

MIST COLLECTOR

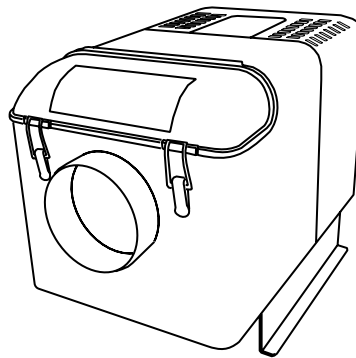


MISTRIA MZ-10/15/30

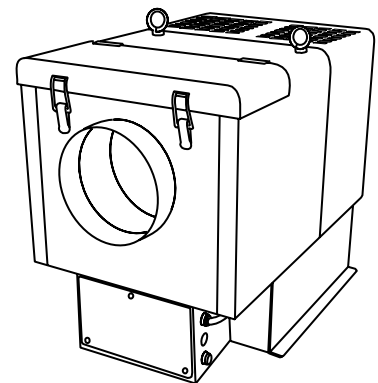
OPERATION MANUAL

IMPORTANT

- Do not operate the mist collector before reading this manual.
- Only individuals who fully understand the contents of this manual should operate the mist collector.
- Follow all operation and maintenance instructions and carry out the daily and periodic inspections as specified in this manual.
- Observe all applicable laws and regulations regarding the installation and maintenance of the mist collector.




MZ-10/15




MZ-30

■ IMPORTANT SAFETY INFORMATION

Precautions in this manual are classified according to degree and type of danger, as shown below. Be sure to read them before operating the equipment.


 **WARNING** : Shows situations in which incorrect operation could result in death or serious injury to the operator.

 **CAUTION** : Shows situations in which incorrect operation could result in injury to the operator or property damage.


- Serious injury refers to loss of eyesight, wounds, burns (high temperature, low temperature), electric shock, bone fracture, poisoning, etc. which have lasting effects or require hospitalization or long-term outpatient treatment.
- Injury refers to wounds, burns, electric shock, etc. which do not require hospitalization or long-term outpatient treatment.
- Property damage refers to extensive damages to houses, household goods, livestock or pets.

• Examples of pictorial symbols




The  symbol shows a warning or caution.
A specific warning or caution is indicated by the picture inside.



The  symbol shows a prohibited action.
The specific prohibition is indicated by the picture inside.



The  symbol shows a compulsory action.
The specific compulsory action is indicated by the picture inside.

■ INTRODUCTION

We appreciate your selection of AMANO Mist Collector MISTRIA, MZ-10/15 and MZ-30. The MISTRIA is the machine that collects water-soluble mist and oily mist* emitted from machine tools, etc. on the production floor. Please read this operation manual carefully before using the equipment in order to operate it safely and correctly. And, keep the manual always close at hand so that you can refer to it whenever it is necessary.

* When you use the machine for collecting the oily mist, prepare the after filter (option) as an additional accessory.

● The manufacturer and dealers are not responsible for accidents or damage due to the following causes.

- Improper operating conditions or usage different from that specified in this manual.
- Failure to maintain the mist collector or replace the consumable parts as specified in this manual.
- Any modification, repair, or equipment transfer performed by a third party or personnel not authorized by AMANO.
- Natural disasters or calamities, such as fires, earthquakes, or floods.
- Any event that could not be predicted scientifically or technologically at the time of manufacture.
- Other causes that are not the responsibility of AMANO.

MODELS:

Model name	Output (kW)	Max. capacity (m ³ /min)	Dimensions (mm)	Inlet dia. (mm)
MZ-10	0.4	8.3 (50Hz)	306 (W) x 556 (D) x 450 (H)	Ø123
		10 (60Hz)		
MZ-15	0.75	10.5 (50Hz)	356 (W) x 581 (D) x 460 (H)	Ø148
		13 (60Hz)		
MZ-30	1.5	20	407 (W) x 685 (D) x 575 (H)	Ø198

The Model MZ-30 can operate at the max capacity of 20m³/min irrespective of its power supply frequency since it is provided with an inverter.

- If anything related to the product or this operation manual is unclear, please contact the dealer or the sales office.
- The specifications and appearance of the dust collector and the description in this manual are subject to change due to improvements.
- When warning labels look like they might come off, contact the dealer or sales office to get new ones for replacement.
- The contents of this manual were compiled according to the domestic specifications. Customers, especially foreign customers, may come upon descriptions which somewhat differ from the actual specifications.

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1. FOR SAFE OPERATION

Before operating the equipment, read the following warnings and cautions, and make sure you understand them.

WARNING



- **Never allow the following substances to get into the mist collector.**
 - **Explosive, flammable substances** Aluminum, magnesium, titanium, epoxy, organic solvent, etc.
 - **Inflammable substances** Gasoline, thinner, benzene, kerosene, paint, etc.
 - **Dust with sparks** Dust produced by a high speed cutter, grinder, welding machine, etc.
 - **Source of fire** Cigarette butts, ashes, etc.
 - **Other** Water, chemical and oil with a low flash point (below 80°C)

These substances could cause fires or explosions.



- **Never install the mist collector in or near hazardous areas (class 0, 1, or 2 according to Japanese standards). For international users, determine hazardous areas according to local standards.**

Doing so may result in fire or explosion.



- **Never operate the mist collector in or near an area where inflammable, explosive or corrosive mist, fumes or gases are present.**

These gases could cause fires or explosions.



- **Never use any voltage other than the supply voltage shown on the mist collector. Also, do not overload one electrical outlet.**

This could cause fire or electric shock.



- **Never touch the power cable with wet hands when connecting or disconnecting it.**

This could cause electric shock.



- **Never allow the power cable to get damaged or broken.**

Never place heavy items on the power cable or bend it excessively. This could also cause fire or electric shock.



- **Never make any modifications to this equipment.**

This could cause fire or electric shock.



- **Be sure to ground the mist collector.**

Otherwise, fire or electric shock could occur if there is a leak. Moreover static electricity could cause incorrect operation or malfunction of equipments.



- **If a fire occurs or there is a dust explosion inside the mist collector,**
 - **turn off the power immediately.**
 - **use a fire extinguishing agent suitable for dust.**
 - **even after the fire is out, don't open the door until the internal temperature drops to the normal level.**

Otherwise, a secondary explosion could occur.



- **Never open the cover before turning off the power supply and confirming the complete stop of fan rotation.**

Neglecting this caution could cause personal injury to occur.

 **CAUTION**



- **Always wear gloves when doing an inspection or replacing the filter and other parts.**

Failure to do this could cause injury.



- **Never operate the machine with the inlet closed.**

Neglecting this caution could cause overheat resulting in occurrence of fire.



- **If abnormal noises, fumes, vibrations, smells, or overheating are detected during operation, turn off the primary power at once.**

Continuing to operate the mist collector could cause damage, electric shock or fire.



- **If the motor stops during operation, turn off the primary power at once.**

Failure to do this could cause electric shock.

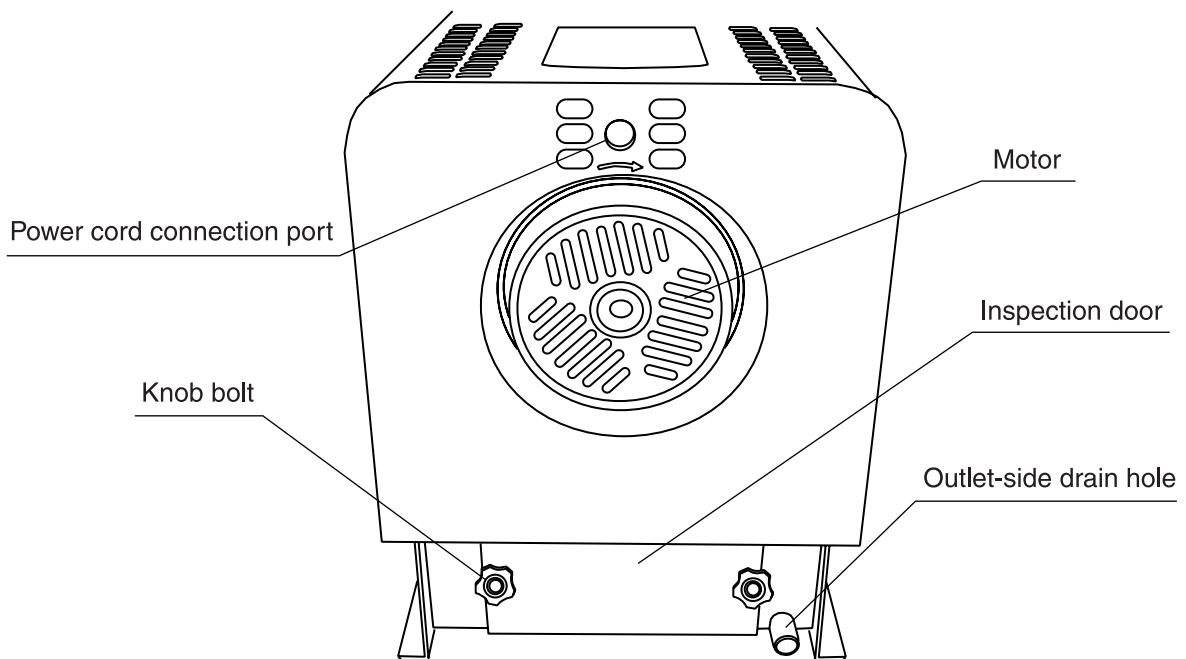
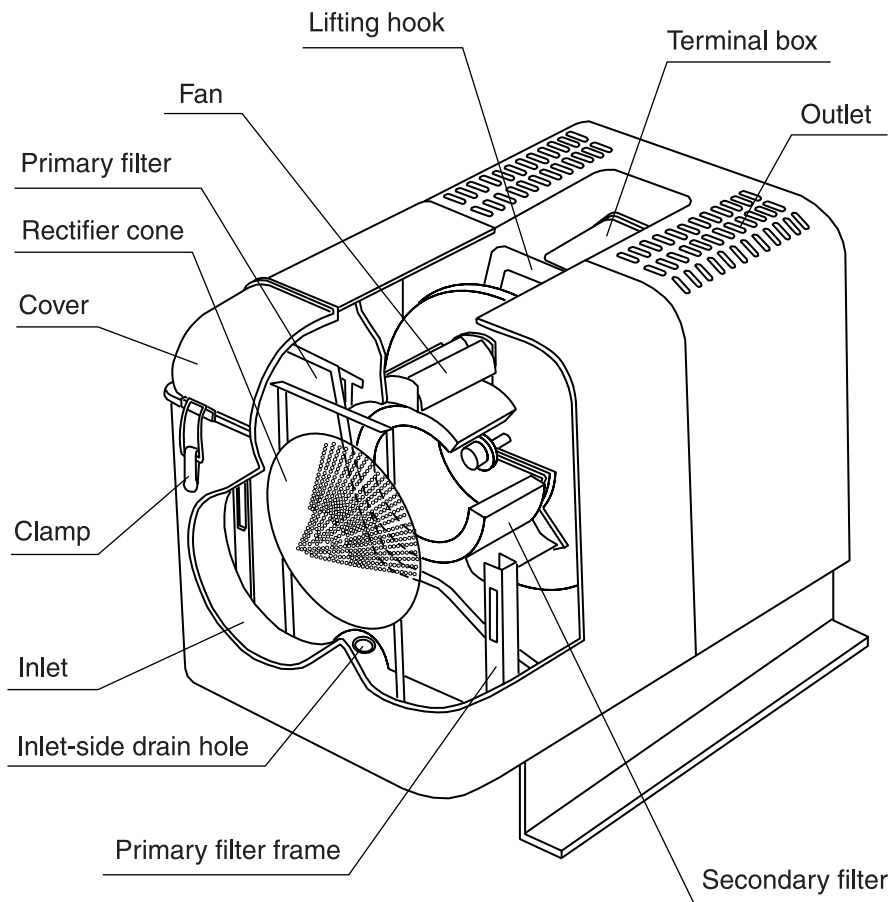


