Motors & Spindles
Micro-grinders
Ultra-Precision Electrically / Pneumatically Driven

NSK America
Precision & Reliability

2016 / 17 Edition
**iSpeed3 Series**

Electric System

Outside Diameter: \(\phi0.75", \phi0.79", \phi0.87"\) and \(\phi0.98"\)
(\(\phi19.05, \phi20, \phi22\) and \(\phi25\) mm)

1,000~80,000 min\(^{-1}\) (rpm)
Output 140W / 150W

- **One Piece Type**

  - Shorter spindle length is suitable for compact sized automatic CNC lathes.
  - The iSpeed3 series have sensorless motors and are equipped with super precision hybrid ceramic bearings for longer spindle life.
**ELECTRIC MICRO SPINDLE**

**iSpeed3 SERIES**

*One Piece Type*

Outside Diameter ø0.75" (19.05mm), ø0.79" (20mm), ø0.87" (22mm) and ø0.98" (25mm)

### iSpeed3 Series System Chart

#### BM Type

- Straight Type Motor Spindle BM-319
- Straight Type Motor Spindle BM-320
- Flange Type Motor Spindle BM-320F
- Straight Type Motor Spindle BM-322
- Flange Type Motor Spindle BM-322FL / BM-322FR
- Flange Type Motor Spindle BM-322FS
- Straight Type Motor Spindle BM-325

#### BMJ Type

- Straight Type Motor Spindle BMJ-319
- Straight Type Motor Spindle BMJ-320
- Straight Type Motor Spindle BMJ-322
- Straight Type Motor Spindle BMJ-325

#### Automatic Control System Chart

- Sequential Operation of up to 2 Motor / Spindles
  - 2 motors can not be operated simultaneously.

### Part Details

- Motor Cord
- Collet Nut
- Collet
- NE273 Controller
- Air Compressor
- Motor Spindle
- Motor Cord
- Controller NE273
- Compressor
- Air Line Kit
- CNC / PLC

### Technical Data

- Ø1.0" (25.4mm)
- Ø1.18" (30.0mm)
- Ø0.98" (25mm)
- Ø0.897" (22.8mm)
- Ø0.79" (20mm)
- Ø0.87" (22mm)
- Ø0.91" (23mm)

### Specifications

- BM / BMJ Types
  - 120V, 200V, 230V
  - 100V

### Notes

- *1: Motor Cord is Sold Separately.
- *Clean dry air is required.
- *Motor Cord is Sold Separately.
Features

- **Maximum 60,000 / 80,000 min⁻¹ (rpm)**
A maximum motor speed 80,000 min⁻¹ (rpm) (BM-319, BM-320, BM-320F, BM-322, BM-322F, BM-325) is realized by using a high performance brushless motor and ceramic bearings. A maximum motor speed 60,000 min⁻¹ (rpm) (BM-319, BM-320, BM-320F, BM-322, BM-322F, BM-325) is realized by using a high performance brushless motor and ceramic bearings.

- **Maximum Motor Power Output 140W / 150W**

- **Air-Cooling System**
Air-cooled motor uses a small volume of air (1.0 CFM) to minimize heat buildup and allow continuous operation. Air pressure required is 23-50 PSI.

- **Spindle Accuracy**
Spindle Accuracy is within 1 μm (TIR).

- **High Rigidity, Short Body**
iSpeed3 series uses a short body that is hardened and precision ground for excellent durability.

- **Motor Connector Attaches Directly to the Back of the Motor / Spindle.**
Simple screw-lock connector makes changing motors extremely easy. Electric and Air feed incorporated into a single connector.

Torque Characteristics Graph

- **BM-319**
- **BM-320**
- **BM-320F**
- **BMJ-319**
- **BMJ-320**
- **BMF-319**
- **BMF-320**
- **BM-322**
- **BM-322FL**
- **BM-322FR**
- **BM-322FS**
- **BM-325**
- **BMJ-322**
- **BMJ-325**
- **BMF-322**
- **BMF-325**

*1 : Motor Cord is Sold Separately.

