MITSUBISHI ELECTRIC

SPLIT-TYPE AIR CONDITIONERS

Revision A:
• 3. SPECIFICATION has been corrected.

OBD946 is void.

OUTDOOR UNIT
TECHNICAL & SERVICE MANUAL

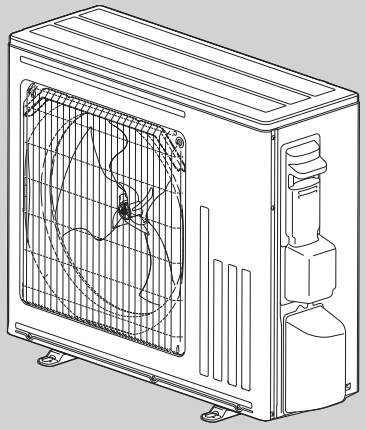
HFC utilized R454B

No. OBD946
REVISED EDITION-A

Models

MUZ-FX06NLHZ - U1
MUZ-FX09NLHZ - U1
MUZ-FX12NLHZ - U1
MUZ-FX15NLHZ - U1
MUZ-FX18NLHZ - U1
MUZ-FX24NLHZ - U1

Indoor unit technical & service manual
MSZ-FX•NL Series (OBD945)
Indoor unit service manual
MSZ-FX•NL Series (OBH945)
Outdoor unit service manual
MUZ-FX•NLZ/NLHZ Series (OBH946)



MUZ-FX06NLHZ
MUZ-FX09NLHZ
MUZ-FX12NLHZ

CONTENTS

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:

• 3. SPECIFICATION has been corrected.

SERVICING PRECAUTIONS FOR UNITS USING REFRIGERANT R454B

Servicing precautions for units using refrigerant R454B

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).

NOTE: For the corresponding table of the branch box system, refer to the multi-unit installation manual.

SYSTEM WITHOUT BRANCH BOX

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/cm^2G), wait 5 minutes, and make sure the pressure does not decrease.
2. Pressurize to 1.5 MPa (218 psig, 15 kgf/cm^2G), wait 5 minutes, and make sure the pressure does not decrease.
3. Pressurize to 4.15 MPa (601 psig, 41.5 kgf/cm^2G) 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 *1

Model	**MSZ-FX06/09/12NL**	**MSZ-FX15/18/24NL**
Chargeless pipe length A	25 ft (7.5 m)	50 ft (15 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×(pipe length - A)	

*1 When installing multi units, refer to the installation manual of the multi outdoor unit for unit installation.

3. REFRIGERANT SENSOR INSTALLATION AND REPLACEMENT

- For system with branch box, the refrigerant sensor shall be installed to the indoor unit before turning on the breaker. The refrigerant sensor is located inside the branch box package or can be ordered separately Parts Number MAC-100RS-E.
- When the refrigerant sensor is installed in the indoor unit, the system may stop operation if refrigerant leaks are detected.
- If the refrigerant sensor fails, replace the refrigerant sensor.
- The refrigerant sensor shall only be replaced with manufacturer approved sensor.
- If the refrigerant sensor error occurs even if the sensor is installed, check the cable connection for the sensor side and the main board side.

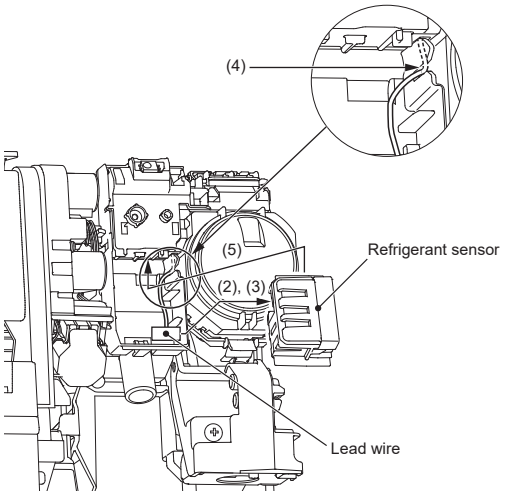


Fig. 1

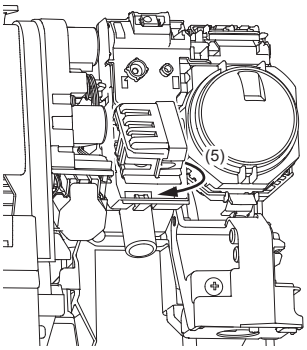


Fig. 2

(1) Remove the panel right assembly.
(2) Take out the lead wire. (Fig. 1)
(3) Connect the lead wire to the refrigerant sensor. (Fig. 1)
(4) Push the lead wire into the slit so that the refrigerant sensor does not press it.
(5) Install the refrigerant sensor as shown in the figure. (Fig. 2)

4. 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 CO_2 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.

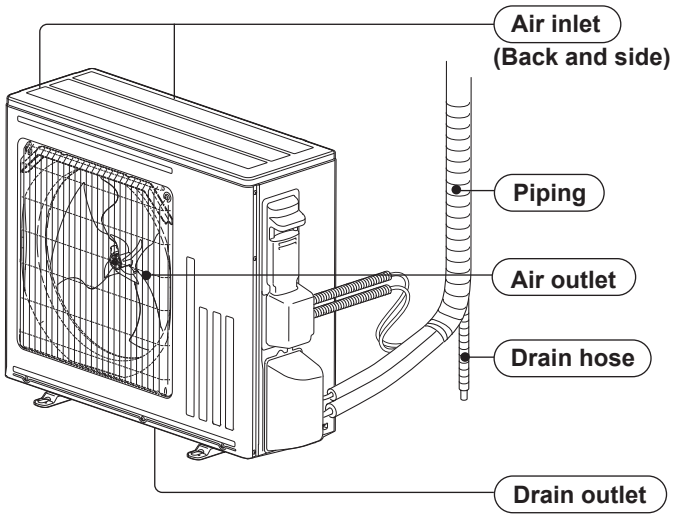
1 TECHNICAL CHANGES

MUZ-FX06NLHZ - U1
MUZ-FX09NLHZ - U1
MUZ-FX12NLHZ - U1
MUZ-FX15NLHZ - U1
MUZ-FX18NLHZ - U1
MUZ-FX24NLHZ - U1

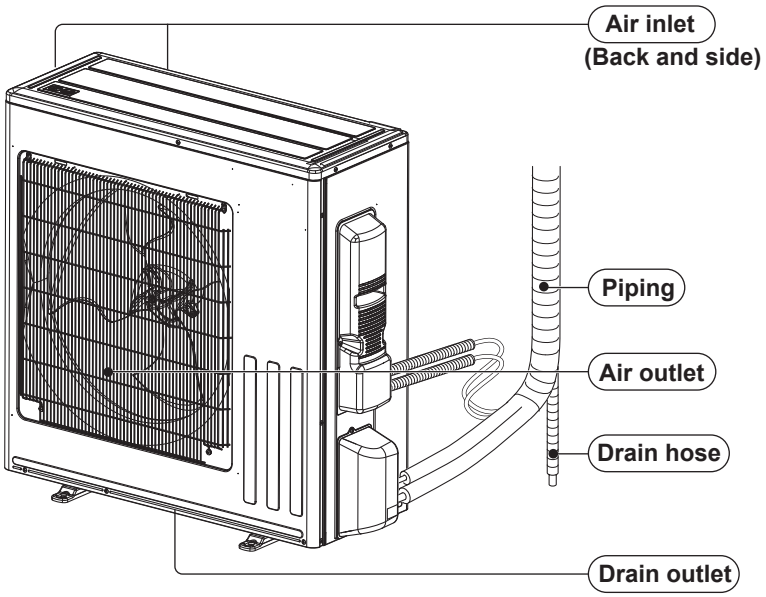
1. New model

2 PART NAMES AND FUNCTIONS

MUZ-FX06NLHZ
MUZ-FX09NLHZ
MUZ-FX12NLHZ



MUZ-FX15NLHZ
MUZ-FX18NLHZ
MUZ-FX24NLHZ



3 SPECIFICATION

Outdoor unit model			MUZ-FX06NLHZ	MUZ-FX09NLHZ	MUZ-FX12NLHZ
Capacity Rated (Minimum–Maximum)	Cooling *1	Btu/h	6,000 (1,700–14,000)	9,000 (2,500–15,000)	12,000 (2,500–16,100)
	Heating 47 *1	Btu/h	9,000 (1,700–20,000)	12,000 (3,100–21,300)	13,200 (3,100–23,500)
Capacity Rated (Maximum)	Heating 17 *2	Btu/h	6,000 (14,400)	7,700 (16,300)	9,300 (18,200)
Power consumption Rated (Minimum–Maximum)	Cooling *1	W	280 (120–1,240)	490 (160–1,580)	780 (160–1,660)
	Heating 47 *1	W	540 (120–1,770)	710 (180–2,130)	920 (180–2,140)
Power consumption Rated (Maximum)	Heating 17 *2	W	510 (1,570)	650 (2,000)	800 (2,140)
EER2 *1 [SEER2] *3	Cooling		21.45 [35.0]	18.35 [33.1]	15.40 [29.9]
HSPF2 Region IV *4	Heating		13.0	13.3	12.4
COP	Heating		4.88	4.95	4.20
Power factor	Cooling	%	76	88	94
	Heating	%	90	93	95
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	15
Min. circuit ampacity		A	12	14	14
Fan motor		A	0.76	0.76	0.76
Compressor	Model		SRB092FQFMT	SRB140FQHMT	SRB140FQHMT
	R.L.A	A	6.6	7.8	7.8
	L.R.A	A	8.2	9.8	9.8
	Refrigeration oil	fl oz. (L) (Model)	11.8 (0.35)/(RM68EH)	11.8 (0.35)/(RM68EH)	11.8 (0.35)/(RM68EH)
Refrigerant control			Linear expansion valve	Linear expansion valve	Linear expansion valve
Sound level *1	Cooling	dB(A)	47	49	49
	Heating	dB(A)	48	49	51
Airflow High–Med.–Low	Cooling	CFM	1,815–1,225–678	1,815–1,303–678	1,815–1,303–678
	Heating	CFM	1,321–1,225–678	1,321–1,321–678	1,321–1,321–678
Fan speed High–Med.–Low	Cooling	rpm	1,060–740–450	1,060–780–450	1,060–780–450
	Heating	rpm	790–740–450	790–790–450	790–790–450
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.	28-1/8	28-1/8	28-1/8
Weight		lb.	85	89	89
External finish			Munsell 3Y 7.8/1.1	Munsell 3Y 7.8/1.1	Munsell 3Y 7.8/1.1
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	1/4	1/4
	Gas	in.	3/8	3/8	3/8
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)			2 lbs. 10 oz	2 lbs. 12 oz	2 lbs. 12 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 12.)

*4: Test condition (Refer to page 12.)

Outdoor unit model			MUZ-FX15NLHZ	MUZ-FX18NLHZ	MUZ-FX24NLHZ
Capacity Rated (Minimum–Maximum)	Cooling *1	Btu/h	15,000 (3,700–19,100)	17,200 (3,700–21,500)	20,800 (2,500–26,500)
	Heating 47 *1	Btu/h	16,500 (5,150–28,400)	17,000 (5,150–30,200)	19,800 (5,500–36,200)
Capacity Rated (Maximum)	Heating 17 *2	Btu/h	10,600 (26,500)	12,700 (28,200)	13,600 (29,200)
Power consumption Rated (Minimum–Maximum)	Cooling *1	W	1,020 (260–2,200)	1,320 (260–2,360)	1,560 (260–3,370)
	Heating 47 *1	W	1,080 (280–2,630)	1,390 (280–2,890)	1,500 (320–3,590)
Power consumption Rated (Maximum)	Heating 17 *2	W	1,010 (3,700)	1,240 (3,830)	1,320 (3,800)
EER2 *1 [SEER2] *3	Cooling		14.70 [25.9]	13.05 [25.5]	13.35 [23.5]
HSPF2 Region IV *4	Heating		11.0	11.1	10.5
COP	Heating		4.47	3.58	3.86
Power factor	Cooling	%	100	97	98
	Heating	%	97	99	100
Power supply	V, phase, Hz		208/230, 1, 60	208/230, 1, 60	208/230, 1, 60
Max. fuse size (time delay)		A	20	20	20
Min. circuit ampacity		A	23	23	22
Fan motor		A	0.76	0.76	0.76
Compressor	Model		SRB172FQHMT	SRB172FQHMT	SRB220FQYMT
	R.L.A	A	13.6	13.6	13.1
	L.R.A	A	17	17	16.4
	Refrigeration oil	fl oz. (L) (Model)	14.5 (0.43)/(RM68EH)	14.5 (0.43)/(RM68EH)	15.6 (0.46)/(RM68EH)
Refrigerant control			Linear expansion valve	Linear expansion valve	Linear expansion valve
Sound level *1	Cooling	dB(A)	51	52	55
	Heating	dB(A)	55	55	55
Airflow High–Med.–Low	Cooling	CFM	2,204–1,773–978	2,204–1,773–978	2,204–2,204–1,391
	Heating	CFM	2,440–1,935–978	2,440–1,935–978	2,440–1,935–978
Fan speed High–Med.–Low	Cooling	rpm	900–740–450	900–740–450	900–900–600
	Heating	rpm	990–800–450	990–800–450	990–800–450
Defrost method			Reverse cycle	Reverse cycle	Reverse cycle
Dimensions	W	in.	33-1/16	33-1/16	33-1/16
	D	in.	13	13	13
	H	in.	34-5/8	34-5/8	34-5/8
Weight		lb.	119	119	122
External finish			Munsell 3Y 7.8/1.1	Munsell 3Y 7.8/1.1	Munsell 3Y 7.8/1.1
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	1/4	1/4
	Gas	in.	1/2	1/2	5/8
Connection method	Indoor		Flared	Flared	Flared
	Outdoor		Flared	Flared	Flared
Between the indoor & outdoor units	Height difference	ft.	50	50	50
	Piping length	ft.	100	100	100
Refrigerant charge (R454B)			3 lbs. 7 oz	3 lbs. 7 oz	3 lbs. 6 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 12.)

*4: Test condition (Refer to page 12.)

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

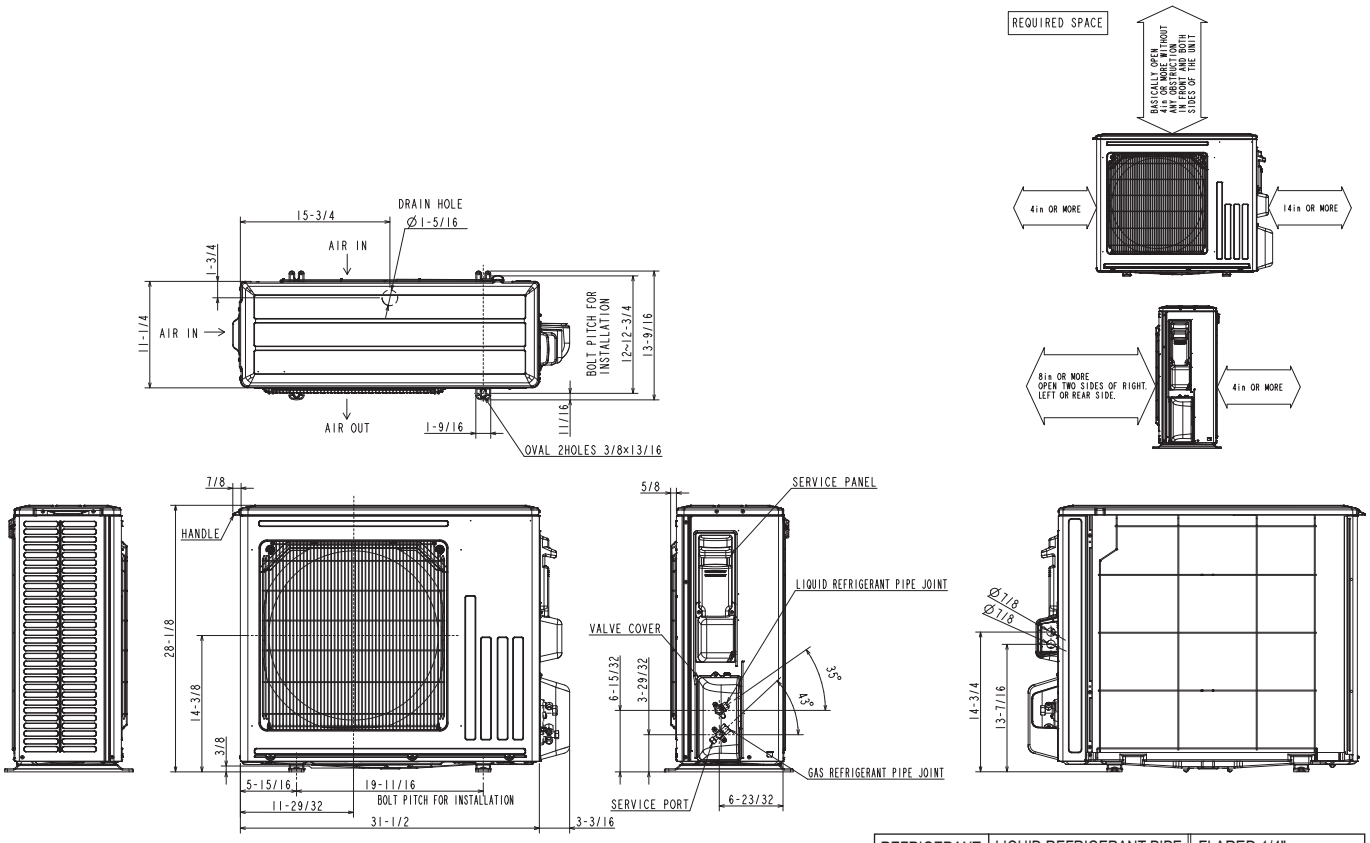
(2) OPERATION

Mode	Condition	Intake air temperature (°F)	
		Outdoor	
		DB	WB
Cooling	Standard temperature	95	—
	Maximum temperature	115	—
	Minimum temperature	14	—
	Maximum humidity	—	
Heating	Standard temperature	47	43
	Maximum temperature	75	65
	Minimum temperature	- 22	- 23.8

4 OUTLINES AND DIMENSIONS

MUZ-FX06NLHZ
MUZ-FX09NLHZ
MUZ-FX12NLHZ

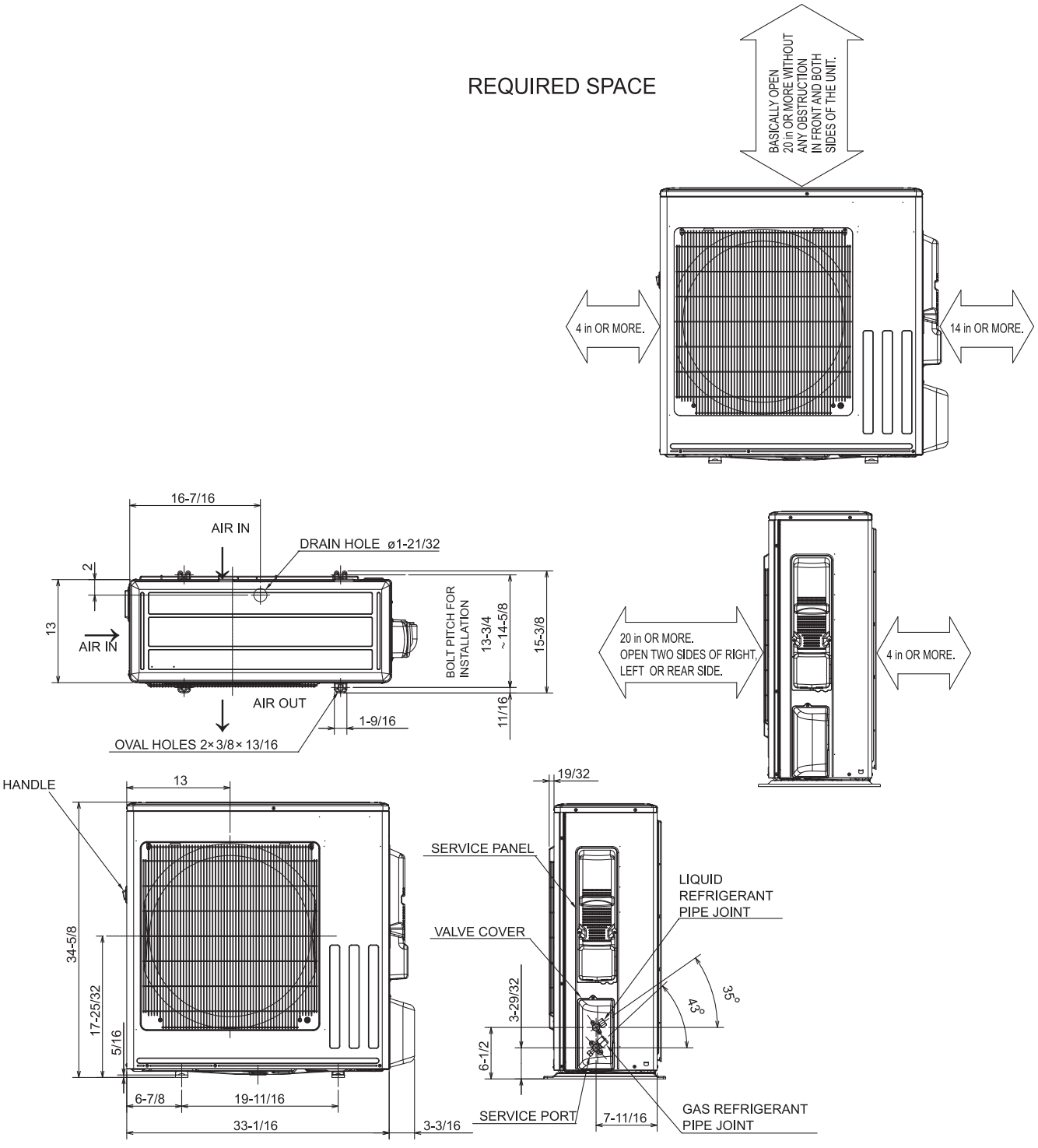
Unit: inch



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

MUZ-FX15NLHZ
MUZ-FX18NLHZ
MUZ-FX24NLHZ

Unit: inch



MUZ-FX15/18NLHZ

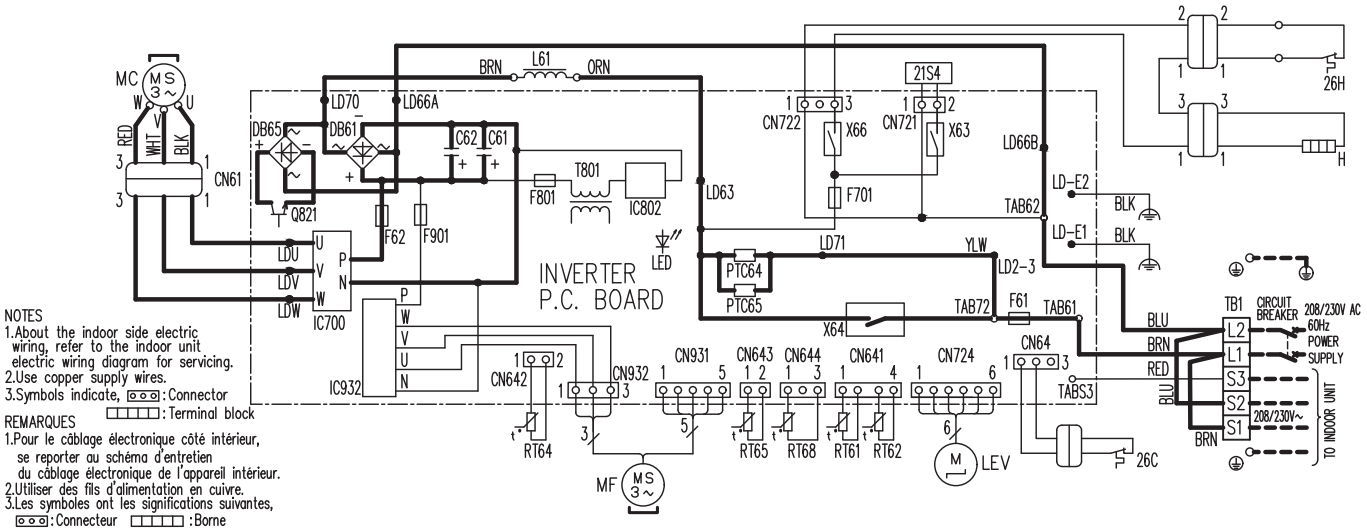
REFRIGERANT PIPE JOINT	LIQUID REFRIGERANT PIPE	FLARED 1/4"
	GAS REFRIGERANT PIPE	FLARED 1/2"

MUZ-FX24NLHZ

REFRIGERANT PIPE JOINT	LIQUID REFRIGERANT PIPE	FLARED 1/4"
	GAS REFRIGERANT PIPE	FLARED 5/8"

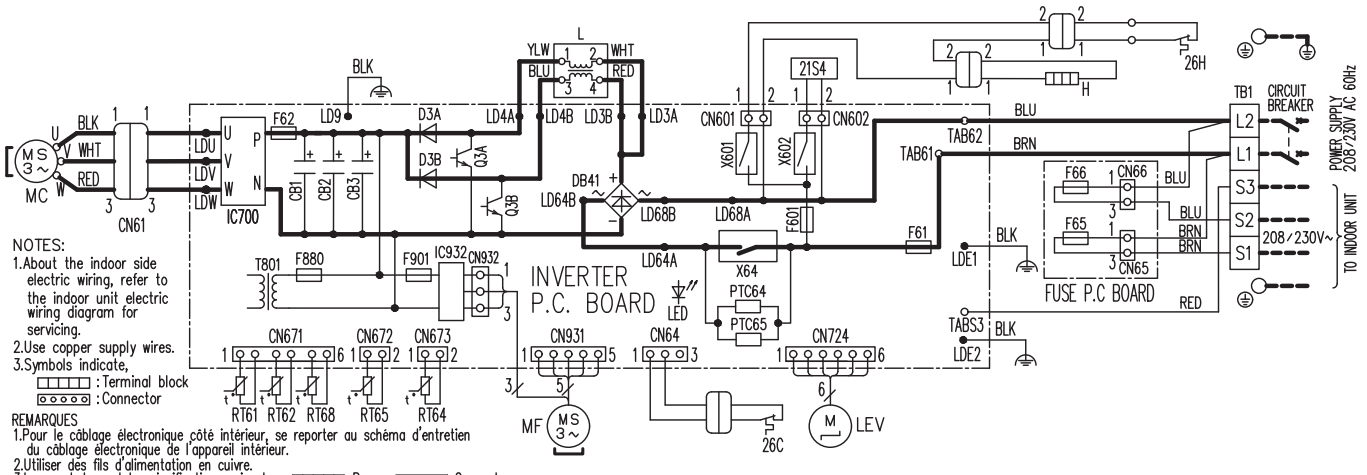
5 WIRING DIAGRAM

MUZ-FX06NLHZ MUZ-FX09NLHZ MUZ-FX12NLHZ



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	RT61	DEFROST THERMISTOR	26C	COMPRESSOR PROTECTOR
IC700, IC932	POWER MODULE	RT62	DISCHARGE TEMP. THERMISTOR	26H	HEATER PROTECTOR
IC802	POWER DEVICE	RT64	FIN TEMP. THERMISTOR		
LED	LED	RT65	AMBIENT TEMP. THERMISTOR		

MUZ-FX15NLHZ MUZ-FX18NLHZ MUZ-FX24NLHZ

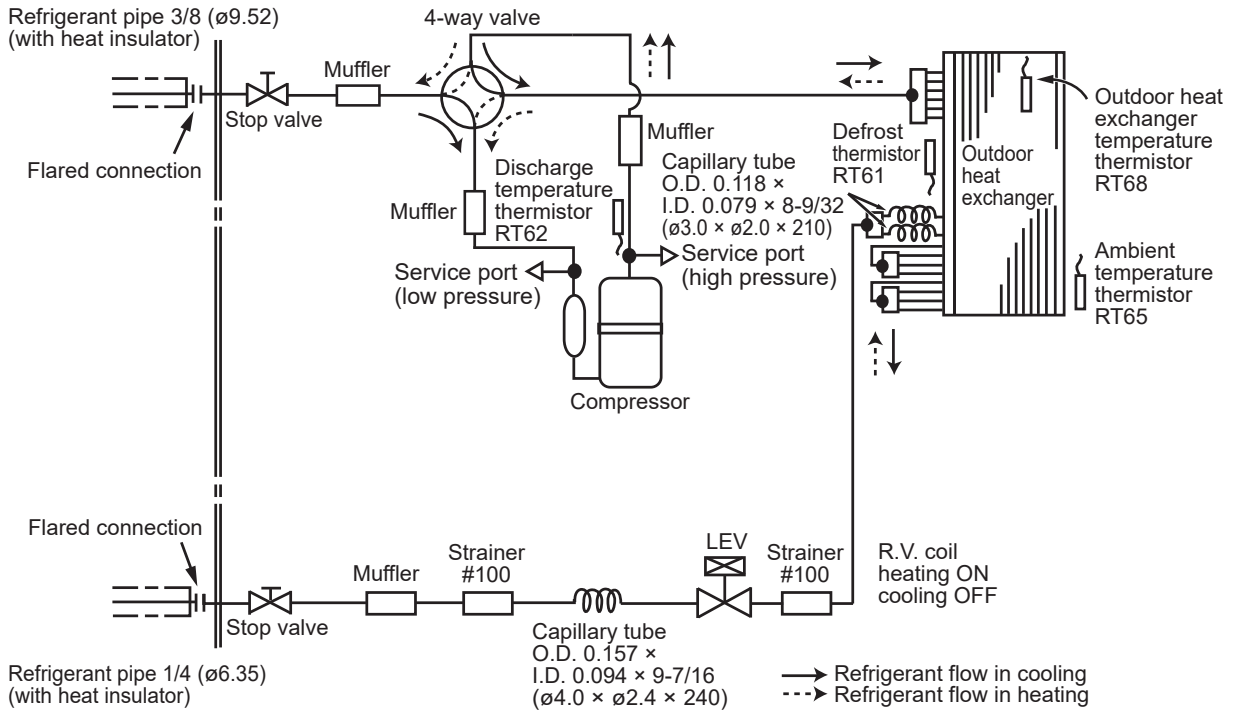


SYMBOL	NAME	SYMBOL	NAME	SYMBOL	NAME
CB1, CB2, CB3	SMOOTHING CAPACITOR	L	REACTOR	RT65	AMBIENT TEMP. THERMISTOR
CN61	CONNECTOR	LED	LED	RT68	OUTDOOR HEAT EXCHANGER TEMP. THERMISTOR
DB41	DIODE MODULE	LEV	EXPANSION VALVE COIL		
D3A, D3B	DIODE	MC	COMPRESSOR	TB1	TERMINAL BLOCK
F61	FUSE (25A 250V)	MF	FAN MOTOR	T801	TRANSFORMER
F62	FUSE (15A 250V)	PTC64, PTC65	CIRCUIT PROTECTION	X64, X601, X602	RELAY
F65, F66	FUSE (T6.3AL250V)	Q3A, Q3B	SWITCHING POWER TRANSISTOR	21S4	REVERSING VALVE COIL
F601, F880, F901	FUSE (T3.15AL250V)	RT61	DEFROST TEMP. THERMISTOR	26C	COMPRESSOR PROTECTOR
H	DEFROST HEATER	RT62	DISCHARGE TEMP. THERMISTOR	26H	HEATER PROTECTOR
IC700, IC932	POWER MODULE	RT64	FIN TEMP. THERMISTOR		

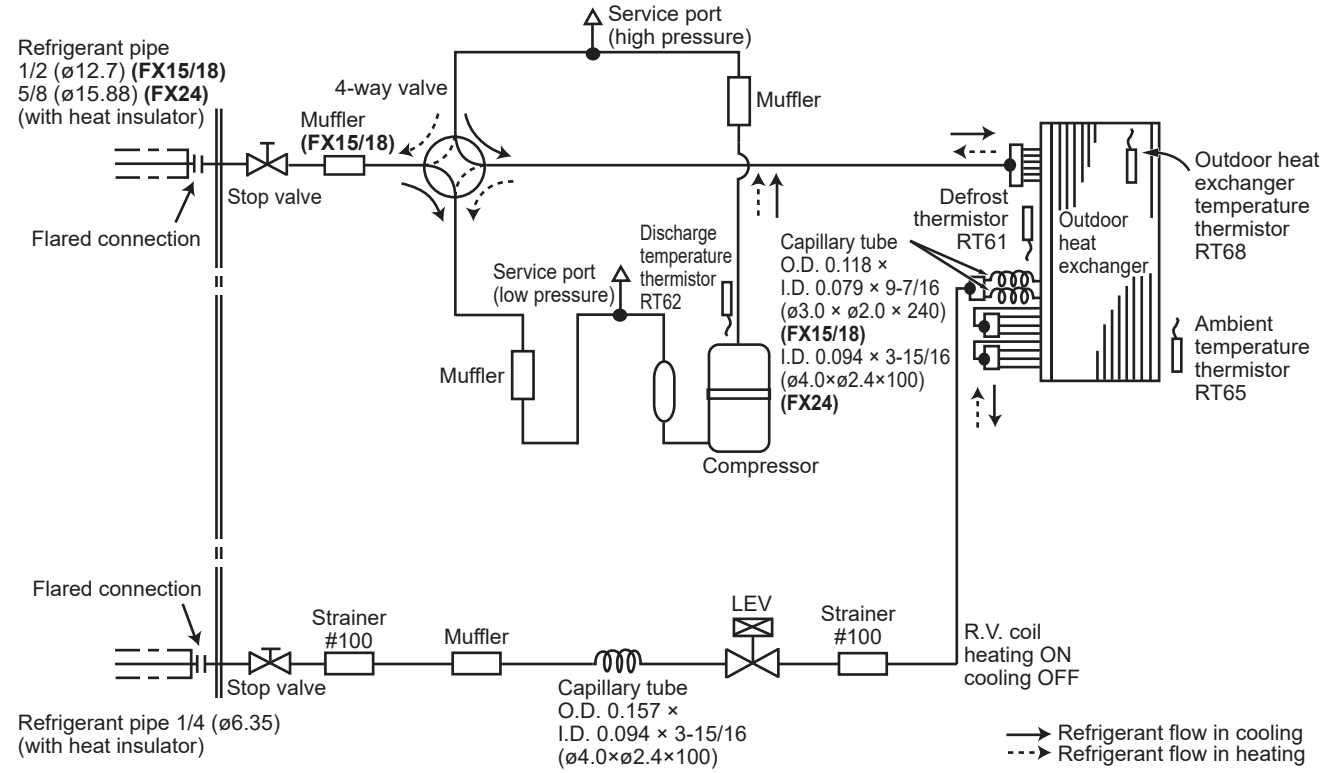
6 REFRIGERANT SYSTEM DIAGRAM

MUZ-FX06NLHZ
MUZ-FX09NLHZ
MUZ-FX12NLHZ

Unit: Inch (mm)

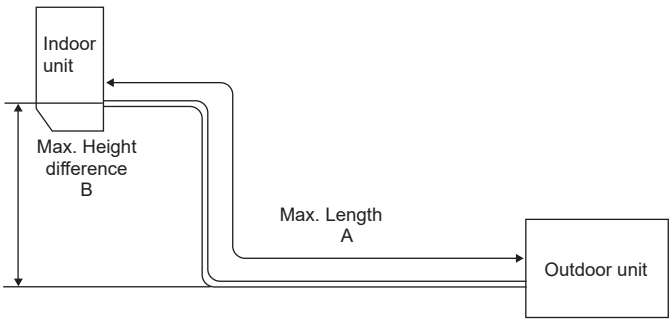


MUZ-FX15NLHZ
MUZ-FX18NLHZ
MUZ-FX24NLHZ



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-FX06NLHZ MUZ-FX09NLHZ MUZ-FX12NLHZ	65	40	3/8	1/4
MUZ-FX15NLHZ MUZ-FX18NLHZ	100	50	1/2	1/4
MUZ-FX24NLHZ	100	50	5/8	1/4



ADDITIONAL REFRIGERANT CHARGE (R454B: oz.)

NOTE: Refrigerant piping exceeding 25 ft. requires additional refrigerant charge according to the calculation.

Model	Outdoor unit precharged	Refrigerant piping length (one way): ft.					
		25	30	40	50	60	65
MUZ-FX06NLHZ	2 lbs. 10 oz	0	1.1	3.3	5.5	7.7	8.8
MUZ-FX09NLHZ MUZ-FX12NLHZ	2 lbs. 12 oz						

Calculation: X oz. = 0.22 oz./ft. × (Refrigerant piping length (ft.) - 25)

NOTE: Refrigerant piping exceeding 50 ft. requires additional refrigerant charge according to the calculation.

Model	Outdoor unit precharged	Refrigerant piping length (one way): ft.									
		25	30	40	50	60	65	70	80	90	100
MUZ-FX15NLHZ MUZ-FX18NLHZ	3 lbs. 7 oz	0	0	0	0	2.2	3.3	4.4	6.6	8.8	11
MUZ-FX24NLHZ	3 lbs. 6 oz										

Calculation: X oz. = 0.22 oz./ft. × (Refrigerant piping length (ft.) - 50)

7 DATA

MUZ-FX06NLHZ MUZ-FX09NLHZ
MUZ-FX12NLHZ MUZ-FX15NLHZ
MUZ-FX18NLHZ MUZ-FX24NLHZ

7-1. PERFORMANCE DATA

1) COOLING CAPACITY

Model	Indoor air	Outdoor intake air DB temperature (˚F)											
	IWB (˚F)	75				85				95			
		TC	SHC	SHF	TPC	TC	SHC	SHF	TPC	TC	SHC	SHF	TPC
MUZ-FX06NLHZ	71	7.4	6.4	0.87	0.25	6.9	6.0	0.87	0.27	6.5	5.6	0.87	0.29
	67	7.0	7.0	1.00	0.24	6.5	6.5	1.00	0.26	6.0	6.0	1.00	0.28
	63	6.5	6.5	1.00	0.22	6.1	6.1	1.00	0.25	5.6	5.6	1.00	0.27
MUZ-FX09NLHZ	71	11.0	9.6	0.87	0.44	10.3	8.9	0.87	0.48	9.7	8.4	0.87	0.51
	67	10.4	10.4	1.00	0.41	9.7	9.7	1.00	0.45	9.0	9.0	1.00	0.49
	63	9.8	9.8	1.00	0.39	9.1	9.1	1.00	0.43	8.5	8.5	1.00	0.47
MUZ-FX12NLHZ	71	14.7	11.0	0.75	0.69	13.7	10.3	0.75	0.76	12.9	9.6	0.75	0.82
	67	13.9	12.2	0.88	0.66	13.0	11.4	0.88	0.72	12.0	10.6	0.88	0.78
	63	13.1	13.1	1.00	0.62	12.1	12.1	1.00	0.69	11.3	11.3	1.00	0.74
MUZ-FX15NLHZ	71	18.4	12.4	0.68	0.91	17.2	11.6	0.68	0.99	16.1	10.9	0.68	1.07
	67	17.4	14.1	0.81	0.86	16.2	13.1	0.81	0.94	15.0	12.2	0.81	1.02
	63	16.4	15.4	0.94	0.82	15.2	14.3	0.94	0.90	14.1	13.3	0.94	0.97
MUZ-FX18NLHZ	71	21.1	13.2	0.63	1.17	19.7	12.3	0.63	1.29	18.5	11.6	0.63	1.39
	67	20.0	15.2	0.76	1.11	18.6	14.1	0.76	1.22	17.2	13.1	0.76	1.32
	63	18.7	16.7	0.89	1.06	17.4	15.5	0.89	1.17	16.2	14.4	0.89	1.26
MUZ-FX24NLHZ	71	25.5	16.5	0.65	1.39	23.8	15.4	0.65	1.52	22.4	14.5	0.65	1.64
	67	24.1	18.8	0.78	1.31	22.5	17.5	0.78	1.44	20.8	16.2	0.78	1.56
	63	22.7	20.7	0.91	1.25	21.0	19.2	0.91	1.38	19.6	17.9	0.91	1.49

Model	Indoor air	Outdoor intake air DB temperature (˚F)							
	IWB (˚F)	105				115			
		TC	SHC	SHF	TPC	TC	SHC	SHF	TPC
MUZ-FX06NLHZ	71	6.0	5.2	0.87	0.31	5.5	4.8	0.87	0.32
	67	5.6	5.6	1.00	0.30	5.1	5.1	1.00	0.31
	63	5.1	5.1	1.00	0.29	4.7	4.7	1.00	0.30
MUZ-FX09NLHZ	71	9.0	7.8	0.87	0.54	8.3	7.2	0.87	0.56
	67	8.4	8.4	1.00	0.52	7.7	7.7	1.00	0.54
	63	7.7	7.7	1.00	0.50	7.0	7.0	1.00	0.52
MUZ-FX12NLHZ	71	12.0	9.0	0.75	0.86	11.0	8.2	0.75	0.90
	67	11.2	9.8	0.88	0.83	10.3	9.0	0.88	0.87
	63	10.3	10.3	1.00	0.80	9.4	9.4	1.00	0.83
MUZ-FX15NLHZ	71	15.0	10.2	0.68	1.13	13.8	9.3	0.68	1.17
	67	14.0	11.3	0.81	1.08	12.8	10.4	0.81	1.13
	63	12.8	12.1	0.94	1.04	11.7	11.0	0.94	1.08
MUZ-FX18NLHZ	71	17.2	10.8	0.63	1.46	15.8	9.9	0.63	1.52
	67	16.0	12.2	0.76	1.40	14.7	11.2	0.76	1.47
	63	14.7	13.1	0.89	1.35	13.4	12.0	0.89	1.40
MUZ-FX24NLHZ	71	20.8	13.5	0.65	1.72	19.1	12.4	0.65	1.79
	67	19.3	15.1	0.78	1.65	17.8	13.9	0.78	1.73
	63	17.8	16.2	0.91	1.59	16.2	14.8	0.91	1.65

NOTE: 1. IWB : Intake air wet-bulb temperature TC : Total Capacity (×10³ Btu/h)
SHC : Sensible Heat Capacity (×10³ 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

	Refrigerant piping length (one way: ft.)			
	25 (std.)	40	65	100
MUZ-FX06NLHZ	1.0	0.997	0.992	—
MUZ-FX09NLHZ		0.993	0.981	—
MUZ-FX12NLHZ		0.987	0.967	—
MUZ-FX15NLHZ		0.996	0.988	0.978
MUZ-FX18NLHZ		0.994	0.983	0.969
MUZ-FX24NLHZ		0.996	0.99	0.982

3) HEATING CAPACITY CORRECTIONS

Refrigerant piping length (one way: ft.)				
	25 (std.)	40	65	100
MUZ-FX06NLHZ MUZ-FX09NLHZ MUZ-FX12NLHZ	1.0	0.997	0.993	—
MUZ-FX15NLHZ MUZ-FX18NLHZ MUZ-FX24NLHZ	1.0	0.997	0.993	0.987

4) HEATING CAPACITY

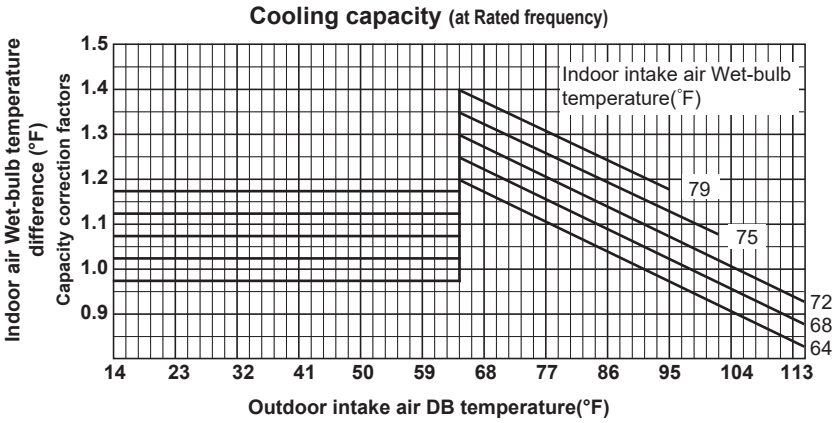
Model	Indoor air	Outdoor intake air WB temperature (˚F)													
	IDB (˚F)	5		15		25		35		43		45		55	
		TC	TPC	TC	TPC	TC	TPC	TC	TPC	TC	TPC	TC	TPC	TC	TPC
MUZ-FX06NLHZ	75	4.0	0.32	5.2	0.40	6.5	0.47	7.8	0.53	8.8	0.55	9.0	0.56	10.3	0.58
	70	4.3	0.31	5.5	0.39	6.8	0.46	8.0	0.51	9.0	0.54	9.3	0.55	10.5	0.57
	65	4.5	0.29	5.7	0.37	7.1	0.45	8.2	0.50	9.3	0.53	9.5	0.53	10.7	0.56
MUZ-FX09NLHZ	75	5.3	0.42	7.0	0.53	8.7	0.62	10.4	0.69	11.7	0.73	12.1	0.74	13.7	0.77
	70	5.7	0.40	7.4	0.51	9.0	0.61	10.6	0.67	12.0	0.71	12.4	0.72	14.0	0.75
	65	6.0	0.38	7.6	0.49	9.4	0.59	11.0	0.66	12.4	0.69	12.7	0.70	14.3	0.74
MUZ-FX12NLHZ	75	5.8	0.54	7.7	0.69	9.6	0.81	11.4	0.90	12.9	0.94	13.3	0.96	15.0	0.99
	70	6.3	0.52	8.1	0.66	9.9	0.79	11.7	0.87	13.2	0.92	13.6	0.94	15.4	0.98
	65	6.6	0.50	8.3	0.63	10.4	0.76	12.1	0.85	13.6	0.90	14.0	0.91	15.7	0.96
MUZ-FX15NLHZ	75	7.3	0.64	9.6	0.80	12.0	0.95	14.3	1.05	16.1	1.11	16.6	1.12	18.8	1.17
	70	7.8	0.61	10.1	0.78	12.4	0.92	14.6	1.03	16.5	1.08	17.0	1.10	19.2	1.14
	65	8.3	0.58	10.4	0.75	13.0	0.89	15.1	1.00	17.0	1.05	17.5	1.07	19.6	1.12
MUZ-FX18NLHZ	75	7.5	0.82	9.9	1.04	12.3	1.22	14.7	1.36	16.6	1.42	17.1	1.45	19.4	1.50
	70	8.1	0.79	10.5	1.00	12.8	1.19	15.0	1.32	17.0	1.39	17.5	1.42	19.8	1.47
	65	8.5	0.75	10.7	0.96	13.3	1.15	15.6	1.29	17.5	1.36	18.0	1.38	20.2	1.45
MUZ-FX24NLHZ	75	8.7	0.89	11.5	1.12	14.4	1.31	17.1	1.46	19.3	1.54	19.9	1.56	22.6	1.62
	70	9.4	0.85	12.2	1.08	14.9	1.28	17.5	1.43	19.8	1.50	20.4	1.53	23.1	1.59
	65	9.9	0.81	12.5	1.04	15.5	1.24	18.1	1.39	20.4	1.46	21.0	1.49	23.6	1.56

NOTE: 1. IDB : Intake air dry-bulb temperature
TC : Total Capacity (x10^3 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.