- **Before doing inspection or maintenance work, always turn off the primary power to the mist collector.**

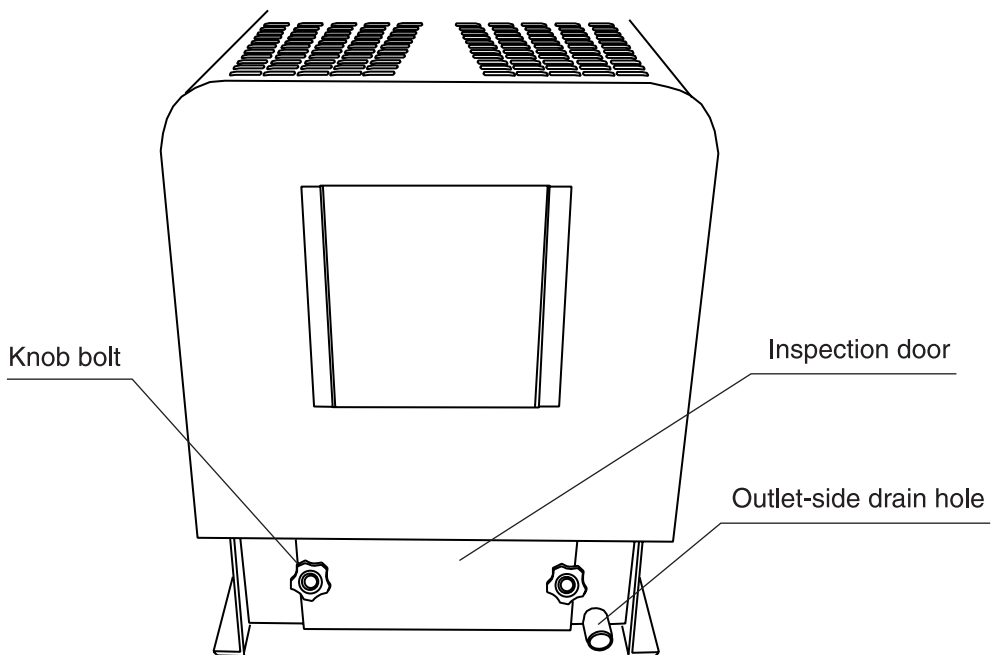
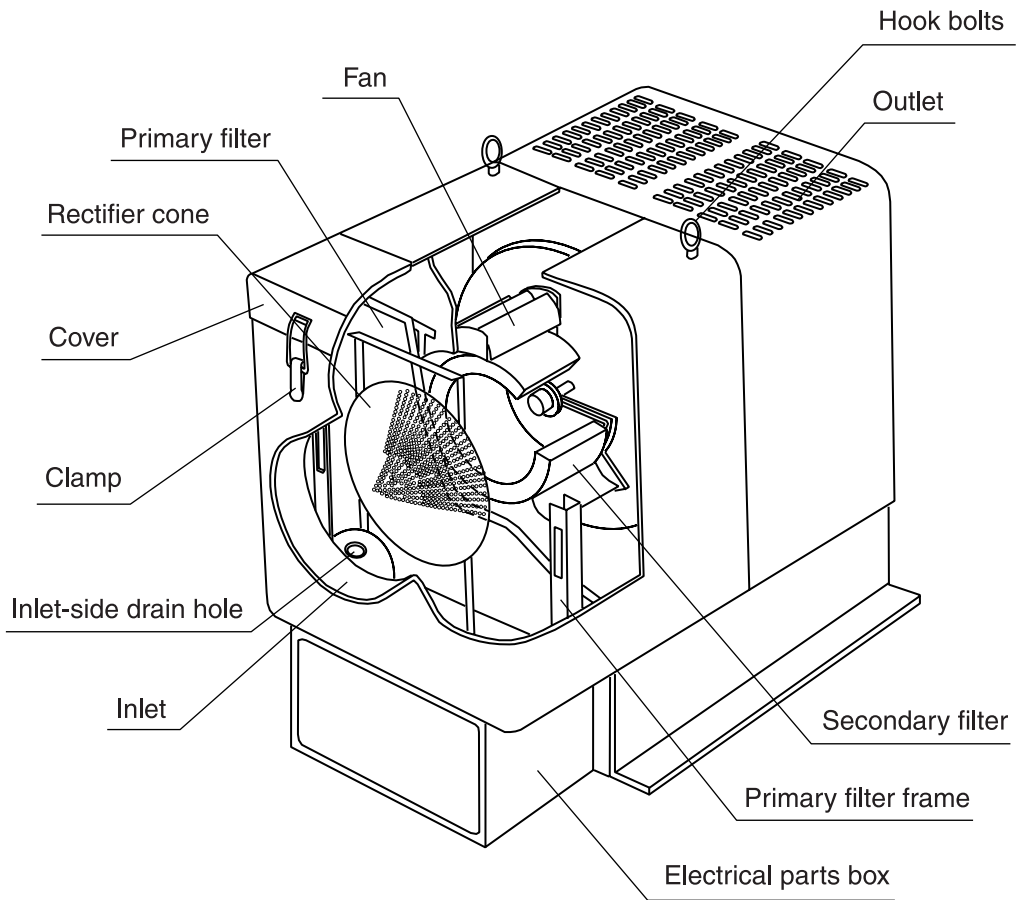
Failure to do this could cause electric shock.

2. NAMES AND FUNCTIONS OF PARTS

MZ-10/15



MZ-30



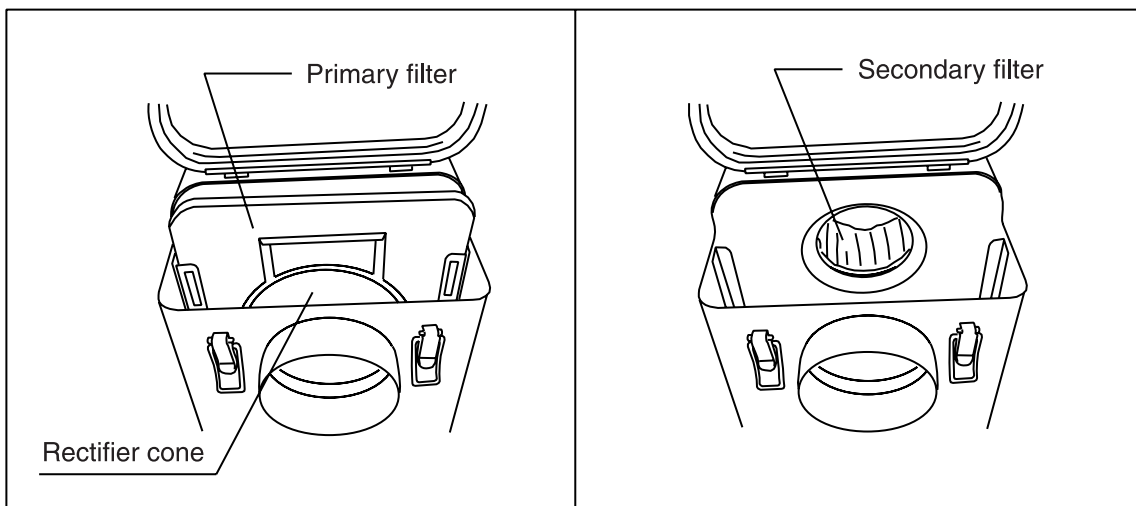
Outline

The air or mist taken into the equipment through the inlet is fed through the rectifier cone, the primary and secondary filters within the unit, and then, emitted out as clean air.

[Mist collecting flow]

- 1) Rectifier cone: While reducing the air resistance, this causes uniform diffusion of the airflow for rectification**
- 2) Primary filter: Collects relatively coarse particles of the mist having passed through the rectifier cone**
- 3) Secondary filter: Collects fine mist particles having passed through the primary filter.**

The mist particles that have caught in the filters are discharged from the drain hole. The primary and secondary filters are both washable for reuse. Replace them with new ones at need.



3. PREPARING FOR OPERATION

Make sure to read and understand the following warnings and cautions when preparing for the operation of the unit.

WARNING



- **Never install the mist collector in or near hazardous areas (class 0, 1, or 2 according to Japanese standards). For international users, determine hazardous areas according to local standards.**

Doing so may result in fire or explosion.



- **Never operate the mist collector in or near an area where inflammable, explosive or corrosive mist, fumes or gases are present.**

These gases could cause fires or explosions.



- **Never use any voltage other than the supply voltage shown on the mist collector. Also, do not overload one electrical outlet.**

This could cause fire or electric shock.



- **Never touch the power cable with wet hands when connecting or disconnecting it.**

This could cause electric shock.



- **Never allow the power cable to get damaged or broken.**

Never place heavy items on the power cable or bend it excessively. This could also cause fire or electric shock.



- **Never make any modifications to this equipment.**

This could cause fire or electric shock.



- **Be sure to ground the mist collector.**

Otherwise, fire or electric shock could occur if there is a leak. Moreover static electricity could cause incorrect operation or malfunction of equipments.

CAUTION



- **Never operate the machine with the inlet closed.**

Neglecting this caution could cause overheat resulting in occurrence of fire.



- **If abnormal noises, fumes, vibrations, smells, or overheating are detected during operation, turn off the primary power at once.**

Continuing to operate the mist collector could cause damage, electric shock or fire.



- **If the motor stops during operation, turn off the primary power at once.**

Failure to do this could cause electric shock.



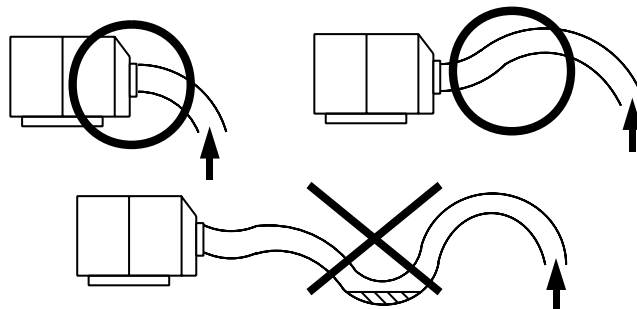
- **Before doing inspection or maintenance work, always turn off the primary power to the mist collector.**

Failure to do this could cause electric shock.

