

Specifications of servo motor

| Voltage level                 |                       | 220V                                    |                       |                       |                       |                       |                       |
|-------------------------------|-----------------------|-----------------------------------------|-----------------------|-----------------------|-----------------------|-----------------------|-----------------------|
| Motor type MS-                | 60ST-                 |                                         | 80ST-                 |                       | 90ST-                 | 110ST-                |                       |
|                               | M00630                | M01330                                  | M02430                | M03520                | M02430                | M04030                | M05030                |
|                               | □□-20P2               | □□-20P4                                 |                       | □□-20P7               |                       | □□-21P2               | □□-21P5               |
| Motor code                    | 1003                  | 0004                                    | 0011                  | 0012                  | 0021                  | 0031                  | 0032                  |
| Rated power (KW)              | 0.2                   | 0.4                                     | 0.75                  | 0.75                  | 0.75                  | 1.2                   | 1.5                   |
| Rated current (A)             | 1.8                   | 2.5                                     | 3.0                   | 3.0                   | 3.0                   | 5.0                   | 6.0                   |
| Rated speed (rpm)             | 3000                  | 3000                                    | 3000                  | 2000                  | 3000                  | 3000                  | 3000                  |
| Max speed (rpm)               | 4000                  | 4000                                    | 4000                  | 2500                  | 4000                  | 3500                  | 3500                  |
| Rated torque (N.m)            | 0.637                 | 1.27                                    | 2.39                  | 3.5                   | 2.4                   | 4                     | 5                     |
| Peak torque (N.m)             | 1.91                  | 3.8                                     | 7.1                   | 10.5                  | 7.1                   | 12                    | 15                    |
| Back EMF constant (V/krpm)    | 26                    | 28                                      | 48                    | 48                    | 51                    | 54                    | 62                    |
| Torque coefficient (N · m/A)  | 0.37                  | 0.5                                     | 0.8                   | 0.8                   | 0.8                   | 0.8                   | 0.83                  |
| Rotor inertia (Kg · m2)       | $0.18 \times 10^{-4}$ | $0.438 \times 10^{-4}$                  | $0.24 \times 10^{-3}$ | $0.24 \times 10^{-3}$ | $0.24 \times 10^{-3}$ | $0.54 \times 10^{-3}$ | $0.63 \times 10^{-3}$ |
| Winding resistor (Ω)          | 35                    | 3.49                                    | 2.88                  | 2.88                  | 3.2                   | 1.09                  | 1.03                  |
| Winding inductance (mH)       | 8.32                  | 8.47                                    | 6.4                   | 6.4                   | 7.0                   | 3.3                   | 3.43                  |
| Electrical time constant (ms) | 2.38                  | 2.4                                     | 2.22                  | 2.22                  | 2.2                   | 3.0                   | 3.33                  |
| Weight (Kg)                   | 1.11                  | 1.78                                    | 2.86                  | 2.86                  | 3.4                   | 5.5                   | 6.1                   |
| Encoder ppr (PPR)             | 2500                  |                                         |                       |                       |                       |                       |                       |
| Pole pairs                    | 4                     |                                         |                       |                       |                       |                       |                       |
| Motor insulation level        | Class B(130℃)         |                                         |                       |                       |                       |                       |                       |
| Protection level              | IP64                  |                                         | IP65                  |                       |                       |                       |                       |
| Using ambient                 | Ambient temperature   | -20℃~+50℃                               |                       |                       |                       |                       |                       |
|                               | Ambient humidity      | Related humidity <90% (no condensation) |                       |                       |                       |                       |                       |

| Voltage level                 |                     | 220V                                    |                         |                         |                         |                         | 380V                   |                        |                        |                        |
|-------------------------------|---------------------|-----------------------------------------|-------------------------|-------------------------|-------------------------|-------------------------|------------------------|------------------------|------------------------|------------------------|
| Motor type MS-                |                     | 130ST-                                  |                         |                         |                         | 180ST-                  | 180ST-                 |                        |                        |                        |
|                               |                     | M06025<br>□□-21P5                       | M10015<br>□□-21P5       | M07725<br>□□-22P0       | M15015<br>□□-22P3       | M19015<br>□□-23P0       | M21520<br>□□-44P5      | M27015<br>□□-44P3      | M35015<br>□□-45P5      | M48015<br>□□-47P5      |
| Motor code                    |                     | 0042                                    | 0044                    | 0043                    | 0046                    | 0052                    | 0150                   | 0151                   | 0152                   | 0153                   |
| Rated power (KW)              |                     | 1.5                                     | 1.5                     | 2.0                     | 2.3                     | 3.0                     | 4.5                    | 4.3                    | 5.5                    | 7.5                    |
| Rated current (A)             |                     | 6.0                                     | 6.0                     | 7.5                     | 9.5                     | 12.0                    | 9.5                    | 10                     | 12.0                   | 20.0                   |
| Rated speed (rpm)             |                     | 2500                                    | 1500                    | 2500                    | 1500                    | 1500                    | 2000                   | 1500                   | 1500                   | 1500                   |
| Max speed (rpm)               |                     | 3000                                    | 2000                    | 3000                    | 2000                    | 2000                    | 3000                   | 2000                   | 2000                   | 2000                   |
| Rated torque (N.m)            |                     | 6                                       | 10                      | 7.7                     | 15                      | 19                      | 21.5                   | 27                     | 35                     | 48                     |
| Peak torque (N.m)             |                     | 18                                      | 25                      | 22                      | 30                      | 47                      | 53                     | 67                     | 70                     | 96                     |
| Back EMF constant (V/krpm)    |                     | 65                                      | 103                     | 68                      | 114                     | 97                      | 140                    | 172                    | 113                    | 156                    |
| Torque coefficient (N · m/A)  |                     | 1.0                                     | 1.67                    | 1.03                    | 1.58                    | 1.58                    | 2.26                   | 2.7                    | 1.84                   | 2.4                    |
| Rotor inertia (Kg · m2)       |                     | 1.26 × 10 <sup>-3</sup>                 | 1.94 × 10 <sup>-3</sup> | 1.53 × 10 <sup>-3</sup> | 2.77 × 10 <sup>-3</sup> | 3.80 × 10 <sup>-3</sup> | 4.7 × 10 <sup>-3</sup> | 6.1 × 10 <sup>-3</sup> | 8.6 × 10 <sup>-3</sup> | 9.5 × 10 <sup>-3</sup> |
| Winding resistor (Ω)          |                     | 1.21                                    | 1.29                    | 1.01                    | 1.1                     | 0.4                     | 0.71                   | 0.796                  | 0.21                   | 0.273                  |
| Winding inductance (mH)       |                     | 3.87                                    | 5.07                    | 2.94                    | 4.45                    | 2.42                    | 4                      | 4.83                   | 1.57                   | 2.14                   |
| Electrical time constant (ms) |                     | 3.26                                    | 3.93                    | 3.80                    | 4.05                    | 6                       | 5.6                    | 6                      | 7.47                   | 7.8                    |
| Weight (Kg)                   |                     | 8.9                                     | 11.5                    | 10                      | 14.4                    | 20.5                    | 22.2                   | 25.5                   | 30.5                   | 40                     |
| Encoder ppr (PPR)             |                     | 2500                                    |                         |                         |                         |                         |                        |                        |                        |                        |
| Pole pairs                    |                     | 4                                       |                         |                         |                         |                         |                        |                        |                        |                        |
| Motor insulation level        |                     | Class B(130℃)                           |                         |                         |                         |                         |                        |                        |                        |                        |
| Protection level              |                     | IP65                                    |                         |                         |                         |                         |                        |                        |                        |                        |
| Using ambient                 | Ambient temperature | -20℃~-+50℃                              |                         |                         |                         |                         |                        |                        |                        |                        |
|                               | Ambient humidity    | Related humidity <90% (no condensation) |                         |                         |                         |                         |                        |                        |                        |                        |

