

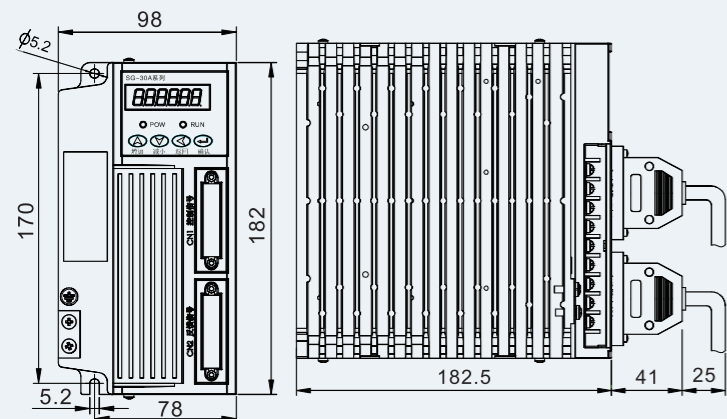
SG Series Servo Motor Drive

Operating temperature: -10°C ~ 55°C
 Humidity: <90% (no condensation)
 Vibration: <0.5g (4.8m/s²)
 Working system: continuous work

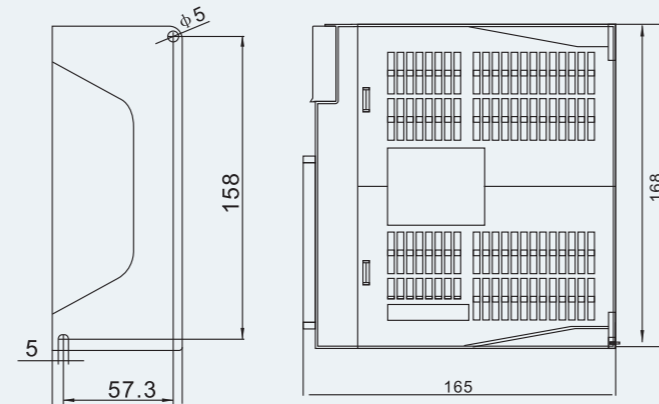
Specifications

| Model | SG15A | SG20A | SG30A |
|------------------------------------|--|---------|----------|
| Output power(Kw) | 0.2-1.0 | 0.4-1.5 | 0.8-2.6 |
| Motor rated torque(N.m) | 0.6-4.0 | 2.4-6.0 | 4.0-15.0 |
| Input power supply | 3-phase AC220 -15%~ +10% 50/60Hz | | |
| Control way | SG series position control, speed control | | |
| Speed frequency response | ≥250Hz | | |
| Control Rate volatility | < ±0.03 (load 0-100%) ; < ±0.02 (power -15%~+10%) value corresponding to the rated speed. | | |
| feature Speed ratio | 1 : 5000 | | |
| Pulse frequency | ≤500kHz | | |
| Input control | 1.servo enable 2. alarm clearance Input control 3.cw drive prohibition 4.cw drive prohibition 5.deviation/counter reset/ speed selection 6. command pulse prohibition/speed selection2 | | |
| Output control | 1. servo ready to output 2.servo alarm output 3. positioning to complete the output/ Speed reach to the output 4. mechanical | | |
| Position control | input way: 1.pulse+ symbols 2.cw pulse/cw pulse 3.2 phase A/B orthogonal pulse The electronic gear: 1~32767/ 1~32767 Feedback pulse :2500 ppr | | |
| Mouitring functions | rotate speed, current position, command pulse accumulation, position deviation, motor torque, motor current, Linear speed, The absolute rotor position, command pulse frequency, Running state, input/output terminal signal, etc. | | |
| Acceleration deceleration function | parameters set 1~10000ms/1000r/min | | |
| Protection function | overspeed, The main power over-voltage and under-voltage, over curret, overload, abnormal braking, the encoder abnormal, control power abnormal position error, ect.. | | |

SG20A/30A Installation size chart unit=mm



SG15A Installation size chart unit=mm



SG-AS Series Servo Motor Drive

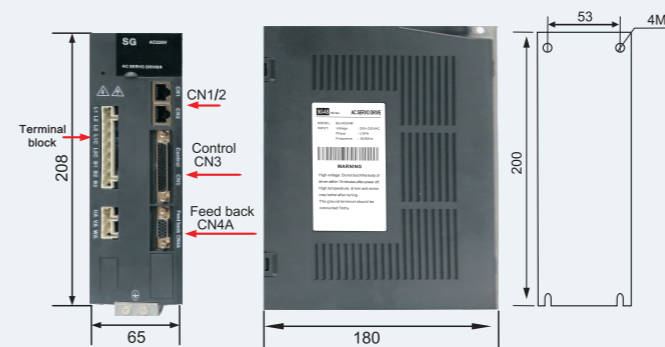


Product brief

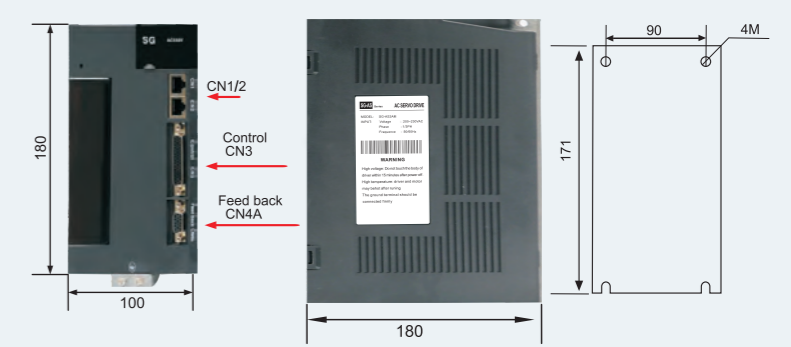
Ac servo technology has developed from the early 80s, application technology become more mature and the property improved every year. It is widely used in the cnc turning machine, packaging machine, printer, textile machine, and other automated equipment. SG series ac servo drive, a new generation product, use the latest 32-bit DSP unit as the center core work unit, which we research and develop independently. Adopt the complex programmable device EPLD and Mitsubishi intelligent power module. This ac servo drive has the advantages of high integration, small volume, fast response speed, perfect protection, high reliability etc.

Dimensional Drawings(Frame size)

Three Phase 220V: 400W ~ 1.5KW unit=mm



Three Phase 220V: 2.0KW ~ 5.5KW



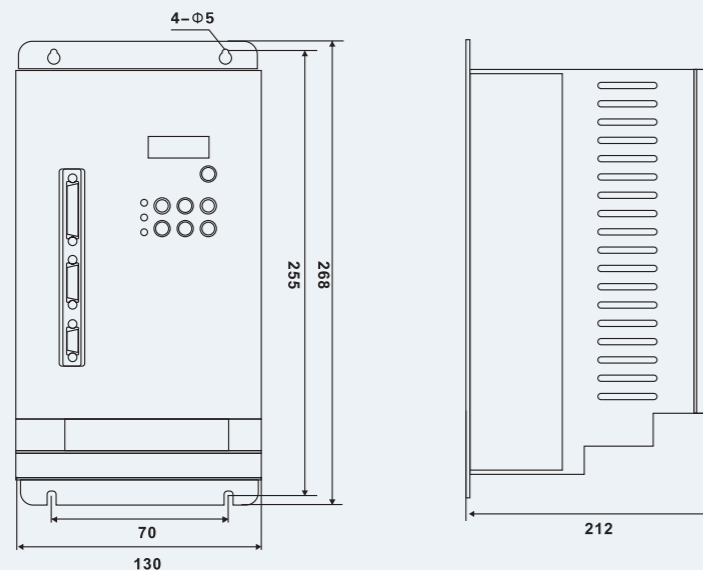
| | | |
|-------------------------------------|---|--|
| Control mode | Position control, JOG operation, speed contacts, etc. | |
| Encoder feedback | Ordinary incremental encoder: 2500 lines incremental standard type 2500 line incremental province-wire serial encoder: 2 ⁷ /216 bit absolute encoder | |
| Conditions of Use | Ambient temperature / storage temperature | Ambient temperature: 0 ~ +50 °C, Storage temperature: -20 ~ +85 °C |
| | Humidity/storage humidity | 90% RH or less (no freezing or condensation) |
| | Resistance to vibration / impact resistance | 4.9m/s ² /19.6m/s ² |
| Performance | Structure | Base mount |
| | Speed control range | 1:10000(Lower limit of the speed control range is the smooth operation at rated load without crawling) |
| | Speed response | 1KHz |
| | Rate volatility (load variation) | 0 to 100% load; 0% (rated speed) |
| | Rate volatility (voltage variation) | Rated voltage ± 10%; 0% (rated speed) |
| Analog speed command input | Rate volatility (temperature variation) | 25 ± 25 °C: ± 0.1% or less (rated speed) |
| | Command voltage | DC±10V |
| | Input impedance | Approximately 20KΩ |
| Analog torque command in input | Circuit time parameter | 47μs |
| | Command voltage | DC±10V |
| | Input impedance | Approximately 20KΩ |
| Sequence input signal | Circuit time parameter | 47μs |
| | Count | 8 Point |
| | Function (distribution) | Servo ON (/ S-ON), P action (/ P-CON), prohibits Story side driving (P-OT), prohibiting reverse side driving (N-OT), alarm reset (/ ALM-RST), positive Zhuance torque limit (/ P-CL), reverse the measured torque limit (/ N-CL), the position deviation is cleared (/ CLR), the internal set speed switching can be allocated and the signal of the positive / negative logic change. |
| Sequence output signal | Count | 6 Point |
| | Function (distribution) | Servo alarm (/ ALM positioning completion (/ COIN) consistent speed detection (/ V-COMP) servo motor rotation detection (/ TGON) Servo ready (/ S-RDY), torque limit detection (/ CLT) Brakes (/ BK) encoder zero output (PGC) can be assigned as well as the positive / negative logic of the signal change |
| | Encoder Dividing pulse output | A phase, B phase, C: linear drive output; divider pulses: can be arbitrarily set |
| RS-485 Communications | Protocol | MODBUS |
| | 1 : N Communication | Can be up to N = 127 station |
| | Axis address setting | By parameter setting |
| CAN Communications | CAN Communications | CAN Open (DS301 + DS402 profile) |
| | 1 : N Communication | Can be up to N = 127 station |
| | Axis address setting | By parameter setting |
| Display Function | CHARGE LED, 7-segment 5 | |
| Regeneration treatment | Built-in regenerative resistor or external regenerative resistor (optional) | |
| Overtravel (OT) prevention function | P-OT, N-OT Enter the action of dynamic brake (DB) stop, deceleration stop or free-run stop | |
| Protection | Overcurrent, overvoltage, undervoltage, overload, speeding, regeneration fault, encoder feedback error, etc. | |
| Monitoring functions | Speed, current position, command pulse accumulation, position deviation, motor current, operating status, input and output signals | |
| Accessibility Features | Gain adjustment, alarm recording, JOG operation, origin search, inertia testing | |
| Smart features | Built-in automatic gain tuning function | |
| Use load inert | Less than 5 times of motor inertia | |
| Position control | Feedforward compensation | 0~100%(Setting unit 1%) |
| | Input pulse types | Sign + pulse train, CW + CCW pulse train, 90 ° phase difference between the two-phase pulse (A phase + B phase) |
| | Input pulse form | Supports linear drive, open collector |
| | Maximum input pulse frequency | Linear drive Sign + pulse train, CW + CCW pulse sequence: 500K pps 90 ° phase difference between the two-phase pulse (A phase + B-phase): 500K pps Open Collector Sign + pulse train, CW + CCW pulse sequence: 200K pps 90 ° phase difference between the two-phase pulse (A phase + B-phase): 200K pps |