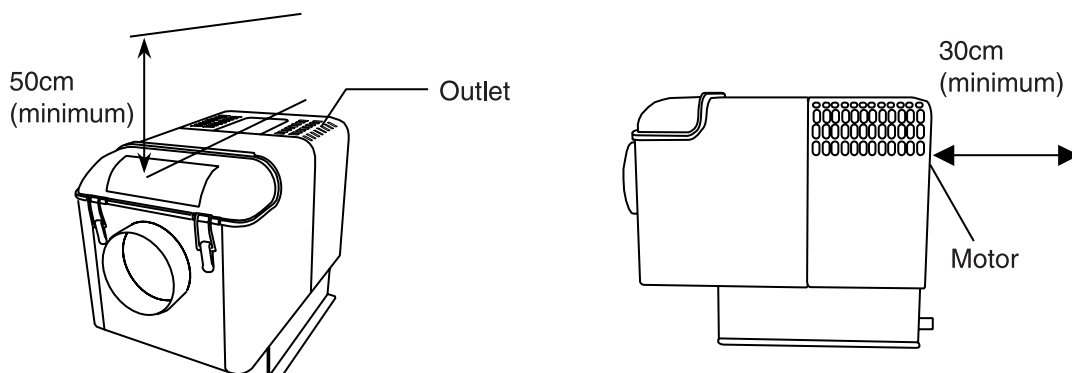
Installation Conditions

When installing the mist collector, observe the following items. If not observed, the mist collector could be damaged or the efficiency could be lowered.

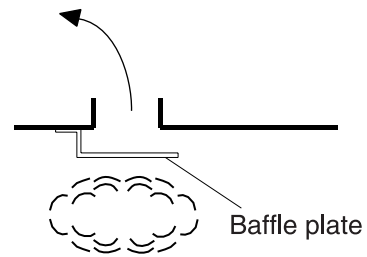
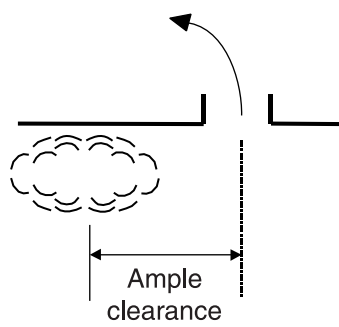
- Install the unit indoors where it will not be exposed to direct rain.
- Place the unit on a strong floor surface that can support its weight.
- Install where it will not be affected by strong vibrations or shocks.
- Install the unit horizontally. If it is installed at a slant, the collected oil will not be discharged normally and this will cause problems.
- Ensure enough open space around the machine for daily maintenance and inspection.
- Connect this machine to a three-phase power supply. Make sure the power specifications given on the attached identification plate.
- For the prevention of electrical shock, please be sure to ground the power cord. Connect the grounding wires in conformity with "D-class Grounding Work" requirements (grounding resistance; less than 100 ohm).
- To lift up the machine, use the lifting hook (single point hoist) on the MZ-10/15, or the hook bolts (double points hoist) on the MZ-30. The hoisting should be performed by the sling specialist qualified to use a forklift, crane, or the like.
- Attach the duct hose to the inlet and secure firmly with a hose band, clamps, etc.
- Place the ducts so that they do not sag. In order to reduce the suction resistance in the ducts, make the hoses as short as possible and do not let them bend.



- There should be a clearance more than 50cm above the outlet and more than 30cm behind the motor.



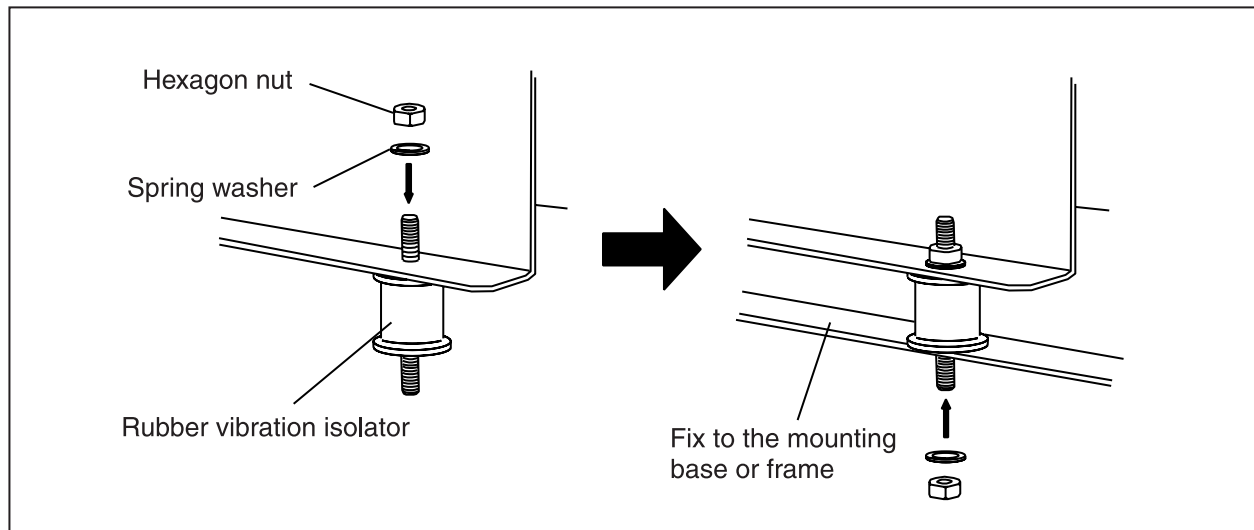
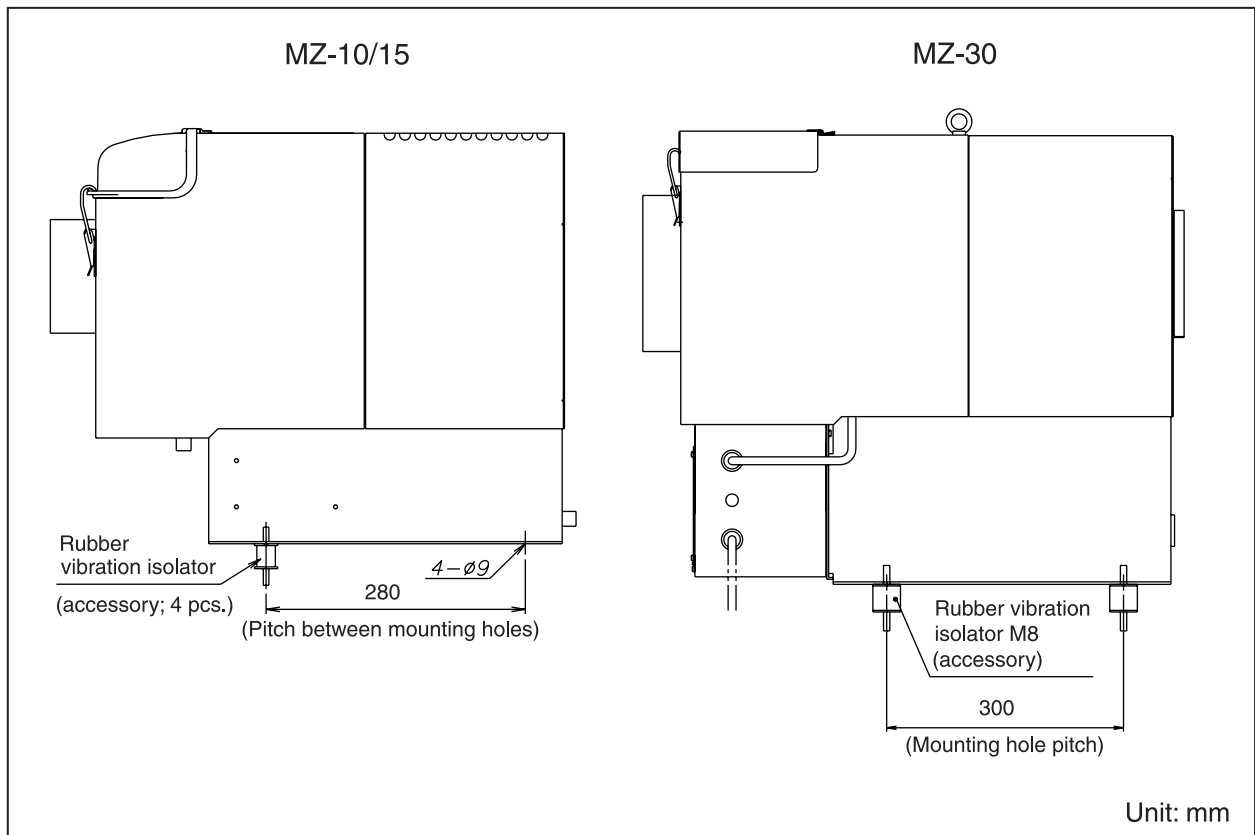
-
- On the machine tool side where the mist is generated, it is recommended to allow an ample clearance between the mist source and the inlet or provide a baffle plate between them, in order to keep the admission of cutting chips to a minimum.



Installing the Rubber Vibration Isolator

Install the rubber vibration isolator between the main frame bottom and the mounting base or frame.

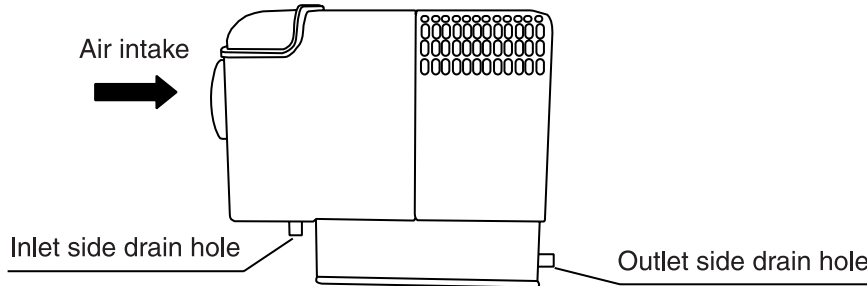
NOTE: To damp the vibration, be sure to install the attached four rubber vibration isolators.



Secure the rubber vibration isolator with the spring washer and hexagon nut.

Installing the Drain Hose

After finishing the installation, attach the drain hose. There are two drain holes; one is on the inlet side and the other on the outlet side. When connecting the hose to the inlet side drain hole, put the connected hose end into the oil pan so that the hose of more than 100mm from its top end will be submerged under oil. Whereas, the hose end from the outlet side drain hole should be located above the oil surface of the drain pan so that the hose will be open to the atmosphere. The drain hose is furnished as accessory.

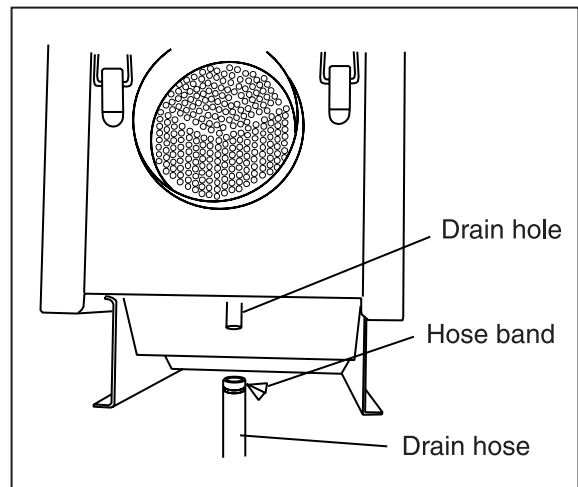


NOTE: The internal retention of the collected mist will not only affect the collecting efficiency of the machine but also cause drain oil to blow off the outlet. So, attach the drain hose correctly.