Match table of motor and drive

| Motor type           | Motor code | Matched drive     | Voltage level             |
|----------------------|------------|-------------------|---------------------------|
| MS-60ST-M00630-20P2  | 1003       | DS2-20P2-AS       | single-phase/3-phase 220V |
|                      |            | DS2-20P4          | single-phase 220V         |
| MS-60ST-M01330-20P4  | 0004       | DS2-20P4-AS/-A/-B | single-phase/3-phase 220V |
|                      |            | DS2-20P7          | single-phase 220V         |
| MS-80ST-M02430-20P7  | 0011       | DS2-20P7-AS/-A/-B | single-phase/3-phase 220V |
| MS-80ST-M03520-20P7  | 0012       | DS2-20P7-AS/-A/-B | single-phase/3-phase 220V |
|                      |            | DS2-20P7          | single-phase 220V         |
| MS-90ST-M02430-20P7  | 0021       | DS2-20P7-AS/-A/-B | single-phase/3-phase 220V |
|                      |            | DS2-21P5          | single-phase 220V         |
| MS-110ST-M04030-21P2 | 0031       | DS2-21P5-A        | 3-phase 220V              |
|                      |            | DS2-21P5-B        |                           |
|                      |            | DS2-21P5-AS       |                           |
|                      |            | DS2-21P5-AS       |                           |

| Motor type           | Motor code | Matched drive | Voltage level     |
|----------------------|------------|---------------|-------------------|
| MS-110ST-M05030-21P5 | 0032       | DS2-21P5      | single-phase 220V |
|                      |            | DS2-21P5-A    | 3-phase 220V      |
|                      |            | DS2-21P5-B    |                   |
|                      |            | DS2-21P5-AS   |                   |
| MS-130ST-M06025-21P5 | 0042       | DS2-21P5      | single-phase 220V |
|                      |            | DS2-21P5-A    | 3-phase 220V      |
|                      |            | DS2-21P5-B    |                   |
|                      |            | DS2-21P5-AS   |                   |
| MS-130ST-M10015-21P5 | 0044       | DS2-21P5      | single-phase 220V |
|                      |            | DS2-21P5-A    | 3-phase 220V      |
|                      |            | DS2-21P5-B    |                   |
|                      |            | DS2-21P5-AS   |                   |
| MS-130ST-M07725-22P0 | 0043       | DS2-22P3-A    | 3-phase 220V      |
| MS-130ST-M15015-22P3 | 0046       | DS2-22P3-A    |                   |
| MS-180ST-M19015-23P0 | 0052       | DS2-23P0-A    |                   |
| MS-180ST-M21520-44P5 | 0150       |               |                   |
| MS-180ST-M27015-44P3 | 0151       | DS2-45P5-A    | 3-phase 380V      |
| MS-180ST-M35015-45P5 | 0152       |               |                   |
| MS-180ST-M48015-47P5 | 0153       |               |                   |

stable performance  
easy operation

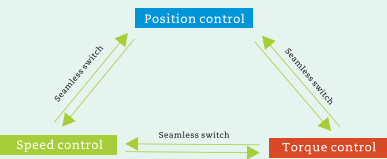


DS2 series servo drive

# Features of DS2 servo drive

## Good performance

Support position control, speed control, torque control. Any two of the control modes can switch.



## Flexible configuration

- 2 channels high speed pulse input, max frequency is 500KHz; 2 channels 12-bit -10~+10V analog input.
- 6 channels SI input and 3 channels SO output can be defined freely. Output signal options: encoder open collector mode and difference mode, 1 channel Z-phase original signal transistor output.

