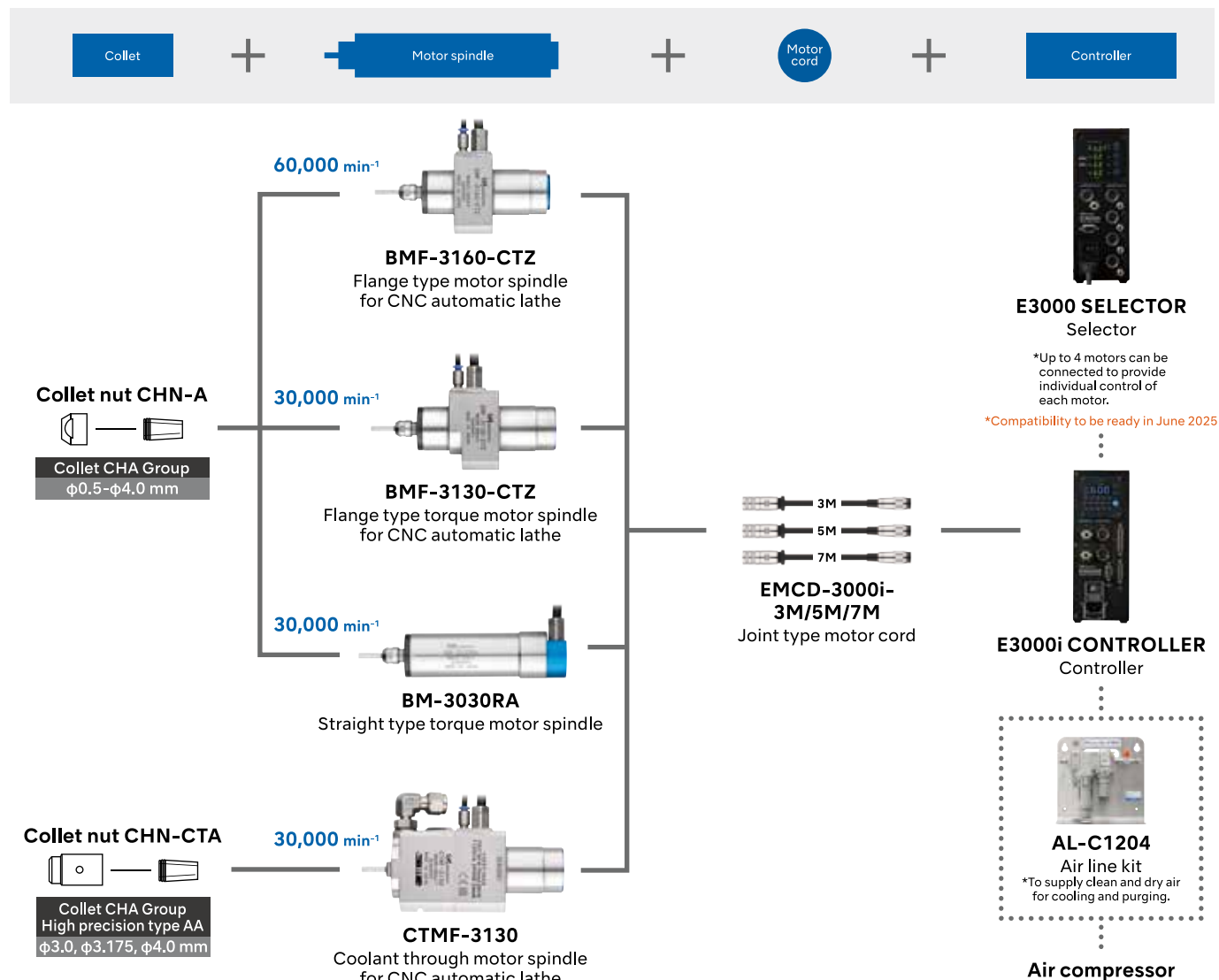


# E30001



# E3000i Series system chart



## Features of Motor Spindle

### ● Various control functions realized by electric motor technology.

Control of rotation speed, visualization of load factor, advanced adaptability to automation and stable machining performance.

