### One Piece Type Spindle
- Shorten total spindle length suitable for the compact sized NC or CNC Lathe, and special purpose machines.
- Hardened and precision ground for high rigidity & excellent durability.
- External housing is one-piece with the spindle & the motor for machine attachments.

<table>
<thead>
<tr>
<th>Outside Diameter</th>
<th>Max. Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø25, ø23, ø20, ø19.05mm</td>
<td>130W</td>
</tr>
<tr>
<td>Max.</td>
<td>30,000min⁻¹</td>
</tr>
</tbody>
</table>

### Separate Type Spindle
- Free to connect the spindle to the motor for applications.
- Easy to exchange for repairs.

<table>
<thead>
<tr>
<th>Outside Diameter</th>
<th>Max. Power</th>
</tr>
</thead>
<tbody>
<tr>
<td>ø30, ø25, ø22.8mm</td>
<td>130W</td>
</tr>
<tr>
<td>Max.</td>
<td>30,000min⁻¹</td>
</tr>
</tbody>
</table>
One Piece Type ø25, ø23, ø20, ø19.05mm

- Air Motor
- Outer Housing Material: Made from stainless steel (SUS416)
- Configuration: 2 Types available, Straight type & 90° Angle type.
- Highest output power in the class

Air Motor
The rotor of the air motor rotates off-center in the cylinder. The vanes are pushed by compressed air and this rotates the rotor. This small air motor produces high torque making it suitable for small diameter drilling, milling, slitting and grinding.

Silencer
By utilizing a silencer on the exhaust air tubing the noise generated by the motor or turbine is greatly reduced.

Speed Reduction System
A planetary gear speed reduction system is incorporated in some of the MSS Series motor spindles. The speed reduction ratio is either 1/4 or 1/16.

Installation of the 90° Angle Type
- MSS - MSST series angle (RA) type drive air and exhaust air pipes can be removed enabling the motor spindle installed through the front of a holder with backside restriction as shown in the illustration.

1/4 1/16 : Planetary Gear System

Spindle Accuracy : Within 2 μm
"Air-Speed" MOTOR SPINDLE

CNC LATHES, SPECIAL PURPOSE MACHINES
AND ROBOT AUTOMATION SOLUTION

Air Motor Spindle

**MSS-25 Series**

- **Model** MSS-2501RA
  - **Shape** Straight
  - **Max. Torque** 205 Nm
  - **Weight** 516 g
  - **O.D.** 44 mm
- **Model** MSS-2506RA
  - **Shape** Straight
  - **Max. Torque** 255 Nm
  - **Weight** 546 g
  - **O.D.** 44 mm
- **Model** MSS-2524RA
  - **Shape** Straight
  - **Max. Torque** 380 Nm
  - **Weight** 626 g
  - **O.D.** 45 mm

- **Model** MSS-25 Series 90° Angle (RA)
  - **Max. Torque** 202 cN·m
  - **Weight** 446 g
  - **O.D.** 22.5 mm

**MSST-23 Series**

- **Model** MSST-2308RA
  - **Shape** Straight
  - **Max. Torque** 85 cN·m
  - **Weight** 475 g
  - **O.D.** 17 mm
- **Model** MSST-2302RA
  - **Shape** 90° Angle (RA)
  - **Max. Torque** 202 cN·m
  - **Weight** 446 g
  - **O.D.** 22.5 mm

**Specifications**

- **Motor**
  - **Power** 130 W
  - **Exhaust Air** Ø7.5 mm
- **Air Hose**
  - **Diameter** Ø6.0 mm
- **Proper Air Pressure** 0.3~0.5 MPa
- **Torque**
  - **Max.**
  - **Screw Accuracy** Within 2 μm
  - **Max. Power** 108 W
  - **Exhaust Air** Ø8.0 mm
- **Air Hose**
  - **Diameter** Ø6.7 mm
- **Proper Air Pressure** 0.3~0.5 MPa

**Options**

- **Collet**
  - (CHK Group)
  - ø5.5~ø6.35 mm
- **Grindstone Arbor** (AGM-01)
  - ø6.35 mm

**Standard Accessories**

- **Silencer** (K-206)
- **Collet Nut** (K-260)
- **Wrench** 12 x 14 mm
- **Hose** (K-210) (RA-type)
- **Hose** (K-216) (RA-type)
- **Filter Joint** (FJ-02) (RA-type)

**Options**

- **Collet**
  - (CHK Group)
  - ø5.5~ø6.35 mm
- **Grindstone Arbor** (AGM-01)
  - ø6.35 mm

**Standard Accessories**

- **Silencer** (K-206)
- **Collet Nut** (K-260)
- **Wrench** 12 x 14 mm
- **Hose** (K-210) (RA-type)
- **Hose** (K-216) (RA-type)
- **Filter Joint** (FJ-02) (RA-type)

**Options**

- **Collet**
  - (CHK Group)
  - ø5.5~ø6.35 mm
- **Grindstone Arbor** (AGM-01)
  - ø6.35 mm

**Standard Accessories**

- **Silencer** (K-206)
- **Collet Nut** (K-260)
- **Wrench** 12 x 14 mm
- **Hose** (K-210) (RA-type)
- **Hose** (K-216) (RA-type)
- **Filter Joint** (FJ-02) (RA-type)

**Options**

- **Collet**
  - (CHK Group)
  - ø5.5~ø6.35 mm
- **Grindstone Arbor** (AGM-01)
  - ø6.35 mm

**Standard Accessories**

- **Silencer** (K-206)
- **Collet Nut** (K-260)
- **Wrench** 12 x 14 mm
- **Hose** (K-210) (RA-type)
- **Hose** (K-216) (RA-type)
- **Filter Joint** (FJ-02) (RA-type)