## High response frequency

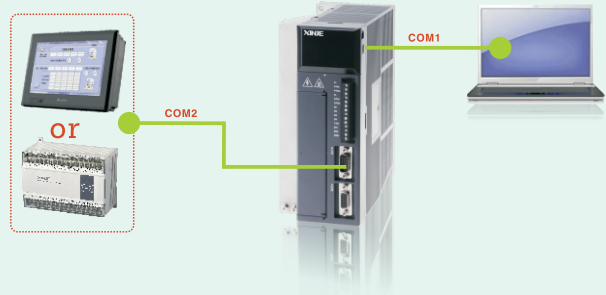
Up to 400Hz high speed frequency response.

## Easy terminals

Common I/O signal is Euro terminal, no need to solder. Such as pulse input signal, alarm output signal.

## Two ports communication

- Port1 can connect PC to debug the servo drive with servo software
- Port2 is RS485 terminal, support MODBUS-RTU protocol.



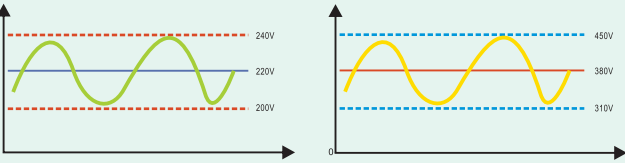
## RS485 bus

Easy, fast control based on RS485 bus.



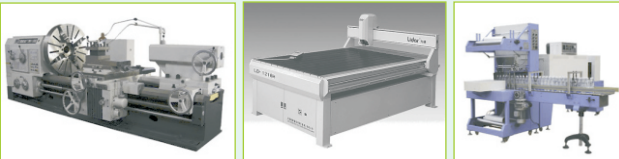
## Safe and reliable

IGBT can withstand high voltage up to 1200V; high speed DSP control is more reliable; wide voltage input range: 200V~240V, 310V~450V; outstanding noise immunity ability, suitable for bad electromagnetic environment.



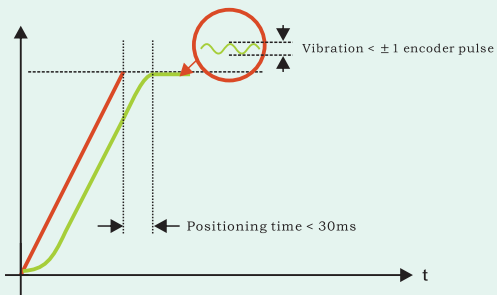
## Applied to many kinds of industry

Various control modes and interfaces, enhanced communication functions, apply to many industries such as grinder, lathe, packing machine, carving machine, bending machine, plate-cutting machine, etc.



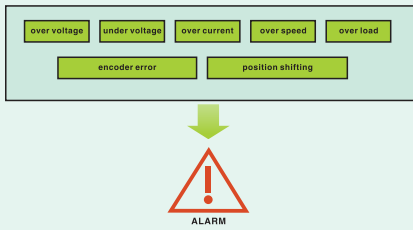
## Accurate positioning

Advanced digital control algorithm makes the control of current loop, speed loop and position loop accurately.



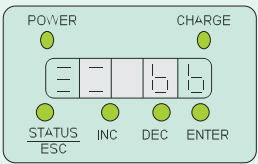
## Complete protection

Over voltage, under voltage, over current, over speed, over load, encoder error, too large position shifting.



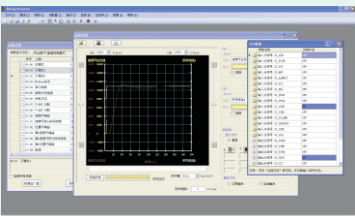
## Easy operate interface

Display the servo state through operator, there are 16 monitor parameters and error message.



## Debugging software

- Debug the servo through PC
- The software support multi-language
- Support parameter read & write/state monitor/gain adjustment/jog running
- Support emulate digital oscilloscope, record the motor curve, easy to analyze motor characteristics.



# Applications of DS series servo



## Position, speed and torque control

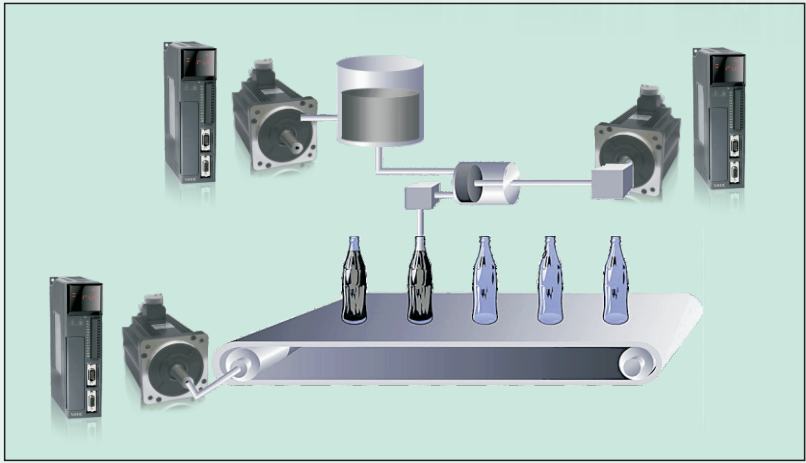
### Functions:

The control modes of DS series servo include position, speed, torque. The diagram shows the liquid filling machine. The belt will stop when detected the products. The position control motor ensures the positioning of the belt. The motor is running to fill the liquid. The liquid is full when reach certain torque. The torque control motor ensures the liquid height in the bottle. The speed control motor runs forward or backward to press the liquid into the hydraulic cylinder.

Any two modes can switch seamlessly; the torque can be limited in position or speed mode.

### More applications:

Liquid filling machine, packing machine, screw tightening machine, butt-welding machine.



