

OUTDOOR UNIT

SERVICE MANUAL



No. OBH560
REVISED EDITION-L

Revision L:

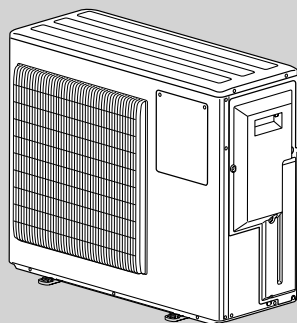
- Capacity and input curve have been corrected.

Please void OBH560 REVISED EDITION-K.

Models

MXZ-2B20NA	MXZ-2B20NA - 1
	MXZ-2B20NA - 2
MXZ-3B24NA	MXZ-3B24NA - 1
MXZ-3B30NA	MXZ-3B30NA - 1
MXZ-4B36NA	MXZ-4B36NA - 1
MXZ-5B42NA	

Indoor unit service manual
MSZ-A·NA Series (OB450)
MSZ-FD·NA Series (OBH497)
MSZ-FE·NA Series (OBH542)
MSZ-GE·NA Series (OBH548)
MFZ-KA·NA Series (OBH568)
SEZ-KD·NA.TH Series



MXZ-2B20NA

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INDOOR UNITS COMBINATION TABLES

PARTS CATALOG (OBB560)

NOTE:

RoHS compliant products have <G> mark on the spec name plate.

Use the specified refrigerant only

Never use any refrigerant other than that specified.

Doing so may cause a burst, an explosion, or fire when the unit is being used, serviced, or disposed of.

Correct refrigerant is specified in the manuals and on the spec labels provided with our products.

We will not be held responsible for mechanical failure, system malfunction, unit breakdown or accidents caused by failure to follow the instructions.

Revision A:

- MXZ-2B20NA-**1** has been added.

Revision B:

- MXZ-3B24NA and MXZ-4B36NA have been added.

Revision C:

- MXZ-3B30NA has been added.

Revision D:

- MXZ-3B24NA-**1**, MXZ-3B30NA-**1**, and MXZ-4B36NA-**1** have been added.

Revision E:

- Errors in TROUBLESHOOTING have been corrected.

Revision F:

- FAILURE MODE RECALL FUNCTION has been corrected.

Revision G:

- MXZ-5B42NA has been added.

Revision H:

- The capacity and the power consumption for MXZ-5B42NA have been corrected.
- The description for pumping down has been added.

Revision J:

- TROUBLESHOOTING CHECK TABLE has been modified.

Revision K:

- MXZ-2B20NA-**2** has been added.

Revision L:

- Capacity and input curve have been corrected.

1

TECHNICAL CHANGES

MXZ-2B20NA

New model

MXZ-2B20NA → MXZ-2B20NA - **1**

1. Outdoor fan motor has been changed.
2. Outdoor electronic control P.C. board has been changed.
3. LEV coil has been changed.

MXZ-3B24NA

New model

MXZ-3B30NA

New model

MXZ-3B24NA → MXZ-3B24NA - **1**

1. Outdoor fan motor has been changed.
2. Outdoor electronic control P.C. board has been changed.

MXZ-3B30NA → MXZ-3B30NA -¹

1. Outdoor fan motor has been changed.
2. Outdoor electronic control P.C. board has been changed.

MXZ-4B36NA → MXZ-4B36NA -¹

1. Outdoor fan motor has been changed.
2. Outdoor electronic control P.C. board has been changed.

MXZ-5B42NA

New model

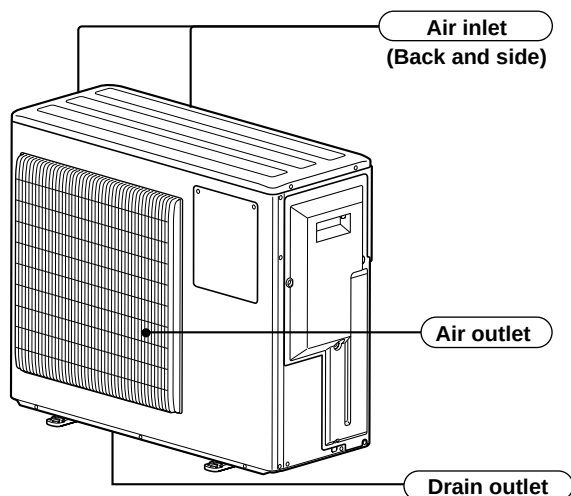
MXZ-2B20NA -¹ → MXZ-2B20NA -²

1. Outdoor electronic control P.C. board has been changed.

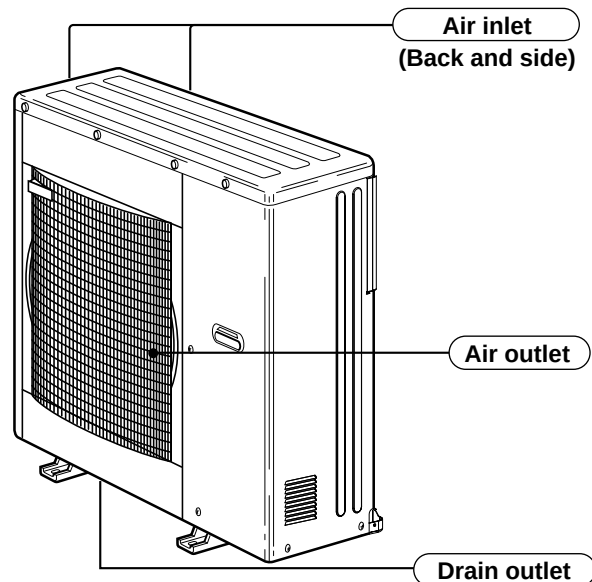
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PART NAMES AND FUNCTIONS

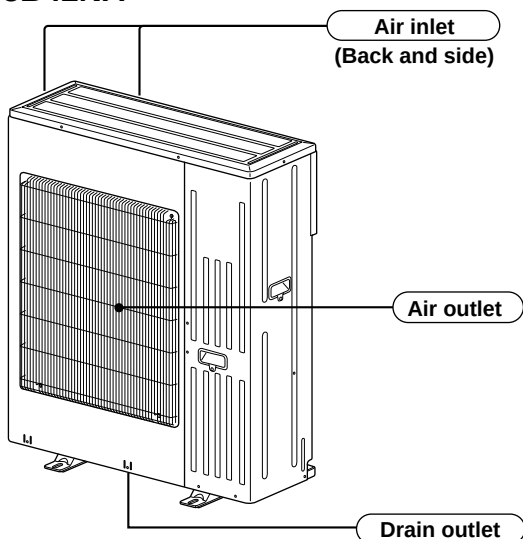
MXZ-2B20NA



MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA



MXZ-5B42NA



Item		Outdoor model	MXZ-2B20NA, MXZ-2B20NA - [1], MXZ-2B20NA - [2]	
		Indoor type	Non-Duct (09+09)	Duct (09+12)
Capacity	Cooling *1	Btu/h	18,000	20,000
	Heating 47 *1	Btu/h	22,000	22,000
	Heating 17 *2	Btu/h	14,500	12,500
Power consumption	Cooling *1	W	1,440	2,190
	Heating 47 *1	W	1,650	1,780
	Heating 17 *2	W	1,500	1,430
EER	Cooling		12.5	9.1
SEER	Cooling		18.0	15.5
HSPF IV (V)	Heating		8.9 (7.0)	8.5 (6.9)
COP	Heating		3.91	3.62
External finish			Munsell 3.0Y 7.8/1.1	
Power supply		V, phase, Hz	208/230, 1, 60	
Max. fuse size (time delay)		A	20	
Min. circuit ampacity		A	15	
Fan motor		F.L.A	0.96	
Compressor	Model		SNB130FQBH1	
	Winding resistance (at 68°F) Ω		U-V 0.98 V-W 0.98 W-U 0.98	
	R.L.A		10.1	
	L.R.A		15	
Refrigerant control			LEV	
Sound level		dB(A)	49/51	
Defrost method			Reverse cycle	
Dimensions	W	in.	33-1/16	
	D	in.	13	
	H	in.	27-15/16	
Weight		lb.	130	
Remote controller			Wireless type	
Control voltage (by built-in transformer)			12-24 V DC	
Refrigerant piping			Not supplied (optional parts)	
Valve size	Liquid	in.	1/4	
	Gas	in.	A,B: 3/8	
Connection method	Indoor		Flared	
	Outdoor		Flared	
Refrigerant charge (R410A)		lb.	5 lb. 15 oz.	
Refrigeration oil (Model)		oz.	23.7 (NEO22)	

NOTE : Test conditions are based on ARI 210/240.

Unit: °F

Mode	Test	Indoor air condition		Outdoor air condition	
		Dry bulb	Wet bulb	Dry bulb	Wet bulb
Cooling	*1: "A" Cooling steady state at rated compressor speed	80	67	95	(75)
	"B-2" Cooling steady state at rated compressor speed	80	67	82	(65)
	"B-1" Cooling steady state at minimum compressor speed	80	67	82	(65)
	Low ambient cooling steady state at minimum compressor speed	80	67	67	(53.5)
	Intermediate cooling steady state at intermediate compressor speed	80	67	87	(69)
Heating	*1: Standard rating-heating at rated compressor speed	70	60	47	43
	*2: Low temperature heating at maximum compressor speed	70	60	17	15
	Maximum temperature heating at minimum compressor speed	70	60	62	56.5
	High temperature heating at minimum compressor speed	70	60	47	43
	Frost accumulation at rated compressor speed	70	60	35	33
	Frost accumulation at intermediate compressor speed	70	60	35	33



Item		Outdoor model	MXZ-3B24NA, MXZ-3B24NA - [1]	
		Indoor type	Non-Duct (06+06+09)	Duct (09+09+09)
Capacity	Cooling *1	Btu/h	22,000	23,600
	Heating 47 *1	Btu/h	25,000	24,600
	Heating 17 *2	Btu/h	18,800	17,000
Power consumption	Cooling *1	W	1,760	2,460
	Heating 47 *1	W	1,750	1,900
	Heating 17 *2	W	2,120	2,230
EER	Cooling		12.5	9.6
SEER	Cooling		17.5	15.0
HSPF IV (V)	Heating		9.3 (7.0)	8.5 (6.9)
COP	Heating		4.20	3.80
External finish			Munsell 3.0Y 7.8/1.1	
Power supply		V, phase, Hz	208/230, 1, 60	
Max. fuse size (time delay)		A	20	
Min. circuit ampacity		A	MXZ-3B24NA	15
			MXZ-3B24NA - [1]	18
Fan motor		F.L.A	0.93	
Compressor	Model		TNB220FMCH	
	Winding resistance (at 68°F) Ω		U-V 0.61 V-W 0.61 W-U 0.61	
		R.L.A	11	
		L.R.A	15	
Refrigerant control			LEV	
Sound level		dB(A)	54/49	
Defrost method			Reverse cycle	
Dimensions	W	in.	35-7/16	
	D	in.	12-19/32	
	H	in.	35-7/16	
Weight		lb.	150	
Remote controller			Wireless type	
Control voltage (by built-in transformer)			12-24 V DC	
Refrigerant piping			Not supplied (optional parts)	
Valve size	Liquid	in.	1/4	
	Gas	in.	A: 1/2 B,C: 3/8	
Connection method	Indoor		Flared	
	Outdoor		Flared	
Refrigerant charge (R410A)		lb.	7 lb. 11 oz.	
Refrigeration oil (Model)		oz.	29.4 (NEO22)	

NOTE : Test conditions are based on ARI 210/240.

Unit: °F

Mode	Test	Indoor air condition		Outdoor air condition	
		Dry bulb	Wet bulb	Dry bulb	Wet bulb
Cooling	*1: "A" Cooling steady state at rated compressor speed	80	67	95	(75)
	"B-2" Cooling steady state at rated compressor speed	80	67	82	(65)
	"B-1" Cooling steady state at minimum compressor speed	80	67	82	(65)
	Low ambient cooling steady state at minimum compressor speed	80	67	67	(53.5)
	Intermediate cooling steady state at intermediate compressor speed	80	67	87	(69)
Heating	*1: Standard rating-heating at rated compressor speed	70	60	47	43
	*2: Low temperature heating at maximum compressor speed	70	60	17	15
	Maximum temperature heating at minimum compressor speed	70	60	62	56.5
	High temperature heating at minimum compressor speed	70	60	47	43
	Frost accumulation at rated compressor speed	70	60	35	33
	Frost accumulation at intermediate compressor speed	70	60	35	33



Item		Outdoor model	MXZ-3B30NA, MXZ-3B30NA - □1		
		Indoor type	Non-Duct (09+09+12)		Duct (09+09+12)
Capacity	Cooling ※1	Btu/h	28,400		27,400
	Heating 47 ※1	Btu/h	28,600		27,600
	Heating 17 ※2	Btu/h	18,800		18,000
Power consumption	Cooling ※1	W	3,120		3,330
	Heating 47 ※1	W	2,150		2,220
	Heating 17 ※2	W	2,120		2,140
EER	Cooling		9.1		8.2
SEER	Cooling		17.5		14.5
HSPF IV (V)	Heating		10.5 (7.2)		9.5 (7.0)
COP	Heating		3.90		3.64
External finish			Munsell 3.0Y 7.8/1.1		
Power supply		V, phase, Hz	208/230, 1, 60		
Max. fuse size (time delay)		A	20		
Min. circuit ampacity		A	MXZ-3B30NA		15
			MXZ-3B30NA - □1		18
Fan motor		F.L.A	0.93		
Compressor	Model		TNB220FMCH		
	Winding resistance (at 68°F) Ω		U-V 0.61 V-W 0.61 W-U 0.61		
		R.L.A	11		
		L.R.A	15		
Refrigerant control			LEV		
Sound level		dB(A)	49/49		
Defrost method			Reverse cycle		
Dimensions	W	in.	35-7/16		
	D	in.	12-19/32		
	H	in.	35-7/16		
Weight		lb.	150		
Remote controller			Wireless type		
Control voltage (by built-in transformer)			12-24 V DC		
Refrigerant piping			Not supplied (optional parts)		
Valve size	Liquid	in.	1/4		
	Gas	in.	A: 1/2 B,C: 3/8		
Connection method	Indoor		Flared		
	Outdoor		Flared		
Refrigerant charge (R410A)		lb.	7 lb. 11 oz.		
Refrigeration oil (Model)		oz.	29.4 (NEO22)		

NOTE : Test conditions are based on ARI 210/240.

Unit: °F

Mode	Test	Indoor air condition		Outdoor air condition	
		Dry bulb	Wet bulb	Dry bulb	Wet bulb
Cooling	*1: "A" Cooling steady state at rated compressor speed	80	67	95	(75)
	"B-2" Cooling steady state at rated compressor speed	80	67	82	(65)
	"B-1" Cooling steady state at minimum compressor speed	80	67	82	(65)
	Low ambient cooling steady state at minimum compressor speed	80	67	67	(53.5)
	Intermediate cooling steady state at intermediate compressor speed	80	67	87	(69)
Heating	*1: Standard rating-heating at rated compressor speed	70	60	47	43
	*2: Low temperature heating at maximum compressor speed	70	60	17	15
	Maximum temperature heating at minimum compressor speed	70	60	62	56.5
	High temperature heating at minimum compressor speed	70	60	47	43
	Frost accumulation at rated compressor speed	70	60	35	33
	Frost accumulation at intermediate compressor speed	70	60	35	33



Item		Outdoor model	MXZ-4B36NA, MXZ-4B36NA - [1]	
		Indoor type	Non-Duct (09+09+09+09)	Duct (09+09+09+09)
Capacity	Cooling *1	Btu/h	35,400	34,400
	Heating 47 *1	Btu/h	36,000	34,400
	Heating 17 *2	Btu/h	24,600	25,400
Power consumption	Cooling *1	W	3,760	3,940
	Heating 47 *1	W	3,020	3,100
	Heating 17 *2	W	3,340	3,450
EER	Cooling		9.4	8.7
SEER	Cooling		18.0	15.0
HSPF IV (V)	Heating		9.3 (7.2)	9.0(7.0)
COP	Heating		3.50	3.25
External finish			Munsell 3.0Y 7.8/1.1	
Power supply		V, phase, Hz	208/230, 1, 60	
Max. fuse size (time delay)	A	MXZ-4B36NA	20	
			MXZ-4B36NA - [1]	
Min. circuit ampacity	A	MXZ-4B36NA	19	
			MXZ-4B36NA - [1]	
Fan motor		F.L.A	0.93	
Compressor	Model		TNB220FMCH	
	Winding resistance (at 68°F) Ω		U-V 0.61 V-W 0.61 W-U 0.61	
		R.L.A	14.4	
		L.R.A	15	
Refrigerant control			LEV	
Sound level		dB(A)	54/57	
Defrost method			Reverse cycle	
Dimensions	W	in.	35-7/16	
	D	in.	12-19/32	
	H	in.	35-7/16	
Weight		lb.	153	
Remote controller			Wireless type	
Control voltage (by built-in transformer)			12-24 V DC	
Refrigerant piping			Not supplied (optional parts)	
Valve size	Liquid	in.	1/4	
	Gas	in.	A: 1/2 B,C,D: 3/8	
Connection method	Indoor		Flared	
	Outdoor		Flared	
Refrigerant charge (R410A)		lb.	8 lb. 13 oz.	
Refrigeration oil (Model)		oz.	29.4 (NEO22)	

NOTE : Test conditions are based on ARI 210/240.

Unit: °F

Mode	Test	Indoor air condition		Outdoor air condition	
		Dry bulb	Wet bulb	Dry bulb	Wet bulb
Cooling	*1: "A" Cooling steady state at rated compressor speed	80	67	95	(75)
	"B-2" Cooling steady state at rated compressor speed	80	67	82	(65)
	"B-1" Cooling steady state at minimum compressor speed	80	67	82	(65)
	Low ambient cooling steady state at minimum compressor speed	80	67	67	(53.5)
	Intermediate cooling steady state at intermediate compressor speed	80	67	87	(69)
Heating	*1: Standard rating-heating at rated compressor speed	70	60	47	43
	*2: Low temperature heating at maximum compressor speed	70	60	17	15
	Maximum temperature heating at minimum compressor speed	70	60	62	56.5
	High temperature heating at minimum compressor speed	70	60	47	43
	Frost accumulation at rated compressor speed	70	60	35	33
	Frost accumulation at intermediate compressor speed	70	60	35	33



Item		Outdoor model	MXZ-5B42NA	
		Indoor type	Non-Duct (06+09+09+09+09)	Duct (09+09+09+09+09)
Capacity	Cooling *1	Btu/h	40,800	37,200
	Heating 47 *1	Btu/h	45,200	41,200
	Heating 17 *2	Btu/h	30,500	29,100
Power consumption	Cooling *1	W	4,800	3,960
	Heating 47 *1	W	3,780	3,660
	Heating 17 *2	W	4,800	5,550
EER	Cooling		8.5	9.4
SEER	Cooling		18.4	14.5
HSPF IV (V)	Heating		9.8 (7.1)	8.7(6.6)
COP	Heating		3.51	3.30
External finish			Munsell 3.0Y 7.8/1.1	
Power supply		V, phase, Hz	208/230, 1, 60	
Max. fuse size (time delay)		A	40	
Min. circuit ampacity		A	36.2	
Fan motor		F.L.A	1.90	
Compressor	Model		TNB306FPGM2	
	Winding resistance (at 68°F) Ω		U-V 0.53 V-W 0.53 W-U 0.53	
		R.L.A	23.8	
		L.R.A	27	
Refrigerant control			LEV	
Sound level		dB(A)	58/58	
Defrost method			Reverse cycle	
Dimensions	W	in.	35-7/16	
	D	in.	12-19/32	
	H	in.	42-1/8	
Weight		lb.	192	
Remote controller			Wireless type	
Control voltage (by built-in transformer)			12-24 V DC	
Refrigerant piping			Not supplied (optional parts)	
Valve size	Liquid	in.	1/4	
	Gas	in.	A: 1/2 B.C,D,E: 3/8	
Connection method	Indoor		Flared	
	Outdoor		Flared	
Refrigerant charge (R410A)		lb.	10 lb. 9 oz.	
Refrigeration oil (Model)		oz.	36.2(FV50S)	

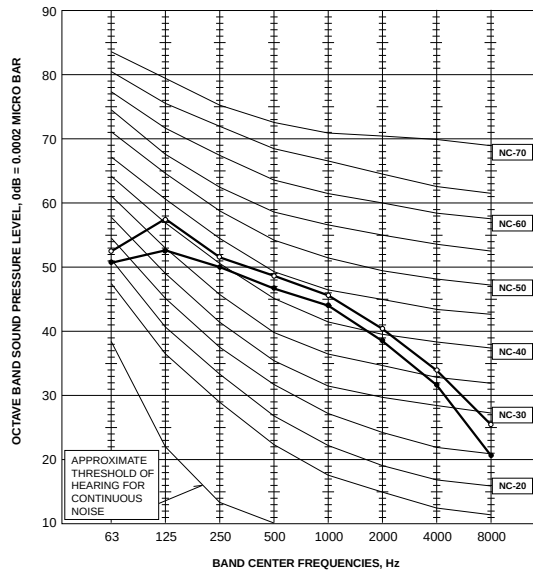
NOTE : Test conditions are based on ARI 210/240.

Unit: °F

Mode	Test	Indoor air condition		Outdoor air condition	
		Dry bulb	Wet bulb	Dry bulb	Wet bulb
Cooling	*1: "A" Cooling steady state at rated compressor speed	80	67	95	(75)
	"B-2" Cooling steady state at rated compressor speed	80	67	82	(65)
	"B-1" Cooling steady state at minimum compressor speed	80	67	82	(65)
	Low ambient cooling steady state at minimum compressor speed	80	67	67	(53.5)
	Intermediate cooling steady state at intermediate compressor speed	80	67	87	(69)
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	High temperature heating at minimum compressor speed	70	60	47	43
	Frost accumulation at rated compressor speed	70	60	35	33
	Frost accumulation at intermediate compressor speed	70	60	35	33

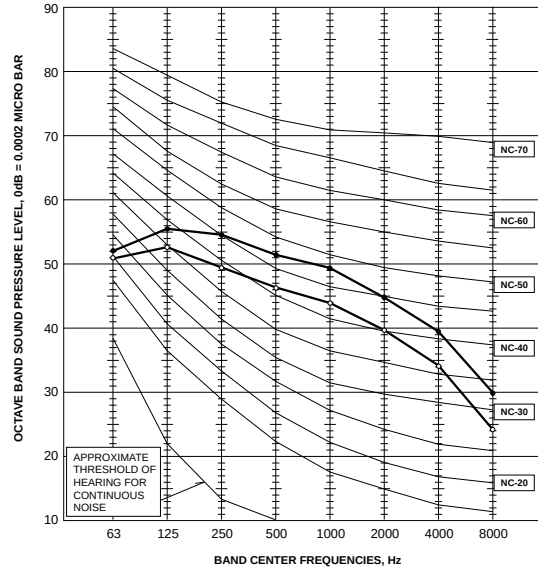
MXZ-2B20NA

FAN SPEED	FUNCTION	SPL(dB(A))	LINE
High	Cooling	49	●—●
High	Heating	51	○—○



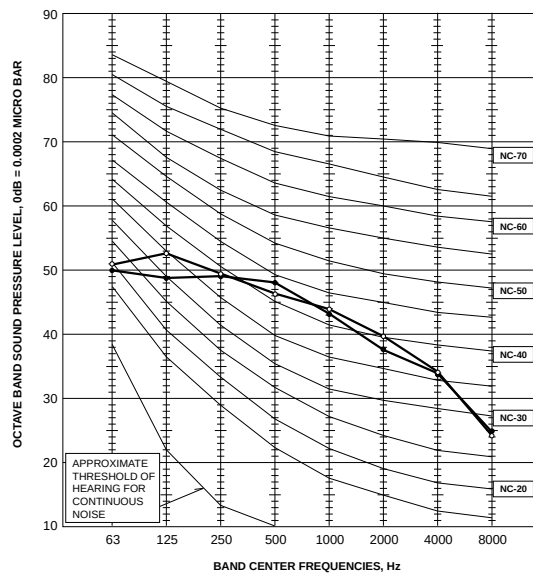
MXZ-3B24NA

FAN SPEED	FUNCTION	SPL(dB(A))	LINE
High	Cooling	54	●—●
High	Heating	49	○—○



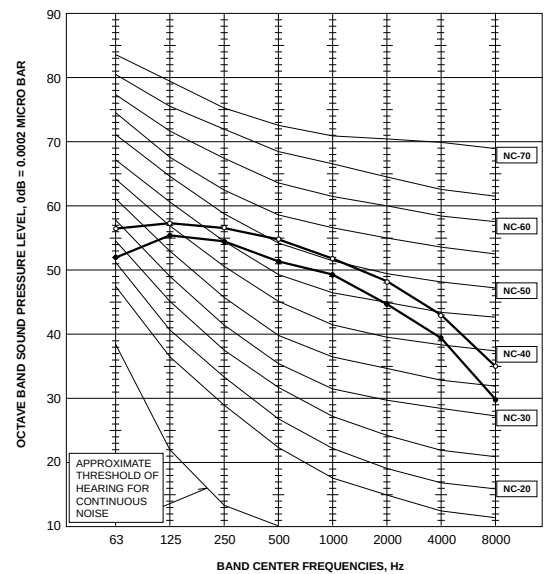
MXZ-3B30NA

FAN SPEED	FUNCTION	SPL(dB(A))	LINE
High	Cooling	49	●—●
High	Heating	49	○—○



MXZ-4B36NA

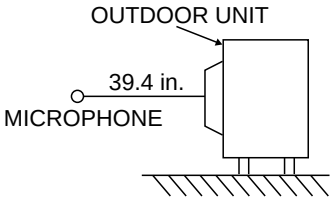
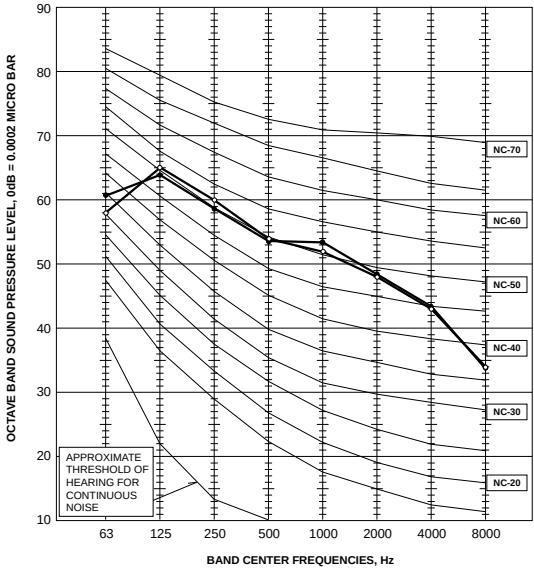
FAN SPEED	FUNCTION	SPL(dB(A))	LINE
High	Cooling	54	●—●
High	Heating	57	○—○





MXZ-5B42NA

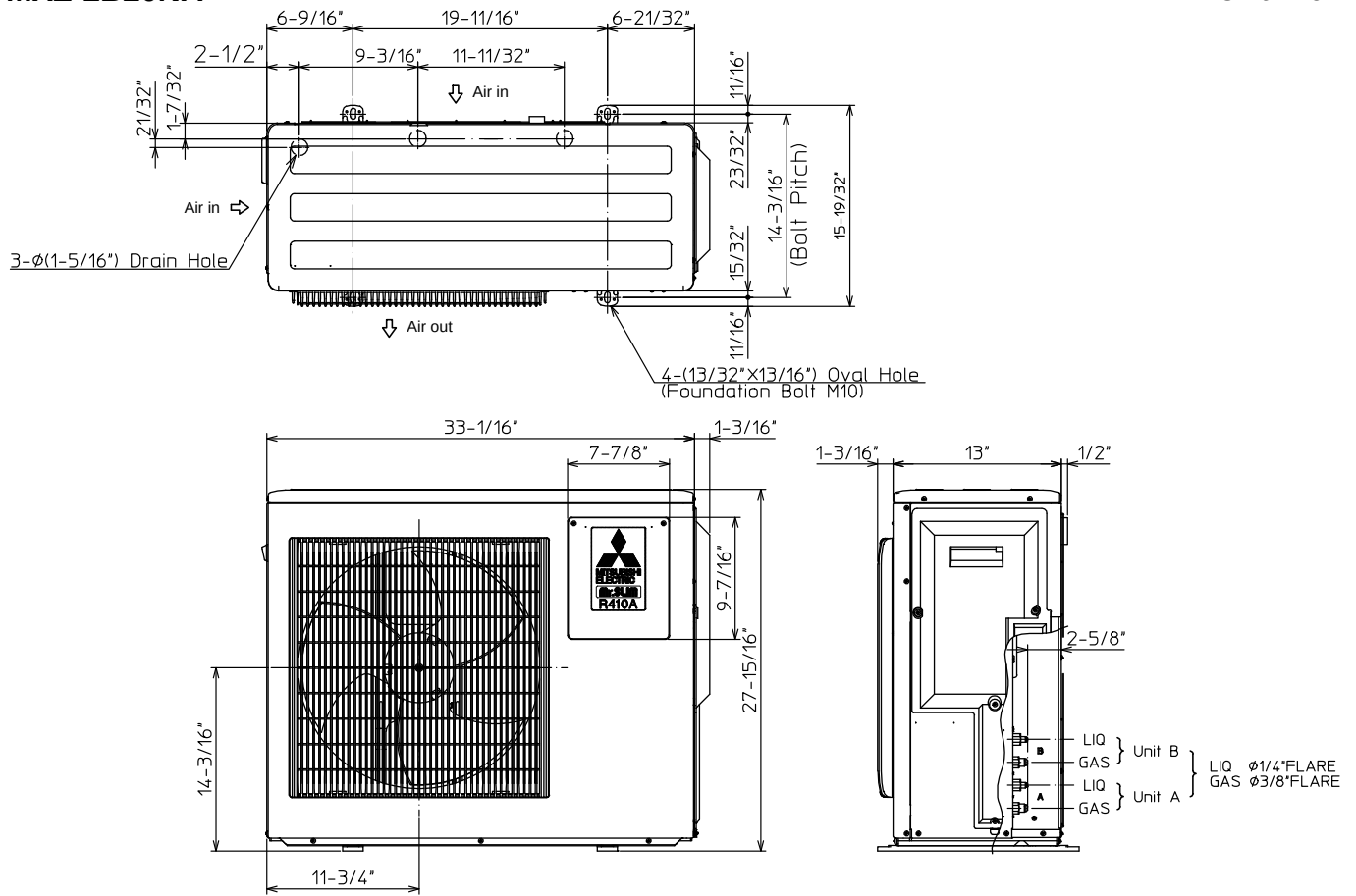
FAN SPEED	FUNCTION	SPL(dB(A))	LINE
High	Cooling	58	
High	Heating	58	



Test conditions
Cooling: Dry-bulb temperature 95°F Wet-bulb temperature 75°F
Heating: Dry-bulb temperature 45°F Wet-bulb temperature 43°F

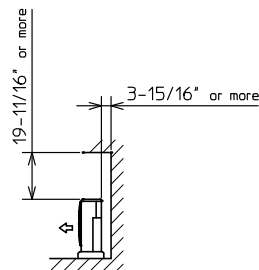
MXZ-2B20NA

Unit: inch

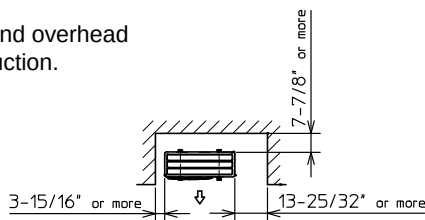


1. Installation space

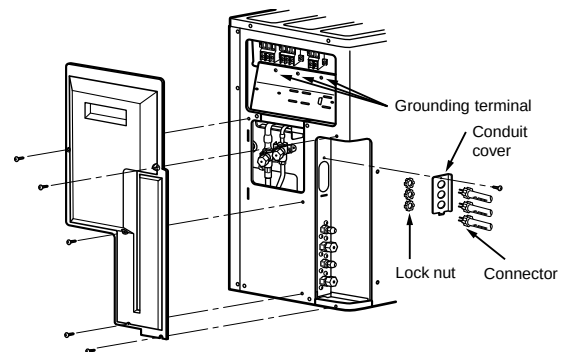
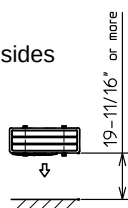
Note : Leave front and both sides free of obstruction.



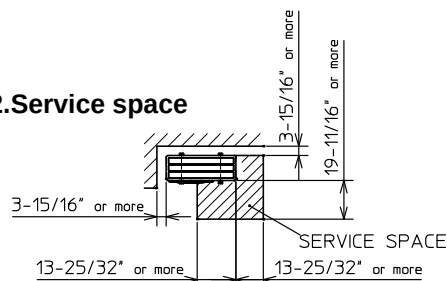
Note : Leave front and overhead free of obstruction.



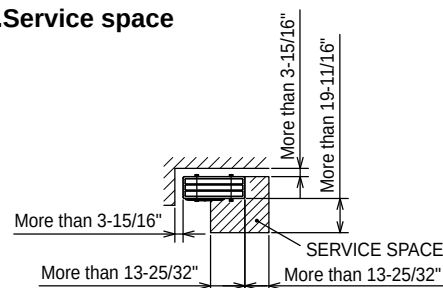
Note : Leave rear, overhead and both sides free of obstruction.



2. Service space



Unit: inch



MXZ-4B36NA Unit: inch



Note : Leave front and overhead free of obstruction.

The diagrams illustrate the required clearances for three types of door hardware:

- Top Diagram (Lever Handle):** Shows a lever handle mounted on a door. The clearance from the top of the door to the top of the handle is labeled "More than 19-11/16\"". The clearance from the side of the door to the side of the handle is labeled "More than 3-15/16\"".
- Middle Diagram (Pull Handle):** Shows a pull handle mounted on a door. The clearance from the top of the door to the top of the handle is labeled "More than 7-7/8\"". The clearance from the side of the door to the side of the handle is labeled "More than 3-15/16\"". The clearance from the bottom of the door to the bottom of the handle is labeled "More than 13-25/32\"".
- Bottom Diagram (Kick Plate):** Shows a kick plate mounted on a door. The clearance from the top of the door to the top of the kick plate is labeled "More than 19-11/16\"".

Service space

The diagram illustrates the required service space for a door assembly. It shows a cross-section of a door with a handle and a lock. The service space is defined by the following dimensions:

- More than 3-15/16" (vertical clearance above the door)
- More than 19-11/16" (vertical clearance below the door)
- More than 3-15/16" (horizontal clearance to the left of the door)
- More than 13-25/32" (horizontal clearance to the right of the door)

The label "SERVICE SPACE" points to the area between the door and the wall.