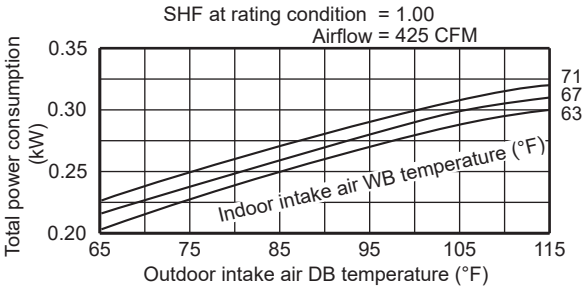
How to operate with fixed operational frequency of the compressor.

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.

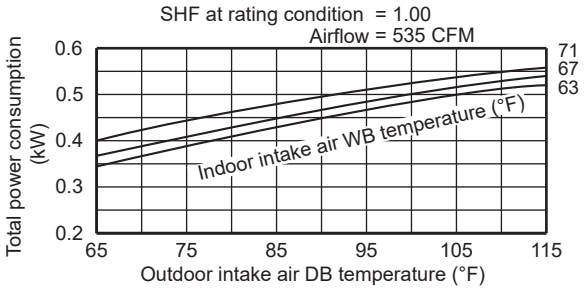
7-2. PERFORMANCE CURVE
Cooling (at Rated frequency)



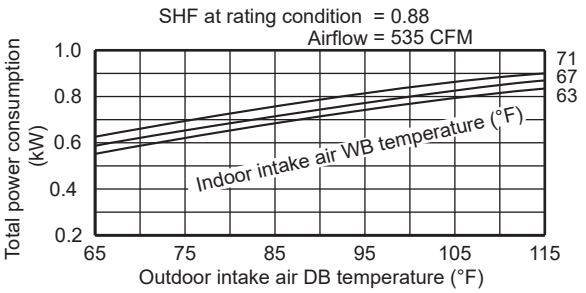
MUZ-FX06NLHZ



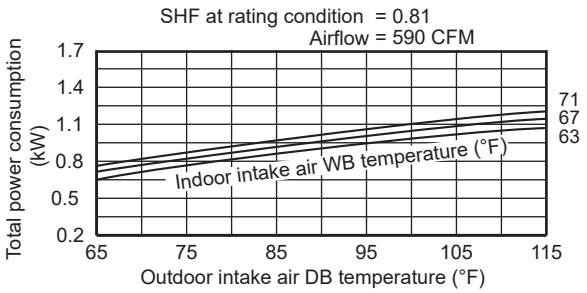
MUZ-FX09NLHZ



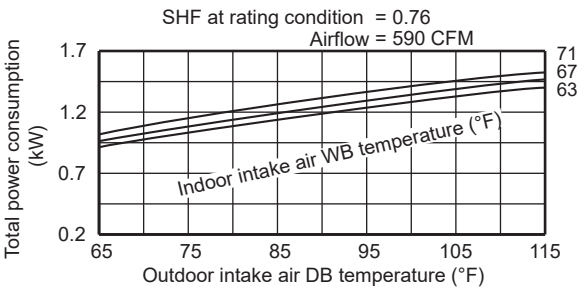
MUZ-FX12NLHZ



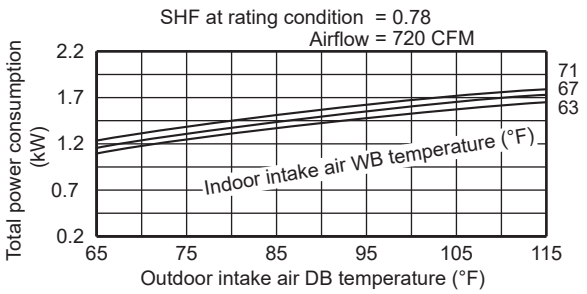
MUZ-FX15NLHZ



MUZ-FX18NLHZ



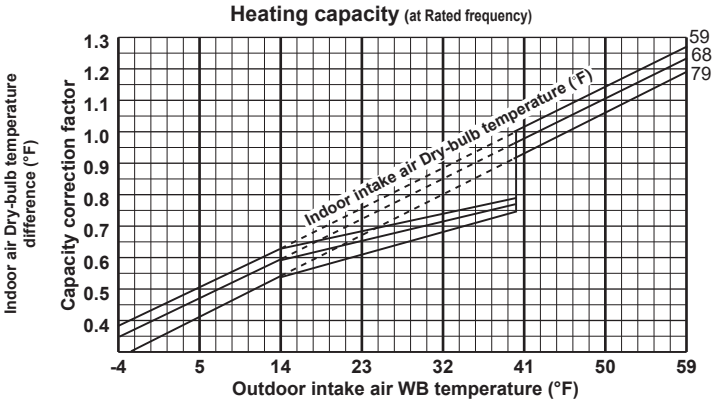
MUZ-FX24NLHZ



This value of frequency is not the same as the actual frequency in operating. Refer to 7-5 and 7-6 for the relationships between frequency and capacity.

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

Heating (at Rated frequency)



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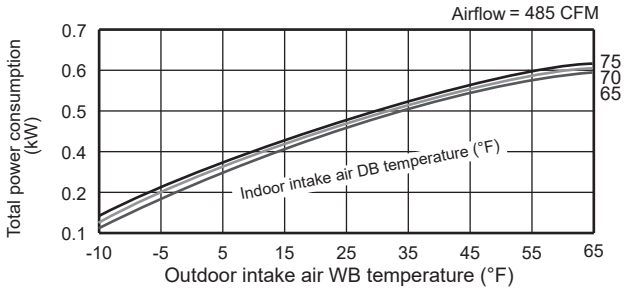

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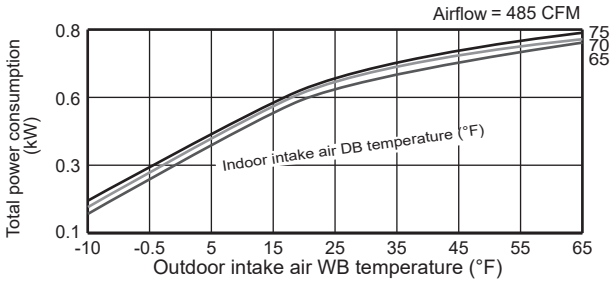

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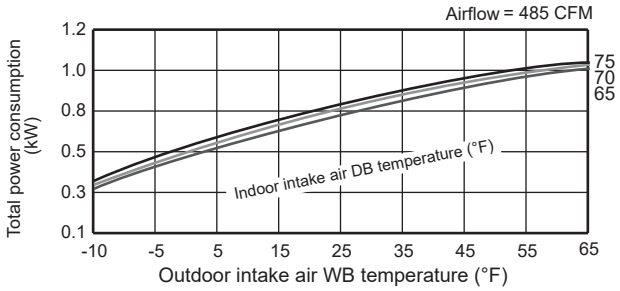

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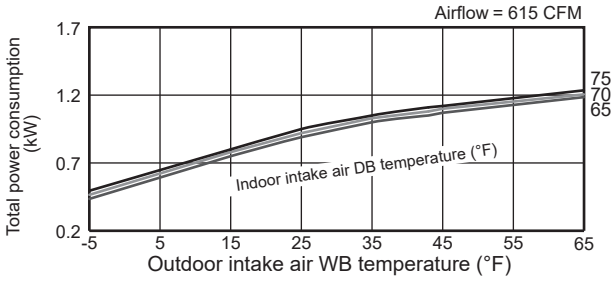

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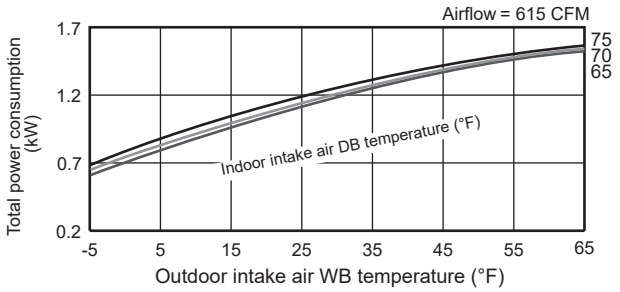

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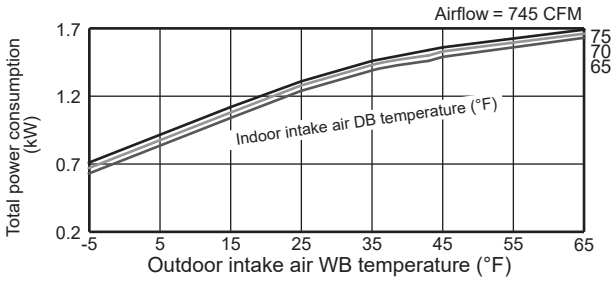


This value of frequency is not the same as the actual frequency in operating. Refer to 7-5 and 7-6 for the relationships between frequency and capacity.

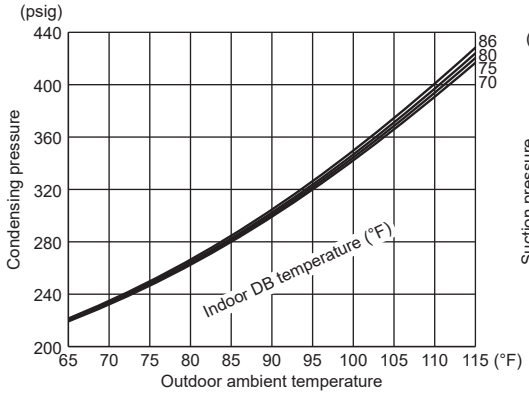
NOTE: Data shown are estimated value. Performance may vary depending on operating conditions.

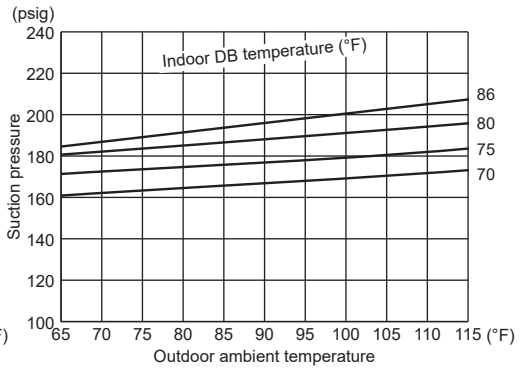
7-3. CONDENSING PRESSURE

Cooling

Data are based on the condition of indoor humidity 50 %.
Air flow should be set to High speed.

MUZ-FX06NLHZ





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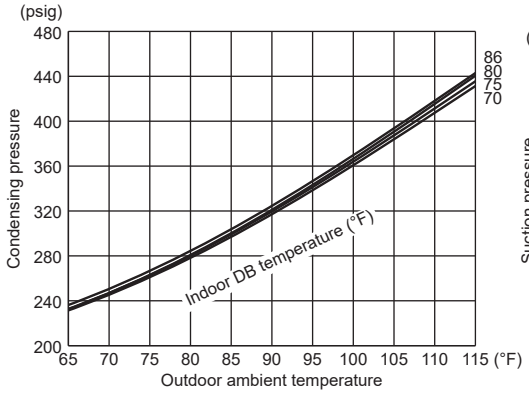

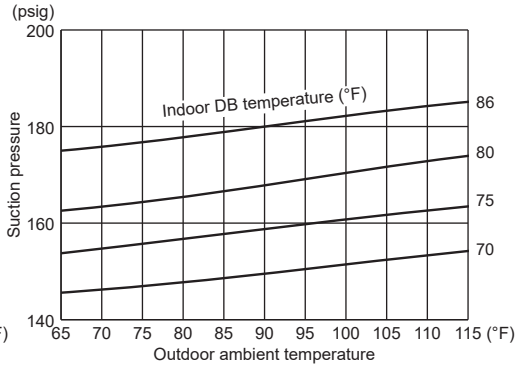

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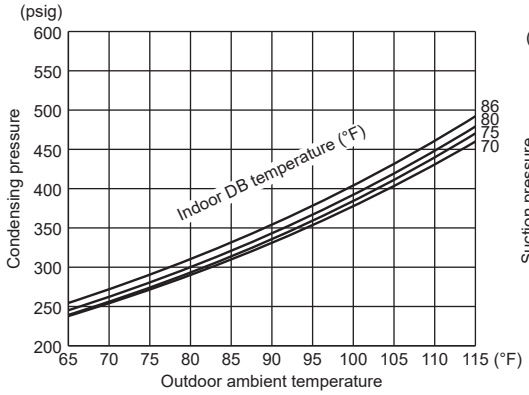

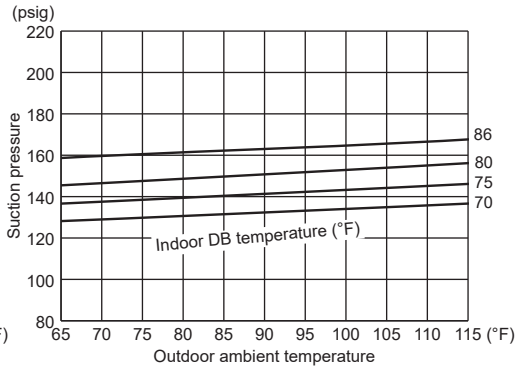

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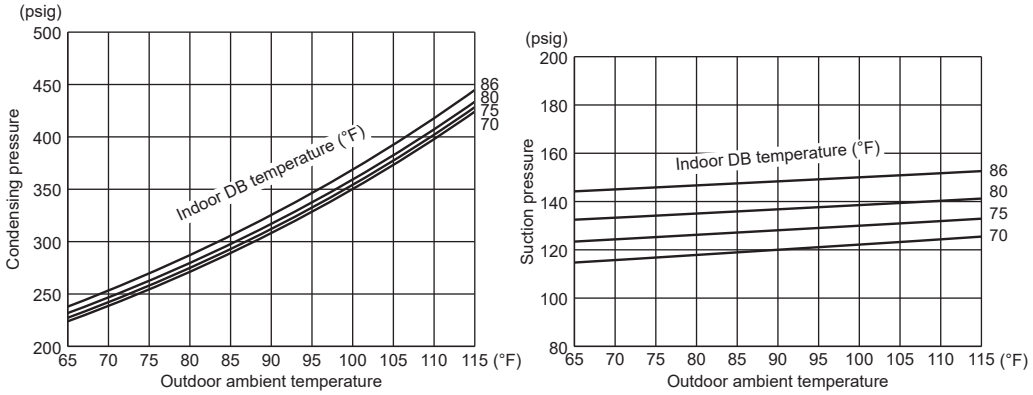

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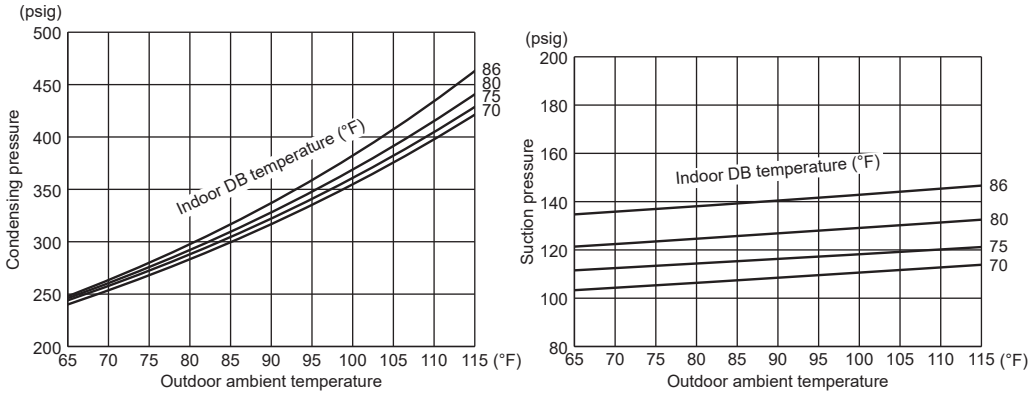
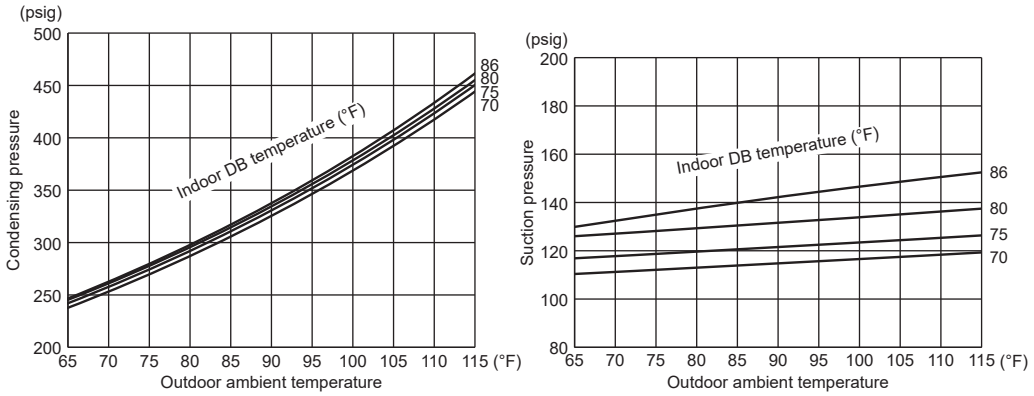


MUZ-FX24NLHZ

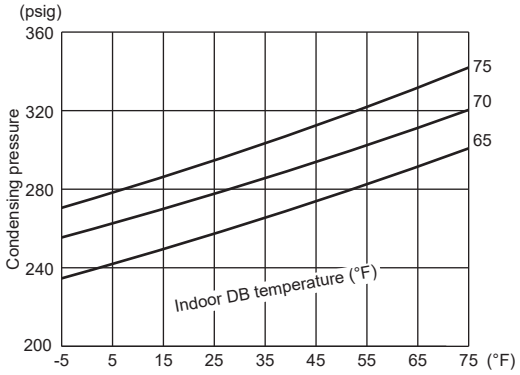


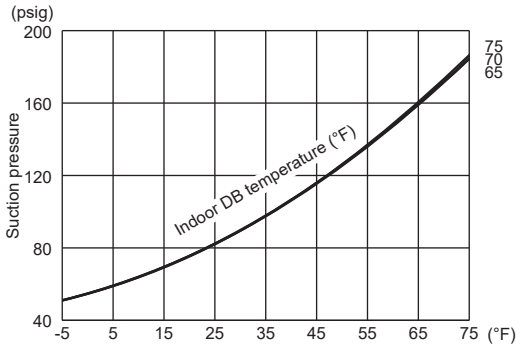
NOTE: Data shown are estimated value. Performance may vary depending on operating conditions.

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-FX06NLHZ





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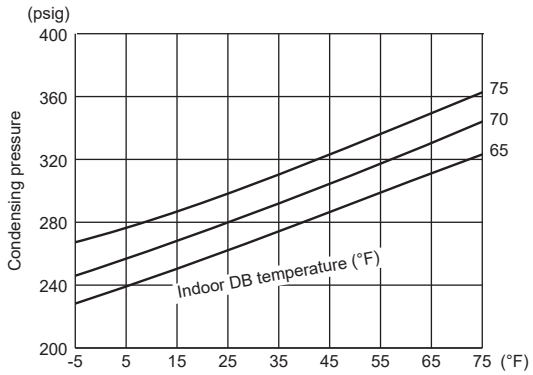
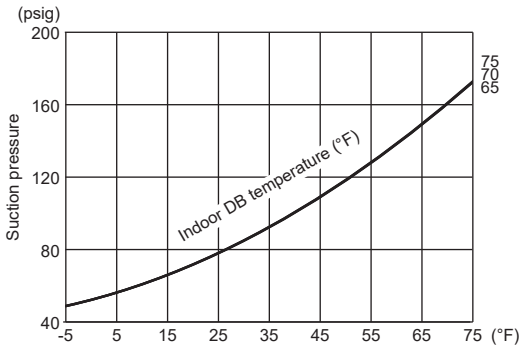
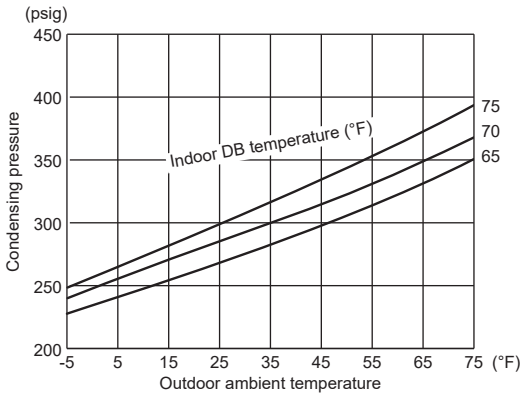
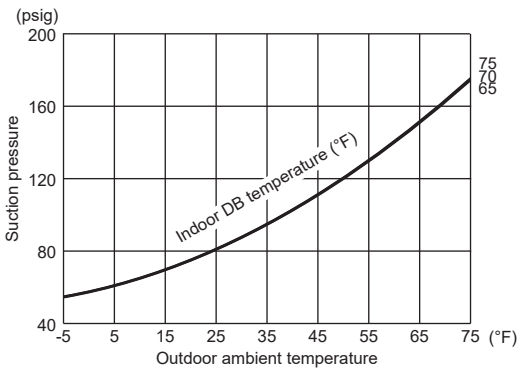


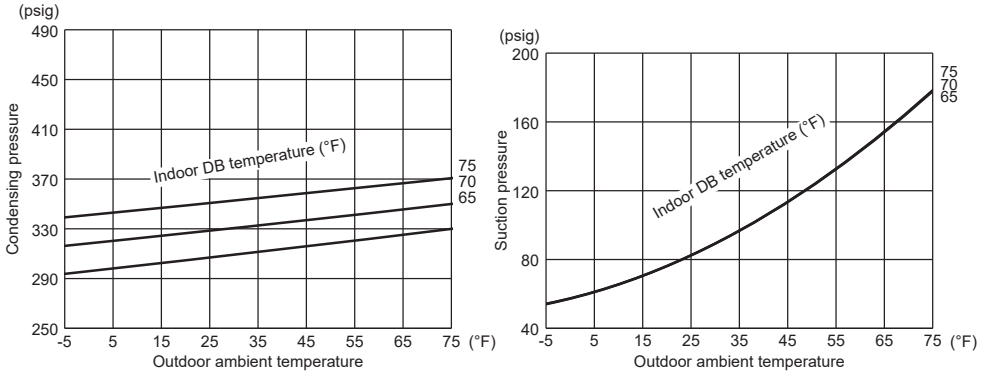


MUZ-FX12NLHZ

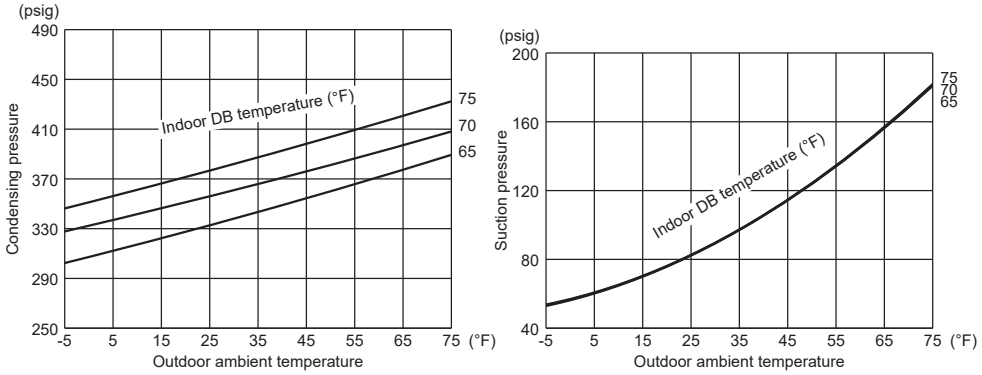




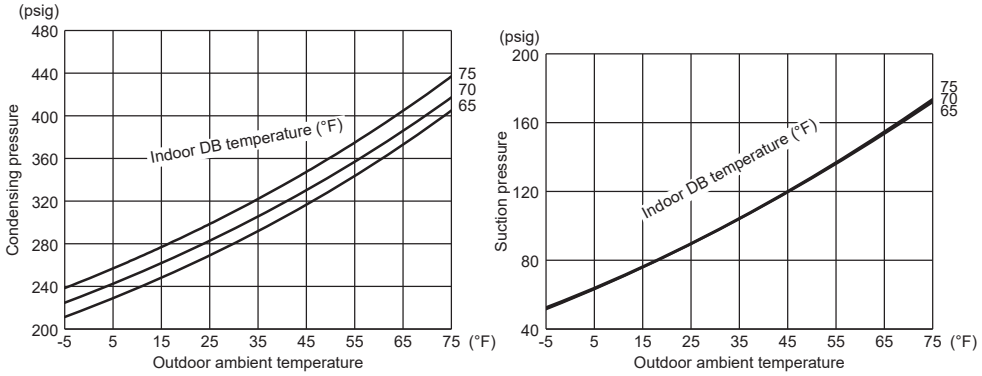
MUZ-FX15NLHZ



MUZ-FX18NLHZ



MUZ-FX24NLHZ



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.

7-4. STANDARD OPERATION DATA

Model				MSZ-FX06NL	
Item			Unit	COOL	HEAT
Total	Capacity		Btu/h	6,000	9,000
	SHF		—	1.00	—
	Input		kW	0.28	0.54
	Rated frequency		Hz	28	53
Electrical circuit	Indoor unit			MSZ-FX06NL	
	Power supply		V, phase, Hz	208/230, 1 , 60	
	Input		kW	0.014	0.019
	Fan motor current		A	0.17/0.15	0.21/0.19
	Outdoor unit			MUZ-FX06NLHZ	
	Power supply		V, phase, Hz	208/230, 1, 60	
	Input		kW	0.266	0.521
	Comp. current		A	1.41/1.25	2.47/2.21
	Fan motor current		A	0.22/0.20	0.22/0.20
Refrigerant circuit	Condensing pressure		psig	314	284
	Suction pressure		psig	170	106
	Discharge temperature		°F	135	135
	Condensing temperature		°F	103	39
	Suction temperature		°F	71	39
	Comp. shell bottom temperature		°F	—	
	Ref. pipe length		ft.	25	
	Refrigerant charge (R454B)			2 lbs. 10 oz	
Indoor unit	Intake air temperature	DB	°F	80	70
		WB	°F	67	60
	Discharge air temperature	DB	°F	66	91
		WB	°F	65	—
	Fan speed (High)		rpm	820	900
	Airflow (High)		CFM	357 (wet)	477
Outdoor unit	Intake air temperature	DB	°F	95	47
		WB	°F	—	43
	Fan speed		rpm	740	
	Airflow		CFM	1,225	

Model				MSZ-FX09NL	
Item			Unit	COOL	HEAT
Total	Capacity		Btu/h	9,000	12,000
	SHF		—	1.00	—
	Input		kW	0.49	0.71
	Rated frequency		Hz	29.5	45
Electrical circuit	Indoor unit			MSZ-FX09NL	
	Power supply		V, phase, Hz	208/230, 1, 60	
	Input		kW	0.024	0.019
	Fan motor current		A	0.27/0.24	0.21/0.19
	Outdoor unit			MUZ-FX09NLHZ	
	Power supply		V, phase, Hz	208/230, 1, 60	
	Input		kW	0.466	0.691
	Comp. current		A	2.18/1.94	3.14/2.88
	Fan motor current		A	0.25/0.22	0.25/0.23
Refrigerant circuit	Condensing pressure		psig	329	301
	Suction pressure		psig	155	103
	Discharge temperature		°F	140	137
	Condensing temperature		°F	106	37
	Suction temperature		°F	60	37
	Comp. shell bottom temperature		°F	—	
	Ref. pipe length		ft.	25	
	Refrigerant charge (R454B)			2 lbs.12 oz	
Indoor unit	Intake air temperature	DB	°F	80	70
		WB	°F	67	60
	Discharge air temperature	DB	°F	64	96
		WB	°F	63	—
	Fan speed (High)		rpm	970	900
	Airflow (High)		CFM	447 (wet)	477
Outdoor unit	Intake air temperature	DB	°F	95	47
		WB	°F	—	43
	Fan speed		rpm	780	790
	Airflow		CFM	1,303	1,321

Model				MSZ-FX12NL	
Item			Unit	COOL	HEAT
Total	Capacity		Btu/h	12,000	13,200
	SHF		—	0.88	—
	Input		kW	0.78	0.92
	Rated frequency		Hz	44.5	54.5
Electrical circuit	Indoor unit			MSZ-FX12NL	
	Power supply		V, phase, Hz	208/230, 1, 60	
	Input		kW	0.024	0.019
	Fan motor current		A	0.27/0.24	0.21/0.19
	Outdoor unit			MUZ-FX12NLHZ	
	Power supply		V, phase, Hz	208/230, 1, 60	
	Input		kW	0.76	0.901
	Comp. current		A	3.48/3.14	4.14/3.78
	Fan motor current		A	0.25/0.22	0.25/0.23
Refrigerant circuit	Condensing pressure		psig	349	324
	Suction pressure		psig	135	101
	Discharge temperature		°F	153	146
	Condensing temperature		°F	111	37
	Suction temperature		°F	52	36
	Comp. shell bottom temperature		°F	—	
	Ref. pipe length		ft.	25	
	Refrigerant charge (R454B)			2 lbs. 12 oz	
Indoor unit	Intake air temperature	DB	°F	80	70
		WB	°F	67	60
	Discharge air temperature	DB	°F	60	101
		WB	°F	59	—
	Fan speed (High)		rpm	970	900
	Airflow (High)		CFM	447 (wet)	477
Outdoor unit	Intake air temperature	DB	°F	95	47
		WB	°F	—	43
	Fan speed		rpm	780	790
	Airflow		CFM	1,303	1,321

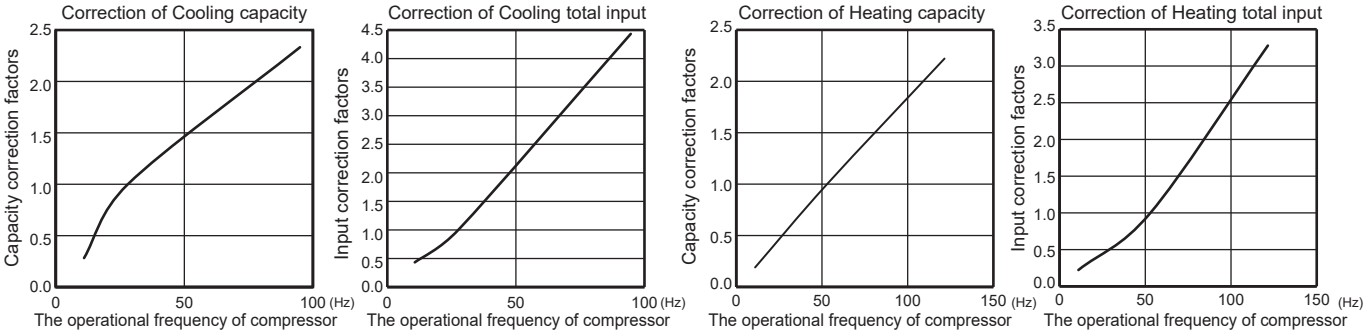
Model				MSZ-FX15NL	
Item			Unit	COOL	HEAT
Total	Capacity		Btu/h	15,000	16,500
	SHF		—	0.81	—
	Input		kW	1.02	1.08
	Rated frequency		Hz	47	48
Electrical circuit	Indoor unit			MSZ-FX15NL	
	Power supply		V, phase, Hz	208/230, 1, 60	
	Input		kW	0.033	0.036
	Fan motor current		A	0.34/0.31	0.36/0.33
	Outdoor unit			MUZ-FX15NLHZ	
	Power supply		V, phase, Hz	208/230, 1, 60	
	Input		kW	0.987	1.044
	Comp. current		A	3.8/3.41	4.06/3.68
	Fan motor current		A	0.76/0.68	0.86/0.78
Refrigerant circuit	Condensing pressure		psig	339	331
	Suction pressure		psig	132	106
	Discharge temperature		°F	157	152
	Condensing temperature		°F	108	38
	Suction temperature		°F	56	39
	Comp. shell bottom temperature		°F	—	
	Ref. pipe length		ft.	25	
	Refrigerant charge (R454B)			3 lbs.7 oz	
Indoor unit	Intake air temperature	DB	°F	80	70
		WB	°F	67	60
	Discharge air temperature	DB	°F	59	99
		WB	°F	58	—
	Fan speed (High)		rpm	1,060	1,090
	Airflow (High)		CFM	504 (wet)	614
Outdoor unit	Intake air temperature	DB	°F	95	47
		WB	°F	—	43
	Fan speed		rpm	740	800
	Airflow		CFM	1,773	1,935

Model				MSZ-FX18NL	
Item			Unit	COOL	HEAT
Total	Capacity		Btu/h	17,200	17,000
	SHF		—	0.76	—
	Input		kW	1.32	1.39
	Rated frequency		Hz	59	58
Electrical circuit	Indoor unit			MSZ-FX18NL	
	Power supply		V, phase, Hz	208/230, 1, 60	
	Input		kW	0.033	0.036
	Fan motor current		A	0.34/0.31	0.36/0.33
	Outdoor unit			MUZ-FX18NLHZ	
	Power supply		V, phase, Hz	208/230, 1, 60	
	Input		kW	1.287	1.354
	Comp. current		A	5.4/4.91	5.48/4.99
	Fan motor current		A	0.76/0.68	0.86/0.78
Refrigerant circuit	Condensing pressure		psig	349	359
	Suction pressure		psig	120	104
	Discharge temperature		°F	162	159
	Condensing temperature		°F	110	37
	Suction temperature		°F	48	37
	Comp. shell bottom temperature		°F	—	
	Ref. pipe length		ft.	25	
	Refrigerant charge (R454B)			3 lbs. 7 oz	
Indoor unit	Intake air temperature	DB	°F	80	70
		WB	°F	67	60
	Discharge air temperature	DB	°F	57	104
		WB	°F	56	—
	Fan speed (High)		rpm	1,060	1,090
	Airflow (High)		CFM	504 (wet)	614
Outdoor unit	Intake air temperature	DB	°F	95	47
		WB	°F	—	43
	Fan speed		rpm	740	800
	Airflow		CFM	1,773	1,935

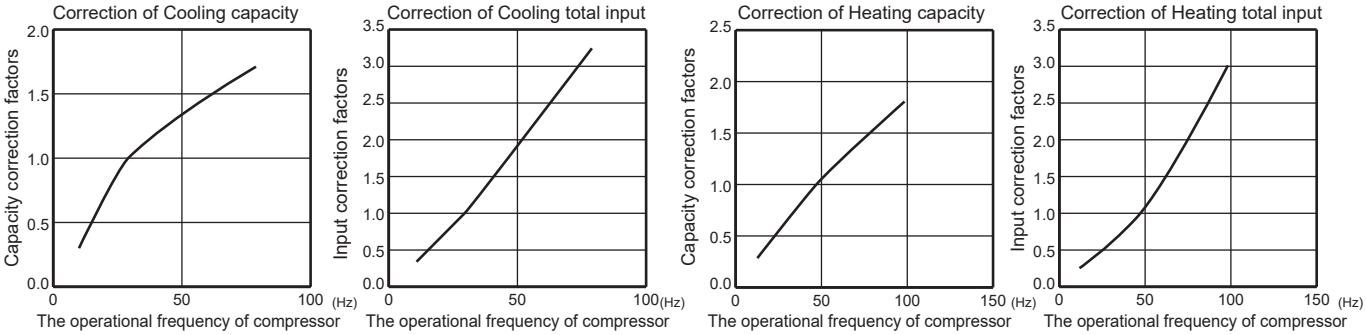
Model				MSZ-FX24NL	
Item			Unit	COOL	HEAT
Total	Capacity		Btu/h	20,800	19,800
	SHF		—	0.78	—
	Input		kW	1.56	1.50
	Rated frequency		Hz	52.5	48.5
Electrical circuit	Indoor unit			MSZ-FX24NL	
	Power supply		V, phase, Hz	208/230, 1, 60	
	Input		kW	0.056	0.064
	Fan motor current		A	0.53/0.48	0.59/0.53
	Outdoor unit			MUZ-FX24NLHZ	
	Power supply		V, phase, Hz	208/230, 1, 60	
	Input		kW	1.504	1.437
	Comp. current		A	5.97/5.42	5.75/5.19
	Fan motor current		A	1.1/1	0.86/0.78
Refrigerant circuit	Condensing pressure		psig	345	336
	Suction pressure		psig	124	101
	Discharge temperature		°F	161	157
	Condensing temperature		°F	110	37
	Suction temperature		°F	52	37
	Comp. shell bottom temperature		°F	—	
	Ref. pipe length		ft.	25	
	Refrigerant charge (R454B)			3 lbs. 6 oz	
Indoor unit	Intake air temperature	DB	°F	80	70
		WB	°F	67	60
	Discharge air temperature	DB	°F	61	95
		WB	°F	60	—
	Fan speed (High)		rpm	1,230	1,270
	Airflow (High)		CFM	612 (wet)	749
Outdoor unit	Intake air temperature	DB	°F	95	47
		WB	°F	V	43
	Fan speed		rpm	900	800
	Airflow		CFM	2,204	1,935

7-5. CAPACITY AND INPUT CORRECTION BY INVERTER OUTPUT FREQUENCY

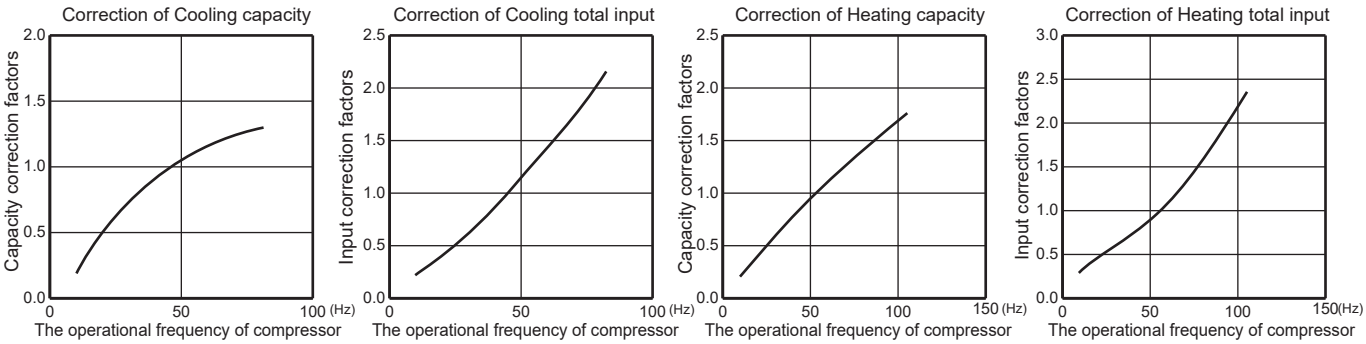
MUZ-FX06NLHZ



MUZ-FX09NLHZ



MUZ-FX12NLHZ



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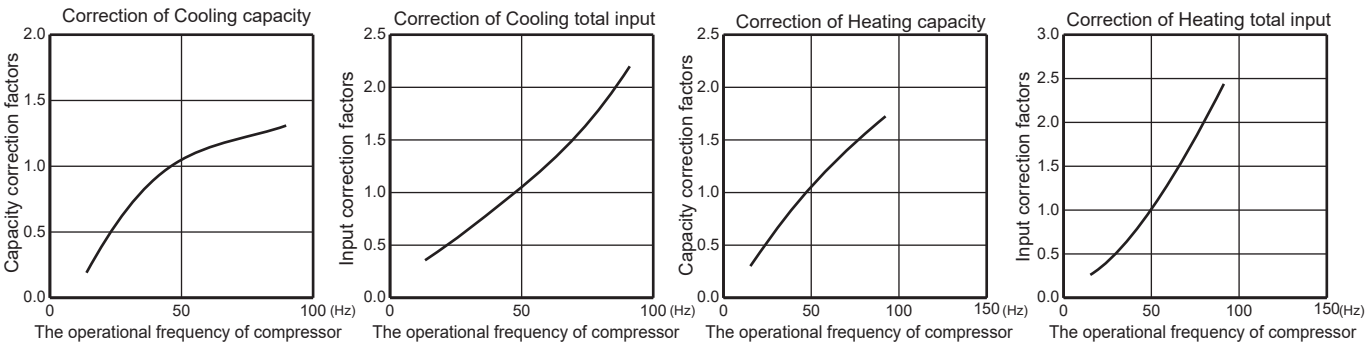

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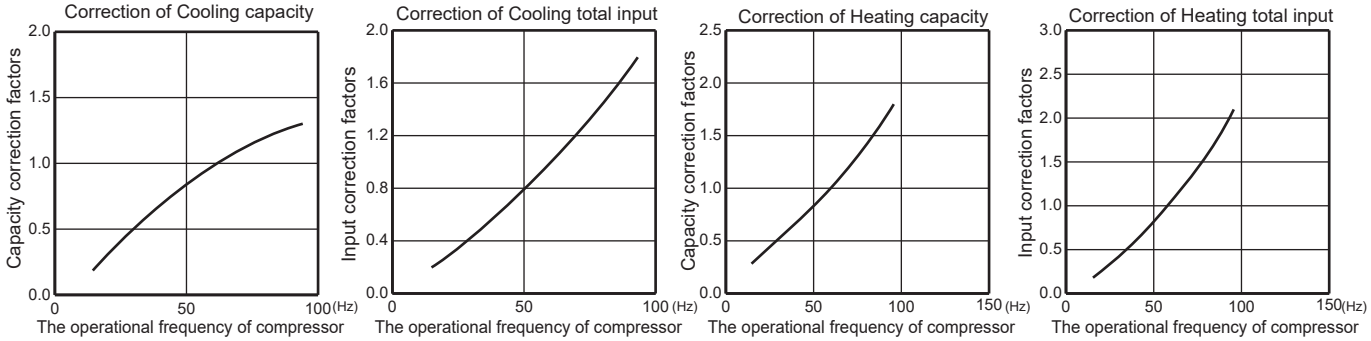
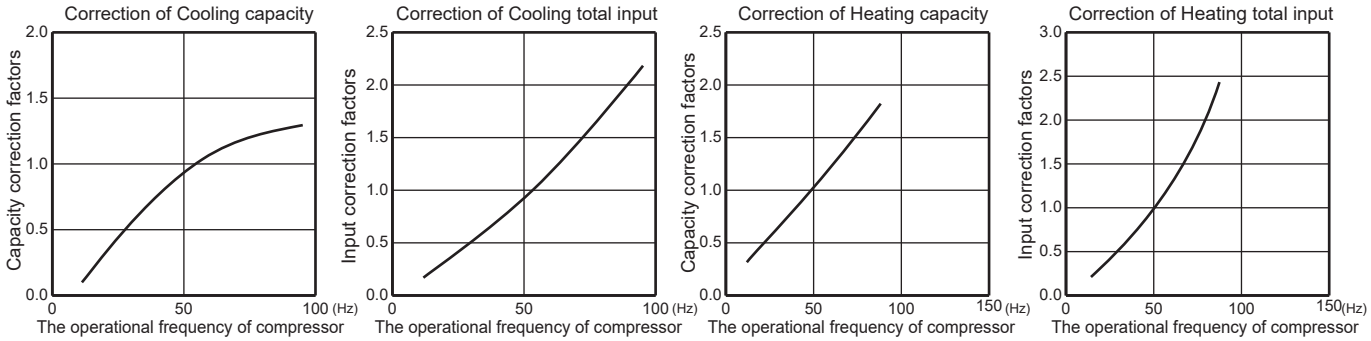


MUZ-FX24NLHZ



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

7-6. HOW TO OPERATE FIXED-FREQUENCY OPERATION (Test run operation)

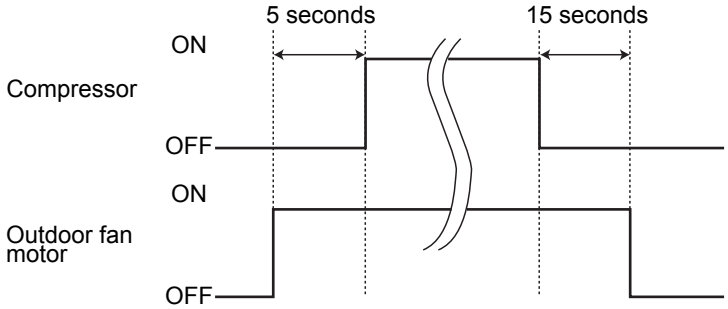
1. Press the emergency operation switch to start COOL or HEAT mode (COOL: Press once, HEAT: Press twice).
2. Test run operation starts and continues to operate for 30 minutes.
3. Compressor operates at rated frequency in COOL mode or 58 Hz in HEAT mode.
4. Indoor fan operates at High speed.
5. After 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.