### ● Ultra-short body design with a min. length of 98.4 mm.

For mounting on a CNC automatic lathes.

- ▶ Can be mounted in a narrow machining chamber
- ▶ Recommended as a new option for rotary tools

For mounting on special purpose machines.

- ▶ Enables downsizing of the dedicated machine itself

### ● Realizes higher power than ever before.

Equivalent body size up to now: maximum output of 150 W.

- ▶ Maximum output of 350 W has been realized

Expansion of applicable processing fields.

\*Compared to iSpeed3 series having the smallest body size to date at Nakanishi.

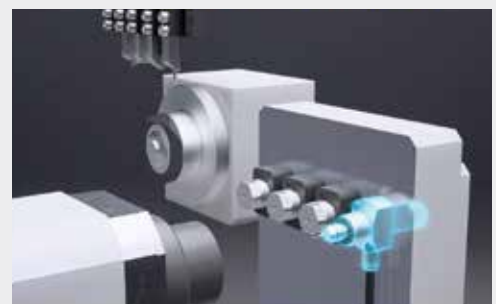
### ● Provides higher durability than rotary tools and speed-increasing spindles.

Solves the challenges encountered at work sites by minimizing vibration and heat generation, and higher durability.

## What the E3000i series can achieve.

Benefits realized from mounting on a CNC automatic lathe:

1. The high speed spindles enable a high feed rate.  
→ **Increased machining efficiency**
2. The high precision motor spindles ensure a precise finish.  
→ **Increased machining accuracy**



E3000i Controller

● **Wide speed range**  
The controllable speed ranges from 1,000 to 80,000 min<sup>-1</sup>, while the 3-digit display allows speed setting in units of 200 min<sup>-1</sup>.

● **Load monitor LED**  
Load meter enables setting of optimum cutting conditions.



- **Controls E3000/E2000/iSpeed3/HES series motor spindles.**
- **Two motors can be connected to provide individual control of each motor.**
- **External inputs**  
Motor ON/OFF, Rotating direction, Motor speed setting, Safety relay brake, etc.
- **External outputs**  
Motor current, Rotating pulse, Error, Load, etc.
- **Parameter setting**  
Maximum motor speed setting, Fix motor speed, etc.

● **Improved installation flexibility with interchangeable operation panel.**  
The panel can be changed vertically, horizontally, or on the back, taking into consideration the installation space and the direction of the cord wiring.

- [Other functions]
- Display function of motor current value:  
Motor load status, prevents excessive tightening when mounting the spindles to machines.
  - Air pressure display function:  
Allows confirmation of air pressure supplied to the controller.
  - Key hold function:  
Disables button operation on the operation panel.

\*For more information, please refer to the operation manual on our website.

| Code No.                                                        | Motor speed                    |                                                                                     |
|-----------------------------------------------------------------|--------------------------------|-------------------------------------------------------------------------------------|
| 7927                                                            | 1,000-80,000 min <sup>-1</sup> |                                                                                     |
| Input voltage                                                   |                                |                                                                                     |
| AC100-240 V Without plug<br>Multiple output power               |                                |  |
| Max. power                                                      | Power consumption              |                                                                                     |
| 350 w                                                           | AC1.8 A                        | 3.0 kg                                                                              |
| Air consumption                                                 |                                |                                                                                     |
| 1 Motor spindle: 30 NL/min (0.2-0.3 MPa)*                       |                                |                                                                                     |
| 2 Motor spindles: 60 NL/min (0.3-0.4 MPa)                       |                                |                                                                                     |
| *in case of E3000i series                                       |                                |                                                                                     |
| Standard equipment and accessories                              |                                |                                                                                     |
| Power cord: 3 m / φ6 mm Air hose with filter (K-251: 2058): 2 m |                                |                                                                                     |
| Branch adapter / Connector cap: 2 pcs. / Reducer                |                                |                                                                                     |
| Connector cover A · B · Serial IF / Power cord hook             |                                |                                                                                     |
| Bracket (bottom·rear): 2 pcs. each / Rubber pad: 4 pcs.         |                                |                                                                                     |
| Fuse: 2 pcs. / Mounting screw: 8 pcs.                           |                                |                                                                                     |

