

Servo motors

40 / 60 / 80 / 90 / 110 / 130 / 150 / 180



0.05-7.5

kW

RATED POWER

0.16-48

N·m

RATED TORQUE

PORTFOLIO

Find your series

Eight servo motor series in one reference. Compare the range below, then open the series page for electrical data and mounting dimensions.

Series	Rated power	Rated torque	Page
40	50-100 W	0.16-0.32 N·m	5
60	0.2-0.6 kW	0.637-1.91 N·m	7
80	0.4-1.0 kW	1.27-4 N·m	9
90	0.73-1.0 kW	2.4-4 N·m	11
110	0.6-1.8 kW	2-6 N·m	13
130	1.0-3.8 kW	4-15 N·m	15
150	3.0-5.5 kW	15-27 N·m	17
180	2.7-7.5 kW	17.2-48 N·m	19

Company & applications	03
Servo motor range	04
Connection reference	21
Certificates	22

COMPANY PROFILE

Motion. Control. Automation.

CHENGDU NEWKer CNC TECHNOLOGY CO., LTD.

NEWKer designs and manufactures CNC controllers, industrial robot controllers, robot arms, digital servo drives and industrial automation products.



Chengdu facility



Robotics and automation

Engineering & development

The design team brings more than 30 years of experience in electrical systems for lathes, milling machines and vertical machining centres. Open PLC and macro functions support secondary development for customer applications.

Application areas

Machine tools: CNC retrofits, lathes, milling, drilling, grinding, planing, gear hobbing and special-purpose machines.

Robotics: welding, cutting, palletising and handling, with customised applications including inkjet, engraving, writing and service automation.

RANGE OVERVIEW

Servo motor range

Compare electrical specifications, mounting dimensions and connection assignments across the range.



01 Electrical data

Compare rated power, current, torque, speed, inertia, electrical constants and mass for each model.

02 Mounting dimensions

Find body lengths with and without a brake, together with flange, shaft and keyway dimensions.

03 Connection reference

Assignments A and B provide the pin configurations for the two groups of motor series.

40 SERIES / ELECTRICAL DATA

40 series

Servo motors

RATED POWER

50-100 W

RATED TORQUE

0.16-0.32 N·m

Parameter	40ST-M00130	40ST-M00330
Rated torque N·m	0.16	0.32
Rated power W	50	100
Rated current A	0.4	0.6
Max. torque N·m	0.32	0.64
Rated speed rpm	3000	3000
Rotor inertia 10^{-4} kg·m ²	0.025	0.051
Torque constant N·m/A	0.4	0.53
Back-EMF constant V/1000 rpm	36.8	32.8
Winding resistance Ω	108	34
Winding inductance mH	108	40
Electrical time constant ms	1.0	1.18
Mass kg	0.32	0.47

COMMON SPECIFICATIONS

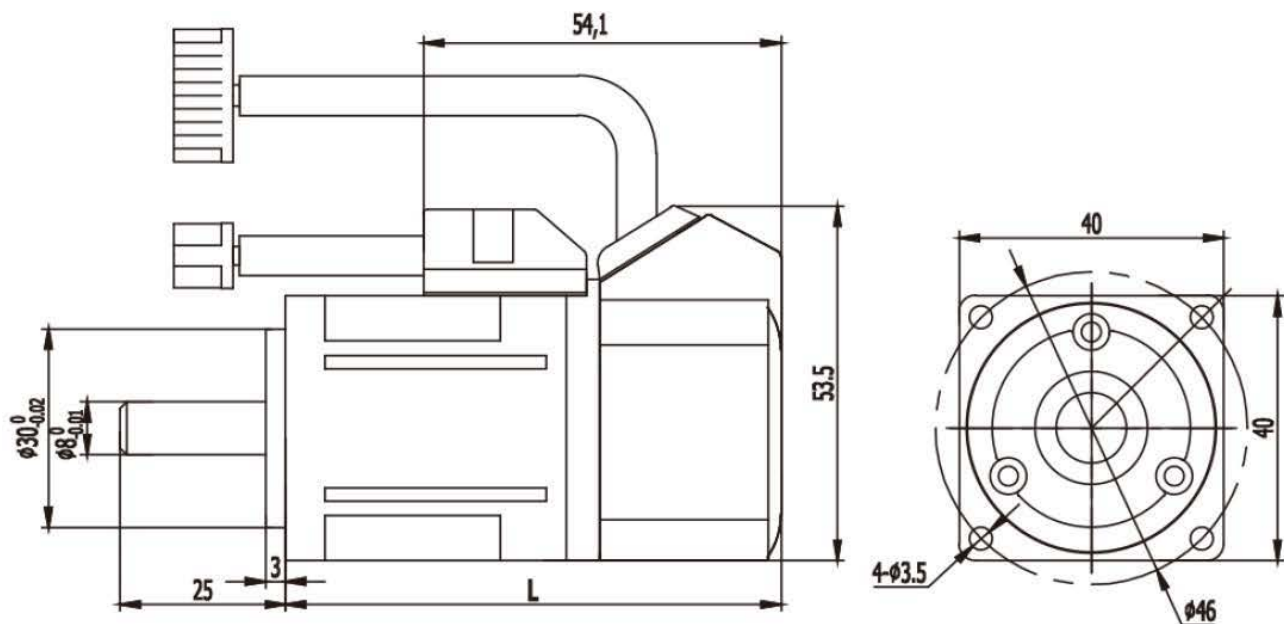
Drive input: AC 220 V / **Encoder:** 2500 PPR**Pole pairs:** 4 / **Insulation:** Class B / **Protection:** IP65**Environment:** -20°C to +40°C; relative humidity ≤90%