SD-S Series Spindle Servo Motor Drives

Specifications

| | | |
|---------------------|--|--|
| Input Power | Input Voltage | 3phase AC 380/400V |
| | Input Frequency | 50Hz/60Hz |
| | Allow Voltage Fluctuation | +10%, -15% |
| | Allow Frequency Fluctuation | ±5% |
| 控制特性 | Control Mode | Vector control |
| | Speed Control Range | 0.01~500Hz, If 4pole motor max speed 15000rpm |
| | Speed Control Precision | ±0.1% |
| | Acceleration Timing | 0.05~300Hz/s |
| | Torque control Character | Under base frequency 200% rated torque output: precision ± 5% |
| | Position Control Precision | ± 1 pulse |
| | Brake Mode | Energy brake, inner brake unit |
| I/O 接口 | Overload Capacity | Two times |
| | Digital Input | 10 points, NPN type, PNP type for options |
| | Digital Output | 4 Points, NPN type, PNP type |
| | Relay Output | 2 pcs, DC30V/1A or AC250V/1A |
| | Analog Quantity input | Two ways, A0: ±10V; A1: 0~+10V or 4~20mA |
| | External Pulse Input | 1 pcs, high speed optocoupler, ABZ phase pulse, direction+Pulse, CW pulse for option |
| | Motor Encoder Input | 1 pcs, RS422 electrical level or rotary connector for option |
| Protect Function | Motor Encoder Output | 1 pcs, RS422 electrical level, output frequency range 0~1MHz |
| | Expansion Interface | Available to set inner or external function module like RS485 (Modbus, RTU) |
| Working Environment | Over Voltage Protect, Low Voltage Protect, Over Current Protect, Motor Overheat Protect, Power Module Overheat Protect, Overload Protect, Output Short Circuit Protection, Encoder Abnormal Protect. | |
| | Installation Condition | Avoid direct sunshine, no dust, no corrosion, no flammable gas |
| | Working Ambient Temperature | -10°C ~ +45°C |
| | Working Ambient Humidity | 5~90%, No frost |
| Working Environment | Working Altitude Height | 0~3000M, Up 1000m, should derating use |
| | Allow Vibration Range | Under 20Hz: 1G; 20~50Gz: 0.2G |

Installation Size unit=mm



High performance

Comprehensive and precise control functions: steady speed control, precision position control, excellent torque control.

Safe and dependable

Products meet international standards, through the CE certification. Set multiple protection circuit, comprehensive protection safety equipment.

Horoscope communication function (optional)

Products with remote communication capabilities, simply connect a SIM card module, you can remotely operate the controller via the mobile phone network.

Strong expansion capability (optional)

You can configure a variety of expansion modules within the controller, such as a digital terminal expansion modules, analog terminal expansion modules, encoder feedback divider output, 485 (ModBus/RTU), CANopen, GSM / GPRS module, digital display module, double position loop module and other interfaces, it can also develop a variety of control devices connected function module, such as convenience and PLC, touch screen, text display, etc. according to the user's specific application.

57BYG Series Two-Phase three-phase Stepper Motor

Temperature Rise: 80°C Max (Rated current)

Step Angle Accuracy: 5%

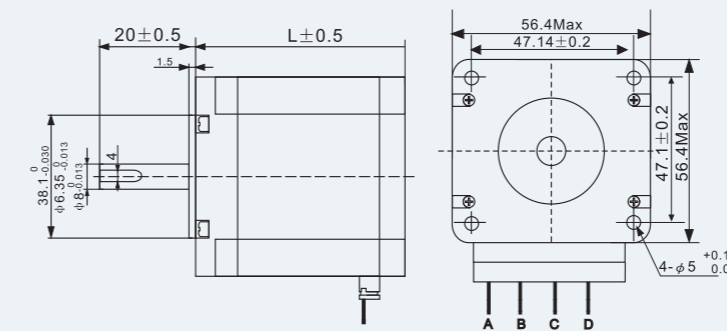
Ambient temperature: -20°C ~ +50°C

Insulation Resistance: 100MΩ 500V DC

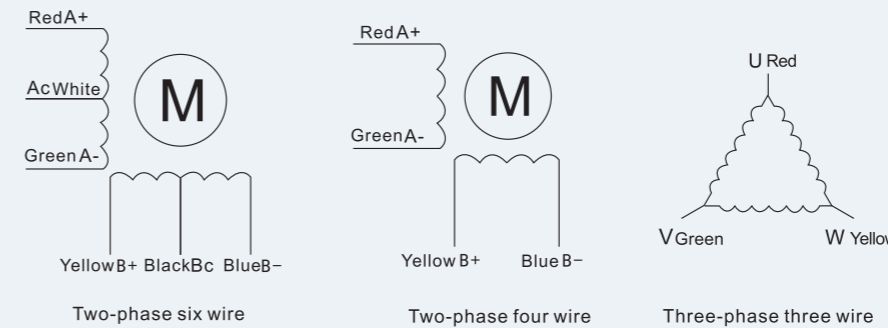
Dielectric Strength: 500V AC 1min

Insulation class: B

Installation Dimension unit=mm



Wiring Diagram



Wiring Diagram

| | Two phase | | Three phase | |
|----------------------|-----------|------------|-------------|--------|
| Lead wire definition | color | definition | color | |
| A | A+ | Red | U | Red |
| B | A- | Green | V | Green |
| C | B+ | Yellow | W | Yellow |
| D | B- | Blue | | |

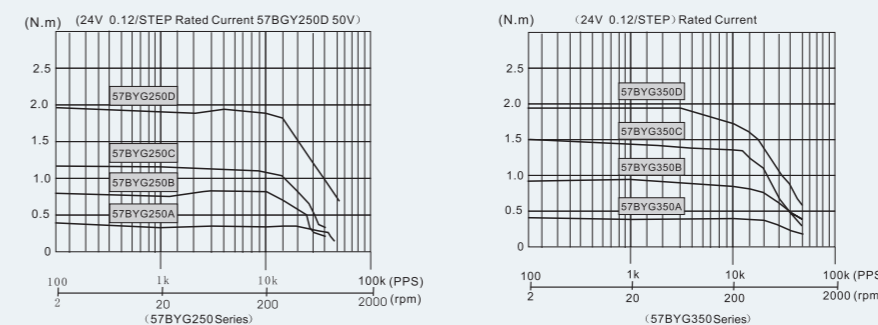
Lead wire length(L) 300mm

Note: The motor wiring method can be changed according to the customers' requirements.

Specifications

| Motor Model | Step Angle (°) | Holding torque (N.m) | (Drive) Operating Voltage (V) | Rated Current (A) | Phase Inductance (mH) | Phase Resistance (Ω) | Rotor inertia (Kg.cm ²) | Weight (Kg) | Motor Length (mm) |
|-------------|----------------|----------------------|-------------------------------|-------------------|-----------------------|----------------------|-------------------------------------|-------------|-------------------|
| 57BYG250A | 1.8° | 0.45 | 24 | 2.0 | 3.5 | 1.5 | 0.15 | 0.45 | 41 |
| 57BYG250B | 1.8° | 0.8 | 24 | 2.5 | 3.4 | 1.34 | 0.29 | 0.70 | 56 |
| 57BYG250C | 1.8° | 1.2 | 24 | 3.0 | 8.1 | 2.3 | 0.52 | 1.15 | 76 |
| 57BYG250D | 1.8° | 2.0 | 40-60 | 4.0 | 3.5 | 1.0 | 0.8 | 1.62 | 112 |
| 57BYG350A | 1.2° | 0.45 | 24 | 5.2 | 0.5 | 0.3 | 0.1 | 0.5 | 41 |
| 57BYG350B | 1.2° | 0.9 | 24 | 5.6 | 0.77 | 0.3 | 0.26 | 0.75 | 56 |
| 57BYG350C | 1.2° | 1.5 | 24 | 5.8 | 1.0 | 0.33 | 0.4 | 1.15 | 76 |
| 57BYG350D | 1.2° | 2.0 | 24 | 5.8 | 2.22 | 0.73 | 0.7 | 1.62 | 102 |

The torque-speed characteristic curve



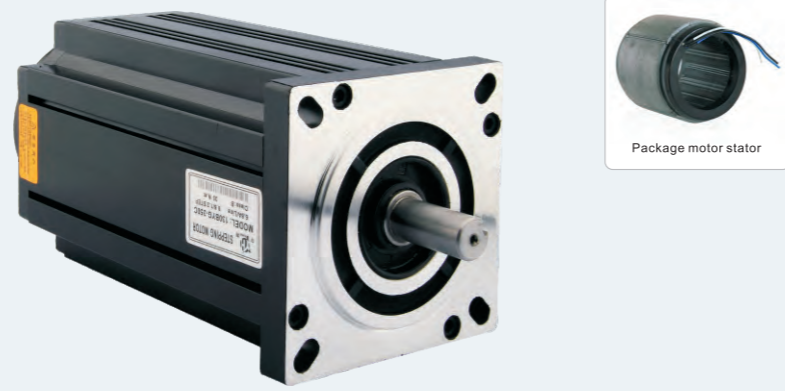
attention:

- Characteristic data of the motor is measured with the specific driver. When change the drive or the voltage, the current and the torque frequency characteristic are also changed, we can change the data to design another torque frequency characteristic according to the customers' requirements.
- Motor shaft must be concentric with the load in order to avoid unnecessary of breaking axis.
- When the motor is selected, please adjust according to the rated parameter and wiring well in order to avoid the motor burned out.

130BYG Series

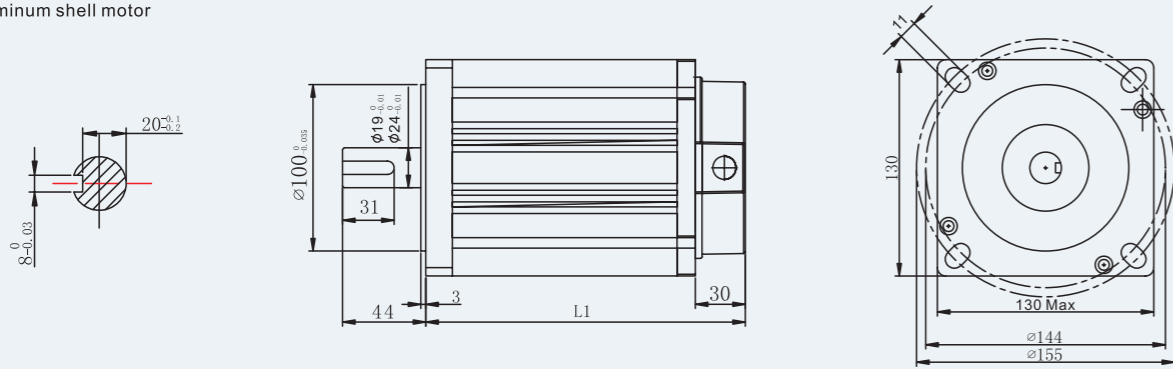
Two-Phase three-phase Stepper Motor

Temperature Rise:80°CMax (Rated current)
 Step Angle Accuracy:5%
 Ambient temperature:-20°C□+50°C
 Insulation Resistance:100MΩ 500V DC
 Dielectric Strength:500V AC 1min
 Insulation class: B