Example of replaced control panel



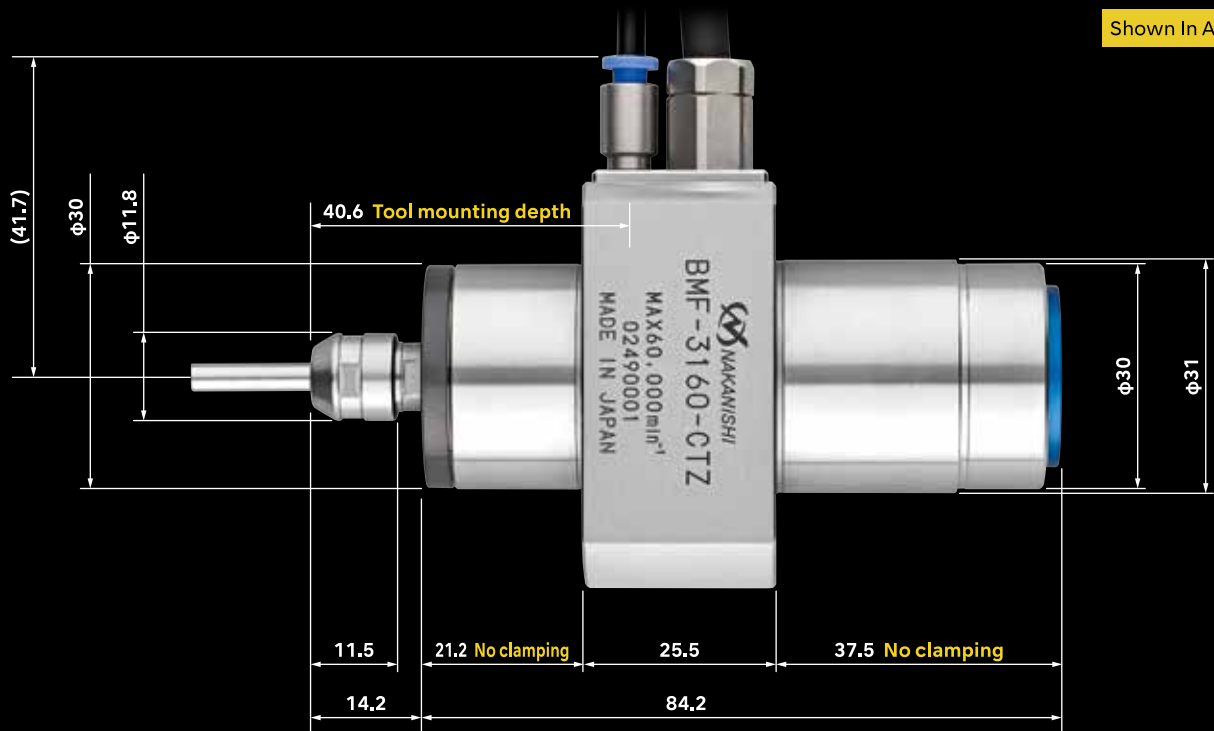
# BMF-3160-CTZ

Flange type motor spindle for CNC automatic lathe



O.D.  $\phi 31$  mm

Shown In Actual Size