40 SERIES / MECHANICAL DATA

Dimensions & mounting

40 series

DIMENSIONS IN mm



Mounting interface

Flange 40 × 40 mm / Pilot $\phi 30$ mmShaft $\phi 8$ mm / Mounting 4 × $\phi 3.5$ on $\phi 46$ mm

BODY LENGTH BY MODEL

Model	40ST-M00130	40ST-M00330
Without brake, L	75	90
With brake, L	109	124

Connection A / 40 / 60 / 80 / 90 / Pin assignments on page 21

60 SERIES / ELECTRICAL DATA

60 series

Servo motors

RATED POWER

0.2-0.6 kW

RATED TORQUE

0.637-1.91 N·m

Parameter	60-00630	60-01330	60-01930
Rated torque N·m	0.637	1.27	1.91
Rated power kW	0.2	0.4	0.6
Rated current A	1.2	2.8	3.5
Max. torque N·m	1.91	3.9	5.73
Rated speed rpm	3000	3000	3000
Rotor inertia 10^{-4} kg·m ²	0.175	0.29	0.39
Torque constant N·m/A	0.53	0.45	0.55
Back-EMF constant V/1000 rpm	30.9	29.6	34
Winding resistance Ω	6.18	2.35	1.93
Winding inductance mH	29.3	14.5	10.7
Electrical time constant ms	4.74	6.17	5.5
Mass kg	1.2	1.6	2.1

COMMON SPECIFICATIONS

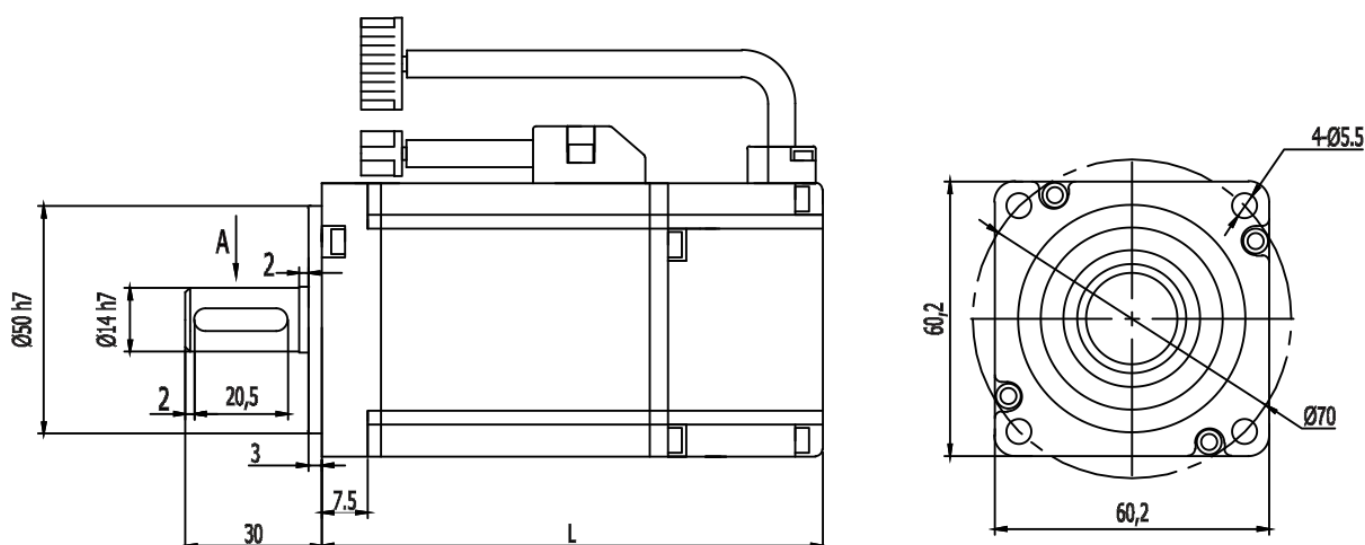
Drive input: AC 220 V / **Encoder:** 2500 PPR / 17-bit absolute**Pole pairs:** 4 / **Insulation:** Class F / **Protection:** IP65**Environment:** -20°C to +40°C; relative humidity ≤90%