8 ACTUATOR CONTROL

MUZ-FX06NLHZ MUZ-FX09NLHZ
MUZ-FX12NLHZ MUZ-FX15NLHZ
MUZ-FX18NLHZ MUZ-FX24NLHZ

8-1. 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.

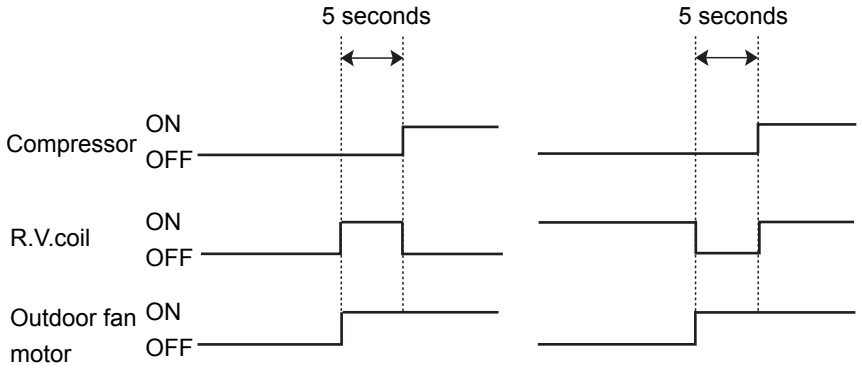


8-2. R.V. COIL CONTROL

Heating · · · · · · · · · · · · · · · · · · ON
Cooling · · · · · · · · · · · · · · · · · · OFF
Dry · OFF

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

<COOL> **<HEAT>**



8-3. RELATION BETWEEN MAIN SENSOR AND ACTUATOR

Sensor	Purpose	Actuator					
		Compressor	LEV	Outdoor fan motor	R.V.coil	Indoor fan motor	Defrost heater
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	○	○	○			
	Heating: Defrosting (Heater)						○
Outdoor heat exchanger temperature thermistor	Cooling: Low ambient temperature operation	○	○	○			
	Cooling: High pressure protection	○	○	○			

9 SERVICE FUNCTIONS

MUZ-FX06NLHZ MUZ-FX09NLHZ
MUZ-FX12NLHZ MUZ-FX15NLHZ
MUZ-FX18NLHZ MUZ-FX24NLHZ

9-1. 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 10-6.1.).

Jumper		Defrost finish temperature	
		MUZ-FX06NLHZ MUZ-FX09NLHZ MUZ-FX12NLHZ	**MUZ-FX15NLHZ MUZ-FX18NLHZ MUZ-FX24NLHZ**
JS	Soldered (Initial setting)	46.4°F (8°C)	50°F (10°C)
	None (Cut)	55.4°F (13°C)	59°F (15°C)

9-2. 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 10-6.1)

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.

10 TROUBLESHOOTING

MUZ-FX06NLHZ MUZ-FX09NLHZ
MUZ-FX12NLHZ MUZ-FX15NLHZ
MUZ-FX18NLHZ MUZ-FX24NLHZ

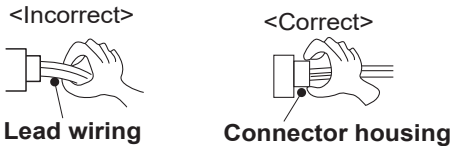
10-1. CAUTIONS ON TROUBLESHOOTING

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.



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 10-2 and 10-3.

10-2. FAILURE MODE RECALL FUNCTION AND ERROR CODE DISPLAY MODE

Outline of the function

This air conditioner can memorize the failure which has occurred last time.

Even though LED indication listed on the troubleshooting check table (10-3.) disappears, the memorized failure can be recalled.

Also, error code can be checked on the display of remote controller while the left operation indicator lamp on the indoor unit is blinking.

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

Operational procedure

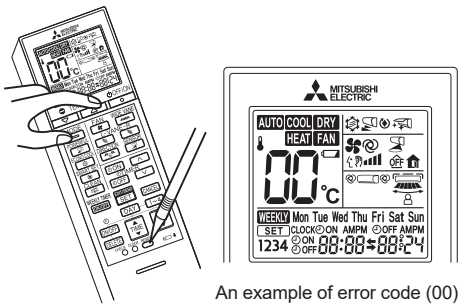
The cause of abnormality cannot be identified because the error code does not appear again.

Setting up the failure mode recall function **(Figure 1)**

Turn ON the power supply.
<Preparation of the remote controller>
① While pressing Operation select button and TEMP ⊕ 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 display shown in Figure 1 have all appeared. ("00" is shown in the display.) Then release the buttons.

Check of OPERATION INDICATOR lamp

Check of error code on the display of remote controller



An example of error code (00)

Figure 1

Get close to the front of the indoor unit.
Press OFF/ON (stop/operate) button of the remote controller with the remote controller headed towards the indoor unit.

Did the indoor unit beep?

No → 1st → Get closer to the indoor unit, then try again.

2nd → Turn off the power of appliances such as fluorescent lamp and TV which might cause noise, then try again.
(If the battery replacement indicator lights up, replace the batteries with new ones.)

Yes *1

How many beeps?

2 times → The indoor unit is normal, but the outdoor unit might be abnormal.
There are some abnormalities that cannot be recalled with this way.
Check if the outdoor unit is abnormal according to the outdoor unit failure mode recall function. (10-2.2.)

1 time

The 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.

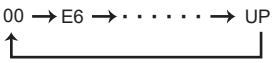


Figure 2

How many beeps?

No beeps → The diagnosis has failed. Try again.

2 times

1 time → 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.

Judgment of indoor/outdoor abnormality

Is the error code in the table of indoor unit failure mode recall function? (Refer to indoor unit service manual.)

No → 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. (10-2.4.)

Yes → The indoor unit is abnormal.
Check the error code, and identify the abnormal point by referring to the table of indoor unit failure mode recall function. (Refer to indoor unit service manual.)

B (To next page)

A (To next page)

A (From previous page)

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

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

No (OFF)

The indoor unit is normal, but the outdoor unit might be abnormal.
There are some abnormalities that cannot be recalled with this way.
Check if the outdoor unit is abnormal according to the outdoor unit failure mode recall function. (10-2-2.)

NOTE: It takes up to 1 minute to indicate the outdoor unit abnormality. Even if the OPERATION INDICATOR lamp is not blinking, keep checking at least 1 minute or longer.

Yes (Blinks)

Judgment of indoor/outdoor abnormality

Before blinking, does the upper OPERATION INDICATOR lamp stay ON for 3 seconds?

Yes

No

The indoor unit is abnormal.
Check the blinking pattern, and identify the abnormal point by referring to the table of indoor unit failure mode recall function. (Refer to the indoor unit service manual.) Make sure to check at least 2 consecutive blinking cycles. *2

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. (10-2-4.)
Make sure to check at least 2 consecutive blinking cycles. *3

B (From previous page)

Releasing the failure mode recall function

Release the failure mode recall function by the following procedures.
Turn OFF the power supply and turn it ON again.
Press RESET button of the remote controller.

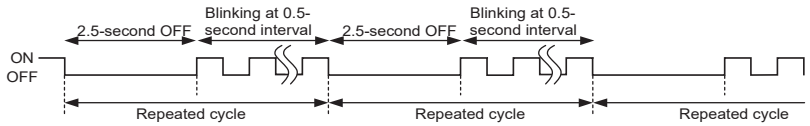
Repair the failure parts.

Deleting the memorized abnormal condition

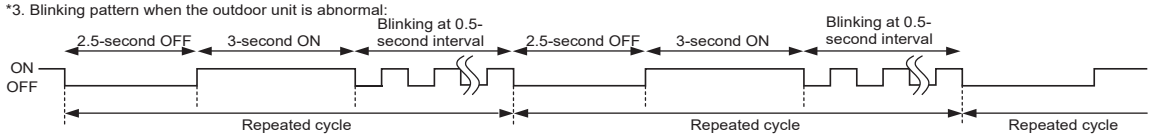
① After repairing the unit, recall the failure mode again according to “Setting up the failure mode recall function” mentioned above.
② Press OFF/ON (stop/operate) button of the remote controller with the remote controller headed towards the indoor unit.
③ Press the emergency operation switch so that the memorized abnormal condition is deleted.
④ Release the failure mode recall function according to “Releasing the failure mode recall function” mentioned above.

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)**

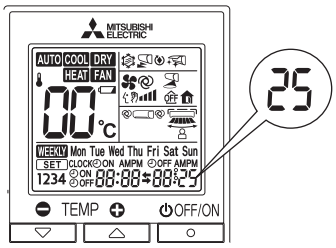


Figure 1

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.

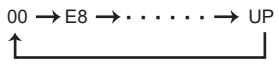


Figure 2

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

The diagnosis has failed.
Try again.

2 times

1 time

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 (10-2.4.).

A (To next page)

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

No (OFF)

The outdoor unit is normal.

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 (10-2.4.).
Make sure to check at least 2 consecutive blinking cycles. *2

A (To next page)

A (From previous page)

Releasing the failure mode recall function

Release the failure mode recall function by the following procedures.
Turn OFF the power supply and turn it ON again.
Press RESET button of the remote controller.

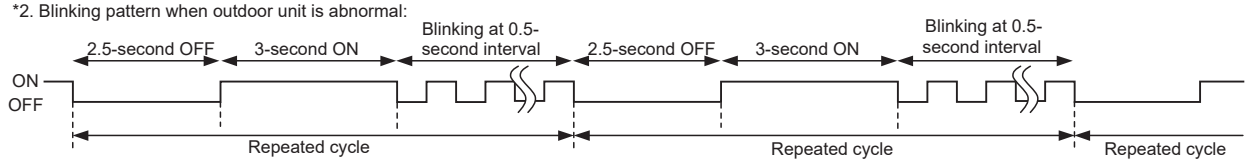
Repair the failure parts.

Deleting the memorized abnormal condition

① After repairing the unit, recall the failure mode again according to “Setting up the failure mode recall function” (10-2.1.).
② Press STOP/OPERATE (OFF/ON) button of the remote controller with the remote controller headed towards the indoor unit.
③ Press EMERGENCY OPERATION switch so that the memorized abnormal condition is deleted.
④ Release the failure mode recall function according to “Releasing the failure mode recall function” mentioned above.

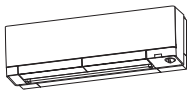
NOTE: 1. Make sure to release the failure mode recall function after it is set up, otherwise the unit cannot operate properly.
2. If the abnormal condition is not deleted from the memory, the last abnormal condition is kept memorized.

*1. Regardless of normal or abnormal condition, 2 short beeps are emitted once the signal is received.
*2. Blinking pattern when outdoor unit is abnormal:



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

The remote controller is powered OFF.

Get close to the front of the indoor unit. Point the remote controller at the receiving section of the indoor unit, and keep pressing CHECK with a fine-tipped object until the beeps. **(Figure 1)**
"00" is shown in the display. **(Figure 2)**

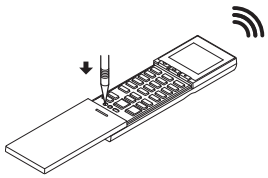


Figure 1

Did the indoor unit beep?
- No, 1st → Get closer to the indoor unit, then try again.
- No, 2nd → Turn off the power of appliances such as fluorescent lamp and TV which might cause noise, then try again. (If the battery replacement indicator lights up, replace the batteries with new ones.)
- Yes

How many beeps?
- 2 times → The indoor unit is normal, but the outdoor unit might be abnormal. There are some abnormalities that cannot be recalled with this way. Check if the outdoor unit is abnormal according to the outdoor unit failure mode recall function. (10-2.2.)
- 1 time → The unit has an error.

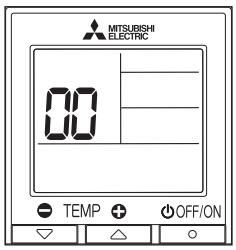


Figure 2

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 3)**
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.

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

How many beeps?
- No beeps → The diagnosis has failed. Try again.
- 2 times → The unit has the error corresponding to the error code.
- 1 time → The unit does not have the error corresponding to the error code shown on the remote controller. Continue checking.

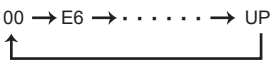


Figure 3

Refer to the error code on the table of indoor unit failure mode recall function (refer to indoor unit service manual) or the table of outdoor unit failure mode recall function (10-2.4).

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 10-5.Ⓜ “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 10-5.Ⓜ “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 10-5.Ⓐ “How to check inverter/ compressor”. • Check stop valve.	○	○
3-time blink 2.5 seconds OFF	U3	Discharge temperature thermistor	1-time blink every 2.5 seconds	Thermistor shorts or opens during compressor running.	• Refer to 10-5.Ⓖ “Check of outdoor thermistors”. Defective outdoor thermistors can be identified by checking the blinking pattern of LED.	○	○
	U4	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	—				
		P.C. board temperature thermistor	4-time blink 2.5 seconds OFF		• Replace the inverter P.C. board.		
4-time blink 2.5 seconds OFF	UF	Overcurrent	11-time blink 2.5 seconds OFF	Large current flows into power module (IC700).	• Reconnect compressor connector. • Refer to 10-5.Ⓐ “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. • Refer to 10-5.Ⓐ “How to check inverter/ compressor”.	—	○
		Compressor start-up failure protection	13-time blink 2.5 seconds OFF	Overcurrent cutoff within 10 seconds after activating the compressor.		—	○
5-time blink 2.5 seconds OFF	U2	Discharge temperature	—	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 10-5.Ⓚ “Check of LEV”.	—	○
6-time blink 2.5 seconds OFF	Ud	High pressure	—	Temperature of outdoor heat exchanger temperature thermistor exceeds 158°F (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 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 10-5.Ⓘ “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 10-5.Ⓘ “Check of outdoor fan motor”. Refer to 10-5.Ⓛ “Check of inverter P.C. board”.	—	○

NOTE: Blinking patterns of this mode differ from the ones of TROUBLESHOOTING CHECK TABLE (10-3.).

NOTE: Blinking patterns of this mode differ from the ones of TROUBLESHOOTING CHECK TABLE (10-3.).

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 10-5.Ⓐ "How to check inverter/ compressor".	—	○
10-time blink 2.5 seconds OFF	U7	Discharge temperature	—	Temperature of discharge temperature thermistor has been 122°F (50°C) or less for 20 minutes.	• Refer to 10-5.Ⓚ "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 10-5.Ⓐ "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 10-5.Ⓞ "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.

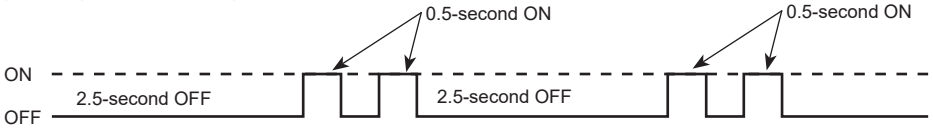
10-3. TROUBLESHOOTING CHECK TABLE

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 10-5.Ⓐ “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 10-5.Ⓔ “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 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 10-5.Ⓜ “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		**FX06/09/12** 14-time blink 2.5 seconds OFF	Outdoor unit (Other abnormality)	Outdoor unit is defective.	• Refer to 10-2.2. “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 10-5.Ⓗ “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 10-5.Ⓞ “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 10-5.Ⓐ “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 10-5.Ⓚ “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) (**FX06/09/12**)/167 - 176°F (75 - 80°C) (**FX15/18/24**) or temperature of P.C. board temperature thermistor on the inverter P.C.board exceeds 162 - 185°F (72 - 85°C) (**FX06/09/12**)/158 - 167°F (70 - 75°C) (**FX15/18/24**).	• Check around outdoor unit. • Check outdoor unit air passage. • Refer to 10-5.Ⓘ “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 10-5.Ⓐ “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 10-5.Ⓘ “Check of outdoor fan motor”. • Refer to 10-5.Ⓛ “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 10-5.Ⓐ “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) (**FX15/18/24**) • Refer to 10-5.Ⓙ “Check of power supply”. (**FX15/18/24**) • Refer to 10-5.Ⓐ “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	**FX06/09/12**	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.
				FX15/18/24	Current from power outlet is nearing breaker capacity.	
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 10-5.Ⓚ “Check of LEV”. • Refer to 10-5.Ⓖ “Check of outdoor thermistors”.
20		**FX06/09/12** 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 10-5.Ⓖ “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 10-5.Ⓚ “Check of LEV”. • Check refrigerant circuit and refrigerant amount.
22		8-time blink 2.5 seconds OFF	**FX06/09/12** 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.
			FX15/18/24 Zero cross detecting circuit	Zero cross signal cannot be detected.		• It occurs with following cases. 1 Instantaneous power voltage drop. (Short time power failure) 2 Distortion of primary voltage • Refer to 10-5.Ⓙ “Check of power supply”.
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 10-5.Ⓐ “How to check inverter/compressor”.

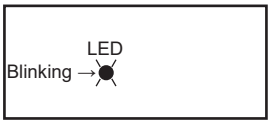
NOTE: 1. The location of LED is illustrated at the right figure. Refer to 10-6.1.
2. LED is lit during normal operation.

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

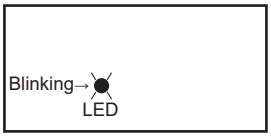


Inverter P.C. board

MUZ-FX06/09/12NLHZ



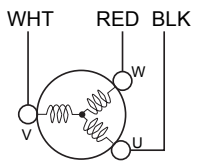
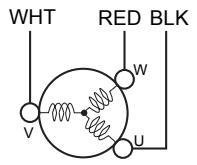
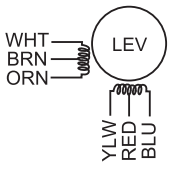
MUZ-FX15/18/24NLHZ



10-4. TROUBLESHOOTING CRITERION OF MAIN PARTS

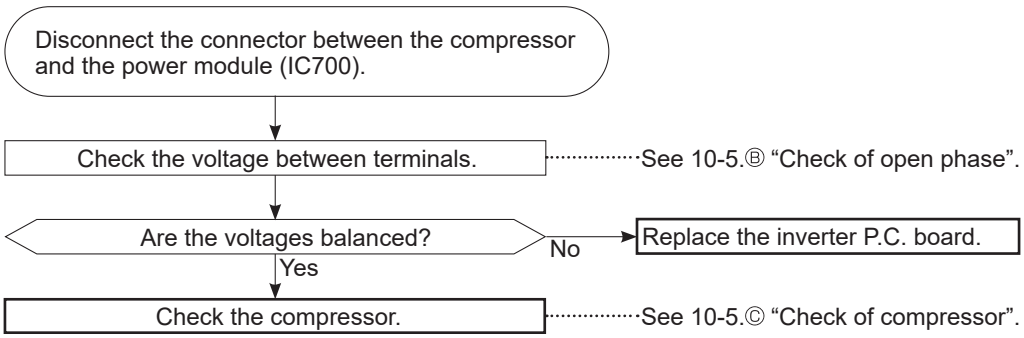
MUZ-FX06NLHZ MUZ-FX09NLHZ MUZ-FX12NLHZ MUZ-FX15NLHZ MUZ-FX18NLHZ MUZ-FX24NLHZ

<table>
<tr><th>Part name</th><th>Check method and criterion</th><th>Figure</th></tr>
<tr><td>Defrost thermistor (RT61)
Fin temperature thermistor (RT64)
Ambient temperature thermistor (RT65)
Outdoor heat exchanger temperature thermistor (RT68)</td><td>Measure the resistance with a multimeter.

Refer to 10-6. “Test point diagram and voltage”, 1. “Inverter P.C. board”, for the chart of thermistor.</td><td></td></tr>
<tr><td>Discharge temperature thermistor (RT62)</td><td>Measure the resistance with a multimeter. Before measurement, hold the thermistor with your hands to warm it up.
Refer to 10-6. “Test point diagram and voltage”, 1. “Inverter P.C. board”, for the chart of thermistor.</td><td></td></tr>
<tr><td>Compressor</td><td>Measure the resistance between terminals using a multimeter.
[Temperature: 14 – 104°F (-10 – 40°C)]
<table>
<tr><th rowspan="2"></th><th colspan="3">Normal (Ω)</th></tr>
<tr><th>MUZ-FX06NLHZ</th><th>MUZ-FX09NLHZ
MUZ-FX12NLHZ
MUZ-FX15NLHZ
MUZ-FX18NLHZ</th><th>MUZ-FX24NLHZ</th></tr>
<tr><td>U-V
U-W
V-W</td><td>1.82 – 2.48</td><td>1.30 – 1.77</td><td>0.60 – 0.82</td></tr>
</table></td><td> 
</td></tr>
<tr><td>Outdoor fan motor</td><td>Measure the resistance between lead wires using a multimeter.
[Temperature: 14 – 104°F (-10 – 40°C)]
<table>
<tr><th rowspan="2">Color of lead wire</th><th colspan="2">Normal (Ω)</th></tr>
<tr><th>MUZ-FX06NLHZ
MUZ-FX09NLHZ
MUZ-FX12NLHZ</th><th>MUZ-FX15NLHZ
MUZ-FX18NLHZ
MUZ-FX24NLHZ</th></tr>
<tr><td>RED – BLK
BLK – WHT
WHT – RED</td><td colspan="2">30 – 46</td></tr>
</table></td><td> 
</td></tr>
<tr><td>R. V. coil (21S4)</td><td>Measure the resistance using a multimeter.
[Temperature: 14 – 104°F (-10 – 40°C)]
<table>
<tr><th>Normal (kΩ)</th></tr>
<tr><td>1.88 - 2.29</td></tr>
</table></td><td></td></tr>
<tr><td>Expansion valve coil (LEV)</td><td>Measure the resistance using a multimeter.
[Temperature: 14 – 104°F (-10 – 40°C)]
<table>
<tr><th>Color of lead wire</th><th>Normal (Ω)</th></tr>
<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>
</table></td><td> 
</td></tr>
<tr><td>Defrost heater</td><td>Measure the resistance using a multimeter.
[Temperature: 14 – 104°F (-10 – 40°C)]
<table>
<tr><th colspan="2">Normal (Ω)</th></tr>
<tr><th>MUZ-FX06NLHZ
MUZ-FX09NLHZ
MUZ-FX12NLHZ</th><th>MUZ-FX15NLHZ
MUZ-FX18NLHZ
MUZ-FX24NLHZ</th></tr>
<tr><td>802 – 990</td><td>396 – 461</td></tr>
</table></td><td></td></tr>
</table>

10-5. TROUBLESHOOTING FLOW

Ⓐ How to check inverter/compressor



Ⓑ Check of open phase

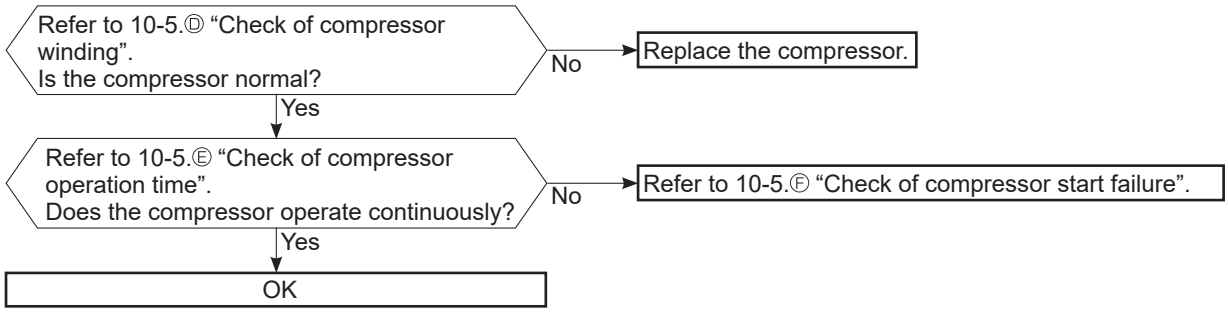
- With the connector between the compressor and the power module (IC700) disconnected, activate the inverter and check if the inverter is normal by measuring **the voltage balance** between the terminals.

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 7-6.)
<<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 10-6.1.)

Ⓒ Check of compressor



Ⓓ 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 10-4.

0 [Ω] ·····Abnormal [short]

Infinite [Ω] ·····Abnormal [open]

NOTE: Be sure to zero the ohmmeter before measurement.

Ⓔ Check of compressor operation time

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

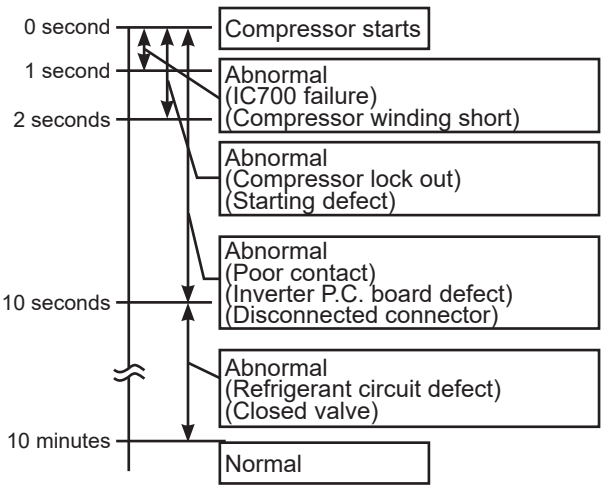
<<Operation method>>

Start heating or cooling operation by pressing the emergency operation switch on the indoor unit. (TEST RUN OPERATION: Refer to 7-6.)

<<Measurement>>

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

<<Judgement>>



Ⓕ 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 10-5.Ⓑ)
③. Direct current voltage between DB61(+) and (-) (**FX06/09/12**)/IC700(P) and (N) (**FX15/18/24**) on the inverter P.C. board
④. Voltage between outdoor terminal block S1-S2

Does the compressor run for 10 seconds or more after it starts?

Yes → Check the refrigerant circuit. Check the stop valve.

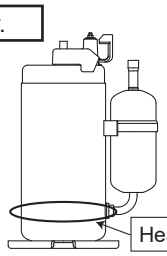
No

After the compressor is heated with a drier, does the compressor start? *1

No → Replace the compressor.

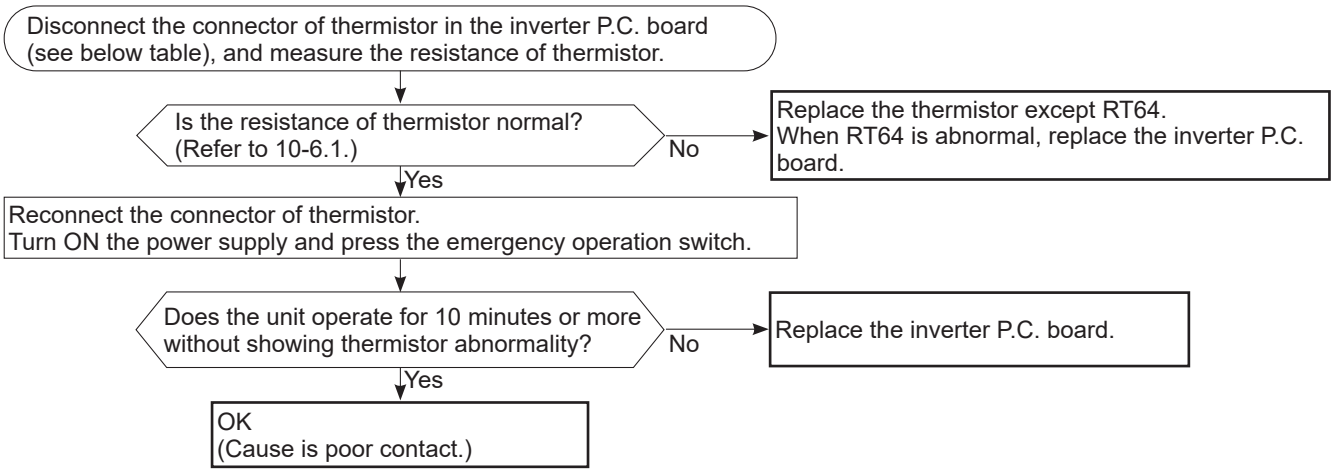
Yes

Compressor start failure. Activate pre-heat control. (Refer to 9-2. “PRE-HEAT CONTROL SETTING”)



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

Ⓖ Check of outdoor thermistors



MUZ-FX06/09/12

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	

MUZ-FX15/18/24

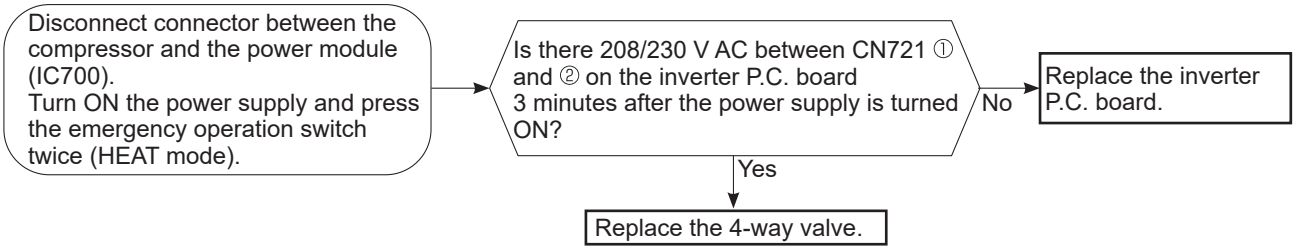
Thermistor	Symbol	Connector, Pin No.	Board
Defrost	RT61	Between CN671 pin1 and pin2	Inverter P.C. board
Discharge temperature	RT62	Between CN671 pin3 and pin4	
Fin temperature	RT64	Between CN673 pin1 and pin2	
Ambient temperature	RT65	Between CN672 pin1 and pin2	
Outdoor heat exchanger temperature	RT68	Between CN671 pin5 and pin6	

Ⓗ Check of R.V. coil

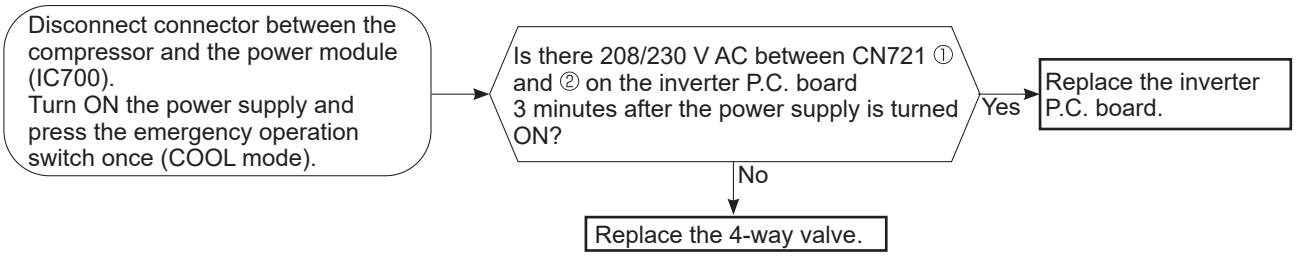
MUZ-FX06/09/12

* First of all, measure the resistance of R.V. coil to check if the coil is defective. Refer to 10-4.
* 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.



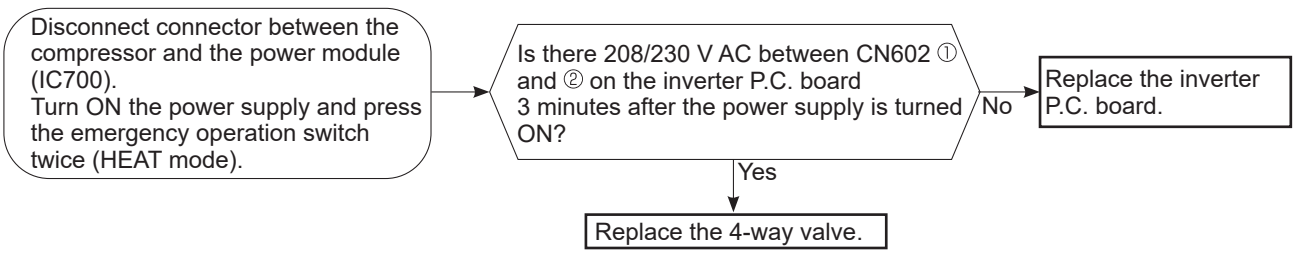
Unit operates in HEAT mode even if it is set to COOL mode.



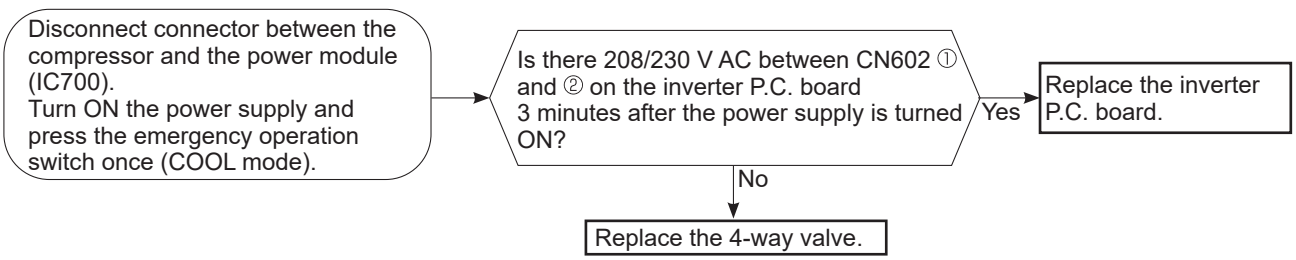
MUZ-FX15/18/24

* First of all, measure the resistance of R.V. coil to check if the coil is defective. Refer to 10-4.
* In case CN602 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 CN602 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.



Ⓘ 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 10-4.)

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(-)

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

(Fixed to either 5 or 0 V DC)

No

Yes

Does the outdoor fan motor rotate smoothly?

No

Yes

Replace the outdoor fan motor.

Replace the inverter P.C. board.

Ⓙ 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.

Does the left lamp of the OPERATION INDICATOR lamp on the indoor unit light up?

No

Is there voltage 208/230 V AC between the indoor terminal block S1 and S2?

No

Replace the indoor electronic control P.C. board.

Yes

Rectify indoor/outdoor connecting wire.

Yes

Is there bus-bar voltage 260 - 370 V DC between DB61 (+) and DB61 (–) (**FX06/09/12**)/294 - 370 V DC between IC700 (P) and (N) (**FX15/18/24**) on the inverter P.C. board? (Refer to 10-6.1.)

Yes

Does LED on the inverter P.C. board light up or blink? (Refer to 10-6.1.)

No

Replace the inverter P.C. board.

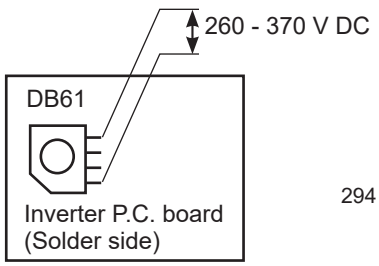
Yes

If lights up, OK.
If blinks, refer to 10-3.

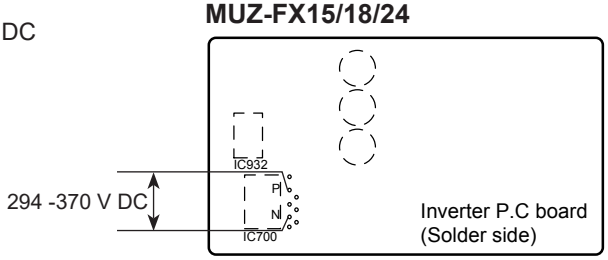
No

Check the electric parts in main circuit.

MUZ-FX06/09/12

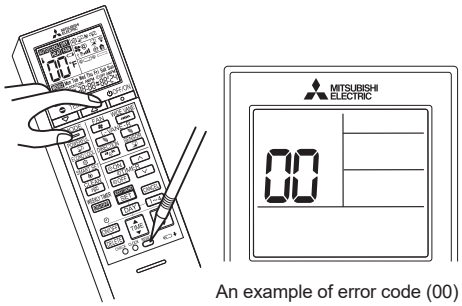


MUZ-FX15/18/24



Ⓚ Check of LEV (Expansion valve)

Turn ON the power supply.
<Preparation of the remote controller>
① While pressing both Operation select button and TEMP ⊕ 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 10-4.)
- No → Replace the LEV coil.
- Yes →

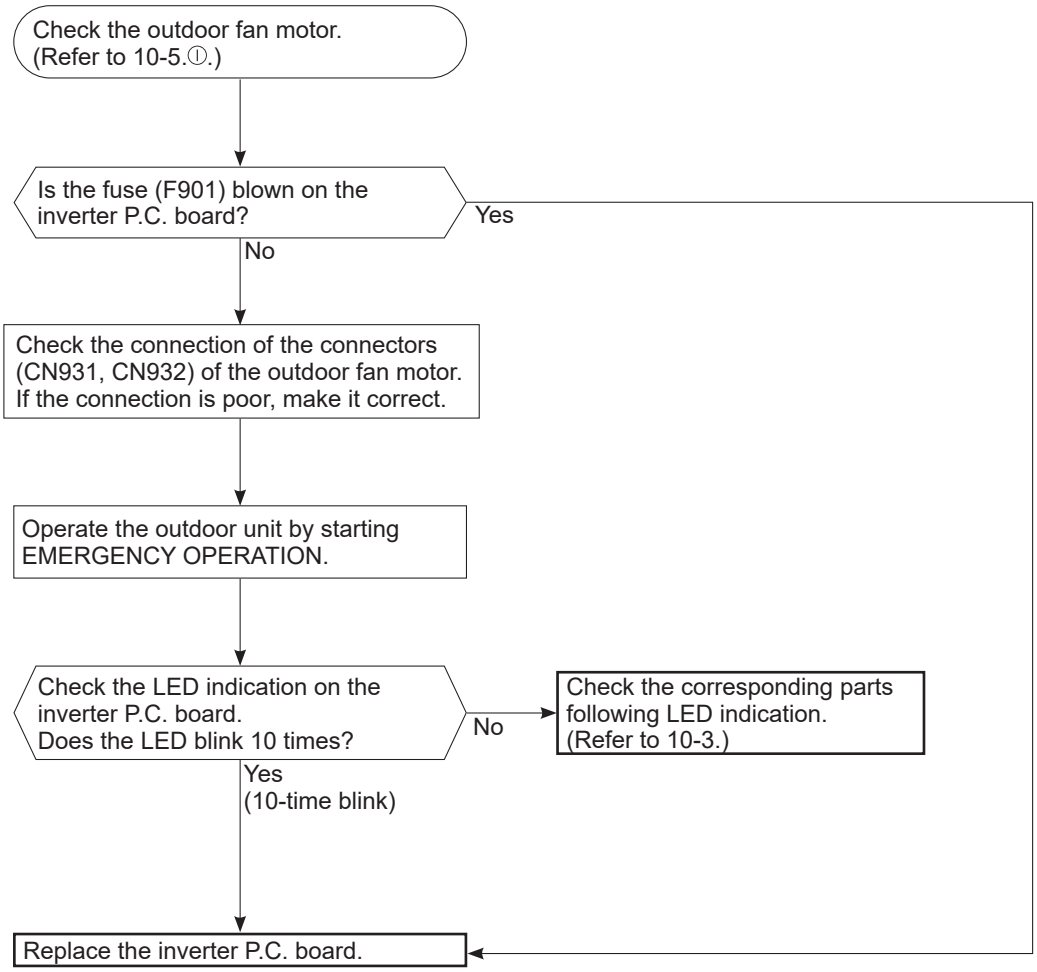
Measure each voltage between connector pins of CN724 on the inverter P.C. board.
1. Pin③(-) — Pin①(+)
2. Pin④(-) — Pin①(+)
3. Pin⑤(-) — Pin①(+)
4. Pin⑥(-) — Pin①(+)

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.

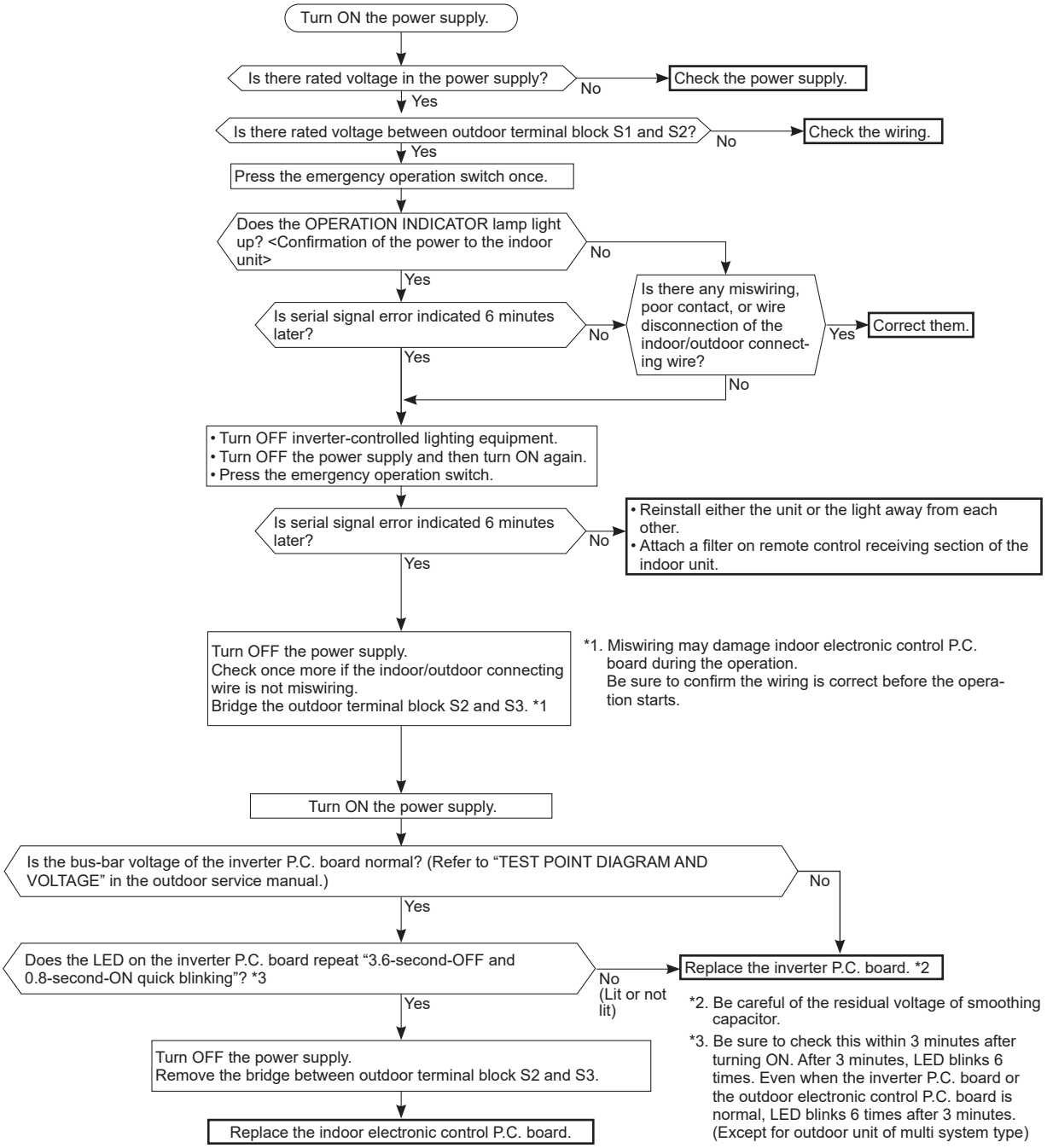
*1. Regardless of normal or abnormal condition, a short beep is emitted once the signal is received.

