

Revision A:

• MUZ-WX09/12/18NL-U1 have been added.

OBD955 is void.

OUTDOOR UNIT

TECHNICAL & SERVICE MANUAL



No. OBD955
REVISED EDITION-A

Models

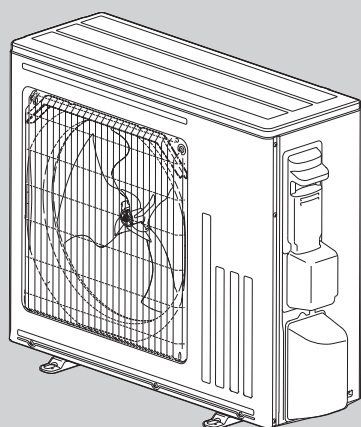
MUZ-WX09NL - U1

MUZ-WX12NL - U1

MUZ-WX18NL - U1

MUZ-WX24NL - U1

Indoor unit technical & service manual
MSZ-WX•NL Series (OBD954)
Indoor unit service manual
MSZ-WX•NL Series (OBH954)
Outdoor unit service manual
MUZ-WX•NL Series (OBH955)



MUZ-WX24NL

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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.

<Preparation before the repair service>

- Prepare the proper tools.
- Prepare the proper protectors.
- Provide adequate ventilation.
- After stopping the operation of the air conditioner, turn off the power-supply breaker and pull the power plug.
- Discharge the capacitor before the work involving the electric parts.

<Precautions during the repair service>

- Do not perform the work involving the electric parts with wet hands.
- Do not pour water into the electric parts.
- Do not touch the refrigerant.
- Do not touch the hot or cold areas in the refrigeration cycle.
- When the repair or the inspection of the circuit needs to be done without turning off the power, exercise great caution not to touch the live parts.

WARNING

- When the refrigerant circuit has a leak, do not execute pump down with the compressor.
- When pumping down the refrigerant, stop the compressor before disconnecting the refrigerant pipes.
The compressor may burst if air etc. get into it.
- When opening or closing the valve below freezing temperatures, refrigerant may spurt out from the gap between the valve stem and the valve body, resulting in injuries.

Revision A:

- MUZ-WX09/12/18NL -  have been added.

1

TECHNICAL CHANGES

MUZ-WX24NL -

1. New model

MUZ-WX09NL -

MUZ-WX12NL -

MUZ-WX18NL -

1. New model

Servicing precautions for units using refrigerant R454B



Refrigerant
Safety Group
A2L

WARNING

This unit uses a flammable refrigerant.

If refrigerant leaks and comes in contact with fire or heating part, it will create harmful gas and there is risk of fire.

Do not use means to accelerate the defrosting process or to clean, other than those recommended by the manufacturer. The appliance should not be stored in a room with continuously operating ignition sources (for example: open flames, an operating gas appliance, or an operating electric heater).

Do not pierce or burn.

Be aware that refrigerants may not contain an odor.

- Maintenance, service and repair operations shall be performed by authorized technician with required qualification.
- Servicing shall be performed only by methods recommended by the manufacturer.
- Refrigerant piping shall be protected from physical damage.
- Field installed piping should be kept to a minimum.
- Compliance with national gas regulations shall be observed.
- All field joints shall be accessible for inspection prior to being covered or enclosed.

⚠️ WARNING

- The mounting height of indoor unit shall be 5.9 ft (1.8 m) or more from the floor. Up to 7.5 ft (2.3 m) is recommended.
- The unit shall be installed in rooms exceed the minimum room area (A_{min}) determined by total refrigerant amount (M).

M			A_{min}	
[kg]	[lbs, oz]		[m ²]	[ft ²]
0.5	1	1	1.9	21
0.6	1	5	2.3	25
0.7	1	8	2.6	28
0.8	1	12	3.0	33
0.9	1	15	3.4	37
1.0	2	3	3.8	41
1.1	2	6	4.1	45
1.2	2	10	4.5	49
1.3	2	13	4.9	53
1.4	3	1	5.2	56
1.5	3	4	5.6	61
1.6	3	8	6.0	65

M			A_{min}	
[kg]	[lbs, oz]		[m ²]	[ft ²]
1.7	3	11	6.3	68
1.8	3	15	6.8	74
1.9	4	3	7.2	78
2.0	4	6	7.6	82
2.1	4	10	7.9	86
2.2	4	13	8.3	90
2.3	5	1	8.7	94
2.4	5	4	9.1	98
2.5	5	8	9.4	102
2.6	5	11	9.8	106
2.7	5	15	10.2	110
2.8	6	2	10.6	115

1. REFRIGERANT PIPE NITROGEN PRESSURE TEST METHOD

(1) Connect the testing tools.

- Make sure the stop valves are closed and do not open them.
- Add pressure to the refrigerant lines through the service port of the stop valve for GAS.

(2) Do not add pressure to the specified pressure all at once; add pressure little by little.

1. Pressurize to 0.5 MPa (73 psig, 5 kgf/cm²G), wait 5 minutes, and make sure the pressure does not decrease.
2. Pressurize to 1.5 MPa (218 psig, 15 kgf/cm²G), wait 5 minutes, and make sure the pressure does not decrease.
3. Pressurize to 4.15 MPa (601 psig, 41.5 kgf/cm²G) and measure the surrounding temperature and refrigerant pressure.

(3) If the specified pressure holds for 24 Hours and does not decrease, the pipes have passed the test and there are no leaks.

- If the surrounding temperature changes by 1°F (0.5°C), the pressure will change by about 1 psig (0.007 MPa). Make the necessary corrections.

(4) If the pressure decreases in steps (2) or (3), there is a gas leak. Look for the source of the gas leak.

2. Additional refrigerant charge

Additional refrigerant charge

Refrigerant for the indoor units and the extended piping is not included in the outdoor unit when the unit is shipped from the factory. Therefore, charge each refrigerant piping system with additional refrigerant at the installation site. In addition, in order to carry out service, enter the size and length of each liquid pipe and additional refrigerant charge amounts in the spaces provided on the "Refrigerant amount" plate on the outdoor unit.

NOTE:

- When the unit is stopped, charge the unit with the additional refrigerant through the liquid stop valve after the pipe extensions and indoor units have been vacuumized.
- When the unit is operating, add refrigerant to the gas check valve using a safety charger. Do not add liquid refrigerant directly to the check valve.

Refrigerant adjustment

Model	MSZ-WX09/12/18/24NL
Chargeless pipe length A	25 ft (7.5 m)
Refrigerant adjustment B	0.22 oz/ft (20 g/m)
Additional refrigerant	Pipe length up to A : No need Pipe length exceeds A : $B \times (\text{pipe length} - A)$

3. Cautions for the unit using R454B refrigerant

Basic work procedures are the same as those for conventional units using refrigerant R410A. However, pay careful attention to the following points.

■ Information on servicing

1. Checks to the area

Prior to beginning work on systems containing FLAMMABLE REFRIGERANTS, safety checks are necessary to ensure that the risk of ignition is minimized. For repair to the REFRIGERATING SYSTEM, 2 to 6 below shall be completed prior to conducting work on the system.

2. Work procedure

Work shall be undertaken under a controlled procedure so as to minimize the risk of a flammable gas or vapour being present while the work is being performed.

3. General work area

All maintenance staff and others working in the local area shall be instructed on the nature of work being carried out. Work in confined spaces shall be avoided.

4. Checking for presence of refrigerant

The area shall be checked with an appropriate refrigerant detector prior to and during work, to ensure the technician is aware of potentially toxic or flammable atmospheres. Ensure that the leak detection equipment being used is suitable for use with all applicable refrigerants, i.e. non-sparking, adequately sealed or intrinsically safe.

5. Presence of fire extinguisher

If any hot work is to be conducted on the refrigerating equipment or any associated parts, appropriate fire extinguishing equipment shall be available to hand. Have a dry powder or CO₂ fire extinguisher adjacent to the charging area.

6. No ignition sources

No person carrying out work in relation to a REFRIGERATING SYSTEM which involves exposing any pipe work shall use any sources of ignition in such a manner that it may lead to the risk of fire or explosion. All possible ignition sources, including cigarette smoking, should be kept sufficiently far away from the site of installation, repairing, removing and disposal, during which refrigerant can possibly be released to the surrounding space. Prior to work taking place, the area around the equipment is to be surveyed to make sure that there are no flammable hazards or ignition risks. "No Smoking" signs shall be displayed.

7. Ventilated area

Ensure that the area is in the open or that it is adequately ventilated before breaking into the system or conducting any hot work. A degree of ventilation shall continue during the period that the work is carried out. The ventilation should safely disperse any released refrigerant and preferably expel it externally into the atmosphere.

8. Checks to the refrigerating equipment

Where electrical components are being changed, they shall be fit for the purpose and to the correct specification. At all times the manufacturer's maintenance and service guidelines shall be followed. If in doubt, consult the manufacturer's technical department for assistance. The following checks shall be applied to installations using FLAMMABLE REFRIGERANTS:

- the actual REFRIGERANT CHARGE is in accordance with the room size within which the refrigerant containing parts are installed;
- the ventilation machinery and outlets are operating adequately and are not obstructed;
- marking to the equipment continues to be visible and legible. Markings and signs that are illegible shall be corrected;
- refrigerating pipe or components are installed in a position where they are unlikely to be exposed to any substance which may corrode refrigerant containing components, unless the components are constructed of materials which are inherently resistant to being corroded or are suitably protected against being so corroded.

9. Checks to electrical devices

Repair and maintenance to electrical components shall include initial safety checks and component inspection procedures. If a fault exists that could compromise safety, then no electrical supply shall be connected to the circuit until it is satisfactorily dealt with. If the fault cannot be corrected immediately but it is necessary to continue operation, an adequate temporary solution shall be used. This shall be reported to the owner of the equipment so all parties are advised.

Initial safety checks shall include:

- that capacitors are discharged: this shall be done in a safe manner to avoid possibility of sparking;
- that no live electrical components and wiring are exposed while charging, recovering or purging the system;
- that there is continuity of earth bonding.

■ Repairs to sealed components

Sealed electrical components shall be replaced.

■ Repair to intrinsically safe components

Intrinsically safe components must be replaced.

■ Cabling

Check that cabling will not be subject to wear, corrosion, excessive pressure, vibration, sharp edges or any other adverse environmental effects. The check shall also take into account the effects of aging or continual vibration from sources such as compressors or fans.

■ Detection of flammable refrigerants

Under no circumstances shall potential sources of ignition be used in the searching for or detection of refrigerant leaks. A halide torch (or any other detector using a naked flame) shall not be used.

The following leak detection methods are deemed acceptable for all refrigerant systems.

Electronic leak detectors may be used to detect refrigerant leaks but, in the case of FLAMMABLE REFRIGERANTS, the sensitivity may not be adequate, or may need re-calibration. (Detection equipment shall be calibrated in a refrigerant-free area.)

Ensure that the detector is not a potential source of ignition and is suitable for the refrigerant used.

Leak detection equipment shall be set at a percentage of the LFL of the refrigerant and shall be calibrated to the refrigerant employed, and the appropriate percentage of gas (25 % maximum) is confirmed.

Leak detection fluids are also suitable for use with most refrigerants but the use of detergents containing chlorine shall be avoided as the chlorine may react with the refrigerant and corrode the copper pipe-work.

If a leak is suspected, all naked flames shall be removed/extinguished.

If a leakage of refrigerant is found which requires brazing, all of the refrigerant shall be recovered from the system, or isolated (by means of shut off valves) in a part of the system remote from the leak.

■ Removal and evacuation

When breaking into the refrigerant circuit to make repairs - or for any other purpose -conventional procedures shall be used. However, for flammable refrigerants it is important that best practice be followed, since flammability is a consideration.

The following procedure shall be adhered to:

- safely remove refrigerant following local and national regulations;
- evacuate;
- purge the circuit with inert gas;
- evacuate;
- continuously flush or purge with inert gas when using flame to open circuit; and
- open the circuit.

The refrigerant charge shall be recovered into the correct recovery cylinders if venting is not allowed by local and national codes.

For appliances containing flammable refrigerants, the system shall be purged with oxygen-free nitrogen to render the appliance safe for flammable refrigerants. This process might need to be repeated several times.

Compressed air or oxygen shall not be used for purging refrigerant systems.

For appliances containing flammable refrigerants, refrigerants purging shall be achieved by breaking the vacuum in the system with oxygen-free nitrogen and continuing to fill until the working pressure is achieved, then venting to atmosphere, and finally pulling down to a vacuum.

This process shall be repeated until no refrigerant is within the system. When the final oxygen-free nitrogen charge is used, the system shall be vented down to atmospheric pressure to enable work to take place.

The outlet for the vacuum pump shall not be close to any potential ignition sources, and ventilation shall be available.

■ Charging procedures

In addition to conventional charging procedures, the following requirements shall be followed.

- Ensure that contamination of different refrigerants does not occur when using charging equipment. Hoses or lines shall be as short as possible to minimize the amount of refrigerant contained in them.
- Cylinders shall be kept in an appropriate position according to the instructions.
- Ensure that the REFRIGERATING SYSTEM is earthed prior to charging the system with refrigerant.
- Label the system when charging is complete (if not already).
- Extreme care shall be taken not to overfill the REFRIGERATING SYSTEM.

Prior to recharging the system, it shall be pressure-tested with the appropriate purging gas. The system shall be leak-tested on completion of charging but prior to commissioning. A follow up leak test shall be carried out prior to leaving the site.

■ Decommissioning

Before carrying out this procedure, it is essential that the technician is completely familiar with the equipment and all its detail. It is recommended good practice that all refrigerants are recovered safely. Prior to the task being carried out, an oil and refrigerant sample shall be taken in case analysis is required prior to re-use of recovered refrigerant. It is essential that electrical power is available before the task is commenced.

- Become familiar with the equipment and its operation.
- Isolate system electrically.
- Before attempting the procedure, ensure that:
 - mechanical handling equipment is available, if required, for handling refrigerant cylinders;
 - all personal protective equipment is available and being used correctly;
 - the recovery process is supervised at all times by a competent person;
 - recovery equipment and cylinders conform to the appropriate standards.
- Pump down refrigerant system, if possible.
- If a vacuum is not possible, make a manifold so that refrigerant can be removed from various parts of the system.
- Make sure that cylinder is situated on the scales before recovery takes place.
- Start the recovery machine and operate in accordance with instructions.
- Do not overfill cylinders (no more than 80 % volume liquid charge).
- Do not exceed the maximum working pressure of the cylinder, even temporarily.
- When the cylinders have been filled correctly and the process completed, make sure that the cylinders and the equipment are removed from site promptly and all isolation valves on the equipment are closed off.
- Recovered refrigerant shall not be charged into another REFRIGERATING SYSTEM unless it has been cleaned and checked.

■ Labelling

Equipment shall be labelled stating that it has been de-commissioned and emptied of refrigerant. The label shall be dated and signed. For appliances containing FLAMMABLE REFRIGERANTS, ensure that there are labels on the equipment stating the equipment contains FLAMMABLE REFRIGERANT.

■ Recovery

When removing refrigerant from a system, either for servicing or decommissioning, it is recommended good practice that all refrigerants are removed safely.

When transferring refrigerant into cylinders, ensure that only appropriate refrigerant recovery cylinders are employed. Ensure that the correct number of cylinders for holding the total system charge is available.

All cylinders to be used are designated for the recovered refrigerant and labelled for that refrigerant (i.e., special cylinders for the recovery of refrigerant). Cylinders shall be complete with pressure-relief valve and associated shut-off valves in good working order.

Empty recovery cylinders are evacuated and, if possible, cooled before recovery occurs.

The recovery equipment shall be in good working order with a set of instructions concerning the equipment that is at hand and shall be suitable for the recovery of the flammable refrigerant.

If in doubt, the manufacturer should be consulted. In addition, a set of calibrated weighing scales shall be available and in good working order. Hoses shall be complete with leak-free disconnect couplings and in good condition.

The recovered refrigerant shall be processed according to local legislation in the correct recovery cylinder, and the relevant waste transfer note arranged. Do not mix refrigerants in recovery units and especially not in cylinders.

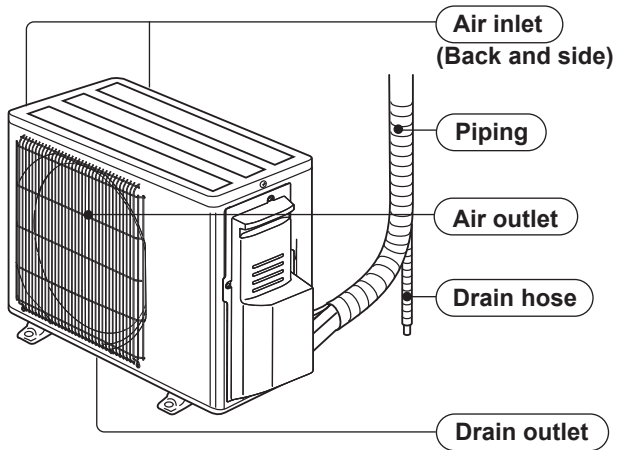
If compressors or compressor oils are to be removed, ensure that they have been evacuated to an acceptable level to make certain that FLAMMABLE REFRIGERANT does not remain within the lubricant.

The compressor body shall not be heated by an open flame or other ignition sources to accelerate this process. When oil is drained from a system, it shall be carried out safely.

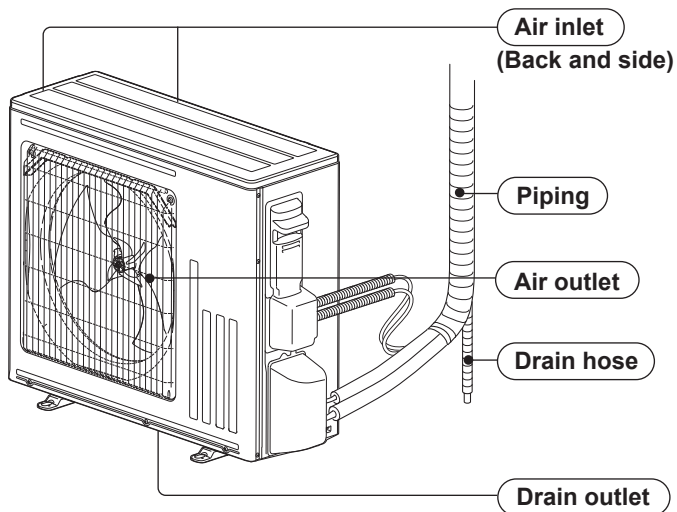
MUZ-WX09NL

MUZ-WX12NL

MUZ-WX18NL



MUZ-WX24NL



Outdoor unit model			MUZ-WX09NL	MUZ-WX12NL	MUZ-WX18NL
Capacity Rated (Minimum–Maximum)	Cooling ^{*1}	Btu/h	9,000 (3,800–10,000)	12,000 (3,800–12,200)	17,200 (5,800–18,000)
	Heating 47 ^{*1}	Btu/h	10,900 (4,500–11,800)	12,200 (4,500–14,500)	18,000 (5,400–20,800)
Capacity Rated (Maximum)	Heating 17 ^{*2}	Btu/h	6,800 (7,200)	7,500 (9,000)	11,700 (15,000)
Power consumption Rated (Minimum–Maximum)	Cooling ^{*1}	W	820 (250–1,070)	1,330 (250–1,400)	1,810 (350–2,170)
	Heating 47 ^{*1}	W	900 (280–1,380)	1,090 (280–1,340)	1,680 (330–2,600)
Power consumption Rated (Maximum)	Heating 17 ^{*2}	W	850 (1,250)	940 (1,280)	1,360 (2,510)
EER2 ^{*1} [SEER2] ^{*3}	Cooling		11.00 [18.0]	9.00 [18.0]	9.50 [18.0]
HSPF2 ^{*4}	Heating		8.5	8.5	8.5
COP	Heating		3.55	3.28	3.14
Power factor	Cooling	%	89	96	98
	Heating	%	91	94	97
Power supply	V, phase, Hz		208/230, 1, 60	208/230, 1, 60	208/230, 1, 60
Max. fuse size (time delay)		A	15	15	20
Min. circuit ampacity		A	10	10	16
Fan motor	F.L.A	A	0.71	0.71	0.71
Compressor	Model		KRB073FATMC	KRB073FATMC	SRB140FQHMC SRB140FQHMT
	R.L.A	A	5.6	5.6	9.4
	L.R.A	A	7.0	7.0	11.7
	Refrigeration oil	fl oz. (L) (Model)	9.1 (0.27)/(RM68EH)	9.1 (0.27)/(RM68EH)	11.8 (0.35)/(RM68EH)
Refrigerant control			Linear expansion valve	Linear expansion valve	Linear expansion valve
Sound level ^{*1}	Cooling	dB(A)	48	51	53
	Heating	dB(A)	50	51	51
Airflow High–Med.–Low	Cooling	CFM	1,141–1,031–1,031	1,141–1,031–1,031	1,166–1,166–469
	Heating	CFM	1,196–1,141–794	1,141–1,141–794	1,152–1,152–739
Fan speed High–Med.–Low	Cooling	rpm	850–770–770	850–770–770	910–910–410
	Heating	rpm	890–850–600	850–850–600	900–900–600
Defrost method			Reverse cycle	Reverse cycle	Reverse cycle
Dimensions	W	in.	31-1/2	31-1/2	31-1/2
	D	in.	11-1/4	11-1/4	11-1/4
	H	in.	21-5/8	21-5/8	21-5/8
Weight		lb.	65	65	81
External finish			Munsell 3Y 7.8/1.1	Munsell 3Y 7.8/1.1	Munsell 3Y 7.8/1.1
Remote controller			Wireless type	Wireless type	Wireless type
Control voltage (by built-in transformer)		V DC	12–24	12–24	12–24
Refrigerant piping			Not supplied	Not supplied	Not supplied
Refrigerant pipe size (Min. wall thickness)	Liquid	in.	1/4 (0.0315)	1/4 (0.0315)	1/4 (0.0315)
	Gas	in.	3/8 (0.0315)	3/8 (0.0315)	1/2 (0.0315)
Connection method	Indoor		Flared	Flared	Flared
	Outdoor		Flared	Flared	Flared
Between the indoor & outdoor units	Height difference	ft.	40	40	40
	Piping length	ft.	65	65	65
Refrigerant charge (R454B)			1 lbs. 6 oz	1 lbs. 6 oz	2 lbs. 2 oz

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

*1: Rating conditions (Cooling) — Indoor: 80°FDB, 67°FWB, Outdoor: 95°FDB, (75°FWB)
(Heating) — Indoor: 70°FDB, 60°FWB, Outdoor: 47°FDB, 43°FWB

*2: Rating conditions (Heating) — Indoor: 70°FDB, 60°FWB, Outdoor: 17°FDB, 15°FWB

*3: Test condition (Refer to page 11.)

*4: Test condition (Refer to page 11.)

Outdoor unit model			MUZ-WX24NL
Capacity Rated (Minimum–Maximum)	Cooling *1	Btu/h	22,400 (5,800–22,400)
	Heating 47 *1	Btu/h	26,000 (5,400–26,000)
Capacity Rated (Maximum)	Heating 17 *2	Btu/h	17,000 (17,800)
Power consumption Rated (Minimum–Maximum)	Cooling *1	W	2,800 (330–2,800)
	Heating 47 *1	W	2,680 (320–2,680)
Power consumption Rated (Maximum)	Heating 17 *2	W	2,100 (2,300)
EER2 *1 [SEER2] *3	Cooling		8.00 [18.0]
HSPF2 *4	Heating		8.5
COP	Heating		2.84
Power factor	Cooling	%	98
	Heating	%	97
Power supply	V, phase, Hz		208/230, 1, 60
Max. fuse size (time delay)		A	20
Min. circuit ampacity		A	16
Fan motor	F.L.A	A	0.74
Compressor	Model		SRB140FQHMC SRB140FQHMT
	R.L.A	A	9.8
	L.R.A	A	12.2
	Refrigeration oil	fl oz. (L) (Model)	11.8 (0.35)/(RM68EH)
Refrigerant control			Linear expansion valve
Sound level *1	Cooling	dB(A)	57
	Heating	dB(A)	55
Airflow High–Med.–Low	Cooling	CFM	1,816–1,321–626
	Heating	CFM	1,582–1,321–553
Fan speed High–Med.–Low	Cooling	rpm	1,060–790–420
	Heating	rpm	930–790–380
Defrost method			Reverse cycle
Dimensions	W	in.	31-1/2
	D	in.	11-1/4
	H	in.	28-1/8
Weight		lb.	90
External finish			Munsell 3Y 7.8/1.1
Remote controller			Wireless type
Control voltage (by built-in transformer)		V DC	12–24
Refrigerant piping			Not supplied
Refrigerant pipe size (Min. wall thickness)	Liquid	in.	1/4 (0.0315)
	Gas	in.	1/2 (0.0315)
Connection method	Indoor		Flared
	Outdoor		Flared
Between the indoor & outdoor units	Height difference	ft.	40
	Piping length	ft.	65
Refrigerant charge (R454B)			2 lbs. 8 oz

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

*1: Rating conditions (Cooling) — Indoor: 80°FDB, 67°FWB, Outdoor: 95°FDB, (75°FWB)
(Heating) — Indoor: 70°FDB, 60°FWB, Outdoor: 47°FDB, 43°FWB

*2: Rating conditions (Heating) — Indoor: 70°FDB, 60°FWB, Outdoor: 17°FDB, 15°FWB

*3: Test condition (Refer to page 11.)

*4: Test condition (Refer to page 11.)

Test condition

*3, *4

AHRI 210/240	Mode	Test	Indoor air condition (°F)		Outdoor air condition (°F)	
			Dry bulb	Wet bulb	Dry bulb	Wet bulb
	SEER (Cooling)	"A-Full" Cooling Steady State at rated compressor speed	80	67	95	75
		"B-Full" Cooling Steady State at rated compressor speed	80	67	82	65
		"B-Low" Cooling Steady State at minimum compressor speed	80	67	82	65
		"F-Low" Cooling Steady State at minimum compressor speed	80	67	67	53.5
		"E-Int" Cooling Steady State at intermediate compressor speed *5	80	67	87	69
	HSPF (Heating)	"H1-Nom" Heating Steady State at rated compressor speed	70	60	47	43
		"H3-Full" Heating at rated compressor speed	70	60	17	15
		"H0-Low" Heating Steady State at minimum compressor speed	70	60	62	56.5
		"H1-Low" Heating Steady State at minimum compressor speed	70	60	47	43
		"H2-Int" Heating at intermediate compressor speed *5	70	60	35	33

*5: At intermediate compressor speed

= ("Rated compressor speed" - "minimum compressor speed") / 3 + "minimum compressor speed".

OPERATING RANGE

(1) POWER SUPPLY

	Rated voltage	Guaranteed voltage (V)
Outdoor unit	208/230 V 1 phase 60 Hz	Min. 187 208 230 Max. 253 ----- ----- ----- -----

(2) OPERATION

Mode	Condition	Intake air temperature (°F)	
		Outdoor	
		DB	WB
Cooling	Standard temperature	95	—
	Maximum temperature	115	—
	Minimum temperature	32	—
	Maximum humidity	—	
Heating	Standard temperature	47	43
	Maximum temperature	75	65
	Minimum temperature	5	4

MUZ-WX09NL

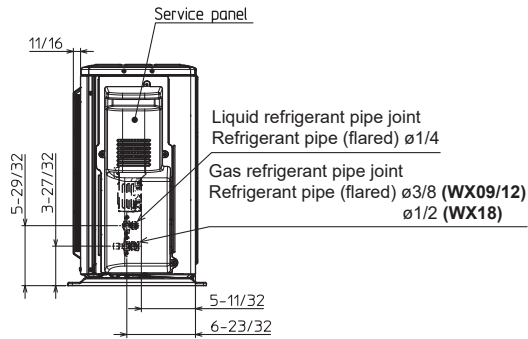
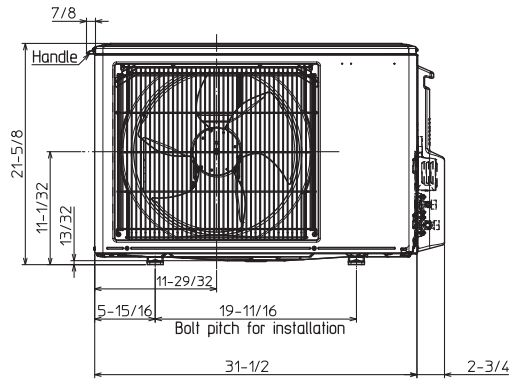
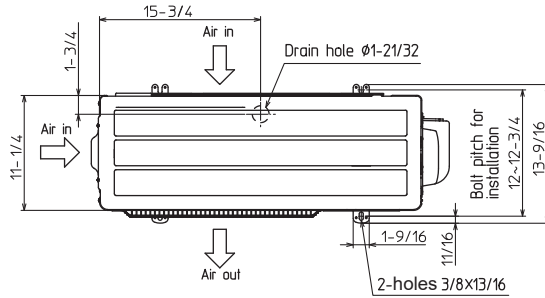
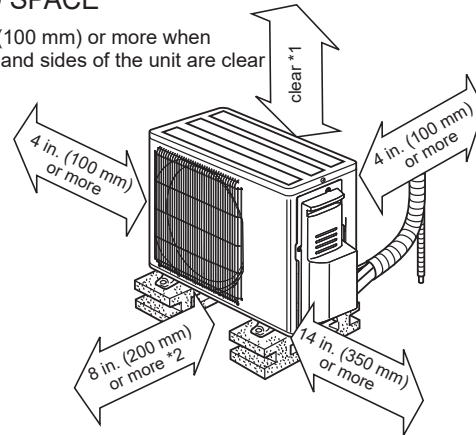
MUZ-WX12NL

MUZ-WX18NL

Unit: inch

REQUIRED SPACE

*1 4 in. (100 mm) or more when
front and sides of the unit are clear



MUZ-WX09/12NL

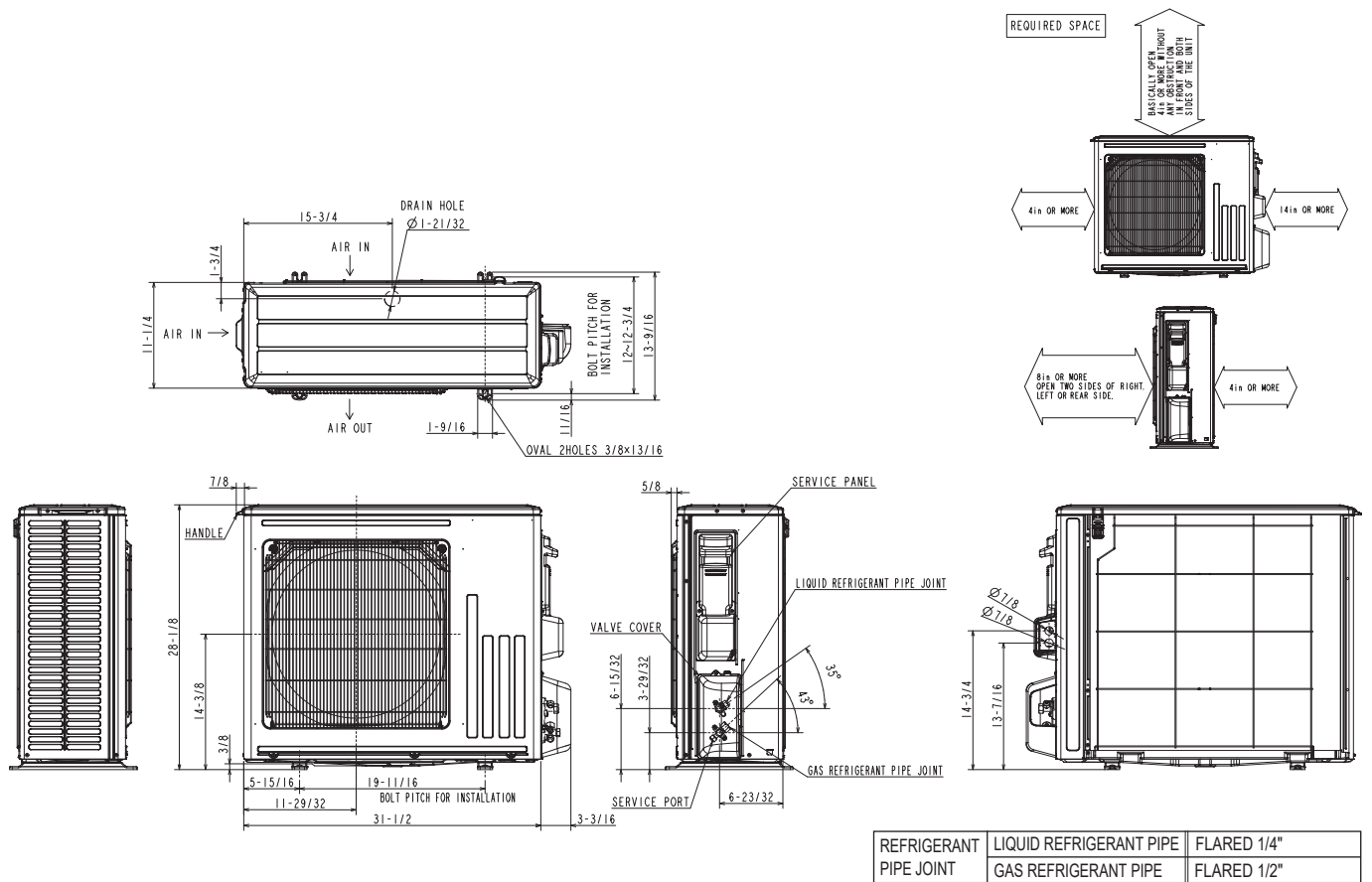
REFRIGERANT	LIQUID REFRIGERANT PIPE	FLARED 1/4"
PIPE JOINT	GAS REFRIGERANT PIPE	FLARED 3/8"

MUZ-WX18NL

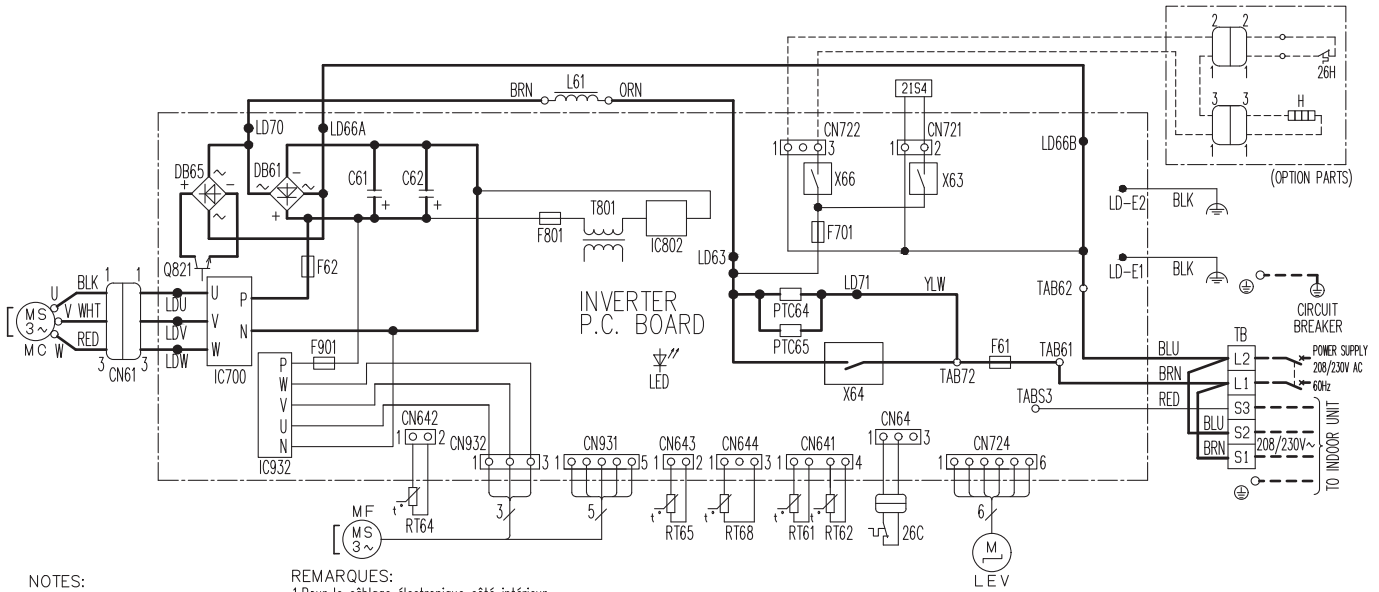
REFRIGERANT	LIQUID REFRIGERANT PIPE	FLARED 1/4"
PIPE JOINT	GAS REFRIGERANT PIPE	FLARED 1/2"

MUZ-WX24NL

Unit: inch



MUZ-WX09NL MUZ-WX12NL MUZ-WX18NL



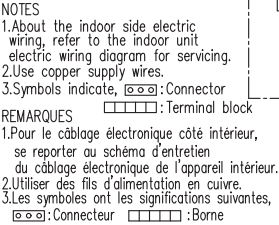
NOTES:

1. About the indoor side electric wiring, refer to the indoor unit electric wiring diagram for servicing.
2. Use copper supply wires.
3. Symbols indicate, : Terminal block : Connector

REMARQUES:

1. Pour le câblage électronique côté intérieur, se reporter au schéma d'entretien du câblage électronique de l'appareil intérieur.
2. Utiliser des fils d'alimentation en cuivre.
3. Les symboles ont les significations suivantes, : Borne : Connecteur

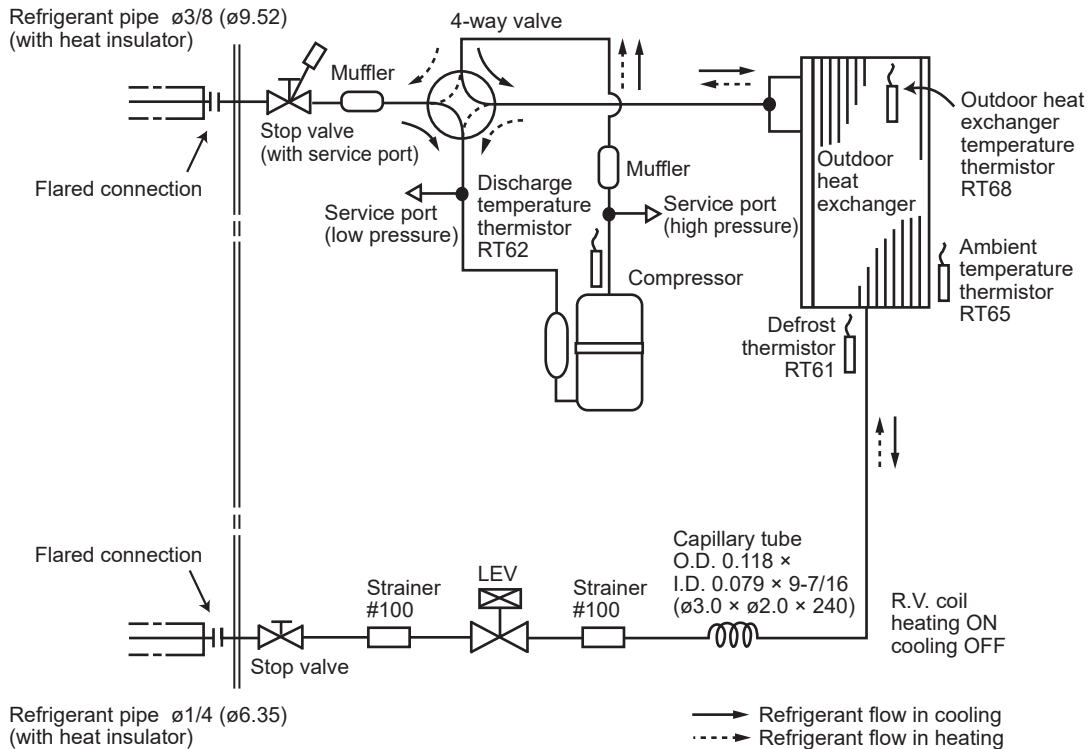
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CN61	CONNECTOR	LEV	EXPANSION VALVE COIL	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
C61,C62	SMOOTHING CAPACITOR	L61	REACTOR		
DB61,DB65	DIODE MODULE	MC	COMPRESSOR	TB	TERMINAL BLOCK
F61	FUSE (25A 250V)	MF	FAN MOTOR	T801	TRANSFORMER
F62	FUSE (15A 250V)	PTC64,PTC65	CIRCUIT PROTECTION	X63,X64,X66	RELAY
F701,F801,F901	FUSE (T3, 15A/250V)	Q821	SWITCHING POWER TRANSISTOR	21S4	REVERSING VALVE COIL
H	DEFROST HEATER (OPTION PARTS)	RT61	DEFROST THERMISTOR	26C	COMPRESSOR PROTECTOR
IC700,IC932	POWER MODULE	RT62	DISCHARGE TEMP. THERMISTOR	26H	HEATER PROTECTOR (OPTION PARTS)
IC802	POWER DEVICE	RT64	FIN TEMP. THERMISTOR		
LED	LED	RT65	AMBIENT TEMP. THERMISTOR		