60 SERIES / MECHANICAL DATA

Dimensions & mounting

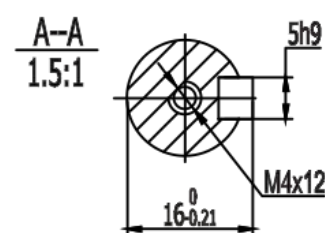
60 series

DIMENSIONS IN mm


Mounting interface

Flange 60.2 × 60.2 mm / Pilot Ø50 h7 mm

Shaft Ø14 h7 mm / Mounting 4 × Ø5.5 on Ø70 mm



Keyway section

BODY LENGTH BY MODEL

Model	60-00630	60-01330	60-01930
Without brake, L	116	141	169
With brake, L	154	179	207

Connection A / 40 / 60 / 80 / 90 / Pin assignments on page 21

80 SERIES / ELECTRICAL DATA

80 series

Servo motors

RATED POWER

0.4-1.0 kW

RATED TORQUE

1.27-4 N·m

Parameter	80-01330	80-02430	80-03520	80-04025
Rated torque N·m	1.27	2.39	3.5	4
Rated power kW	0.4	0.75	0.73	1.0
Rated current A	2	3	3	4.4
Max. torque N·m	3.8	7.1	10.5	12
Rated speed rpm	3000	3000	2000	2500
Rotor inertia 10^{-4} kg·m ²	1.05	1.82	2.63	2.97
Torque constant N·m/A	0.64	0.8	1.17	0.9
Back-EMF constant V/1000 rpm	40	48	71	56
Winding resistance Ω	4.44	2.9	3.65	1.83
Winding inductance mH	7.93	6.4	8.8	4.72
Electrical time constant ms	1.66	2.22	2.4	2.58
Mass kg	1.9	3.0	3.9	4.1

COMMON SPECIFICATIONS

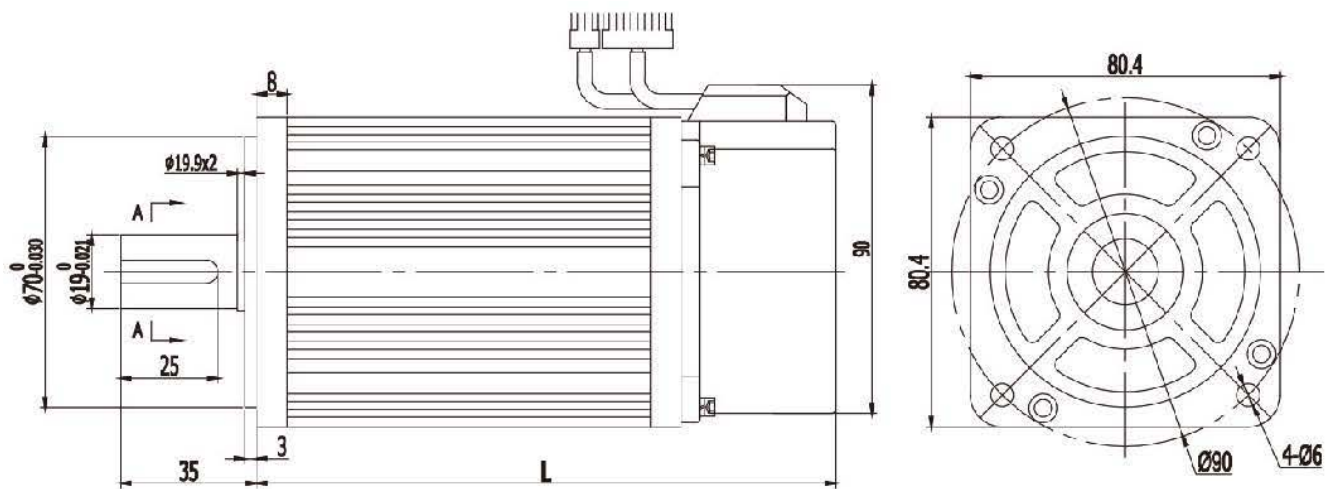
Drive input: AC 220 V / **Encoder:** 2500 PPR / 17-bit absolute**Pole pairs:** 4 / **Insulation:** Class F / **Protection:** IP65**Environment:** -20°C to +40°C; relative humidity ≤90%

80 SERIES / MECHANICAL DATA

Dimensions & mounting

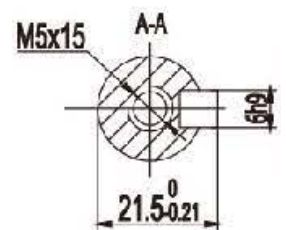
80 series

DIMENSIONS IN mm



Mounting interface

Flange 80.4 × 80.4 mm / Pilot $\phi 70$ mm
 Shaft $\phi 19$ mm / Mounting 4 × $\phi 6$ on $\phi 90$ mm



Keyway section

BODY LENGTH BY MODEL

Model	80-01330	80-02430	80-03520	80-04025
Without brake, L	124	151	179	191
With brake, L	178	205	233	245

Connection A / 40 / 60 / 80 / 90 / Pin assignments on page 21

90 SERIES / ELECTRICAL DATA

90 series

Servo motors

RATED POWER

0.73-1.0 kW

RATED TORQUE

2.4-4 N·m

Parameter	90-02430	90-03520	90-04025
Rated torque N·m	2.4	3.5	4
Rated power kW	0.75	0.73	1.0
Rated current A	3	3	4
Max. torque N·m	7.1	10.5	12
Rated speed rpm	3000	2000	2500
Rotor inertia 10^{-4} kg·m ²	2.45	3.4	3.7
Torque constant N·m/A	0.8	1.2	1.0
Back-EMF constant V/1000 rpm	51	67	60
Winding resistance Ω	3.2	4.06	2.69
Winding inductance mH	7.0	9.7	6.21
Electrical time constant ms	2.2	2.39	2.3
Mass kg	3.1	3.9	4.2