Installation Dimension unit=mm

Aluminum shell motor

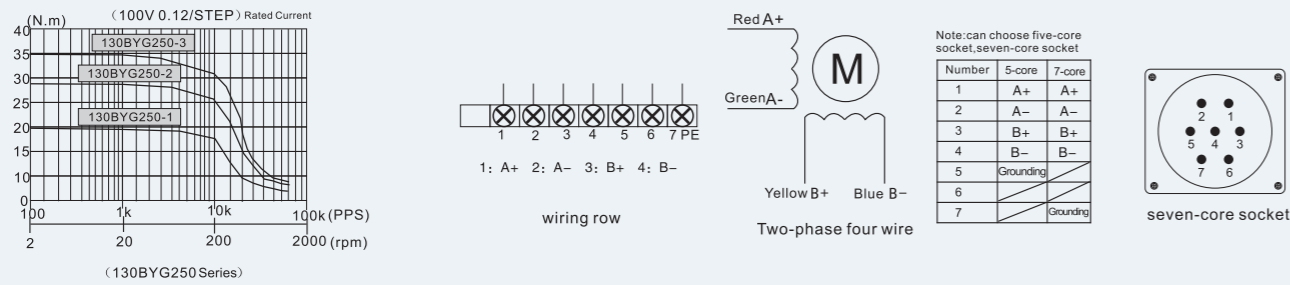


Specifications

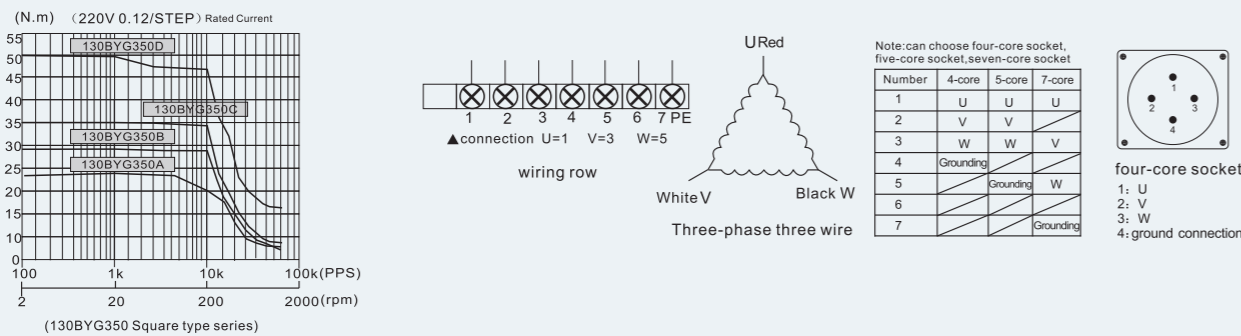
| Motor Model | Step Angle (°) | Holding torque (N.m) | (Drive) Operating Voltage(V) | Rated Current (A) | Phase Inductance (mH) | Phase Resistance (Ω) | Rotor inertia (Kg.cm ²) | Weight (Kg) | Motor Length (mm) |
|--------------|----------------|----------------------|------------------------------|-------------------|-----------------------|----------------------|-------------------------------------|-------------|-------------------|
| 130BYG250A-X | 1.8 | 20 | 110~220 | 6.8 | 8.2 | 0.89 | 26.8 | 12.5 | 189 |
| 130BYG250B-X | 1.8 | 28 | 110~220 | 7.5 | 12 | 1.1 | 33.5 | 15.1 | 236 |
| 130BYG250C-X | 1.8 | 35 | 110~220 | 8 | 15 | 1.3 | 40 | 17.2 | 256 |
| 130BYG350A-X | 1.2 | 24 | 220 | 6.8 | 9.9 | 0.89 | 26.8 | 14.58 | 189 |
| 130BYG350B-X | 1.2 | 28 | 220 | 6.8 | 11.3 | 0.80 | 34.9 | 17.14 | 236 |
| 130BYG350C-X | 1.2 | 37 | 220 | 6.8 | 13.8 | 0.92 | 39.2 | 19.7 | 256 |
| 130BYG350D-X | 1.2 | 50 | 220 | 6.8 | 18.3 | 0.99 | 42.5 | 20.5 | 271 |

Note:X representative Aluminum Material

The encoder connection table Wiring Diagram



The encoder connection table Wiring Diagram



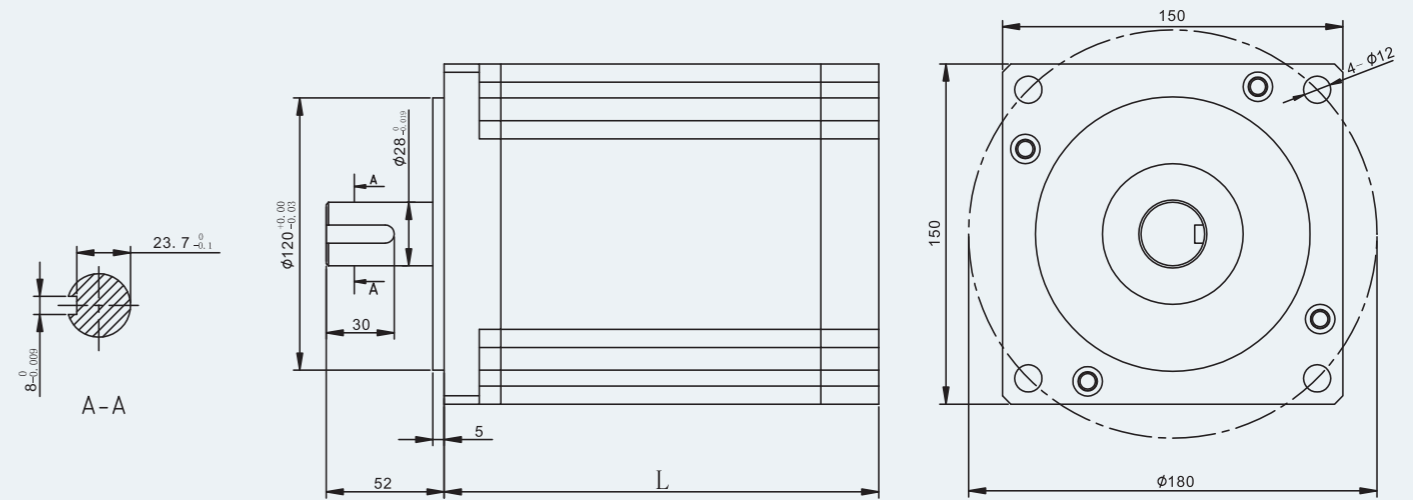
150BYG Series

Three Phase Stepper Motor

Temperature Rise:80°CMax (Rated current)
 Step Angle Accuracy:5%
 Ambient temperature:-20°C□+50°C
 Insulation Resistance:100MΩ 500V DC
 Dielectric Strength:500V AC 1min
 Insulation class: B



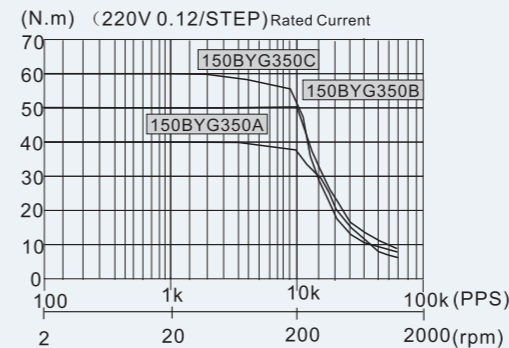
Installation Dimension unit=mm



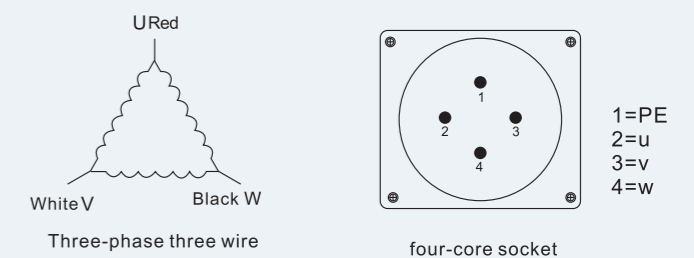
Specifications

| Motor Model | Step Angle (°) | Holding torque (N.m) | (Drive) Operating Voltage(V) | Rated Current (A) | Phase Inductance (mH) | Phase Resistance (Ω) | Rotor inertia (Kg.cm ²) | Weight (Kg) | Motor Length (mm) |
|-------------|----------------|----------------------|------------------------------|-------------------|-----------------------|----------------------|-------------------------------------|-------------|-------------------|
| 150BYG350A | 1.2 | 40 | 220 | 8.5 | 12 | 0.5 | 65 | 22.5 | 191 |
| 150BYG350B | 1.2 | 50 | 220 | 8.5 | 19.2 | 0.79 | 83 | 25.7 | 230 |
| 150BYG350 | 1.2 | 60 | 220 | 8.5 | 22.8 | 0.86 | 100 | 29.6 | 255 |

The encoder connection table



Wiring Diagram



YH Series Three-Phase Stepper Driver

Specifications

| | |
|---------------------------|---|
| Input power | Single-phase AC220V-15~+10% 50/60Hz |
| Output phase current | 1.5A-6.8A(Up to 8A for customization) |
| Adaptation of motor | Three phase hybrid stepping motor |
| Operate environment | 0°C ~55°C 15~85%RH No frost, non corrosive, flammability, explosive, conductive gas, liquid and dust |
| Storage environment | -25°C ~70°C 15~85%RH No frost |
| Driving mode | pwm |
| Step angle | 400/480/500/600/800/1000/2000/3000/ 4000/4800/5000/6000/8000/10000/12000 |
| Step angle setting | DIP switch setting |
| Input signal | CP+/CP-; CW+/CW-; FREE+/FREE-; |
| Input level | 5V, 5~10mA; Connet 510Ω~1K resistance when input 12v voltage; Connet 1.2K~2K resistance when input 12v voltage |
| Out signal | ALM+/ALM- |
| Position pulse input mode | ingle pulse mode: CP(pulse)+CW(direction), pulse width ≥ 1us, pulse frequency ≤ 300khz (10000P/r); Double pulse mode: CW(positive pulse)+CCW(reverse pulse) |
| Status indication | Green LED power indication; driving power, normal state indication Green LED pulse indication, pulse status indication Green LED fault indication; drive fault indication |
| Size and shape | 170.4x94.2x127mm |
| Weight | 1.3kg |