## Interruption control

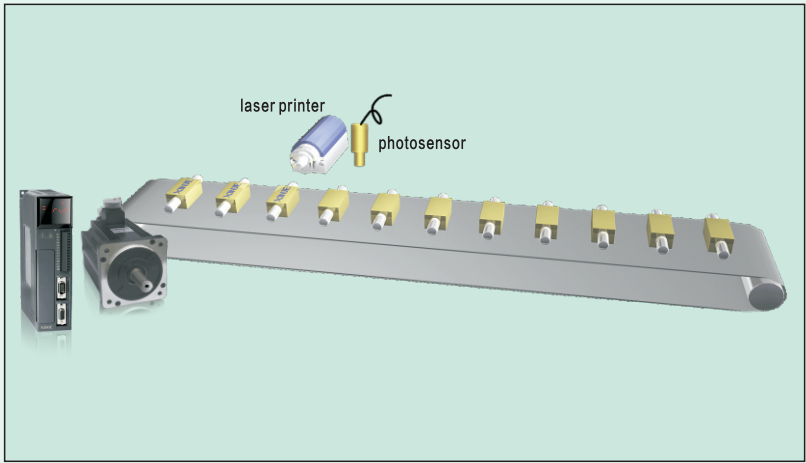
### Functions:

The servo goes uncertain distance in internal position mode. It will go certain distance when detected the external sensor signal. The output signal will start the next process after positioning end. The laser printer will go to the next positioning process when photoelectric switch touches the workpiece. The printer will print after positioning end. High speed interruption will deal with the photoelectric switch signal and ensure the printer position.

No need any controllers positioning, high positioning precision can meet the requirements.

### More applications:

Product line of laser printer, pipe cutting machine.



## Synchro-position control

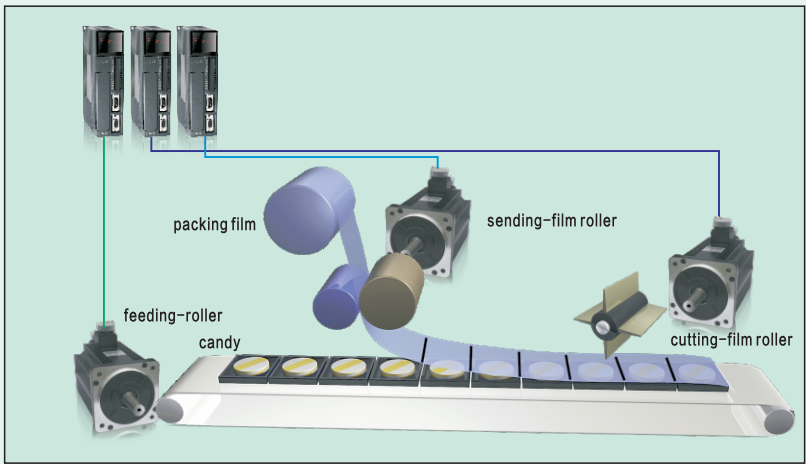
### Functions:

Feeding-roller run certain distance, cutting-film roller followed it to turn certain angle, sending-film roller run certain distance. The servo will ensure the consistency of the three rollers' height and the stability of running speed. The smoothness of speed control, position control, torque control can be adjusted through filter parameter. It also can adjust the smoothness of the whole motions and avoid skid.

Any two modes can switch seamlessly; the torque can be limited in position or speed mode.

### More applications:

Die cutting machine, feeding machine.



The name rule, specifications and configuration of servo

The name rule of servo drive

DS2 - 2 1P5 - A

Configuration type

Motor capacity

Voltage level

Series name

|                        |                               |        |
|------------------------|-------------------------------|--------|
| Configuration type     | Nothing (basic configuration) |        |
|                        | Type A (with DB15 port)       |        |
|                        | Type B (with DB15 port)       |        |
|                        | Type AS (with DB15 port)      |        |
| Matched motor capacity | 0P2                           | 0.2KW  |
|                        | 0P4                           | 0.4KW  |
|                        | 0P7                           | 0.75KW |
|                        | 1P5                           | 1.5KW  |
|                        | 2P3                           | 2.3KW  |
|                        | 3P0                           | 3.0KW  |
|                        | 5P5                           | 5.5KW  |
| Voltage level          | 7P5                           | 7.5KW  |
|                        | 2                             | 220V   |
|                        | 4                             | 380V   |