WIRING DIAGRAM

POWER SUPPLY
208/230V
1phase 60Hz

CIRCUIT BREAKER

NOISE FILTER P.C. BOARD

POWER BOARD

ELECTRONIC CONTROL P.C. BOARD

TO INDOOR UNIT No. B CONNECTING

TO INDOOR UNIT No. A CONNECTING

NOTES:
1. About the indoor side electric wiring, refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only (For field wiring).
3. Symbols below indicate.

Legend:
Terminal block
Connector

Components and Labels:
TB1, TB2, TB3, TB4, TB5, TB6, TB7, TB8, TB9, TB10, TB11, TB12, TB13, TB14, TB15, TB16, TB17, TB18, TB19, TB20, TB21, TB22, TB23, TB24, TB25, TB26, TB27, TB28, TB29, TB30, TB31, TB32, TB33, TB34, TB35, TB36, TB37, TB38, TB39, TB40, TB41, TB42, TB43, TB44, TB45, TB46, TB47, TB48, TB49, TB50, TB51, TB52, TB53, TB54, TB55, TB56, TB57, TB58, TB59, TB60, TB61, TB62, TB63, TB64, TB65, TB66, TB67, TB68, TB69, TB70, TB71, TB72, TB73, TB74, TB75, TB76, TB77, TB78, TB79, TB80, TB81, TB82, TB83, TB84, TB85, TB86, TB87, TB88, TB89, TB90, TB91, TB92, TB93, TB94, TB95, TB96, TB97, TB98, TB99, TB100, TB101, TB102, TB103, TB104, TB105, TB106, TB107, TB108, TB109, TB110, TB111, TB112, TB113, TB114, TB115, TB116, TB117, TB118, TB119, TB120, TB121, TB122, TB123, TB124, TB125, TB126, TB127, TB128, TB129, TB130, TB131, TB132, TB133, TB134, TB135, TB136, TB137, TB138, TB139, TB140, TB141, TB142, TB143, TB144, TB145, TB146, TB147, TB148, TB149, TB150, TB151, TB152, TB153, TB154, TB155, TB156, TB157, TB158, TB159, TB160, TB161, TB162, TB163, TB164, TB165, TB166, TB167, TB168, TB169, TB170, TB171, TB172, TB173, TB174, TB175, TB176, TB177, TB178, TB179, TB180, TB181, TB182, TB183, TB184, TB185, TB186, TB187, TB188, TB189, TB190, TB191, TB192, TB193, TB194, TB195, TB196, TB197, TB198, TB199, TB200, TB201, TB202, TB203, TB204, TB205, TB206, TB207, TB208, TB209, TB210, TB211, TB212, TB213, TB214, TB215, TB216, TB217, TB218, TB219, TB220, TB221, TB222, TB223, TB224, TB225, TB226, TB227, TB228, TB229, TB230, TB231, TB232, TB233, TB234, TB235, TB236, TB237, TB238, TB239, TB240, TB241, TB242, TB243, TB244, TB245, TB246, TB247, TB248, TB249, TB250, TB251, TB252, TB253, TB254, TB255, TB256, TB257, TB258, TB259, TB260, TB261, TB262, TB263, TB264, TB265, TB266, TB267, TB268, TB269, TB270, TB271, TB272, TB273, TB274, TB275, TB276, TB277, TB278, TB279, TB280, TB281, TB282, TB283, TB284, TB285, TB286, TB287, TB288, TB289, TB290, TB291, TB292, TB293, TB294, TB295, TB296, TB297, TB298, TB299, TB300, TB301, 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SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1~3	SMOOTHING CAPACITOR	1PM	POWER MODULE	MF	FAN MOTOR	RT65	AMBIENT TEMP.THERMISTOR	21S4	REVERSING VALVE SOLENOID COIL
F64	FUSE (T2AL250V)	L	REACTOR	PCF	POWER FACTOR CONTROLLER	RT68	OUTDOOR HEAT EXCHANGER TEMP.THERMISTOR		
F65	FUSE (T6. 3AL250V)	LED1, 2	LED	PTC64. 65	CIRCUIT PROTECTION	SSR61	SOLENOID COIL RELAY		
F801	FUSE (T3. 15AL250V)	LEV A, B	EXPANSION VALVE	RT61	DEFROST THERMISTOR	T801	TRANSFORMER		
HC930	POWER MODULE	LEV E	EXPANSION VALVE	RT62	DISCHARGE TEMP.THERMISTOR	T81~3	TERMINAL BLOCK		
1CA01	POWER DEVICE	MC	COMPRESSOR	RT64	FIN TEMP.THERMISTOR	X64	RELAY		

Wiring Diagram for Indoor Unit

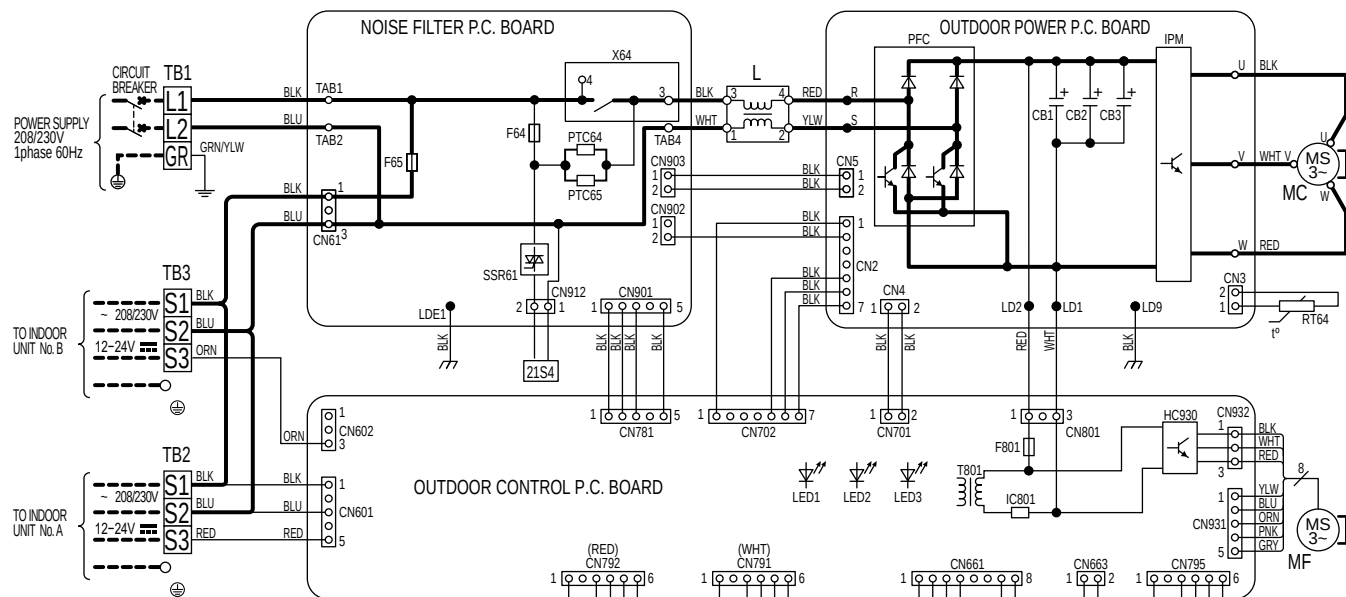
POWER SUPPLY: 208/230V 1phase 60Hz

NOISE FILTER P.C. BOARD:

- Components: TB1, TB2, TB3, TB4, TB5, TB6, TB7, TB8, TB9, TB10, TB11, TB12, TB13, TB14, TB15, TB16, TB17, TB18, TB19, TB20, TB21, TB22, TB23, TB24, TB25, TB26, TB27, TB28, TB29, TB30, TB31, TB32, TB33, TB34, TB35, TB36, TB37, TB38, TB39, TB40, TB41, TB42, TB43, TB44, TB45, TB46, TB47, TB48, TB49, TB50, TB51, TB52, TB53, TB54, TB55, TB56, TB57, TB58, TB59, TB60, TB61, TB62, TB63, TB64, TB65, TB66, TB67, TB68, TB69, TB70, TB71, TB72, TB73, TB74, TB75, TB76, TB77, TB78, TB79, TB80, TB81, TB82, TB83, TB84, TB85, TB86, TB87, TB88, TB89, TB90, TB91, TB92, TB93, TB94, TB95, TB96, TB97, TB98, TB99, TB100, TB101, TB102, TB103, TB104, TB105, TB106, TB107, TB108, TB109, TB110, TB111, TB112, TB113, TB114, TB115, TB116, TB117, TB118, TB119, TB120, TB121, TB122, TB123, TB124, TB125, TB126, TB127, TB128, TB129, TB130, TB131, TB132, TB133, TB134, TB135, TB136, TB137, TB138, TB139, TB140, TB141, TB142, TB143, TB144, TB145, TB146, TB147, TB148, TB149, TB150, TB151, TB152, TB153, TB154, TB155, TB156, 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LEVEL 1		LEVEL 2		LEVEL 3		LEVEL 4	
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1~3	SMOOTHING CAPACITOR	IPM	POWER MODULE	MF	FAN MOTOR	RT65	AMBIENT TEMP.THERMISTOR
F64	FUSE (T2AL250V)	L	REACTOR	PFC	POWER FACTOR CONTROLLER	RT68	OUTDOOR HEAT EXCHANGER TEMP.THERMISTOR
F65	FUSE (TG. 3AL250V)	LED1, 2	LED	PTC64, 65	CIRCUIT PROTECTION	SSR61	SOLENOID COIL RELAY
F801	FUSE (T3. 15AL250V)	LEV A,B	EXPANSION VALVE	RT61	DEFROST THERMISTOR	T801	TRANSFORMER
HC930	POWER MODULE	LEV E	EXPANSION VALVE	RT62	DISCHARGE TEMP. THERMISTOR	TB1~3	TERMINAL BLOCK
IC801	POWER DEVICE	MC	COMPRESSOR	RT64	FIN TEMP. THERMISTOR	X64	RELAY

MXZ-2B20NA - [2]



NOTES: 1. About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
2. Use copper conductors only (For field wiring).
3. Symbols below indicate.

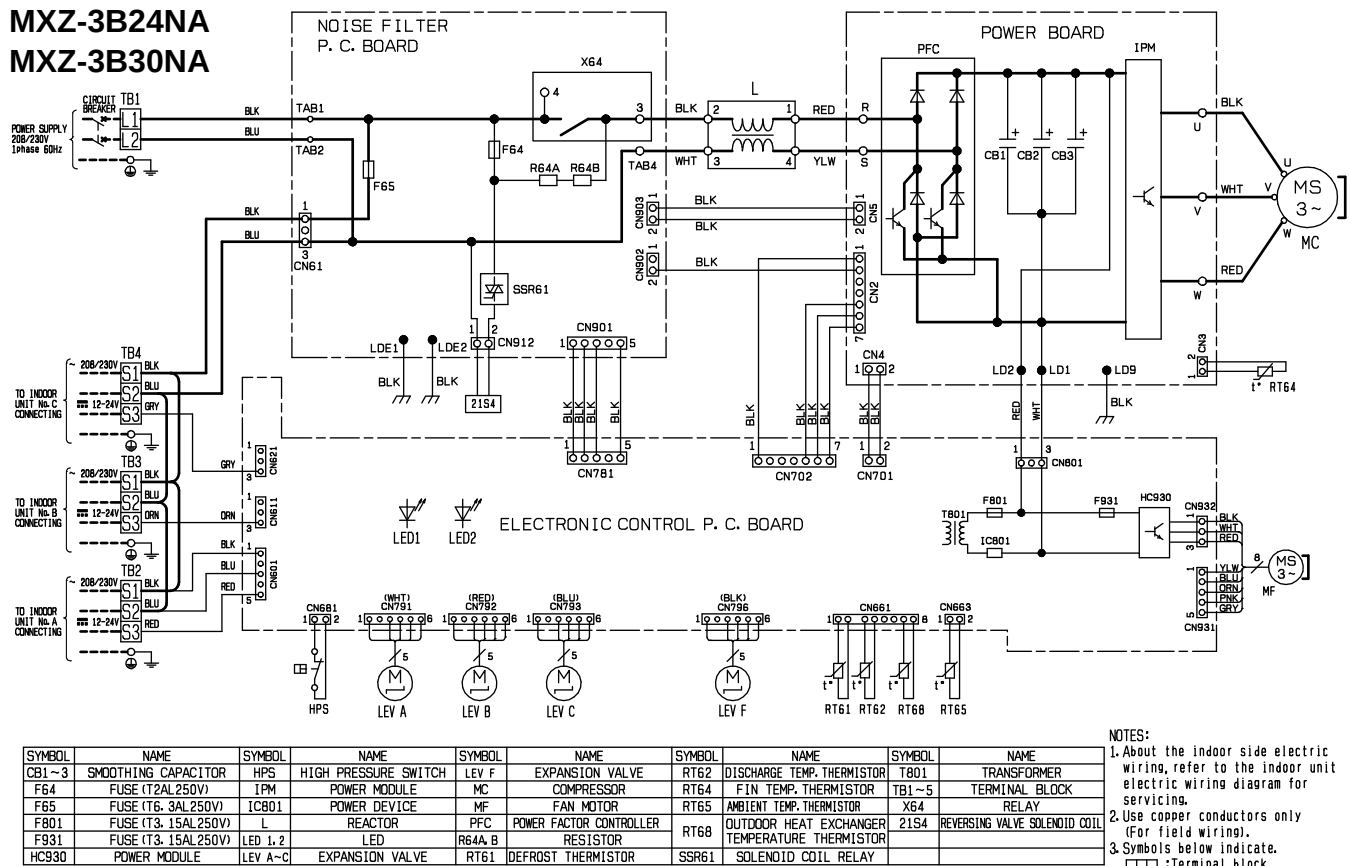
□ : Terminal block ○ : connector

NOTES: 1. À propos du câblage électrique de côté intérieur se référer à l'unité intérieure câblage schéma électrique pour l'entretien.
2. Utiliser des conducteurs en cuivre (pour le câblage).
3. Symbole ci-dessous indique.

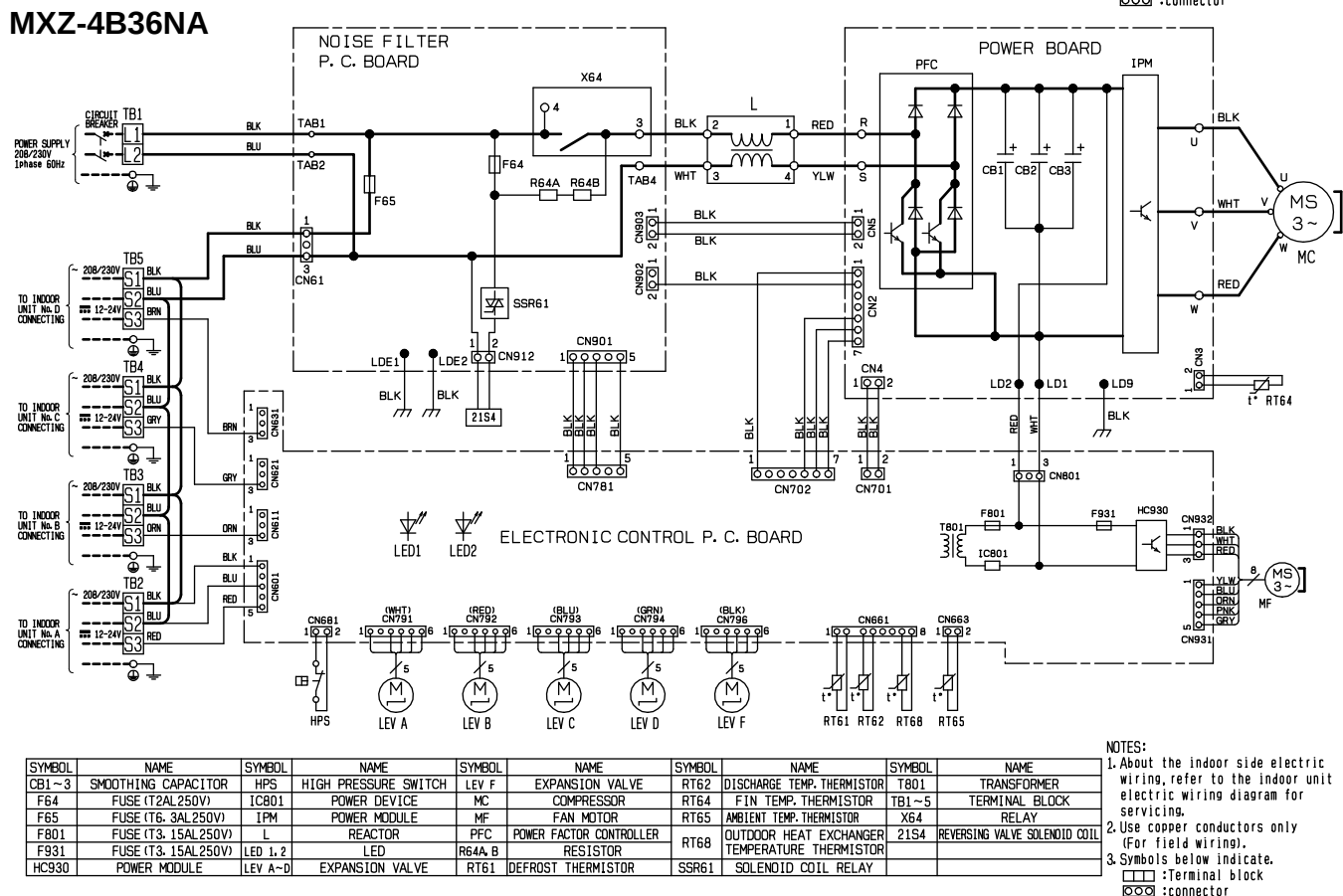
□ : bornier ○ : connecteur

SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1-3	SMOOTHING CAPACITOR	IPM	POWER MODULE	MF	FAN MOTOR	RT65	AMBIENT TEMP. THERMISTOR	21S4	REVERSING VALVE SOLENOID COIL
F64	FUSE (T2AL250V)	L	REACTOR	PFC	POWER FACTOR CONTROLLER	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR		
F65	FUSE (T6.3AL250V)	LED 1, 2, 3	LED	PTC64, 65	CIRCUIT PROTECTION	SSR61	SOLENOID COIL RELAY		
F801	FUSE (T3.15AL250V)	LEV A, B	EXPANSION VALVE	RT61	DEFROST THERMISTOR	T801	TRANSFORMER		
HC930	POWER MODULE	LEV E	EXPANSION VALVE	RT62	DISCHARGE TEMP. THERMISTOR	TB1-3	TERMINAL BLOCK		
IC801	POWER DEVICE	MC	COMPRESSOR	RT64	FIN TEMP. THERMISTOR	X64	RELAY		

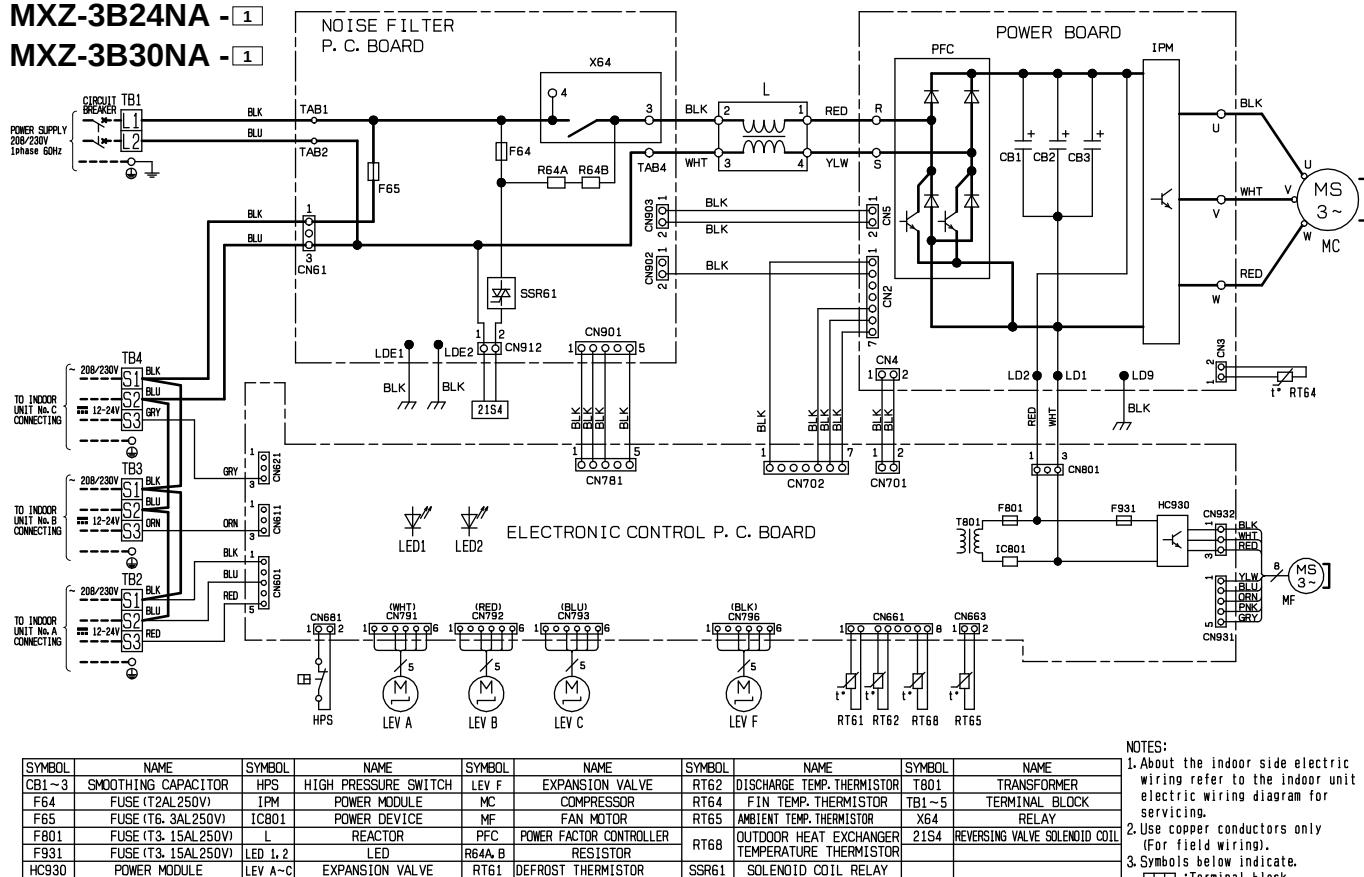
MXZ-3B24NA MXZ-3B30NA



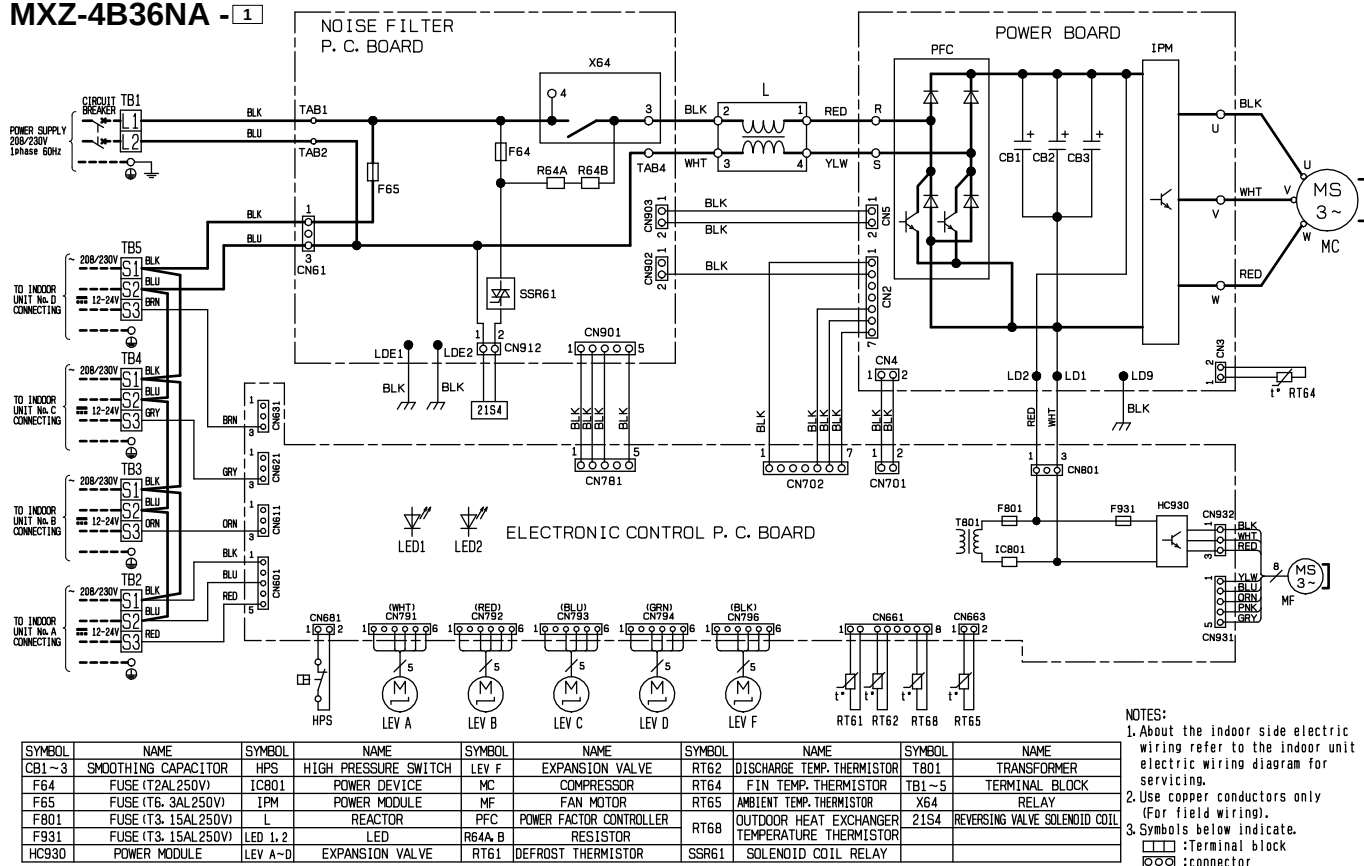
MXZ-4B36NA



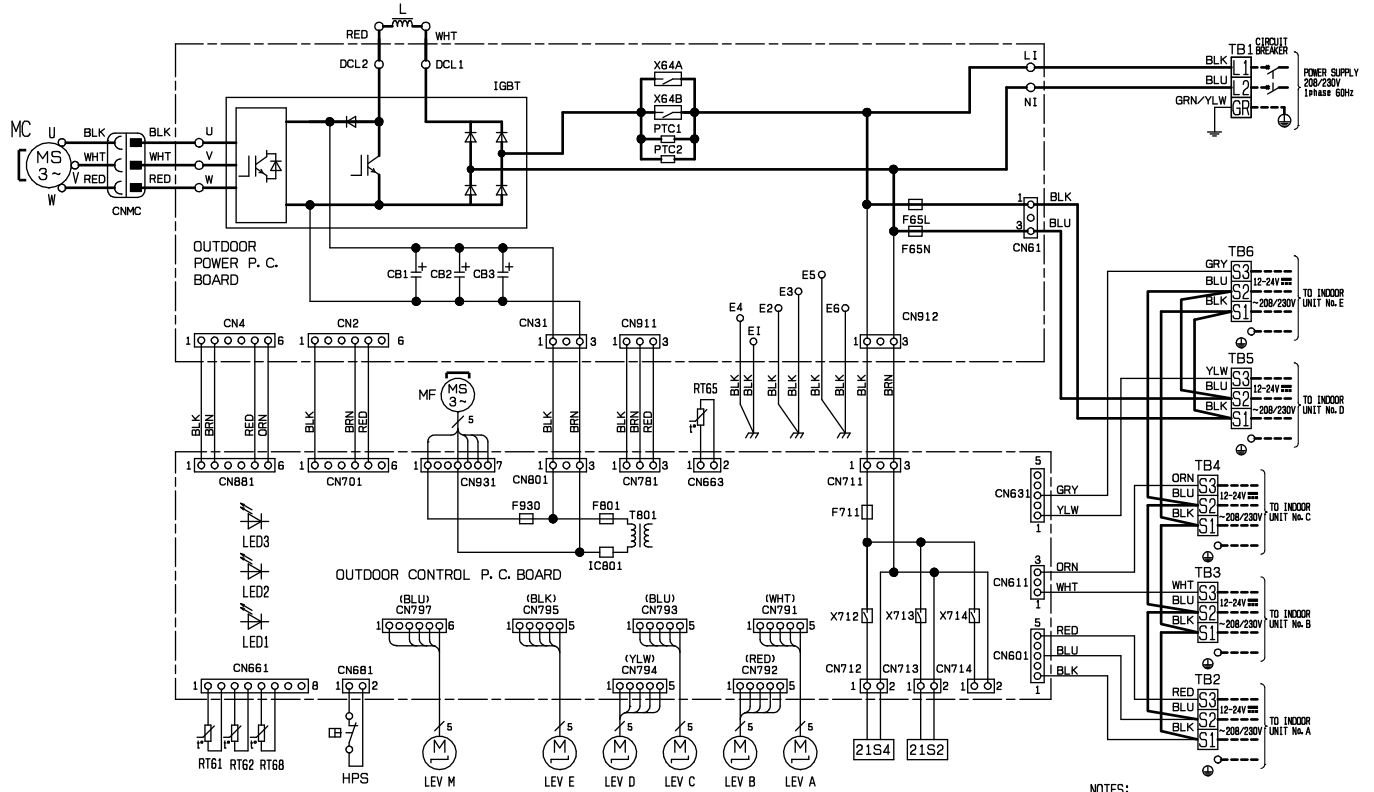
MXZ-3B24NA - 1 **MXZ-3B30NA - 1**



MXZ-4B36NA - 1



MXZ-5B42NA



SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1~3	SMOOTHING CAPACITOR	IC801	POWER DEVICE	MF	FAN MOTOR	T801	TRANSFORMER	21S4	REVERSING VALVE SOLENOID COIL
F65L	FUSE (T6. 3AL250V)	IGBT	POWER MODULE	PTC1. 2	CIRCUIT PROTECTION	TB1~6	TERMINAL BLOCK		
F65N	FUSE (T6. 3AL250V)	L	REACTOR	RT61	DEFROST THERMISTOR	X64A, B	RELAY		
F711	FUSE (T3. 15AL250V)	LED 1~3	LED	RT62	DISCHARGE TEMP. THERMISTOR	X712	RELAY		
F801	FUSE (T3. 15AL250V)	LEV A~E	EXPANSION VALVE	RT65	AMBIENT TEMP. THERMISTOR	X713	RELAY		
F930	FUSE (T3. 15AL250V)	LEV M	EXPANSION VALVE	RT68	OUTDOOR HEAT EXCHANGER TEMPERATURE THERMISTOR	X714	RELAY		
HPS	HIGH PRESSURE SWITCH	MC	COMPRESSOR			21S2	2WAY VALVE SOLENOID COIL		

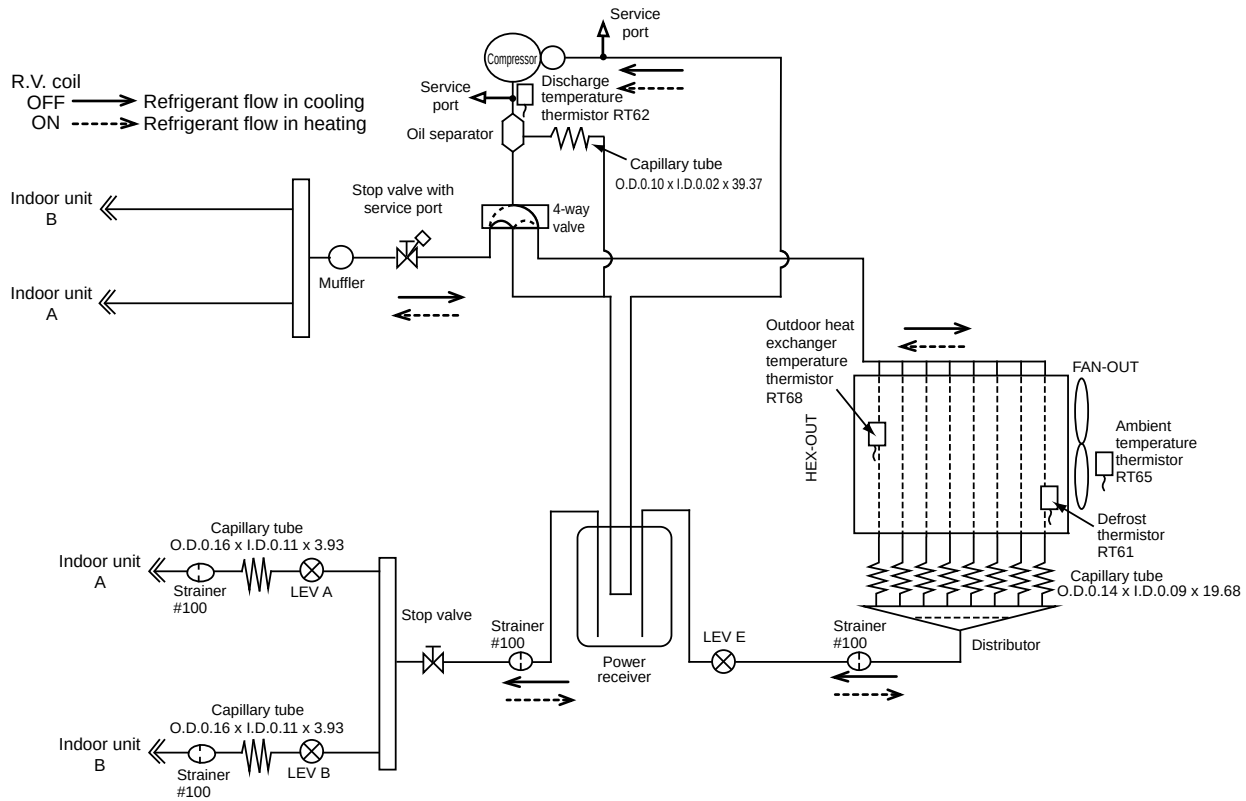
- NOTES:
- About the indoor side electric wiring refer to the indoor unit electric wiring diagram for servicing.
 - Use copper conductors only (For field wiring).
 - Symbols below indicate.