Inlet-side (For the MZ-10/15)

1. Attach the drain hose.

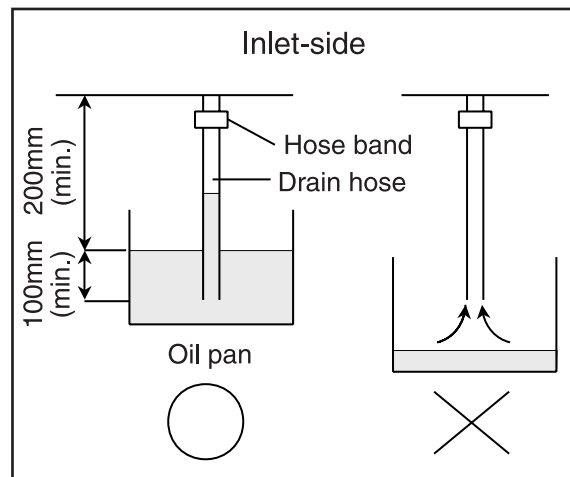
Insert the hose into the inlet-side drain hole and secure with the hose band.



2. Submerge the hose end in oil.

Put the same oil as that in the collected mist into the oil pan and therein, sink the drain hose until more than 100mm length from its top end is submerged under oil. The length of the drain hose from drain hole to oil surface of the drain pan should be more than 200mm.

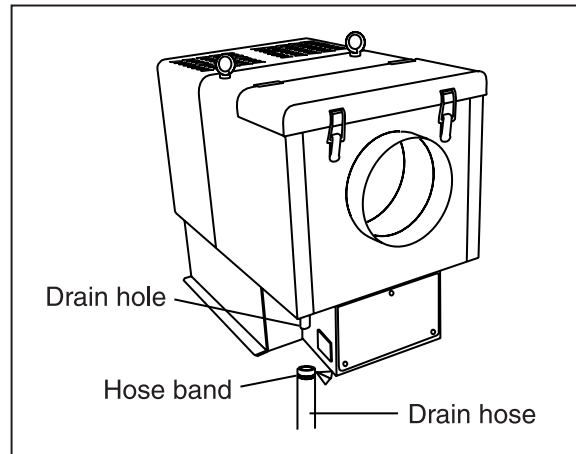
The hose end, if suspended in the air above the oil surface, sucks the atmosphere to result in checking the running out of the drain oil through the hose.



Inlet-side (For the MZ-30)

1. Attach the drain hose.

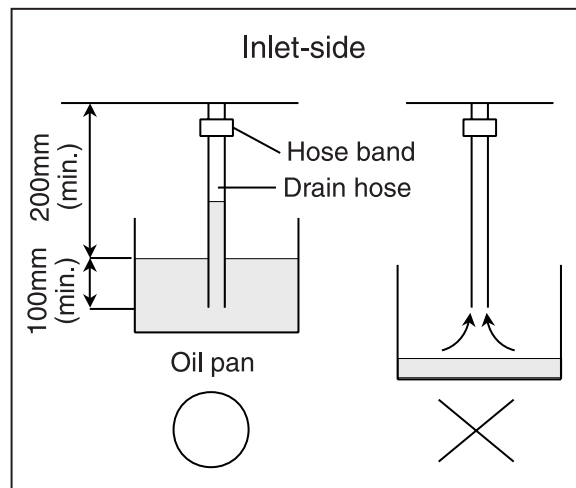
Insert the hose into the inlet-side drain hole and secure with the hose band.



2. Submerge the hose end in oil.

Put the same oil as that in the collected mist into the oil pan and therein, sink the drain hose until more than 100mm length from its top end is submerged under oil. The length of the drain hose from drain hole to oil surface of the drain pan should be more than 250mm.

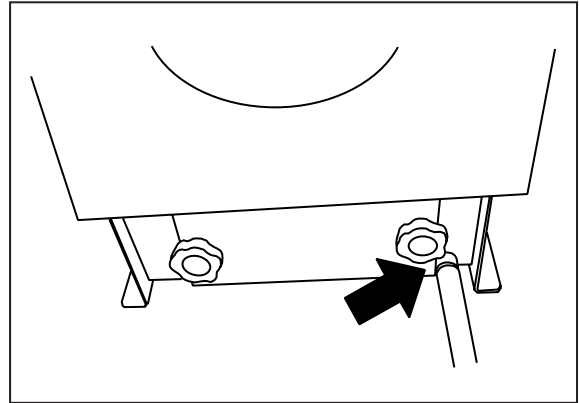
The hose end, if suspended in the air above the oil surface, sucks the atmosphere to result in checking the running out of the drain oil through the hose.



Outlet-side (For the MZ-10/15/30)

1. Attach the drain hose.

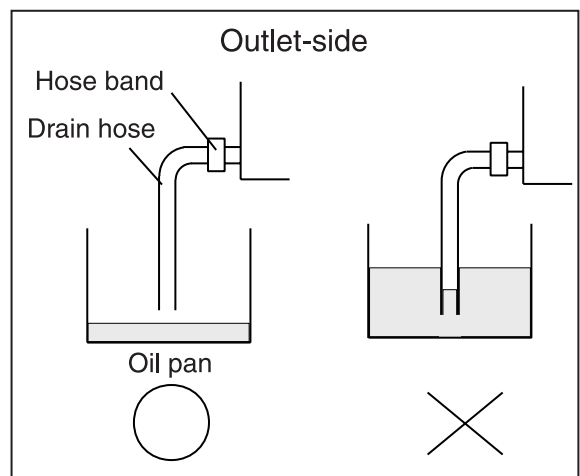
Insert the hose into the outlet-side drain hole and secure with the hose band.



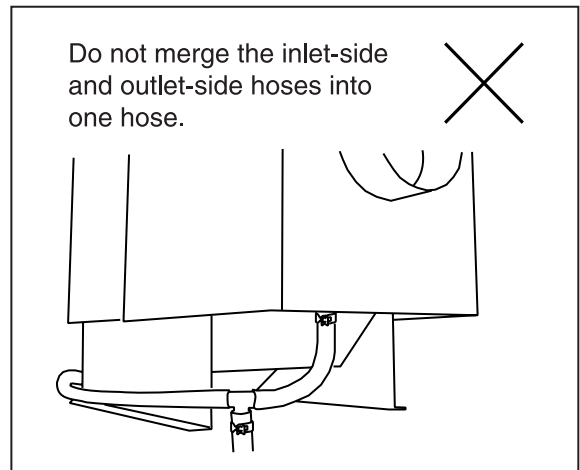
2. Place the oil pan.

Place the oil pan under the drain hose open end. Locate the hose end where it can be always above the oil surface of the oil pan.

If the hose end is submerged under oil, the hose cannot be drained of oil. For the drainage on the outlet side, the drain hose end must always be open to the atmosphere.



Do not merge the hose from the inlet-side drain hole with another hose from the outlet-side drain hole. If these hoses are combined together, the machine cannot be drained of oil.



Installing the Inlet Hose

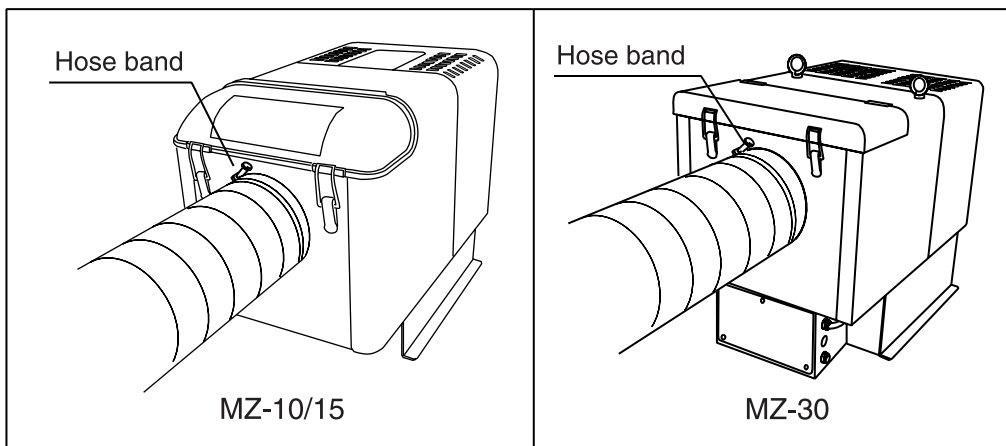
Inlet hose, hose band, etc. are not furnished as standard accessory. Please supply you with them from your local source or purchase from us as the separately sold accessory.

NOTE: Prepare the hose to the size of the inlet port of your machine.

Machine model	MZ-10	MZ-15	MZ-30
Inlet diameter	Ø123mm	Ø148mm	Ø198mm
Selected hose diameter	Ø125mm	Ø150mm	Ø200mm

1. Attach the hose.

Insert the hose into the inlet port and secure with the hose band.



Main Frame Earth Connection (MZ-10/15)

Connect earth-conductor to the side wall of the main frame of MZ-10/15. In addition to the main earth terminal in the terminal box on the machine, an earth point is provided in the main frame to heighten the effect of static elimination.

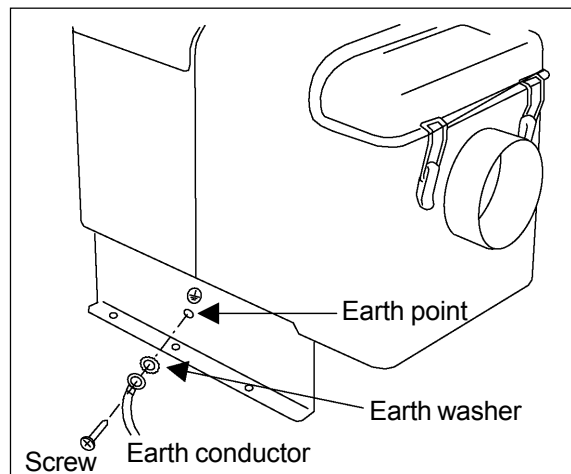
CAUTION: Earth connection with the main earth terminal in the terminal box must be made primarily and without fail (see the next section). Main frame grounding alone cannot achieve the required static elimination.

CHECK: Make sure the machine is grounded conforming to the “D-class Grounding Work” requirement (grounding resistance; 100 ohm and under).

1. Connecting the earth conductor:

The earth point at the side of the main frame is provided with an earth washer and the screw in advance. So, to attach the earth conductor, remove them once from the point. Put the earth conductor between the removed earth washer and the screw, and fit them to the point so that the teeth of the washer will face to the frame surface. Then tighten the screw until the teeth peel the coat from the frame.

- Earth conductor should be prepared by the customer.