**Options**

- **Collet**
  - (CHK Group)
  - ø5.5~ø6.35 mm
- **Grindstone Arbor** (AGM-01)
  - ø6.35 mm

**Standard Accessories**

- **Silencer** (K-206)
- **Collet Nut** (K-260)
- **Wrench** 12 x 14 mm
- **Hose** (K-210) (RA-type)
- **Hose** (K-216) (RA-type)
- **Filter Joint** (FJ-02) (RA-type)
### Air-Motor Spindle

#### MSS-20 Series

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>7851</td>
<td>MSS-2030R</td>
<td>Straight</td>
<td>9.2cN·m</td>
<td>126.8m</td>
<td>110.9m</td>
<td>171g</td>
<td>239g</td>
<td>233m</td>
<td>92g</td>
</tr>
<tr>
<td>7852</td>
<td>MSS-2030RA</td>
<td>90° Angle</td>
<td>36cN·m</td>
<td>126.8m</td>
<td>110.9m</td>
<td>171g</td>
<td>239g</td>
<td>233m</td>
<td>92g</td>
</tr>
</tbody>
</table>

#### MSS-19 Series

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<thead>
<tr>
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<tbody>
<tr>
<td>7849</td>
<td>MSS-1930R</td>
<td>Straight</td>
<td>9.2cN·m</td>
<td>126.8m</td>
<td>110.9m</td>
<td>171g</td>
<td>239g</td>
<td>233m</td>
<td>92g</td>
</tr>
<tr>
<td>7850</td>
<td>MSS-1930RA</td>
<td>90° Angle</td>
<td>36cN·m</td>
<td>126.8m</td>
<td>110.9m</td>
<td>171g</td>
<td>239g</td>
<td>233m</td>
<td>92g</td>
</tr>
</tbody>
</table>

#### Specifications
- **Proper Air Pressure:** 0.3~0.5MPa
- **Motor Hose (Diameter / Length):**
  - R-Type Air Inlet: ø3.7mm(L.D.) x ø3.7mm (O.D.) x 2m
  - Exhaust Air: ø2.0mm(L.D.) x ø2.0mm (O.D.) x 1m
- **RA-Type Air Inlet:**
  - ø4.0mm(L.D.) x ø4.0mm (O.D.) x 2m
  - Exhaust Air: ø2.0mm(L.D.) x ø2.0mm (O.D.) x 1m

#### Recommended Clamping Areas
- Two recommended clamp areas are laser-marked on the spindle. Select one of them for clamping, and do not clamp both areas.

### Air-Motor Spindle CSS-20 Series

<table>
<thead>
<tr>
<th></th>
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<tbody>
<tr>
<td>7828</td>
<td>MSS-2008R</td>
<td>Straight</td>
<td>9.2cN·m</td>
<td>126.8m</td>
<td>110.9m</td>
<td>225g</td>
<td>274g</td>
<td>233m</td>
<td>110g</td>
</tr>
<tr>
<td>7829</td>
<td>MSS-2008RA</td>
<td>90° Angle</td>
<td>36cN·m</td>
<td>126.8m</td>
<td>110.9m</td>
<td>225g</td>
<td>274g</td>
<td>233m</td>
<td>110g</td>
</tr>
</tbody>
</table>

#### Specifications
- **Proper Air Pressure:** 0.3~0.5MPa
- **Motor Hose (Diameter / Length):**
  - R-Type Air Inlet: ø3.7mm(L.D.) x ø3.7mm (O.D.) x 2m
  - Exhaust Air: ø2.0mm(L.D.) x ø2.0mm (O.D.) x 1m
- **RA-Type Air Inlet:**
  - ø4.0mm(L.D.) x ø4.0mm (O.D.) x 2m
  - Exhaust Air: ø2.0mm(L.D.) x ø2.0mm (O.D.) x 1m

#### Recommended Clamping Areas
- Two recommended clamp areas are laser-marked on the spindle. Select one of them for clamping, and do not clamp both areas.

### Air-Motor Spindle CSS-19 Series

<table>
<thead>
<tr>
<th></th>
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</tr>
</thead>
<tbody>
<tr>
<td>7824</td>
<td>MSS-1908R</td>
<td>Straight</td>
<td>9.2cN·m</td>
<td>126.8m</td>
<td>110.9m</td>
<td>202g</td>
<td>250g</td>
<td>233m</td>
<td>110g</td>
</tr>
<tr>
<td>7825</td>
<td>MSS-1908RA</td>
<td>90° Angle</td>
<td>36cN·m</td>
<td>126.8m</td>
<td>110.9m</td>
<td>202g</td>
<td>250g</td>
<td>233m</td>
<td>110g</td>
</tr>
</tbody>
</table>

#### Specifications
- **Proper Air Pressure:** 0.3~0.5MPa
- **Motor Hose (Diameter / Length):**
  - R-Type Air Inlet: ø3.7mm(L.D.) x ø3.7mm (O.D.) x 2m
  - Exhaust Air: ø2.0mm(L.D.) x ø2.0mm (O.D.) x 1m
- **RA-Type Air Inlet:**
  - ø4.0mm(L.D.) x ø4.0mm (O.D.) x 2m
  - Exhaust Air: ø2.0mm(L.D.) x ø2.0mm (O.D.) x 1m

#### Recommended Clamping Areas
- Two recommended clamp areas are laser-marked on the spindle. Select one of them for clamping, and do not clamp both areas.

### Standard Accessories
- **Collet Nut (CHN-A):** øWrench (8 x 5), ø5 x 11): 1pc. each
- **Hose (K-211) (RA-type):** 1pc.
- **Hose (K-215) (RA-type):** 1pc.
- **Filter Joint (FJ-01):** 1pc.
- **Silencer (S-200) (RA-type):** 1pc.
  - Never use a collet to clamp both areas. Select one of them for clamping, and do not clamp both areas.