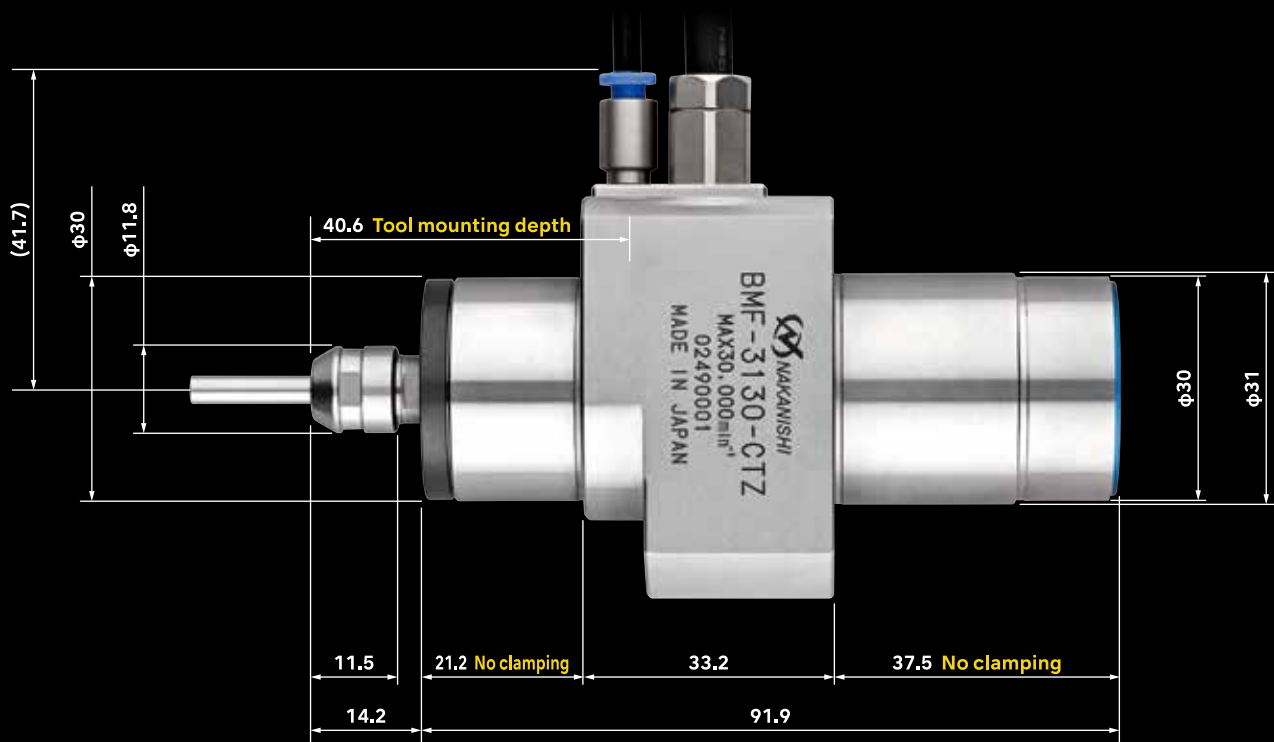
# BMF-3130-CTZ

Flange type torque motor spindle for CNC automatic lathe

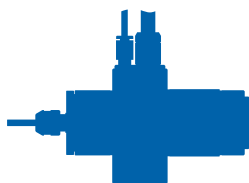


O.D.  $\phi 31$  mm

Shown In Actual Size



## BMF-3160-CTZ



Code No.