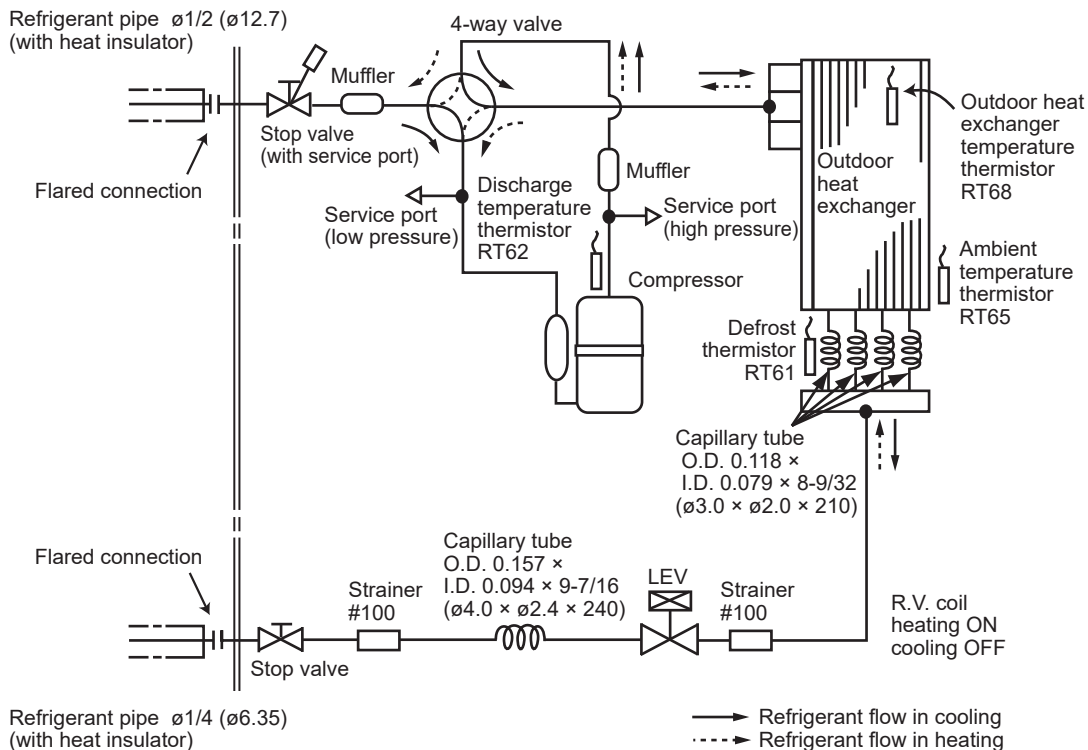
SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CN61	CONNECTOR	LEV	EXPANSION VALVE COIL	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
C61,C62	SMOOTHING CAPACITOR	L61	REACTOR		
DB61,DB65	DIODE MODULE	MC	COMPRESSOR	TB1	TERMINAL BLOCK
F61	FUSE (25A 250V)	MF	FAN MOTOR	T801	TRANSFORMER
F62	FUSE (15A 250V)	PTC64,PTC65	CIRCUIT PROTECTION	X63,X64,X66	RELAY
F701,F801,F901	FUSE (T3.15AL250V)	Q821	SWITCHING POWER TRANSISTOR	21S4	REVERSING VALVE COIL
H	DEFROST HEATER (OPTION PARTS)	RT61	DEFROST THERMISTOR	26C	COMPRESSOR PROTECTOR
IC700,IC932	POWER MODULE	RT62	DISCHARGE TEMP. THERMISTOR	26H	HEATER PROTECTOR (OPTION PARTS)
IC802	POWER DEVICE	RT64	FIN TEMP. THERMISTOR		
LED	LED	RT65	AMBIENT TEMP. THERMISTOR		

MUZ-WX09NL MUZ-WX12NL

Unit: Inch (mm)

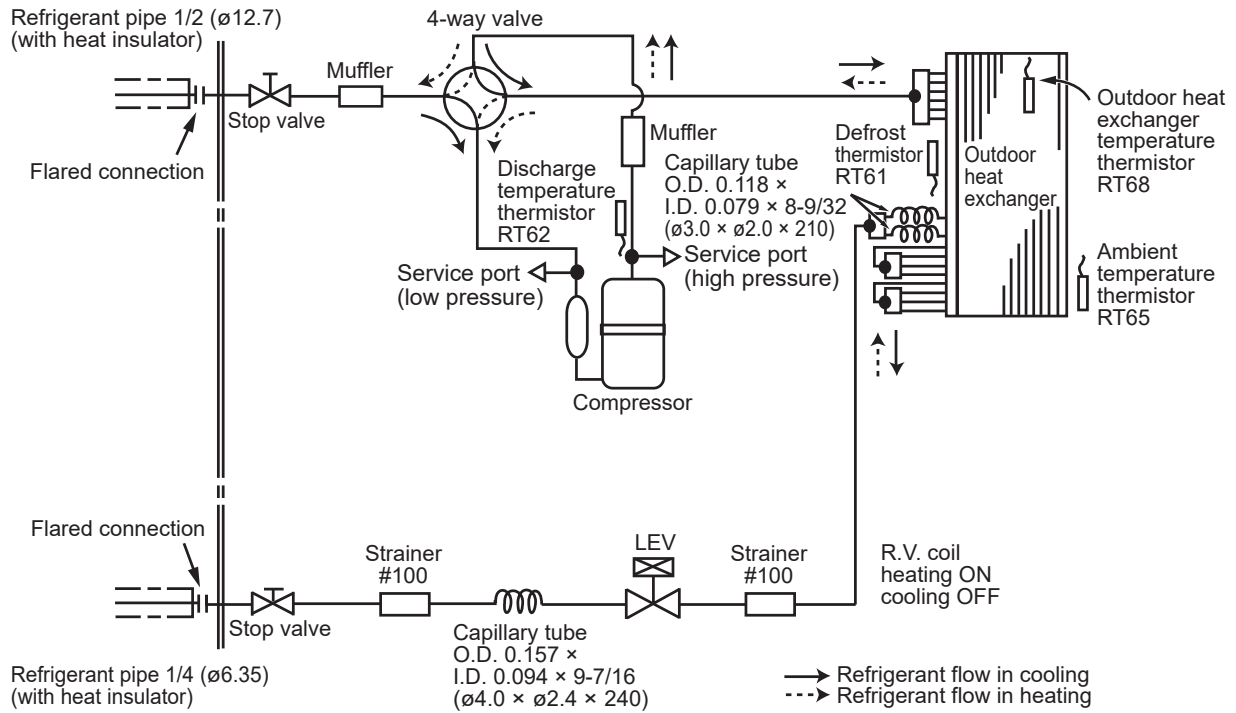


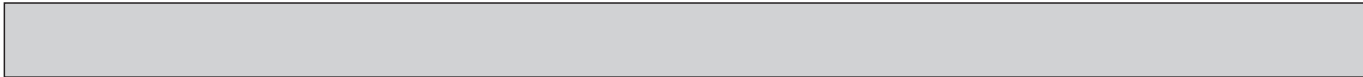
MUZ-WX18NL



MUZ-WX24NL

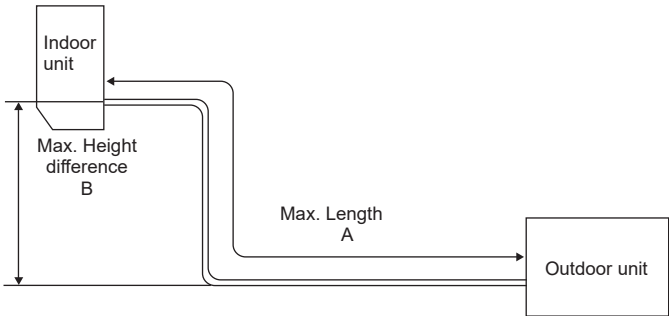
Unit: Inch (mm)





MAX. REFRIGERANT PIPING LENGTH and MAX. HEIGHT DIFFERENCE

Model	Refrigerant piping: ft.		Piping size O.D: in.	
	Max. Length A	Max. Height difference B	Gas	Liquid
MUZ-WX09NL MUZ-WX12NL	65	40	3/8	1/4
MUZ-WX18NL MUZ-WX24NL	65	40	1/2	1/4



MUZ-WX09NL MUZ-WX12NL MUZ-WX18NL MUZ-WX24NL
8-1. PERFORMANCE DATA
1) COOLING CAPACITY

Model	Indoor air IWB (°F)	Outdoor intake air DB temperature (°F)											
		75				85				95			
		TC	SHC	SHF	TPC	TC	SHC	SHF	TPC	TC	SHC	SHF	TPC
MUZ-WX09NL	71	11.0	7.4	0.67	0.73	10.3	6.9	0.67	0.80	9.7	6.5	0.67	0.86
	67	10.4	8.4	0.80	0.69	9.7	7.8	0.80	0.76	9.0	7.2	0.80	0.82
	63	9.8	9.2	0.93	0.66	9.1	8.5	0.93	0.73	8.5	7.9	0.93	0.78
MUZ-WX12NL	71	14.7	8.5	0.58	1.18	13.7	7.9	0.58	1.30	12.9	7.4	0.58	1.40
	67	13.9	9.9	0.71	1.12	13.0	9.2	0.71	1.23	12.0	8.5	0.71	1.33
	63	13.1	11.0	0.84	1.06	12.1	10.2	0.84	1.18	11.3	9.5	0.84	1.27
MUZ-WX18NL	71	21.1	11.3	0.54	1.61	19.7	10.6	0.54	1.76	18.5	9.9	0.54	1.90
	67	20.0	13.4	0.67	1.52	18.6	12.4	0.67	1.67	17.2	11.5	0.67	1.81
	63	18.7	15.1	0.80	1.45	17.4	14.0	0.80	1.60	16.2	13.0	0.80	1.73
MUZ-WX24NL	71	27.4	15.5	0.57	2.49	25.6	14.5	0.57	2.73	24.1	13.6	0.57	2.94
	67	26.0	18.2	0.70	2.35	24.2	16.9	0.70	2.59	22.4	15.7	0.70	2.80
	63	24.4	20.3	0.83	2.24	22.6	18.9	0.83	2.48	21.1	17.5	0.83	2.67

Model	Indoor air IWB (°F)	Outdoor intake air DB temperature (°F)							
		105				115			
		TC	SHC	SHF	TPC	TC	SHC	SHF	TPC
MUZ-WX09NL	71	9.0	6.0	0.67	0.91	8.3	5.5	0.67	0.94
	67	8.4	6.7	0.80	0.87	7.7	6.2	0.80	0.91
	63	7.7	7.2	0.93	0.84	7.0	6.6	0.93	0.87
MUZ-WX12NL	71	12.0	6.9	0.58	1.47	11.0	6.4	0.58	1.53
	67	11.2	7.9	0.71	1.41	10.3	7.3	0.71	1.48
	63	10.3	8.7	0.84	1.36	9.4	7.9	0.84	1.41
MUZ-WX18NL	71	17.2	9.2	0.54	2.00	15.8	8.5	0.54	2.08
	67	16.0	10.7	0.67	1.92	14.7	9.9	0.67	2.01
	63	14.7	11.8	0.80	1.85	13.4	10.8	0.80	1.92
MUZ-WX24NL	71	22.4	12.7	0.57	3.09	20.6	11.7	0.57	3.22
	67	20.8	14.6	0.70	2.97	19.2	13.4	0.70	3.11
	63	19.2	16.0	0.83	2.86	17.5	14.6	0.83	2.97

NOTE: 1. IWB : Intake air wet-bulb temperature TC : Total Capacity ($\times 10^3$ Btu/h)
 SHC : Sensible Heat Capacity ($\times 10^3$ Btu/h) SHF : Sensible Heat Factor
 TPC : Total Power Consumption (kW)
 2. SHC is based on 80°F of indoor Intake air DB temperature.
 3. Data shown are estimated value. Performance may vary depending on operating conditions.

2) COOLING CAPACITY CORRECTIONS

Model	Refrigerant piping length (one way: ft.)		
	25 (std.)	40	65
MUZ-WX09NL	1.0	0.993	0.981
MUZ-WX12NL	1.0	0.987	0.967
MUZ-WX18NL	1.0	0.994	0.983
MUZ-WX24NL	1.0	0.996	0.990

3) HEATING CAPACITY CORRECTIONS

Model	Refrigerant piping length (one way: ft.)		
	25 (std.)	40	65
MUZ-WX09NL MUZ-WX12NL MUZ-WX18NL MUZ-WX24NL	1.0	0.997	0.993

4) HEATING CAPACITY

Model	Indoor air IDB (°F)	Outdoor intake air WB temperature (°F)													
		5		15		25		35		43		45		55	
		TC	TPC	TC	TPC	TC	TPC	TC	TPC	TC	TPC	TC	TPC	TC	TPC
MUZ-WX09NL	75	4.8	0.53	6.3	0.67	7.9	0.79	9.4	0.88	10.6	0.92	11.0	0.94	12.4	0.97
	70	5.2	0.51	6.7	0.65	8.2	0.77	9.6	0.86	10.9	0.90	11.2	0.92	12.7	0.95
	65	5.5	0.49	6.9	0.62	8.6	0.74	10.0	0.83	11.2	0.88	11.6	0.89	13.0	0.94
MUZ-WX12NL	75	5.4	0.64	7.1	0.81	8.8	0.95	10.6	1.06	11.9	1.12	12.3	1.13	13.9	1.18
	70	5.8	0.62	7.5	0.78	9.2	0.93	10.8	1.04	12.2	1.09	12.6	1.11	14.2	1.16
	65	6.1	0.59	7.7	0.75	9.6	0.90	11.2	1.01	12.6	1.06	12.9	1.08	14.5	1.13
MUZ-WX18NL	75	7.9	0.99	10.4	1.25	13.1	1.47	15.6	1.64	17.6	1.72	18.1	1.75	20.5	1.81
	70	8.6	0.95	11.1	1.21	13.5	1.44	15.9	1.60	18.0	1.68	18.5	1.71	21.0	1.78
	65	9.0	0.91	11.3	1.16	14.1	1.39	16.5	1.55	18.5	1.64	19.1	1.66	21.4	1.75
MUZ-WX24NL	75	11.4	1.58	15.1	2.00	18.9	2.35	22.5	2.61	25.4	2.75	26.1	2.79	29.6	2.89
	70	12.4	1.51	16.0	1.93	19.5	2.29	23.0	2.55	26.0	2.68	26.8	2.73	30.3	2.84
	65	13.0	1.45	16.4	1.85	20.4	2.21	23.8	2.48	26.8	2.61	27.6	2.65	30.9	2.79

NOTE: 1. IDB : Intake air dry-bulb temperature

TC : Total Capacity (x10³ Btu/h)

TPC : Total Power Consumption (kW)

2. Above data is for heating operation without any frost.

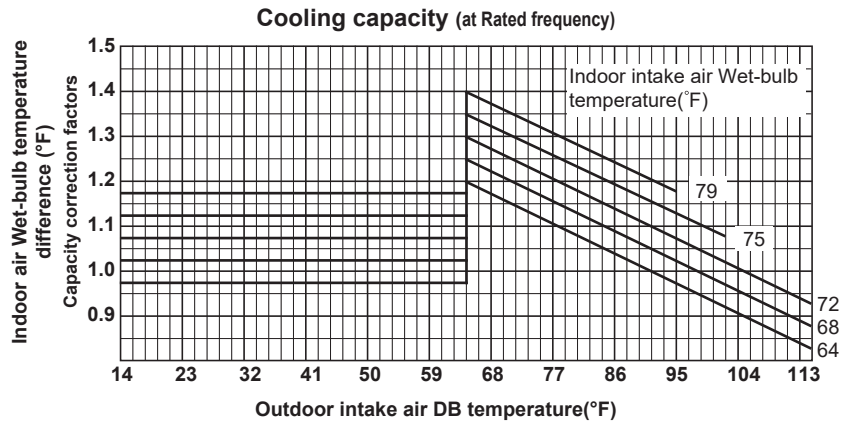
3. Data shown are estimated value. Performance may vary depending on operating conditions.

How to operate with fixed operational frequency of the compressor.

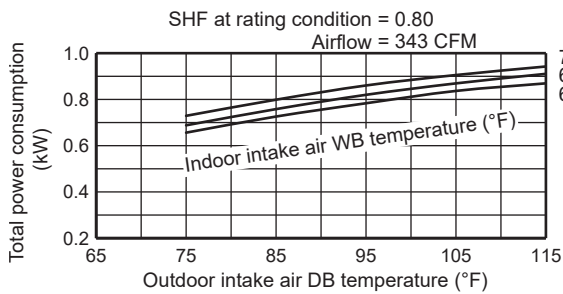
1. Press the emergency operation switch on the front of the indoor unit, and select either EMERGENCY COOL mode or EMERGENCY HEAT mode before starting to operate the air conditioner.
2. The compressor starts with operational frequency.
3. The fan speed of the indoor unit is High.
4. This operation continues for 30 minutes.
5. In order to release this operation, press the emergency operation switch twice or once, or press any button on the remote controller.

8-2. PERFORMANCE CURVE

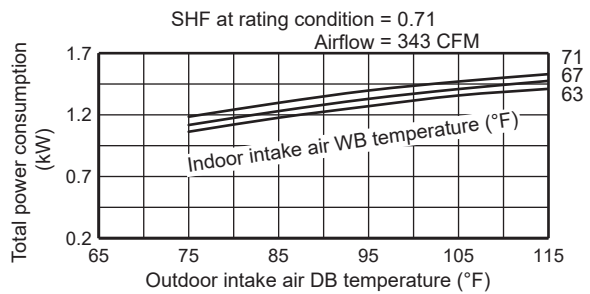
Cooling (at Rated frequency)



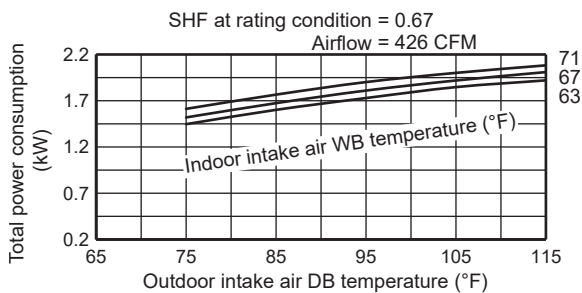
MUZ-WX09NL



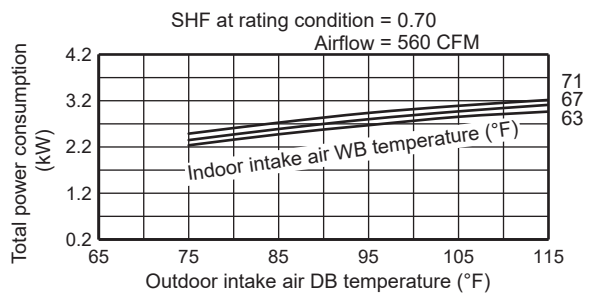
MUZ-WX12NL



MUZ-WX18NL



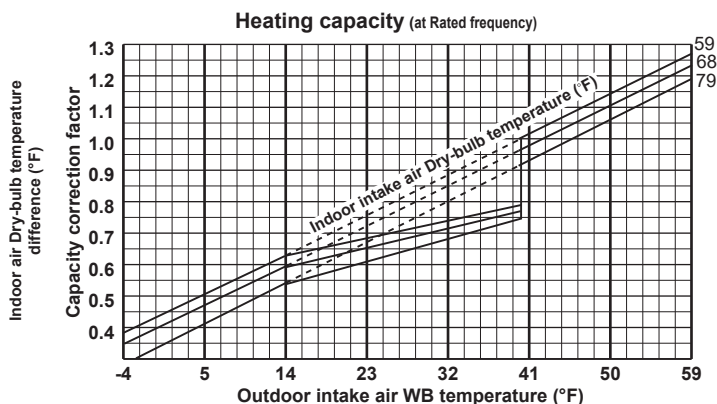
MUZ-WX24NL



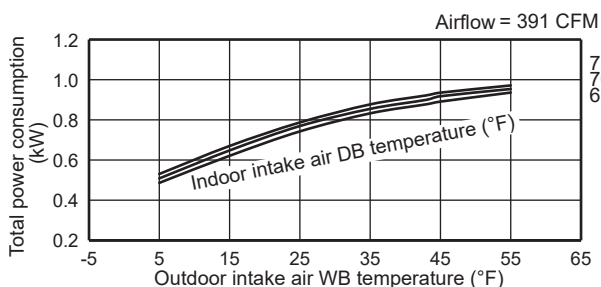
This value of frequency is not the same as the actual frequency in operating. Refer to 8-5 and 8-6 for the relationships between frequency and capacity.

NOTE: Data shown are estimated value. Performance may vary depending on operating conditions.

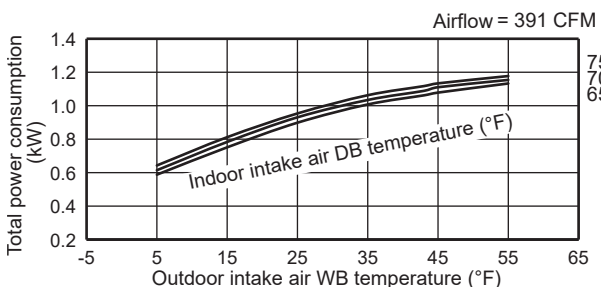
Heating (at Rated frequency)



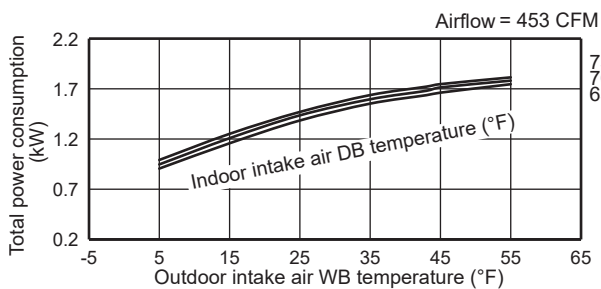
MUZ-WX09NL



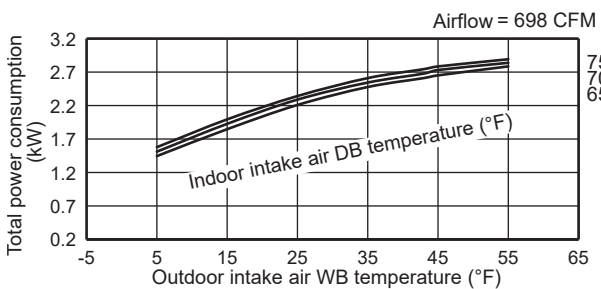
MUZ-WX12NL



MUZ-WX18NL



MUZ-WX24NL



This value of frequency is not the same as the actual frequency in operating. Refer to 8-5 and 8-6 for the relationships between frequency and capacity.

NOTE: Data shown are estimated value. Performance may vary depending on operating conditions.

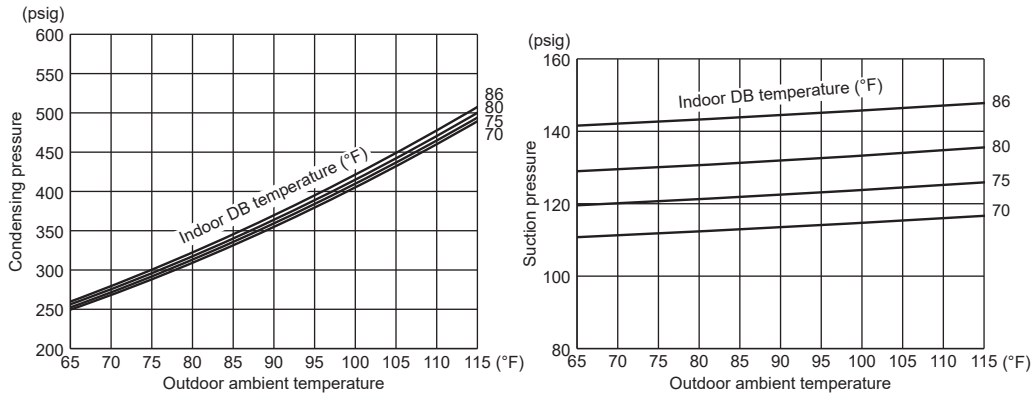
8-3. CONDENSING PRESSURE

Cooling

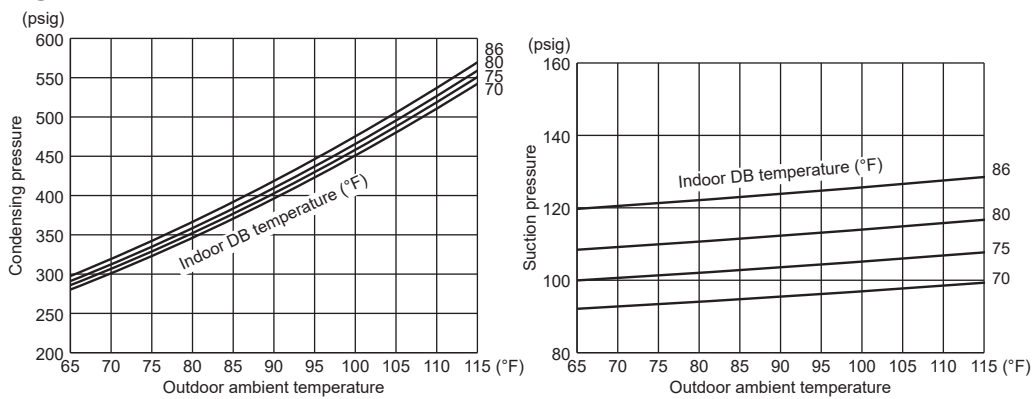
Data are based on the condition of indoor humidity 50 %.

Air flow should be set to High speed.

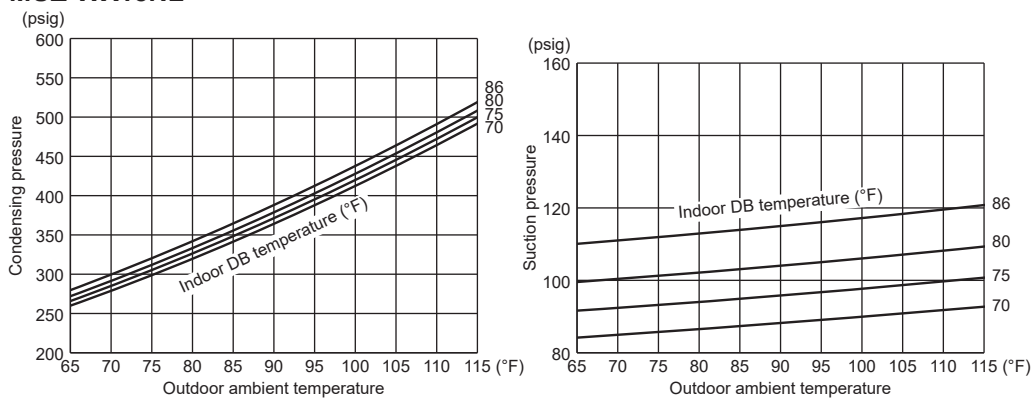
MUZ-WX09NL



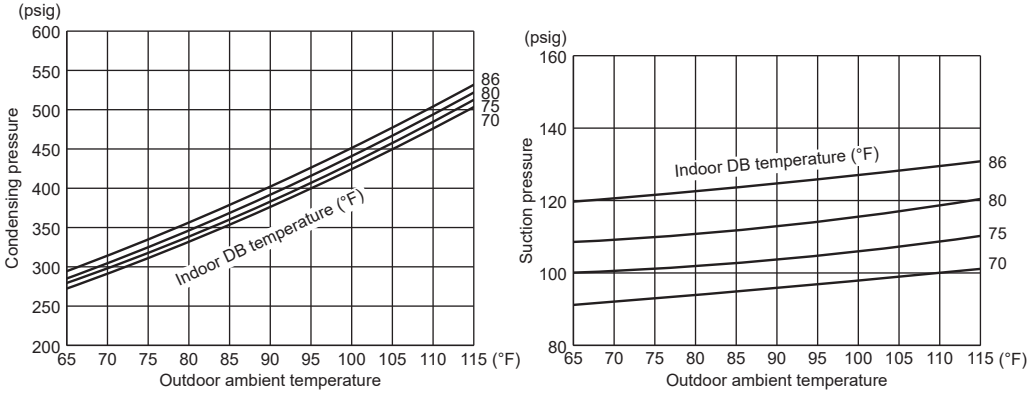
MUZ-WX12NL



MUZ-WX18NL



MUZ-WX24NL

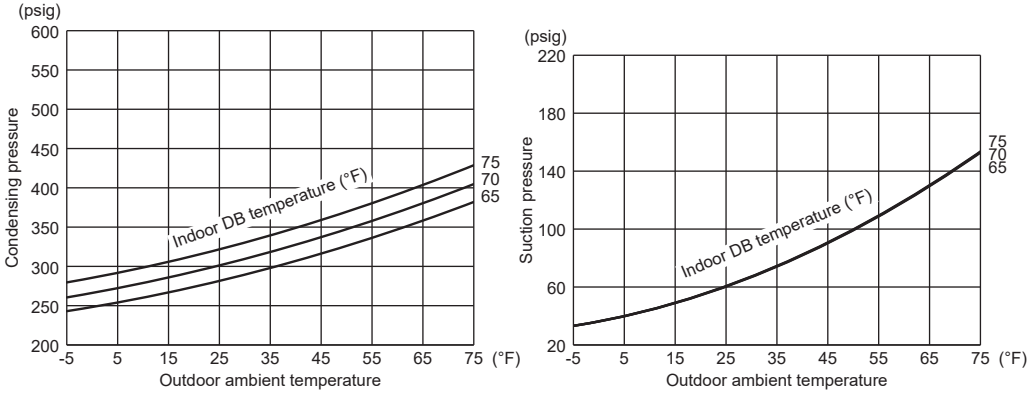


NOTE: Data shown are estimated value. Performance may vary depending on operating conditions.

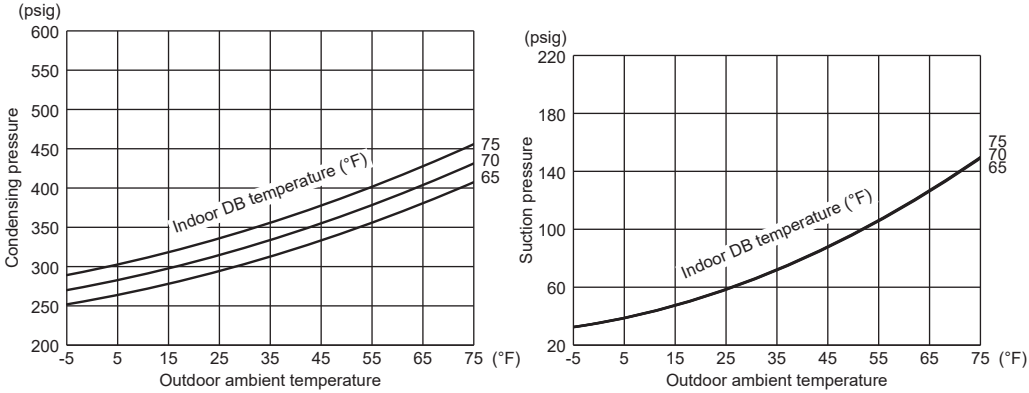
Heating

Data are based on the condition of outdoor humidity 75%.
Air flow should be set to High speed.
Data are for heating operation without any frost.

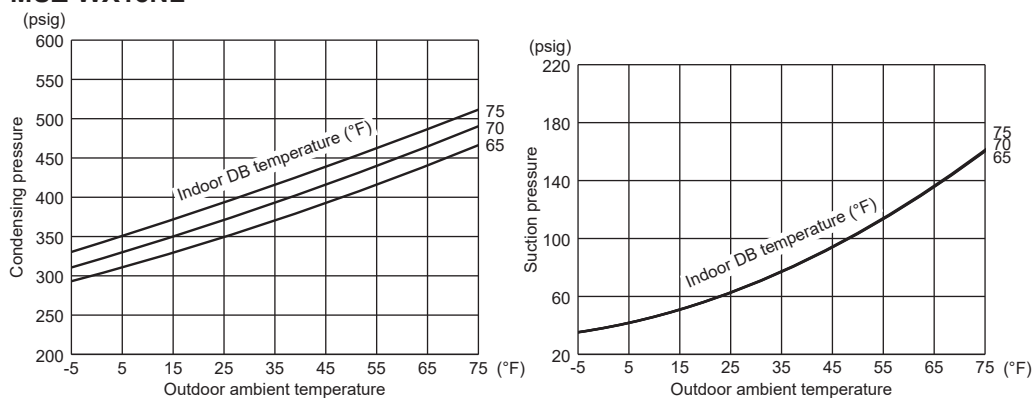
MUZ-WX09NL



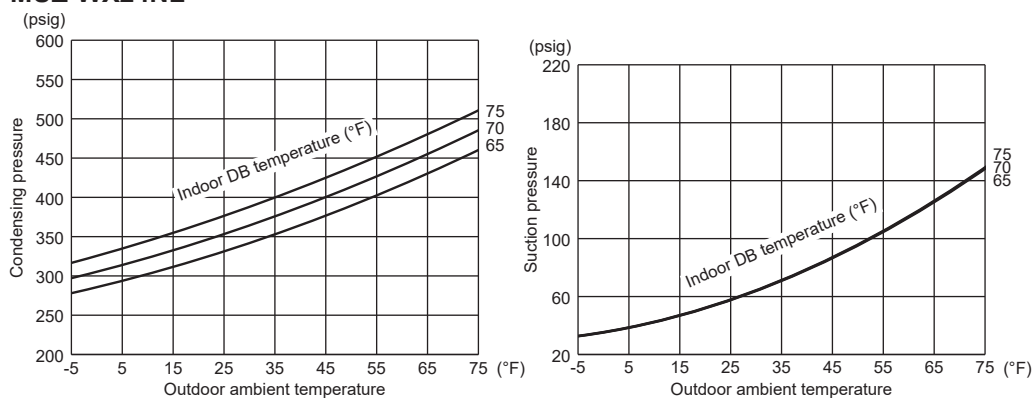
MUZ-WX12NL



MUZ-WX18NL



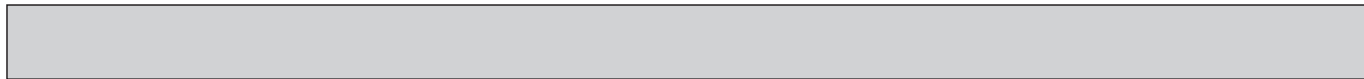
MUZ-WX24NL



- NOTE:**
1. Press the emergency operation switch on the front of the indoor unit, and select either EMERGENCY COOL mode or EMERGENCY HEAT mode before starting to operate the air conditioner.
 2. The compressor starts with operational frequency.
 3. The fan speed of the indoor unit is High.
 4. This operation continues for 30 minutes.
 5. In order to release this operation, press the emergency operation switch twice or once, or press any button on the remote controller.
 6. Data shown are estimated value. Performance may vary depending on operating conditions.