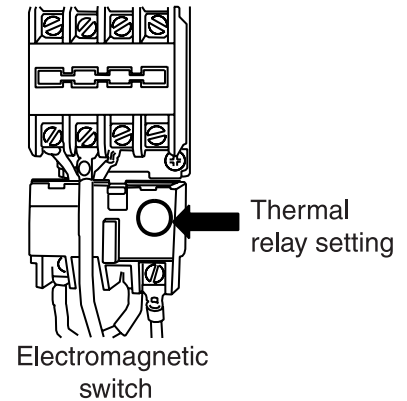
Electrical Wiring (MZ-10/15)

The power supply of the MZ-10/15 should be wired to the terminal box of the motor. For this connection, install a new wiring from a circuit with protective device on the machine-tool side. If an electromagnetic switch is used in that circuit, adjust the thermal relay set points to the rated current value of the motor.

Machine model		MZ-10	MZ-15
Thermal relay set points	50Hz	1.9A	3.4A
	60Hz	1.8A	3.2A

* The set points are based on the assumption that a power supply of 3-phase 200V is used.

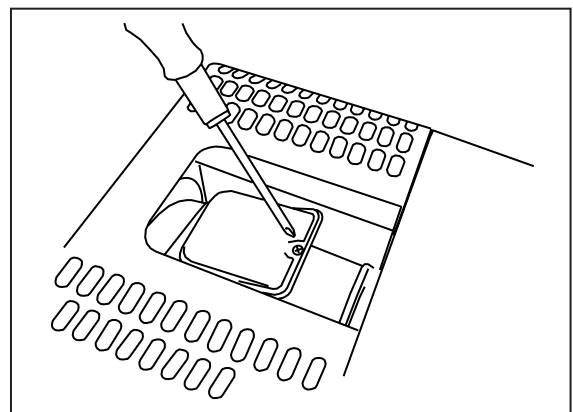
NOTE: The power supply can be used at either 50 or 60Hz.



- The power cord should be more than 0.75mm² in thickness, and of VCT four-conductor cord.
- At the first run of the machine after wiring, check and see if the motor rotates in the correct direction indicated by the arrow mark. If the rotation should be in reverse direction, find “U” and “W” from the three conductors of the power cord, and change their phases each other. (See P. 19.)

1. Open the terminal box.

Uncover the terminal box by removing the screw on the top.



2. Connect the power cord.

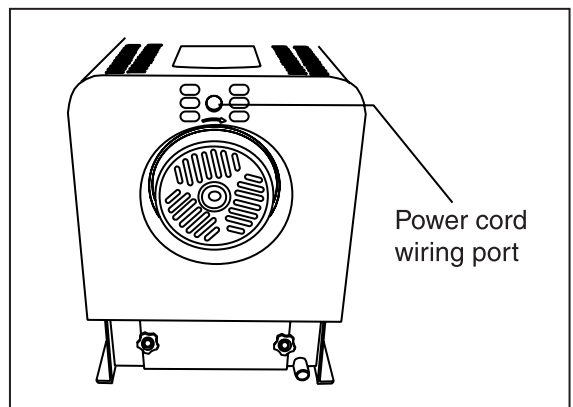
Run the power cord through the power cord wiring port to the terminal block and secure conductors to the respective terminals with screws. The earth conductor (green) must be screwed to the E terminal.

IMPORTANT!

Static electricity discharged during the operation can cause malfunction, faulty or erroneous operation of the machine. So, ensure the machine is correctly grounded for leading the static escape into the ground.

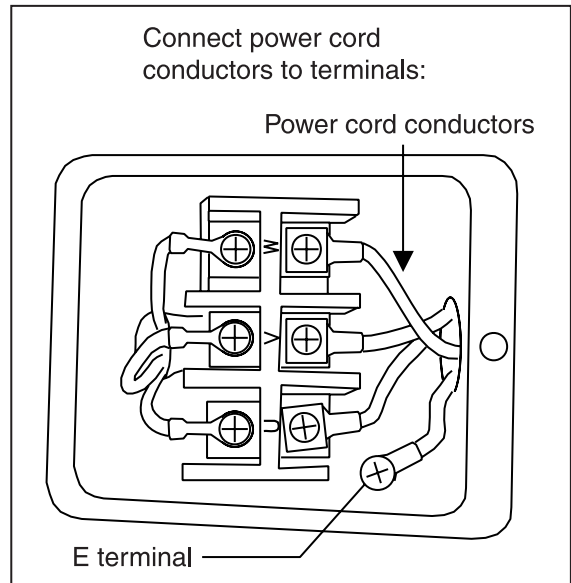
CHECK!

Make sure that the grounding wires are connected in conformity with “D-class Grounding Work” requirements (grounding resistance; less than 100 ohm).



3. Cover the terminal box.

Put the cover on the terminal box and secure with the screw.



Electrical Wiring (MZ-30)

The motor on MZ-30 is driven through an inverter. Therefore, the power supply will require installing an over-current protector such as a no-fuse breaker. In case the machine is connected to a power supply of 3-phase 200V, use a no-fuse breaker rated at 15A.

CHECK!

The inverter can work on either 50Hz or 60 Hz. Use wires, Start/stop switch and power cord that suffice for the following requirements.

CAUTION:

- Do not change the setting for the inverter unless otherwise instructed to do so. Failure to follow this instruction may cause a malfunction or an erroneous operation of the inverter.
- MZ-30 employs an inverter, and thereby, cannot use an electro-magnetic switch. The use thereof on MZ-30 should cause tripping of the thermal relay on the electro-magnetic switch.

• Wire materials for switch

Item		Specifications
Wire materials		Shielded wire
Conductor thickness	Solid	0.75 to 1.5mm ²
	Stranded	0.75 to 1.25mm ²
Withstand voltage		Over 125V

• Start/stop switch

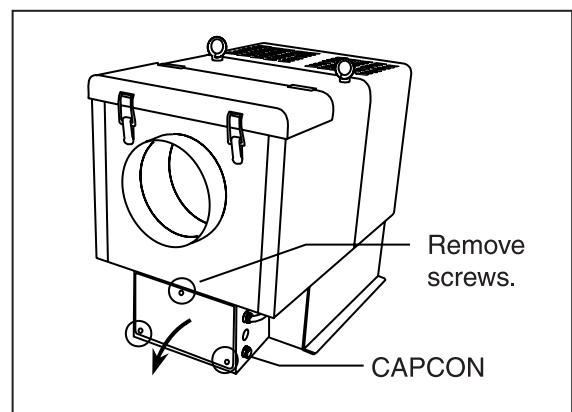
Item	Specifications
Min. contact rating	Under 5mA
	Over DC24V

• Power cord

Specifications
Over 2mm ²
VCT 4-conductor

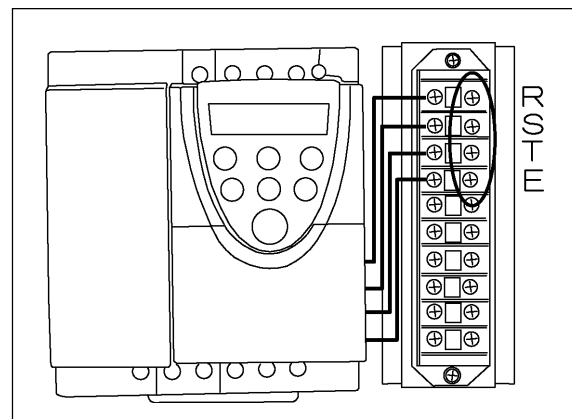
1. Open the electrical box.

Remove the three screws retaining the electrical box.



2. Connect the power cord.

Connect the power cord conductors through the grommet to the terminals (R, S, T) and secure with screws. The earth conductor (green) must be screwed to the E terminal.



IMPORTANT!

Static electricity discharged during the operation can cause malfunction, faulty or erroneous operation of the machine. So, ensure the machine is correctly grounded for leading the static escape into the ground.

CHECK!

Make sure that the grounding wires are connected in conformity with "D-class Grounding Work" requirements (grounding resistance; less than 100 ohm).

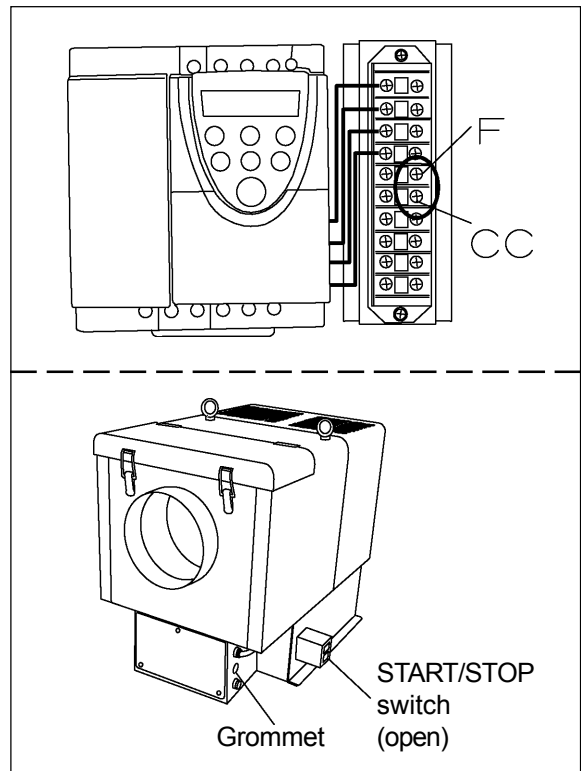
3. Install the [START/STOP] switch.

The start/stop of the MZ-30 is executed through the inverter that receives the external input signals. So, run the wire from the external-input signal switch terminal to the F and CC inverter terminals through the grommet.

The maximum allowable wiring length is 100m. "Start" is effected at short-circuit between F and CC, and at its open-circuit, "stop" is effected. Therefore, this switch must be of no-voltage contact (A (make) contact). Refer to page 16 of Specifications.

CAUTION:

Do not turn ON or OFF the power supply while Terminal F and Terminal CC are being shorted with each other. Failure to follow this instruction may deteriorate the life of the inverter.