7923

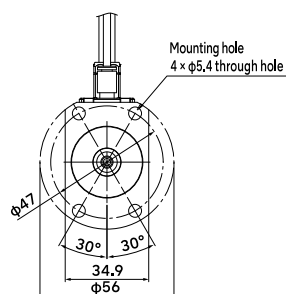
Model

BMF-3160-CTZ

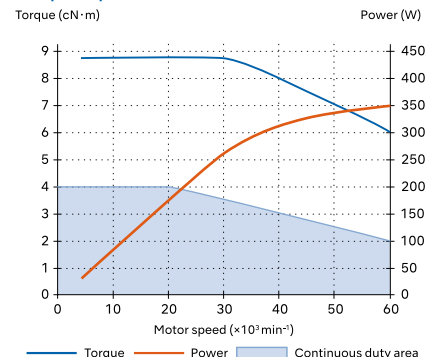
CAD drawings

CAD drawings (DXF/STEP) are available on our website

Mounting dimensions



Torque &amp; power curve



| O.D.                               | Motor speed                                                                                                            | Max. power | Spindle accuracy | Collet                      | Min. bending cord radius | Net weight |
|------------------------------------|------------------------------------------------------------------------------------------------------------------------|------------|------------------|-----------------------------|--------------------------|------------|
| φ31 mm                             | 60,000 min <sup>-1</sup>                                                                                               | 350 w      | Within 1 μm      | CHA Group<br>(φ0.5-φ4.0 mm) | 60 mm                    | 604 g      |
| Standard equipment and accessories | Collet nut (CHN-A) / Wrench (8 × 5) · (9 × 11) / Hex. socket bolt (M5 × 35): 4 pcs. <b>*Collet is sold separately.</b> |            |                  |                             |                          |            |
| Options                            | Collet (CHA Group): φ0.5-φ4.0 mm<br>Motor cord: 3 m (7931), 5 m (7932), 7 m (7933)                                     |            |                  |                             |                          |            |

\*Quick disconnect cord length: 0.5 m

## BMF-3130-CTZ



Code No.

7924

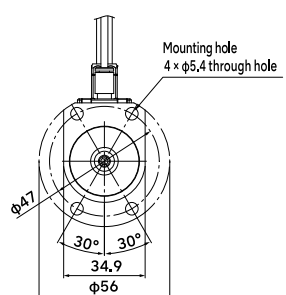
Model

BMF-3130-CTZ

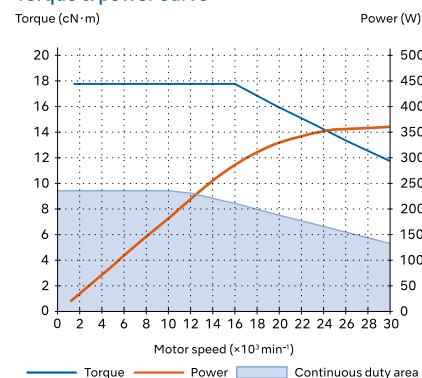
CAD drawings

CAD drawings (DXF/STEP) are available on our website

Mounting dimensions



Torque &amp; power curve



| O.D.                               | Motor speed                                                                                                                                | Max. power | Spindle accuracy | Collet                      | Min. bending cord radius | Net weight |
|------------------------------------|--------------------------------------------------------------------------------------------------------------------------------------------|------------|------------------|-----------------------------|--------------------------|------------|
| φ31 mm                             | 30,000 min <sup>-1</sup>                                                                                                                   | 350 w      | Within 1 μm      | CHA Group<br>(φ0.5-φ4.0 mm) | 60 mm                    | 659 g      |
| Standard equipment and accessories | Collet nut (CHN-A) / Wrench (8 × 5) · (9 × 11) / Hex. socket bolt (M5 × 35) · (M5 × 40): 2 pcs. each<br><b>*Collet is sold separately.</b> |            |                  |                             |                          |            |
| Options                            | Collet (CHA Group): φ0.5-φ4.0 mm<br>Motor cord: 3 m (7931), 5 m (7932), 7 m (7933)                                                         |            |                  |                             |                          |            |