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.

Ⓛ Check of inverter P.C. board

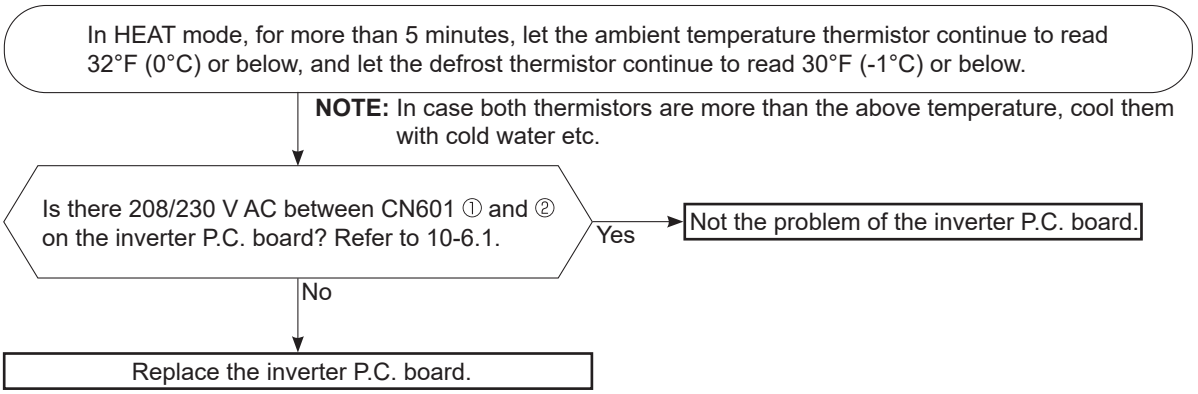


Ⓜ How to check miswiring and serial signal error

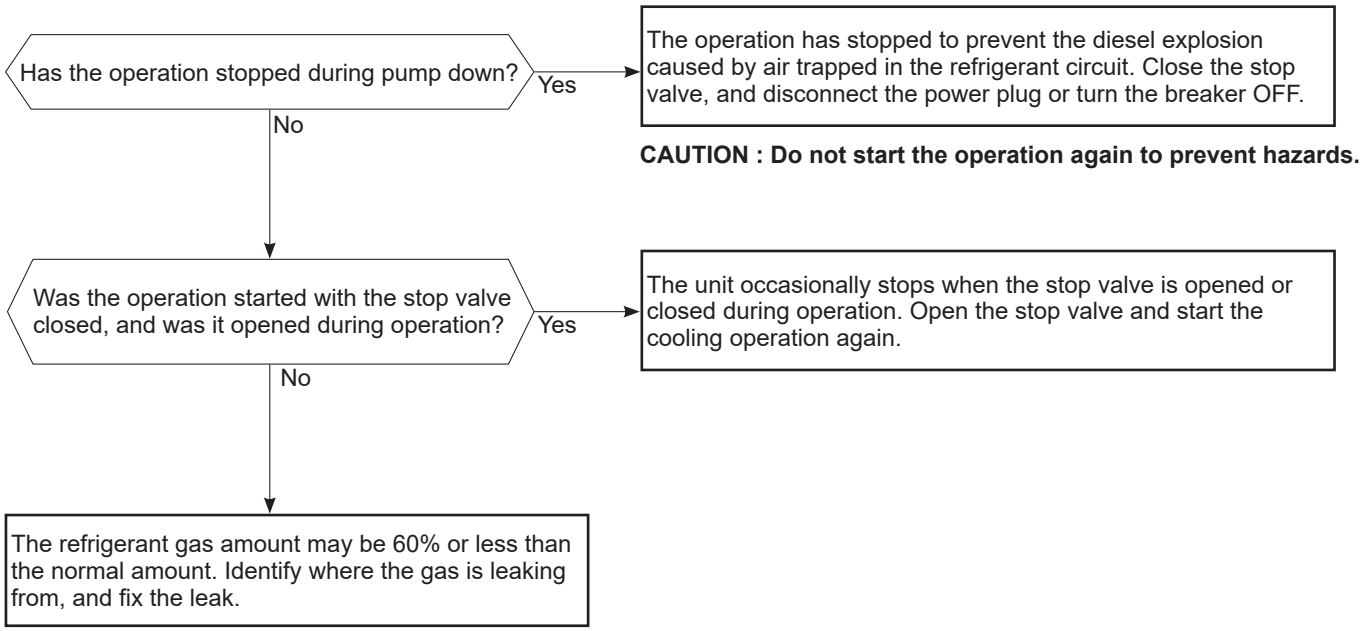


Ⓝ Check of defrost heater

Check the following points before checking electric continuity.
1. Does the resistance of ambient temperature thermistor have the characteristics? Refer to 10-6.1.
2. Is the resistance of defrost heater normal? Refer to 10-4.
3. Does the heater protector remain conducted (not open)?
4. Are both ambient temperature thermistor and circuit of defrost heater securely connected to connectors?

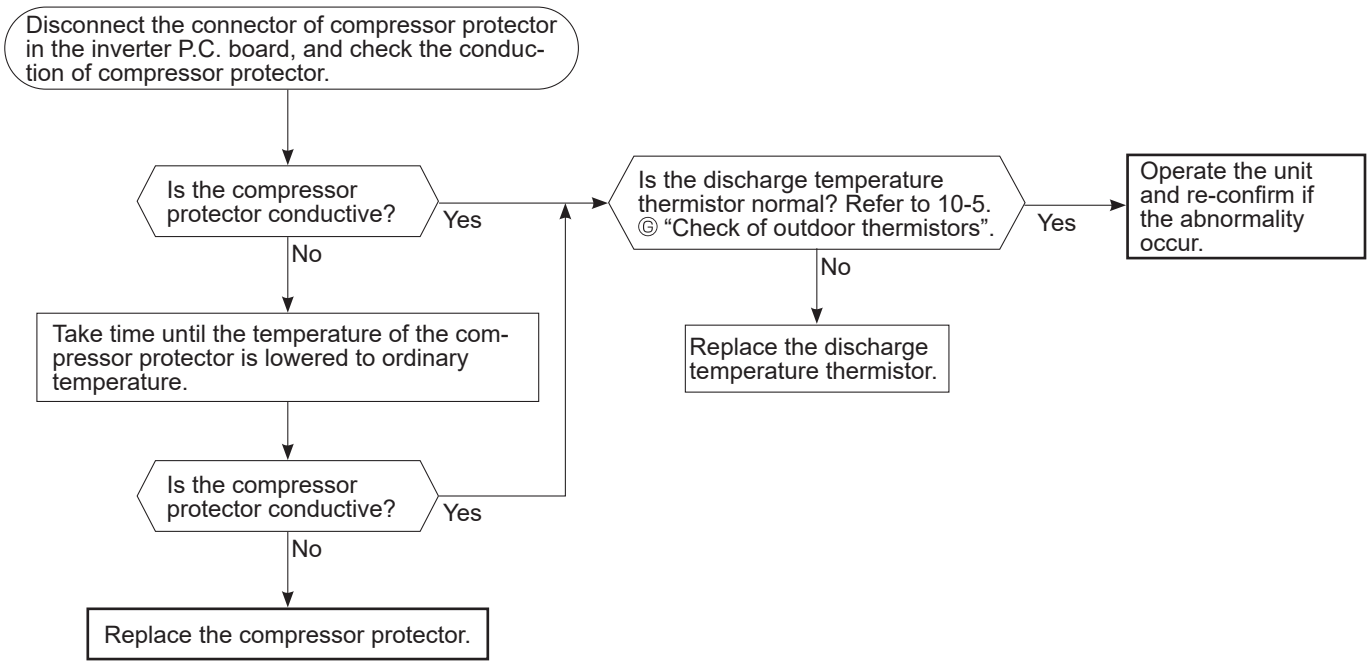


Ⓞ Check of outdoor refrigerant circuit

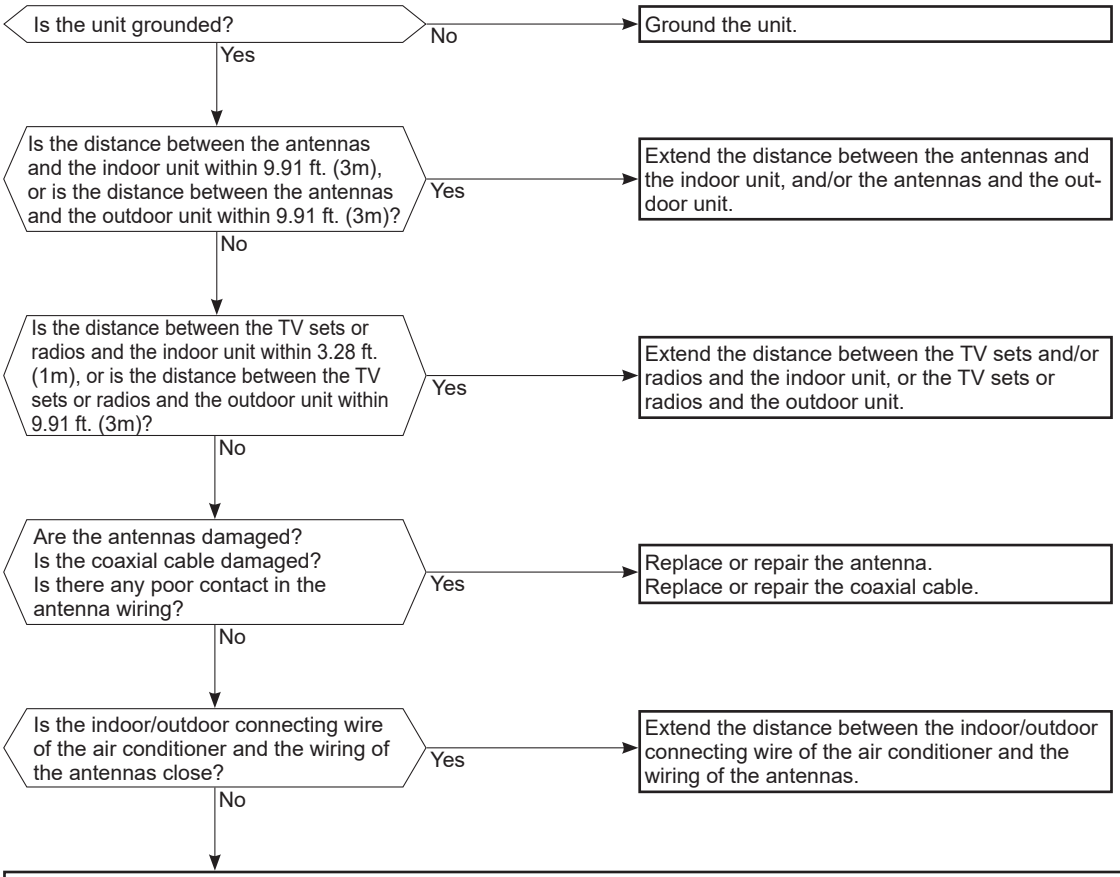


CAUTION : Do not start the operation again to prevent hazards.

Ⓟ Check 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.

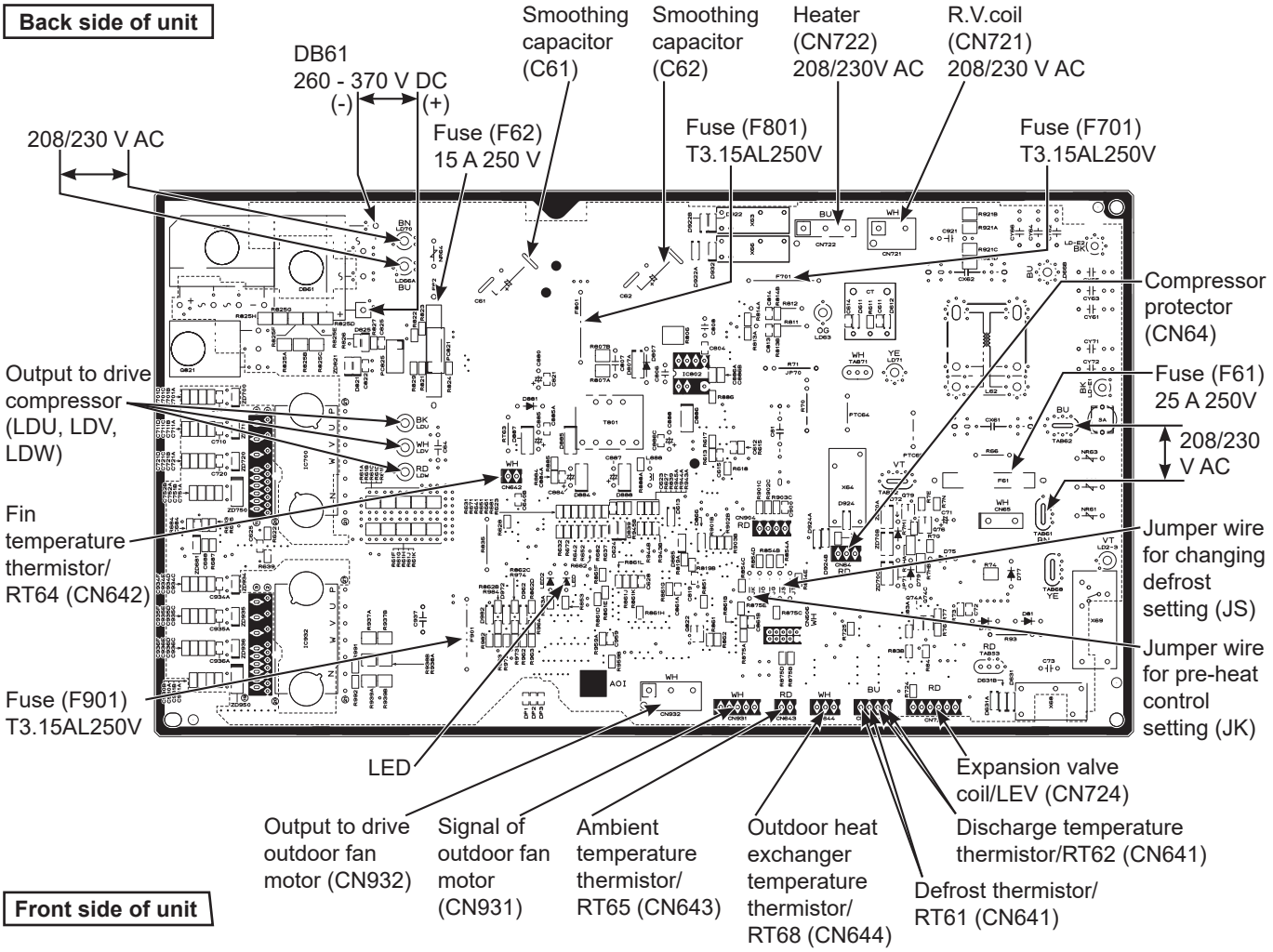
1. Devices affected by the electromagnetic noise
   TV sets, radios (FM/AM broadcast, shortwave)
2. Channel, frequency, broadcast station affected by the electromagnetic noise
3. Channel, frequency, broadcast station unaffected by the electromagnetic noise
4. Layout of:
   indoor/outdoor unit of the 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.

10-6. TEST POINT DIAGRAM AND VOLTAGE

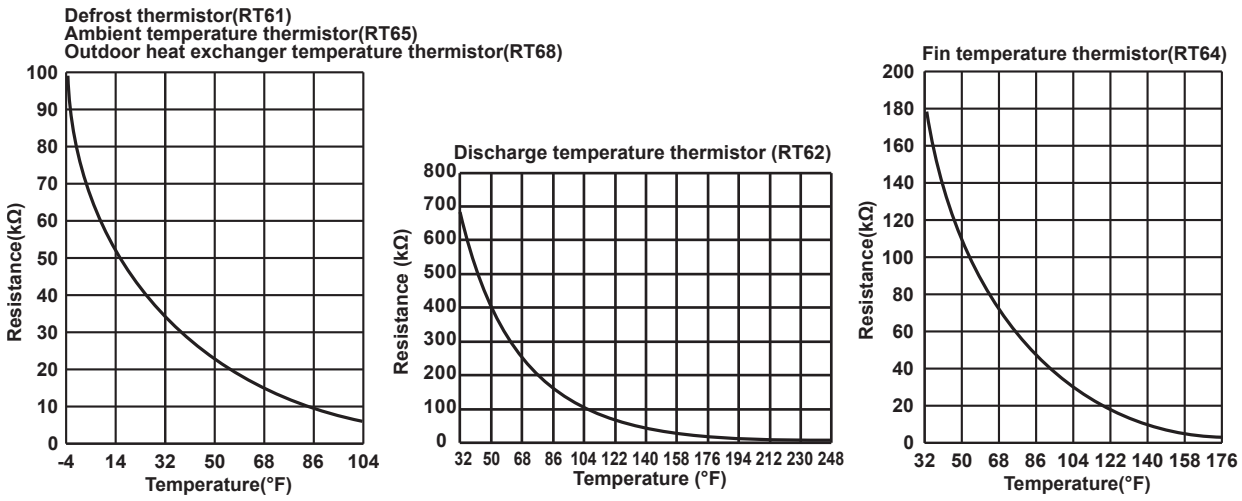
1. Inverter P.C. board

MUZ-FX06NLHZ
MUZ-FX09NLHZ
MUZ-FX12NLHZ

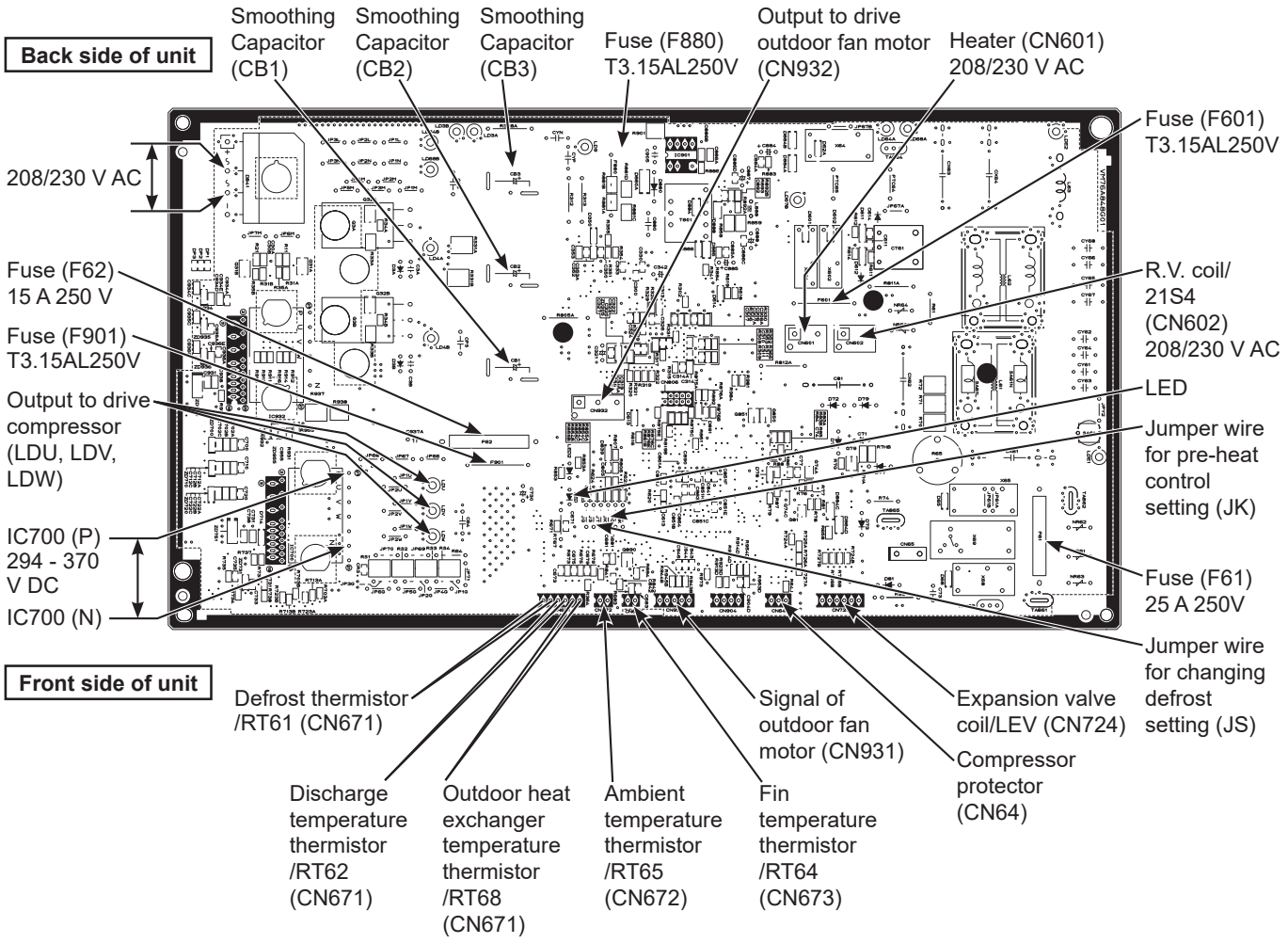
Back side of unit

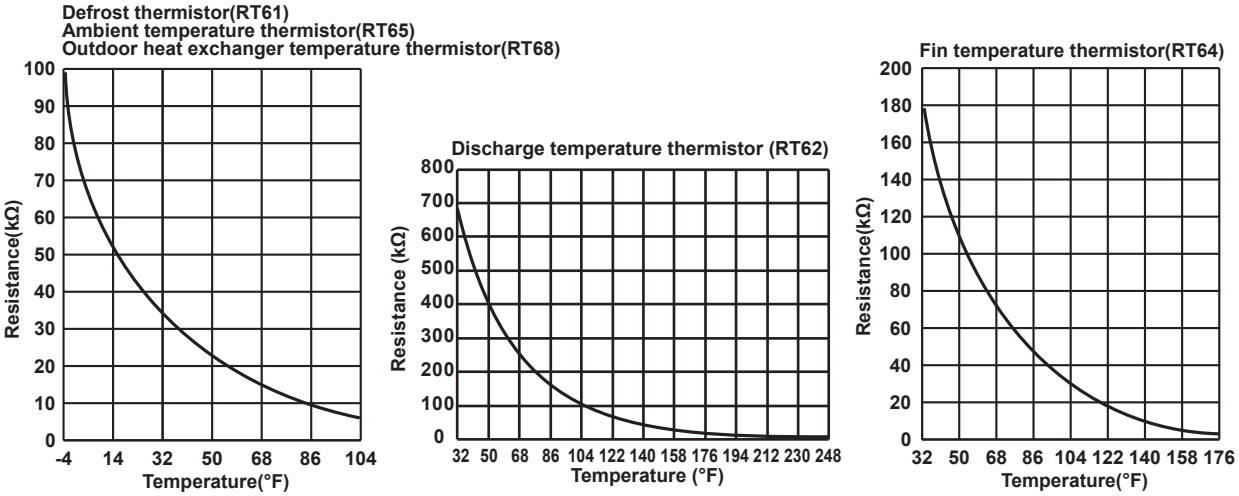


Front side of unit



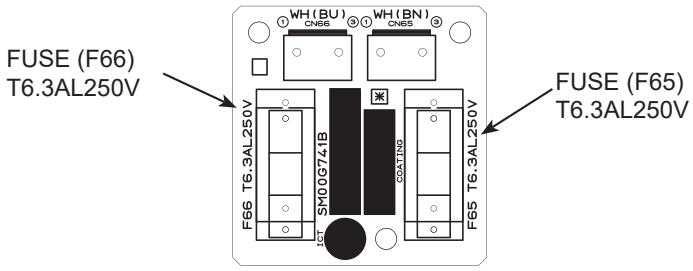
MUZ-FX15NLHZ
MUZ-FX18NLHZ
MUZ-FX24NLHZ





2. Fuse P.C. board

MUZ-FX15NLHZ
MUZ-FX18NLHZ
MUZ-FX24NLHZ

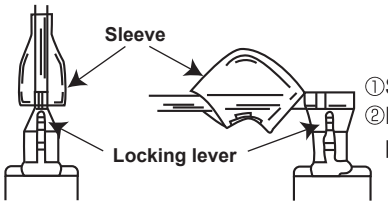


11 DISASSEMBLY INSTRUCTIONS

<Detaching method of the terminal with locking mechanism>

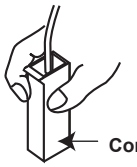
The terminal which has the locking mechanism can be detached as shown below.
There are 2 types of the terminal with locking mechanism.
The terminal without locking mechanism can be detached by pulling it out.
Check the shape of the terminal before detaching.

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



①Slide the sleeve.
②Pull the terminal while pushing the locking lever.

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



①Hold the sleeve, and pull out the terminal slowly.

11-1. MUZ-FX06NLHZ MUZ-FX09NLHZ MUZ-FX12NLHZ

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

NOTE: Turn OFF the power supply before disassembly.

OPERATING PROCEDURE

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)

PHOTOS/FIGURES

Photo 1

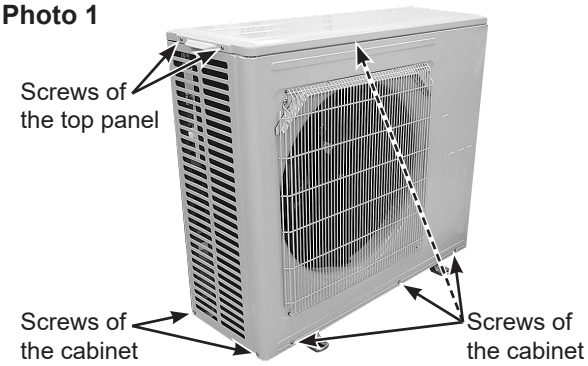


Photo 2

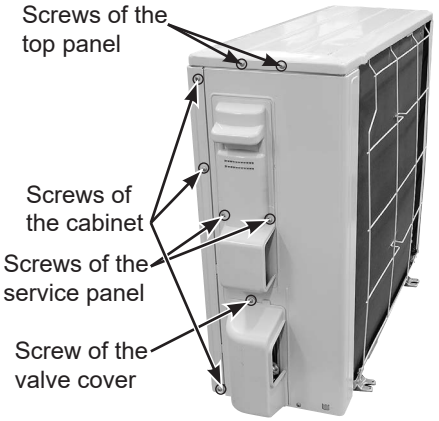


Photo 3

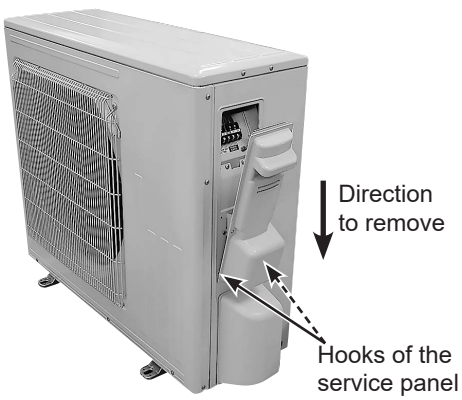


Photo 4

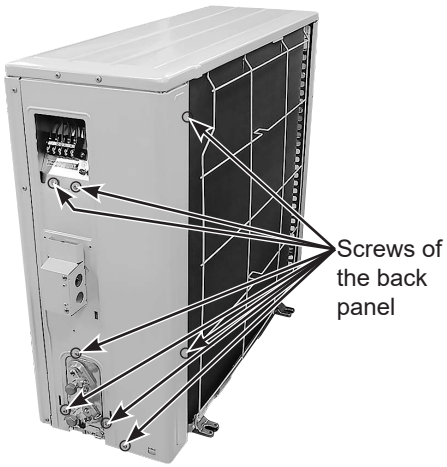
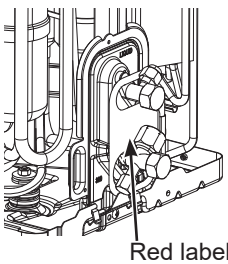
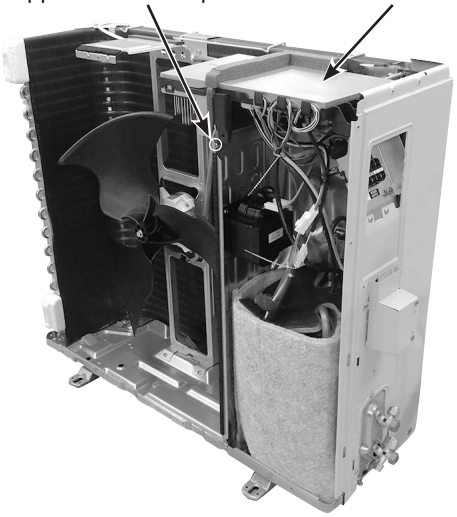
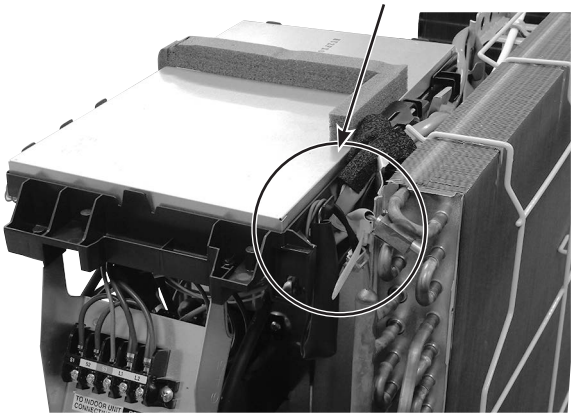


Figure 1



OPERATING PROCEDURE	PHOTOS/FIGURES
Photo 5 Screws of the conduit cover (These screws are different shape from the other screws. Do not mix them with the other screws.) 	**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) CN722 (Defrost heater and heater protector) 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 9) (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 10)	**Photo 7** Screw of the heat sink support and the separator PB cover  **Photo 8** Lead wires of the defrost heater 

OPERATING PROCEDURE

*** Connection procedure when attaching the inverter P.C. board (Photo 11)**

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 11.
4. Hook the lead wires of the defrost heater and the heater protector. (Photo 8)

PHOTOS/FIGURES

Photo 11

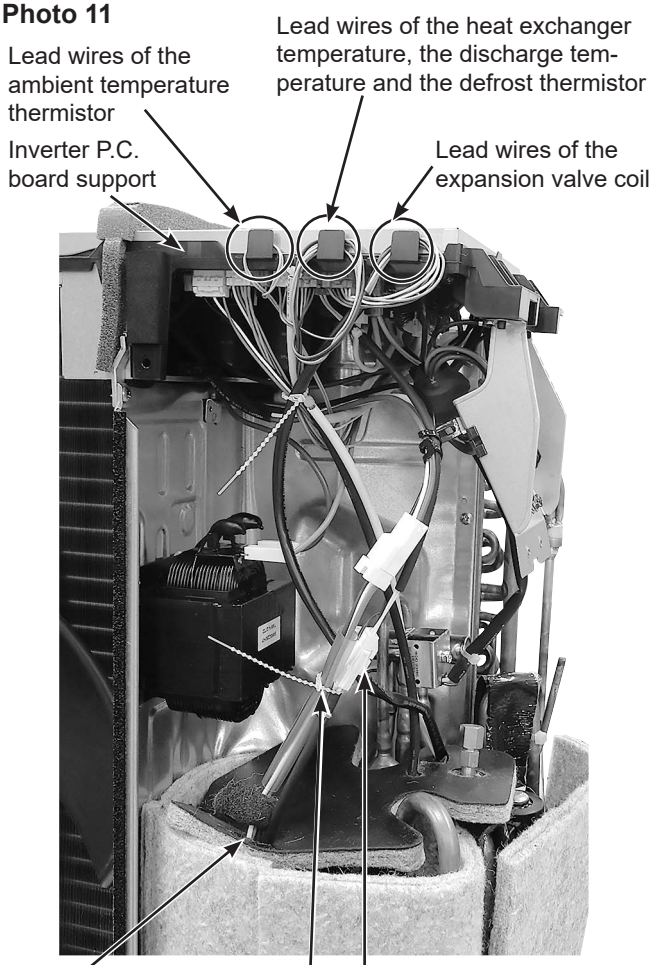


Photo 9 (Inverter assembly)

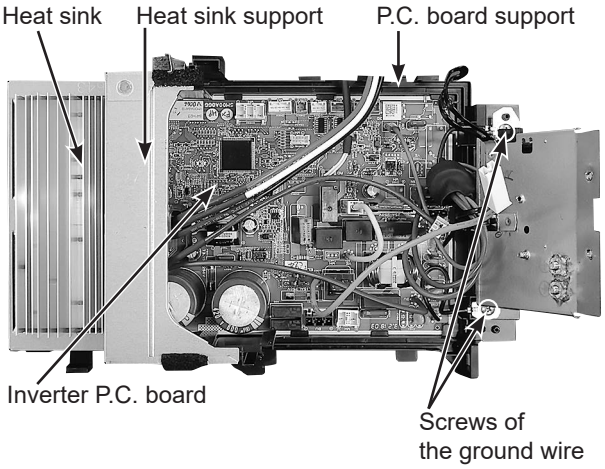
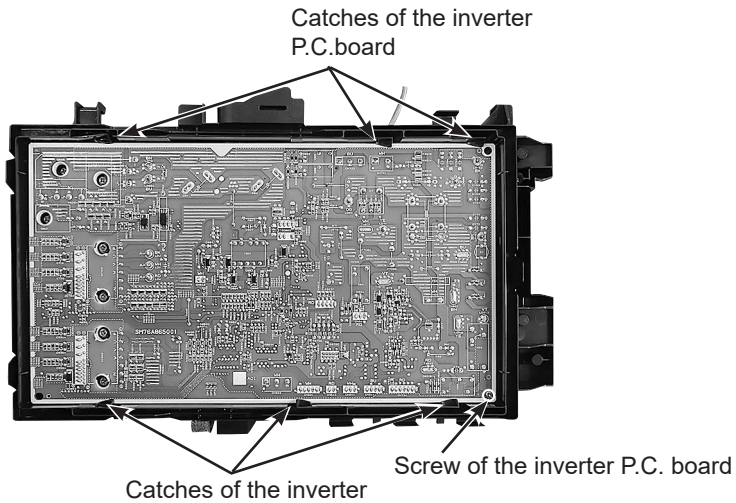
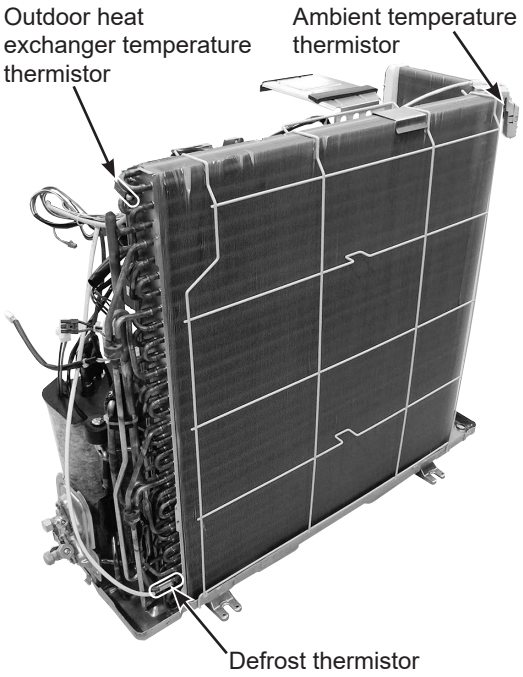
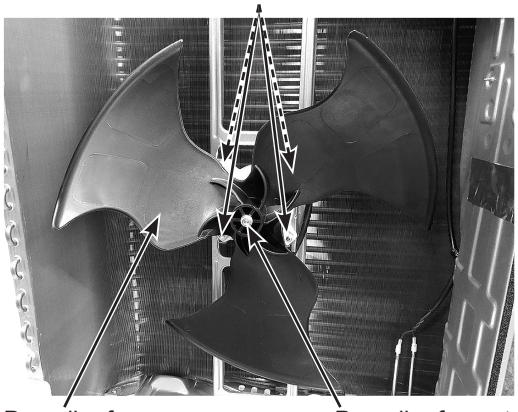
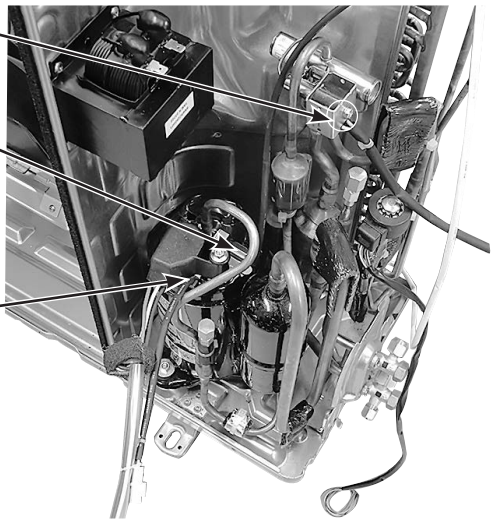
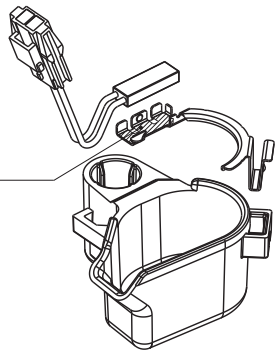
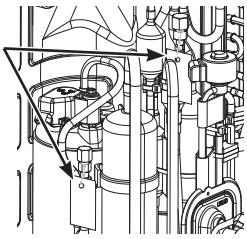


Photo 10



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 14) (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 12** 
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 13** 

OPERATING PROCEDURE	PHOTOS/FIGURES
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.	**Photo 14** Screw of the R.V. coil Discharge temperature thermistor Compressor protector 
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)	**Photo 15** Discharge pipe brazed part  Suction pipe brazed part Brazed parts of 4-way valve
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. 	**Figure 3** Red labels 

11-2. MUZ-FX15NLHZ MUZ-FX18NLHZ MUZ-FX24NLHZ

NOTE: Turn OFF the power supply before disassembly.

OPERATING PROCEDURE

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 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)

PHOTOS/FIGURES

Photo 2

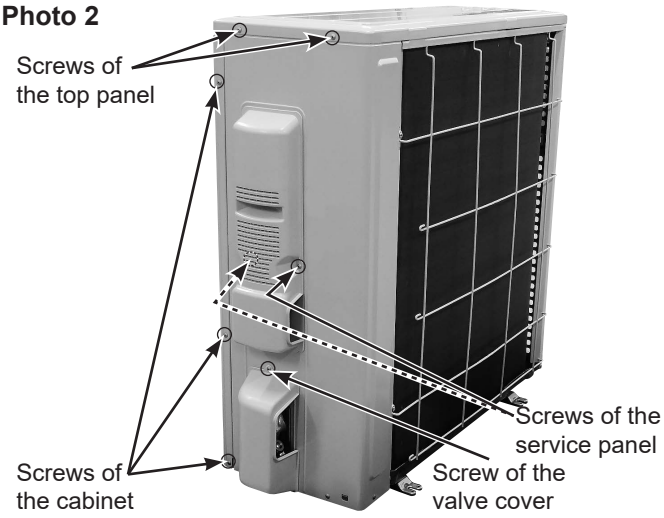


Photo 3

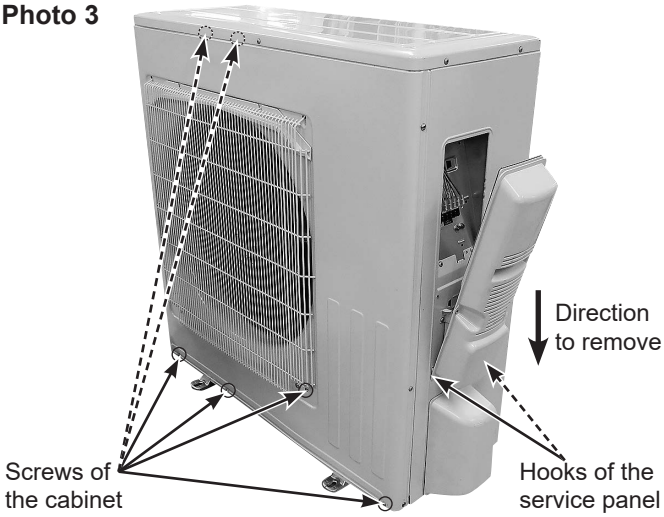


Photo 1

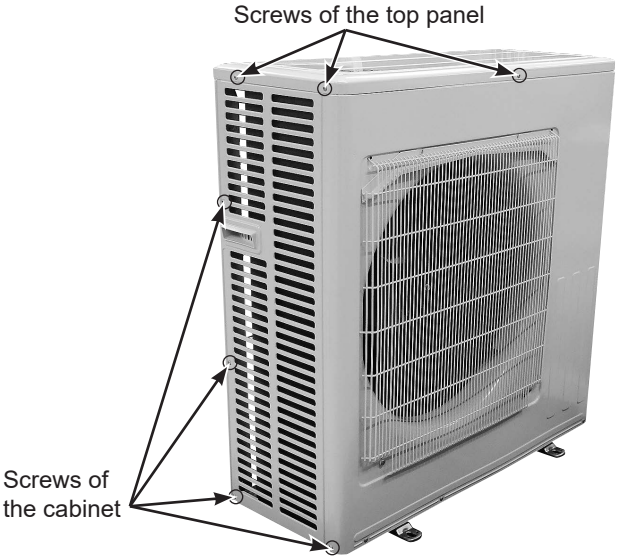


Photo 4

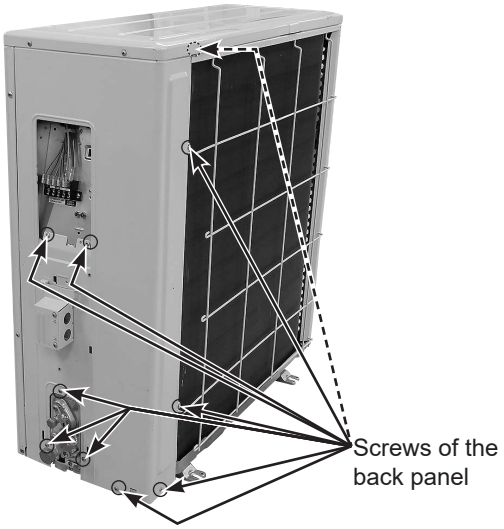
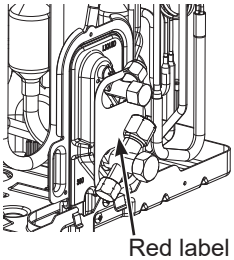
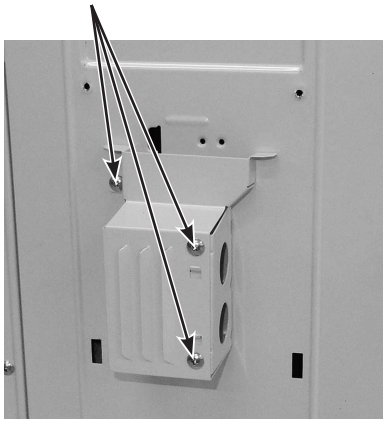


Figure 1



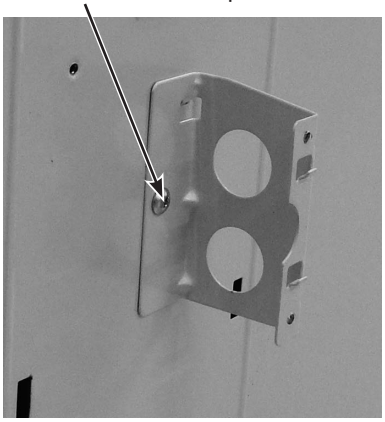
OPERATING PROCEDURE

Photo 5 Screws of the conduit cover



PHOTOS/FIGURES

Photo 6 Screw of the conduit plate



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

2-1. Removing the inverter assembly and 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>
CN602 (R.V. coil)
CN931, CN932 (Fan motor)
CN671 (Defrost thermistor, discharge temperature thermistor and outdoor heat exchanger temperature thermistor)
CN672 (Ambient temperature thermistor)
CN724 (Expansion valve coil)
CN601 (Defrost heater and heater protector)
CN64 (Compressor protector)
(3) Remove the compressor connector (CN61).
(4) Remove the screws fixing the heat sink support and the separator.
(5) Remove the screws fixing the P.C. board support and the motor support.
(6) Remove the inverter assembly.
(7) Remove the screws of the ground wires and the terminal block support.
(8) Remove the screw of the heat sink support, and the heat sink support from the P.C. board support.