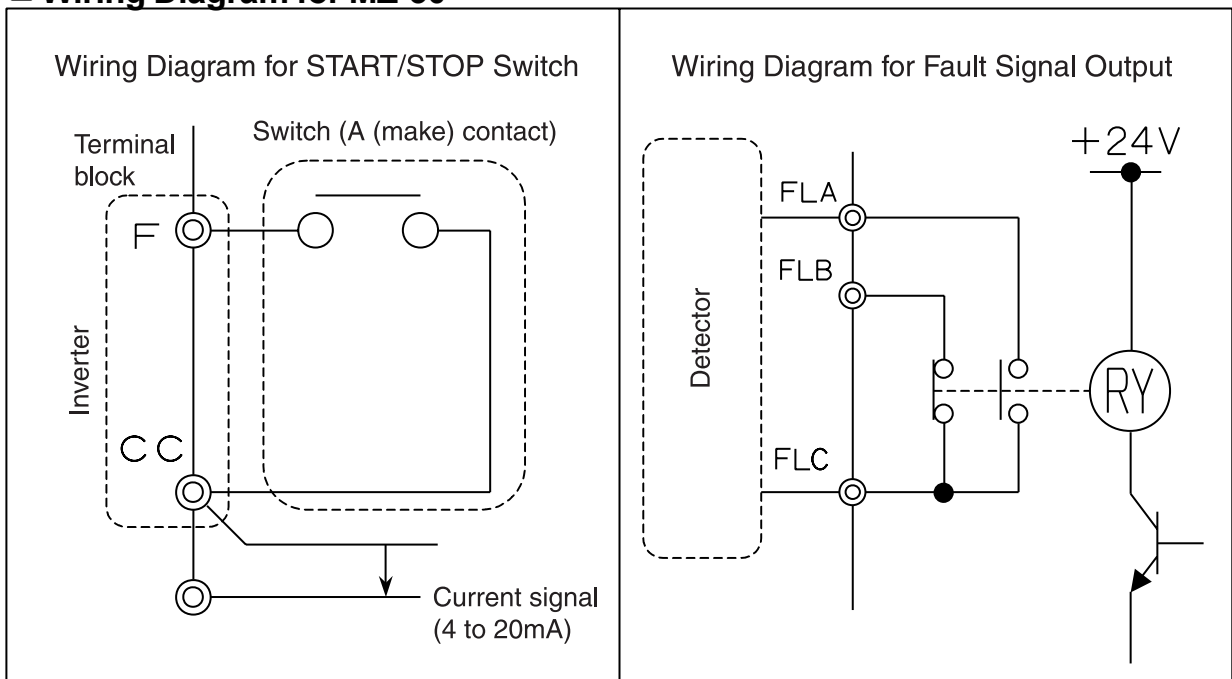


4. Output of fault signal (inverter trip):

The MZ-30 can output fault (inverter trip) signals. The maximum available wiring length is 100m. Install wiring in correct manner by referring to the attached instruction manual for the inverter.

Reference: "Inverter trip" output terminals are FLA to FLC and the circuit is of no-voltage contact type.

■ Wiring Diagram for MZ-30



4. OPERATION

WARNING



- **Never allow the following substances to get into the mist collector.**
 - **Explosive, flammable substances** Aluminum, magnesium, titanium, epoxy, organic solvent, etc.
 - **Inflammable substances** Gasoline, thinner, benzine, kerosene, paint, etc.
 - **Dust with sparks** Dust produced by a high speed cutter, grinder, welding machine, etc.
 - **Source of fire** Cigarette butts, ashes, etc.
 - **Other** Water, chemical and oil with a low flash point (below 80°C)These substances could cause fires or explosions.



- **Never install the mist collector in or near hazardous areas (class 0, 1, or 2 according to Japanese standards). For international users, determine hazardous areas according to local standards.**
Doing so may result in fire or explosion.



- **Never operate the mist collector in or near an area where inflammable, explosive or corrosive mist, fumes or gases are present.**
These gases could cause fires or explosions.



- **If a fire occurs or there is a dust explosion inside the mist collector,**
 - **turn off the power immediately.**
 - **use a fire extinguishing agent suitable for dust.**
 - **even after the fire is out, don't open the door until the internal temperature drops to the normal level.**Otherwise, a secondary explosion could occur.

CAUTION



- **Never operate the machine with the inlet closed.**
Neglecting this caution could cause overheat resulting in occurrence of fire.



- **If abnormal noises, fumes, vibrations, smells, or overheating are detected during operation, turn off the primary power at once.**
Continuing to operate the mist collector could cause damage, electric shock or fire.



- **If the motor stops during operation, turn off the primary power at once.**
Failure to do this could cause electric shock.

- **Do not take in the combustible mist with a flash point of 80°C and under.**
- **This machine should only be used for collecting the mist from machining operations.**

Starting/Stopping the Machine

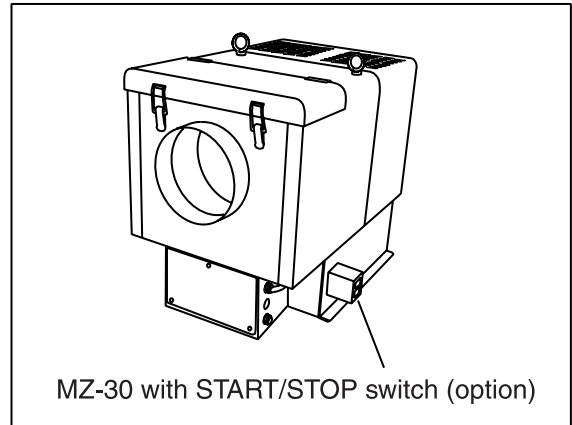
[MZ-10/15]

When this machine is used in sequential operation with major production equipment, like a machine tool, etc., the start/stop of this machine is controlled from the major equipment.

[MZ-30]

Start/stop of this machine is executed by the external input signal connected to the inverter.

For your separate start/stop control on this machine, the machine is available with the optional START/STOP switch upon request. In this case, however, the earth leakage circuit breaker (option) should also be installed at need.



Test Run (Motor Rotation Direction Check)

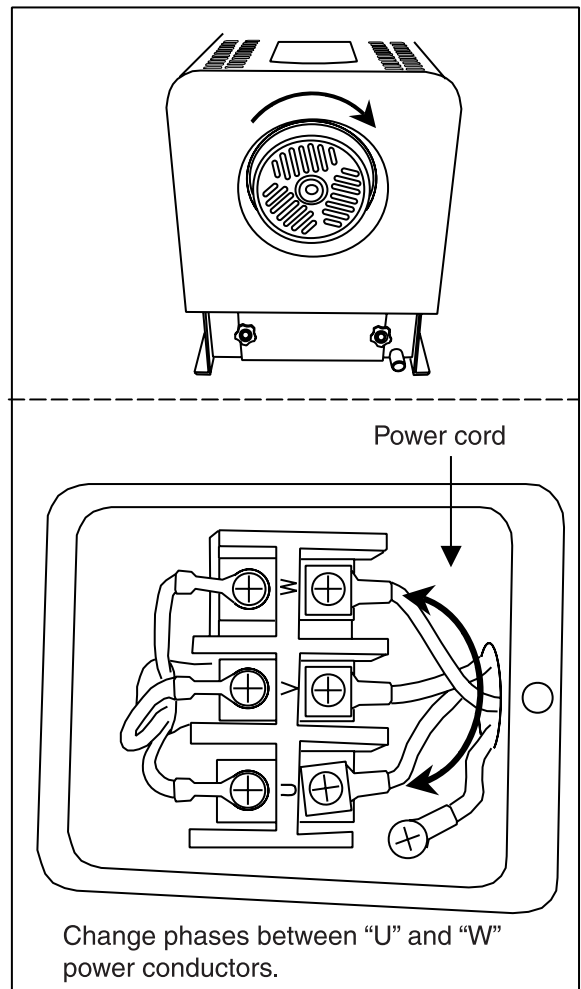
Each MZ-10 and MZ-15 works on the 3-phase power supply. There may be cases the motor rotates in the reverse direction due to wrong wiring. So, please check if the rotation is clockwise (arrow direction) before starting the run. The MZ-30 will not require checking for the correct rotation direction of the motor that is constantly controlled by the inverter.

1. Turn on the power for a moment.

Turn on the power and instantaneously turn it off.

2. Check the rotation direction.

When the motor speed slows down, visually check if the rotation is clockwise (in arrow direction). If it is counter-clockwise, change the phases each other between “U” and “W” conductors of the power cord. See the procedure given in [“Electrical Wiring \(MZ-10/15\)”](#).



5. MAINTENANCE

Make sure to read and understand the following warnings and cautions before performing maintenance.

WARNING



- **Never open the cover before turning off the power supply and confirming the complete stop of fan rotation.**
Neglecting this caution could cause personal injury to occur.

CAUTION



- **Always wear gloves when doing an inspection or replacing the filter and other parts.**
Failure to do this could cause injury.



- **Before doing inspection or maintenance work, always turn off the primary power to the mist collector.**
Failure to do this could cause electric shock.

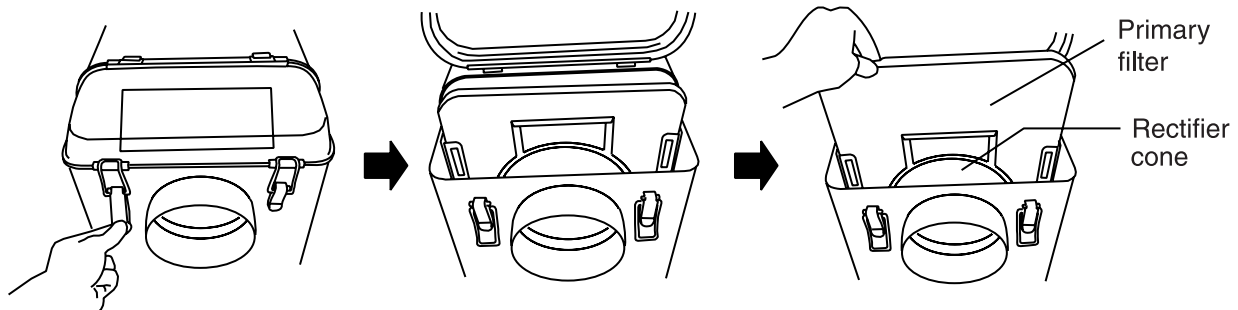
Cleaning and Replacing the Primary Filter

The primary filter should be checked for clogging or contamination every 6 months of operation as the standard, and cleaned or replaced at need. So far as it is cleaned, it can be used several times. To improve effectiveness of cleaning, give it a thorough soak in a neutral detergent for a while, then, rinse in water and air-blow to dry.

- * The interval between cleanings or replacements may vary depending on the concentration, type and quantity of the mist, or operating conditions of the machine.



WARNING: Do not turn on the power while the filter is being replaced. Neglecting this caution could cause personal injury.



- 1) Unclamp the cover for removal. Pull up the primary filter.
- 2) When the rectifier cone is dirty, grasp the catch and pull it out. Wipe it with waste cloth, or wash it in water.
- 3) Install the filter with the side with rounded corners up.
- 4) After replacement, put on the cover and secure with the clamp.

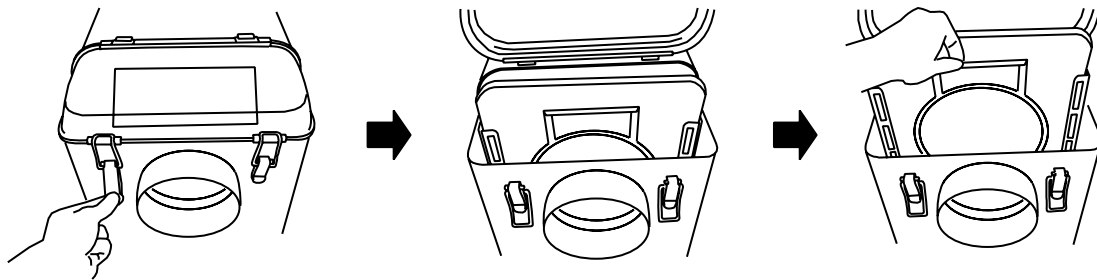
Cleaning and Replacing the Secondary Filter

The secondary filter should be checked for clogging or contamination every 6 months of operation as the standard, and cleaned or replaced at need. So far as it is cleaned, it can be used several times. To improve effectiveness of cleaning, give it a thorough soak in a neutral detergent for a while, then, rinse in water and air-blow to dry.