*Clean dry air is required.
<Mounting Example>

**Flange Type**  
Flange type for easy mounting.

- **Ø0.75” (ø19.05mm)**  
  - E2280  
  - Max. 80,000min⁻¹  
  - Max. 140W

- **Ø0.87” (ø22mm)**  
  - BM-319FC  
  - E3000 - One Piece  
  - E3000 - Modular  
  - Max. 60,000min⁻¹  
  - Max. 150W  
  - + ø25.4 Bush  
  - O.D. : ø25.4mm  
  - Length : 33.5mm

**Straight Type**  
Straight type for flexible mounting.

- **Ø0.87” (ø22mm)**  
  - BM-322  
  - Max. 60,000min⁻¹  
  - Max. 150W

- **Ø0.98” (ø25mm)**  
  - BM-325  
  - Max. 60,000min⁻¹  
  - Max. 150W  
  - Ø25.4mm  
  - Length : 33.5mm

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AMERICAN ROTARY TOOLS CO.  www.artcotools.com
“iSpeed3 SERIES” CONTROLLER

- 1,000~80,000 min⁻¹(rpm)
- Maximum Output 150W
- External Input / Output Control Signal (Refer to 7-p24~p29 page of this catalog)

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Power Source Plug</th>
</tr>
</thead>
<tbody>
<tr>
<td>8478</td>
<td>NE273</td>
<td>120V (B type)</td>
</tr>
<tr>
<td>8490</td>
<td></td>
<td>230V (D type)</td>
</tr>
</tbody>
</table>

**Power Source Required**
Input power required is either 120VAC or 230VAC.

**Input / Output Controls Signal Examples**:
- **Input Signal Examples**:
  - Start / Stop, Forward / Reverse, Pulse Speed Increase / Decrease, Speed Control, Error Code Release.
- **Output Signal Examples**:
  - Error / Warning, At-Speed, RPM Monitoring, Motor Torque Output.

**Motor Protection System**
Motor Spindle is stopped safely and quickly. A Warning / Error LED is lit, Warning / Error Signal is output to an external device when a problem occurs.

**Emergency Stop Circuit**
The safety relay utilizes normally open contacts. The emergency stop signal lines must be supplied with power to hold the safety relay contacts closed and allow the controller to supply power to the motor. Any system errors, trouble with the machining center or the connections between the iSpeed3 Series controller and the machining center's controller will cause the relay contacts to open and the iSpeed3 Series motor to stop.

![iSpeed3 Controller Diagram]

- **iSpeed3 Controller**
  - Specifications:
    - Model: NE273
    - Power Source: AC 120V 60Hz, AC 200V 50Hz-60Hz, AC 230V 50Hz, AC 100V 50Hz-60Hz (4 types)
    - Motor Speed: 1,000~80,000 min⁻¹(rpm)
    - Max. Output Power: 150W (For ø22mm, ø25mm)
    - Rated Power Consumption: 1.1A
    - Air Flow Volume: 1.0CFM (23-50PSI)
    - Weight: 7 lb. 11.46 oz.
    - Dimensions: W5.67" x D9.21" x H2.91"

- **Interface Cable**
  - Page 2-p14

**Power Source Plug**

<table>
<thead>
<tr>
<th>Plug Type</th>
<th>Main Usable Area</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>For 100V</td>
<td>For Japan</td>
<td></td>
</tr>
<tr>
<td>(A type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For 120V</td>
<td>For U.S.A. and Canada</td>
<td></td>
</tr>
<tr>
<td>(B type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For 200V</td>
<td>Without Plug</td>
<td></td>
</tr>
<tr>
<td>(C type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For 230V</td>
<td>For Europe</td>
<td></td>
</tr>
<tr>
<td>(D type)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

*Order by catalog number. 2–p5*
### “iSpeed3 SERIES” SENSORLESS MOTOR SPINDLE BM

**Coolant**

iSpeed3 Series can be used in conjunction with water or oil based coolants.

## BM

### Straight and Flange Type with Quick Disconnect

**Features:**
- Straight and Flange Type Motor/Spindles with pigtail for Motor cords with Quick-Disconnect.
- Flange Type Motor Spindles for machines with tool block with a blind hole.
- O.D. sizes for all Swiss type machines.