Photo 7

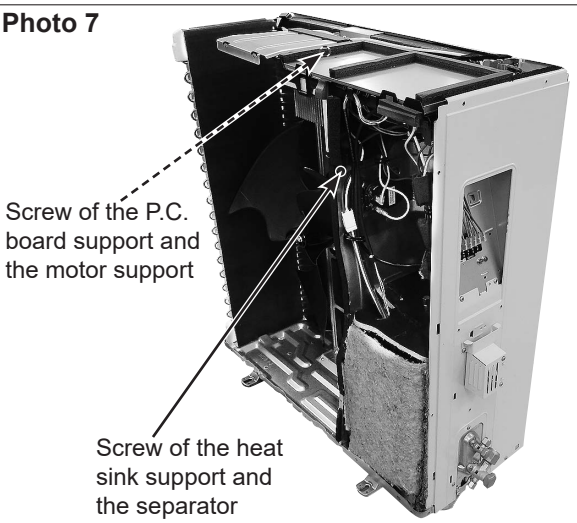
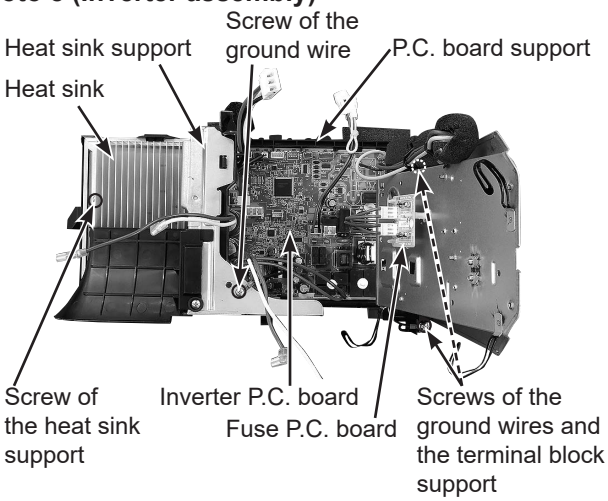


Photo 8 (Inverter assembly)

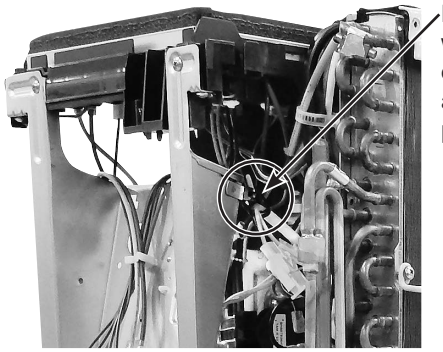


OPERATING PROCEDURE

*** Connection procedure when attaching the inverter P.C. board (Photo 8, 9, 10, 11, 12)**

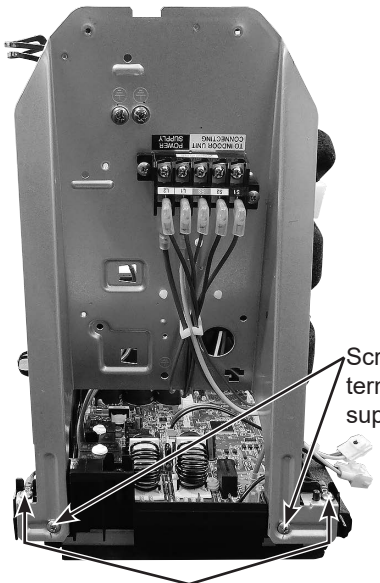
1. Attach the heat sink support to the P.C. board support.
2. Hook the lead wires of the compressor, the reactor and the P.C. board to each hooks on the heat sink support as shown in Photo 11.
3. Connect the lead wires of the expansion valve coil to the connector on the inverter P.C. board. Pull the lead wires of the expansion valve coil toward you and put them on the left hook on the P.C. board support as shown in Photo 12.
4. Hook the lead wires of the compressor, fuse P.C. board, discharge temperature thermistor, defrost thermistor and expansion valve coil to each hook and tighten the wires with the fastener as shown in Photo 12.
5. Hook the lead wires of the defrost heater and the heater protector. (Photo 9)

Photo 9



Hook of the lead wires of the defrost heater and the heater protector.

Photo 10



Screws of the terminal block support

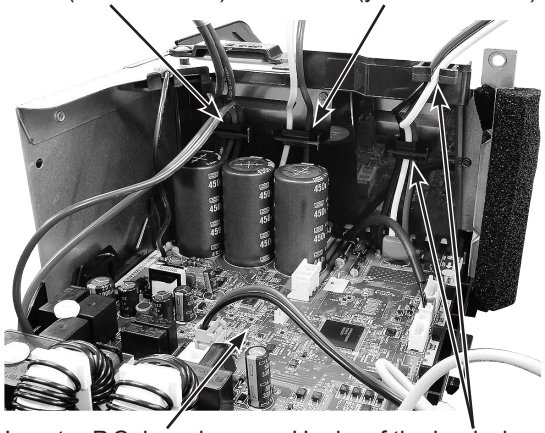
Screws of the ground wires and the terminal block support

PHOTOS/FIGURES

Photo 11

Hook of the lead wires of the P.C. board (red and blue) and reactor (white and red)

Hook of the lead wires of the reactor (yellow and blue)



Inverter P.C. board

Hooks of the lead wires of the compressor

Photo 12

Lead wires of the expansion valve coil

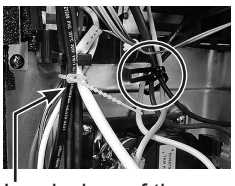
Hooks of the lead wire of the R.V. coil

Inverter P.C. board support

Hook of the lead wires of the compressor, discharge temperature thermistor, defrost thermistor and the compressor protector

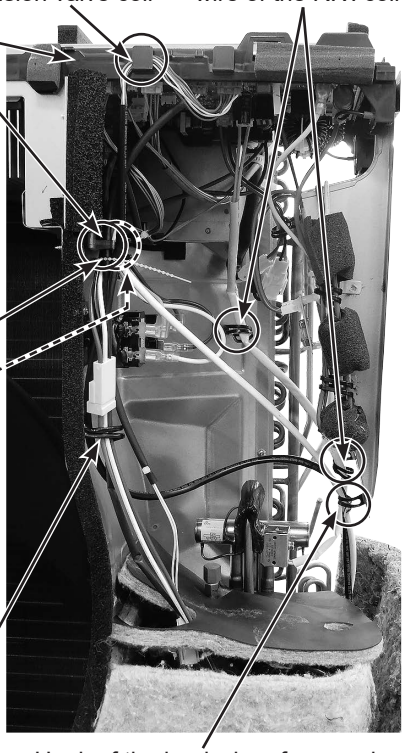
Fastener

Hook of the lead wires of the reactor

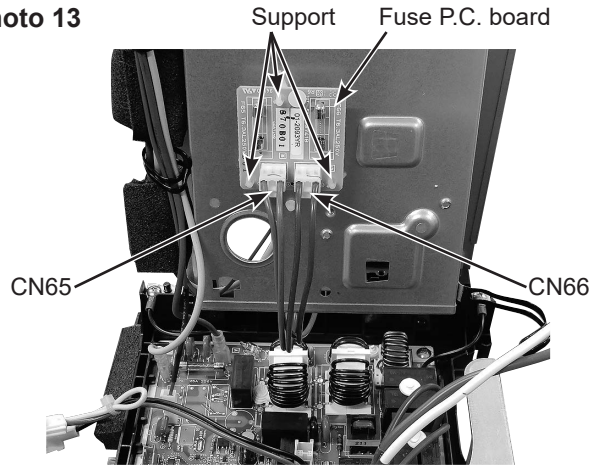
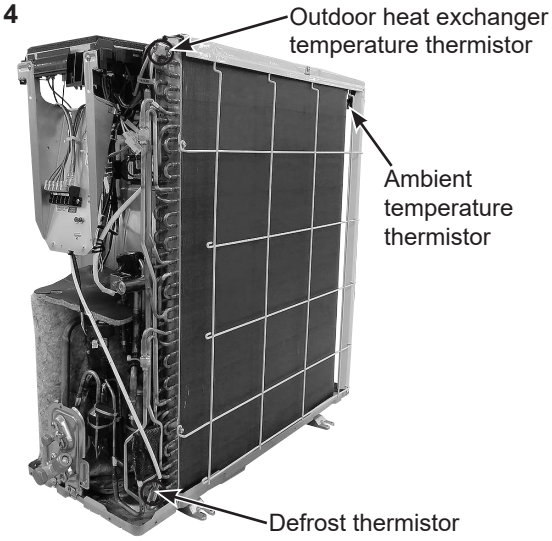


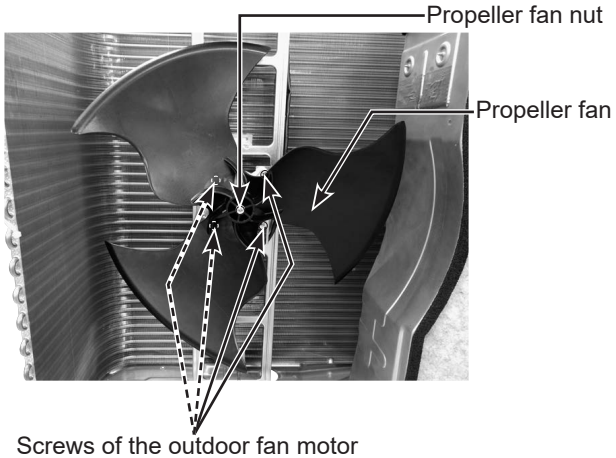
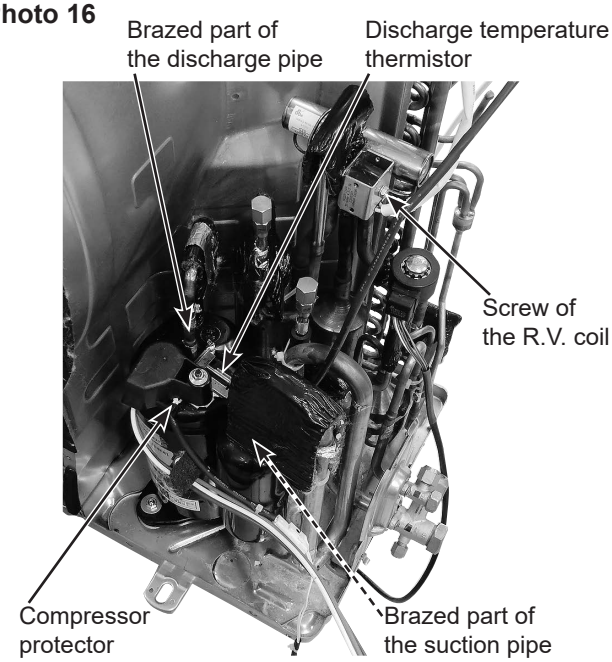
Lead wires of the expansion valve coil

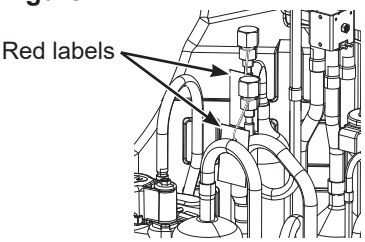
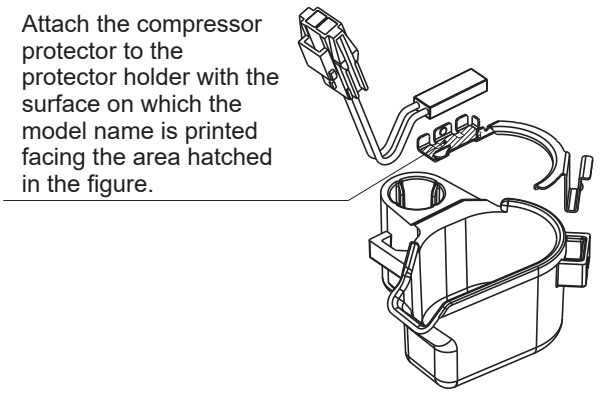
Hook of the lead wires of the compressor, the discharge temperature thermistor and the compressor protector



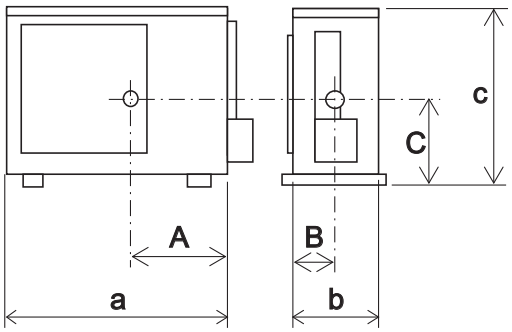
Hook of the lead wire of expansion valve coil and defrost thermistor

OPERATING PROCEDURE	PHOTOS/FIGURES
2-2. Removing the fuse 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 inverter P.C. board connectors. (Refer to section 2-1. (2)) (3) Remove the compressor connector (CN61). (4) Remove the screws fixing the heat sink support and the separator. (5) Remove the screws fixing the P.C. board support and the motor support. (6) Remove the fixing screws of the terminal block support and the back panel. (7) Remove the inverter assembly. (8) Remove the following disconnected connectors: <Fuse P.C. board> CN65, CN66 (Terminal block) (9) Remove the fuse P.C. board from the supports.	**Photo 13**  Pinch the stopper of the support, and push it into the hole to remove the fuse P.C. board.
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> CN671 (Defrost thermistor, discharge temperature thermistor and outdoor heat exchanger temperature thermistor) CN672 (Ambient temperature thermistor) (3) Pull out the discharge temperature thermistor from its holder. (Photo 16) (4) Pull out the defrost thermistor from its holder. (5) Pull out the outdoor heat exchanger temperature thermistor from its holder. (Photo 14) (6) Pull out the ambient temperature thermistor from its holder.	**Photo 14** 

OPERATING PROCEDURE	PHOTOS/FIGURES
4. 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.	**Photo 15** 
5. Removing R. V. coil (1) Remove the cabinet and panels. (Refer to section 1.) (2) Disconnect the following connectors: <Inverter P.C. board> CN602 (R.V. coil) (3) Remove the R.V. coil.	**Photo 16** 

OPERATING PROCEDURE	PHOTOS/FIGURES
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. (Photo 16) (8) Remove the compressor nuts. (9) Remove the compressor. (10) Detach the brazed parts of 4-way valve and pipe. **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 2)	**Photo 17**  **Figure 2**  **Figure 3** 

12 POSITION OF THE CENTER OF GRAVITY



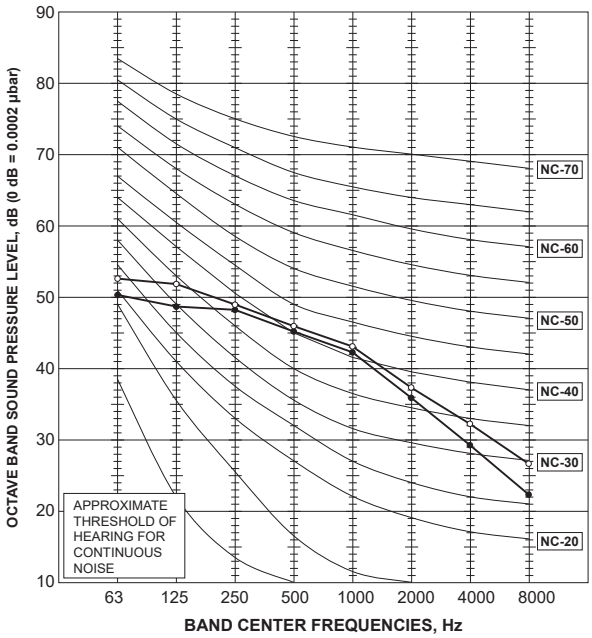
Unit: inch (mm)

Model name	A	B	C	a	b	c
MUZ-FX06NLHZ **MUZ-FX09NLHZ** **MUZ-FX12NLHZ**	11-1/16 (280)	5-9/16 (140)	13-3/8 (340)	31-1/2 (800)	11-1/4 (285)	28-1/8 (714)
MUZ-FX15NLHZ **MUZ-FX18NLHZ** **MUZ-FX24NLHZ**	13 (330)	5-29/32 (150)	15-11/32 (390)	33-1/16 (840)	13 (330)	34-5/8 (880)

13 NOISE CRITERION CURVES

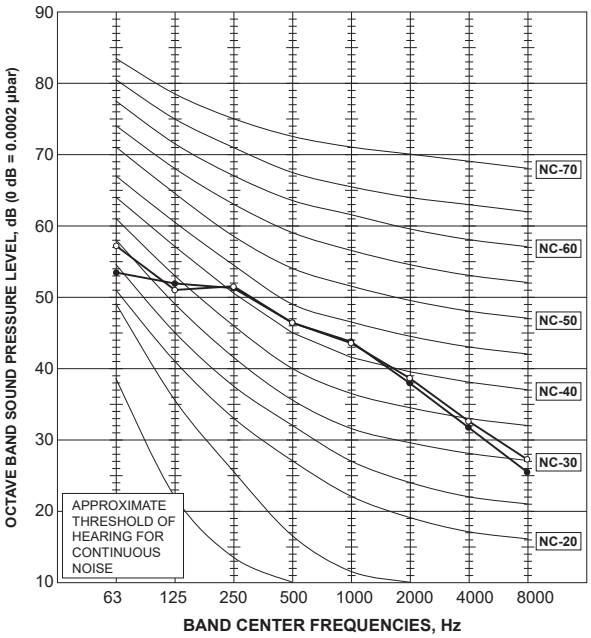
MUZ-FX06NLHZ

NOTCH	SPL(dB(A))	LINE
COOLING	47	●—●
HEATING	48	○—○



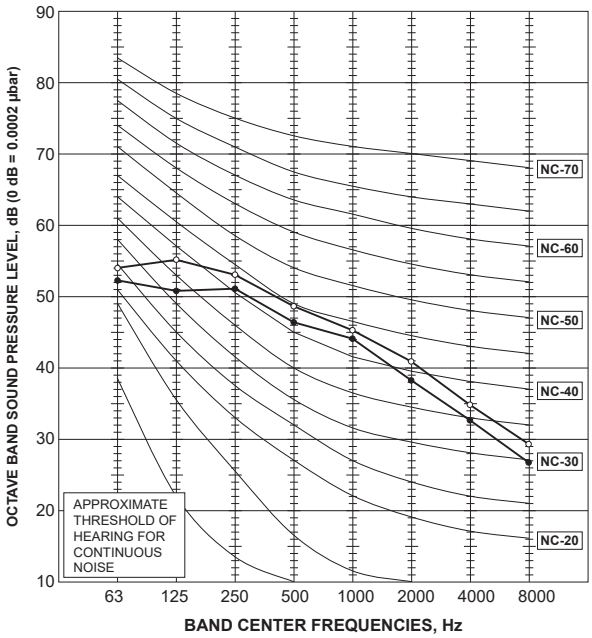
MUZ-FX09NLHZ

NOTCH	SPL(dB(A))	LINE
COOLING	49	●—●
HEATING	49	○—○



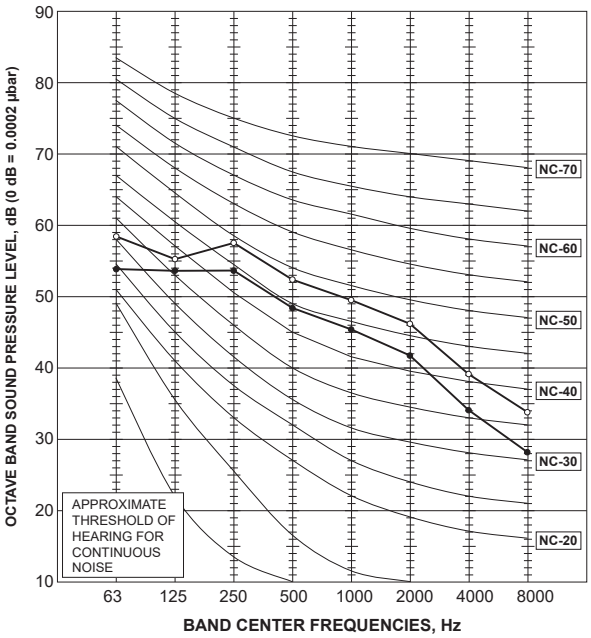
MUZ-FX12NLHZ

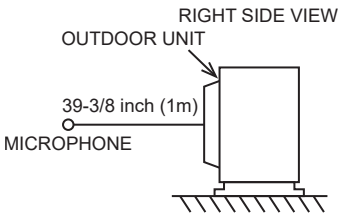
NOTCH	SPL(dB(A))	LINE
COOLING	49	●—●
HEATING	51	○—○



MUZ-FX15NLHZ

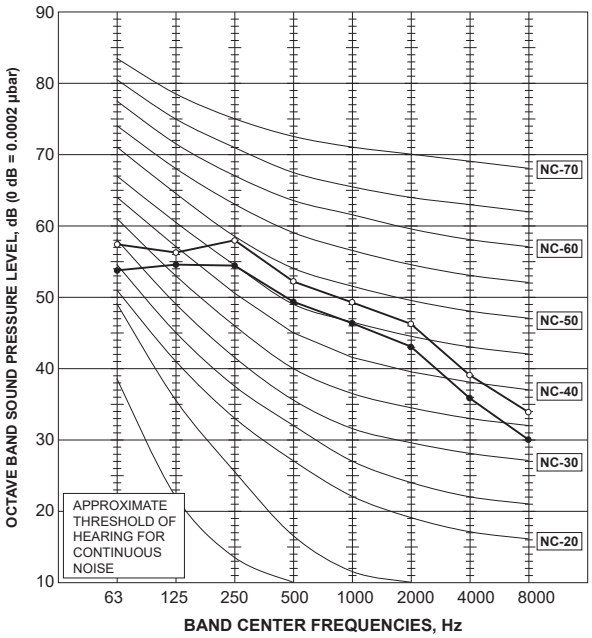
NOTCH	SPL(dB(A))	LINE
COOLING	51	●—●
HEATING	55	○—○





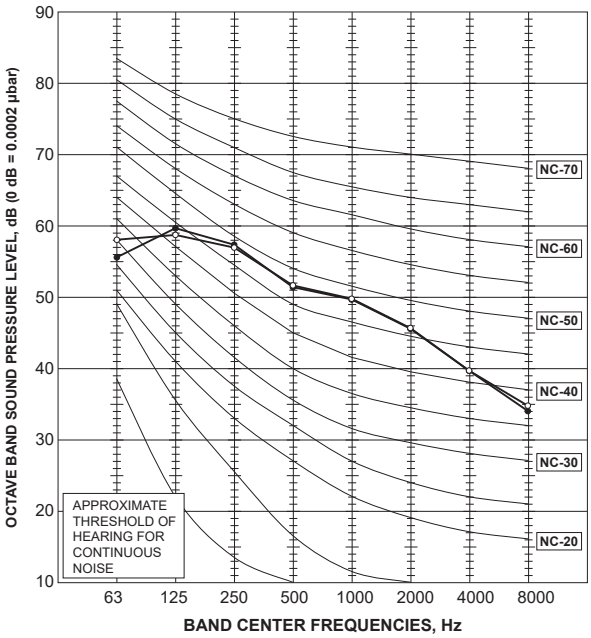
MUZ-FX18NLHZ

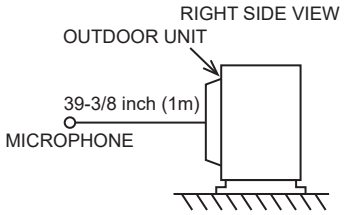
NOTCH	SPL(dB(A))	LINE
COOLING	52	●——●
HEATING	55	○——○



MUZ-FX24NLHZ

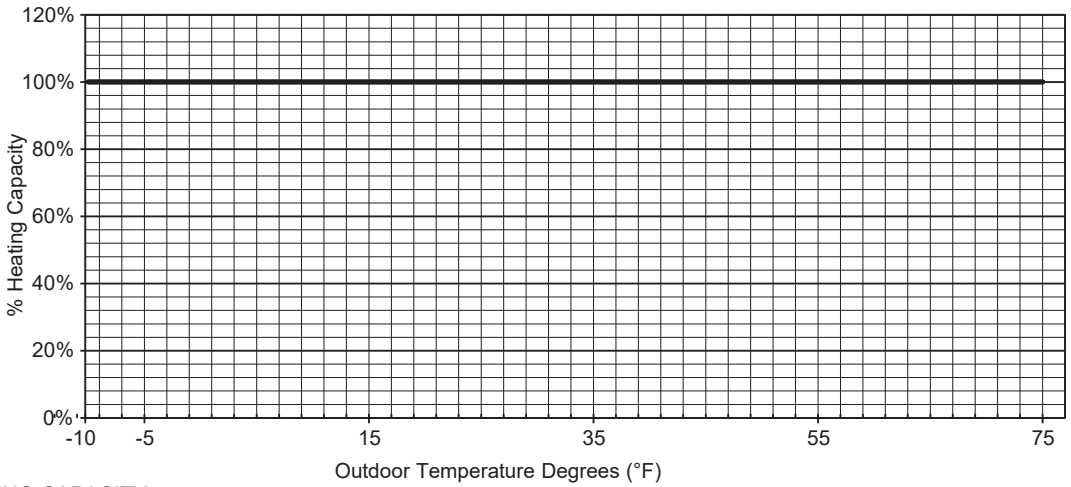
NOTCH	SPL(dB(A))	LINE
COOLING	55	●——●
HEATING	55	○——○





14 MAX. HEATING CAPACITY IN LOW AMBIENT TEMPERATURE

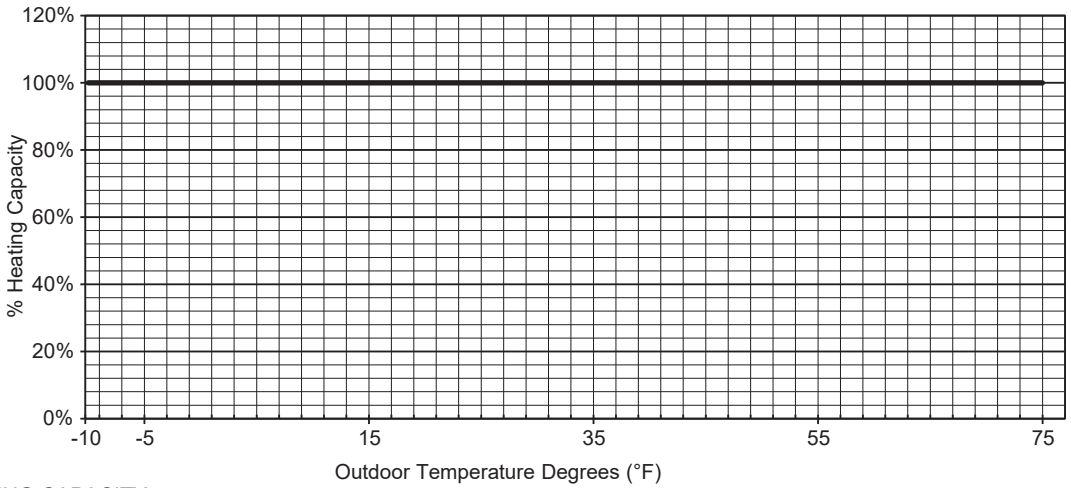
MUZ-FX06NLHZ



HEATING CAPACITY

Outdoor Temperature Degrees (°F)	-10.0	75.0
% Heating Capacity	100%	100%

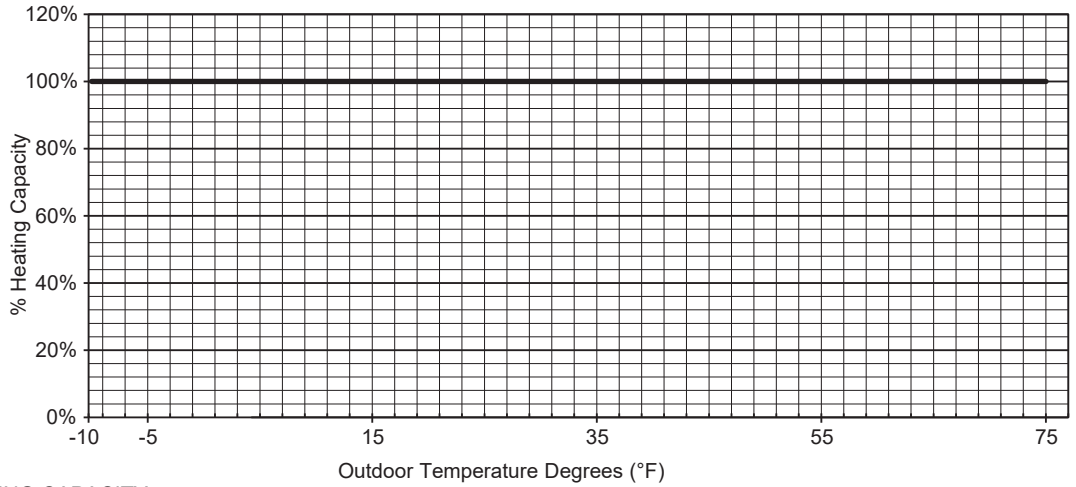
MUZ-FX09NLHZ



HEATING CAPACITY

Outdoor Temperature Degrees (°F)	-10.0	75.0
% Heating Capacity	100%	100%

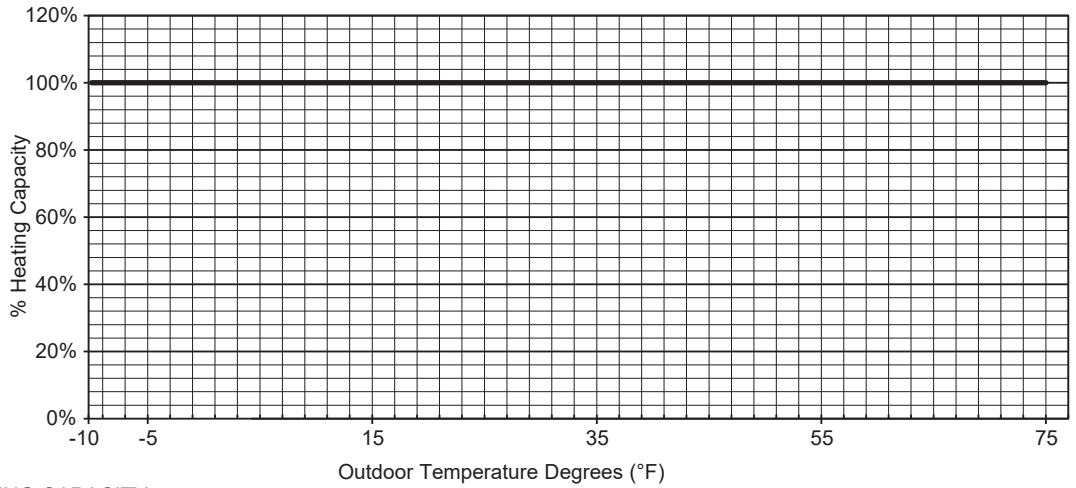
MUZ-FX12NLHZ



HEATING CAPACITY

Outdoor Temperature Degrees (°F)	-10.0	75.0
% Heating Capacity	100%	100%

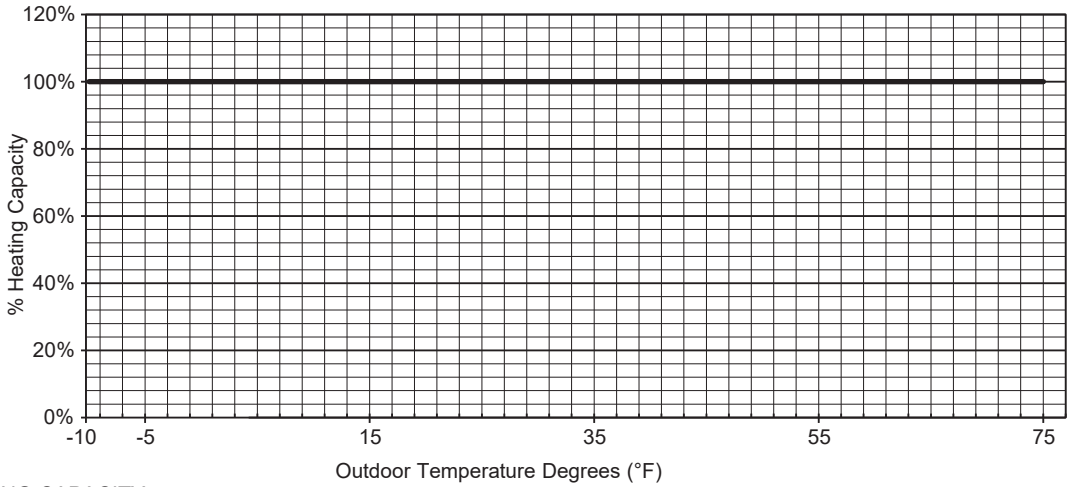
MUZ-FX15NLHZ



HEATING CAPACITY

Outdoor Temperature Degrees (°F)	-10.0	75.0
% Heating Capacity	100%	100%

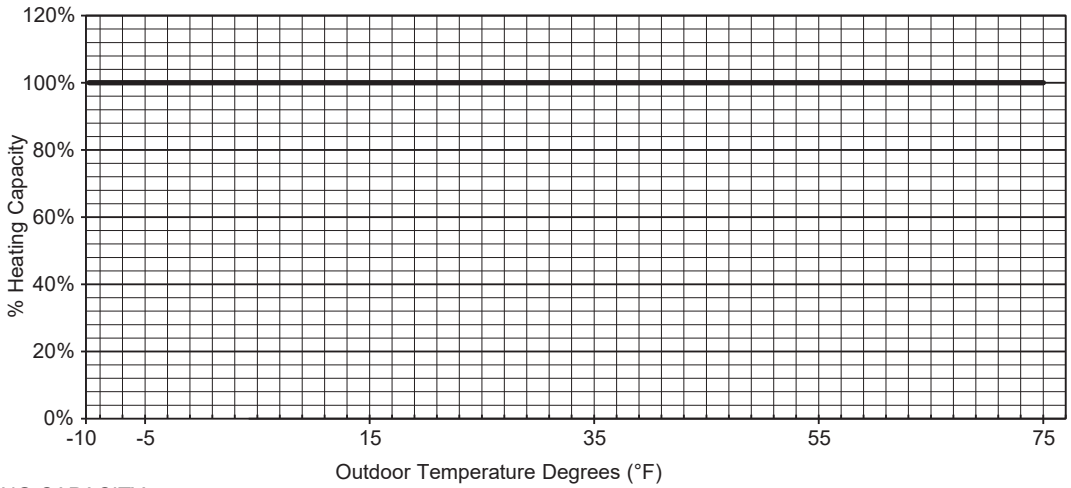
MUZ-FX18NLHZ



HEATING CAPACITY

Outdoor Temperature Degrees (°F)	-10.0	75.0
% Heating Capacity	100%	100%

MUZ-FX24NLHZ



HEATING CAPACITY

Outdoor Temperature Degrees (°F)	-10.0	75.0
% Heating Capacity	100%	100%

15 PERFORMANCE CHART

15-1. INVERTER COOLING CAPACITY
MUZ-FX06NLHZ

CAPACITY (Btu/h): 6000 INPUT (W): 280 SHF: 1.00

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	7050	5781	0.82	224	6750	5535	0.82	235	6480	5314	0.82	246	6240	5117	0.82	258
70	68	7350	5145	0.70	235	7050	4935	0.70	249	6840	4788	0.70	255	6600	4620	0.70	266
72	64	7050	6063	0.86	224	6750	5805	0.86	235	6480	5573	0.86	246	6240	5366	0.86	258
72	68	7350	5439	0.74	235	7050	5217	0.74	249	6840	5062	0.74	255	6600	4884	0.74	266
72	72	7650	4743	0.62	244	7380	4576	0.62	259	7200	4464	0.62	266	6900	4278	0.62	277
73	64	7050	6345	0.90	224	6750	6075	0.90	235	6480	5832	0.90	246	6240	5616	0.90	258
73	68	7350	5733	0.78	235	7050	5499	0.78	249	6840	5335	0.78	255	6600	5148	0.78	266
73	72	7650	5049	0.66	244	7380	4871	0.66	259	7200	4752	0.66	266	6900	4554	0.66	277
75	64	7050	6627	0.94	224	6750	6345	0.94	235	6480	6091	0.94	246	6240	5866	0.94	258
75	68	7350	6027	0.82	235	7050	5781	0.82	249	6840	5609	0.82	255	6600	5412	0.82	266
75	72	7650	5355	0.70	244	7380	5166	0.70	259	7200	5040	0.70	266	6900	4830	0.70	277
75	75	8040	4663	0.58	255	7740	4489	0.58	269	7560	4385	0.58	277	7320	4246	0.58	291
77	64	7050	6909	0.98	224	6750	6615	0.98	235	6480	6350	0.98	246	6240	6115	0.98	258
77	68	7350	6321	0.86	235	7050	6063	0.86	249	6840	5882	0.86	255	6600	5676	0.86	266
77	72	7650	5661	0.74	244	7380	5461	0.74	259	7200	5328	0.74	266	6900	5106	0.74	277
77	75	8040	4985	0.62	255	7740	4799	0.62	269	7560	4687	0.62	277	7320	4538	0.62	291
79	64	7050	7050	1.00	224	6750	6750	1.00	235	6480	6480	1.00	246	6240	6240	1.00	258
79	68	7350	6615	0.90	235	7050	6345	0.90	249	6840	6156	0.90	255	6600	5940	0.90	266
79	72	7650	5967	0.78	244	7380	5756	0.78	259	7200	5616	0.78	266	6900	5382	0.78	277
79	75	8040	5306	0.66	255	7740	5108	0.66	269	7560	4990	0.66	277	7320	4831	0.66	291
79	79	8280	4471	0.54	269	8040	4342	0.54	283	7920	4277	0.54	291	7680	4147	0.54	300
81	64	7050	7050	1.00	224	6750	6750	1.00	235	6480	6480	1.00	246	6240	6240	1.00	258
81	68	7350	6909	0.94	235	7050	6627	0.94	249	6840	6430	0.94	255	6600	6204	0.94	266
81	72	7650	6273	0.82	244	7380	6052	0.82	259	7200	5904	0.82	266	6900	5658	0.82	277
81	75	8040	5628	0.70	255	7740	5418	0.70	269	7560	5292	0.70	277	7320	5124	0.70	291
81	79	8280	4802	0.58	269	8040	4663	0.58	283	7920	4594	0.58	291	7680	4454	0.58	300
82	64	7050	7050	1.00	224	6750	6750	1.00	235	6480	6480	1.00	246	6240	6240	1.00	258
82	68	7350	7203	0.98	235	7050	6909	0.98	249	6840	6703	0.98	255	6600	6468	0.98	266
82	72	7650	6579	0.86	244	7380	6347	0.86	259	7200	6192	0.86	266	6900	5934	0.86	277
82	75	8040	5950	0.74	255	7740	5728	0.74	269	7560	5594	0.74	277	7320	5417	0.74	291
82	79	8280	5134	0.62	269	8040	4985	0.62	283	7920	4910	0.62	291	7680	4762	0.62	300
84	64	7050	7050	1.00	224	6750	6750	1.00	235	6480	6480	1.00	246	6240	6240	1.00	258
84	68	7350	7350	1.00	235	7050	7050	1.00	249	6840	6840	1.00	255	6600	6600	1.00	266
84	72	7650	6885	0.90	244	7380	6642	0.90	259	7200	6480	0.90	266	6900	6210	0.90	277
84	75	8040	6271	0.78	255	7740	6037	0.78	269	7560	5897	0.78	277	7320	5710	0.78	291
84	79	8280	5465	0.66	269	8040	5306	0.66	283	7920	5227	0.66	291	7680	5069	0.66	300
86	64	7050	7050	1.00	224	6750	6750	1.00	235	6480	6480	1.00	246	6240	6240	1.00	258
86	68	7350	7350	1.00	235	7050	7050	1.00	249	6840	6840	1.00	255	6600	6600	1.00	266
86	72	7650	7191	0.94	244	7380	6937	0.94	259	7200	6768	0.94	266	6900	6486	0.94	277
86	75	8040	6593	0.82	255	7740	6347	0.82	269	7560	6199	0.82	277	7320	6002	0.82	291
86	79	8280	5796	0.70	269	8040	5628	0.70	283	7920	5544	0.70	291	7680	5376	0.70	300
88	64	7050	7050	1.00	224	6750	6750	1.00	235	6480	6480	1.00	246	6240	6240	1.00	258
88	68	7350	7350	1.00	235	7050	7050	1.00	249	6840	6840	1.00	255	6600	6600	1.00	266
88	72	7650	7497	0.98	244	7380	7232	0.98	259	7200	7056	0.98	266	6900	6762	0.98	277
88	75	8040	6914	0.86	255	7740	6656	0.86	269	7560	6502	0.86	277	7320	6295	0.86	291
88	79	8280	6127	0.74	269	8040	5950	0.74	283	7920	5861	0.74	291	7680	5683	0.74	300
90	64	7050	7050	1.00	224	6750	6750	1.00	235	6480	6480	1.00	246	6240	6240	1.00	258
90	68	7350	7350	1.00	235	7050	7050	1.00	249	6840	6840	1.00	255	6600	6600	1.00	266
90	72	7650	7650	1.00	244	7380	7380	1.00	259	7200	7200	1.00	266	6900	6900	1.00	277
90	75	8040	7236	0.90	255	7740	6966	0.90	269	7560	6804	0.90	277	7320	6588	0.90	291
90	79	8280	6458	0.78	269	8040	6271	0.78	283	7920	6178	0.78	291	7680	5990	0.78	300

