

## EMB

### Series Servo Motor

#### Features

- Power supply voltage: 400V
- Driving of feed shafts for various machine
- Various products (7.5KW~15KW, with brake etc.)
- Mounted resolver, optional 17 bits absolute encoder
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#### Applications

- Machine tools
- Handling machine
- Foodstuff processing machine
- Textile machine



#### Model Specification Description

## EMB-1E D S A 1 1

EML Model Servo Motor

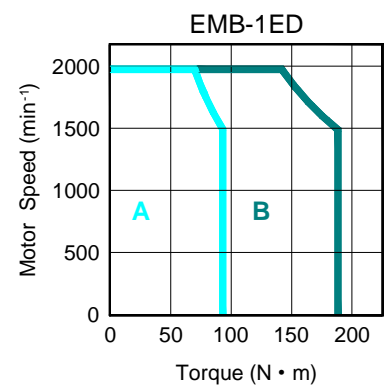
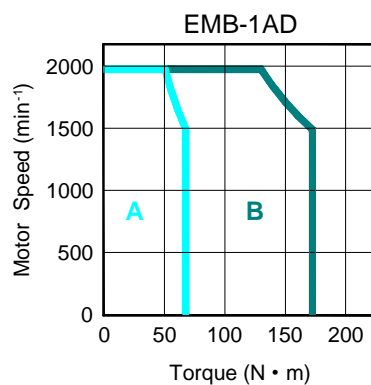
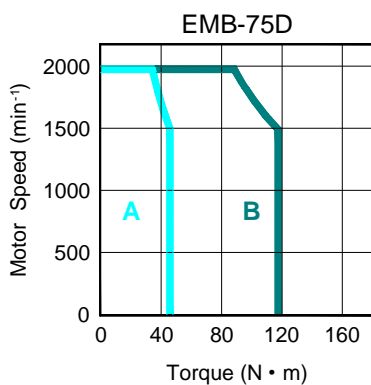
| Rated Power |       | Power Voltage |                                   | Encoder  |                                | Design Sequence |                 | Shaft End |                                    | Optional Parts |                    |
|-------------|-------|---------------|-----------------------------------|----------|--------------------------------|-----------------|-----------------|-----------|------------------------------------|----------------|--------------------|
| Sign        | Spec. | Sign          | Spec.                             | Sign     | Spec.                          | Sign            | Spec.           | Sign      | Spec.                              | Sign           | Spec.              |
| <b>75</b>   | 7.5KW | <b>D</b>      | 400Vac                            | <b>S</b> | Absolute Encoder:<br>131072P/R | <b>A</b>        | Design Sequence | <b>1</b>  | Flat, without keys                 | <b>1</b>       | None               |
| <b>1A</b>   | 11KW  |               |                                   |          |                                |                 |                 |           | <b>2</b>                           |                | With Oil Seal      |
| <b>1E</b>   | 15KW  |               |                                   |          |                                |                 |                 | <b>2</b>  | Flat, with keys, with screw thread | <b>3</b>       | With brake (DC24V) |
|             |       | <b>4</b>      | With oil seal, with brake (DC24V) |          |                                |                 |                 |           |                                    |                |                    |

