Btu/w.h	8.4	8.4
Heating	Capacity	Btu/h	/	28000
	Capacity	kW	/	8.74
	Electric heating	W	/	/
	Input	W	/	2900
	Rated current	A	/	13.2
	COP	Btu/w.h	/	10.3
Moisture Removal		L/h	2.7	2.7
Max. input consumption		W	3800	3800
Max. current		A	19	19.0
Starting current		A	44	44
Compressor	Model		HQ034PAA	HQ034PAA
	Type		Scroll	Scroll
	Brand		LG	LG
	Capacity	Btu/h	28900	28900
	Input	W	2833	2833
	Rated current(RLA)	A	12.8	12.8
	Locked rotor Amp(LRA)	A	65	65
	Thermal protector		Internal	Internal
	Capacitor	uF	40	40
	Refrigerant oil	ml	750	750
Indoor fan motor	Model		YDK72-10Q	YDK72-10Q
	Brand		WELLING/SINYA/ZHONG SHAN BROAD-OCEAN/Tianma	WELLING/SINYA/ZHONG SHAN BROAD-OCEAN/Tianma
	Input	W	132/107	132/107
	Capacitor	uF	2.5	2.5
	Speed(hi/mi/lo)	r/min	470/370	470/370
	Number of rows		2	2
Indoor coil	Tube pitch(a)x row pitch(b)	mm	21X13.37	21X13.37
	Fin spacing	mm	1.3	1.3
	Fin type (code)		Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ 7,Innergroove tube	Φ 7,Innergroove tube
	Coil length x height x width	mm	382x777x26.74	382x777x26.74
	Number of circuits		6	6

Indoor air flow		m ³ /h	1000	1000	1000
Indoor noise level		dB(A)	40	40	40
Indoor unit	Dimension (W*H*D)	mm	500×1665×273	500×1665×273	500×1665×273
	Packing (W*H*D)	mm	585×1805×380	585×1805×380	585×1805×380
	Net/Gross weight	kg	46/57	46/57	46/57
Outdoor fan motor	Model		YDK100-6D	YDK100-6D	YDK100-6D
	Brand		Welling	Welling	Welling
	Input	W	169	169	169
	Capacitor	uF	5	5	5
	Speed	r/min	900	900	900
Outdoor coil	Number of rows		2	2	2
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22	25.4x22
	Fin spacing	mm	1.4	1.4	1.4
	Fin type (code)		Non-hydrophilic aluminium	Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ9.53,innergroove tube	Φ9.53,innergroove tube	Φ9.53,innergroove tube
	Coil length x height x width	mm	797X660X44	797X660X44	797X660X44
	Number of circuits		4	4	4
Outdoor air flow		m ³ /h	2500	2500	2500
Outdoor noise level		dB(A)	≤60	≤60	≤60
Outdoor unit	Dimension(W*H*D)	mm	845X695X335	845X695X335	845X695X335
	Packing (W*H*D)	mm	965X847X395	965X847X395	965X847X395
	Net/Gross weight	kg	63/67	64/68	64/68
Refrigerant type R407C		g	R407C/1800	R407C/1850	R407C/1850
Design pressure		MPa	2.8	2.8	2.8
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ9.53/Φ16.0(3/8"-5/8")	Φ9.53/Φ16.0(3/8"-5/8")	Φ9.53/Φ16.0(3/8"-5/8")
	Max. refrigerant pipe length	m	15	15	15
	Max. difference in level	m	8	8	8
Connection wiring			No	No	No
Plug type			No	No	No
Controller			Remote	Remote	Remote
Operation temp		°C	17-30	17-30	17-30
Ambient temp		°C	18-45	—7-45	—7-45
Application area		m ²	40~56	40~56	40~56
Qty' per 20' & 40' Fcl		Pieces	43/87/97	43/87/97	43/87/97

Notes: 1. Nominal cooling capacities are based on the following conditions:

Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB;

2. Nominal heating capacities are based on the following conditions:

Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB;

3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

R407C

Model			MFS2-24CRN2	MFS2-24ARN2
Power supply		Ph-V-Hz	380-420V,3N~, 50Hz	380-420V,3N~, 50Hz
Cooling	Capacity	Btu/h	24000	24000
	Capacity	kW	7.13	7.07
	Input	W	2900	2900
	Rated current	A	5.2	5.2
	EER	Btu/w.h	8.4	8.3
Heating	Capacity	Btu/h	/	28000
	Capacity	kW	/	8.38
	Electric heating	W	/	2500
	Input	W	/	2900+2500
	Rated current	A	/	5.2+4.4
	COP	Btu/w.h	/	9.9
Moisture Removal		L/h	2.7	2.7
Max. input consumption		W	3800	5800
Max. current		A	7.5	11.8
Starting current		A	30	45
Compressor	Model		HQ034YAA	HQ034YAA
	Type		Scroll	Scroll
	Brand		LG	LG
	Capacity	Btu/h	29000/29200	29000/29200
	Input	W	2760/2835	2760/2835
	Rated current(RLA)	A	5.8/6.2	5.8/6.2
	Locked rotor Amp(LRA)	A	40	40
	Thermal protector		Internal	Internal
	Capacitor	uF	/	/
	Refrigerant oil	ml	750	750
Indoor fan motor	Model		YDK72-10Q	YDK72-10Q
	Brand		WELLING/SINYA/ZHONGSHAN BROAD-OCEAN/Tianma	WELLING/SINYA/ZHONGSHAN BROAD-OCEAN/Tianma
	Input	W	132/107	132/107
	Capacitor	uF	2.5	2.5
	Speed(hi/mi/lo)	r/min	470/370	470/370
Indoor coil	Number of rows		2	2
	Tube pitch(a)x row pitch(b)	mm	21X13.35	21X13.35
	Fin spacing	mm	1.3	1.3
	Fin type (code)		Hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ 7,Innergroove tube	Φ 7,Innergroove tube
	Coil length x height x width	mm	382x777x26.74	382x777x26.74
	Number of circuits		6	6

Indoor air flow		m ³ /h	1000	1000
Indoor noise level		dB(A)	40	40
Indoor unit	Dimension (W*H*D)	mm	500×1665×273	500×1665×273
	Packing (W*H*D)	mm	585×1805×380	585×1805×380
	Net/Gross weight	kg	46/57	46/57
Outdoor fan motor	Model		YDK100-6D	YDK100-6D
	Brand		Welling	Welling
	Input	W	169	169
	Capacitor	uF	5	5
	Speed	r/min	900	900
Outdoor coil	Number of rows		2	2
	Tube pitch(a)× row pitch(b)	mm	25.4×22	25.4×22
	Fin spacing	mm	1.4	1.4
	Fin type (code)		Non-hydrophilic aluminium	Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ9.53,innergroove tube	Φ9.53,innergroove tube
	Coil length x height x width	mm	797X660X44	797X660X44
	Number of circuits		4	4
Outdoor air flow		m ³ /h	2600	2600
Outdoor noise level		dB(A)	≤60	≤60
Outdoor unit	Dimension(W*H*D)	mm	845X695X335	845X695X335
	Packing (W*H*D)	mm	965X847X395	965X847X395
	Net/Gross weight	kg	63/67	64/68
Refrigerant type R407C		g	R407C/1850	R407C/1900
Design pressure		MPa	2.6	2.6
Refrigerant piping	Liquid side/ Gas side	mm(inch)	Φ9.53/Φ16.0(3/8"-5/8")	Φ9.53/Φ16.0(3/8"-5/8")
	Max. refrigerant pipe length	m	15	15
	Max. difference in level	m	8	8
Connection wiring			No	No
Plug type			No	No
Controller			Remote	Remote
Operation temp		°C	17-30	17-30
Ambient temp		°C	18-45	—7-45
Application area		m ²	40~56	40~56
Qty'per 20' & 40' Fcl		Pieces	43/87/97	43/87/97

Notes: 1. Nominal cooling capacities are based on the following conditions:

Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB;

2. Nominal heating capacities are based on the following conditions:

Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB;

3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

R407C

Model		MFS2-48CRN2	MFS2-48ARN2
Power supply		Ph-V-Hz	380-420V,3N~, 50Hz
Cooling	Capacity	Btu/h	42000
	Capacity	kW	12
	Input	W	5000
	Rated current	A	8.6
	EER	Btu/w.h	8.2
Heating	Capacity	Btu/h	/
	Capacity	kW	/
	Electric heating	W	/
	Input	W	/
	Rated current	A	/
	COP	Btu/w.h	/
Moisture Removal		L/h	4.2
Max. input consumption		W	6500
Max. current		A	12.5
Starting current		A	44
Compressor	Model		C-SBN373H8A
	Type		Scroll
	Brand		SANYO
	Capacity	Btu/h	55000
	Input	W	5400
	Rated current(RLA)	A	8.8
	Locked rotor Amp(LRA)	A	58
	Thermal protector		internal
	Capacitor	uF	/
	Refrigerant oil	ml	DAPHNE FV68S/1700
Indoor fan motor	Model		YDK120-8N
	Brand		WELLING
	Input	W	341/268
	Capacitor	uF	6.5
	Speed(hi/mi/lo)	r/min	580/480
Indoor coil	Number of rows		2
	Tube pitch(a)x row pitch(b)	mm	21X13.37
	Fin spacing	mm	1.4
	Fin type (code)		Hydrophilic aluminium
	Tube outside dia.and type	mm	Φ 7,Innergroove tube
	Coil length x height x width	mm	422x966x26.74
	Number of circuits		10
Indoor air flow		m3/h	2000

Indoor noise level		dB(A)	44	44
Indoor unit	Dimension (W*H*D)	mm	540×1775×379	540×1775×379
	Packing (W*H*D)	mm	665×1915×475	665×1915×475
	Net/Gross weight	kg	56/71	58/73
Outdoor fan motor	Model		YDK65-6(up)/YDK65-6F(down)	YDK65-6(up)/YDK65-6F(down)
	Brand		WELLING	WELLING
	Input	W	138(up)/156(down)	138(up)/156(down)
	Capacitor	uF	3.5 μ F/450V	3.5 μ F/450V
	Speed	r/min	800(up)/810(down)	800(up)/810(down)
Outdoor coil	Number of rows		2	2
	Tube pitch(a)x row pitch(b)	mm	25.4x22	25.4x22
	Fin spacing	mm	1.7	1.7
	Fin type (code)		Unhydrophilic aluminium	Unhydrophilic aluminium
	Tube outside dia.and type	mm	Φ9.53,innergroove tube	Φ9.53,innergroove tube
	Coil length x height x width	mm	912x1220x44	912x1220x44
	Number of circuits		8	8
Outdoor air flow		m ³ /h	6000	6000
Outdoor noise level		dB(A)	57	57
Outdoor unit	Dimension(W*H*D)	mm	940×1245×360	940×1245×360
	Packing (W*H*D)	mm	1020×1377×435	1020×1377×435
	Net/Gross weight	kg	99/114	110/125
Refrigerant type R407C		g	2400	4000
Design pressure		MPa	2.6	2.6
Refrigerant piping	Liquid side/ Gas side	Mm(inch)	Φ12.7/Φ19(1/2"-3/4")	Φ12.7/Φ19(1/2"-3/4")
	Max. refrigerant pipe length	m	15	15
	Max. difference in level	m	8	8
Connection wiring			No	No
Plug type			NO	NO
Controller			Remote	Remote
Operation temp		°C	17 30	17 30
Ambient temp		°C	18-45	—7-45
Application area		m ²	35	35
Qty'per 20' & 40' Fcl		Pieces	22/45/45	22/45/45

Notes: 1. Nominal cooling capacities are based on the following conditions:

Indoor temp: 27°CDB, 19°CWB; Outdoor temp: 35°CDB;

2. Nominal heating capacities are based on the following conditions:

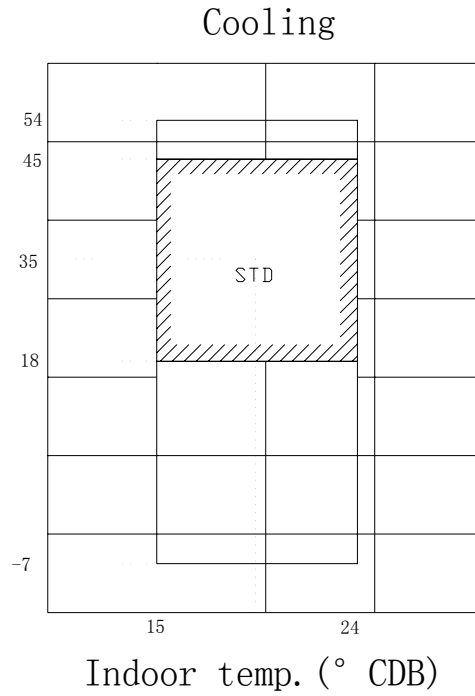
Indoor temp: 20°CDB; Outdoor temp: 7°CDB, 6°CWB;

3. Actual noise level may differ, depending on the room structure, etc, since these noise values are from an anechoic room.

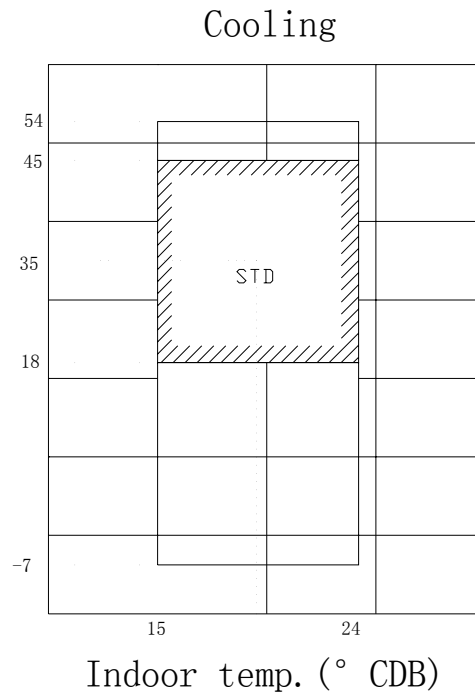
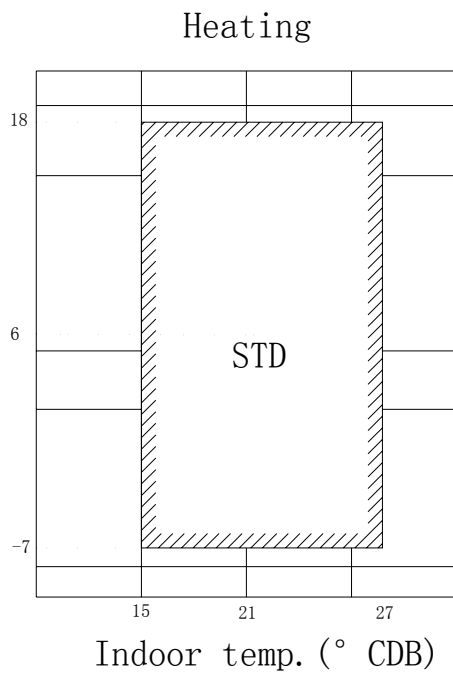
Part 3 Operation Range

Ensure the operating temperature is in allowable range.

Cooling only



Heat pump



Part 4 Capacity Table

Model: MFS2-24CRN2(1 phase)

COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total capacity kW	6.93	6.63	6.38	6.02	5.78	5.60	5.42
	Sensitive capacity kW	5.54	5.30	5.11	4.82	4.63	4.48	4.34
	Input kW.	1.83	2.09	2.35	2.61	2.87	3.13	3.39
24°C D 17°C W	Total capacity kW	7.59	7.26	6.99	6.60	6.33	6.13	5.94
	Sensitive capacity kW	6.07	5.80	5.59	5.28	5.07	4.91	4.75
	Input kW.	1.93	2.20	2.48	2.76	3.03	3.31	3.58
27°C D 19°C W	Total capacity kW	8.25	7.89	7.60	7.17	6.88	6.67	6.45
	Sensitive capacity kW	6.60	6.31	6.08	5.74	5.51	5.33	5.16
	Input kW.	2.03	2.32	2.61	2.90	3.19	3.48	3.77
32°C D 23°C W	Total capacity kW	9.48	9.07	8.74	8.25	7.92	7.67	7.42
	Sensitive capacity kW	7.59	7.26	6.99	6.60	6.33	6.13	5.94
	Input kW.	2.33	2.67	3.00	3.34	3.67	4.00	4.34

Model: MFS2-24CRN2(3 phase)

COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total capacity kW	6.84	5.47	4.56	4.10	3.88	3.46	3.19
	Sensitive capacity kW	3.48	2.78	2.32	2.20	2.09	1.97	1.86
	Input kW.	7.70	6.16	5.13	4.62	4.36	3.85	3.59
24°C D 17°C W	Total capacity kW	3.92	3.13	2.61	2.48	2.35	2.22	2.09
	Sensitive capacity kW	8.55	6.84	5.70	5.13	4.85	4.28	3.99
	Input kW.	4.35	3.48	2.90	2.76	2.61	2.47	2.32
27°C D 19°C W	Total capacity kW	9.41	7.52	6.27	5.64	5.33	4.70	4.39
	Sensitive capacity kW	4.79	3.83	3.19	3.03	2.87	2.71	2.55
	Input kW.	11.12	8.89	7.41	6.67	6.30	5.56	5.19
32°C D 23°C W	Total capacity kW	5.66	4.52	3.77	3.58	3.39	3.20	3.02
	Sensitive capacity kW	6.84	5.47	4.56	4.10	3.88	3.46	3.19
	Input kW.	3.48	2.78	2.32	2.20	2.09	1.97	1.86

Model: MFS2-24HRN2(1 phase)

COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total capacity kW	6.88	6.58	6.34	5.98	5.74	5.56	5.38
	Sensitive capacity kW	5.50	5.26	5.07	4.78	4.59	4.45	4.31
	Input kW.	1.83	2.09	2.35	2.61	2.87	3.13	3.39
24°C D 17°C W	Total capacity kW	7.53	7.21	6.94	6.55	6.29	6.09	5.90
	Sensitive capacity kW	6.03	5.76	5.55	5.24	5.03	4.87	4.72
	Input kW.	1.93	2.20	2.48	2.76	3.03	3.31	3.58
27°C D 19°C W	Total capacity kW	8.19	7.83	7.55	7.12	6.84	6.62	6.41
	Sensitive capacity kW	6.55	6.27	6.04	5.70	5.47	5.30	5.13
	Input kW.	2.03	2.32	2.61	2.90	3.19	3.48	3.77
32°C D 23°C W	Total capacity kW	9.42	9.01	8.68	8.19	7.86	7.61	7.37
	Sensitive capacity kW	7.53	7.21	6.94	6.55	6.29	6.09	5.90
	Input kW.	2.33	2.67	3.00	3.34	3.67	4.00	4.34

Model: MFS2-24HRN2(1 phase)

HEATING		OUTDOOR TEMPERATURE							
Indoor Conditions		24°C D	12°C D	7°C D	4°C D	0°C D	-5°C D	-7°C D	-15°C D
		18°C W	11°C W	6°C W	3°C W	-1°C W	-6°C W	-8°C W	-16°C W
15°C	Capacity kW	10.44	8.35	6.96	6.26	5.92	5.29	4.87	4.52
	Input kW.	3.48	2.78	2.32	2.20	2.09	1.97	1.86	1.62
18°C	Capacity kW	11.75	9.40	7.83	7.05	6.66	5.87	5.48	5.09
	Input kW.	3.92	3.13	2.61	2.48	2.35	2.22	2.09	1.83
20°C	Capacity kW	13.05	10.44	8.70	7.83	7.40	6.53	6.09	5.66
	Input kW.	4.35	3.48	2.90	2.76	2.61	2.47	2.32	2.03
22°C	Capacity kW	14.36	11.48	9.57	8.61	8.13	7.18	6.70	6.22
	Input kW.	4.79	3.83	3.19	3.03	2.87	2.71	2.55	2.23
27°C	Capacity kW	16.97	13.57	11.31	10.18	9.61	8.48	7.92	7.35
	Input kW.	5.66	4.52	3.77	3.58	3.39	3.20	3.02	2.64

Model: MFS2-24HRN2(3 phase)

COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total capacity kW	6.83	6.53	6.30	5.94	5.70	5.52	5.34
	Sensitive capacity kW	5.46	5.23	5.04	4.75	4.56	4.42	4.28
	Input kW.	1.83	2.09	2.35	2.61	2.87	3.13	3.39
24°C D 17°C W	Total capacity kW	7.48	7.15	6.89	6.50	6.24	6.05	5.85
	Sensitive capacity kW	5.98	5.72	5.52	5.20	5.00	4.84	4.68
	Input kW.	1.93	2.20	2.48	2.76	3.03	3.31	3.58
27°C D 19°C W	Total capacity kW	8.13	7.78	7.49	7.07	6.79	6.58	6.36
	Sensitive capacity kW	6.50	6.22	6.00	5.66	5.43	5.26	5.09
	Input kW.	2.03	2.32	2.61	2.90	3.19	3.48	3.77
32°C D 23°C W	Total capacity kW	9.35	8.94	8.62	8.13	7.81	7.56	7.32
	Sensitive capacity kW	7.48	7.15	6.89	6.50	6.24	6.05	5.85
	Input kW.	2.33	2.67	3.00	3.34	3.67	4.00	4.34

Model: MFS2-24HRN2(3phase)

HEATING		OUTDOOR TEMPERATURE							
Indoor Conditions		24°C D	12°C D	7°C D	4°C D	0°C D	-5°C D	-7°C D	-15°C D
		18°C W	11°C W	6°C W	3°C W	-1°C W	-6°C W	-8°C W	-16°C W
15°C	Capacity kW	10.06	8.04	6.70	6.03	5.70	5.09	4.69	4.36
	Input kW.	3.48	2.78	2.32	2.20	2.09	1.97	1.86	1.62
18°C	Capacity kW	11.31	9.05	7.54	6.79	6.41	5.66	5.28	4.90
	Input kW.	3.92	3.13	2.61	2.48	2.35	2.22	2.09	1.83
20°C	Capacity kW	12.57	10.06	8.38	7.54	7.12	6.29	5.87	5.45
	Input kW.	4.35	3.48	2.90	2.76	2.61	2.47	2.32	2.03
22°C	Capacity kW	13.83	11.06	9.22	8.30	7.84	6.91	6.45	5.99
	Input kW.	4.79	3.83	3.19	3.03	2.87	2.71	2.55	2.23
27°C	Capacity kW	16.34	13.07	10.89	9.80	9.26	8.17	7.63	7.08
	Input kW.	5.66	4.52	3.77	3.58	3.39	3.20	3.02	2.64

Model: MFS2-48ARN2

COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total capacity kW	11.59	11.09	10.68	10.08	9.68	9.37	9.07
	Sensitive capacity kW	9.27	8.87	8.55	8.06	7.74	7.50	7.26
	Input kW.	3.15	3.60	4.05	4.50	4.95	5.40	5.85
24°C D 17°C W	Total capacity kW	12.70	12.14	11.70	11.04	10.60	10.27	9.94
	Sensitive capacity kW	10.16	9.72	9.36	8.83	8.48	8.21	7.95
	Input kW.	3.33	3.80	4.28	4.75	5.23	5.70	6.18
27°C D 19°C W	Total capacity kW	13.80	13.20	12.72	12.00	11.52	11.16	10.80
	Sensitive capacity kW	11.04	10.56	10.18	9.60	9.22	8.93	8.64
	Input kW.	3.50	4.00	4.50	5.00	5.50	6.00	6.50
32°C D 23°C W	Total capacity kW	15.87	15.18	14.63	13.80	13.25	12.83	12.42
	Sensitive capacity kW	12.70	12.14	11.70	11.04	10.60	10.27	9.94
	Input kW.	4.03	4.60	5.18	5.75	6.33	6.90	7.48

Model: MFS2-48ARN2

HEATING		OUTDOOR TEMPERATURE							
Indoor Conditions		24°C D 18°C W	12°C D 11°C W	7°C D 6°C W	4°C D 3°C W	0°C D -1°C W	-5°C D -6°C W	-7°C D -8°C W	-15°C D -16°C W
15°C	Capacity kW	15.12	12.88	11.20	9.52	8.51	7.82	6.94	6.27
	Input kW.	6.60	5.28	4.40	4.18	3.96	3.74	3.52	3.08
18°C	Capacity kW	17.01	14.49	12.60	10.71	9.58	8.69	7.81	7.06
	Input kW.	7.43	5.94	4.95	4.70	4.46	4.21	3.96	3.47
20°C	Capacity kW	18.90	16.10	14.00	11.90	10.64	9.66	8.68	7.84
	Input kW.	8.25	6.60	5.50	5.23	4.95	4.68	4.40	3.85
22°C	Capacity kW	20.79	17.71	15.40	13.09	11.70	10.63	9.55	8.62
	Input kW.	9.08	7.26	6.05	5.75	5.45	5.14	4.84	4.24
27°C	Capacity kW	24.57	20.93	18.20	15.47	13.83	12.56	11.28	10.19
	Input kW.	10.73	8.58	7.15	6.79	6.44	6.08	5.72	5.01

Model: MFS2-48CRN2

COOLING		OUTDOOR TEMPERATURE DRY						
Indoor Conditions		21°C	25°C	30°C	35°C	40°C	45°C	50°C
21°C D 15°C W	Total capacity kW	11.19	10.79	10.38	10.08	9.27	8.16	7.56
	Sensitive capacity kW	8.95	8.63	8.31	8.06	7.42	6.53	6.05
	Input kW.	3.40	3.89	4.37	4.86	5.35	5.83	6.32
24°C D 17°C W	Total capacity kW	12.25	11.81	11.37	11.04	10.16	8.94	8.28
	Sensitive capacity kW	9.80	9.45	9.10	8.83	8.13	7.15	6.62
	Input kW.	3.59	4.10	4.62	5.13	5.64	6.16	6.67
27°C D 19°C W	Total capacity kW	13.32	12.84	12.36	12.00	11.04	9.72	9.00
	Sensitive capacity kW	10.66	10.27	9.89	9.60	8.83	7.78	7.20
	Input kW.	3.78	4.32	4.86	5.40	5.94	6.48	7.02
32°C D 23°C W	Total capacity kW	15.32	14.77	14.21	13.80	12.70	11.18	10.35
	Sensitive capacity kW	12.25	11.81	11.37	11.04	10.16	8.94	8.28
	Input kW.	4.35	4.97	5.59	6.21	6.83	7.45	8.07

Part 5. Electric Control Functions

1. Performance Index

No.	Item	Index
1	Applicable Voltage Range	185-253V, 342-418V
2	A/C Frequency	50Hz
3	Working environment temperature	-5°C- +43°C

2. Main data Introduction

Ts : Set temperature,

T1 : Room temperature

T2: Evaporator pipe temperature

3. Operation Modes and Functions

3.1 Manual Operation

3.2 Heating Mode

3.2.1 Four-way valve opens at once, while defrosting process closes.

3.2.2 Condition for the compressor action: (Ts = set temperature, T1 = room temperature)

	Condition	Compressor and outdoor fan
Room temperature up	$T1-Ts=0^{\circ}\text{C}$	Off
	$T1-Ts>-1^{\circ}\text{C}$	On
Room temperature down	$T1-Ts<-1^{\circ}\text{C}$	On
	$T1-Ts=0^{\circ}\text{C}$	Off

3.2.3 Indoor Fan Action

3.2.3.1 Anytime remote switchover for fan speed among high/low/auto, anti-cold air function takes priority.

Auto fan in heating mode

	Condition	Fan speed
Room temperature up	$T1-Ts>-1^{\circ}\text{C}$	Low
	$T1-Ts<-1^{\circ}\text{C}$	Hi.
Room temperature down	$T1-Ts<-2^{\circ}\text{C}$	Hi.
	$-2^{\circ}\text{C} < T1-Ts < -1^{\circ}\text{C}$	Low

3.2.3.2 Anti-cold air:

Switchover between fan speed and fine tune can be set according to temperature of evaporator pipe (T2).

	Condition	Fan speed
Room temperature up	$T2<25^{\circ}\text{C}$	Off
	$25^{\circ}\text{C} < T2 < 32^{\circ}\text{C}$	Low
	$T2>32^{\circ}\text{C}$	Set fan speed
Room temperature down	$T2>22^{\circ}\text{C}$	Set fan speed
	$20^{\circ}\text{C} < T2 < 22^{\circ}\text{C}$	Low
	$T2<20^{\circ}\text{C}$	Off

3.3 Defrost (only available to heating mode)

3.3.1 Defrosting Conditions

3.3.1.1 Starting Of Defrosting Condition (meet one of the following is ok):

(1) Accumulated compressor operating time when temperature of outdoor heat exchanger coil T3 is below -2°C reaches up to over 46 minutes. (When T3 is over 20°C, calculate time again.)

(2) Under evaporator high temperature protection, the accumulated time when outdoor fan motor is off and compressor is on reaches up to over 90 minutes. (When T3 is over 20°C, calculate time again.)

3.3.1.2 High temperature defrosting condition:

Under high temperature protection of evaporator, the time when outdoor fan is shut down but compressor is not has been accumulated for up to 90 minutes.