8-4. STANDARD OPERATION DATA

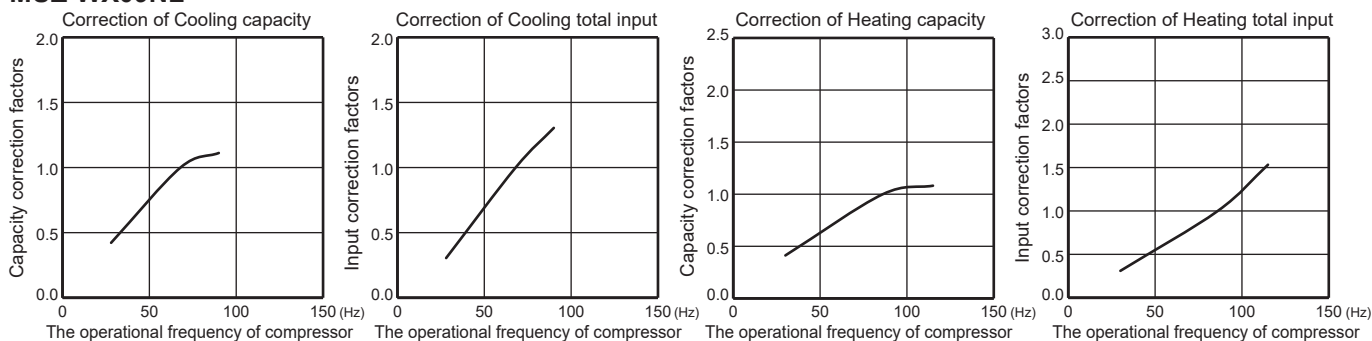
Model			MSZ-WX09NL		MSZ-WX12NL	
Item		Unit	COOL	HEAT	COOL	HEAT
Total	Capacity	Btu/h	9,000	10,900	12,000	12,200
	SHF	—	0.8	—	0.71	—
	Input	kW	0.82	0.9	1.33	1.09
	Rated frequency	Hz	68	86	102	95
Electrical circuit	Indoor unit		MSZ-WX09NL		MSZ-WX12NL	
	Power supply	V, phase, Hz	208/230, 1, 60		208/230, 1, 60	
	Input	kW	0.019	0.020	0.019	0.020
	Fan motor current	A	0.21/0.19	0.23/0.20	0.21/0.19	0.23/0.20
	Outdoor unit		MUZ-WX09NL		MUZ-WX12NL	
	Power supply	V, phase, Hz	208/230, 1, 60		208/230, 1, 60	
	Input	kW	0.801	0.880	1.311	1.070
	Comp. current	A	3.44/3.11	3.95/3.57	5.99/5.41	4.58/4.14
	Fan motor current	A	0.22/0.20	0.27/0.24	0.22/0.20	0.27/0.24
	Refrigerant circuit					
Refrigerant circuit	Condensing pressure	psig	390	340	439	358
	Suction pressure	psig	134	94	115	91
	Discharge temperature	°F	175	177	203	186
	Condensing temperature	°F	121	111	130	115
	Suction temperature	°F	58	39	48	37
	Comp. shell bottom temperature	°F	173	173	200	182
	Ref. pipe length	ft.	25		25	
	Refrigerant charge (R454B)		1 lbs. 6 oz		1 lbs. 6 oz	
Indoor unit	Intake air temperature	DB	°F	80	70	80
		WB	°F	67	60	67
	Discharge air temperature	DB	°F	58	99	54
		WB	°F	57	—	53
	Fan speed	rpm	1,020	1,040	1,020	1,040
	Airflow	CFM	343 (wet)	391	343 (wet)	391
Outdoor unit	Intake air temperature	DB	°F	95	47	95
		WB	°F	—	43	—
	Fan speed	rpm	770	850	770	850
	Airflow	CFM	1,031	1,141	1,031	1,141



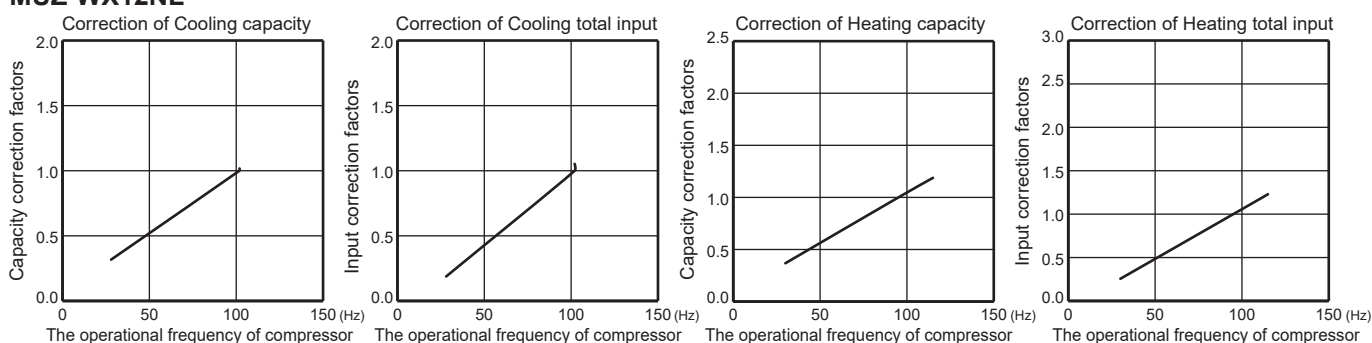
Model				MSZ-WX18NL		MSZ-WX24NL	
Item			Unit	COOL	HEAT	COOL	HEAT
Total	Capacity		Btu/h	17,200	18,000	22,400	26,000
	SHF		—	0.67	—	0.7	—
	Input		kW	1.81	1.68	2.80	2.68
	Rated frequency		Hz	82	74	98	102
Electrical circuit	Indoor unit			MSZ-WX18NL		MSZ-WX24NL	
	Power supply	V, phase, Hz		208/230, 1, 60		208/230, 1, 60	
	Input		kW	0.033	0.029	0.039	0.054
	Fan motor current		A	0.34/0.31	0.31/0.28	0.39/0.35	0.52/0.47
	Outdoor unit			MUZ-WX18NL		MUZ-WX24NL	
	Power supply	V, phase, Hz		208/230, 1, 60		208/230, 1, 60	
	Input		kW	1.777	1.651	2.761	2.626
	Comp. current		A	8.02/7.25	7.21/6.52	10.86/9.82	10.61/9.59
	Fan motor current		A	0.33/0.30	0.32/0.29	0.25/0.23	0.25/0.23
Refrigerant circuit	Condensing pressure		psig	405	423	416	401
	Suction pressure		psig	106	98	115	89
	Discharge temperature		°F	194	193	190	205
	Condensing temperature		°F	124	127	126	123
	Suction temperature		°F	44	33	43	35
	Comp. shell bottom temperature		°F	182	179	178	190
	Ref. pipe length		ft.	25		25	
	Refrigerant charge (R454B)			2 lbs. 2 oz		2 lbs. 8 oz	
Indoor unit	Intake air temperature	DB	°F	80	70	80	70
		WB	°F	67	60	67	60
	Discharge air temperature	DB	°F	52	114	54	111
		WB	°F	51	—	53	—
	Fan speed		rpm	1,200	1,160	1,140	1,250
	Airflow		CFM	426 (wet)	453	560 (wet)	698
Outdoor unit	Intake air temperature	DB	°F	95	47	95	47
		WB	°F	—	43	—	43
	Fan speed		rpm	910	900	790	790
	Airflow		CFM	1,166	1,152	1,321	1,321

8-5. CAPACITY AND INPUT CORRECTION BY INVERTER OUTPUT FREQUENCY

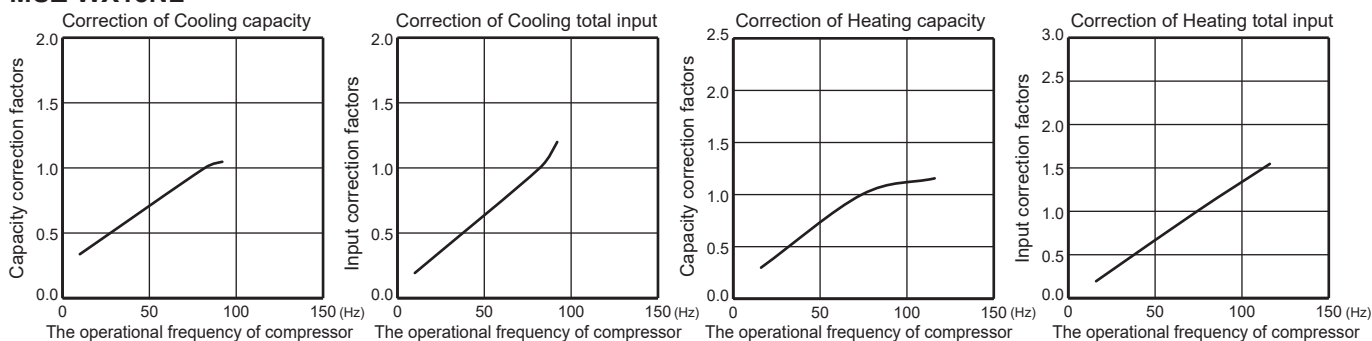
MUZ-WX09NL



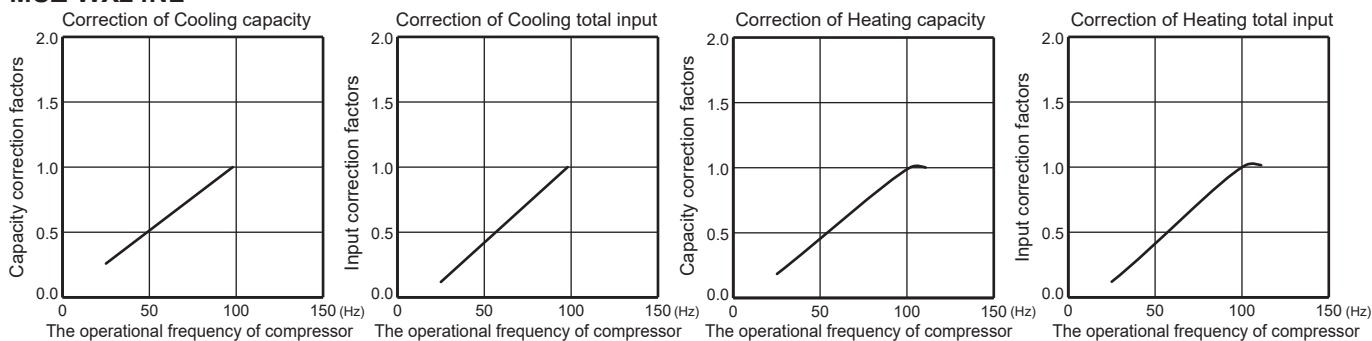
MUZ-WX12NL



MUZ-WX18NL



MUZ-WX24NL



NOTE: 1. Data shown are estimated value. Performance may vary depending on operating conditions.

2. Conditions are based on AHRI 210/240.

Rating conditions (Cooling) — Indoor: 80°FDB, 67°FWB, Outdoor: 95°FDB, (75°FWB)

(Heating) — Indoor: 70°FDB, 60°FWB, Outdoor: 47°FDB, 43°FWB

8-6. HOW TO OPERATE FIXED-FREQUENCY OPERATION (Test run operation)

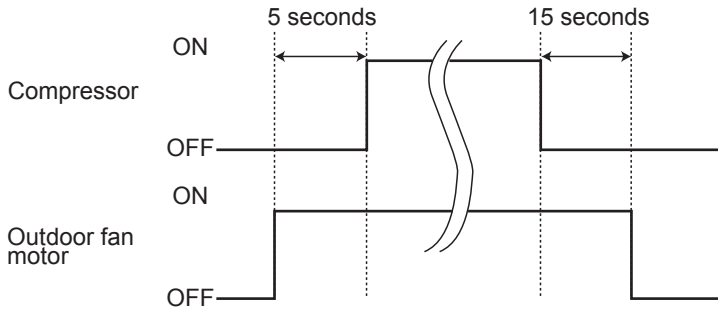
1. Press the emergency operation switch to start COOL or HEAT mode (COOL: Press once, HEAT: Press twice).
2. Test run operation starts and continues to operate for 30 minutes.
3. Compressor operates at rated frequency in COOL mode or 58Hz (**WX09/12/18**)/55 Hz (**WX24**) in HEAT mode.
4. Indoor fan operates at High speed.
5. After 30 minutes, test run operation finishes and EMERGENCY OPERATION starts (operation frequency of compressor varies).
6. To cancel test run operation (EMERGENCY OPERATION), press the emergency operation switch or any button on remote controller.

MUZ-WX09NL MUZ-WX12NL MUZ-WX18NL MUZ-WX24NL
9-1. OUTDOOR FAN MOTOR CONTROL

The fan motor turns ON/OFF, interlocking with the compressor.

[ON] The fan motor turns ON 5 seconds before the compressor starts up.

[OFF] The fan motor turns OFF 15 seconds after the compressor has stopped running.


9-2. R.V. COIL CONTROL

Heating ON

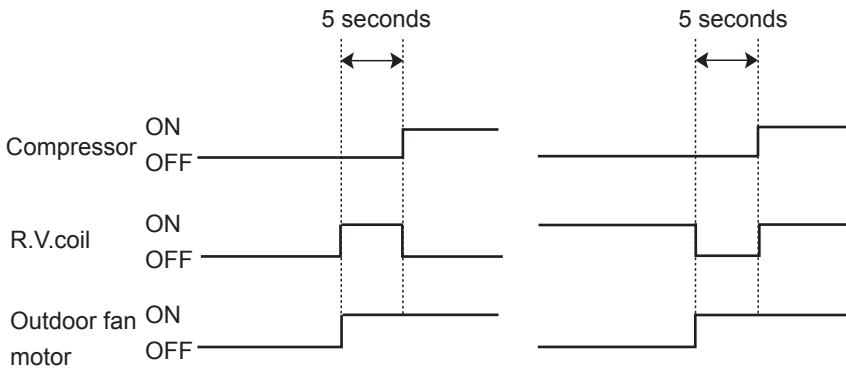
Cooling OFF

Dry OFF

NOTE: The 4-way valve reverses for 5 seconds right before startup of the compressor.

<COOL>

<HEAT>


9-3. RELATION BETWEEN MAIN SENSOR AND ACTUATOR

Sensor	Purpose	Actuator				
		Compressor	LEV	Outdoor fan motor	R.V.coil	Indoor fan motor
Discharge temperature thermistor	Protection	○	○			
Indoor coil temperature thermistor	Cooling: Coil frost prevention	○				
	Heating: High pressure protection	○	○			
Defrost thermistor	Heating: Defrosting	○	○	○	○	○
Fin temperature thermistor	Protection	○		○		
Ambient temperature thermistor	Cooling: Low ambient temperature operation	○	○	○		
Outdoor heat exchanger temperature thermistor	Cooling: Low ambient temperature operation	○	○	○		
	Cooling: High pressure protection	○	○	○		

MUZ-WX09NL MUZ-WX12NL MUZ-WX18NL MUZ-WX24NL
10-1. CHANGE IN DEFROST SETTING
Changing defrost finish temperature

<JS> To change the defrost finish temperature, cut/solder the JS wire of the outdoor inverter P.C. board (Refer to 11-6.1.).

Jumper		Defrost finish temperature
JS	Soldered (Initial setting)	46°F (8°C)
	None (Cut)	55°F (13°C)

10-2. PRE-HEAT CONTROL SETTING

Prolonged low load operation, in which the thermostat is OFF for a long time, at low outside temperature [32°F (0°C) or less] may cause the following troubles. To prevent those troubles, activate the pre-heat control.

- 1) If moisture gets into the refrigerant cycle and freezes, it may interfere the startup of the compressor.
- 2) If liquid refrigerant collects in the compressor, a failure in the compressor may occur.

The pre-heat control turns ON when the compressor temperature is 68°F (20°C) or below. When the pre-heat control turns ON, the compressor is energized. (About 70 W)

Pre-heat control setting

<JK>

ON: To activate the pre-heat control, cut JK wire of the inverter P.C. board.

OFF: To deactivate the pre-heat control, solder JK wire of the inverter P.C. board.

(Refer to 11-6.1)

Jumper		Pre-heat control setting
JK	Soldered	Deactivated (Initial setting)
	Cut	Activated

NOTE: When the inverter P.C. board is replaced, check the jumper wires, and cut/solder them if necessary.

MUZ-WX09NL MUZ-WX12NL MUZ-WX18NL MUZ-WX24NL
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 main unit first with the remote controller, 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.

<Incorrect>



Lead wiring

<Correct>



Connector housing

3. Troubleshooting procedure

- 1) Check if the OPERATION INDICATOR lamp on the indoor unit is blinking on and off to indicate an abnormality.
To make sure, check how many times the OPERATION INDICATOR lamp is blinking on and off before starting service work.
- 2) Before servicing, verify that all connectors and terminals are connected properly.
- 3) When the electronic control P.C. board seems to be defective, check for disconnection of the copper foil pattern and burnt or discolored components.
- 4) Refer to 11-2 and 11-3.

Outline of the function

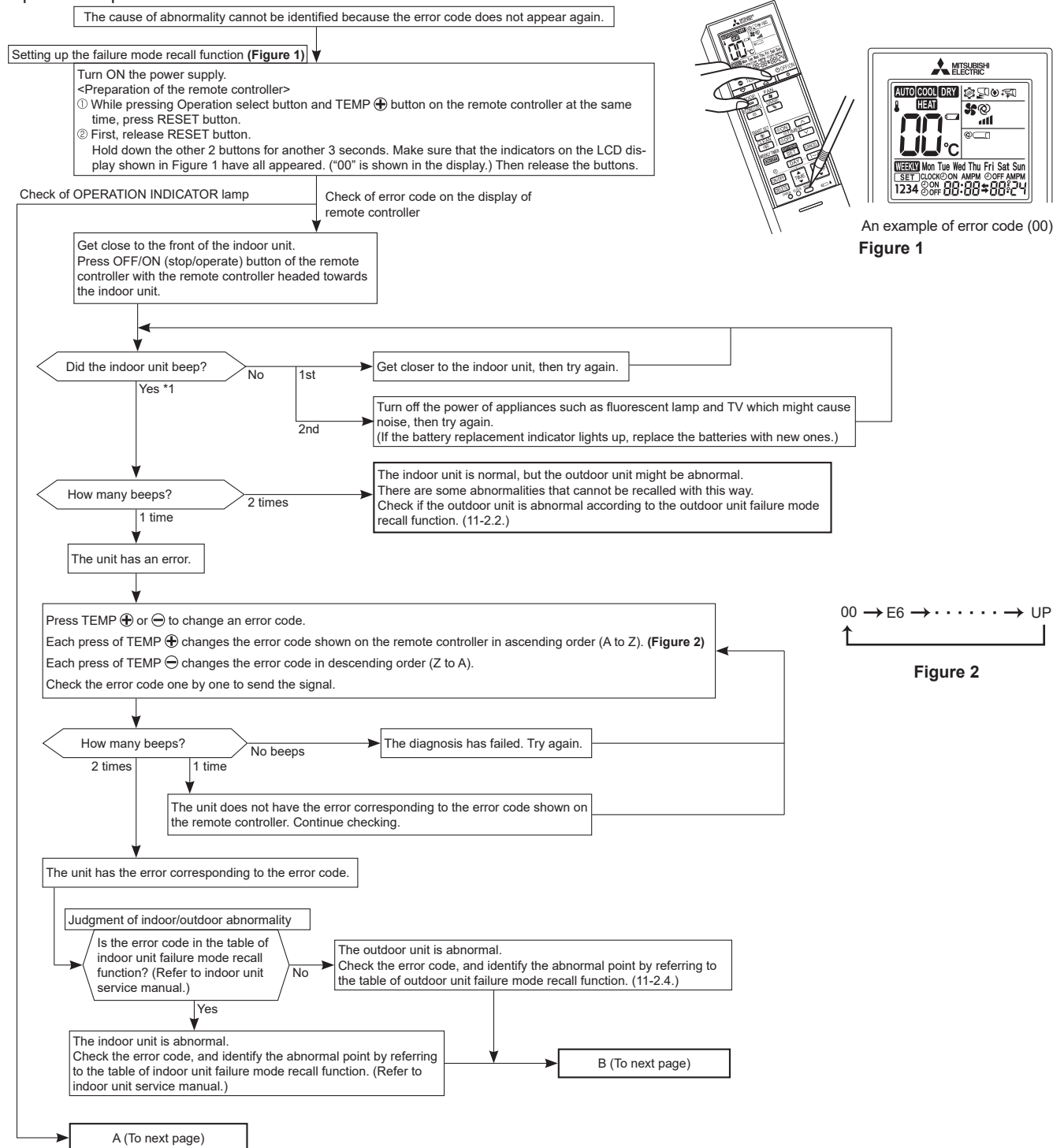
This air conditioner ca

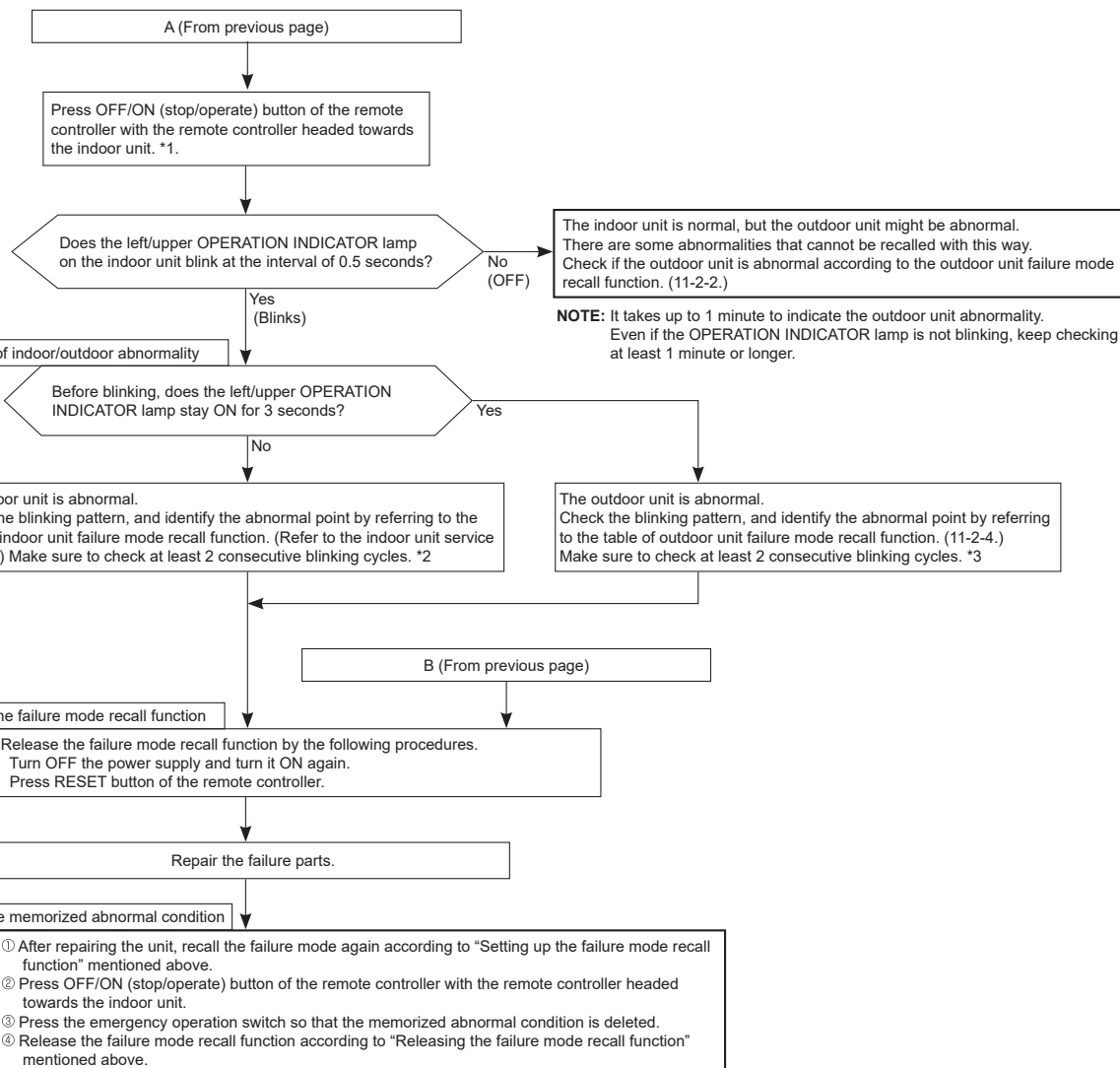
Even though LED indication listed on the troubleshooting check table (11-3

Also, error code can be checked on the display of remote controller while the left/upper operation indicator lamp on the

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

The cause of abnormal

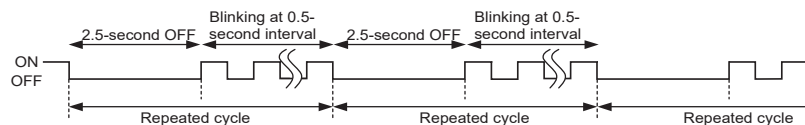




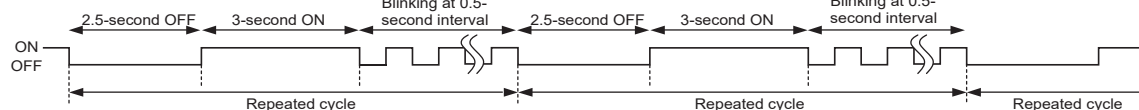
NOTE: 1. Make sure to release the failure mode recall function after it is set up, otherwise the unit cannot operate properly.
2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

*1. Regardless of normal or abnormal condition, 2 short beeps are emitted once the signal is received.

*2. Blinking pattern when the indoor unit is abnormal:



*3. Blinking pattern when the outdoor unit is abnormal:



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

Operational procedure

The outdoor unit might be abnormal.
Check if the outdoor unit is abnormal according to the following procedures.

Make sure that the remote controller is set to the failure mode recall function.

Get close to the front of the indoor unit. With the remote controller headed towards the indoor unit, press  button to set the indicator shown in Figure 1 to 25. *1 (Figure 1)

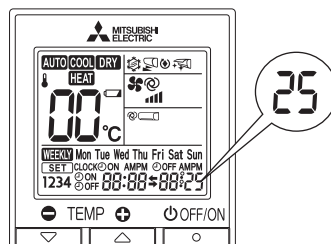


Figure 1

Check of OPERATION INDICATOR lamp

Check of error code on the display of remote controller

"00" is shown in the display. (Figure 1)

How many beeps?

2 times

1 time

The outdoor unit has an error.

Press TEMP  or  to change an error code.

Each press of TEMP  changes the error code shown on the remote controller in ascending order (A to Z). (Figure 2)

Each press of TEMP  changes the error code in descending order (Z to A).

Check the error code one by one to send the signal.

How many beeps?

No beeps

1 time

The diagnosis has failed.
Try again.

The unit does not have the error corresponding to the error code shown on the remote controller. Continue checking.

The unit has the error corresponding to the error code.

The outdoor unit is abnormal.

Check the error code, and identify the abnormal point by referring to the table of outdoor unit failure mode recall function (11-2.4.).

A (To next page)

Does the left/upper OPERATION INDICATOR lamp on the indoor unit blink at the interval of 0.5 seconds?
*2

No
(OFF)

Yes
(Blinks)

The outdoor unit is abnormal.

Check the blinking pattern, and identify the abnormal point by referring to the table of outdoor unit failure mode recall function (11-2.4.).
Make sure to check at least 2 consecutive blinking cycles. *2

A (To next page)

The outdoor unit is normal.

00 → E8 → → UP

Figure 2

3. Flow chart of error code display mode

This explains how customers can check the error code on their own.
This is included in OPERATING INSTRUCTIONS.

Operational procedure

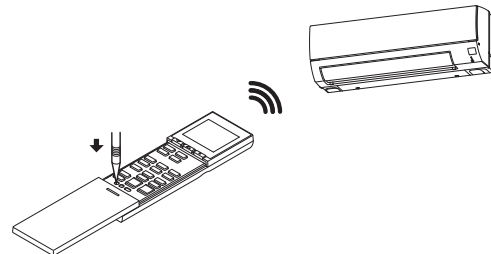
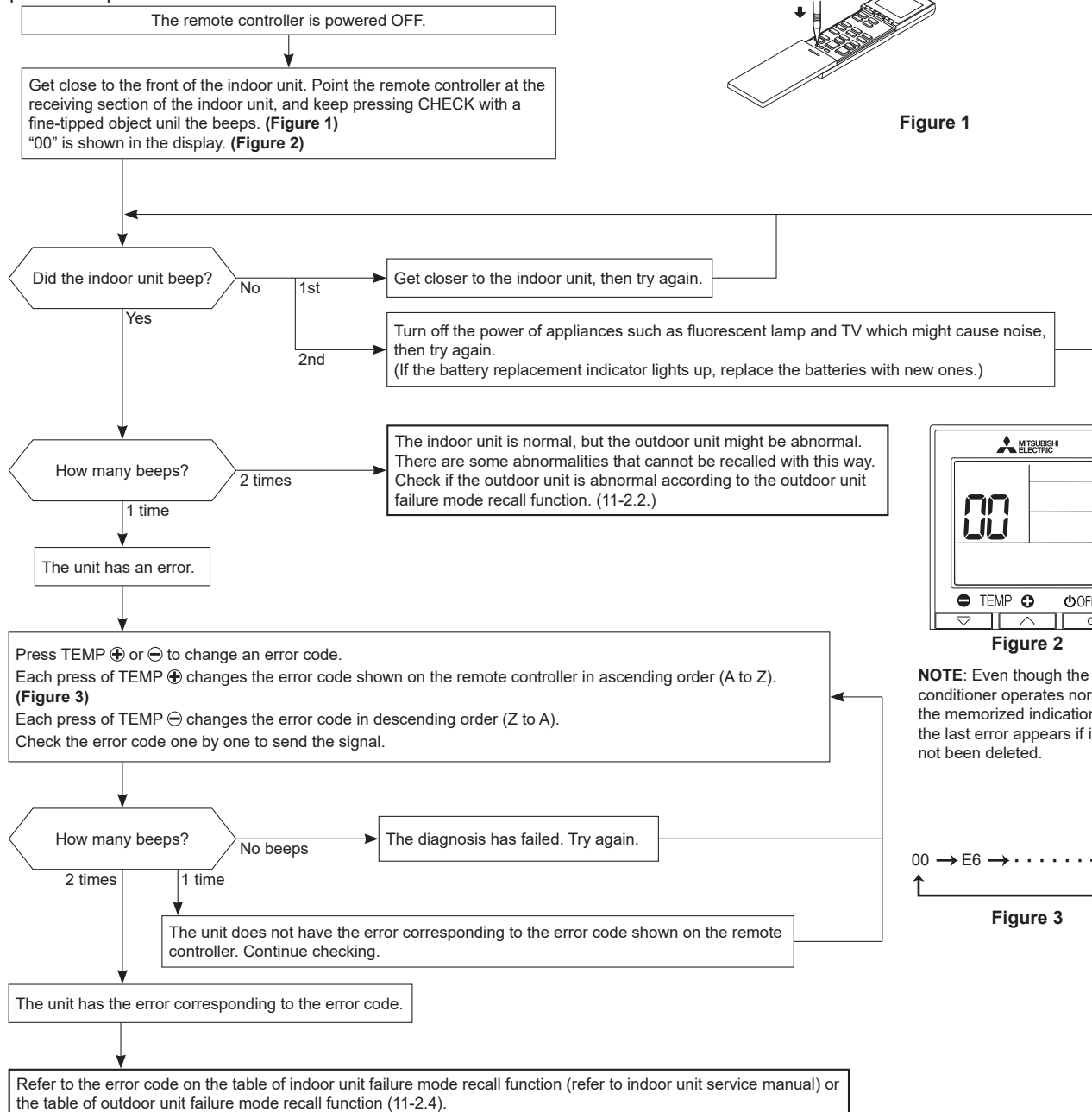


Figure 1

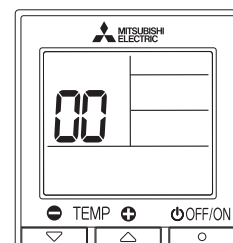


Figure 2

NOTE: Even though the air conditioner operates normally, the memorized indication for the last error appears if it has not been deleted.

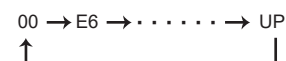


Figure 3

4. Table of outdoor unit failure mode recall function

OPERATION INDICATOR lamp (Indoor unit)	Error code	Abnormal point (Failure mode/protection)	LED indication (Outdoor P.C. board)	Condition	Remedy	Indoor/outdoor unit failure mode recall function	Outdoor unit failure mode recall function
Not blink	00	None (Normal)	—	—	—	—	—
1-time blink 2.5 seconds OFF	E8	Indoor/outdoor communication, receiving error	—	Any signals from the inverter P.C. board cannot be received normally for 3 minutes.	• Refer to 11-5.⑤ "How to check miswiring and serial signal error".	○	○
	E9	Indoor/outdoor communication, receiving error	—	Although the inverter P.C. board sends signal "0", signal "1" has been received 30 consecutive times.	• Refer to 11-5.⑤ "How to check miswiring and serial signal error".		
	EC	Indoor/outdoor communication, start-up process abnormality	—	The start-up process of the outdoor unit does not complete for 4 minutes.	• Replace the indoor electronic control P.C. board.		
2-time blink 2.5 seconds OFF	UP	Outdoor power system	—	Overcurrent protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started.	• Reconnect connectors. • Refer to 11-5.④ "How to check inverter/compressor". • Check stop valve.	○	○
3-time blink 2.5 seconds OFF	U4	U3 Discharge temperature thermistor	1-time blink every 2.5 seconds	Thermistor shorts or opens during compressor running.	• Refer to 11-5.⑥ "Check of outdoor thermistors". Defective outdoor thermistors can be identified by checking the blinking pattern of LED. • Replace the inverter P.C. board.	○	○
		Defrost thermistor					
		Ambient temperature	2-time blink 2.5 seconds OFF				
		Fin temperature thermistor	3-time blink 2.5 seconds OFF				
		Outdoor heat exchanger temperature thermistor	—				
4-time blink 2.5 seconds OFF	UF	P.C. board temperature thermistor	4-time blink 2.5 seconds OFF				
		Overcurrent	11-time blink 2.5 seconds OFF	Large current flows into power module (IC700).	• Reconnect compressor connector. • Refer to 11-5.④ "How to check inverter/compressor". • Check stop valve.	—	○
		Compressor synchronous abnormality	12-time blink 2.5 seconds OFF	Waveform of compressor current is distorted.	• Reconnect compressor connector.	—	○
5-time blink 2.5 seconds OFF	U2	Compressor start-up failure protection	13-time blink 2.5 seconds OFF	Overcurrent cutoff within 10 seconds after activating the compressor.	• Refer to 11-5.④ "How to check inverter/compressor".	—	○
		Discharge temperature	—	Temperature of discharge temperature thermistor exceeds 116°C, compressor stops. Compressor can restart if discharge temperature thermistor reads 100°C or less 3 minutes later.	• Check refrigerant circuit and refrigerant amount. • Refer to 11-5.⑧ "Check of LEV".	—	○
		High pressure	—	Temperature of outdoor heat exchanger temperature thermistor exceeds 70°C in COOL mode.	• Check refrigerant circuit and refrigerant amount. • Check stop valve.	—	○
7-time blink 2.5 seconds OFF	U5	Fin temperature	7-time blink 2.5 seconds OFF	Temperature of fin temperature thermistor on the inverter P.C. board exceeds 75 – 86°C, or temperature of P.C. board temperature thermistor on the inverter P.C. board exceeds 72 – 85°C.	• Check around outdoor unit. • Check outdoor unit air passage. • Refer to 11-5.① "Check of outdoor fan motor".	—	○
	Ub	P.C. board temperature					
8-time blink 2.5 seconds OFF	U8	Outdoor fan motor	—	Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan start-up.	• Refer to 11-5.① "Check of outdoor fan motor". Refer to 11-5.① "Check of inverter P.C. board".	—	○

NOTE: Blinking patterns of this mode differ from the ones of TROUBLESHOOTING CHECK TABLE (11-3.).

NOTE: Blinking patterns of this mode differ from the ones of TROUBLESHOOTING CHECK TABLE (11-3.).

OPERATION INDICATOR lamp (Indoor unit)	Error code	Abnormal point (Failure mode/protection)	LED indication (Outdoor P.C. board)	Condition	Remedy	Indoor/outdoor unit failure mode recall function	Outdoor unit failure mode recall function
9-time blink 2.5 seconds OFF	FC	Nonvolatile memory data	5-time blink 2.5 seconds OFF	Nonvolatile memory data cannot be read properly.	• Replace the inverter P.C. board.	○	○
	U6	Power module (IC700)	6-time blink 2.5 seconds OFF	The interface short circuit occurs in the output of the power module (IC700). The compressor winding shorts circuit.	• Refer to 11-5.④ "How to check inverter/compressor".	—	○
10-time blink 2.5 seconds OFF	U7	Discharge temperature	—	Temperature of discharge temperature thermistor has been 50°C or less for 20 minutes.	• Refer to 11-5.④ "Check of LEV". • Check refrigerant circuit and refrigerant amount.	—	○
11-time blink 2.5 seconds OFF	UJ	Bus-bar voltage (DC)	8-time blink 2.5 seconds OFF	Bus-bar voltage of inverter cannot be detected normally.	• Refer to 11-5.④ "How to check inverter/compressor".	—	○
	UH	Each phase current of compressor	9-time blink 2.5 seconds OFF	Each phase current of compressor cannot be detected normally.			
13-time blink 2.5 seconds OFF	Fd	Abnormal of wrong voltage power supply connected.	—	When 100 V power supply is connected to 200 V model.	• Check power supply voltage	○	○
14-time blink 2.5 seconds OFF *1	UE	Stop valve (Closed valve)	14-time blink 2.5 seconds OFF	• Closed valve is detected by compressor current. • An abnormality of the indoor thermistors is detected.	• Check stop valve. • Refer to "TEST POINT DIAGRAM AND VOLTAGE" on the service manual of indoor unit for the characteristics of the thermistors. (Do not start the operation again without repair to prevent hazards.)	○	○
	P8	Pipe temperature	16-time blink 2.5 seconds OFF	• The indoor coil thermistor detects an abnormal temperature. • An abnormality of the indoor thermistors is detected.	• Replace the inverter P.C. board. • Refer to "TEST POINT DIAGRAM AND VOLTAGE" on the service manual of indoor unit for the characteristics of the thermistors. (Do not start the operation again without repair to prevent hazards.)	○	○
16-time blink 2.5 seconds OFF *1	PL	Outdoor refrigerant system abnormality	1-time blink 2.5 seconds OFF	• A closed valve and air trapped in the refrigerant circuit are detected based on the temperature sensed by the indoor and outdoor thermistors and the current of the compressor. • An abnormality of the indoor thermistors is detected.	• Check for a gas leak in a connecting piping etc. • Check the stop valve. • Refer to 11-5.④ "Check of outdoor refrigerant circuit". • Refer to "TEST POINT DIAGRAM AND VOLTAGE" on the service manual of indoor unit for the characteristics of the thermistors. (Do not start the operation again without repair to prevent hazards.)	○	○

*1 There is possibility that diesel explosion may occur due to the air mixed in the refrigerant circuit.

First, ensure that there are no leakage points on the valves, flare connections, etc. that allow the air to flow into the refrigerant circuit, or no blockage points (e.g. clogged or closed valves) in the refrigerant circuit that cause an increase in pressure.

If there is no abnormal point like above and the system operates cooling mode normally, the indoor thermistor might have a problem, resulting in false detection. Check both the indoor coil thermistor and the room temperature thermistor, and replace faulty thermistor(s), if any.

NOTE: Do not start the operation again without repair to prevent hazards.

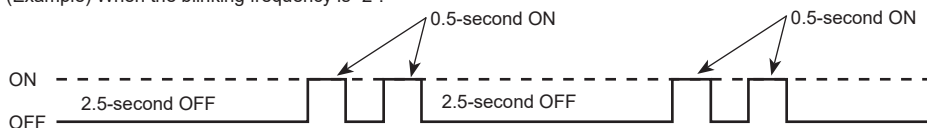
11-3. TROUBLESHOOTING CHECK TABLE

No.	Symptom	LED indication	Abnormal point/ Condition	Condition	Remedy
1	Outdoor unit does not operate.	1-time blink every 2.5 seconds	Outdoor power system	Overcurrent protection cut-out operates 3 consecutive times within 1 minute after the compressor gets started.	- Reconnect connector of compressor. - Refer to 11-5.④ "How to check inverter/compressor". - Check stop valve.
2			Outdoor thermistors	Discharge temperature thermistor, fin temperature thermistor, defrost thermistor, outdoor heat exchanger temperature thermistor or ambient temperature thermistor shorts or opens during compressor running.	Refer to 11-5.③ "Check of outdoor thermistors".
				P.C. board temperature thermistor shorts or opens during compressor running.	Replace inverter P.C. board.
3			Outdoor control system	Nonvolatile memory data cannot be read properly. (The left/upper lamp of the OPERATION INDICATOR lamp on the indoor unit lights up or blinks 7-time.)	Replace inverter P.C. board.
4		6-time blink 2.5 seconds OFF	Serial signal	The communication fails between the indoor and outdoor unit for 3 minutes.	Refer to 11-5.⑩ "How to check miswiring and serial signal error."
5		11-time blink 2.5 seconds OFF	Stop valve/ Closed valve	Closed valve is detected by compressor current.	Check stop valve.
6		14-time blink 2.5 seconds OFF	Outdoor unit (Other abnormality)	Outdoor unit is defective.	Refer to 11-2.2. "Flow chart of the detailed outdoor unit failure mode recall function".
7		16-time blink 2.5 seconds OFF	4-way valve/ Pipe temperature	The 4-way valve does not work properly. The indoor coil thermistor detects an abnormal temperature.	- Refer to 11-5.⑨ "Check of R.V. coil". - Replace the inverter P.C. board.
8		17-time blink 2.5 seconds OFF	Outdoor refrigerant system abnormality	A closed valve and air trapped in the refrigerant circuit are detected based on the temperature sensed by the indoor and outdoor thermistors and the current of the compressor.	- Check for a gas leak in a connecting piping etc. - Check the stop valve. - Refer to 11-5.③ "Check of outdoor refrigerant circuit".
9	'Outdoor unit stops and restarts 3 minutes later' is repeated.	2-time blink 2.5 seconds OFF	Overcurrent protection	Large current flows into the power module (IC700).	- Reconnect connector of compressor. - Refer to 11-5.④ "How to check inverter/compressor". - Check stop valve.
10		3-time blink 2.5 seconds OFF	Discharge temperature overheat protection	Temperature of discharge temperature thermistor exceeds 241°F (116°C), compressor stops. Compressor can restart if discharge temperature thermistor reads 212°F (100°C) or less 3 minutes later.	- Check refrigerant circuit and refrigerant amount. - Refer to 11-5.⑥ "Check of LEV".
11		4-time blink 2.5 seconds OFF	Fin temperature /P.C. board temperature thermistor overheat protection	Temperature of the fin temperature thermistor on the heat sink exceeds 167 – 187°F (75 – 86°C) or temperature of P.C. board temperature thermistor on the inverter P.C. board exceeds 162 – 185°F (72 – 85°C).	- Check around outdoor unit. - Check outdoor unit air passage. - Refer to 11-5.① "Check of outdoor fan motor".
12		5-time blink 2.5 seconds OFF	High pressure protection	Indoor coil thermistor exceeds 158°F (70°C) in HEAT mode. Defrost thermistor exceeds 158°F (70°C) in COOL mode.	- Check refrigerant circuit and refrigerant amount. - Check stop valve.
13		8-time blink 2.5 seconds OFF	Compressor synchronous abnormality	The waveform of compressor current is distorted.	- Reconnect connector of compressor. - Refer to 11-5.④ "How to check inverter/compressor".
14		10-time blink 2.5 seconds OFF	Outdoor fan motor	Outdoor fan has stopped 3 times in a row within 30 seconds after outdoor fan startup.	- Refer to 11-5.① "Check of outdoor fan motor." - Refer to 11-5.③ "Check of inverter P.C. board."
15		12-time blink 2.5 seconds OFF	Each phase current of compressor	Each phase current of compressor cannot be detected normally.	Refer to 11-5.④ "How to check inverter/compressor".
16		13-time blink 2.5 seconds OFF	Bus-bar voltage (DC)	Bus-bar voltage of inverter cannot be detected normally.	- It occurs with following case. - Instantaneous power voltage drop. (Short time power failure) (WX15/18/24) - Refer to 11-5.③ "Check of power supply". (WX15/18/24) - Refer to 11-5.④ "How to check inverter/compressor".

