



## Caution

	<b>Don't put an object or finger into the motor opening.</b>	Failure to heed this instruction will result in electric shock or fire.
	<b>Don't turn off and on power so frequently.</b>	Failure to heed this instruction will result in fire, personal injury, malfunction or damage.
	<b>Don't pull leadwires with an excessive force.</b>	Failure to heed this instruction will cause fire, electric shock or personal injury.
	<b>Don't use the equipment in highly intensive electric field.</b>	Failure to heed these instructions will cause personal injury or fire.
	<b>Don't use the equipment under direct sunshine.</b>	
	<b>Don't use the equipment in an environment where electro-static voltage potentials may be produced.</b>	Induced malfunction will cause malfunction or personal injury.
	<b>Don't drop or cause topple over of something during transportation or installation.</b>	Failure to heed this instruction will result in personal injury or malfunction.
	<b>Never attempt to perform modification, dismantle or repair.</b>	Failure to heed this instruction will result in fire, electric shock, personal injury or malfunction.
	<b>Perform installation by taking into consideration the mass of the body and rated output of the product.</b>	Failure to heed these requirements will result in personal injury or malfunction.
	<b>Adjust the motor ambient environmental condition to match the motor operating temperature and humidity.</b>	
	<b>Exactly follow the installing method and direction specified.</b>	
	<b>Connect a ground-fault interrupter, circuit breaker and replay to the brake control relay in series so that they are turned off upon emergency stop.</b>	Missing of one of these devices will cause malfunction.
	<b>Test-run the securely fixed motor without loading to verify normal operation, and then connect it to the mechanical system.</b>	Operation using a wrong model or wrong wiring connection will result in personal injury.
	<b>Level of input voltage to peripheral devices should correspond to the motor rated voltage.</b>	Operation from a voltage outside the rated voltage will cause electric shock, personal injury or fire.
	<b>Provide protection device against idling of electro-magnetic brake or gear head, or grease leakage from gear head.</b>	No protection will cause personal injury, damage, pollution or fire.
	<b>Don't place any obstacle object around the motor and peripheral, which blocks air passage.</b>	Temperature rise will cause burn injury or fire.
	<b>Correctly run and arrange wiring.</b>	Wrong wiring will cause personal injury or electric shock.
	<b>Maintenance must be performed by an experienced personnel.</b>	
	<b>Always keep power disconnected when the power is not necessary for a long time.</b>	Improper operation will cause personal injury.
<b>Scraps must be treated as industrial waste.</b>		

# 1. Introduction

## General

This is a compact AC geared-motor having multiple international standard certifications. To use this product for a prolonged period, read this manual thoroughly.

This is designed for use in corporation with general purpose industrial devices. The product must be handled by experienced personnel familiar with the product.

### <note>

When export this product, follow statutory provisions of the destination country.

## Unpacking

### • Proceed as follows:

- First open the top of the packing and check the units for damage in transit.
- Check the motor nameplate for the model number, output, No. of poles, voltage, frequency, etc.  
Do not use the product if it does not meet your specification (if you dare to use it, burn injury or fire may result).
- A single-phase motor comes with capacitor and capacitor cap. Check the rated capacitance and voltage on the nameplate. Do not use the accessory capacitor if it does not meet your specification (if you dare to use it, you may be injured or may have fire).
- Gear head is optional.
- Check a gear ratio on the nameplate. Do not use it if it does not meet your specification (if you dare to use it, you may be injured or may have fire).

**Should you find any discrepancy in the product, consult your local dealer.**

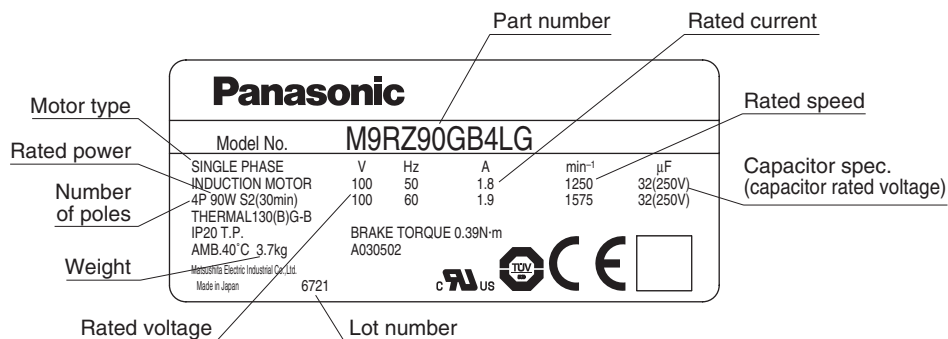
# 1. Introduction

## Model identification

### Designation and rating information on the nameplate

Below shows a sample of nameplate, a single-phase induction motor (90 W).

