



The user manual describes all items concerning the operations of this AC servo motor in detail as much as possible. However, it's impractical to give particular descriptions for all unnecessary and/or unavailable operations on the motor due to the limit of the manual, specific operations of the product and other causes. Therefore, the operations not specified in this manual may be considered impossible or unallowable.



This manual is the property of GSK CNC Equipment Co., Ltd. All rights reserved. It is against the law for any organization or individual to publish or reprint this manual without the express written permission of GSK CNC Equipment Co., Ltd. and the latter reserves the right to ascertain their legal liability.

Dear user,

It's our pleasure for your patronage and purchase of this GSK SJT series AC Servo Motor(hereinafter called "motor") made by GSK CNC Equipment Co., Ltd.

Technological Spot Service

You can ask for spot service if you have the problems that can't be solved by telephone. We will send the engineers authorized to your place to resolve the technological problems for you.

Chinese version of all technical documents in Chinese and English languages is regarded as final.

Warning and Precaution

1. There is photoelectric encoder inside the motor, the motor must not be hammered when it is installed; the photoelectric encoder must not be demounted and installed by user independently, otherwise the corresponding position (zero) of wind between the encoder and motor is damaged to cause that the motor cannot run.
2. Under the normal environment, the insulated resistance of motor wind to shell measured by 1000V Ohmmeter should be less than 20 MΩ.
3. The wirings of motor and driver must be properly connected, which are described in the manual and which can ensure the grounding is safe and fastened.
4. The motor can run with load after there is no noise and vibration when it runs without load from zero to max. speed.
5. Don't touch the shaft and shell of the motor which is running.
6. The operator only with the corresponding qualification can tune and maintain the motor.
7. Do not move the motor by dragging its wires (cables) or shaft.
8. We are not responsible for the motor changed by user and the warranty for the motor will be void for the changing.

Content

| | |
|--|---|
| 1. Product Features | 1 |
| 2. Working Ambient | 1 |
| 3. Motor Model Explanation | 1 |
| 4. Main Technical Parameters and Appearance Dimension of the Motor | 1 |
| 5. Mechanical Characteristic Curve | 3 |
| 6. Connecting the Motor with the Drive Unit | 4 |
| 7. Motor Storage | 5 |
| 8. Motor Transportation | 5 |
| 9. Quality Guarantee | 5 |
| 10. Security Responsibility | 5 |

1. Product Features

GSK ZJY spindle servo motor is new high performance three-phase induction one independently by GSK CNC Equipment Co., Ltd., employed with F-level insulation structure, exclusive corona enameled wire to frequency inverter and high speed and high precise encoder. It has the characteristics as follows; compact, high precision, low noise, high reliability, high cost-performance and so on.

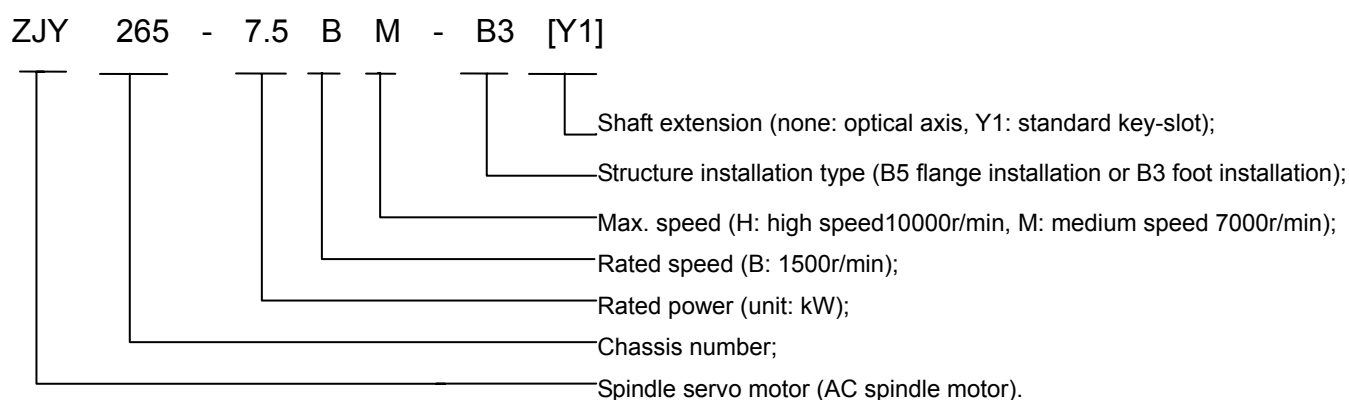


2. Working Ambient

- 2.1 The altitude should not less than 1000m
- 2.2 The environment temperature should be within $-10^{\circ}\text{C} \sim +70^{\circ}\text{C}$.
- 2.3 The relative humidity should be less than 90% (no condensing) .
- 2.4 AC steady voltage: $(1 \pm 10\%) \times \text{AC rated voltage}$.