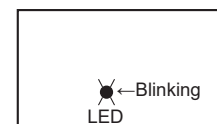
No.	Symptom	LED indication	Abnormal point/ Condition	Condition	Remedy
17	Outdoor unit operates.	1-time blink 2.5 seconds OFF	Deceleration of the operational frequency of the compressor by the current protection control	When the input current exceeds approximately 10A, compressor frequency lowers.	The unit is normal, but check the following. • Check if indoor filters are clogged. • Check if refrigerant is short. • Check if indoor/outdoor unit air circulation is short cycled.
18		3-time blink 2.5 seconds OFF	Deceleration of the operational frequency of the compressor by the high pressure protection	Temperature of indoor coil thermistor exceeds 131°F (55°C) in HEAT mode, compressor frequency lowers.	
			Deceleration of the operational frequency of the compressor by the overcooling prevention of the indoor heat exchanger	Indoor coil thermistor reads 46°F (8°C) or less in COOL mode, compressor frequency lowers.	
19		4-time blink 2.5 seconds OFF	Deceleration of the operational frequency of the compressor by the discharge temperature protection	Temperature of discharge temperature thermistor exceeds 232°F (111°C), compressor frequency lowers.	• Check refrigerant circuit and refrigerant amount. • Refer to 11-5.Ⓔ “Check of LEV”. • Refer to 11-5.Ⓕ “Check of outdoor thermistors”.
20		5-time blink 2.5 seconds OFF	Outside temperature thermistor protection	When the outside temperature thermistor shorts or opens, protective operation without that thermistor is performed.	• Refer to 11-5.Ⓔ “Check of outdoor thermistors”.
21	Outdoor unit operates.	7-time blink 2.5 seconds OFF	Low discharge temperature protection	Temperature of discharge temperature thermistor has been 122°F (50°C) or less for 20 minutes.	• Refer to 11-5.Ⓔ “Check of LEV”. • Check refrigerant circuit and refrigerant amount.
22		8-time blink 2.5 seconds OFF	PAM protection PAM: Pulse Amplitude Modulation	The overcurrent flows into IGBT(Q821) or the bus-bar voltage reaches 394 V or more, PAM stops and restarts.	This is not malfunction. PAM protection will be activated in the following cases: 1 Instantaneous power voltage drop. (Short time power failure) 2 When the power supply voltage is high.
23		9-time blink 2.5 seconds OFF	Inverter check mode	The connector of compressor is disconnected, inverter check mode starts.	• Check if the connector of the compressor is correctly connected. Refer to 11-5.Ⓐ “How to check inverter/compressor”.

NOTE: 1. The location of LED is illustrated at the right figure. Refer to 11-6.1.
2. LED is lit during normal operation.

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



Inverter P.C. board



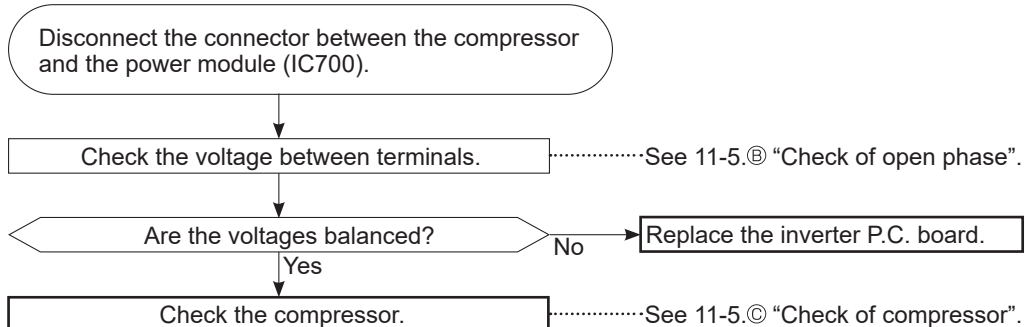
11-4. TROUBLESHOOTING CRITERION OF MAIN PARTS

MUZ-WX09NL MUZ-WX12NL MUZ-WX18NL MUZ-WX24NL

Part name	Check method and criterion	Figure											
Defrost thermistor (RT61) Fin temperature thermistor (RT64) Ambient temperature thermistor (RT65) Outdoor heat exchanger temperature thermistor (RT68)	Measure the resistance with a multimeter. Refer to 11-6. "Test point diagram and voltage", 1. "Inverter P.C. board", for the chart of thermistor.												
Discharge temperature thermistor (RT62)	Measure the resistance with a multimeter. Before measurement, hold the thermistor with your hands to warm it up. Refer to 11-6. "Test point diagram and voltage", 1. "Inverter P.C. board", for the chart of thermistor.												
Compressor	Measure the resistance between terminals using a multimeter. [Temperature: 14 – 104°F (-10 – 40°C)] <table border="1"><thead><tr><th></th><th colspan="2">Normal (Ω)</th></tr><tr><th></th><th>MUZ-WX09NL MUZ-WX12NL</th><th>MUZ-WX18NL MUZ-WX24NL</th></tr></thead><tbody><tr><td>U-V</td><td rowspan="3">2.21 – 2.99</td><td rowspan="3">1.30 – 1.77</td></tr><tr><td>U-W</td></tr><tr><td>V-W</td></tr></tbody></table>		Normal (Ω)			MUZ-WX09NL MUZ-WX12NL	MUZ-WX18NL MUZ-WX24NL	U-V	2.21 – 2.99	1.30 – 1.77	U-W	V-W	
	Normal (Ω)												
	MUZ-WX09NL MUZ-WX12NL	MUZ-WX18NL MUZ-WX24NL											
U-V	2.21 – 2.99	1.30 – 1.77											
U-W													
V-W													
Outdoor fan motor	Measure the resistance between lead wires using a multimeter. [Temperature: 14 – 104°F (-10 – 40°C)] <table border="1"><thead><tr><th>Color of lead wire</th><th colspan="2">Normal (Ω)</th></tr><tr><th></th><th>MUZ-WX09NL MUZ-WX12NL MUZ-WX18NL</th><th>MUZ-WX24NL</th></tr></thead><tbody><tr><td>RED – BLK BLK – WHT WHT – RED</td><td>26 – 40</td><td>30 – 46</td></tr></tbody></table>	Color of lead wire	Normal (Ω)			MUZ-WX09NL MUZ-WX12NL MUZ-WX18NL	MUZ-WX24NL	RED – BLK BLK – WHT WHT – RED	26 – 40	30 – 46			
Color of lead wire	Normal (Ω)												
	MUZ-WX09NL MUZ-WX12NL MUZ-WX18NL	MUZ-WX24NL											
RED – BLK BLK – WHT WHT – RED	26 – 40	30 – 46											
R. V. coil (21S4)	Measure the resistance using a multimeter. [Temperature: 14 – 104°F (-10 – 40°C)] <table border="1"><thead><tr><th>Normal (kΩ)</th></tr></thead><tbody><tr><td>1.65 – 2.48</td></tr></tbody></table>	Normal (kΩ)	1.65 – 2.48										
Normal (kΩ)													
1.65 – 2.48													
Expansion valve coil (LEV)	Measure the resistance using a multimeter. [Temperature: 14 – 104°F (-10 – 40°C)] <table border="1"><thead><tr><th>Color of lead wire</th><th>Normal (Ω)</th></tr></thead><tbody><tr><td>BRN – ORN</td><td rowspan="4">37 – 54</td></tr><tr><td>BRN – WHT</td></tr><tr><td>RED – BLU</td></tr><tr><td>RED – YLW</td></tr></tbody></table>	Color of lead wire	Normal (Ω)	BRN – ORN	37 – 54	BRN – WHT	RED – BLU	RED – YLW					
Color of lead wire	Normal (Ω)												
BRN – ORN	37 – 54												
BRN – WHT													
RED – BLU													
RED – YLW													

11-5. TROUBLESHOOTING FLOW

A How to check inverter/compressor



B Check of open phase

- With the connector between the compressor and the power module (IC700) disconnected, activate the inverter and check if the inverter is normal by measuring the **voltage balance** between the terminals.

Output voltage is 50 – 130 V. (The voltage may differ according to the multimeter.)

<< Operation method>>

Start cooling or heating operation by pressing the emergency operation switch on the indoor unit. (TEST RUN OPERATION: Refer to 8-6.)

<<Measurement point>>

At 3 points *Measure AC voltage between the lead wires at 3 points.

BLK (U)-WHT (V)

BLK (U)-RED (W)

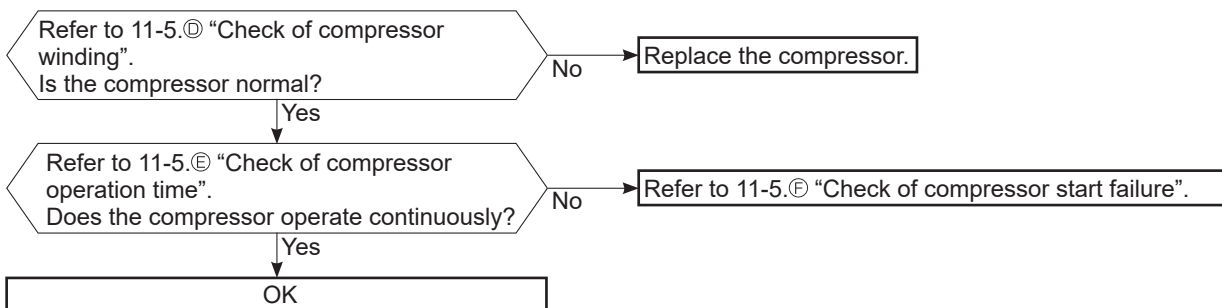
WHT(V)-RED (W)

NOTE: 1. Output voltage varies according to power supply voltage.

2. Measure the voltage by analog type multimeter.

3. During this check, LED of the inverter P.C. board blinks 9 times. (Refer to 11-6.1.)

C Check of compressor



D Check of compressor winding

- Disconnect the connector between the compressor and the power module (IC700), and measure the resistance between the compressor terminals.

<<Measurement point>>

At 3 points *Measure the resistance between the lead wires at 3 points.

BLK-WHT

BLK-RED

WHT-RED

<<Judgement>>

Refer to 11-4.

0 [Ω] Abnormal [short]

Infinite [Ω] Abnormal [open]

NOTE: Be sure to zero the ohmmeter before measurement.

E Check of compressor operation time

- Connect the compressor and activate the inverter. Then measure the time until the inverter stops due to overcurrent.

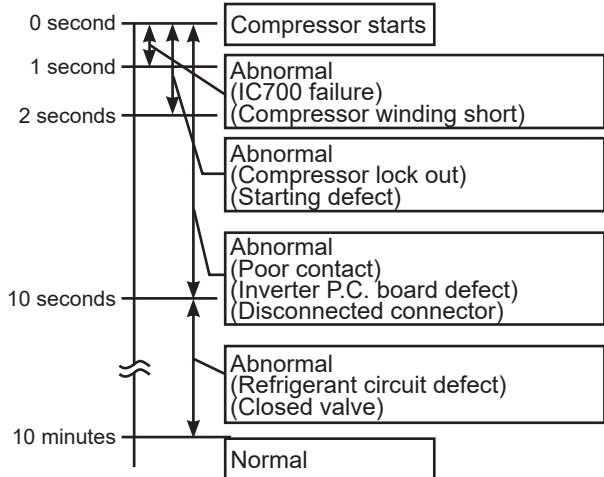
<<Operation method>>

Start heating or cooling operation by pressing the emergency operation switch on the indoor unit. (TEST RUN OPERATION: Refer to 8-6.)

<<Measurement>>

Measure the time from the start of compressor to the stop of compressor due to overcurrent.

<<Judgement>>

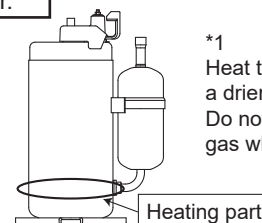
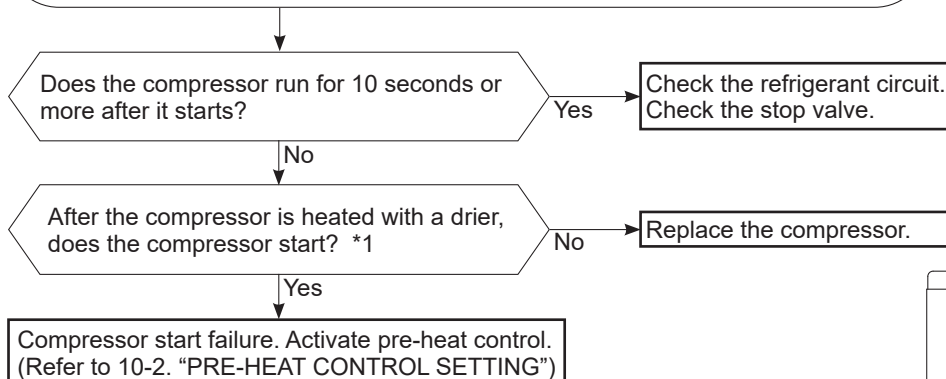


F Check of compressor start failure

Confirm that ①~④ is normal.

- Electrical circuit check

- ①. Contact of the compressor connector
- ②. Output voltage of inverter P.C. board and balance of them (See 11-5.⑥)
- ③. Direct current voltage between DB61(+) and (-) on the inverter P.C. board
- ④. Voltage between outdoor terminal block S1-S2



*1 Heat the compressor with a drier for about 20 minutes. Do not recover refrigerant gas while heating.

Ⓒ Check of outdoor thermistors

Disconnect the connector of thermistor in the inverter P.C. board (see below table), and measure the resistance of thermistor.

Is the resistance of thermistor normal?
(Refer to 11-6.1.)

No

Replace the thermistor except RT64.
When RT64 is abnormal, replace the inverter P.C. board.

Yes

Reconnect the connector of thermistor.
Turn ON the power supply and press the emergency operation switch.

Does the unit operate for 10 minutes or more
without showing thermistor abnormality?

No

Replace the inverter P.C. board.

Yes

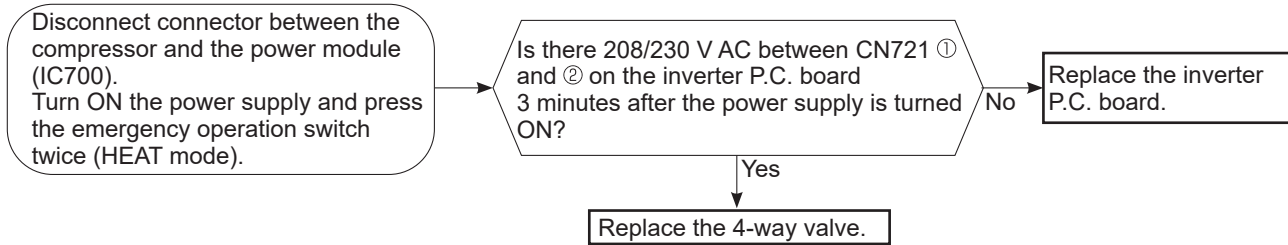
OK
(Cause is poor contact.)

Thermistor	Symbol	Connector, Pin No.	Board
Defrost	RT61	Between CN641 pin1 and pin2	Inverter P.C. board
Discharge temperature	RT62	Between CN641 pin3 and pin4	
Fin temperature	RT64	Between CN642 pin1 and pin2	
Ambient temperature	RT65	Between CN643 pin1 and pin2	
Outdoor heat exchanger temperature	RT68	Between CN644 pin1 and pin3	

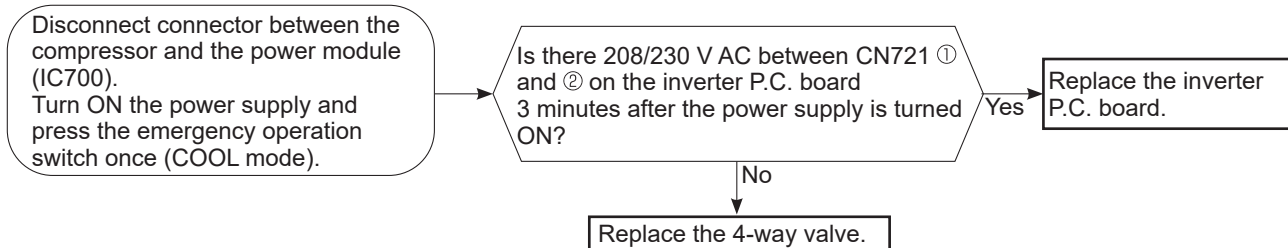
H Check of R.V. coil

- * First of all, measure the resistance of R.V. coil to check if the coil is defective. Refer to 11-4.
- * In case CN721 is disconnected or R.V. coil is open, voltage is generated between the terminal pins of the connector although no signal is being transmitted to R.V. coil.
Check if CN721 is connected.

Unit operates in COOL mode even if it is set to HEAT mode.



Unit operates in HEAT mode even if it is set to COOL mode.



① Check of outdoor fan motor

Disconnect the connectors CN931 and CN932 from the inverter P.C. board.
Check the connection between the connector CN931 and CN932.

Is the resistance between each terminal of outdoor fan motor normal?
(Refer to 11-4.)

Yes

Disconnect CN932 from the inverter P.C. board, and turn on the power supply.

Rotate the outdoor fan motor manually and measure the voltage of CN931.
Between 1(+) and 5(-)
Between 2(+) and 5(-)
Between 3(+) and 5(-)

(Fixed to either 5 or 0 V DC)

No

Does the voltage between each terminal become 5 and 0 V DC repeatedly?

Yes

No

Does the outdoor fan motor rotate smoothly?

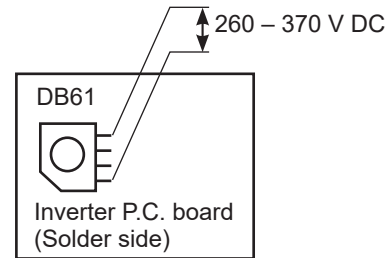
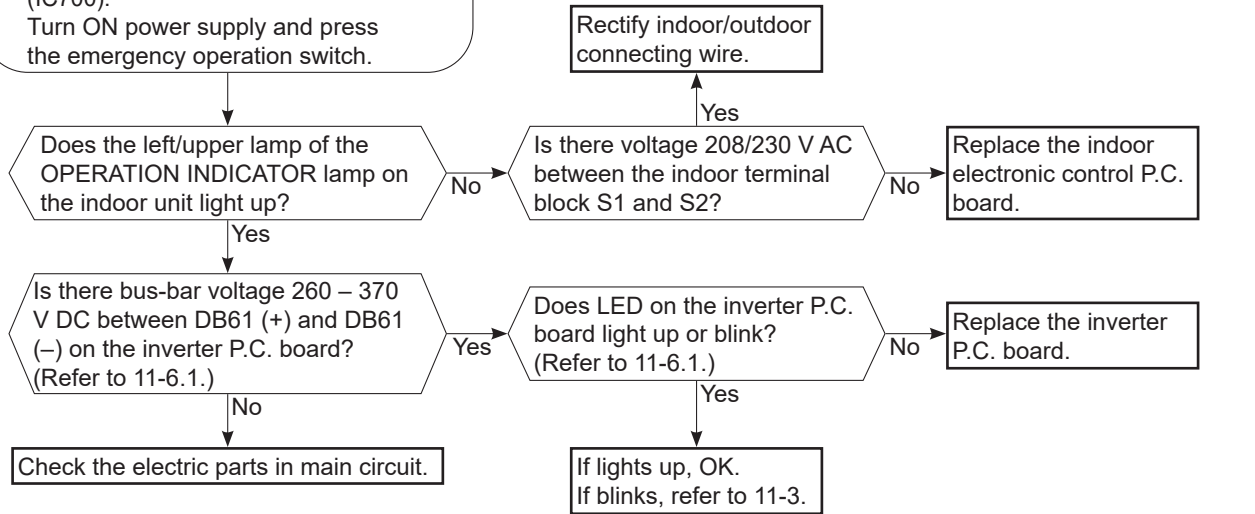
Yes

Replace the outdoor fan motor.

Replace the inverter P.C. board.

J Check of power supply

Disconnect the connector between the compressor and the power module (IC700).
Turn ON power supply and press the emergency operation switch.



K Check of LEV (Expansion valve)

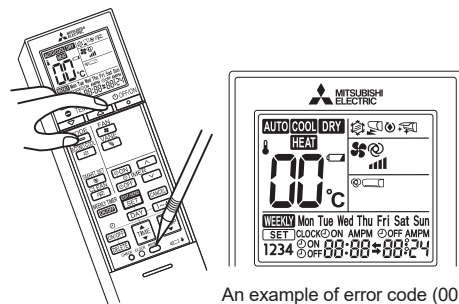
Turn ON the power supply.

<Preparation of the remote controller>

① While pressing both Operation select button and TEMP $\oplus$ button on the remote controller at the same time, press RESET button.

② First, release RESET button.

Hold down the other 2 buttons for another 3 seconds. Make sure that the indicators on the LCD screen shown in the right figure are all displayed. Then release the buttons.



An example of error code (00)

Press OFF/ON (stop/operate) button of the remote controller (the set temperature is displayed) with the remote controller headed towards the indoor unit. *1

Expansion valve operates in full-opening direction.

Do you hear the expansion valve "click, click....."?
Do you feel the expansion valve vibrate when touching it?

Yes

OK

No

Is LEV coil properly fixed to the expansion valve?

No

Properly fix the LEV coil to the expansion valve.

Yes

Does the resistance of LEV coil have the characteristics? (Refer to 11-4.)

Yes

Measure each voltage between connector pins of CN724 on the inverter P.C. board.

1. Pin ③ (-) — Pin ① (+)

2. Pin ④ (-) — Pin ① (+)

3. Pin ⑤ (-) — Pin ① (+)

4. Pin ⑥ (-) — Pin ① (+)

Is there about 3 – 5 V DC between each?

NOTE: Measure the voltage by an analog multimeter.

No

Replace the inverter P.C. board.

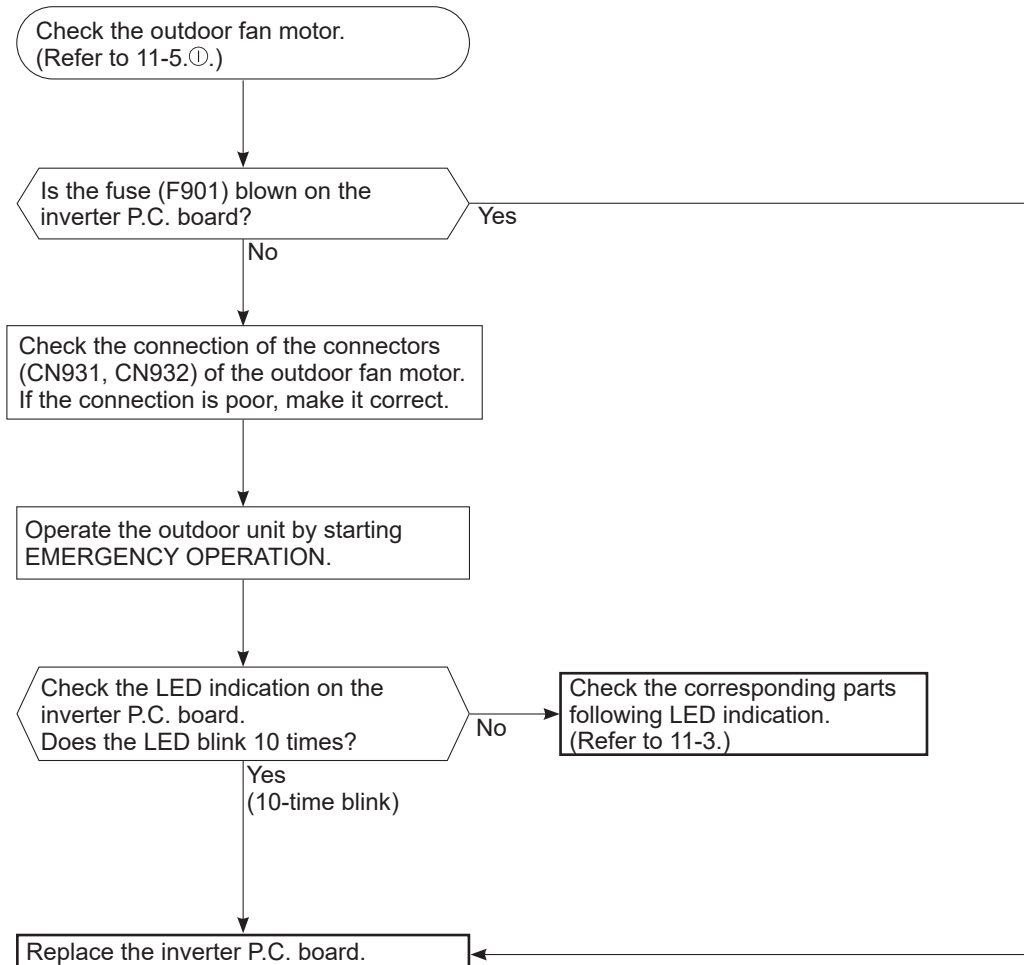
Yes

Replace the expansion valve.

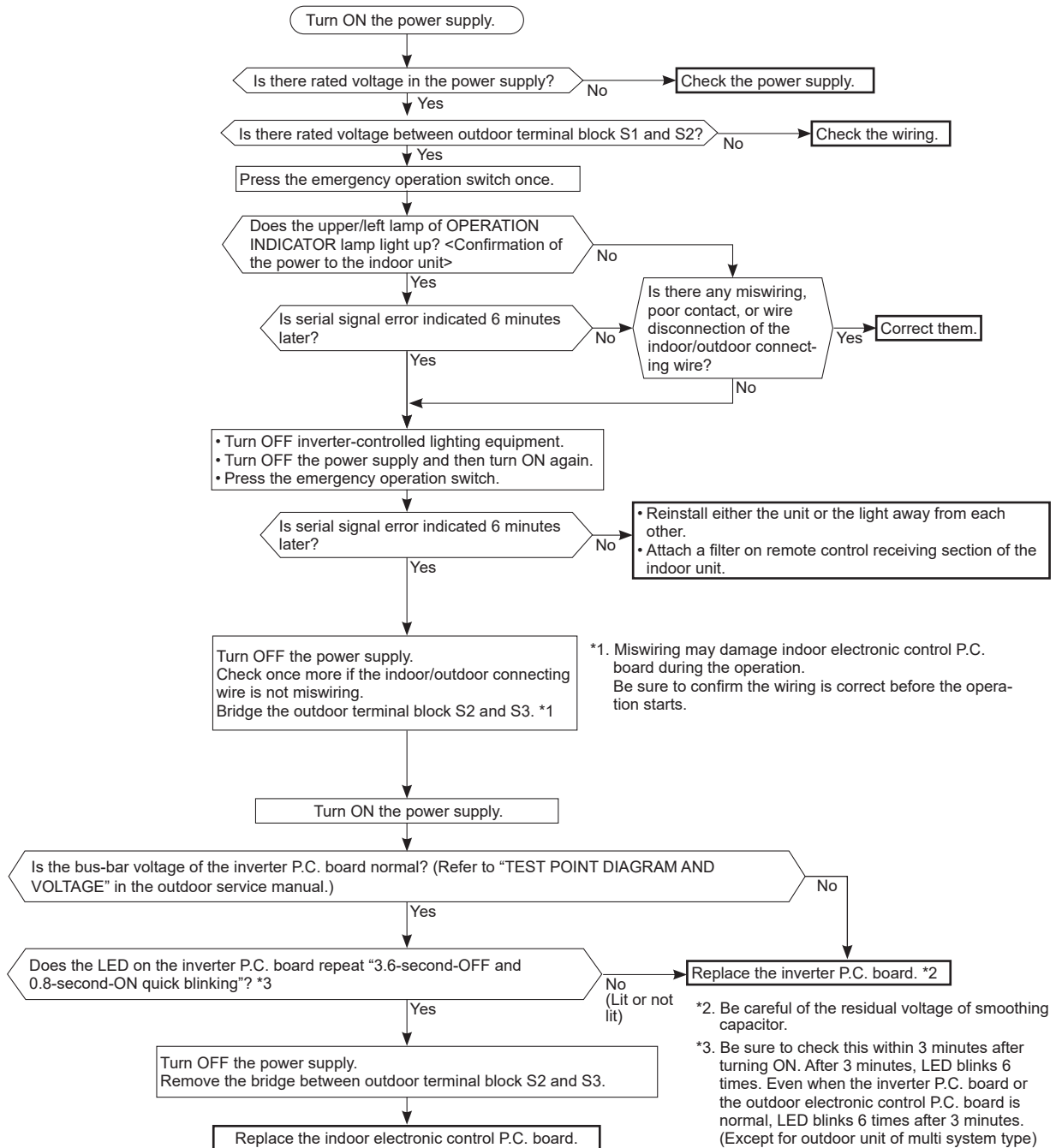
NOTE: After check of LEV, take the following steps.

1. Turn OFF the power supply and turn it ON again.
2. Press RESET button on the remote controller.

L Check of inverter P.C. board



M How to check miswiring and serial signal error



N Check of defrost heater

Check the following points before checking electric continuity.

1. Does the resistance of ambient temperature thermistor have the characteristics? Refer to 11-6.1.
2. Is the resistance of defrost heater normal? Refer to 11-4.
3. Does the heater protector remain conducted (not open)?
4. Are both ambient temperature thermistor and circuit of defrost heater securely connected to connectors?

In HEAT mode, for more than 5 minutes, let the ambient temperature thermistor continue to read 32°F (0°C) or below, and let the defrost thermistor continue to read 30°F (-1°C) or below.

NOTE: In case both thermistors are more than the above temperature, cool them with cold water etc.

Is there 208/230 V AC between CN601 ① and ② on the inverter P.C. board? Refer to 11-6.1.

Yes

Not the problem of the inverter P.C. board.

No

Replace the inverter P.C. board.

O Check of outdoor refrigerant circuit

Has the operation stopped during pump down?

Yes

The operation has stopped to prevent the diesel explosion caused by air trapped in the refrigerant circuit. Close the stop valve, and disconnect the power plug or turn the breaker OFF.

CAUTION : Do not start the operation again to prevent hazards.

No

Was the operation started with the stop valve closed, and was it opened during operation?

Yes

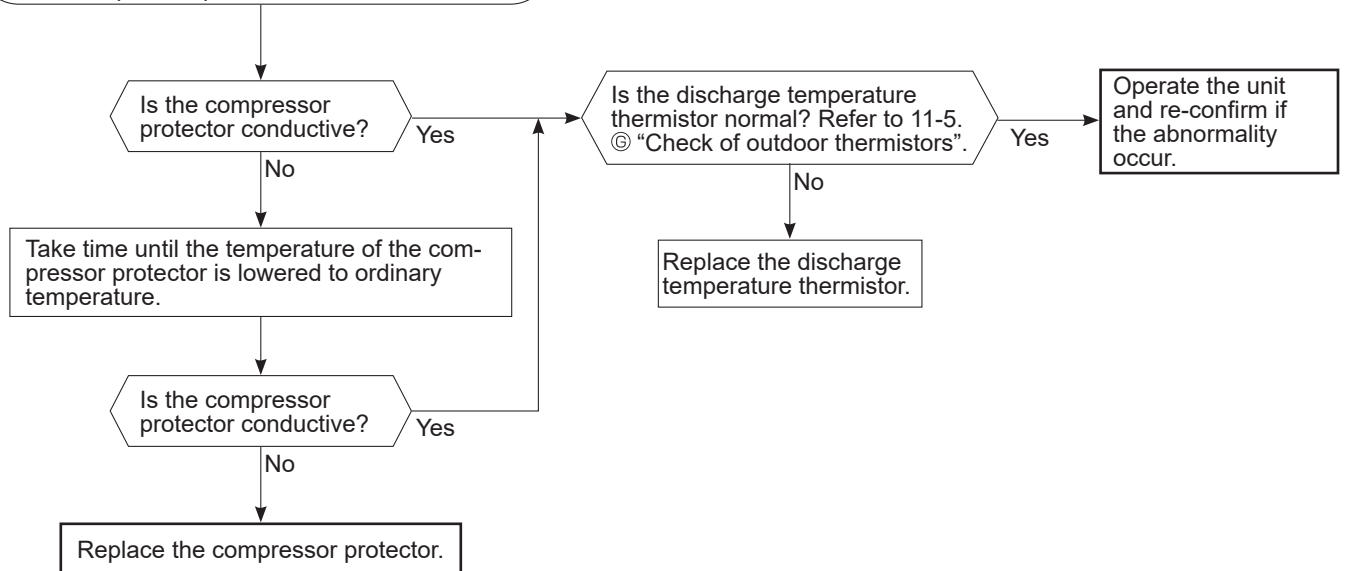
The unit occasionally stops when the stop valve is opened or closed during operation. Open the stop valve and start the cooling operation again.

No

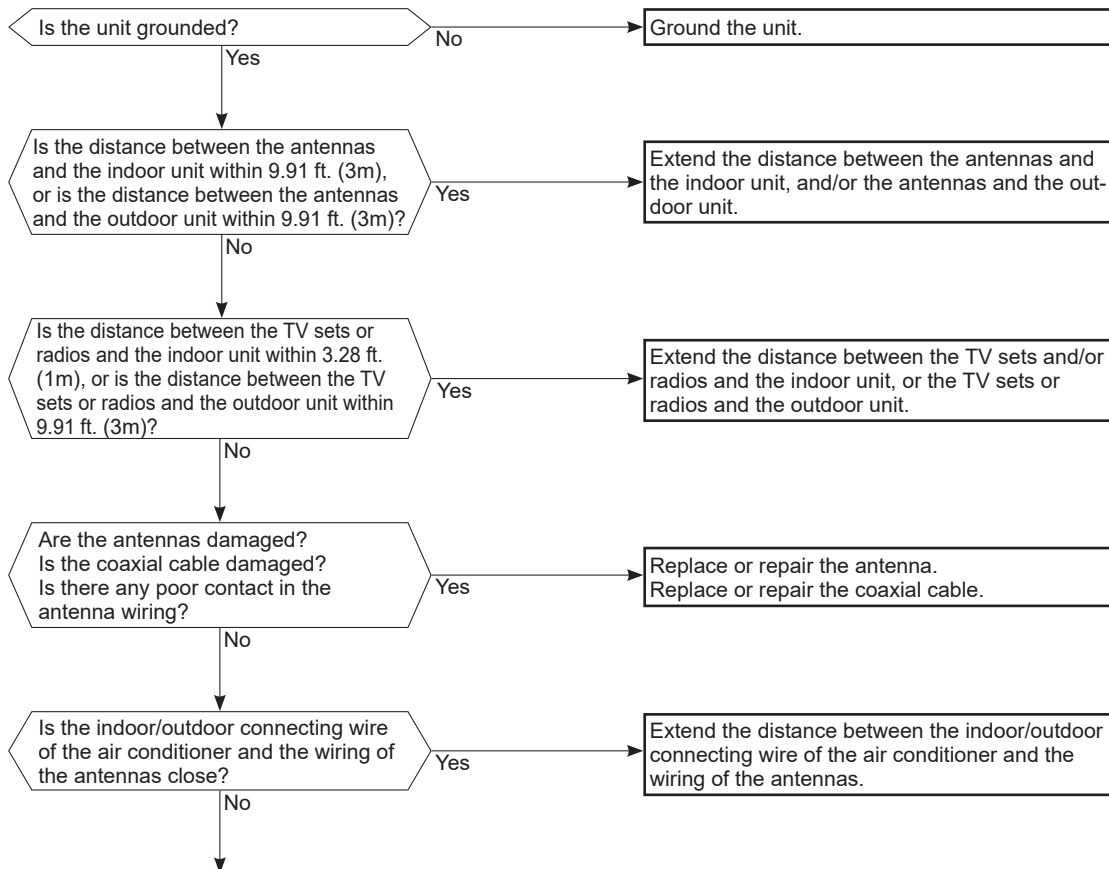
The refrigerant gas amount may be 60% or less than the normal amount. Identify where the gas is leaking from, and fix the leak.

P Check of compressor protector

Disconnect the connector of compressor protector in the inverter P.C. board, and check the conduction of compressor protector.



Q Electromagnetic noise enters into TV sets or radios



Even if all of the above conditions are fulfilled, the electromagnetic noise may enter, depending on the electric field strength or the installation condition (combination of specific conditions such as antennas or wiring). Check the following before asking for service.

1. Devices affected by the electromagnetic noise
TV sets, radios (FM/AM broadcast, shortwave)
2. Channel, frequency, broadcast station affected by the electromagnetic noise
3. Channel, frequency, broadcast station unaffected by the electromagnetic noise
4. Layout of:
indoor/outdoor unit of the air conditioner, indoor/outdoor wiring, ground wire, antennas, wiring from antennas, receiver
5. Electric field intensity of the broadcast station affected by the electromagnetic noise
6. Presence or absence of amplifier such as booster
7. Operation condition of air conditioner when the electromagnetic noise enters in
 - 1) Turn OFF the power supply once, and then turn ON the power supply. In this situation, check for the electromagnetic noise.
 - 2) Within 3 minutes after turning ON the power supply, press OFF/ON (stop/operate) button on the remote controller for power ON, and check for the electromagnetic noise.
 - 3) After a short time (3 minutes later after turning ON), the outdoor unit starts running. During operation, check for the electromagnetic noise.
 - 4) Press OFF/ON (stop/operate) button on the remote controller for power OFF, when the outdoor unit stops but the indoor/outdoor communication still runs on. In this situation, check for the electromagnetic noise.