3.3.2 Defrosting Action

Four-way valve, indoor fan, outdoor fan are shut down. Compressor keeps on .

3.3.3 Ending Of Defrosting Condition (meet one of the following is ok):

(1) Time of defrosting lasts 10 minutes.

(2) Temperature of outdoor coil T3 is up to 20°C.

3.4 Cooling Mode

3.4.1. Four-way valve is closed. If four-way valve is open before the machine enters cooling mode, then four-way valve will be closed at the first time, the compressor starts under the cooling mode.

3.4.2. Conditions for the compressor and outdoor fan action (Ts = set temperature)

	Condition	Compressor and outdoor fan
Room temperature up	$T1-Ts=0^{\circ}\text{C}$	Off
	$T1-Ts>1^{\circ}\text{C}$	On
Room temperature down	$T1-Ts>0^{\circ}\text{C}$	On
	$T1-Ts=0^{\circ}\text{C}$	Off

3.4.3. Action of Indoor Fan

3.4.3.1 HIGH/LOW/AUTO fan can be switched over for your comfort.

3.4.3.2 Auto fan under cooling mode.

	Condition	Fan speed
Room temperature up	$T1-Ts>2^{\circ}\text{C}$	Hi.
	$1^{\circ}\text{C} < T1-Ts < 2^{\circ}\text{C}$	Low
Room temperature down	$T1-Ts>1^{\circ}\text{C}$	Hi.
	$T1-Ts < 1^{\circ}\text{C}$	Low

3.5 Dehumidifying Mode

3.5.1 Indoor fan speed is low.

3.5.2. If certain protective condition is met, operation will be carried out.

3.6 Auto Mode

3.6.1. Under auto mode, the indoor fan is set to be auto.

3.6.2. When entering auto mode, the heating, fan only or cooling operation will be automatically chosen according to the room temperature T1 and the set temperature Ts.

Condition	Mode
$T1-Ts>1^{\circ}\text{C}$	Cooling
$-1^{\circ}\text{C} < T1-Ts < 1^{\circ}\text{C}$	Fan
$T1-Ts < -1^{\circ}\text{C}$	Heating(fan for cooling only type)

3.6.3. After one mode is chosen, if the condition lasts for 15 minutes, meanwhile the compressor doesn't start up within consecutive 15 minutes, the operation mode will be re-chosen according to the T1 and Ts.

3.6.4. If certain condition is met, then the corresponding protective function will be executed.

3.7. Fan Only Mode

3.7.1. Under this mode, four-way valve, compressor and outdoor fan are shut down.

3.7.2. High/Low/Auto fan can be switched over through manual control. Auto fan will be controlled in line with cooling auto fan with temperature set to be 24C.

4. Other Functions

4.1. LCD display

Mode, Set temp., fan speed, time, timer, protection etc.

4.2. Timer

The machine should be provided with max. Interval of 24h and min. resolution ratio of 15 minutes.

5. Trouble Shooting

5.1. Protective Function

5.1.1 3-minute delay for the compressor start-up

At the beginning of energizing or after the stop of the compressor, 3-minute delay will be needed to start the compressor.

When switching over between cooling/heating mode, the compressor stops automatically.

5.1.2 Evaporator protection against high temperature

5.1.2.1 Only available under heating mode.

5.1.2.2 The operation principle is as follows: (T2 = evaporator temperature)

Condition	Outdoor fan	Compressor
T2>56°C	Off	On
T2>62°C	Off	Off
T2<62°C	On	Off
T2<50°C	On	On

Note: During protection, the indoor fan continues operating at a set speed, while the anti-cold air function of heating and the compressor will be 3 minute delayed to shut down for protection.

5.1.3 Evaporator Protection against low temperature

5.1.3.1 Only available under cooling and dehumidifying status.

5.1.3.2 Protection principle:

Condition	Outdoor fan	Compressor
T2<2°C (last 3 minute)	Off	Off
T2>8°C	On	On

5.1.3.3 The restart of the compressor shall execute the delay protection.

5.1.4 Condenser high temperature protection

5.1.4.1 Only available to cooling and dehumidifying mode.

5.1.4.2 Action condition

Condition	Outdoor fan	Compressor
Condenser temp.>62°C	Off	Off
Condenser temp.<48°C	On	On

5.1.4.3 Delay protection should be performed when the compressor restarts.

5.1.5 Outdoor protection

When outdoor protection signal is high level, outdoor door unit will perform protection: the whole machine will be shut down while the indoor unit will indicate the corresponding protection signal.

The A/C will recover if outdoor errors are eliminated after the outdoor protection occurs.

5.2 Self-diagnosis

Codes	Contents
P4	Protection of temperature of indoor evaporator
P5	Protection of temperature of outdoor condenser
P9	Protection of defrosting or anti-cold wind
E1	Open-circuit and short-circuit of temperature sensors T1
E2	Temp. sensor T2 on indoor evaporator is open circuit or short circuit
E3	the condenser temperature sensor T3 is open or short
E6	Protection of outdoor unit

5.3 LEDs for the indication of outdoor trouble

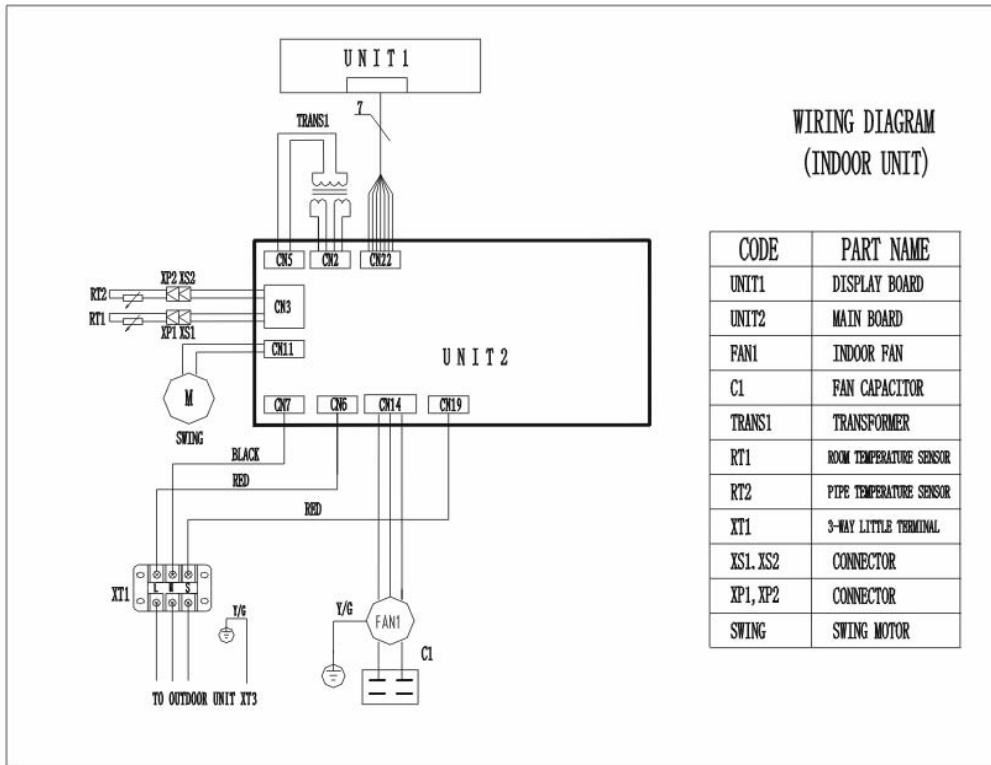
In normal operation, LEDs emit no light and they will flash at a frequency of 5 Hz when trouble occurs. Their codes are listed in the following table:

LED1	LED2	LED3	Contents
Off	Off	On	Ok
On	Off	On	Phase sequence error
Off	On	On	Overload of current
On	On	On	Lack of phase