### Table: Straight Type Motor Spindle BM-319

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>STRAIGHT TYPE MOTOR SPINDLE BM-319</th>
<th>80,000 min⁻¹(rpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7626</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outside Diameter</th>
<th>φ0.75”(φ19.05mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Tool Mounting Depth</td>
<td>1.6’</td>
</tr>
<tr>
<td>(1.60”)</td>
<td>3.48”</td>
</tr>
<tr>
<td>0.57”</td>
<td>0.87”</td>
</tr>
<tr>
<td>1.59”</td>
<td>0.87”</td>
</tr>
</tbody>
</table>

- Motor Speed: 1,000–80,000 min⁻¹(rpm)
- Spindle Accuracy: Within 1 μm
- Max. Output Power: 140W
- Standard Size Collet (CHA-3.175): φ1/8”
- Weight: 7.41 oz.

**Optional**
- Collet (CHA-[][]): φ0.5 mm~φ4.0 mm
  (See Page 6-p2 for details)
- Motor Cord: Length 10 ft, 16 ft, 22 ft

**Note:** Motor Cord is sold separately.

### Table: Straight Type Motor Spindle BM-320

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>STRAIGHT TYPE MOTOR SPINDLE BM-320</th>
<th>80,000 min⁻¹(rpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>7628</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Outside Diameter</th>
<th>φ0.79”(φ20mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Max. Tool Mounting Depth</td>
<td>1.6’</td>
</tr>
<tr>
<td>(1.60”)</td>
<td>3.48”</td>
</tr>
<tr>
<td>0.57”</td>
<td>0.87”</td>
</tr>
<tr>
<td>1.59”</td>
<td>0.87”</td>
</tr>
</tbody>
</table>

- Motor Speed: 1,000–80,000 min⁻¹(rpm)
- Spindle Accuracy: Within 1 μm
- Max. Output Power: 140W
- Standard Size Collet (CHA-3.175): φ1/8”
- Weight: 8.11 oz.

**Optional**
- Collet (CHA-[][]): φ0.5 mm~φ4.0 mm
  (See Page 6-p2 for details)
- Motor Cord: Length 10 ft, 16 ft, 22 ft

**Note:** Motor Cord is sold separately.

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www.artcotoools.com
FLANGE TYPE MOTOR SPINDLE BM-320F

CAT. No. 7633

<table>
<thead>
<tr>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-320F</td>
<td></td>
<td>2,977.00</td>
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</table>

Note: Motor Cord is sold separately.

STRAIGHT TYPE MOTOR SPINDLE BM-322

CAT. No. 7635

<table>
<thead>
<tr>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>BM-322</td>
<td></td>
<td>2,756.00</td>
</tr>
</tbody>
</table>

Note: Motor Cord is sold separately.

Motor Cord Page 2-p14

AMERICAN ROTARY TOOLS CO. Toll Free US & CA +1 (800) 645-3824

*Order by catalog number.*
**iSpeed3 SERIES** SENSORELESS MOTOR SPINDLE & PARTS

**FLANGE TYPE MOTOR SPINDLE** BM-322FL / BM-322FR 60,000 min⁻¹(rpm)

Outside Diameter Ø0.87"(Ø22mm)

- **Motor Speed** ............................... 1,000~60,000 min⁻¹(rpm)
- **Spindle Accuracy** ........................ Within 1 μm
- **Max. Output Power** ............................. 150W
- **Standard Size Collet (CHA-3.175)** .............. ø1/8"
- **Weight** ............................................ 12.70 oz.
- **Optional**
  - Collet (CHA-ø20mm) ..................... ø0.5 mm~ø4.0 mm
  (See Page 6-p2 for details)
- **Motor Cord** ...................................... Length 10 ft, 16 ft, 22 ft

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Standard Equipment · Accessories</th>
<th>Price</th>
</tr>
</thead>
</table>
| 7639     | BM-322FL | • Collet ø1/8" (CHA-3.175) : 1 pc.  
• Collet Nut (CHA-A) : 1 pc.  
• Wrench (8 x 5), (9 x 11) : 1 pc. each  
• Hex socket bolt (M5 x L25) : 2 pcs. | 3,087.00 |
| 7641     | BM-322FR |                                    |       |

**Note : Motor Cord is sold separately.**

**SPACER** for BM-322FL / BM-322FR

- Inserting the spacer between the back of the flange and the face of the machines tool block moves the back of the Motor Spindle forward 10mm to eliminate gear face interference.