\*Quick disconnect cord length: 0.5 m

# BM-3030RA

Straight type torque motor spindle



O.D.  $\phi 30$  mm

Shown In Actual Size



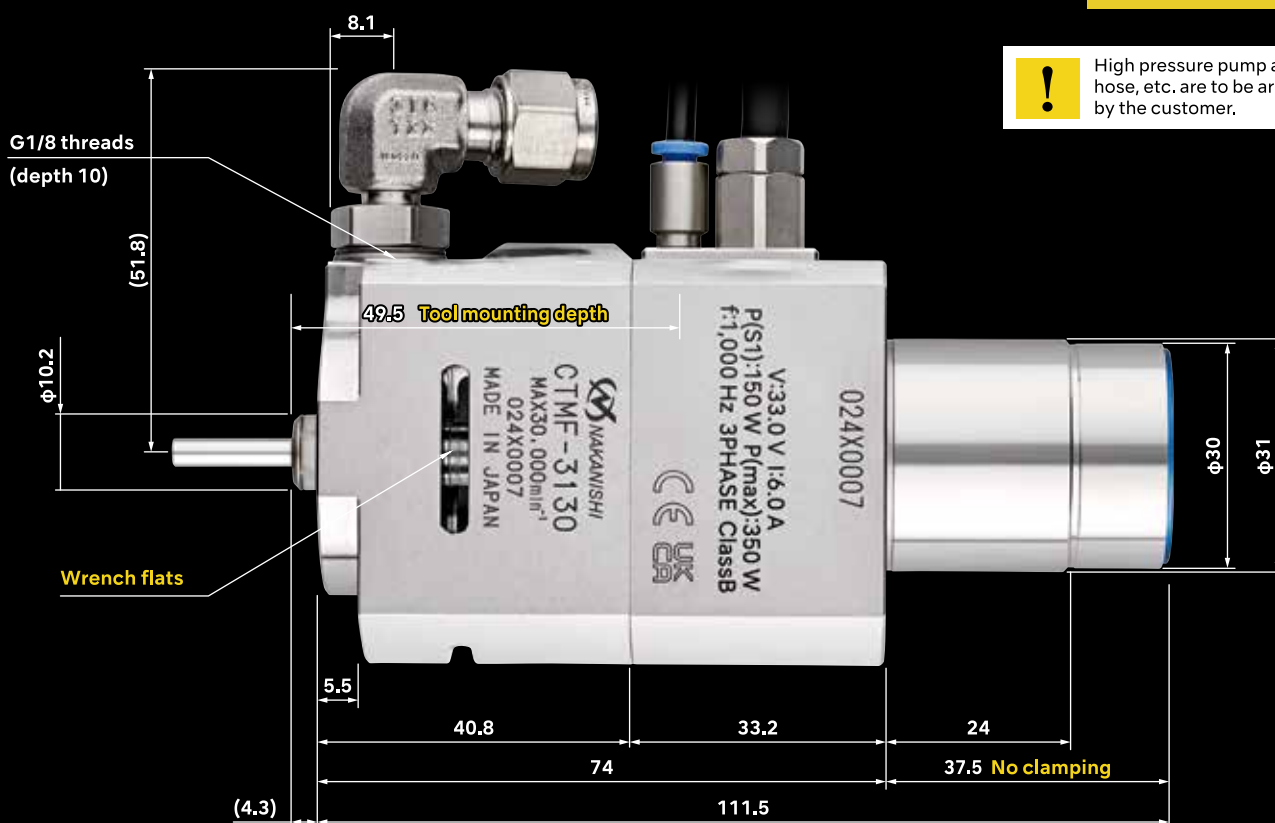
# CTMF-3130

Coolant through motor spindle for CNC automatic lathe



O.D.  $\phi 31$  mm

Shown In Actual Size



BM-3030RA



Order by Code No.

Code No.

7925

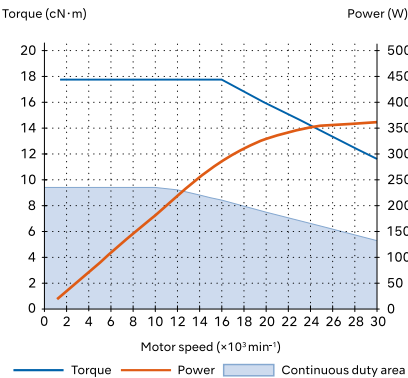
Model

BM-3030RA

CAD drawings

CAD drawings (DXF/STEP) are available on our website

Torque & power curve



| O.D.                               | Motor speed                                                                | Max. power | Spindle accuracy | Collet                      | Min. bending cord radius | Net weight |
|------------------------------------|----------------------------------------------------------------------------|------------|------------------|-----------------------------|--------------------------|------------|
| φ30 mm                             | 30,000 min <sup>-1</sup>                                                   | 350 w      | Within 1 μm      | CHA Group<br>(φ0.5-φ4.0 mm) | 60 mm                    | 474 g      |
| Standard equipment and accessories | Collet nut (CHN-A) / Wrench (8 × 5) · (9 × 11) *Collet is sold separately. |            |                  |                             |                          |            |
| Options                            | Collet (CHA Group): φ0.5-φ4.0 mm                                           |            |                  |                             |                          |            |
|                                    | Motor cord: 3 m (7931), 5 m (7932), 7 m (7933)                             |            |                  |                             |                          |            |

\*Quick disconnect cord length: 0.5 m

CTMF-3130



Code No.