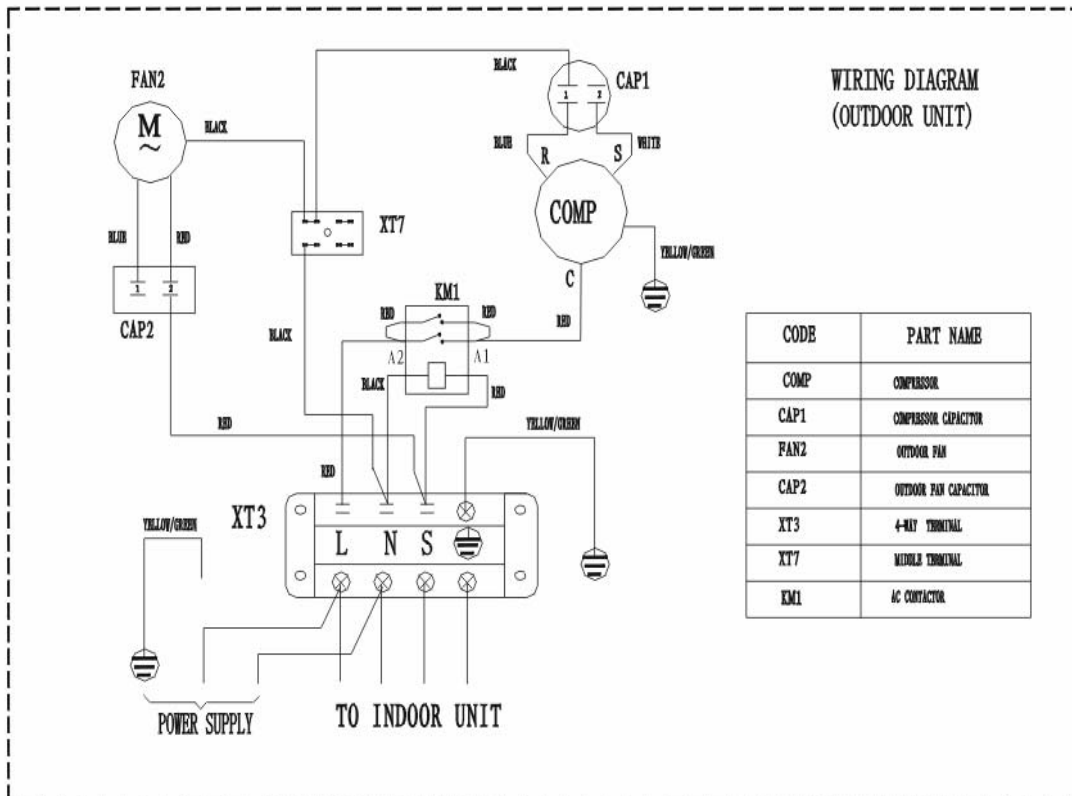
Part 6. Wiring Diagram

1. MFS2-24CR, MFS2-24CRN2(220-240V~,50Hz)

Indoor unit

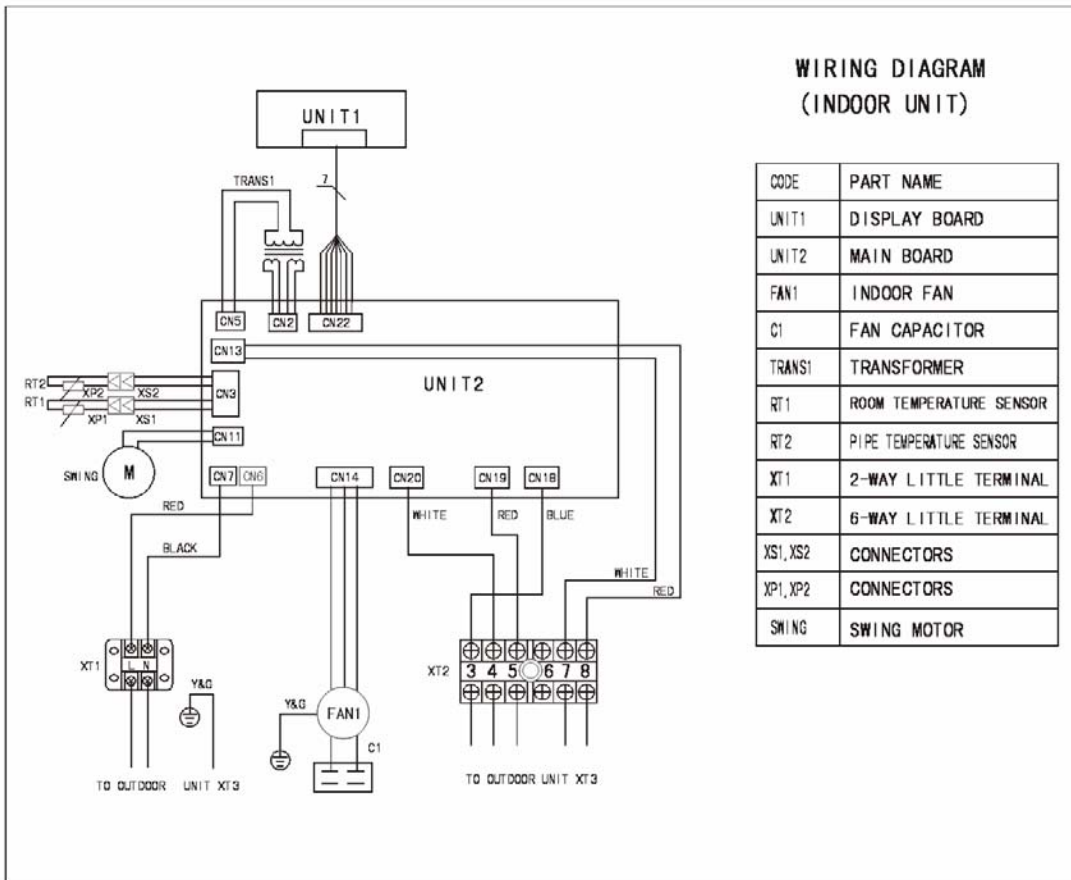


Outdoor unit

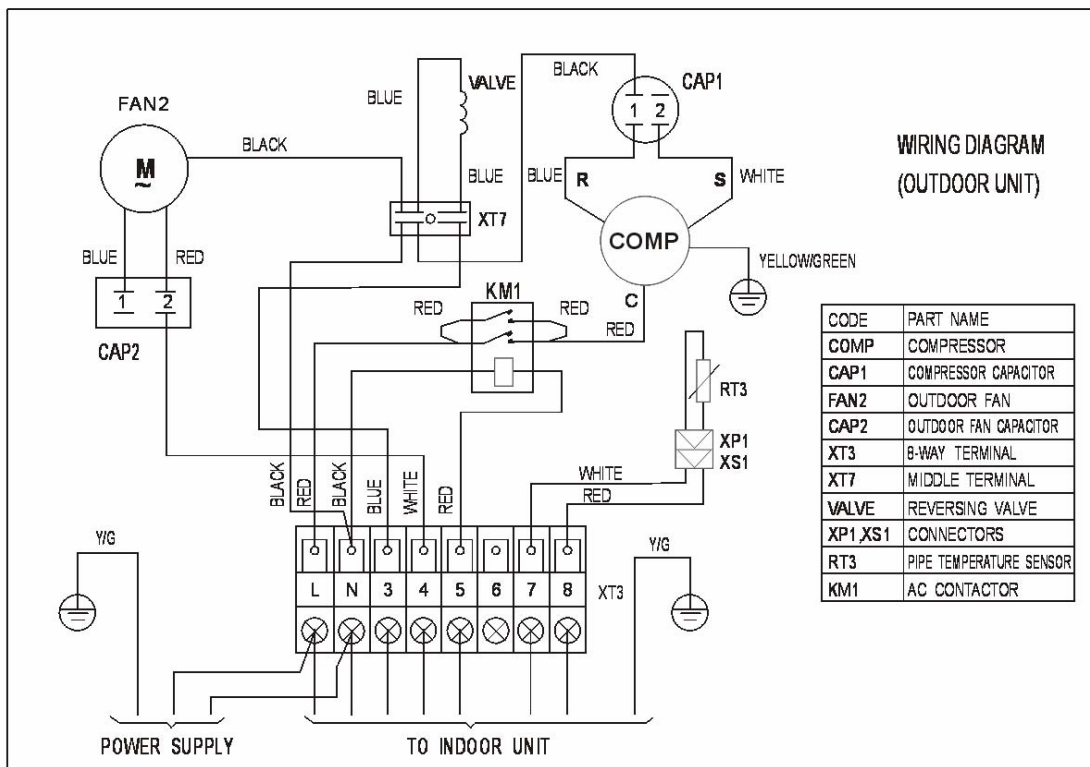


2. MFS2-24HR, MFS2-24HRN2(220-240V~,50Hz)

Indoor unit

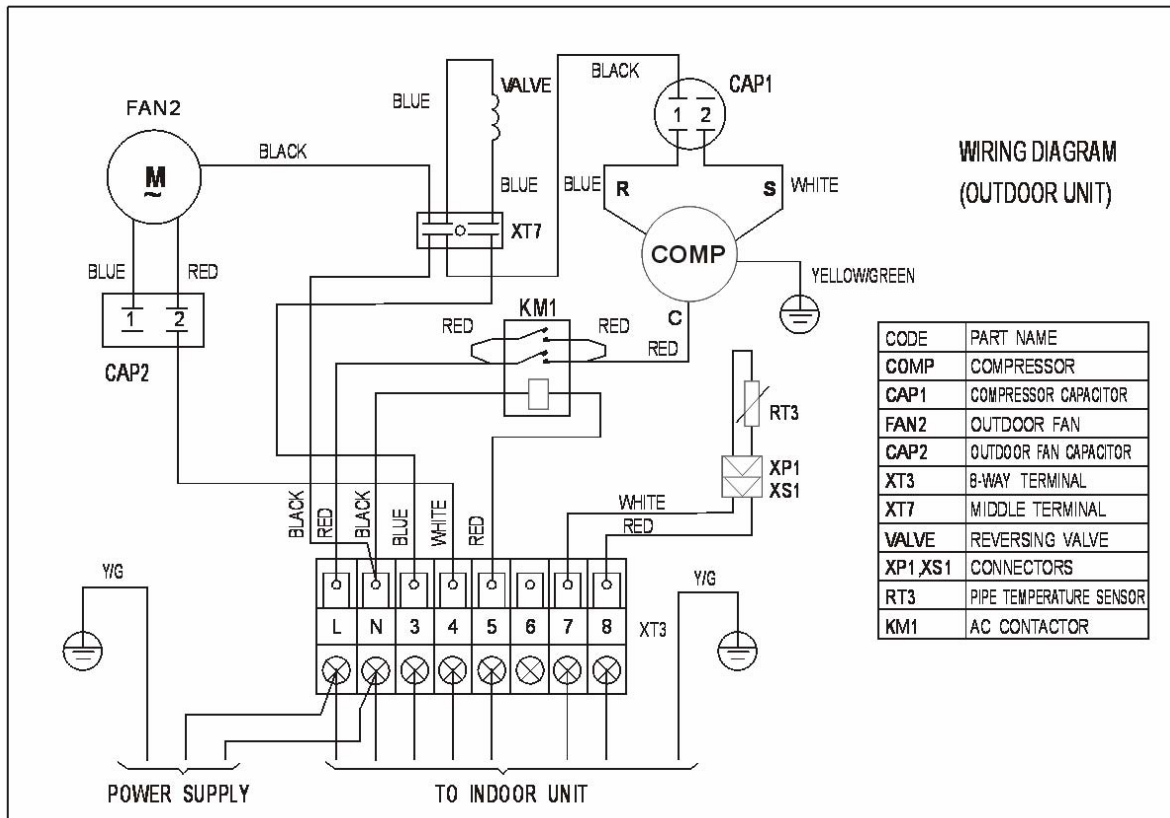


Outdoor unit

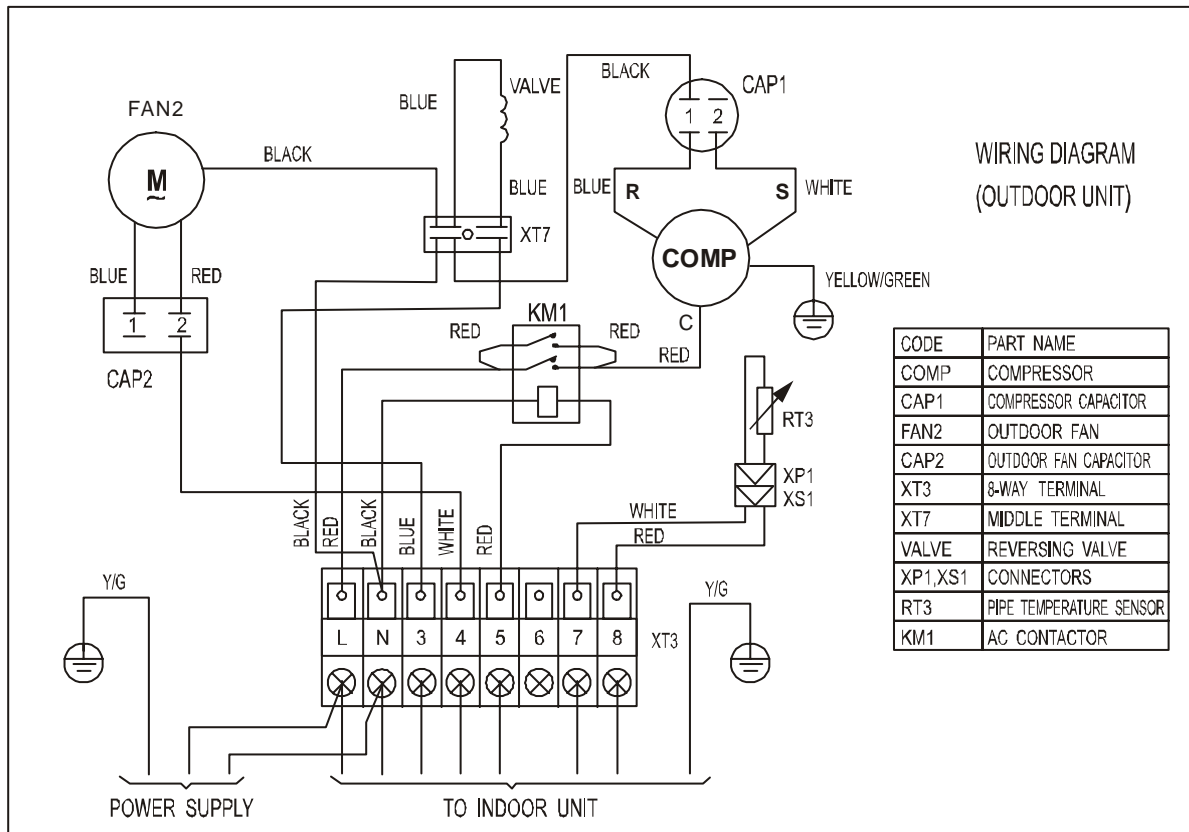


3. MFS2-24AR, MFS2-24ARN2(220-240V~,50Hz)

Indoor unit

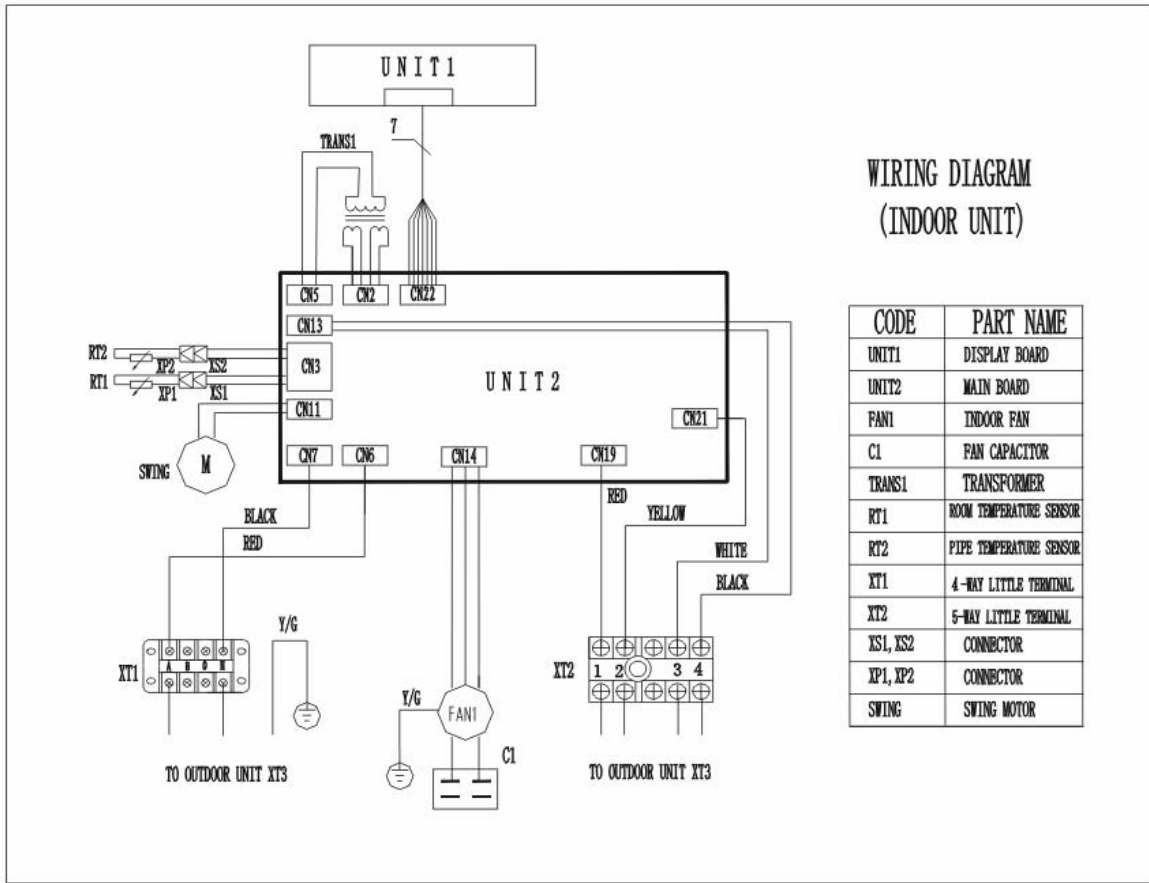


Outdoor unit

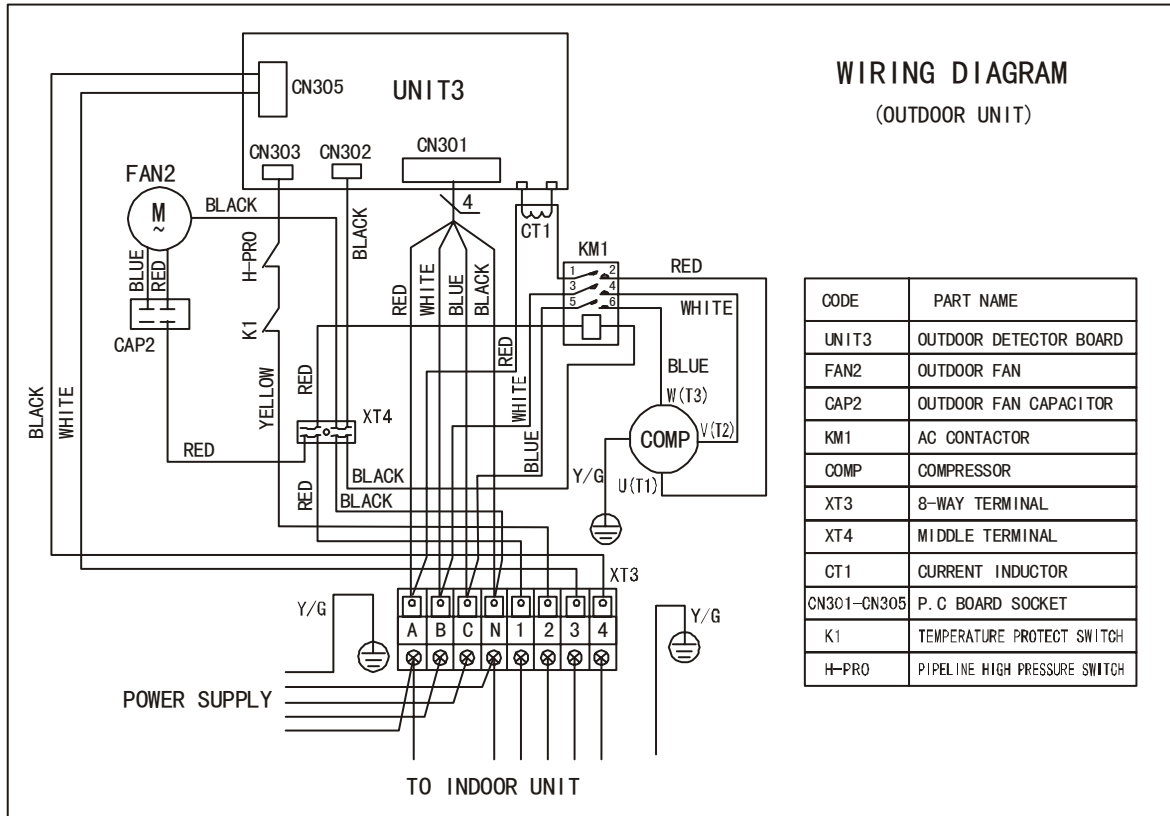


4. MFS2-24CR, MFS2-24CRN2(380V,3N~,50Hz)

Indoor unit

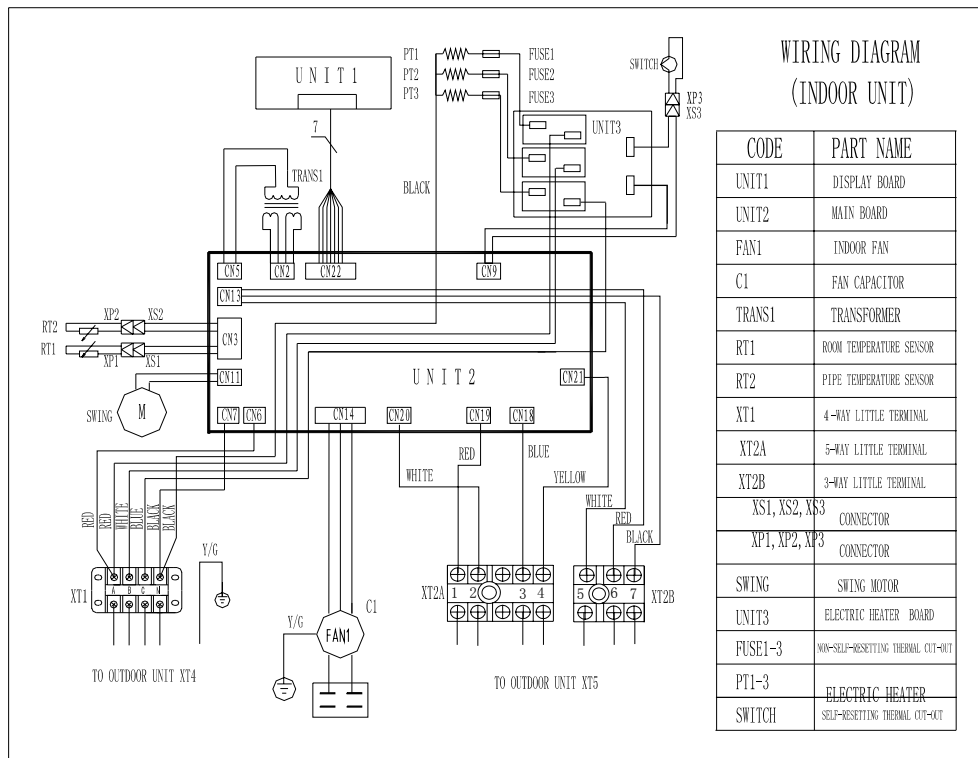


Outdoor unit

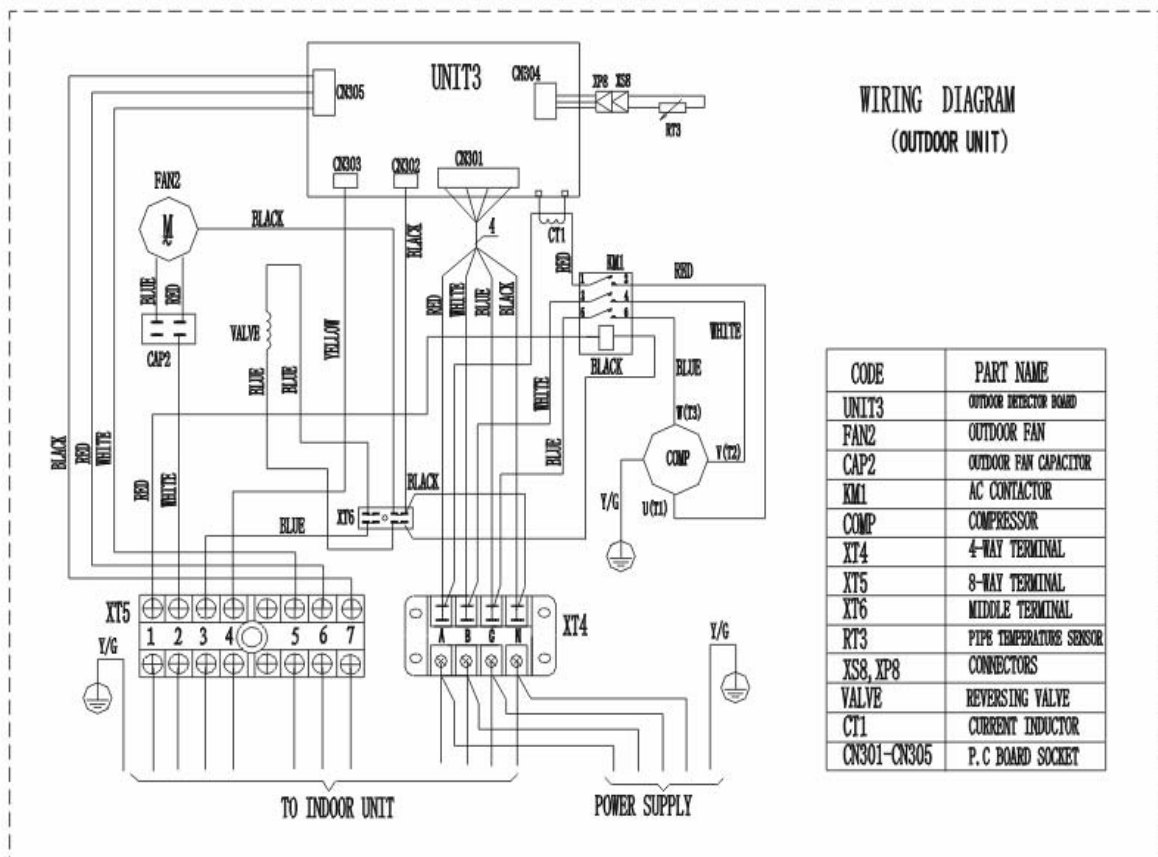


5. MFS2-24AR, MFS2-24ARN2(380V,3N~,50Hz)

Indoor unit

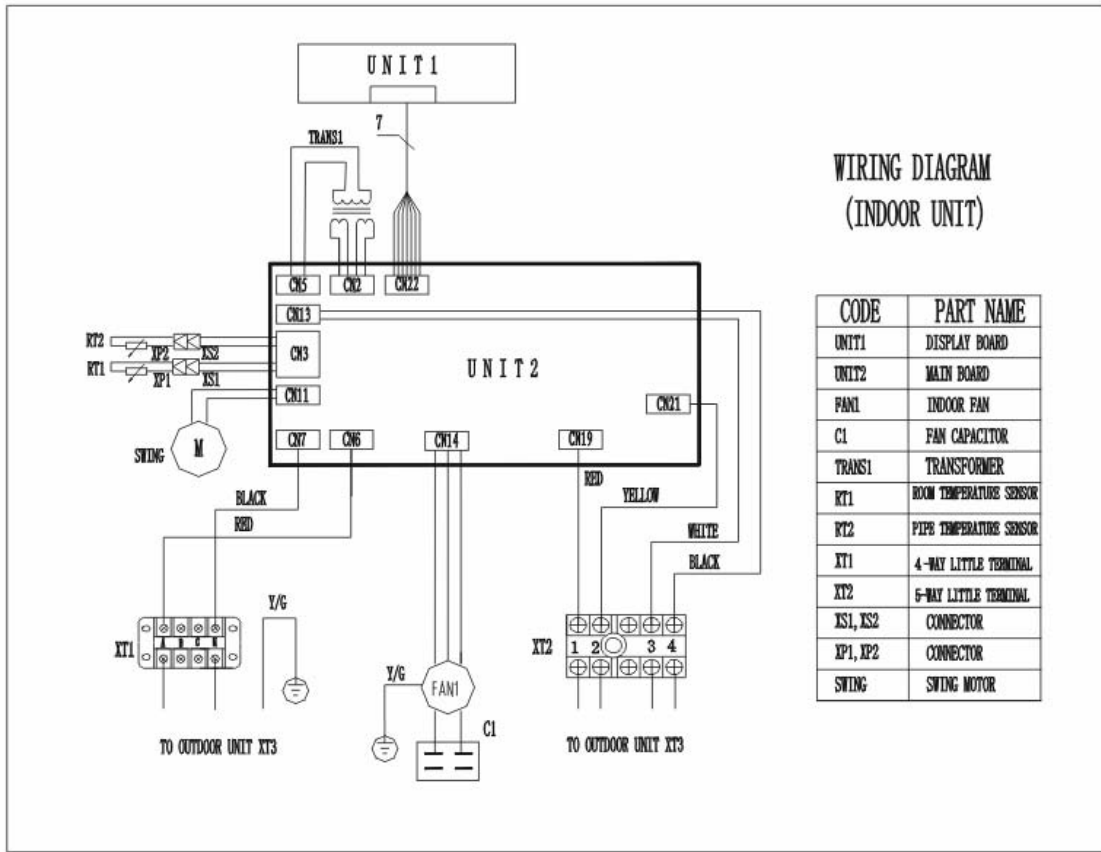


Outdoor unit

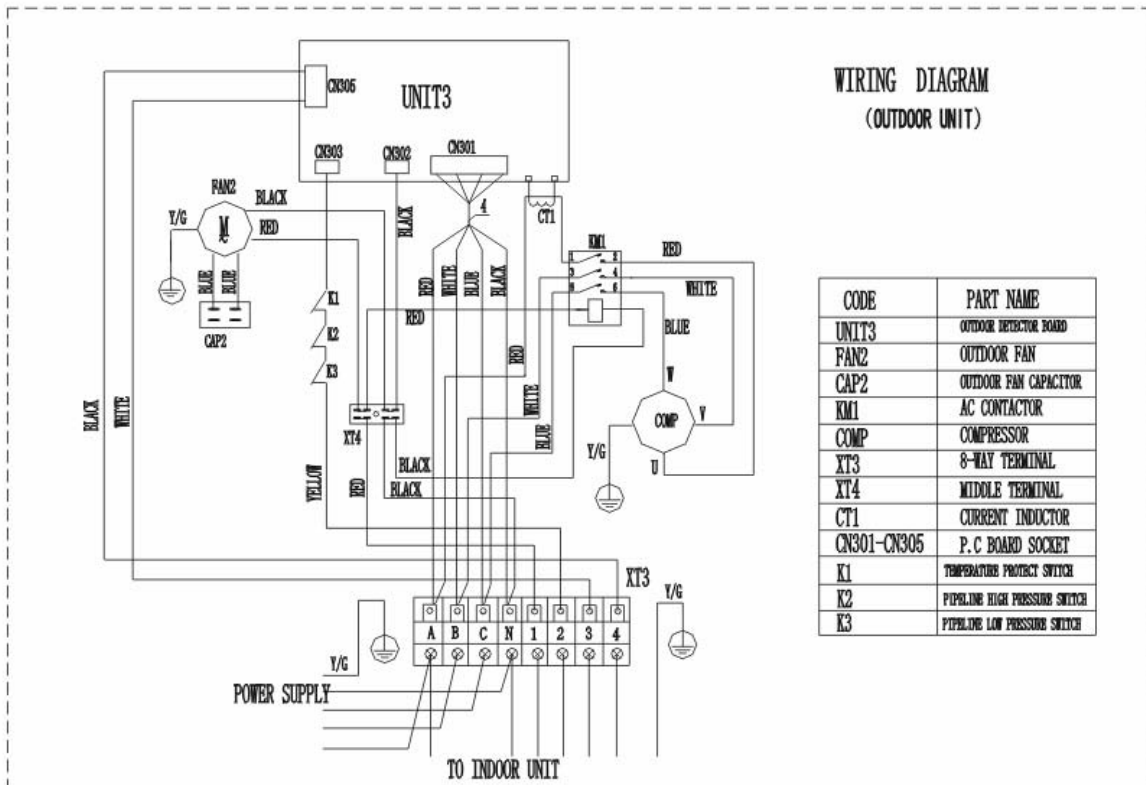


6. MFS2-48CR (380V,3N~,50Hz)

Indoor unit

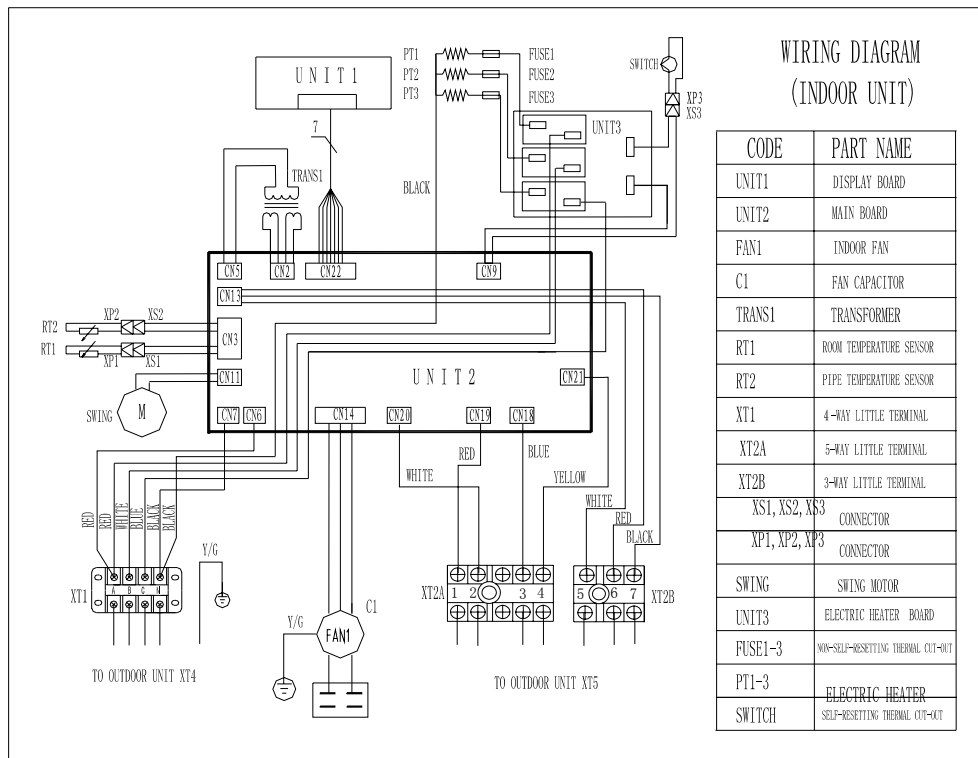


Outdoor unit

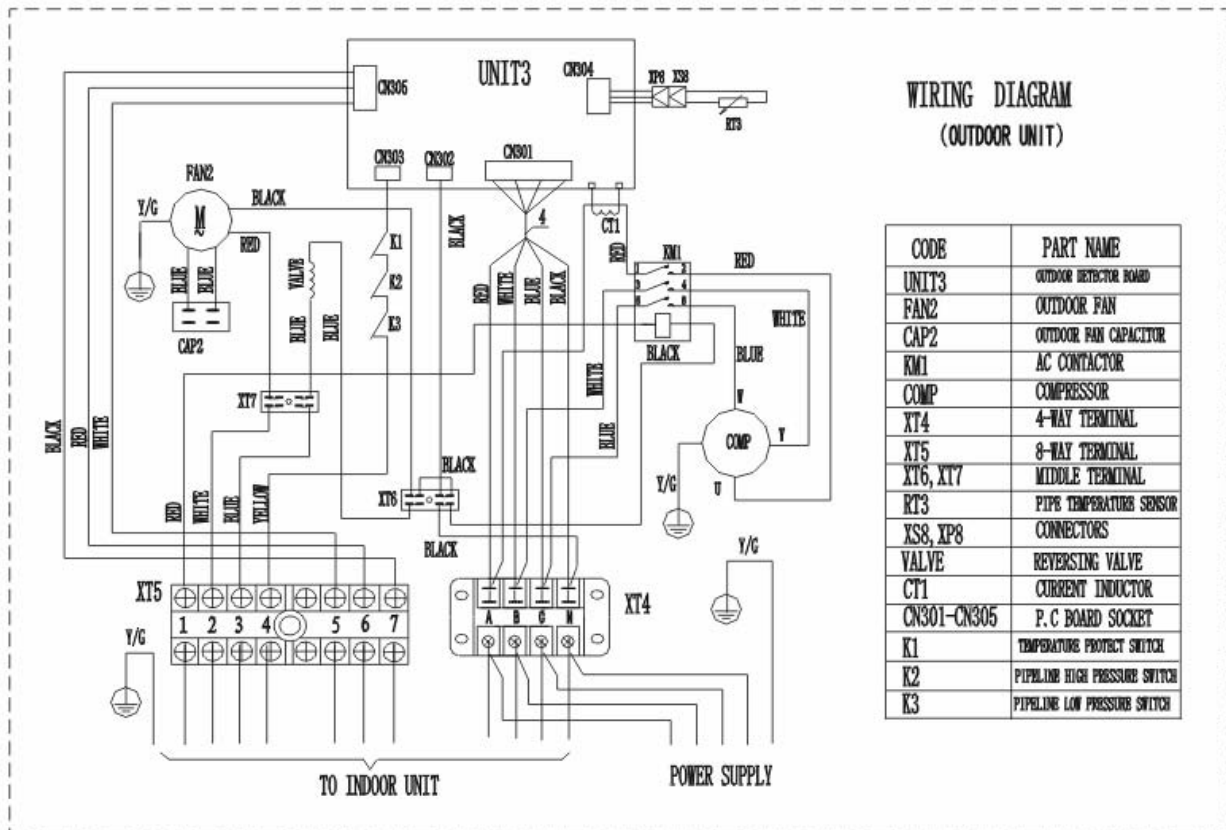


7. MFS2-48AR (380V,3N~,50Hz)

Indoor unit

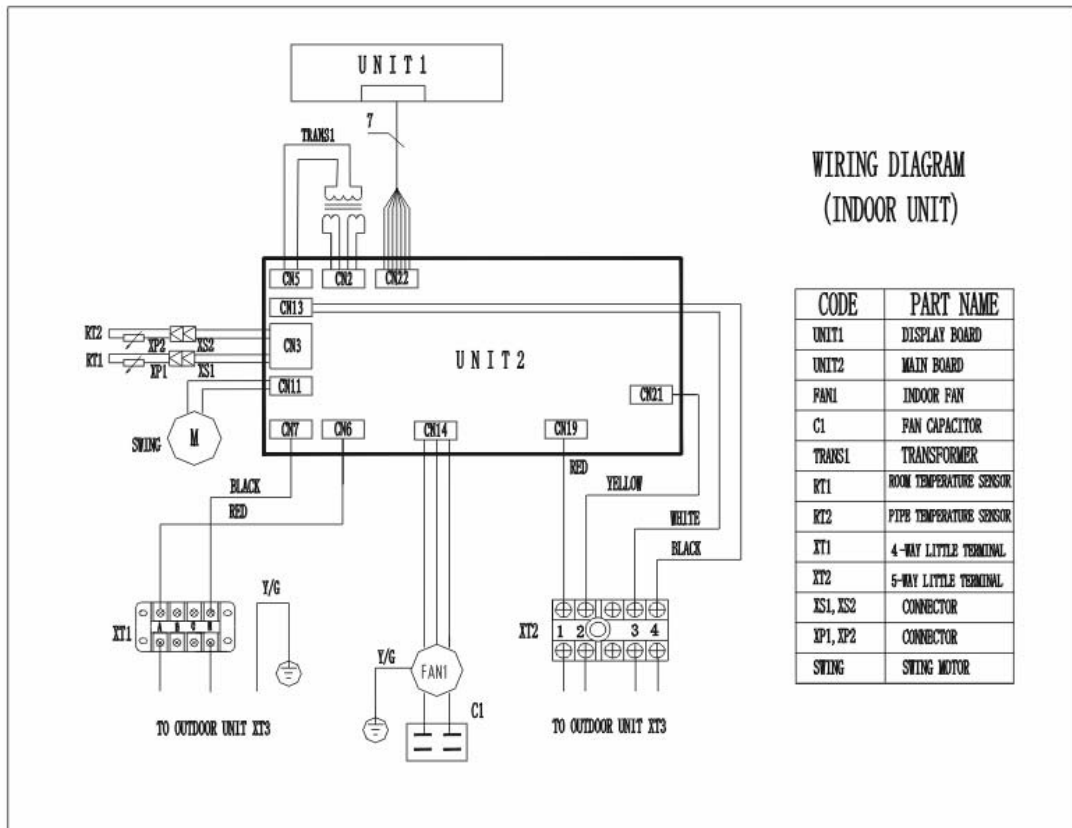


Outdoor unit

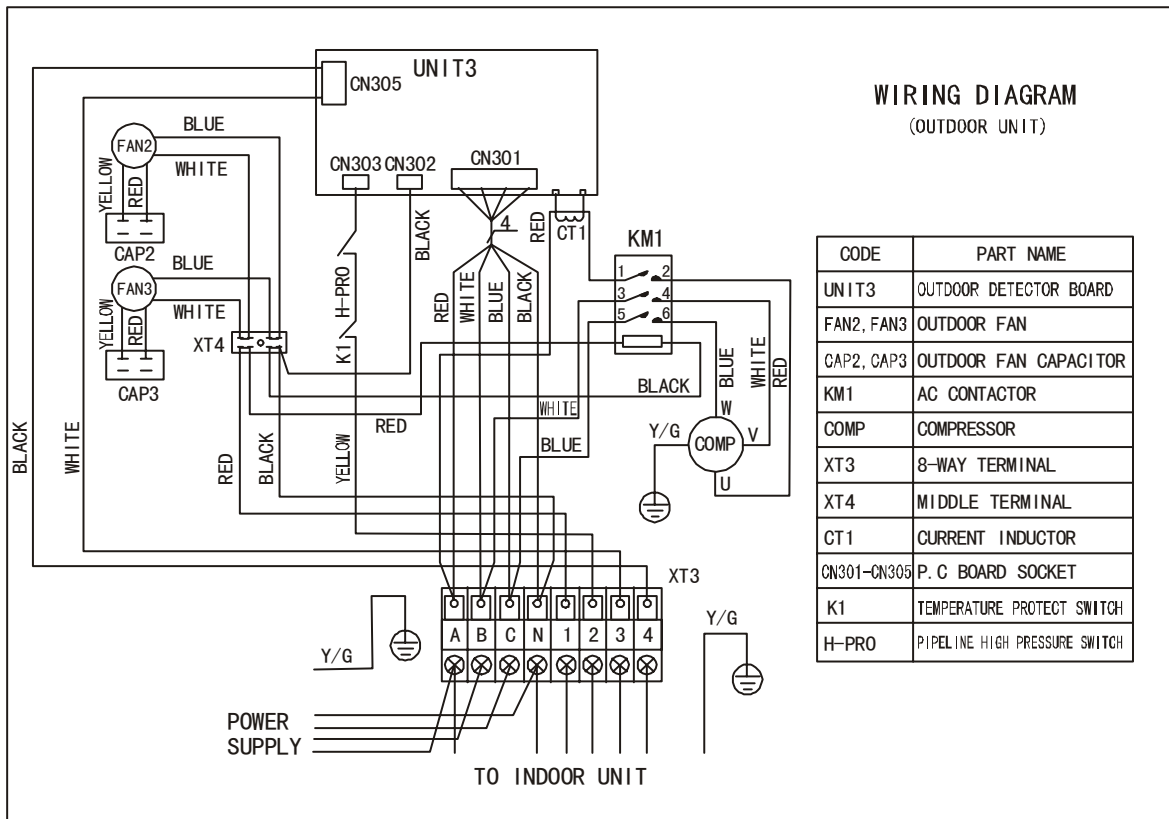


8. MFS2-48CRN2 (380V,3N~,50Hz)

Indoor unit

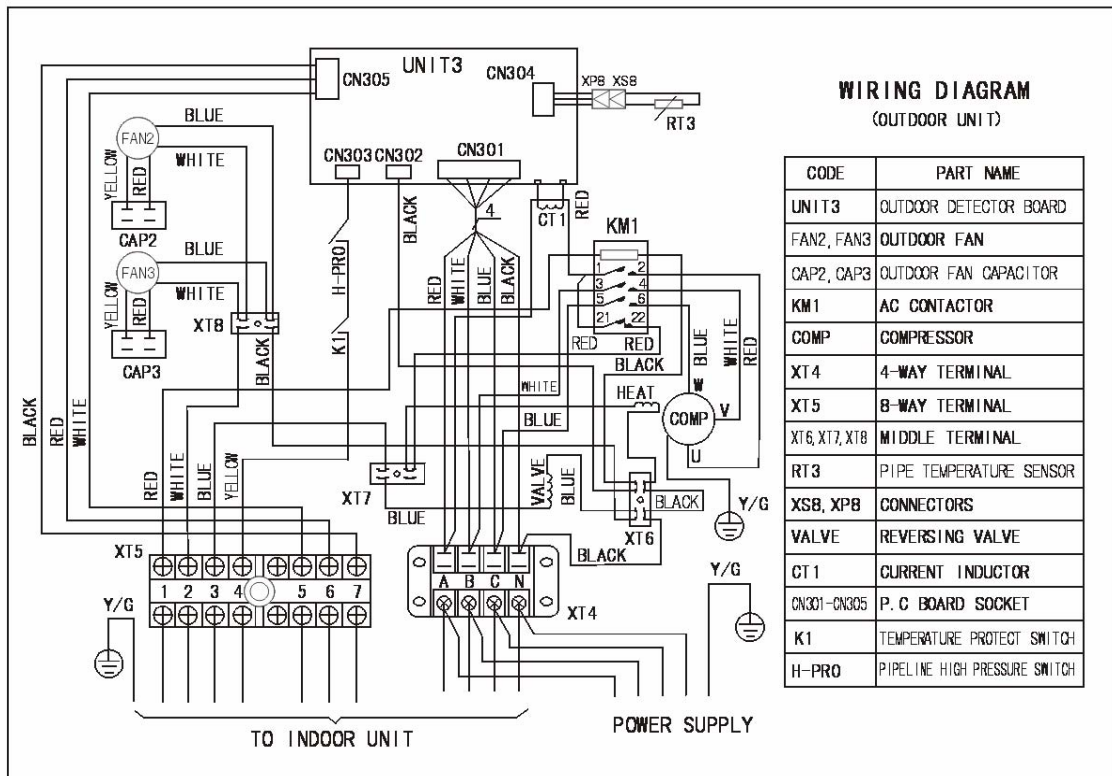


Outdoor unit

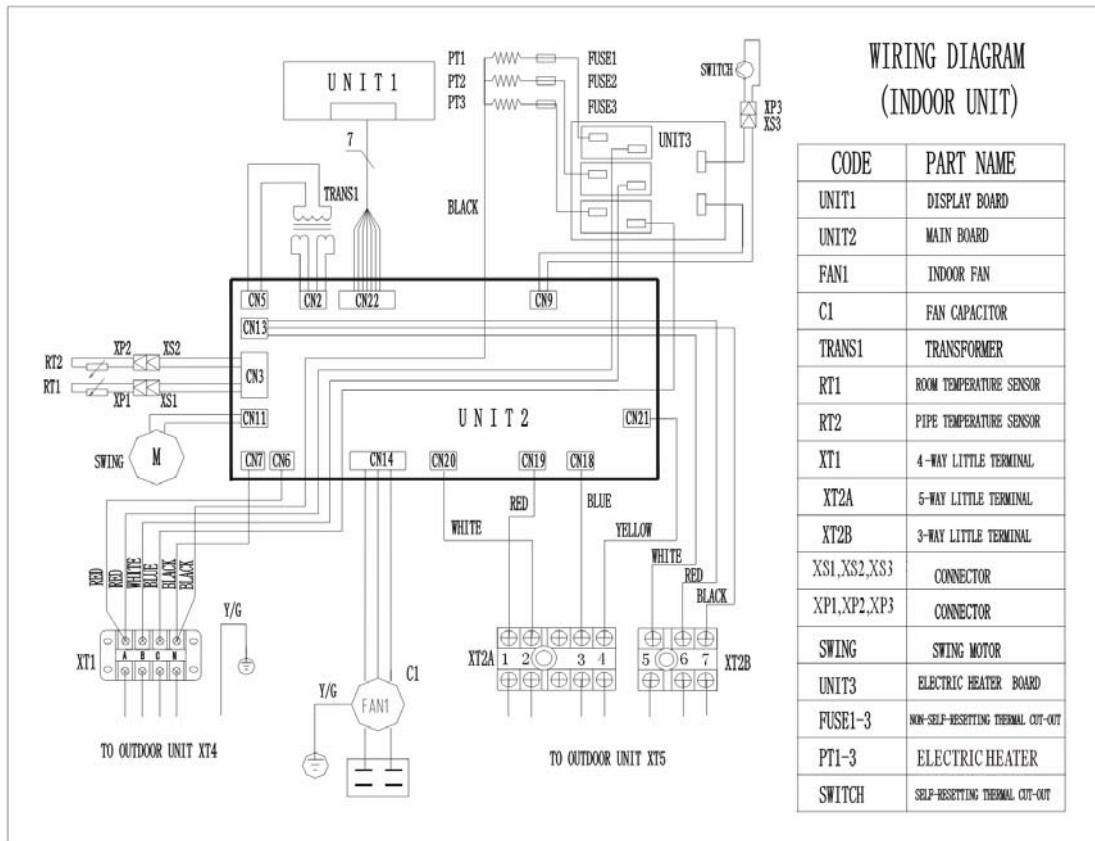


9. MFS2-48ARN2(380V,3N~,50Hz)

Indoor unit



Outdoor unit



Part 7. Installation

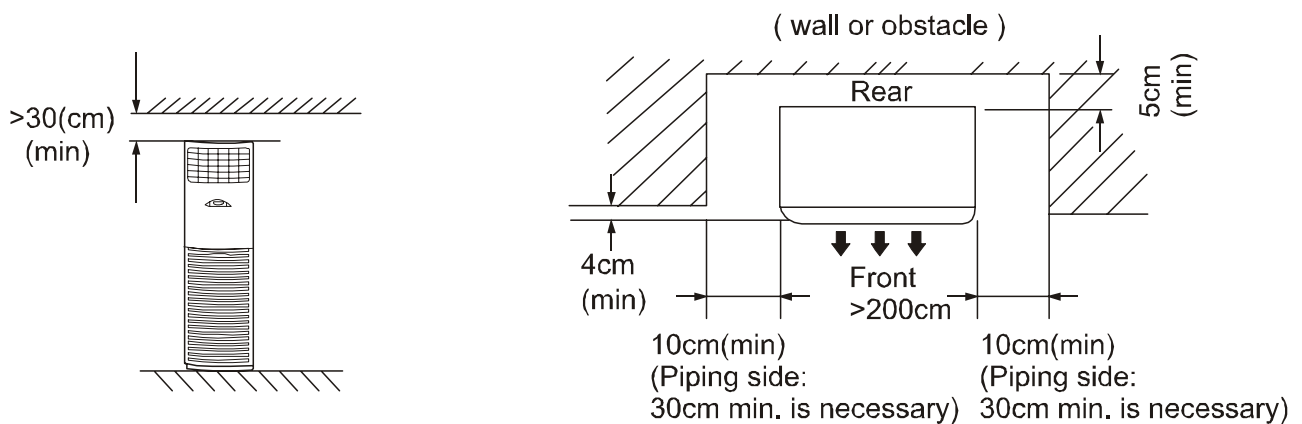
1. Installation place

Indoor Unit

- A place which provides the spaces around the indoor unit as required above in the diagram.
- A place where is no obstacle near the inlet and outlet area.
- A place which can bear the weight of the indoor unit.
- A place which allows the air filter to be removed downward.
- A place where the reception range is not exposed to direct sunlight.
- In the center of the room where possible.