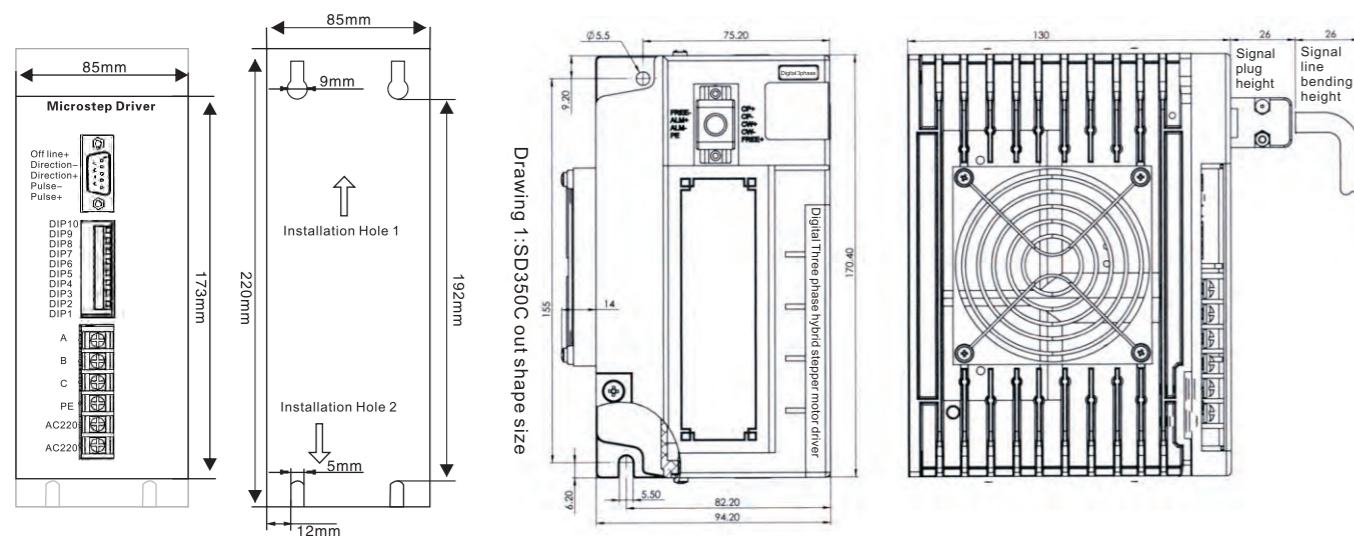


YH-3722

Properties

1. Added full digital loop control in the mode by AC servo control principle, three-phase sine wave current driver' output can make three-phase hybrid motor low speed, no creep, no vibration area and minimal noise.
2. When voltage amplifier stage reaches DC325V, stepper motor of high speed still can output a high torque.
3. With perfect protection function of short circuit voltage and under voltage over heating, high reliability.
4. With subdivision and semi flow function, variety of subdivision choices' minimum step angle can be set to 0.036°

YH-3722 Installation Dimension unit=mm ■ YH-SD305C Installation Dimension unit=mm



YH-2M982 Two phase stepping motor driver



Key Features:

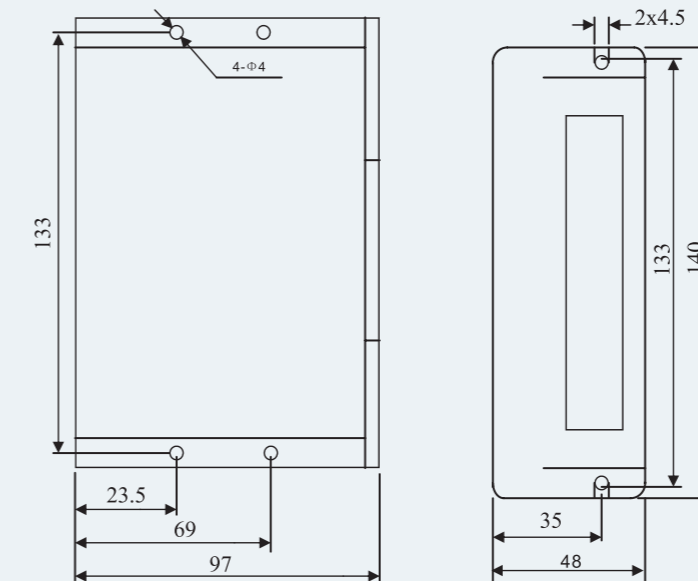
2M982 is a uniform angle and constant torque subdivide type stepper driver, voltage of driver is DC24-80V, available for 2 phase hybrid stepper motor of current is under 6A, flange size 57mm and 86mm series. This driver adopt the advanced technology of servo driver, this circuit available to make motor run at low speed stably with even no noisy and shake. Motor has good acceleration and small heating, stepper pulse stop for over 100m/s, driver current automatically in half. Positioning accuracy is up to more than 12800step/revolution (The high speed performance will be influenced when matching 86BYG series high torque motor)

Performance indicators unit=mm

| Instructions | Min values | Typical values | Max values |
|--------------------------------------|------------|----------------|------------|
| Supply voltage(VDC) | 24 | 48V | 80V |
| Normal work output curren(A)t | 1.3 | - | 7.8 |
| Logic input current(mA) | | 10 | |
| Step pulse correspond frequency(KHZ) | - | - | 200 |
| Pulse low level time(US) | 2.5 | - | - |

| Cooling mode | Natural cooling or forced coolin | |
|-------------------|----------------------------------|-------------------------------------|
| Using environment | Occasion | Avoid oil mist, dust, Corrosive gas |
| | Storage temperature | -10°C~80°C |
| | Max environment temperature | < 65°C |
| Vibration | environment humidity | < 80%RH Non-Condensing, no frost |
| | Weight | 5.9m/s²Max |
| | | 0.6kg |

Shape Dimension unit=mm

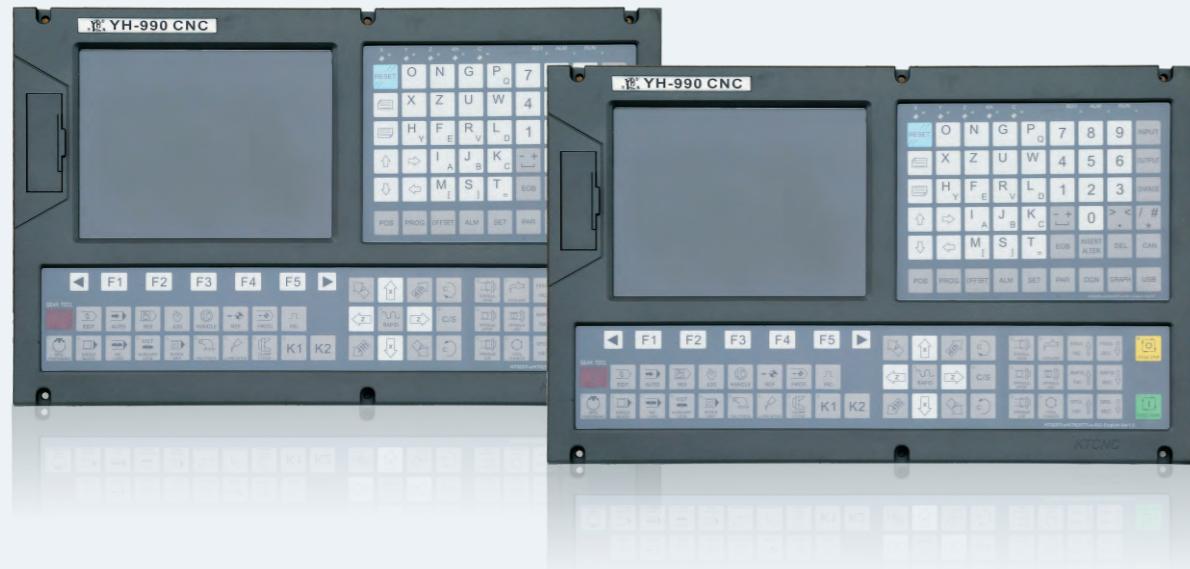


notice

Ensure well ventilated when install the drive, regularly check the cooling fan in normal operation. Ensure that the distance between is not less than 5cm; when multiple drivers are parallel used in the cabinet, ground terminals must be connected well between driver and equipment, in order to ensure the safety of usage.

YH990 Series

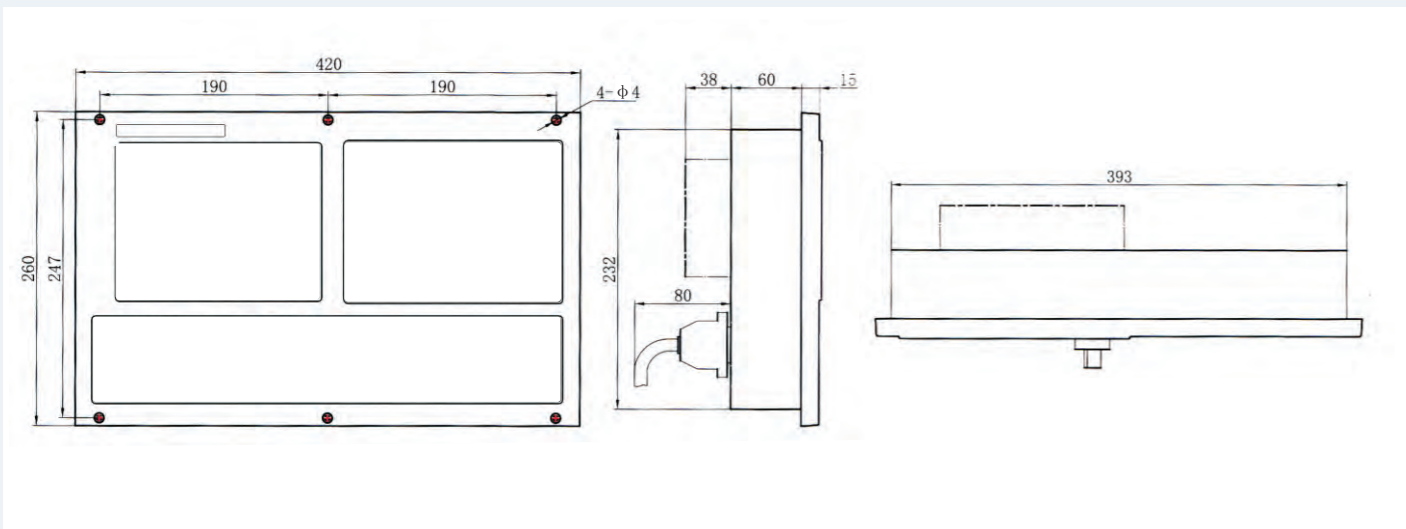
Two axis three axis CNC system



Performance introduction

The CNC system for CNC lathe dedicated control system, is a new product based on the introduction of YH208Ti upgrade software and hardware. The system adopts 32 bit embedded CPU and Large scale programmable logic device CPLD, uses the real-time multi task control technology and hardware interpolation technique, realizes high accuracy motion control, displays by 800*600 dot matrix TFT true color LCD, Chinese operation interface, easy operation. It improves the machining efficiency, precision and surface quality significantly. As the YH208Ti upgrade products, the system is the best choice of economic type CNC lathe technology, Transition processing technology in the program section of the system is in absolute leading position of the domestic industry. It provides more imagination space and value-added platform for technological upgrading of customers' products.