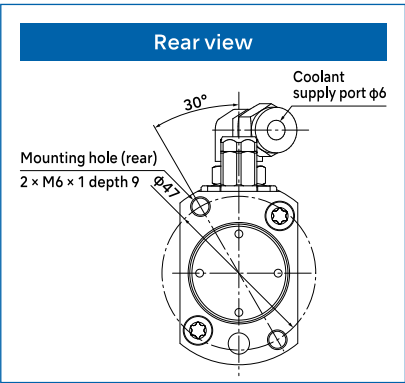
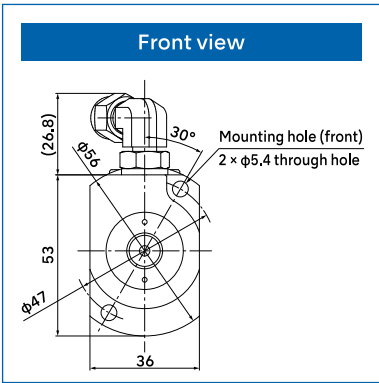
7926

Model

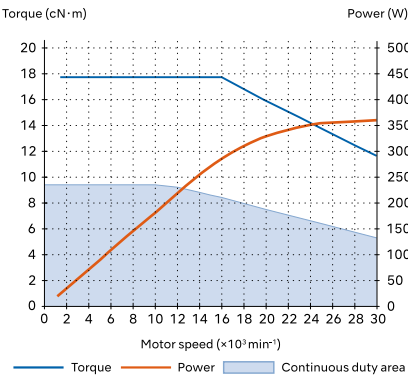
CTMF-3130

CAD drawings

CAD drawings (DXF/STEP) are available on our website

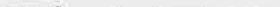


Torque & power curve



| O.D.                               | Motor speed                                                                                                | Max. power | Spindle accuracy | Collet                                  | Min. bending cord radius | Net weight |
|------------------------------------|------------------------------------------------------------------------------------------------------------|------------|------------------|-----------------------------------------|--------------------------|------------|
| φ31 mm                             | 30,000 min <sup>-1</sup>                                                                                   | 350 w      | Within 1 μm      | CHA Group AA<br>(φ3.0, φ3.175, φ4.0 mm) | 60 mm                    | 1,100 g    |
| Standard equipment and accessories | Wrench (8 × 5) · (9 × 11) / Hex. socket bolt (M5 × 80): 2 pcs. *Collet and Collet nut are sold separately. |            |                  |                                         |                          |            |
| Specifications                     | Coolant pressure: 3.0-20.0 MPa / Coolant filtration: 5 μm or less                                          |            |                  |                                         |                          |            |
| Options                            | Collet (CHA group high precision type AA): φ3.0, φ3.175, φ4.0 mm                                           |            |                  |                                         |                          |            |
|                                    | Collet nut (CHN-CTA): 3.0, 3.175, 4.0 mm *Please match the Collet and Collet nut size.                     |            |                  |                                         |                          |            |
|                                    | Motor cord: 3 m (7931), 5 m (7932), 7 m (7933)                                                             |            |                  |                                         |                          |            |

\*Quick disconnect cord length: 0.5 m

| Motor cord                                                                                  | Code No.    | Model         | Cord length | Standard accessories                    | Compatible model                                       |
|---------------------------------------------------------------------------------------------|-------------|---------------|-------------|-----------------------------------------|--------------------------------------------------------|
|  <b>3M</b> | <b>7931</b> | EMCD-3000i-3M | 3 m         | Air hose<br>Connector cap<br>(included) | BMF-3160-CTZ<br>BMF-3130-CTZ<br>BM-3030RA<br>CTMF-3130 |
|  <b>5M</b> | <b>7932</b> | EMCD-3000i-5M | 5 m         |                                         |                                                        |
|  <b>7M</b> | <b>7933</b> | EMCD-3000i-7M | 7 m         |                                         |                                                        |