: Terminal block

: connector

MXZ-2B20NA

Unit: inch



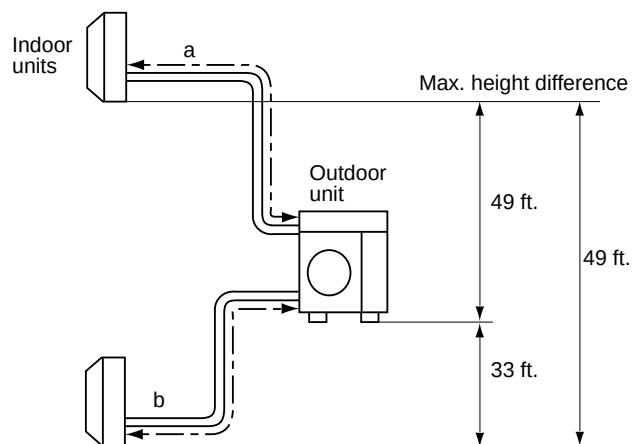
Operating Range MXZ-2B20NA

		Indoor intake air temperature	Outdoor intake air temperature
Cooling	Maximum	95°FDB, 71°FWB	115°FDB
	Minimum	67°FDB, 57°FWB	14°FDB
Heating	Maximum	80°FDB, 67°FWB	75°FDB, 65°FWB
	Minimum	70°FDB, 60°FWB	6°FDB, 5°FWB

MAX. REFRIGERANT PIPING LENGTH & PIPE SIZE SELECTION MXZ-2B20NA

Piping length each indoor unit (a, b)	82 ft. MAX.
Total piping length (a+b)	164 ft. MAX.
Bending point for each unit	25 MAX.
Total bending point	50 MAX.

*It is irrelevant which unit is higher.



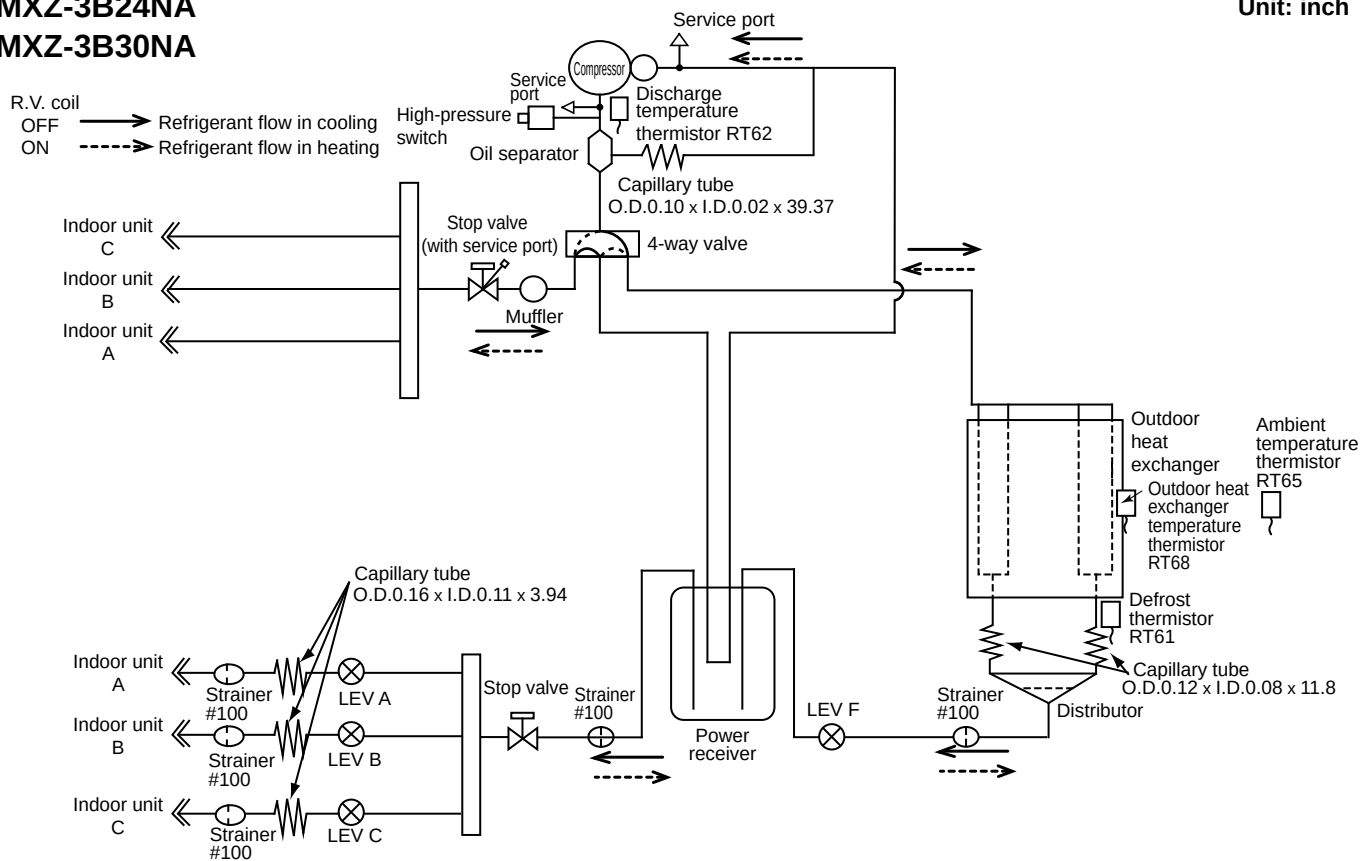
- Refrigerant pipe diameter is different according to indoor unit to be connected. When using extension pipes, refer to the tables below.
- When the diameter of refrigerant pipe is different from that of outdoor unit union, use optional Different-diameter pipe. For further information on Different-diameter pipe, refer to "PARTS CATALOG".

Unit: inch

Outdoor unit union diameter		
For		
Indoor unit A	Liquid	1/4
	Gas	3/8
Indoor unit B	Liquid	1/4
	Gas	3/8

MXZ-3B24NA MXZ-3B30NA

Unit: inch



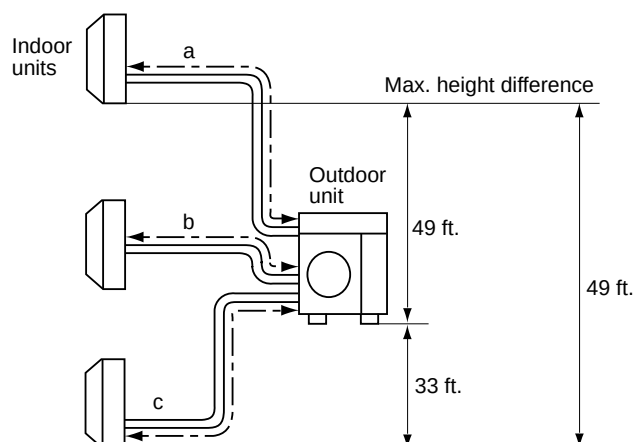
Operating Range MXZ-3B24NA MXZ-3B30NA

		Indoor intake air temperature	Outdoor intake air temperature
Cooling	Maximum	95°FDB, 71°FWB	115°FDB
	Minimum	67°FDB, 57°FWB	14°FDB
Heating	Maximum	80°FDB, 67°FWB	75°FDB, 65°FWB
	Minimum	70°FDB, 60°FWB	6°FDB, 5°FWB

MAX. REFRIGERANT PIPING LENGTH & PIPE SIZE SELECTION MXZ-3B24NA MXZ-3B30NA

Piping length each indoor unit (a, b, c)	82 ft. MAX.
Total piping length (a+b+c)	230 ft. MAX.
Bending point for each unit	25 MAX.
Total bending point	70 MAX.

*It is irrelevant which unit is higher.



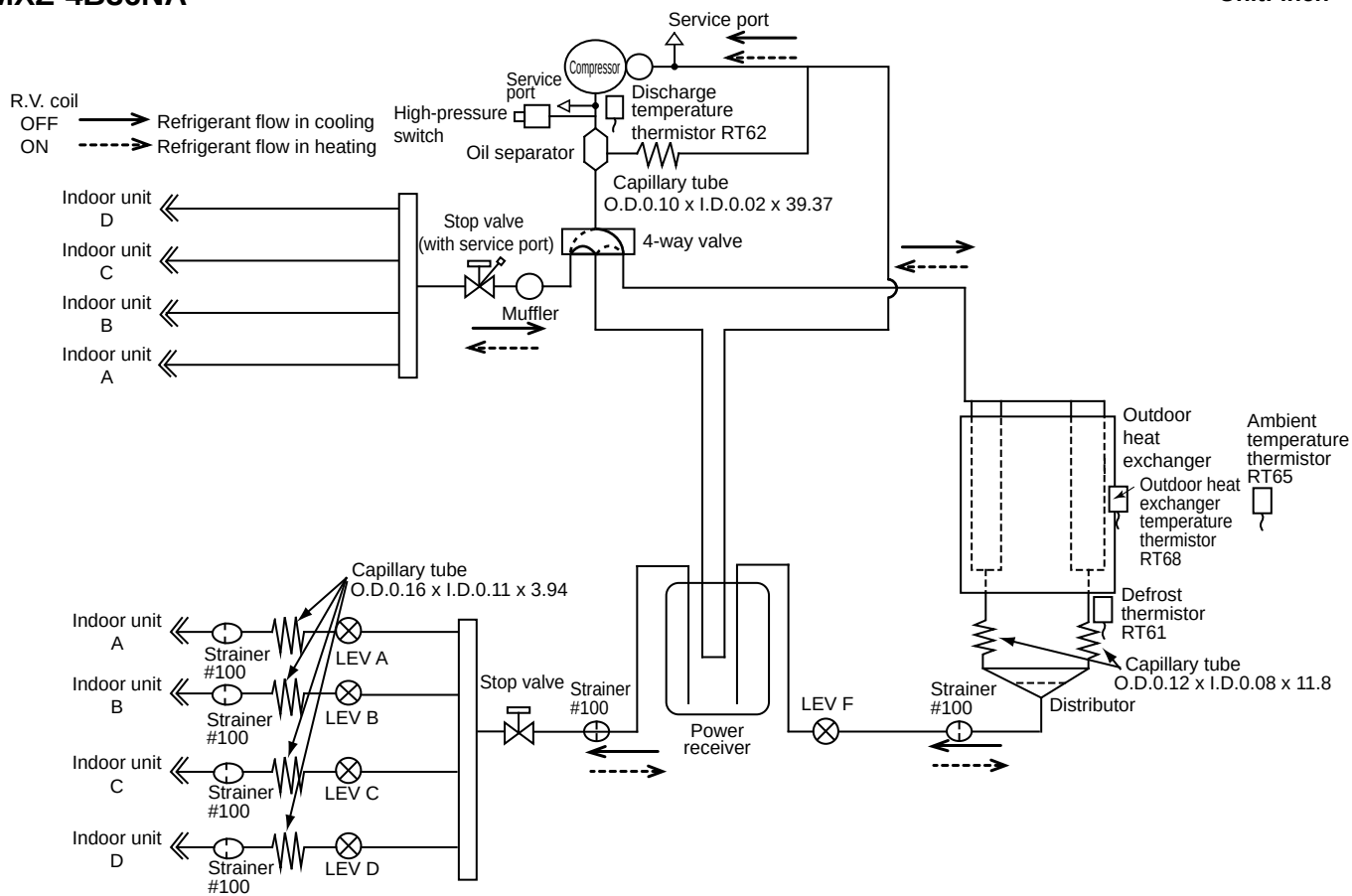
- Refrigerant pipe diameter is different according to indoor unit to be connected. When using extension pipes, refer to the tables below.
- When the diameter of refrigerant pipe is different from that of outdoor unit union, use optional Different-diameter pipe. For further information on Different-diameter pipe, refer to "PARTS CATALOG".

Unit : inch

Outdoor unit union diameter		
For		
Indoor unit A	Liquid	1/4
	Gas	1/2
Indoor unit B	Liquid	1/4
	Gas	3/8
Indoor unit C	Liquid	1/4
	Gas	3/8

MXZ-4B36NA

Unit: inch



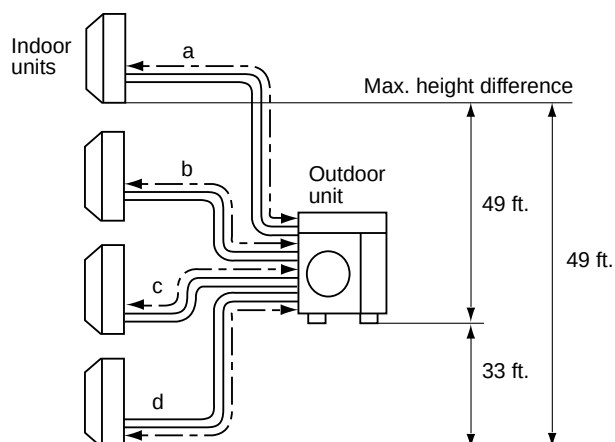
Operating Range MXZ-4B36NA

		Indoor intake air temperature	Outdoor intake air temperature
Cooling	Maximum	95°FDB, 71°FWB	115°FDB
	Minimum	67°FDB, 57°FWB	14°FDB
Heating	Maximum	80°FDB, 67°FWB	75°FDB, 65°FWB
	Minimum	70°FDB, 60°FWB	6°FDB, 5°FWB

MAX. REFRIGERANT PIPING LENGTH & PIPE SIZE SELECTION MXZ-4B36NA

Piping length each indoor unit (a, b, c, d)	82 ft. MAX.
Total piping length (a+b+c+d)	230 ft. MAX.
Bending point for each unit	25 MAX.
Total bending point	70 MAX.

*It is irrelevant which unit is higher.



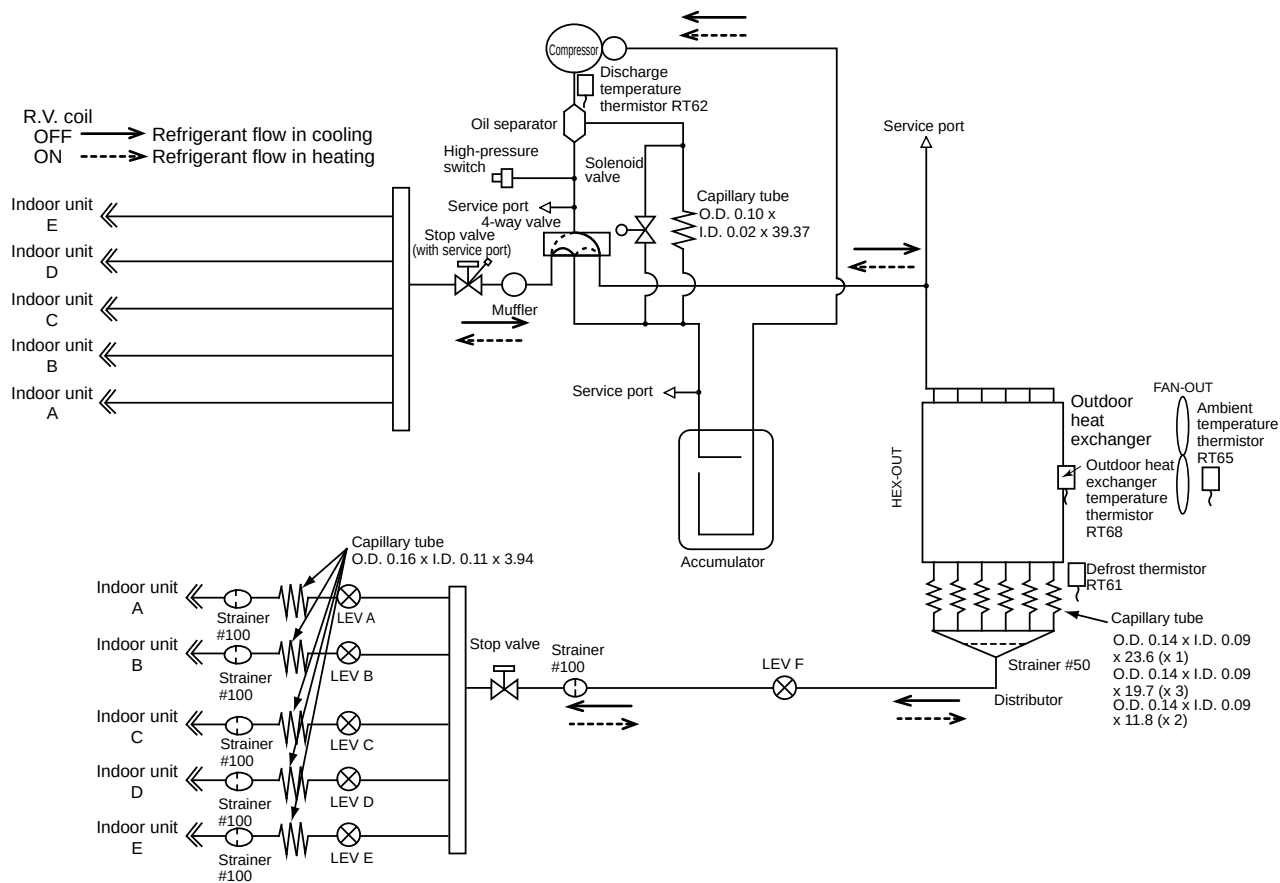
- Refrigerant pipe diameter is different according to indoor unit to be connected. When using extension pipes, refer to the tables below.
- When the diameter of refrigerant pipe is different from that of outdoor unit union, use optional Different-diameter pipe. For further information on Different-diameter pipe, refer to "PARTS CATALOG".

Unit : inch

Outdoor unit union diameter		
For		
Indoor unit A	Liquid	1/4
	Gas	1/2
Indoor unit B	Liquid	1/4
	Gas	3/8
Indoor unit C	Liquid	1/4
	Gas	3/8
Indoor unit D	Liquid	1/4
	Gas	3/8

MXZ-5B42NA

Unit: inch

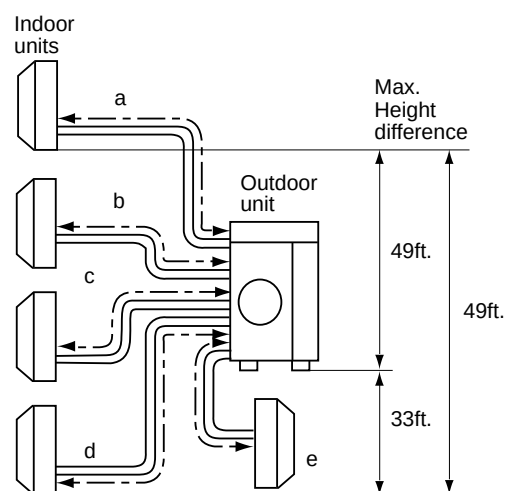


Operating Range MXZ-5B42NA

		Indoor intake air temperature	Outdoor intake air temperature
Cooling	Maximum	95°FDB, 71°FWB	115°FDB
	Minimum	67°FDB, 57°FWB	14°FDB
Heating	Maximum	80°FDB, 67°FWB	75°FDB, 65°FWB
	Minimum	70°FDB, 60°FWB	6°FDB, 5°FWB

MAX. REFRIGERANT PIPING LENGTH & PIPE SIZE SELECTION MXZ-5B42NA

Piping length each indoor unit (a, b, c, d, e, f)	82 ft.
Total piping length (a+b+c+d+e+f)	262 ft.
Bending point for each unit	25
Total bending point	80



- Refrigerant pipe diameter is different according to indoor unit to be connected. When using extension pipes, refer to the tables below.
- When diameter of refrigerant pipe is different from that of outdoor unit union, use optional Different-diameter pipe. For further information on Different-diameter pipe, refer to "PARTS CATALOG".

Unit : inch

Outdoor unit union diameter		
For		
Indoor unit A	Liquid	1/4
	Gas	1/2
Indoor unit B	Liquid	1/4
	Gas	3/8
Indoor unit C	Liquid	1/4
	Gas	3/8
Indoor unit D	Liquid	1/4
	Gas	3/8
Indoor unit E	Liquid	1/4
	Gas	3/8

PUMPING DOWN

When relocating or disposing of the air conditioner, pump down the system following the procedure below so that no refrigerant is released into the atmosphere.

- 1) Turn off the breaker.
- 2) Connect the gauge manifold valve to the service port of the stop valve on the gas pipe side of the outdoor unit.
- 3) Fully close the stop valve on the liquid pipe side of the outdoor unit.
- 4) Turn on the breaker.
- 5) Start the emergency COOL operation on all the indoor units.
- 6) When the pressure gauge shows 0.1 to 0 psi [Gauge] (0.05 to 0 MPa), fully close the stop valve on the gas pipe side of the outdoor unit and stop the operation. (Refer to the indoor unit installation manual about the method for stopping the operation.)
 - * If too much refrigerant has been added to the air conditioner system, the pressure may not drop to 0.1 to 0 psi [Gauge] (0.05 to 0 MPa), or the protection function may operate due to the pressure increase in the high-pressure refrigerant circuit. If this occurs, use a refrigerant collecting device to collect all of the refrigerant in the system, and then recharge the system with the correct amount of refrigerant after the indoor and outdoor units have been relocated.
- 7) Turn off the breaker. Remove the pressure gauge and the refrigerant piping.

WARNING

When pumping down the refrigerant, stop the compressor before disconnecting the refrigerant pipes. The compressor may burst and cause injury if any foreign substance, such as air, enters the pipes.

Model				MXZ-2B20NA			
Indoor type				Non-Duct (09+09)		Duct (09+12)	
Item			Unit	Cooling	Heating	Cooling	Heating
Total	Capacity		Btu/h	18,000	22,000	20,000	22,000
	SHF		—	—	—	—	—
	Input		kW	1.44	1.65	2.19	1.78
Electrical circuit	Outdoor unit			MXZ-2B20NA			
	Power supply (V, phase, Hz)			208/230, 1, 60			
	Input		kW	1.396	1.604	2.06	1.69
	Comp. current (208/230V)		A	6.08/5.87	7.25/6.80	9.81/8.87	7.98/7.22
	Fan motor current		A	0.43/0.39	0.43/0.39	0.43/0.39	0.43/0.39
Refrigerant circuit	Condensing pressure		PSIG	411	319	417	350
	Suction pressure		PSIG	141	102	130	101
	Discharge temperature		°F	169	154	174	172
	Condensing temperature		°F	114	100	120	104
	Suction temperature		°F	71	46	65	46
	Comp. shell bottom temp.		°F	163	149	185	167
	Ref. pipe length [Total pipe length for multi-system]		ft	25 [50]			
	Refrigerant charge (R410A)		—	5 lb. 15 oz.			
Outdoor unit	Intake air temperature	DB	°F	95	47	95	47
		WB	°F	—	43	—	43
	Fan speed		rpm	650	700	650	700
	Airflow		CFM	1485	1640	1485	1640

Model				MXZ-3B24NA			
Indoor type				Non-Duct (06+06+09)		Duct (09+09+09)	
Item			Unit	Cooling	Heating	Cooling	Heating
Total	Capacity		Btu/h	22,000	25,000	23,600	24,600
	SHF		—	—	—	—	—
	Input		kW	1.76	1.75	2.46	1.9
Electrical circuit	Outdoor unit			MXZ-3B24NA			
	Power supply (V, phase, Hz)			208/230, 1, 60			
	Input		kW	1.694	1.681	2.28	1.78
	Comp. current (208/230V)		A	8.00/7.23	7.94/7.18	10.90/9.86	8.43/7.62
	Fan motor current		A	0.43/0.39	0.43/0.39	0.43/0.39	0.43/0.39
Refrigerant circuit	Condensing pressure		PSIG	394	296	408	324
	Suction pressure		PSIG	158	98	139	100
	Discharge temperature		°F	173	153	167	164
	Condensing temperature		°F	115	93	117	99
	Suction temperature		°F	79	47	58	49
	Comp. shell bottom temp.		°F	159	134	153	144
	Ref. pipe length [Total pipe length for multi-system]		ft	25[75]			
	Refrigerant charge (R410A)		—	7 lb.11 oz.			
Outdoor unit	Intake air temperature	DB	°F	95	47	95	47
		WB	°F	—	43	—	43
	Fan speed		rpm	750	600	750	600
	Airflow		CFM	2,068	1,605	2,068	1,605



Model			MXZ-3B30NA				
Indoor type			Non-Duct (09+09+12)		Duct (09+09+12)		
Item		Unit	Cooling	Heating	Cooling	Heating	
Total	Capacity	Btu/h	28,400	28,600	27,400	27,600	
	SHF	—	—	—	—	—	
	Input	kW	3.12	2.15	3.33	2.22	
Electrical circuit	Outdoor unit		MXZ-3B30NA				
	Power supply (V, phase, Hz)		208/230, 1, 60				
	Input	kW	3.047	2.081	3.14	2.09	
	Comp. current (208/230V)	A	14.71/13.30	9.92/8.97	15.17/13.72	10.36/9.37	
	Fan motor current	A	0.43/0.39	0.43/0.39	0.43/0.39	0.43/0.39	
Refrigerant circuit	Condensing pressure	PSIG	489	313	496	325	
	Suction pressure	PSIG	145	94	137	100	
	Discharge temperature	°F	208	155	203	168	
	Condensing temperature	°F	130	97	133	99	
	Suction temperature	°F	77	40	63	50	
	Comp. shell bottom temp.	°F	186	136	188	152	
	Ref. pipe length [Total pipe length for multi-system]	ft	25[75]				
	Refrigerant charge (R410A)	—	7 lb.11 oz.				
	Outdoor unit	Intake air temperature	DB	°F	95	47	95
WB			°F	—	43	—	43
Fan speed		rpm	520	600	520	600	
Airflow		CFM	1,365	1,605	1,365	1,605	

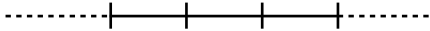
Model				MXZ-4B36NA			
Indoor type				Non-Duct (09+09+09+09)		Duct (09+09+09+09)	
Item			Unit	Cooling	Heating	Cooling	Heating
Total	Capacity		Btu/h	35,400	36,000	34,400	34,400
	SHF		—	—	—	—	—
	Input		kW	3.76	3.02	3.94	3.1
Electrical circuit	Outdoor unit			MXZ-4B36NA			
	Power supply (V, phase, Hz)			208/230, 1, 60			
	Input		kW	3.672	2.928	3.62	2.86
	Comp. current (208/230V)		A	17.44/15.78	13.83/12.51	17.58/15.90	13.39/12.56
	Fan motor current		A	0.43/0.39	0.43/0.39	0.43/0.39	0.43/0.39
Refrigerant circuit	Condensing pressure		PSIG	485	309	455	347
	Suction pressure		PSIG	142	91	130	95
	Discharge temperature		°F	198	139	202	163
	Condensing temperature		°F	129	95	126	102
	Suction temperature		°F	66	28	65	32
	Comp. shell bottom temp.		°F	184	127	186	148
	Ref. pipe length [Total pipe length for multi-system]		ft	25[100]			
	Refrigerant charge (R410A)		—	8 lb.13 oz.			
Outdoor unit	Intake air temperature	DB	°F	95	47	95	47
		WB	°F	—	43	—	43
	Fan speed		rpm	750	750	750	750
	Airflow		CFM	2,068	2,068	2,068	2,068



Model				MXZ-5B42NA			
Indoor type				Non-Duct (06+09+09+09+09)		Duct (09+09+09+09+09)	
Item			Unit	Cooling	Heating	Cooling	Heating
Total	Capacity		Btu/h	40,800	45,200	37,200	41,200
	SHF		—	—	—	—	—
	Input		kW	4.80	3.78	3.96	3.66
Electrical circuit	Outdoor unit			MXZ-5B42NA			
	Power supply (V, phase, Hz)			208/230, 1, 60			
	Input		kW	4.69	3.67	3.71	3.26
	Comp. current (208/230V)		A	22.48/20.30	17.50/15.80	17.72/15.99	15.53/14.02
	Fan motor current		A	0.3	0.3	0.3	0.3
Refrigerant circuit	Condensing pressure		PSIG	479	312	450	406
	Suction pressure		PSIG	142	88	136	94
	Discharge temperature		°F	169	135	167	140
	Condensing temperature		°F	128	96	124	103
	Suction temperature		°F	51	28	49	30
	Comp. shell bottom temp.		°F	173	138	158	130
	Ref. pipe length [Total pipe length for multi-system]		ft	25[125]			
	Refrigerant charge (R410A)		—	10 lb. 9 oz.			
	Outdoor unit	Intake air temperature	DB	°F	95	47	95
WB			°F	—	43	—	43
Fan speed		rpm	730	730	730	730	
Airflow		CFM	2,467	2,467	2,467	2,467	

8-1. OPERATING RANGE

(1) POWER SUPPLY

	Model	Rating	Guaranteed Voltage
Outdoor unit	MXZ-2B20NA MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA MXZ-5B42NA	208/230 V 60 Hz 1 ϕ	Min. 198 V 208 V 230 V Max. 253 V 

(2) OPERATION

Function	Intake air temperature Condition	Indoor		Outdoor	
		DB (°F)	WB (°F)	DB (°F)	WB (°F)
Cooling	"A" Cooling steady state at rated compressor speed	80	67	95	(75)
	"B-2" Cooling steady state at rated compressor speed	80	67	82	(65)
	"B-1" Cooling steady state at minimum compressor speed	80	67	82	(65)
	Low ambient cooling steady state at minimum compressor speed	80	67	67	(53.5)
	Intermediate cooling steady state at intermediate compressor speed	80	67	87	(69)
Heating	Standard rating-heating at rated compressor speed	70	60	47	43
	Low temperature heating at rated compressor speed	70	60	17	15
	Max. temperature heating at minimum compressor speed	70	60	62	56.5
	High temperature heating at minimum compressor speed	70	60	47	43
	Frost accumulation at rated compressor speed	70	60	35	33
	Frost accumulation at intermediate compressor speed	70	60	35	33

MXZ-2B20NA MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA MXZ-5B42NA

The standard specifications apply only to the operation of the air conditioner under normal conditions.

Since operating conditions vary according to the areas where these units are installed, the following information has been provided to clarify the operating characteristics of the air conditioner under the conditions indicated by the performance curve.

(1) GUARANTEED VOLTAGE

198 ~ 253 V 60 Hz

(2) AIR FLOW

Air flow should be set at MAX.

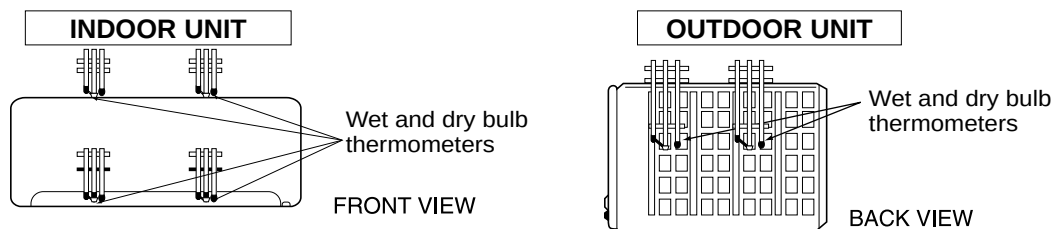
(3) MAIN READINGS

(1) Indoor intake air wet-bulb temperature :	°FWB	} Cooling
(2) Indoor outlet air wet-bulb temperature :	°FWB	
(3) Outdoor intake air dry-bulb temperature :	°FDB	
(4) Total input :	W	
(5) Indoor intake air dry-bulb temperature :	°FDB	} Heating
(6) Outdoor intake air wet-bulb temperature :	°FWB	
(7) Total input :	W	

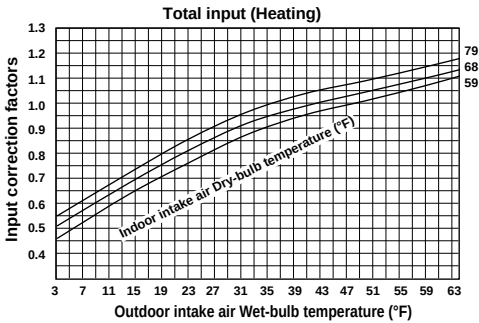
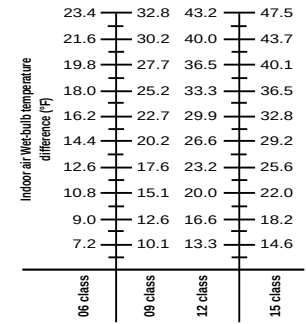
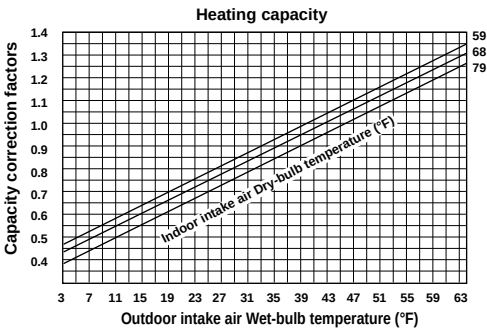
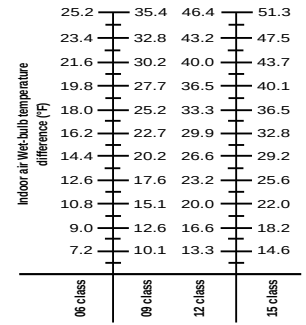
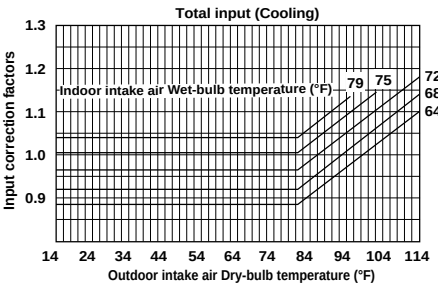
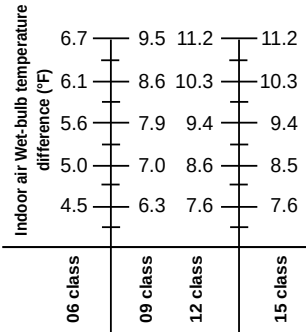
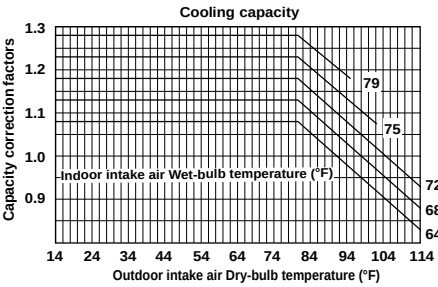
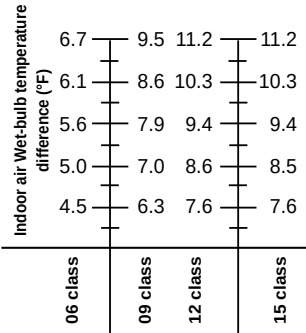
Indoor air wet and dry bulb temperature difference on the left side of the following chart shows the difference between the indoor intake air wet and dry bulb temperature and the indoor outlet air wet and dry bulb temperature for your reference at service.

How to measure the indoor air wet and dry bulb temperature difference

1. Attach at least 2 sets of wet and dry bulb thermometers to the indoor air intake as shown in the figure, and at least 2 sets of wet and dry bulb thermometers to the indoor air outlet. The thermometers must be attached to the position where air speed is high.
2. Attach at least 2 sets of wet and dry bulb thermometers to the outdoor air intake.
3. Cover the thermometers to prevent direct rays of the sun.
4. Check that the air filter is cleaned.
5. Open windows and doors of room.
6. Press the EMERGENCY OPERATION switch once (twice) to start the EMERGENCY COOL (HEAT) MODE.
7. Compressor starts running at 33 Hz (COOL) or 45 Hz (HEAT). The frequency at each operation mode is fixed.
8. When system stabilizes after more than 15 minutes, measure temperature and take an average temperature.
9. 10 minutes later, measure temperature again and check that the temperature does not change.