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Specifications</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>1882</td>
<td>SP-22x10L</td>
<td>Dimensions ø22 (I.D.) x 10mm</td>
<td>75.00</td>
</tr>
</tbody>
</table>

**SPLIT BUSHING**

- Hardened and ground split bushings are available in several sizes to fit most NSK Spindle/Motors.

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2–p9

**CAT. No. 7702**: FLANGE TYPE MOTOR SPINDLE BM-322FS 60,000 min⁻¹(rpm)

- **Outside Diameter**: ø0.87" (ø22mm)
- **Motor Speed**: 1,000–60,000 min⁻¹(rpm)
- **Spindle Accuracy**: Within 1 μm
- **Max. Output Power**: 150W
- **Standard Size Collet (CHA-3.175)**: ø1/8"
- **Weight**: 14.46 oz.

**Flange Type Motor Spindle ø0.87" (ø22mm)**

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Price</th>
</tr>
</thead>
</table>
| 7702     | BM-322FS | • Collet ø1/8" (CHA-3.175) : 1 pc.  
          |        | • Collet Nut (CHN-A) : 1 pc.  
          |        | • Wrench (8 x 5), (9 x 11) : 1 pc. each  
          |        | • Hex socket bolt (M4 x L35) : 2 pcs. | 3,087.00 |

Note: Motor Cord is sold separately.

**CAT. No. 7637**: STRAIGHT TYPE MOTOR SPINDLE BM-325 60,000 min⁻¹(rpm)

- **Outside Diameter**: ø0.98" (ø25mm)
- **Motor Speed**: 1,000–60,000 min⁻¹(rpm)
- **Spindle Accuracy**: Within 1 μm
- **Max. Output Power**: 150W
- **Standard Size Collet (CHA-3.175)**: ø1/8"
- **Weight**: 11.29 oz.

**Straight Type Motor Spindle ø0.98" (ø25mm)**

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Price</th>
</tr>
</thead>
</table>
| 7637     | BM-325 | • Collet ø1/8" (CHA-3.175) : 1 pc.  
          |        | • Collet Nut (CHN-A) : 1 pc.  
          |        | • Wrench (8 x 5), (9 x 11) : 1 pc. each  
          |        | • Hex socket bolt (M5 x L16) : 2 pcs. | 2,867.00 |

Note: Motor Cord is sold separately.
## BMJ

### Straight Type without Motor Cord

**Features:**
- Straight Motor/Spindles with O.D. sizes for all Swiss type machines.
- Uses a Straight or 90-Degree Motor Cord that attach to the rear of the Motor/Spindle.
- Ability to insert the Motor/Spindle from the front or rear of the tool block.

### CAT. No. 7651  STRAIGHT TYPE MOTOR SPINDLE  BMJ-319  80,000 min⁻¹(rpm)

**Outside Diameter** \(0.75\text{"}(19.05\text{mm})\)

<table>
<thead>
<tr>
<th>Standard Equipment</th>
<th>Accessories</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collet ø1/8&quot; (CHA-3.175)</td>
<td>1 pc.</td>
<td></td>
</tr>
<tr>
<td>Collet Nut (CHN-A)</td>
<td>1 pc.</td>
<td></td>
</tr>
<tr>
<td>Wrench (8 x 5), (9 x 11)</td>
<td>1 pc. each</td>
<td></td>
</tr>
</tbody>
</table>

**Motor Speed** ................................... 1,000–80,000 min⁻¹(rpm)

**Spindle Accuracy** .............................................. Within 1 μm

**Max. Output Power** .................................................... 140W

**Standard Size Collet (CHA-3.175)** .................................. ø1/8"

**Weight** ................................................................. 5.11 oz.

**Motor Cord** ....................................... Length 13 ft, 19 ft, 26 ft

**Optional**

- Collet (CHA-\[\[\]) ........................................ ø0.5 mm–ø4.0 mm
  (See Page 6-p2 for details)