### CNC Lathes, Special Purpose Machines

- Two recommended clamp areas are laser-marked on the spindle. Select one of them for clamping, and do not clamp both areas.

### Order by Code No.
Separate Type ø30mm

Separate Type ø22.8mm

Separate Type ø25mm

※ Please maintain not to exceed speed limit. Excess speed will dramatically reduce bearing life.
※ 1 : Maximum rotating speed at the cutting tool.  ※ 2 : Maximum allowable motor speed for the spindle.

※ Please refer to the concerned product introduction page about the details.
**Straight Spindle**

- **Outside Diameter**: ø30mm
- **Max. Power**: 130W
- **Spindle Accuracy**: Within 1 μm

**NR-3060S**

- **Model**: NR-3060S
- **D.O.**: ø30mm
- **Speed**: 19,000min⁻¹ (Using AM-3020R)
- **Spindle Accuracy**: Within 1 μm
- **Collet**: ø0.5~ø6.35mm (CHK Group)
- **Weight**: 260g

**AM-3020R Torque-Speed Characteristics**

![AM-3020R Torque-Speed Characteristics Graph](image)

**Air Motor & Spindle (Separate Type)**

**NR-3060**

- **Model**: NR-3060
- **O.D.**: ø30mm
- **Speed**: 19,000min⁻¹ (Using AM-3020R)
- **Spindle Accuracy**: Within 1 μm
- **Collet**: ø0.5~ø6.35mm (CHK Group)
- **Weight**: 420g

**Options**

- Collet (CHK Group): ø0.5~ø6.35mm
- Metal Saw Arbor (KCH-03): ød (I.D.) x under ø30mm (O.D.)
- Grindstone Arbor (AGM-03): Grindstone I.D. ø5.0mm
- Grindstone Flange (EGF-19): ø19.05 (I.D.) x ø40 (O.D.) x 7 (W) mm

*Collet is sold separately.*
"Air-Speed" SPINDLE

**Angle Spindle**

**Outside Diameter**: ø30mm
**Max. Power**: 130W
**Max. Rotating Speed**: 12,700min⁻¹ (Using 0.5MPa : AM-3020R)

**RA-271E**
**RA-71E**

<table>
<thead>
<tr>
<th>Model</th>
<th>O.D.</th>
<th>Rotating speed at the cutting tool</th>
<th>Reduction Ratio</th>
<th>Double motor speed for the spindle</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAX-271E</td>
<td>ø30mm</td>
<td>12,700min⁻¹</td>
<td>1</td>
<td>19,000min⁻¹</td>
</tr>
<tr>
<td>RAX-71E</td>
<td>ø30mm</td>
<td>3,200min⁻¹</td>
<td>1/6</td>
<td>19,000min⁻¹</td>
</tr>
</tbody>
</table>

**Note**: Maximum rotating speed at the cutting tool for the reduction ratio.

**Options**
- Collet (CH8 Group) : ø0.5~ø6.35mm
- Wrench : (12 x 14), (22 x 27) : 1pc.

**Standard Accessories**
- Collet Nut : ø6.35mm
- Wrench : (12 x 14), (22 x 27) : 1pc.

**Grindstone Arbor**
- ø5.0mm

**Grindstone I.D.**
- ø5.0mm

**Collet**: ø3.0mm

**Wrench**: ≤ ø0.8

**O.D.**
- ø17.6
- ø12.7

**Weight**
- 500g

**Note**: Collet is sold separately.

---

**RA-151E**

<table>
<thead>
<tr>
<th>Model</th>
<th>O.D.</th>
<th>Rotating speed at the cutting tool</th>
<th>Reduction Ratio</th>
<th>Double motor speed for the spindle</th>
</tr>
</thead>
<tbody>
<tr>
<td>RAX-151E</td>
<td>ø30mm</td>
<td>7,200min⁻¹</td>
<td>1</td>
<td>19,000min⁻¹</td>
</tr>
<tr>
<td>RAX-271E</td>
<td>ø30mm</td>
<td>3,200min⁻¹</td>
<td>1/6</td>
<td>19,000min⁻¹</td>
</tr>
</tbody>
</table>

**Note**: Maximum rotating speed at the cutting tool for the reduction ratio.

**Options**
- Collet (CH8 Group) : ø0.5~ø6.35mm
- Wrench : (12 x 14), (22 x 27) : 1pc.

**Standard Accessories**
- Collet Nut (CH8-30)
- Wrench : (7 x 5.5), (8 x 5), (22 x 27) : 1pc.

**Grindstone Arbor**
- ø0.5~ø6.35mm

**Grindstone I.D.**
- ø5.0mm

**Collet**: ø3.0mm

**Wrench**: ≤ ø0.8

**O.D.**
- ø17.6
- ø12.7

**Weight**
- 500g

**Note**: Collet is sold separately.

---

**RA-151E**

<table>
<thead>
<tr>
<th>Model</th>
<th>O.D.</th>
<th>Rotating speed at the cutting tool</th>
<th>Reduction Ratio</th>
<th>Double motor speed for the spindle</th>
</tr>
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<tbody>
<tr>
<td>RAX-151E</td>
<td>ø30mm</td>
<td>7,200min⁻¹</td>
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</tr>
<tr>
<td>RAX-271E</td>
<td>ø30mm</td>
<td>3,200min⁻¹</td>
<td>1/6</td>
<td>19,000min⁻¹</td>
</tr>
</tbody>
</table>