Specifications of servo drive

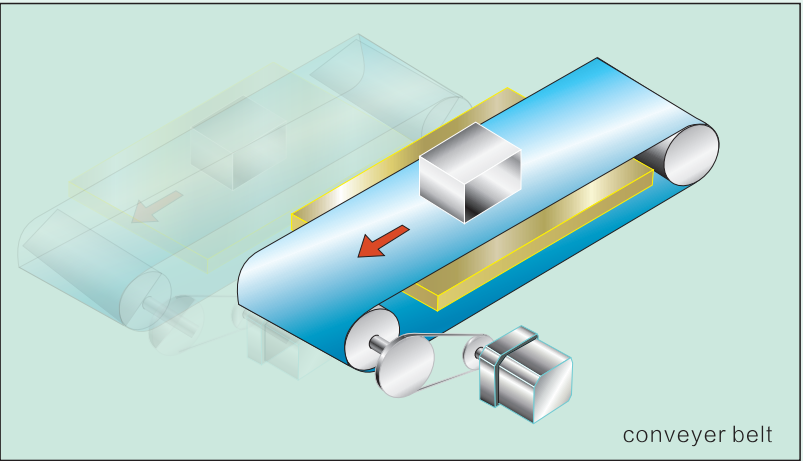
| Item                      |                     | Specification                                                                                                    |                                                                                                                                                                                                                                                                                                             |
|---------------------------|---------------------|------------------------------------------------------------------------------------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| basic spec                | input power         | 0.2~0.75 KW: single-phase 220V 0.75~1.5KW: single-phase/3-phase 220V 2.3~3.0KW: 3-phase 220V 5.5KW: 3-phase 380V |                                                                                                                                                                                                                                                                                                             |
|                           | feedback            | incremental 2500 ppr                                                                                             |                                                                                                                                                                                                                                                                                                             |
|                           | using condition     | use/storage temperature                                                                                          | 0 ~ +50 ℃ / -20 ~ +85 ℃                                                                                                                                                                                                                                                                                     |
|                           |                     | use/storage humidity                                                                                             | below 90% RH (no condensation)                                                                                                                                                                                                                                                                              |
|                           |                     | vibration/impact toleration                                                                                      | 4.9m/s <sup>2</sup> / 19.6m/s <sup>2</sup>                                                                                                                                                                                                                                                                  |
| speed torque control mode | performance         | speed control range                                                                                              | 1:4000 (lower limit of speed control range, not stop at rated torque load)                                                                                                                                                                                                                                  |
|                           |                     | speed change                                                                                                     | load change                                                                                                                                                                                                                                                                                                 |
|                           |                     |                                                                                                                  | 0~100% load: below ± 0.01% (at rated speed)                                                                                                                                                                                                                                                                 |
|                           |                     |                                                                                                                  | voltage change                                                                                                                                                                                                                                                                                              |
|                           |                     |                                                                                                                  | rated voltage ± 10%: 0% (at rated speed)                                                                                                                                                                                                                                                                    |
|                           |                     |                                                                                                                  | temperature change                                                                                                                                                                                                                                                                                          |
| position control mode     | performance         | frequency features                                                                                               | 250Hz(JL≤JM)                                                                                                                                                                                                                                                                                                |
|                           |                     | soft start time                                                                                                  | 0~65535ms (set acceleration and deceleration)                                                                                                                                                                                                                                                               |
|                           |                     | input signal                                                                                                     | set through RS485 communication, DC10V/rated speed, torque (set through parameter)                                                                                                                                                                                                                          |
|                           |                     | input signal                                                                                                     | feedforward compensation                                                                                                                                                                                                                                                                                    |
|                           |                     |                                                                                                                  | 0~100% (resolution is 1%)                                                                                                                                                                                                                                                                                   |
|                           |                     |                                                                                                                  | positioning end width                                                                                                                                                                                                                                                                                       |
| I/O signal                | position output     | output mode                                                                                                      | normal type: no                                                                                                                                                                                                                                                                                             |
|                           |                     |                                                                                                                  | DS2-□2P□-A: open collector output                                                                                                                                                                                                                                                                           |
|                           |                     | divider ratio                                                                                                    | 1:1                                                                                                                                                                                                                                                                                                         |
|                           | input signal        | external input terminals                                                                                         | up to 6 input terminals                                                                                                                                                                                                                                                                                     |
|                           |                     | changeable signal distribution                                                                                   | /S-ON, /P-CON, /P-OT, /N-OT, /ALM-RST, /PCL, /NCL, /SPD-D, /SPD-A, /SPD-B, /C-SEL, /ZCLAMP, /CLR, /INHIBIT, /G-SEL, /CHGSTP                                                                                                                                                                                 |
|                           | output signal       | external output terminals                                                                                        | up to 3 output terminals                                                                                                                                                                                                                                                                                    |
| built-in function         | dynamic brake (DB)  | regeneration function                                                                                            | no                                                                                                                                                                                                                                                                                                          |
|                           |                     |                                                                                                                  | built-in regeneration unit, external regeneration resistor                                                                                                                                                                                                                                                  |
|                           |                     |                                                                                                                  | when P-OT, N-OT act, deceleration stop or inertia stop                                                                                                                                                                                                                                                      |
|                           |                     |                                                                                                                  | 0.01≤B/A≤100                                                                                                                                                                                                                                                                                                |
|                           | protection function | LED display                                                                                                      | program error, parameter error, over voltage, under voltage, regeneration error, over heat, over current, over speed, analog input error, position deviation overflow, output short circuit, current error, encoder wire cut-off, encoder error, overload, power-off when running, write parameter error... |
|                           |                     |                                                                                                                  | charging, power supply, 7-segment LED × 5 (built-in digital operation function)                                                                                                                                                                                                                             |
|                           | communication       | COM1                                                                                                             | connection device                                                                                                                                                                                                                                                                                           |
|                           |                     |                                                                                                                  | RS232, connect to PC                                                                                                                                                                                                                                                                                        |
|                           |                     |                                                                                                                  | serial port parameter                                                                                                                                                                                                                                                                                       |
|                           |                     |                                                                                                                  | baud rate 19200; data bit 8; stop bit 1; communication protocol: Modbus-RTU slave device; Modbus station no.1                                                                                                                                                                                               |
|                           |                     | COM2                                                                                                             | function                                                                                                                                                                                                                                                                                                    |
|                           |                     |                                                                                                                  | debug online                                                                                                                                                                                                                                                                                                |
|                           |                     |                                                                                                                  | connection device                                                                                                                                                                                                                                                                                           |
|                           |                     |                                                                                                                  | RS485, connect to PLC, HMI, PC                                                                                                                                                                                                                                                                              |
|                           |                     |                                                                                                                  | serial port parameter                                                                                                                                                                                                                                                                                       |
|                           |                     |                                                                                                                  | serial port parameters can be set, communication protocol: Modbus-RTU slave device; Modbus station no. can be set                                                                                                                                                                                           |
|                           |                     |                                                                                                                  | main function                                                                                                                                                                                                                                                                                               |
|                           |                     |                                                                                                                  | state display, user parameters settings, monitor display, alarm display, special control, online debug                                                                                                                                                                                                      |