3. Motor Model Explanation

Example: ZJY265-7.5BM-B3Y1

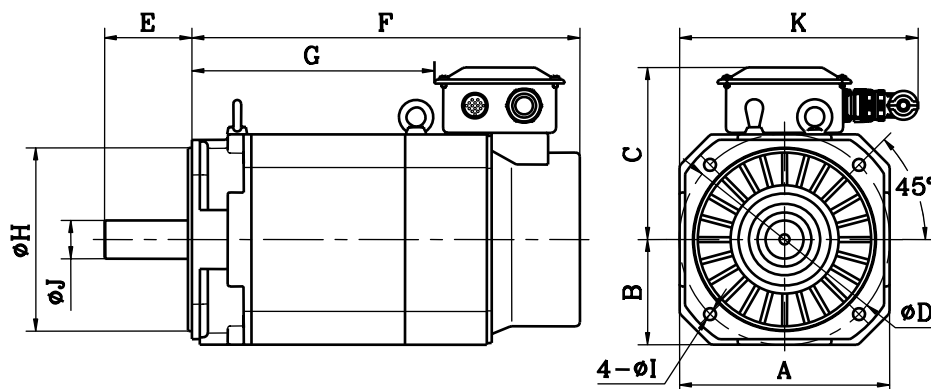


4. Main Technical Parameters and Appearance Dimension of the Motor

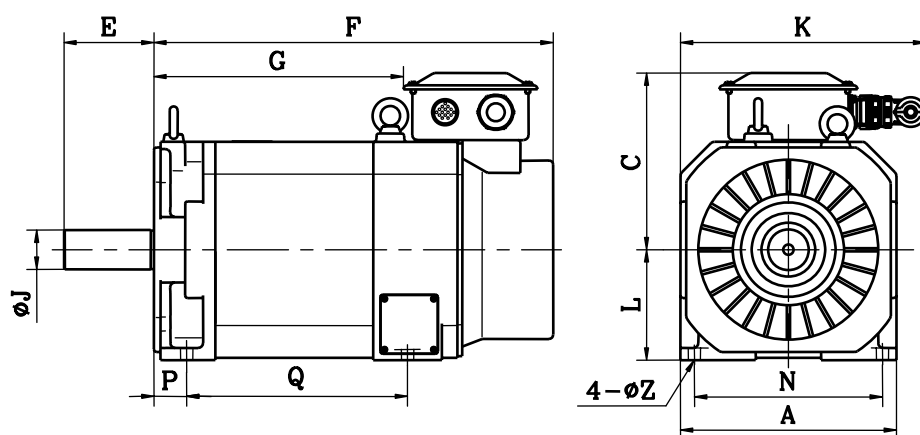
See Table 1 about the main technical parameters and appearance dimension of the motor