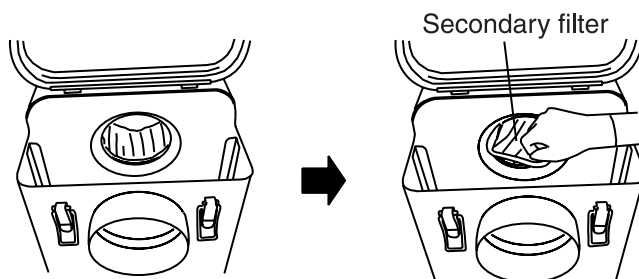
- * The interval between cleanings or replacements may vary depending on the concentration, type and quantity of the mist, or operating conditions of the machine.



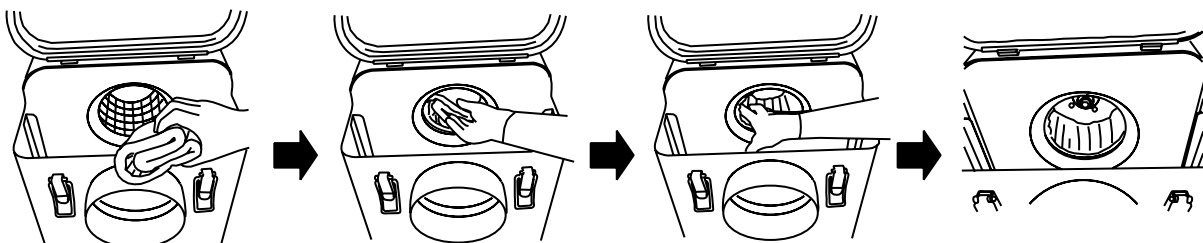
WARNING: Do not turn on the power while the filter is being replaced. Neglecting this caution could cause personal injury.



- 1) Unclamp the cover for removal. Grasp the catch of the rectifier cone and pull it up together with the primary filter.



- 2) Remove the secondary filter. Wash for reuse, or replace with new one.



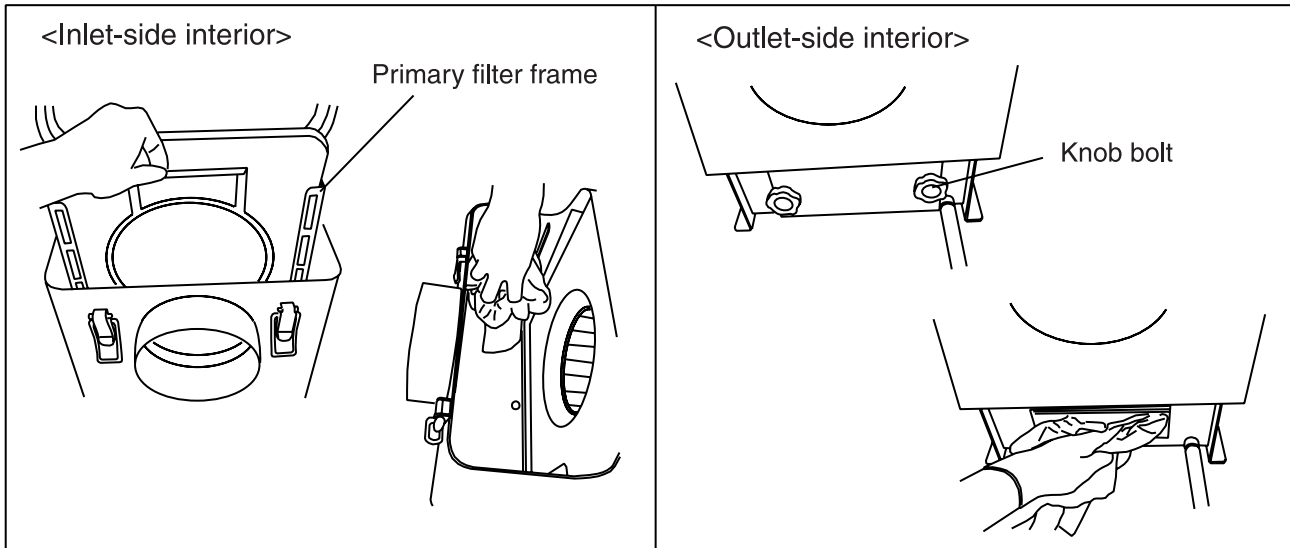
- 3) Fold the secondary filter and put it in the inside of the fan. While rotating the filter, spread it along the periphery of the fan. After fitting the filter in place, check for any portion bulging out. If it is not properly fitted, reinstall. The operation with imperfectly fitted filter develops eccentricity, which could cause excessive vibration or damage to the filter.

Cleaning the Interior

If the drainage from the oil drain hose is poor, clean both the inlet- and outlet-side interior.

To clean the inlet-side interior, remove the cover and pull out the primary filter together with the frame. Wipe away oil, etc., standing in the inside with the waste cloth.

To clean the outlet-side interior, turn the knob bolt for removal and open the inspection door. Wipe away oil, etc., standing in the inside with the waste cloth.

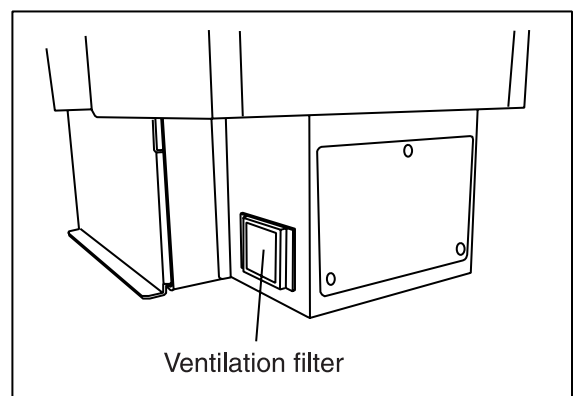


Cleaning the Ventilation Filter (MZ-30)

The ventilation filter at the side of the electrical box should be checked for clogging or contamination once a month. If it is dirty, wash it in water. After drying it completely, reinstall. In case of heavy dirt, contamination, deterioration, or damaged part is found, replace with new one.

(The interval between inspections and replacements of the ventilation filter may vary depending on the working environment or conditions of the machine to which the filter is installed.)

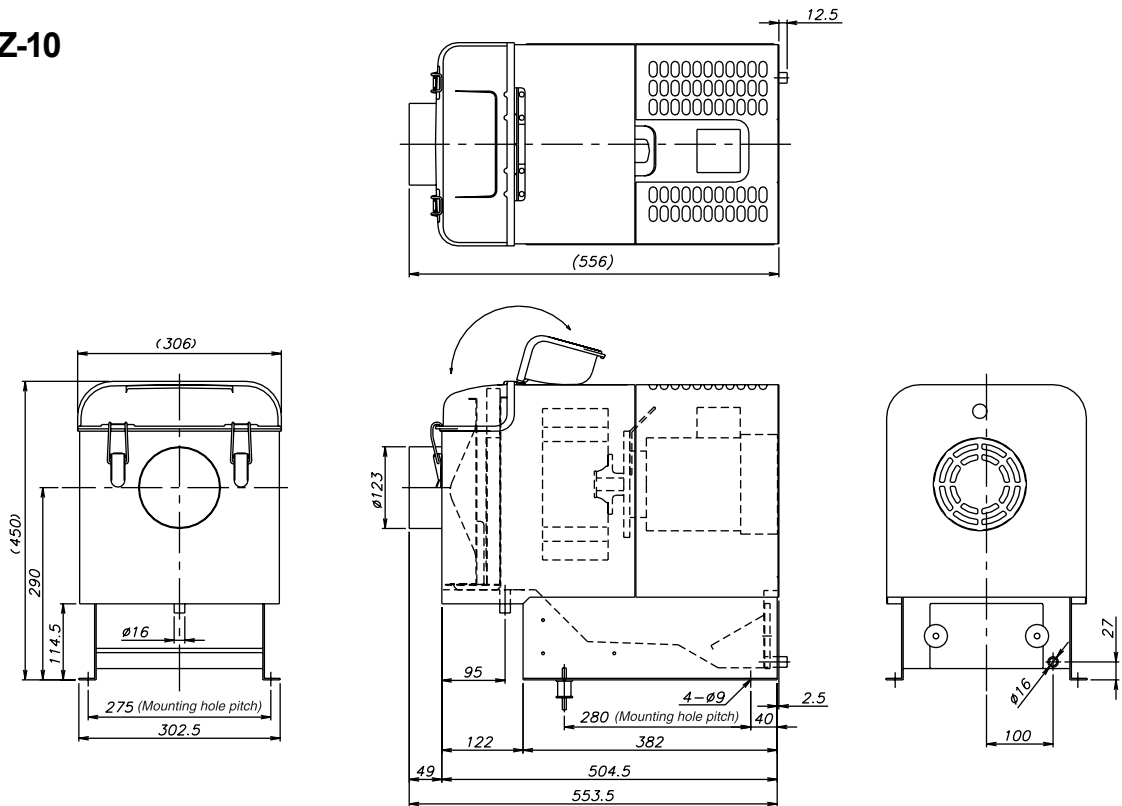
If the ventilation efficiency is cut down due to the excess dirt on the ventilation filter, the electrical box-interior temperature can rise such high as to shorten the life of the inverter.