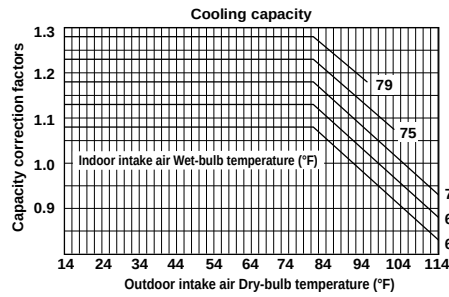


8-2. CAPACITY AND THE INPUT CURVES
MXZ-2B20NA

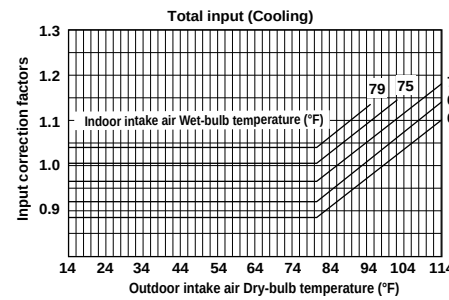


MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA

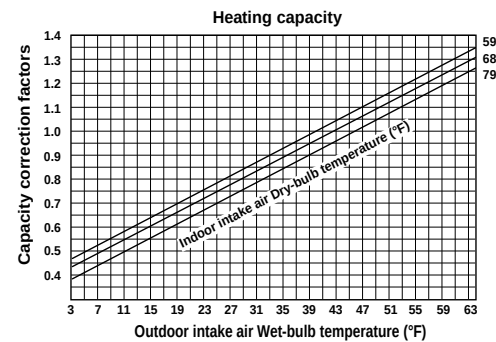
Indoor air Wet-bulb temperature difference (°F)	6.7	9.5	11.2	11.2	14.2	16.2
	6.1	8.6	10.3	10.3	13.0	14.8
	5.6	7.9	9.4	9.4	11.7	13.3
	5.0	7.0	8.6	8.5	10.6	12.1
	4.5	6.3	7.6	7.6	9.4	10.6
	06 class	09 class	12 class	15 class	18 class	24 class



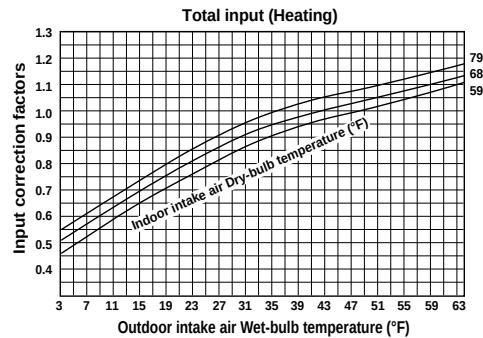
Indoor air Wet-bulb temperature difference (°F)	6.7	9.5	11.2	11.2	14.2	16.2
	6.1	8.6	10.3	10.3	13.0	14.8
	5.6	7.9	9.4	9.4	11.7	13.3
	5.0	7.0	8.6	8.5	10.6	12.1
	4.5	6.3	7.6	7.6	9.4	10.6
	06 class	09 class	12 class	15 class	18 class	24 class



Indoor air Wet-bulb temperature difference (°F)	25.2	35.4	46.4	51.3	55.5	50.9
	23.4	32.8	43.2	47.5	51.5	47.3
	21.6	30.2	40.0	43.7	47.5	43.7
	19.8	27.7	36.5	40.1	43.6	40.1
	18.0	25.2	33.3	36.5	39.6	46.4
	16.2	22.7	29.9	32.8	35.6	32.8
	14.4	20.2	26.6	29.2	31.7	29.2
	12.6	17.6	23.2	25.6	27.7	25.6
	10.8	15.1	20.0	22.0	23.8	21.8
	9.0	12.6	16.6	18.2	19.8	18.2
	7.2	10.1	13.3	14.6	15.8	14.6
	06 class	09 class	12 class	15 class	18 class	24 class

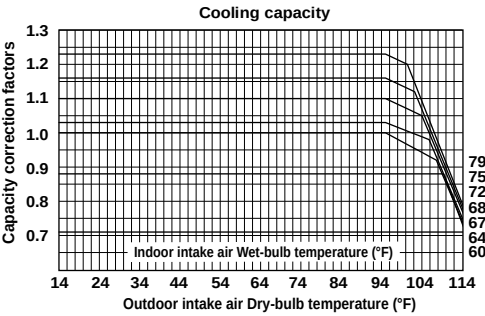


Indoor air Wet-bulb temperature difference (°F)	23.4	32.8	43.2	47.5	51.5	47.3
	21.6	30.2	40.0	43.7	47.5	43.7
	19.8	27.7	36.5	40.1	43.6	40.1
	18.0	25.2	33.3	36.5	39.6	46.4
	16.2	22.7	29.9	32.8	35.6	32.8
	14.4	20.2	26.6	29.2	31.7	29.2
	12.6	17.6	23.2	25.6	27.7	25.6
	10.8	15.1	20.0	22.0	23.8	21.8
	9.0	12.6	16.6	18.2	19.8	18.2
	7.2	10.1	13.3	14.6	15.8	14.6
	06 class	09 class	12 class	15 class	18 class	24 class

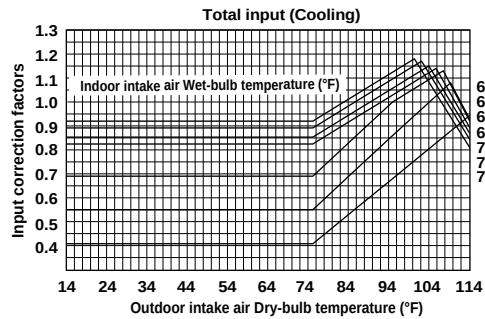


MXZ-5B42NA

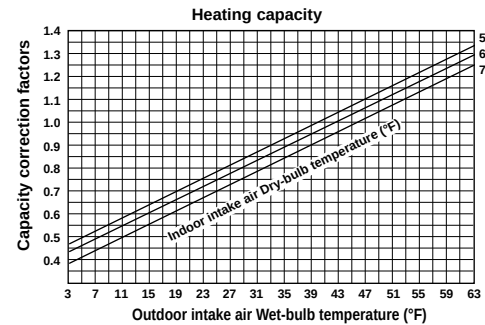
Indoor air Wet-bulb temperature difference (°F)	6.7	9.5	11.2	11.2	14.2	16.2
	6.1	8.6	10.3	10.3	13.0	14.8
	5.6	7.9	9.4	9.4	11.7	13.3
	5.0	7.0	8.6	8.5	10.6	12.1
	4.5	6.3	7.6	7.6	9.4	10.6
	4.0	5.6	6.6	6.7	8.2	9.1
	3.5	4.9	5.6	5.8	7.0	7.6
06 class		09 class	12 class	15 class	18 class	24 class



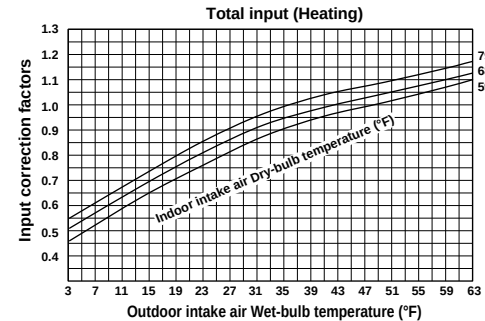
Indoor air Wet-bulb temperature difference (°F)	6.7	9.5	11.2	11.2	14.2	16.2
	6.1	8.6	10.3	10.3	13.0	14.8
	5.6	7.9	9.4	9.4	11.7	13.3
	5.0	7.0	8.6	8.5	10.6	12.1
	4.5	6.3	7.6	7.6	9.4	10.6
	4.0	5.6	6.6	6.7	8.2	9.1
	3.5	4.9	5.6	5.8	7.0	7.6
	3.0	4.2	4.6	4.9	5.8	6.1
	2.5	3.5	3.6	4.0	4.6	4.6
	2.0	2.8	2.6	3.1	3.4	3.1
06 class		09 class	12 class	15 class	18 class	24 class



Indoor air Wet-bulb temperature difference (°F)	25.2	35.4	46.4	51.3	55.5	50.9
	23.4	32.8	43.2	47.5	51.5	47.3
	21.6	30.2	40.0	43.7	47.5	43.7
	19.8	27.7	36.5	40.1	43.6	40.1
	18.0	25.2	33.3	36.5	39.6	36.4
	16.2	22.7	29.9	32.8	35.6	32.8
	14.4	20.2	26.6	29.2	31.7	29.2
	12.6	17.6	23.2	25.6	27.7	25.6
	10.8	15.1	20.0	22.0	23.8	21.8
	9.0	12.6	16.6	18.2	19.8	18.2
	7.2	10.1	13.3	14.6	15.8	14.6
06 class		09 class	12 class	15 class	18 class	24 class

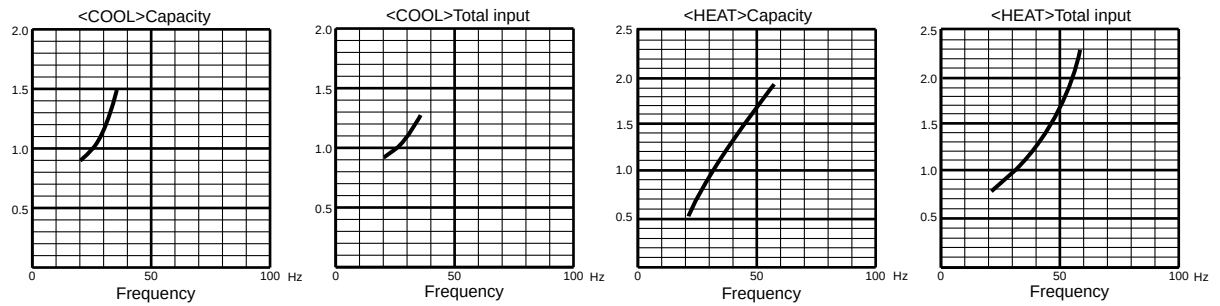


Indoor air Wet-bulb temperature difference (°F)	23.4	32.8	43.2	47.5	51.5	47.3
	21.6	30.2	40.0	43.7	47.5	43.7
	19.8	27.7	36.5	40.1	43.6	40.1
	18.0	25.2	33.3	36.5	39.6	36.4
	16.2	22.7	29.9	32.8	35.6	32.8
	14.4	20.2	26.6	29.2	31.7	29.2
	12.6	17.6	23.2	25.6	27.7	25.6
	10.8	15.1	20.0	22.0	23.8	21.8
	9.0	12.6	16.6	18.2	19.8	18.2
	7.2	10.1	13.3	14.6	15.8	14.6
06 class		09 class	12 class	15 class	18 class	24 class

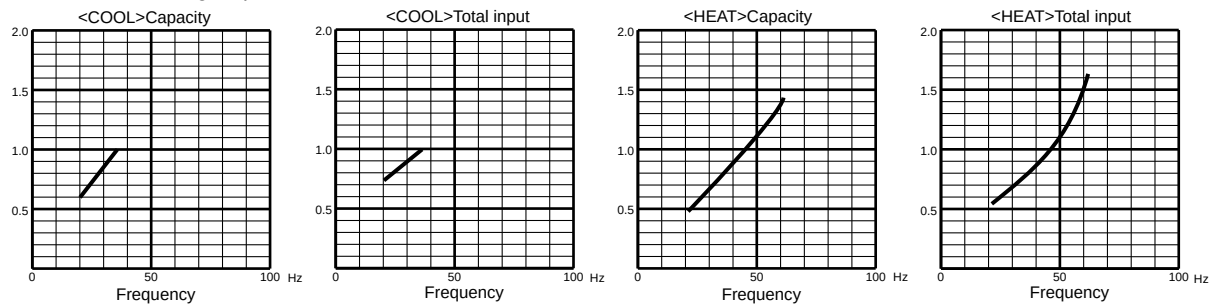


8-3. CAPACITY AND INPUT CORRECTION BY MEANS OF INVERTER OUTPUT FREQUENCY (OUTDOOR UNIT: MXZ-2B20NA)

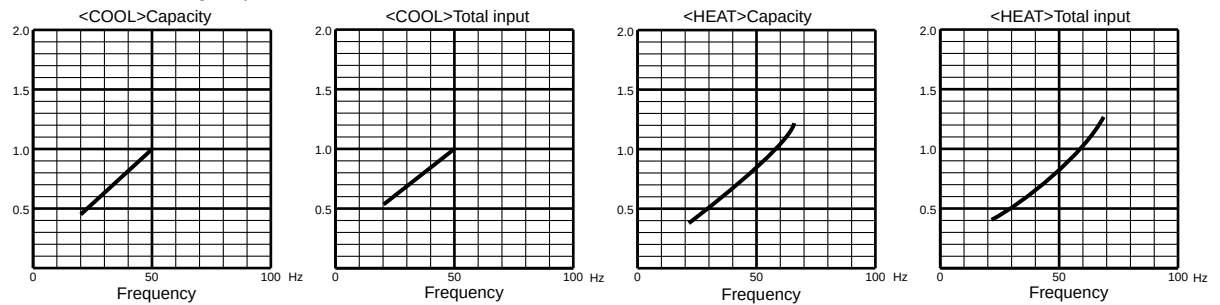
1. 06-class unit in single operation



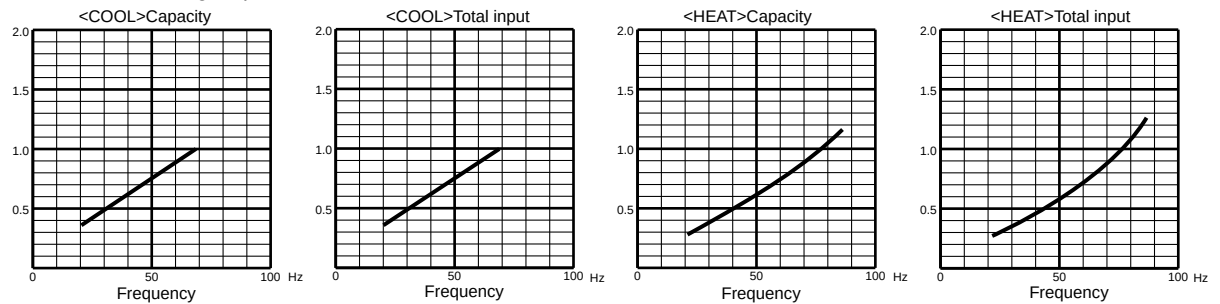
2. 09-class unit in single operation



3. 12-class unit in single operation

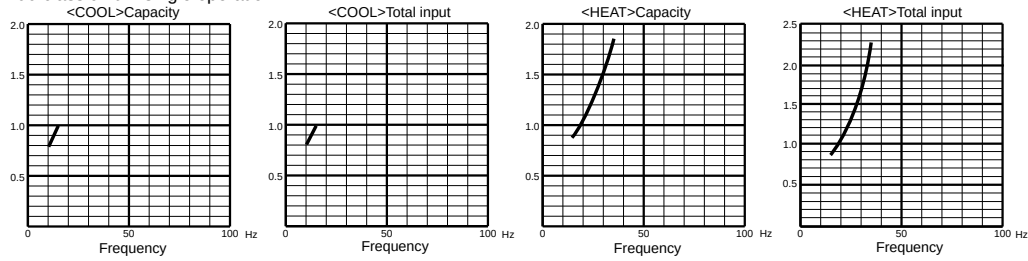


4. 15-class unit in single operation

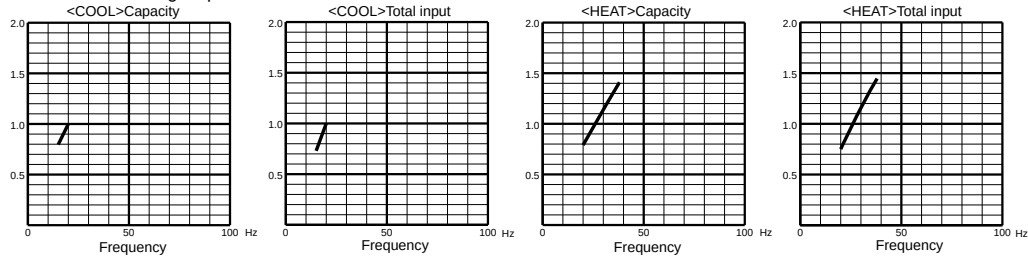


(OUTDOOR UNIT: MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA)

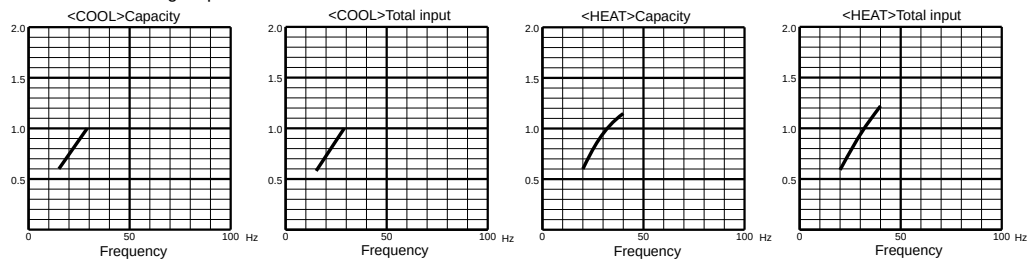
1. 06-class unit in single operation



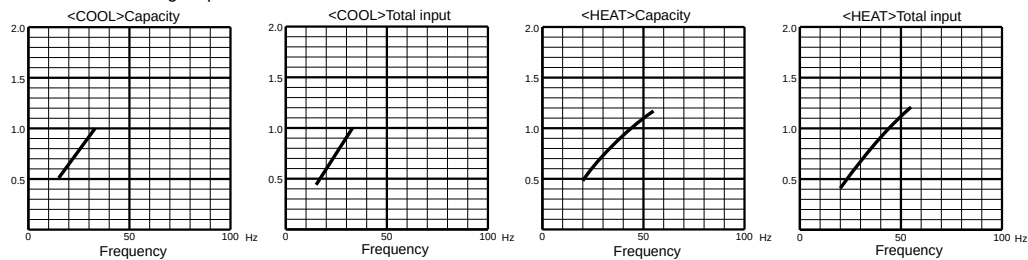
2. 09-class unit in single operation



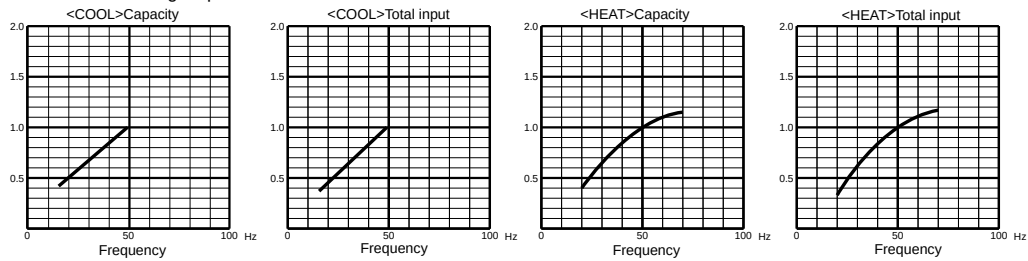
3. 12-class unit in single operation



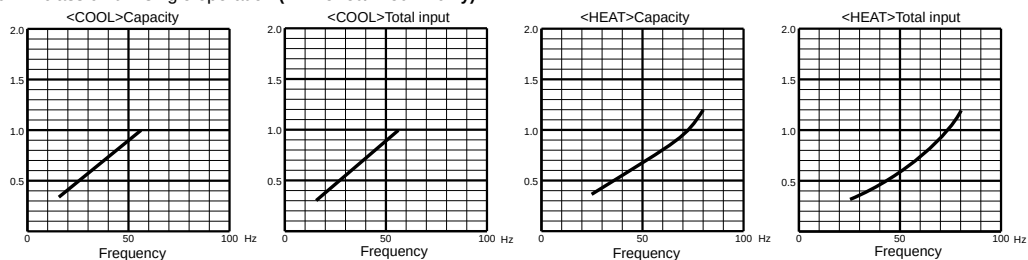
4. 15-class unit in single operation



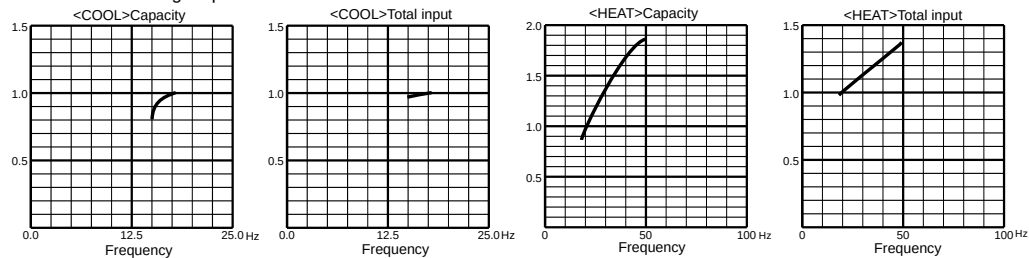
5. 18-class unit in single operation



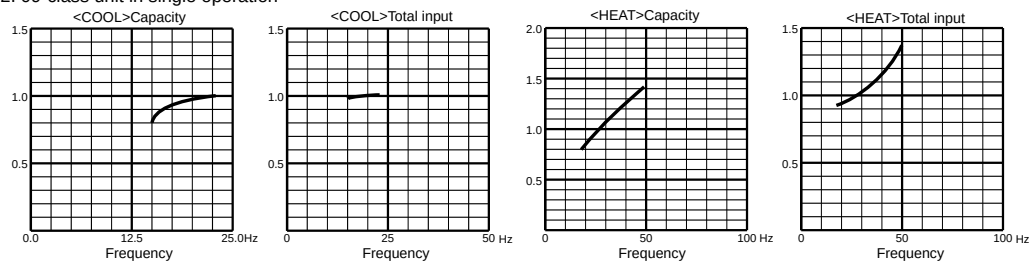
6. 24-class unit in single operation (MXZ-3B30/4B36NA only)



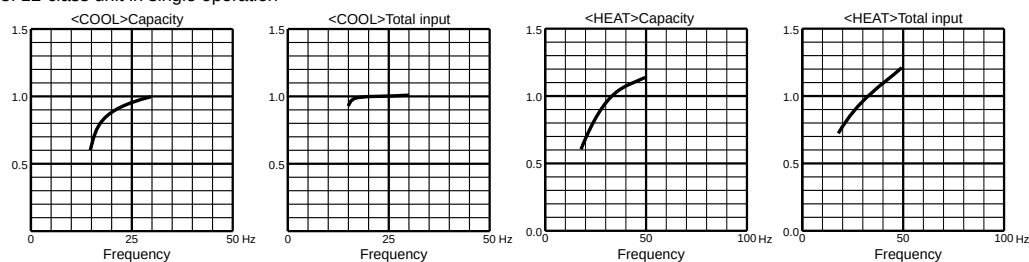
1. 06-class unit in single operation



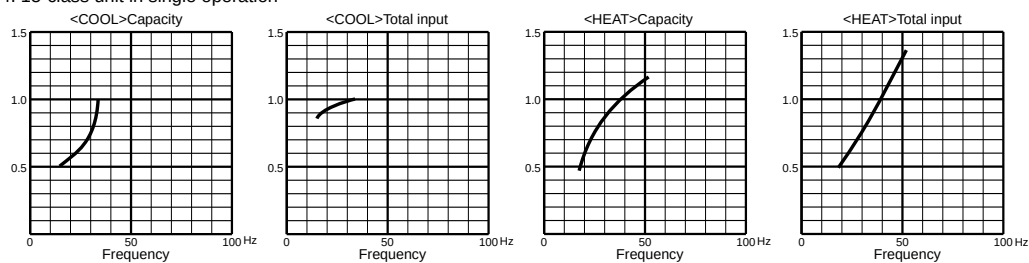
2. 09-class unit in single operation



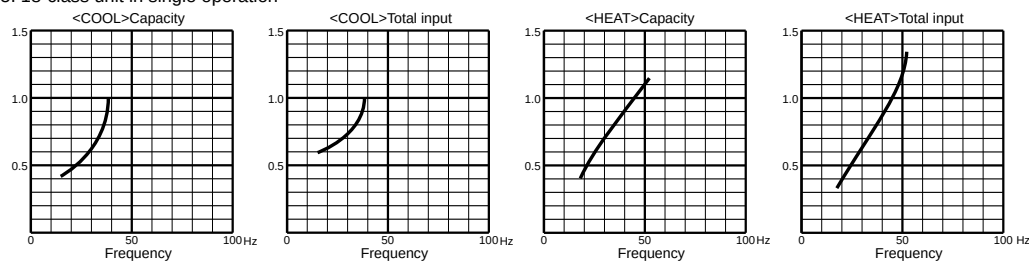
3. 12-class unit in single operation



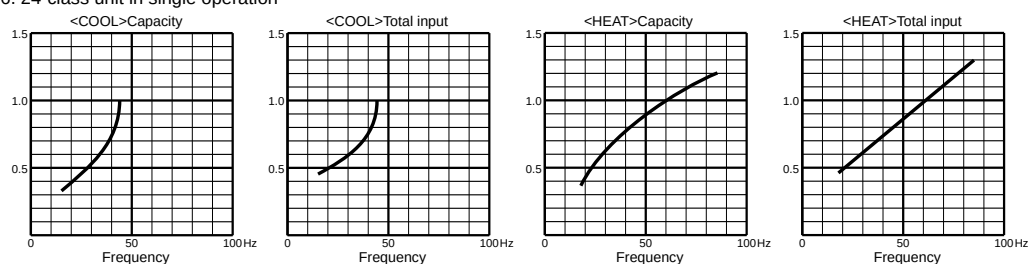
4. 15-class unit in single operation



5. 18-class unit in single operation



6. 24-class unit in single operation



8-4. OUTDOOR LOW PRESSURE AND OUTDOOR UNIT CURRENT

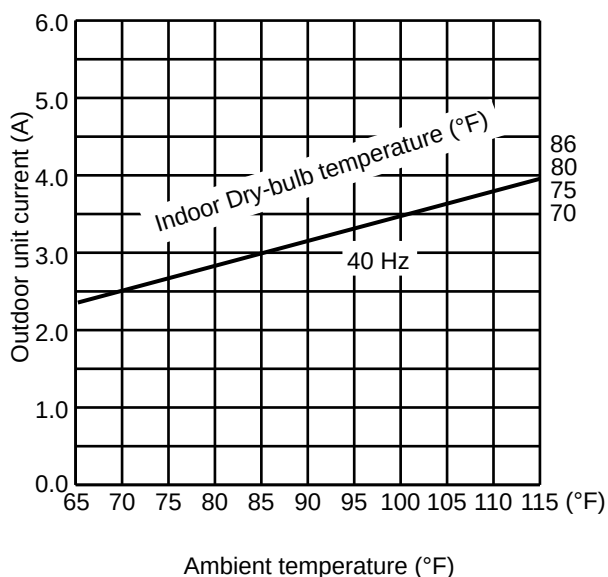
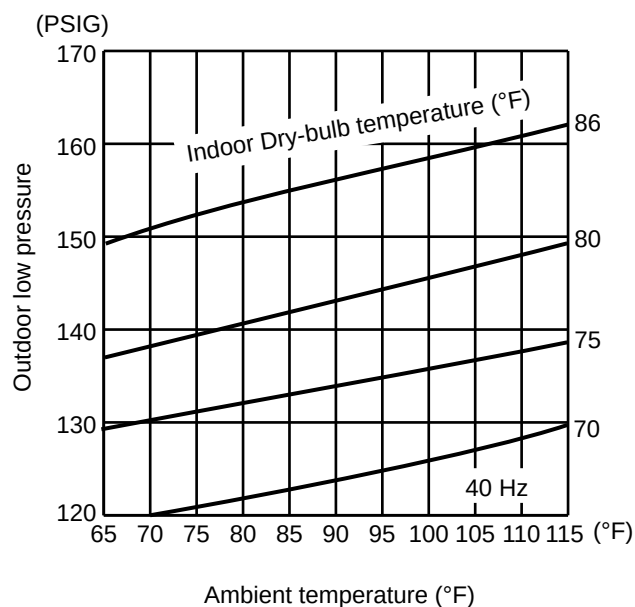
1. 06-class unit in single operation (OUTDOOR UNIT: MXZ-2B20NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed: High
- ③ Inverter output frequency: 40 Hz

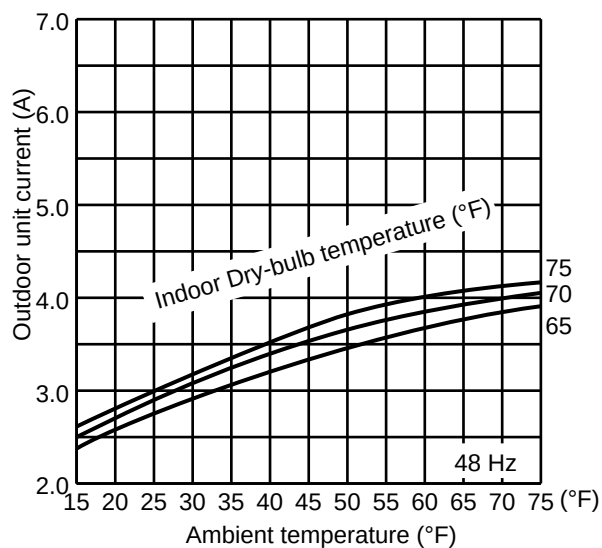
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 40 Hz (COOL) or 48 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of indoor humidity 75%
- ② Set air flow to High speed.
- ③ Inverter output frequency is 48 Hz.



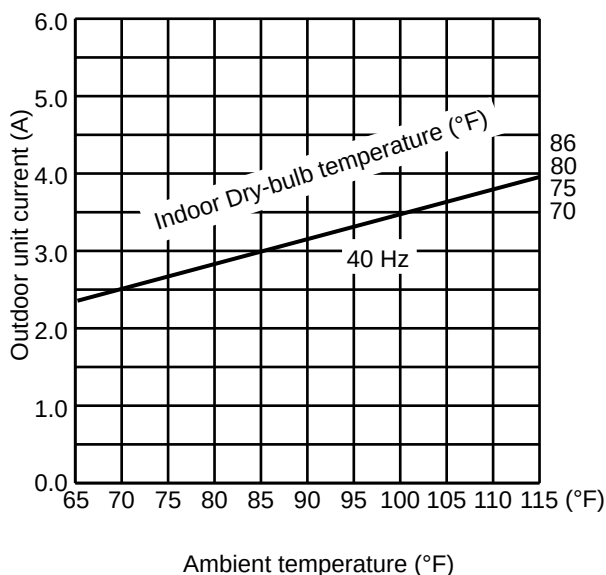
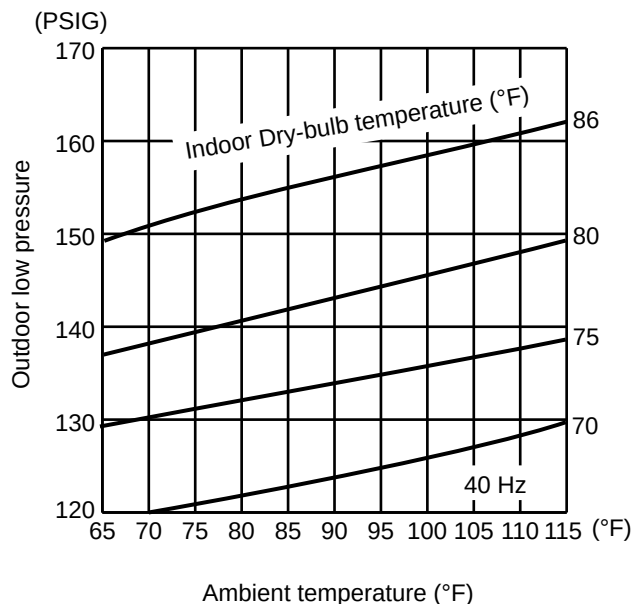
2. 09-class unit in single operation (OUTDOOR UNIT: MXZ-2B20NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed: High
- ③ Inverter output frequency: 40 Hz

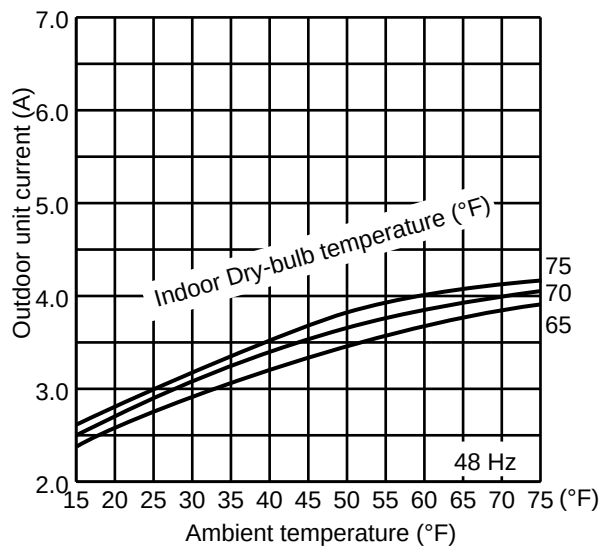
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 40 Hz (COOL) or 48 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of indoor humidity 75%
- ② Set air flow to High speed.
- ③ Inverter output frequency is 48 Hz.