**Note**: Maximum rotating speed at the cutting tool for the reduction ratio.

**Options**
- Collet (CH8 Group) : ø0.5~ø6.35mm
- Wrench : (12 x 14), (22 x 27) : 1pc.

**Standard Accessories**
- Collet Nut (CH8-30)
- Wrench : (7 x 5.5), (8 x 5), (22 x 27) : 1pc.

**Grindstone Arbor**
- ø0.5~ø6.35mm

**Grindstone I.D.**
- ø5.0mm

**Collet**: ø3.0mm

**Wrench**: ≤ ø0.8

**O.D.**
- ø17.6
- ø12.7

**Weight**
- 500g

**Note**: Collet is sold separately.

---

**RA-271E**

<table>
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<tr>
<th>Model</th>
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<tbody>
<tr>
<td>RAX-271E</td>
<td>ø30mm</td>
<td>12,700min⁻¹</td>
<td>1</td>
<td>19,000min⁻¹</td>
</tr>
<tr>
<td>RAX-71E</td>
<td>ø30mm</td>
<td>3,200min⁻¹</td>
<td>1/6</td>
<td>19,000min⁻¹</td>
</tr>
</tbody>
</table>

**Note**: Maximum rotating speed at the cutting tool for the reduction ratio.

**Options**
- Collet (CH8 Group) : ø0.5~ø6.35mm
- Wrench : (12 x 14), (22 x 27) : 1pc.

**Standard Accessories**
- Collet Nut (CH8-30)
- Wrench : (7 x 5.5), (8 x 5), (22 x 27) : 1pc.

**Grindstone Arbor**
- ø0.5~ø6.35mm

**Grindstone I.D.**
- ø5.0mm

**Collet**: ø3.0mm

**Wrench**: ≤ ø0.8

**O.D.**
- ø17.6
- ø12.7

**Weight**
- 500g

**Note**: Collet is sold separately.

---

**RA-151E**

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<td>RAX-271E</td>
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<td>3,200min⁻¹</td>
<td>1/6</td>
<td>19,000min⁻¹</td>
</tr>
</tbody>
</table>

**Note**: Maximum rotating speed at the cutting tool for the reduction ratio.

**Options**
- Collet (CH8 Group) : ø0.5~ø6.35mm
- Wrench : (12 x 14), (22 x 27) : 1pc.

**Standard Accessories**
- Collet Nut (CH8-30)
- Wrench : (7 x 5.5), (8 x 5), (22 x 27) : 1pc.

**Grindstone Arbor**
- ø0.5~ø6.35mm

**Grindstone I.D.**
- ø5.0mm

**Collet**: ø3.0mm

**Wrench**: ≤ ø0.8

**O.D.**
- ø17.6
- ø12.7

**Weight**
- 500g

**Note**: Collet is sold separately.

---

**RA-271E**

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</tr>
</tbody>
</table>

**Note**: Maximum rotating speed at the cutting tool for the reduction ratio.

**Options**
- Collet (CH8 Group) : ø0.5~ø6.35mm
- Wrench : (12 x 14), (22 x 27) : 1pc.

**Standard Accessories**
- Collet Nut (CH8-30)
- Wrench : (7 x 5.5), (8 x 5), (22 x 27) : 1pc.

**Grindstone Arbor**
- ø0.5~ø6.35mm

**Grindstone I.D.**
- ø5.0mm

**Collet**: ø3.0mm

**Wrench**: ≤ ø0.8

**O.D.**
- ø17.6
- ø12.7

**Weight**
- 500g

**Note**: Collet is sold separately.
Air-Speed" MOTOR · SPEED REDUCER

**AM-3020R**

<table>
<thead>
<tr>
<th>Code No.</th>
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<tbody>
<tr>
<td>Model</td>
<td>AM-3020R</td>
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</table>

**Specifications**

- **Motor Hose (Diameter / Length):** ø4.0mm x ø6.0mm x 2m
- **Exhaust Air:** ø6.0mm x ø8.0mm x 1m
- **Standard Accessories:**
  - Hose (K-215): ø4.0mm x 2m
  - Hose (K-256): ø6.0mm x 1m
  - Filter Joint (FJ-01)
  - Silencer (K-208)
  - Wrench (22 x 27): 1pc.

**AM-3020RA**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>1799</th>
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<tr>
<td>Model</td>
<td>AM-3020RA</td>
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</table>

**Specifications**

- **Motor Hose (Diameter / Length):** ø4.0mm x ø6.0mm x 2m
- **Exhaust Air:** ø6.0mm x ø8.0mm x 1m
- **Standard Accessories:**
  - Hose (K-215): ø4.0mm x 2m
  - Hose (K-256): ø6.0mm x 1m
  - Filter Joint (FJ-01)
  - Silencer (K-208)
  - Wrench (22 x 27): 1pc.

**Speed Reducer (1/4) ARG-011E**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>1507</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>ARG-011E</td>
</tr>
</tbody>
</table>

**Specifications**

- **Motor Speed:** 19,000 min⁻¹ (0.5 MPa)
- **Power:** 180 W
- **Proper Air Pressure:** 0.3 ~ 0.5 MPa
- **Air Consumption:** 175 L/min
- **Weight:** 298g (w/o hose)

**Speed Reducer (1/16) ARG-021E**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>1508</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>ARG-021E</td>
</tr>
</tbody>
</table>

**Specifications**

- **Motor Speed:** 18,000 min⁻¹ (0.3 MPa)
- **Power:** 125 W
- **Proper Air Pressure:** 0.3 ~ 0.5 MPa
- **Air Consumption:** 125 L/min
- **Weight:** 339g (w/o hose)

**Speed Reducer (1/16) ARG-021E**

<table>
<thead>
<tr>
<th>Code No.</th>
<th>1509</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>ARG-021E</td>
</tr>
</tbody>
</table>

**Specifications**

- **Motor Speed:** 19,000 min⁻¹ (0.3 MPa)
- **Power:** 125 W
- **Proper Air Pressure:** 0.3 ~ 0.5 MPa
- **Air Consumption:** 125 L/min
- **Weight:** 339g (w/o hose)

**Order by Code No.**
P. 15

---

**CNC LATHES, SPECIAL PURPOSE MACHINES AND ROBOT AUTOMATION SOLUTION**

To extend the life expectancy of the Speed Reducer, inject grease every 70 to 100 hours. Grease injection prevents friction of the internal gears as well as heat generation. Adding grease also prevents the degradation of the existing grease in the reducer. Please maintain a reducer grease maintenance program.