**Note** : Motor Cord is sold separately.

### CAT. No. 7652  STRAIGHT TYPE MOTOR SPINDLE  BMJ-320  80,000 min⁻¹(rpm)

**Outside Diameter** \(0.79\text{"}(20\text{mm})\)

<table>
<thead>
<tr>
<th>Standard Equipment</th>
<th>Accessories</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Collet ø1/8&quot; (CHA-3.175)</td>
<td>1 pc.</td>
<td></td>
</tr>
<tr>
<td>Collet Nut (CHN-A)</td>
<td>1 pc.</td>
<td></td>
</tr>
<tr>
<td>Wrench (8 x 5), (9 x 11)</td>
<td>1 pc. each</td>
<td></td>
</tr>
</tbody>
</table>

**Motor Speed** ................................... 1,000–80,000 min⁻¹(rpm)

**Spindle Accuracy** .............................................. Within 1 μm

**Max. Output Power** .................................................... 140W

**Standard Size Collet (CHA-3.175)** .................................. ø1/8"

**Weight** ................................................................. 5.64 oz.

**Motor Cord** ....................................... Length 13 ft, 19 ft, 26 ft

**Optional**

- Collet (CHA-\[\[\]) ........................................ ø0.5 mm–ø4.0 mm
  (See Page 6-p2 for details)

**Note** : Motor Cord is sold separately.

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AMERICAN ROTARY TOOLS CO.  www.artcotools.com
CAT. No. 7653 STRAIGHT TYPE MOTOR SPINDLE BMJ-322 60,000 min⁻¹(rpm)

Outside Diameter ø0.87"(ø22mm)

- Motor Speed ................................... 1,000–60,000 min⁻¹(rpm)
- Spindle Accuracy ................................ Within 1 μm
- Max. Output Power ................................. 150W
- Standard Size Collet (CHA-3.175) ....... ø1/8''
- Weight ....................................... 6.70 oz.

< Optional >
- Collet (CHA-[ ]) ................................. ø0.5 mm–ø4.0 mm
  (See Page 6-p2 for details)
- Motor Cord ................................... Length 13 ft, 19 ft, 26 ft

Straight Type Motor Spindle ø0.87"(ø22 mm)

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7653</td>
<td>BMJ-322</td>
<td></td>
<td>2,995.00</td>
</tr>
</tbody>
</table>

Note : Motor Cord is sold separately.

CAT. No. 7654 STRAIGHT TYPE MOTOR SPINDLE BMJ-325 60,000 min⁻¹(rpm)

Outside Diameter ø0.98"(ø25mm)

- Motor Speed ................................... 1,000–60,000 min⁻¹(rpm)
- Spindle Accuracy ................................ Within 1 μm
- Max. Output Power ................................. 150W
- Standard Size Collet (CHA-3.175) ....... ø1/8''
- Weight ....................................... 8.99 oz.

< Optional >
- Collet (CHA- [ ]) ................................. ø0.5 mm–ø4.0 mm
  (See Page 6-p2 for details)
- Motor Cord ................................... Length 13 ft, 19 ft, 26 ft

Straight Type Motor Spindle ø0.98"(ø25 mm)

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7654</td>
<td>BMJ-325</td>
<td></td>
<td>3,102.00</td>
</tr>
</tbody>
</table>

Note : Motor Cord is sold separately.

AMERICAN ROTARY TOOLS CO. Toll Free US & CA +1 (800) 645-3824

*Order by catalog number. 2–p11
Fixed Flange Type without Motor Cord

Features:
- Fixed Flange with Straight or 90-Degree Motor Cord that attach to the rear of the Motor/Spindle.
- Flange mount eliminates the need to clamp on the O.D.
- O.D. sizes for all Swiss type machines.

CAT. No. 7655 FLANGE TYPE MOTOR SPINDLE BMF-319 80,000 min⁻¹(rpm)

<table>
<thead>
<tr>
<th>Outside Diameter</th>
<th>ø0.75&quot;(ø19.05mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1.60&quot;) Max. Tool Mounting Depth</td>
</tr>
<tr>
<td></td>
<td>0.57&quot;  1.05&quot;  0.99&quot;  1.71&quot;  0.33&quot;</td>
</tr>
<tr>
<td></td>
<td>No Clamping  No Clamping</td>
</tr>
</tbody>
</table>

- Motor Speed ................................... 1,000~80,000 min⁻¹(rpm)
- Spindle Accuracy .............................................. Within 1 μm
- Max. Output Power .................................................... 140W
- Standard Size Collet (CHA-3.175) .................................. ø1/8"
- Weight ................................................. 6.35 oz.
- Motor Cord ....................................... Length 13 ft, 19 ft, 26 ft

Note: Motor Cord is sold separately.