Installation Dimension unit:mm



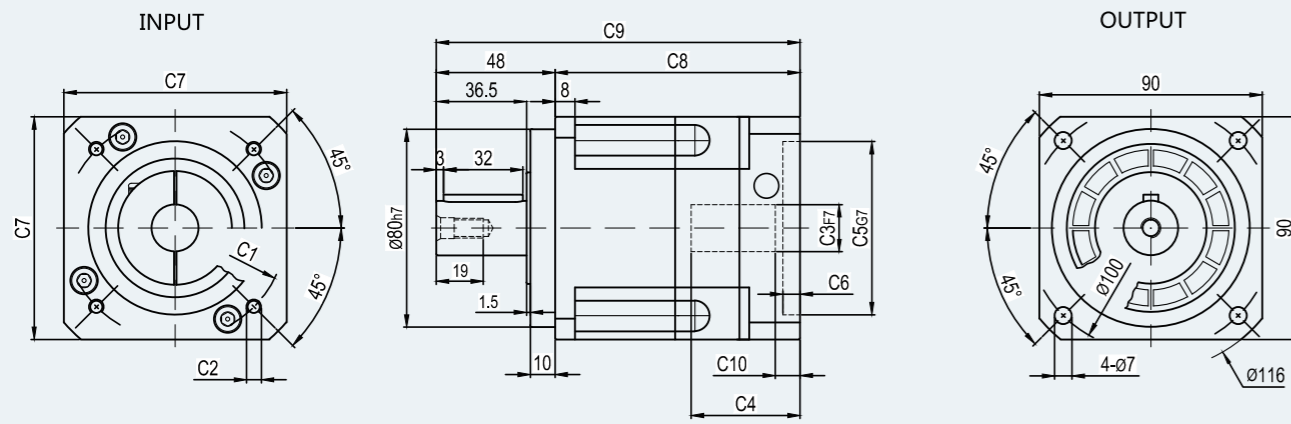
Specifications

| Function | Describe | Specifications |
|----------------------|--|---|
| Control axis | Controlled axis number | 2 axis (X,Z axis) |
| | Simultaneously controlled axes | 2 axis |
| Input instruction | Min unit | X:0.001mm Z:0.001mm |
| | Min movement | 0.001mm |
| | Max instruction | +99999.999mm |
| Feed | Max moving speed | 60000mm/min |
| | screw lead | 0.000 lmm-500.000mm |
| | Automatic deceleration and acceleration | Straight line, before the deceleration and acceleration |
| | Feed speed ratio | 0-150% |
| | Fast speed ratio | Fo-100%, Fo setted by parameter |
| Manual | Manual feed continuously | x, z; manual feed speed set by button. |
| | Return to zero point of the machine | Three kinds of Back to zero: method B(Z pulse interruption), method c(Back to zero position switches), method A (floating zero) |
| | Return to zero point of program | Back to the starting point Quickly |
| | Single step increment feed | Feed equivalent 0.001 1 mm, 0.01mm, 0.1mm |
| Handwheel feed | | Ratio: x 1, x 10, x 100; axis choose: X · Z; button or external input to choose control ratio and axis |
| | Interpolation | Positioning, interpolation function |
| Storage and editing | Program storage capacity | PQI DOM:32M BIT |
| | Stored program number | 480 |
| | Program to edit | Insert, modify, delete, copy |
| | Parameters stored | Parameter recovery, backup restore the factory low parameters, U disk import and export |
| Display | LCD | 8.4 inches, FTF true color display |
| | Location, program, knife repairing, alarm, diagnosis, parameter, Set, U disk | Display content rich and intuitive |
| U disk function | Program import and export | Yes |
| | Parameters import and export | Yes |
| | U disk system upgrade | Yes |
| Serial communication | RS232 | 19200bps, use for program's import and export, system upgrade. |
| | Input port | 54 way switch |
| M, S, T function | Output port | 48 way switch output(OC output) |
| | Spindle function | Frequency converter analog contro or S1 ~ S4 gear control; spindle analog output ratio adjustable 0 ~ 150% |
| | Tool function | Tool number: T01 - T08, knife repairing number: 01~24. Electric tool rest, cutter head or special tool rest; Trim knife repairing value during the operation; Program control dynamic cutter compensation |
| | T auxiliary fuction | Yes, T remember code perform specific subroutine. |
| | M auxiliary function | Yes, M remember code perform specific subroutine |
| MDI method | MDI shortcut | Under the position of interface directly input the procedures section |
| | MDI traditional way | Enter the MDI input interface, input field |

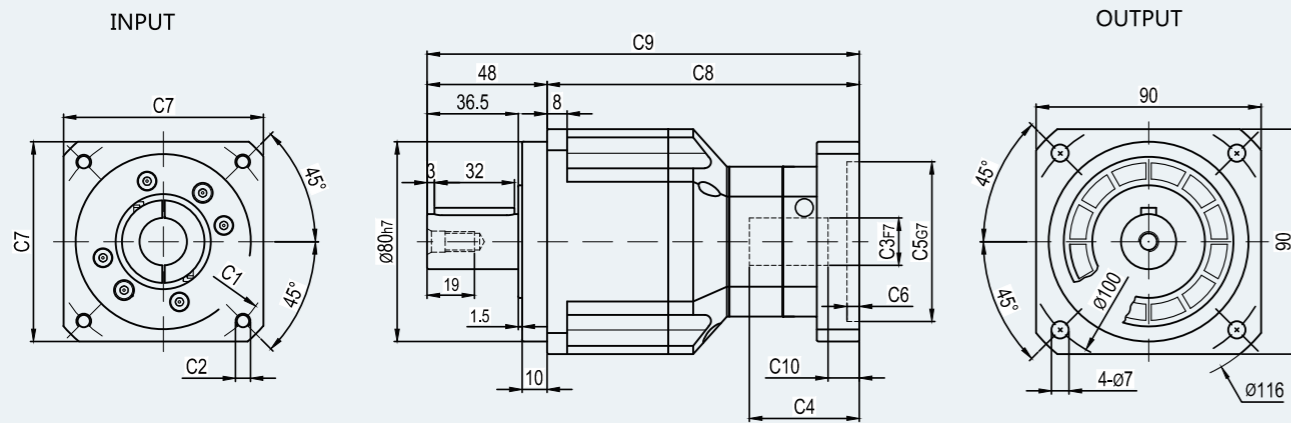
| Function | Describe | Specifications |
|--|---|--|
| Compensation function | Compensation function | Tool compensation/Backlash compensation/Screw pitch error compensation |
| Fixed cycle function | G90 | Outer circle, inner circle turning circle(Cylindrical surface, Conical surface) |
| | G94 | End face turning circle(Plane, cone) |
| | G92 | Thread circle(Straight, tapered thread, male, inch, single, multiple threads, any thread angle) |
| | G86 · G87 | Thread compound cycle |
| | G70, G71, G72, G73 | compound cycle |
| | G74 | End face drilling cycle |
| | G75 | Cutting or cutting cycle |
| Other thread function | G32 | Rigid tapping cycle |
| | G34 | Variable pitch screw function |
| | G01 I/K/R | Straight line or arc chamfering |
| Chamfering function | G01 I/K/R | Straight line or arc chamfering |
| Signal jump function | G31 | Signal jump in feed operation |
| Segment transition smoothly | G61 · G64 | Program segment automatic speed transition, Transition curve dynamic adjust automatically |
| Unlimited/limited circulatory function | M92 | Program or part of program segment carry out an infinite loop and domain and Limited cycle processing |
| Condition of program jump function | M91 | According to the external condition signal, jump to execute different instruction flow of the program |
| Extension export control | M20 M21 M22 | Level or pulse output control at the extension export |
| Waiting function for external condition | M01 | Wait for an external signal inputting, alarm when overtime |
| Output automatic repeat control function | M35 | Suitable for automatically Feeding/ blanking, test the feeding status, repeat continuous feeding |
| Rotation axis control (Y axis) | M26 M27 M28 | Set rotation speed and direction, combined with G09(fast stopping) to locate indexing quickly after rotation stopping. |
| Other function | Chuck function | Inner card, outside card, Foot switch input, and key operation |
| | Lubrication function | Continuous/intermittent lubrication |
| | Timing function | Boot processing time, cumulative chronograph |
| | Incentive function | Single boot piece and cumulative machining piece |
| | Three switch function | Yes |
| | Run, pause, alarm status indicator function | Yes |
| | The external switch signal C turn on, pause the program operation | Yes |
| Diagnostic display | Input state | Yes |
| | Output status display and control | Switch control of the output in the diagnosis |
| | Axis shift pulse number | Yes |
| | Spindle encoder line number | Yes |
| | Spindle analog voltage | Yes |
| Safety function | Input wiring and terminal definition | Yes |
| | Output wiring and terminal definition | Yes |
| | Forward/reverse direction hardware limit | Yes |
| | Forward/re verse direction software limit | Yes |
| Debug function | Emergency stop | Yes |
| | User defined alarm | Yes, 2 self-defined alarm input |
| Driver interface | Single stage operation, machine lock function | Yes |
| | AC servo or three-phase hybrid drive | Control mode: "direction + pulse" |

■ Outline dimension sheet

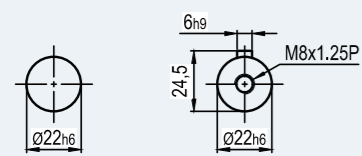
FAB-090-L1



FAB-090-L2



Output Diameter



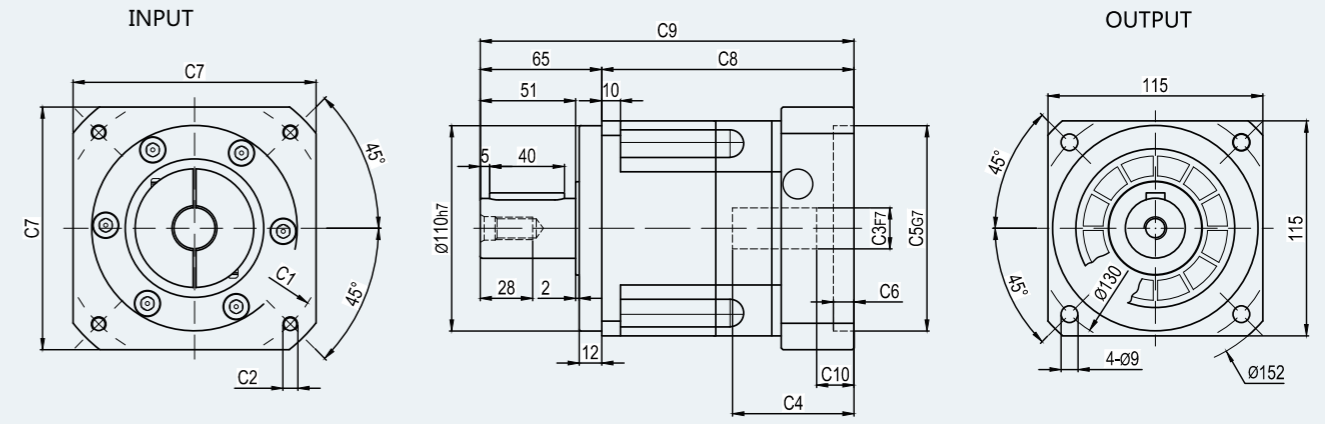
axial type S1 axial type S2

| Dimensions | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
|------------|------|------------------|-------------|------|------|----|-----|-------|-------|------|
| FAB-090-L1 | Ø90 | 4-M5x12, 4-M6x12 | Ø19 | 44 | Ø70 | 7 | 90 | 99 | 147 | 8 |
| | Ø100 | 4-M6x12 | Ø16 | 44 | Ø80 | 7 | 90 | 99 | 147 | 7 |
| | Ø115 | 4-M8x20 | Ø19,Ø22 | 50 | Ø95 | 7 | 100 | 105 | 153 | 13 |
| | Ø115 | 4-M8x25 | Ø19,Ø22 | 60 | Ø95 | 8 | 100 | 115 | 163 | 23 |
| | Ø145 | 4-M8x25 | Ø19,Ø22,Ø24 | 60 | Ø110 | 8 | 130 | 115 | 163 | 23 |
| FAB-090-L2 | Ø70 | 4-M4x10, 4-M5x12 | Ø11,Ø14 | 34 | Ø50 | 5 | 60 | 115 | 163 | 5.5 |
| | Ø90 | 4-M5x12, 4-M6x12 | Ø19 | 44 | Ø70 | 5 | 80 | 125 | 173 | 16.5 |
| | Ø100 | 4-M6x12 | Ø16 | 38.5 | Ø80 | 5 | 86 | 119.5 | 167.5 | 10 |

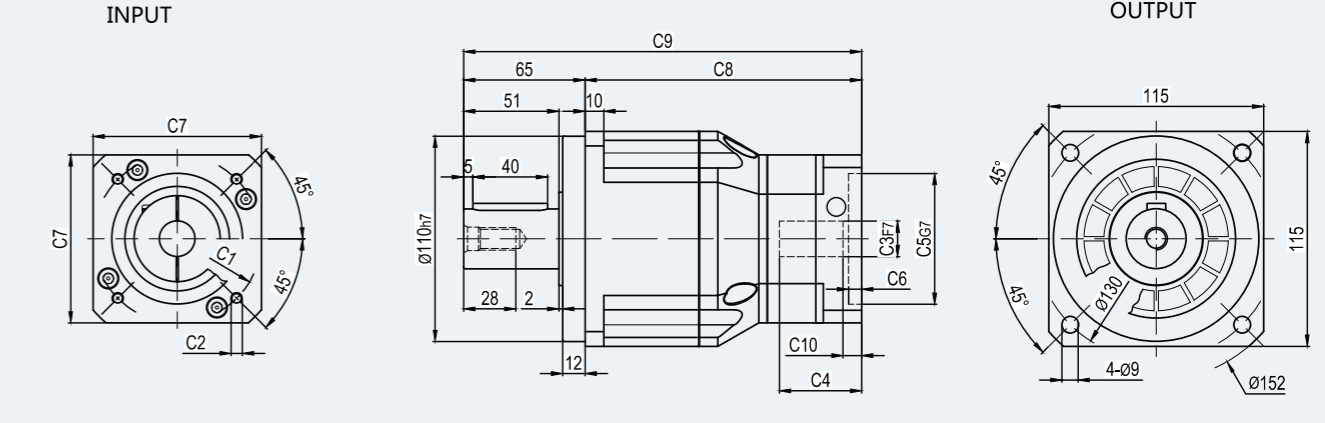
* C1~C7 are motor(metric standard) specific dimensions, which could be customised.