(1) Please stand the unit in hard and flat ground;

Please reserve space for installation and maintenance.



(2) Please check the elevation difference between the indoor unit and the outdoor unit, the length of the refrigerant pipe, and the curved places (bend) of the pipe are no more than the following numbers: Elevation difference: no more than 10 M (if the elevation difference between indoor and outdoor unit is more than 10 meters, it is recommended that the outdoor unit be placed above the indoor unit.)

Pipe length: no more than 20 M

Bends: no more than 5 places

Outdoor Unit

(1) Before installing the outdoor unit, you should:

Select a place where no direct sunlight or other heat-radioactivity may reach. A sunshade is needed if it is unavoidable.

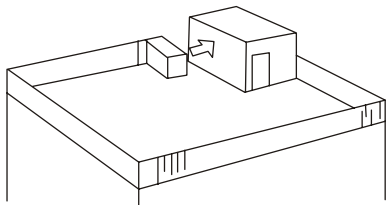
Select a place that is easy to connect indoor unit's pipe and electric wires.

Avoid a place where combustible gas may leak or stay.

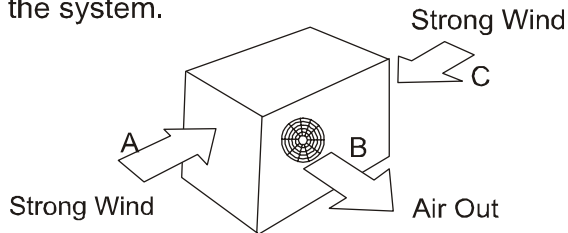
Keep it in mind that water may drain out of the outdoor unit while in "Heat" mode.

(2) If the outdoor unit is to be installed on a roof or where no constructions are around, you should avoid hard wind blows directly to the air outlet, because it may cause trouble for air-flow shortage.

Let the air outlet face a wall (if there is one) with a distance about 300 centimeters between them.



Try to make the air outlet vertical to wind direction if it is known in the season you use the system.

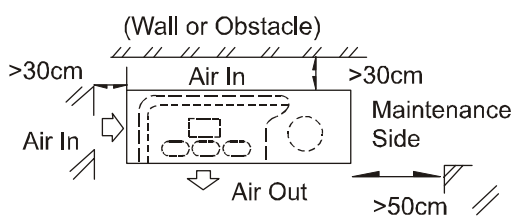


In directions (A), (B), (C), leave open two of the three directions.

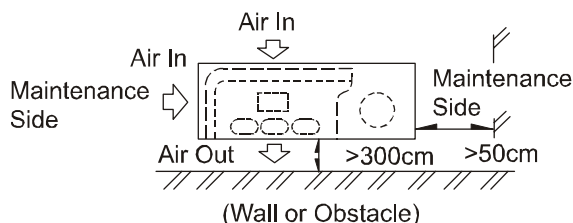
(3) Reserve enough space for installation, maintenance and unit-functioning.

Remove as many obstacles as possible nearby.

When the air-in surface is facing a wall



When the air-out surface is facing a wall

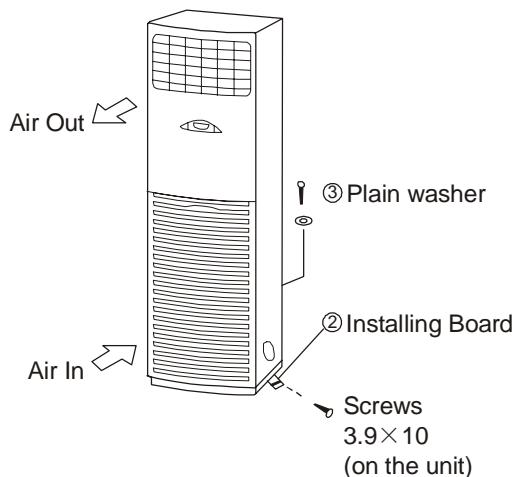
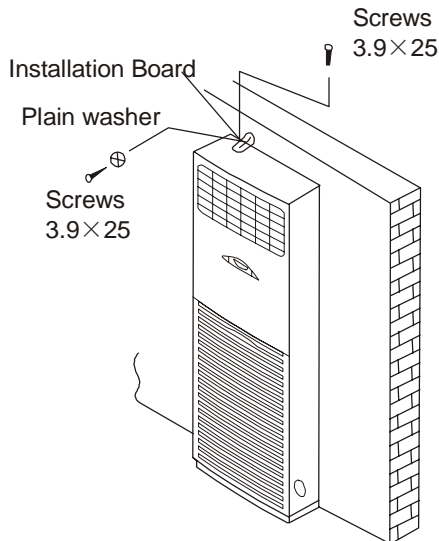


2. Installing

(1) To prevent the indoor unit from falling, you must:

Pay full attention to the unit because its long outer shape makes it easy to fall;

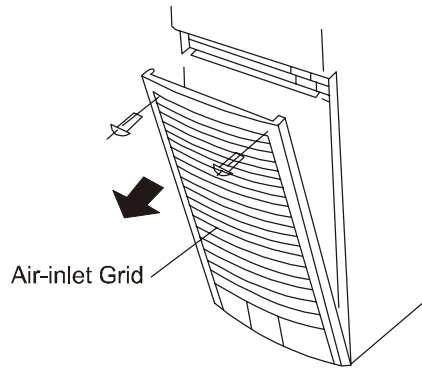
Firmly fix the unit to the wall and in the ground to avoid accidental falling.



(2) Dismounting the air-inlet grid

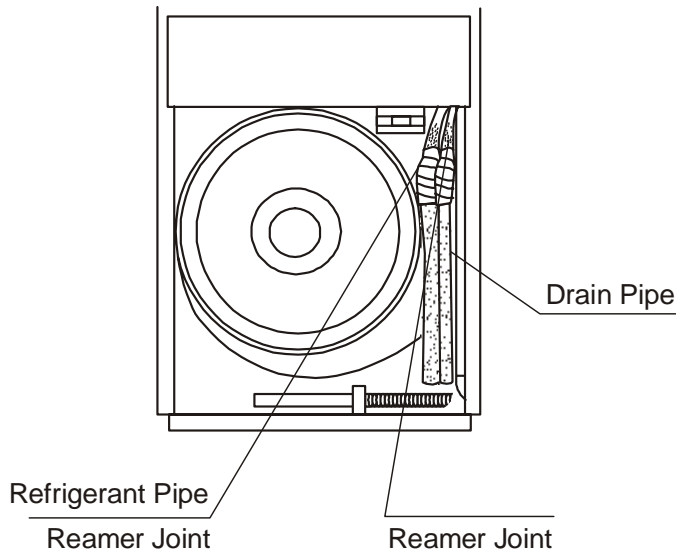
Please take off the air-inlet grid before connecting the pipes/wires.

Pull down the two knobs on the grid, take off the two screws, then the air-inlet grid goes free.

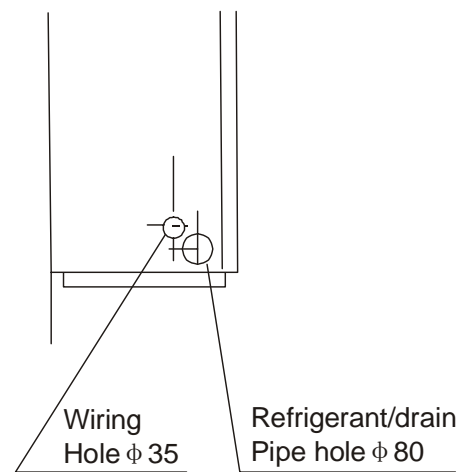


(3) Take the Pipe Clip off before connecting the pipes and wiring; fit it when these finished.

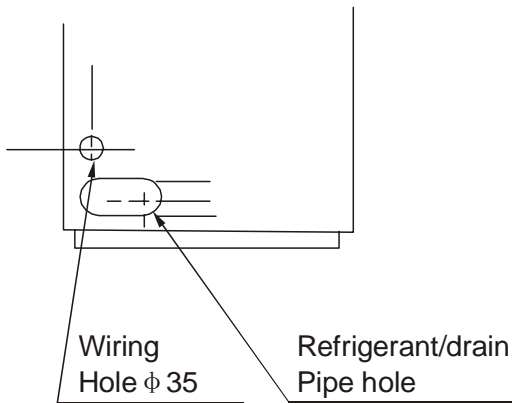
Use accessories 4 and 9 to connect the pipes/wires on both sides and back side.



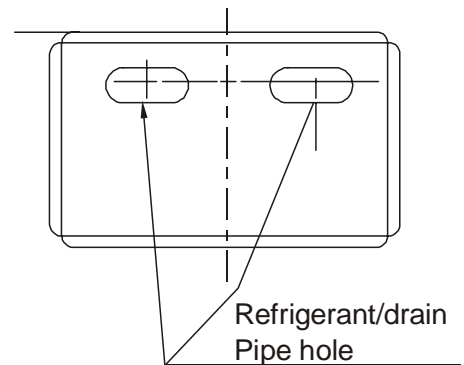
Pipe/wire-hole positions on both sides



Pipe/wire-hole position on back side



Pipe/wire-hole position on the bottom



(4) Ship the a/c to the installation place originally packed;

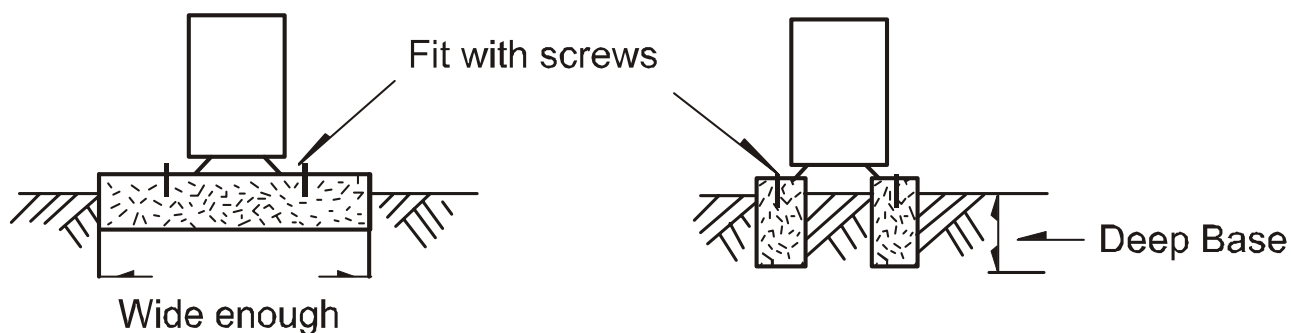
Be careful while hanging the unit because the center of gravity of the unit is not centralized;

Do not make the angle of inclination more than 45 degrees while shipping;(Avoid horizontal storage)

Be sure the electric insulation work is well done if installed on metal ceiling / wall.

Fix the unit feet with bolts (M10/M8). Be sure the unit is fixed strongly enough to against blast or earthquake.

Make a concrete basement to the unit by the above references.



3. Refrigerant pipe connecting

(1) Maximum pipe length

Model	Max. Length	Max. Elevation
24000Btu/h. 48000Btu/h.	15m	5m

(2) Piping sizes

Model	Liquid(mm/inch)	Gas(mm/inch)
24000Btu/h.	9.52(3/8")	16.0(5/8")
48000Btu/h.	12.7(1/2")	19.0(3/4")

(3) Piping connection

1) Connecting Of Refrigerant Pipe

- Only the correctly installing of indoor and outdoor unit done, can the refrigerant pipe be connected.
- The cut-off valves are completely close before ex-work. Before connecting the refrigerant pipe, be careful to check whether the valves are completely close.
- The connecting procedure of refrigerant pipe: first, unscrew the two valves on the outdoor unit and the pipe-jointing nut on the indoor unit(please keep them care fully). Please connect the refrigerant pipe according to the manual, the pipe-jointing nut should be screw tightly and no leakage. Note: you need two wrenches to make balance.
- When the connecting of refrigerant pipe is finished, before power on the system, you should vacuum the indoor unit through the maintenance port on the cut-off valves, or open the high-pressure valve, and exhaust the air through the maintenance port on the low-pressure valve(closed). It will take about ten seconds. Then screw tightly the maintenance port. (When supplement the refrigerant, fill through the maintenance port of the low-pressure valves on the outdoor unit).
- Open all the valves completely before power on the system, or it will be sick for low efficiency.
- Gas leak check. Make sure no gas from connections with leak detector or soap water.

2) Using bronze pipe selling in market

Completely shut the cut-off valves of the outdoor unit (as ex-work status). After the refrigerant pipe has been connected with both the indoor and outdoor unit, let the air exhaust out from the maintenance gap on the low-pressure cut-off valves of the outdoor unit. Screw the nuts tightly on the maintenance gap after the air has been drained.

3) To make the refrigerant pipe unblocked completely

you should keep the cut-off valves of the outdoor unit completely open after you have finished the above steps (step1) or step 2))

Note: Before screwing the reamer nut, smear the pipe and the connecting surface with refrigerant oil; Check and

make sure there is no leakage by soap-water or leakage-checker after connecting;

Be sure the connecting joint on the indoor side is insulated.

Use two wrenches to connecting the pipes.

Tubing size	Torque
9.52	3270~3990N.cm(333~407kgf.cm)
12.7	4950~6030N.cm(504~616kgf.cm)
16	6180~7540N.cm(630~770kgf.cm)
19	9720~11860N.cm(990~12106kgf.cm)

(4) Additional charge

The correct refrigerant quantity filled in the 5-meter-long pipe of the outdoor unit is marked on the Product Data Plate. If you have to use longer pipe for every meter plus pipe, the refrigerant should be added according to the following calculation.

Connective pipe length	Air purging method	Additional amount of refrigerant to be charged
Less than 5m	Use vacuum pump	
Over 5m	Use vacuum pump	65g(length-5m) (Liquid side 9.52) 90g(length-5m) (Liquid side 12.7)

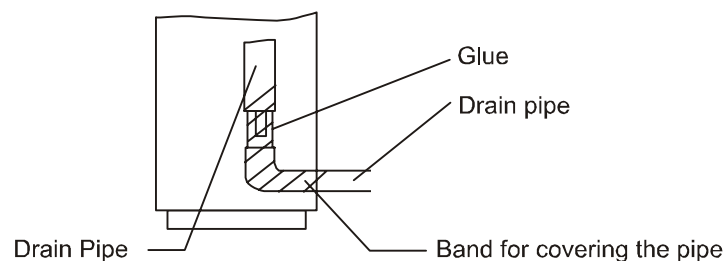
(5) Air Purging

When Using the Vacuum Pump

(For method of using a manifold valve, refer to its operation manual.)

- Completely tighten the flare nuts, A, B, C, D, connect the manifold valve charge hose to a charge port of the low-pressure valve on the gas pipe side.
- Connect the charge hose connection to the vacuum pump.
- Fully open the handle Lo of the manifold valve.
- Operate the vacuum pump to evacuate. After starting evacuation, slightly loose the flare nut of the Lo valve on the gas pipe side and check that the air is entering.(Operation noise of the vacuum pump changes and a compound meter indicates 0 instead of minus)
- After the evacuation is complete, fully close the handle Lo of the manifold valve and stop the operation of the vacuum pump. Make evacuation for 15 minutes or more and check that the compound meter indicates -76cmHg (-10x106Pa).
- Turn the stem of the packed valve B about 45 counterclockwise for 6~7 seconds after the gas coming out, then tighten the flare nut again. Make sure the pressure display in the pressure indicator is a little higher than the atmosphere pressure.
- Remove the charge hose from the low pressure charge hose.
- Fully open the packed valve stems B and A.
- Securely tighten the cap of the packed valve.

4. Drain Pipe of The Indoor Unit



Make sure the drainpipe is connected to the outdoor side downward;

The hard polyvinyl chloride(PVC)plastic pipe (external diameter 26 mm) sold in the market is suitable for the attached soft drain pipe;

Please connect the Soft Drain Pipe with the Drain Pipe, then fix it with band;

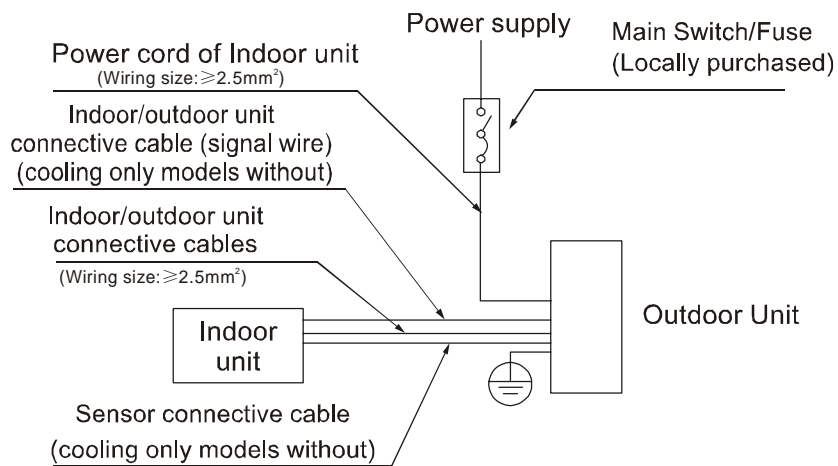
If you have to connect the Drain Pipe indoors, to avoid condensing caused by air intake, you must cover the pipe with heat-insulation material (polyethylene with Specific Gravity of 0.03, at least 9 mm in thickness), and use Glue Band to fix it.

After the Drain Pipe has been connected, please check if the water drains out of the pipe efficiently and has no leakage.

Refrigerant pipe and Drainpipe should be heat-insulated to avoid condensing and water-dropping later on.

5.Wiring

Please refer to the Wiring Diagram.



Note: Some models is equipped with a cord having a plug, So a wall outlet shall be properly installed.

6.Test operation

Perform test operation after completing gas leak and electrical safety check. The test operation time should last more than 30 minutes.

- 1). Open the panel and lift the panel up to angle which remains fixed. Do not lift the panel any further when it stops with a "click" sound.
- 2). Press the manual switch button twice until the operation indicator lights, the unit will operate on Manual Cool mode.
- 3). Check if all the functions work well while testing the air conditioner. Especially check whether the drainage of indoor unit is smooth or not.
- 4). Press the manual switch button again till the operation indicator turns dark after finishing the test operation and the unit stops operation.

Part 8 Servicing and Maintenance

1. Troubles and Solutions

Before calling for service, please review the following list of common problems and solutions.

If any of the following conditions occur, check your unit and resolve corresponding problems referring to given remediation. If the trouble can't be settled contact our dealer.		
Trouble	Cause	Solutions
Unit does not start	Power failure.	Wait for the comeback of power
	Power switch is open.	Switch on the power
	Fuse of power switch may have blown.	Replace the fuse
	Batteries remote controller are exhausted.	Replace the batteries
	The time is not start-up time you have set.	Wait or cancel the time set.
Air flowing normally with low cooling(heating) effect	Temperature is not set correctly.	Set the temperature properly.
	Door or window is open.	Close door and window.
	Air filter is blocked with dust or dirtiness.	Clean the air filter.
	Inlet/outlet of indoor/outdoor units are blocked.	Clear all blockages.
	Inlet/outlet of indoor/outdoor units are blocked.	Clear the blockage, then restart your operation.
	Be in 3 minutes protection of compressor	Wait

Number	Display code	Problem	What to do
1	E1 E2 E3 E4	Temperature Sensor is off or short-circuit.	Contact service people
2	E6	Outdoor unit protection	Contact service people
3	E8	Electrostatic dust collection	Contact service people
4	P4	The temperature of the evaporator of indoor unit is too low or high (For the protection feature, the compressor turns off automatically)	Turn off the unit, clean the air filter, then restart the unit. If this operation does not work, please contact service people.
5	P5	The temperature of condenser of the outdoor unit is too high (For the protection feature, the compressor turns off automatically)	Turn off the unit, check if there is any obstacle in the air-inlet, otherwise call the service people.
6	P9	Defrosting protection or warm-air controlling is off	The unit will auto restart after finishing the defrosting or the temperature of the Heat Exchanger of indoor unit raise.

4. Maintenance and clean

CAUTION: For your safety, please turn off the unit and shut down the main power switch before cleaning.

1. Use a dry cloth to wipe the indoor unit and remote controller.
2. A cloth dampened with cold water may be used on the indoor unit if it is very dirty.
3. Do not splash water on unit. This may cause damage to the inner parts or an electric shock.

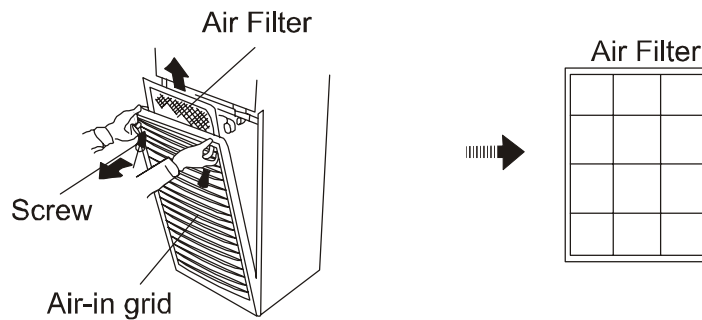
Caution:

1. Do not use a chemical-treated duster for wiping or leave such material on the unit for long.
2. Do not use benzine, thinner, polishing powder, or similar solvents for cleaning.

These may cause the plastic surface to crack or deform.

Air inlet grille and air filter cleaning:

The air filter should be checked and cleaned at least once every 2 weeks to maintain optimal performance of the air conditioner.



Note:

The Anti-formol filter fixed on the Air filter does not need replacement, just wash it with water and dry it in the shadow.

1. Unscrew the air inlet grille on both sides, hold both sides of the grille and pull it up, then pull out the grille.
2. Take hold of the air filter holder and pull it upward.
3. The air inlet grille can be washed by water or wipe with a dry cloth, then dry it in a cool place.
4. Use a vacuum cleaner to remove the dust or wash the air filter, and dry it in the shadow.
5. Installation process of the air filter and air inlet grille is the reverse of the removal process.

CAUTION:

Make sure nothing has been forgotten or fallen into the fan before installing the air inlet grille.
Restart the unit after the air inlet grille is correctly installed.

MAINTENANCE

Before long time idleness

1. Clean the indoor unit and air filter.
2. Dry the inner parts by keeping the fan running for half a day.
3. Turn off the unit and switch off the power switch, remove the batteries from the remote control.
4. Periodically check and clean the inner parts of the outdoor unit. Our local dealer will help you handle this if you contact us.

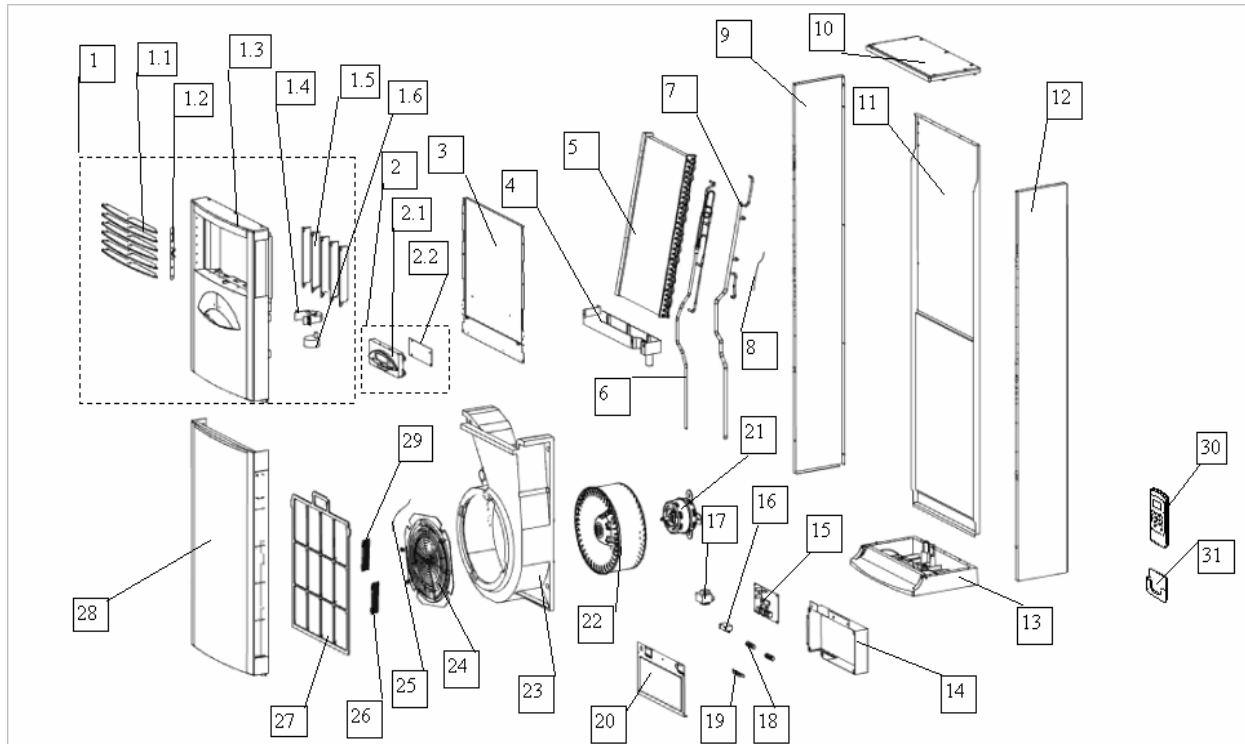
After long time idleness

Before restarting, please check if the air inlet and air outlet of the indoor and outdoor units are blocked up. Clean it so.