CAT. No. 7656 FLANGE TYPE MOTOR SPINDLE BMF-320 80,000 min⁻¹(rpm)

<table>
<thead>
<tr>
<th>Outside Diameter</th>
<th>ø0.79&quot;(ø20mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>(1.60&quot;) Max. Tool Mounting Depth</td>
</tr>
<tr>
<td></td>
<td>0.57&quot;  1.05&quot;  0.99&quot;  1.71&quot;  0.33&quot;</td>
</tr>
<tr>
<td></td>
<td>No Clamping  No Clamping</td>
</tr>
</tbody>
</table>

- Motor Speed ................................... 1,000~80,000 min⁻¹(rpm)
- Spindle Accuracy .............................................. Within 1 μm
- Max. Output Power .................................................... 140W
- Standard Size Collet (CHA-3.175) .................................. ø1/8"
- Weight ................................................. 6.88 oz.
- Motor Cord ....................................... Length 13 ft, 19 ft, 26 ft

Note: Motor Cord is sold separately.
CAT. No. 7657  FLANGE TYPE MOTOR SPINDLE  BMF-322  60,000 min⁻¹(rpm)

Outside Diameter ø0.87”(ø22mm)

- Motor Speed ................................... 1,000–60,000 min⁻¹(rpm)
- Spindle Accuracy .................................. Within 1 μm
- Max. Output Power ................................ 150W
- Standard Size Collet (CHA-3.175) .................. ø1/8"
- Weight ........................................ 8.82 oz.

< Optional >

- Collet (CHA-[ ]) .................................. ø0.5 mm–ø4.0 mm
  (See Page 6-p2 for details)

- Motor Cord .................................. Length 13 ft, 19 ft, 26 ft

Flange Type Motor Spindle ø0.87”(ø22 mm)

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7657</td>
<td>BMF-322</td>
<td>• Collet ø1/8” (CHA-3.175) : 1 pc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Collet Nut (CHN-A) : 1 pc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Wrench (8 x 5), (9 x 11) : 1 pc. each</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Hex socket bolt (M5 x L16) : 2 pcs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3,152.00</td>
</tr>
</tbody>
</table>

Note: Motor Cord is sold separately.

CAT. No. 7658  FLANGE TYPE MOTOR SPINDLE  BMF-325  60,000 min⁻¹(rpm)

Outside Diameter ø0.98”(ø25mm)

- Motor Speed ................................... 1,000–60,000 min⁻¹(rpm)
- Spindle Accuracy .................................. Within 1 μm
- Max. Output Power ................................ 150W
- Standard Size Collet (CHA-3.175) .................. ø1/8"
- Weight ........................................ 10.76 oz.

< Optional >

- Collet (CHA-[ ]) .................................. ø0.5 mm–ø4.0 mm
  (See Page 6-p2 for details)

- Motor Cord .................................. Length 13 ft, 19 ft, 26 ft

Flange Type Motor Spindle ø0.98”(ø25 mm)

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7658</td>
<td>BMF-325</td>
<td>• Collet ø1/8” (CHA-3.175) : 1 pc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Collet Nut (CHN-A) : 1 pc.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Wrench (8 x 5), (9 x 11) : 1 pc. each</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Hex socket bolt (M5 x L16) : 2 pcs.</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td>3,439.00</td>
</tr>
</tbody>
</table>

Note: Motor Cord is sold separately.
# “iSpeed3 SERIES” MOTOR CORD & INTERFACE CABLE

