

Main Features of Combination of Nissei-Gearmotor & Inverter

Quick Installation and Operation

- With the best setting of parameter, wide range of continuous rated operation can be feasible. Continuous operations in the range of 5Hz to 60Hz are feasible.
- At the shipment of inverters, the most appropriate parameter has already been set in accordance with the Nissei Gearmotor. Upon arrival of products, customer can start using them without doing troublesome parameter settings.

The figure shown on the right is an example of the case with the motor capacity of 3-phase, 0.2kW. For other capacities, refer to page E80~E81.

Low Cost when Set Purchasing, No additional Labor!

- Inverters can be ordered in combination with gearmotors. Eliminate a needless trouble of ordering inverter and gearmotor separately. Specify the type of gearmotor to be used, in your inquiry.
- We will do the parameter setting in accordance with our gearmotor to be used.

For the standard specifications, parameters have already been set, using our gearmotor with the same capacity. In case the inverter capacity is different from that of gearmotor, consult us.

Performance・Function

Entire Area・Fully Automatic Torque Booster

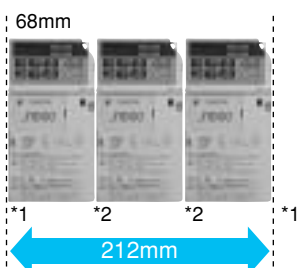
- Even in a same machine, necessary motor torque varies according to the load condition. It is the Entire Area Fully Automatic Booster that automatically adjust the voltage (V) of V/f in accordance with the torque needed. In the J1000, voltage (V) can be adjusted not only at the constant speed operation but also at the acceleration. Calculation of the needed torque is done by the inverter.

Compact Design

The super miniaturized body and side-by-side installation allows a compact control panel design.

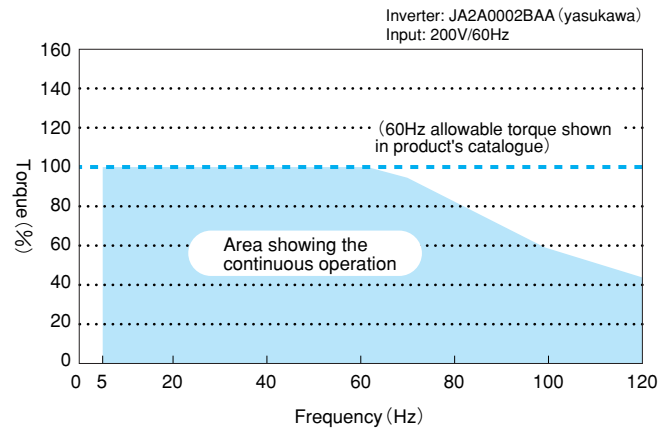
Note) In some cases load reduction may be necessary.

Ensure the selected motor rated current is within the inverter rated current.



- *1: When the side is a wall, 30mm is required.
- *2: The gap between inverters is 2 mm.

● "Range of continuous rated operations" 0.2kW



Advantage Point

Shipment will be made after setting the parameter in accordance with the ordered gearmotor.



Simple Operation

The gear comes with a verification function to simply check the parameter if it has been changed since the value set when shipped from the factory.

- Changed parameters

Name	Parameter No.	Shipped Setting	Set Value
Frequency Instruction Selection	b1-01	1	0
Acceleration Hour 1	C1-01	10.00s	15.00s
Deceleration Hour 1	C1-02	10.00s	15.00s
⋮	⋮	⋮	⋮



Environmental Considerations

Standard products comply with the RoHS (European Restriction of Hazardous Substances) Directive.

Incorporating Swing PWM mode to reduce electromagnetic and ear damaging noises.

- Comparing noise from current and Swing PWM based models:

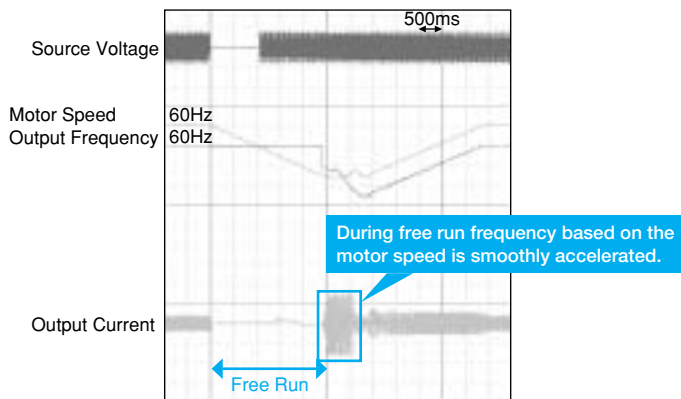
23% reduction **Note)** Comparison of peak noise frequency analysis values

Continues Operation Even with Changes in Load or Power or Temporary Power Outages

Motor speed loss is prevented based on full stalling prevention functionality. Also inverter trips caused by temporary unusual circumstances are prevented due to functions such as speed search, which can restart the motor's free run state without a speed sensor, and temporary stop operation continuation.