11-6. TEST POINT DIAGRAM AND VOLTAGE

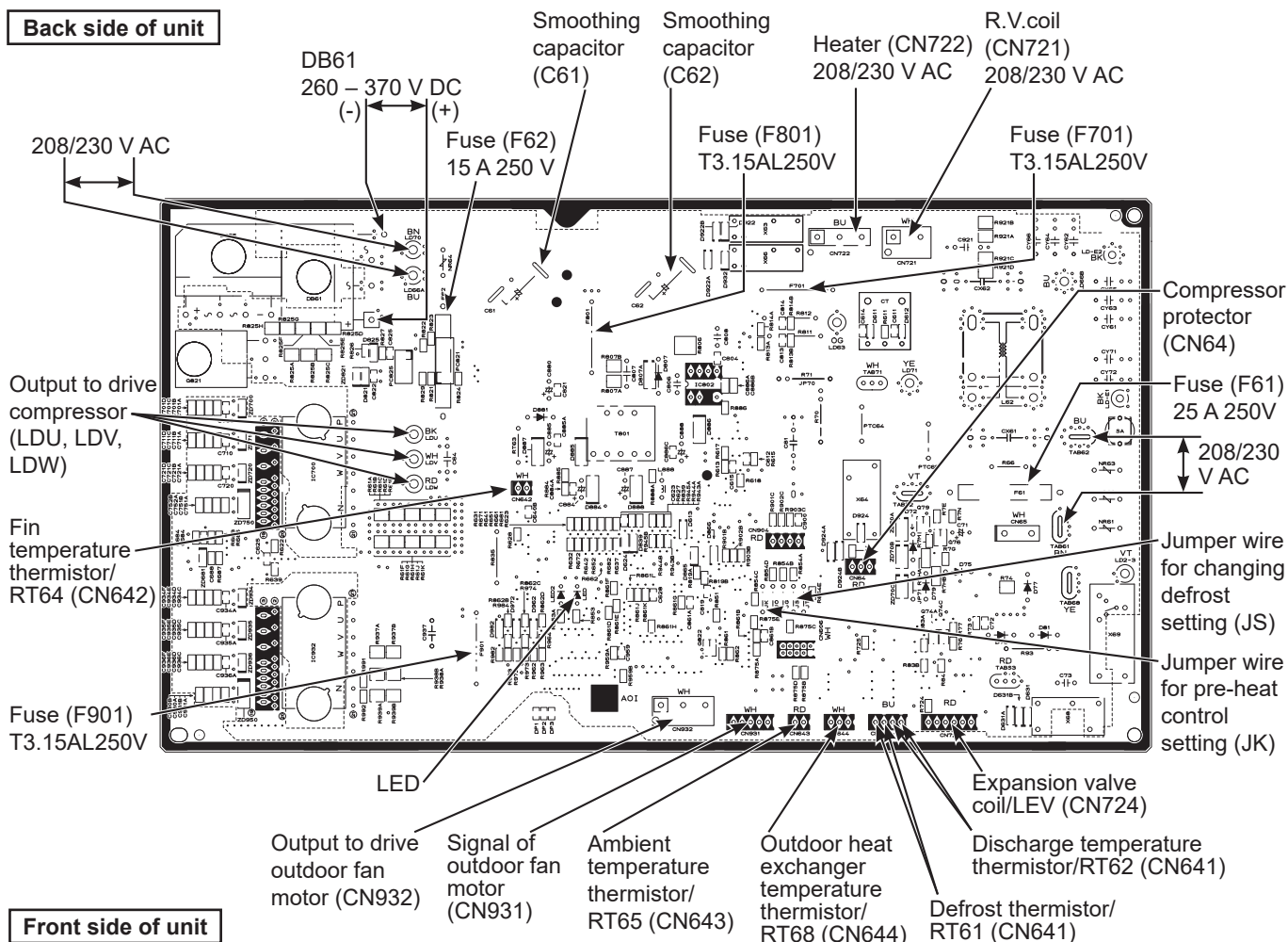
1. Inverter P.C. board

MUZ-WX09NL

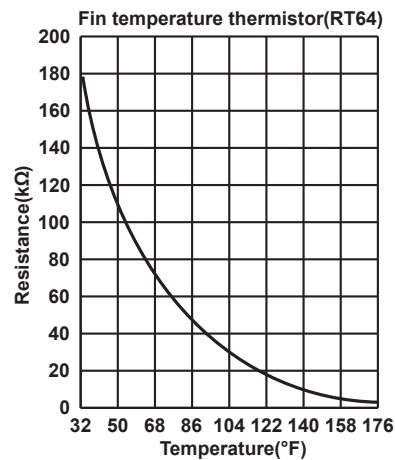
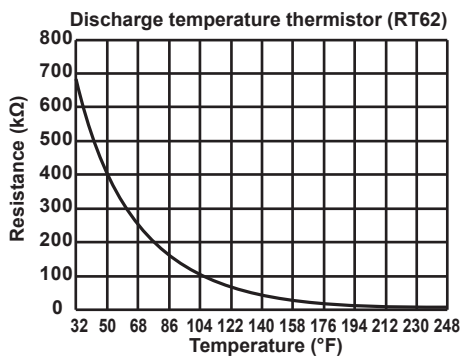
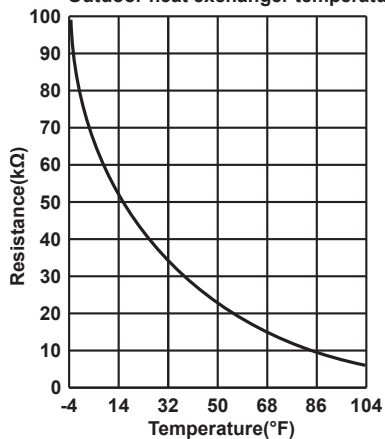
MUZ-WX12NL

MUZ-WX18NL

MUZ-WX24NL



Defrost thermistor(RT61)
Ambient temperature thermistor(RT65)
Outdoor heat exchanger temperature thermistor(RT68)



<Detaching method of the terminal with locking mechanism>

The terminal which has the locking mechanism can be detached as shown below.

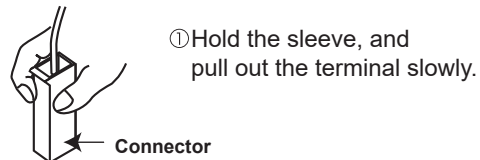
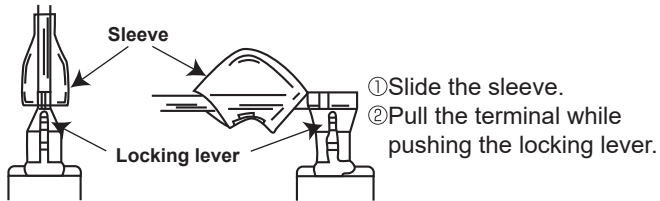
There are 2 types of the terminal with locking mechanism.

The terminal without locking mechanism can be detached by pulling it out.

Check the shape of the terminal before detaching.

(1) Slide the sleeve and check if there is a locking lever or not.

(2) The terminal with the connector shown below has the locking mechanism.



12-1. MUZ-WX09NL

MUZ-WX12NL

MUZ-WX18NL

NOTE: Turn OFF the power supply before disassembly.

—→ : Indicates the visible parts in the photos/figures.

----→ : Indicates the invisible parts in the photos/figures.

OPERATING PROCEDURE

1. Removing the cabinet

- (1) Remove the screws fixing the service panel.
- (2) Pull down the service panel and remove it.
- (3) Remove the screws fixing the conduit cover. (Photo 4)
- (4) Remove the conduit cover.
- (5) Remove the screw fixing the conduit plate. (Photo 5)
- (6) Remove the conduit plate.
- (7) Disconnect the power supply wire and indoor/outdoor connecting wire.
- (8) Remove the screws fixing the top panel.
- (9) Remove the top panel.
- (10) Remove the screws fixing the cabinet.
- (11) Remove the cabinet.
- (12) Remove the screws fixing the back panel. (Photo 5, 6)
- (13) Remove the back panel.

NOTE: If the red labels have been removed during the operation, put them back in the original position after the operation. Red labels indicate the use of flammable refrigerants. (Figure 1)

PHOTOS/FIGURES

Photo 1

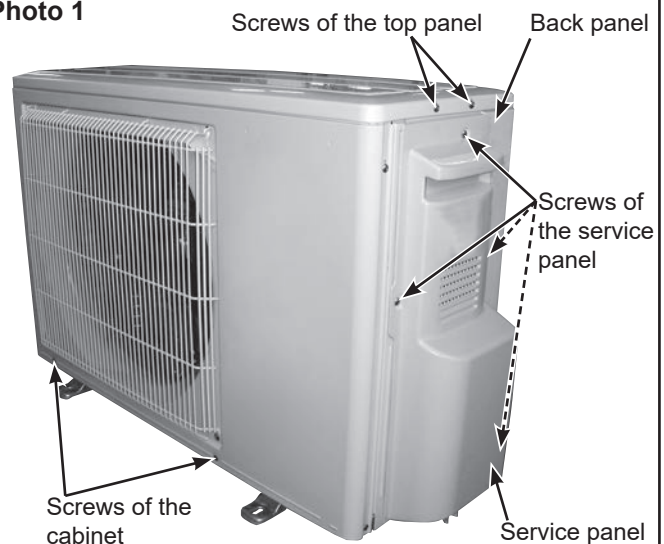


Photo 2

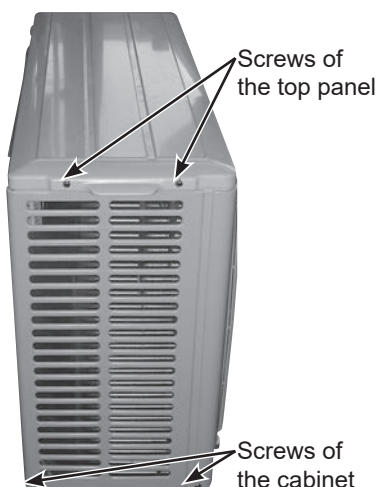


Photo 3

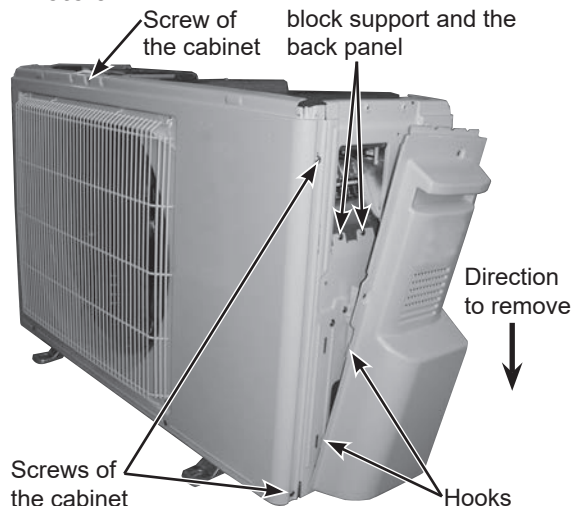
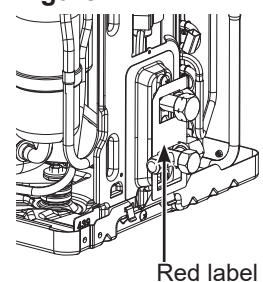
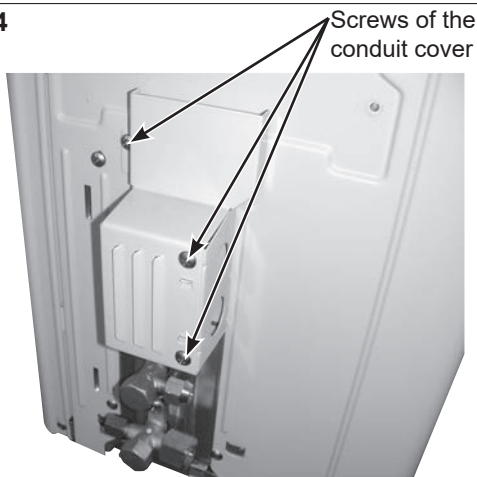


Figure 1



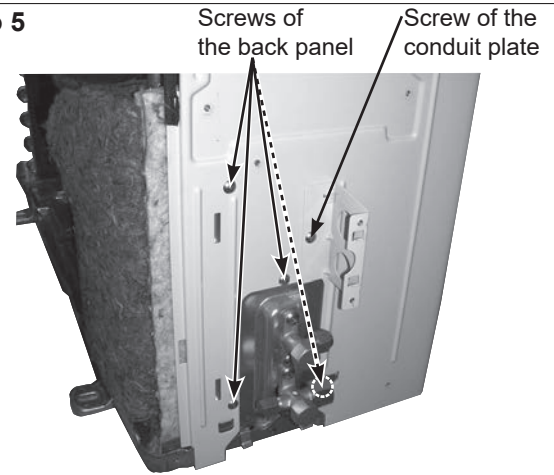
OPERATING PROCEDURE

Photo 4



PHOTOS/FIGURES

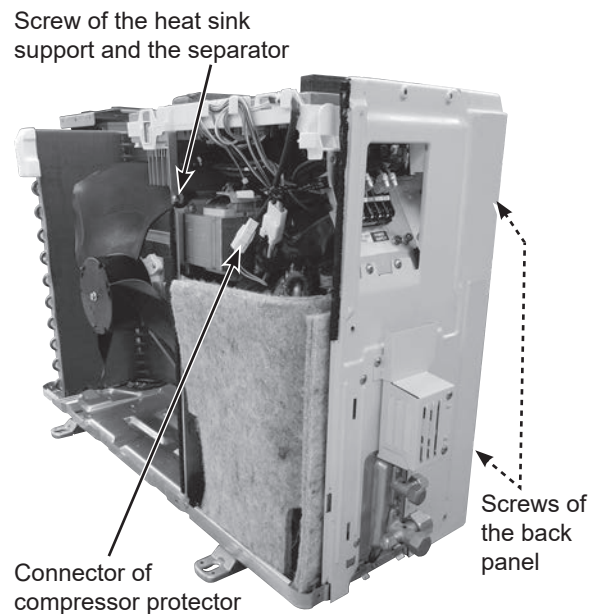
Photo 5



2. Removing the inverter assembly, inverter P.C. board

- (1) Remove the top panel, cabinet and service panel. (Refer to section 1.)
- (2) Disconnect the lead wire to the reactor and the following connectors:
 <Inverter P.C. board>
 CN721 (R.V. coil)
 CN931, CN932 (Fan motor)
 CN641 (Defrost thermistor and discharge temperature thermistor)
 CN643 (Ambient temperature thermistor)
 CN644 (Outdoor heat exchanger temperature thermistor)
 CN724 (Expansion valve coil)
 CN64 (Compressor protector)
- (3) Remove the compressor connector (CN61).
- (4) Remove the screws fixing the heat sink support and the separator.
- (5) Remove the fixing screws of the terminal block support and the back panel.
- (6) Remove the inverter assembly.
- (7) Remove the screws of the ground wires and the terminal block support. (Photo 7)
- (8) Remove the heat sink support from the P.C. board support.
- (9) Remove the inverter P.C. board from the P.C. board support.

Photo 6

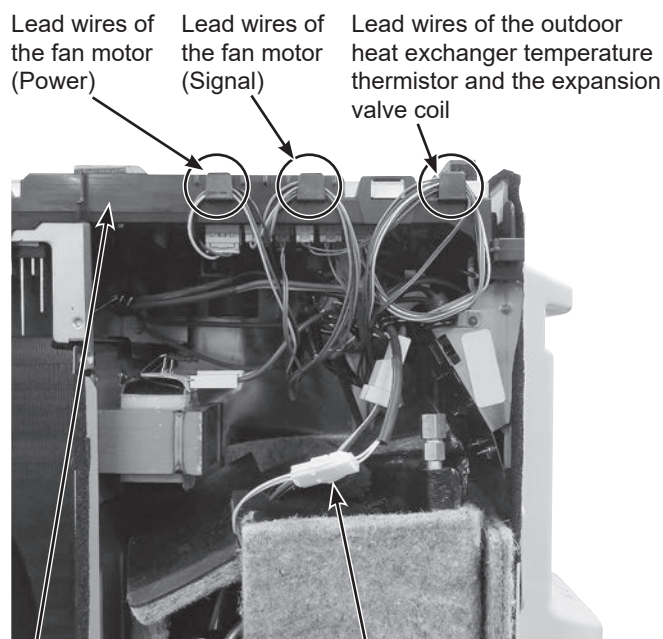


OPERATING PROCEDURE

* Connection procedure when attaching the inverter P.C. board (Photo 8)

1. Connect the lead wires of the fan motor (Power) to the connector on the inverter P.C. board. Pull the lead wires toward you and put them on the left hook on the P.C. board support.
2. Connect the lead wires of the fan motor (Signal) to the connector on the inverter P.C. board. Pull the lead wires toward you and put them on the middle of the hook on the P.C. board support.
3. Connect the lead wires of the outdoor heat exchanger temperature thermistor to the connector on the inverter P.C. board. Pull the lead wires toward you and put them on the right hook on the P.C. board support.
4. Connect the lead wires of the expansion valve coil to the connector on the inverter P.C. board. Pull the lead wires toward you and put them on the right hook on the P.C. board support [so that the compressor protector lead wires are bundled up as shown in Photo 8 (MUZ-WX18 only)].

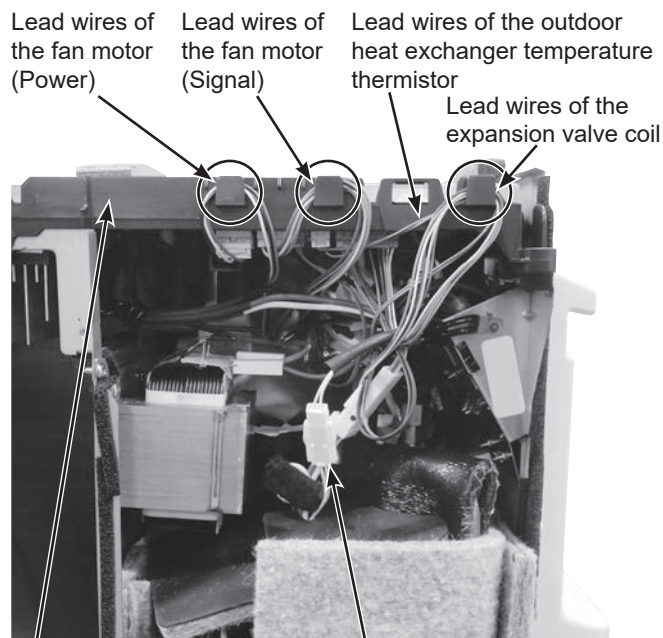
Photo 8 MUZ-WX09/12NL



Inverter P.C. board support

Connector of the compressor protector

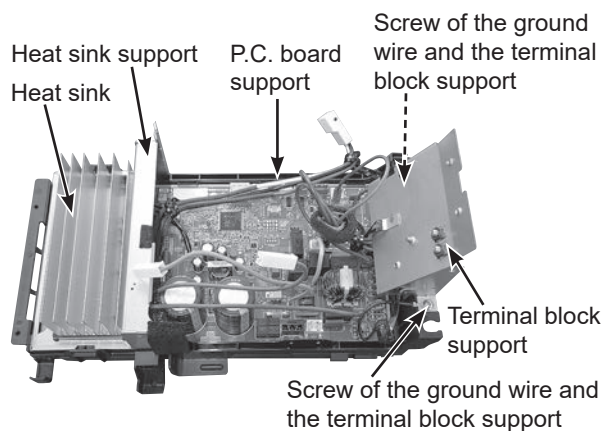
MUZ-WX18NL



Inverter P.C. board support

Connector of the compressor protector

Photo 7 (Inverter assembly)



OPERATING PROCEDURE

3. Removing R.V. coil

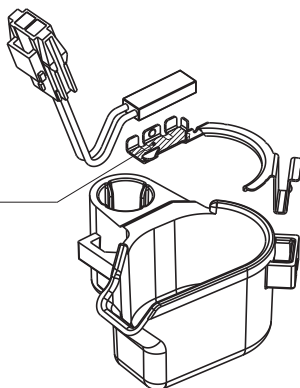
- (1) Remove the cabinet and panels. (Refer to section 1.)
- (2) Disconnect the following connectors:
<Inverter P.C. board>
CN721 (R.V. coil)
- (3) Remove the R.V. coil.

4. Removing the discharge temperature thermistor, defrost thermistor, outdoor heat exchanger temperature thermistor and ambient temperature thermistor

- (1) Remove the top panel, cabinet and service panel. (Refer to section 1.)
- (2) Disconnect the lead wire to the reactor and the following connectors:
<Inverter P.C. board>
CN641 (Defrost thermistor and discharge temperature thermistor)
CN643 (Ambient temperature thermistor)
CN644 (Outdoor heat exchanger temperature thermistor)
- (3) Pull out the discharge temperature thermistor from its holder.
- (4) Pull out the defrost thermistor from its holder.
- (5) Pull out the outdoor heat exchanger temperature thermistor from its holder.
- (6) Pull out the ambient temperature thermistor from its holder.

Figure 2

Attach the compressor protector to the protector holder with the surface on which the model name is printed facing the area hatched in the figure.



PHOTOS/FIGURES

Photo 9

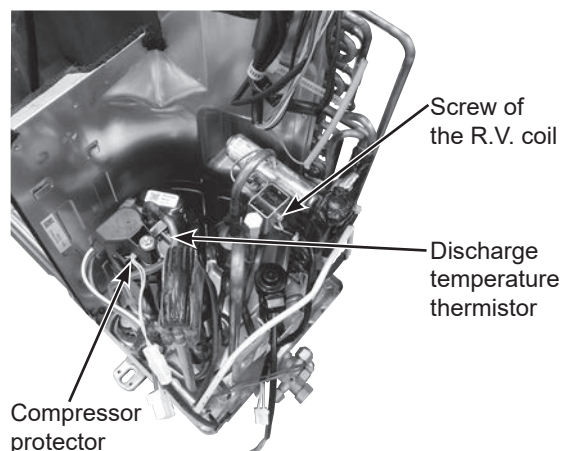
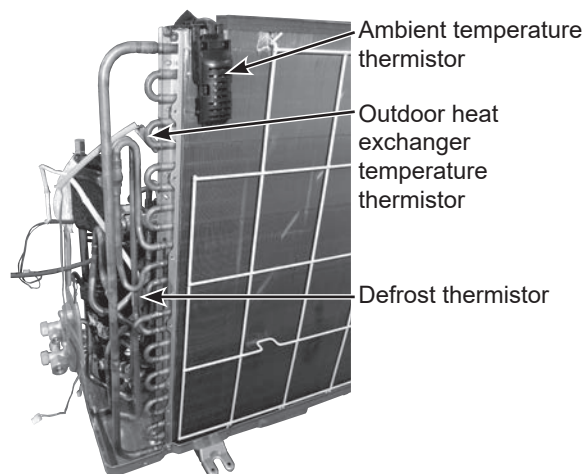
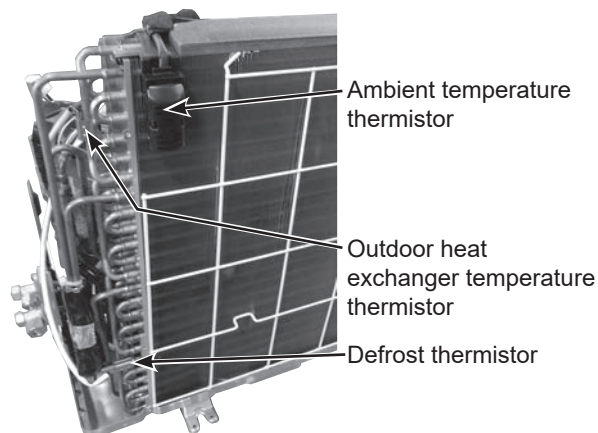


Photo 10

MUZ-WX09/12NL



MUZ-WX18NL



OPERATING PROCEDURE

5. Removing outdoor fan motor

- (1) Remove the top panel, cabinet and service panel.
(Refer to section 1.)
- (2) Disconnect the following connectors:
<Inverter P.C. board>
CN931, CN932 (Fan motor)
- (3) Remove the propeller fan nut.
- (4) Remove the propeller fan.
- (5) Remove the screws fixing the fan motor.
- (6) Remove the fan motor.

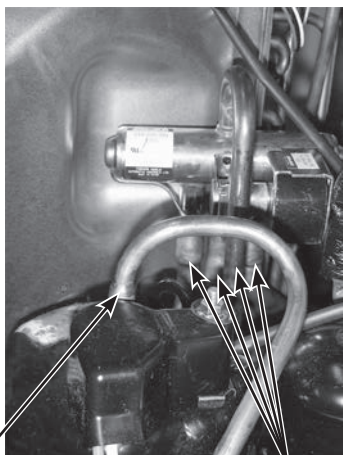
NOTE: The propeller fan nut is a reverse thread.

6. Removing the compressor and 4-way valve

- (1) Remove the cabinet and panels. (Refer to section 1.)
- (2) Remove the inverter assembly. (Refer to section 2.)
- (3) Remove the screws fixing the reactor.
- (4) Remove the reactor.
- (5) Remove the soundproof felt.
- (6) Recover gas from the refrigerant circuit.
NOTE: Recover gas from the pipes until the pressure gauge shows 0 psig.
- (7) Detach the brazed part of the suction and the discharge pipe connected with compressor.
- (8) Remove the nuts fixing the compressor.
- (9) Remove the compressor.
- (10) Detach the brazed part of pipes connected with 4-way valve.

NOTE: If the red labels have been removed during the operation, put them back in the original position after the operation. Red labels indicate the use of flammable refrigerants. (Figure 3)

Photo 13



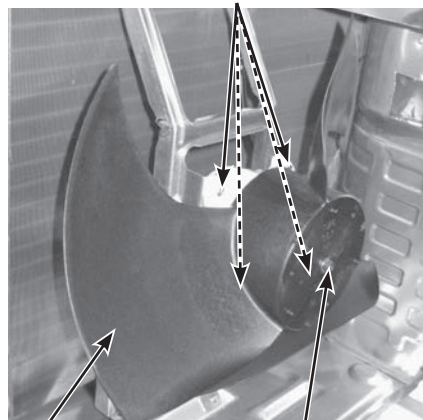
Discharge pipe
brazed part

Brazed parts of
4-way valve

PHOTOS/FIGURES

Photo 11

Screws of the outdoor fan motor

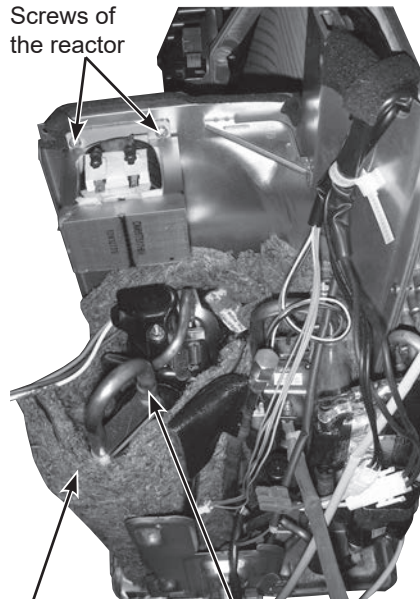


Propeller fan

Propeller fan nut

Photo 12

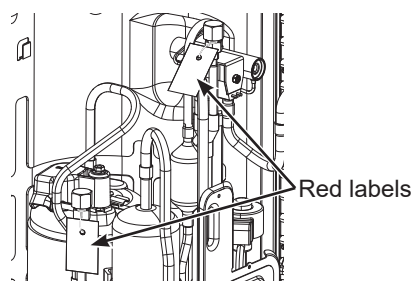
Screws of
the reactor



Soundproof felt

Suction pipe brazed part

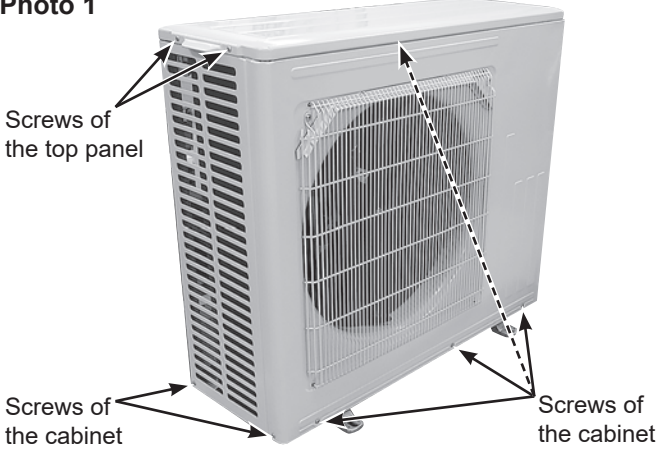
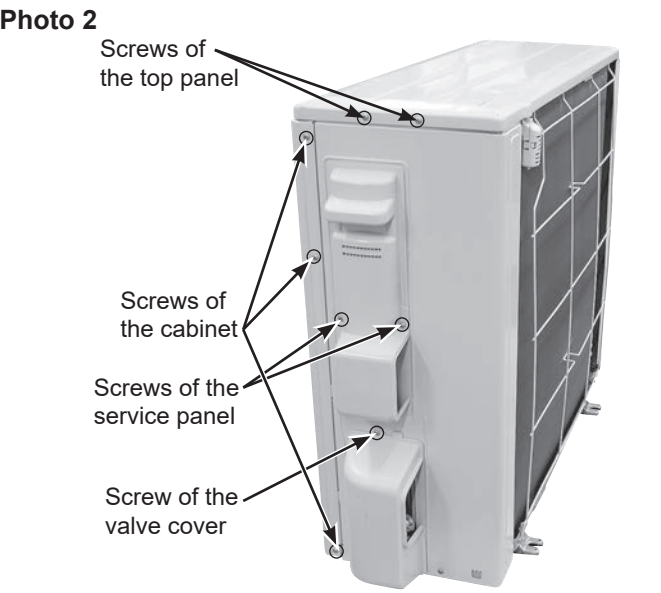
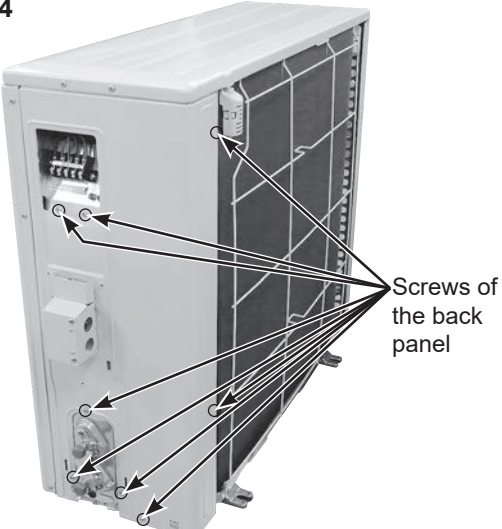
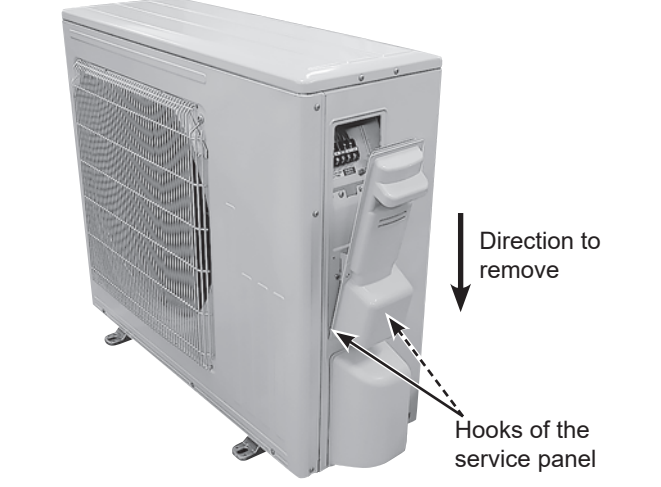
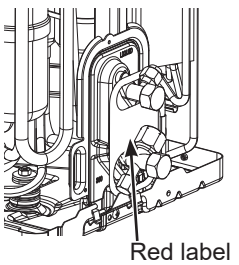
Figure 3



Red labels

12-2. MUZ-WX24NL

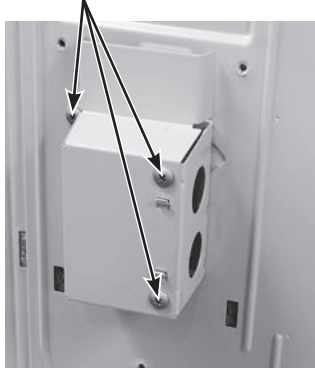
NOTE: Turn OFF the power supply before disassembly.

OPERATING PROCEDURE	PHOTOS/FIGURES
1. Removing the cabinet (1) Remove the screws of the service panel. (2) Remove the screws of the top panel. (3) Remove the screw of the valve cover. (4) Remove the service panel. (5) Remove the top panel. (6) Remove the valve cover. (7) Remove the screws fixing the conduit cover. (Photo 5) (8) Remove the conduit cover. (9) Remove the screw fixing the conduit plate. (Photo 6) (10) Remove the conduit plate. (11) Disconnect the power supply cord and indoor/outdoor connecting wire. (12) Remove the screws of the cabinet. (13) Remove the cabinet. (14) Remove the screws of the back panel. (15) Remove the back panel. NOTE: If the red labels have been removed during the operation, put them back in the original position after the operation. Red labels indicate the use of flammable refrigerants. (Figure 1)	Photo 1  Photo 2 
Photo 4 	Photo 3 
Figure 1 	

OPERATING PROCEDURE

Photo 5

Screws of the conduit cover
(These screws are different shape from the other screws. Do not mix them with the other screws.)



PHOTOS/FIGURES

Photo 6

Screw of the conduit plate
(This screw is different in shape from the other screws. Do not mix them with the other screws.)

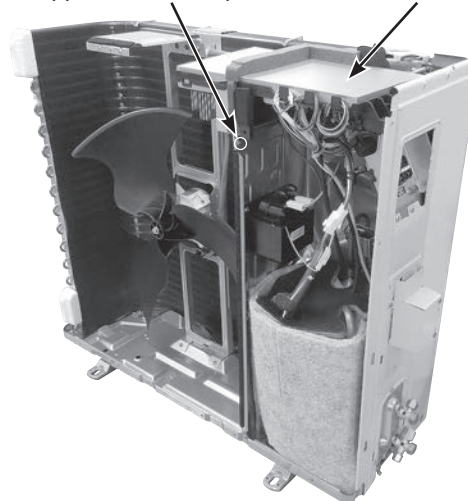


2. Removing the inverter assembly and inverter P.C. board

- (1) Remove the cabinet and panels (refer to section 1).
- (2) Disconnect the lead wire to the reactor and the following connectors:
<Inverter P.C. board>
CN721 (R.V. coil)
CN931, CN932 (Fan motor)
CN641 (Defrost thermistor and discharge temperature thermistor)
CN643 (Ambient temperature thermistor)
CN644 (Outdoor heat exchanger temperature thermistor)
CN724 (Expansion valve coil)
CN64 (Compressor protector)
- (3) Remove the compressor connector (CN61).
- (4) Remove the screws fixing the heat sink support and the separator.
- (5) Remove the inverter assembly.
- (6) Remove the screws of the ground wires.
- (7) Remove the heat sink support from the P.C. board support. (Photo 8)
- (8) Remove the PB cover.
- (9) Remove the screw of the inverter P.C. board and remove the inverter P.C. board from the P.C. board support. (Photo 9)

Photo 7

Screw of the heat sink support and the separator PB cover



OPERATING PROCEDURE

* Connection procedure when attaching the inverter P.C. board (Photo 10)

1. Connect the lead wires of the heat exchanger temperature thermistor, the defrost thermistor and discharge temperature thermistor to the connector on the inverter P.C. board. Pull the lead wires toward you and put them on the center hook on the P.C. board support.
2. Connect the lead wires of the expansion valve coil to the connector on the inverter P.C. board. Pull the lead wires toward you and put them on the right hook on the P.C. board support.
3. Connect the lead wires of the ambient temperature thermistor to the connector on the inverter P.C. board. Pull the lead wires toward you and put them on the left hook on the P.C. board support so that the fan motor lead wires are bundled up as shown in Photo 10.

Photo 8 (Inverter assembly)

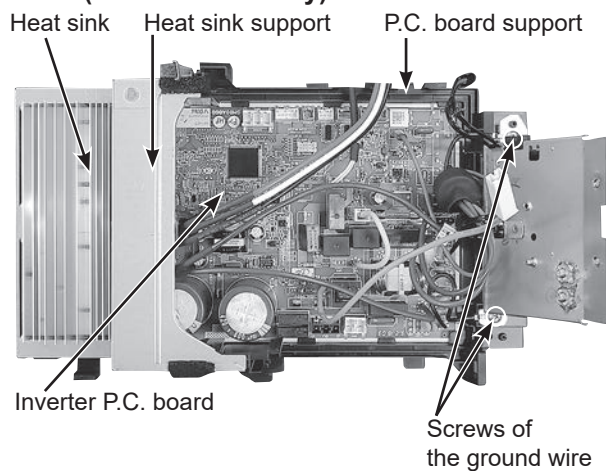
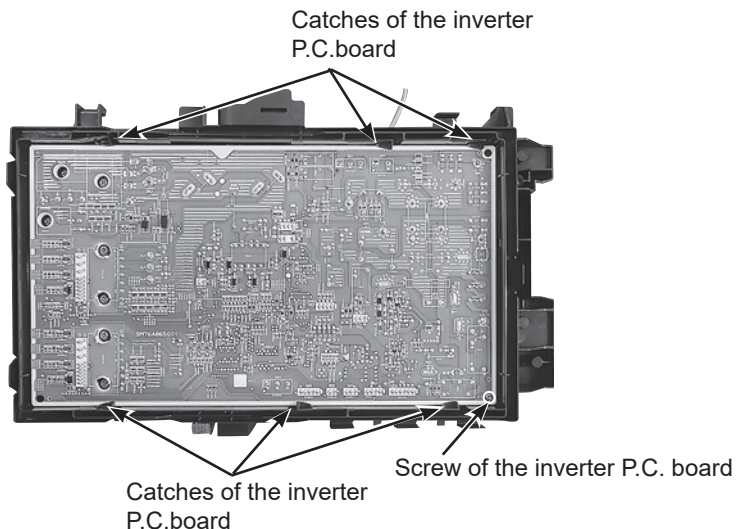
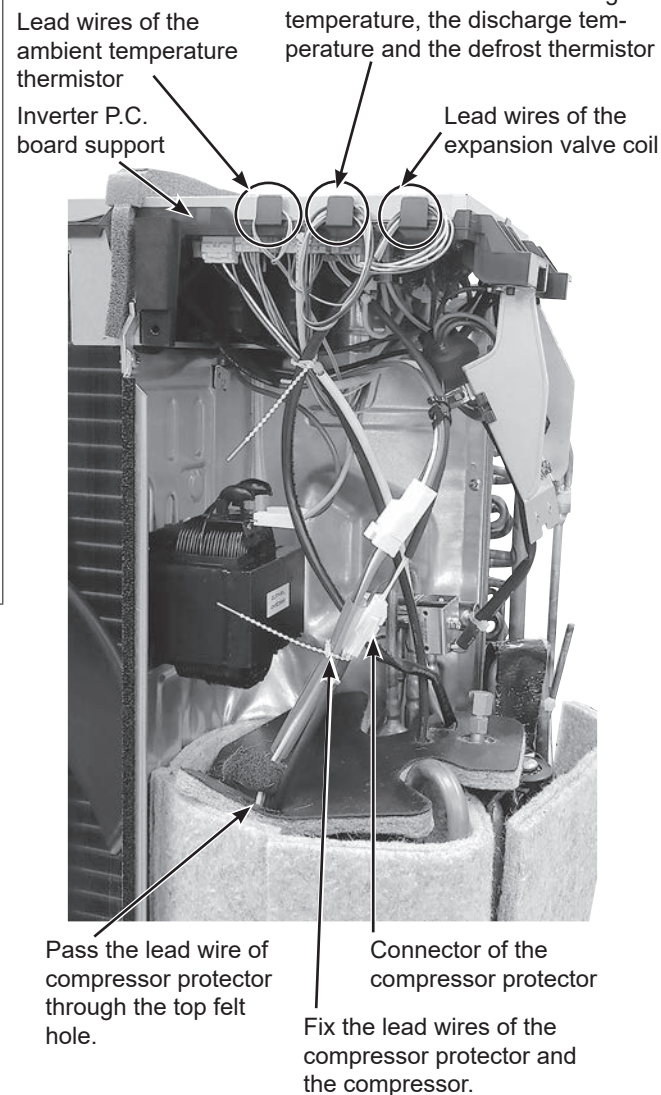


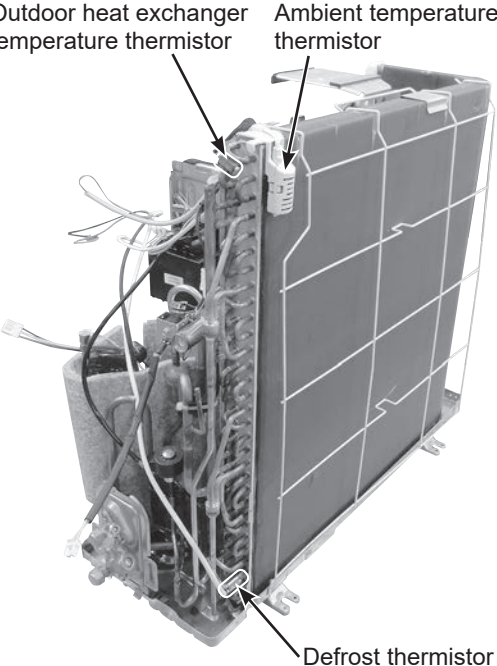
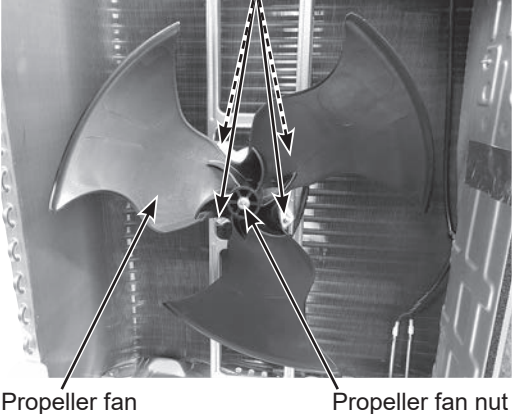
Photo 9



PHOTOS/FIGURES

Photo 10



OPERATING PROCEDURE	PHOTOS/FIGURES
3. Removing the discharge temperature thermistor, defrost thermistor, outdoor heat exchanger temperature thermistor and ambient temperature thermistor (1) Remove the cabinet and panels (refer to section 1). (2) Disconnect the lead wire to the reactor and the following connectors: <Inverter P.C. board> CN641 (Defrost thermistor and discharge temperature thermistor) CN643 (Ambient temperature thermistor) CN644 (Outdoor heat exchanger temperature thermistor) (3) Pull out the discharge temperature thermistor from its holder. (Photo 13) (4) Pull out the defrost thermistor from its holder. (5) Pull out the outdoor heat exchanger temperature thermistor from its holder. (6) Pull out the ambient temperature thermistor from its holder.	Photo 11 
4. Removing outdoor fan motor (1) Remove the cabinet and panels (refer to section 1). (2) Disconnect the following connectors: <Inverter P.C. board> CN931, CN932 (Fan motor) (3) Remove the propeller fan nut. (4) Remove the propeller fan. (5) Remove the screws fixing the fan motor. (6) Remove the fan motor.	Photo 12 

OPERATING PROCEDURE

5. Removing R. V. coil

- (1) Remove the cabinet and panels (refer to section 1).
- (2) Disconnect the following connectors:
<Inverter P.C. board>
CN721 (R.V. coil)
- (3) Remove the R.V. coil.