Configuration of servo drive

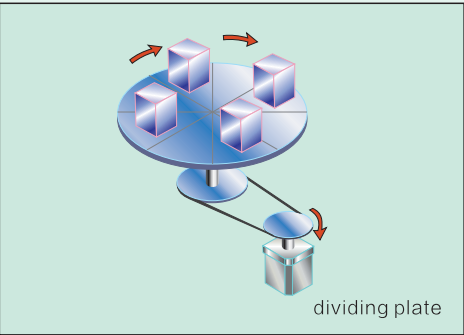
| Series | Type        | Input power     | Analog input | Digital input | Digital output | Position command input mode |       |      | AB phase feedback |    | Z phase feedback |                     |                |
|--------|-------------|-----------------|--------------|---------------|----------------|-----------------------------|-------|------|-------------------|----|------------------|---------------------|----------------|
|        |             |                 |              |               |                | Difference                  | 24VOC | 5VOC | Difference        | OC | Difference       | Output distribution | Fixed terminal |
| DS2    | DS2-20P4    | 1PH 220V 50HZ   | ×            | 2             | 2              | ×                           | √     | ×    | ×                 | ×  | ×                | √                   | ×              |
|        | DS2-20P7    |                 | ×            | 4             | 3              | ×                           | √     | ×    | ×                 | ×  | ×                | √                   | ×              |
|        | DS2-21P5    |                 | ×            | 4             | 3              | ×                           | √     | ×    | ×                 | ×  | ×                | √                   | ×              |
|        | DS2-21P5-A  | 3PH 220V 50HZ   | √            | 6             | 3              | √                           | √     | √    | ×                 | √  | ×                | √                   | √              |
|        | DS2-22P3-A  |                 | √            | 6             | 3              | √                           | √     | √    | ×                 | √  | ×                | √                   | √              |
|        | DS2-23P0-A  |                 | √            | 6             | 3              | √                           | √     | √    | √                 | ×  | √                | √                   | ×              |
|        | DS2-45P5-A  | 3PH 380V 50HZ   | √            | 6             | 3              | √                           | √     | √    | ×                 | √  | ×                | √                   | √              |
|        | DS2-47P5-A  |                 | √            | 6             | 3              | √                           | √     | √    | √                 | ×  | √                | √                   | ×              |
|        | DS2-21P5-B  |                 | √            | 6             | 3              | √                           | √     | √    | √                 | ×  | √                | √                   | ×              |
|        | DS2-20P2-AS | 1/3PH 220V 50HZ | √            | 5             | 3              | √                           | √     | √    | √                 | ×  | √                | √                   | ×              |
|        | DS2-20P4-AS |                 | √            | 5             | 3              | √                           | √     | √    | √                 | ×  | √                | √                   | ×              |
|        | DS2-20P7-AS |                 | √            | 5             | 3              | √                           | √     | √    | √                 | ×  | √                | √                   | ×              |
|        | DS2-21P5-AS | 3PH 220V 50HZ   | √            | 5             | 3              | √                           | √     | √    | √                 | ×  | √                | √                   | ×              |

Applications of simple machine

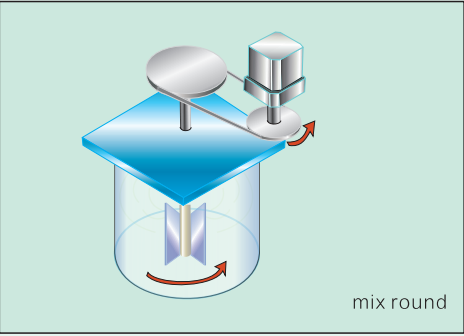
Switching gate can control the ticket entrance.  
Dividing plate can be used to switch the tools of numerical control machine.  
Conveyer belt can be used to control the position of various materials.  
Spiral sliding table is applied to flush coater, carving machine.  
mixing device can be used to washing machine, stirring machine.  
Roller is used to calico printing machine, paper cutting machine.