■ Outline dimension sheet

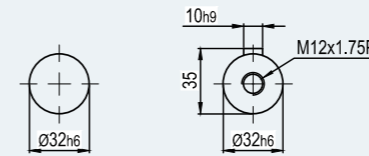
FAB-115-L1



FAB-115-L2



Output Diameter



axial type S1 axial type S2

| Dimensions | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
|------------|------|------------------|-------------|------|--------|----|-----|-------|-------|------|
| FAB-115-L1 | Ø145 | 4-M8x25 | Ø19,Ø22,Ø24 | 65 | Ø110 | 11 | 130 | 135 | 200 | 20 |
| | Ø200 | 4-M12x28 | Ø35 | 80.5 | Ø114.3 | 6 | 180 | 150.5 | 215.5 | 36.5 |
| FAB-115-L2 | Ø90 | 4-M5x12, 4-M6x12 | Ø19 | 44 | Ø70 | 7 | 90 | 148 | 213 | 8 |
| | Ø100 | 4-M6x12 | Ø16 | 44 | Ø80 | 7 | 90 | 148 | 213 | 7 |
| | Ø115 | 4-M8x20 | Ø19,Ø22 | 50 | Ø95 | 7 | 100 | 154 | 219 | 13 |
| | Ø115 | 4-M8x25 | Ø19,Ø22 | 60 | Ø95 | 8 | 100 | 164 | 229 | 23 |
| | Ø145 | 4-M8x25 | Ø19,Ø22,Ø24 | 60 | Ø110 | 8 | 130 | 164 | 229 | 23 |

* C1~C7 are motor(metric standard) specific dimensions, which could be customised.

FABR Series

■ Gear box performance information

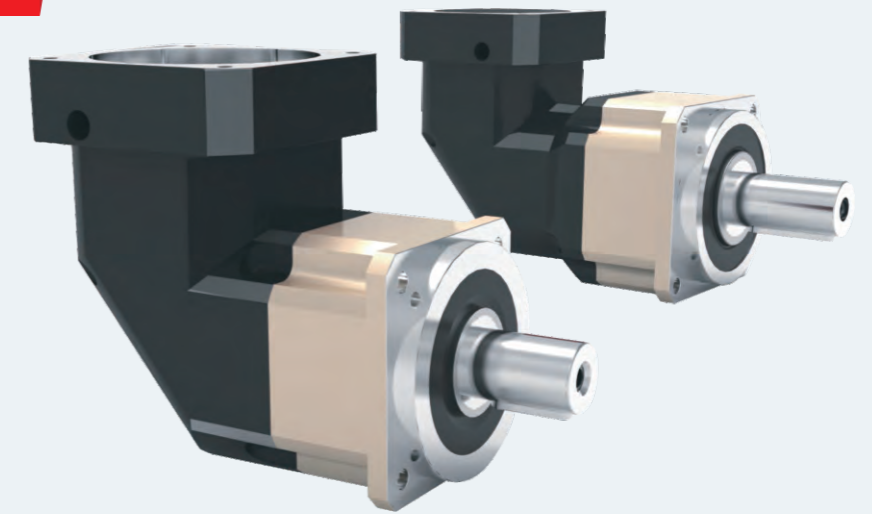
| Pecifications | stage | ratio ¹ | FAB042 | FAB060 | FAB090 | FAB115 | FAB142 | FAB180 | FAB220 | | | |
|--|-----------------------------------|--------------------|-------------|---------------------|--------|---------------------------------|--------|--------|--------|--------|-------|-------|
| Rated output torque T _{2N} | 1 | 3 | 20 | 55 | 130 | 208 | 342 | 588 | 1,140 | | | |
| | | 4 | 19 | 50 | 140 | 290 | 542 | 1,050 | 1,700 | | | |
| | | 5 | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 | | | |
| | | 6 | 20 | 55 | 150 | 310 | 600 | 1,100 | 1,900 | | | |
| | | 7 | 19 | 35 | 140 | 300 | 550 | 1,100 | 1,800 | | | |
| | | 8 | 17 | 35 | 120 | 260 | 500 | 1,000 | 1,600 | | | |
| | | 10 | 14 | 23 | 48 | 140 | 370 | 520 | 1,220 | | | |
| | | 2 | 12 | 20 | 55 | 130 | 208 | 342 | 588 | 1,140 | | |
| | | | 15 | 20 | 55 | 130 | 208 | 342 | 588 | 1,140 | | |
| | | | 20 | 19 | 50 | 140 | 290 | 542 | 1,050 | 1,700 | | |
| | 25 | | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 | | | |
| | 30 | | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 | | | |
| | 35 | | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 | | | |
| | 40 | | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 | | | |
| | 50 | | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 | | | |
| | Max output torque T _{2B} | Nm | 60 | 20 | 55 | 150 | 310 | 600 | 1,100 | 1,900 | | |
| | | | 70 | 19 | 35 | 140 | 300 | 550 | 1,100 | 1,800 | | |
| | | | 80 | 17 | 35 | 120 | 260 | 500 | 1,000 | 1,600 | | |
| 100 | | | 14 | 23 | 48 | 140 | 370 | 520 | 1,220 | | | |
| Max output torque T _{2B} | | | Nm | 1,2 | 3~100 | Three times rated output torque | | | | | | |
| Rated input Speed n ₁ | | | rpm | 1,2 | 3~100 | 5,000 | 5,000 | 4,000 | 4,000 | 3,000 | 3,000 | 2,000 |
| Max input Speed n _{1B} | | | rpm | 1,2 | 3~100 | 10,000 | 10,000 | 8,000 | 8,000 | 6,000 | 6,000 | 4,000 |
| Micro Backlash P0 | | | arcmin | 1 | 3~10 | - | - | ≤1 | ≤1 | ≤1 | ≤1 | ≤1 |
| Precision Backlash P1 | | | 2 | 12~100 | - | - | - | ≤3 | ≤3 | ≤3 | ≤3 | ≤3 |
| | | | 1 | 3~10 | ≤3 | ≤3 | ≤3 | ≤3 | ≤3 | ≤3 | ≤3 | ≤3 |
| Standard Backlash P2 | 2 | 12~100 | ≤5 | ≤5 | ≤5 | ≤5 | ≤5 | ≤5 | ≤5 | ≤5 | | |
| | 1 | 3~10 | ≤5 | ≤5 | ≤5 | ≤5 | ≤5 | ≤5 | ≤5 | ≤5 | | |
| Torsional Rigidity | Nm/arcmin | 1,2 | 3~100 | 3 | 7 | 14 | 25 | 50 | 145 | 225 | | |
| Max.Radial Load F _{2B} ² | N | 1,2 | 3~100 | 780 | 1,530 | 3,250 | 6,700 | 9,400 | 14,500 | 50,000 | | |
| Max. Axial Load F _{2B} ² | N | 1,2 | 3~100 | 350 | 630 | 1,300 | 3,000 | 4,000 | 6,200 | 35,000 | | |
| Max. Axial Load F _{2B} ² | N | 1,2 | 3~100 | 390 | 765 | 1,625 | 3,350 | 4,700 | 7,250 | 25,000 | | |
| Service life | hr | 1,2 | 3~100 | 20,000* | | | | | | | | |
| Efficiency η | 1 | 3~10 | ≥97% | | | | | | | | | |
| | 2 | 12~100 | ≥94% | | | | | | | | | |
| Weight | kg | 1 | 3~10 | 0.5 | 1.3 | 3.7 | 7.8 | 14.5 | 29 | 48 | | |
| Operating Temp. | 2 | 12~100 | 0.8 | 1.9 | 4.1 | 9 | 17.5 | 33 | 60 | | | |
| | 1,2 | 3~100 | -10°C~+90°C | | | | | | | | | |
| Lubrication | | 1,2 | 3~100 | Synthetic Lubricant | | | | | | | | |
| Protection Index | | 1,2 | 3~100 | IP65 | | | | | | | | |
| Mounting Direction | | 1,2 | 3~100 | Any direction | | | | | | | | |
| Noise Level(n ₁ =3000rpm) | dB | 1,2 | 3~100 | ≤56 | ≤58 | ≤60 | ≤63 | ≤65 | ≤67 | ≤70 | | |

■ Gearbox rotate inertia

| Pecifications | stage | ratio ¹ | FAB042 | FAB060 | FAB090 | FAB115 | FAB142 | FAB180 | FAB220 | |
|----------------|-------|--------------------|--------|--------|--------|--------|--------|--------|--------|-------|
| Inertia (J1) | 1 | 3 | 0.03 | 0.16 | 0.61 | 3.25 | 9.21 | 28.98 | 69.61 | |
| | | 4 | 0.03 | 0.14 | 0.48 | 2.74 | 7.54 | 23.67 | 54.37 | |
| | | 5 | 0.03 | 0.13 | 0.47 | 2.71 | 7.42 | 23.29 | 53.27 | |
| | | 6 | 0.03 | 0.13 | 0.45 | 2.65 | 7.25 | 22.75 | 51.72 | |
| | | 7 | 0.03 | 0.13 | 0.45 | 2.62 | 7.14 | 22.48 | 50.97 | |
| | | 8 | 0.03 | 0.13 | 0.44 | 2.58 | 7.07 | 22.59 | 50.84 | |
| | | 10 | 0.03 | 0.13 | 0.44 | 2.57 | 7.03 | 22.51 | 50.56 | |
| | | 2 | 12 | 0.03 | 0.03 | 0.13 | 0.47 | 2.71 | 7.42 | 23.29 |
| | | | 15 | 0.03 | 0.03 | 0.13 | 0.47 | 2.71 | 7.42 | 23.29 |
| | | | 20 | 0.03 | 0.03 | 0.13 | 0.47 | 2.71 | 7.42 | 23.29 |
| | 25 | | 0.03 | 0.03 | 0.13 | 0.47 | 2.71 | 7.42 | 23.29 | |
| | 30 | | 0.03 | 0.03 | 0.13 | 0.47 | 2.71 | 7.42 | 23.29 | |
| | 35 | | 0.03 | 0.03 | 0.13 | 0.47 | 2.71 | 7.42 | 23.29 | |
| | 40 | | 0.03 | 0.03 | 0.13 | 0.47 | 2.71 | 7.42 | 23.29 | |
| | 50 | | 0.03 | 0.03 | 0.13 | 0.44 | 2.57 | 7.03 | 22.51 | |
| | 60 | | 0.03 | 0.03 | 0.13 | 0.44 | 2.57 | 7.03 | 22.51 | |
| | 70 | | 0.03 | 0.03 | 0.13 | 0.44 | 2.57 | 7.03 | 22.51 | |
| | 80 | 0.03 | 0.03 | 0.13 | 0.44 | 2.57 | 7.03 | 22.51 | | |
| | 100 | 0.03 | 0.03 | 0.13 | 0.44 | 2.57 | 7.03 | 22.51 | | |