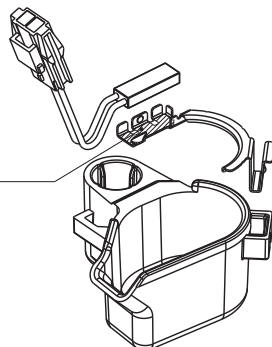
6. Removing the compressor and 4-way valve

- (1) Remove the cabinet and panels (refer to section 1).
- (2) Remove the inverter assembly (refer to section 2).
- (3) Remove the screws fixing the reactor.
- (4) Remove the reactor.
- (5) Remove the soundproof felt.
- (6) Recover gas from the refrigerant circuit.
NOTE: Recover gas from the pipes until the pressure gauge shows 0 psig.
- (7) Detach the brazed part of the suction and the discharge pipe connected with compressor.
- (8) Remove the compressor nuts.
- (9) Remove the compressor.
- (10) Detach the brazed part of pipes connected with 4-way valve.

NOTE: If the red labels have been removed during the operation, put them back in the original position after the operation. Red labels indicate the use of flammable refrigerants. (Figure 3)

Figure 2

Attach the compressor protector to the protector holder with the surface on which the model name is printed facing the area hatched in the figure.



PHOTOS/FIGURES

Photo 13

Screw of the R.V. coil

Discharge temperature thermistor

Compressor protector

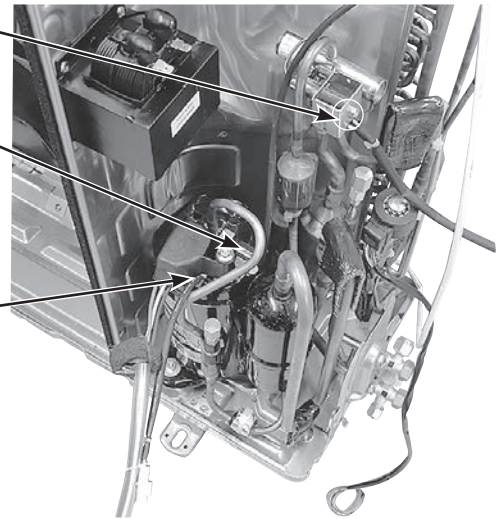
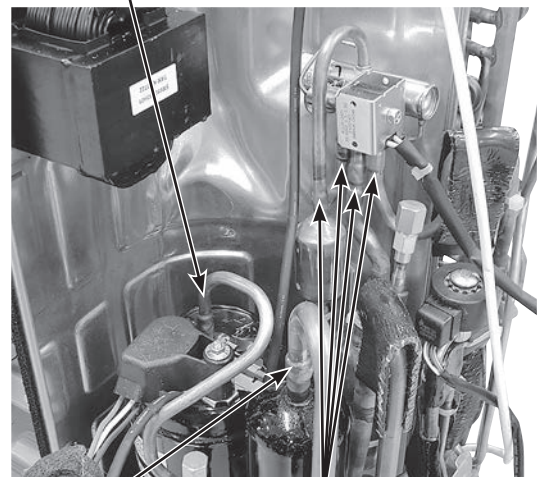


Photo 14

Discharge pipe brazed part

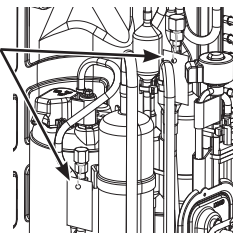


Suction pipe brazed part

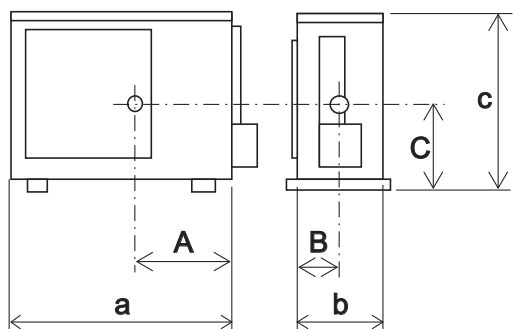
Brazed parts of 4-way valve

Figure 3

Red labels



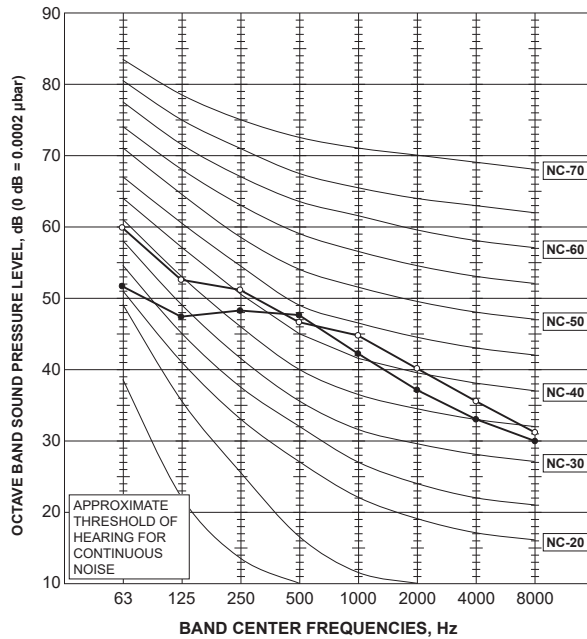
Unit: inch (mm)



Model name	A	B	C	a	b	c
MUZ-WX09NL	11-1/16	5-9/16	9-1/2	31-1/2	11-1/4	21-5/8
MUZ-WX12NL	(280)	(140)	(240)	(800)	(285)	(550)
MUZ-WX18NL						
MUZ-WX24NL	11-13/32	5-1/2	13-3/8	31-1/2	11-1/4	28-1/8
	(290)	(140)	(340)	(800)	(285)	(714)

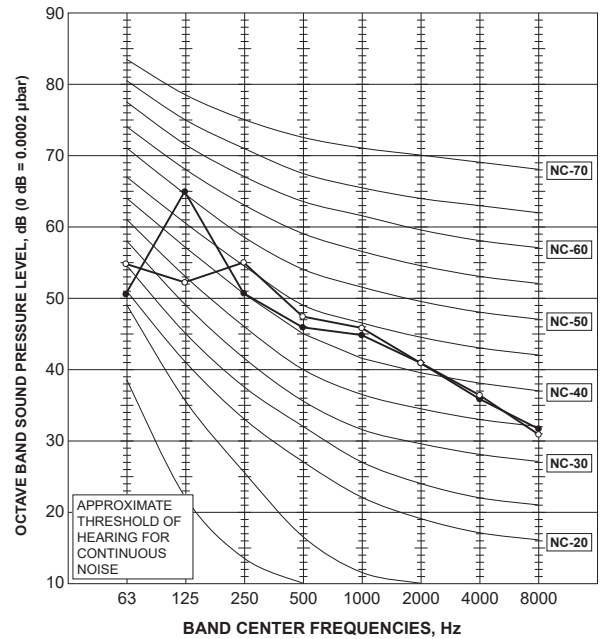
MUZ-WX09NL

NOTCH	SPL(dB(A))	LINE
COOLING	48	●—●
HEATING	50	○—○



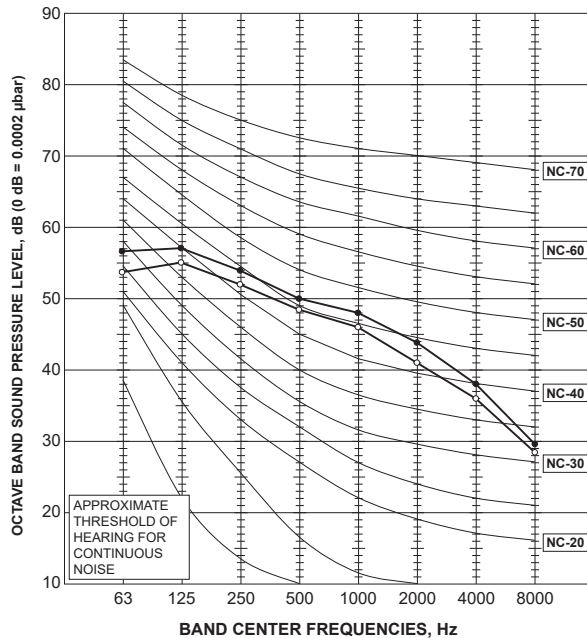
MUZ-WX12NL

NOTCH	SPL(dB(A))	LINE
COOLING	51	●—●
HEATING	51	○—○



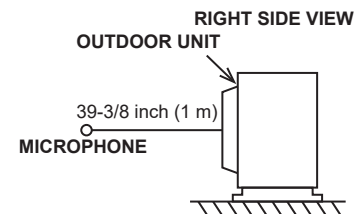
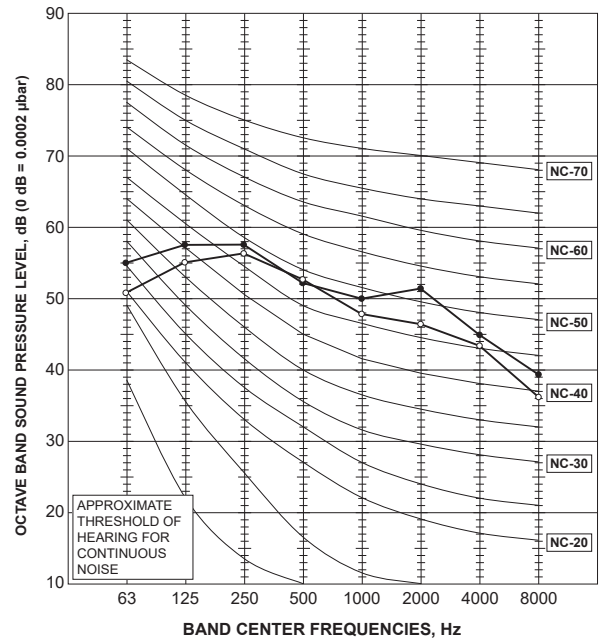
MUZ-WX18NL

NOTCH	SPL(dB(A))	LINE
COOLING	53	●—●
HEATING	51	○—○

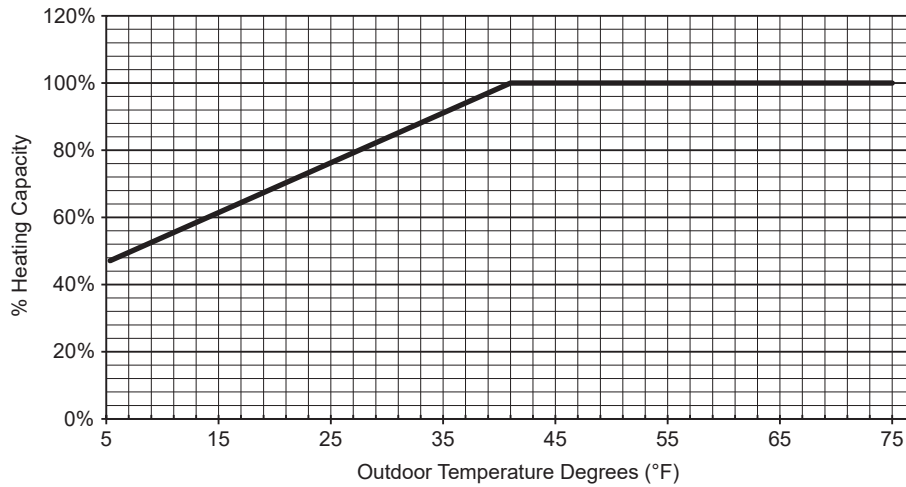


MUZ-WX24NL

NOTCH	SPL(dB(A))	LINE
COOLING	57	●—●
HEATING	55	○—○



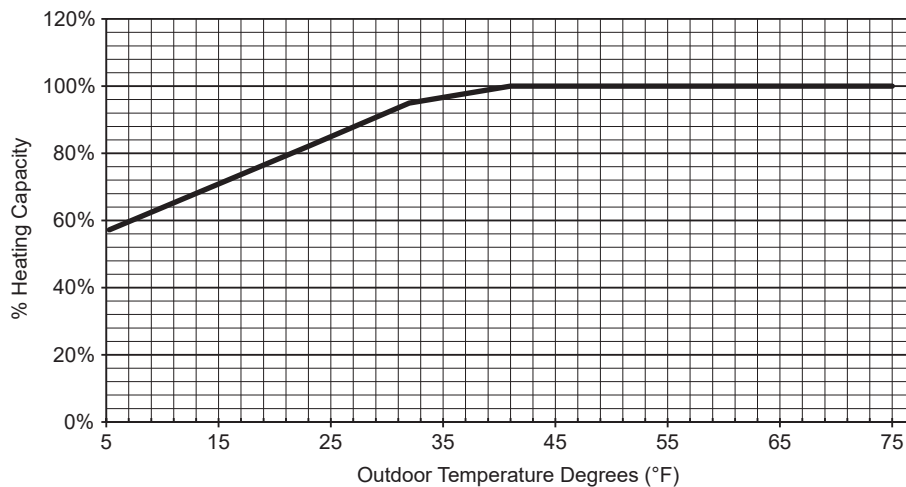
MUZ-WX09NL



HEATING CAPACITY

Outdoor Temperature Degrees (°F)	5.0	14.0	23.0	32.0	41.0	50.0	69.8	75.0
% Heating Capacity	47%	60%	73%	87%	100%	100%	100%	100%

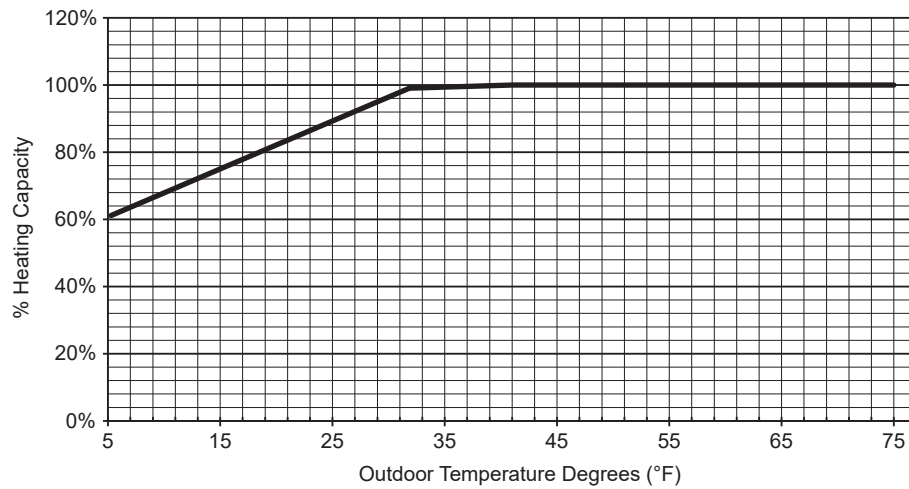
MUZ-WX12NL



HEATING CAPACITY

Outdoor Temperature Degrees (°F)	5.0	14.0	23.0	32.0	41.0	50.0	69.8	75.0
% Heating Capacity	57%	70%	82%	95%	100%	100%	100%	100%

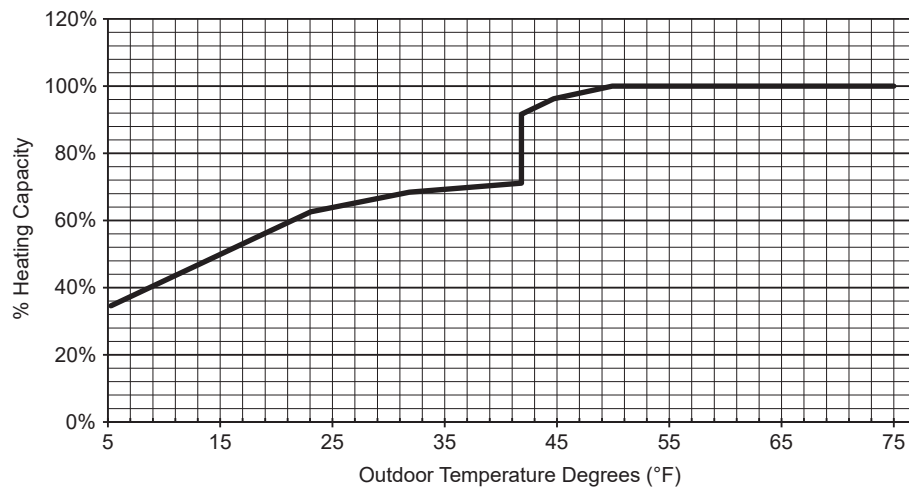
MUZ-WX18NL



HEATING CAPACITY

Outdoor Temperature Degrees (°F)	5.0	14.0	23.0	32.0	41.0	50.0	69.8	75.0
% Heating Capacity	61%	74%	87%	99%	100%	100%	100%	100%

MUZ-WX24NL



HEATING CAPACITY

Outdoor Temperature Degrees (°F)	5.0	14.0	23.0	32.0	41.0	50.0	69.8	75.0
% Heating Capacity	35%	49%	63%	69%	71%	100%	100%	100%

16-1. INVERTER COOLING CAPACITY MUZ-WX09NL

CAPACITY (Btu/h): 9000 INPUT (W): 820 SHF: 0.8

INDOOR DB (°F)	INDOOR WB (°F)	OUTDOOR DB (°F)															
		70				77				81				86			
		CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
70	64	10575	6557	0.62	656	10125	6278	0.62	689	9720	6026	0.62	722	9360	5803	0.62	754
70	68	11025	5513	0.50	689	10575	5288	0.50	730	10260	5130	0.50	746	9900	4950	0.50	779
72	64	10575	6980	0.66	656	10125	6683	0.66	689	9720	6415	0.66	722	9360	6178	0.66	754
72	68	11025	5954	0.54	689	10575	5711	0.54	730	10260	5540	0.54	746	9900	5346	0.54	779
72	72	11475	4820	0.42	713	11070	4649	0.42	759	10800	4536	0.42	779	10350	4347	0.42	812
73	64	10575	7403	0.70	656	10125	7088	0.70	689	9720	6804	0.70	722	9360	6552	0.70	754
73	68	11025	6395	0.58	689	10575	6134	0.58	730	10260	5951	0.58	746	9900	5742	0.58	779
73	72	11475	5279	0.46	713	11070	5092	0.46	759	10800	4968	0.46	779	10350	4761	0.46	812
75	64	10575	7826	0.74	656	10125	7493	0.74	689	9720	7193	0.74	722	9360	6926	0.74	754
75	68	11025	6836	0.62	689	10575	6557	0.62	730	10260	6361	0.62	746	9900	6138	0.62	779
75	72	11475	5738	0.50	713	11070	5535	0.50	759	10800	5400	0.50	779	10350	5175	0.50	812
75	75	12060	4583	0.38	746	11610	4412	0.38	787	11340	4309	0.38	812	10980	4172	0.38	853
77	64	10575	8249	0.78	656	10125	7898	0.78	689	9720	7582	0.78	722	9360	7301	0.78	754
77	68	11025	7277	0.66	689	10575	6980	0.66	730	10260	6772	0.66	746	9900	6534	0.66	779
77	72	11475	6197	0.54	713	11070	5978	0.54	759	10800	5832	0.54	779	10350	5589	0.54	812
77	75	12060	5065	0.42	746	11610	4876	0.42	787	11340	4763	0.42	812	10980	4612	0.42	853
79	64	10575	8672	0.82	656	10125	8303	0.82	689	9720	7970	0.82	722	9360	7675	0.82	754
79	68	11025	7718	0.70	689	10575	7403	0.70	730	10260	7182	0.70	746	9900	6930	0.70	779
79	72	11475	6656	0.58	713	11070	6421	0.58	759	10800	6264	0.58	779	10350	6003	0.58	812
79	75	12060	5548	0.46	746	11610	5341	0.46	787	11340	5216	0.46	812	10980	5051	0.46	853
79	79	12420	4223	0.34	787	12060	4100	0.34	828	11880	4039	0.34	853	11520	3917	0.34	877
81	64	10575	9095	0.86	656	10125	8708	0.86	689	9720	8359	0.86	722	9360	8050	0.86	754
81	68	11025	8159	0.74	689	10575	7826	0.74	730	10260	7592	0.74	746	9900	7326	0.74	779
81	72	11475	7115	0.62	713	11070	6863	0.62	759	10800	6696	0.62	779	10350	6417	0.62	812
81	75	12060	6030	0.50	746	11610	5805	0.50	787	11340	5670	0.50	812	10980	5490	0.50	853
81	79	12420	4720	0.38	787	12060	4583	0.38	828	11880	4514	0.38	853	11520	4378	0.38	877
82	64	10575	9518	0.90	656	10125	9113	0.90	689	9720	8748	0.90	722	9360	8424	0.90	754
82	68	11025	8600	0.78	689	10575	8249	0.78	730	10260	8003	0.78	746	9900	7722	0.78	779
82	72	11475	7574	0.66	713	11070	7306	0.66	759	10800	7128	0.66	779	10350	6831	0.66	812
82	75	12060	6512	0.54	746	11610	6269	0.54	787	11340	6124	0.54	812	10980	5929	0.54	853
82	79	12420	5216	0.42	787	12060	5065	0.42	828	11880	4990	0.42	853	11520	4838	0.42	877
84	64	10575	9941	0.94	656	10125	9518	0.94	689	9720	9137	0.94	722	9360	8798	0.94	754
84	68	11025	9041	0.82	689	10575	8672	0.82	730	10260	8413	0.82	746	9900	8118	0.82	779
84	72	11475	8033	0.70	713	11070	7749	0.70	759	10800	7560	0.70	779	10350	7245	0.70	812
84	75	12060	6995	0.58	746	11610	6734	0.58	787	11340	6577	0.58	812	10980	6368	0.58	853
84	79	12420	5713	0.46	787	12060	5548	0.46	828	11880	5465	0.46	853	11520	5299	0.46	877
86	64	10575	10364	0.98	656	10125	9923	0.98	689	9720	9526	0.98	722	9360	9173	0.98	754
86	68	11025	9482	0.86	689	10575	9095	0.86	730	10260	8824	0.86	746	9900	8514	0.86	779
86	72	11475	8492	0.74	713	11070	8192	0.74	759	10800	7992	0.74	779	10350	7659	0.74	812
86	75	12060	7477	0.62	746	11610	7198	0.62	787	11340	7031	0.62	812	10980	6808	0.62	853
86	79	12420	6210	0.50	787	12060	6030	0.50	828	11880	5940	0.50	853	11520	5760	0.50	877
88	64	10575	10575	1.00	656	10125	10125	1.00	689	9720	9720	1.00	722	9360	9360	1.00	754
88	68	11025	9923	0.90	689	10575	9518	0.90	730	10260	9234	0.90	746	9900	8910	0.90	779
88	72	11475	8951	0.78	713	11070	8635	0.78	759	10800	8424	0.78	779	10350	8073	0.78	812
88	75	12060	7960	0.66	746	11610	7663	0.66	787	11340	7484	0.66	812	10980	7247	0.66	853
88	79	12420	6707	0.54	787	12060	6512	0.54	828	11880	6415	0.54	853	11520	6221	0.54	877
90	64	10575	10575	1.00	656	10125	10125	1.00	689	9720	9720	1.00	722	9360	9360	1.00	754
90	68	11025	10364	0.94	689	10575	9941	0.94	730	10260	9644	0.94	746	9900	9306	0.94	779
90	72	11475	9410	0.82	713	11070	9077	0.82	759	10800	8856	0.82	779	10350	8487	0.82	812
90	75	12060	8442	0.70	746	11610	8127	0.70	787	11340	7938	0.70	812	10980	7686	0.70	853
90	79	12420	7204	0.58	787	12060	6995	0.58	828	11880	6890	0.58	853	11520	6682	0.58	877

NOTE CA: Capacity (Btu/h) SHF: Sensible heat factor DB: Dry-bulb temperature
 SHC: Sensible heat capacity (Btu/h) P.C.: Power consumption (W) WB: Wet-bulb temperature

MUZ-WX09NL

CAPACITY (Btu/h): 9000 INPUT (W): 820 SHF: 0.8

INDOOR DB (°F)	INDOOR WB (°F)	OUTDOOR DB (°F)											
		95				104				115			
		CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
70	64	8820	5468	0.62	804	8100	5022	0.62	853	7470	4631	0.62	886
70	68	9270	4635	0.50	836	8640	4320	0.50	877	8010	4005	0.50	927
72	64	8820	5821	0.66	804	8100	5346	0.66	853	7470	4930	0.66	886
72	68	9270	5006	0.54	836	8640	4666	0.54	877	8010	4325	0.54	927
72	72	9810	4120	0.42	869	9180	3856	0.42	918	8550	3591	0.42	951
73	64	8820	6174	0.70	804	8100	5670	0.70	853	7470	5229	0.70	886
73	68	9270	5377	0.58	836	8640	5011	0.58	877	8010	4646	0.58	927
73	72	9810	4513	0.46	869	9180	4223	0.46	918	8550	3933	0.46	951
75	64	8820	6527	0.74	804	8100	5994	0.74	853	7470	5528	0.74	886
75	68	9270	5747	0.62	836	8640	5357	0.62	877	8010	4966	0.62	927
75	72	9810	4905	0.50	869	9180	4590	0.50	918	8550	4275	0.50	951
75	75	10350	3933	0.38	902	9720	3694	0.38	943	9180	3488	0.38	984
77	64	8820	6880	0.78	804	8100	6318	0.78	853	7470	5827	0.78	886
77	68	9270	6118	0.66	836	8640	5702	0.66	877	8010	5287	0.66	927
77	72	9810	5297	0.54	869	9180	4957	0.54	918	8550	4617	0.54	951
77	75	10350	4347	0.42	902	9720	4082	0.42	943	9180	3856	0.42	984
79	64	8820	7232	0.82	804	8100	6642	0.82	853	7470	6125	0.82	886
79	68	9270	6489	0.70	836	8640	6048	0.70	877	8010	5607	0.70	927
79	72	9810	5690	0.58	869	9180	5324	0.58	918	8550	4959	0.58	951
79	75	10350	4761	0.46	902	9720	4471	0.46	943	9180	4223	0.46	984
79	79	10890	3703	0.34	935	10260	3488	0.34	976	9630	3274	0.34	1017
81	64	8820	7585	0.86	804	8100	6966	0.86	853	7470	6424	0.86	886
81	68	9270	6860	0.74	836	8640	6394	0.74	877	8010	5927	0.74	927
81	72	9810	6082	0.62	869	9180	5692	0.62	918	8550	5301	0.62	951
81	75	10350	5175	0.50	902	9720	4860	0.50	943	9180	4590	0.50	984
81	79	10890	4138	0.38	935	10260	3899	0.38	976	9630	3659	0.38	1017
82	64	8820	7938	0.90	804	8100	7290	0.90	853	7470	6723	0.90	886
82	68	9270	7231	0.78	836	8640	6739	0.78	877	8010	6248	0.78	927
82	72	9810	6475	0.66	869	9180	6059	0.66	918	8550	5643	0.66	951
82	75	10350	5589	0.54	902	9720	5249	0.54	943	9180	4957	0.54	984
82	79	10890	4574	0.42	935	10260	4309	0.42	976	9630	4045	0.42	1017
84	64	8820	8291	0.94	804	8100	7614	0.94	853	7470	7022	0.94	886
84	68	9270	7601	0.82	836	8640	7085	0.82	877	8010	6568	0.82	927
84	72	9810	6867	0.70	869	9180	6426	0.70	918	8550	5985	0.70	951
84	75	10350	6003	0.58	902	9720	5638	0.58	943	9180	5324	0.58	984
84	79	10890	5009	0.46	935	10260	4720	0.46	976	9630	4430	0.46	1017
86	64	8820	8644	0.98	804	8100	7938	0.98	853	7470	7321	0.98	886
86	68	9270	7972	0.86	836	8640	7430	0.86	877	8010	6889	0.86	927
86	72	9810	7259	0.74	869	9180	6793	0.74	918	8550	6327	0.74	951
86	75	10350	6417	0.62	902	9720	6026	0.62	943	9180	5692	0.62	984
86	79	10890	5445	0.50	935	10260	5130	0.50	976	9630	4815	0.50	1017
88	64	8820	8820	1.00	804	8100	8100	1.00	853	7470	7470	1.00	886
88	68	9270	8343	0.90	836	8640	7776	0.90	877	8010	7209	0.90	927
88	72	9810	7652	0.78	869	9180	7160	0.78	918	8550	6669	0.78	951
88	75	10350	6831	0.66	902	9720	6415	0.66	943	9180	6059	0.66	984
88	79	10890	5881	0.54	935	10260	5540	0.54	976	9630	5200	0.54	1017
90	64	8820	8820	1.00	804	8100	8100	1.00	853	7470	7470	1.00	886
90	68	9270	8714	0.94	836	8640	8122	0.94	877	8010	7529	0.94	927
90	72	9810	8044	0.82	869	9180	7528	0.82	918	8550	7011	0.82	951
90	75	10350	7245	0.70	902	9720	6804	0.70	943	9180	6426	0.70	984
90	79	10890	6316	0.58	935	10260	5951	0.58	976	9630	5585	0.58	1017

NOTE CA: Capacity (Btu/h) SHF: Sensible heat factor DB: Dry-bulb temperature
SHC: Sensible heat capacity (Btu/h) P.C.: Power consumption (W) WB: Wet-bulb temperature

MUZ-WX12NL

CAPACITY (Btu/h): 12000 INPUT (W): 1330 SHF: 0.71

INDOOR DB (°F)	INDOOR WB (°F)	OUTDOOR DB (°F)															
		70				77				81				86			
		CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
70	64	14100	7473	0.53	1064	13500	7155	0.53	1117	12960	6869	0.53	1170	12480	6614	0.53	1224
70	68	14700	6027	0.41	1117	14100	5781	0.41	1184	13680	5609	0.41	1210	13200	5412	0.41	1264
72	64	14100	8037	0.57	1064	13500	7695	0.57	1117	12960	7387	0.57	1170	12480	7114	0.57	1224
72	68	14700	6615	0.45	1117	14100	6345	0.45	1184	13680	6156	0.45	1210	13200	5940	0.45	1264
72	72	15300	5049	0.33	1157	14760	4871	0.33	1230	14400	4752	0.33	1264	13800	4554	0.33	1317
73	64	14100	8601	0.61	1064	13500	8235	0.61	1117	12960	7906	0.61	1170	12480	7613	0.61	1224
73	68	14700	7203	0.49	1117	14100	6909	0.49	1184	13680	6703	0.49	1210	13200	6468	0.49	1264
73	72	15300	5661	0.37	1157	14760	5461	0.37	1230	14400	5328	0.37	1264	13800	5106	0.37	1317
75	64	14100	9165	0.65	1064	13500	8775	0.65	1117	12960	8424	0.65	1170	12480	8112	0.65	1224
75	68	14700	7791	0.53	1117	14100	7473	0.53	1184	13680	7250	0.53	1210	13200	6996	0.53	1264
75	72	15300	6273	0.41	1157	14760	6052	0.41	1230	14400	5904	0.41	1264	13800	5658	0.41	1317
75	75	16080	4663	0.29	1210	15480	4489	0.29	1277	15120	4385	0.29	1317	14640	4246	0.29	1383
77	64	14100	9729	0.69	1064	13500	9315	0.69	1117	12960	8942	0.69	1170	12480	8611	0.69	1224
77	68	14700	8379	0.57	1117	14100	8037	0.57	1184	13680	7798	0.57	1210	13200	7524	0.57	1264
77	72	15300	6885	0.45	1157	14760	6642	0.45	1230	14400	6480	0.45	1264	13800	6210	0.45	1317
77	75	16080	5306	0.33	1210	15480	5108	0.33	1277	15120	4990	0.33	1317	14640	4831	0.33	1383
79	64	14100	10293	0.73	1064	13500	9855	0.73	1117	12960	9461	0.73	1170	12480	9110	0.73	1224
79	68	14700	8967	0.61	1117	14100	8601	0.61	1184	13680	8345	0.61	1210	13200	8052	0.61	1264
79	72	15300	7497	0.49	1157	14760	7232	0.49	1230	14400	7056	0.49	1264	13800	6762	0.49	1317
79	75	16080	5950	0.37	1210	15480	5728	0.37	1277	15120	5594	0.37	1317	14640	5417	0.37	1383
79	79	16560	4140	0.25	1277	16080	4020	0.25	1343	15840	3960	0.25	1383	15360	3840	0.25	1423
81	64	14100	10857	0.77	1064	13500	10395	0.77	1117	12960	9979	0.77	1170	12480	9610	0.77	1224
81	68	14700	9555	0.65	1117	14100	9165	0.65	1184	13680	8892	0.65	1210	13200	8580	0.65	1264
81	72	15300	8109	0.53	1157	14760	7823	0.53	1230	14400	7632	0.53	1264	13800	7314	0.53	1317
81	75	16080	6593	0.41	1210	15480	6347	0.41	1277	15120	6199	0.41	1317	14640	6002	0.41	1383
81	79	16560	4802	0.29	1277	16080	4663	0.29	1343	15840	4594	0.29	1383	15360	4454	0.29	1423
82	64	14100	11421	0.81	1064	13500	10935	0.81	1117	12960	10498	0.81	1170	12480	10109	0.81	1224
82	68	14700	10143	0.69	1117	14100	9729	0.69	1184	13680	9439	0.69	1210	13200	9108	0.69	1264
82	72	15300	8721	0.57	1157	14760	8413	0.57	1230	14400	8208	0.57	1264	13800	7866	0.57	1317
82	75	16080	7236	0.45	1210	15480	6966	0.45	1277	15120	6804	0.45	1317	14640	6588	0.45	1383
82	79	16560	5465	0.33	1277	16080	5306	0.33	1343	15840	5227	0.33	1383	15360	5069	0.33	1423
84	64	14100	11985	0.85	1064	13500	11475	0.85	1117	12960	11016	0.85	1170	12480	10608	0.85	1224
84	68	14700	10731	0.73	1117	14100	10293	0.73	1184	13680	9986	0.73	1210	13200	9636	0.73	1264
84	72	15300	9333	0.61	1157	14760	9004	0.61	1230	14400	8784	0.61	1264	13800	8418	0.61	1317
84	75	16080	7879	0.49	1210	15480	7585	0.49	1277	15120	7409	0.49	1317	14640	7174	0.49	1383
84	79	16560	6127	0.37	1277	16080	5950	0.37	1343	15840	5861	0.37	1383	15360	5683	0.37	1423
86	64	14100	12549	0.89	1064	13500	12015	0.89	1117	12960	11534	0.89	1170	12480	11107	0.89	1224
86	68	14700	11319	0.77	1117	14100	10857	0.77	1184	13680	10534	0.77	1210	13200	10164	0.77	1264
86	72	15300	9945	0.65	1157	14760	9594	0.65	1230	14400	9360	0.65	1264	13800	8970	0.65	1317
86	75	16080	8522	0.53	1210	15480	8204	0.53	1277	15120	8014	0.53	1317	14640	7759	0.53	1383
86	79	16560	6790	0.41	1277	16080	6593	0.41	1343	15840	6494	0.41	1383	15360	6298	0.41	1423
88	64	14100	13113	0.93	1064	13500	12555	0.93	1117	12960	12053	0.93	1170	12480	11606	0.93	1224
88	68	14700	11907	0.81	1117	14100	11421	0.81	1184	13680	11081	0.81	1210	13200	10692	0.81	1264
88	72	15300	10557	0.69	1157	14760	10184	0.69	1230	14400	9936	0.69	1264	13800	9522	0.69	1317
88	75	16080	9166	0.57	1210	15480	8824	0.57	1277	15120	8618	0.57	1317	14640	8345	0.57	1383
88	79	16560	7452	0.45	1277	16080	7236	0.45	1343	15840	7128	0.45	1383	15360	6912	0.45	1423
90	64	14100	13677	0.97	1064	13500	13095	0.97	1117	12960	12571	0.97	1170	12480	12106	0.97	1224
90	68	14700	12495	0.85	1117	14100	11985	0.85	1184	13680	11628	0.85	1210	13200	11220	0.85	1264
90	72	15300	11169	0.73	1157	14760	10775	0.73	1230	14400	10512	0.73	1264	13800	10074	0.73	1317
90	75	16080	9809	0.61	1210	15480	9443	0.61	1277	15120	9223	0.61	1317	14640	8930	0.61	1383
90	79	16560	8114	0.49	1277	16080	7879	0.49	1343	15840	7762	0.49	1383	15360	7526	0.49	1423

NOTE CA: Capacity (Btu/h) SHF: Sensible heat factor DB: Dry-bulb temperature
 SHC: Sensible heat capacity (Btu/h) P.C. : Power consumption (W) WB: Wet-bulb temperature