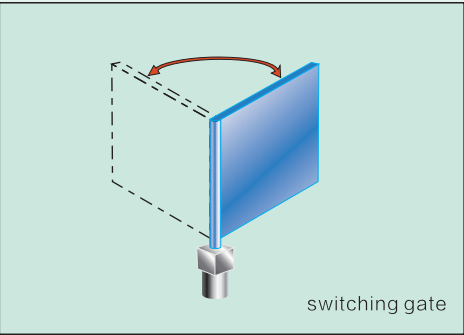
conveyer belt



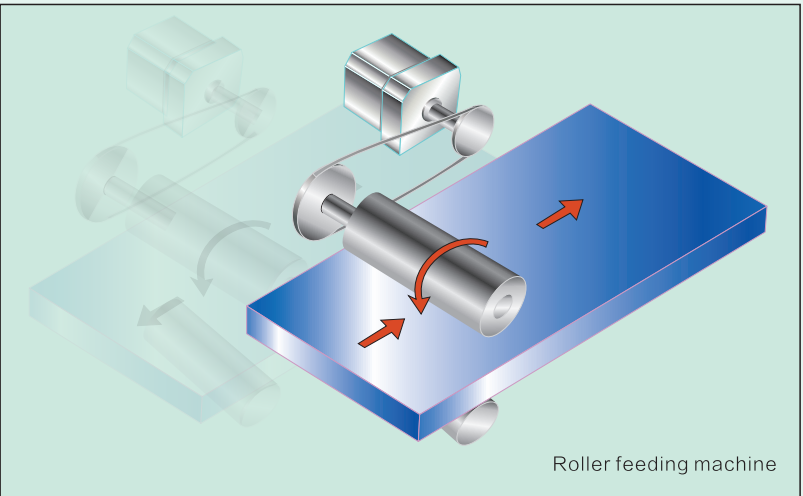
dividing plate



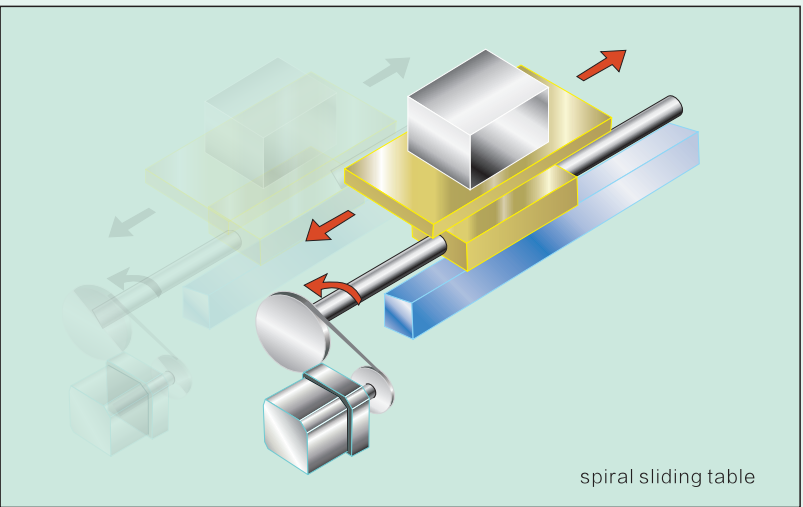
mix round



switching gate



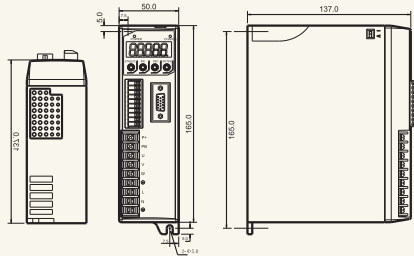
Roller feeding machine



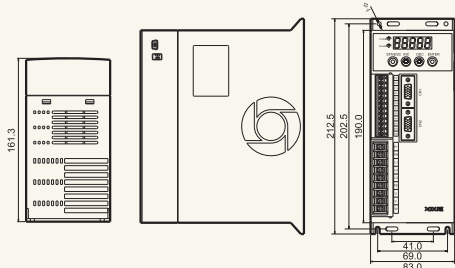
spiral sliding table

Dimensions of servo drive (unit: mm)