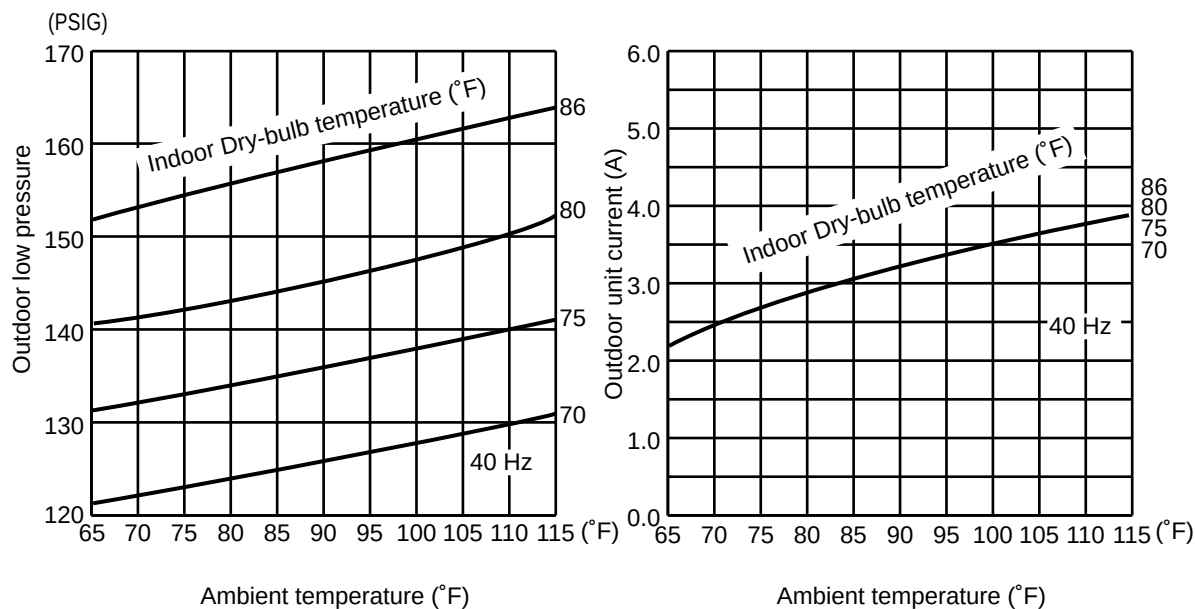
3. 12-class unit in single operation (OUTDOOR UNIT: MXZ-2B20NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed: High
- ③ Inverter output frequency: 40 Hz

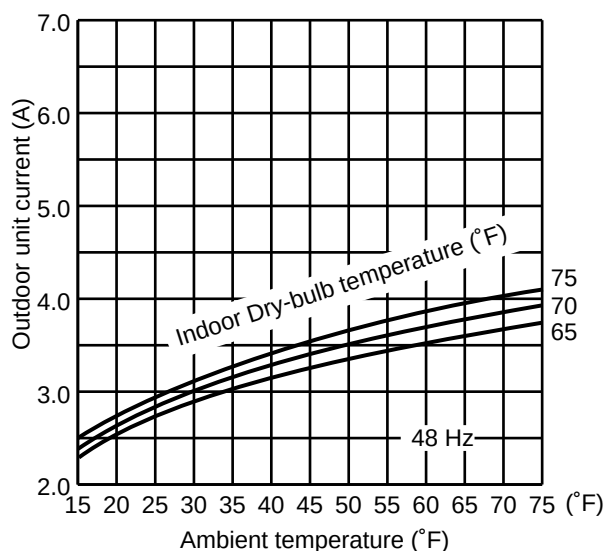
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 40 Hz (COOL) or 48 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of indoor humidity 75%
- ② Set air flow to High speed.
- ③ Inverter output frequency is 48 Hz.



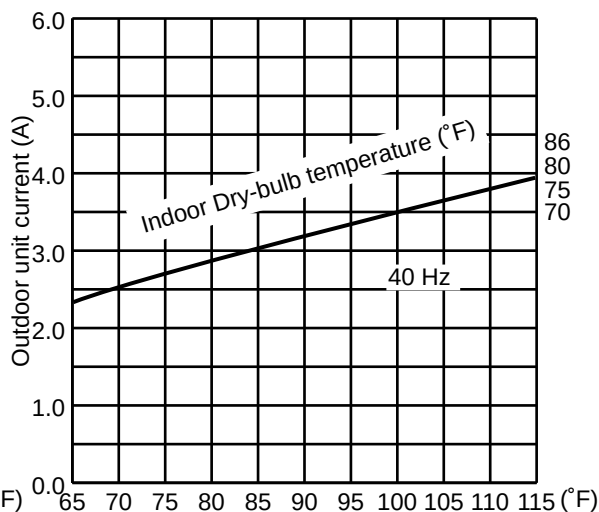
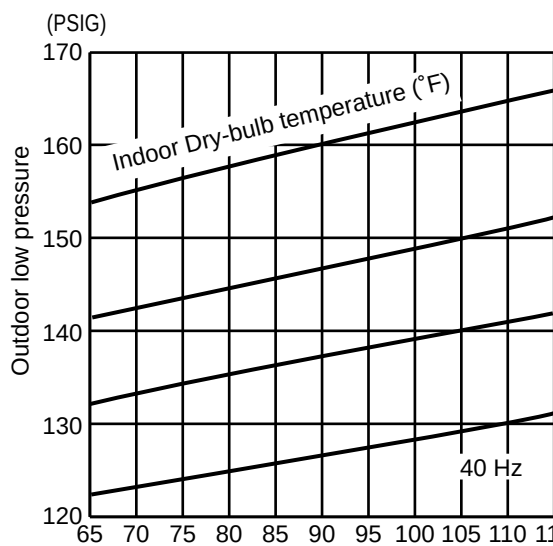
4. 15-class unit in single operation (OUTDOOR UNIT: MXZ-2B20NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed: High
- ③ Inverter output frequency: 40 Hz

<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 40 Hz (COOL) or 48 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.

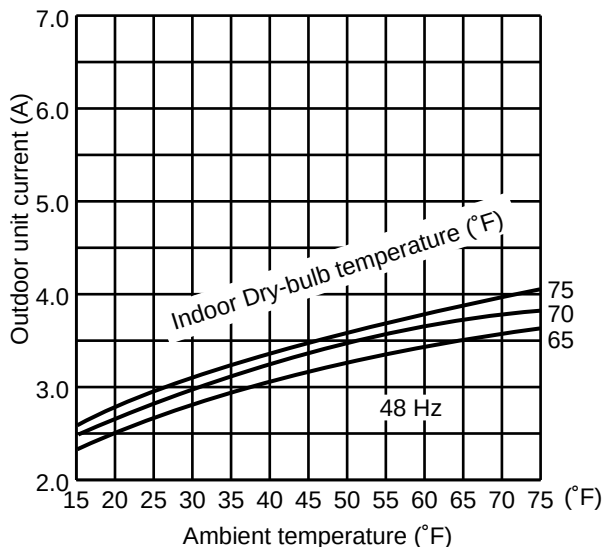


Ambient temperature (°F)

Ambient temperature (°F)

(2) HEAT operation

- ① Data is based on the condition of indoor humidity 75%
- ② Set air flow to High speed.
- ③ Inverter output frequency is 48 Hz.



Ambient temperature (°F)

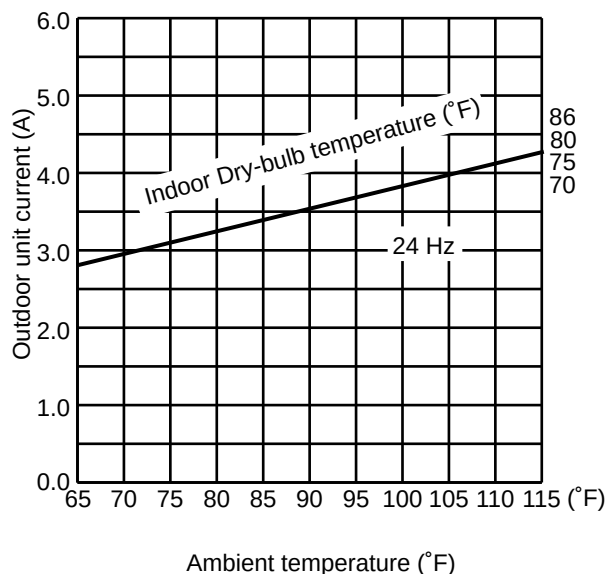
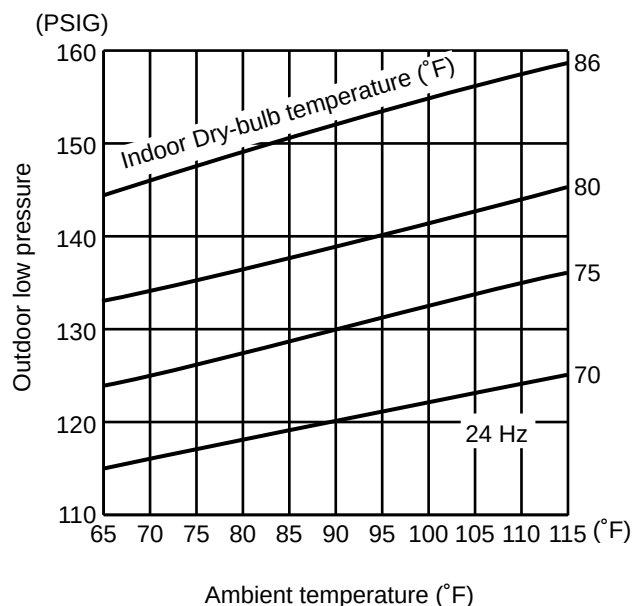
5. 06-class unit in single operation (OUTDOOR UNIT : MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed : High
- ③ Inverter output frequency : 24 Hz

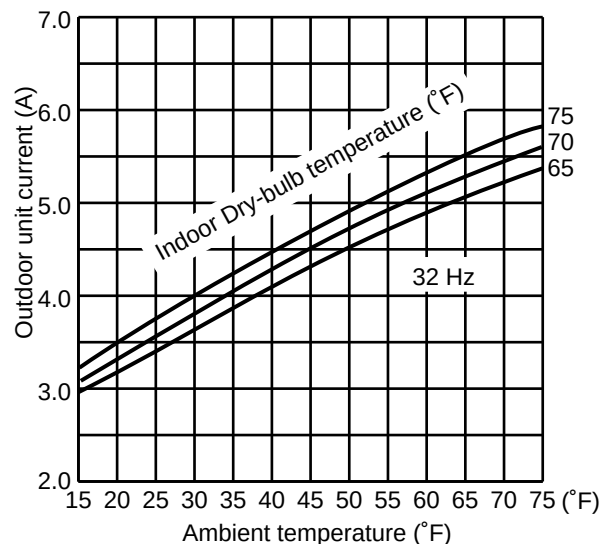
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 24 Hz (COOL) or 32 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of outdoor humidity 75%.
- ② Set air flow to High speed.
- ③ Inverter output frequency is 32 Hz.



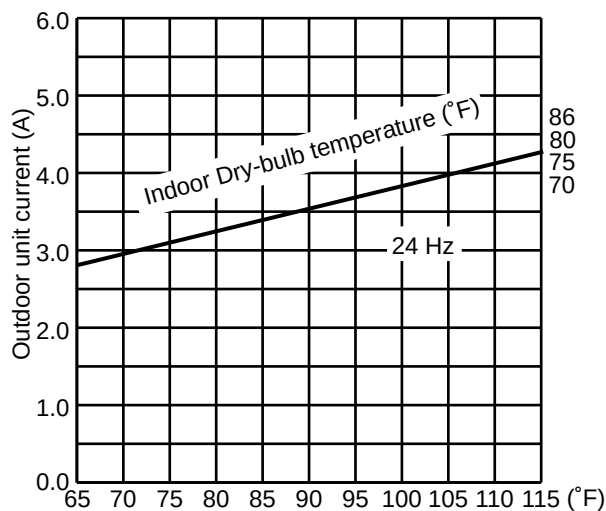
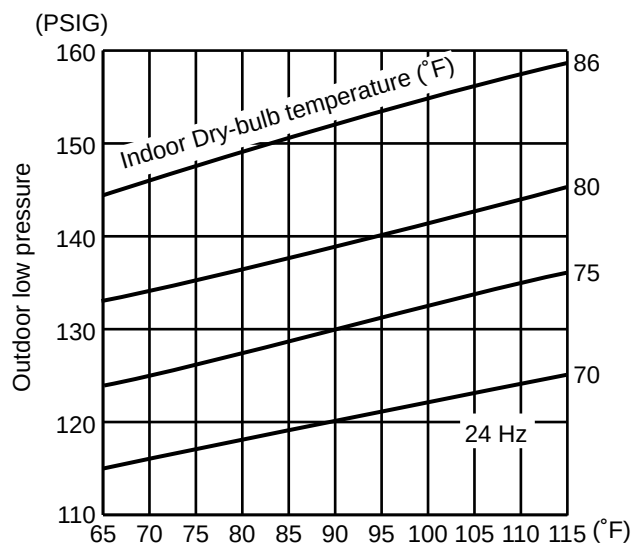
6. 09-class unit in single operation (OUTDOOR UNIT : MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed : High
- ③ Inverter output frequency : 24 Hz

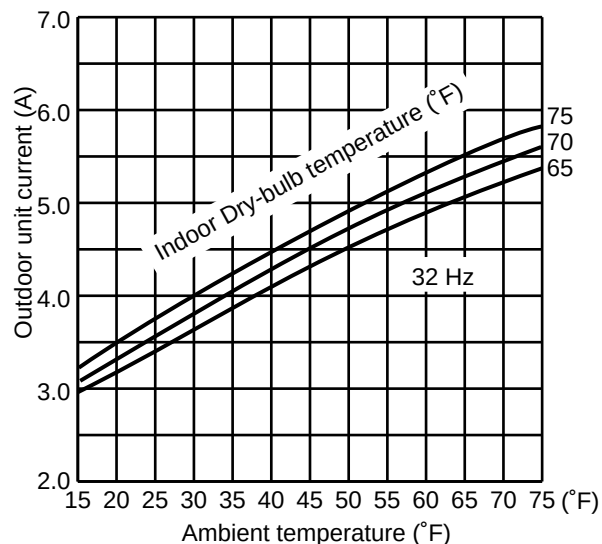
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 24 Hz (COOL) or 32 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation Ambient temperature (°F)

- ① Data is based on the condition of outdoor humidity 75%.
- ② Set air flow to High speed.
- ③ Inverter output frequency is 32 Hz.



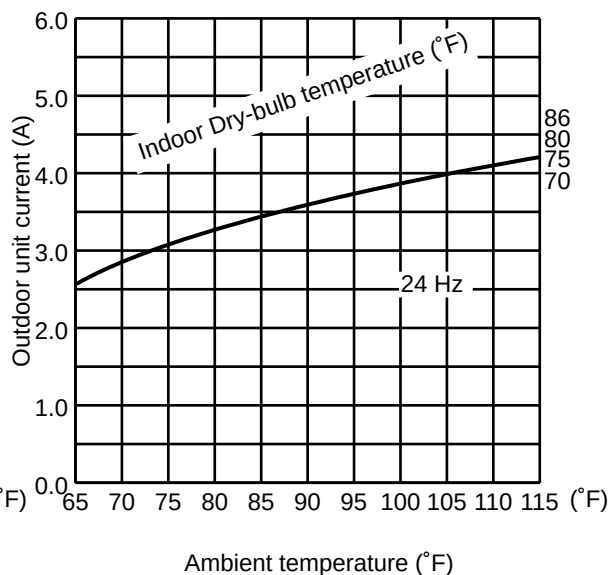
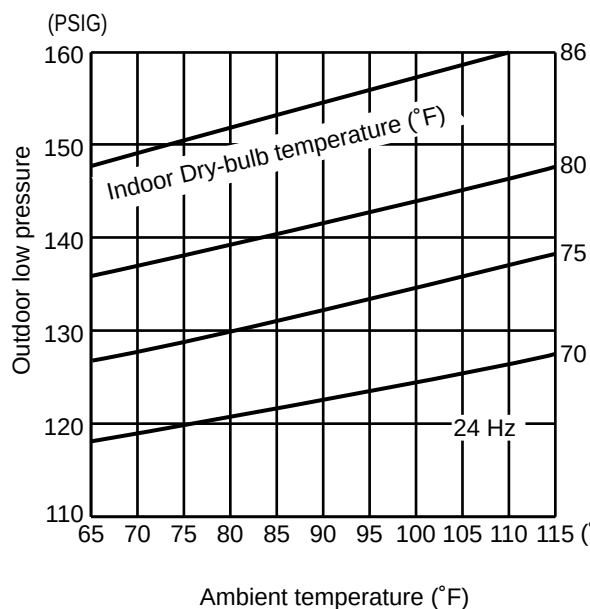
7. 12-class unit in single operation (OUTDOOR UNIT : MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed : High
- ③ Inverter output frequency : 24 Hz

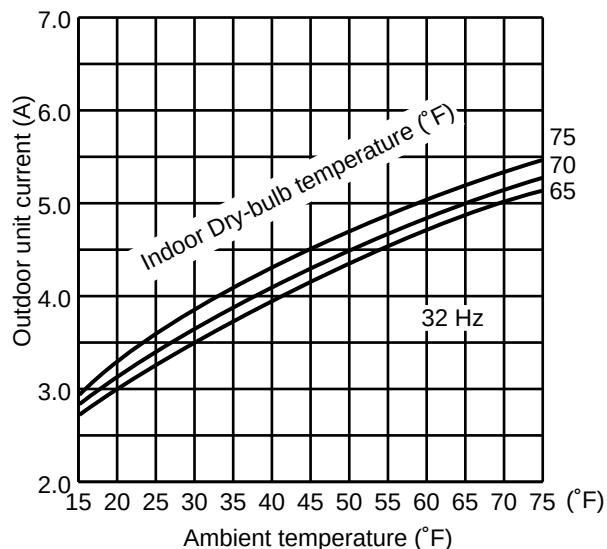
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 24 Hz (COOL) or 32 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of outdoor humidity 75%.
- ② Set air flow to High speed.
- ③ Inverter output frequency is 32 Hz.



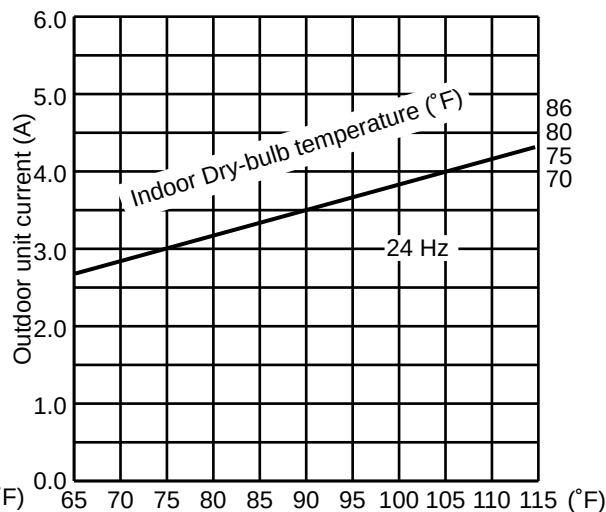
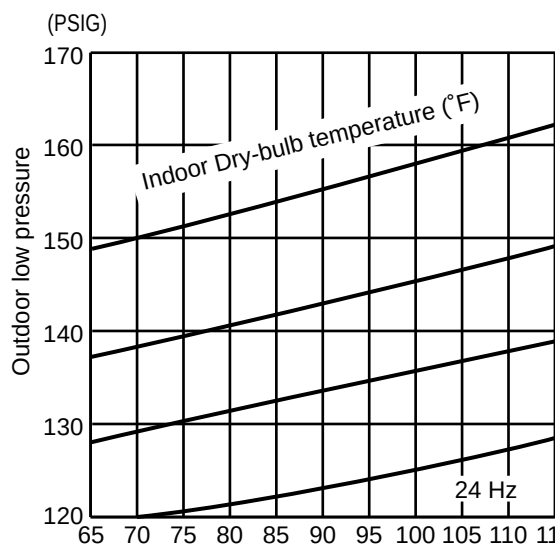
8. 15-class unit in single operation (OUTDOOR UNIT : MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed : High
- ③ Inverter output frequency : 24 Hz

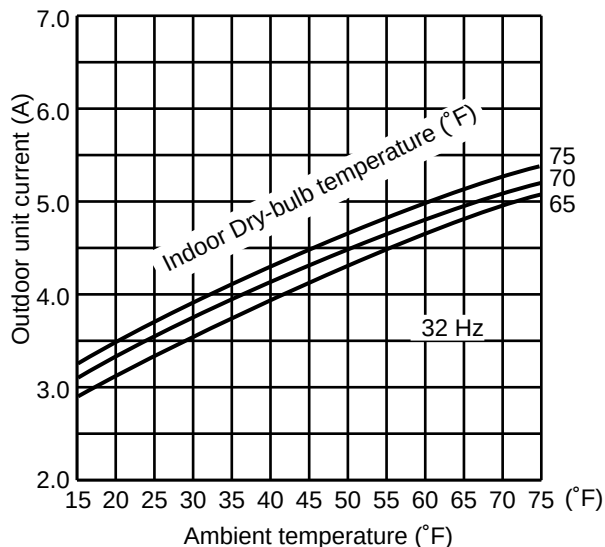
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 24 Hz (COOL) or 32 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of outdoor humidity 75%
- ② Set air flow to High speed.
- ③ Inverter output frequency is 32 Hz.



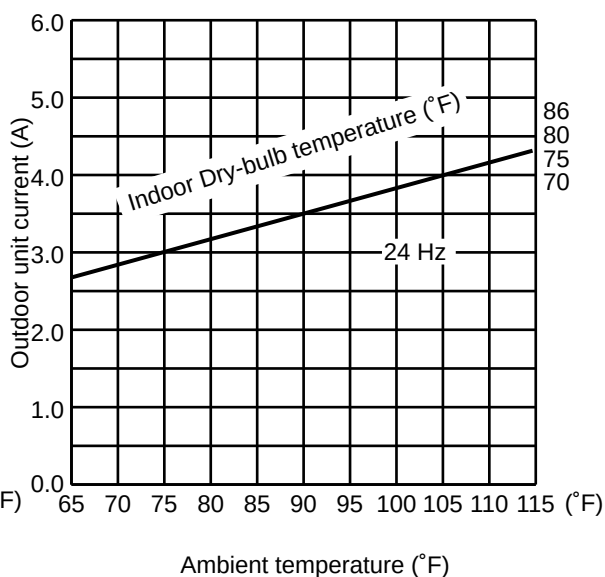
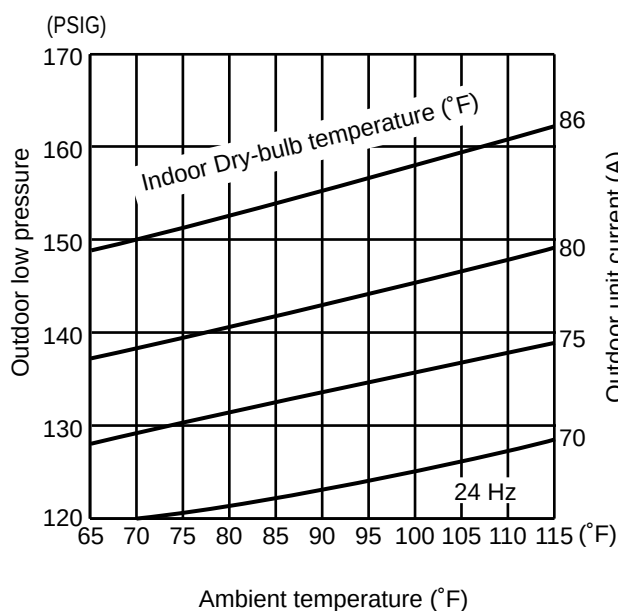
9. 18-class unit in single operation (OUTDOOR UNIT : MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed : High
- ③ Inverter output frequency : 24 Hz

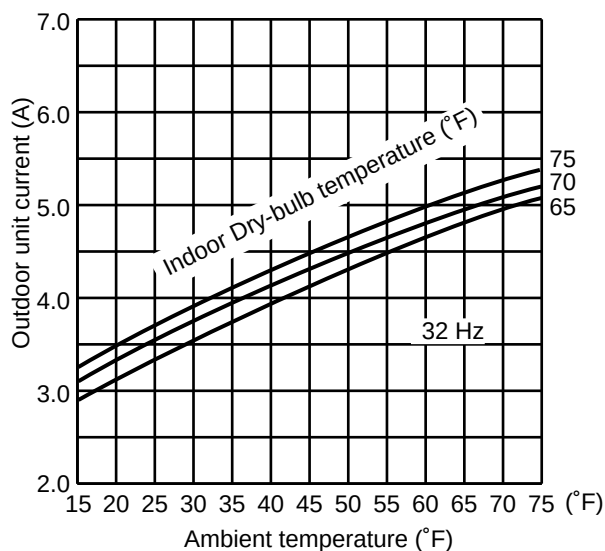
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 24 Hz (COOL) or 32 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of outdoor humidity 75%.
- ② Set air flow to High speed.
- ③ Inverter output frequency is 32 Hz.



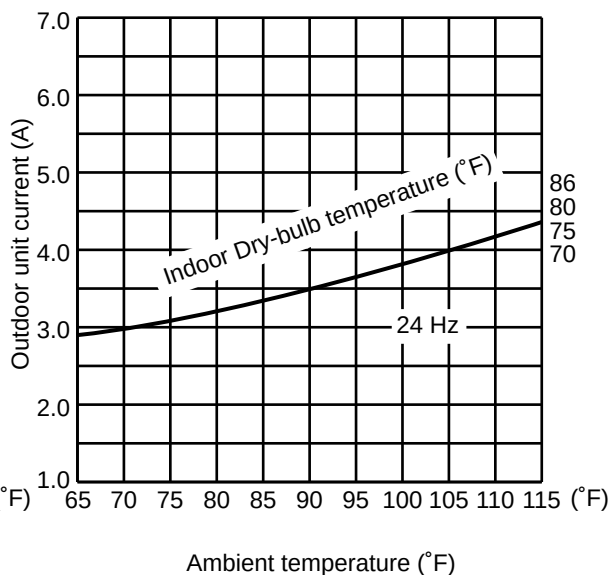
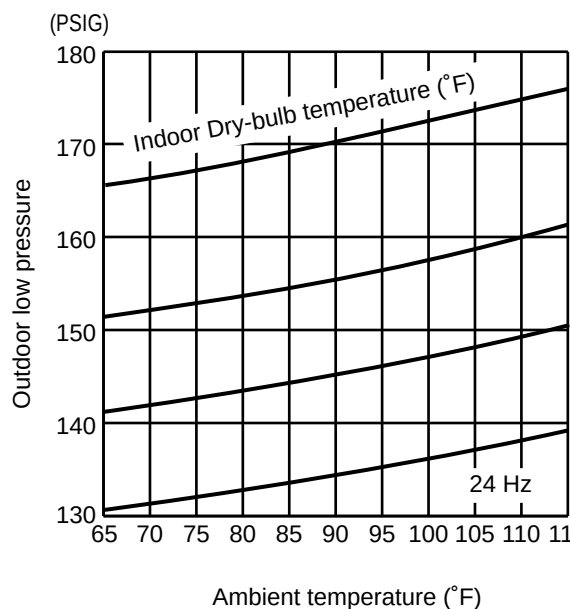
10. 24-class unit in single operation (OUTDOOR UNIT : MXZ-4B36NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed : High
- ③ Inverter output frequency : 24 Hz

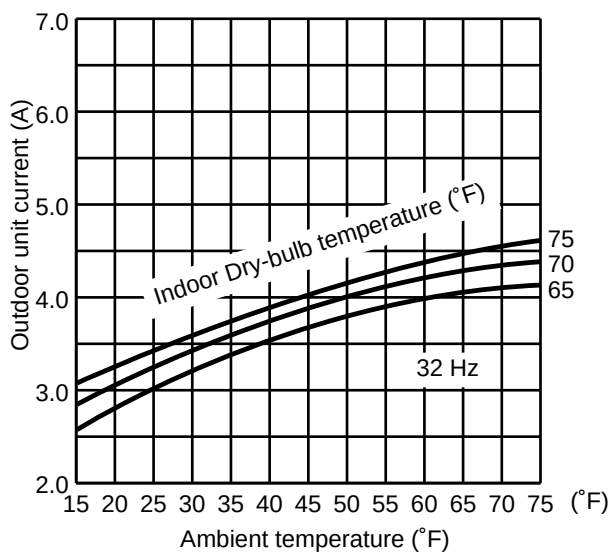
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 24 Hz (COOL) or 32 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of outdoor humidity 75%
- ② Set air flow to High speed.
- ③ Inverter output frequency is 32 Hz.



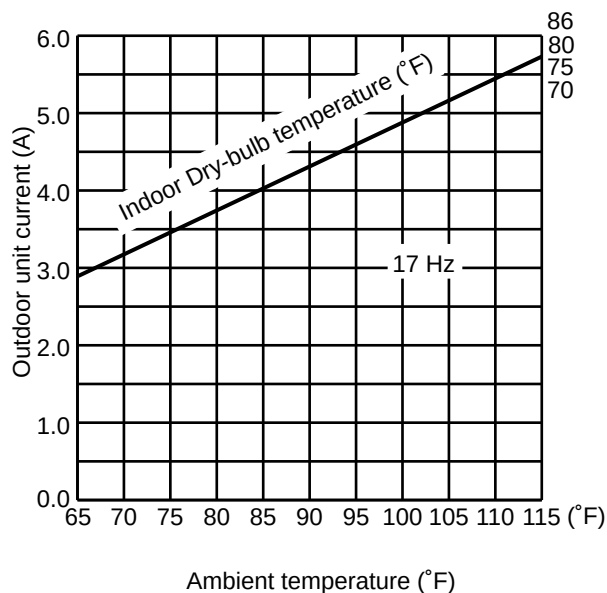
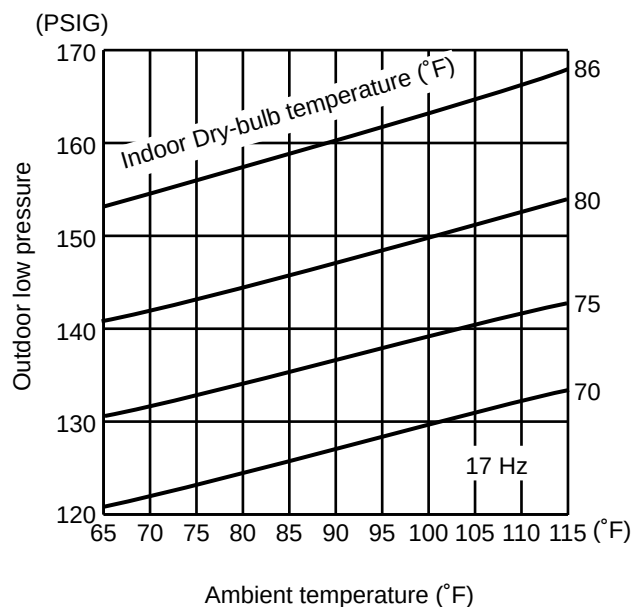
11. 06-class unit in single operation (OUTDOOR UNIT : MXZ-5B42NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed : High
- ③ Inverter output frequency : 24 Hz

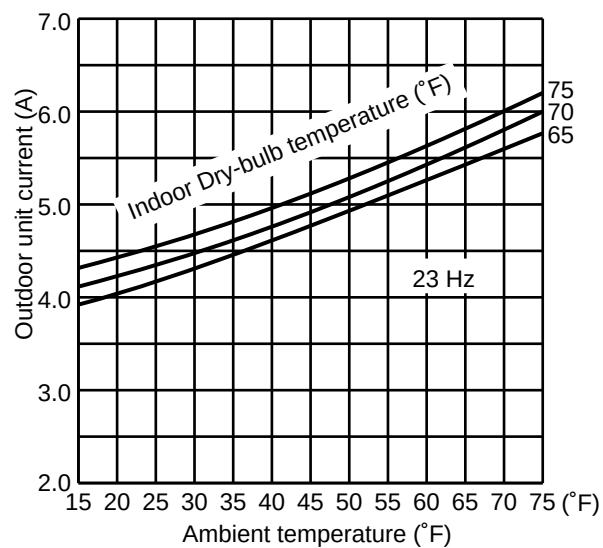
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 17 Hz (COOL) or 23 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of outdoor humidity 75%.
- ② Set air flow to High speed.
- ③ Inverter output frequency is 32 Hz.



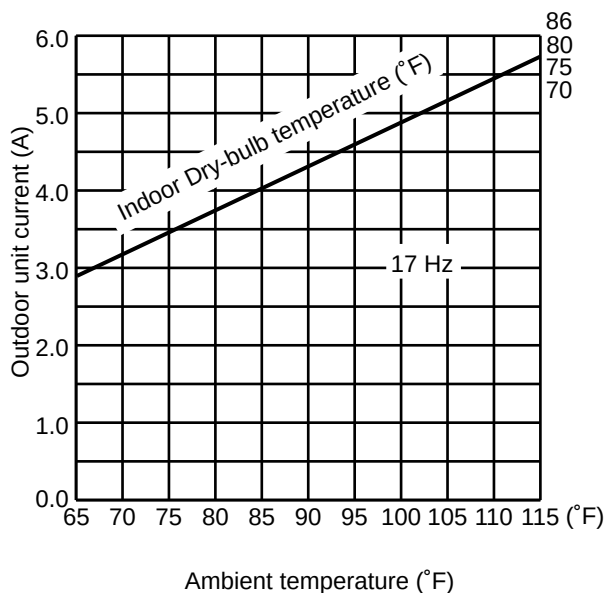
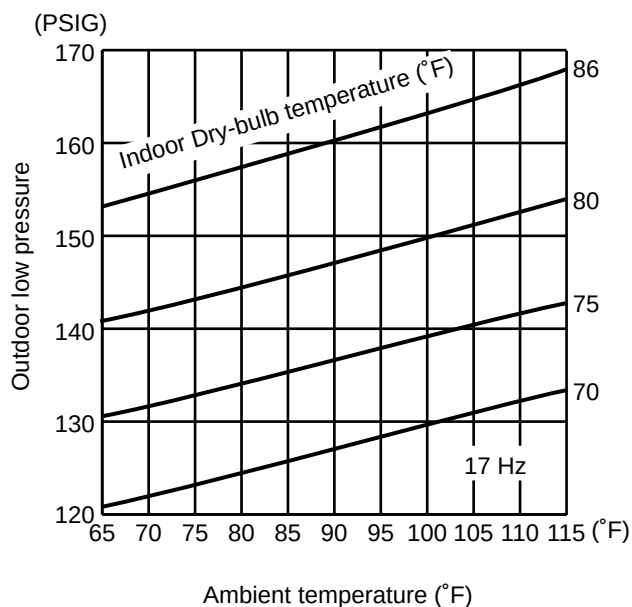
12. 09-class unit in single operation (OUTDOOR UNIT : MXZ-5B42NA)

(1) COOL operation

- ①Data is based on the condition of indoor humidity 50%
- ②Air flow speed : High
- ③Inverter output frequency : 24 Hz

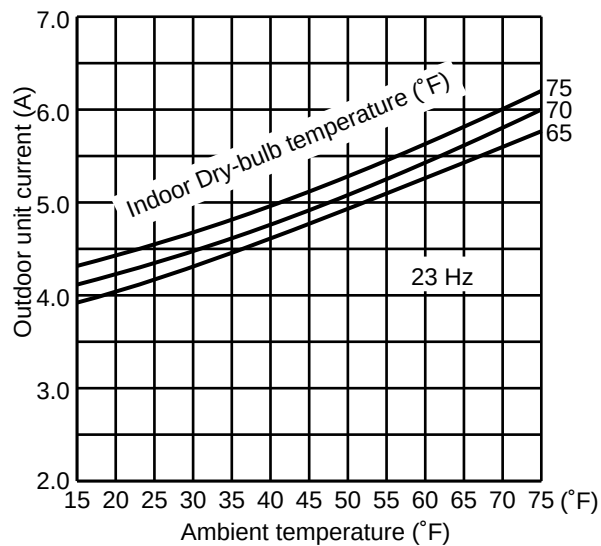
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 17 Hz (COOL) or 23 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ①Data is based on the condition of outdoor humidity 75%.
- ②Set air flow to High speed.
- ③Inverter output frequency is 32 Hz.