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---

**Please maintain not to exceed speed limit.**

---

**Please maintain not to exceed speed limit.**

---

**Please maintain not to exceed speed limit.**
“Air-Speed” SPINDLE · MOTOR

AIR MOTOR & SPINDLE (Separate Type)

Straight Spindle

- Outside Diameter: ø25mm
- Max. Speed: 24,000min⁻¹ (Using 0.5MPa : AM-2526R)
- Max. Power: 130W

Spindle Accuracy: Within 1 μm

Collet:
- Max. ø6.35mm

- Collet Nut: (K-265)
- Wrench: (12 x 14) : 2pcs., (22 x 27) : 1pc.

Options:
- Collet (CHK Group):
  - ø0.5~ø6.35mm
- Metal Saw Arbor (KCH-03):
  - øD (I.D.) x under ø30 mm
- Grindstone Arbor (AGM-03):
  - Grindstone I.D. ø5.0mm

- Code No.: 7853
- Model: NR-2551

- Speed:
  - ø25mm: 50,000min⁻¹

- Spindle Accuracy: Within 1 μm

- Collet: ø0.5~ø6.35mm (CHK Group)
- Weight: 253g

AM-2526R Torque-Speed Characteristics

90° Angle Type Air Motor is available

- O.D.: ø25mm
- Motor Speed: 24,000min⁻¹
- Max. Power: 130W
- Proper Air Pressure: 0.3~0.5MPa
- Air Consumption: 205m³/min
- Weight: 200g

- Code No.: 1801
- Model: AM-2526R

- Specifications:
  - Motor Hose (Diameter/Length):
  - Air Inlet: ø4.9mm (I.D.) x ø6.7mm (O.D.) x 2m
  - Exhaust Air: ø5.5mm (I.D.) x ø7.5mm (O.D.) x 1m

- Standard Accessories:
  - ▶ Hose (K-204) : 2m  ▶ Filter Joint (FJ-02)  ▶ Silencer (K-208)
  - ▶ Wrench (22 x 27) : 1pc.

- Outside diameter ø25.4mm type is also available.

AM-2526RA Torque-Speed Characteristics

90° Angle Air Motor (Forward Rotation)

- O.D.: ø25mm
- Motor Speed: 22,000min⁻¹
- Max. Power: 120W
- Proper Air Pressure: 0.3~0.5MPa
- Air Consumption: 170m³/min
- Weight: 241g

- Code No.: 1803
- Model: AM-2526RA

- Specifications:
  - Motor Hose (Diameter/Length):
  - Air Inlet: ø4.0mm (I.D.) x ø6.0mm (O.D.) x 2m
  - Exhaust Air: ø5.5mm (I.D.) x ø8.0mm (O.D.) x 1m

- Standard Accessories:
  - ▶ Hose (K-215) : ø6.0mm x 2m  ▶ Filter Joint (FJ-01)  ▶ Silencer (K-208)
  - ▶ Wrench (22 x 27) : 1pc.

- Outside diameter ø25.4mm type is also available.
“Air-Speed” SPEED REDUCER

<table>
<thead>
<tr>
<th>Speed Reducer (1/4)</th>
<th>Code No.</th>
<th>Model</th>
<th>Reduction Ratio</th>
<th>O.D.</th>
<th>Rotating speed at the cutting tool</th>
<th>Motor/Frequency</th>
<th>Allowable motor speed for the spindle</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARG-2504N</td>
<td>1822</td>
<td>ARG-2504N</td>
<td>1/4</td>
<td>25mm</td>
<td>6,000 min⁻¹</td>
<td>1</td>
<td>24,000 min⁻¹ (Using AM-2526N)</td>
<td>150g</td>
</tr>
</tbody>
</table>

※ Maximum rotating speed at the cutting tool for the reduction ratio.

※ Outside diameter ø25.4 mm type is also available.

Order by Code No.

---

<table>
<thead>
<tr>
<th>Speed Reducer (1/16)</th>
<th>Code No.</th>
<th>Model</th>
<th>Reduction Ratio</th>
<th>O.D.</th>
<th>Rotating speed at the cutting tool</th>
<th>Motor/Frequency</th>
<th>Allowable motor speed for the spindle</th>
<th>Weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>ARG-2516N</td>
<td>1824</td>
<td>ARG-2516N</td>
<td>1/16</td>
<td>25mm</td>
<td>1,500 min⁻¹</td>
<td>1</td>
<td>24,000 min⁻¹ (Using AM-2526R)</td>
<td>205g</td>
</tr>
</tbody>
</table>

※ Maximum rotating speed at the cutting tool for the reduction ratio.

※ Outside diameter ø25.4 mm type is also available.