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-FX06NLHZ

CAPACITY (Btu/h): 6000 INPUT (W): 280 SHF: 1.00

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	5880	4822	0.82	274	5400	4428	0.82	291	4980	4084	0.82	302
70	68	6180	4326	0.70	286	5760	4032	0.70	300	5340	3738	0.70	316
72	64	5880	5057	0.86	274	5400	4644	0.86	291	4980	4283	0.86	302
72	68	6180	4573	0.74	286	5760	4262	0.74	300	5340	3952	0.74	316
72	72	6540	4055	0.62	297	6120	3794	0.62	314	5700	3534	0.62	325
73	64	5880	5292	0.90	274	5400	4860	0.90	291	4980	4482	0.90	302
73	68	6180	4820	0.78	286	5760	4493	0.78	300	5340	4165	0.78	316
73	72	6540	4316	0.66	297	6120	4039	0.66	314	5700	3762	0.66	325
75	64	5880	5527	0.94	274	5400	5076	0.94	291	4980	4681	0.94	302
75	68	6180	5068	0.82	286	5760	4723	0.82	300	5340	4379	0.82	316
75	72	6540	4578	0.70	297	6120	4284	0.70	314	5700	3990	0.70	325
75	75	6900	4002	0.58	308	6480	3758	0.58	322	6120	3550	0.58	336
77	64	5880	5762	0.98	274	5400	5292	0.98	291	4980	4880	0.98	302
77	68	6180	5315	0.86	286	5760	4954	0.86	300	5340	4592	0.86	316
77	72	6540	4840	0.74	297	6120	4529	0.74	314	5700	4218	0.74	325
77	75	6900	4278	0.62	308	6480	4018	0.62	322	6120	3794	0.62	336
79	64	5880	5880	1.00	274	5400	5400	1.00	291	4980	4980	1.00	302
79	68	6180	5562	0.90	286	5760	5184	0.90	300	5340	4806	0.90	316
79	72	6540	5101	0.78	297	6120	4774	0.78	314	5700	4446	0.78	325
79	75	6900	4554	0.66	308	6480	4277	0.66	322	6120	4039	0.66	336
79	79	7260	3920	0.54	319	6840	3694	0.54	333	6420	3467	0.54	347
81	64	5880	5880	1.00	274	5400	5400	1.00	291	4980	4980	1.00	302
81	68	6180	5809	0.94	286	5760	5414	0.94	300	5340	5020	0.94	316
81	72	6540	5363	0.82	297	6120	5018	0.82	314	5700	4674	0.82	325
81	75	6900	4830	0.70	308	6480	4536	0.70	322	6120	4284	0.70	336
81	79	7260	4211	0.58	319	6840	3967	0.58	333	6420	3724	0.58	347
82	64	5880	5880	1.00	274	5400	5400	1.00	291	4980	4980	1.00	302
82	68	6180	6056	0.98	286	5760	5645	0.98	300	5340	5233	0.98	316
82	72	6540	5624	0.86	297	6120	5263	0.86	314	5700	4902	0.86	325
82	75	6900	5106	0.74	308	6480	4795	0.74	322	6120	4529	0.74	336
82	79	7260	4501	0.62	319	6840	4241	0.62	333	6420	3980	0.62	347
84	64	5880	5880	1.00	274	5400	5400	1.00	291	4980	4980	1.00	302
84	68	6180	6180	1.00	286	5760	5760	1.00	300	5340	5340	1.00	316
84	72	6540	5886	0.90	297	6120	5508	0.90	314	5700	5130	0.90	325
84	75	6900	5382	0.78	308	6480	5054	0.78	322	6120	4774	0.78	336
84	79	7260	4792	0.66	319	6840	4514	0.66	333	6420	4237	0.66	347
86	64	5880	5880	1.00	274	5400	5400	1.00	291	4980	4980	1.00	302
86	68	6180	6180	1.00	286	5760	5760	1.00	300	5340	5340	1.00	316
86	72	6540	6148	0.94	297	6120	5753	0.94	314	5700	5358	0.94	325
86	75	6900	5658	0.82	308	6480	5314	0.82	322	6120	5018	0.82	336
86	79	7260	5082	0.70	319	6840	4788	0.70	333	6420	4494	0.70	347
88	64	5880	5880	1.00	274	5400	5400	1.00	291	4980	4980	1.00	302
88	68	6180	6180	1.00	286	5760	5760	1.00	300	5340	5340	1.00	316
88	72	6540	6409	0.98	297	6120	5998	0.98	314	5700	5586	0.98	325
88	75	6900	5934	0.86	308	6480	5573	0.86	322	6120	5263	0.86	336
88	79	7260	5372	0.74	319	6840	5062	0.74	333	6420	4751	0.74	347
90	64	5880	5880	1.00	274	5400	5400	1.00	291	4980	4980	1.00	302
90	68	6180	6180	1.00	286	5760	5760	1.00	300	5340	5340	1.00	316
90	72	6540	6540	1.00	297	6120	6120	1.00	314	5700	5700	1.00	325
90	75	6900	6210	0.90	308	6480	5832	0.90	322	6120	5508	0.90	336
90	79	7260	5663	0.78	319	6840	5335	0.78	333	6420	5008	0.78	347

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-FX09NLHZ

CAPACITY (Btu/h): 9000 INPUT (W): 490 SHF: 1.00

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	8672	0.82	392	10125	8303	0.82	412	9720	7970	0.82	431	9360	7675	0.82	451
70	68	11025	7718	0.70	412	10575	7403	0.70	436	10260	7182	0.70	446	9900	6930	0.70	466
72	64	10575	9095	0.86	392	10125	8708	0.86	412	9720	8359	0.86	431	9360	8050	0.86	451
72	68	11025	8159	0.74	412	10575	7826	0.74	436	10260	7592	0.74	446	9900	7326	0.74	466
72	72	11475	7115	0.62	426	11070	6863	0.62	453	10800	6696	0.62	466	10350	6417	0.62	485
73	64	10575	9518	0.90	392	10125	9113	0.90	412	9720	8748	0.90	431	9360	8424	0.90	451
73	68	11025	8600	0.78	412	10575	8249	0.78	436	10260	8003	0.78	446	9900	7722	0.78	466
73	72	11475	7574	0.66	426	11070	7306	0.66	453	10800	7128	0.66	466	10350	6831	0.66	485
75	64	10575	9941	0.94	392	10125	9518	0.94	412	9720	9137	0.94	431	9360	8798	0.94	451
75	68	11025	9041	0.82	412	10575	8672	0.82	436	10260	8413	0.82	446	9900	8118	0.82	466
75	72	11475	8033	0.70	426	11070	7749	0.70	453	10800	7560	0.70	466	10350	7245	0.70	485
75	75	12060	6995	0.58	446	11610	6734	0.58	470	11340	6577	0.58	485	10980	6368	0.58	510
77	64	10575	10364	0.98	392	10125	9923	0.98	412	9720	9526	0.98	431	9360	9173	0.98	451
77	68	11025	9482	0.86	412	10575	9095	0.86	436	10260	8824	0.86	446	9900	8514	0.86	466
77	72	11475	8492	0.74	426	11070	8192	0.74	453	10800	7992	0.74	466	10350	7659	0.74	485
77	75	12060	7477	0.62	446	11610	7198	0.62	470	11340	7031	0.62	485	10980	6808	0.62	510
79	64	10575	10575	1.00	392	10125	10125	1.00	412	9720	9720	1.00	431	9360	9360	1.00	451
79	68	11025	9923	0.90	412	10575	9518	0.90	436	10260	9234	0.90	446	9900	8910	0.90	466
79	72	11475	8951	0.78	426	11070	8635	0.78	453	10800	8424	0.78	466	10350	8073	0.78	485
79	75	12060	7960	0.66	446	11610	7663	0.66	470	11340	7484	0.66	485	10980	7247	0.66	510
79	79	12420	6707	0.54	470	12060	6512	0.54	495	11880	6415	0.54	510	11520	6221	0.54	524
81	64	10575	10575	1.00	392	10125	10125	1.00	412	9720	9720	1.00	431	9360	9360	1.00	451
81	68	11025	10364	0.94	412	10575	9941	0.94	436	10260	9644	0.94	446	9900	9306	0.94	466
81	72	11475	9410	0.82	426	11070	9077	0.82	453	10800	8856	0.82	466	10350	8487	0.82	485
81	75	12060	8442	0.70	446	11610	8127	0.70	470	11340	7938	0.70	485	10980	7686	0.70	510
81	79	12420	7204	0.58	470	12060	6995	0.58	495	11880	6890	0.58	510	11520	6682	0.58	524
82	64	10575	10575	1.00	392	10125	10125	1.00	412	9720	9720	1.00	431	9360	9360	1.00	451
82	68	11025	10805	0.98	412	10575	10364	0.98	436	10260	10055	0.98	446	9900	9702	0.98	466
82	72	11475	9869	0.86	426	11070	9520	0.86	453	10800	9288	0.86	466	10350	8901	0.86	485
82	75	12060	8924	0.74	446	11610	8591	0.74	470	11340	8392	0.74	485	10980	8125	0.74	510
82	79	12420	7700	0.62	470	12060	7477	0.62	495	11880	7366	0.62	510	11520	7142	0.62	524
84	64	10575	10575	1.00	392	10125	10125	1.00	412	9720	9720	1.00	431	9360	9360	1.00	451
84	68	11025	11025	1.00	412	10575	10575	1.00	436	10260	10260	1.00	446	9900	9900	1.00	466
84	72	11475	10328	0.90	426	11070	9963	0.90	453	10800	9720	0.90	466	10350	9315	0.90	485
84	75	12060	9407	0.78	446	11610	9056	0.78	470	11340	8845	0.78	485	10980	8564	0.78	510
84	79	12420	8197	0.66	470	12060	7960	0.66	495	11880	7841	0.66	510	11520	7603	0.66	524
86	64	10575	10575	1.00	392	10125	10125	1.00	412	9720	9720	1.00	431	9360	9360	1.00	451
86	68	11025	11025	1.00	412	10575	10575	1.00	436	10260	10260	1.00	446	9900	9900	1.00	466
86	72	11475	10787	0.94	426	11070	10406	0.94	453	10800	10152	0.94	466	10350	9729	0.94	485
86	75	12060	9889	0.82	446	11610	9520	0.82	470	11340	9299	0.82	485	10980	9004	0.82	510
86	79	12420	8694	0.70	470	12060	8442	0.70	495	11880	8316	0.70	510	11520	8064	0.70	524
88	64	10575	10575	1.00	392	10125	10125	1.00	412	9720	9720	1.00	431	9360	9360	1.00	451
88	68	11025	11025	1.00	412	10575	10575	1.00	436	10260	10260	1.00	446	9900	9900	1.00	466
88	72	11475	11246	0.98	426	11070	10849	0.98	453	10800	10584	0.98	466	10350	10143	0.98	485
88	75	12060	10372	0.86	446	11610	9985	0.86	470	11340	9752	0.86	485	10980	9443	0.86	510
88	79	12420	9191	0.74	470	12060	8924	0.74	495	11880	8791	0.74	510	11520	8525	0.74	524
90	64	10575	10575	1.00	392	10125	10125	1.00	412	9720	9720	1.00	431	9360	9360	1.00	451
90	68	11025	11025	1.00	412	10575	10575	1.00	436	10260	10260	1.00	446	9900	9900	1.00	466
90	72	11475	11475	1.00	426	11070	11070	1.00	453	10800	10800	1.00	466	10350	10350	1.00	485
90	75	12060	10854	0.90	446	11610	10449	0.90	470	11340	10206	0.90	485	10980	9882	0.90	510
90	79	12420	9688	0.78	470	12060	9407	0.78	495	11880	9266	0.78	510	11520	8986	0.78	524

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-FX09NLHZ

CAPACITY (Btu/h): 9000 INPUT (W): 490 SHF: 1.00

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	7232	0.82	480	8100	6642	0.82	510	7470	6125	0.82	529
70	68	9270	6489	0.70	500	8640	6048	0.70	524	8010	5607	0.70	554
72	64	8820	7585	0.86	480	8100	6966	0.86	510	7470	6424	0.86	529
72	68	9270	6860	0.74	500	8640	6394	0.74	524	8010	5927	0.74	554
72	72	9810	6082	0.62	519	9180	5692	0.62	549	8550	5301	0.62	568
73	64	8820	7938	0.90	480	8100	7290	0.90	510	7470	6723	0.90	529
73	68	9270	7231	0.78	500	8640	6739	0.78	524	8010	6248	0.78	554
73	72	9810	6475	0.66	519	9180	6059	0.66	549	8550	5643	0.66	568
75	64	8820	8291	0.94	480	8100	7614	0.94	510	7470	7022	0.94	529
75	68	9270	7601	0.82	500	8640	7085	0.82	524	8010	6568	0.82	554
75	72	9810	6867	0.70	519	9180	6426	0.70	549	8550	5985	0.70	568
75	75	10350	6003	0.58	539	9720	5638	0.58	564	9180	5324	0.58	588
77	64	8820	8644	0.98	480	8100	7938	0.98	510	7470	7321	0.98	529
77	68	9270	7972	0.86	500	8640	7430	0.86	524	8010	6889	0.86	554
77	72	9810	7259	0.74	519	9180	6793	0.74	549	8550	6327	0.74	568
77	75	10350	6417	0.62	539	9720	6026	0.62	564	9180	5692	0.62	588
79	64	8820	8820	1.00	480	8100	8100	1.00	510	7470	7470	1.00	529
79	68	9270	8343	0.90	500	8640	7776	0.90	524	8010	7209	0.90	554
79	72	9810	7652	0.78	519	9180	7160	0.78	549	8550	6669	0.78	568
79	75	10350	6831	0.66	539	9720	6415	0.66	564	9180	6059	0.66	588
79	79	10890	5881	0.54	559	10260	5540	0.54	583	9630	5200	0.54	608
81	64	8820	8820	1.00	480	8100	8100	1.00	510	7470	7470	1.00	529
81	68	9270	8714	0.94	500	8640	8122	0.94	524	8010	7529	0.94	554
81	72	9810	8044	0.82	519	9180	7528	0.82	549	8550	7011	0.82	568
81	75	10350	7245	0.70	539	9720	6804	0.70	564	9180	6426	0.70	588
81	79	10890	6316	0.58	559	10260	5951	0.58	583	9630	5585	0.58	608
82	64	8820	8820	1.00	480	8100	8100	1.00	510	7470	7470	1.00	529
82	68	9270	9085	0.98	500	8640	8467	0.98	524	8010	7850	0.98	554
82	72	9810	8437	0.86	519	9180	7895	0.86	549	8550	7353	0.86	568
82	75	10350	7659	0.74	539	9720	7193	0.74	564	9180	6793	0.74	588
82	79	10890	6752	0.62	559	10260	6361	0.62	583	9630	5971	0.62	608
84	64	8820	8820	1.00	480	8100	8100	1.00	510	7470	7470	1.00	529
84	68	9270	9270	1.00	500	8640	8640	1.00	524	8010	8010	1.00	554
84	72	9810	8829	0.90	519	9180	8262	0.90	549	8550	7695	0.90	568
84	75	10350	8073	0.78	539	9720	7582	0.78	564	9180	7160	0.78	588
84	79	10890	7187	0.66	559	10260	6772	0.66	583	9630	6356	0.66	608
86	64	8820	8820	1.00	480	8100	8100	1.00	510	7470	7470	1.00	529
86	68	9270	9270	1.00	500	8640	8640	1.00	524	8010	8010	1.00	554
86	72	9810	9221	0.94	519	9180	8629	0.94	549	8550	8037	0.94	568
86	75	10350	8487	0.82	539	9720	7970	0.82	564	9180	7528	0.82	588
86	79	10890	7623	0.70	559	10260	7182	0.70	583	9630	6741	0.70	608
88	64	8820	8820	1.00	480	8100	8100	1.00	510	7470	7470	1.00	529
88	68	9270	9270	1.00	500	8640	8640	1.00	524	8010	8010	1.00	554
88	72	9810	9614	0.98	519	9180	8996	0.98	549	8550	8379	0.98	568
88	75	10350	8901	0.86	539	9720	8359	0.86	564	9180	7895	0.86	588
88	79	10890	8059	0.74	559	10260	7592	0.74	583	9630	7126	0.74	608
90	64	8820	8820	1.00	480	8100	8100	1.00	510	7470	7470	1.00	529
90	68	9270	9270	1.00	500	8640	8640	1.00	524	8010	8010	1.00	554
90	72	9810	9810	1.00	519	9180	9180	1.00	549	8550	8550	1.00	568
90	75	10350	9315	0.90	539	9720	8748	0.90	564	9180	8262	0.90	588
90	79	10890	8494	0.78	559	10260	8003	0.78	583	9630	7511	0.78	608

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-FX12NLHZ

CAPACITY (Btu/h): 12000 INPUT (W): 780 SHF: 0.88

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	9870	0.70	624	13500	9450	0.70	655	12960	9072	0.70	686	12480	8736	0.70	718
70	68	14700	8526	0.58	655	14100	8178	0.58	694	13680	7934	0.58	710	13200	7656	0.58	741
72	64	14100	10434	0.74	624	13500	9990	0.74	655	12960	9590	0.74	686	12480	9235	0.74	718
72	68	14700	9114	0.62	655	14100	8742	0.62	694	13680	8482	0.62	710	13200	8184	0.62	741
72	72	15300	7650	0.50	679	14760	7380	0.50	722	14400	7200	0.50	741	13800	6900	0.50	772
73	64	14100	10998	0.78	624	13500	10530	0.78	655	12960	10109	0.78	686	12480	9734	0.78	718
73	68	14700	9702	0.66	655	14100	9306	0.66	694	13680	9029	0.66	710	13200	8712	0.66	741
73	72	15300	8262	0.54	679	14760	7970	0.54	722	14400	7776	0.54	741	13800	7452	0.54	772
75	64	14100	11562	0.82	624	13500	11070	0.82	655	12960	10627	0.82	686	12480	10234	0.82	718
75	68	14700	10290	0.70	655	14100	9870	0.70	694	13680	9576	0.70	710	13200	9240	0.70	741
75	72	15300	8874	0.58	679	14760	8561	0.58	722	14400	8352	0.58	741	13800	8004	0.58	772
75	75	16080	7397	0.46	710	15480	7121	0.46	749	15120	6955	0.46	772	14640	6734	0.46	811
77	64	14100	12126	0.86	624	13500	11610	0.86	655	12960	11146	0.86	686	12480	10733	0.86	718
77	68	14700	10878	0.74	655	14100	10434	0.74	694	13680	10123	0.74	710	13200	9768	0.74	741
77	72	15300	9486	0.62	679	14760	9151	0.62	722	14400	8928	0.62	741	13800	8556	0.62	772
77	75	16080	8040	0.50	710	15480	7740	0.50	749	15120	7560	0.50	772	14640	7320	0.50	811
79	64	14100	12690	0.90	624	13500	12150	0.90	655	12960	11664	0.90	686	12480	11232	0.90	718
79	68	14700	11466	0.78	655	14100	10998	0.78	694	13680	10670	0.78	710	13200	10296	0.78	741
79	72	15300	10098	0.66	679	14760	9742	0.66	722	14400	9504	0.66	741	13800	9108	0.66	772
79	75	16080	8683	0.54	710	15480	8359	0.54	749	15120	8165	0.54	772	14640	7906	0.54	811
79	79	16560	6955	0.42	749	16080	6754	0.42	788	15840	6653	0.42	811	15360	6451	0.42	835
81	64	14100	13254	0.94	624	13500	12690	0.94	655	12960	12182	0.94	686	12480	11731	0.94	718
81	68	14700	12054	0.82	655	14100	11562	0.82	694	13680	11218	0.82	710	13200	10824	0.82	741
81	72	15300	10710	0.70	679	14760	10332	0.70	722	14400	10080	0.70	741	13800	9660	0.70	772
81	75	16080	9326	0.58	710	15480	8978	0.58	749	15120	8770	0.58	772	14640	8491	0.58	811
81	79	16560	7618	0.46	749	16080	7397	0.46	788	15840	7286	0.46	811	15360	7066	0.46	835
82	64	14100	13818	0.98	624	13500	13230	0.98	655	12960	12701	0.98	686	12480	12230	0.98	718
82	68	14700	12642	0.86	655	14100	12126	0.86	694	13680	11765	0.86	710	13200	11352	0.86	741
82	72	15300	11322	0.74	679	14760	10922	0.74	722	14400	10656	0.74	741	13800	10212	0.74	772
82	75	16080	9970	0.62	710	15480	9598	0.62	749	15120	9374	0.62	772	14640	9077	0.62	811
82	79	16560	8280	0.50	749	16080	8040	0.50	788	15840	7920	0.50	811	15360	7680	0.50	835
84	64	14100	14100	1.00	624	13500	13500	1.00	655	12960	12960	1.00	686	12480	12480	1.00	718
84	68	14700	13230	0.90	655	14100	12690	0.90	694	13680	12312	0.90	710	13200	11880	0.90	741
84	72	15300	11934	0.78	679	14760	11513	0.78	722	14400	11232	0.78	741	13800	10764	0.78	772
84	75	16080	10613	0.66	710	15480	10217	0.66	749	15120	9979	0.66	772	14640	9662	0.66	811
84	79	16560	8942	0.54	749	16080	8683	0.54	788	15840	8554	0.54	811	15360	8294	0.54	835
86	64	14100	14100	1.00	624	13500	13500	1.00	655	12960	12960	1.00	686	12480	12480	1.00	718
86	68	14700	13818	0.94	655	14100	13254	0.94	694	13680	12859	0.94	710	13200	12408	0.94	741
86	72	15300	12546	0.82	679	14760	12103	0.82	722	14400	11808	0.82	741	13800	11316	0.82	772
86	75	16080	11256	0.70	710	15480	10836	0.70	749	15120	10584	0.70	772	14640	10248	0.70	811
86	79	16560	9605	0.58	749	16080	9326	0.58	788	15840	9187	0.58	811	15360	8909	0.58	835
88	64	14100	14100	1.00	624	13500	13500	1.00	655	12960	12960	1.00	686	12480	12480	1.00	718
88	68	14700	14406	0.98	655	14100	13818	0.98	694	13680	13406	0.98	710	13200	12936	0.98	741
88	72	15300	13158	0.86	679	14760	12694	0.86	722	14400	12384	0.86	741	13800	11868	0.86	772
88	75	16080	11899	0.74	710	15480	11455	0.74	749	15120	11189	0.74	772	14640	10834	0.74	811
88	79	16560	10267	0.62	749	16080	9970	0.62	788	15840	9821	0.62	811	15360	9523	0.62	835
90	64	14100	14100	1.00	624	13500	13500	1.00	655	12960	12960	1.00	686	12480	12480	1.00	718
90	68	14700	14700	1.00	655	14100	14100	1.00	694	13680	13680	1.00	710	13200	13200	1.00	741
90	72	15300	13770	0.90	679	14760	13284	0.90	722	14400	12960	0.90	741	13800	12420	0.90	772
90	75	16080	12542	0.78	710	15480	12074	0.78	749	15120	11794	0.78	772	14640	11419	0.78	811
90	79	16560	10930	0.66	749	16080	10613	0.66	788	15840	10454	0.66	811	15360	10138	0.66	835

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-FX12NLHZ

CAPACITY (Btu/h): 12000 INPUT (W): 780 SHF: 0.88

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	8232	0.70	764	10800	7560	0.70	811	9960	6972	0.70	842
70	68	12360	7169	0.58	796	11520	6682	0.58	835	10680	6194	0.58	881
72	64	11760	8702	0.74	764	10800	7992	0.74	811	9960	7370	0.74	842
72	68	12360	7663	0.62	796	11520	7142	0.62	835	10680	6622	0.62	881
72	72	13080	6540	0.50	827	12240	6120	0.50	874	11400	5700	0.50	905
73	64	11760	9173	0.78	764	10800	8424	0.78	811	9960	7769	0.78	842
73	68	12360	8158	0.66	796	11520	7603	0.66	835	10680	7049	0.66	881
73	72	13080	7063	0.54	827	12240	6610	0.54	874	11400	6156	0.54	905
75	64	11760	9643	0.82	764	10800	8856	0.82	811	9960	8167	0.82	842
75	68	12360	8652	0.70	796	11520	8064	0.70	835	10680	7476	0.70	881
75	72	13080	7586	0.58	827	12240	7099	0.58	874	11400	6612	0.58	905
75	75	13800	6348	0.46	858	12960	5962	0.46	897	12240	5630	0.46	936
77	64	11760	10114	0.86	764	10800	9288	0.86	811	9960	8566	0.86	842
77	68	12360	9146	0.74	796	11520	8525	0.74	835	10680	7903	0.74	881
77	72	13080	8110	0.62	827	12240	7589	0.62	874	11400	7068	0.62	905
77	75	13800	6900	0.50	858	12960	6480	0.50	897	12240	6120	0.50	936
79	64	11760	10584	0.90	764	10800	9720	0.90	811	9960	8964	0.90	842
79	68	12360	9641	0.78	796	11520	8986	0.78	835	10680	8330	0.78	881
79	72	13080	8633	0.66	827	12240	8078	0.66	874	11400	7524	0.66	905
79	75	13800	7452	0.54	858	12960	6998	0.54	897	12240	6610	0.54	936
79	79	14520	6098	0.42	889	13680	5746	0.42	928	12840	5393	0.42	967
81	64	11760	11054	0.94	764	10800	10152	0.94	811	9960	9362	0.94	842
81	68	12360	10135	0.82	796	11520	9446	0.82	835	10680	8758	0.82	881
81	72	13080	9156	0.70	827	12240	8568	0.70	874	11400	7980	0.70	905
81	75	13800	8004	0.58	858	12960	7517	0.58	897	12240	7099	0.58	936
81	79	14520	6679	0.46	889	13680	6293	0.46	928	12840	5906	0.46	967
82	64	11760	11525	0.98	764	10800	10584	0.98	811	9960	9761	0.98	842
82	68	12360	10630	0.86	796	11520	9907	0.86	835	10680	9185	0.86	881
82	72	13080	9679	0.74	827	12240	9058	0.74	874	11400	8436	0.74	905
82	75	13800	8556	0.62	858	12960	8035	0.62	897	12240	7589	0.62	936
82	79	14520	7260	0.50	889	13680	6840	0.50	928	12840	6420	0.50	967
84	64	11760	11760	1.00	764	10800	10800	1.00	811	9960	9960	1.00	842
84	68	12360	11124	0.90	796	11520	10368	0.90	835	10680	9612	0.90	881
84	72	13080	10202	0.78	827	12240	9547	0.78	874	11400	8892	0.78	905
84	75	13800	9108	0.66	858	12960	8554	0.66	897	12240	8078	0.66	936
84	79	14520	7841	0.54	889	13680	7387	0.54	928	12840	6934	0.54	967
86	64	11760	11760	1.00	764	10800	10800	1.00	811	9960	9960	1.00	842
86	68	12360	11618	0.94	796	11520	10829	0.94	835	10680	10039	0.94	881
86	72	13080	10726	0.82	827	12240	10037	0.82	874	11400	9348	0.82	905
86	75	13800	9660	0.70	858	12960	9072	0.70	897	12240	8568	0.70	936
86	79	14520	8422	0.58	889	13680	7934	0.58	928	12840	7447	0.58	967
88	64	11760	11760	1.00	764	10800	10800	1.00	811	9960	9960	1.00	842
88	68	12360	12113	0.98	796	11520	11290	0.98	835	10680	10466	0.98	881
88	72	13080	11249	0.86	827	12240	10526	0.86	874	11400	9804	0.86	905
88	75	13800	10212	0.74	858	12960	9590	0.74	897	12240	9058	0.74	936
88	79	14520	9002	0.62	889	13680	8482	0.62	928	12840	7961	0.62	967
90	64	11760	11760	1.00	764	10800	10800	1.00	811	9960	9960	1.00	842
90	68	12360	12360	1.00	796	11520	11520	1.00	835	10680	10680	1.00	881
90	72	13080	11772	0.90	827	12240	11016	0.90	874	11400	10260	0.90	905
90	75	13800	10764	0.78	858	12960	10109	0.78	897	12240	9547	0.78	936
90	79	14520	9583	0.66	889	13680	9029	0.66	928	12840	8474	0.66	967

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-FX15NLHZ

CAPACITY (Btu/h): 15000 INPUT (W): 1020 SHF: 0.81

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	17625	11104	0.63	816	16875	10631	0.63	857	16200	10206	0.63	898	15600	9828	0.63	938
70	68	18375	9371	0.51	857	17625	8989	0.51	908	17100	8721	0.51	928	16500	8415	0.51	969
72	64	17625	11809	0.67	816	16875	11306	0.67	857	16200	10854	0.67	898	15600	10452	0.67	938
72	68	18375	10106	0.55	857	17625	9694	0.55	908	17100	9405	0.55	928	16500	9075	0.55	969
72	72	19125	8224	0.43	887	18450	7934	0.43	944	18000	7740	0.43	969	17250	7418	0.43	1010
73	64	17625	12514	0.71	816	16875	11981	0.71	857	16200	11502	0.71	898	15600	11076	0.71	938
73	68	18375	10841	0.59	857	17625	10399	0.59	908	17100	10089	0.59	928	16500	9735	0.59	969
73	72	19125	8989	0.47	887	18450	8672	0.47	944	18000	8460	0.47	969	17250	8108	0.47	1010
75	64	17625	13219	0.75	816	16875	12656	0.75	857	16200	12150	0.75	898	15600	11700	0.75	938
75	68	18375	11576	0.63	857	17625	11104	0.63	908	17100	10773	0.63	928	16500	10395	0.63	969
75	72	19125	9754	0.51	887	18450	9410	0.51	944	18000	9180	0.51	969	17250	8798	0.51	1010
75	75	20100	7839	0.39	928	19350	7547	0.39	979	18900	7371	0.39	1010	18300	7137	0.39	1061
77	64	17625	13924	0.79	816	16875	13331	0.79	857	16200	12798	0.79	898	15600	12324	0.79	938
77	68	18375	12311	0.67	857	17625	11809	0.67	908	17100	11457	0.67	928	16500	11055	0.67	969
77	72	19125	10519	0.55	887	18450	10148	0.55	944	18000	9900	0.55	969	17250	9488	0.55	1010
77	75	20100	8643	0.43	928	19350	8321	0.43	979	18900	8127	0.43	1010	18300	7869	0.43	1061
79	64	17625	14629	0.83	816	16875	14006	0.83	857	16200	13446	0.83	898	15600	12948	0.83	938
79	68	18375	13046	0.71	857	17625	12514	0.71	908	17100	12141	0.71	928	16500	11715	0.71	969
79	72	19125	11284	0.59	887	18450	10886	0.59	944	18000	10620	0.59	969	17250	10178	0.59	1010
79	75	20100	9447	0.47	928	19350	9095	0.47	979	18900	8883	0.47	1010	18300	8601	0.47	1061
79	79	20700	7245	0.35	979	20100	7035	0.35	1030	19800	6930	0.35	1061	19200	6720	0.35	1091
81	64	17625	15334	0.87	816	16875	14681	0.87	857	16200	14094	0.87	898	15600	13572	0.87	938
81	68	18375	13781	0.75	857	17625	13219	0.75	908	17100	12825	0.75	928	16500	12375	0.75	969
81	72	19125	12049	0.63	887	18450	11624	0.63	944	18000	11340	0.63	969	17250	10868	0.63	1010
81	75	20100	10251	0.51	928	19350	9869	0.51	979	18900	9639	0.51	1010	18300	9333	0.51	1061
81	79	20700	8073	0.39	979	20100	7839	0.39	1030	19800	7722	0.39	1061	19200	7488	0.39	1091
82	64	17625	16039	0.91	816	16875	15356	0.91	857	16200	14742	0.91	898	15600	14196	0.91	938
82	68	18375	14516	0.79	857	17625	13924	0.79	908	17100	13509	0.79	928	16500	13035	0.79	969
82	72	19125	12814	0.67	887	18450	12362	0.67	944	18000	12060	0.67	969	17250	11558	0.67	1010
82	75	20100	11055	0.55	928	19350	10643	0.55	979	18900	10395	0.55	1010	18300	10065	0.55	1061
82	79	20700	8901	0.43	979	20100	8643	0.43	1030	19800	8514	0.43	1061	19200	8256	0.43	1091
84	64	17625	16744	0.95	816	16875	16031	0.95	857	16200	15390	0.95	898	15600	14820	0.95	938
84	68	18375	15251	0.83	857	17625	14629	0.83	908	17100	14193	0.83	928	16500	13695	0.83	969
84	72	19125	13579	0.71	887	18450	13100	0.71	944	18000	12780	0.71	969	17250	12248	0.71	1010
84	75	20100	11859	0.59	928	19350	11417	0.59	979	18900	11151	0.59	1010	18300	10797	0.59	1061
84	79	20700	9729	0.47	979	20100	9447	0.47	1030	19800	9306	0.47	1061	19200	9024	0.47	1091
86	64	17625	17449	0.99	816	16875	16706	0.99	857	16200	16038	0.99	898	15600	15444	0.99	938
86	68	18375	15986	0.87	857	17625	15334	0.87	908	17100	14877	0.87	928	16500	14355	0.87	969
86	72	19125	14344	0.75	887	18450	13838	0.75	944	18000	13500	0.75	969	17250	12938	0.75	1010
86	75	20100	12663	0.63	928	19350	12191	0.63	979	18900	11907	0.63	1010	18300	11529	0.63	1061
86	79	20700	10557	0.51	979	20100	10251	0.51	1030	19800	10098	0.51	1061	19200	9792	0.51	1091
88	64	17625	17625	1.00	816	16875	16875	1.00	857	16200	16200	1.00	898	15600	15600	1.00	938
88	68	18375	16721	0.91	857	17625	16039	0.91	908	17100	15561	0.91	928	16500	15015	0.91	969
88	72	19125	15109	0.79	887	18450	14576	0.79	944	18000	14220	0.79	969	17250	13628	0.79	1010
88	75	20100	13467	0.67	928	19350	12965	0.67	979	18900	12663	0.67	1010	18300	12261	0.67	1061
88	79	20700	11385	0.55	979	20100	11055	0.55	1030	19800	10890	0.55	1061	19200	10560	0.55	1091
90	64	17625	17625	1.00	816	16875	16875	1.00	857	16200	16200	1.00	898	15600	15600	1.00	938
90	68	18375	17456	0.95	857	17625	16744	0.95	908	17100	16245	0.95	928	16500	15675	0.95	969
90	72	19125	15874	0.83	887	18450	15314	0.83	944	18000	14940	0.83	969	17250	14318	0.83	1010
90	75	20100	14271	0.71	928	19350	13739	0.71	979	18900	13419	0.71	1010	18300	12993	0.71	1061
90	79	20700	12213	0.59	979	20100	11859	0.59	1030	19800	11682	0.59	1061	19200	11328	0.59	1091

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-FX15NLHZ

CAPACITY (Btu/h): 15000 INPUT (W): 1020 SHF: 0.81

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	14700	9261	0.63	1000	13500	8505	0.63	1061	12450	7844	0.63	1102
70	68	15450	7880	0.51	1040	14400	7344	0.51	1091	13350	6809	0.51	1153
72	64	14700	9849	0.67	1000	13500	9045	0.67	1061	12450	8342	0.67	1102
72	68	15450	8498	0.55	1040	14400	7920	0.55	1091	13350	7343	0.55	1153
72	72	16350	7031	0.43	1081	15300	6579	0.43	1142	14250	6128	0.43	1183
73	64	14700	10437	0.71	1000	13500	9585	0.71	1061	12450	8840	0.71	1102
73	68	15450	9116	0.59	1040	14400	8496	0.59	1091	13350	7877	0.59	1153
73	72	16350	7685	0.47	1081	15300	7191	0.47	1142	14250	6698	0.47	1183
75	64	14700	11025	0.75	1000	13500	10125	0.75	1061	12450	9338	0.75	1102
75	68	15450	9734	0.63	1040	14400	9072	0.63	1091	13350	8411	0.63	1153
75	72	16350	8339	0.51	1081	15300	7803	0.51	1142	14250	7268	0.51	1183
75	75	17250	6728	0.39	1122	16200	6318	0.39	1173	15300	5967	0.39	1224
77	64	14700	11613	0.79	1000	13500	10665	0.79	1061	12450	9836	0.79	1102
77	68	15450	10352	0.67	1040	14400	9648	0.67	1091	13350	8945	0.67	1153
77	72	16350	8993	0.55	1081	15300	8415	0.55	1142	14250	7838	0.55	1183
77	75	17250	7418	0.43	1122	16200	6966	0.43	1173	15300	6579	0.43	1224
79	64	14700	12201	0.83	1000	13500	11205	0.83	1061	12450	10334	0.83	1102
79	68	15450	10970	0.71	1040	14400	10224	0.71	1091	13350	9479	0.71	1153
79	72	16350	9647	0.59	1081	15300	9027	0.59	1142	14250	8408	0.59	1183
79	75	17250	8108	0.47	1122	16200	7614	0.47	1173	15300	7191	0.47	1224
79	79	18150	6353	0.35	1163	17100	5985	0.35	1214	16050	5618	0.35	1265
81	64	14700	12789	0.87	1000	13500	11745	0.87	1061	12450	10832	0.87	1102
81	68	15450	11588	0.75	1040	14400	10800	0.75	1091	13350	10013	0.75	1153
81	72	16350	10301	0.63	1081	15300	9639	0.63	1142	14250	8978	0.63	1183
81	75	17250	8798	0.51	1122	16200	8262	0.51	1173	15300	7803	0.51	1224
81	79	18150	7079	0.39	1163	17100	6669	0.39	1214	16050	6260	0.39	1265
82	64	14700	13377	0.91	1000	13500	12285	0.91	1061	12450	11330	0.91	1102
82	68	15450	12206	0.79	1040	14400	11376	0.79	1091	13350	10547	0.79	1153
82	72	16350	10955	0.67	1081	15300	10251	0.67	1142	14250	9548	0.67	1183
82	75	17250	9488	0.55	1122	16200	8910	0.55	1173	15300	8415	0.55	1224
82	79	18150	7805	0.43	1163	17100	7353	0.43	1214	16050	6902	0.43	1265
84	64	14700	13965	0.95	1000	13500	12825	0.95	1061	12450	11828	0.95	1102
84	68	15450	12824	0.83	1040	14400	11952	0.83	1091	13350	11081	0.83	1153
84	72	16350	11609	0.71	1081	15300	10863	0.71	1142	14250	10118	0.71	1183
84	75	17250	10178	0.59	1122	16200	9558	0.59	1173	15300	9027	0.59	1224
84	79	18150	8531	0.47	1163	17100	8037	0.47	1214	16050	7544	0.47	1265
86	64	14700	14553	0.99	1000	13500	13365	0.99	1061	12450	12326	0.99	1102
86	68	15450	13442	0.87	1040	14400	12528	0.87	1091	13350	11615	0.87	1153
86	72	16350	12263	0.75	1081	15300	11475	0.75	1142	14250	10688	0.75	1183
86	75	17250	10868	0.63	1122	16200	10206	0.63	1173	15300	9639	0.63	1224
86	79	18150	9257	0.51	1163	17100	8721	0.51	1214	16050	8186	0.51	1265
88	64	14700	14700	1.00	1000	13500	13500	1.00	1061	12450	12450	1.00	1102
88	68	15450	14060	0.91	1040	14400	13104	0.91	1091	13350	12149	0.91	1153
88	72	16350	12917	0.79	1081	15300	12087	0.79	1142	14250	11258	0.79	1183
88	75	17250	11558	0.67	1122	16200	10854	0.67	1173	15300	10251	0.67	1224
88	79	18150	9983	0.55	1163	17100	9405	0.55	1214	16050	8828	0.55	1265
90	64	14700	14700	1.00	1000	13500	13500	1.00	1061	12450	12450	1.00	1102
90	68	15450	14678	0.95	1040	14400	13680	0.95	1091	13350	12683	0.95	1153
90	72	16350	13571	0.83	1081	15300	12699	0.83	1142	14250	11828	0.83	1183
90	75	17250	12248	0.71	1122	16200	11502	0.71	1173	15300	10863	0.71	1224
90	79	18150	10709	0.59	1163	17100	10089	0.59	1214	16050	9470	0.59	1265

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-FX18NLHZ

CAPACITY (Btu/h): 17200 INPUT (W): 1320 SHF: 0.76

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	11722	0.58	1056	19350	11223	0.58	1109	18576	10774	0.58	1162	17888	10375	0.58	1214
70	68	21070	9692	0.46	1109	20210	9297	0.46	1175	19608	9020	0.46	1201	18920	8703	0.46	1254
72	64	20210	12530	0.62	1056	19350	11997	0.62	1109	18576	11517	0.62	1162	17888	11091	0.62	1214
72	68	21070	10535	0.50	1109	20210	10105	0.50	1175	19608	9804	0.50	1201	18920	9460	0.50	1254
72	72	21930	8333	0.38	1148	21156	8039	0.38	1221	20640	7843	0.38	1254	19780	7516	0.38	1307
73	64	20210	13339	0.66	1056	19350	12771	0.66	1109	18576	12260	0.66	1162	17888	11806	0.66	1214
73	68	21070	11378	0.54	1109	20210	10913	0.54	1175	19608	10588	0.54	1201	18920	10217	0.54	1254
73	72	21930	9211	0.42	1148	21156	8886	0.42	1221	20640	8669	0.42	1254	19780	8308	0.42	1307
75	64	20210	14147	0.70	1056	19350	13545	0.70	1109	18576	13003	0.70	1162	17888	12522	0.70	1214
75	68	21070	12221	0.58	1109	20210	11722	0.58	1175	19608	11373	0.58	1201	18920	10974	0.58	1254
75	72	21930	10088	0.46	1148	21156	9732	0.46	1221	20640	9494	0.46	1254	19780	9099	0.46	1307
75	75	23048	7836	0.34	1201	22188	7544	0.34	1267	21672	7368	0.34	1307	20984	7135	0.34	1373
77	64	20210	14955	0.74	1056	19350	14319	0.74	1109	18576	13746	0.74	1162	17888	13237	0.74	1214
77	68	21070	13063	0.62	1109	20210	12530	0.62	1175	19608	12157	0.62	1201	18920	11730	0.62	1254
77	72	21930	10965	0.50	1148	21156	10578	0.50	1221	20640	10320	0.50	1254	19780	9890	0.50	1307
77	75	23048	8758	0.38	1201	22188	8431	0.38	1267	21672	8235	0.38	1307	20984	7974	0.38	1373
79	64	20210	15764	0.78	1056	19350	15093	0.78	1109	18576	14489	0.78	1162	17888	13953	0.78	1214
79	68	21070	13906	0.66	1109	20210	13339	0.66	1175	19608	12941	0.66	1201	18920	12487	0.66	1254
79	72	21930	11842	0.54	1148	21156	11424	0.54	1221	20640	11146	0.54	1254	19780	10681	0.54	1307
79	75	23048	9680	0.42	1201	22188	9319	0.42	1267	21672	9102	0.42	1307	20984	8813	0.42	1373
79	79	23736	7121	0.30	1267	23048	6914	0.30	1333	22704	6811	0.30	1373	22016	6605	0.30	1412
81	64	20210	16572	0.82	1056	19350	15867	0.82	1109	18576	15232	0.82	1162	17888	14668	0.82	1214
81	68	21070	14749	0.70	1109	20210	14147	0.70	1175	19608	13726	0.70	1201	18920	13244	0.70	1254
81	72	21930	12719	0.58	1148	21156	12270	0.58	1221	20640	11971	0.58	1254	19780	11472	0.58	1307
81	75	23048	10602	0.46	1201	22188	10206	0.46	1267	21672	9969	0.46	1307	20984	9653	0.46	1373
81	79	23736	8070	0.34	1267	23048	7836	0.34	1333	22704	7719	0.34	1373	22016	7485	0.34	1412
82	64	20210	17381	0.86	1056	19350	16641	0.86	1109	18576	15975	0.86	1162	17888	15384	0.86	1214
82	68	21070	15592	0.74	1109	20210	14955	0.74	1175	19608	14510	0.74	1201	18920	14001	0.74	1254
82	72	21930	13597	0.62	1148	21156	13117	0.62	1221	20640	12797	0.62	1254	19780	12264	0.62	1307
82	75	23048	11524	0.50	1201	22188	11094	0.50	1267	21672	10836	0.50	1307	20984	10492	0.50	1373
82	79	23736	9020	0.38	1267	23048	8758	0.38	1333	22704	8628	0.38	1373	22016	8366	0.38	1412
84	64	20210	18189	0.90	1056	19350	17415	0.90	1109	18576	16718	0.90	1162	17888	16099	0.90	1214
84	68	21070	16435	0.78	1109	20210	15764	0.78	1175	19608	15294	0.78	1201	18920	14758	0.78	1254
84	72	21930	14474	0.66	1148	21156	13963	0.66	1221	20640	13622	0.66	1254	19780	13055	0.66	1307
84	75	23048	12446	0.54	1201	22188	11982	0.54	1267	21672	11703	0.54	1307	20984	11331	0.54	1373
84	79	23736	9969	0.42	1267	23048	9680	0.42	1333	22704	9536	0.42	1373	22016	9247	0.42	1412
86	64	20210	18997	0.94	1056	19350	18189	0.94	1109	18576	17461	0.94	1162	17888	16815	0.94	1214
86	68	21070	17277	0.82	1109	20210	16572	0.82	1175	19608	16079	0.82	1201	18920	15514	0.82	1254
86	72	21930	15351	0.70	1148	21156	14809	0.70	1221	20640	14448	0.70	1254	19780	13846	0.70	1307
86	75	23048	13368	0.58	1201	22188	12869	0.58	1267	21672	12570	0.58	1307	20984	12171	0.58	1373
86	79	23736	10919	0.46	1267	23048	10602	0.46	1333	22704	10444	0.46	1373	22016	10127	0.46	1412
88	64	20210	19806	0.98	1056	19350	18963	0.98	1109	18576	18204	0.98	1162	17888	17530	0.98	1214
88	68	21070	18120	0.86	1109	20210	17381	0.86	1175	19608	16863	0.86	1201	18920	16271	0.86	1254
88	72	21930	16228	0.74	1148	21156	15655	0.74	1221	20640	15274	0.74	1254	19780	14637	0.74	1307
88	75	23048	14290	0.62	1201	22188	13757	0.62	1267	21672	13437	0.62	1307	20984	13010	0.62	1373
88	79	23736	11868	0.50	1267	23048	11524	0.50	1333	22704	11352	0.50	1373	22016	11008	0.50	1412
90	64	20210	20210	1.00	1056	19350	19350	1.00	1109	18576	18576	1.00	1162	17888	17888	1.00	1214
90	68	21070	18963	0.90	1109	20210	18189	0.90	1175	19608	17647	0.90	1201	18920	17028	0.90	1254
90	72	21930	17105	0.78	1148	21156	16502	0.78	1221	20640	16099	0.78	1254	19780	15428	0.78	1307
90	75	23048	15212	0.66	1201	22188	14644	0.66	1267	21672	14304	0.66	1307	20984	13849	0.66	1373
90	79	23736	12817	0.54	1267	23048	12446	0.54	1333	22704	12260	0.54	1373	22016	11889	0.54	1412