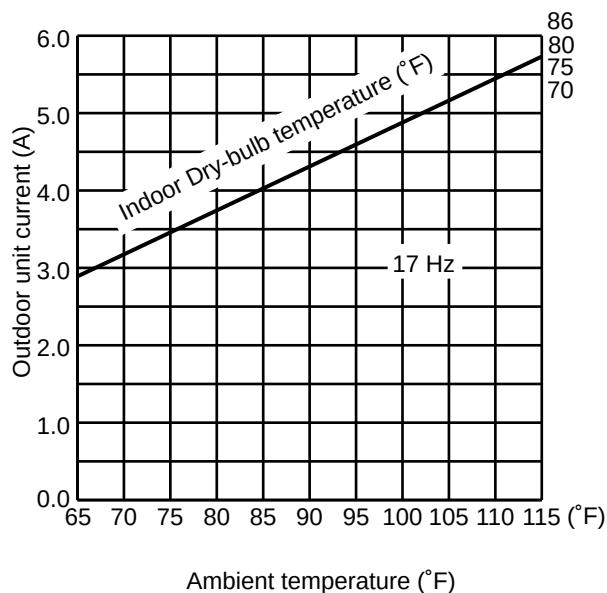
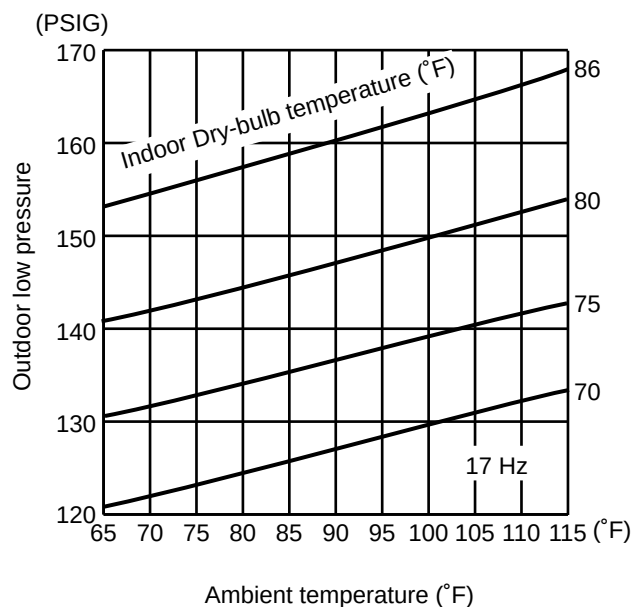
13. 12-class unit in single operation (OUTDOOR UNIT : MXZ-5B42NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed : High
- ③ Inverter output frequency : 24 Hz

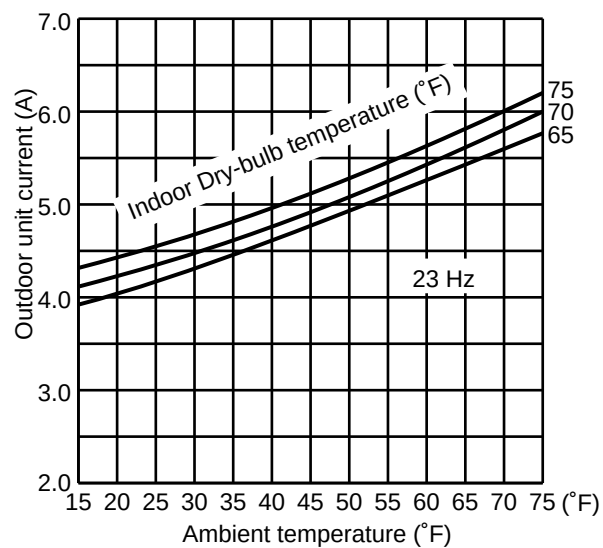
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 17 Hz (COOL) or 23 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of outdoor humidity 75%.
- ② Set air flow to High speed.
- ③ Inverter output frequency is 32 Hz.



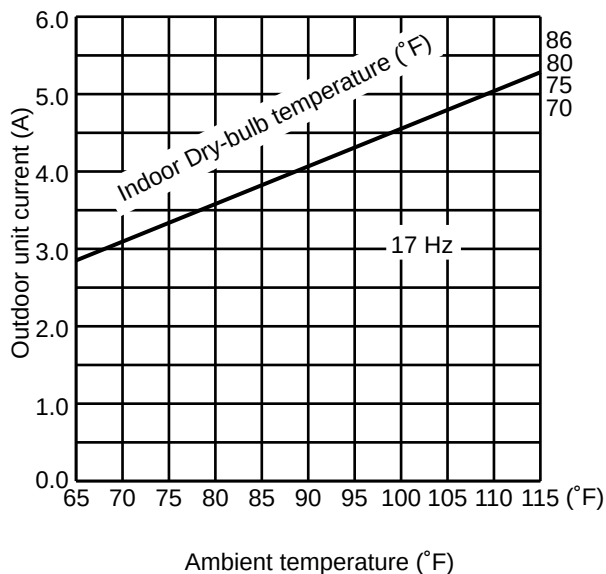
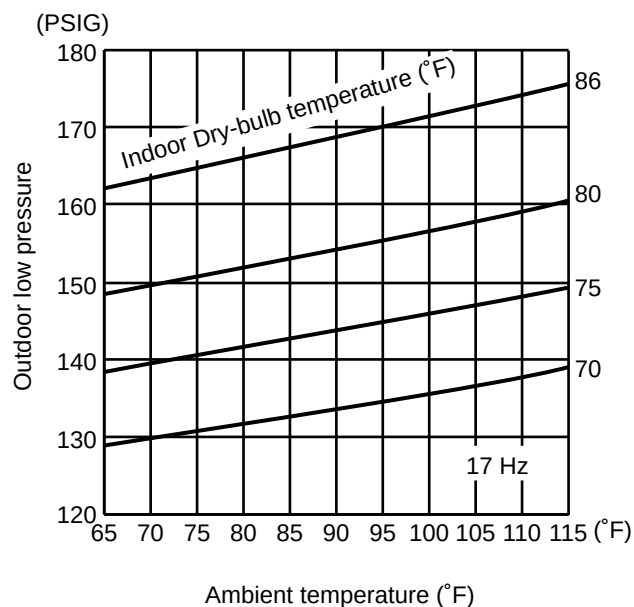
14. 15-class unit in single operation (OUTDOOR UNIT : MXZ-5B42NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed : High
- ③ Inverter output frequency : 24 Hz

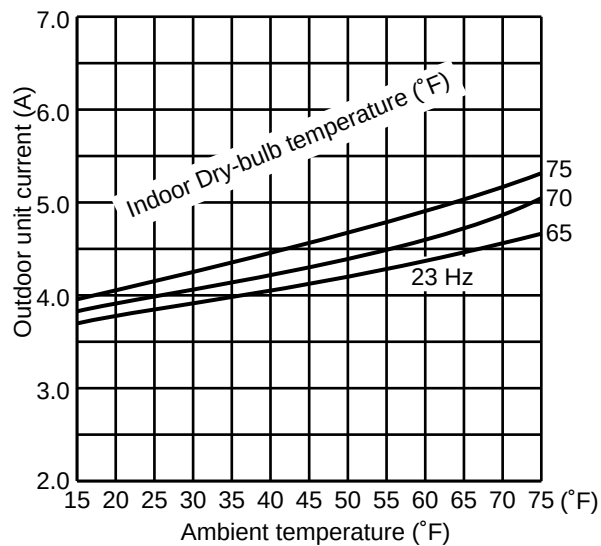
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 17 Hz (COOL) or 23 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of outdoor humidity 75%.
- ② Set air flow to High speed.
- ③ Inverter output frequency is 32 Hz.



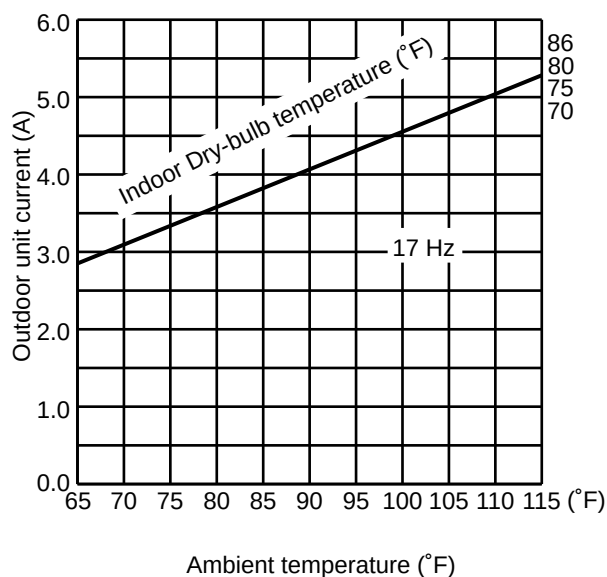
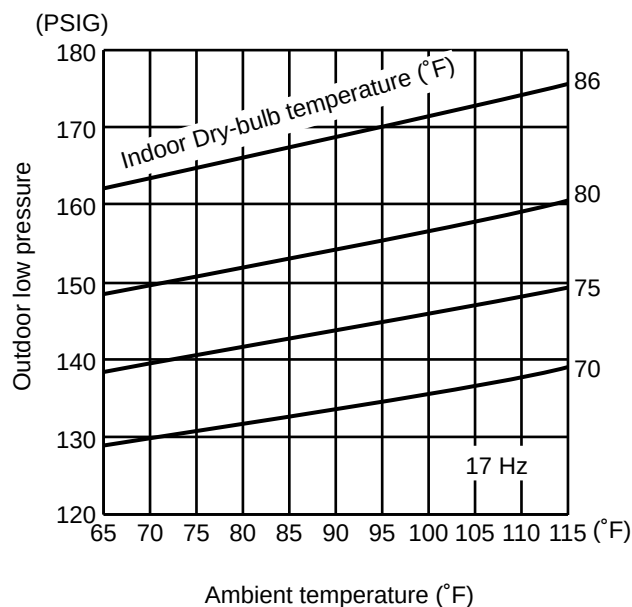
15. 18-class unit in single operation (OUTDOOR UNIT : MXZ-5B42NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed : High
- ③ Inverter output frequency : 24 Hz

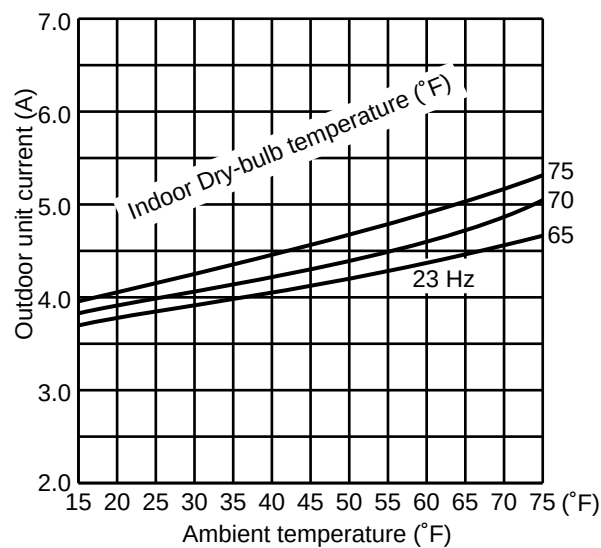
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 17 Hz (COOL) or 23 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of outdoor humidity 75%.
- ② Set air flow to High speed.
- ③ Inverter output frequency is 32 Hz.



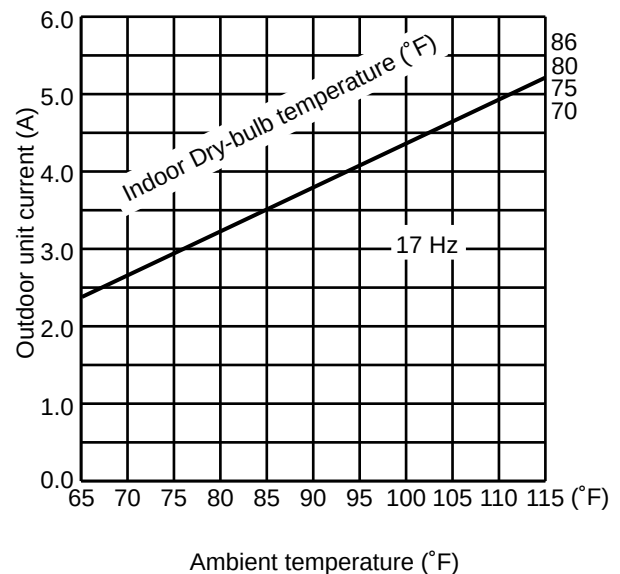
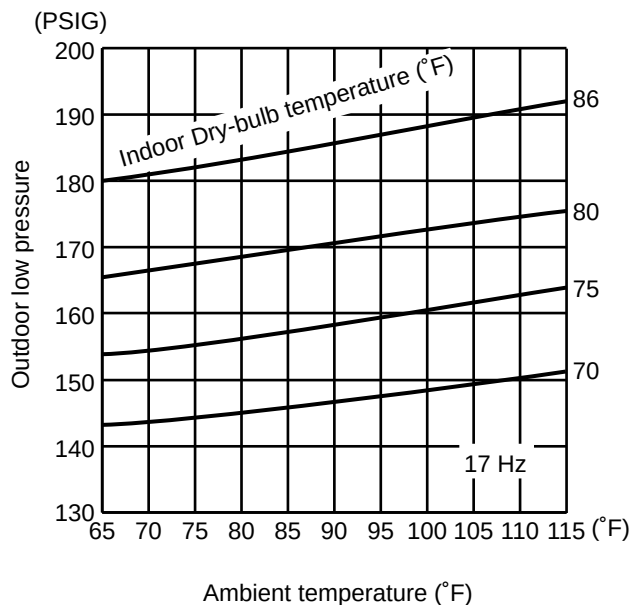
16. 24-class unit in single operation (OUTDOOR UNIT : MXZ-5B42NA)

(1) COOL operation

- ① Data is based on the condition of indoor humidity 50%
- ② Air flow speed : High
- ③ Inverter output frequency : 24 Hz

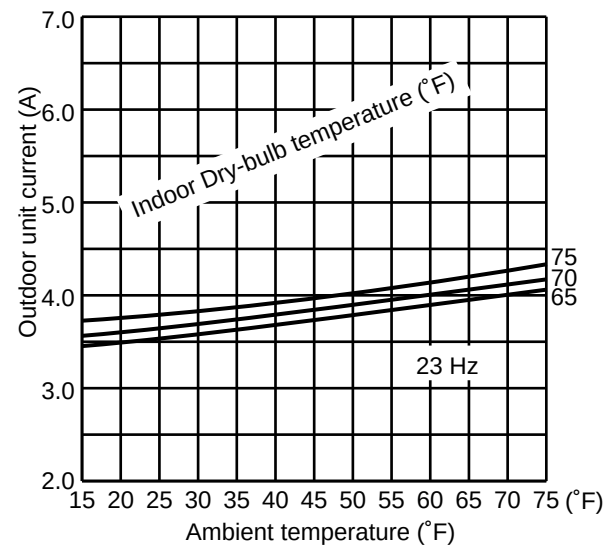
<How to work fixed-frequency operation>

1. Set emergency switch to COOL or HEAT. The switch is located on indoor unit.
2. Press emergency run ON/OFF button.
3. Compressor starts running at 17 Hz (COOL) or 23 Hz (HEAT).
4. Indoor fan runs at High speed and continues for 30 minutes.
5. To cancel this operation, press emergency run ON/OFF button or any button on remote controller.



(2) HEAT operation

- ① Data is based on the condition of outdoor humidity 75%.
- ② Set air flow to High speed.
- ③ Inverter output frequency is 32 Hz.



MXZ-2B20NA MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA MXZ-5B42NA

Relation between main sensor and actuator

Sensor	Purpose	Actuator				
		Compressor	LEV	Outdoor fan motor	4-way valve	Solenoid valve (MXZ-5B)
Discharge temperature thermistor	Protection	○	○			○
Indoor coil thermistor	Defrosting Protection	○	○	○		○
Defrost thermistor	Defrosting	○	○	○	○	
Fin temperature thermistor	Protection	○		○		
Ambient temperature thermistor	Control	○	○	○		○
Outdoor heat exchanger temperature	Protection	○	○	○		○
Capacity code	Control	○	○			

MXZ-2B20NA MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA MXZ-5B42NA

10-1. PRE-HEAT CONTROL

If moisture gets into the refrigerant cycle, or when refrigerant is liquefied and collected in the compressor, it may interfere the start-up of the compressor.

To improve start-up condition, the compressor is energized even while it is not operating.

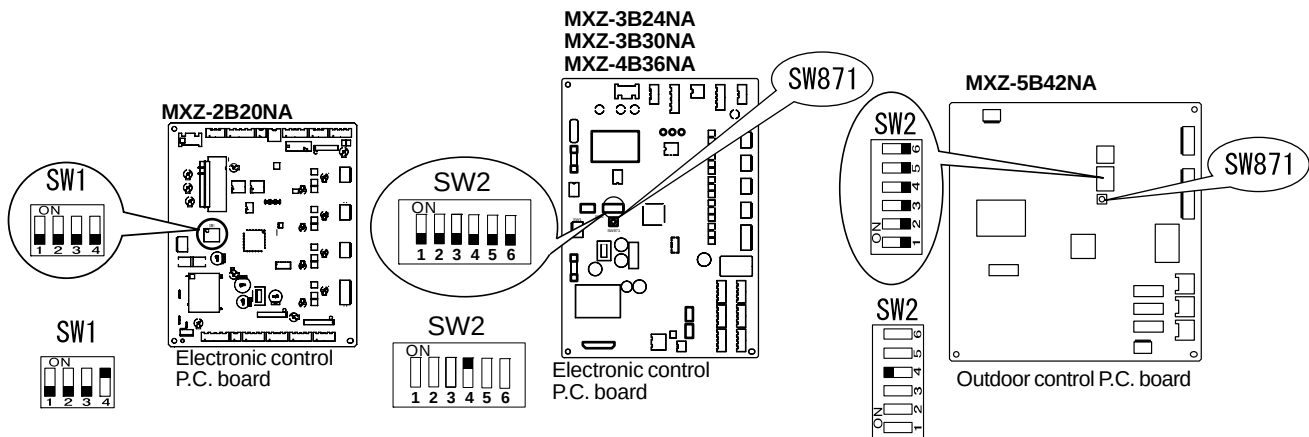
This is to generate heat at the winding.

The compressor uses about 50 W when pre-heat control is turned ON.

Pre-heat control is ON at initial setting.

[How to deactivate pre-heat control]

- ① Turn OFF the power supply for the air conditioner before making the setting.
- ② Set the "4" of SW1 on the electronic control P.C. board to ON to deactivate pre-heat control function (MXZ-2B20NA).
Set the "4" of SW2 on the electronic control P.C. board/outdoor control P.C. board to ON to deactivate pre-heat control function (MXZ-3B24NA, MXZ-3B30NA, MXZ-4B36NA, MXZ-5B42NA).



- ③ Turn ON the power supply for the air conditioner.

NOTE: Pre-heat control will be turned OFF when the breaker is turned OFF.

10-2. AUTO LINE CORRECTING <MXZ-3B24NA, MXZ-3B30NA, MXZ-4B36NA, MXZ-5B42NA>

Outdoor unit has an auto line correcting function which automatically detects and corrects improper wiring or piping.

Improper wiring or piping can be automatically detected by pressing the piping/wiring correction switch (SW871).
When improper wiring or piping is detected, wiring lines are corrected.
This will be completed in about 10 to 20 minutes.

[How to activate this function]

1. Check that outside temperature is above 32°F.
(This function does not work when outside temperature is not above 32°F.)
2. Check that the stop valves of the liquid pipe and gas pipe are open.
3. Check that the wiring between indoor and outdoor unit is correct.
(If the wiring is not correct, this function does not work.)
4. Turn ON the power supply and wait at least 1 minute.
5. Press the piping/wiring correction switch (SW871) on the electronic control P.C. board.
Do not touch energized parts.

LED indication during detection:

LED1 (Red)	LED2 (Yellow)	LED3 (Green)
Lighted	Lighted	Once

LED indication after detection:

LED1 (Red)	LED2 (Yellow)	LED3 (Green)	Indication
Lighted	Not lighted	Lighted	Completed (Problem corrected/ normal)
Once	Once	Once	Not completed (Detection failed)
Other indications			Refer to "SAFETY PRECAUTIONS WHEN LED FLASHES" located behind the service panel.

* Make sure that the valves are open and the pipes are not collapsed or clogged.

6. Press the switch to cancel.

LED indication after cancel :

LED1 (Red)	LED2 (Yellow)	LED3 (Green)
Lighted	Lighted	Not lighted

NOTE : Indoor unit cannot be operated while this function is activated.

When this function is activated while indoor unit is operating, the operation will be stopped.

Operate indoor unit after the auto line correcting is finished.

Pressing the switch during detection cancels this function.

The record of auto line correcting can be confirmed in the following way:

Press the switch for more than 5 seconds.

LED will show the record of auto correcting for about 30 seconds as shown in the table below:

Number of blinks			Wiring line
LED1 (Red)	LED2 (Yellow)	LED3 (Green)	
Once	Once	Lighted	Not corrected
3 times	3 times	Lighted	Corrected

NOTE : Activate this function to confirm the correct wiring after replacing the electronic control P.C. board.

(Previous records are deleted when the electronic control P.C. board is replaced.)

The record cannot be shown if auto line correcting is not canceled (Refer to "How to activate this function").

MXZ-2B20NA MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA MXZ-5B42NA

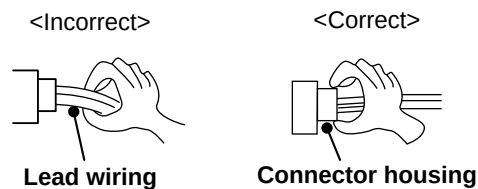
11-1. CAUTIONS ON TROUBLESHOOTING

1. Before troubleshooting, check the following:

- 1) Check the power supply voltage.
- 2) Check the indoor/outdoor connecting wire for miswiring.

2. Take care of the following during servicing.

- 1) Before servicing the air conditioner, be sure to turn off the unit first with the remote controller, and then after confirming the horizontal vane is closed, turn off the breaker and/or disconnect the power plug.
- 2) Be sure to turn OFF the power supply before removing the front panel, the cabinet, the top panel, and the electronic control P.C. board.
- 3) When removing the electrical parts, be careful of the residual voltage of smoothing capacitor.
- 4) When removing the electronic control P.C. board, hold the edge of the board with care NOT to apply stress on the components.
- 5) When connecting or disconnecting the connectors, hold the connector housing. DO NOT pull the lead wires.



3. Troubleshooting procedure

- 1) Check if the OPERATION INDICATOR lamp on the indoor unit is flashing on and off to indicate an abnormality. To make sure, check how many times the OPERATIONAL INDICATOR lamp is flashing on and off before starting service work.
- 2) When the electronic control P.C. board seems to be defective, check the copper foil pattern for disconnection and the components for bursting and discoloration.
- 3) When troubleshooting, refer to 11-2, 11-3 and 11-4.

11-2. FAILURE MODE RECALL FUNCTION

This air conditioner can memorize the abnormal condition which has occurred once.

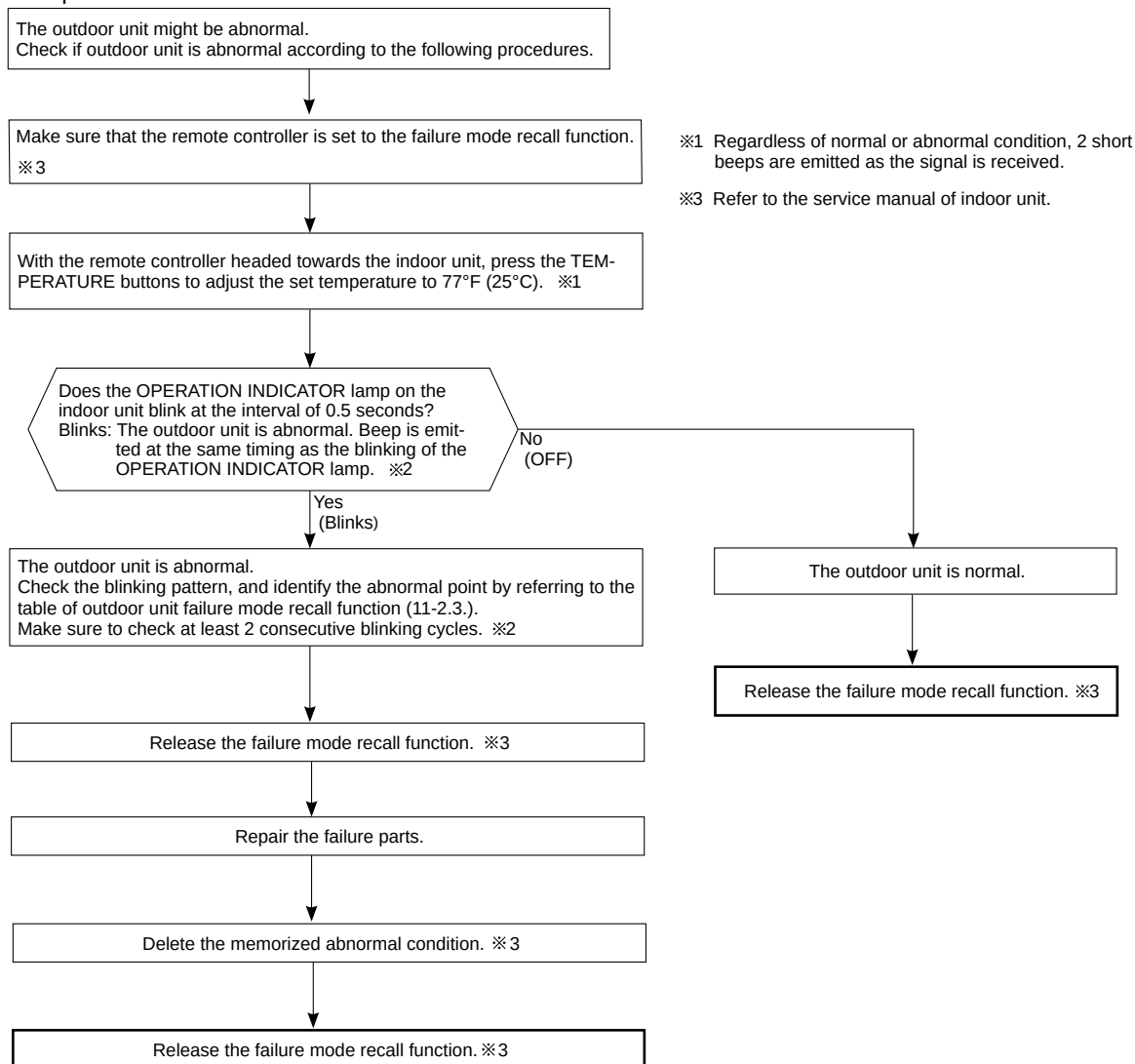
Even though LED indication listed on the troubleshooting check table (11-4) disappears, the memorized failure details can be recalled.

1. Flow chart of failure mode recall function for the indoor/outdoor unit

Refer to the service manual of indoor unit.

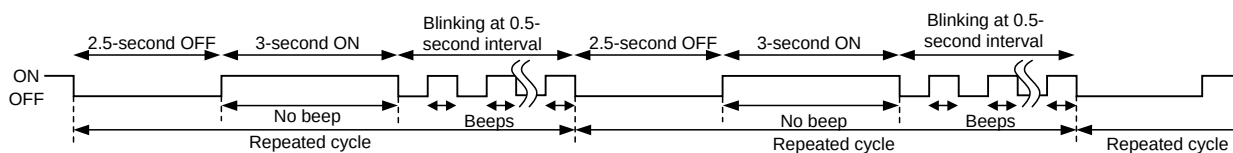
2. Flow chart of the detailed outdoor unit failure mode recall function

Operational procedure



NOTE: 1. Make sure to release the failure mode recall function after it is set up, otherwise the unit cannot operate properly.
2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

※2. Blinking pattern when outdoor unit is abnormal:



3. Table of outdoor unit failure mode recall function MXZ-2B/3B/4B

NOTE: Blinking patterns of this mode differ from the ones of Troubleshooting check table (11-4.).

The left lamp of OPERATION INDICATOR lamp (Indoor unit)	Abnormal point (Failure mode/protection)	LED indication (Outdoor P.C. board)		Condition	Remedy	Indoor/outdoor unit failure mode recall function
		LED 1	LED 2			
OFF	None (Normal)	Lighted	Lighted			
2-time flash	Outdoor power system	Lighted	Lighted	Overcurrent protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started, or converter protection cut-out or bus-bar voltage protection cut-out operates 3 consecutive times within 3 minutes after start-up.	- Check the connection of the compressor connecting wire. - Refer to 11-6. ⑤ "How to check inverter/compressor". - Check the stop valve.	○
3-time flash	Discharge temperature thermistor	Lighted	Once	A thermistor shorts or opens during compressor running.	Refer to 11-6. ⑥ "Check of outdoor thermistors".	○
	Defrost thermistor	Lighted	Once			
	Ambient temperature thermistor	Lighted	Twice			
	Fin temperature thermistor	Lighted	3 times			
	P.C. board temperature thermistor	Lighted	4 times			
	Outdoor heat exchanger temperature thermistor	Lighted	9 times		- Replace the outdoor electronic control P.C. board. - Refer to 11-6. ⑥ "Check of outdoor thermistors".	
4-time flash	Overcurrent	Once	Not lighted	28 A current flows into intelligent power module.	- Reconnect compressor connector. - Refer to 11-6. ⑤ "How to check inverter/compressor". - Check the stop valve.	—
5-time flash	Discharge temperature	Lighted	Lighted	The discharge temperature exceeds 240.8°F during operation. Compressor can restart if discharge temperature thermistor reads 212°F or less 3 minutes later.	- Check refrigerant circuit and refrigerant amount. - Refer to 11-6. ③ "Check of LEV".	—
6-time flash	High pressure	Lighted	Lighted	The outdoor heat exchanger temperature exceeds 158°F during cooling or the indoor gas pipe temperature exceeds 158°F during heating.	- Check refrigerant circuit and refrigerant amount. - Check the stop valve.	—
7-time flash	Fin temperature	3 times	Not lighted	The fin temperature exceeds 188.6°F during operation.	- Check around outdoor unit. - Check outdoor unit air passage. - Refer to 11-6. ③ "Check of outdoor fan motor".	—
	P.C. board temperature	4 times	Not lighted	The P.C. board temperature exceeds 158°F during operation.		
8-time flash	Outdoor fan motor	Lighted	Lighted	A failure occurs 3 consecutive times within 30 seconds after the fan gets started.	Refer to 11-6. ③ "Check of outdoor fan motor".	—
9-time flash	Nonvolatile memory data	Lighted	5 times	Nonvolatile memory data cannot be read properly.	Replace the outdoor electronic control P.C. board.	○
10-time flash	Discharge temperature	Lighted	Lighted	The frequency of the compressor is kept 80Hz or more and the discharge temperature is kept under 102.2°F for more than 20 minutes.	- Check refrigerant circuit and refrigerant amount. - Refer to 11-6. ③ "Check of LEV".	—
11-time flash	Communication error between P.C. boards	Lighted	6 times	Communication error occurs between the electronic control P.C. board and power board for more than 10 seconds.	Check the connecting wire between outdoor electronic control P.C. board and power board.	—
				The communication between boards protection cut-out operates 2 consecutive times.		○
	Current sensor	Lighted	7 times	A short or open circuit is detected in the current sensor during compressor operating.		—
				Current sensor protection cut-out operates 2 consecutive times.		○
	Zero cross detecting circuit	5 times	Not lighted	Zero cross signal cannot be detected while the compressor is operating.	Check the connecting wire among electronic control P.C. board, noise filter P.C. board and power board.	—
				The protection cut-out of the zero cross detecting circuit operates 10 consecutive times.		○
	Converter	5 times	Not lighted	A failure is detected in the operation of the converter during operation.	- Check the voltage of power supply. - Replace the power board.	—
	Bus-bar voltage (1)	5 times	Not lighted	The bus-bar voltage exceeds 400V or falls to 200V or below during compressor operating.		
	Bus-bar voltage (2)	6 times	Not lighted	The bus-bar voltage exceeds 400V or falls to 50V or below during compressor operating.	- Check the voltage of power supply. - Replace the outdoor electronic control P.C. board.	—
	※Even if this protection stop is performed continuously three times, it does not mean the abnormality in outdoor power system.					
15-time flash	LEV and drain pump	Lighted	Lighted	The indoor unit detects an abnormality in the LEV and drain pump.	Refer to 11-6. ③ "Check of LEV". • Check the drain pump of the indoor unit.	—



NOTE: Blinking patterns of this mode differ from the ones of Troubleshooting check table (11-4.).

MXZ-5B

The left lamp of OPERATION INDICATOR lamp (Indoor unit)	Abnormal point (Failure mode/protection)	LED indication (Outdoor P.C. board)		Condition	Remedy	Indoor/outdoor unit failure mode recall function
		LED 1	LED 2			
OFF	None (Normal)	Lighted	Lighted			
2-time flash	Outdoor power system	Lighted	Lighted	Overcurrent protection cut-out operates 3 consecutive times, bus-bar voltage protection cut-out operates 3 consecutive times, or primary current protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started.	• Check the connection of the compressor connecting wire. • Refer to 11-6. ⑥ How to check inverter/compressor. • Check the stop valve.	○
3-time flash	Discharge temperature thermistor	Lighted	Once	Thermistor shorts or opens during compressor running.	• Refer to 11-6. ⑥ "Check of outdoor thermistors".	○
	Defrost thermistor	Lighted	Once			
	Ambient temperature thermistor	Lighted	Twice			
	Fin temperature thermistor	Lighted	3 times		• Replace the outdoor power P.C. board .	
	P.C. board temperature thermistor	Lighted	4 times		• Replace the outdoor power P.C. board .	
	Outdoor heat exchanger temperature thermistor	Lighted	9 times		• Refer to 11-6. ⑥ "Check of outdoor thermistors".	
4-time flash	Overcurrent	Once	Not lighted	40 A current flows into intelligent power module.	• Reconnect compressor connector. • Refer to 11-6. ⑥ "How to check inverter/compressor". • Check the stop valve.	—
	Out-of-step protection	9 times	Not lighted	Waveform of compressor current is distorted.	• Refer to 11-6. ⑥ " How to check inverter/compressor.	
5-time flash	Discharge temperature	Lighted	Lighted	Discharge temperature exceeds 237.2°F during operation. Compressor can restart if discharge temperature thermistor reads 212°F or less 3 minutes later.	• Check refrigerant circuit and refrigerant amount. • Refer to 11-6. ⑩ "Check of LEV".	—
6-time flash	High pressure	Lighted	Lighted	High-pressure is detected with the high-pressure switch (HPS) during operation.	• Check refrigerant circuit and refrigerant amount. • Check the stop valve.	—
				The outdoor heat exchanger temperature exceeds 158°F during cooling or the indoor gas pipe temperature exceeds 158°F during heating.		
7-time flash	Fin temperature	3 times	Not lighted	The fin temperature exceeds: 230°F during operation.	• Check around outdoor unit. • Check outdoor unit air passage. • Refer to 11-6. ⑩ "Check of outdoor fan motor".	—
	P.C. board temperature	4 times	Not lighted	The P.C. board temperature exceeds 203°F during operation.		
8-time flash	Outdoor fan motor	Lighted	Lighted	The fan motor speed is 50 rpm or less or 1500 rpm or more for 1 minute, or the fan motor speed is 100 rpm or less for 15 seconds when the outside temperature is 68°F or more.	• Refer to 11-6. ⑩ "Check of outdoor fan motor".	—
9-time flash	Nonvolatile memory data	Lighted	5 times	Nonvolatile memory data cannot be read properly.	• Replace the outdoor control P.C. board. • Replace the outdoor power P.C. board.	○
10-time flash	Discharge temperature	Lighted	Lighted	The frequency of the compressor is kept 58Hz or more and the discharge temperature is kept under 122°F (cooling)/104°F (heating) for more than 40 minutes.	• Check refrigerant circuit and refrigerant amount. • Refer to 11-6. ⑩ "Check of LEV".	—



NOTE: Blinking patterns of this mode differ from the ones of Troubleshooting check table (11-4.).