Order by Code No.
Straight Spindle

**AIR MOTOR & SPINDLE (Separate Type)**

**Straight Spindle**

- **Outside Diameter**: ø22.8mm
- **Max. Speed**: 30,000 min⁻¹ (0.5MPa)
- **Max. Power**: 108W

**Spindle**

- **Model**: NR-303
- **Max. Speed**: 30,000 min⁻¹ (Using AM-310R)
- **Collet**: ø6.35mm
- **Weight**: 215g

**AM-310R Torque-Speed Characteristics**

- **Max. Torque**: 15.9
- **Max. Speed**: 76.6

**Options**

- **Collet** (CHK Group): ø0.5~ø6.35mm
- **Grindstone Arbor** (AGM-03): Grindstone I.D. ø5.0mm

**AM-310R: Ceramic Bearings**

- **Model**: NR-311
- **Max. Speed**: 30,000 min⁻¹ (Using AM-310R)
- **Collet**: ø3.0mm (CHM-3.0)

**Options**

- **Collet** (CHM Group): ø1.0~ø3.175mm
- **Grindstone Flange** (NGF2-19): ø19.05 x ø40 x 7.0 [W] mm

**AMH-310R: Ceramic Bearings**

- **Model**: AMH-301
- **Max. Speed**: 30,000 min⁻¹ (Using AM-310R)
- **Collet**: ø3.175mm (CHM-3.0)
- **Weight**: 171g

**Options**

- **Collet** (CHM Group): ø1.0~ø3.175mm

**Order by Code No.**

- **Code No.**: 7861
- **Model**: NR-303

**Code No.**: 7832
- **Model**: NR-311

**Code No.**: 1074
- **Model**: AMH-301

**CNC LATHES, SPECIAL PURPOSE MACHINES AND ROBOT AUTOMATION SOLUTION**

- **Air-Motor & Spindle (Separate Type)**
- **90° Angle Type Air Motor is available**
**AIR MOTOR & SPINDLE (Separate Type)**

### Angle Spindle

- **Outside Diameter**: ø22.8mm
- **Max.**: 2,870 min⁻¹
- **Max. Power**: 57W (Using AM-300R)

**90° Angle Spindle RA-100**

- **Angle Spindle Select Sheet**
  - Model: RA-100, RA-200, RAS-101
  - Air Motor: AM-300R
  - Spindle Accuracy: Within 2 μm

**Reduction Ratio**

- Model: 2.67

**Weight**

- RA-100: 271 g
- RA-200: 325 g
- RAS-101: 165 g

---

**RA-200**

- **O.D.**: ø22.8mm
- **Rotating speed at the cutting tool**: 2,870 min⁻¹
- **Maximum rotating speed at the cutting tool for the reduction ratio**: 7,650 min⁻¹

**Options**

- Collet: ø0.8 ~ ø3.175 mm

---

**RAS-101**

- **O.D.**: ø22.8mm
- **Rotating speed at the cutting tool**: 2,870 min⁻¹
- **Maximum rotating speed at the cutting tool for the reduction ratio**: 7,650 min⁻¹

**Options**

- Collet: ø0.8 ~ ø3.175 mm

---

**RA-100**

- **O.D.**: ø22.8mm
- **Rotating speed at the cutting tool**: 2,870 min⁻¹
- **Maximum rotating speed at the cutting tool for the reduction ratio**: 7,650 min⁻¹

**Options**

- Collet: ø0.8 ~ ø3.175 mm

---

**RA-200**

- **O.D.**: ø22.8mm
- **Rotating speed at the cutting tool**: 2,870 min⁻¹
- **Maximum rotating speed at the cutting tool for the reduction ratio**: 7,650 min⁻¹

**Options**

- Collet: ø0.8 ~ ø3.175 mm

---

**RAS-101**

- **O.D.**: ø22.8mm
- **Rotating speed at the cutting tool**: 2,870 min⁻¹
- **Maximum rotating speed at the cutting tool for the reduction ratio**: 7,650 min⁻¹

**Options**

- Collet: ø0.8 ~ ø3.175 mm

---

**Order by Code No.**

**P. 24**
### AM-310R Torque-Speed Characteristics

- **Model**: AM-310R
- **Motor Speed**: 30,000 min⁻¹ (5.0 kPa)
- **Max. Power**: 108 W
- **Proper Air Pressure**: 0.3~0.5 MPa
- **Air Consumption**: 170 L/min
- **Weight**: 203 g (w/o hose)

### AM-300R Torque-Speed Characteristics

- **Model**: AM-300R
- **Motor Speed**: 30,000 min⁻¹ (5.0 kPa)
- **Max. Power**: 57 W
- **Proper Air Pressure**: 0.3~0.5 MPa
- **Air Consumption**: 90 L/min
- **Weight**: 135 g (w/o hose)

### AM-310RA Torque-Speed Characteristics

- **Model**: AM-310RA
- **Motor Speed**: 30,000 min⁻¹ (5.0 kPa)
- **Max. Power**: 108 W
- **Proper Air Pressure**: 0.3~0.5 MPa
- **Air Consumption**: 170 L/min
- **Weight**: 244 g (w/o hose)

### AM-300RA Torque-Speed Characteristics

- **Model**: AM-300RA
- **Motor Speed**: 30,000 min⁻¹ (5.0 kPa)
- **Max. Power**: 57 W
- **Proper Air Pressure**: 0.3~0.5 MPa
- **Air Consumption**: 90 L/min
- **Weight**: 176 g (w/o hose)
### "Air-Speed" SPEED REDUCER

<table>
<thead>
<tr>
<th>Code No.</th>
<th>ARG-01</th>
<th>ARG-02</th>
</tr>
</thead>
<tbody>
<tr>
<td>Model</td>
<td>Speed Reducer (1/3.92)</td>
<td>Speed Reducer (1/15.39)</td>
</tr>
<tr>
<td>O.D.</td>
<td>ø22.8mm</td>
<td>ø22.8mm</td>
</tr>
<tr>
<td>Rotating Max. speed at the cutting tool</td>
<td>7,650 min⁻¹ (0.5MPa)</td>
<td>1,950 min⁻¹ (0.5MPa)</td>
</tr>
<tr>
<td>Reduction Ratio</td>
<td>3.92</td>
<td>15.39</td>
</tr>
<tr>
<td>Allowable motor Max. speed for the spindle</td>
<td>30,000 min⁻¹ (Using AM-310R)</td>
<td>30,000 min⁻¹ (Using AM-310R)</td>
</tr>
<tr>
<td>Weight</td>
<td>108g</td>
<td>148g</td>
</tr>
</tbody>
</table>

**Notes:**
- Maximum rotating speed at the cutting tool for the reduction ratio.
- Please maintain not to exceed speed limit.