Part 9 Exploded view

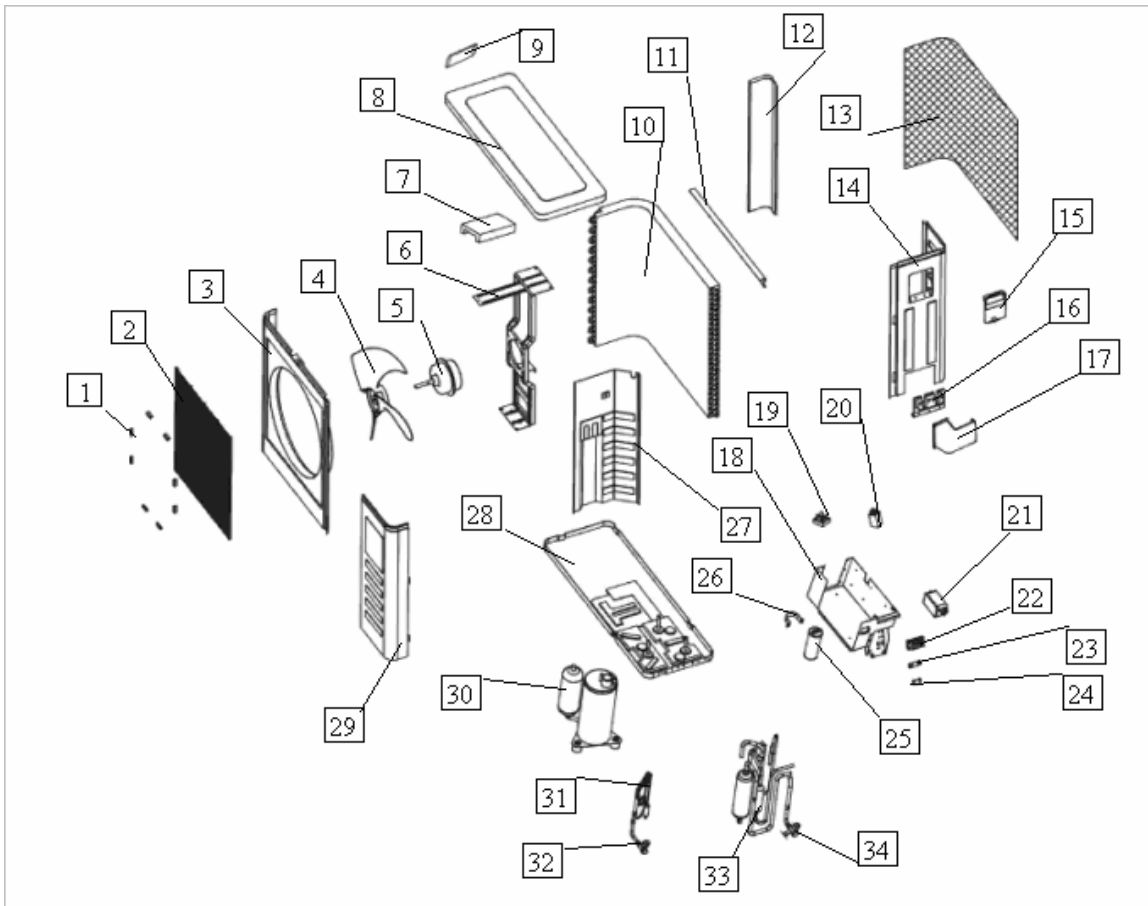
1. MFS2-24CR(220-240V~, 50Hz)

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame assy	1	13	Chassis	1
1.1	Horizontal louver	6	14	E-Parts box	1
1.2	Horizontal louver holder	1	15	Main control board	1
1.3	Front panel	1	16	Fan motor capacitor	1
1.4	Holder for louver motor	1	17	Transformer	1
1.5	Vertical louver	5	18	Wire joint	1
1.6	Louver motor	1	19	Wire clamp	1
2	Display box, ass'y	1	20	E-part box cover	1
2.1	Display box cover	1	21	Fan motor	1
2.2	Display box, ass'y	1	22	Centrifugal fan	1
3	Front cover	1	23	Volute shell	1
4	Water collector, assy	1	24	Wind inlet guide	1
5	Evaporator	1	25	Indoor temp sensor	1
6	Outlet pipe for evaporator	1	26	Formaldehyde cleaner	1
7	Inlet pipe for evaporator	1	27	Air filter	1
8	Evaporator temp sensor	1	28	Grille	1
9	Left cover	1	29	Air cleaner holder	1
10	Top cover	1	30	Remote controller	1
11	Rear cover	1	31	Holder for remote controller	1
12	Right cover	1	32	Copper nut, TLM-B02	1

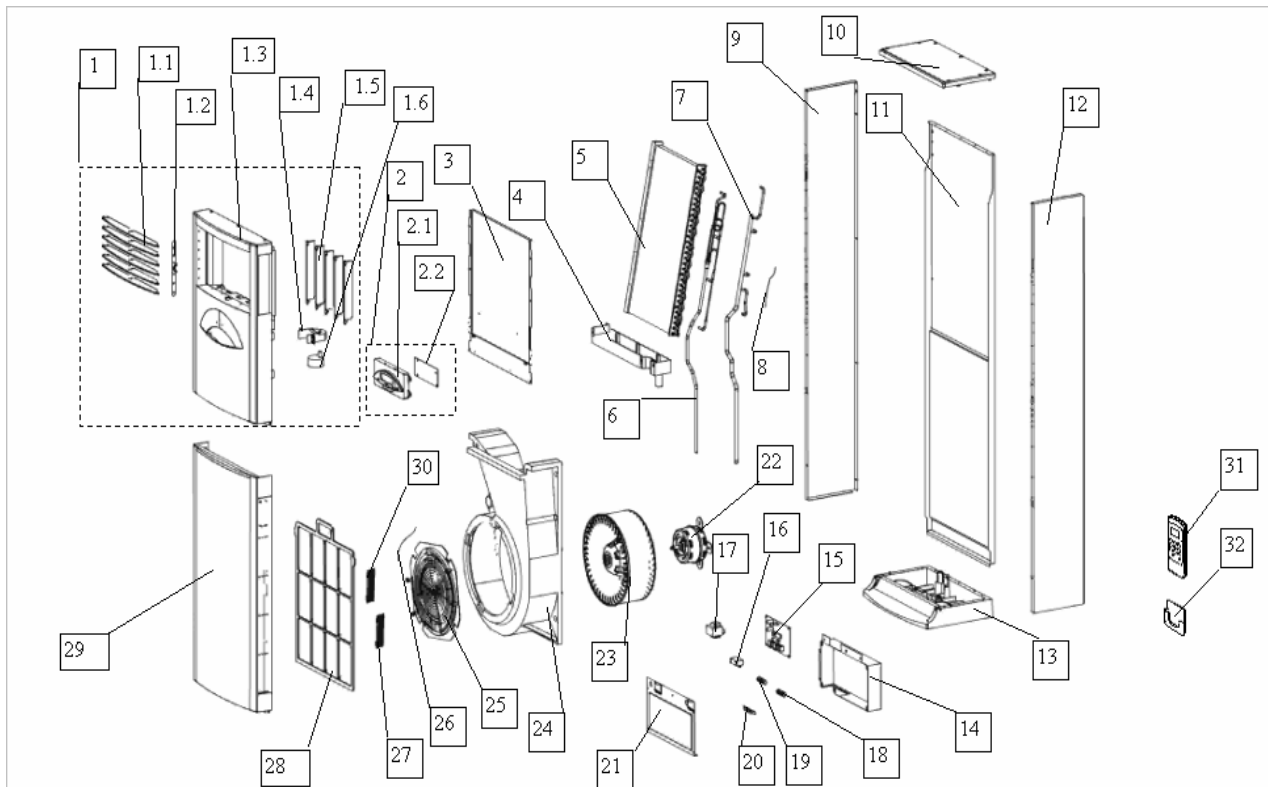
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Clamp for front net	8	19	Fan motor capacitor	1
2	Front net	1	20	Wire joint for multiplexer	1
3	Front clapboard	1	21	Contactors	1
4	Propeller fan	1	22	Wire joint	1
5	Fan motor	1	23	Washer for wire joint	1
6	Holder for fan motor	1	24	Clamp for wiring	1
7	Foam over holder for motor	1	25	Compressor capacitor	1
8	Cover	1	26	Capacitor clamp	1
9	Little handle	1	27	Separating board	1
10	Condenser	1	28	Chassis	1
11	Support board for motor holder	1	29	Front right clapboard	1
12	Left clapboard	1	30	Compressor	1
13	Rear net	1	31	Liquid valve assy	1
14	Rear right clapboard	1	32	Liquid pipe valve	1
15	Big handle	1	33	Gas valve assy	1
16	Installation plate for valves	1	34	Gas pipe valve	1
17	Water collector	1	35	Copper nut, TLM-B02	1
18	Installation board for E-parts	1	36	Copper nut, TLM-D04	1

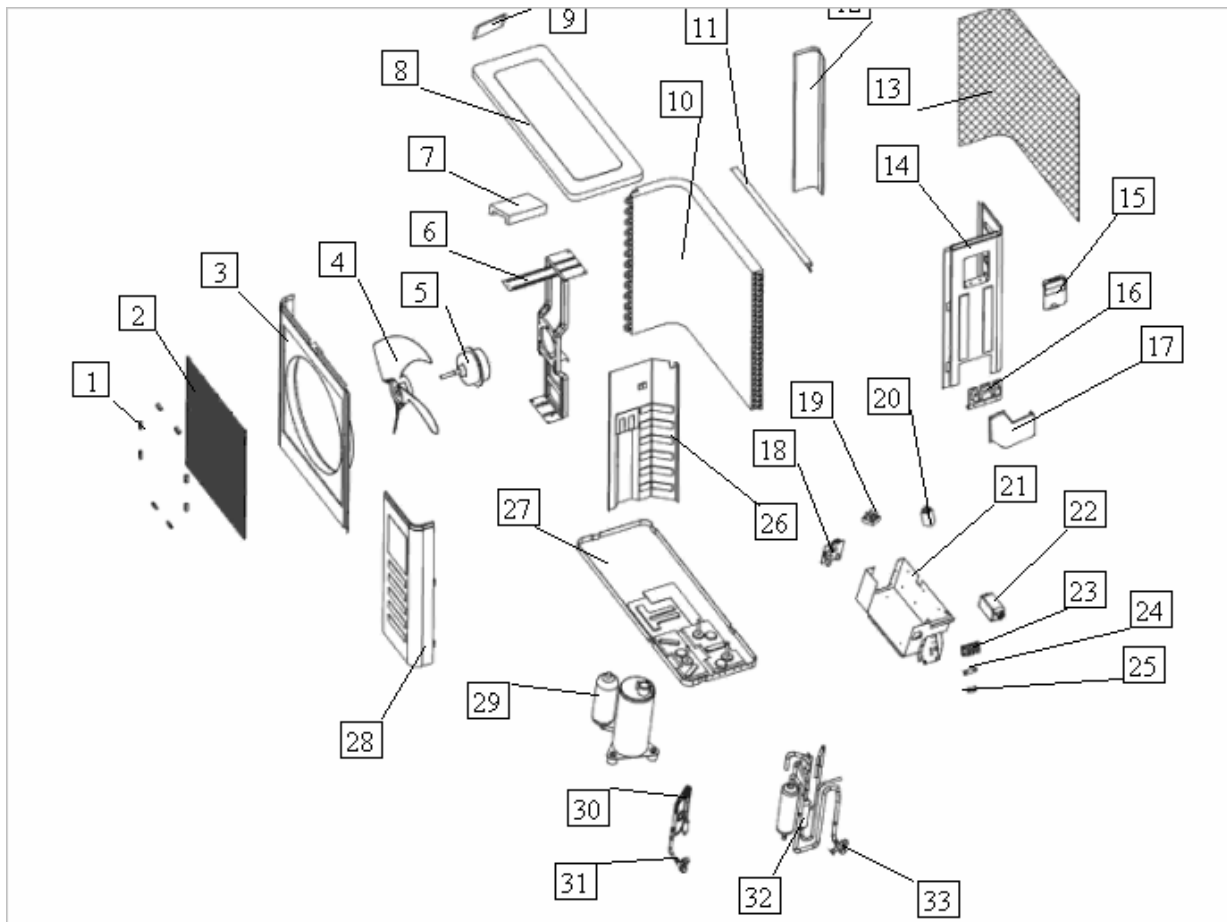
2. MFS2-24CR(380V,3N~, 50Hz)

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame assy	1	14	E-Parts box	1
1.1	Horizontal louver	6	15	Main control board	1
1.2	Horizontal louver holder	1	16	Fan motor capacitor	1
1.3	Front panel	1	17	Transformer	1
1.4	Holder for louver motor	1	18	Wire joint, 4p	1
1.5	Vertical louver	5	19	Wire joint, 5p	1
1.6	Louver motor	1	20	Wire clamp	1
2	Display box, ass'y	1	21	E-part box cover	1
2.1	Display box cover	1	22	Fan motor	1
2.2	Display box, ass'y	1	23	Centrifugal fan	1
3	Front cover	1	24	Volute shell	1
4	Water collector, assy	1	25	Wind inlet guide	1
5	Evaporator	1	26	Indoor temp sensor	1
6	Outlet pipe for evaporator	1	27	Formaldehyde cleaner	1
7	Inlet pipe for evaporator	1	28	Air filter	1
8	Evaporator temp sensor	1	29	Grille	1
9	Left cover	1	30	Air cleaner holder	1
10	Top cover	1	31	Remote controller	1
11	Rear cover	1	32	Holder for remote controller	1
12	Right cover	1	33	Copper nut, TLM-B02	1
13	Chassis	1	34	Copper nut, TLM-D04	1

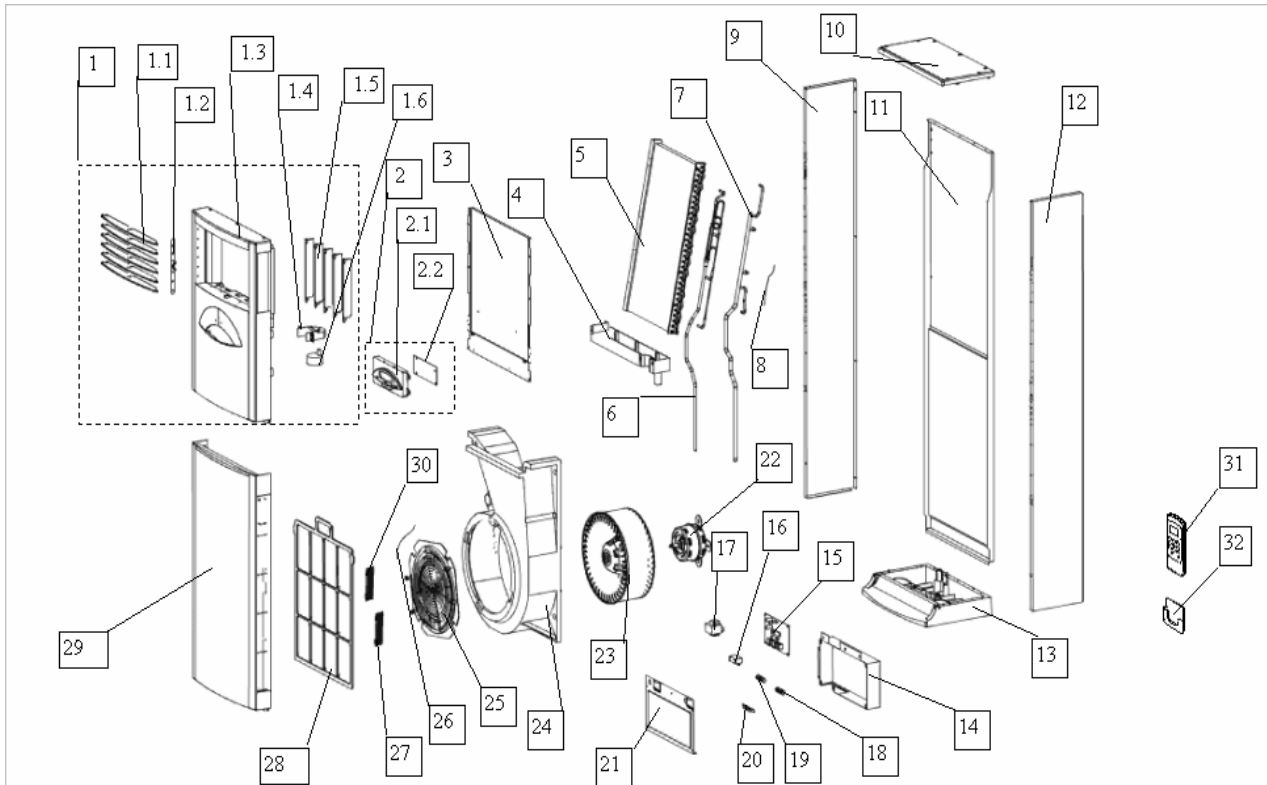
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Clamp for front net	8	20	Wire joint for multiplexer	1
2	Front net	1	21	Installation board for E-parts	1
3	Front clapboard	1	22	Contactor	1
4	Propeller fan	1	23	Wire joint	1
5	Fan motor	1	24	Washer for wire joint	1
6	Holder for fan motor	1	25	Clamp for wiring	1
7	Foam over holder for motor	1	26	Separating board	1
8	Cover	1	27	Chassis	1
9	Little handle	1	28	Front right clapboard	1
10	Condenser	1	29	Compressor	1
11	Support board for motor holder	1	30	Liquid valve assy	1
12	Left clapboard	1	31	Liquid pipe valve	1
13	Rear net	1	32	Gas valve assy	1
14	Rear right clapboard	1	33	Gas pipe valve	1
15	Big handle	1	34	Discharge temp sensor	1
16	Installation plate for valves	1	35	Copper nut, TLM-B02	1
17	Water collector	1	36	Copper nut, TLM-D04	1
18	Main control board	1	37	Discharge temp sensor	1
19	Fan motor capacitor	1			

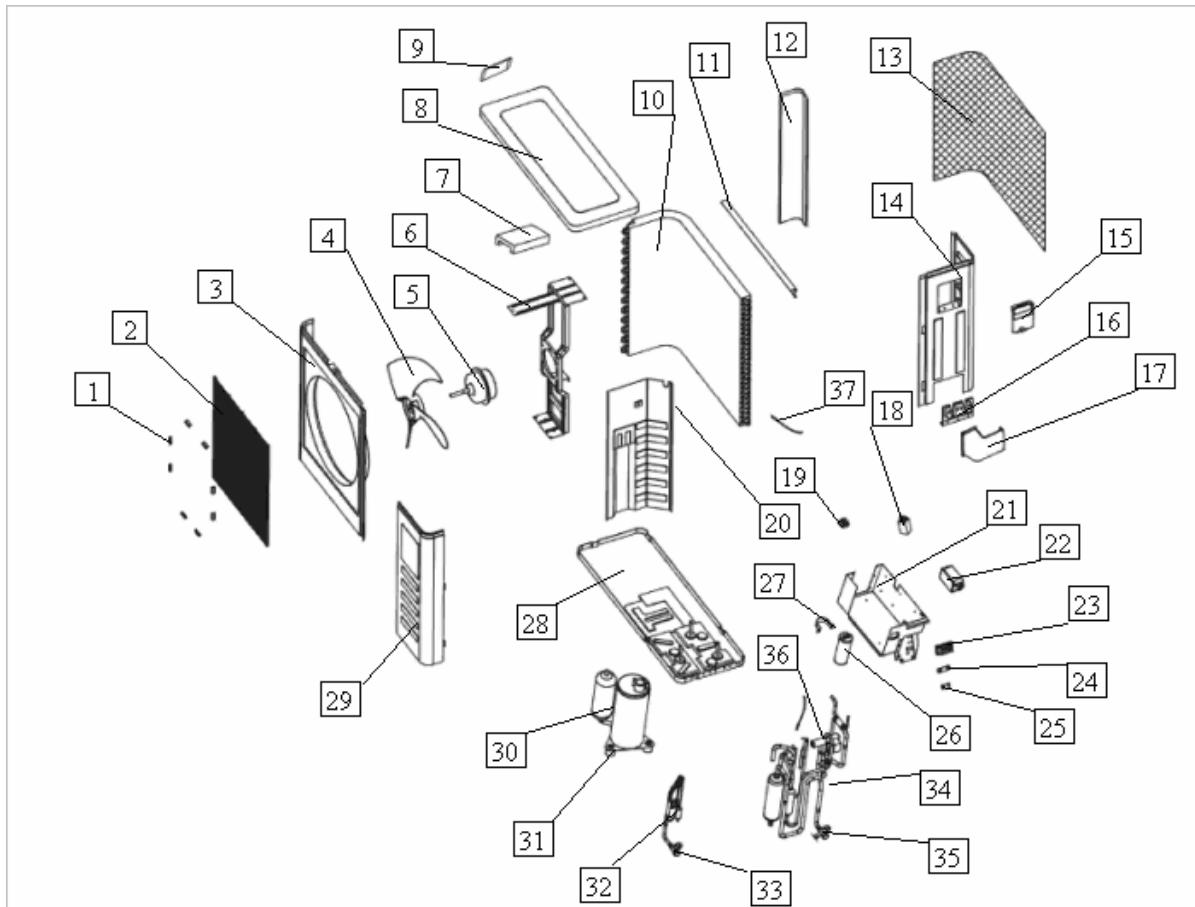
3. MFS2-24HR(220-240v~, 50Hz)

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame assy	1	14	E-Parts box	1
1.1	Horizontal louver	6	15	Main control board	1
1.2	Horizontal louver holder	1	16	Fan motor capacitor	1
1.3	Front panel	1	17	Transformer	1
1.4	Holder for louver motor	1	18	Wire joint, 4p	1
1.5	Vertical louver	5	19	Wire joint, 5p	1
1.6	Louver motor	1	20	Wire clamp	1
2	Display box, ass'y	1	21	E-part box cover	1
2.1	Display box cover	1	22	Fan motor	1
2.2	Display box, ass'y	1	23	Centrifugal fan	1
3	Front cover	1	24	Volute shell	1
4	Water collector, assy	1	25	Wind inlet guide	1
5	Evaporator	1	26	Indoor temp sensor	1
6	Outlet pipe for evaporator	1	27	Formaldehyde cleaner	1
7	Inlet pipe for evaporator	1	28	Air filter	1
8	Evaporator temp sensor	1	29	Grille	1
9	Left cover	1	30	Air cleaner holder	1
10	Top cover	1	31	Remote controller	1
11	Rear cover	1	32	Holder for remote controller	1
12	Right cover	1	33	Copper nut, TLM-B02	1
13	Chassis	1	34	Copper nut, TLM-D04	1

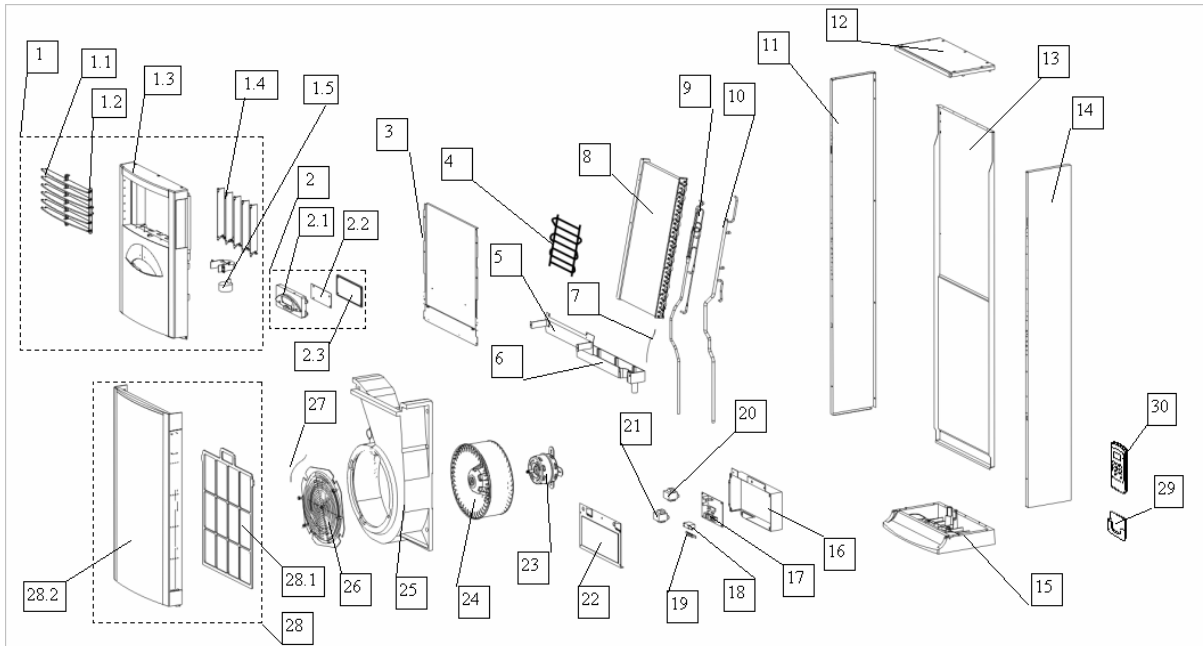
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Clamp for front net	8	21	Installation board for E-parts	1
2	Front net	1	22	Contactora	1
3	Front clapboard	1	23	Wire joint	1
4	Propeller fan	1	24	Washer for wire joint	1
5	Fan motor	1	25	Clamp for wiring	1
6	Holder for fan motor	1	26	Compressor capacitor	1
7	Foam over holder for motor	1	27	Capacitor clamp	1
8	Cover	1	28	Chassis	1
9	Little handle	1	29	Front right clapboard	1
10	Condenser	1	30	Compressor	1
11	Support board for motor holder	1	31	Rubber underlay for compressor	3
12	Left clapboard	1	32	Liquid valve assy	1
13	Rear net	1	33	Liquid pipe valve	1
14	Rear right clapboard	1	34	Gas valve assy	1
15	Big handle	1	35	Gas pipe valve	1
16	Installation plate for valves	1	36	4-way valve	1
17	Water collector	1	37	Condenser temp sensor	1
18	Fan motor capacitor	1	38	Copper nut, TLM-B02	1
19	Wire joint for multi-plexer	1	39	Copper nut, TLM-D04	1
20	Separating board	1			

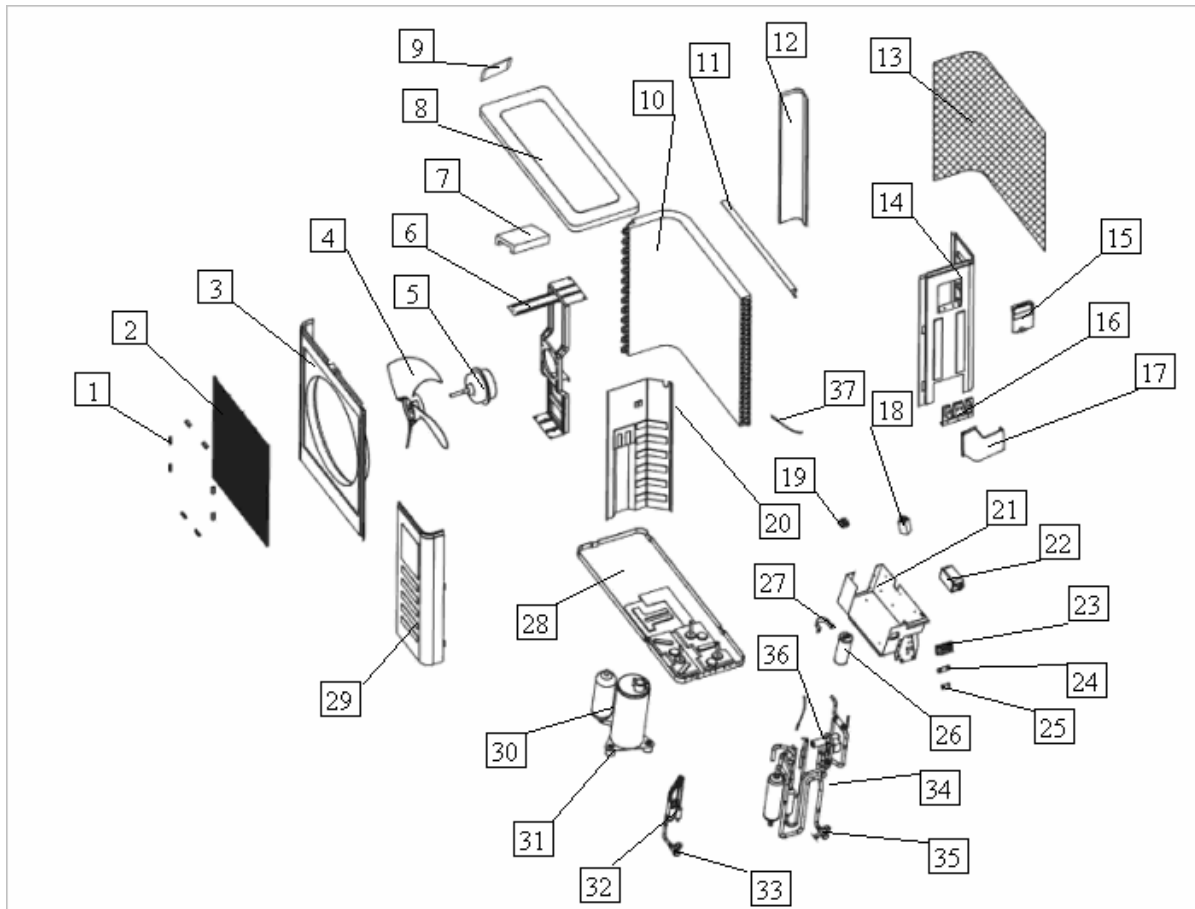
4.MFS2-24AR(220-240V~, 50Hz)