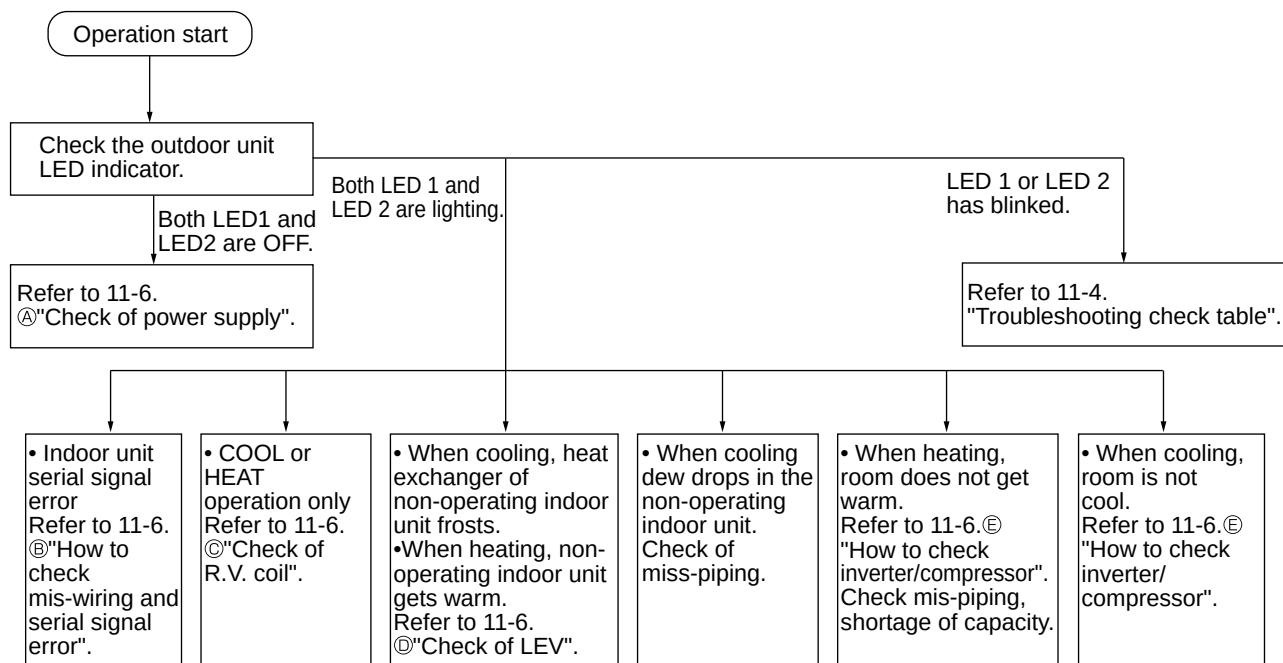
MXZ-5B

Upper or left lamp of OPERATION INDICATOR lamp (Indoor unit)	Abnormal point (Failure mode/protection)	LED indication (Outdoor P.C. board)		Condition	Remedy	Indoor/outdoor unit failure mode recall function
11-time flash	Communication error between P.C. boards	Lighted	6 times	Communication error occurs between the outdoor control P.C. board and outdoor power P.C. board for more than 10 seconds.	• Check the connecting wire between the outdoor control P.C. board and outdoor power P.C. board .	—
				The communication between boards protection cut-out operates 2 consecutive times.		○
	Current sensor	Lighted	7 times	After the operation starts, a short or open circuit is detected in the current sensor when the compressor is not operating.	• Replace the outdoor power P.C. board.	—
				Current sensor has been short or open circuited for 120 seconds.		○
	Zero cross detecting circuit	5 times	Not lighted	Zero cross signal cannot be detected while the compressor is operating.	• Check the connecting wire between outdoor control P.C. board and outdoor power P.C. board.	—
				The protection cut-out of the zero cross detecting circuit operates 3 consecutive times.		○
	Bus-bar voltage	6 times	Not lighted	The bus-bar voltage exceeds 400 V or falls to 300 V or below during compressor operating.	• Check the voltage of power supply. • Replace the outdoor power P.C. board .	—
12-time flash	Compressor (open phase)	10 times	Not lighted	Waveform of compressor current is distorted.	• Check the connection of the compressor connecting wire. • Refer to 11-6. ㊦ " How to check inverter/compressor.	—
14-time flash	Power module	7 times	Not lighted	The overcurrent is detected when the frequency of the compressor is 1 Hz or less.	• Refer to 11-6. ㊦ " How to check inverter/compressor.	—
15-time flash	LEV and drain pump	Lighted	Lighted	The indoor unit detects an abnormality in the LEV and drain pump.	• Refer to 11-6. ㊧ "Check of LEV". • Check the drain pump of the indoor unit.	—

11-3. INSTRUCTION OF TROUBLESHOOTING

- Check the indoor unit with referring to the indoor unit service manual, and confirm that there is any problem in the indoor unit.

Then, check the outdoor unit with referring to this page.



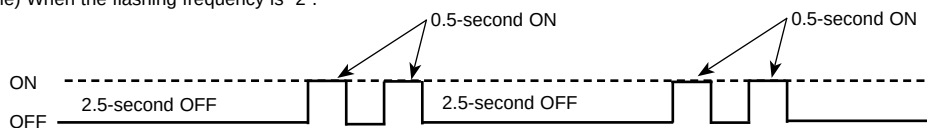
11-4. TROUBLESHOOTING CHECK TABLE

MXZ-2B/3B/4B

No.	Symptom	Indication		Abnormal point / Condition	Condition	Remedy
		LED1(Red)	LED2(Yellow)			
1	Outdoor unit does not operate.	Lighted	Once	LEV and drain pump	The indoor unit detects an abnormality in the LEV and drain pump.	- Refer to 11-6.⑥ "Check of LEV". - Check the drain pump of the indoor unit.
2		Lighted	Twice	Outdoor power system	Overcurrent protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started, or converter protection cut-out or bus-bar voltage protection cut-out operates 3 consecutive times within 3 minutes after start-up.	- Check the connection of the compressor connecting wire. - Refer to 11-6.⑥ "How to check inverter/compressor". - Check the stop valve.
3		Lighted	3 times	Discharge temperature thermistor	A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 10 minutes of compressor start-up.	Refer to 11-6.⑥ "Check of outdoor thermistors".
4		Lighted	4 times	Fin temperature thermistor P.C board temperature thermistor	A short or open circuit is detected in the thermistor during operation.	- Refer to 11-6.⑥ "Check of outdoor thermistors". - Replace the outdoor electronic control P.C. board.
5		Lighted	5 times	Ambient temperature thermistor Outdoor heat exchanger temperature thermistor Defrost thermistor	A short or open circuit is detected in the thermistor during operation. A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 5 minutes (in cooling) and 10 minutes (in heating) of compressor start-up. A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor after 5 minutes of compressor start-up.	Refer to 11-6.⑥ "Check of outdoor thermistors".
6		Lighted	7 times	Nonvolatile memory data	The nonvolatile memory data cannot be read properly.	Replace the outdoor electronic control P.C. board.
7		Lighted	8 times	Current sensor	Current sensor protection cut-out operates 2 consecutive times.	Replace the power board.
8		Lighted	11 times	Communication error between P.C. boards	The communication protection cut-out between boards operates 2 consecutive times.	Check the connecting wire between outdoor electronic control P.C. board and power board.
9		Lighted	12 times	Zero cross detecting circuit	The protection cut-out of the zero cross detecting circuit operates 10 consecutive times.	Check the connecting wire among outdoor electronic control P.C. board, noise filter P.C. board and power board.
10	'Outdoor unit stops and restarts 3 minutes later' is repeated.	Twice	Not lighted	IPM protection Lock protection	Overcurrent is detected after 30 seconds of compressor start-up. Overcurrent is detected within 30 seconds of compressor start-up.	- Reconnect compressor connector. - Refer to 11-6.⑥ "How to check inverter/compressor". - Check the stop valve. - Check the power module (PAM module).
11		3 times	Not lighted	Discharge temperature protection	The discharge temperature exceeds 240.8°F during operation. Compressor can restart if discharge temperature thermistor reads 212°F or less 3 minutes later.	- Check the amount of gas and refrigerant circuit. - Refer to 11-6.⑥ "Check of LEV".
12		4 times	Not lighted	Fin temperature protection P.C. board temperature protection	The fin temperature exceeds 188.6°F during operation. The P.C. board temperature exceeds 158°F during operation.	- Check refrigerant circuit and refrigerant amount. - Refer to 11-6.⑥ "Check of outdoor fan motor".
13		5 times	Not lighted	High-pressure protection	High-pressure is detected with the high-pressure switch (HPS) during operation. (MXZ-3B24NA, MXZ-3B30NA, MXZ-4B36NA) The outdoor heat exchanger temperature exceeds 158°F during cooling or the indoor gas pipe temperature exceeds 158°F during heating.	- Check around of gas and the refrigerant circuit. - Check of stop valve.
14		8 times	Not lighted	Converter protection	A failure is detected in the operation of the converter during operation.	Replace the power board.
15		9 times	Not lighted	Bus-bar voltage protection (1) Bus-bar voltage protection (2)	The bus-bar voltage exceeds 400V or falls to 200V or below during compressor operating. The bus-bar voltage exceeds 400V or falls to 50V or below during compressor operating.	- Check the voltage of power supply. - Replace the power board or the outdoor electronic control P.C. board. - Refer to 11-6.⑥ "Check of bus-bar voltage".
16		11 times	Not lighted	Low outside temperature protection (cooling) Low outside temperature protection (Heating)	The ambient temperature became 10.4°F or less. The ambient temperature became 1.4°F or less. (MXZ-2B20NA-②, MXZ-3B24NA-①, MXZ-3B30NA-①, MXZ-4B36NA-①)	—
17		13 times	Not lighted	Outdoor fan motor	A failure occurs 3 consecutive times within 30 seconds after the fan gets started.	Refer to 11-6.⑥ "Check of outdoor fan motor".
18		Lighted	8 times	Current sensor protection	A short or open circuit is detected in the current sensor during compressor operating.	Replace the power board.
19		Lighted	11 times	Communication between P.C. boards protection	Communication error occurs between the outdoor electronic control P.C. board and power board for more than 10 seconds.	Check the connecting wire between outdoor electronic control P.C. board and power board.
20		Lighted	12 times	Zero cross detecting circuit protection	Zero cross signal cannot be detected while the compressor is operating.	Check the connecting wire among outdoor electronic control P.C. board, noise filter P.C. board and power board.

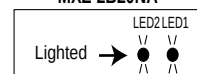
NOTE 1. The location of LED is illustrated at the right figure. Refer to 11-7.1.
2. LED is lighted during normal operation.

The flashing frequency shows the number of times the LED blinks after every 2.5-second OFF.
(Example) When the flashing frequency is "2".

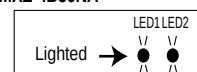


Outdoor electronic control P.C. board (Parts side)

MXZ-2B20NA



MXZ-3B24NA, MXZ-3B30NA
MXZ-4B36NA



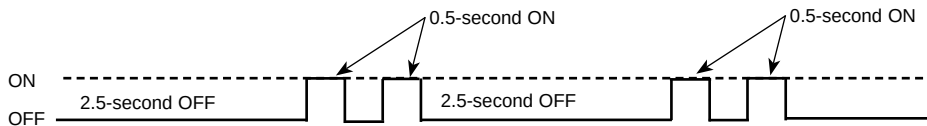


No.	Symptom	Indication		Abnormal point / Condition	Condition	Remedy
		LED1(Red)	LED2(Yellow)			
21	Outdoor unit operates.	Once	Lighted	Primary current protection	The input current exceeds 15A.	These symptoms do not mean any abnormality of the product, but check the following points. • Check if indoor filters are clogged. • Check if refrigerant is short. • Check if indoor/outdoor unit air circulation is short cycled.
				Secondary current protection	The current of the compressor exceeds 15A.	
22		Twice	Lighted	High-pressure protection	The indoor gas pipe temperature exceeds 113°F during heating.	
				Defrosting in cooling	The indoor gas pipe temperature falls 37.4°F or below during cooling.	• Check refrigerant circuit and refrigerant amount. • Refer to 11-6.④ "Check of LEV". • Refer to 11-6.⑤ "Check of outdoor thermistors".
23		3 times	Lighted	Discharge temperature protection	The frequency of the compressor is kept 80Hz or more and the discharge temperature is kept under 122°F(COOL mode) /104°F(HEAT mode) for more than 40 minutes.	
24		4 times	Lighted	Low discharge temperature protection	The frequency of the compressor is kept 80Hz or more and the discharge temperature is kept under 102.2°F for more than 20 minutes.	• Refer to 11-6.④ "Check of LEV". • Check refrigerant circuit and refrigerant amount.
25		5 times	Lighted	Cooling high-pressure protection	The outdoor heat exchanger temperature exceeds 136.4°F during operation.	
						This symptom does not mean any abnormality of the product, but check the following points. • Check if indoor filters are clogged. • Check if refrigerant is short. • Check if indoor/outdoor unit air circulation is short cycled.
26	Outdoor unit operates normally.	9 times	Lighted	Inverter check mode	The unit is operated with emergency operation switch.	—
27		Lighted	Lighted	Normal	—	—

NOTE 1. The location of LED is illustrated at the right figure. Refer to 11-7.1.

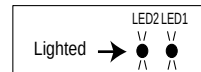
2. LED is lighted during normal operation.

The flashing frequency shows the number of times the LED blinks after every 2.5-second OFF.
(Example) When the flashing frequency is "2".

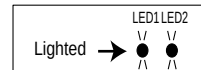


Outdoor electronic control P.C. board(Parts side)

MXZ-2B20NA



MXZ-3B24NA, MXZ-3B30NA
MXZ-4B36NA



MXZ-5B

No.	Symptom	Indication		Abnormal point / Condition	Condition	Remedy
		LED1(Red)	LED2(Yellow)			
1	Outdoor unit does not operate.	Lighted	Once	LEV and drain pump	The indoor unit detects an abnormality in the LEV and drain pump.	- Refer to 11-6. ④ "Check of LEV". - Check the drain pump of the indoor unit.
2		Lighted	Twice	Outdoor power system	Overcurrent protection cut-out operates 3 consecutive times, bus-bar voltage protection cut-out operates 3 consecutive times, or primary current protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started.	- Check the connection of the compressor connecting wire. - Refer to 11-6. ⑤ "How to check inverter/compressor". - Check the stop valve.
3		Lighted	3 times	Discharge temperature thermistor	A short circuit is detected in the thermistor during operation, or an open circuit is detected in the thermistor 10 minutes after compressor start-up.	Refer to 11-6. ⑥ "Check of outdoor thermistors".
4		Lighted	4 times	Fin temperature thermistor	A short or open circuit is detected in the thermistor during operation.	Replace the outdoor power P.C. board .
				P.C board temperature thermistor		Replace the outdoor power P.C. board .
5		Lighted	5 times	Ambient temperature thermistor	A short or open circuit is detected in the thermistor during operation.	Refer to 11-6. ⑥ "Check of outdoor thermistors".
				Outdoor heat exchanger temperature thermistor		
				Defrost thermistor		
6		Lighted	7 times	Nonvolatile memory data (Outdoor control P.C. board)	The nonvolatile memory data cannot be read properly.	Replace the outdoor control P.C. board.
7		Lighted	8 times	Current sensor	Current sensor has been short or open circuited for 120 seconds.	Replace the outdoor power P.C. board.
8	'Outdoor unit stops and restarts 3 minutes later' is repeated.	Lighted	11 times	Communication error between P.C. boards	Communication error occurs twice between the outdoor control P.C. board and outdoor power P.C. board for more than 10 seconds.	Check the connecting wire between outdoor control P.C. board and outdoor power P.C. board.
9		Lighted	12 times	Zero cross detecting circuit	The protection cut-out of the zero cross detecting circuit operates 3 consecutive times.	Check the connecting wire between outdoor control P.C. board and outdoor power P.C. board.
		Lighted	14 times	Nonvolatile memory data (outdoor power P.C. board)	The nonvolatile memory data cannot be read properly.	Replace the outdoor power P.C. board.
10		Twice	Not lighted	IPM protection	Overcurrent is detected when the frequency of the compressor is 1 Hz or less.	- Reconnect compressor connector. - Refer to 11-6. ⑥ "How to check inverter/compressor". - Check the stop valve. - Check the power module (PAM module).
				Overcurrent	Overcurrent is detected when the frequency of the compressor is more than 1 Hz.	
11		3 times	Not lighted	Discharge temperature protection	Discharge temperature exceeds 237.2°F during operation. Compressor can restart if discharge temperature thermistor reads 212°F or less 3 minutes later.	- Check the amount of gas and refrigerant circuit. - Refer to 11-6. ④ "Check of LEV".
12		4 times	Not lighted	Fin temperature protection	The fin temperature exceeds 230°F during operation.	Check refrigerant circuit and refrigerant amount.
				P.C. board temperature protection	The P.C. board temperature exceeds 203°F during operation.	
13		5 times	Not lighted	High-pressure protection	High-pressure is detected with the high-pressure switch (HPS) during operation. The outdoor heat exchanger temperature exceeds 158°F during cooling or indoor gas pipe temperature exceeds 158°F during heating.	- Check the amount of gas and the refrigerant circuit. - Check the stop valve.
		7 times	Not lighted	Out-of-step protection	The waveform of compressor current is distorted.	- Reconnect connector of compressor. - Refer to 11-6. ⑥ "How to check inverter/compressor".
15		9 times	Not lighted	Bus-bar voltage protection	The bus-bar voltage exceeds 400 V or falls to 300 V or below while the compressor is operating.	- Check the voltage of power supply. - Replace the outdoor power P.C. board or the outdoor control P.C. board. - Refer to 11-6. ④ "Check of bus-bar voltage".
		10 times	Not lighted	Zero cross loss	Zero cross signal cannot be detected while the compressor is operating.	
		11 times	Not lighted	Low outside temperature protection (cooling)	The ambient temperature became 10.4°F or less.	
		12 times	Not lighted	Primary current protection	The primary current exceeds 37 A for 10 seconds.	
16		13 times	Not lighted	Outdoor fan motor	The fan motor speed is 50 rpm or less or 1500 rpm or more for 1 minute, or the fan motor speed is 100 rpm or less for 15 seconds when the outside temperature is 68°F or more.	Refer to 11-6. ④ "Check of outdoor fan motor".



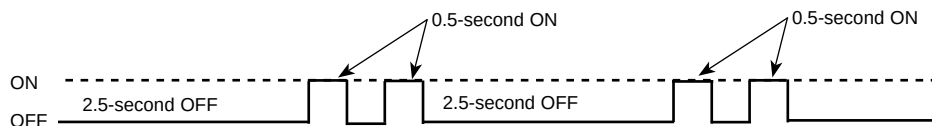
No.	Symptom	Indication		Abnormal point / Condition	Condition	Remedy
		LED1(Red)	LED2(Yellow)			
17	'Outdoor unit stops and restarts 3 minutes later' is repeated.	Lighted	8 times	Current sensor protection	After the operation starts, a short or open circuit is detected in the current sensor when the compressor is not operating.	• Replace the outdoor power P.C. board .
18		Lighted	11 times	Communication protection between P.C. boards	Communication error occurs between the outdoor control P.C. board and outdoor power P.C. board for more than 10 seconds.	• Check the connecting wire between outdoor control P.C. board and outdoor power P.C. board.
19		Lighted	12 times	Zero cross detecting circuit protection	Zero cross signal cannot be detected when the compressor begins operating.	• Check the connecting wire between outdoor control P.C. board and outdoor power P.C. board.
20	Outdoor unit operates	Once	Lighted	Primary current protection	The primary current exceeds 27A.	These symptoms do not mean any abnormality of the product, but check the following points. • Check indoor filters are not clogged. • Check there is sufficient refrigerant. • Check indoor/outdoor unit air circulation is not short cycling.
21		Twice	Lighted	High-pressure protection	The indoor heat exchanger exceeds 100.4°F during heating.	
				Defrosting in cooling	The indoor heat exchanger falls 37.4°F or below during cooling.	
22		3 times	Lighted	Discharge temperature protection	The discharge temperature exceeds 212°F during operation.	• Check refrigerant circuit and refrigerant amount. • Refer to 11-6. Ⓔ "Check of LEV".
23		4 times	Lighted	Low discharge temperature protection	The frequency of the compressor is kept 58 Hz or more and the discharge temperature is kept under 122°F (cooling) /104°F (heating) for more than 20 minutes	• Refer to 11-6. Ⓔ "Check of LEV". • Check refrigerant circuit and refrigerant amount.
24		5 times	Lighted	Cooling high-pressure protection	The outdoor heat exchanger temperature exceeds 129.2°F during operation.	This symptom does not mean any abnormality of the product, but check the following points. • Check indoor filters are not clogged. • Check there is sufficient refrigerant. • Check indoor/outdoor unit air circulation is short cycling.
		7 times	Lighted	High → Low Pressure bypass valve Cooling evaporating temperature drop prevention control	During cooling operation, the temperature of indoor heat exchanger becomes 37.4°F or less within 1 hour after the compressor starts running, or it becomes less than 53.6°F - 60.8°F* later than that. * It depends on the difference between the set temperature and the room temperature.	This symptom does not mean any abnormality of the product, but check the following points. • Check indoor filters are not clogged. • Check there is sufficient refrigerant. • Check indoor/outdoor unit air circulation is not short cycling.
25	Outdoor unit operates normally.	7 times	Lighted	High → Low pressure bypass valve High pressure protection control at start-up of heating operation	The room temperature is 75.2°F or more when 1 or 2 unit(s) start(s) the heating operation.	This symptom does not mean any abnormality of the product.
				High → Low pressure bypass valve Compressor oil tempering control at start-up of heating operation	Both the following are true: • The outside temperature is 28.4°F or less when the heating operation is started. • [(Discharge temperature) - (Indoor heat exchanger temperature)] < 41°F	
		8 times	Lighted	Cooling evaporating temperature protection	During cooling operation, the temperature of indoor heat exchanger becomes 44.6°F - 51.8°F* or less within 1 hour after the compressor starts running, or it becomes 48.2°F - 62.6°F* or less later than that. * It depends on the indoor unit type/model or the difference between the set temperature and the room temperature.	
		9 times	Lighted	Inverter check mode	The connector of compressor is disconnected. Inverter check mode starts.	
26		Lighted	Lighted	Normal		

NOTE 1. The location of LED is illustrated at the right figure. Refer to 11-7.2.

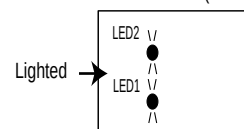
2. LED is lighted during normal operation.

The flashing frequency shows the number of times the LED blinks after every 2.5-second OFF.

(Example) When the flashing frequency is "2".

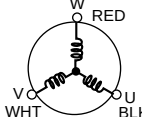
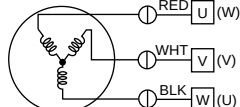
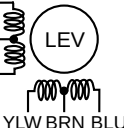
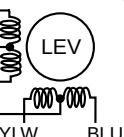


Outdoor control P.C. board (Parts side)



11-5. TROUBLE CRITERION OF MAIN PARTS

MXZ-2B20NA MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA MXZ-5B42NA

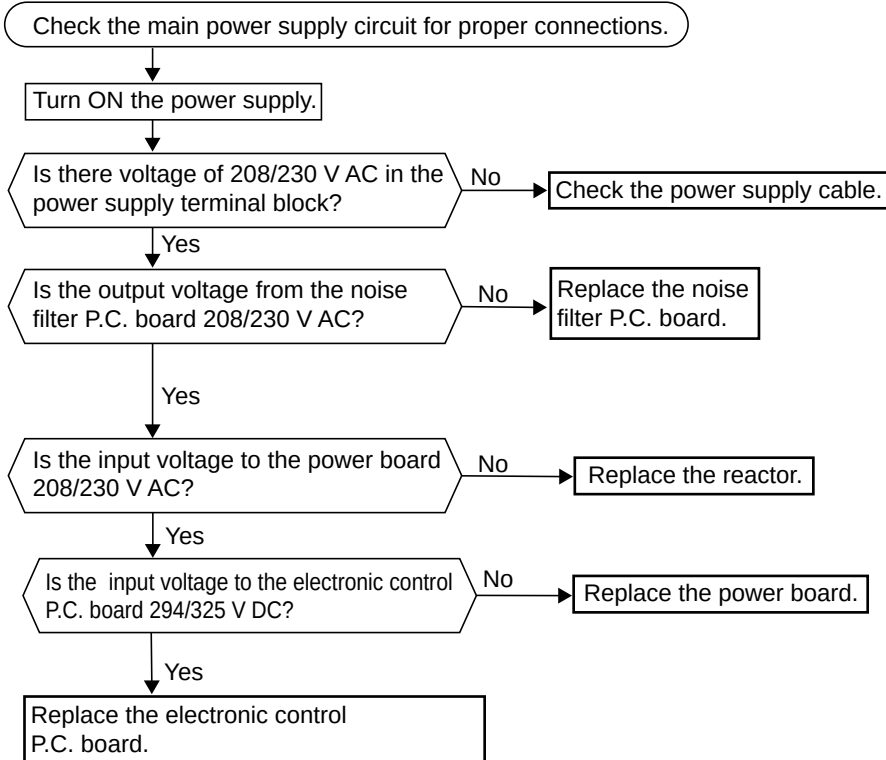
Part name	Check method and criterion																					
Defrost thermistor (RT61) Fin temperature thermistor (RT64) MXZ-2B/3B/4B Ambient temperature thermistor (RT65) Outdoor heat exchanger temperature thermistor (RT68)	Measure the resistance with a tester. Refer to 11-7. "Test point diagram and voltage",1. "Electronic control P.C. board", 2."Outdoor control P.C.board", 4. "Power board", or 5."Outdoor power P.C. board", for the chart of thermistor.																					
Discharge temperature thermistor (RT62)	Measure the resistance with a tester. Before measurement, hold the thermistor with your hands to warm it up. Refer to 11-7. "Test point diagram and voltage",1. "Electronic control P.C. board", or 2."Outdoor control P.C. board", for the chart of thermistor.																					
Compressor 	Measure the resistance between terminals using a tester. (Winding temperature: 14°F ~ 104°F) <table><tr><th colspan="5">Normal (Each phase)</th></tr><tr><th>MXZ-2B20NA</th><th>MXZ-3B24NA</th><th>MXZ-3B30NA</th><th>MXZ-4B36NA</th><th>MXZ-5B42NA</th></tr><tr><td>0.86 Ω ~ 1.06 Ω</td><td colspan="3">1.29 Ω ~ 1.49 Ω</td><td>0.47Ω ~ 0.57 Ω</td></tr></table>	Normal (Each phase)					MXZ-2B20NA	MXZ-3B24NA	MXZ-3B30NA	MXZ-4B36NA	MXZ-5B42NA	0.86 Ω ~ 1.06 Ω	1.29 Ω ~ 1.49 Ω			0.47Ω ~ 0.57 Ω						
Normal (Each phase)																						
MXZ-2B20NA	MXZ-3B24NA	MXZ-3B30NA	MXZ-4B36NA	MXZ-5B42NA																		
0.86 Ω ~ 1.06 Ω	1.29 Ω ~ 1.49 Ω			0.47Ω ~ 0.57 Ω																		
Outdoor fan motor MXZ-2B/3B/4B 	Measure the resistance between lead wires using a tester. (Part temperature: 14°F ~ 104°F) <table><tr><th colspan="6">Normal (Each phase)</th></tr><tr><th>MXZ-2B20NA</th><td>MXZ-2B20NA - ①</td><td>MXZ-2B20NA - ②</td><td>MXZ-3B24NA</td><td>MXZ-3B30NA</td><td>MXZ-4B36NA</td></tr><tr><td>13.4 Ω ~ 16.4 Ω</td><td colspan="5">13 Ω ~ 16 Ω</td></tr></table>	Normal (Each phase)						MXZ-2B20NA	MXZ-2B20NA - ①	MXZ-2B20NA - ②	MXZ-3B24NA	MXZ-3B30NA	MXZ-4B36NA	13.4 Ω ~ 16.4 Ω	13 Ω ~ 16 Ω							
Normal (Each phase)																						
MXZ-2B20NA	MXZ-2B20NA - ①	MXZ-2B20NA - ②	MXZ-3B24NA	MXZ-3B30NA	MXZ-4B36NA																	
13.4 Ω ~ 16.4 Ω	13 Ω ~ 16 Ω																					
Outdoor fan motor MXZ-5B	• Refer to 11-6. ⑥.																					
R.V. coil	Measure the resistance using a tester. (Part temperature: 14°F ~ 104°F) <table><tr><th colspan="5">Normal</th></tr><tr><th>MXZ-2B20NA</th><th>MXZ-3B24NA</th><th>MXZ-3B30NA</th><th>MXZ-4B36NA</th><th>MXZ-5B42NA</th></tr><tr><td colspan="4">1.2 Ω ~ 1.56 Ω</td><td>1.26 Ω ~ 1.62 Ω</td></tr></table>	Normal					MXZ-2B20NA	MXZ-3B24NA	MXZ-3B30NA	MXZ-4B36NA	MXZ-5B42NA	1.2 Ω ~ 1.56 Ω				1.26 Ω ~ 1.62 Ω						
Normal																						
MXZ-2B20NA	MXZ-3B24NA	MXZ-3B30NA	MXZ-4B36NA	MXZ-5B42NA																		
1.2 Ω ~ 1.56 Ω				1.26 Ω ~ 1.62 Ω																		
Solenoid coil MXZ-5B	Measure the resistance using a tester. (Part temperature: 14°F ~ 104°F) <table><tr><th>Normal</th></tr><tr><th>MXZ-5B42NA</th></tr><tr><td>1.17 Ω ~ 1.43 Ω</td></tr></table>	Normal	MXZ-5B42NA	1.17 Ω ~ 1.43 Ω																		
Normal																						
MXZ-5B42NA																						
1.17 Ω ~ 1.43 Ω																						
Linear expansion valve MXZ-2B WHT RED ORN  YLW BRN BLU The other models WHT RED ORN  YLW BLU	Measure the resistance using a tester. (Part temperature: 14°F ~ 104°F) <table><tr><th colspan="2">Color of lead wire</th><th rowspan="5">Normal</th></tr><tr><td rowspan="5">MXZ-2B20NA</td><td>MXZ-2B20NA - ①</td></tr><tr><td>MXZ-2B20NA - ②</td></tr><tr><td>MXZ-3B24NA</td></tr><tr><td>MXZ-3B30NA</td></tr><tr><td>MXZ-4B36NA</td></tr><tr><td></td><td>MXZ-5B42NA</td><td></td></tr><tr><td>WHT - RED</td><td>WHT - RED</td><td rowspan="4">37.4 Ω ~ 53.9 Ω</td></tr><tr><td>RED - ORN</td><td>RED - ORN</td></tr><tr><td>YLW - BRN</td><td>YLW - RED</td></tr><tr><td>BRN - BLU</td><td>RED - BLU</td></tr></table>	Color of lead wire		Normal	MXZ-2B20NA	MXZ-2B20NA - ①	MXZ-2B20NA - ②	MXZ-3B24NA	MXZ-3B30NA	MXZ-4B36NA		MXZ-5B42NA		WHT - RED	WHT - RED	37.4 Ω ~ 53.9 Ω	RED - ORN	RED - ORN	YLW - BRN	YLW - RED	BRN - BLU	RED - BLU
Color of lead wire		Normal																				
MXZ-2B20NA	MXZ-2B20NA - ①																					
	MXZ-2B20NA - ②																					
	MXZ-3B24NA																					
	MXZ-3B30NA																					
	MXZ-4B36NA																					
	MXZ-5B42NA																					
WHT - RED	WHT - RED	37.4 Ω ~ 53.9 Ω																				
RED - ORN	RED - ORN																					
YLW - BRN	YLW - RED																					
BRN - BLU	RED - BLU																					
High pressure switch (HPS) MXZ-3B/4B/5B	<table><tr><th colspan="2">Pressure</th><th>Normal</th></tr><tr><td rowspan="2">HPS</td><td>537 ± 22 PSIG</td><td>Close</td></tr><tr><td>696 ± 15 PSIG</td><td>Open</td></tr></table>	Pressure		Normal	HPS	537 ± 22 PSIG	Close	696 ± 15 PSIG	Open													
Pressure		Normal																				
HPS	537 ± 22 PSIG	Close																				
	696 ± 15 PSIG	Open																				

11-6. TROUBLESHOOTING FLOW

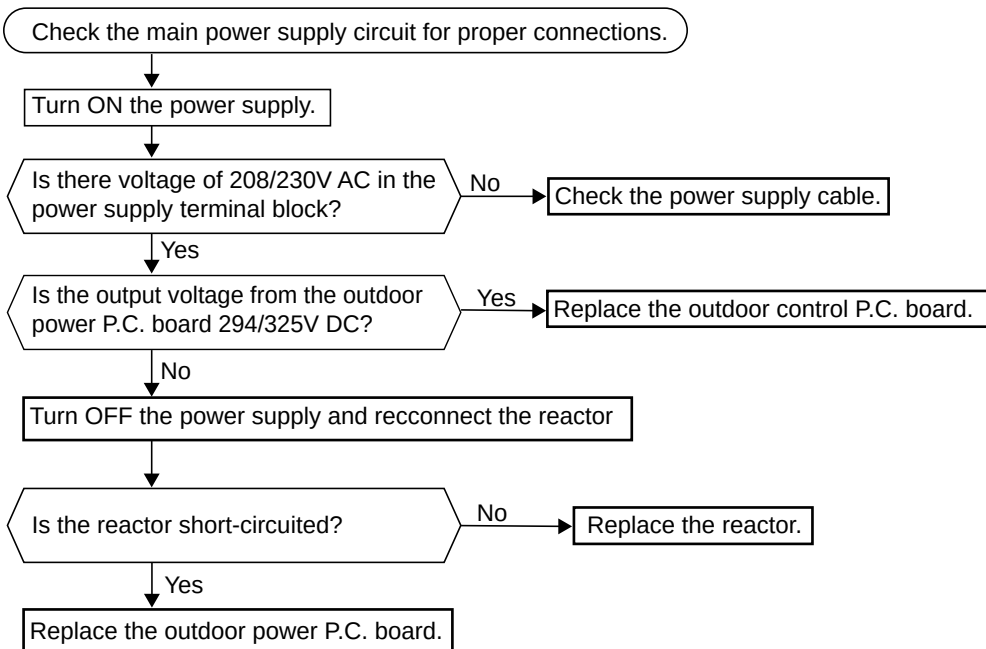
MXZ-2B20NA MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA

Outdoor unit does not operate.