### CNC LATHES, SPECIAL PURPOSE MACHINES AND ROBOT AUTOMATION SOLUTION

Order by Code No.
**AL-M1203BS2** (For ø6mm Hose)

- The AL-M1203BS2 is fitted with 2 (DC-12V) solenoid operated air valves, a large capacity filter and lubricator, a high flow regulator, and a low oil warning system making this the ideal air line system for installation on NC and CNC machinery. This Air Line Kit allows for operation of 2 air motors.

**AL-M1202** (ø6mm Air Output One-Touch Connector)

- The AL-M1202 provides simple, automatic conditioning of the air supplied to NAKANISHI air motors. The filter removes water and impure substances from the input air supply. The regulator maintains to proper air pressure and the lubricator ensures proper oil flow to the motor and spindle. This Air Line Kit is wall mountable.

**GR-30 / GR-22.8**

- **GR-30**
  - Code No.: 3312 Model: GR-30

- **GR-22.8**
  - Code No.: 3152 Model: GR-22.8

---

**How to mount to a machine tool**

1. Insert the lock bolt into the machine tool's hole.
2. Insert the connecting hose (K-275) into the lock bolt.
3. Tighten the lock bolt with the provided wrench.

---

**“Air-Speed” Accessories (Air line kit, etc.)**

**AL-M1203BS2** Model: AL-M1203BS2

**AL-M1202** Model: AL-M1202

**GR-30** Model: GR-30

**GR-22.8** Model: GR-22.8

---

**Collet - Collet Nut**

<table>
<thead>
<tr>
<th>Product</th>
<th>Code No.</th>
<th>Model</th>
<th>I.D.</th>
<th>Compatible model</th>
</tr>
</thead>
<tbody>
<tr>
<td>91494</td>
<td>CHA-3.0AA</td>
<td>ø2.15</td>
<td>15.5</td>
<td>MSS-19, MSS-20, MSS-22</td>
</tr>
<tr>
<td>91495</td>
<td>CHA-3.0AA</td>
<td>ø2.15</td>
<td>15.5</td>
<td>PM-3020A</td>
</tr>
<tr>
<td>91492</td>
<td>CHA-3.0</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHK-3.0AA</td>
</tr>
<tr>
<td>91493</td>
<td>CHA-3.0AA</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHS-3.0AA</td>
</tr>
<tr>
<td>91440</td>
<td>CHA-4.0</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHK-4.0AA</td>
</tr>
<tr>
<td>91597</td>
<td>CHK-3.0AA</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHS-3.0 AA</td>
</tr>
<tr>
<td>91598</td>
<td>CHK-3.0AA</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHS-3.0</td>
</tr>
<tr>
<td>91599</td>
<td>CHK-4.0AA</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHS-3.0AA</td>
</tr>
<tr>
<td>91600</td>
<td>CH-6.0AA</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHS-3.0AA</td>
</tr>
<tr>
<td>91601</td>
<td>CHM-3.175</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHS-3.175</td>
</tr>
<tr>
<td>91530</td>
<td>CHK-3.0</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHS-3.0AA</td>
</tr>
<tr>
<td>91593</td>
<td>CHK-3.175</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHS-3.175</td>
</tr>
<tr>
<td>91540</td>
<td>CHM-4.0</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHS-4.0</td>
</tr>
<tr>
<td>91550</td>
<td>CHM-4.0</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHS-4.0</td>
</tr>
<tr>
<td>91596</td>
<td>CHK-6.35</td>
<td>ø2.15</td>
<td>15.5</td>
<td>CHS-6.35</td>
</tr>
</tbody>
</table>

---

**Collet CHA Group**

- **Code No.**
- **Model**
- **I.D.**
- **Compatible model**

**Collet CMH Group**

- **Code No.**
- **Model**
- **I.D.**
- **Compatible model**

---

**Order by Code No.**

**P. 30**
### “Air-Speed” Accessories (Metal Saw Arbor, Grindstone Arbor, etc.)

#### Model I.D. / Description / Specification Compatible model

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Model</th>
<th>I.D. / Description / Specification</th>
<th>Compatible model</th>
</tr>
</thead>
<tbody>
<tr>
<td>2146</td>
<td>KCH-02 (L-6)</td>
<td>ø6.0 Bushes to allow smaller dia. spindles to be mounted in larger dia. holders.</td>
<td>RA-100, RA-151E</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>1029</td>
<td>AGM-01</td>
<td>1050</td>
<td>FJ-01</td>
<td>1057</td>
<td>K-211</td>
</tr>
<tr>
<td>2131</td>
<td>AGM-03</td>
<td>1052</td>
<td>FJ-01</td>
<td>1058</td>
<td>K-212</td>
</tr>
</tbody>
</table>

#### Bushes

Bushes to allow smaller dia. spindles to be mounted in larger dia. holders.