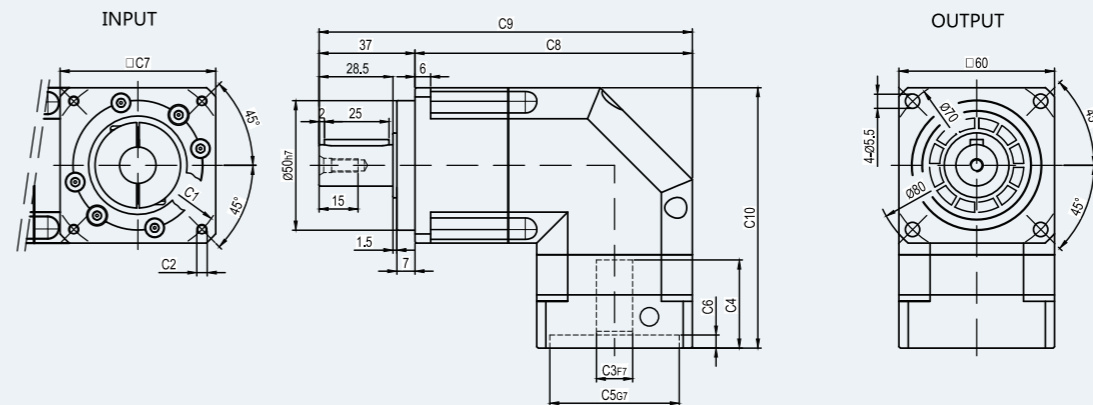
1. ratio (i=N_{in}/N_{out})
*continue running will cut the half service life

2. Applied to the output shaft center when output 100 rpm

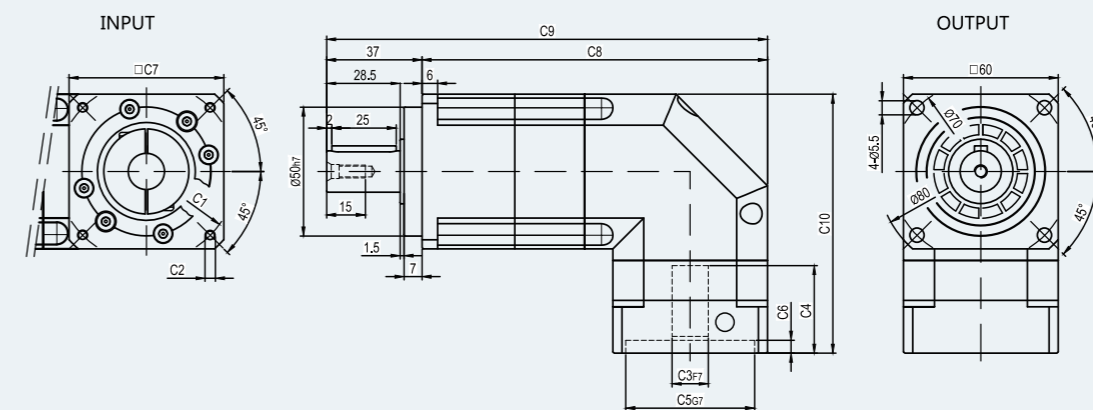


■ Outline dimension sheet

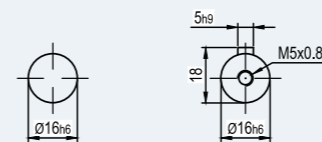
FABR-060-L1



FABR-060-L2



Output Diameter



axial type S1

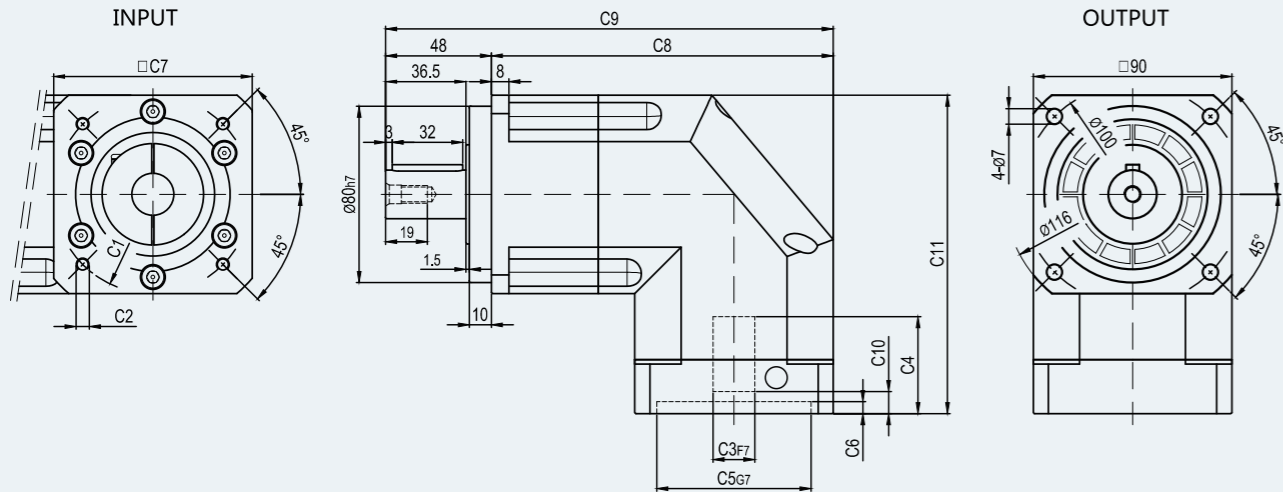
axial type S2

| Dimensions | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 |
|-------------|-----|------------------|----------|----|-----|----|----|-----|-----|-------|
| FABR-060-L1 | Ø70 | 4-M4x10, 4-M5x12 | Ø11, Ø14 | 34 | Ø50 | 5 | 60 | 107 | 144 | 100.5 |
| FABR-060-L2 | Ø90 | 4-M5x12, 4-M6x12 | Ø19 | 44 | Ø70 | 5 | 80 | 117 | 154 | 110.5 |
| FABR-060-L2 | Ø70 | 4-M4x10, 4-M5x12 | Ø11, Ø14 | 34 | Ø50 | 5 | 60 | 134 | 171 | 100.5 |

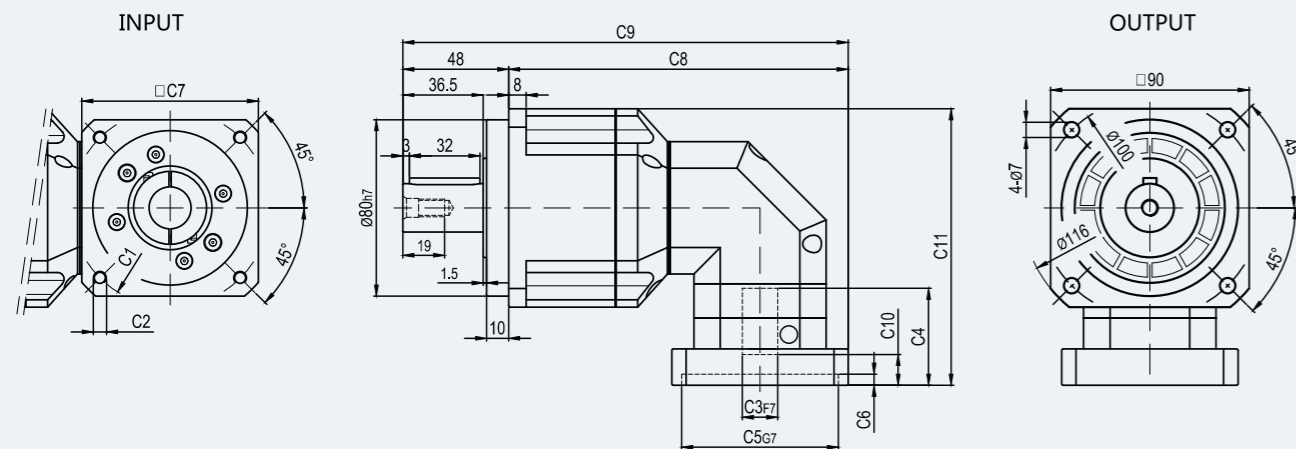
* C1~C7 are motor (metric standard) specific dimensions, which could be customised.

■ Outline dimension sheet

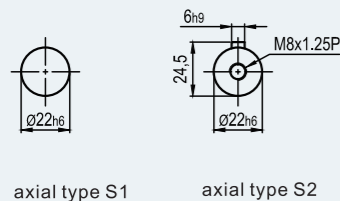
FABR-090-L1



FABR-090-L2



Output Diameter

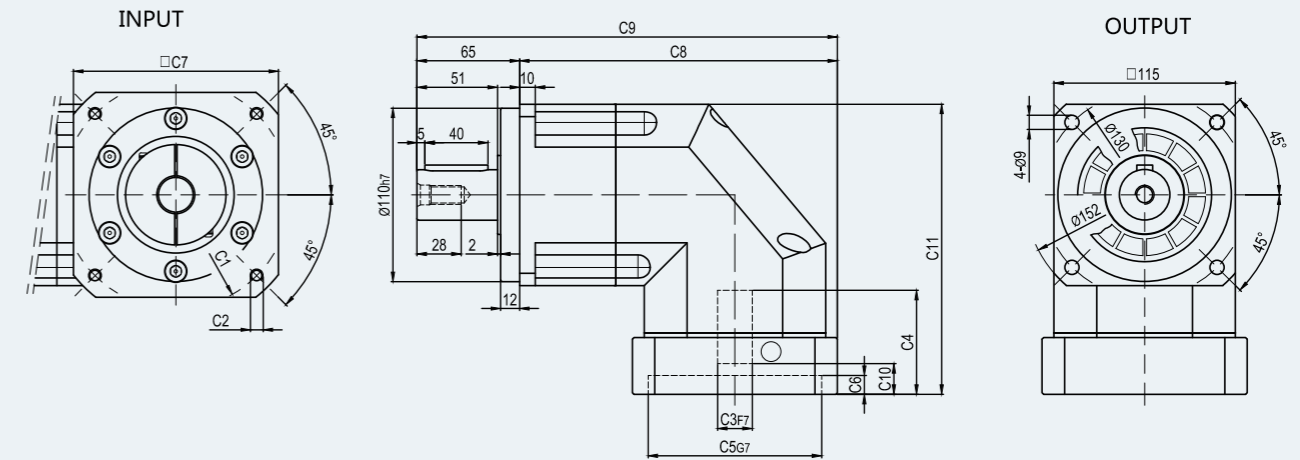


| Dimensions | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 |
|-------------|------|------------------|---------|------|-----|----|-----|-----|-----|------|-------|
| FABR-090-L1 | Ø90 | 4-M5x12, 4-M6x12 | Ø19 | 44 | Ø70 | 6 | 90 | 155 | 203 | 9 | 142 |
| | Ø100 | 4-M6x12 | Ø16 | 44 | Ø80 | 5 | 90 | 155 | 203 | 8 | 142 |
| | Ø115 | 4-M8x20 | Ø19,Ø22 | 50 | Ø95 | 8 | 100 | 160 | 208 | 14 | 148 |
| | Ø115 | 4-M8x25 | Ø19,Ø22 | 57 | Ø95 | 8 | 100 | 160 | 208 | 21 | 155 |
| FABR-090-L2 | Ø70 | 4-M4x10, 4-M5x12 | Ø11,Ø14 | 34 | Ø50 | 5 | 60 | 144 | 192 | 5.5 | 115.5 |
| | Ø90 | 4-M5x12, 4-M6x12 | Ø19 | 44 | Ø70 | 5 | 80 | 154 | 202 | 16.5 | 125.5 |
| | Ø100 | 4-M6x12 | Ø16 | 38.5 | Ø80 | 5 | 86 | 157 | 205 | 10 | 120 |