MUZ-WX12NL

CAPACITY (Btu/h): 12000 INPUT (W): 1330 SHF: 0.71

INDOOR DB (°F)	INDOOR WB (°F)	OUTDOOR DB (°F)											
		95				104				115			
		CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
70	64	11760	6233	0.53	1303	10800	5724	0.53	1383	9960	5279	0.53	1436
70	68	12360	5068	0.41	1357	11520	4723	0.41	1423	10680	4379	0.41	1503
72	64	11760	6703	0.57	1303	10800	6156	0.57	1383	9960	5677	0.57	1436
72	68	12360	5562	0.45	1357	11520	5184	0.45	1423	10680	4806	0.45	1503
72	72	13080	4316	0.33	1410	12240	4039	0.33	1490	11400	3762	0.33	1543
73	64	11760	7174	0.61	1303	10800	6588	0.61	1383	9960	6076	0.61	1436
73	68	12360	6056	0.49	1357	11520	5645	0.49	1423	10680	5233	0.49	1503
73	72	13080	4840	0.37	1410	12240	4529	0.37	1490	11400	4218	0.37	1543
75	64	11760	7644	0.65	1303	10800	7020	0.65	1383	9960	6474	0.65	1436
75	68	12360	6551	0.53	1357	11520	6106	0.53	1423	10680	5660	0.53	1503
75	72	13080	5363	0.41	1410	12240	5018	0.41	1490	11400	4674	0.41	1543
75	75	13800	4002	0.29	1463	12960	3758	0.29	1530	12240	3550	0.29	1596
77	64	11760	8114	0.69	1303	10800	7452	0.69	1383	9960	6872	0.69	1436
77	68	12360	7045	0.57	1357	11520	6566	0.57	1423	10680	6088	0.57	1503
77	72	13080	5886	0.45	1410	12240	5508	0.45	1490	11400	5130	0.45	1543
77	75	13800	4554	0.33	1463	12960	4277	0.33	1530	12240	4039	0.33	1596
79	64	11760	8585	0.73	1303	10800	7884	0.73	1383	9960	7271	0.73	1436
79	68	12360	7540	0.61	1357	11520	7027	0.61	1423	10680	6515	0.61	1503
79	72	13080	6409	0.49	1410	12240	5998	0.49	1490	11400	5586	0.49	1543
79	75	13800	5106	0.37	1463	12960	4795	0.37	1530	12240	4529	0.37	1596
79	79	14520	3630	0.25	1516	13680	3420	0.25	1583	12840	3210	0.25	1649
81	64	11760	9055	0.77	1303	10800	8316	0.77	1383	9960	7669	0.77	1436
81	68	12360	8034	0.65	1357	11520	7488	0.65	1423	10680	6942	0.65	1503
81	72	13080	6932	0.53	1410	12240	6487	0.53	1490	11400	6042	0.53	1543
81	75	13800	5658	0.41	1463	12960	5314	0.41	1530	12240	5018	0.41	1596
81	79	14520	4211	0.29	1516	13680	3967	0.29	1583	12840	3724	0.29	1649
82	64	11760	9526	0.81	1303	10800	8748	0.81	1383	9960	8068	0.81	1436
82	68	12360	8528	0.69	1357	11520	7949	0.69	1423	10680	7369	0.69	1503
82	72	13080	7456	0.57	1410	12240	6977	0.57	1490	11400	6498	0.57	1543
82	75	13800	6210	0.45	1463	12960	5832	0.45	1530	12240	5508	0.45	1596
82	79	14520	4792	0.33	1516	13680	4514	0.33	1583	12840	4237	0.33	1649
84	64	11760	9996	0.85	1303	10800	9180	0.85	1383	9960	8466	0.85	1436
84	68	12360	9023	0.73	1357	11520	8410	0.73	1423	10680	7796	0.73	1503
84	72	13080	7979	0.61	1410	12240	7466	0.61	1490	11400	6954	0.61	1543
84	75	13800	6762	0.49	1463	12960	6350	0.49	1530	12240	5998	0.49	1596
84	79	14520	5372	0.37	1516	13680	5062	0.37	1583	12840	4751	0.37	1649
86	64	11760	10466	0.89	1303	10800	9612	0.89	1383	9960	8864	0.89	1436
86	68	12360	9517	0.77	1357	11520	8870	0.77	1423	10680	8224	0.77	1503
86	72	13080	8502	0.65	1410	12240	7956	0.65	1490	11400	7410	0.65	1543
86	75	13800	7314	0.53	1463	12960	6869	0.53	1530	12240	6487	0.53	1596
86	79	14520	5953	0.41	1516	13680	5609	0.41	1583	12840	5264	0.41	1649
88	64	11760	10937	0.93	1303	10800	10044	0.93	1383	9960	9263	0.93	1436
88	68	12360	10012	0.81	1357	11520	9331	0.81	1423	10680	8651	0.81	1503
88	72	13080	9025	0.69	1410	12240	8446	0.69	1490	11400	7866	0.69	1543
88	75	13800	7866	0.57	1463	12960	7387	0.57	1530	12240	6977	0.57	1596
88	79	14520	6534	0.45	1516	13680	6156	0.45	1583	12840	5778	0.45	1649
90	64	11760	11407	0.97	1303	10800	10476	0.97	1383	9960	9661	0.97	1436
90	68	12360	10506	0.85	1357	11520	9792	0.85	1423	10680	9078	0.85	1503
90	72	13080	9548	0.73	1410	12240	8935	0.73	1490	11400	8322	0.73	1543
90	75	13800	8418	0.61	1463	12960	7906	0.61	1530	12240	7466	0.61	1596
90	79	14520	7115	0.49	1516	13680	6703	0.49	1583	12840	6292	0.49	1649

NOTE CA: Capacity (Btu/h) SHF: Sensible heat factor DB: Dry-bulb temperature
SHC: Sensible heat capacity (Btu/h) P.C. : Power consumption (W) WB: Wet-bulb temperature

MUZ-WX18NL

CAPACITY (Btu/h): 17200 INPUT (W): 1810 SHF: 0.67

INDOOR DB (°F)	INDOOR WB (°F)	OUTDOOR DB (°F)															
		70				77				81				86			
		CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
70	64	20210	9903	0.49	1448	19350	9482	0.49	1520	18576	9102	0.49	1593	17888	8765	0.49	1665
70	68	21070	7796	0.37	1520	20210	7478	0.37	1611	19608	7255	0.37	1647	18920	7000	0.37	1720
72	64	20210	10711	0.53	1448	19350	10256	0.53	1520	18576	9845	0.53	1593	17888	9481	0.53	1665
72	68	21070	8639	0.41	1520	20210	8286	0.41	1611	19608	8039	0.41	1647	18920	7757	0.41	1720
72	72	21930	6360	0.29	1575	21156	6135	0.29	1674	20640	5986	0.29	1720	19780	5736	0.29	1792
73	64	20210	11520	0.57	1448	19350	11030	0.57	1520	18576	10588	0.57	1593	17888	10196	0.57	1665
73	68	21070	9482	0.45	1520	20210	9095	0.45	1611	19608	8824	0.45	1647	18920	8514	0.45	1720
73	72	21930	7237	0.33	1575	21156	6981	0.33	1674	20640	6811	0.33	1720	19780	6527	0.33	1792
75	64	20210	12328	0.61	1448	19350	11804	0.61	1520	18576	11331	0.61	1593	17888	10912	0.61	1665
75	68	21070	10324	0.49	1520	20210	9903	0.49	1611	19608	9608	0.49	1647	18920	9271	0.49	1720
75	72	21930	8114	0.37	1575	21156	7828	0.37	1674	20640	7637	0.37	1720	19780	7319	0.37	1792
75	75	23048	5762	0.25	1647	22188	5547	0.25	1738	21672	5418	0.25	1792	20984	5246	0.25	1882
77	64	20210	13137	0.65	1448	19350	12578	0.65	1520	18576	12074	0.65	1593	17888	11627	0.65	1665
77	68	21070	11167	0.53	1520	20210	10711	0.53	1611	19608	10392	0.53	1647	18920	10028	0.53	1720
77	72	21930	8991	0.41	1575	21156	8674	0.41	1674	20640	8462	0.41	1720	19780	8110	0.41	1792
77	75	23048	6684	0.29	1647	22188	6435	0.29	1738	21672	6285	0.29	1792	20984	6085	0.29	1882
79	64	20210	13945	0.69	1448	19350	13352	0.69	1520	18576	12817	0.69	1593	17888	12343	0.69	1665
79	68	21070	12010	0.57	1520	20210	11520	0.57	1611	19608	11177	0.57	1647	18920	10784	0.57	1720
79	72	21930	9869	0.45	1575	21156	9520	0.45	1674	20640	9288	0.45	1720	19780	8901	0.45	1792
79	75	23048	7606	0.33	1647	22188	7322	0.33	1738	21672	7152	0.33	1792	20984	6925	0.33	1882
79	79	23736	4985	0.21	1738	23048	4840	0.21	1828	22704	4768	0.21	1882	22016	4623	0.21	1937
81	64	20210	14753	0.73	1448	19350	14126	0.73	1520	18576	13560	0.73	1593	17888	13058	0.73	1665
81	68	21070	12853	0.61	1520	20210	12328	0.61	1611	19608	11961	0.61	1647	18920	11541	0.61	1720
81	72	21930	10746	0.49	1575	21156	10366	0.49	1674	20640	10114	0.49	1720	19780	9692	0.49	1792
81	75	23048	8528	0.37	1647	22188	8210	0.37	1738	21672	8019	0.37	1792	20984	7764	0.37	1882
81	79	23736	5934	0.25	1738	23048	5762	0.25	1828	22704	5676	0.25	1882	22016	5504	0.25	1937
82	64	20210	15562	0.77	1448	19350	14900	0.77	1520	18576	14304	0.77	1593	17888	13774	0.77	1665
82	68	21070	13696	0.65	1520	20210	13137	0.65	1611	19608	12745	0.65	1647	18920	12298	0.65	1720
82	72	21930	11623	0.53	1575	21156	11213	0.53	1674	20640	10939	0.53	1720	19780	10483	0.53	1792
82	75	23048	9450	0.41	1647	22188	9097	0.41	1738	21672	8886	0.41	1792	20984	8603	0.41	1882
82	79	23736	6883	0.29	1738	23048	6684	0.29	1828	22704	6584	0.29	1882	22016	6385	0.29	1937
84	64	20210	16370	0.81	1448	19350	15674	0.81	1520	18576	15047	0.81	1593	17888	14489	0.81	1665
84	68	21070	14538	0.69	1520	20210	13945	0.69	1611	19608	13530	0.69	1647	18920	13055	0.69	1720
84	72	21930	12500	0.57	1575	21156	12059	0.57	1674	20640	11765	0.57	1720	19780	11275	0.57	1792
84	75	23048	10372	0.45	1647	22188	9985	0.45	1738	21672	9752	0.45	1792	20984	9443	0.45	1882
84	79	23736	7833	0.33	1738	23048	7606	0.33	1828	22704	7492	0.33	1882	22016	7265	0.33	1937
86	64	20210	17179	0.85	1448	19350	16448	0.85	1520	18576	15790	0.85	1593	17888	15205	0.85	1665
86	68	21070	15381	0.73	1520	20210	14753	0.73	1611	19608	14314	0.73	1647	18920	13812	0.73	1720
86	72	21930	13377	0.61	1575	21156	12905	0.61	1674	20640	12590	0.61	1720	19780	12066	0.61	1792
86	75	23048	11294	0.49	1647	22188	10872	0.49	1738	21672	10619	0.49	1792	20984	10282	0.49	1882
86	79	23736	8782	0.37	1738	23048	8528	0.37	1828	22704	8400	0.37	1882	22016	8146	0.37	1937
88	64	20210	17987	0.89	1448	19350	17222	0.89	1520	18576	16533	0.89	1593	17888	15920	0.89	1665
88	68	21070	16224	0.77	1520	20210	15562	0.77	1611	19608	15098	0.77	1647	18920	14568	0.77	1720
88	72	21930	14255	0.65	1575	21156	13751	0.65	1674	20640	13416	0.65	1720	19780	12857	0.65	1792
88	75	23048	12215	0.53	1647	22188	11760	0.53	1738	21672	11486	0.53	1792	20984	11122	0.53	1882
88	79	23736	9732	0.41	1738	23048	9450	0.41	1828	22704	9309	0.41	1882	22016	9027	0.41	1937
90	64	20210	18795	0.93	1448	19350	17996	0.93	1520	18576	17276	0.93	1593	17888	16636	0.93	1665
90	68	21070	17067	0.81	1520	20210	16370	0.81	1611	19608	15882	0.81	1647	18920	15325	0.81	1720
90	72	21930	15132	0.69	1575	21156	14598	0.69	1674	20640	14242	0.69	1720	19780	13648	0.69	1792
90	75	23048	13137	0.57	1647	22188	12647	0.57	1738	21672	12353	0.57	1792	20984	11961	0.57	1882
90	79	23736	10681	0.45	1738	23048	10372	0.45	1828	22704	10217	0.45	1882	22016	9907	0.45	1937

NOTE CA: Capacity (Btu/h) SHF: Sensible heat factor DB: Dry-bulb temperature
 SHC: Sensible heat capacity (Btu/h) P.C.: Power consumption (W) WB: Wet-bulb temperature

MUZ-WX18NL

CAPACITY (Btu/h): 17200 INPUT (W): 1810 SHF: 0.67

INDOOR DB (°F)	INDOOR WB (°F)	OUTDOOR DB (°F)											
		95				104				115			
		CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
70	64	16856	8259	0.49	1774	15480	7585	0.49	1882	14276	6995	0.49	1955
70	68	17716	6555	0.37	1846	16512	6109	0.37	1937	15308	5664	0.37	2045
72	64	16856	8934	0.53	1774	15480	8204	0.53	1882	14276	7566	0.53	1955
72	68	17716	7264	0.41	1846	16512	6770	0.41	1937	15308	6276	0.41	2045
72	72	18748	5437	0.29	1919	17544	5088	0.29	2027	16340	4739	0.29	2100
73	64	16856	9608	0.57	1774	15480	8824	0.57	1882	14276	8137	0.57	1955
73	68	17716	7972	0.45	1846	16512	7430	0.45	1937	15308	6889	0.45	2045
73	72	18748	6187	0.33	1919	17544	5790	0.33	2027	16340	5392	0.33	2100
75	64	16856	10282	0.61	1774	15480	9443	0.61	1882	14276	8708	0.61	1955
75	68	17716	8681	0.49	1846	16512	8091	0.49	1937	15308	7501	0.49	2045
75	72	18748	6937	0.37	1919	17544	6491	0.37	2027	16340	6046	0.37	2100
75	75	19780	4945	0.25	1991	18576	4644	0.25	2082	17544	4386	0.25	2172
77	64	16856	10956	0.65	1774	15480	10062	0.65	1882	14276	9279	0.65	1955
77	68	17716	9389	0.53	1846	16512	8751	0.53	1937	15308	8113	0.53	2045
77	72	18748	7687	0.41	1919	17544	7193	0.41	2027	16340	6699	0.41	2100
77	75	19780	5736	0.29	1991	18576	5387	0.29	2082	17544	5088	0.29	2172
79	64	16856	11631	0.69	1774	15480	10681	0.69	1882	14276	9850	0.69	1955
79	68	17716	10098	0.57	1846	16512	9412	0.57	1937	15308	8726	0.57	2045
79	72	18748	8437	0.45	1919	17544	7895	0.45	2027	16340	7353	0.45	2100
79	75	19780	6527	0.33	1991	18576	6130	0.33	2082	17544	5790	0.33	2172
79	79	20812	4371	0.21	2063	19608	4118	0.21	2154	18404	3865	0.21	2244
81	64	16856	12305	0.73	1774	15480	11300	0.73	1882	14276	10421	0.73	1955
81	68	17716	10807	0.61	1846	16512	10072	0.61	1937	15308	9338	0.61	2045
81	72	18748	9187	0.49	1919	17544	8597	0.49	2027	16340	8007	0.49	2100
81	75	19780	7319	0.37	1991	18576	6873	0.37	2082	17544	6491	0.37	2172
81	79	20812	5203	0.25	2063	19608	4902	0.25	2154	18404	4601	0.25	2244
82	64	16856	12979	0.77	1774	15480	11920	0.77	1882	14276	10993	0.77	1955
82	68	17716	11515	0.65	1846	16512	10733	0.65	1937	15308	9950	0.65	2045
82	72	18748	9936	0.53	1919	17544	9298	0.53	2027	16340	8660	0.53	2100
82	75	19780	8110	0.41	1991	18576	7616	0.41	2082	17544	7193	0.41	2172
82	79	20812	6035	0.29	2063	19608	5686	0.29	2154	18404	5337	0.29	2244
84	64	16856	13653	0.81	1774	15480	12539	0.81	1882	14276	11564	0.81	1955
84	68	17716	12224	0.69	1846	16512	11393	0.69	1937	15308	10563	0.69	2045
84	72	18748	10686	0.57	1919	17544	10000	0.57	2027	16340	9314	0.57	2100
84	75	19780	8901	0.45	1991	18576	8359	0.45	2082	17544	7895	0.45	2172
84	79	20812	6868	0.33	2063	19608	6471	0.33	2154	18404	6073	0.33	2244
86	64	16856	14328	0.85	1774	15480	13158	0.85	1882	14276	12135	0.85	1955
86	68	17716	12933	0.73	1846	16512	12054	0.73	1937	15308	11175	0.73	2045
86	72	18748	11436	0.61	1919	17544	10702	0.61	2027	16340	9967	0.61	2100
86	75	19780	9692	0.49	1991	18576	9102	0.49	2082	17544	8597	0.49	2172
86	79	20812	7700	0.37	2063	19608	7255	0.37	2154	18404	6809	0.37	2244
88	64	16856	15002	0.89	1774	15480	13777	0.89	1882	14276	12706	0.89	1955
88	68	17716	13641	0.77	1846	16512	12714	0.77	1937	15308	11787	0.77	2045
88	72	18748	12186	0.65	1919	17544	11404	0.65	2027	16340	10621	0.65	2100
88	75	19780	10483	0.53	1991	18576	9845	0.53	2082	17544	9298	0.53	2172
88	79	20812	8533	0.41	2063	19608	8039	0.41	2154	18404	7546	0.41	2244
90	64	16856	15676	0.93	1774	15480	14396	0.93	1882	14276	13277	0.93	1955
90	68	17716	14350	0.81	1846	16512	13375	0.81	1937	15308	12399	0.81	2045
90	72	18748	12936	0.69	1919	17544	12105	0.69	2027	16340	11275	0.69	2100
90	75	19780	11275	0.57	1991	18576	10588	0.57	2082	17544	10000	0.57	2172
90	79	20812	9365	0.45	2063	19608	8824	0.45	2154	18404	8282	0.45	2244

NOTE CA: Capacity (Btu/h) SHF: Sensible heat factor DB: Dry-bulb temperature
SHC: Sensible heat capacity (Btu/h) P.C. : Power consumption (W) WB: Wet-bulb temperature

MUZ-WX24NL

CAPACITY (Btu/h): 22400 INPUT (W): 2800 SHF: 0.7

INDOOR DB (°F)	INDOOR WB (°F)	OUTDOOR DB (°F)															
		70				77				81				86			
		CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
70	64	26320	13686	0.52	2240	25200	13104	0.52	2352	24192	12580	0.52	2464	23296	12114	0.52	2576
70	68	27440	10976	0.40	2352	26320	10528	0.40	2492	25536	10214	0.40	2548	24640	9856	0.40	2660
72	64	26320	14739	0.56	2240	25200	14112	0.56	2352	24192	13548	0.56	2464	23296	13046	0.56	2576
72	68	27440	12074	0.44	2352	26320	11581	0.44	2492	25536	11236	0.44	2548	24640	10842	0.44	2660
72	72	28560	9139	0.32	2436	27552	8817	0.32	2590	26880	8602	0.32	2660	25760	8243	0.32	2772
73	64	26320	15792	0.60	2240	25200	15120	0.60	2352	24192	14515	0.60	2464	23296	13978	0.60	2576
73	68	27440	13171	0.48	2352	26320	12634	0.48	2492	25536	12257	0.48	2548	24640	11827	0.48	2660
73	72	28560	10282	0.36	2436	27552	9919	0.36	2590	26880	9677	0.36	2660	25760	9274	0.36	2772
75	64	26320	16845	0.64	2240	25200	16128	0.64	2352	24192	15483	0.64	2464	23296	14909	0.64	2576
75	68	27440	14269	0.52	2352	26320	13686	0.52	2492	25536	13279	0.52	2548	24640	12813	0.52	2660
75	72	28560	11424	0.40	2436	27552	11021	0.40	2590	26880	10752	0.40	2660	25760	10304	0.40	2772
75	75	30016	8404	0.28	2548	28896	8091	0.28	2688	28224	7903	0.28	2772	27328	7652	0.28	2912
77	64	26320	17898	0.68	2240	25200	17136	0.68	2352	24192	16451	0.68	2464	23296	15841	0.68	2576
77	68	27440	15366	0.56	2352	26320	14739	0.56	2492	25536	14300	0.56	2548	24640	13798	0.56	2660
77	72	28560	12566	0.44	2436	27552	12123	0.44	2590	26880	11827	0.44	2660	25760	11334	0.44	2772
77	75	30016	9605	0.32	2548	28896	9247	0.32	2688	28224	9032	0.32	2772	27328	8745	0.32	2912
79	64	26320	18950	0.72	2240	25200	18144	0.72	2352	24192	17418	0.72	2464	23296	16773	0.72	2576
79	68	27440	16464	0.60	2352	26320	15792	0.60	2492	25536	15322	0.60	2548	24640	14784	0.60	2660
79	72	28560	13709	0.48	2436	27552	13225	0.48	2590	26880	12902	0.48	2660	25760	12365	0.48	2772
79	75	30016	10806	0.36	2548	28896	10403	0.36	2688	28224	10161	0.36	2772	27328	9838	0.36	2912
79	79	30912	7419	0.24	2688	30016	7204	0.24	2828	29568	7096	0.24	2912	28672	6881	0.24	2996
81	64	26320	20003	0.76	2240	25200	19152	0.76	2352	24192	18386	0.76	2464	23296	17705	0.76	2576
81	68	27440	17562	0.64	2352	26320	16845	0.64	2492	25536	16343	0.64	2548	24640	15770	0.64	2660
81	72	28560	14851	0.52	2436	27552	14327	0.52	2590	26880	13978	0.52	2660	25760	13395	0.52	2772
81	75	30016	12006	0.40	2548	28896	11558	0.40	2688	28224	11290	0.40	2772	27328	10931	0.40	2912
81	79	30912	8655	0.28	2688	30016	8404	0.28	2828	29568	8279	0.28	2912	28672	8028	0.28	2996
82	64	26320	21056	0.80	2240	25200	20160	0.80	2352	24192	19354	0.80	2464	23296	18637	0.80	2576
82	68	27440	18659	0.68	2352	26320	17898	0.68	2492	25536	17364	0.68	2548	24640	16755	0.68	2660
82	72	28560	15994	0.56	2436	27552	15429	0.56	2590	26880	15053	0.56	2660	25760	14426	0.56	2772
82	75	30016	13207	0.44	2548	28896	12714	0.44	2688	28224	12419	0.44	2772	27328	12024	0.44	2912
82	79	30912	9892	0.32	2688	30016	9605	0.32	2828	29568	9462	0.32	2912	28672	9175	0.32	2996
84	64	26320	22109	0.84	2240	25200	21168	0.84	2352	24192	20321	0.84	2464	23296	19569	0.84	2576
84	68	27440	19757	0.72	2352	26320	18950	0.72	2492	25536	18386	0.72	2548	24640	17741	0.72	2660
84	72	28560	17136	0.60	2436	27552	16531	0.60	2590	26880	16128	0.60	2660	25760	15456	0.60	2772
84	75	30016	14408	0.48	2548	28896	13870	0.48	2688	28224	13548	0.48	2772	27328	13117	0.48	2912
84	79	30912	11128	0.36	2688	30016	10806	0.36	2828	29568	10644	0.36	2912	28672	10322	0.36	2996
86	64	26320	23162	0.88	2240	25200	22176	0.88	2352	24192	21289	0.88	2464	23296	20500	0.88	2576
86	68	27440	20854	0.76	2352	26320	20003	0.76	2492	25536	19407	0.76	2548	24640	18726	0.76	2660
86	72	28560	18278	0.64	2436	27552	17633	0.64	2590	26880	17203	0.64	2660	25760	16486	0.64	2772
86	75	30016	15608	0.52	2548	28896	15026	0.52	2688	28224	14676	0.52	2772	27328	14211	0.52	2912
86	79	30912	12365	0.40	2688	30016	12006	0.40	2828	29568	11827	0.40	2912	28672	11469	0.40	2996
88	64	26320	24214	0.92	2240	25200	23184	0.92	2352	24192	22257	0.92	2464	23296	21432	0.92	2576
88	68	27440	21952	0.80	2352	26320	21056	0.80	2492	25536	20429	0.80	2548	24640	19712	0.80	2660
88	72	28560	19421	0.68	2436	27552	18735	0.68	2590	26880	18278	0.68	2660	25760	17517	0.68	2772
88	75	30016	16809	0.56	2548	28896	16182	0.56	2688	28224	15805	0.56	2772	27328	15304	0.56	2912
88	79	30912	13601	0.44	2688	30016	13207	0.44	2828	29568	13010	0.44	2912	28672	12616	0.44	2996
90	64	26320	25267	0.96	2240	25200	24192	0.96	2352	24192	23224	0.96	2464	23296	22364	0.96	2576
90	68	27440	23050	0.84	2352	26320	22109	0.84	2492	25536	21450	0.84	2548	24640	20698	0.84	2660
90	72	28560	20563	0.72	2436	27552	19837	0.72	2590	26880	19354	0.72	2660	25760	18547	0.72	2772
90	75	30016	18010	0.60	2548	28896	17338	0.60	2688	28224	16934	0.60	2772	27328	16397	0.60	2912
90	79	30912	14838	0.48	2688	30016	14408	0.48	2828	29568	14193	0.48	2912	28672	13763	0.48	2996

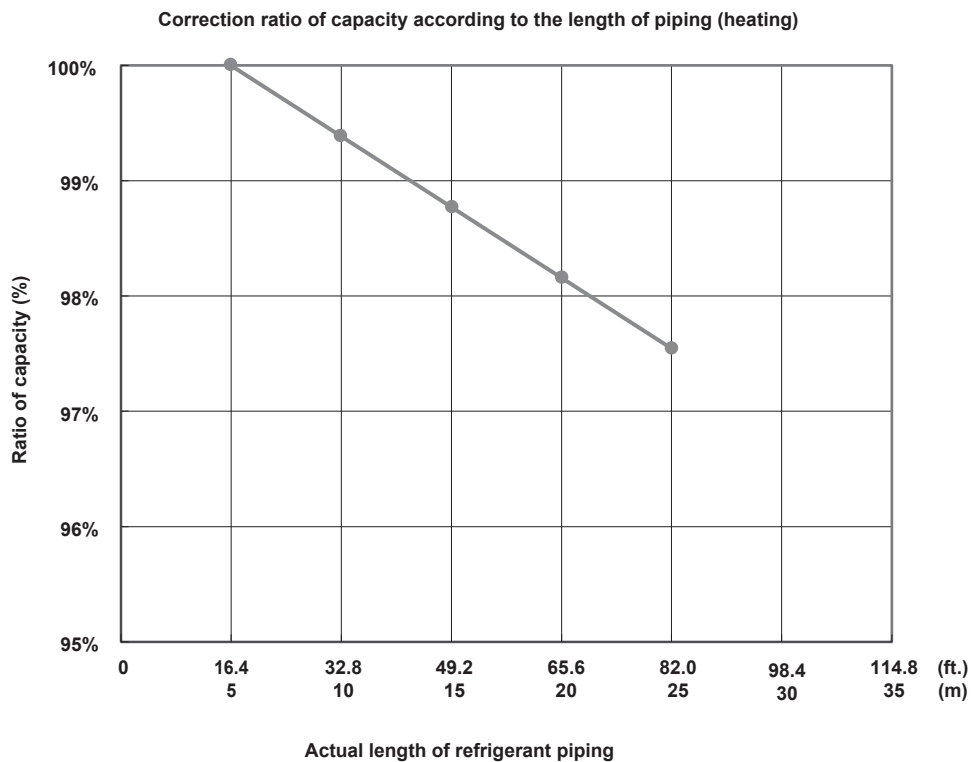
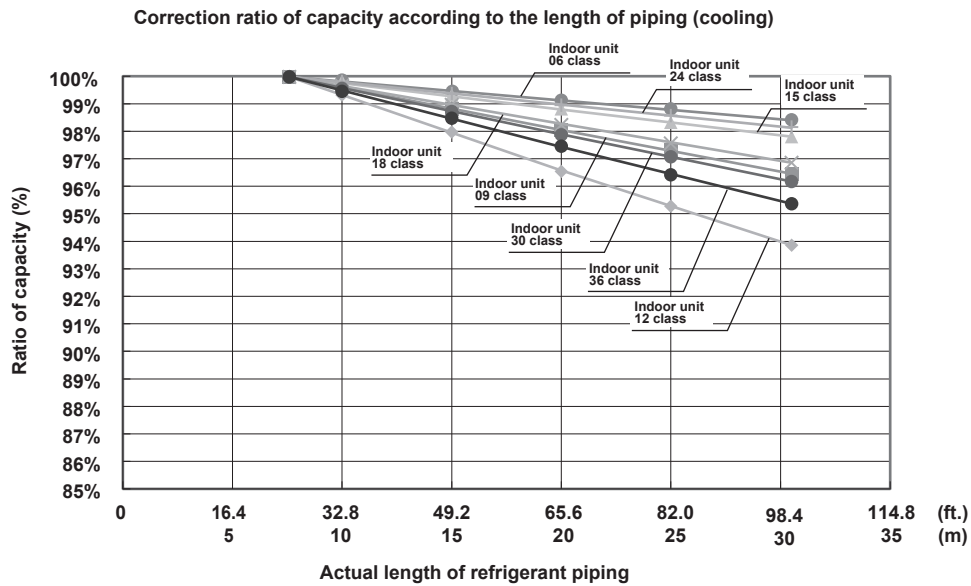
NOTE CA: Capacity (Btu/h) SHF: Sensible heat factor DB: Dry-bulb temperature
 SHC: Sensible heat capacity (Btu/h) P.C.: Power consumption (W) WB: Wet-bulb temperature

MUZ-WX24NL

CAPACITY (Btu/h): 22400 INPUT (W): 2800 SHF: 0.7

INDOOR DB (°F)	INDOOR WB (°F)	OUTDOOR DB (°F)											
		95				104				115			
		CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.	CA	SHC	SHF	P.C.
70	64	21952	11415	0.52	2744	20160	10483	0.52	2912	18592	9668	0.52	3024
70	68	23072	9229	0.40	2856	21504	8602	0.40	2996	19936	7974	0.40	3164
72	64	21952	12293	0.56	2744	20160	11290	0.56	2912	18592	10412	0.56	3024
72	68	23072	10152	0.44	2856	21504	9462	0.44	2996	19936	8772	0.44	3164
72	72	24416	7813	0.32	2968	22848	7311	0.32	3136	21280	6810	0.32	3248
73	64	21952	13171	0.60	2744	20160	12096	0.60	2912	18592	11155	0.60	3024
73	68	23072	11075	0.48	2856	21504	10322	0.48	2996	19936	9569	0.48	3164
73	72	24416	8790	0.36	2968	22848	8225	0.36	3136	21280	7661	0.36	3248
75	64	21952	14049	0.64	2744	20160	12902	0.64	2912	18592	11899	0.64	3024
75	68	23072	11997	0.52	2856	21504	11182	0.52	2996	19936	10367	0.52	3164
75	72	24416	9766	0.40	2968	22848	9139	0.40	3136	21280	8512	0.40	3248
75	75	25760	7213	0.28	3080	24192	6774	0.28	3220	22848	6397	0.28	3360
77	64	21952	14927	0.68	2744	20160	13709	0.68	2912	18592	12643	0.68	3024
77	68	23072	12920	0.56	2856	21504	12042	0.56	2996	19936	11164	0.56	3164
77	72	24416	10743	0.44	2968	22848	10053	0.44	3136	21280	9363	0.44	3248
77	75	25760	8243	0.32	3080	24192	7741	0.32	3220	22848	7311	0.32	3360
79	64	21952	15805	0.72	2744	20160	14515	0.72	2912	18592	13386	0.72	3024
79	68	23072	13843	0.60	2856	21504	12902	0.60	2996	19936	11962	0.60	3164
79	72	24416	11720	0.48	2968	22848	10967	0.48	3136	21280	10214	0.48	3248
79	75	25760	9274	0.36	3080	24192	8709	0.36	3220	22848	8225	0.36	3360
79	79	27104	6505	0.24	3192	25536	6129	0.24	3332	23968	5752	0.24	3472
81	64	21952	16684	0.76	2744	20160	15322	0.76	2912	18592	14130	0.76	3024
81	68	23072	14766	0.64	2856	21504	13763	0.64	2996	19936	12759	0.64	3164
81	72	24416	12696	0.52	2968	22848	11881	0.52	3136	21280	11066	0.52	3248
81	75	25760	10304	0.40	3080	24192	9677	0.40	3220	22848	9139	0.40	3360
81	79	27104	7589	0.28	3192	25536	7150	0.28	3332	23968	6711	0.28	3472
82	64	21952	17562	0.80	2744	20160	16128	0.80	2912	18592	14874	0.80	3024
82	68	23072	15689	0.68	2856	21504	14623	0.68	2996	19936	13556	0.68	3164
82	72	24416	13673	0.56	2968	22848	12795	0.56	3136	21280	11917	0.56	3248
82	75	25760	11334	0.44	3080	24192	10644	0.44	3220	22848	10053	0.44	3360
82	79	27104	8673	0.32	3192	25536	8172	0.32	3332	23968	7670	0.32	3472
84	64	21952	18440	0.84	2744	20160	16934	0.84	2912	18592	15617	0.84	3024
84	68	23072	16612	0.72	2856	21504	15483	0.72	2996	19936	14354	0.72	3164
84	72	24416	14650	0.60	2968	22848	13709	0.60	3136	21280	12768	0.60	3248
84	75	25760	12365	0.48	3080	24192	11612	0.48	3220	22848	10967	0.48	3360
84	79	27104	9757	0.36	3192	25536	9193	0.36	3332	23968	8628	0.36	3472
86	64	21952	19318	0.88	2744	20160	17741	0.88	2912	18592	16361	0.88	3024
86	68	23072	17535	0.76	2856	21504	16343	0.76	2996	19936	15151	0.76	3164
86	72	24416	15626	0.64	2968	22848	14623	0.64	3136	21280	13619	0.64	3248
86	75	25760	13395	0.52	3080	24192	12580	0.52	3220	22848	11881	0.52	3360
86	79	27104	10842	0.40	3192	25536	10214	0.40	3332	23968	9587	0.40	3472
88	64	21952	20196	0.92	2744	20160	18547	0.92	2912	18592	17105	0.92	3024
88	68	23072	18458	0.80	2856	21504	17203	0.80	2996	19936	15949	0.80	3164
88	72	24416	16603	0.68	2968	22848	15537	0.68	3136	21280	14470	0.68	3248
88	75	25760	14426	0.56	3080	24192	13548	0.56	3220	22848	12795	0.56	3360
88	79	27104	11926	0.44	3192	25536	11236	0.44	3332	23968	10546	0.44	3472
90	64	21952	21074	0.96	2744	20160	19354	0.96	2912	18592	17848	0.96	3024
90	68	23072	19380	0.84	2856	21504	18063	0.84	2996	19936	16746	0.84	3164
90	72	24416	17580	0.72	2968	22848	16451	0.72	3136	21280	15322	0.72	3248
90	75	25760	15456	0.60	3080	24192	14515	0.60	3220	22848	13709	0.60	3360
90	79	27104	13010	0.48	3192	25536	12257	0.48	3332	23968	11505	0.48	3472

NOTE CA: Capacity (Btu/h) SHF: Sensible heat factor DB: Dry-bulb temperature
SHC: Sensible heat capacity (Btu/h) P.C. : Power consumption (W) WB: Wet-bulb temperature



The length intended for the capacity calculation, which counts the length of refrigerant piping and the number of bends, is called actual length.

Length of refrigerant piping (ft.) + (Number of bends × 0.984 ft.) = Actual length of refrigerant piping (ft.)
 [Length of refrigerant piping (m) + (Number of bends × 0.3 m) = Actual length of refrigerant piping (m)]

MUZ-WX09NL

1) COOLING

Rated
Q(Btu/h): 9000
W: 820

Indoor W.B. Outdoor D.B. (°F) (°C)		71°F / 21.7°C							67°F / 19.4°C							63°F / 17.2°C						
		Max.	Rated	75%	50%	25%	Min.		Max.	Rated	75%	50%	25%	Min.		Max.	Rated	75%	50%	25%	Min.	
115	46.1	Q(Btu/h)	9030	8280	7050	4970	2970	3430	8550	7700	6670	4700	2820	3250		8030	7020	6260	4420	2650	3050	
		W	1260	940	910	560	210	290	1190	910	870	520	200	280		1140	870	820	510	190	270	
110	43.3	Q(Btu/h)	9430	8640	7350	5190	3110	3580	8930	8040	6960	4910	2950	3390		8390	7360	6540	4620	2770	3180	
		W	1220	930	890	550	210	290	1160	890	850	510	200	280		1110	860	800	500	190	270	
105	40.6	Q(Btu/h)	9820	9000	7660	5410	3240	3730	9300	8370	7250	5120	3070	3530		8740	7700	6810	4820	2890	3310	
		W	1190	910	870	540	200	280	1130	870	830	500	190	270		1080	840	780	490	180	260	
100	37.8	Q(Btu/h)	10190	9340	7950	5610	3360	3880	9650	8690	7530	5310	3190	3670		9070	8080	7070	4990	3000	3450	
		W	1160	890	850	530	200	270	1100	850	810	490	190	260		1050	810	760	480	180	250	
95	35.0	Q(Btu/h)	10560	9680	8240	5810	3480	4020	10000	9000	7800	5500	3300	3800		9400	8460	7330	5170	3100	3570	
		W	1130	860	820	510	190	260	1070	820	780	470	180	250		1020	780	730	460	170	240	
90	32.2	Q(Btu/h)	10980	10000	8570	6040	3620	4170	10400	9360	8110	5720	3430	3950		9770	8780	7620	5380	3220	3710	
		W	1090	830	780	480	190	250	1030	790	750	450	180	240		980	760	700	440	170	230	
85	29.4	Q(Btu/h)	11410	10310	8890	6280	3760	4330	10800	9720	8420	5940	3560	4100		10150	9090	7910	5590	3350	3850	
		W	1050	800	750	460	180	240	990	760	720	430	170	230		950	730	680	420	160	220	
80	26.7	Q(Btu/h)	11830	10670	9230	6510	3900	4500	11200	10080	8740	6160	3700	4260		10520	9450	8210	5790	3480	4000	
		W	1000	770	720	440	170	230	950	730	690	410	160	220		910	700	650	400	150	210	
75	23.9	Q(Btu/h)	12250	11030	9560	6740	4040	4660	11600	10440	9050	6380	3830	4410		10900	9810	8500	6000	3600	4140	
		W	950	730	690	420	160	220	900	690	660	390	150	210		860	660	620	380	140	200	
70	21.1	Q(Btu/h)	12670	11410	9890	6970	4180	4820	12000	10800	9360	6600	3960	4560		11280	10150	8790	6210	3720	4280	
		W	900	690	650	400	150	210	850	650	620	370	140	200		810	620	580	360	130	190	
65	18.3	Q(Btu/h)	10820	9750	8190	5420	2770	3370	10250	9230	7750	5130	2620	3190		9640	8670	7280	4830	2460	2990	
		W	1190	910	890	620	320	380	1120	860	850	570	300	360		1070	820	800	550	280	340	
60	15.6	Q(Btu/h)	10820	9750	8190	5420	2770	3370	10250	9230	7750	5130	2620	3190		9640	8670	7280	4830	2460	2990	
		W	1190	910	890	620	320	380	1120	860	850	570	300	360		1070	820	800	550	280	340	
55	12.8	Q(Btu/h)	10820	9750	8190	5420	2770	3370	10250	9230	7750	5130	2620	3190		9640	8670	7280	4830	2460	2990	
		W	1190	910	890	620	320	380	1120	860	850	570	300	360		1070	820	800	550	280	340	
50	10.0	Q(Btu/h)	10820	9750	8190	5420	2770	3370	10250	9230	7750	5130	2620	3190		9640	8670	7280	4830	2460	2990	
		W	1190	910	890	620	320	380	1120	860	850	570	300	360		1070	820	800	550	280	340	
45	7.2	Q(Btu/h)	10820	9750	8190	5420	2770	3370	10250	9230	7750	5130	2620	3190		9640	8670	7280	4830	2460	2990	
		W	1190	910	890	620	320	380	1120	860	850	570	300	360		1070	820	800	550	280	340	
40	4.4	Q(Btu/h)	10820	9750	8190	5420	2770	3370	10250	9230	7750	5130	2620	3190		9640	8670	7280	4830	2460	2990	
		W	1190	910	890	620	320	380	1120	860	850	570	300	360		1070	820	800	550	280	340	
35	1.7	Q(Btu/h)	10820	9750	8190	5420	2770	3370	10250	9230	7750	5130	2620	3190		9640	8670	7280	4830	2460	2990	
		W	1190	910	890	620	320	380	1120	860	850	570	300	360		1070	820	800	550	280	340	
30	-1.1	Q(Btu/h)	10820	9750	8190	5420	2770	3370	10250	9230	7750	5130	2620	3190		9640	8670	7280	4830	2460	2990	
		W	1190	910	890	620	320	380	1120	860	850	570	300	360		1070	820	800	550	280	340	
25	-3.9	Q(Btu/h)	10820	9750	8190	5420	2770	3370	10250	9230	7750	5130	2620	3190		9640	8670	7280	4830	2460	2990	
		W	1190	910	890	620	320	380	1120	860	850	570	300	360		1070	820	800	550	280	340	
20	-6.7	Q(Btu/h)	10820	9750	8190	5420	2770	3370	10250	9230	7750	5130	2620	3190		9640	8670	7280	4830	2460	2990	
		W	1190	910	890	620	320	380	1120	860	850	570	300	360		1070	820	800	550	280	340	
15	-9.4	Q(Btu/h)	10820	9750	8190	5420	2770	3370	10250	9230	7750	5130	2620	3190		9640	8670	7280	4830	2460	2990	
		W	1190	910	890	620	320	380	1120	860	850	570	300	360		1070	820	800	550	280	340	

* It may not reach the above capacities in low ambient temperatures.