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-FX18NLHZ

CAPACITY (Btu/h): 17200 INPUT (W): 1320 SHF: 0.76

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	9776	0.58	1294	15480	8978	0.58	1373	14276	8280	0.58	1426
70	68	17716	8149	0.46	1346	16512	7596	0.46	1412	15308	7042	0.46	1492
72	64	16856	10451	0.62	1294	15480	9598	0.62	1373	14276	8851	0.62	1426
72	68	17716	8858	0.50	1346	16512	8256	0.50	1412	15308	7654	0.50	1492
72	72	18748	7124	0.38	1399	17544	6667	0.38	1478	16340	6209	0.38	1531
73	64	16856	11125	0.66	1294	15480	10217	0.66	1373	14276	9422	0.66	1426
73	68	17716	9567	0.54	1346	16512	8916	0.54	1412	15308	8266	0.54	1492
73	72	18748	7874	0.42	1399	17544	7368	0.42	1478	16340	6863	0.42	1531
75	64	16856	11799	0.70	1294	15480	10836	0.70	1373	14276	9993	0.70	1426
75	68	17716	10275	0.58	1346	16512	9577	0.58	1412	15308	8879	0.58	1492
75	72	18748	8624	0.46	1399	17544	8070	0.46	1478	16340	7516	0.46	1531
75	75	19780	6725	0.34	1452	18576	6316	0.34	1518	17544	5965	0.34	1584
77	64	16856	12473	0.74	1294	15480	11455	0.74	1373	14276	10564	0.74	1426
77	68	17716	10984	0.62	1346	16512	10237	0.62	1412	15308	9491	0.62	1492
77	72	18748	9374	0.50	1399	17544	8772	0.50	1478	16340	8170	0.50	1531
77	75	19780	7516	0.38	1452	18576	7059	0.38	1518	17544	6667	0.38	1584
79	64	16856	13148	0.78	1294	15480	12074	0.78	1373	14276	11135	0.78	1426
79	68	17716	11693	0.66	1346	16512	10898	0.66	1412	15308	10103	0.66	1492
79	72	18748	10124	0.54	1399	17544	9474	0.54	1478	16340	8824	0.54	1531
79	75	19780	8308	0.42	1452	18576	7802	0.42	1518	17544	7368	0.42	1584
79	79	20812	6244	0.30	1505	19608	5882	0.30	1571	18404	5521	0.30	1637
81	64	16856	13822	0.82	1294	15480	12694	0.82	1373	14276	11706	0.82	1426
81	68	17716	12401	0.70	1346	16512	11558	0.70	1412	15308	10716	0.70	1492
81	72	18748	10874	0.58	1399	17544	10176	0.58	1478	16340	9477	0.58	1531
81	75	19780	9099	0.46	1452	18576	8545	0.46	1518	17544	8070	0.46	1584
81	79	20812	7076	0.34	1505	19608	6667	0.34	1571	18404	6257	0.34	1637
82	64	16856	14496	0.86	1294	15480	13313	0.86	1373	14276	12277	0.86	1426
82	68	17716	13110	0.74	1346	16512	12219	0.74	1412	15308	11328	0.74	1492
82	72	18748	11624	0.62	1399	17544	10877	0.62	1478	16340	10131	0.62	1531
82	75	19780	9890	0.50	1452	18576	9288	0.50	1518	17544	8772	0.50	1584
82	79	20812	7909	0.38	1505	19608	7451	0.38	1571	18404	6994	0.38	1637
84	64	16856	15170	0.90	1294	15480	13932	0.90	1373	14276	12848	0.90	1426
84	68	17716	13818	0.78	1346	16512	12879	0.78	1412	15308	11940	0.78	1492
84	72	18748	12374	0.66	1399	17544	11579	0.66	1478	16340	10784	0.66	1531
84	75	19780	10681	0.54	1452	18576	10031	0.54	1518	17544	9474	0.54	1584
84	79	20812	8741	0.42	1505	19608	8235	0.42	1571	18404	7730	0.42	1637
86	64	16856	15845	0.94	1294	15480	14551	0.94	1373	14276	13419	0.94	1426
86	68	17716	14527	0.82	1346	16512	13540	0.82	1412	15308	12553	0.82	1492
86	72	18748	13124	0.70	1399	17544	12281	0.70	1478	16340	11438	0.70	1531
86	75	19780	11472	0.58	1452	18576	10774	0.58	1518	17544	10176	0.58	1584
86	79	20812	9574	0.46	1505	19608	9020	0.46	1571	18404	8466	0.46	1637
88	64	16856	16519	0.98	1294	15480	15170	0.98	1373	14276	13990	0.98	1426
88	68	17716	15236	0.86	1346	16512	14200	0.86	1412	15308	13165	0.86	1492
88	72	18748	13874	0.74	1399	17544	12983	0.74	1478	16340	12092	0.74	1531
88	75	19780	12264	0.62	1452	18576	11517	0.62	1518	17544	10877	0.62	1584
88	79	20812	10406	0.50	1505	19608	9804	0.50	1571	18404	9202	0.50	1637
90	64	16856	16856	1.00	1294	15480	15480	1.00	1373	14276	14276	1.00	1426
90	68	17716	15944	0.90	1346	16512	14861	0.90	1412	15308	13777	0.90	1492
90	72	18748	14623	0.78	1399	17544	13684	0.78	1478	16340	12745	0.78	1531
90	75	19780	13055	0.66	1452	18576	12260	0.66	1518	17544	11579	0.66	1584
90	79	20812	11238	0.54	1505	19608	10588	0.54	1571	18404	9938	0.54	1637

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-FX24NLHZ

CAPACITY (Btu/h): 20800 INPUT (W): 1560 SHF: 0.78

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	24440	14664	0.60	1248	23400	14040	0.60	1310	22464	13478	0.60	1373	21632	12979	0.60	1435
70	68	25480	12230	0.48	1310	24440	11731	0.48	1388	23712	11382	0.48	1420	22880	10982	0.48	1482
72	64	24440	15642	0.64	1248	23400	14976	0.64	1310	22464	14377	0.64	1373	21632	13844	0.64	1435
72	68	25480	13250	0.52	1310	24440	12709	0.52	1388	23712	12330	0.52	1420	22880	11898	0.52	1482
72	72	26520	10608	0.40	1357	25584	10234	0.40	1443	24960	9984	0.40	1482	23920	9568	0.40	1544
73	64	24440	16619	0.68	1248	23400	15912	0.68	1310	22464	15276	0.68	1373	21632	14710	0.68	1435
73	68	25480	14269	0.56	1310	24440	13686	0.56	1388	23712	13279	0.56	1420	22880	12813	0.56	1482
73	72	26520	11669	0.44	1357	25584	11257	0.44	1443	24960	10982	0.44	1482	23920	10525	0.44	1544
75	64	24440	17597	0.72	1248	23400	16848	0.72	1310	22464	16174	0.72	1373	21632	15575	0.72	1435
75	68	25480	15288	0.60	1310	24440	14664	0.60	1388	23712	14227	0.60	1420	22880	13728	0.60	1482
75	72	26520	12730	0.48	1357	25584	12280	0.48	1443	24960	11981	0.48	1482	23920	11482	0.48	1544
75	75	27872	10034	0.36	1420	26832	9660	0.36	1498	26208	9435	0.36	1544	25376	9135	0.36	1622
77	64	24440	18574	0.76	1248	23400	17784	0.76	1310	22464	17073	0.76	1373	21632	16440	0.76	1435
77	68	25480	16307	0.64	1310	24440	15642	0.64	1388	23712	15176	0.64	1420	22880	14643	0.64	1482
77	72	26520	13790	0.52	1357	25584	13304	0.52	1443	24960	12979	0.52	1482	23920	12438	0.52	1544
77	75	27872	11149	0.40	1420	26832	10733	0.40	1498	26208	10483	0.40	1544	25376	10150	0.40	1622
79	64	24440	19552	0.80	1248	23400	18720	0.80	1310	22464	17971	0.80	1373	21632	17306	0.80	1435
79	68	25480	17326	0.68	1310	24440	16619	0.68	1388	23712	16124	0.68	1420	22880	15558	0.68	1482
79	72	26520	14851	0.56	1357	25584	14327	0.56	1443	24960	13978	0.56	1482	23920	13395	0.56	1544
79	75	27872	12264	0.44	1420	26832	11806	0.44	1498	26208	11532	0.44	1544	25376	11165	0.44	1622
79	79	28704	9185	0.32	1498	27872	8919	0.32	1576	27456	8786	0.32	1622	26624	8520	0.32	1669
81	64	24440	20530	0.84	1248	23400	19656	0.84	1310	22464	18870	0.84	1373	21632	18171	0.84	1435
81	68	25480	18346	0.72	1310	24440	17597	0.72	1388	23712	17073	0.72	1420	22880	16474	0.72	1482
81	72	26520	15912	0.60	1357	25584	15350	0.60	1443	24960	14976	0.60	1482	23920	14352	0.60	1544
81	75	27872	13379	0.48	1420	26832	12879	0.48	1498	26208	12580	0.48	1544	25376	12180	0.48	1622
81	79	28704	10333	0.36	1498	27872	10034	0.36	1576	27456	9884	0.36	1622	26624	9585	0.36	1669
82	64	24440	21507	0.88	1248	23400	20592	0.88	1310	22464	19768	0.88	1373	21632	19036	0.88	1435
82	68	25480	19365	0.76	1310	24440	18574	0.76	1388	23712	18021	0.76	1420	22880	17389	0.76	1482
82	72	26520	16973	0.64	1357	25584	16374	0.64	1443	24960	15974	0.64	1482	23920	15309	0.64	1544
82	75	27872	14493	0.52	1420	26832	13953	0.52	1498	26208	13628	0.52	1544	25376	13196	0.52	1622
82	79	28704	11482	0.40	1498	27872	11149	0.40	1576	27456	10982	0.40	1622	26624	10650	0.40	1669
84	64	24440	22485	0.92	1248	23400	21528	0.92	1310	22464	20667	0.92	1373	21632	19901	0.92	1435
84	68	25480	20384	0.80	1310	24440	19552	0.80	1388	23712	18970	0.80	1420	22880	18304	0.80	1482
84	72	26520	18034	0.68	1357	25584	17397	0.68	1443	24960	16973	0.68	1482	23920	16266	0.68	1544
84	75	27872	15608	0.56	1420	26832	15026	0.56	1498	26208	14676	0.56	1544	25376	14211	0.56	1622
84	79	28704	12630	0.44	1498	27872	12264	0.44	1576	27456	12081	0.44	1622	26624	11715	0.44	1669
86	64	24440	23462	0.96	1248	23400	22464	0.96	1310	22464	21565	0.96	1373	21632	20767	0.96	1435
86	68	25480	21403	0.84	1310	24440	20530	0.84	1388	23712	19918	0.84	1420	22880	19219	0.84	1482
86	72	26520	19094	0.72	1357	25584	18420	0.72	1443	24960	17971	0.72	1482	23920	17222	0.72	1544
86	75	27872	16723	0.60	1420	26832	16099	0.60	1498	26208	15725	0.60	1544	25376	15226	0.60	1622
86	79	28704	13778	0.48	1498	27872	13379	0.48	1576	27456	13179	0.48	1622	26624	12780	0.48	1669
88	64	24440	24440	1.00	1248	23400	23400	1.00	1310	22464	22464	1.00	1373	21632	21632	1.00	1435
88	68	25480	22422	0.88	1310	24440	21507	0.88	1388	23712	20867	0.88	1420	22880	20134	0.88	1482
88	72	26520	20155	0.76	1357	25584	19444	0.76	1443	24960	18970	0.76	1482	23920	18179	0.76	1544
88	75	27872	17838	0.64	1420	26832	17172	0.64	1498	26208	16773	0.64	1544	25376	16241	0.64	1622
88	79	28704	14926	0.52	1498	27872	14493	0.52	1576	27456	14277	0.52	1622	26624	13844	0.52	1669
90	64	24440	24440	1.00	1248	23400	23400	1.00	1310	22464	22464	1.00	1373	21632	21632	1.00	1435
90	68	25480	23442	0.92	1310	24440	22485	0.92	1388	23712	21815	0.92	1420	22880	21050	0.92	1482
90	72	26520	21216	0.80	1357	25584	20467	0.80	1443	24960	19968	0.80	1482	23920	19136	0.80	1544
90	75	27872	18953	0.68	1420	26832	18246	0.68	1498	26208	17821	0.68	1544	25376	17256	0.68	1622
90	79	28704	16074	0.56	1498	27872	15608	0.56	1576	27456	15375	0.56	1622	26624	14909	0.56	1669

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

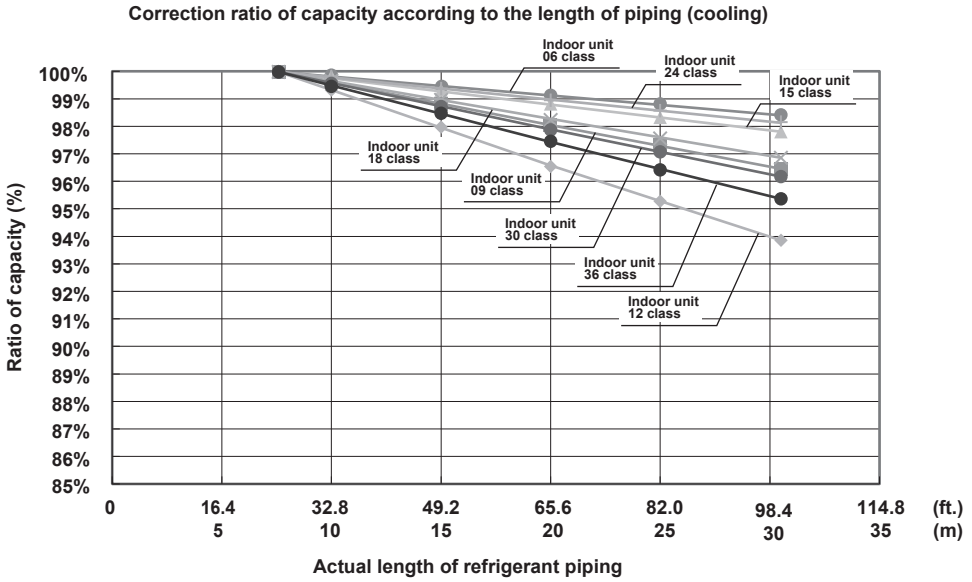
MUZ-FX24NLHZ

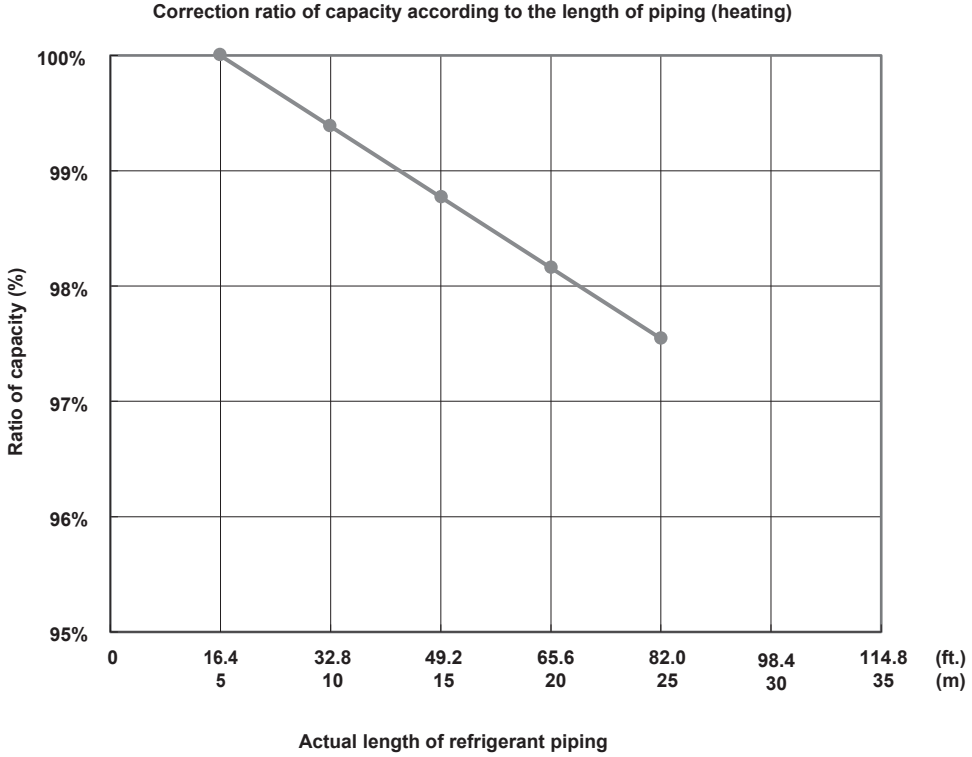
CAPACITY (Btu/h): 20800 INPUT (W): 1560 SHF: 0.78

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	20384	12230	0.60	1529	18720	11232	0.60	1622	17264	10358	0.60	1685
70	68	21424	10284	0.48	1591	19968	9585	0.48	1669	18512	8886	0.48	1763
72	64	20384	13046	0.64	1529	18720	11981	0.64	1622	17264	11049	0.64	1685
72	68	21424	11140	0.52	1591	19968	10383	0.52	1669	18512	9626	0.52	1763
72	72	22672	9069	0.40	1654	21216	8486	0.40	1747	19760	7904	0.40	1810
73	64	20384	13861	0.68	1529	18720	12730	0.68	1622	17264	11740	0.68	1685
73	68	21424	11997	0.56	1591	19968	11182	0.56	1669	18512	10367	0.56	1763
73	72	22672	9976	0.44	1654	21216	9335	0.44	1747	19760	8694	0.44	1810
75	64	20384	14676	0.72	1529	18720	13478	0.72	1622	17264	12430	0.72	1685
75	68	21424	12854	0.60	1591	19968	11981	0.60	1669	18512	11107	0.60	1763
75	72	22672	10883	0.48	1654	21216	10184	0.48	1747	19760	9485	0.48	1810
75	75	23920	8611	0.36	1716	22464	8087	0.36	1794	21216	7638	0.36	1872
77	64	20384	15492	0.76	1529	18720	14227	0.76	1622	17264	13121	0.76	1685
77	68	21424	13711	0.64	1591	19968	12780	0.64	1669	18512	11848	0.64	1763
77	72	22672	11789	0.52	1654	21216	11032	0.52	1747	19760	10275	0.52	1810
77	75	23920	9568	0.40	1716	22464	8986	0.40	1794	21216	8486	0.40	1872
79	64	20384	16307	0.80	1529	18720	14976	0.80	1622	17264	13811	0.80	1685
79	68	21424	14568	0.68	1591	19968	13578	0.68	1669	18512	12588	0.68	1763
79	72	22672	12696	0.56	1654	21216	11881	0.56	1747	19760	11066	0.56	1810
79	75	23920	10525	0.44	1716	22464	9884	0.44	1794	21216	9335	0.44	1872
79	79	25168	8054	0.32	1778	23712	7588	0.32	1856	22256	7122	0.32	1934
81	64	20384	17123	0.84	1529	18720	15725	0.84	1622	17264	14502	0.84	1685
81	68	21424	15425	0.72	1591	19968	14377	0.72	1669	18512	13329	0.72	1763
81	72	22672	13603	0.60	1654	21216	12730	0.60	1747	19760	11856	0.60	1810
81	75	23920	11482	0.48	1716	22464	10783	0.48	1794	21216	10184	0.48	1872
81	79	25168	9060	0.36	1778	23712	8536	0.36	1856	22256	8012	0.36	1934
82	64	20384	17938	0.88	1529	18720	16474	0.88	1622	17264	15192	0.88	1685
82	68	21424	16282	0.76	1591	19968	15176	0.76	1669	18512	14069	0.76	1763
82	72	22672	14510	0.64	1654	21216	13578	0.64	1747	19760	12646	0.64	1810
82	75	23920	12438	0.52	1716	22464	11681	0.52	1794	21216	11032	0.52	1872
82	79	25168	10067	0.40	1778	23712	9485	0.40	1856	22256	8902	0.40	1934
84	64	20384	18753	0.92	1529	18720	17222	0.92	1622	17264	15883	0.92	1685
84	68	21424	17139	0.80	1591	19968	15974	0.80	1669	18512	14810	0.80	1763
84	72	22672	15417	0.68	1654	21216	14427	0.68	1747	19760	13437	0.68	1810
84	75	23920	13395	0.56	1716	22464	12580	0.56	1794	21216	11881	0.56	1872
84	79	25168	11074	0.44	1778	23712	10433	0.44	1856	22256	9793	0.44	1934
86	64	20384	19569	0.96	1529	18720	17971	0.96	1622	17264	16573	0.96	1685
86	68	21424	17996	0.84	1591	19968	16773	0.84	1669	18512	15550	0.84	1763
86	72	22672	16324	0.72	1654	21216	15276	0.72	1747	19760	14227	0.72	1810
86	75	23920	14352	0.60	1716	22464	13478	0.60	1794	21216	12730	0.60	1872
86	79	25168	12081	0.48	1778	23712	11382	0.48	1856	22256	10683	0.48	1934
88	64	20384	20384	1.00	1529	18720	18720	1.00	1622	17264	17264	1.00	1685
88	68	21424	18853	0.88	1591	19968	17572	0.88	1669	18512	16291	0.88	1763
88	72	22672	17231	0.76	1654	21216	16124	0.76	1747	19760	15018	0.76	1810
88	75	23920	15309	0.64	1716	22464	14377	0.64	1794	21216	13578	0.64	1872
88	79	25168	13087	0.52	1778	23712	12330	0.52	1856	22256	11573	0.52	1934
90	64	20384	20384	1.00	1529	18720	18720	1.00	1622	17264	17264	1.00	1685
90	68	21424	19710	0.92	1591	19968	18371	0.92	1669	18512	17031	0.92	1763
90	72	22672	18138	0.80	1654	21216	16973	0.80	1747	19760	15808	0.80	1810
90	75	23920	16266	0.68	1716	22464	15276	0.68	1794	21216	14427	0.68	1872
90	79	25168	14094	0.56	1778	23712	13279	0.56	1856	22256	12463	0.56	1934

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

16 CAPACITY CORRECTION RATIO CURVE FOR PIPING LENGTH





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)]

17 PART LOAD CAPACITY CHART

MUZ-FX06NLHZ

Rated
Q(Btu/h): 6000
W: 280

1) COOLING

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)	12640	5520	9470	6430	3250	1530	11970	5130	8970	6090	3080	1450	11250	4680	8420	5720	2890	1360
		W	1460	320	1090	720	350	140	1380	310	1020	680	320	130	1310	300	980	650	310	130
110	43.3	Q(Btu/h)	13200	5760	9890	6710	3400	1600	12500	5360	9370	6360	3220	1520	11750	4910	8800	5980	3020	1430
		W	1430	320	1060	710	350	140	1350	310	1000	670	320	130	1290	300	960	640	310	130
105	40.6	Q(Btu/h)	13750	6000	10310	6990	3530	1670	13020	5580	9760	6620	3350	1580	12230	5130	9170	6220	3140	1480
		W	1390	310	1040	690	340	140	1310	300	980	650	310	130	1250	290	940	620	300	130
100	37.8	Q(Btu/h)	14270	6230	10700	7250	3670	1730	13510	5790	10130	6870	3480	1640	12690	5390	9510	6450	3260	1540
		W	1350	300	1010	670	330	140	1280	290	950	630	300	130	1220	280	910	610	290	130
95	35.0	Q(Btu/h)	14780	6450	11080	7520	3800	1790	14000	6000	10490	7120	3600	1700	13160	5640	9850	6690	3380	1600
		W	1310	290	980	650	310	130	1240	280	920	610	290	120	1180	270	880	590	280	120
90	32.2	Q(Btu/h)	15380	6660	11520	7820	3960	1870	14560	6240	10910	7410	3750	1770	13680	5850	10250	6960	3520	1660
		W	1270	280	950	620	300	130	1200	270	890	590	280	120	1140	260	860	570	270	120
85	29.4	Q(Btu/h)	15970	6870	11960	8120	4100	1940	15120	6480	11330	7690	3890	1840	14210	6060	10640	7220	3650	1730
		W	1220	270	910	590	290	120	1150	260	850	560	270	110	1090	250	820	540	260	110
80	26.7	Q(Btu/h)	16560	7110	12410	8420	4260	2020	15680	6720	11750	7980	4040	1910	14730	6300	11040	7500	3790	1790
		W	1160	260	860	570	280	120	1100	250	810	540	260	110	1050	240	780	520	250	110
75	23.9	Q(Btu/h)	17150	7350	12850	8720	4410	2080	16240	6960	12170	8260	4180	1970	15260	6540	11430	7760	3920	1850
		W	1100	250	820	540	260	110	1040	240	770	510	240	100	990	220	740	490	230	100
70	21.1	Q(Btu/h)	17740	7600	13290	9020	4560	2150	16800	7200	12590	8540	4320	2040	15790	6770	11820	8020	4050	1920
		W	1050	230	780	520	250	110	990	220	730	490	230	100	940	200	700	470	220	100
65	18.3	Q(Btu/h)	15150	6490	11320	7660	3820	1750	14350	6150	10720	7250	3620	1660	13490	5780	10060	6810	3390	1560
		W	950	210	720	480	240	110	891	200	670	450	220	100	850	180	640	430	210	100
60	15.6	Q(Btu/h)	15150	6490	11320	7660	3820	1750	14350	6150	10720	7250	3620	1660	13490	5780	10060	6810	3390	1560
		W	950	210	720	480	240	110	891	200	670	450	220	100	850	180	640	430	210	100
55	12.8	Q(Btu/h)	15150	6490	11320	7660	3820	1750	14350	6150	10720	7250	3620	1660	13490	5780	10060	6810	3390	1560
		W	950	210	720	480	240	110	891	200	670	450	220	100	850	180	640	430	210	100
50	10.0	Q(Btu/h)	15150	6490	11320	7660	3820	1750	14350	6150	10720	7250	3620	1660	13490	5780	10060	6810	3390	1560
		W	950	210	720	480	240	110	891	200	670	450	220	100	850	180	640	430	210	100
45	7.2	Q(Btu/h)	15150	6490	11320	7660	3820	1750	14350	6150	10720	7250	3620	1660	13490	5780	10060	6810	3390	1560
		W	950	210	720	480	240	110	891	200	670	450	220	100	850	180	640	430	210	100
40	4.4	Q(Btu/h)	15150	6490	11320	7660	3820	1750	14350	6150	10720	7250	3620	1660	13490	5780	10060	6810	3390	1560
		W	950	210	720	480	240	110	891	200	670	450	220	100	850	180	640	430	210	100
35	1.7	Q(Btu/h)	15150	6490	11320	7660	3820	1750	14350	6150	10720	7250	3620	1660	13490	5780	10060	6810	3390	1560
		W	950	210	720	480	240	110	891	200	670	450	220	100	850	180	640	430	210	100
30	-1.1	Q(Btu/h)	15150	6490	11320	7660	3820	1750	14350	6150	10720	7250	3620	1660	13490	5780	10060	6810	3390	1560
		W	950	210	720	480	240	110	891	200	670	450	220	100	850	180	640	430	210	100
25	-3.9	Q(Btu/h)	15150	6490	11320	7660	3820	1750	14350	6150	10720	7250	3620	1660	13490	5780	10060	6810	3390	1560
		W	950	210	720	480	240	110	891	200	670	450	220	100	850	180	640	430	210	100
20	-6.7	Q(Btu/h)	15150	6490	11320	7660	3820	1750	14350	6150	10720	7250	3620	1660	13490	5780	10060	6810	3390	1560
		W	950	210	720	480	240	110	891	200	670	450	220	100	850	180	640	430	210	100
15	-9.4	Q(Btu/h)	15150	6490	11320	7660	3820	1750	14350	6150	10720	7250	3620	1660	13490	5780	10060	6810	3390	1560
		W	950	210	720	480	240	110	891	200	670	450	220	100	850	180	640	430	210	100

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

MUZ-FX06NLHZ

2) HEATING

Rated
Q(Btu/h): 9000
W: 540

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)	24980	11240	18720	12550	6170	2260	26000	11700	19480	13060	6420	2350	27020	12160	20240	13570	6670	2440
		W	2010	610	1510	1010	500	180	1910	580	1430	960	470	170	1810	550	1350	910	440	160
60	15.6	Q(Btu/h)	23630	10640	17690	11870	5840	2140	24650	11100	18460	12380	6090	2230	25670	11560	19230	12890	6340	2320
		W	2000	610	1500	1000	500	180	1900	580	1420	950	470	170	1800	550	1340	900	440	160
55	12.8	Q(Btu/h)	22260	10020	16670	11180	5500	2020	23300	10490	17450	11700	5760	2110	24340	10960	18230	12220	6020	2200
		W	1980	600	1490	990	500	180	1880	570	1410	940	470	170	1780	540	1330	890	440	160
50	10.0	Q(Btu/h)	20890	9400	15650	10490	5160	1890	21950	9880	16440	11020	5420	1990	23010	10360	17230	11550	5680	2090
		W	1950	590	1460	990	500	180	1850	560	1390	940	470	170	1750	530	1320	890	440	160
45	7.2	Q(Btu/h)	19530	8790	14630	9810	4830	1770	20600	9270	15430	10340	5090	1870	21670	9750	16230	10870	5350	1970
		W	1910	580	1420	950	460	170	1810	550	1350	900	440	160	1710	520	1280	850	420	150
43	6.1	Q(Btu/h)	18940	8520	14180	9510	4670	1610	20000	9000	14970	10040	4930	1700	21060	9480	15760	10570	5190	1790
		W	1860	570	1390	940	450	130	1770	540	1320	890	430	120	1680	510	1250	840	410	110
40	4.4	Q(Btu/h)	17810	8140	13340	8950	4400	1620	18850	8620	14120	9470	4660	1710	19890	9100	14900	9990	4920	1800
		W	1820	560	1360	910	440	160	1730	530	1290	860	420	150	1640	500	1220	810	400	140
35	1.7	Q(Btu/h)	16660	7500	12480	8370	4110	1510	17700	7970	13260	8890	4370	1600	18740	8440	14040	9410	4630	1690
		W	1770	540	1330	880	430	160	1680	510	1260	840	410	150	1590	480	1190	800	390	140
30	-1.1	Q(Btu/h)	15990	6900	11980	8040	3950	1440	17050	7360	12780	8570	4210	1540	18110	7820	13580	9100	4470	1640
		W	1750	520	1320	880	430	160	1660	490	1250	840	410	150	1570	460	1180	800	390	140
25	-3.9	Q(Btu/h)	15300	6300	11460	7680	3780	1390	16400	6750	12280	8230	4050	1490	17500	7200	13100	8780	4320	1590
		W	1730	480	1300	870	430	160	1640	460	1230	830	410	150	1550	440	1160	790	390	140
20	-6.7	Q(Btu/h)	14280	5700	10700	7180	3530	1300	15400	6150	11540	7740	3810	1400	16520	6600	12380	8300	4090	1500
		W	1700	450	1260	840	410	150	1610	430	1200	800	390	140	1520	410	1140	760	370	130
15	-9.4	Q(Btu/h)	13230	5090	9910	6650	3270	1200	14400	5540	10790	7240	3560	1310	15570	5990	11670	7830	3850	1420
		W	1650	410	1230	830	410	150	1570	390	1170	790	390	140	1490	370	1110	750	370	130
10	-12.2	Q(Btu/h)	12250	4450	9170	6150	3030	1110	13500	4910	10110	6780	3340	1220	14750	5370	11050	7410	3650	1330
		W	1640	370	1230	830	410	150	1560	350	1170	790	390	140	1480	330	1110	750	370	130
5	-15.0	Q(Btu/h)	11220	3810	8410	5640	2770	1020	12600	4280	9440	6330	3110	1140	13980	4750	10470	7020	3450	1260
		W	1630	330	1220	820	410	150	1550	310	1160	780	390	140	1470	290	1100	740	370	130
0	-17.8	Q(Btu/h)	9900	3790	7410	4970	2440	890	11400	4370	8540	5720	2810	1030	12900	4950	9670	6470	3180	1170
		W	1570	500	1180	790	390	150	1490	470	1120	750	370	140	1410	440	1060	710	350	130
-5	-20.6	Q(Btu/h)	8540	3730	6400	4290	2110	770	10200	4450	7640	5120	2520	920	11860	5170	8880	5950	2930	1070
		W	1510	650	1130	760	380	140	1430	620	1070	720	360	130	1350	590	1010	680	340	120
-10	-23.3	Q(Btu/h)	7180	3130	5380	3600	1770	650	9000	3930	6740	4520	2220	810	10820	4730	8100	5440	2670	970
		W	1440	630	1070	730	360	130	1370	600	1020	690	340	120	1300	570	970	650	320	110

* Above data is for heating operation without any frost.

MUZ-FX09NLHZ

1) COOLING

Rated
Q(Btu/h): 9000
W: 490

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)	13550	8280	10350	6970	3770	2260	12830	7700	9800	6600	3570	2140	12060	7020	9210	6190	3360	2010
		W	1860	560	1390	880	420	190	1750	540	1310	830	390	180	1660	520	1240	790	380	180
110	43.3	Q(Btu/h)	14140	8640	10810	7270	3940	2360	13390	8040	10230	6890	3730	2240	12580	7360	9610	6470	3510	2110
		W	1810	550	1360	870	410	190	1710	530	1280	820	380	180	1620	510	1220	780	370	180
105	40.6	Q(Btu/h)	14740	9000	11260	7580	4110	2460	13950	8370	10660	7180	3890	2330	13110	7700	10020	6740	3660	2190
		W	1770	540	1330	850	400	180	1670	520	1250	800	370	170	1580	500	1190	760	360	170
100	37.8	Q(Btu/h)	15300	9340	11680	7870	4260	2550	14480	8690	11060	7450	4040	2420	13610	8080	10390	6990	3800	2280
		W	1730	530	1290	830	380	180	1630	510	1220	780	360	170	1540	490	1160	740	350	170
95	35.0	Q(Btu/h)	15840	9680	12110	8150	4410	2640	15000	9000	11460	7720	4180	2500	14090	8460	10770	7250	3930	2350
		W	1680	510	1250	800	370	170	1580	490	1180	750	350	160	1500	470	1120	710	340	160
90	32.2	Q(Btu/h)	16480	10000	12590	8480	4590	2740	15600	9360	11920	8030	4350	2600	14660	8780	11200	7540	4090	2450
		W	1610	500	1210	770	360	170	1520	470	1140	720	340	160	1440	450	1080	690	330	160
85	29.4	Q(Btu/h)	17110	10310	13080	8810	4760	2850	16200	9720	12380	8340	4510	2700	15220	9090	11630	7830	4240	2540
		W	1550	480	1160	730	340	160	1460	450	1090	690	320	150	1380	430	1030	660	310	150
80	26.7	Q(Btu/h)	17750	10670	13560	9130	4940	2950	16800	10080	12840	8650	4680	2800	15790	9450	12070	8120	4400	2640
		W	1480	460	1100	700	330	150	1400	430	1040	660	310	140	1330	410	990	630	300	140
75	23.9	Q(Btu/h)	18380	11030	14040	9460	5120	3060	17400	10440	13290	8960	4850	2900	16350	9810	12490	8410	4560	2730
		W	1410	440	1050	670	310	140	1330	410	990	630	290	130	1260	390	940	600	280	130
70	21.1	Q(Btu/h)	19010	11410	14530	9780	5300	3170	18000	10800	13750	9260	5020	3000	16910	10150	12920	8690	4720	2820
		W	1340	420	1000	640	300	140	1260	390	940	600	280	130	1190	370	890	570	270	130
65	18.3	Q(Btu/h)	16240	9750	12290	8110	4160	2290	15380	9230	11630	7680	3940	2170	14450	8670	10930	7210	3700	2040
		W	1620	510	1220	810	420	240	1524	470	1150	760	390	220	1440	450	1090	720	380	220
60	15.6	Q(Btu/h)	16240	9750	12290	8110	4160	2290	15380	9230	11630	7680	3940	2170	14450	8670	10930	7210	3700	2040
		W	1620	510	1220	810	420	240	1524	470	1150	760	390	220	1440	450	1090	720	380	220
55	12.8	Q(Btu/h)	16240	9750	12290	8110	4160	2290	15380	9230	11630	7680	3940	2170	14450	8670	10930	7210	3700	2040
		W	1620	510	1220	810	420	240	1524	470	1150	760	390	220	1440	450	1090	720	380	220
50	10.0	Q(Btu/h)	16240	9750	12290	8110	4160	2290	15380	9230	11630	7680	3940	2170	14450	8670	10930	7210	3700	2040
		W	1620	510	1220	810	420	240	1524	470	1150	760	390	220	1440	450	1090	720	380	220
45	7.2	Q(Btu/h)	16240	9750	12290	8110	4160	2290	15380	9230	11630	7680	3940	2170	14450	8670	10930	7210	3700	2040
		W	1620	510	1220	810	420	240	1524	470	1150	760	390	220	1440	450	1090	720	380	220
40	4.4	Q(Btu/h)	16240	9750	12290	8110	4160	2290	15380	9230	11630	7680	3940	2170	14450	8670	10930	7210	3700	2040
		W	1620	510	1220	810	420	240	1524	470	1150	760	390	220	1440	450	1090	720	380	220
35	1.7	Q(Btu/h)	16240	9750	12290	8110	4160	2290	15380	9230	11630	7680	3940	2170	14450	8670	10930	7210	3700	2040
		W	1620	510	1220	810	420	240	1524	470	1150	760	390	220	1440	450	1090	720	380	220
30	-1.1	Q(Btu/h)	16240	9750	12290	8110	4160	2290	15380	9230	11630	7680	3940	2170	14450	8670	10930	7210	3700	2040
		W	1620	510	1220	810	420	240	1524	470	1150	760	390	220	1440	450	1090	720	380	220
25	-3.9	Q(Btu/h)	16240	9750	12290	8110	4160	2290	15380	9230	11630	7680	3940	2170	14450	8670	10930	7210	3700	2040
		W	1620	510	1220	810	420	240	1524	470	1150	760	390	220	1440	450	1090	720	380	220
20	-6.7	Q(Btu/h)	16240	9750	12290	8110	4160	2290	15380	9230	11630	7680	3940	2170	14450	8670	10930	7210	3700	2040
		W	1620	510	1220	810	420	240	1524	470	1150	760	390	220	1440	450	1090	720	380	220
15	-9.4	Q(Btu/h)	16240	9750	12290	8110	4160	2290	15380	9230	11630	7680	3940	2170	14450	8670	10930	7210	3700	2040
		W	1620	510	1220	810	420	240	1524	470	1150	760	390	220	1440	450	1090	720	380	220

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

MUZ-FX09NLHZ

2) HEATING

Rated
Q(Btu/h): 12000
W: 710

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)	26610	14990	20090	13300	6780	3260	27690	15600	20910	13840	7060	3390	28770	16210	21730	14380	7340	3520
		W	2420	810	1830	1210	620	290	2300	770	1740	1150	590	280	2180	730	1650	1090	560	270
60	15.6	Q(Btu/h)	25160	14180	19000	12580	6410	3080	26250	14790	19820	13120	6690	3210	27340	15400	20640	13660	6970	3340
		W	2400	800	1820	1210	620	290	2280	760	1730	1150	590	280	2160	720	1640	1090	560	270
55	12.8	Q(Btu/h)	23700	13360	17900	11860	6050	2900	24810	13980	18740	12410	6330	3040	25920	14600	19580	12960	6610	3180
		W	2380	790	1800	1190	610	290	2260	750	1710	1130	580	280	2140	710	1620	1070	550	270
50	10.0	Q(Btu/h)	22250	12540	16800	11130	5670	2720	23380	13170	17650	11690	5960	2860	24510	13800	18500	12250	6250	3000
		W	2340	780	1760	1160	590	280	2220	740	1670	1100	560	270	2100	700	1580	1040	530	260
45	7.2	Q(Btu/h)	20810	11720	15700	10390	5300	2540	21940	12360	16560	10960	5590	2680	23070	13000	17420	11530	5880	2820
		W	2290	760	1730	1150	590	280	2170	720	1640	1090	560	270	2050	680	1550	1030	530	260
43	6.1	Q(Btu/h)	20170	11360	15240	10090	5150	2940	21300	12000	16090	10660	5440	3100	22430	12640	16940	11230	5730	3260
		W	2240	750	1690	1120	570	190	2130	710	1600	1060	540	180	2020	670	1510	1000	510	170
40	4.4	Q(Btu/h)	19650	10860	14840	9840	5020	2410	20800	11490	15710	10410	5310	2550	21950	12120	16580	10980	5600	2690
		W	2230	740	1680	1110	570	270	2120	700	1590	1050	540	260	2010	660	1500	990	510	250
35	1.7	Q(Btu/h)	18730	10000	14150	9370	4780	2300	19900	10620	15030	9950	5080	2440	21070	11240	15910	10530	5380	2580
		W	2200	710	1660	1110	570	270	2090	670	1580	1050	540	260	1980	630	1500	990	510	250
30	-1.1	Q(Btu/h)	17820	9200	13450	8900	4540	2180	19000	9810	14340	9490	4840	2320	20180	10420	15230	10080	5140	2460
		W	2180	670	1650	1100	560	260	2070	640	1570	1040	530	250	1960	610	1490	980	500	240
25	-3.9	Q(Btu/h)	16890	8400	12750	8440	4310	2070	18100	9000	13660	9040	4620	2220	19310	9600	14570	9640	4930	2370
		W	2160	640	1630	1090	560	260	2050	610	1550	1030	530	250	1940	580	1470	970	500	240
20	-6.7	Q(Btu/h)	15950	7590	12040	7970	4060	1950	17200	8190	12990	8600	4380	2100	18450	8790	13940	9230	4700	2250
		W	2130	590	1600	1050	540	250	2020	560	1520	1000	510	240	1910	530	1440	950	480	230
15	-9.4	Q(Btu/h)	14980	6780	11310	7490	3820	1840	16300	7380	12310	8150	4160	2000	17620	7980	13310	8810	4500	2160
		W	2110	540	1600	1050	540	250	2000	510	1520	1000	510	240	1890	480	1440	950	480	230
10	-12.2	Q(Btu/h)	14060	5930	10620	7040	3590	1720	15500	6540	11710	7760	3960	1900	16940	7150	12800	8480	4330	2080
		W	2090	480	1580	1050	540	250	1980	460	1500	1000	510	240	1870	440	1420	950	480	230
5	-15.0	Q(Btu/h)	13090	5080	9890	6550	3340	1600	14700	5700	11100	7350	3750	1800	16310	6320	12310	8150	4160	2000
		W	2050	420	1550	1020	520	250	1950	400	1470	970	490	240	1850	380	1390	920	460	230
0	-17.8	Q(Btu/h)	11980	5040	9040	5990	3060	1470	13800	5810	10420	6900	3520	1690	15620	6580	11800	7810	3980	1910
		W	1980	650	1500	990	510	240	1880	620	1420	940	480	230	1780	590	1340	890	450	220
-5	-20.6	Q(Btu/h)	10810	4960	8150	5390	2760	1320	12900	5920	9730	6440	3290	1580	14990	6880	11310	7490	3820	1840
		W	1910	870	1440	960	480	230	1810	830	1370	910	460	220	1710	790	1300	860	440	210
-10	-23.3	Q(Btu/h)	9570	4390	7230	4790	2440	1170	12000	5510	9070	6000	3060	1470	14430	6630	10910	7210	3680	1770
		W	1840	840	1390	920	460	220	1750	800	1320	870	440	210	1660	760	1250	820	420	200

* Above data is for heating operation without any frost.