●Speed Search Functionality

It is simple to start the motor's free run conditions without a speed sensor. (Example applications: A fluid machine that has a rotating part such as a fan or blower.)



Complete Control Functions, Vertically Operable

Based on over excitation control functionality it is possible to quickly adjust even without resistance. In addition, all models include a control transistor so that simply by adding a control resistor (option) even greater ability to control can be gained. Vertical operation is also possible.

Complete Conservation Functionality

A charge current control circuit is installed standard preventing inverter damage even in poor power conditions.

In case of brake motors, the braking failure may happen because of the fluctuation of voltage by inverter. Therefore, inverter should not be employed for the brake wiring. In case of low speed operations, temperature rise become greater, therefore, care should be given to the range of continuous operation. In case of high speed operations, decline of the allowable torque value, greater vibration and noise may be observed. In this case, contact us. When ordering gearmotors with terminal box, refer to the cautions indicated on the right.

Conservative Reduction

Condenser, cooling fan, charge prevention relay, IGBT maintenance period can all be performed by monitor checking for complete preventative protection. Cooling fan is installed in the top and is replaceable. It is easy to replace without requiring removal of the main wiring circuit.

●Cooler fan replacement



Power Harmonics Reduction Considerations

It is possible to connect AC reactors (option) and DC reactors (option).

This inverter falls under the "Guideline to reduce harmonic emissions caused by electrical and electronic equipment for household and general use" released in September 1994 by METI. Following these guidelines the Japan Electronics and Information Technology Industries Association determined standard levels in steps. Aligning our inverters installed from January 1, 1997 with these criteria requires connection with a harmonic emissions controller reactor. Among power-factor improvement reactors (harmonic reduction reactors) use either DC reactors or AC reactors. When providing reactors separately contact us for detailed specifications.

Motor Capacity	Caution
0.1kW~0.4kW	When ordering A Type or Z Type terminal box, instruct us whether rectifier independent specification or AC Switching (A) wirings.
0.75kW~2.2kW	When ordering the rectifier built-in inverter, instruct us with the AC Switching (A) wiring.

Cautions on Safety



- This inverter can be applied to variable speed 3-phase AC motors for general industry use.
- In case inverters are applied to the equipments where the inverter failure or malfunction may directly affects to human life or may cause serious injury, inform us beforehand. It is necessary to have detailed study for each case. (Examples: Atomic power control, Aerospace equipments, Transportation equipments, Medical instruments, Various safety devices, etc)
 - Inverters are manufactured under the severe quality control, however, it is recommended to install safety device to prevent from serious accidents in the application where the inverter failure may cause fatal accidents and/or may cause serious losses to valuable equipments.
 - Wiring should be done by a professional electric worker.
 - Inverter should not be applied to the load other than 3-phase AC motor.

Parallel Shaft (Performance Table/Dimension)

- Gearmotor with Brake
- Water-resistant, Outdoor Gearmotor with Brake
- Gearmotor with Clutch/Brake
- Reducer (Double Shaft)
- S-Type Reducer

Right Angle Shaft (Performance Table/Dimension)

- Gearmotor with Brake
- Water-resistant, Outdoor Gearmotor with Brake
- Gearmotor with Clutch /Brake
- Reduce (Double Shaft)
- S-Type Reducer

Hollow Shaft Solid Shaft (Performance Table/Dimension)

- Gearmotor with Brake
- Water-Resistant, Outdoor Gearmotor with Brake
- Reduce (Double Shaft)
- S-Type Reducer

Concentric Hollow Shaft Concentric Solid Shaft (Performance Table/Dimension)

- Gearmotor with Brake
- Water-Resistant, Outdoor Gearmotor with Brake
- Reducer (Parallel Shaft)
- S-Type Reducer

Technical Information

Standard Motors

Cautions for Safety

Option

GT-STEP Index Gearmotor

KOMPASS Gearbox