COMMON SPECIFICATIONS

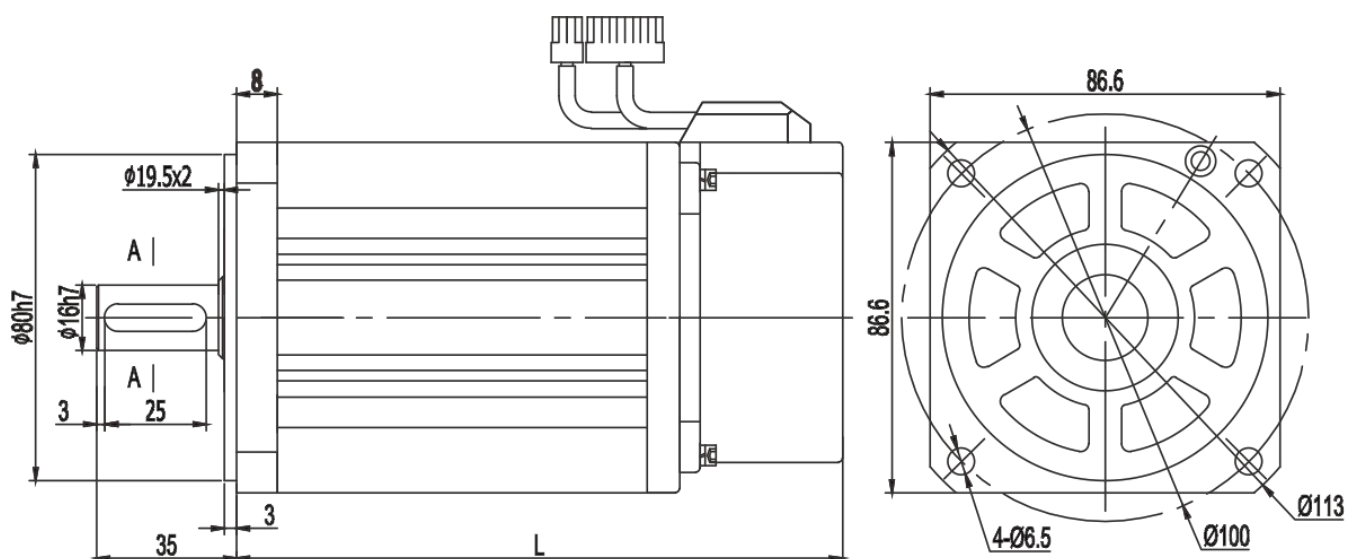
Drive input: AC 220 V / **Encoder:** 2500 PPR / 17-bit absolute**Pole pairs:** 4 / **Insulation:** Class F / **Protection:** IP65**Environment:** -20°C to +40°C; relative humidity ≤90%

90 SERIES / MECHANICAL DATA

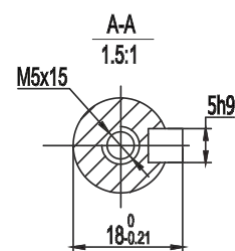
Dimensions & mounting

90 series

DIMENSIONS IN mm


Mounting interface

 Flange 86.6 × 86.6 mm / Pilot $\phi 80$ h7 mm

 Shaft $\phi 16$ h7 mm / Mounting 4 × $\phi 6.5$ on $\phi 100$ mm


Keyway section

BODY LENGTH BY MODEL

Model	90-02430	90-03520	90-04025
Without brake, L	150	172	182
With brake, L	207	229	239

Connection A / 40 / 60 / 80 / 90 / Pin assignments on page 21

110 SERIES / ELECTRICAL DATA

110 series

Servo motors

RATED POWER

0.6-1.8 kW

RATED TORQUE

2-6 N·m

Parameter	110-02030	110-04020	110-04030	110-05030	110-06020	110-06030
Rated torque N·m	2	4	4	5	6	6
Rated power kW	0.6	0.8	1.2	1.5	1.2	1.8
Rated current A	2.5	3.5	5.0	6.0	4.5	6.0
Max. torque N·m	6	12	12	15	12	18
Rated speed rpm	3000	2000	3000	3000	2000	3000
Rotor inertia $10^{-3} \text{ kg}\cdot\text{m}^2$	0.31	0.54	0.54	0.63	0.76	0.76
Torque constant N·m/A	0.8	1.14	0.8	0.83	1.3	1.0
Back-EMF constant V/1000 rpm	56	79	54	62	83	60
Winding resistance Ω	3.6	2.41	1.09	1.03	1.46	0.81
Winding inductance mH	8.32	7.3	3.3	3.43	4.7	2.59
Electrical time constant ms	2.3	3	3	3.33	3.2	3.2
Mass kg	4.5	6	6	6.8	7.9	7.9