## MOTOR CORD for BM Type

<table>
<thead>
<tr>
<th>Product</th>
<th>CAT. No.</th>
<th>Description - Model</th>
<th>Length</th>
<th>Std. Accessories</th>
<th>Fit to</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>9261</td>
<td>Motor Cord 3M EMCD-BM3-3M</td>
<td>10 ft (3.0m)</td>
<td></td>
<td>Air Hose, Connector Cap (Provided)</td>
<td>BM-319 - BM-320</td>
<td>389.00</td>
</tr>
<tr>
<td>9262</td>
<td>Motor Cord 5M EMCD-BM3-5M</td>
<td>16 ft (5.0m)</td>
<td></td>
<td>Air Hose, Connector Cap (Provided)</td>
<td>BM-320F - BM-322</td>
<td>515.00</td>
</tr>
<tr>
<td>9263</td>
<td>Motor Cord 7M EMCD-BM3-7M</td>
<td>22 ft (7.0m)</td>
<td></td>
<td>Air Hose, Connector Cap (Provided)</td>
<td>BM-322FL - BM-322FR</td>
<td>651.00</td>
</tr>
</tbody>
</table>

## MOTOR CORD for BMJ Type & BMF Type

<table>
<thead>
<tr>
<th>Product</th>
<th>CAT. No.</th>
<th>Description - Model</th>
<th>Length</th>
<th>Std. Accessories</th>
<th>Fit to</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>9264</td>
<td>Motor Cord 4M EMCD-BM3S-4M</td>
<td>13 ft (4.0m)</td>
<td></td>
<td>Air Hose, Connector Cap (Provided)</td>
<td>BMJ-319 - BMJ-320</td>
<td>400.00</td>
</tr>
<tr>
<td>9265</td>
<td>Motor Cord 6M EMCD-BM3S-6M</td>
<td>19 ft (6.0m)</td>
<td></td>
<td>Air Hose, Connector Cap (Provided)</td>
<td>BMJ-322 - BMJ-325</td>
<td>540.00</td>
</tr>
<tr>
<td>9266</td>
<td>Motor Cord 8M EMCD-BM3S-8M</td>
<td>26 ft (8.0m)</td>
<td></td>
<td>Air Hose, Connector Cap (Provided)</td>
<td>BMF-319 - BMF-320</td>
<td>680.00</td>
</tr>
</tbody>
</table>

## 25 Pin INTERFACE CABLE

- 3 Meter long Interface Cable provides a DB25 Male Connector at one end and a blunt cut on the opposite end. Includes a pin-out wire diagram for easy interfacing of I/O signals from any NSK Control to a CNC Control.

<table>
<thead>
<tr>
<th>25 Pin Interface Cable</th>
<th>CAT. No.</th>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB25M DB25M</td>
<td></td>
<td></td>
<td>100.00</td>
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</table>

## 15 Pin INTERFACE CABLE

- 3 Meter long Interface Cable provides a DB15 Male Connector at one end and a blunt cut on the opposite end. Includes a pin-out wire diagram for easy interfacing of the (OPI) “E-Stop Input Circuit” and “Safety Relay Circuit” from the NSK Control to a CNC Control.

<table>
<thead>
<tr>
<th>15 Pin Interface Cable</th>
<th>CAT. No.</th>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>DB15M DB15M</td>
<td></td>
<td></td>
<td>110.00</td>
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</tbody>
</table>
The AL-C1204 Air Line Kit is designed to deliver clean, dry air to Electric Motors via the Controller. The filter removes small amounts of debris while the adjustable regulator provides the correct air pressure for cooling and purging.

### Air Line Kit (For ø6 mm Hose - Filter Mesh 0.3 μm)

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>4504</td>
<td>AL-C1204</td>
<td>• Air Filter  • Air Regulator  • Air Pressure Gauge  • Air ON-OFF Valve  • Hose for Piping (K-275) : 6 ft</td>
<td>350.00</td>
</tr>
</tbody>
</table>

**AMERICAN ROTARY TOOLS CO. (ARTCO TOOLS)**
250 WEST DUARTE ROAD, #E
MONROVIA, CA USA 91016-7464

Tel: (626) 358-8466  Fax: (626) 358-0076
Toll Free USA Tel: (800) 624-2212  Fax: (800) 624-2210
Email: info@artcotools.com
< PARTS > COLLET

### CHA Group

**Fit to:** K-263, CHN-A

- 0.61"
- 0.63"