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame ass'y	1	17	Main control board	1
1.1	Horizontal louver	6	18	Fan motor capacitor	1
1.2	Horizontal louver holder	1	19	Wire clamp	1
1.3	Front panel	1	20	Transformer	1
1.4	Vertical louver	5	21	Electric heating control board	1
1.5	Louver motor	1	22	E-part box cover	1
2	Display box, ass'y	1	23	Fan motor	1
2.1	Display box cover	1	24	Centrifugal fan	1
2.2	LCD	1	25	Volute shell	1
2.3	Display box, ass'y	1	26	Wind inlet guide	1
3	Front cover	1	27	Indoor temp sensor	1
4	Electric heater	1	28	Grille ass'y	1
5	Below cover for evaporator	1	28.1	Air filter	1
6	Water collector, ass'y	1	28.2	Grille	1
7	Evaporator temp sensor	1	29	Holder for remote controller	1
8	Evaporator	1	30	Remote controller	1
9	Inlet pipe for evaporator	1	31	Wire joint, 6p	1
10	Outlet pipe for evaporator	1	32	Wire joint, 2p	1
11	Left cover	1	33	Air cleaner holder	1
12	Top cover	1	34	Formaldehyde cleaner	1
13	Rear cover	1	35	Copper nut, TLM-B02	1
14	Right cover	1	36	Copper nut, TLM-D04	1
15	Chassis	1	37	Connector for drain hose	1
16	E-Parts box	1	38	Sealing gasket	1

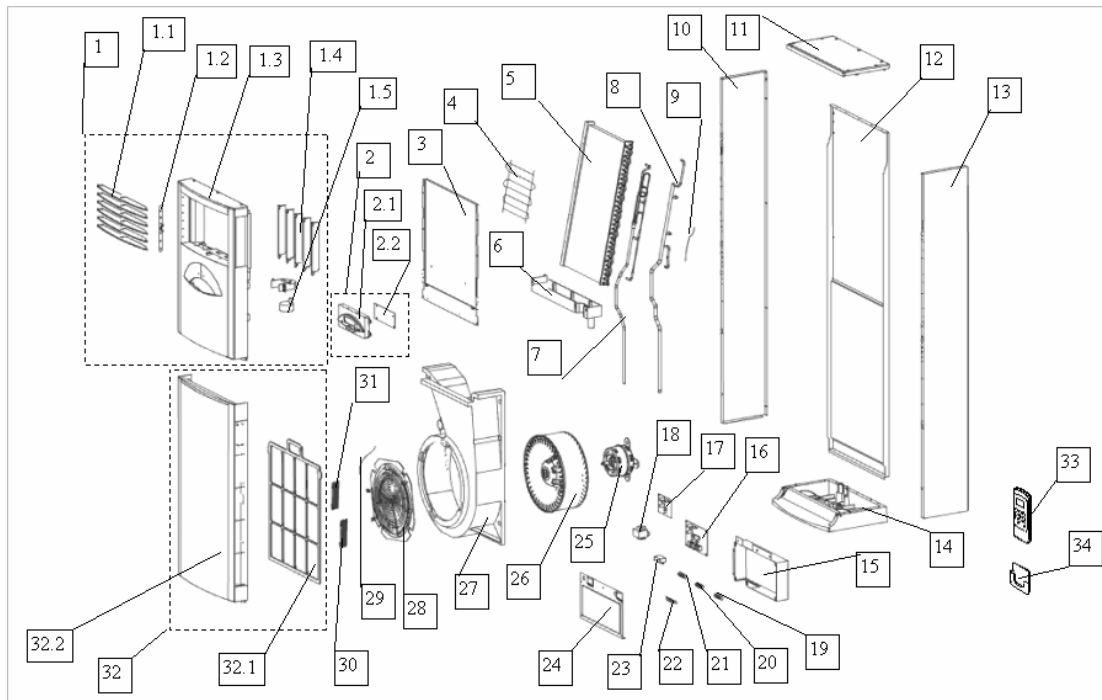
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Clamp for front net	8	21	Installation board for E-parts	1
2	Front net	1	22	Contactora	1
3	Front clapboard	1	23	Wire joint	1
4	Propeller fan	1	24	Washer for wire joint	1
5	Fan motor	1	25	Clamp for wiring	1
6	Holder for fan motor	1	26	Compressor capacitor	1
7	Foam over holder for motor	1	27	Capacitor clamp	1
8	Cover	1	28	Chassis	1
9	Little handle	1	29	Front right clapboard	1
10	Condenser	1	30	Compressor	1
11	Support board for motor holder	1	31	Rubber underlay for compressor	3
12	Left clapboard	1	32	Liquid valve assy	1
13	Rear net	1	33	Liquid pipe valve	1
14	Rear right clapboard	1	34	Gas valve assy	1
15	Big handle	1	35	Gas pipe valve	1
16	Installation plate for valves	1	36	4-way valve	1
17	Water collector	1	37	Condenser temp sensor	1
18	Fan motor capacitor	1	38	Copper nut, TLM-B02	1
19	Wire joint for multi-plexer	1	39	Copper nut, TLM-D04	1
20	Separating board	1			

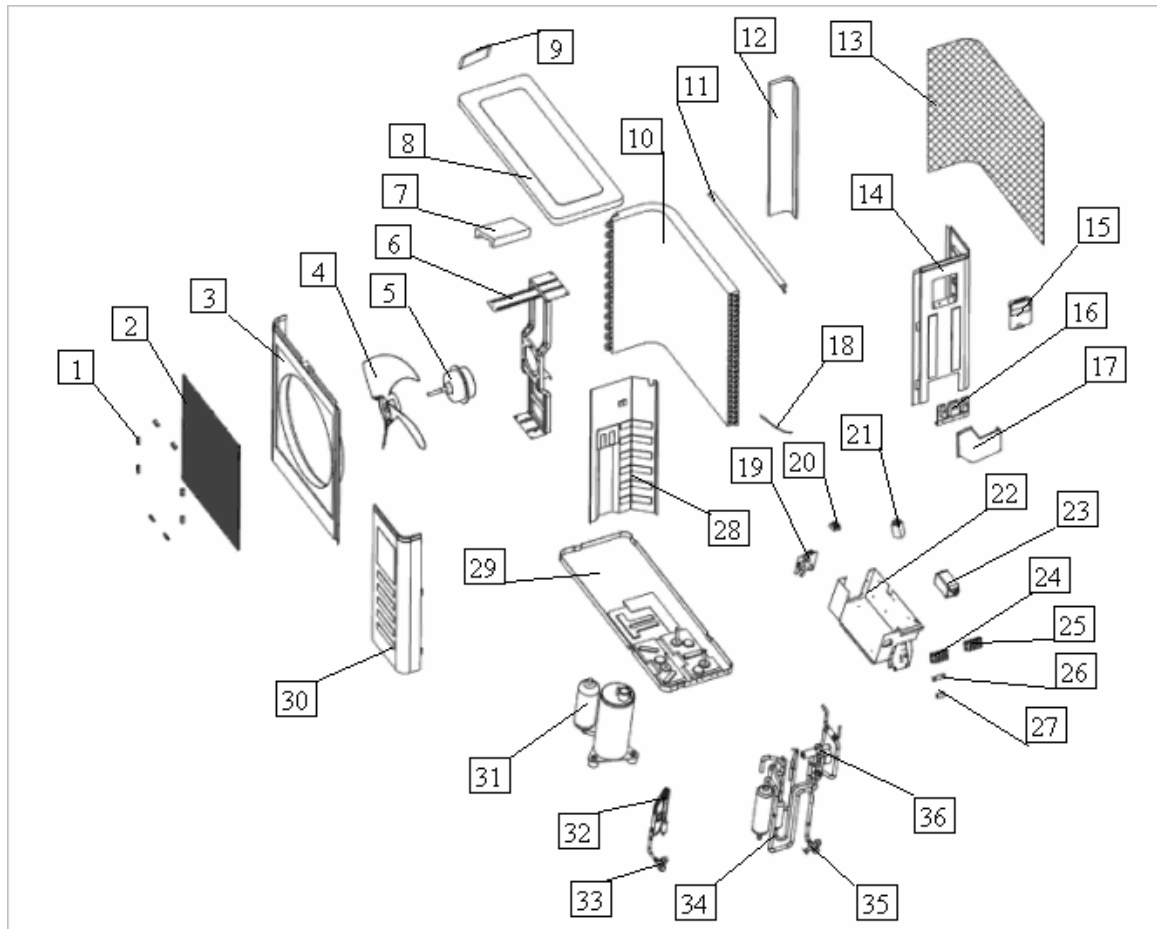
4. MFS2-24AR(380V,3N~, 50Hz)

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame assy	1	17	Electric heating control board	1
1.1	Horizontal louver	6	18	Transformer	1
1.2	Horizontal louver holder	1	19	Wire joint, 3p	1
1.3	Front panel	1	20	Wire joint, 4p	1
1.4	Vertical louver	5	21	Wire joint, 5p	1
1.5	Louver motor	1	22	Wire clamp	1
2	Display box, ass'y	1	23	Fan motor capacitor	1
2.1	Display box cover	1	24	E-part box cover	1
2.2	Display box, ass'y	1	25	Fan motor	1
3	Front cover	1	26	Centrifugal fan	1
4	Electric heater	1	27	Volute shell	1
5	Evaporator	1	28	Wind inlet guide	1
6	Water collector, assy	1	28.1	Indoor temp sensor	1
7	Inlet pipe for evaporator	1	28.2	Formaldehyde cleaner	1
8	Outlet pipe for evaporator	1	29	Air cleaner holder	1
9	Evaporator temp sensor	1	30	Grille ass'y	1
10	Left cover	1	31	Air filter	1
11	Top cover	1	32	Grille	1
12	Rear cover	1	33	Remote controller	1
13	Right cover	1	34	Holder for remote controller	1
14	Chassis	1	35	Copper nut, TLM-B02	1
15	E-Parts box	1	36	Copper nut, TLM-D04	1
16	Main control board	1			

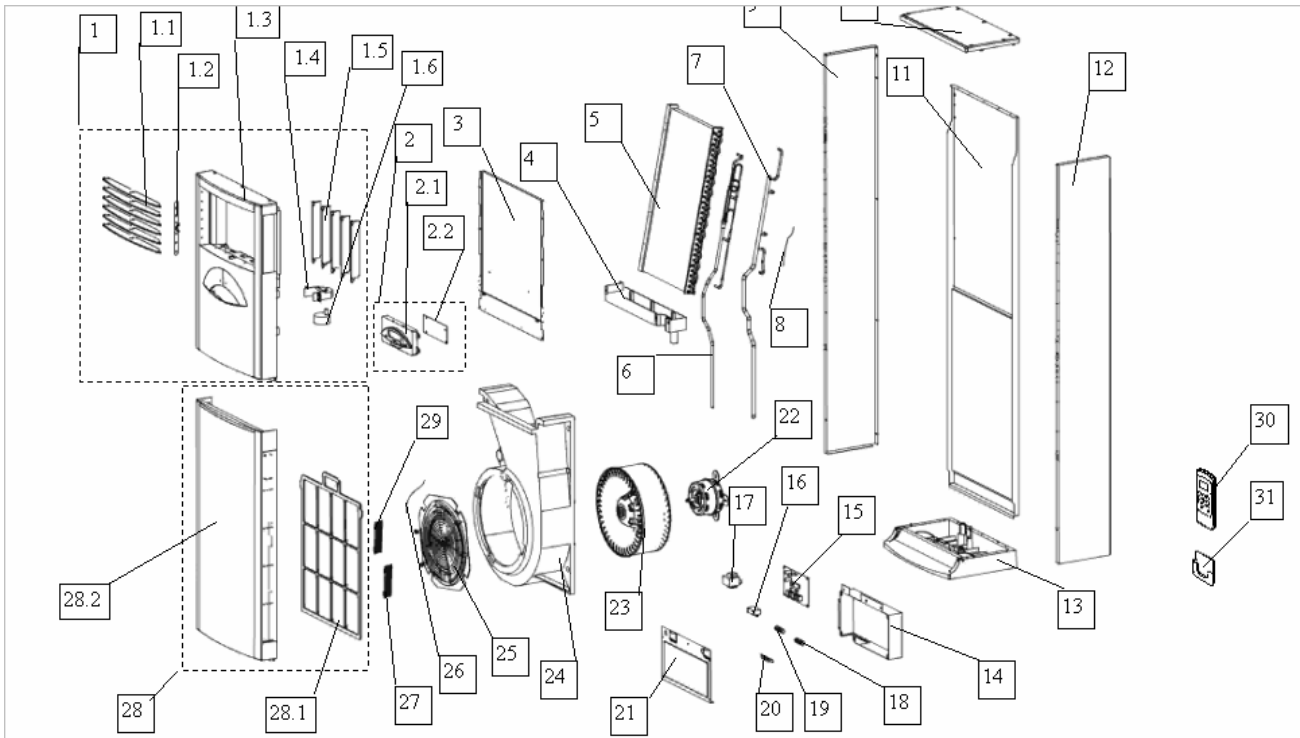
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Clamp for front net	8	20	Wire joint for multiplexer	1
2	Front net	1	21	Fan motor capacitor	1
3	Front clapboard	1	22	Installation board for E-parts	1
4	Propeller fan	1	23	Contactora	1
5	Fan motor	1	24	Wire joint, 4p	1
6	Holder for fan motor	1	25	Wire joint, 8p	1
7	Foam over holder for motor	1	26	Washer for wire joint	1
8	Cover	1	27	Clamp for wiring	1
9	Little handle	1	28	Separating board	1
10	Condenser	1	29	Chassis	1
11	Support board for motor holder	1	30	Front right clapboard	1
12	Left clapboard	1	31	Compressor	1
13	Rear net	1	32	Liquid valve assy	1
14	Rear right clapboard	1	33	Liquid pipe valve	1
15	Big handle	1	34	Gas valve assy	1
16	Installation plate for valves	1	35	Gas pipe valve	1
17	Water collector	1	36	4-way valve	1
18	Condenser temp sensor	1	37	Copper nut, TLM-B02	1
19	Main control board	1	38	Copper nut, TLM-D04	1

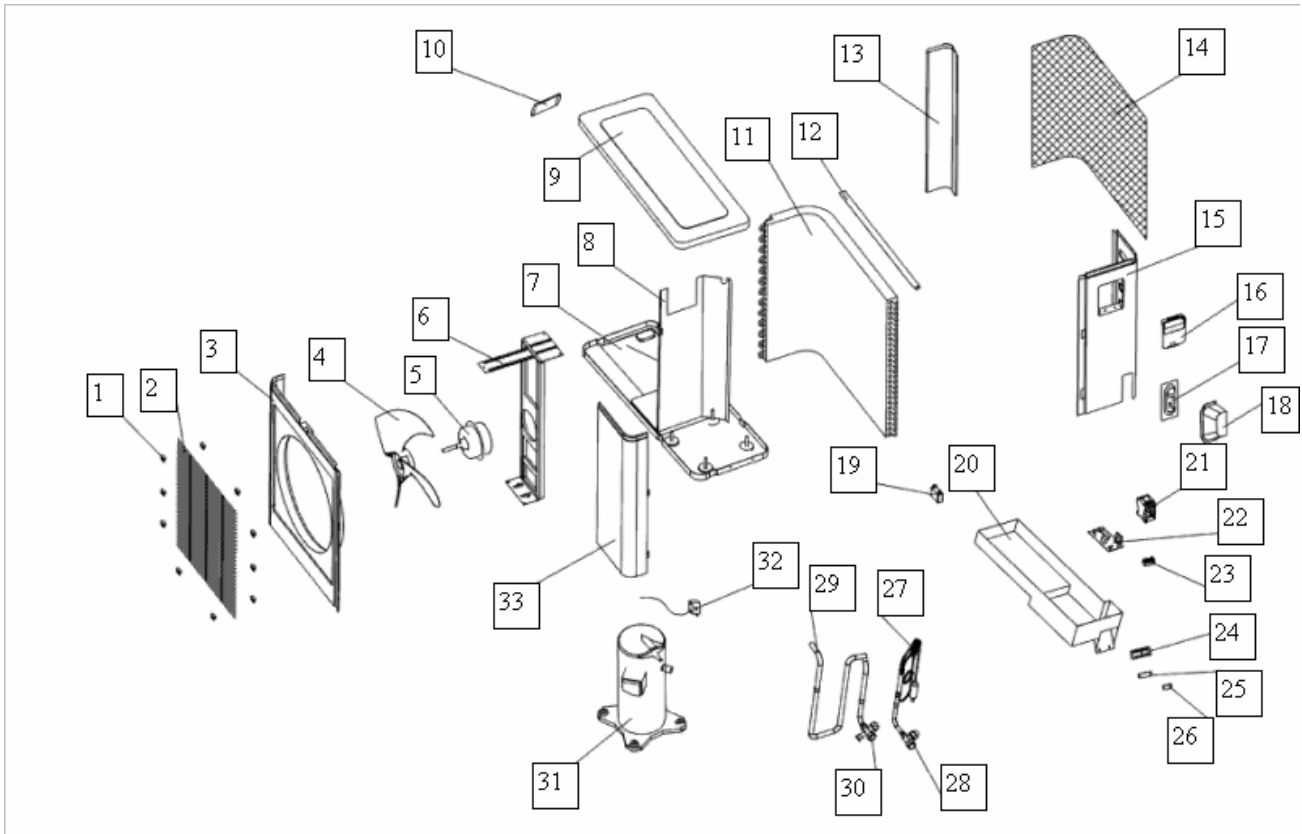
5. MFS2-48CR

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame ass'y	1	14	E-Parts box	1
1.1	Horizontal louver	6	15	Main control board	1
1.2	Horizontal louver holder	1	16	Fan motor capacitor	1
1.3	Front panel	1	17	Transformer	1
1.4	Holder for louver motor	1	18	Wire joint, 4p	1
1.5	Vertical louver	6	19	Wire joint, 5p	1
1.6	Louver motor	1	20	Wire clamp	1
2	Display box, ass'y	1	21	E-part box cover	1
2.1	Display box cover	1	22	Fan motor	1
2.2	Display box, ass'y	1	23	Centrifugal fan	1
3	Front cover	1	24	Volute shell	1
4	Water collector, ass'y	1	25	Wind inlet guide	1
5	Evaporator I	1	26	Indoor temp sensor	1
	Evaporator II	1	27	Formaldehyde cleaner	1
6	Outlet pipe for evaporator	1	28	Grille ass'y	1
7	Inlet pipe for evaporator	1	28.1	Air filter	1
8	Evaporator temp sensor	1	28.2	Grille	1
9	Left cover	1	29	Air cleaner holder	1
10	Top cover	1	30	Holder for remote controller	1
11	Rear cover	1	31	Remote controller	1
12	Right cover	1	32	Copper nut, TLM-E05	1
13	Chassis	1	33	Copper nut, TLM-C03	1

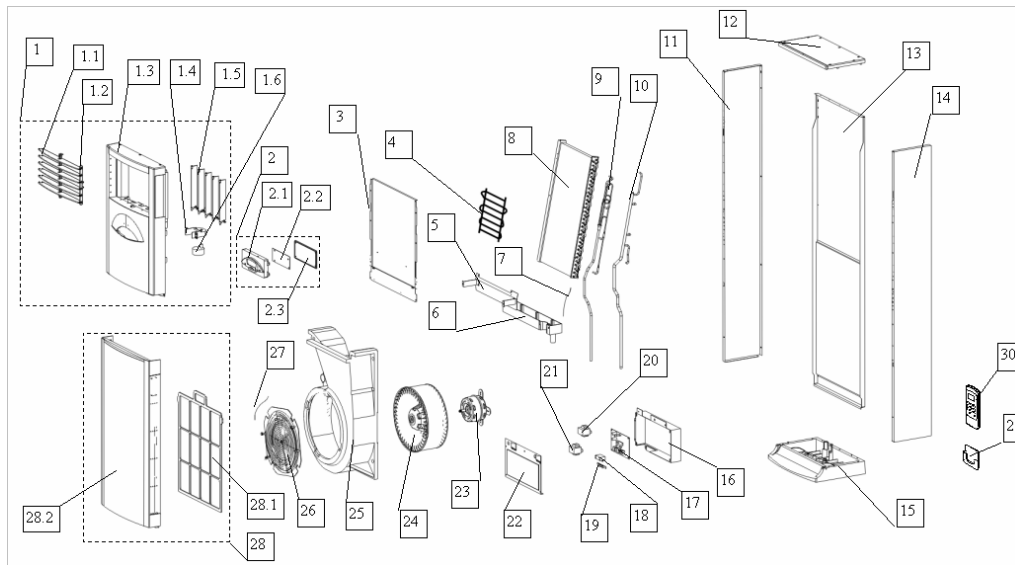
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Clamp for front net	10	18	Water collector	1
2	Front net	2	19	Fan motor capacitor	1
3	Front clapboard	1	20	Installation board for E-parts	1
4	Propeller fan	1	21	AC contactor	1
5	Fan motor	1	22	Main control board	1
6	Holder for fan motor	1	23	Wire joint for multiplexer	1
7	Chassis	1	24	Wire joint	1
8	Separating board	1	25	Washer for wire joint	1
9	Cover	1	26	Wire clamp	1
10	Small handle	1	27	Liquid valve assy	1
11	Condenser	1	28	Liquid valve	1
12	Support board for motor holder	1	29	Gas valve assy	1
13	Left supporting bar	1	30	Gas valve	1
14	Rear net	1	31	Compressor	1
15	Rear right clapboard	1	32	Discharge temp sensor	1
16	Big handle	1	33	Front right clapboard	1
17	Installation plate for valves	1	34	Copper nut, TLM-C03	1
			35	Copper nut, TLM-E05	1

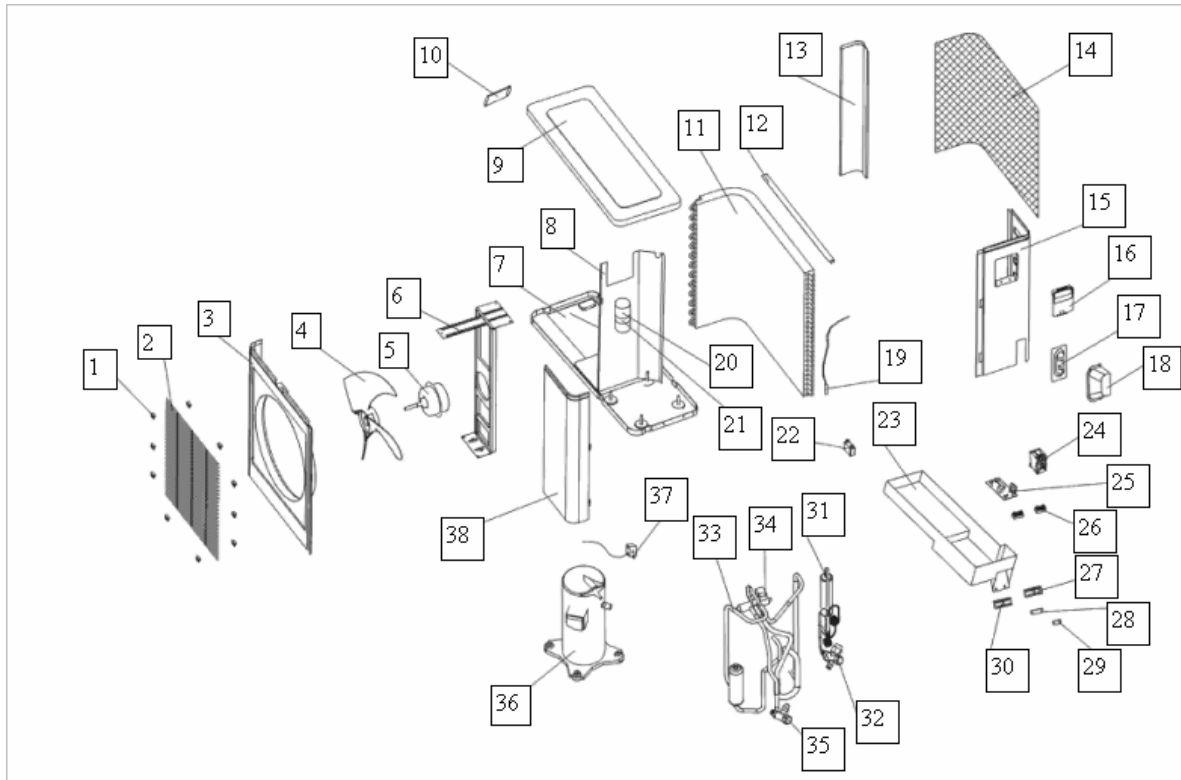
6. MFS2-48AR

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame ass'y	1	17	Main control board	1
1.1	Horizontal louver	6	18	Fan motor capacitor	1
1.2	Horizontal louver holder	1	19	Wire clamp	1
1.3	Front panel	1	20	Transformer	1
1.4	Holder for louver motor	1	21	Electric heating control board	1
1.5	Vertical louver	6	22	E-part box cover	1
1.6	Louver motor	1	23	Fan motor	1
2	Display box, ass'y	1	24	Centrifugal fan	1
2.1	Display box cover	1	25	Volute shell	1
2.2	LCD	1	26	Wind inlet guide	1
2.3	Display box, ass'y	1	27	Indoor temp sensor	1
3	Front cover	1	28	Grille ass'y	1
4	Electric heater	1	28.1	Air filter	1
5	Below cover for evaporator	1	28.2	Grille	1
6	Water collector, ass'y	1	29	Holder for remote controller	1
7	Evaporator temp sensor	1	30	Remote controller	1
8	Evaporator I	1	31	Wire joint, 5p	1
	Evaporator II	1	32	Wire joint, 3p	1
9	Inlet pipe for evaporator	1	33	Wire joint, 4p	1
10	Outlet pipe for evaporator	1	34	Air cleaner holder	1
11	Left cover	1	35	Formaldehyde cleaner	1
12	Top cover	1	36	Copper nut, TLM-E05	1
13	Rear cover	1	37	Copper nut, TLM-C03	1
14	Right cover	1	38	Connector for drain hose	1
15	Chassis	1	39	Sealing gasket	1
16	E-Parts box	1			

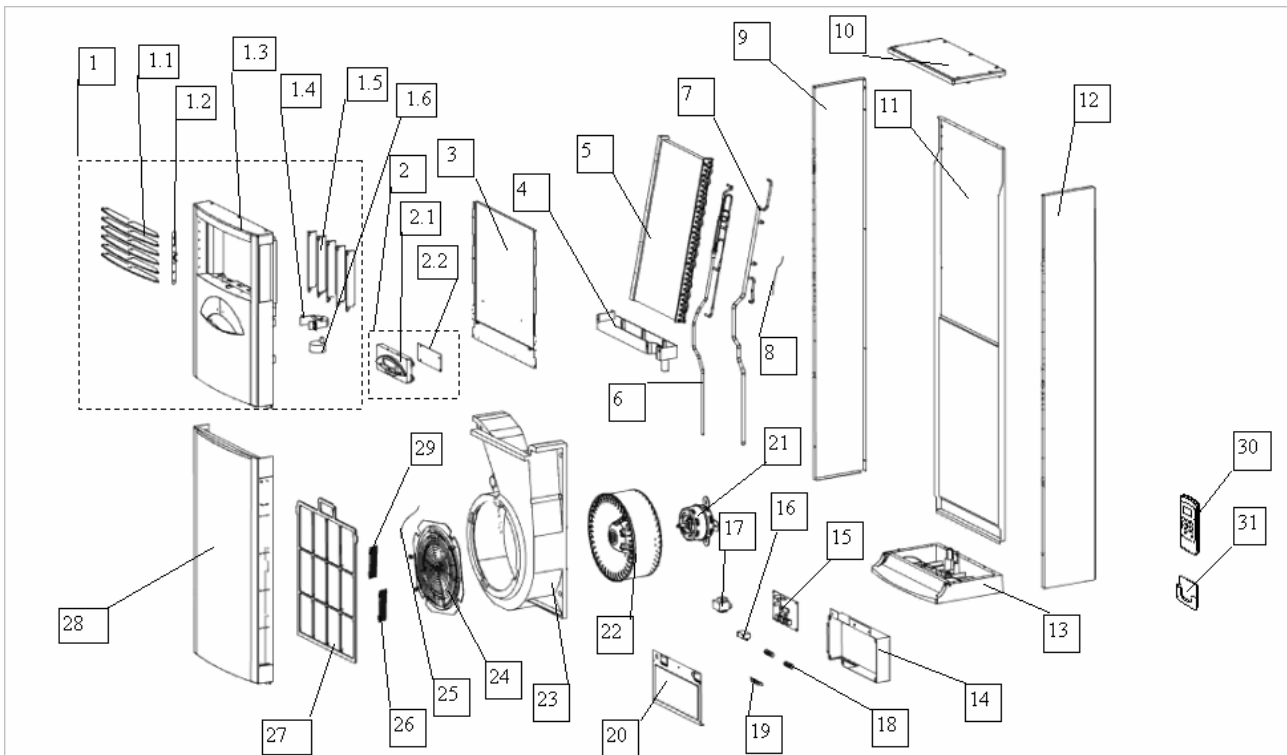
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Clamp for front net	10	21	Container clamp	1
2	Front net	2	22	Fan motor capacitor	1
3	Front clapboard	1	23	Installation board for E-parts	1
4	Propeller fan	1	24	AC contactor	1
5	Fan motor	1	25	Main control board	1
6	Holder for fan motor	1	26	Wire joint for multiplexer	2
7	Chassis	1	27	Wire joint, 8p	1
8	Separating board	1	28	Washer for wire joint	1
9	Cover	1	29	Wire clamp	1
10	Small handle	1	30	Wire joint, 4p	1
11	Condenser I	1	31	Liquid valve assy	1
	Condenser II	1	32	Liquid valve	1
12	Support board for motor holder	1	33	Gas valve assy	1
13	Left supporting bar	1	34	Reverse valve	1
14	Rear net	1	35	Gas valve	1
15	Rear right clapboard	1	36	Compressor	1
16	Big handle	1	37	Discharge temp sensor	1
17	Installation plate for valves	1	38	Front right clapboard	1
18	Water collector	1	39	Copper nut, TLM-C03	1
19	Pipe temp sensor	1	40	Copper nut, TLM-E05	1
20	Refrigerant container	1			