COMMON SPECIFICATIONS

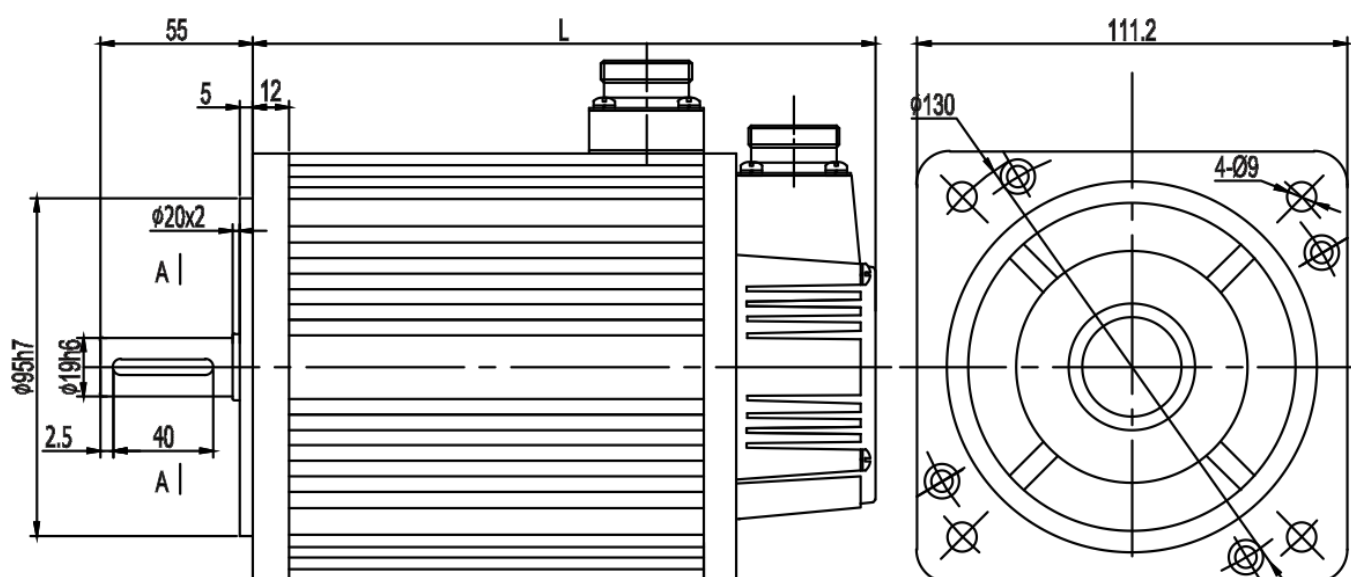
Drive input: AC 220 V / **Encoder:** 2500 PPR / 17-bit absolute**Pole pairs:** 4 / **Insulation:** Class F / **Protection:** IP65**Environment:** -20°C to +40°C; relative humidity ≤90%

110 SERIES / MECHANICAL DATA

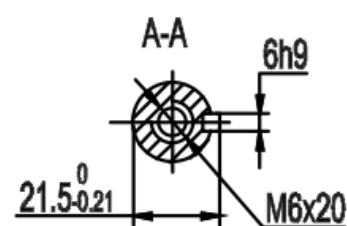
Dimensions & mounting

110 series

DIMENSIONS IN mm


Mounting interface

Flange 111.2 × 111.2 mm / Pilot $\phi 95 h7$ mm
 Shaft $\phi 19 h6$ mm / Mounting 4 × $\phi 9$ on $\phi 130$ mm



Keyway section

BODY LENGTH BY MODEL

Model	110-02030	110-04020	110-04030	110-05030	110-06020	110-06030
Without brake, L	159	189	189	204	219	219
With brake, L	215	245	245	260	275	275

Connection B / 110 / 130 / 150 / 180 / Pin assignments on page 21

130 SERIES / ELECTRICAL DATA

130 series

Servo motors



RATED POWER

1.0-3.8 kW

RATED TORQUE

4-15 N·m

Parameter	130-04025	130-05025	130-06025	130-07725	130-10010	130-10015	130-10025	130-15015	130-15025
Rated torque N·m	4	5	6	7.7	10	10	10	15	15
Rated power kW	1.0	1.3	1.5	2.0	1.0	1.5	2.6	2.3	3.8
Rated current A	4.0	5.0	6.0	7.5	4.5	6.0	10	9.5	13.5
Max. torque N·m	12	15	18	22	20	25	25	30	30
Rated speed rpm	2500	2500	2500	2500	1000	1500	2500	1500	2500
Rotor inertia $10^{-3} \text{ kg}\cdot\text{m}^2$	0.85	1.06	1.26	1.53	1.94	1.94	1.94	2.77	2.77
Torque constant N·m/A	1.0	1.0	1.0	1.03	2.2	1.67	1.0	1.58	1.11
Back-EMF constant V/1000 rpm	72	68	65	68	140	103	70	114	67
Winding resistance Ω	2.76	1.84	1.21	1.01	2.7	1.5	0.73	1.1	0.49
Winding inductance mH	6.42	4.9	3.87	2.94	8.8	4.37	2.45	2.45	1.68
Electrical time constant ms	2.32	2.66	3.26	2.91	3.26	2.91	3.36	4.05	3.43
Mass kg	6.2	6.6	7.4	8.3	10.2	10.2	9.8	12.6	11.7