MUZ-FX12NLHZ

1) COOLING

Rated
Q(Btu/h): 12000
W: 780

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)	14540	11040	11030	7520	3840	2260	13770	10260	10440	7120	3630	2140	12940	9360	9810	6690	3410	2010
		W	1960	900	1450	940	420	190	1840	870	1370	890	390	180	1760	830	1300	850	380	180
110	43.3	Q(Btu/h)	15170	11520	11520	7860	4010	2360	14370	10710	10900	7440	3790	2240	13500	9810	10250	6990	3560	2110
		W	1920	880	1420	920	410	190	1800	850	1340	870	380	180	1720	820	1270	830	370	180
105	40.6	Q(Btu/h)	15800	12000	12000	8180	4170	2460	14970	11160	11360	7750	3950	2330	14060	10260	10680	7280	3710	2190
		W	1870	860	1380	900	400	180	1760	830	1300	850	370	170	1680	800	1240	810	360	170
100	37.8	Q(Btu/h)	16410	12450	12460	8490	4330	2550	15540	11580	11790	8040	4100	2420	14600	10770	11080	7560	3850	2280
		W	1820	840	1340	880	380	180	1710	810	1270	830	360	170	1640	770	1210	790	350	170
95	35.0	Q(Btu/h)	17000	12900	12900	8800	4490	2640	16100	12000	12210	8330	4250	2500	15130	11280	11480	7830	3990	2350
		W	1770	820	1300	850	370	170	1660	780	1230	800	350	160	1590	740	1170	760	340	160
90	32.2	Q(Btu/h)	17680	13320	13420	9150	4670	2740	16750	12480	12700	8670	4420	2600	15740	11700	11940	8150	4150	2450
		W	1700	790	1260	820	360	170	1600	750	1190	770	340	160	1530	720	1130	740	330	160
85	29.4	Q(Btu/h)	18360	13740	13940	9500	4850	2850	17390	12960	13190	9000	4590	2700	16340	12120	12400	8460	4310	2540
		W	1640	760	1210	780	340	160	1540	720	1140	740	320	150	1470	690	1080	710	310	150
80	26.7	Q(Btu/h)	19040	14220	14450	9850	5030	2950	18040	13440	13680	9330	4760	2800	16950	12600	12860	8770	4470	2640
		W	1570	730	1150	750	330	150	1470	690	1090	710	310	140	1410	660	1040	680	300	140
75	23.9	Q(Btu/h)	19720	14700	14960	10200	5210	3060	18680	13920	14160	9660	4930	2900	17550	13080	13310	9080	4630	2730
		W	1480	690	1090	710	310	140	1390	660	1030	670	290	130	1330	620	980	640	280	130
70	21.1	Q(Btu/h)	20400	15210	15480	10560	5390	3170	19320	14400	14650	10000	5100	3000	18150	13530	13770	9400	4790	2820
		W	1410	650	1040	680	300	140	1320	620	980	640	280	130	1260	580	930	610	270	130
65	18.3	Q(Btu/h)	17420	12990	13130	8820	4310	2370	16500	12300	12430	8350	4080	2240	15500	11560	11680	7850	3830	2110
		W	1630	750	1210	820	410	230	1524	720	1140	770	380	210	1450	670	1080	730	370	210
60	15.6	Q(Btu/h)	17420	12990	13130	8820	4310	2370	16500	12300	12430	8350	4080	2240	15500	11560	11680	7850	3830	2110
		W	1630	750	1210	820	410	230	1524	720	1140	770	380	210	1450	670	1080	730	370	210
55	12.8	Q(Btu/h)	17420	12990	13130	8820	4310	2370	16500	12300	12430	8350	4080	2240	15500	11560	11680	7850	3830	2110
		W	1630	750	1210	820	410	230	1524	720	1140	770	380	210	1450	670	1080	730	370	210
50	10.0	Q(Btu/h)	17420	12990	13130	8820	4310	2370	16500	12300	12430	8350	4080	2240	15500	11560	11680	7850	3830	2110
		W	1630	750	1210	820	410	230	1524	720	1140	770	380	210	1450	670	1080	730	370	210
45	7.2	Q(Btu/h)	17420	12990	13130	8820	4310	2370	16500	12300	12430	8350	4080	2240	15500	11560	11680	7850	3830	2110
		W	1630	750	1210	820	410	230	1524	720	1140	770	380	210	1450	670	1080	730	370	210
40	4.4	Q(Btu/h)	17420	12990	13130	8820	4310	2370	16500	12300	12430	8350	4080	2240	15500	11560	11680	7850	3830	2110
		W	1630	750	1210	820	410	230	1524	720	1140	770	380	210	1450	670	1080	730	370	210
35	1.7	Q(Btu/h)	17420	12990	13130	8820	4310	2370	16500	12300	12430	8350	4080	2240	15500	11560	11680	7850	3830	2110
		W	1630	750	1210	820	410	230	1524	720	1140	770	380	210	1450	670	1080	730	370	210
30	-1.1	Q(Btu/h)	17420	12990	13130	8820	4310	2370	16500	12300	12430	8350	4080	2240	15500	11560	11680	7850	3830	2110
		W	1630	750	1210	820	410	230	1524	720	1140	770	380	210	1450	670	1080	730	370	210
25	-3.9	Q(Btu/h)	17420	12990	13130	8820	4310	2370	16500	12300	12430	8350	4080	2240	15500	11560	11680	7850	3830	2110
		W	1630	750	1210	820	410	230	1524	720	1140	770	380	210	1450	670	1080	730	370	210
20	-6.7	Q(Btu/h)	17420	12990	13130	8820	4310	2370	16500	12300	12430	8350	4080	2240	15500	11560	11680	7850	3830	2110
		W	1630	750	1210	820	410	230	1524	720	1140	770	380	210	1450	670	1080	730	370	210
15	-9.4	Q(Btu/h)	17420	12990	13130	8820	4310	2370	16500	12300	12430	8350	4080	2240	15500	11560	11680	7850	3830	2110
		W	1630	750	1210	820	410	230	1524	720	1140	770	380	210	1450	670	1080	730	370	210

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

MUZ-FX12NLHZ

2) HEATING

Rated
Q(Btu/h): 13200
W: 920

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)	29350	16490	22090	14820	7260	3350	30550	17160	22990	15420	7560	3490	31750	17830	23890	16020	7860	3630
		W	2430	1040	1830	1230	610	280	2310	990	1740	1170	580	270	2190	940	1650	1110	550	260
60	15.6	Q(Btu/h)	27770	15600	20900	14010	6870	3170	28970	16270	21800	14620	7170	3310	30170	16940	22700	15230	7470	3450
		W	2410	1040	1810	1210	590	270	2290	990	1720	1150	560	260	2170	940	1630	1090	530	250
55	12.8	Q(Btu/h)	26160	14690	19680	13200	6480	2990	27380	15380	20600	13820	6780	3130	28600	16070	21520	14440	7080	3270
		W	2390	1030	1790	1200	590	270	2270	980	1700	1140	560	260	2150	930	1610	1080	530	250
50	10.0	Q(Btu/h)	24560	13790	18470	12390	6080	2810	25800	14490	19410	13020	6390	2950	27040	15190	20350	13650	6700	3090
		W	2350	1010	1770	1190	590	270	2230	960	1680	1130	560	260	2110	910	1590	1070	530	250
45	7.2	Q(Btu/h)	22960	12900	17270	11590	5680	2620	24210	13600	18210	12220	5990	2760	25460	14300	19150	12850	6300	2900
		W	2300	990	1730	1160	570	260	2180	940	1640	1100	540	250	2060	890	1550	1040	510	240
43	6.1	Q(Btu/h)	22250	12500	16740	11230	5510	2940	23500	13200	17680	11860	5820	3100	24750	13900	18620	12490	6130	3260
		W	2250	970	1710	1150	560	190	2140	920	1620	1090	530	180	2030	870	1530	1030	500	170
40	4.4	Q(Btu/h)	21640	11940	16280	10920	5360	2480	22900	12640	17230	11560	5670	2620	24160	13340	18180	12200	5980	2760
		W	2250	960	1710	1150	560	250	2140	910	1620	1090	530	240	2030	860	1530	1030	500	230
35	1.7	Q(Btu/h)	20710	11000	15580	10450	5130	2370	22000	11680	16550	11100	5450	2520	23290	12360	17520	11750	5770	2670
		W	2250	920	1710	1150	560	250	2140	870	1620	1090	530	240	2030	820	1530	1030	500	230
30	-1.1	Q(Btu/h)	19690	10120	14810	9940	4880	2250	21000	10790	15800	10600	5200	2400	22310	11460	16790	11260	5520	2550
		W	2250	870	1710	1150	560	250	2140	830	1620	1090	530	240	2030	790	1530	1030	500	230
25	-3.9	Q(Btu/h)	18760	9240	14110	9470	4650	2150	20100	9900	15120	10150	4980	2300	21440	10560	16130	10830	5310	2450
		W	2250	830	1710	1150	560	250	2140	790	1620	1090	530	240	2030	750	1530	1030	500	230
20	-6.7	Q(Btu/h)	17710	8350	13320	8940	4390	2020	19100	9010	14370	9640	4730	2180	20490	9670	15420	10340	5070	2340
		W	2250	770	1710	1150	560	250	2140	730	1620	1090	530	240	2030	690	1530	1030	500	230
15	-9.4	Q(Btu/h)	16720	7460	12580	8440	4140	1910	18200	8120	13690	9190	4510	2080	19680	8780	14800	9940	4880	2250
		W	2250	700	1710	1150	560	250	2140	660	1620	1090	530	240	2030	620	1530	1030	500	230
10	-12.2	Q(Btu/h)	15600	6530	11740	7870	3860	1790	17200	7200	12940	8680	4260	1970	18800	7870	14140	9490	4660	2150
		W	2250	620	1710	1150	560	250	2140	590	1620	1090	530	240	2030	560	1530	1030	500	230
5	-15.0	Q(Btu/h)	14430	5580	10860	7290	3570	1650	16200	6270	12190	8180	4010	1850	17970	6960	13520	9070	4450	2050
		W	2250	550	1710	1150	560	250	2140	520	1620	1090	530	240	2030	490	1530	1030	500	230
0	-17.8	Q(Btu/h)	13190	5920	9930	6660	3260	1510	15200	6820	11440	7670	3760	1740	17210	7720	12950	8680	4260	1970
		W	2210	820	1660	1120	550	250	2100	780	1580	1060	520	240	1990	740	1500	1000	490	230
-5	-20.6	Q(Btu/h)	11890	6170	8950	6010	2950	1360	14200	7370	10680	7170	3520	1620	16510	8570	12410	8330	4090	1880
		W	2110	1100	1580	1060	530	240	2000	1040	1500	1010	500	230	1890	980	1420	960	470	220
-10	-23.3	Q(Btu/h)	10530	5460	7920	5310	2610	1200	13200	6850	9930	6660	3270	1510	15870	8240	11940	8010	3930	1820
		W	2020	1050	1530	1030	510	230	1920	1000	1450	980	480	220	1820	950	1370	930	450	210

* Above data is for heating operation without any frost.

MUZ-FX15NLHZ

Rated
Q(Btu/h): 15000
W: 1020

1) COOLING

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)	17240	13800	13220	9010	4990	3340	16330	12830	12520	8530	4720	3160	15340	11700	11770	8010	4440	2970
		W	2590	1170	1930	1240	580	300	2440	1130	1820	1170	540	290	2320	1080	1730	1120	510	280
110	43.3	Q(Btu/h)	18000	14400	13800	9410	5210	3480	17050	13390	13070	8910	4930	3300	16020	12270	12280	8370	4640	3100
		W	2530	1150	1880	1200	570	300	2390	1110	1780	1140	530	290	2270	1060	1690	1090	500	280
105	40.6	Q(Btu/h)	18750	15000	14380	9800	5420	3630	17760	13950	13620	9280	5130	3440	16690	12830	12800	8720	4830	3230
		W	2470	1130	1840	1170	560	290	2330	1080	1740	1110	520	280	2220	1040	1650	1060	490	270
100	37.8	Q(Btu/h)	19460	15570	14920	10170	5630	3770	18430	14480	14130	9630	5330	3570	17320	13470	13280	9050	5010	3350
		W	2400	1100	1790	1140	550	280	2270	1050	1690	1080	510	270	2160	1010	1600	1030	490	260
95	35.0	Q(Btu/h)	20170	16130	15460	10540	5830	3910	19100	15000	14640	9980	5520	3700	17950	14100	13760	9380	5190	3480
		W	2330	1070	1740	1110	530	270	2200	1020	1640	1050	490	260	2090	970	1560	1000	470	250
90	32.2	Q(Btu/h)	20980	16660	16080	10960	6060	4070	19870	15600	15230	10380	5740	3850	18670	14630	14320	9750	5400	3620
		W	2250	1030	1670	1070	500	260	2120	980	1580	1010	470	250	2020	940	1500	960	450	240
85	29.4	Q(Btu/h)	21780	17180	16690	11390	6300	4220	20630	16200	15810	10780	5960	4000	19380	15150	14860	10130	5610	3760
		W	2160	990	1610	1030	480	250	2040	940	1520	970	450	240	1940	900	1440	930	430	230
80	26.7	Q(Btu/h)	22600	17780	17320	11810	6530	4380	21400	16800	16400	11180	6180	4150	20110	15750	15410	10500	5810	3900
		W	2070	950	1530	980	460	240	1950	900	1450	930	430	230	1860	860	1380	890	410	220
75	23.9	Q(Btu/h)	23400	18380	17930	12230	6760	4530	22160	17400	16980	11580	6400	4290	20820	16350	15960	10880	6020	4030
		W	1960	910	1460	930	440	230	1850	860	1380	880	410	220	1760	820	1310	840	390	210
70	21.1	Q(Btu/h)	24200	19010	18550	12650	6990	4690	22920	18000	17570	11980	6620	4440	21530	16910	16510	11260	6230	4170
		W	1850	860	1390	890	420	220	1750	810	1310	840	390	210	1660	770	1240	800	370	200
65	18.3	Q(Btu/h)	20670	16240	15610	10330	5280	3210	19580	15380	14790	9780	5000	3040	18390	14450	13900	9190	4710	2860
		W	3060	1420	2320	1540	800	470	2898	1340	2190	1450	740	450	2750	1270	2070	1380	700	430
60	15.6	Q(Btu/h)	20670	16240	15610	10330	5280	3210	19580	15380	14790	9780	5000	3040	18390	14450	13900	9190	4710	2860
		W	3060	1420	2320	1540	800	470	2898	1340	2190	1450	740	450	2750	1270	2070	1380	700	430
55	12.8	Q(Btu/h)	20670	16240	15610	10330	5280	3210	19580	15380	14790	9780	5000	3040	18390	14450	13900	9190	4710	2860
		W	3060	1420	2320	1540	800	470	2898	1340	2190	1450	740	450	2750	1270	2070	1380	700	430
50	10.0	Q(Btu/h)	20670	16240	15610	10330	5280	3210	19580	15380	14790	9780	5000	3040	18390	14450	13900	9190	4710	2860
		W	3060	1420	2320	1540	800	470	2898	1340	2190	1450	740	450	2750	1270	2070	1380	700	430
45	7.2	Q(Btu/h)	20670	16240	15610	10330	5280	3210	19580	15380	14790	9780	5000	3040	18390	14450	13900	9190	4710	2860
		W	3060	1420	2320	1540	800	470	2898	1340	2190	1450	740	450	2750	1270	2070	1380	700	430
40	4.4	Q(Btu/h)	20670	16240	15610	10330	5280	3210	19580	15380	14790	9780	5000	3040	18390	14450	13900	9190	4710	2860
		W	3060	1420	2320	1540	800	470	2898	1340	2190	1450	740	450	2750	1270	2070	1380	700	430
35	1.7	Q(Btu/h)	20670	16240	15610	10330	5280	3210	19580	15380	14790	9780	5000	3040	18390	14450	13900	9190	4710	2860
		W	3060	1420	2320	1540	800	470	2898	1340	2190	1450	740	450	2750	1270	2070	1380	700	430
30	-1.1	Q(Btu/h)	20670	16240	15610	10330	5280	3210	19580	15380	14790	9780	5000	3040	18390	14450	13900	9190	4710	2860
		W	3060	1420	2320	1540	800	470	2898	1340	2190	1450	740	450	2750	1270	2070	1380	700	430
25	-3.9	Q(Btu/h)	20670	16240	15610	10330	5280	3210	19580	15380	14790	9780	5000	3040	18390	14450	13900	9190	4710	2860
		W	3060	1420	2320	1540	800	470	2898	1340	2190	1450	740	450	2750	1270	2070	1380	700	430
20	-6.7	Q(Btu/h)	20670	16240	15610	10330	5280	3210	19580	15380	14790	9780	5000	3040	18390	14450	13900	9190	4710	2860
		W	3060	1420	2320	1540	800	470	2898	1340	2190	1450	740	450	2750	1270	2070	1380	700	430
15	-9.4	Q(Btu/h)	20670	16240	15610	10330	5280	3210	19580	15380	14790	9780	5000	3040	18390	14450	13900	9190	4710	2860
		W	3060	1420	2320	1540	800	470	2898	1340	2190	1450	740	450	2750	1270	2070	1380	700	430

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

MUZ-FX15NLHZ

2) HEATING

Rated
Q(Btu/h): 16500
W: 1080

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)	35470	20610	26510	17940	8960	5840	36920	21450	27590	18670	9330	6080	38370	22290	28670	19400	9700	6320
		W	2990	1230	2230	1510	760	500	2840	1170	2120	1430	720	470	2690	1110	2010	1350	680	440
60	15.6	Q(Btu/h)	33560	19500	25080	16980	8490	5540	35010	20340	26170	17710	8860	5780	36460	21180	27260	18440	9230	6020
		W	2970	1220	2220	1510	760	500	2820	1160	2110	1430	720	470	2670	1100	2000	1350	680	440
55	12.8	Q(Btu/h)	31610	18360	23630	15980	7990	5210	33090	19220	24730	16730	8360	5450	34570	20080	25830	17480	8730	5690
		W	2940	1200	2190	1490	740	480	2790	1140	2080	1410	700	460	2640	1080	1970	1330	660	440
50	10.0	Q(Btu/h)	29670	17240	22180	15010	7500	4890	31170	18110	23300	15770	7880	5140	32670	18980	24420	16530	8260	5390
		W	2890	1180	2160	1460	740	480	2740	1120	2050	1390	700	460	2590	1060	1940	1320	660	440
45	7.2	Q(Btu/h)	27740	16120	20730	14030	7010	4570	29250	17000	21860	14790	7390	4820	30760	17880	22990	15550	7770	5070
		W	2820	1160	2110	1420	720	460	2680	1100	2000	1350	680	440	2540	1040	1890	1280	640	420
43	6.1	Q(Btu/h)	26890	15620	20090	13590	6790	4880	28400	16500	21220	14350	7170	5150	29910	17380	22350	15110	7550	5420
		W	2770	1140	2080	1400	700	290	2630	1080	1970	1330	660	280	2490	1020	1860	1260	620	270
40	4.4	Q(Btu/h)	26640	14930	19910	13460	6730	4380	28200	15800	21070	14250	7120	4640	29760	16670	22230	15040	7510	4900
		W	2890	1130	2160	1460	740	480	2740	1070	2050	1390	700	460	2590	1010	1940	1320	660	440
35	1.7	Q(Btu/h)	26260	13740	19630	13270	6640	4330	27900	14600	20850	14100	7050	4600	29540	15460	22070	14930	7460	4870
		W	3100	1090	2320	1570	790	520	2940	1030	2200	1490	750	490	2780	970	2080	1410	710	460
30	-1.1	Q(Btu/h)	25790	12650	19270	13030	6520	4250	27500	13490	20550	13900	6950	4530	29210	14330	21830	14770	7380	4810
		W	3300	1030	2470	1660	830	550	3130	980	2340	1580	790	520	2960	930	2210	1500	750	490
25	-3.9	Q(Btu/h)	25380	11550	18970	12830	6410	4180	27200	12380	20330	13750	6870	4480	29020	13210	21690	14670	7330	4780
		W	3500	970	2610	1770	880	580	3320	920	2480	1680	840	550	3140	870	2350	1590	800	520
20	-6.7	Q(Btu/h)	24850	10450	18570	12560	6280	4100	26800	11270	20030	13550	6770	4420	28750	12090	21490	14540	7260	4740
		W	3700	900	2760	1860	940	610	3510	850	2620	1770	890	580	3320	800	2480	1680	840	550
15	-9.4	Q(Btu/h)	24350	9330	18190	12300	6160	4020	26500	10150	19800	13390	6700	4370	28650	10970	21410	14480	7240	4720
		W	3900	820	2910	1970	980	640	3700	780	2760	1870	930	610	3500	740	2610	1770	880	580
10	-12.2	Q(Btu/h)	22090	8160	16500	11160	5580	3640	24350	9000	18190	12300	6150	4010	26610	9840	19880	13440	6720	4380
		W	3540	740	2650	1800	910	590	3360	700	2520	1710	860	560	3180	660	2390	1620	810	530
5	-15.0	Q(Btu/h)	19770	6980	14770	9990	5000	3260	22200	7840	16580	11220	5610	3660	24630	8700	18390	12450	6220	4060
		W	3180	640	2370	1600	800	530	3020	610	2250	1520	760	500	2860	580	2130	1440	720	470
0	-17.8	Q(Btu/h)	17620	7620	13160	8900	4440	2900	20300	8780	15160	10250	5120	3340	22980	9940	17160	11600	5800	3780
		W	3060	1100	2280	1540	770	510	2900	1040	2160	1460	730	480	2740	980	2040	1380	690	450
-5	-20.6	Q(Btu/h)	15410	8130	11520	7790	3890	2540	18400	9710	13750	9300	4650	3030	21390	11290	15980	10810	5410	3520
		W	2920	1540	2190	1490	740	480	2770	1460	2080	1410	700	460	2620	1380	1970	1330	660	440
-10	-23.3	Q(Btu/h)	13160	6940	9830	6650	3330	2170	16500	8700	12330	8340	4170	2720	19840	10460	14830	10030	5010	3270
		W	2790	1470	2090	1410	710	460	2650	1400	1980	1340	670	440	2510	1330	1870	1270	630	420

* Above data is for heating operation without any frost.

MUZ-FX18NLHZ

Rated
Q(Btu/h): 17200
W: 1320

1) COOLING

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)	19410	15820	14650	10080	5330	3340	18380	14710	13880	9550	5040	3160	17270	13420	13040	8980	4740	2970
		W	2780	1520	2050	1340	610	300	2620	1470	1930	1270	580	290	2500	1400	1840	1200	550	280
110	43.3	Q(Btu/h)	20270	16510	15300	10520	5570	3480	19190	15360	14490	9970	5270	3300	18040	14070	13610	9370	4950	3100
		W	2720	1490	2010	1300	600	300	2560	1440	1890	1240	570	290	2440	1380	1800	1180	540	280
105	40.6	Q(Btu/h)	21120	17200	15930	10970	5800	3630	20000	16000	15090	10390	5490	3440	18800	14710	14180	9760	5160	3230
		W	2650	1460	1950	1270	580	290	2500	1400	1840	1210	550	280	2390	1350	1750	1150	530	270
100	37.8	Q(Btu/h)	21910	17850	16530	11380	6030	3770	20750	16600	15660	10780	5700	3570	19500	15440	14710	10130	5360	3350
		W	2580	1430	1900	1240	560	280	2430	1360	1790	1180	540	270	2320	1310	1700	1120	520	260
95	35.0	Q(Btu/h)	22710	18490	17140	11790	6240	3910	21500	17200	16230	11170	5900	3700	20210	16170	15250	10500	5550	3480
		W	2500	1390	1850	1200	540	270	2360	1320	1740	1140	520	260	2250	1260	1660	1080	500	250
90	32.2	Q(Btu/h)	23620	19090	17820	12270	6490	4070	22360	17890	16880	11620	6140	3850	21020	16770	15860	10920	5770	3620
		W	2410	1340	1780	1160	520	260	2270	1270	1680	1100	500	250	2170	1220	1600	1040	480	240
85	29.4	Q(Btu/h)	24520	19690	18510	12730	6730	4220	23220	18580	17530	12060	6370	4000	21820	17370	16470	11330	5990	3760
		W	2310	1290	1710	1100	500	250	2180	1220	1610	1050	480	240	2080	1170	1530	1000	460	230
80	26.7	Q(Btu/h)	25430	20380	19190	13210	6990	4380	24080	19270	18180	12510	6610	4150	22630	18060	17080	11760	6210	3900
		W	2210	1230	1630	1060	480	240	2080	1170	1540	1010	460	230	1990	1120	1470	960	440	220
75	23.9	Q(Btu/h)	26340	21070	19880	13680	7230	4530	24940	19950	18830	12960	6840	4290	23440	18750	17690	12180	6430	4030
		W	2100	1170	1550	1010	460	230	1980	1110	1460	960	440	220	1890	1060	1390	910	420	210
70	21.1	Q(Btu/h)	27250	21800	20570	14140	7480	4690	25800	20640	19480	13400	7080	4440	24250	19400	18300	12590	6660	4170
		W	1990	1110	1480	960	430	220	1880	1050	1390	910	410	210	1790	1000	1320	860	390	200
65	18.3	Q(Btu/h)	23280	18620	17390	11740	5870	3420	22040	17630	16470	11130	5560	3240	20720	16570	15470	10460	5230	3040
		W	3070	1710	2300	1550	780	450	2898	1620	2160	1470	740	430	2760	1540	2050	1390	700	410
60	15.6	Q(Btu/h)	23280	18620	17390	11740	5870	3420	22040	17630	16470	11130	5560	3240	20720	16570	15470	10460	5230	3040
		W	3070	1710	2300	1550	780	450	2898	1620	2160	1470	740	430	2760	1540	2050	1390	700	410
55	12.8	Q(Btu/h)	23280	18620	17390	11740	5870	3420	22040	17630	16470	11130	5560	3240	20720	16570	15470	10460	5230	3040
		W	3070	1710	2300	1550	780	450	2898	1620	2160	1470	740	430	2760	1540	2050	1390	700	410
50	10.0	Q(Btu/h)	23280	18620	17390	11740	5870	3420	22040	17630	16470	11130	5560	3240	20720	16570	15470	10460	5230	3040
		W	3070	1710	2300	1550	780	450	2898	1620	2160	1470	740	430	2760	1540	2050	1390	700	410
45	7.2	Q(Btu/h)	23280	18620	17390	11740	5870	3420	22040	17630	16470	11130	5560	3240	20720	16570	15470	10460	5230	3040
		W	3070	1710	2300	1550	780	450	2898	1620	2160	1470	740	430	2760	1540	2050	1390	700	410
40	4.4	Q(Btu/h)	23280	18620	17390	11740	5870	3420	22040	17630	16470	11130	5560	3240	20720	16570	15470	10460	5230	3040
		W	3070	1710	2300	1550	780	450	2898	1620	2160	1470	740	430	2760	1540	2050	1390	700	410
35	1.7	Q(Btu/h)	23280	18620	17390	11740	5870	3420	22040	17630	16470	11130	5560	3240	20720	16570	15470	10460	5230	3040
		W	3070	1710	2300	1550	780	450	2898	1620	2160	1470	740	430	2760	1540	2050	1390	700	410
30	-1.1	Q(Btu/h)	23280	18620	17390	11740	5870	3420	22040	17630	16470	11130	5560	3240	20720	16570	15470	10460	5230	3040
		W	3070	1710	2300	1550	780	450	2898	1620	2160	1470	740	430	2760	1540	2050	1390	700	410
25	-3.9	Q(Btu/h)	23280	18620	17390	11740	5870	3420	22040	17630	16470	11130	5560	3240	20720	16570	15470	10460	5230	3040
		W	3070	1710	2300	1550	780	450	2898	1620	2160	1470	740	430	2760	1540	2050	1390	700	410
20	-6.7	Q(Btu/h)	23280	18620	17390	11740	5870	3420	22040	17630	16470	11130	5560	3240	20720	16570	15470	10460	5230	3040
		W	3070	1710	2300	1550	780	450	2898	1620	2160	1470	740	430	2760	1540	2050	1390	700	410
15	-9.4	Q(Btu/h)	23280	18620	17390	11740	5870	3420	22040	17630	16470	11130	5560	3240	20720	16570	15470	10460	5230	3040
		W	3070	1710	2300	1550	780	450	2898	1620	2160	1470	740	430	2760	1540	2050	1390	700	410

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

MUZ-FX18NLHZ

2) HEATING

Rated
Q(Btu/h): 17000
W: 1390

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)	37720	21240	28190	19050	9530	5960	39260	22100	29340	19830	9920	6200	40800	22960	30490	20610	10310	6440
		W	3290	1580	2450	1650	820	520	3120	1500	2330	1570	780	490	2950	1420	2210	1490	740	460
60	15.6	Q(Btu/h)	35680	20090	26660	18020	9010	5640	37220	20960	27810	18800	9400	5880	38760	21830	28960	19580	9790	6120
		W	3260	1570	2430	1640	820	520	3090	1490	2310	1560	780	490	2920	1410	2190	1480	740	460
55	12.8	Q(Btu/h)	33610	18930	25130	16990	8490	5310	35180	19810	26300	17780	8890	5560	36750	20690	27470	18570	9290	5810
		W	3220	1550	2410	1630	820	520	3060	1470	2290	1550	780	490	2900	1390	2170	1470	740	460
50	10.0	Q(Btu/h)	31550	17760	23590	15940	7970	4980	33150	18660	24780	16750	8370	5230	34750	19560	25970	17560	8770	5480
		W	3170	1530	2360	1600	800	510	3010	1450	2240	1520	760	480	2850	1370	2120	1440	720	450
45	7.2	Q(Btu/h)	29500	16600	22050	14910	7450	4660	31110	17510	23250	15720	7860	4910	32720	18420	24450	16530	8270	5160
		W	3110	1500	2320	1570	790	500	2950	1420	2200	1490	750	470	2790	1340	2080	1410	710	440
43	6.1	Q(Btu/h)	28600	16100	21370	14450	7220	4880	30200	17000	22570	15260	7630	5150	31800	17900	23770	16070	8040	5420
		W	3040	1460	2290	1550	770	290	2890	1390	2170	1470	730	280	2740	1320	2050	1390	690	270
40	4.4	Q(Btu/h)	28350	15380	21180	14320	7160	4480	30000	16280	22420	15160	7580	4740	31650	17180	23660	16000	8000	5000
		W	3150	1440	2350	1590	800	510	2990	1370	2230	1510	760	480	2830	1300	2110	1430	720	450
35	1.7	Q(Btu/h)	27870	14170	20820	14080	7040	4410	29600	15050	22120	14960	7480	4680	31330	15930	23420	15840	7920	4950
		W	3330	1390	2490	1680	840	530	3160	1320	2360	1590	800	500	2990	1250	2230	1500	760	470
30	-1.1	Q(Btu/h)	27470	13030	20530	13880	6940	4340	29300	13900	21900	14800	7400	4630	31130	14770	23270	15720	7860	4920
		W	3510	1330	2620	1770	880	560	3330	1260	2490	1680	840	530	3150	1190	2360	1590	800	500
25	-3.9	Q(Btu/h)	26980	11900	20160	13630	6820	4260	28910	12750	21610	14610	7310	4570	30840	13600	23060	15590	7800	4880
		W	3680	1250	2750	1860	930	580	3490	1190	2610	1770	880	550	3300	1130	2470	1680	830	520
20	-6.7	Q(Btu/h)	26480	10760	19780	13380	6680	4180	28560	11610	21340	14430	7210	4510	30640	12460	22900	15480	7740	4840
		W	3860	1160	2890	1950	970	610	3660	1100	2740	1850	920	580	3460	1040	2590	1750	870	550
15	-9.4	Q(Btu/h)	25910	9610	19370	13090	6540	4090	28200	10460	21080	14250	7120	4450	30490	11310	22790	15410	7700	4810
		W	4040	1050	3020	2040	1020	640	3830	1000	2870	1940	970	610	3630	950	2720	1840	920	580
10	-12.2	Q(Btu/h)	23490	8410	17560	11870	5930	3710	25900	9270	19360	13090	6540	4090	28310	10130	21160	14310	7150	4470
		W	3780	950	2820	1910	950	590	3590	900	2680	1810	900	560	3400	850	2540	1710	850	530
5	-15.0	Q(Btu/h)	21020	7200	15710	10620	5310	3320	23600	8080	17640	11920	5960	3730	26180	8960	19570	13220	6610	4140
		W	3530	830	2630	1780	900	560	3350	790	2500	1690	850	530	3170	750	2370	1600	800	500
0	-17.8	Q(Btu/h)	18750	8680	14010	9470	4740	2960	21600	10000	16140	10910	5460	3410	24450	11320	18270	12350	6180	3860
		W	3340	1380	2500	1690	840	530	3170	1310	2370	1600	800	500	3000	1240	2240	1510	760	470
-5	-20.6	Q(Btu/h)	16330	9980	12200	8250	4130	2580	19500	11910	14570	9850	4930	3080	22670	13840	16940	11450	5730	3580
		W	3150	1930	2350	1590	800	510	2990	1830	2230	1510	760	480	2830	1730	2110	1430	720	450
-10	-23.3	Q(Btu/h)	13960	8520	10430	7050	3530	2200	17500	10680	13080	8840	4420	2760	21040	12840	15730	10630	5310	3320
		W	2960	1810	2200	1490	750	460	2810	1720	2090	1410	710	440	2660	1630	1980	1330	670	420

* Above data is for heating operation without any frost.

MUZ-FX24NLHZ

Rated
Q(Btu/h): 20800
W: 1560

1) COOLING

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)	23930	19140	17730	11800	5610	2260	22660	17780	16790	11170	5310	2140	21300	16220	15780	10500	4990	2010
		W	3960	1790	2920	1920	870	300	3740	1730	2750	1810	820	290	3570	1650	2620	1720	780	280
110	43.3	Q(Btu/h)	24980	19970	18520	12320	5870	2360	23660	18560	17530	11670	5550	2240	22240	17000	16480	10970	5220	2110
		W	3880	1760	2860	1870	850	300	3660	1690	2690	1770	800	290	3490	1620	2560	1680	760	280
105	40.6	Q(Btu/h)	26030	20800	19300	12840	6110	2460	24650	19340	18270	12160	5780	2330	23170	17780	17170	11430	5430	2190
		W	3780	1720	2790	1830	830	290	3570	1650	2630	1730	780	280	3410	1590	2500	1640	740	270
100	37.8	Q(Btu/h)	27010	21580	20030	13330	6340	2550	25580	20070	18960	12620	6000	2420	24040	18670	17820	11860	5640	2280
		W	3680	1680	2720	1780	810	280	3470	1610	2560	1680	760	270	3310	1540	2440	1590	720	260
95	35.0	Q(Btu/h)	27980	22360	20740	13800	6560	2640	26500	20800	19640	13070	6210	2500	24910	19550	18460	12290	5840	2350
		W	3570	1640	2640	1730	790	270	3370	1560	2480	1630	740	260	3220	1490	2360	1550	700	250
90	32.2	Q(Btu/h)	29100	23090	21580	14360	6830	2740	27560	21630	20430	13600	6460	2600	25900	20280	19200	12780	6070	2450
		W	3450	1580	2540	1660	760	260	3250	1500	2390	1570	710	250	3100	1440	2280	1490	680	240
85	29.4	Q(Btu/h)	30220	23820	22400	14910	7090	2850	28620	22460	21210	14120	6710	2700	26900	21010	19930	13270	6310	2540
		W	3310	1520	2430	1600	720	250	3120	1440	2290	1510	680	240	2980	1380	2180	1430	650	230
80	26.7	Q(Btu/h)	31340	24650	23240	15460	7360	2950	29680	23300	22000	14640	6960	2800	27890	21840	20680	13760	6540	2640
		W	3160	1460	2330	1520	690	240	2980	1380	2190	1440	650	230	2840	1320	2080	1370	620	220
75	23.9	Q(Btu/h)	32460	25480	24060	16010	7610	3060	30740	24130	22780	15160	7200	2900	28890	22670	21410	14250	6770	2730
		W	3000	1390	2210	1450	660	230	2830	1310	2080	1370	620	220	2700	1250	1980	1300	590	210
70	21.1	Q(Btu/h)	33580	26360	24890	16560	7870	3170	31800	24960	23570	15680	7450	3000	29890	23450	22150	14740	7010	2820
		W	2850	1320	2100	1380	630	220	2690	1240	1980	1300	590	210	2570	1180	1880	1230	560	200
65	18.3	Q(Btu/h)	28680	22520	21440	14500	7260	3330	27160	21320	20300	13730	6870	3150	25530	20030	19080	12910	6460	2960
		W	2940	1360	2200	1500	750	340	2774	1280	2070	1410	700	320	2650	1220	1970	1330	660	300
60	15.6	Q(Btu/h)	28680	22520	21440	14500	7260	3330	27160	21320	20300	13730	6870	3150	25530	20030	19080	12910	6460	2960
		W	2940	1360	2200	1500	750	340	2774	1280	2070	1410	700	320	2650	1220	1970	1330	660	300
55	12.8	Q(Btu/h)	28680	22520	21440	14500	7260	3330	27160	21320	20300	13730	6870	3150	25530	20030	19080	12910	6460	2960
		W	2940	1360	2200	1500	750	340	2774	1280	2070	1410	700	320	2650	1220	1970	1330	660	300
50	10.0	Q(Btu/h)	28680	22520	21440	14500	7260	3330	27160	21320	20300	13730	6870	3150	25530	20030	19080	12910	6460	2960
		W	2940	1360	2200	1500	750	340	2774	1280	2070	1410	700	320	2650	1220	1970	1330	660	300
45	7.2	Q(Btu/h)	28680	22520	21440	14500	7260	3330	27160	21320	20300	13730	6870	3150	25530	20030	19080	12910	6460	2960
		W	2940	1360	2200	1500	750	340	2774	1280	2070	1410	700	320	2650	1220	1970	1330	660	300
40	4.4	Q(Btu/h)	28680	22520	21440	14500	7260	3330	27160	21320	20300	13730	6870	3150	25530	20030	19080	12910	6460	2960
		W	2940	1360	2200	1500	750	340	2774	1280	2070	1410	700	320	2650	1220	1970	1330	660	300
35	1.7	Q(Btu/h)	28680	22520	21440	14500	7260	3330	27160	21320	20300	13730	6870	3150	25530	20030	19080	12910	6460	2960
		W	2940	1360	2200	1500	750	340	2774	1280	2070	1410	700	320	2650	1220	1970	1330	660	300
30	-1.1	Q(Btu/h)	28680	22520	21440	14500	7260	3330	27160	21320	20300	13730	6870	3150	25530	20030	19080	12910	6460	2960
		W	2940	1360	2200	1500	750	340	2774	1280	2070	1410	700	320	2650	1220	1970	1330	660	300
25	-3.9	Q(Btu/h)	28680	22520	21440	14500	7260	3330	27160	21320	20300	13730	6870	3150	25530	20030	19080	12910	6460	2960
		W	2940	1360	2200	1500	750	340	2774	1280	2070	1410	700	320	2650	1220	1970	1330	660	300
20	-6.7	Q(Btu/h)	28680	22520	21440	14500	7260	3330	27160	21320	20300	13730	6870	3150	25530	20030	19080	12910	6460	2960
		W	2940	1360	2200	1500	750	340	2774	1280	2070	1410	700	320	2650	1220	1970	1330	660	300
15	-9.4	Q(Btu/h)	28680	22520	21440	14500	7260	3330	27160	21320	20300	13730	6870	3150	25530	20030	19080	12910	6460	2960
		W	2940	1360	2200	1500	750	340	2774	1280	2070	1410	700	320	2650	1220	1970	1330	660	300

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

MUZ-FX24NLHZ

2) HEATING

Rated
Q(Btu/h): 19800
W: 1500

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)	45220	24730	33920	22620	11310	6690	47060	25740	35300	23540	11770	6960	48900	26750	36680	24460	12230	7230
		W	4090	1710	3060	2030	1020	600	3880	1620	2900	1930	970	570	3670	1530	2740	1830	920	540
60	15.6	Q(Btu/h)	42770	23400	32080	21390	10700	6320	44620	24410	33470	22320	11160	6590	46470	25420	34860	23250	11620	6860
		W	4060	1700	3040	2030	1020	600	3850	1610	2890	1930	970	570	3640	1520	2740	1830	920	540
55	12.8	Q(Btu/h)	40290	22040	30220	20150	10080	5950	42170	23070	31630	21090	10550	6230	44050	24100	33040	22030	11020	6510
		W	4010	1680	3010	2010	1010	600	3810	1590	2860	1910	960	570	3610	1500	2710	1810	910	540
50	10.0	Q(Btu/h)	37820	20680	28360	18910	9460	5590	39730	21730	29800	19870	9940	5870	41640	22780	31240	20830	10420	6150
		W	3940	1640	2960	1980	990	590	3740	1560	2810	1880	940	560	3540	1480	2660	1780	890	530
45	7.2	Q(Btu/h)	35360	19340	26520	17690	8850	5230	37290	20390	27970	18650	9330	5510	39220	21440	29420	19610	9810	5790
		W	3860	1610	2900	1930	970	570	3660	1530	2750	1830	920	540	3460	1450	2600	1730	870	510
43	6.1	Q(Btu/h)	34280	18750	25710	17140	8570	5210	36200	19800	27150	18100	9050	5500	38120	20850	28590	19060	9530	5790
		W	3780	1580	2830	1890	940	340	3590	1500	2690	1790	890	320	3400	1420	2550	1690	840	300
40	4.4	Q(Btu/h)	33540	17910	25160	16770	8390	4960	35500	18960	26630	17750	8880	5250	37460	20010	28100	18730	9370	5540
		W	3800	1560	2860	1910	960	570	3610	1480	2710	1810	910	540	3420	1400	2570	1710	860	510
35	1.7	Q(Btu/h)	32200	16490	24150	16100	8050	4750	34200	17520	25650	17100	8550	5050	36200	18550	27150	18100	9050	5350
		W	3850	1510	2890	1930	970	570	3650	1430	2740	1830	920	540	3450	1350	2590	1730	870	510
30	-1.1	Q(Btu/h)	30940	15180	23210	15470	7740	4580	33000	16190	24750	16500	8250	4880	35060	17200	26290	17530	8760	5180
		W	3890	1430	2910	1940	970	570	3690	1360	2760	1840	920	540	3490	1290	2610	1740	870	510
25	-3.9	Q(Btu/h)	29580	13860	22190	14800	7400	4380	31700	14850	23780	15860	7930	4690	33820	15840	25370	16920	8460	5000
		W	3930	1350	2950	1970	990	590	3730	1280	2800	1870	940	560	3530	1210	2650	1770	890	530
20	-6.7	Q(Btu/h)	28230	12530	21180	14120	7060	4170	30450	13520	22850	15230	7610	4500	32670	14510	24520	16340	8160	4830
		W	3970	1240	2970	1980	990	590	3770	1180	2820	1880	940	560	3570	1120	2670	1780	890	530
15	-9.4	Q(Btu/h)	26830	11190	20110	13410	6710	3960	29200	12180	21890	14590	7300	4310	31570	13170	23670	15770	7890	4660
		W	4000	1140	3000	2000	1000	590	3800	1080	2850	1900	950	560	3600	1020	2700	1800	900	530
10	-12.2	Q(Btu/h)	25310	9800	18980	12660	6330	3740	27900	10800	20930	13960	6980	4120	30490	11800	22880	15260	7630	4500
		W	4000	1020	3000	2000	1000	590	3800	970	2850	1900	950	560	3600	920	2700	1800	900	530
5	-15.0	Q(Btu/h)	23690	8380	17770	11850	5920	3500	26600	9410	19950	13300	6650	3930	29510	10440	22130	14750	7380	4360
		W	3990	900	2990	1990	990	590	3790	850	2840	1890	940	560	3590	800	2690	1790	890	530
0	-17.8	Q(Btu/h)	21090	9370	15820	10550	5270	3120	24300	10800	18230	12150	6070	3590	27510	12230	20640	13750	6870	4060
		W	3850	1460	2890	1930	970	570	3650	1390	2740	1830	920	540	3450	1320	2590	1730	870	510
-5	-20.6	Q(Btu/h)	18510	10200	13890	9260	4630	2740	22100	12180	16580	11050	5530	3270	25690	14160	19270	12840	6430	3800
		W	3690	2030	2760	1830	920	540	3500	1930	2620	1740	870	510	3310	1830	2480	1650	820	480
-10	-23.3	Q(Btu/h)	15790	8700	11840	7900	3950	2340	19800	10910	14850	9900	4950	2930	23810	13120	17860	11900	5950	3520
		W	3540	1950	2670	1780	880	530	3360	1850	2530	1690	840	500	3180	1750	2390	1600	800	470

* Above data is for heating operation without any frost.

MITSUBISHI ELECTRIC CORPORATION

HEAD OFFICE: TOKYO BUILDING, 2-7-3, MARUNOUCHI, CHIYODA-KU, TOKYO 100-8310, JAPAN

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