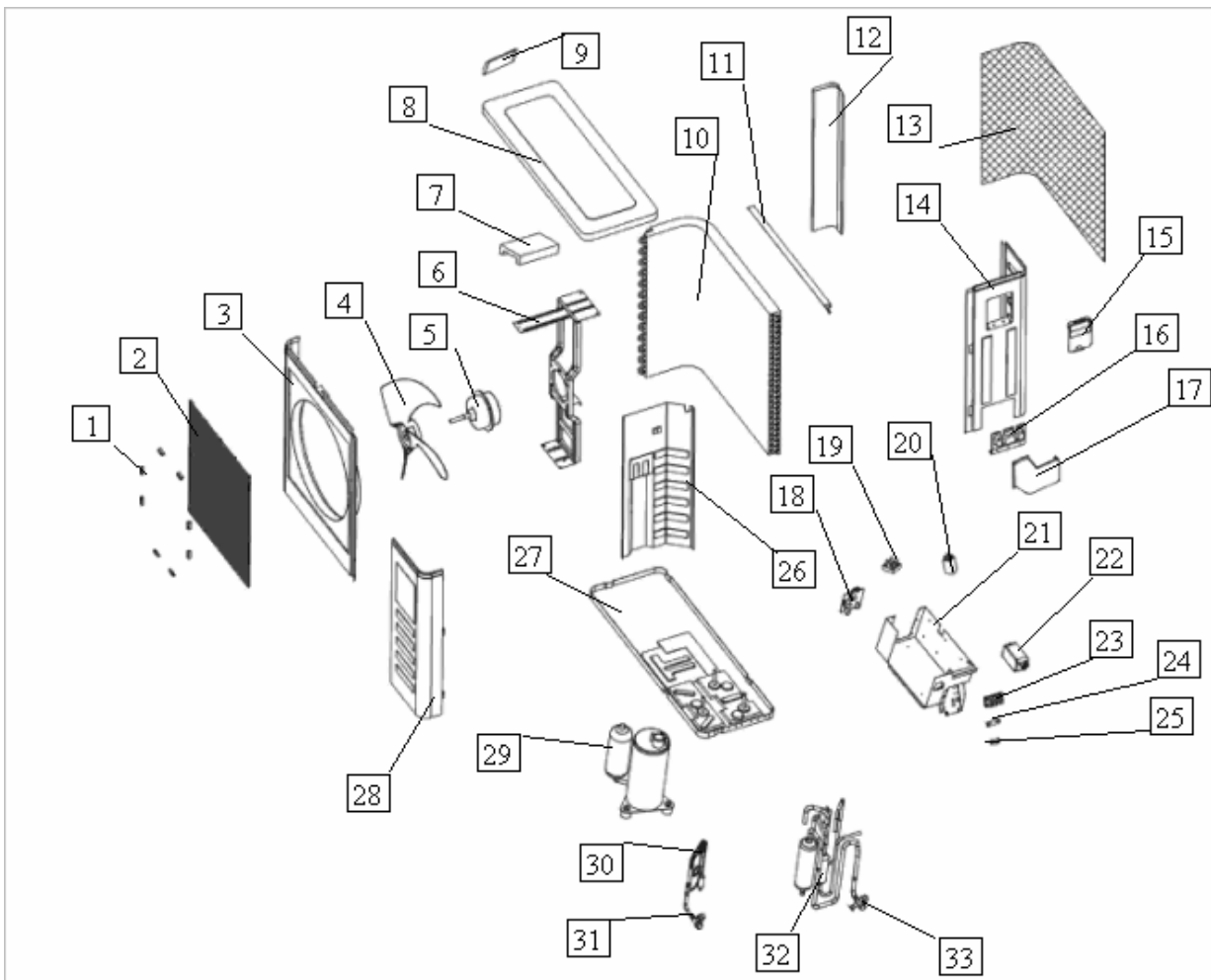
7. MFS2-24CRN2(220-240V~, 50Hz)

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame ass'y	1	14	E-Parts box	1
1.1	Horizontal louver	6	15	Main control board	1
1.2	Horizontal louver holder	1	16	Fan motor capacitor	1
1.3	Front panel	1	17	Transformer	1
1.4	Holder for louver motor	1	18	Wire joint	1
1.5	Vertical louver	5	19	Wire clamp	1
1.6	Louver motor	1	20	E-part box cover	1
2	Display box, ass'y	1	21	Fan motor	1
2.1	Display box cover	1	22	Centrifugal fan	1
2.2	Display box, ass'y	1	23	Volute shell	1
3	Front cover	1	24	Wind inlet guide	1
4	Water collector, ass'y	1	25	Indoor temp sensor	1
5	Evaporator	1	26	Formaldehyde cleaner	1
6	Outlet pipe for evaporator	1	27	Air filter	1
7	Inlet pipe for evaporator	1	28	Grille	1
8	Evaporator temp sensor	1	29	Air cleaner holder	1
9	Left cover	1	30	Remote controller	1
10	Top cover	1	31	Holder for remote controller	1
11	Rear cover	1	32	Copper nut, TLM-B02	1
12	Right cover	1	33	Copper nut, TLM-D04	1
13	Chassis	1			

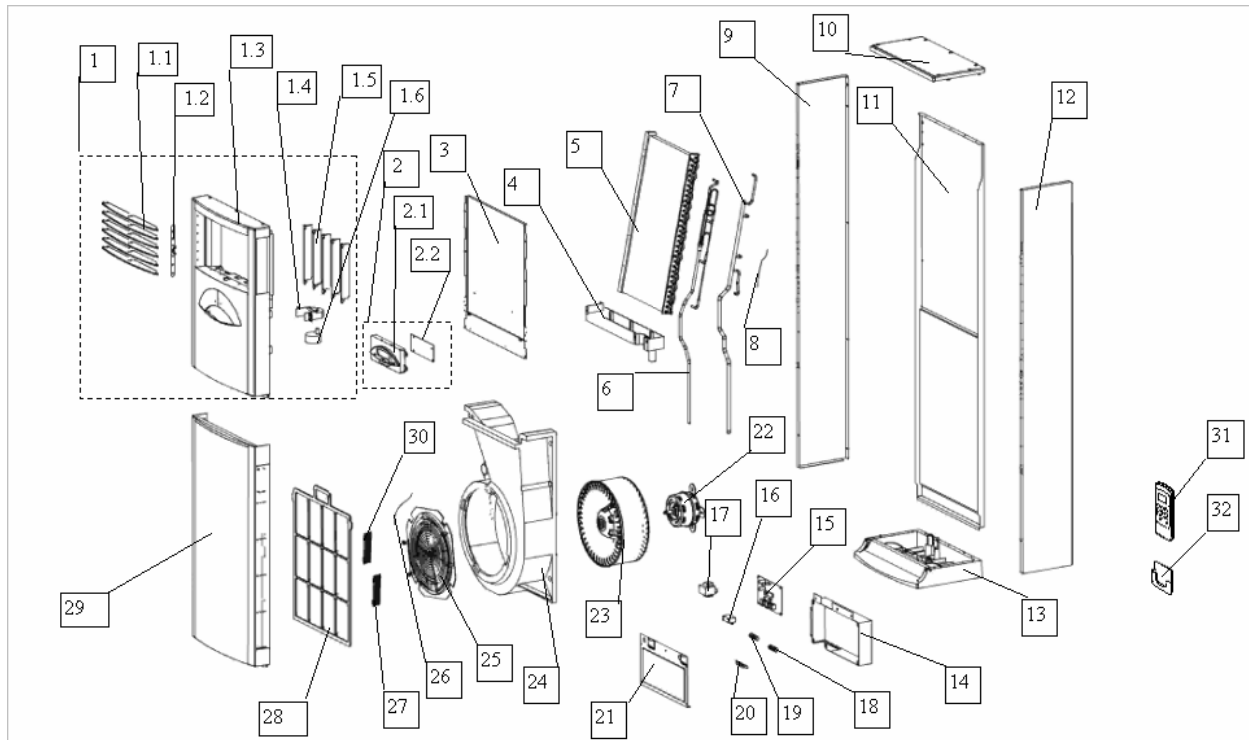
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Clamp for front net	8	19	Fan motor capacitor	1
2	Front net	1	20	Wire joint for multiplexer	1
3	Front clapboard	1	21	Installation board for E-parts	1
4	Propeller fan	1	22	Capacitor, Compressor	1
5	Fan motor	1	23	Wire joint	1
6	Holder for fan motor	1	24	Washer for wire joint	1
7	Foam over holder for motor	1	25	Clamp for wiring	1
8	Cover	1	26	Separating board	1
9	Little handle	1	27	Chassis	1
10	Condenser	1	28	Front right clapboard	1
11	Support board for motor holder	1	29	Compressor	1
12	Left clapboard	1	30	Liquid valve assy	1
13	Rear net	1	31	Liquid pipe valve	1
14	Rear right clapboard	1	32	Gas valve assy	1
15	Big handle	1	33	Gas pipe valve	1
16	Installation plate for valves	1	34	Copper nut, TLM-B02	1
17	Water collector	1	35	Copper nut, TLM-D04	1
18	Contactor	1			

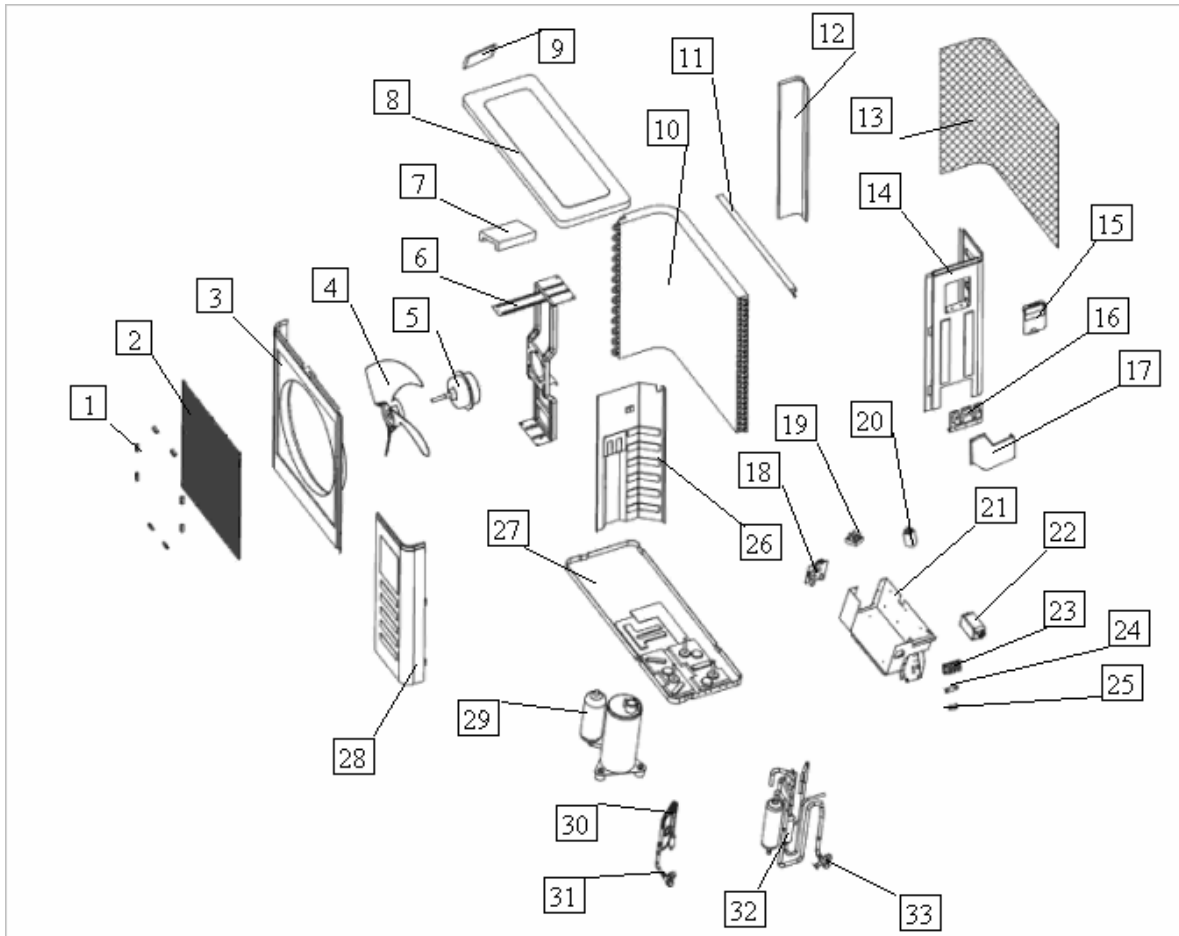
8. MFS2-24CRN2(380V, 3N~, 50Hz)

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame ass'y	1	14	E-Parts box	1
1.1	Horizontal louver	6	15	Main control board	1
1.2	Horizontal louver holder	1	16	Fan motor capacitor	1
1.3	Front panel	1	17	Transformer	1
1.4	Holder for louver motor	1	18	Wire joint, 4p	1
1.5	Vertical louver	5	19	Wire joint, 5p	1
1.6	Louver motor	1	20	Wire clamp	1
2	Display box, ass'y	1	21	E-part box cover	1
2.1	Display box cover	1	22	Fan motor	1
2.2	Display box, ass'y	1	23	Centrifugal fan	1
3	Front cover	1	24	Volute shell	1
4	Water collector, ass'y	1	25	Wind inlet guide	1
5	Evaporator	1	26	Indoor temp sensor	1
6	Outlet pipe for evaporator	1	27	Formaldehyde cleaner	1
7	Inlet pipe for evaporator	1	28	Air filter	1
8	Evaporator temp sensor	1	29	Grille	1
9	Left cover	1	30	Air cleaner holder	1
10	Top cover	1	31	Remote controller	1
11	Rear cover	1	32	Holder for remote controller	1
12	Right cover	1	33	Copper nut, TLM-B02	1
13	Chassis	1	34	Copper nut, TLM-D04	1

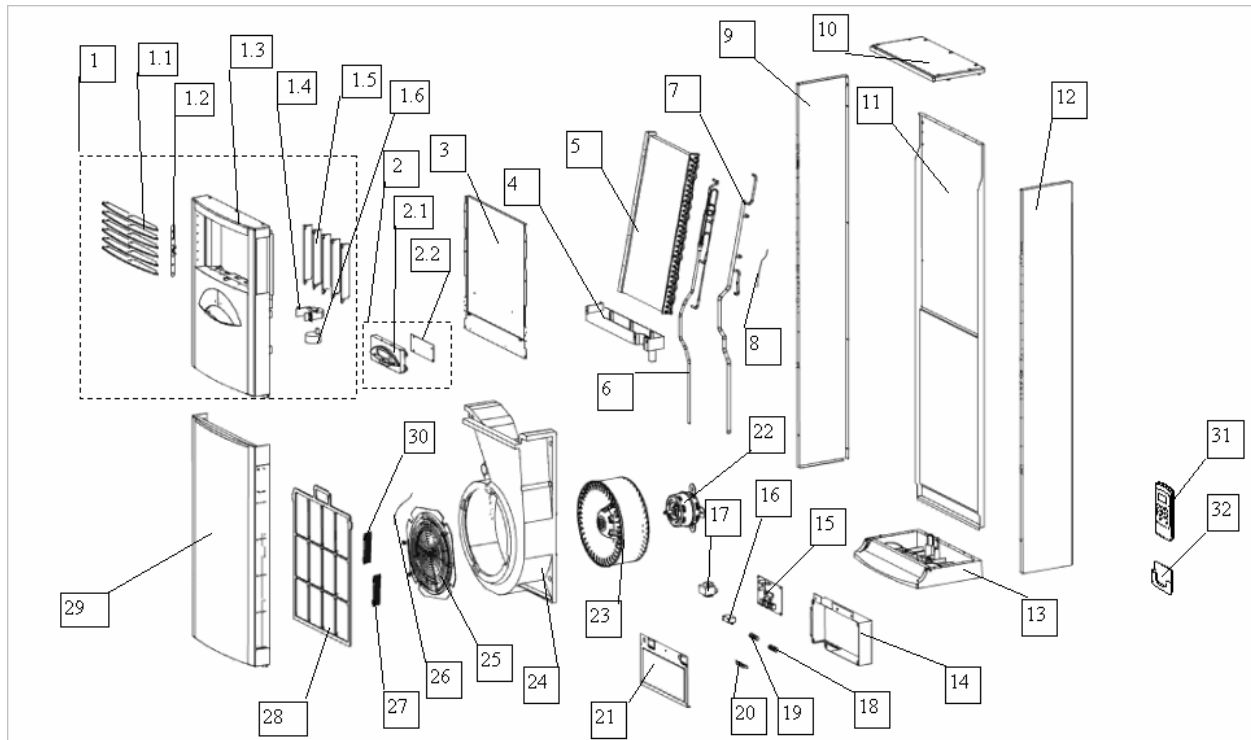
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Clamp for front net	8	19	Fan motor capacitor	1
2	Front net	1	20	Wire joint for multiplexer	1
3	Front clapboard	1	21	Installation board for E-parts	1
4	Propeller fan	1	22	Contactor	1
5	Fan motor	1	23	Wire joint	1
6	Holder for fan motor	1	24	Washer for wire joint	1
7	Foam over holder for motor	1	25	Clamp for wiring	1
8	Cover	1	26	Separating board	1
9	Little handle	1	27	Chassis	1
10	Condenser	1	28	Front right clapboard	1
11	Support board for motor holder	1	29	Compressor	1
12	Left clapboard	1	30	Liquid valve assy	1
13	Rear net	1	31	Liquid pipe valve	1
14	Rear right clapboard	1	32	Gas valve assy	1
15	Big handle	1	33	Gas pipe valve	1
16	Installation plate for valves	1	34	Copper nut, TLM-B02	1
17	Water collector	1	35	Copper nut, TLM-D04	1
18	Main control board	1			

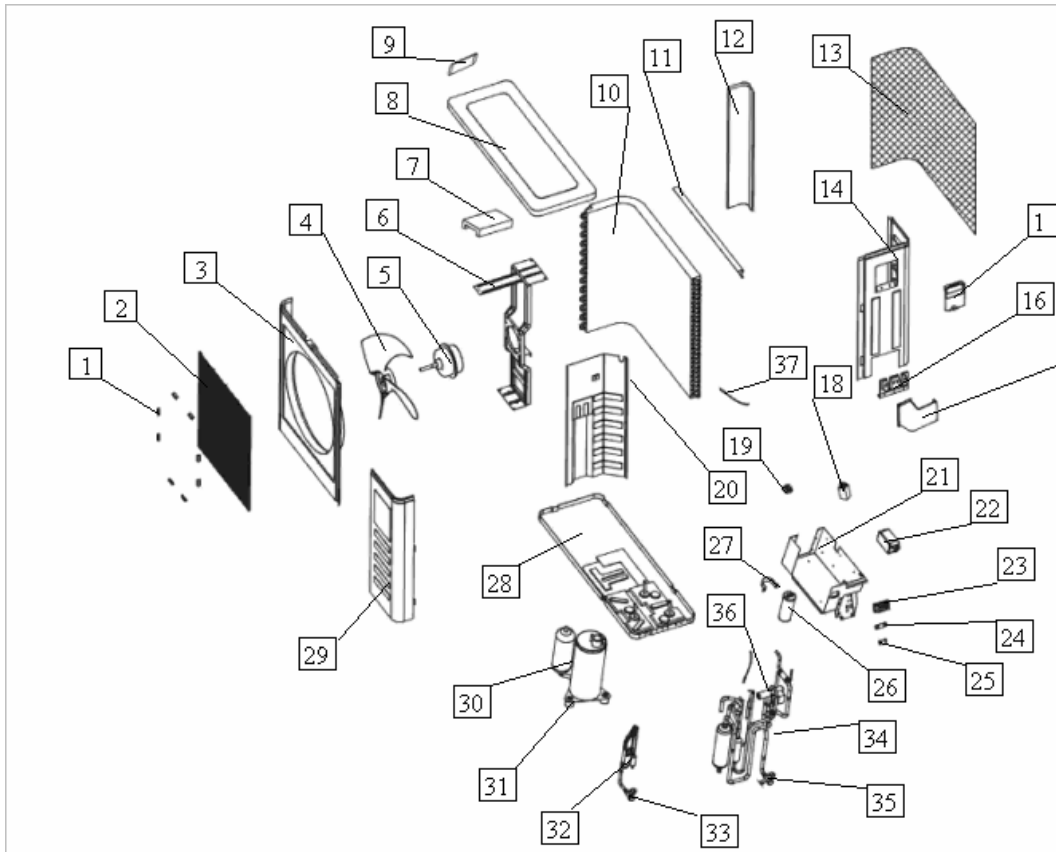
9. MFS2-24HRN2(220-240V~, 50Hz)

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame ass'y	1	14	E-Parts box	1
1.1	Horizontal louver	6	15	Main control board	1
1.2	Horizontal louver holder	1	16	Fan motor capacitor	1
1.3	Front panel	1	17	Transformer	1
1.4	Holder for louver motor	1	18	Wire joint, 4p	1
1.5	Vertical louver	5	19	Wire joint, 5p	1
1.6	Louver motor	1	20	Wire clamp	1
2	Display box, ass'y	1	21	E-part box cover	1
2.1	Display box cover	1	22	Fan motor	1
2.2	Display box, ass'y	1	23	Centrifugal fan	1
3	Front cover	1	24	Volute shell	1
4	Water collector, ass'y	1	25	Wind inlet guide	1
5	Evaporator	1	26	Indoor temp sensor	1
6	Outlet pipe for evaporator	1	27	Formaldehyde cleaner	1
7	Inlet pipe for evaporator	1	28	Air filter	1
8	Evaporator temp sensor	1	29	Grille	1
9	Left cover	1	30	Air cleaner holder	1
10	Top cover	1	31	Remote controller	1
11	Rear cover	1	32	Holder for remote controller	1
12	Right cover	1	33	Copper nut, TLM-B02	1
13	Chassis	1	34	Copper nut, TLM-D04	1

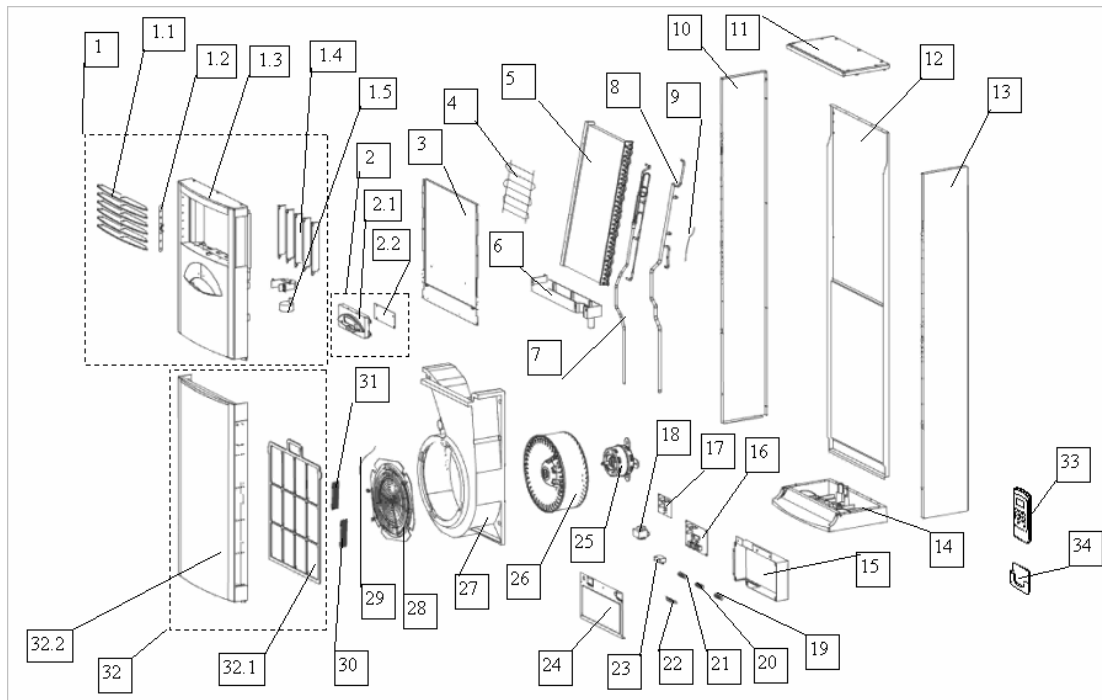
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Clamp for front net	8	21	Installation board for E-parts	1
2	Front net	1	22	Contactora	1
3	Front clapboard	1	23	Wire joint	1
4	Propeller fan	1	24	Washer for wire joint	1
5	Fan motor	1	25	Clamp for wiring	1
6	Holder for fan motor	1	26	Compressor capacitor	1
7	Foam over holder for motor	1	27	Capacitor clamp	1
8	Cover	1	28	Chassis	1
9	Little handle	1	29	Front right clapboard	1
10	Condenser	1	30	Compressor	1
11	Support board for motor holder	1	31	Rubber underlay for compressor	3
12	Left clapboard	1	32	Liquid valve assy	1
13	Rear net	1	33	Liquid pipe valve	1
14	Rear right clapboard	1	34	Gas valve assy	1
15	Big handle	1	35	Gas pipe valve	1
16	Installation plate for valves	1	36	4-way valve	1
17	Water collector	1	37	Condenser temp sensor	1
18	Fan motor capacitor	1	38	Copper nut, TLM-B02	1
19	Wire joint for multiplexer	1	39	Copper nut, TLM-D04	1
20	Separating board	1			

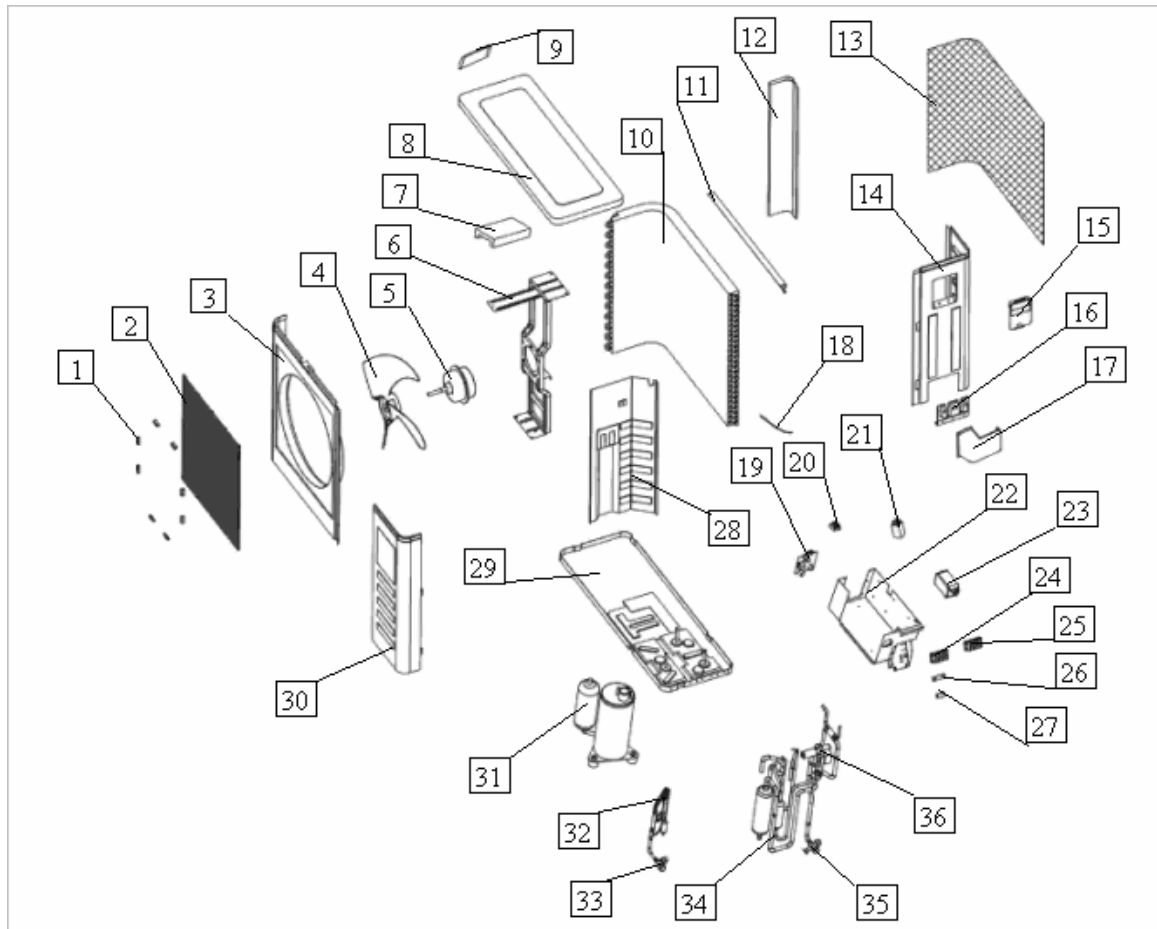
11. MFS2-24ARN2(220-240V~, 50Hz)