COMMON SPECIFICATIONS

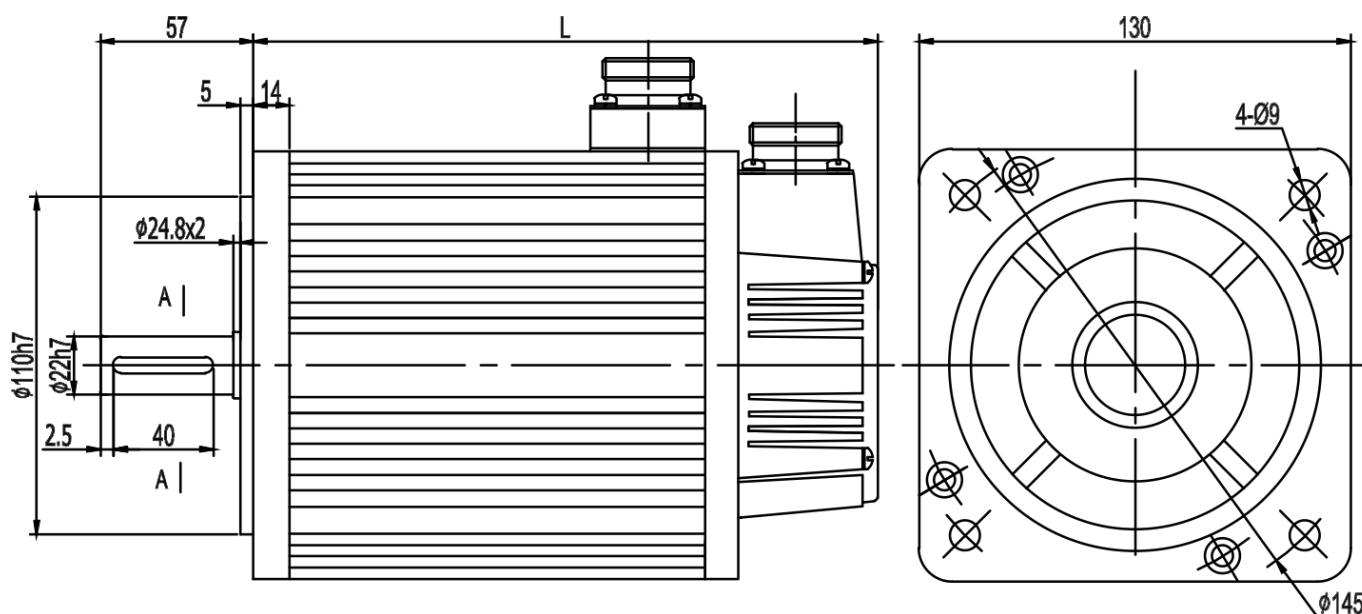
Drive input: AC 220 V / **Encoder:** 2500 PPR / 17-bit absolute**Pole pairs:** 4 / **Insulation:** Class F / **Protection:** IP65**Environment:** -20°C to +40°C; relative humidity ≤90%

130 SERIES / MECHANICAL DATA

Dimensions & mounting

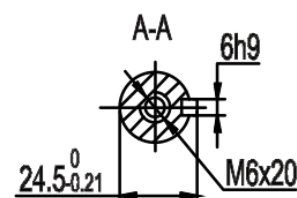
130 series

DIMENSIONS IN mm



Mounting interface

Flange 130 × 130 mm / Pilot $\phi 110 h7$ mm
 Shaft $\phi 22 h7$ mm / Mounting 4 × $\phi 9$ on $\phi 145$ mm



Keyway section

BODY LENGTH BY MODEL

Model	130-04025	130-05025	130-06025	130-07725	130-10010	130-10015	130-10025	130-15015	130-15025
Without brake, L	166	171	179	192	213	213	209	241	231
With brake, L	236	241	249	262	283	283	279	311	301

Connection B / 110 / 130 / 150 / 180 / Pin assignments on page 21

150 SERIES / ELECTRICAL DATA

150 series

Servo motors

RATED POWER

3.0-5.5 kW

RATED TORQUE

15-27 N·m

Parameter	150-15025	150-15020	150-18020	150-23020	150-27020
Rated torque N·m	15	15	18	23	27
Rated power kW	3.8	3.0	3.6	4.7	5.5
Rated current A	17	14	17	21	27
Max. torque N·m	30	30	36	46	54
Rated speed rpm	2500	2000	2000	2000	2000
Rotor inertia $10^{-3} \text{ kg}\cdot\text{m}^2$	3.88	3.88	4.6	5.8	6.8
Torque constant N·m/A	0.88	1.07	1.05	1.09	1.0
Back-EMF constant V/1000 rpm	59	70	71	72	64
Winding resistance Ω	0.23	0.34	0.255	0.2	0.125
Winding inductance mH	1.08	1.55	1.3	1.06	0.7
Electrical time constant ms	4.7	4.56	5.1	5.3	5.6
Mass kg	15.2	15.2	17.2	21	22.7