Table 1

| Spec. Item | | ZJY208-2.2B | ZJY208-3.7B | ZJY208-5.5B | ZJY208-7.5B | ZJY265-7.5B | ZJY265-11B | ZJY265-15B |
|--|---|--|-------------|-------------|-------------|------------------------------------|------------|------------|
| Rated power (kW) | | 2.2 | 3.7 | 5.5 | 7.5 | 7.5 | 11 | 15 |
| Drive unit power (V) | | Three-phase AC 380 50/60Hz | | | | | | |
| Rated current (A) | | 9.3 | 8.9 | 13.7 | 18.4 | 18 | 26 | 35 |
| Rated frequency (Hz) | | 50 | 50 | 50 | 50 | 50 | 50 | 50 |
| Rated torque (N.m) | | 14 | 24 | 35 | 48 | 49 | 72 | 98 |
| 30min power (kW) | | 3.7 | 5.5 | 7.5 | 11 | 11 | 15 | 18.5 |
| 30min current (A) | | 13.6 | 13 | 18 | 25 | 26 | 34 | 42 |
| 30min torque (N.m) | | 24 | 35 | 48 | 70 | 74 | 100 | 123 |
| Rated speed (r/min) | | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 | 1500 |
| Constant power range (r/min) | | When Max. speed is H:1500~6000; When Max. speed is M:1500~5000 | | | | | | |
| Max.speed (r/min) | | M, H | M, H | M, H | M, H | M | M | M |
| Rotational inertial (kg.m ²) | | 0.0103 | 0.0168 | 0.0238 | 0.0309 | 0.0413 | 0.0744 | 0.0826 |
| Weight (kg) | | 49 | 51 | 66 | 77 | 89 | 107 | 125 |
| Installation pattern | | IM B5 or B3 | | | | | | |
| Guard grade | | IP54 (GB/T 4942.1—2001) | | | | | | |
| Insulation grade | | F grade (GB 1094.3—2003) | | | | | | |
| Vibration grade | | R grade (GB 10068—2000) | | | | | | |
| Build-in encoder | | Incremental type 1024 p/r | | | | | | |
| Power supply of cooling fan (V) | | Three-phase AC 380V 50Hz 40W 0.14A | | | | Three-phase AC 380V 50Hz 70W 0.21A | | |
| Appearance dimension (See figure) | A | 208 | 208 | 208 | 208 | 265 | 265 | 265 |
| | B | 104 | 104 | 104 | 104 | 132 | 132 | 132 |
| | C | 188 | 188 | 188 | 188 | 216 | 216 | 216 |
| | D | 215 | 215 | 215 | 215 | 265 | 265 | 265 |
| | E | 60 | 60 | 80 | 80 | 110 | 110 | 110 |
| | F | 363 | 413 | 468 | 523 | 443 | 488 | 533 |
| | G | 187 | 237 | 292 | 347 | 260 | 305 | 350 |
| | H | 180h7 | 180h7 | 180h7 | 180h7 | 230h7 | 230h7 | 230h7 |
| | I | 15 | 15 | 15 | 15 | 15 | 15 | 15 |
| | J | 28h6 | 28h6 | 38h6 | 38h6 | 48h6 | 48h6 | 48h6 |
| | K | 272 | 272 | 272 | 272 | 300 | 300 | 300 |
| | L | 106 | 106 | 106 | 106 | 135 | 135 | 135 |
| | N | 180 | 180 | 180 | 180 | 230 | 230 | 230 |
| | P | 40 | 40 | 40 | 40 | 40 | 40 | 40 |
| | Q | 160 | 210 | 265 | 320 | 225 | 270 | 315 |
| | Z | 12 | 12 | 12 | 12 | 15 | 15 | 15 |



(B5) Flange installation pattern (B5)

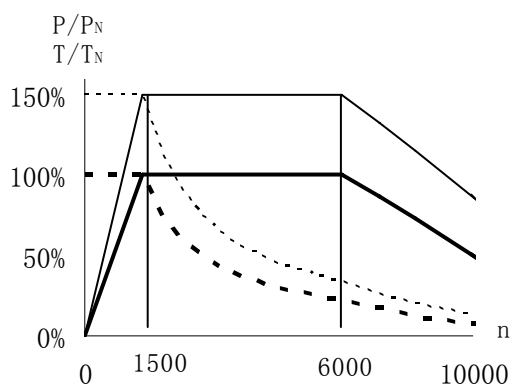


Foot installation pattern (B3)

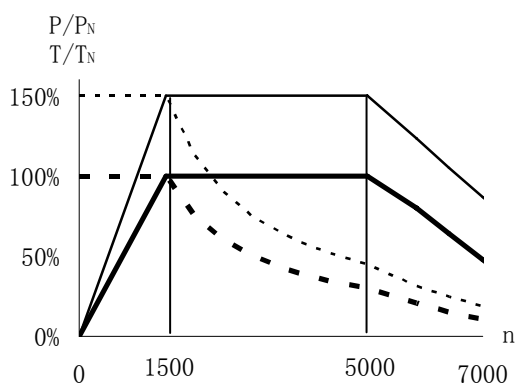
5. Mechanical Characteristic Curve

P/P_N ——— Power/rated power; T/T_N ——— Torque/rated torque;

n ——— Rated speed



Motor characteristic curve of max. speed H



Motor characteristic curve for max. speed M

Illustration:

| | |
|---|---------------------------------------|
| _____ Power for continuous working status; | _____ Power for 30min working status; |
| Torque for continuous working status; | Torque for 30min working status |

Fig.2

6. Connecting the Motor with the Drive Unit

6.1 The 3-phase windings U, V, W of the motor and the shell (grounding) are led out by a 4-core socket connector and the correspondence table is as Fig.6: U, V, W and the shell of the motor are connected with the circuit U, V, W, PE terminals of the driver respectively. The cooling direction is from the shaft head to the end.