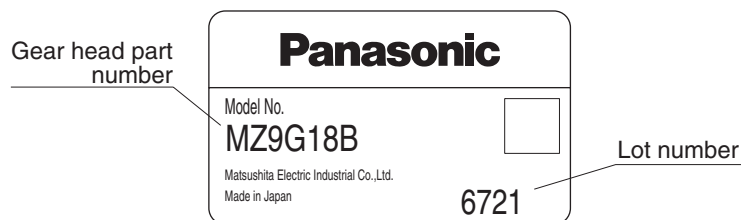
**Note:** Format of nameplate is not common to all models.



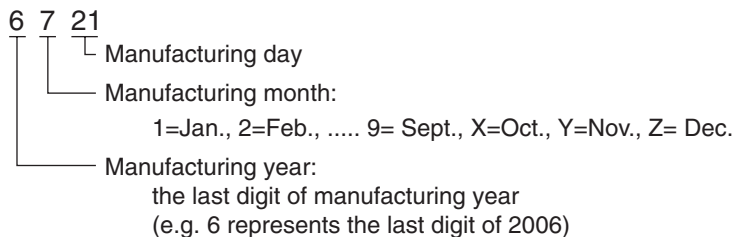
### <Type of motor>

- SINGLE PHASE INDUCTION MOTOR  
Capacitor motor : Induction motor, Reversible motor
- THREE PHASE INDUCTION MOTOR  
: Three phase Induction motor

Below shows a sample of gear head Sq.90mm 1/18

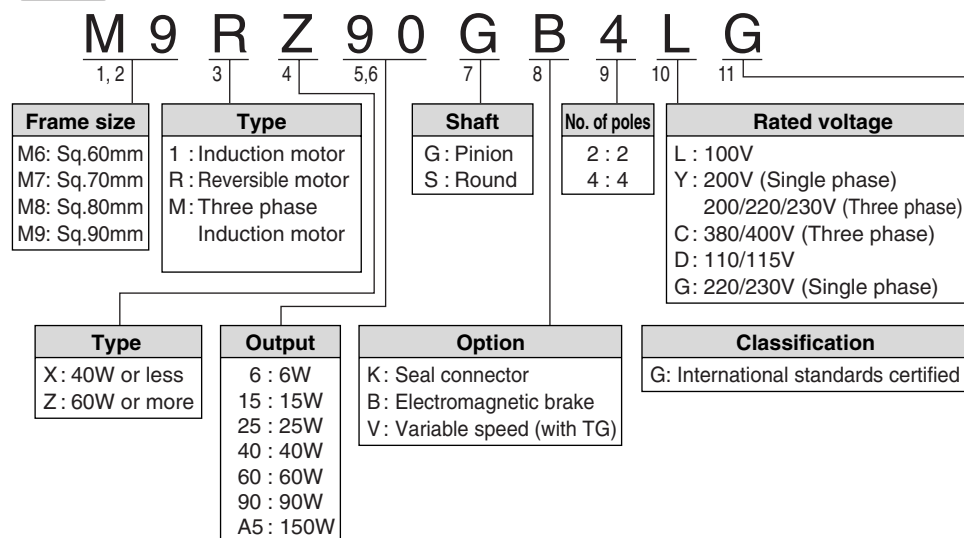


### Designation of lot number



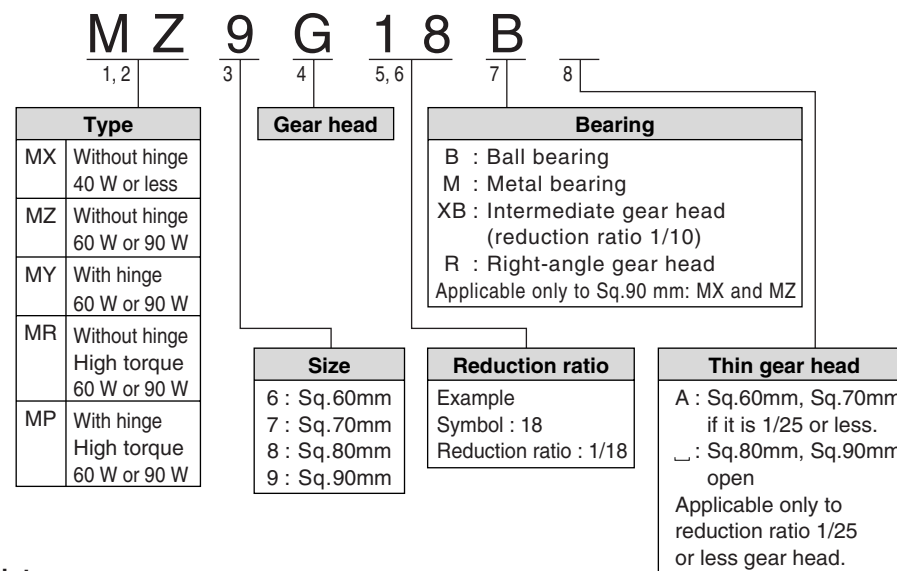
## Description of model number

### Motor



\* Induction motor and reversible motor are single phase motor.