<table>
<thead>
<tr>
<th>Code No.</th>
<th>Model</th>
<th>Description x I.D. x O.D.</th>
</tr>
</thead>
<tbody>
<tr>
<td>1887</td>
<td>RB-19.05 × 25.4 × 36L</td>
<td>ø25.4 Bush Dimensions: ø19.05 × ø25.4 x 36mm</td>
</tr>
<tr>
<td>1877</td>
<td>RB-20 × 22</td>
<td>ø22 Bush Dimensions: ø20 × ø22 × 40mm</td>
</tr>
<tr>
<td>1876</td>
<td>RB-20 × 22.8</td>
<td>ø22.8 Bush Dimensions: ø20 × ø22.8 × 40mm</td>
</tr>
<tr>
<td>1875</td>
<td>RB-20 × 23</td>
<td>ø23 Bush Dimensions: ø20 × ø23 × 40mm</td>
</tr>
<tr>
<td>1878</td>
<td>RB-20 × 25</td>
<td>ø25 Bush Dimensions: ø20 × ø25 × 40mm</td>
</tr>
<tr>
<td>1879</td>
<td>RB-20 × 25.4</td>
<td>ø25.4 Bush Dimensions: ø20 × ø25.4 × 40mm</td>
</tr>
<tr>
<td>1883</td>
<td>RB-22 × 25 × 34L</td>
<td>ø25 Bush Dimensions: ø22 × ø25 × 35.5mm</td>
</tr>
<tr>
<td>1864</td>
<td>RB-22 × 25.4 × 34L</td>
<td>ø25.4 Bush Dimensions: ø22 × ø25.4 × 35.5mm</td>
</tr>
<tr>
<td>1872</td>
<td>RB-22.8 × 25</td>
<td>ø25 Bush Dimensions: ø22.8 × ø25 × 25mm</td>
</tr>
<tr>
<td>1871</td>
<td>RB-22.8 × 25</td>
<td>ø25 Bush Dimensions: ø22.8 × ø25 × 25mm</td>
</tr>
<tr>
<td>1874</td>
<td>RB-23.8 × 25</td>
<td>ø25.8 Bush Dimensions: ø23.8 × ø25.8 × 25mm</td>
</tr>
<tr>
<td>1873</td>
<td>RB-22.8 × 25</td>
<td>ø25.4 Bush Dimensions: ø22.8 × ø25.4 × 44mm</td>
</tr>
</tbody>
</table>

#### Metal Fitting & Filter Joint

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Code No.</th>
<th>Model</th>
<th>Compatible model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Metal Fitting (for ø6 Quick Disconnecting Joint)</td>
<td>2035</td>
<td>K-241</td>
<td>For K-215 Hose</td>
<td></td>
</tr>
<tr>
<td>Filter Joint (for ø6 Quick Disconnecting Joint)</td>
<td>2036</td>
<td>K-242</td>
<td>For K-204 Hose</td>
<td></td>
</tr>
<tr>
<td>Filter Joint (for ø6 Quick Disconnecting Joint)</td>
<td>2038</td>
<td>FJ-21</td>
<td>For K-215 Hose, K-221 Hose</td>
<td></td>
</tr>
<tr>
<td>Filter Joint (for ø6 Quick Disconnecting Joint)</td>
<td>2039</td>
<td>FJ-22</td>
<td>For K-204 Hose</td>
<td></td>
</tr>
</tbody>
</table>

#### Hose

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Code No.</th>
<th>Model</th>
<th>Compatible model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hose ø8mm (O.D. )(EXHAUST) 1m</td>
<td>2029</td>
<td>K-216</td>
<td>AM-302 (RA - LA), AM-310 (RA - LA), AM-300 (RA - LA), AM-3020, AM-3020A, AM-3020K, MSS-19 × 20 - 22 - 25 (RA), MSS-23 (RA)</td>
<td></td>
</tr>
<tr>
<td>Hose ø8mm (O.D. )(EXHAUST) 1m</td>
<td>2052</td>
<td>K-256</td>
<td>AM-320, PMA-3013K, PMA-3013S, PMA-3020K, PMA-3020A, PMS-3020K, AM-2020 (RA - LA), MSS-23 (RA)</td>
<td></td>
</tr>
<tr>
<td>Hose ø10mm (O.D. )(INLET) 2m</td>
<td>2030</td>
<td>K-204</td>
<td>AM-2020 (R - L), AM-310 (R - L), AM-300 (R - L), AM-3020, MSS-23 (RA)</td>
<td></td>
</tr>
<tr>
<td>Hose ø22mm (O.D. )(EXHAUST) 1m</td>
<td>2049</td>
<td>K-221</td>
<td>AM-3020 (R - L), AM-310 (R - L), AM-300 (R - L), AM-3020, MSS-23 (RA)</td>
<td></td>
</tr>
</tbody>
</table>

#### Grease

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Code No.</th>
<th>Model</th>
<th>Compatible model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Grease for speed reducer [2.5mL]</td>
<td>1547</td>
<td>—</td>
<td>ARG-021E, ARG-021E, RAX-217E, RAX-71E</td>
<td></td>
</tr>
<tr>
<td>Grease for speed reducer [10mL]</td>
<td>1550</td>
<td>—</td>
<td>ARG-021E, ARG-021E, RAX-217E, RAX-71E</td>
<td></td>
</tr>
<tr>
<td>Grease for speed reducer [100mL]</td>
<td>1549</td>
<td>—</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>

#### Oil

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>Code No.</th>
<th>Model</th>
<th>Compatible model</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lubricating Oil (70cc)</td>
<td>1057</td>
<td>K-211</td>
<td>Air Line Kit (AL-M1020, AL-M1200BB/SS)</td>
<td></td>
</tr>
<tr>
<td>Lubricating Oil (1L)</td>
<td>1058</td>
<td>K-202</td>
<td>—</td>
<td></td>
</tr>
</tbody>
</table>