6. APPENDIX

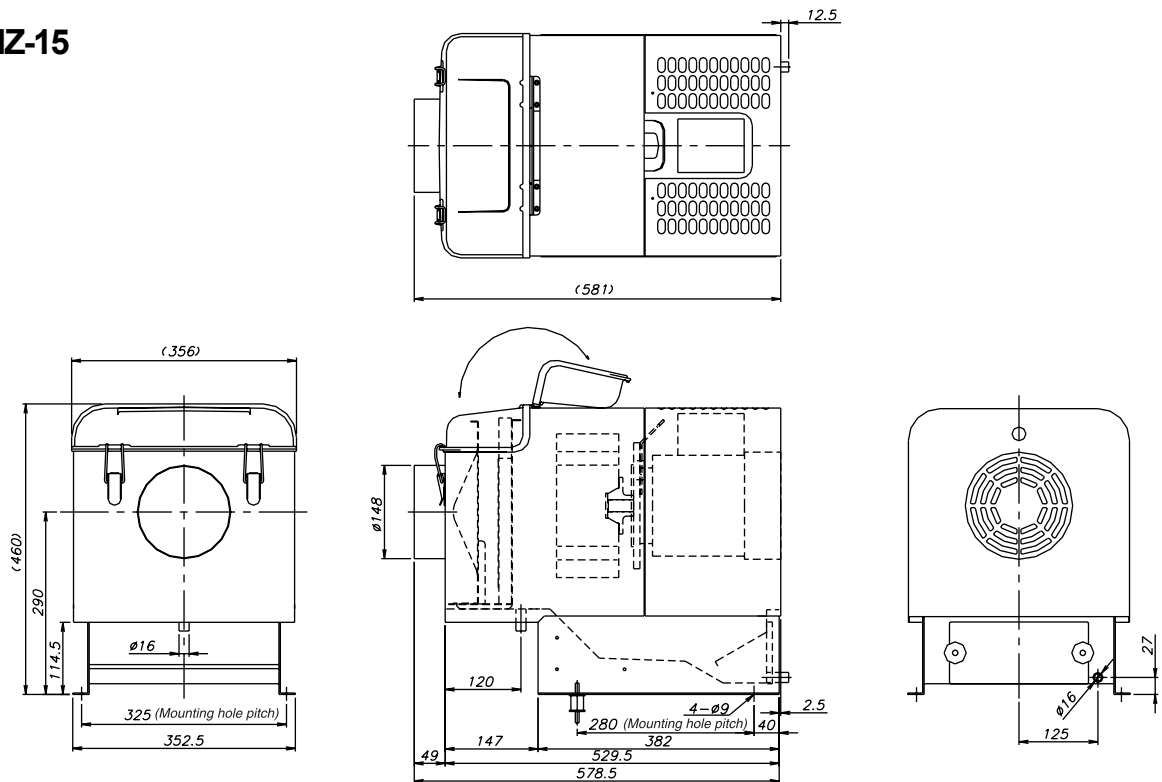
Outside Drawings

MZ-10



Unit: mm

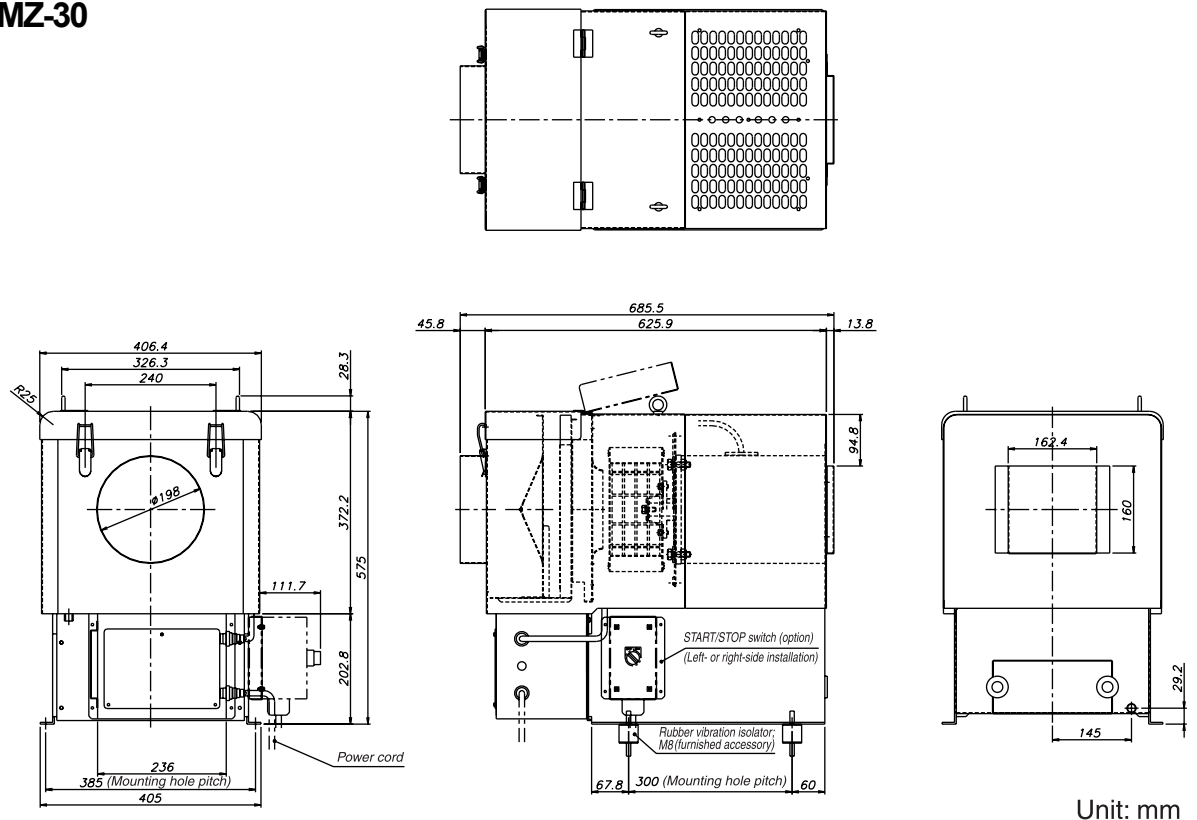
MZ-15



Unit: mm

Outside Drawings

MZ-30



Periodic Inspection Table

For your safe and long years of use of this machine, perform periodic inspection and maintenance.

Location to Inspection	Inspection Period				Inspection Method
	Daily	Weekly	Monthly	Half-yearly	
Outlet	○				1. Check if the mist blows out of the outlet hole. If so, check for the filter installation and drainage from the drain oil hose.
Hood, joints, ducts / hoses		○			1. Check for any improper installation state. If any, correct and reinstall. 2. Check for any damaged or deformed part. If any, replace. 3. Check for any accumulation of mist in the interior of ducts, hoses or hood. If any, clean. If any sag is detected, rearrange the lines.
Check on drain oil		○			1. Check the drain oil hose for any improper installation. If any, correct and reinstall. 2. Check for the drainage from the drain oil hose. If it is poor, clean the interior.
Primary filter				○	1. Check for clogging. Clean or replace at need. 2. Check for any damage, tear, worn-out. Replace if any.
Secondary filter				○	1. Check for clogging. Clean or replace at need. 2. Check for any damage, tear, worn-out. Replace if any.
Power cord			○		1. Check the power cord for any deterioration, damage, or improper/defective connection. If exposure of core conductors or worn out covering is detected, replace with new one.
Electrical box ventilation filter			○		1. Check for dirt, deterioration, damaged part, etc. Clean or replace at need. (For MZ-30 only)
Motor	Maintenance is necessary every 2 to 3 years of operation. Contact your local AMANO dealer.				
Inverter	Perform inspection and maintenance according to the separately attached instruction manual for the inverter. (For MZ-30 only)				

* Above given intervals should be regarded as “standard”. They may vary depending on the concentration/type of the mist, or working conditions of the machine.

Troubleshooting

If any fault or abnormality occurs, immediately shut down the power supply and check and inspect the machine for the followings before contacting your local Amano Dealer.

Problem	Cause	Handling
Will not start.	<ol style="list-style-type: none"> 1. No power supply 2. Power failure 	<ol style="list-style-type: none"> 1. Check power source wiring or protective device on the production equipment. 2. Wait for power to resume.
Abnormal sounds	<ol style="list-style-type: none"> 1. The machine is running on single-phase power since the power cord is dis-connected. 	<ol style="list-style-type: none"> 1. Replace the power cord.
Poor air intake	<ol style="list-style-type: none"> 1. Reverse rotation of motor 2. Clogging of filter 3. Defective joints of ducts/hoses 4. Fault in inverter (MZ-30) 	<ol style="list-style-type: none"> 1. Re-connect two conductors of 3-phase power cord conductors to change their phases each other for correcting motor rotation direction. 2. Check the primary and secondary filters for collecting efficiency and clean or replace, at need. 3. Check ducts/hoses for any defects or faulty joints and rework or replace at need. 4. Check for any error indication for inverter. Refer to instructions given in the inverter manual and remedy at need.
Sudden stop during running	<ol style="list-style-type: none"> 1. Power failure 2. Fault in inverter (MZ-30) 	<ol style="list-style-type: none"> 1. Wait for power to resume. 2. Check for any error indication for inverter. Refer to instructions given in the inverter manual and remedy at need.
Mist blowing out of outlet hole	<ol style="list-style-type: none"> 1. Broken filter 	<ol style="list-style-type: none"> 1. Replace. 2. Improperly fitted filter 2. Re-install properly.
Vibration, abnormal noise/smell	<ol style="list-style-type: none"> 1. Troubles in motor or fan 2. Clogging/breakage of secondary filter 	<ol style="list-style-type: none"> 1. Check the motor/fan for freedom of wrong fitting or malfunction. Reinstall or replace, at need. 2. Clean or replace the secondary filter.

Specifications

Model		MZ-10	MZ-15	MZ-30
Item				
Power supply		3-phase 200V at 50/60Hz or 3-phase 220V at 60Hz		
Output (kW)		0.4	0.75	1.5
Max. capacity (m ³ /min)	50Hz	8.3	10.5	20 (Inverter-controlled)
	60Hz	10	13	
Max. static Pressure (Pa)	50Hz	0.9	1.0	1.8
	60Hz	1.3	1.4	
Noise (dB [A])		Lower than 74		
Primary filter		Polyester (1 filter)		
Secondary filter		Polyester (1 filter)		
Object mist		Water-soluble mist (Oily mist collection needs provision of After Filter (option))		
Collection efficiency		99.7% and over (water-soluble mist; 2μm and over)		
Max. available intake air temperature		75°C (Provided that motor ambient temperature must be less than 40°C)		
Machine size: width x depth x height (mm)		306 x 556 x 450	356 x 581 x 460	407 x 685 x 575
Inlet diameter (mm)		ø123	ø148	ø198
Machine weight (kg)		27	33	63
Oil drainage hole (mm)		Ø16 x 2, non-threaded (hose slip-on type)		
Furnished accessories*		Rubber vibration isolator (4 pcs. with eight M6 nuts), spare filter (primary filter and secondary filter; 2 each), drain oil hose (ø15mm inner diameter x 5m length), hose band (2 pcs.)		

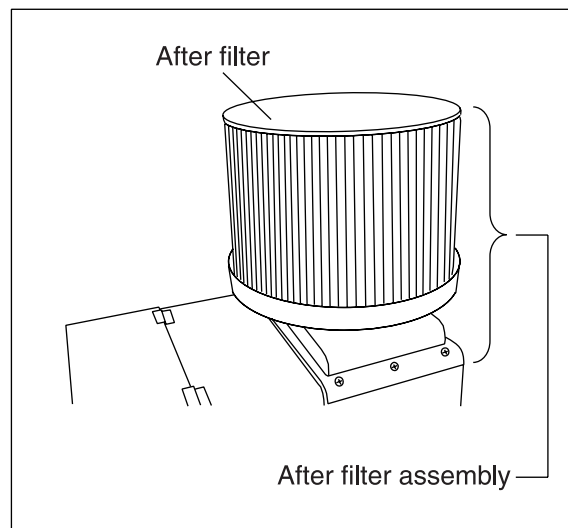
* : These accessories are all of domestic specifications.

Consumables and Accessories Separately Sold

Part name	Part No.			Remarks
	MZ-10	MZ-15	MZ-30	
Primary filter	OMP 810150	OMQ 810150	OMR 810150	
Secondary filter	OMP 811150	OMP 811150	OMP 811150	Common to MZ-10/15/30
After filter Assembly*	OMP 840070	OMQ 840070	OMR 840070	For collecting oily mist (separately- sold part)
After filter	OMP 843070	OMP 843070	OMR 843070	For collecting oily mist (separately- sold part)
Electrical box ventilation filter	–	–	OMR 713200	For MZ30 only

* The above After Filter Assembly includes a piece of after filter.

For collecting oily mist or high concentration mist, you are required to install the after filter unit above the outlet hole.



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