### Gear head

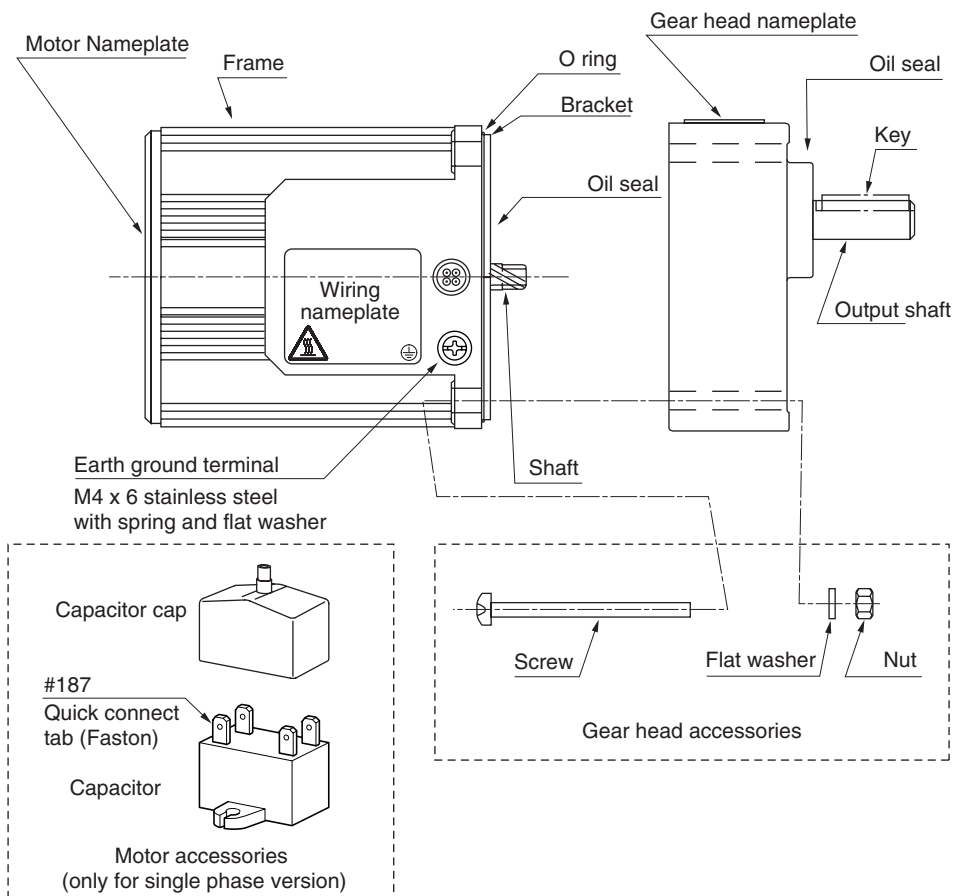


### <Note>

Gear head is optional. For further information refer to your local dealer.

# 1. Introduction

## Names and functions



\* Don't remove the nameplate.

# 2. Installation

## Motor

### Installation location

Install the motor as described to prolong the motor lifetime in a place where;

- (1) is free from rain and direct sunlight.
- (2) is free from vibration  $4.9 \text{ m/s}^2$  or more; shock, dust, iron powder or oil mist; splash of water, oil and grinding fluid; and away from flammable materials, corrosive gas ( $\text{H}_2\text{S}$ ,  $\text{SO}_2$ ,  $\text{NO}_2$ ,  $\text{Cl}_2$ , etc.) or flammable gas.
- (3) is enough ventilated dry and clean keeping oil, water, dust and heat away.
- (4) you can check and clean the motor easily.
- (5) is not in a closed environment where the motor temperature may increase. This may result in the motor life shortened.

### Environmental condition

Item	Description
Ambient temperature	$-10^\circ\text{C}$ to $40^\circ\text{C}$ (no freezing) *1
Ambient humidity	85% RH or below (no dewing)
Storage temperature	$-10^\circ\text{C}$ to $60^\circ\text{C}$ (no freezing) *2
Vibration	$4.9 \text{ m/s}^2$ or below (10 to 60 Hz)
Altitude	Lower than 1000 m.

\*1) Measurement taken at a point 5 cm from the motor.

\*2) Allowable range for a relatively short period, for example, during transportation.

### Installation

The motor can be installed vertically or horizontally but leadwires should be directed downward.

### Keep the motor away from oil, water and dust

- (1) Don't run the cable in water or oil.
- (2) Don't expose the motor to splashing oil or water.