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame assy	1	17	Electric heating control board	1
1.1	Horizontal louver	6	18	Transformer	1
1.2	Horizontal louver holder	1	19	Wire joint, 3p	1
1.3	Front panel	1	20	Wire joint, 4p	1
1.4	Vertical louver	5	21	Wire joint, 5p	1
1.5	Louver motor	1	22	Wire clamp	1
2	Display box, ass'y	1	23	Fan motor capacitor	1
2.1	Display box cover	1	24	E-part box cover	1
2.2	Display box, ass'y	1	25	Fan motor	1
3	Front cover	1	26	Centrifugal fan	1
4	Electric heater	1	27	Volute shell	1
5	Evaporator	1	28	Wind inlet guide	1
6	Water collector, assy	1	28.1	Indoor temp sensor	1
7	Inlet pipe for evaporator	1	28.2	Formaldehyde cleaner	1
8	Outlet pipe for evaporator	1	29	Air cleaner holder	1
9	Evaporator temp sensor	1	30	Grille ass'y	1
10	Left cover	1	31	Air filter	1
11	Top cover	1	32	Grille	1
12	Rear cover	1	33	Remote controller	1
13	Right cover	1	34	Holder for remote controller	1
14	Chassis	1	35	Copper nut, TLM-B02	1
15	E-Parts box	1	36	Copper nut, TLM-D04	1
16	Main control board	1			

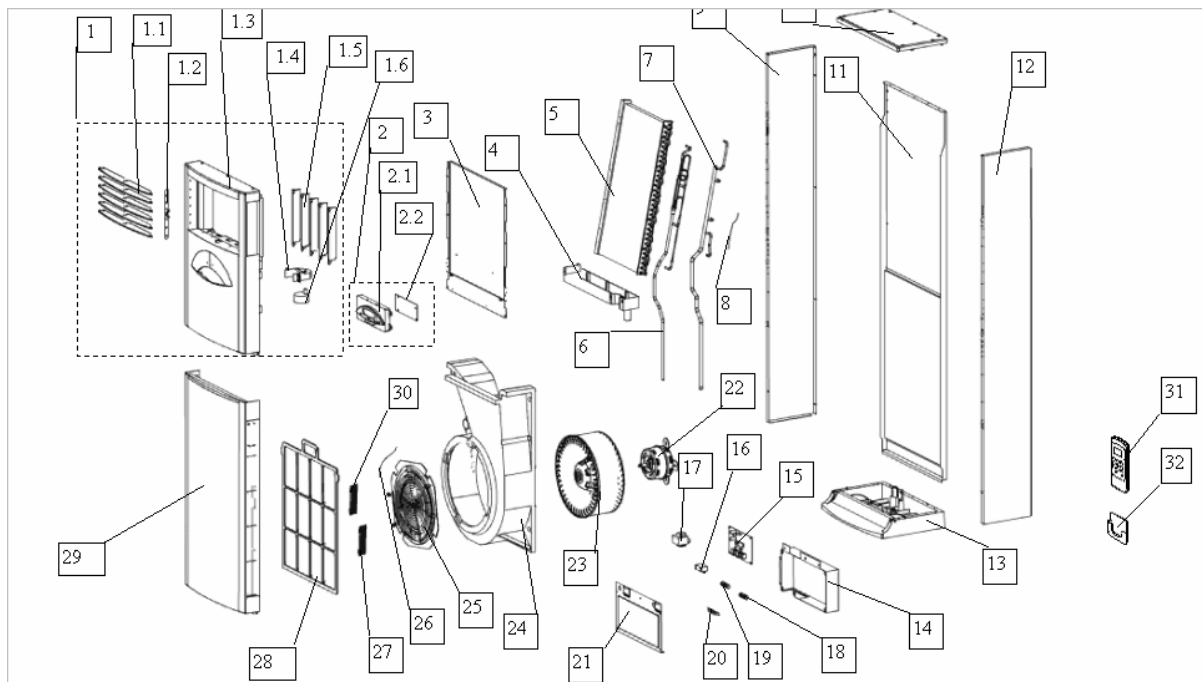
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Clamp for front net	8	20	Wire joint for multiplexer	1
2	Front net	1	21	Fan motor capacitor	1
3	Front clapboard	1	22	Installation board for E-parts	1
4	Propeller fan	1	23	Contactor	1
5	Fan motor	1	24	Wire joint, 4p	1
6	Holder for fan motor	1	25	Wire joint, 8p	1
7	Foam over holder for motor	1	26	Washer for wire joint	1
8	Cover	1	27	Clamp for wiring	1
9	Little handle	1	28	Separating board	1
10	Condenser	1	29	Chassis	1
11	Support board for motor holder	1	30	Front right clapboard	1
12	Left clapboard	1	31	Compressor	1
13	Rear net	1	32	Liquid valve assy	1
14	Rear right clapboard	1	33	Liquid pipe valve	1
15	Big handle	1	34	Gas valve assy	1
16	Installation plate for valves	1	35	Gas pipe valve	1
17	Water collector	1	36	4-way valve	1
18	Condenser temp sensor	1	37	Copper nut, TLM-B02	1
19	Main control board	1	38	Copper nut, TLM-D04	1

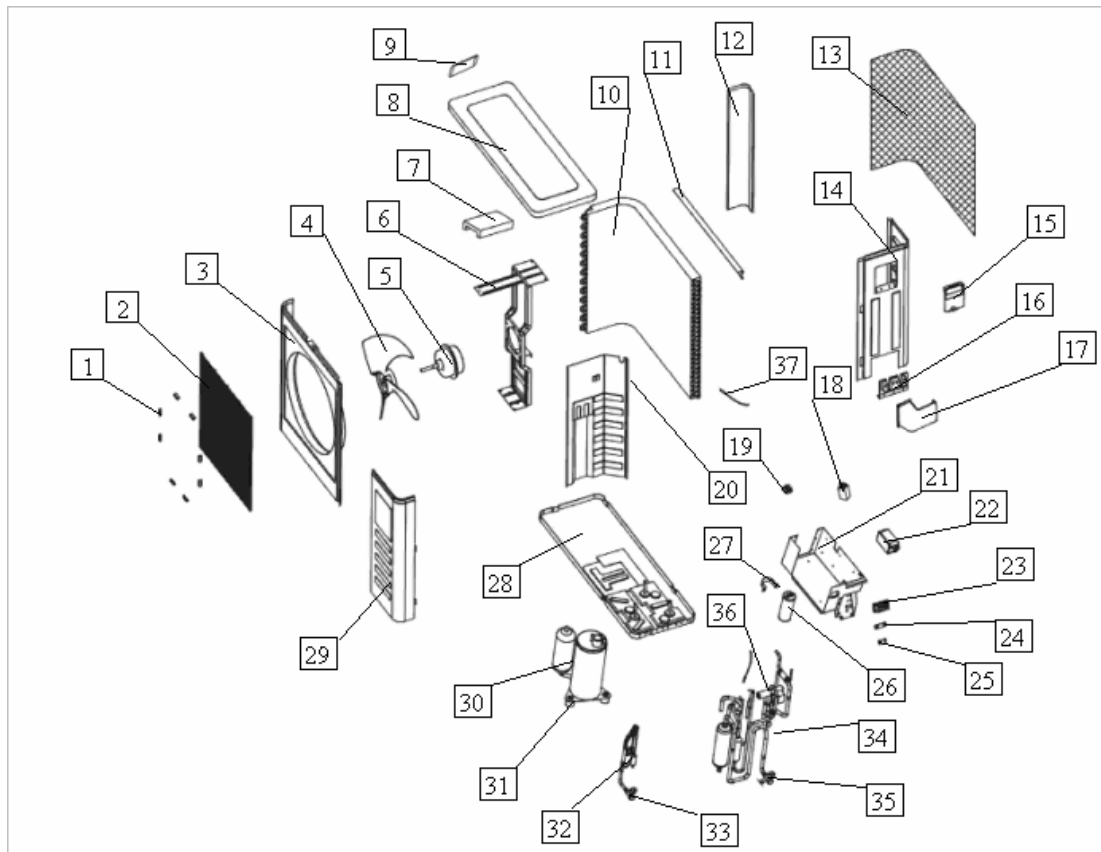
12.MFS2-24ARN2(380V, 3N~, 50Hz)

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame ass'y	1	14	E-Parts box	1
1.1	Horizontal louver	6	15	Main control board	1
1.2	Horizontal louver holder	1	16	Fan motor capacitor	1
1.3	Front panel	1	17	Transformer	1
1.4	Holder for louver motor	1	18	Wire joint, 2p	1
1.5	Vertical louver	5	19	Wire joint, 6p	1
1.6	Louver motor	1	20	Wire clamp	1
2	Display box, ass'y	1	21	E-part box cover	1
2.1	Display box cover	1	22	Fan motor	1
2.2	Display box, ass'y	1	23	Centrifugal fan	1
3	Front cover	1	24	Volute shell	1
4	Water collector, ass'y	1	25	Wind inlet guide	1
5	Evaporator	1	26	Indoor temp sensor	1
6	Outlet pipe for evaporator	1	27	Formaldehyde cleaner	1
7	Inlet pipe for evaporator	1	28	Air filter	1
8	Evaporator temp sensor	1	29	Grille	1
9	Left cover	1	30	Air cleaner holder	1
10	Top cover	1	31	Remote controller	1
11	Rear cover	1	32	Holder for remote controller	1
12	Right cover	1	33	Copper nut, TLM-B02	1
13	Chassis	1	34	Copper nut, TLM-D04	1
			35	Electric heating control board	1

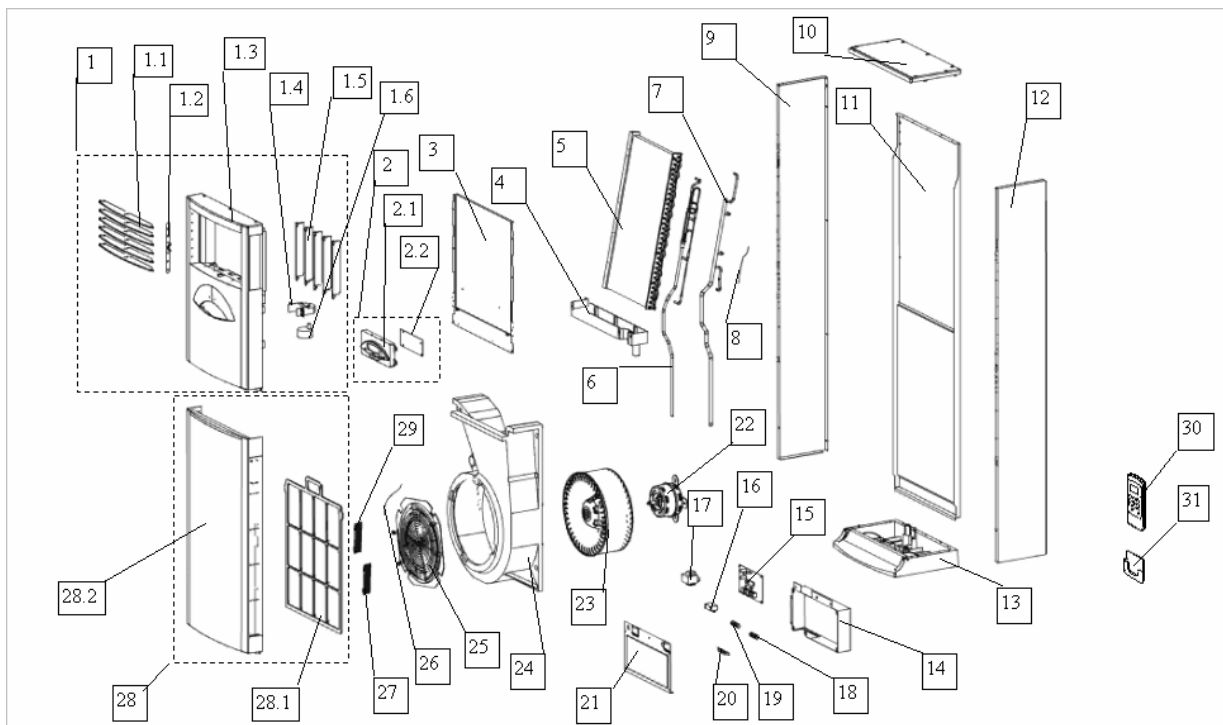
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Clamp for front net	8	21	Installation board for E-parts	1
2	Front net	1	22	Contactors	1
3	Front clapboard	1	23	Wire joint	1
4	Propeller fan	1	24	Washer for wire joint	1
5	Fan motor	1	25	Clamp for wiring	1
6	Holder for fan motor	1	26	Compressor capacitor	1
7	Foam over holder for motor	1	27	Capacitor clamp	1
8	Cover	1	28	Chassis	1
9	Little handle	1	29	Front right clapboard	1
10	Condenser	1	30	Compressor	1
11	Support board for motor holder	1	31	Rubber underlay for compressor	3
12	Left clapboard	1	32	Liquid valve assy	1
13	Rear net	1	33	Liquid pipe valve	1
14	Rear right clapboard	1	34	Gas valve assy	1
15	Big handle	1	35	Gas pipe valve	1
16	Installation plate for valves	1	36	4-way valve	1
17	Water collector	1	37	Condenser temp sensor	1
18	Fan motor capacitor	1	38	Copper nut, TLM-B02	1
19	Wire joint for multiplexer	1	39	Copper nut, TLM-D04	1
20	Separating board	1			

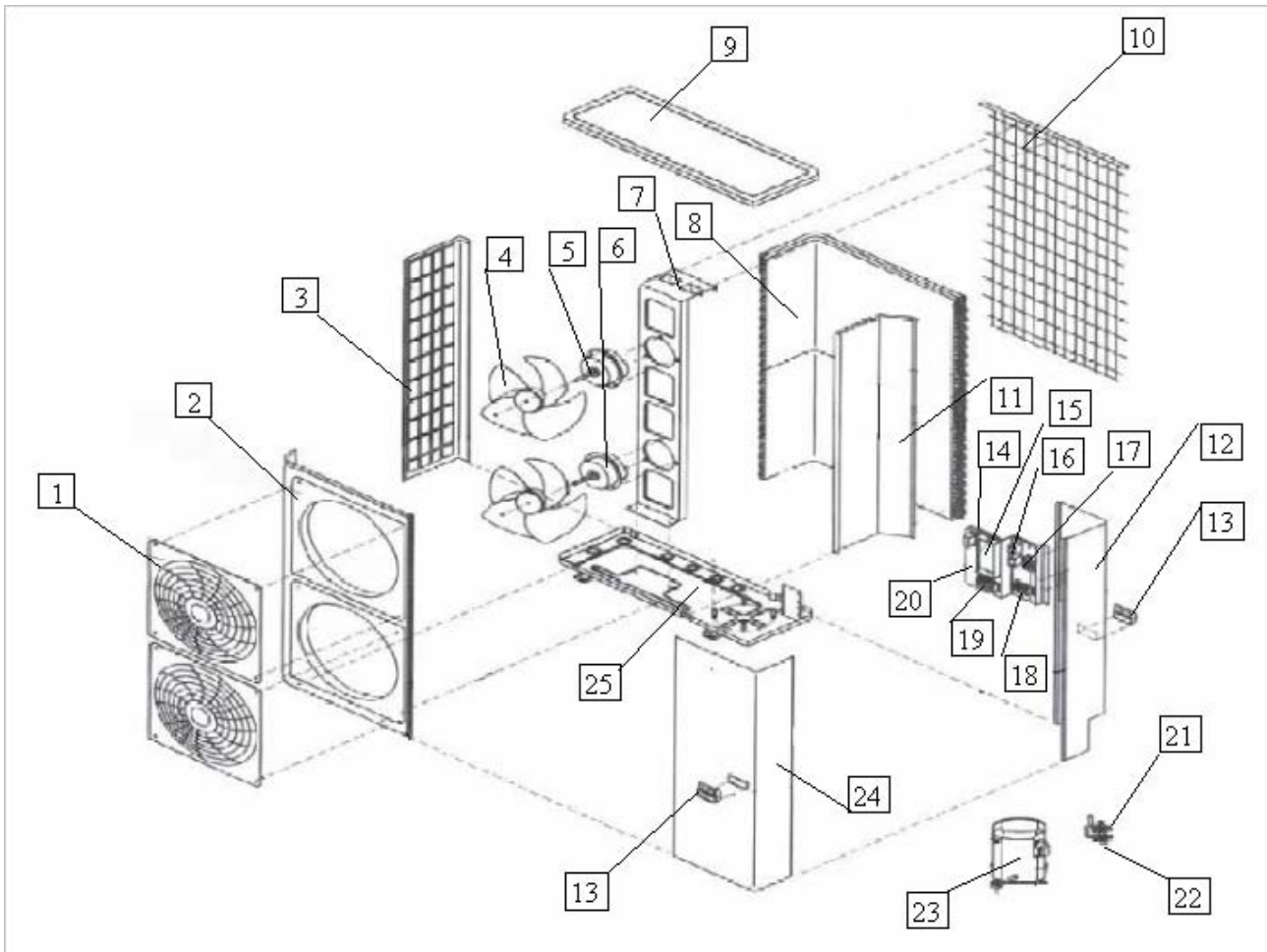
13.MFS2-48CRN2

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame ass'y	1	14	E-Parts box	1
1.1	Horizontal louver	6	15	Main control board	1
1.2	Horizontal louver holder	1	16	Fan motor capacitor	1
1.3	Front panel	1	17	Transformer	1
1.4	Holder for louver motor	1	18	Wire joint, 4p	1
1.5	Vertical louver	6	19	Wire joint, 5p	1
1.6	Louver motor	1	20	Wire clamp	1
2	Display box, ass'y	1	21	E-part box cover	1
2.1	Display box cover	1	22	Fan motor	1
2.2	Display box, ass'y	1	23	Centrifugal fan	1
3	Front cover	1	24	Volute shell	1
4	Water collector, ass'y	1	25	Wind inlet guide	1
5	Evaporator I	1	26	Indoor temp sensor	1
	Evaporator II	1	27	Formaldehyde cleaner	1
6	Outlet pipe for evaporator	1	28	Grille ass'y	1
7	Inlet pipe for evaporator	1	28.1	Air filter	1
8	Evaporator temp sensor	1	28.2	Grille	1
9	Left cover	1	29	Air cleaner holder	1
10	Top cover	1	30	Holder for remote controller	1
11	Rear cover	1	31	Remote controller	1
12	Right cover	1	32	Copper nut, TLM-E05	1
13	Chassis	1	33	Copper nut, TLM-C03	1

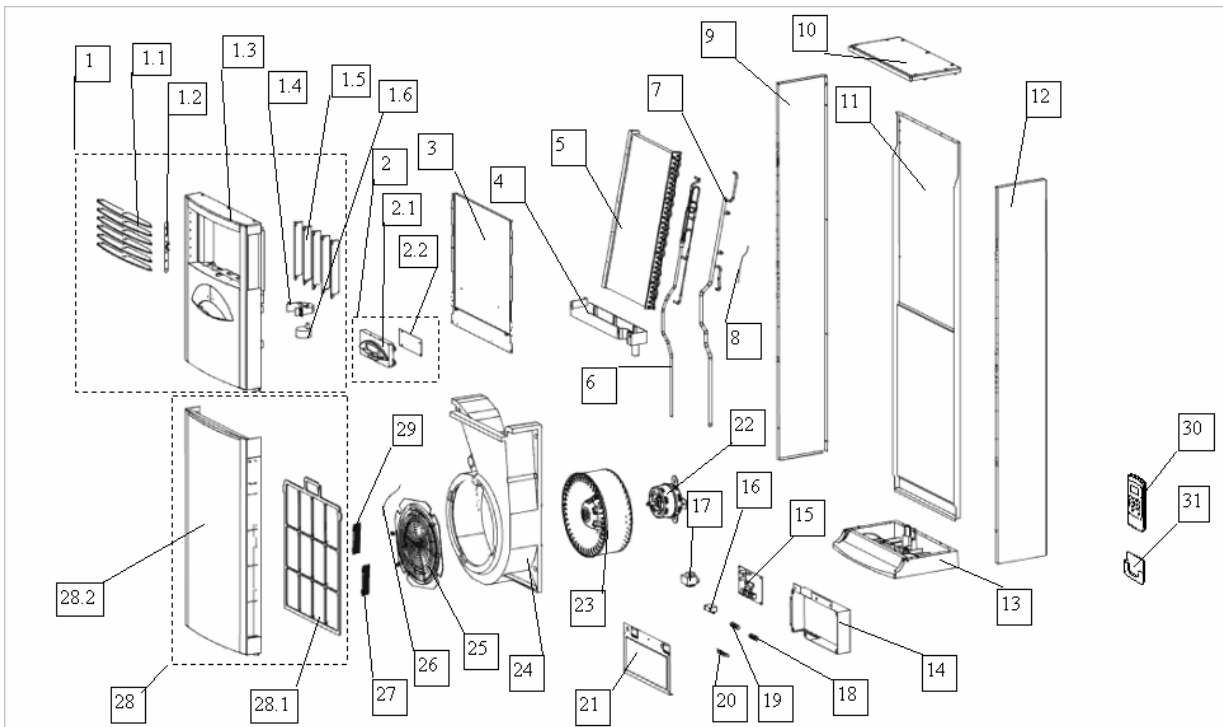
Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Front net	2	17	Wire joint for multiplexer	1
2	Front clapboard	1	18	Wire joint, 8p	1
3	Left clapboard	1	19	Contactor	1
4	Propeller fan	2	20	Installation board for E-parts	1
5	Fan motor	1	21	Liquid valve assy	1
6	Fan motor, below	1		Liquid valve	1
7	Holder for fan motor	1	22	Gas valve assy	1
8	Condenser	1		Gas valve	1
9	Cover	1	23	Compressor	1
10	Rear net	1	24	Front right clapboard	1
11	Separating board	1	25	Chassis	1
12	Rear right clapboard	1	26	Underlay for wire joint	1
13	Small handle	2	27	Wire clamp	1
14	Electric parts assy	1	28	Discharge pipe temp sensor	1
15	Main control board	1			
16	Fan motor capacitor	2			

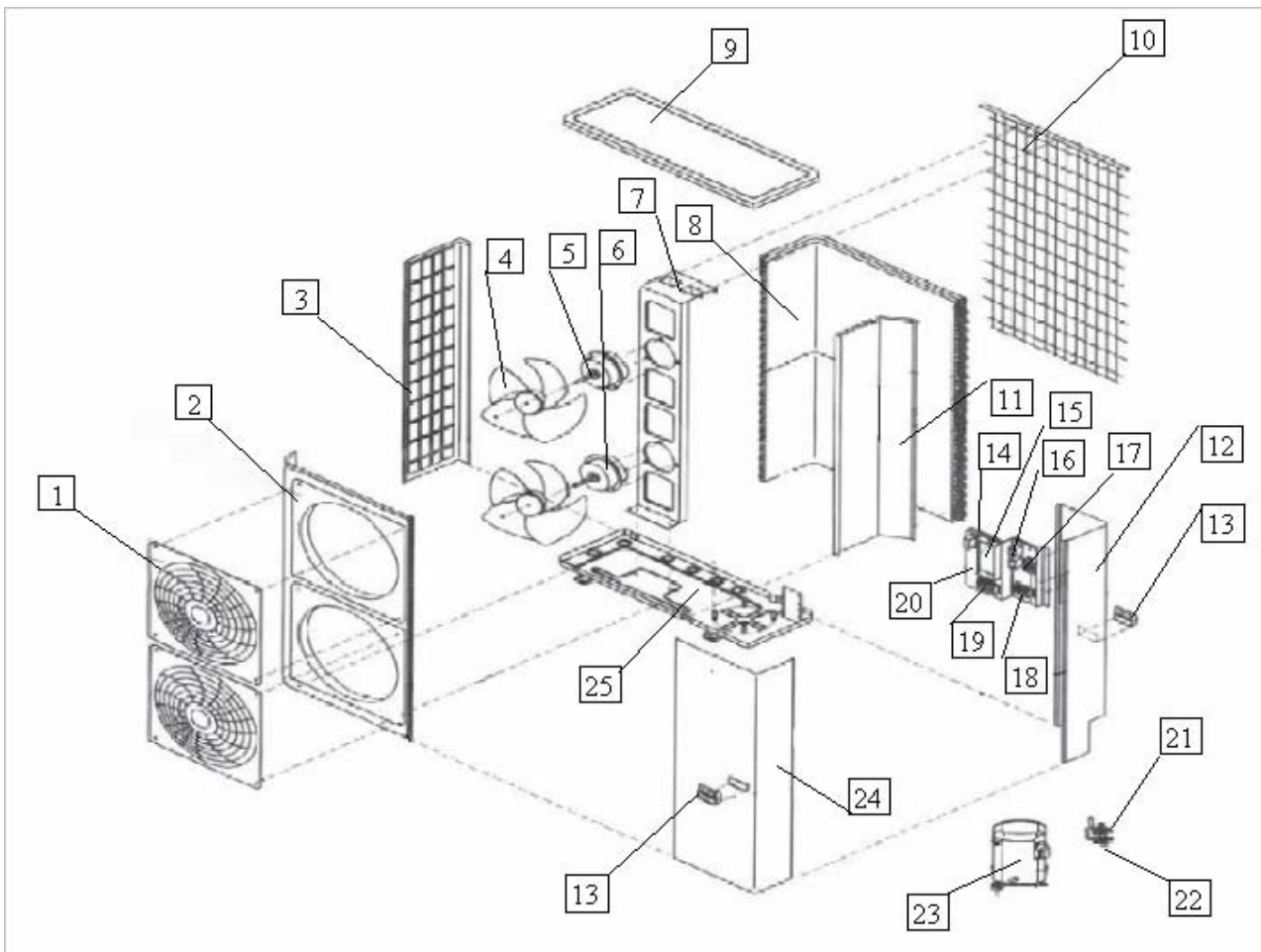
14.MFS2-48ARN2

Indoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Air out frame ass'y	1	14	E-Parts box	1
1.1	Horizontal louver	6	15	Main control board	1
1.2	Horizontal louver holder	1	16	Fan motor capacitor	1
1.3	Front panel	1	17	Transformer	1
1.4	Holder for louver motor	1	18	Wire joint, 4p	1
1.5	Vertical louver	6	19	Wire joint, 5p	1
1.6	Louver motor	1	20	Wire clamp	1
2	Display box, ass'y	1	21	E-part box cover	1
2.1	Display box cover	1	22	Fan motor	1
2.2	Display box, ass'y	1	23	Centrifugal fan	1
3	Front cover	1	24	Volute shell	1
4	Water collector, ass'y	1	25	Wind inlet guide	1
5	Evaporator I	1	26	Indoor temp sensor	1
	Evaporator II	1	27	Formaldehyde cleaner	1
6	Outlet pipe for evaporator	1	28	Grille ass'y	1
7	Inlet pipe for evaporator	1	28.1	Air filter	1
8	Evaporator temp sensor	1	28.2	Grille	1
9	Left cover	1	29	Air cleaner holder	1
10	Top cover	1	30	Holder for remote controller	1
11	Rear cover	1	31	Remote controller	1
12	Right cover	1	32	Copper nut, TLM-E05	1
13	Chassis	1	33	Copper nut, TLM-C03	1

Outdoor unit



No.	Part Name	Quantity	No.	Part Name	Quantity
1	Front net	2	17	Wire joint for multiplexer	1
2	Front clapboard	1	18	Wire joint, 8p	1
3	Left clapboard	1	19	Contactora	1
4	Propeller fan	2	20	Installation board for E-parts	1
5	Fan motor	1	21	Liquid valve assy	1
6	Fan motor, below	1		Liquid valve	1
7	Holder for fan motor	1	22	Gas valve assy	1
8	Condenser	1		Gas valve	1
9	Cover	1	23	Compressor	1
10	Rear net	1	24	Front right clapboard	1
11	Separating board	1	25	Chassis	1
12	Rear right clapboard	1	26	Underlay for wire joint	1
13	Small handle	2	27	Wire clamp	1
14	Electric parts assy	1	28	Discharge pipe temp sensor	1
15	Main control board	1	17	Wire joint for multiplexer	1
16	Fan motor capacitor	2	18	Wire joint, 8p	1