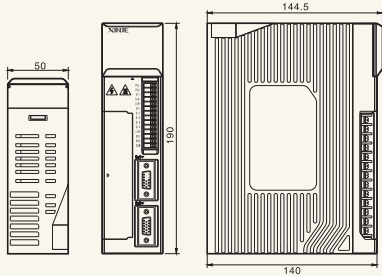
• DS2-20P4、DS2-20P7



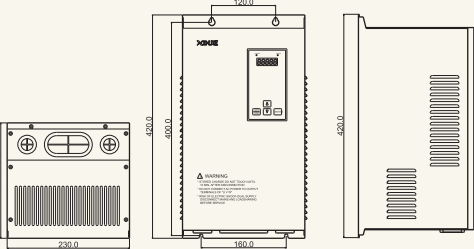
• DS2-2□P□-A、DS2-2□P□-B



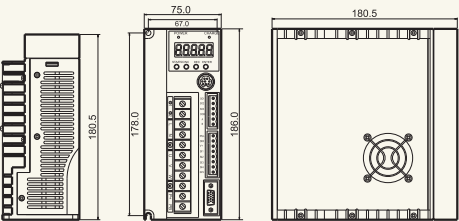
• DS2-20P2/20P4/20P7-AS



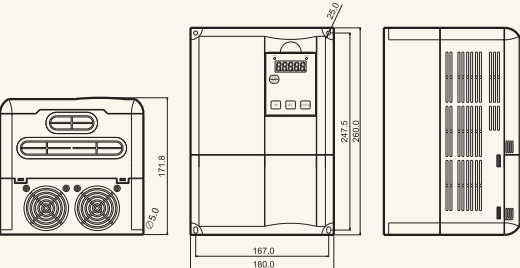
• DS2-47P5-AS



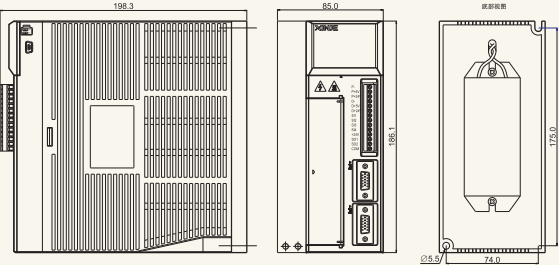
• DS2-21P5



• DS2-45P5-A

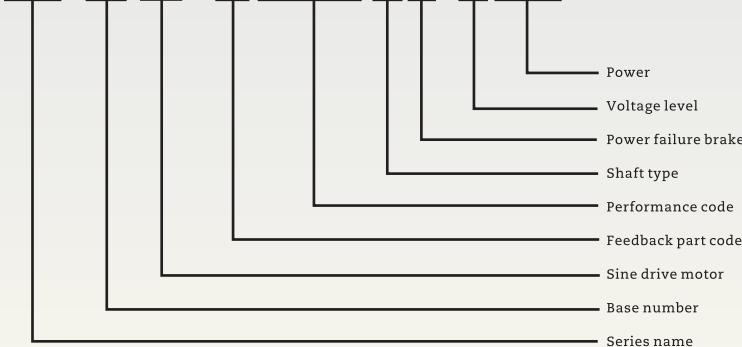


• DS2-21P5-AS



Name rule of servo motor type

MS - 80 ST - M 02430 A Z - 2 0P7

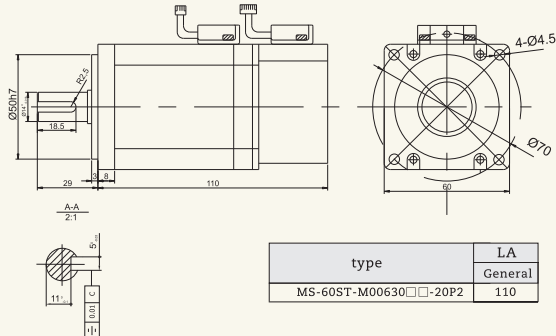


|                     |                                                                                                                                                                                                                                        |                          |
|---------------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|--------------------------|
| Base no.            | 60、80、90、110、130、180                                                                                                                                                                                                                   |                          |
| Feedback part code  | M                                                                                                                                                                                                                                      | Optical pulse encoder    |
| Performance code    | first 3-bit is rated torque; last 2-bit is rated speed<br>Examples:<br>00630: rated torque 0.6 N.m, rated speed 3000 rpm;<br>06025: rated torque 6.0 N.m, rated speed 2500 rpm;<br>19015: rated torque 19.0 N.m, rated speed 1500 rpm; |                          |
| Shaft type          | A                                                                                                                                                                                                                                      | no bond                  |
|                     | B                                                                                                                                                                                                                                      | with bond                |
| Power failure brake | -                                                                                                                                                                                                                                      | no                       |
|                     | Z                                                                                                                                                                                                                                      | with power failure brake |
| Voltage level       | 2                                                                                                                                                                                                                                      | 220V                     |
|                     | 4                                                                                                                                                                                                                                      | 380V                     |
| Power               | Example: 0P4 is 0.4KW; 0P7 is 0.75KW; 3P0 is 3.0KW                                                                                                                                                                                     |                          |

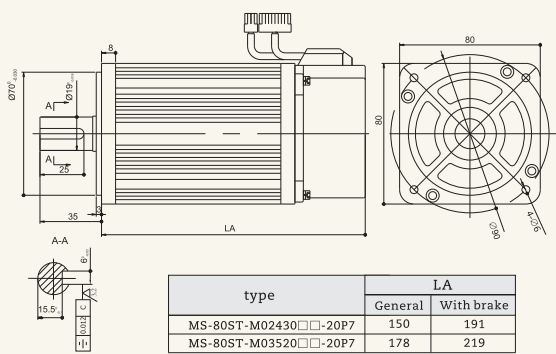
Dimensions of servo motor

Mounting dimensions of servo motor(unit: mm)

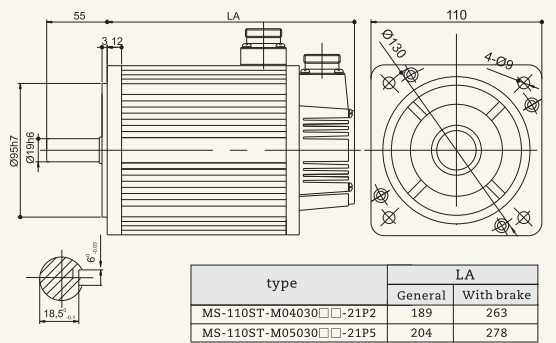
• 60 series motor



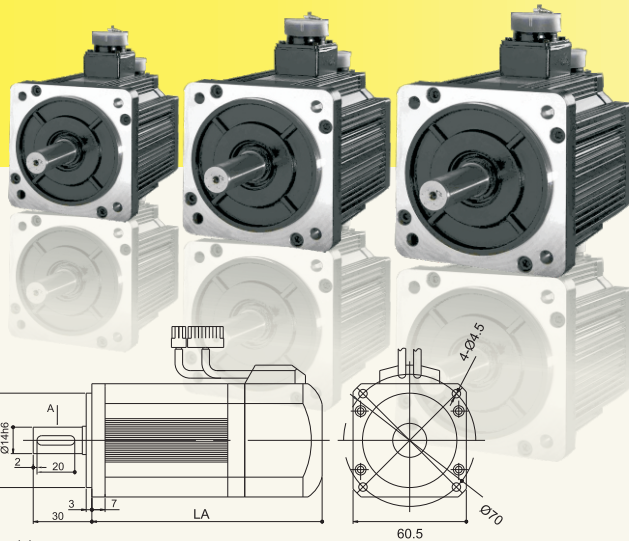
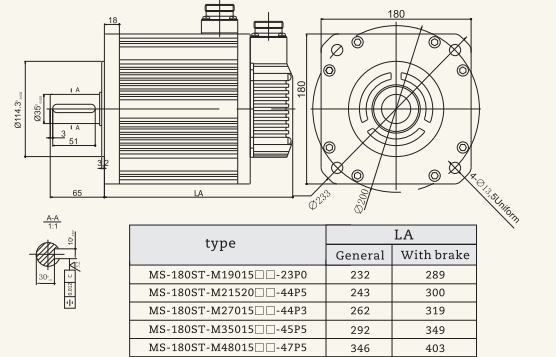
• 80 series motor



• 110 series motor

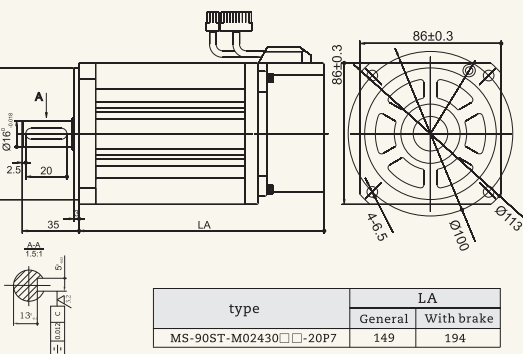


• 180 series motor

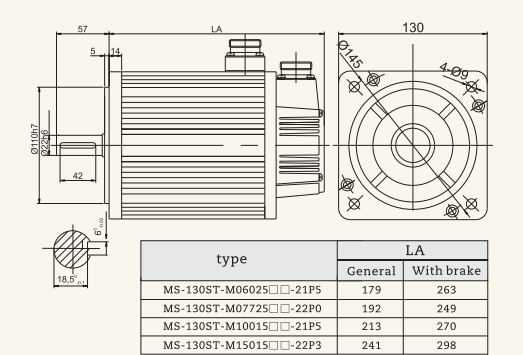


| type                  | LA      |            |
|-----------------------|---------|------------|
|                       | General | With brake |
| MS-60ST-M01330□□-20P4 | 146     | 189        |

• 90 series motor



• 130 series motor



★ The differences of general type and type with brake