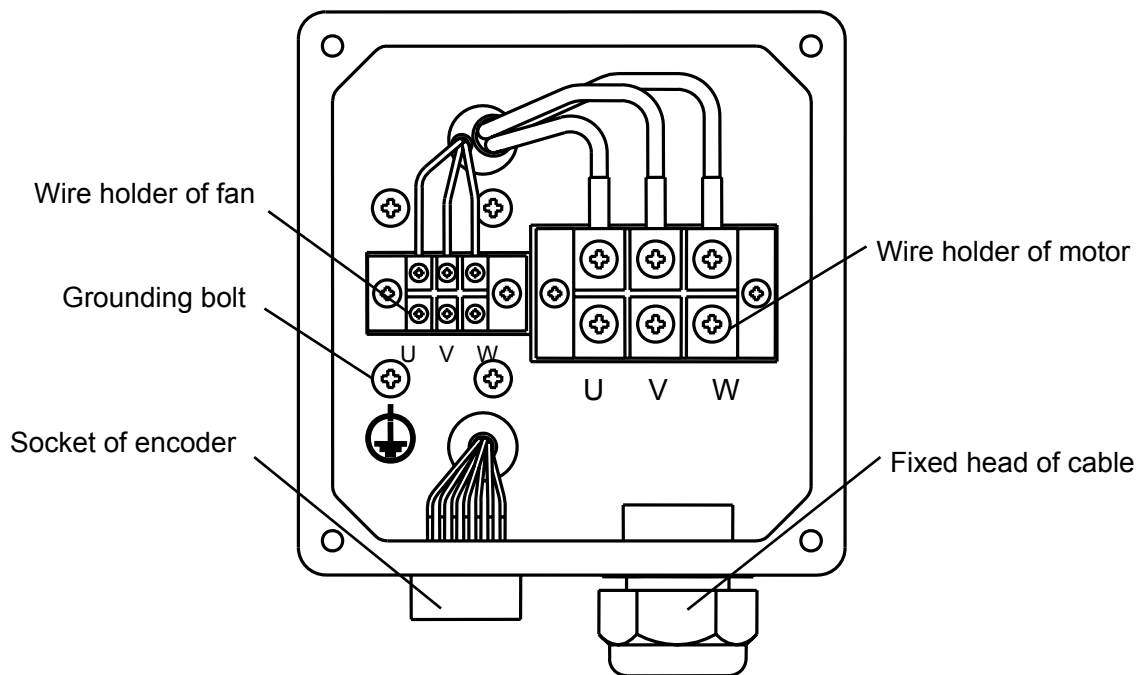
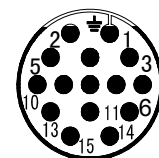


Fig. 3

6.2 The photoelectric encoder lead wires are led out by a 15-core connector shown in table 6. The leading wires are connected with the plug of driver feedback signal CN2.

Table 2

| Lead wire of encode | Machine shell | V_{CC} | GND | A | \bar{A} | B | \bar{B} | Z | \bar{Z} |
|---------------------|---------------|----------|-----|---|-----------|---|-----------|---|-----------|
| Socket No. | 1 | 2 | 3 | 4 | 7 | 5 | 8 | 6 | 9 |



Socket sample

7. Motor Storage

The motor should be stored in a clean and well ventilated place within $-40^{\circ}\text{C}\sim+55^{\circ}\text{C}$ with the relative humidity less than 95% and without corrosive in air.

8. Motor Transportation

Handle the motor with care in transportation to prevent the collision and impact from the motor and from the corrosive materials such as acid and alkaline.

9. Quality Guarantee

We are responsible for the free reparation for the motor that can't run or damaged because of the inferior quality within 18 months after delivery date (by delivery credence) on the condition that the transportation, storage, installation, debugging, maintenance regulations for the motor usage are properly observed by user.

10. Security Responsibility

10.1 Security responsibility of the manufacturer

10.1.1 Manufacturer should take responsibility for the design and structure danger of the motor and the accessories which have been eliminated and/or controlled.

10.1.2 Manufacturer should take responsibility for security of the motor and accessories.

10.1.3 Manufacturer should take responsibility for offered information and suggestions for the user.

10.2 Security responsibility of users

10.2.1 User should know and understand about the contents of security operations by learning and training the security operations of the motor.

10.2.2 User should take responsibility for the security and danger because of increasing, changing or modifying the original motor or accessory by themselves.

10.2.3 User should take responsibility for the danger without following the operations, maintenances, installations and storages described in the manual.

Note 1: The motors listed in this manual are the recommended models that are applicable to most situations. Other models can be supplied by your special requirements.

Note 2: The shaft extensions of the motors made by us are the column type without keyway. Motors with different shaft extensions are supplied by your requirements (marked in your order):
Column shaft extension with keyway (refer to GB/T 756-1990).

All specifications and designs are subject to change without notice.

Sincere thanks for your friendly patronage for the products made by GSK CNC Equipment Co., Ltd.