Ⓐ Check of power supply



MXZ-5B42NA



- When unit cannot operate neither by the remote controller nor by EMERGENCY OPERATION switch.
Indoor unit does not operate.
- When OPERATION INDICATOR lamp flashes ON and OFF in every 0.5-second.
Outdoor unit does not operate.

② How to check mis-wiring and serial signal error

LED indication for communication status

Communication status is indicated by the LED.

Unit status

Blinking: normal communication

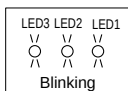
Lighting: abnormal communication or not connected

Pattern 1 and 2 is repeatedly displayed alternately. Each pattern is displayed for 15 seconds.

NOTE: "Lighting" in the table below does not indicate abnormal communication.

MXZ-2B20NA

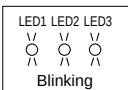
Outdoor electronic control P.C. board (Parts side)



Pattern	LED 3	LED 2	LED 1
1	Lighting	Unit B status	Unit A status
2	Goes out	Lighting	Unit C status

MXZ-3B24NA MXZ-3B30NA

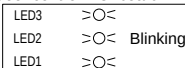
Outdoor electronic control P.C. board (Parts side)



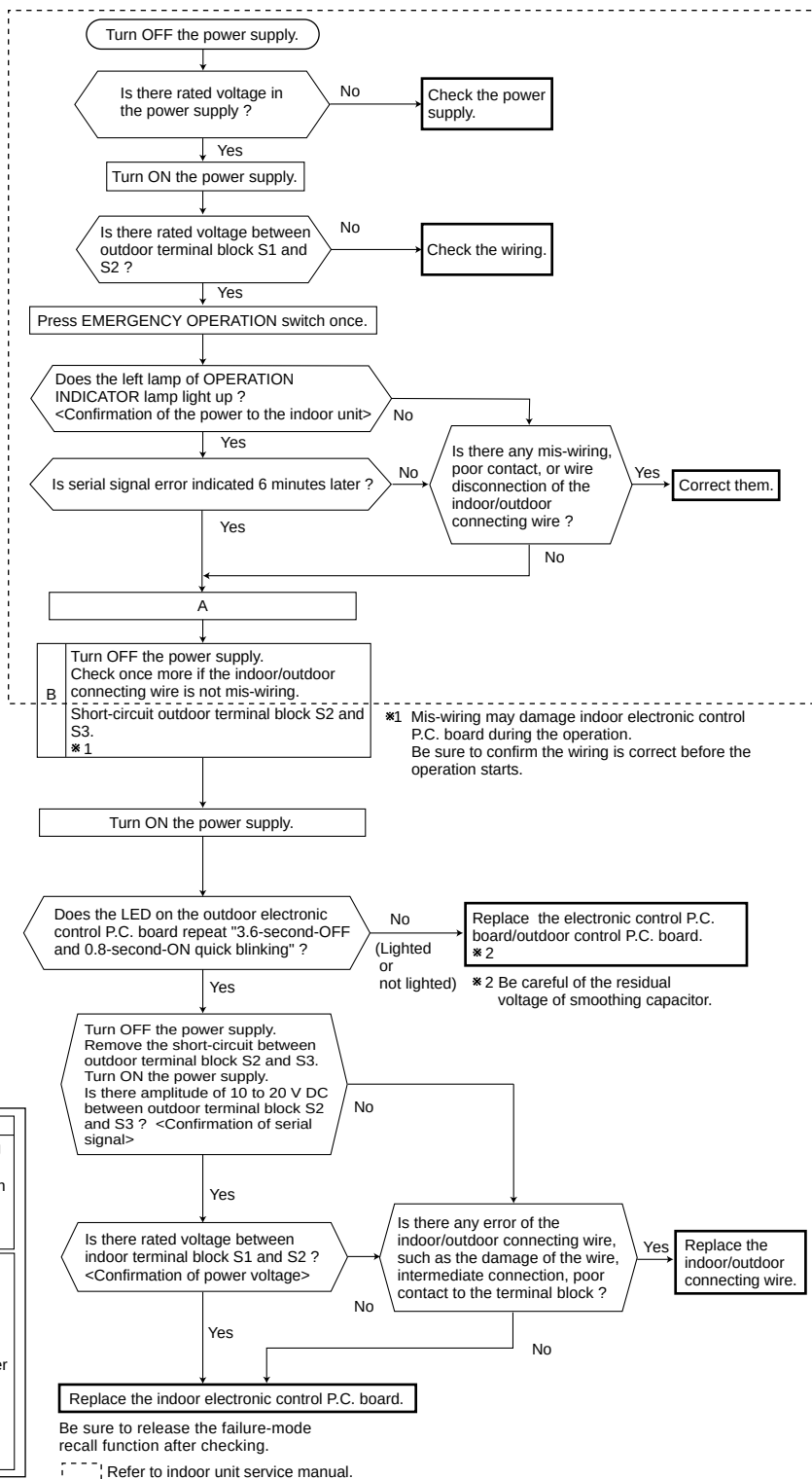
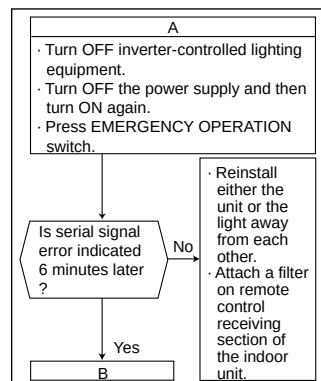
Pattern	LED 1	LED 2	LED 3
1	Unit A status	Unit B status	Unit C status
2	Unit D status	Lighting	Goes out

MXZ-5B42NA

Outdoor control P.C. board



Pattern	LED 1	LED 2	LED 3
1	Unit A status	Unit B status	Lighting
2	Unit C status	Unit D status	Not lighting
3	Unit E status	Unit F status	Blinking



The cooling operation or heating operation does not operate.

© Check of R.V. coil

MXZ-2B20NA MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA

CN912	Noise filter P.C. board
CN781	Electronic control P.C. board

• When heating operation does not work.

1. Disconnect the lead wire leading to the compressor.
2. 3 minutes after turning ON the power supply, start EMERGENCY OPERATION in HEAT mode.

Is there voltage of 208/230 V AC between pin1 and pin 2 at connector CN912 ?

Yes

Turn OFF the power supply of indoor and outdoor unit.

Disconnect the connector CN912. Is there normal resistance to R.V. coil ? (Refer to 11-5.)

No

Replace the R.V. coil.

Yes

Replace the 4-way valve.

1. Turn OFF the power supply of indoor and outdoor unit, and disconnect the connector CN781.
2. 3 minutes after turning ON the power supply, start EMERGENCY OPERATION in HEAT mode.

Is there voltage of 12 V DC between the connector CN781 pin 5 (+) and pin 3 (-) ?

No

Replace the electronic control P.C. board.

Yes

Replace the noise filter P.C. board.

• When cooling operation does not work.

1. Disconnect the lead wire leading to the compressor.
2. 3 minutes after turning ON the power supply, start EMERGENCY OPERATION in COOL mode.

Is there voltage of 208/230 V AC between pin1 and pin 2 at connector CN912 ? *

Yes

* If the connector CN912 is not connected or R.V. coil is open, voltage occurs between terminals even when the control is OFF.

No

Replace the 4-way valve.

1. Turn OFF the power supply of the indoor and the outdoor unit, and disconnect the connector CN781.
2. 3 minutes after turning ON the power supply, start EMERGENCY OPERATION in COOL mode.

Is there voltage of 12 V DC between the connector CN781 pin 5 (+) and pin 3 (-) ?

No

Replace the noise filter P.C. board.

Yes

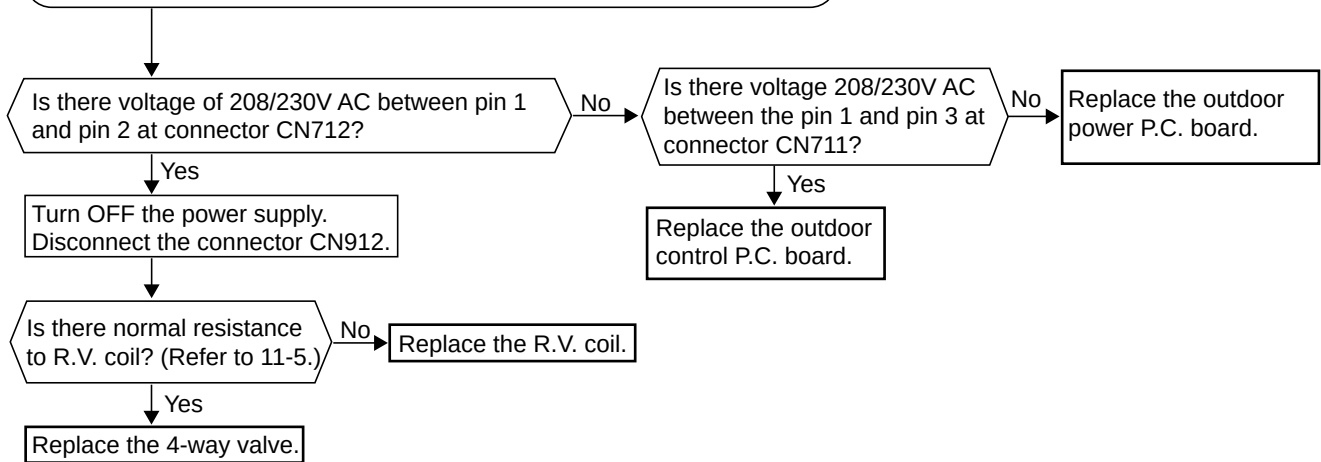
Replace the control P.C. board.

MXZ-5B42NA

• When heating operation does not work.

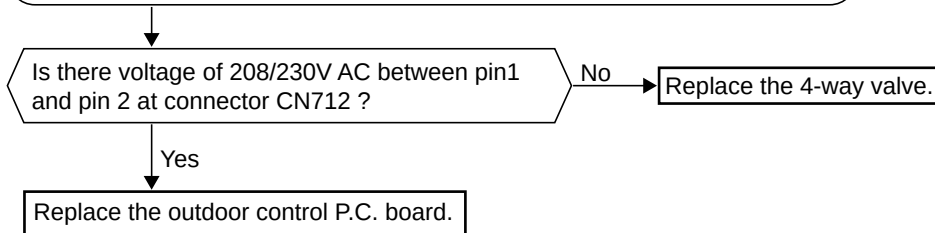
1. Disconnect the lead wire leading to the compressor.
2. 3 minutes after turning ON the power supply, start EMERGENCY OPERATION in HEAT mode.

CN711	Outdoor control
CN712	P.C. board



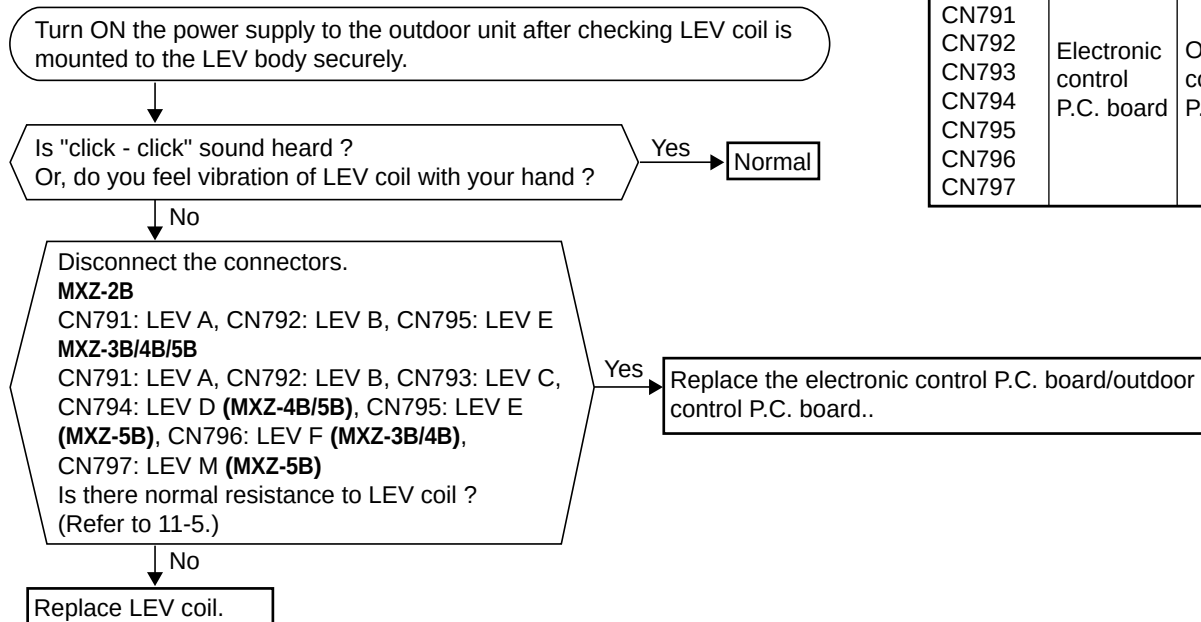
• When cooling operation does not work.

1. Disconnect the lead wire leading to the compressor.
2. 3 minutes after turning ON the power supply, start EMERGENCY OPERATION in COOL mode.



- When cooling, heat exchanger of non-operating indoor unit frosts.
- When heating, non-operating indoor unit gets warm.

① Check of LEV



	MXZ-2B/ 3B/4B	MXZ-5B
CN791 CN792 CN793 CN794 CN795 CN796 CN797	Electronic control P.C. board	Outdoor control P.C. board

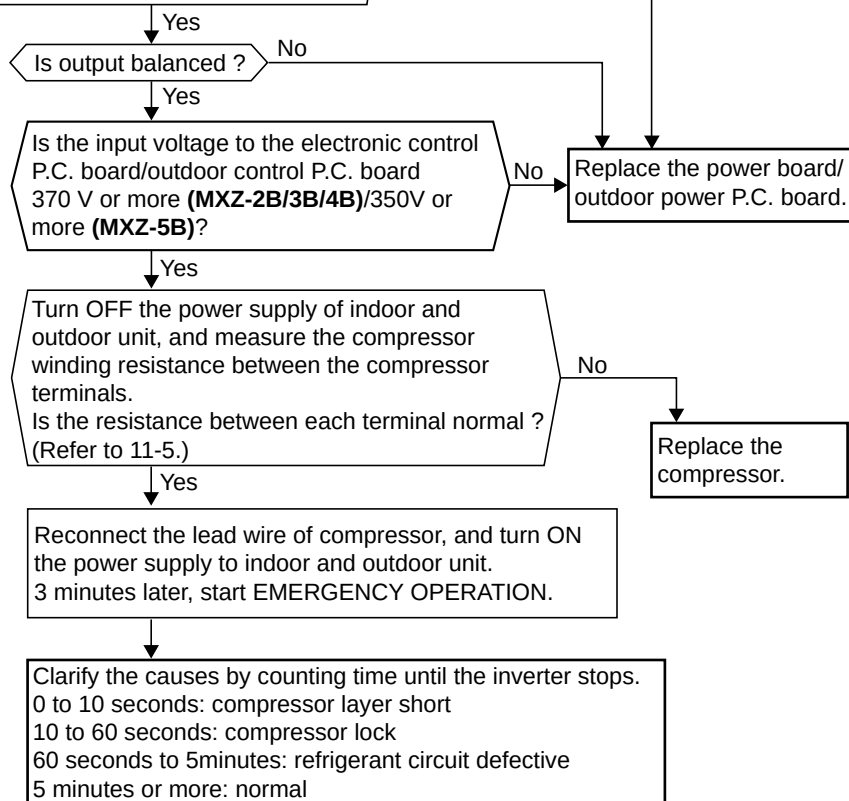
- When heating, room does not get warm.
- When cooling, room does not get cool.

Ⓔ How to check inverter/compressor

Disconnect the terminal of the compressor or the connector (CNMC) between the compressor and the power board/outdoor power P.C. board. 3 minutes after the power supply is turned ON, start EMERGENCY OPERATION.

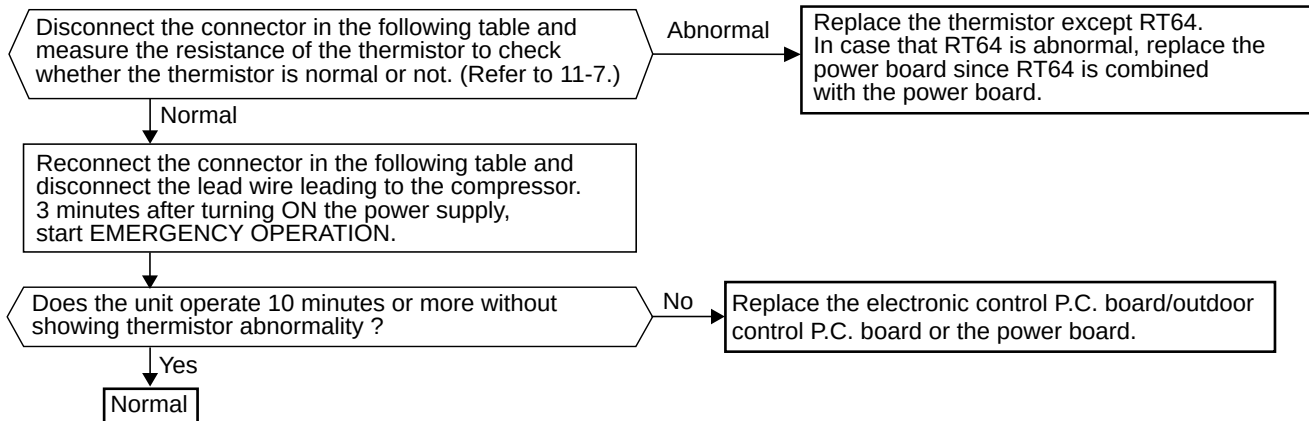
Measure the voltage between each lead wire leading to the compressor.
 U (BLK) - V (WHT)
 V (WHT) - W (RED)
 W (RED) - U (BLK)
 Output voltage: 50V-250V
 Is proper output voltage detected?
 ※1, ※2

- ※1 • After the outdoor fan starts running, wait for 1 minute or more before measuring the voltage.
- The output voltage values have the tolerance of $\pm 20\%$.
- ※2 • The output differs depending on the capacity or the number of indoor units to be operated.



• When thermistor is abnormal.

Ⓕ Check of outdoor thermistors



MXZ-2B20NA MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA

Thermistor	Symbol	Connector, Pin No.	Board
Defrost	RT61	Between CN661 pin1 and pin2	Electronic control P.C. board
Discharge temperature	RT62	Between CN661 pin3 and pin4	
Outdoor heat exchanger temperature	RT68	Between CN661 pin7 and pin8	
Ambient temperature	RT65	Between CN663 pin1 and pin2	
Fin temperature	RT64	Between CN3 pin1 and pin2	Power board

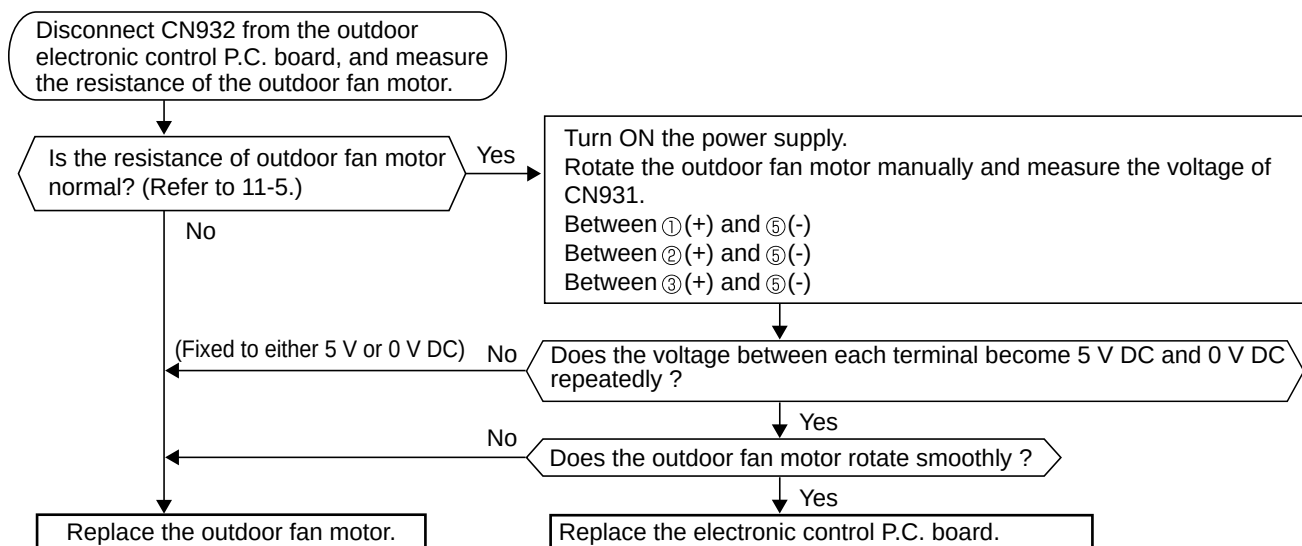
MXZ-5B42NA

Thermistor	Symbol	Connector, Pin No.	Board
Defrost	RT61	Between CN661 pin1 and pin2	Outdoor control P.C. board
Discharge temperature	RT62	Between CN661 pin3 and pin4	
Outdoor heat exchanger temperature	RT68	Between CN661 pin5 and pin6	
Ambient temperature	RT65	Between CN663 pin1 and pin2	

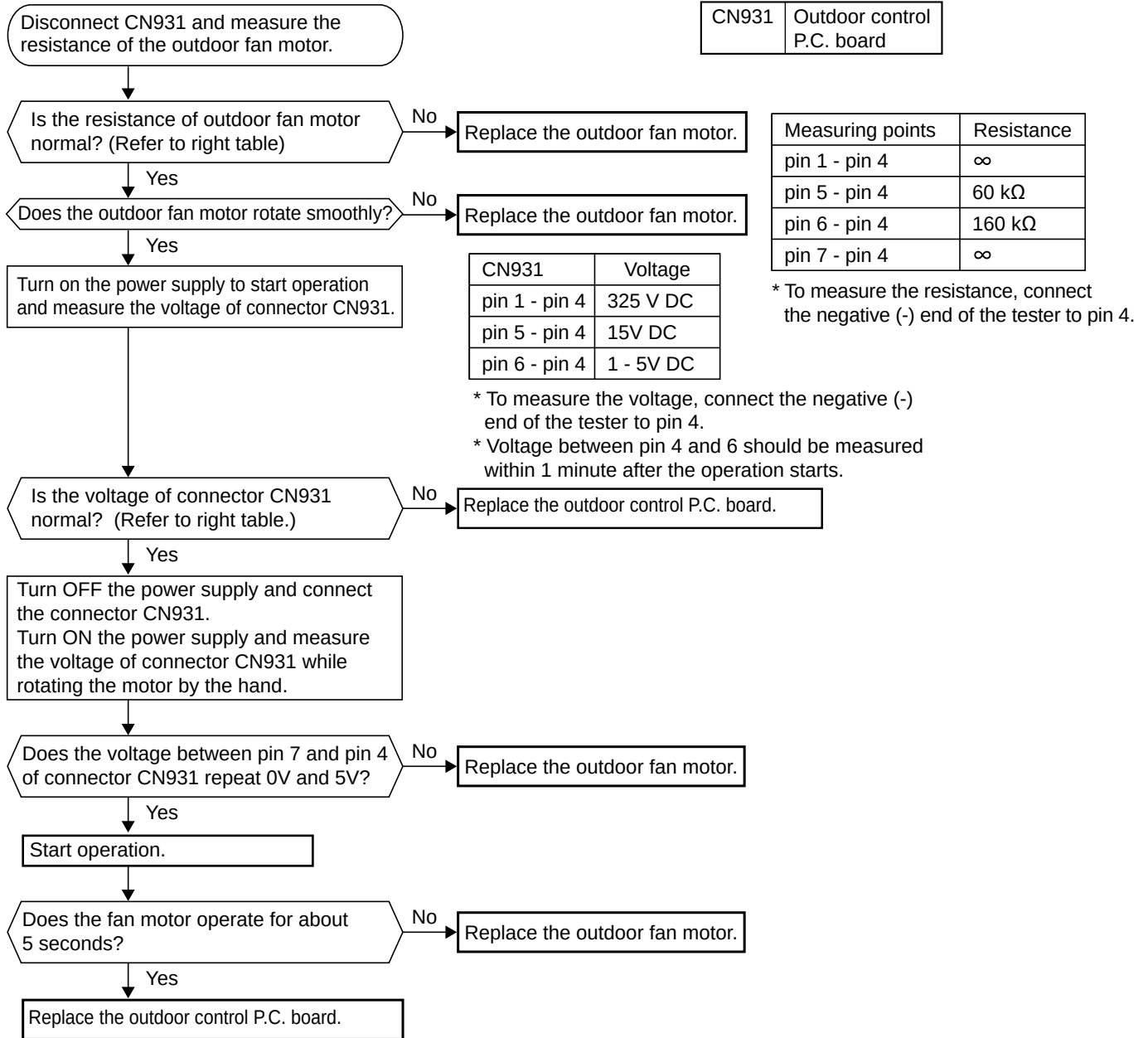
• Fan motor does not operate or stops operating shortly after starting the operation.

Ⓖ Check of outdoor fan motor

MXZ-2B20NA MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA



MXZ-5B42NA



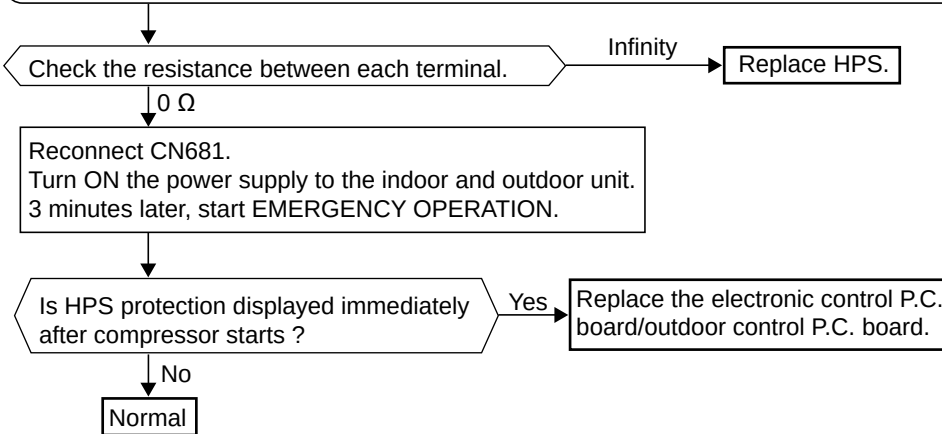
- When the operation frequency does not go up from the lowest frequency.

Ⓜ Check of HPS

	MXZ-3B/4B	MXZ-5B
CN681	Electronic control P.C. board	Outdoor control P.C. board

MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA MXZ-5B42NA

1. Disconnect the connector CN681 in the electronic control P.C. board.
2. Check the resistance of HPS after 1 minute has passed since the outdoor unit power supply was turned OFF.



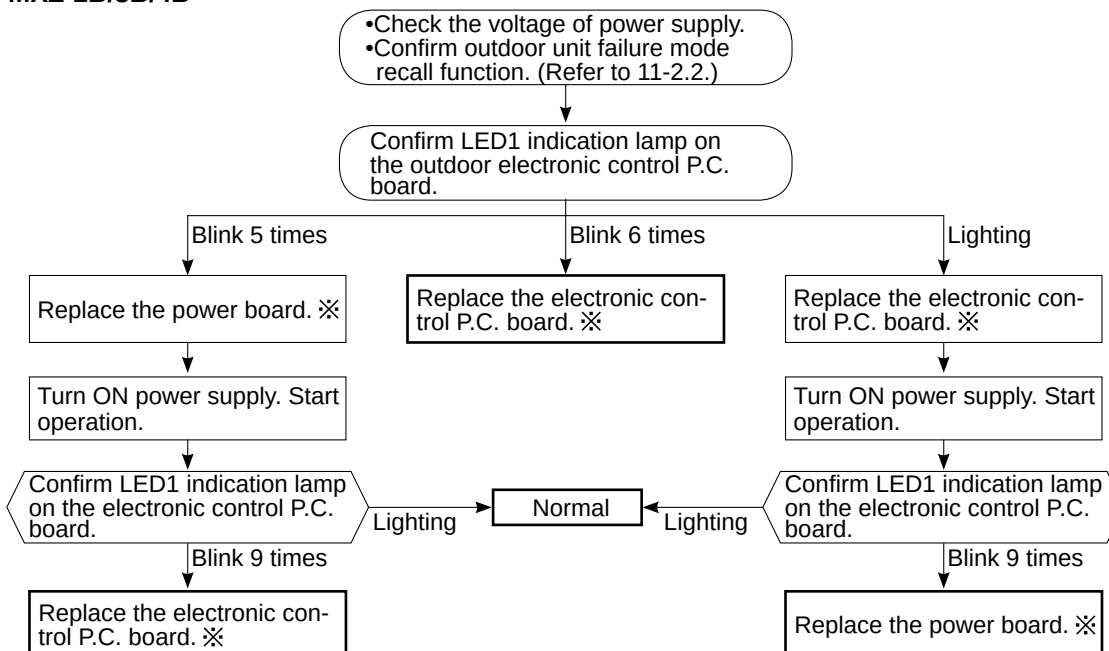
① The other cases

Indoor unit does not operate. (different operating models in multi system)

- When you try to run two indoor units simultaneously, one for cooling and the other for heating, the unit which transmits signal to the outdoor units first decides the operation mode.
- When the above situation occurs, set all the indoor units to the same mode, turn OFF the indoor units, and then turn them back ON.
- Though the top of the indoor unit sometimes gets warm, this does not mean malfunction. The reason is that the refrigerant gas continuously flows into the indoor unit even while it is not operating.

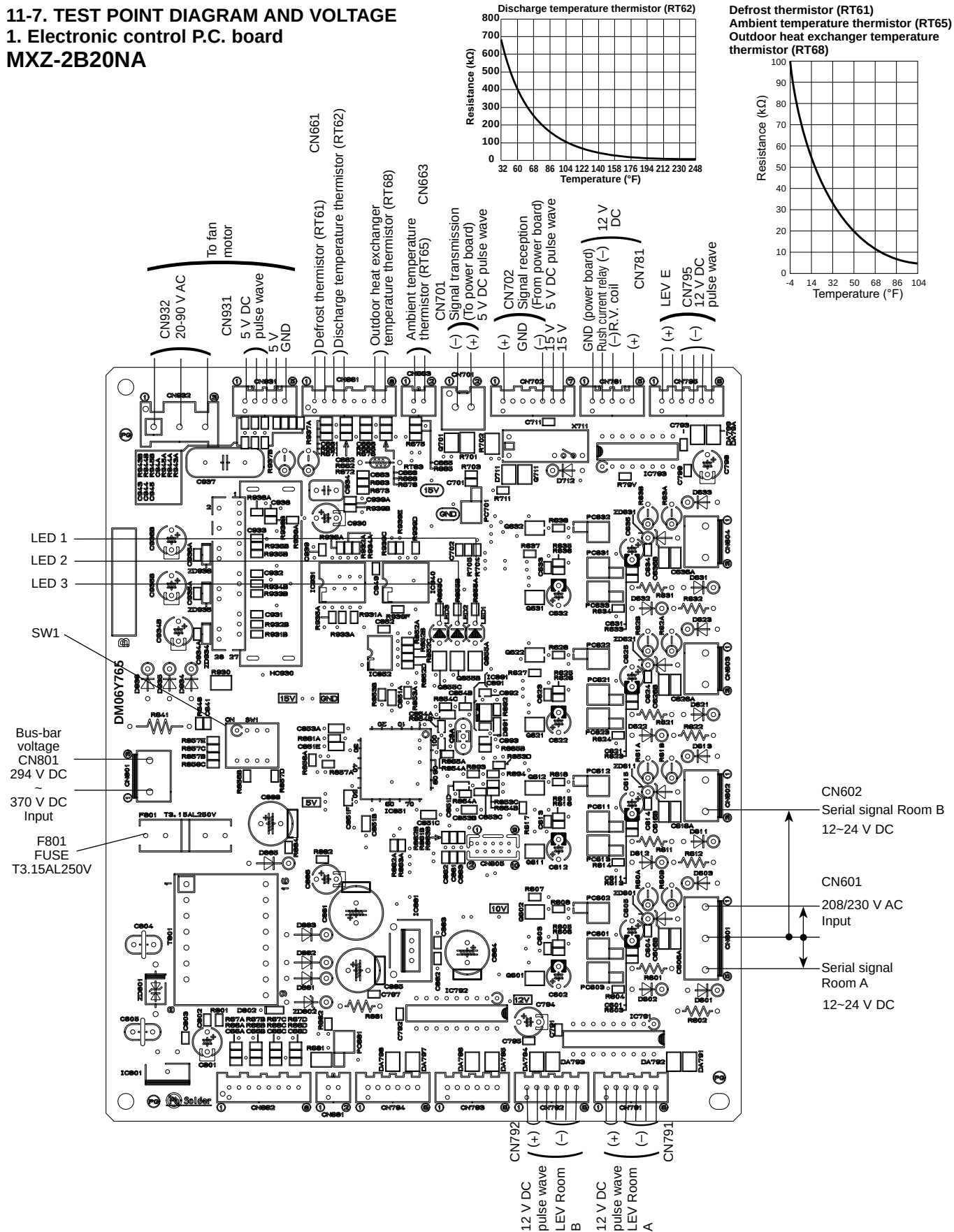
Ⓜ Check of bus-bar voltage

MXZ-2B/3B/4B



※ Turn OFF power supply before removing P.C. board.

11-7. TEST POINT DIAGRAM AND VOLTAGE 1. Electronic control P.C. board MXZ-2B20NA



MXZ-3B24NA MXZ-3B30NA MXZ-4B36NA