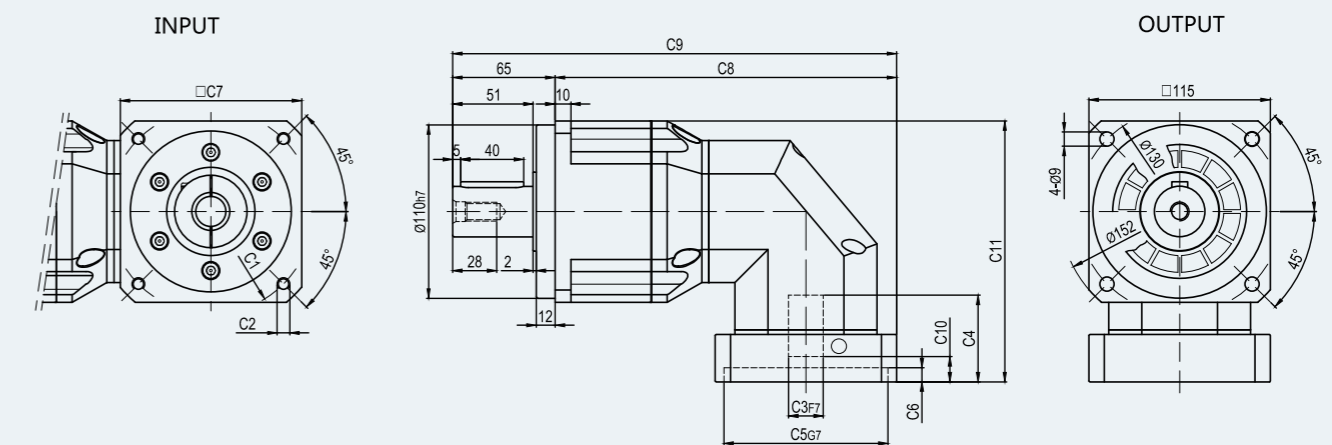
* C1~C7 are motor(metric standard) specific dimensions, which could be customised.

■ Outline dimension sheet

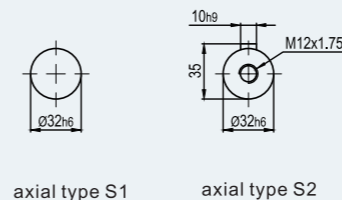
FABR-115-L1



FABR-115-L2



Output Diameter



| Dimensions | C1 | C2 | C3 | C4 | C5 | C6 | C7 | C8 | C9 | C10 | C11 |
|-------------|---------|------------------|-------------|------|--------|-----|-----|-------|-------|-------|-------|
| FABR-115-L1 | Ø145 | 4-M8x25 | Ø19,Ø22,Ø24 | 66 | Ø110 | 14 | 130 | 201.5 | 266.5 | 19.5 | 184 |
| | Ø200 | 4-M12x28 | Ø35 | 81 | Ø114.3 | 21 | 180 | 226.5 | 291.5 | 35.5 | 199 |
| FABR-115-L2 | Ø90 | 4-M5x12, 4-M6x12 | Ø19 | 44 | Ø70 | 6 | 90 | 155 | 204 | 9 | 154.5 |
| | Ø100 | 4-M6x12 | Ø16 | 44 | Ø80 | 5 | 90 | 155 | 204 | 8 | 154.5 |
| | Ø115 | 4-M8x20 | Ø19,Ø22 | 50 | Ø95 | 8 | 100 | 160 | 209 | 14 | 160.5 |
| | Ø115 | 4-M8x25 | Ø19,Ø22 | 57 | Ø95 | 8 | 100 | 160 | 209 | 21 | 167.5 |
| Ø145 | 4-M8x25 | Ø19,Ø22,Ø24 | 60 | Ø110 | 11 | 130 | 224 | 289 | 24 | 170.5 | |

* C1~C7 are motor(metric standard) specific dimensions, which could be customised.

■ Gear box performance information

| Pecifications | | stage | ratio ¹ | FABR042 | FABR060 | FABR090 | FABR115 | FABR142 | FABR180 | FABR220 |
|--|-----------|-------|--------------------|---------------------------------|---------|---------|---------|---------|---------|---------|
| Rated output torque T _{2N} | Nm | 1 | 3 | 20 | 55 | 130 | 208 | 342 | 588 | 1,140 |
| | | | 4 | 19 | 50 | 140 | 290 | 542 | 1,050 | 1,700 |
| | | | 5 | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 |
| | | | 6 | 20 | 55 | 150 | 310 | 600 | 1,100 | 1,900 |
| | | | 7 | 19 | 35 | 140 | 300 | 550 | 1,100 | 1,800 |
| | | | 8 | 17 | 35 | 120 | 260 | 500 | 1,000 | 1,600 |
| | | | 10 | 14 | 23 | 48 | 140 | 370 | 520 | 1,220 |
| | | | 14 | - | 35 | 140 | 300 | 550 | 1,100 | 1,800 |
| | | 20 | - | 23 | 48 | 140 | 370 | 520 | 1,220 | |
| | | 2 | 15 | 20 | 55 | 130 | 208 | 342 | 588 | 1,140 |
| | | | 20 | 19 | 50 | 140 | 290 | 542 | 1,050 | 1,700 |
| | | | 25 | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 |
| | | | 30 | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 |
| | | | 35 | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 |
| | | | 40 | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 |
| | | | 50 | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 |
| | | | 60 | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 |
| | | | 70 | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 |
| | | | 80 | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 |
| | | | 100 | 22 | 60 | 160 | 330 | 650 | 1,200 | 2,000 |
| 120 | - | | - | 150 | 310 | 600 | 1,100 | 1,900 | | |
| 140 | - | - | 140 | 300 | 550 | 1,100 | 1,800 | | | |
| 160 | - | - | 120 | 260 | 500 | 1,000 | 1,600 | | | |
| 200 | - | - | 48 | 140 | 370 | 520 | 1,220 | | | |
| Max output torque T _{2B} | Nm | 1,2 | 3~200 | Three times rated output torque | | | | | | |
| Rated input Speed n ₁ | rpm | 1,2 | 3~200 | 5,000 | 5,000 | 4,000 | 4,000 | 3,000 | 3,000 | 2,000 |
| Max input Speed n _{1B} | rpm | 1,2 | 3~200 | 10,000 | 10,000 | 8,000 | 8,000 | 6,000 | 6,000 | 4,000 |
| Micro Backlash P0 | arcmin | 1 | 3~20 | - | - | ≤2 | ≤2 | ≤2 | ≤2 | ≤2 |
| | | 2 | 15~200 | - | - | ≤4 | ≤4 | ≤4 | ≤4 | ≤4 |
| Precision Backlash P1 | arcmin | 1 | 3~20 | ≤4 | ≤4 | ≤4 | ≤4 | ≤4 | ≤4 | ≤4 |
| | | 2 | 15~200 | ≤7 | ≤7 | ≤7 | ≤7 | ≤7 | ≤7 | ≤7 |
| Standard Backlash P2 | arcmin | 1 | 3~20 | ≤6 | ≤6 | ≤6 | ≤6 | ≤6 | ≤6 | ≤6 |
| | | 2 | 15~200 | ≤9 | ≤9 | ≤9 | ≤9 | ≤9 | ≤9 | ≤9 |
| Torsional Rigidity | Nm/arcmin | 1,2 | 3~200 | 3 | 7 | 14 | 25 | 50 | 145 | 225 |
| Max.Radial Load F _{2B} ² | N | 1,2 | 3~200 | 780 | 1,530 | 3,250 | 6,700 | 9,400 | 14,500 | 50,000 |
| Max. Axial Load F _{2a1B} ² | N | 1,2 | 3~200 | 350 | 630 | 1,300 | 3,000 | 4,000 | 6,200 | 35,000 |
| Max. Axial Load F _{2a2B} ² | N | 1,2 | 3~200 | 390 | 765 | 1,625 | 3,350 | 4,700 | 7,250 | 25,000 |
| Service life | hr | 1,2 | 3~200 | 20,000* | | | | | | |
| Efficiency η | % | 1 | 3~20 | ≥95% | | | | | | |
| | | 2 | 15~200 | ≥92% | | | | | | |
| Weight | kg | 1 | 3~20 | 0.9 | 2.1 | 6.4 | 13 | 24.5 | 51 | 83 |
| | | 2 | 15~200 | 1.2 | 1.5 | 7.8 | 14.2 | 27.5 | 54 | 95 |
| Operating Temp. | °C | 1,2 | 3~200 | -10°C~+90°C | | | | | | |
| Lubrication | | 1,2 | 3~200 | Synthetic Lubricant | | | | | | |
| Protection Index | | 1,2 | 3~200 | IP65 | | | | | | |
| Mounting Direction | | 1,2 | 3~200 | Any direction | | | | | | |
| Noise Level(n ₁ =3000rpm) | dB | 1,2 | 3~200 | ≤61 | ≤63 | ≤65 | ≤68 | ≤70 | ≤72 | ≤74 |

■ Gearbox rotate inertia

| Pecifications | | stage | ratio ¹ | FABR042 | FABR060 | FABR090 | FABR115 | FABR142 | FABR180 | FABR220 |
|----------------|----------------------|-------|--------------------|---------|---------|---------|---------|---------|---------|---------|
| Inertia (J1) | kg · cm ² | 1 | 3~10 | 0.09 | 0.35 | 2.25 | 6.84 | 23.4 | 68.9 | 135.4 |
| | | | 14 | - | 0.07 | 1.87 | 6.25 | 21.8 | 65.6 | 119.8 |
| | | | 20 | - | 0.07 | 1.87 | 6.25 | 21.8 | 65.6 | 119.8 |
| | | 2 | 15~100 | 0.09 | 0.09 | 0.35 | 2.25 | 6.84 | 23.4 | 68.9 |
| | | | 120~200 | - | - | 0.31 | 1.87 | 6.25 | 21.8 | 65.6 |

1. ratio (i=N_{in}/N_{out})
*continue running will cut the half service life

2. Applied to the output shaft center when output 100 rpm

Independent YUHA

Strict quality
Be bold and aggressive



Pioneer Territory, World-Renowned

Yuhai Company Brings in World-famous Tamagawa encoder and advanced technical equipment, this representative the top level in Chinese servo motor field, completed production equipment and management system, makes our company annual sales better and better. Yuhai company knows the good quality is the basis of the brand, it is the aim of company constantly developing. The ultimate goal is to become a world famous permanent magnet motor supplier.