MUZ-WX09NL

2) HEATING

Rated

Q(Btu/h): 10900

W: 900

Indoor D.B. Outdoor W.B. (°F) (°C)			78.8°F / 26.0°C						70°F / 21.1°C						59°F / 15.0°C					
			Max.	Rated	75%	50%	25%	Min.	Max.	Rated	75%	50%	25%	Min.	Max.	Rated	75%	50%	25%	Min.
65	18.3	Q(Btu/h)	14740	13620	11020	7430	3710	3830	15340	14170	11470	7730	3860	3990	15940	14720	11920	8030	4010	4150
		W	1570	1020	1170	790	390	400	1490	970	1110	750	370	380	1410	920	1050	710	350	360
60	15.6	Q(Btu/h)	13950	12880	10430	7040	3520	3640	14550	13440	10880	7340	3670	3800	15150	14000	11330	7640	3820	3960
		W	1560	1010	1170	790	390	400	1480	960	1110	750	370	380	1400	910	1050	710	350	360
55	12.8	Q(Btu/h)	13140	12130	9820	6620	3320	3430	13750	12700	10280	6930	3470	3590	14360	13270	10740	7240	3620	3750
		W	1540	1000	1150	770	390	400	1460	950	1090	730	370	380	1380	900	1030	690	350	360
50	10.0	Q(Btu/h)	12330	11390	9210	6220	3110	3220	12950	11970	9680	6530	3270	3380	13570	12550	10150	6840	3430	3540
		W	1520	990	1140	770	390	400	1440	940	1080	730	370	380	1360	890	1020	690	350	360
45	7.2	Q(Btu/h)	11520	10650	8620	5810	2900	3010	12150	11230	9090	6130	3060	3170	12780	11810	9560	6450	3220	3330
		W	1490	970	1120	750	370	380	1410	920	1060	710	350	360	1330	870	1000	670	330	340
43	6.1	Q(Btu/h)	11170	10320	8350	5630	2820	2920	11800	10900	8820	5950	2980	3080	12430	11480	9290	6270	3140	3240
		W	1450	950	1100	740	370	380	1380	900	1040	700	350	360	1310	850	980	660	330	340
40	4.4	Q(Btu/h)	10510	9860	7860	5310	2660	2750	11120	10440	8320	5620	2810	2910	11730	11020	8780	5930	2960	3070
		W	1420	940	1060	720	360	370	1350	890	1010	680	340	350	1280	840	960	640	320	330
35	1.7	Q(Btu/h)	9830	9080	7350	4960	2490	2570	10440	9650	7810	5270	2640	2730	11050	10220	8270	5580	2790	2890
		W	1380	910	1020	700	350	360	1310	860	970	660	330	340	1240	810	920	620	310	320
30	-1.1	Q(Btu/h)	9040	8360	6760	4560	2280	2350	9640	8920	7210	4860	2430	2510	10240	9480	7660	5160	2580	2670
		W	1380	860	1020	700	350	360	1310	820	970	660	330	340	1240	780	920	620	310	320
25	-3.9	Q(Btu/h)	8250	7630	6170	4160	2080	2160	8840	8180	6610	4460	2230	2310	9430	8730	7050	4760	2380	2460
		W	1370	810	1020	700	350	360	1300	770	970	660	330	340	1230	730	920	620	310	320
20	-6.7	Q(Btu/h)	7440	6900	5550	3750	1870	1940	8020	7440	5990	4040	2020	2090	8600	7980	6430	4330	2170	2240
		W	1350	750	1010	680	350	360	1280	710	960	650	330	340	1210	670	910	620	310	320
15	-9.4	Q(Btu/h)	6620	6160	4940	3340	1670	1730	7200	6700	5380	3630	1820	1880	7780	7240	5820	3920	1970	2030
		W	1320	680	980	660	340	350	1250	650	930	630	320	330	1180	620	880	600	300	310
10	-12.2	Q(Btu/h)	5690	5390	4250	2870	1430	1480	6270	5940	4690	3160	1580	1630	6850	6490	5130	3450	1730	1780
		W	1300	610	970	650	330	340	1230	580	920	620	310	320	1160	550	870	590	290	300
5	-15.0	Q(Btu/h)	4760	4610	3550	2400	1190	1240	5340	5180	3990	2690	1340	1390	5920	5750	4430	2980	1490	1540
		W	1260	540	950	640	320	330	1200	510	900	610	300	310	1140	480	850	580	280	290

* Above data is for heating operation without any frost.

MUZ-WX12NL

1) COOLING

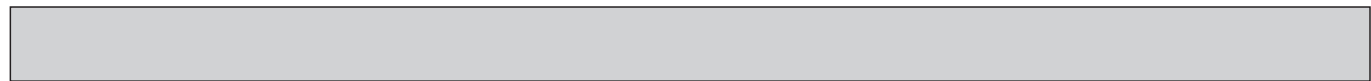
Rated

Q(Btu/h): 12000

W: 1330

Indoor W.B.		71°F / 21.7°C							67°F / 19.4°C							63°F / 17.2°C						
Outdoor D.B.		Max.	Rated	75%	50%	25%	Min.		Max.	Rated	75%	50%	25%	Min.		Max.	Rated	75%	50%	25%	Min.	
(°F)	(°C)																					
115	46.1	Q(Btu/h)	11020	11040	8450	5780	3220	3430	10430	10260	8000	5480	3050	3250	9800	9360	7510	5150	2870	3050		
		W	1640	1530	1190	720	270	290	1550	1480	1120	680	240	280	1470	1410	1070	650	240	270		
110	43.3	Q(Btu/h)	11510	11520	8820	6040	3370	3580	10890	10710	8350	5720	3190	3390	10240	9810	7840	5370	3000	3180		
		W	1610	1500	1160	710	270	290	1520	1450	1100	670	240	280	1440	1390	1050	640	240	270		
105	40.6	Q(Btu/h)	11990	12000	9190	6290	3500	3730	11350	11160	8700	5960	3320	3530	10670	10260	8170	5600	3120	3310		
		W	1570	1470	1130	690	260	280	1480	1410	1070	650	230	270	1400	1360	1020	620	230	260		
100	37.8	Q(Btu/h)	12450	12450	9540	6530	3640	3880	11780	11580	9030	6190	3450	3670	11070	10770	8480	5820	3240	3450		
		W	1530	1440	1100	670	260	270	1440	1370	1040	630	230	260	1370	1320	990	610	230	250		
95	35.0	Q(Btu/h)	12890	12900	9890	6760	3770	4020	12200	12000	9360	6410	3570	3800	11470	11280	8790	6020	3350	3570		
		W	1480	1400	1070	650	240	260	1400	1330	1010	610	220	250	1330	1270	960	590	220	240		
90	32.2	Q(Btu/h)	13410	13320	10290	7040	3930	4170	12690	12480	9740	6670	3720	3950	11930	11700	9150	6270	3500	3710		
		W	1430	1350	1030	620	230	250	1350	1280	970	590	210	240	1280	1230	920	570	210	230		
85	29.4	Q(Btu/h)	13930	13740	10680	7300	4070	4330	13180	12960	10110	6920	3860	4100	12390	12120	9500	6500	3630	3850		
		W	1380	1300	980	590	220	240	1300	1230	930	560	200	230	1230	1180	890	540	200	220		
80	26.7	Q(Btu/h)	14440	14220	11080	7580	4220	4500	13670	13440	10490	7180	4000	4260	12850	12600	9850	6750	3760	4000		
		W	1310	1240	940	570	210	230	1240	1180	890	540	190	220	1180	1120	850	520	190	210		
75	23.9	Q(Btu/h)	14950	14700	11470	7850	4370	4660	14150	13920	10860	7440	4140	4410	13300	13080	10200	6990	3890	4140		
		W	1250	1180	900	540	200	220	1180	1120	850	510	180	210	1120	1060	810	490	180	200		
70	21.1	Q(Btu/h)	15470	15210	11860	8110	4520	4820	14640	14400	11230	7690	4280	4560	13760	13530	10550	7220	4020	4280		
		W	1190	1120	860	520	200	210	1120	1060	810	490	180	200	1060	1000	770	470	180	190		
65	18.3	Q(Btu/h)	13220	12990	9970	6590	3370	3630	12510	12300	9440	6250	3190	3430	11760	11560	8870	5870	3000	3220		
		W	1340	1270	1010	680	370	370	1260	1200	950	640	330	350	1190	1130	900	610	330	330		
60	15.6	Q(Btu/h)	13220	12990	9970	6590	3370	3630	12510	12300	9440	6250	3190	3430	11760	11560	8870	5870	3000	3220		
		W	1340	1270	1010	680	370	370	1260	1200	950	640	330	350	1190	1130	900	610	330	330		
55	12.8	Q(Btu/h)	13220	12990	9970	6590	3370	3630	12510	12300	9440	6250	3190	3430	11760	11560	8870	5870	3000	3220		
		W	1340	1270	1010	680	370	370	1260	1200	950	640	330	350	1190	1130	900	610	330	330		
50	10.0	Q(Btu/h)	13220	12990	9970	6590	3370	3630	12510	12300	9440	6250	3190	3430	11760	11560	8870	5870	3000	3220		
		W	1340	1270	1010	680	370	370	1260	1200	950	640	330	350	1190	1130	900	610	330	330		
45	7.2	Q(Btu/h)	13220	12990	9970	6590	3370	3630	12510	12300	9440	6250	3190	3430	11760	11560	8870	5870	3000	3220		
		W	1340	1270	1010	680	370	370	1260	1200	950	640	330	350	1190	1130	900	610	330	330		
40	4.4	Q(Btu/h)	13220	12990	9970	6590	3370	3630	12510	12300	9440	6250	3190	3430	11760	11560	8870	5870	3000	3220		
		W	1340	1270	1010	680	370	370	1260	1200	950	640	330	350	1190	1130	900	610	330	330		
35	1.7	Q(Btu/h)	13220	12990	9970	6590	3370	3630	12510	12300	9440	6250	3190	3430	11760	11560	8870	5870	3000	3220		
		W	1340	1270	1010	680	370	370	1260	1200	950	640	330	350	1190	1130	900	610	330	330		
30	-1.1	Q(Btu/h)	13220	12990	9970	6590	3370	3630	12510	12300	9440	6250	3190	3430	11760	11560	8870	5870	3000	3220		
		W	1340	1270	1010	680	370	370	1260	1200	950	640	330	350	1190	1130	900	610	330	330		
25	-3.9	Q(Btu/h)	13220	12990	9970	6590	3370	3630	12510	12300	9440	6250	3190	3430	11760	11560	8870	5870	3000	3220		
		W	1340	1270	1010	680	370	370	1260	1200	950	640	330	350	1190	1130	900	610	330	330		
20	-6.7	Q(Btu/h)	13220	12990	9970	6590	3370	3630	12510	12300	9440	6250	3190	3430	11760	11560	8870	5870	3000	3220		
		W	1340	1270	1010	680	370	370	1260	1200	950	640	330	350	1190	1130	900	610	330	330		
15	-9.4	Q(Btu/h)	13220	12990	9970	6590	3370	3630	12510	12300	9440	6250	3190	3430	11760	11560	8870	5870	3000	3220		
		W	1340	1270	1010	680	370	370	1260	1200	950	640	330	350	1190	1130	900	610	330	330		

* It may not reach the above capacities in low ambient temperatures.



MUZ-WX12NL

Rated

Q(Btu/h): 12200

W: 1090

2) HEATING

Indoor D.B.		78.8°F / 26.0°C							70°F / 21.1°C							59°F / 15.0°C						
Outdoor W.B.		Max.	Rated	75%	50%	25%	Min.		Max.	Rated	75%	50%	25%	Min.		Max.	Rated	75%	50%	25%	Min.	
(°F)	(°C)																					
65	18.3	Q(Btu/h)	18110	15240	13550	9140	4560	4720	18850	15860	14100	9510	4750	4910		19590	16480	14650	9880	4940	5100	
		W	1530	1240	1140	770	390	400	1450	1180	1080	730	370	380		1370	1120	1020	690	350	360	
60	15.6	Q(Btu/h)	17130	14420	12820	8650	4320	4480	17870	15040	13370	9020	4510	4670		18610	15660	13920	9390	4700	4860	
		W	1520	1230	1140	770	390	400	1440	1170	1080	730	370	380		1360	1110	1020	690	350	360	
55	12.8	Q(Btu/h)	16140	13580	12070	8140	4070	4210	16890	14210	12630	8520	4260	4410		17640	14840	13190	8900	4450	4610	
		W	1500	1220	1120	750	370	380	1420	1160	1060	710	350	360		1340	1100	1000	670	330	340	
50	10.0	Q(Btu/h)	15150	12740	11340	7650	3830	3960	15920	13390	11910	8040	4020	4160		16690	14040	12480	8430	4210	4360	
		W	1470	1200	1110	750	370	380	1400	1140	1050	710	350	360		1330	1080	990	670	330	340	
45	7.2	Q(Btu/h)	14170	11920	10590	7140	3570	3690	14940	12570	11170	7530	3760	3890		15710	13220	11750	7920	3950	4090	
		W	1440	1170	1090	740	370	380	1370	1110	1030	700	350	360		1300	1050	970	660	330	340	
43	6.1	Q(Btu/h)	13730	11550	10260	6920	3470	3590	14500	12200	10840	7310	3660	3790		15270	12850	11420	7700	3850	3990	
		W	1410	1150	1050	710	350	360	1340	1090	1000	670	330	340		1270	1030	950	630	310	320	
40	4.4	Q(Btu/h)	12920	11050	9660	6510	3250	3360	13670	11690	10220	6890	3440	3560		14420	12330	10780	7270	3630	3760	
		W	1380	1140	1020	700	350	360	1310	1080	970	660	330	340		1240	1020	920	620	310	320	
35	1.7	Q(Btu/h)	12080	10170	9030	6080	3040	3140	12830	10800	9590	6460	3230	3340		13580	11430	10150	6840	3420	3540	
		W	1340	1100	1000	670	340	350	1270	1040	950	640	320	330		1200	980	900	610	300	310	
30	-1.1	Q(Btu/h)	11160	9360	8340	5630	2810	2910	11900	9980	8900	6000	3000	3100		12640	10600	9460	6370	3190	3290	
		W	1360	1040	1020	700	350	360	1290	990	970	660	330	340		1220	940	920	620	310	320	
25	-3.9	Q(Btu/h)	10230	8540	7650	5160	2580	2680	10960	9150	8200	5530	2770	2870		11690	9760	8750	5900	2960	3060	
		W	1370	980	1020	700	350	360	1300	930	970	660	330	340		1230	880	920	620	310	320	
20	-6.7	Q(Btu/h)	9250	7720	6930	4670	2340	2420	9980	8330	7470	5040	2520	2610		10710	8940	8010	5410	2700	2800	
		W	1360	910	1020	700	350	360	1290	860	970	660	330	340		1220	810	920	620	310	320	
15	-9.4	Q(Btu/h)	8270	6890	6180	4170	2090	2160	9000	7500	6730	4540	2270	2350		9730	8110	7280	4910	2450	2540	
		W	1350	820	1010	680	350	360	1280	780	960	650	330	340		1210	740	910	620	310	320	
10	-12.2	Q(Btu/h)	7160	6030	5360	3610	1810	1870	7890	6650	5910	3980	1990	2060		8620	7270	6460	4350	2170	2250	
		W	1340	740	1000	670	340	350	1270	700	950	640	320	330		1200	660	900	610	300	310	
5	-15.0	Q(Btu/h)	6040	5170	4520	3050	1520	1580	6780	5800	5070	3420	1710	1770		7520	6430	5620	3790	1900	1960	
		W	1330	650	990	660	340	350	1260	620	940	630	320	330		1190	590	890	600	300	310	

* Above data is for heating operation without any frost.

MUZ-WX18NL

1) COOLING

Rated
Q(Btu/h): 17200
W: 1810

Indoor W.B. Outdoor D.B. (°F) (°C)			71°F / 21.7°C						67°F / 19.4°C						63°F / 17.2°C					
			Max.	Rated	75%	50%	25%	Min.	Max.	Rated	75%	50%	25%	Min.	Max.	Rated	75%	50%	25%	Min.
115	46.1	Q(Btu/h)	16250	15820	13170	10070	6980	5240	15390	14710	12470	9540	6610	4960	14460	13420	11720	8960	6210	4660
		W	2560	2080	1960	1350	750	420	2410	2010	1840	1280	710	390	2300	1920	1760	1210	670	380
110	43.3	Q(Btu/h)	16970	16510	13750	10510	7280	5470	16070	15360	13020	9960	6900	5180	15100	14070	12230	9350	6480	4860
		W	2500	2040	1920	1310	740	410	2360	1970	1800	1250	700	380	2260	1890	1720	1190	660	370
105	40.6	Q(Btu/h)	17680	17200	14320	10960	7590	5690	16740	16000	13560	10380	7190	5390	15730	14710	12740	9750	6760	5060
		W	2440	2000	1870	1280	720	400	2300	1920	1760	1220	680	370	2200	1850	1680	1160	640	360
100	37.8	Q(Btu/h)	18340	17850	14860	11370	7880	5920	17370	16600	14070	10770	7460	5600	16320	15440	13220	10110	7010	5260
		W	2380	1950	1820	1250	700	380	2240	1870	1710	1190	660	360	2140	1790	1640	1130	620	350
95	35.0	Q(Btu/h)	19010	18490	15400	11780	8160	6130	18000	17200	14580	11160	7730	5800	16910	16170	13700	10480	7260	5450
		W	2300	1900	1770	1210	680	370	2170	1810	1660	1150	640	350	2070	1730	1590	1090	600	340
90	32.2	Q(Btu/h)	19770	19090	16020	12260	8490	6370	18720	17890	15170	11610	8040	6030	17590	16770	14250	10900	7560	5660
		W	2220	1830	1700	1170	650	360	2090	1740	1600	1110	620	340	2000	1670	1530	1050	590	330
85	29.4	Q(Btu/h)	20530	19690	16630	12720	8820	6610	19440	18580	15750	12050	8350	6260	18270	17370	14800	11310	7850	5880
		W	2130	1760	1640	1110	620	340	2010	1670	1540	1060	590	320	1920	1600	1470	1010	560	310
80	26.7	Q(Btu/h)	21290	20380	17250	13190	9140	6870	20160	19270	16330	12500	8660	6500	18940	18060	15340	11740	8140	6100
		W	2040	1690	1570	1070	600	330	1920	1600	1470	1020	570	310	1840	1530	1410	970	540	300
75	23.9	Q(Btu/h)	22050	21070	17860	13670	9470	7110	20880	19950	16910	12950	8970	6730	19620	18750	15890	12160	8430	6320
		W	1930	1610	1480	1020	570	310	1820	1520	1390	970	540	290	1740	1450	1330	920	510	280
70	21.1	Q(Btu/h)	22810	21800	18480	14130	9800	7350	21600	20640	17500	13390	9280	6960	20300	19400	16440	12570	8720	6540
		W	1830	1530	1410	970	540	300	1730	1440	1320	920	510	280	1650	1370	1260	870	480	270
65	18.3	Q(Btu/h)	19480	18620	14620	9740	4880	2120	18450	17630	13840	9230	4620	2010	17340	16570	13000	8660	4340	1890
		W	1820	1520	1380	900	440	190	1720	1430	1290	850	420	180	1640	1360	1230	800	400	170
60	15.6	Q(Btu/h)	19480	18620	14620	9740	4880	2120	18450	17630	13840	9230	4620	2010	17340	16570	13000	8660	4340	1890
		W	1820	1520	1380	900	440	190	1720	1430	1290	850	420	180	1640	1360	1230	800	400	170
55	12.8	Q(Btu/h)	19480	18620	14620	9740	4880	2120	18450	17630	13840	9230	4620	2010	17340	16570	13000	8660	4340	1890
		W	1820	1520	1380	900	440	190	1720	1430	1290	850	420	180	1640	1360	1230	800	400	170
50	10.0	Q(Btu/h)	19480	18620	14620	9740	4880	2120	18450	17630	13840	9230	4620	2010	17340	16570	13000	8660	4340	1890
		W	1820	1520	1380	900	440	190	1720	1430	1290	850	420	180	1640	1360	1230	800	400	170
45	7.2	Q(Btu/h)	19480	18620	14620	9740	4880	2120	18450	17630	13840	9230	4620	2010	17340	16570	13000	8660	4340	1890
		W	1820	1520	1380	900	440	190	1720	1430	1290	850	420	180	1640	1360	1230	800	400	170
40	4.4	Q(Btu/h)	19480	18620	14620	9740	4880	2120	18450	17630	13840	9230	4620	2010	17340	16570	13000	8660	4340	1890
		W	1820	1520	1380	900	440	190	1720	1430	1290	850	420	180	1640	1360	1230	800	400	170
35	1.7	Q(Btu/h)	19480	18620	14620	9740	4880	2120	18450	17630	13840	9230	4620	2010	17340	16570	13000	8660	4340	1890
		W	1820	1520	1380	900	440	190	1720	1430	1290	850	420	180	1640	1360	1230	800	400	170
30	-1.1	Q(Btu/h)	19480	18620	14620	9740	4880	2120	18450	17630	13840	9230	4620	2010	17340	16570	13000	8660	4340	1890
		W	1820	1520	1380	900	440	190	1720	1430	1290	850	420	180	1640	1360	1230	800	400	170
25	-3.9	Q(Btu/h)	19480	18620	14620	9740	4880	2120	18450	17630	13840	9230	4620	2010	17340	16570	13000	8660	4340	1890
		W	1820	1520	1380	900	440	190	1720	1430	1290	850	420	180	1640	1360	1230	800	400	170
20	-6.7	Q(Btu/h)	19480	18620	14620	9740	4880	2120	18450	17630	13840	9230	4620	2010	17340	16570	13000	8660	4340	1890
		W	1820	1520	1380	900	440	190	1720	1430	1290	850	420	180	1640	1360	1230	800	400	170
15	-9.4	Q(Btu/h)	19480	18620	14620	9740	4880	2120	18450	17630	13840	9230	4620	2010	17340	16570	13000	8660	4340	1890
		W	1820	1520	1380	900	440	190	1720	1430	1290	850	420	180	1640	1360	1230	800	400	170

* It may not reach the above capacities in low ambient temperatures.

MUZ-WX18NL

Rated

Q(Btu/h): 18000

W: 1680

2) HEATING

Indoor D.B. Outdoor W.B. (°F) (°C)			78.8°F / 26.0°C						70°F / 21.1°C						59°F / 15.0°C					
			Max.	Rated	75%	50%	25%	Min.	Max.	Rated	75%	50%	25%	Min.	Max.	Rated	75%	50%	25%	Min.
65	18.3	Q(Btu/h)	25980	22480	19490	12990	6500	3580	27040	23400	20280	13520	6760	3730	28100	24320	21070	14050	7020	3880
		W	2960	1910	2210	1470	740	410	2810	1810	2100	1400	700	390	2660	1710	1990	1330	660	370
60	15.6	Q(Btu/h)	24580	21270	18430	12290	6140	3390	25640	22190	19230	12820	6410	3540	26700	23110	20030	13350	6680	3690
		W	2940	1900	2210	1470	740	410	2790	1800	2100	1400	700	390	2640	1700	1990	1330	660	370
55	12.8	Q(Btu/h)	23150	20030	17360	11570	5780	3190	24230	20970	18170	12110	6050	3340	25310	21910	18980	12650	6320	3490
		W	2910	1880	2180	1450	730	400	2760	1780	2070	1380	690	380	2610	1680	1960	1310	650	360
50	10.0	Q(Btu/h)	21730	18810	16300	10860	5430	3000	22830	19760	17120	11410	5710	3150	23930	20710	17940	11960	5990	3300
		W	2860	1840	2140	1420	710	390	2710	1750	2030	1350	670	370	2570	1660	1920	1280	630	350
45	7.2	Q(Btu/h)	20310	17580	15230	10160	5070	2800	21420	18540	16060	10710	5350	2950	22530	19500	16890	11260	5630	3100
		W	2790	1800	2100	1400	700	380	2650	1710	1990	1330	660	360	2510	1620	1880	1260	620	340
43	6.1	Q(Btu/h)	19700	17040	14770	9850	4920	2720	20800	18000	15600	10400	5200	2870	21900	18960	16430	10950	5480	3020
		W	2740	1770	2050	1370	680	380	2600	1680	1950	1300	650	360	2460	1590	1850	1230	620	340
40	4.4	Q(Btu/h)	18530	16290	13900	9270	4630	2550	19610	17240	14710	9810	4900	2700	20690	18190	15520	10350	5170	2850
		W	2680	1750	2010	1350	670	370	2540	1660	1910	1280	640	350	2400	1570	1810	1210	610	330
35	1.7	Q(Btu/h)	17330	15000	13000	8670	4330	2390	18410	15930	13810	9210	4600	2540	19490	16860	14620	9750	4870	2690
		W	2600	1690	1950	1300	650	360	2470	1600	1850	1230	620	340	2340	1510	1750	1160	590	320
30	-1.1	Q(Btu/h)	16630	13800	12470	8320	4150	2290	17740	14720	13300	8870	4430	2440	18850	15640	14130	9420	4710	2590
		W	2640	1600	1980	1320	650	360	2510	1520	1880	1250	620	340	2380	1440	1780	1180	590	320
25	-3.9	Q(Btu/h)	15930	12600	11940	7960	3980	2200	17070	13500	12800	8530	4270	2360	18210	14400	13660	9100	4560	2520
		W	2680	1520	2010	1350	670	370	2540	1440	1910	1280	640	350	2400	1360	1810	1210	610	330
20	-6.7	Q(Btu/h)	14870	11390	11150	7440	3720	2050	16040	12290	12030	8020	4010	2210	17210	13190	12910	8600	4300	2370
		W	2670	1400	2000	1340	670	370	2530	1330	1900	1270	640	350	2390	1260	1800	1200	610	330
15	-9.4	Q(Btu/h)	13780	10170	10340	6890	3450	1900	15000	11070	11250	7500	3750	2070	16220	11970	12160	8110	4050	2240
		W	2640	1270	1980	1320	650	360	2510	1210	1880	1250	620	340	2380	1150	1780	1180	590	320
10	-12.2	Q(Btu/h)	12540	8900	9410	6270	3130	1720	13830	9810	10370	6910	3450	1900	15120	10720	11330	7550	3770	2080
		W	2620	1140	1960	1310	650	360	2490	1080	1860	1240	620	340	2360	1020	1760	1170	590	320
5	-15.0	Q(Btu/h)	11280	7610	8460	5640	2810	1550	12660	8550	9500	6330	3160	1740	14040	9490	10540	7020	3510	1930
		W	2600	1000	1950	1300	650	360	2470	950	1850	1230	620	340	2340	900	1750	1160	590	320

* Above data is for heating operation without any frost.

MUZ-WX24NL

1) COOLING

Rated

Q(Btu/h): 22400

W: 2800

Indoor W.B. Outdoor D.B. (°F) (°C)			71°F / 21.7°C						67°F / 19.4°C						63°F / 17.2°C					
			Max.	Rated	75%	50%	25%	Min.	Max.	Rated	75%	50%	25%	Min.	Max.	Rated	75%	50%	25%	Min.
115	46.1	Q(Btu/h)	20230	20610	15290	10170	5240	5240	19150	19150	14480	9630	4960	4960	18000	17470	13600	9050	4660	4660
		W	3300	3220	2340	1340	380	380	3110	3110	2210	1270	370	370	2960	2970	2100	1200	340	340
110	43.3	Q(Btu/h)	21110	21510	15970	10610	5470	5470	19990	19990	15120	10050	5180	5180	18790	18310	14200	9440	4860	4860
		W	3220	3160	2290	1300	370	370	3040	3040	2160	1240	360	360	2900	2920	2060	1180	330	330
105	40.6	Q(Btu/h)	22000	22400	16630	11060	5690	5690	20830	20830	15750	10470	5390	5390	19580	19150	14800	9840	5060	5060
		W	3150	3090	2240	1270	360	360	2970	2970	2110	1210	350	350	2830	2860	2010	1150	330	330
100	37.8	Q(Btu/h)	22830	23240	17270	11480	5920	5920	21620	21620	16350	10870	5600	5600	20320	20110	15360	10210	5260	5260
		W	3060	3020	2170	1240	350	350	2890	2890	2050	1180	340	340	2750	2770	1950	1120	320	320
95	35.0	Q(Btu/h)	23660	24080	17890	11890	6130	6130	22400	22400	16940	11260	5800	5800	21050	21060	15910	10580	5450	5450
		W	2970	2940	2110	1200	340	340	2800	2800	1990	1140	330	330	2670	2670	1890	1080	310	310
90	32.2	Q(Btu/h)	24610	24870	18610	12360	6370	6370	23300	23300	17620	11710	6030	6030	21900	21840	16550	11000	5660	5660
		W	2860	2840	2030	1160	330	330	2700	2700	1920	1100	320	320	2570	2580	1830	1040	300	300
85	29.4	Q(Btu/h)	25550	25650	19320	12840	6610	6610	24190	24190	18300	12160	6260	6260	22740	22620	17190	11420	5880	5880
		W	2740	2730	1950	1100	320	320	2590	2590	1840	1050	310	310	2470	2480	1750	1000	290	290
80	26.7	Q(Btu/h)	26500	26550	20040	13310	6870	6870	25090	25090	18980	12610	6500	6500	23580	23520	17830	11850	6100	6100
		W	2620	2610	1870	1060	310	310	2470	2470	1760	1010	300	300	2350	2360	1680	960	280	280
75	23.9	Q(Btu/h)	27440	27440	20750	13790	7110	7110	25980	25980	19650	13060	6730	6730	24420	24420	18460	12270	6320	6320
		W	2490	2490	1770	1010	290	290	2350	2350	1670	960	280	280	2240	2240	1590	910	260	260
70	21.1	Q(Btu/h)	28390	28390	21470	14270	7350	7350	26880	26880	20330	13510	6960	6960	25270	25270	19100	12690	6540	6540
		W	2360	2360	1690	960	270	270	2230	2230	1590	910	260	260	2130	2130	1510	860	240	240
65	18.3	Q(Btu/h)	24250	24250	18310	12140	6190	6190	22960	22960	17340	11490	5860	5860	21580	21580	16290	10790	5510	5510
		W	2820	2820	2140	1410	720	720	2660	2660	2010	1340	690	690	2540	2540	1910	1270	640	640
60	15.6	Q(Btu/h)	24250	24250	18310	12140	6190	6190	22960	22960	17340	11490	5860	5860	21580	21580	16290	10790	5510	5510
		W	2820	2820	2140	1410	720	720	2660	2660	2010	1340	690	690	2540	2540	1910	1270	640	640
55	12.8	Q(Btu/h)	24250	24250	18310	12140	6190	6190	22960	22960	17340	11490	5860	5860	21580	21580	16290	10790	5510	5510
		W	2820	2820	2140	1410	720	720	2660	2660	2010	1340	690	690	2540	2540	1910	1270	640	640
50	10.0	Q(Btu/h)	24250	24250	18310	12140	6190	6190	22960	22960	17340	11490	5860	5860	21580	21580	16290	10790	5510	5510
		W	2820	2820	2140	1410	720	720	2660	2660	2010	1340	690	690	2540	2540	1910	1270	640	640
45	7.2	Q(Btu/h)	24250	24250	18310	12140	6190	6190	22960	22960	17340	11490	5860	5860	21580	21580	16290	10790	5510	5510
		W	2820	2820	2140	1410	720	720	2660	2660	2010	1340	690	690	2540	2540	1910	1270	640	640
40	4.4	Q(Btu/h)	24250	24250	18310	12140	6190	6190	22960	22960	17340	11490	5860	5860	21580	21580	16290	10790	5510	5510
		W	2820	2820	2140	1410	720	720	2660	2660	2010	1340	690	690	2540	2540	1910	1270	640	640
35	1.7	Q(Btu/h)	24250	24250	18310	12140	6190	6190	22960	22960	17340	11490	5860	5860	21580	21580	16290	10790	5510	5510
		W	2820	2820	2140	1410	720	720	2660	2660	2010	1340	690	690	2540	2540	1910	1270	640	640
30	-1.1	Q(Btu/h)	24250	24250	18310	12140	6190	6190	22960	22960	17340	11490	5860	5860	21580	21580	16290	10790	5510	5510
		W	2820	2820	2140	1410	720	720	2660	2660	2010	1340	690	690	2540	2540	1910	1270	640	640
25	-3.9	Q(Btu/h)	24250	24250	18310	12140	6190	6190	22960	22960	17340	11490	5860	5860	21580	21580	16290	10790	5510	5510
		W	2820	2820	2140	1410	720	720	2660	2660	2010	1340	690	690	2540	2540	1910	1270	640	640
20	-6.7	Q(Btu/h)	24250	24250	18310	12140	6190	6190	22960	22960	17340	11490	5860	5860	21580	21580	16290	10790	5510	5510
		W	2820	2820	2140	1410	720	720	2660	2660	2010	1340	690	690	2540	2540	1910	1270	640	640
15	-9.4	Q(Btu/h)	24250	24250	18310	12140	6190	6190	22960	22960	17340	11490	5860	5860	21580	21580	16290	10790	5510	5510
		W	2820	2820	2140	1410	720	720	2660	2660	2010	1340	690	690	2540	2540	1910	1270	640	640

* It may not reach the above capacities in low ambient temperatures.

MUZ-WX24NL

2) HEATING

Rated

Q(Btu/h): 26000

W: 2680

Indoor D.B. Outdoor W.B. (°F) (°C)			78.8°F / 26.0°C						70°F / 21.1°C						59°F / 15.0°C					
			Max.	Rated	75%	50%	25%	Min.	Max.	Rated	75%	50%	25%	Min.	Max.	Rated	75%	50%	25%	Min.
65	18.3	Q(Btu/h)	32480	32480	24280	16380	8200	7320	33800	33800	25270	17050	8530	7620	35120	35120	26260	17720	8860	7920
		W	3040	3040	2270	1530	770	680	2890	2890	2150	1450	730	650	2740	2740	2030	1370	690	620
60	15.6	Q(Btu/h)	30720	30720	22970	15490	7740	6910	32050	32050	23960	16160	8080	7210	33380	33380	24950	16830	8420	7510
		W	3020	3020	2270	1530	770	680	2870	2870	2150	1450	730	650	2720	2720	2030	1370	690	620
55	12.8	Q(Btu/h)	28940	28940	21640	14600	7300	6520	30290	30290	22650	15280	7640	6820	31640	31640	23660	15960	7980	7120
		W	2990	2990	2240	1520	760	670	2840	2840	2130	1440	720	640	2690	2690	2020	1360	680	610
50	10.0	Q(Btu/h)	27170	27170	20310	13710	6850	6120	28540	28540	21340	14400	7200	6430	29910	29910	22370	15090	7550	6740
		W	2940	2940	2190	1470	740	660	2790	2790	2080	1400	700	630	2640	2640	1970	1330	660	600
45	7.2	Q(Btu/h)	25400	25400	18990	12820	6410	5730	26780	26780	20030	13520	6760	6040	28160	28160	21070	14220	7110	6350
		W	2880	2880	2150	1450	730	650	2730	2730	2040	1380	690	620	2580	2580	1930	1310	650	590
43	6.1	Q(Btu/h)	24620	24620	18410	12410	6200	5540	26000	26000	19440	13110	6550	5850	27380	27380	20470	13810	6900	6160
		W	2820	2820	2110	1420	710	630	2680	2680	2000	1350	670	600	2540	2540	1890	1280	630	570
40	4.4	Q(Btu/h)	23160	23530	17320	11690	5850	5220	24510	24900	18330	12370	6190	5530	25860	26270	19340	13050	6530	5840
		W	2760	2780	2060	1390	700	620	2620	2640	1960	1320	660	590	2480	2500	1860	1250	620	560
35	1.7	Q(Btu/h)	21660	21660	16200	10930	5460	4880	23010	23010	17210	11610	5800	5180	24360	24360	18220	12290	6140	5480
		W	2690	2690	2010	1360	670	600	2550	2550	1910	1290	640	570	2410	2410	1810	1220	610	540
30	-1.1	Q(Btu/h)	20510	19930	15330	10340	5180	4620	21870	21260	16350	11030	5520	4930	23230	22590	17370	11720	5860	5240
		W	2630	2550	1970	1330	660	590	2500	2420	1870	1260	630	560	2370	2290	1770	1190	600	530
25	-3.9	Q(Btu/h)	19340	18200	14470	9760	4880	4360	20730	19500	15510	10460	5230	4670	22120	20800	16550	11160	5580	4980
		W	2570	2410	1930	1310	650	580	2440	2290	1830	1240	620	550	2310	2170	1730	1170	590	520
20	-6.7	Q(Btu/h)	17870	16460	13360	9010	4510	4020	19270	17750	14410	9720	4860	4340	20670	19040	15460	10430	5210	4660
		W	2500	2220	1860	1260	630	570	2370	2110	1770	1200	600	540	2240	2000	1680	1140	570	510
15	-9.4	Q(Btu/h)	16350	14690	12240	8260	4130	3680	17800	15990	13320	8990	4490	4010	19250	17290	14400	9720	4850	4340
		W	2420	2030	1810	1220	610	550	2300	1930	1720	1160	580	520	2180	1830	1630	1100	550	490
10	-12.2	Q(Btu/h)	14650	12850	10960	7390	3690	3290	16150	14170	12080	8150	4070	3630	17650	15490	13200	8910	4450	3970
		W	2350	1810	1760	1190	600	540	2230	1720	1670	1130	570	510	2110	1630	1580	1070	540	480
5	-15.0	Q(Btu/h)	12910	11000	9650	6510	3250	2900	14490	12350	10830	7310	3650	3260	16070	13700	12010	8110	4050	3620
		W	2270	1590	1700	1150	580	520	2150	1510	1610	1090	550	490	2030	1430	1520	1030	520	460

* Above data is for heating operation without any frost.

mitsubishi electric corporation

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