## Rated Value and Specification

| voltage                    |                                    | 400VAC                                                                        |              |              |
|----------------------------|------------------------------------|-------------------------------------------------------------------------------|--------------|--------------|
| Servo motor Model          | EMB-                               | 75D□A                                                                         | 1AD□A        | 1ED□A        |
| Rated output power         | kW                                 | 7.5                                                                           | 11.0         | 15.0         |
| Rated torque               | Nm                                 | 47.8                                                                          | 70.0         | 95.5         |
| Instantaneous Peak Torque  | Nm                                 | 119.4                                                                         | 175          | 191          |
| Rated Current              | Arms                               | 18.0                                                                          | 28.0         | 38.0         |
| Instantaneous Max. Current | Arms                               | 56.0                                                                          | 70.0         | 84.0         |
| Rated Speed                | min <sup>-1</sup>                  | 1500                                                                          |              |              |
| Max. Speed                 | min <sup>-1</sup>                  | 2000                                                                          |              |              |
| Rotor Moment of Inertia    | x10 <sup>-4</sup> kgm <sup>2</sup> | 186.2(193.6)                                                                  | 217.6(278.9) | 338.8(346.1) |
| Brake voltage              |                                    | DC24V ± 10%                                                                   |              |              |
| Brake power                | W                                  | 90                                                                            |              |              |
| Brake holding torque       | N.M                                | 100                                                                           |              |              |
| Feedback unit              | standard                           | Resolver                                                                      |              |              |
|                            | option                             | 17-bit absolute encoder:131072P/R                                             |              |              |
| Insulation Class           |                                    | F                                                                             |              |              |
| Ambient Temperature        |                                    | 0 to +40°C (non freezing)                                                     |              |              |
| Ambient Humidity           |                                    | 20 to 80% RH (non condensing)                                                 |              |              |
| Enclosure                  |                                    | Totally enclosed, self-cooled, IP55 (except for shaft opening and connectors) |              |              |
| Vibration                  |                                    | 24.5m/s <sup>2</sup>                                                          |              |              |

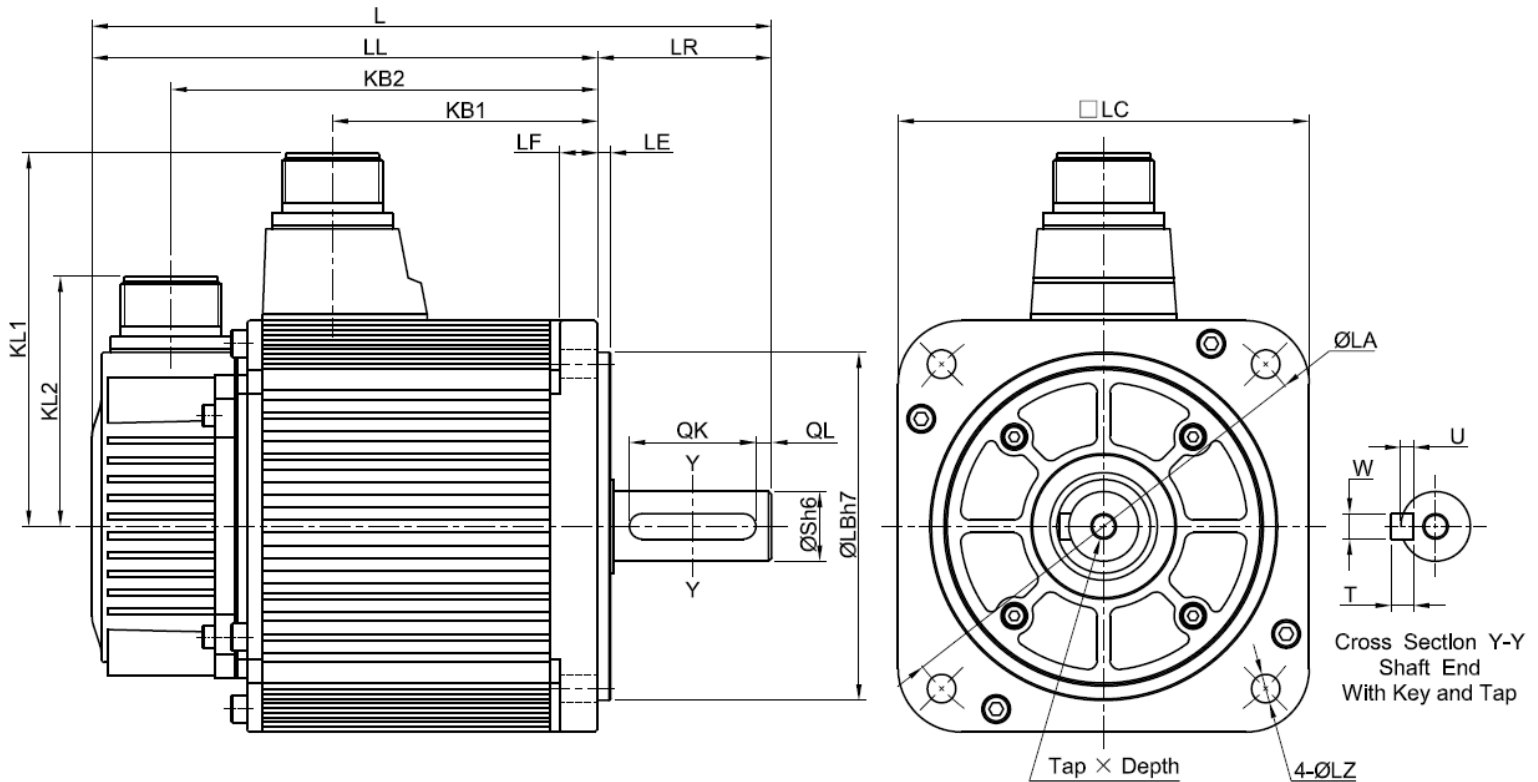
Note: The value in parentheses is for servo motors with holding brakes.