| Collet                                                                                                                                             | Code No.      | Model       | I.D.                                                                                                                                                                                                               | Compatible model                                                                                                    |
|----------------------------------------------------------------------------------------------------------------------------------------------------|---------------|-------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|---------------------------------------------------------------------------------------------------------------------|
|  <p>I.D.</p> <p>15.5</p> <p>3</p> <p>7.4</p> <p>φ1.0 and over</p> | <b>91430</b>  | CHA-3.0     | φ3.0                                                                                                                                                                                                               | BMF-3160-CTZ<br>BMF-3130-CTZ<br>BM-3030RA<br>CTMF-3130<br>*High precision type AA<br>(Run-out accuracy within 2 μm) |
|                                                                                                                                                    | <b>91440</b>  | CHA-4.0     | φ4.0                                                                                                                                                                                                               |                                                                                                                     |
|                                                                                                                                                    | <b>91492</b>  | CHA-2.35    | φ2.35                                                                                                                                                                                                              |                                                                                                                     |
|                                                                                                                                                    | <b>91493</b>  | CHA-3.175   | φ3.175                                                                                                                                                                                                             |                                                                                                                     |
|                                                                                                                                                    | <b>91494</b>  | CHA-3.0AA   | φ3.0AA*                                                                                                                                                                                                            |                                                                                                                     |
|                                                                                                                                                    | <b>91495</b>  | CHA-4.0AA   | φ4.0AA*                                                                                                                                                                                                            |                                                                                                                     |
|                                                                                                                                                    | <b>91496</b>  | CHA-3.175AA | φ3.175AA*                                                                                                                                                                                                          |                                                                                                                     |
|  <p>I.D.</p> <p>16</p> <p>7.4</p> <p>φ0.5-φ0.9</p>                | <b>914</b> □□ | CHA-□□      | φ0.5, φ0.6, φ0.7, φ0.8, φ0.9<br>φ1.0, φ1.5, φ2.0, φ2.5, φ3.5<br>φ1.1, φ1.2, φ1.3, φ1.4, φ1.6, φ1.7, φ1.8, φ1.9<br>φ2.1, φ2.2, φ2.3, φ2.4, φ2.6, φ2.7, φ2.8, φ2.9<br>φ3.1, φ3.2, φ3.3, φ3.4, φ3.6, φ3.7, φ3.8, φ3.9 |                                                                                                                     |

| Bracket                                                                             | Code No.    | Model                                                                    | Compatible model                                                         |
|-------------------------------------------------------------------------------------|-------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------|
|  | <b>7943</b> | DL-Type brackets for securing the E3000i controller horizontally: 2 pcs. | E3000i Controller<br>*Remove the rubber pad before fitting the brackets. |

|                             |                                                                                                                      |              |                 |
|-----------------------------|----------------------------------------------------------------------------------------------------------------------|--------------|-----------------|
| <b>Code No.</b>             | <b>4504</b>                                                                                                          | <b>Model</b> | <b>AL-C1204</b> |
| <b>Standard accessories</b> | Hose pipe (K-275): 2 m / Rubber pad: 4 pcs.<br>Mounting screw (M6 × 20): 4 pcs.<br>Washer: 4 pcs. / Hose band: 1 pc. |              |                 |
| <b>Standard equipment</b>   | Air filter / Air regulator / Air pressure gauge<br>ON-OFF valve                                                      |              |                 |

|                      |                                  |       |       |
|----------------------|----------------------------------|-------|-------|
| Code No.             | 1885                             | Model | GR-30 |
| Standard accessories | Mounting bolt (M5 × 25L): 3 pcs. |       |       |
| Compatible model     | BM-3030RA                        |       |       |

|                             |                                                                                          |              |                    |
|-----------------------------|------------------------------------------------------------------------------------------|--------------|--------------------|
| <b>Code No.</b>             | <b>7940</b>                                                                              | <b>Model</b> | <b>E3000i-PEX4</b> |
| <b>Standard accessories</b> | Assembled product (cord length: 4 m)<br>Mounting screw (M3): 4 pcs. / Flange nut: 4 pcs. |              |                    |