- **Fit to:**
  - AMX-1200 · AMX-1210 · AMX-1500 · AMX-1501 · AMX-250 · ABS-400 · iSpeed3
  - MS-19 · 22 · MSS-19 · 22 · NR-3080S · NIA-3080 · NR-320
  - PS20-70120 · PS20S-70 · PS20S-80 · PS30-320A · BANTAM 250
  - PLANET 950 · PLANET 1000 · PLANET 2000 · SMS · HTS · EM20-56000 · EM20-56000
  - EMS-3000A · NR-3080-4QC · NR-3080-QC · HS811 · HPSSO · Xpeed1600 · ABT-1000

### CHC Group

**Fit to:**
- IC-300 · KC-300 · EIC-300 · EKC-300 · IC-E · KC-E

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Inside Diameter d</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>90416</td>
<td>CHC-1.8</td>
<td>ø1.6</td>
<td>78.00</td>
</tr>
<tr>
<td>90492</td>
<td>CHC-2.35</td>
<td>ø2.35</td>
<td>59.00</td>
</tr>
<tr>
<td>90430</td>
<td>CHC-3.0</td>
<td>ø3.0</td>
<td></td>
</tr>
<tr>
<td>90493</td>
<td>CHC-3.175</td>
<td>ø1/8&quot;</td>
<td></td>
</tr>
</tbody>
</table>

### CHF Group

**Fit to:**
- NR-3080

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Inside Diameter d</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>91730</td>
<td>CHF-3.0</td>
<td>ø3.0</td>
<td>83.00</td>
</tr>
<tr>
<td>91793</td>
<td>CHF-3.175</td>
<td>ø1/8&quot;</td>
<td></td>
</tr>
</tbody>
</table>

### CHG Group

**Fit to:**
- HG-200 · NR-301 · EHG-400

**Fit to:**
- NR-301

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Inside Diameter d</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>RA11777</td>
<td>CHG-1.0</td>
<td>ø1.0</td>
<td>83.00</td>
</tr>
<tr>
<td>RA11778</td>
<td>CHG-1.5</td>
<td>ø1.5</td>
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<tr>
<td>RA11766</td>
<td>CHG-1.6</td>
<td>ø1.6</td>
<td>78.00</td>
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<tr>
<td>RA11780</td>
<td>CHG-2.0</td>
<td>ø2.0</td>
<td>83.00</td>
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<tr>
<td>RA11771</td>
<td>CHG-2.35</td>
<td>ø2.35</td>
<td>71.00</td>
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<tr>
<td>RA11781</td>
<td>CHG-2.5</td>
<td>ø2.5</td>
<td>83.00</td>
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<tr>
<td>RA11772</td>
<td>CHG-3.0</td>
<td>ø3.0</td>
<td>71.00</td>
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<tr>
<td>RA11652</td>
<td>CHG-3.175</td>
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<tr>
<td>RA11697</td>
<td>CHG-4.0</td>
<td>ø4.0</td>
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<tr>
<td>RA11698</td>
<td>CHG-4.76</td>
<td>ø4.76</td>
<td>83.00</td>
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<tr>
<td>RA11709</td>
<td>CHG-5.0</td>
<td>ø5.0</td>
<td>71.00</td>
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<tr>
<td>RA11773</td>
<td>CHG-6.0</td>
<td>ø6.0</td>
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<tr>
<td>RA11714</td>
<td>CHG-6.35</td>
<td>ø1/4&quot;</td>
<td></td>
</tr>
</tbody>
</table>

### CHB Group

**Fit to:**
- NRR-2651 · NRR-3060 · NR40-5100 ATC

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Inside Diameter d</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>92820</td>
<td>CHB-2.0</td>
<td>ø2.0</td>
<td>89.00</td>
</tr>
<tr>
<td>92830</td>
<td>CHB-3.0</td>
<td>ø3.0</td>
<td></td>
</tr>
<tr>
<td>92893</td>
<td>CHB-3.175</td>
<td>ø1/8&quot;</td>
<td></td>
</tr>
<tr>
<td>92840</td>
<td>CHB-4.0</td>
<td>ø4.0</td>
<td></td>
</tr>
</tbody>
</table>

### CHH Group

**Fit to:**
- IH-300 · IR-310 · EHL-401 · EHR-401 · EHR-500 · VH-E

### CHC Group

- 0.68"

### CHF Group

- 1.46"

### CHG Group

- 1.54"

### CHB Group

- 1.38"

### CHH Group

- 1.33"