## Torque-Speed Feature



A: Continuous Working Area    B: Repeatable Working Area

## Dimension



| Model<br>EMB- | L   | LL  | KB1 | KB2 | KL1 | Flange side |    |    |     |     |     | S    | Tap×Depth | key     |    |    |    |    |   |
|---------------|-----|-----|-----|-----|-----|-------------|----|----|-----|-----|-----|------|-----------|---------|----|----|----|----|---|
|               |     |     |     |     |     | LR          | LE | LF | LC  | LA  | LB  |      |           | LZ      | QK | QL | W  | T  | U |
| 75D           | 530 | 414 | 366 | 302 | 184 | 116         | 4  | 18 | 220 | 235 | 200 | 13.5 | 42        | M16×32L | 90 | 6  | 12 | 8  | 5 |
| 1AD           | 580 | 464 | 416 | 352 | 184 | 116         | 4  | 18 | 220 | 235 | 200 | 13.5 | 42        | M16×32L | 90 | 6  | 12 | 8  | 5 |
| 1ED           | 615 | 499 | 451 | 387 | 184 | 116         | 4  | 18 | 220 | 235 | 200 | 13.5 | 55        | M20×40L | 90 | 6  | 12 | 10 | 6 |



### ➤ Motor connector specification

- Plug: MS3108B20-4S(LC=130), MS3108B22-22S(LC=180)
- Receptacle: MS3102A20-4P (LC=130), MS3102A22-22P(LC=180)
- Cable Clamp: MS3057-12A

| Pin No. | Signal  |
|---------|---------|
| A       | U phase |
| B       | V phase |
| C       | W phase |
| D       | FG      |



### ➤ Brake Connector Specification

- Plug: MS3106A10SL-3S
- Receptacle: MS3102A10SL-3P
- Cable Clamp: MS3057-4A

| Pin No. | Signal |
|---------|--------|
| A       | B1     |
| B       | B2     |
| C       | -      |



- **Encoder connector specification**
- Plug: MS3108B20-29S
- Receptacle: MS3102A20-29P
- Cable Clamp: MS3057-12A

### Incremental/Absolute encoder

| Pin No. | Signal | Color       |
|---------|--------|-------------|
| K       | S+     | Blue        |
| L       | S -    | Blue/Black  |
| T       | BAT+   | Brown       |
| S       | B AT-  | Brown/Black |
| H       | PG5V   | Red         |
| G       | PG0V   | Black       |
| J       | FG     | Shield      |

### Resolver

| Pin No. | Signal | Color        |
|---------|--------|--------------|
| K       | SIN+   | Yellow       |
| L       | SIN-   | Blue         |
| T       | COS+   | Red          |
| S       | COS-   | Black        |
| H       | R1     | Red/White    |
| G       | R2     | Yellow/White |
| J       | FG     | Shield       |

### Optional spare part

Converter is optional for easier trial and Control Cable is available for different length as follows:



Control Cable



Converter

|               | Item No. | Length | Pin | Connector | Wire         |
|---------------|----------|--------|-----|-----------|--------------|
| Control Cable | NC-50-01 | 1m     | 50  | 3M        | Twisted-pair |
|               | NC-50-02 | 2m     |     |           |              |
|               | NC-50-03 | 3m     |     |           |              |
|               | NC-50-05 | 5m     |     |           |              |
| Converter     | CV-50    | 1.5m   | 50  | 3M        | Twisted-pair |