COMMON SPECIFICATIONS

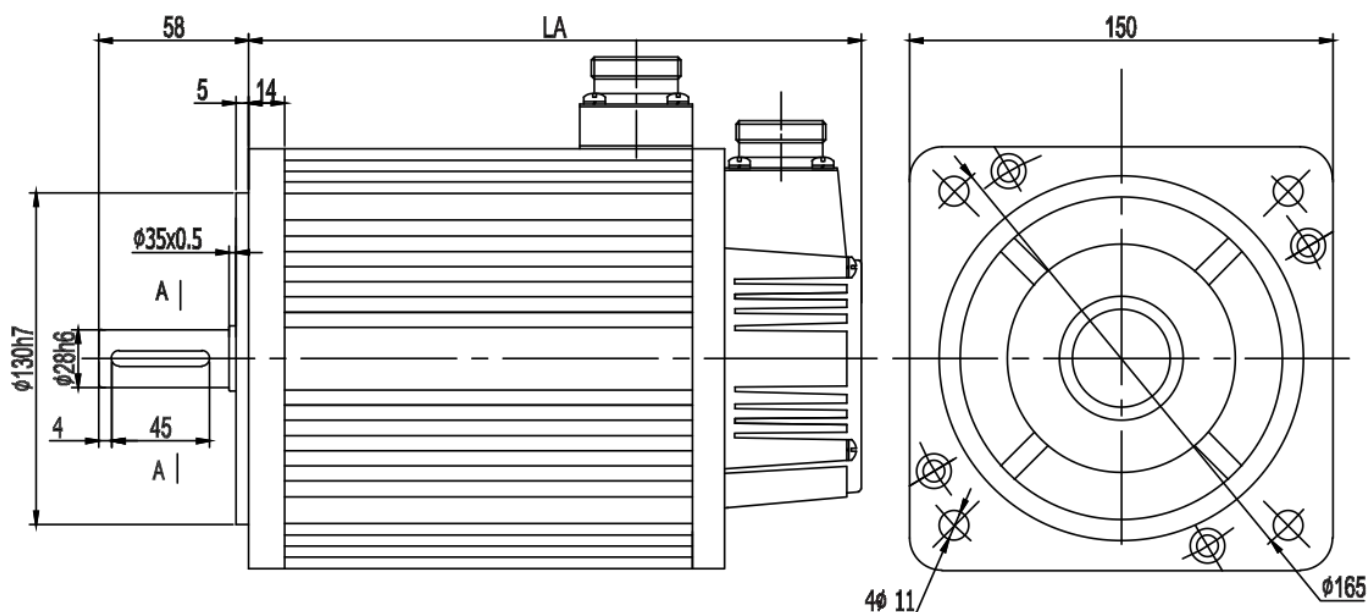
Drive input: AC 220 / 380 V / **Encoder:** 2500 PPR / 17-bit absolute**Pole pairs:** 4 / **Insulation:** Class F / **Protection:** IP65**Environment:** -20°C to +40°C; relative humidity ≤90%; no condensation

150 SERIES / MECHANICAL DATA

Dimensions & mounting

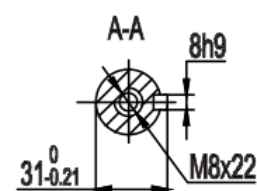
150 series

DIMENSIONS IN mm



Mounting interface

Flange 150 × 150 mm / Pilot $\phi 130 h7$ mm
 Shaft $\phi 28 h6$ mm / Mounting 4 × $\phi 11$ on $\phi 165$ mm



Keyway section

BODY LENGTH BY MODEL

Model	150-15025	150-15020	150-18020	150-23020	150-27020
Without brake, L	230	230	248	278	302
With brake, L	303	303	321	351	375

Connection B / 110 / 130 / 150 / 180 / Pin assignments on page 21

180 SERIES / ELECTRICAL DATA

180 series

Servo motors

RATED POWER

2.7-7.5 kW

RATED TORQUE

17.2-48 N·m

Parameter	180-17215	180-19015	180-21520	180-27015	180-35010	180-35015	180-48015
Rated torque N·m	17.2	19	21.5	27	35	35	48
Rated power kW	2.7	3.0	4.5	4.3	3.7	5.5	7.5
Rated current A	10.5/6.5	12/7.5	16/9.5	16/10	16/10	24/12	32/20
Max. torque N·m	43	47	53	67	70	70	96
Rated speed rpm	1500	1500	2000	1500	1000	1500	1500
Rotor inertia $10^{-3} \text{ kg}\cdot\text{m}^2$	6.5	7.0	7.96	9.64	12.25	12.25	16.72
Torque constant N·m/A	1.7	1.58	1.34	1.69	2.2	1.45	1.5
Back-EMF constant V/1000 rpm	112/167	97/170	84/140	103/172	134/223	90/181	94/156
Winding resistance Ω	0.7	0.4	0.31	0.28	0.31	0.27	0.11
Winding inductance mH	4.0	2.42	1.93	1.74	3.28	1.0	0.77
Electrical time constant ms	6.6	6.05	6.22	6.2	10.58	7.14	7
Mass kg	19.5	20.5	22.3	25.5	30.5	30.5	40

COMMON SPECIFICATIONS

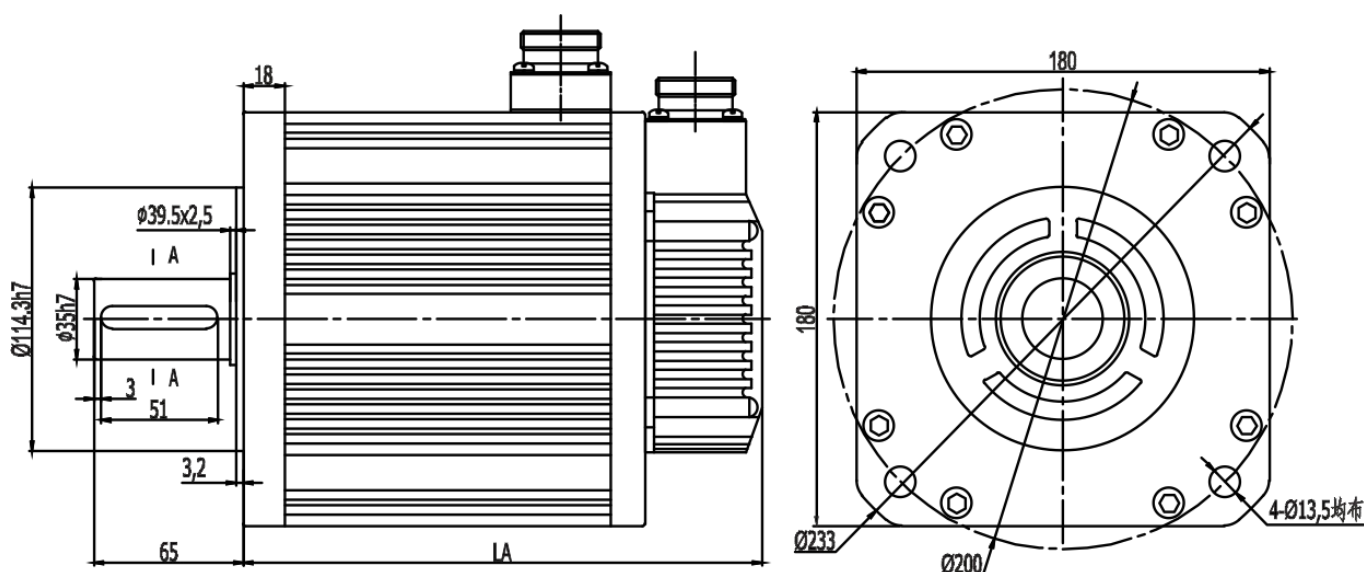
Drive input: AC 220 / 380 V / **Encoder:** 2500 PPR / 17-bit absolute**Pole pairs:** 4 / **Insulation:** Class F / **Protection:** IP65**Environment:** -20°C to +40°C; relative humidity ≤90%

180 SERIES / MECHANICAL DATA

Dimensions & mounting

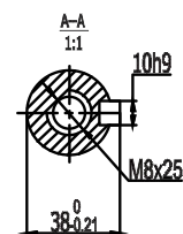
180 series

DIMENSIONS IN mm



Mounting interface

Flange 180 × 180 mm / Pilot $\varnothing 114.3$ mm
 Shaft $\varnothing 35$ mm / Mounting 4 × $\varnothing 13.5$ on $\varnothing 200$ mm



Keyway section

BODY LENGTH BY MODEL

Model	180-17215	180-19015	180-21520	180-27015	180-35010	180-35015	180-48015
Without brake, L	226	232	243	262	292	292	346
With brake, L	308	314	325	344	382	382	436

Connection B / 110 / 130 / 150 / 180 / Pin assignments on page 21

ELECTRICAL REFERENCE

Connection assignments

Use the column that matches the motor series.

POWER CONNECTOR

Signal	A: 40 / 60 / 80 / 90	B: 110 / 130 / 150 / 180
U	1	2
V	2	3
W	3	4
PE	4	1

INCREMENTAL ENCODER

Pin	Assignment A	Assignment B
1	PE	PE
2	5V	5V
3	0V	0V
4	B+	A+
5	Z-	B+
6	U+	Z+
7	Z+	A-
8	U-	B-
9	A+	Z-
10	V+	U+
11	W+	V+
12	V-	W+
13	A-	U-
14	B-	V-
15	W-	W-

ABSOLUTE ENCODER / BOTH ASSIGNMENTS

Pin	1	2	3	4	5	6	7
Signal	PE	E-	E+	SD-	0V	SD+	5V

Certificates



NEWKer

Servo motors. Technical reference.

40 / 60 / 80 / 90

110 / 130 / 150 / 180

CHENGDU NEWKer CNC TECHNOLOGY CO., LTD.

www.newker-cnc.com