**One Piece Type Spindle**

- Shorter overall length suitable for CNC lathes and special purpose machines.
- Hardened and precision ground for high rigidity & excellent durability.
- External one-piece housing includes both the motor & spindle.

![Image of One Piece Type Spindle](attached_image)

**Specifications:**
- O.D. ø0.75” (ø19.05mm) (One Piece Type)
- O.D. ø0.79” (ø20mm) (One Piece Type)
- O.D. ø0.87” (ø22mm) (One Piece Type)
- O.D. ø0.91” (ø23mm) (One Piece Type)
- O.D. ø1.0” (ø25.4mm) (One Piece Type)
MS Series can be used in conjunction with water or oil based coolants.
Configuration & Characteristics

### Model Code Example

#### Straight Type
- SERIES CODE [1]
- OUTSIDE DIAMETER [2]
- SPEED [3]
- R=FORWARD (Right) [4]

#### 90’ Angle Type
- SERIES CODE [1]
- OUTSIDE DIAMETER [2]
- SPEED [3]
- R=FORWARD (Right) [4]
- CODE FOR 90’ ANGLE TYPE [5]

**Outer Housing Material**
The outer housing is (SUS416) precision ground to +0/-0.01mm.

**Configuration**
Either straight or 90’ air connection types are available depending on the mounting and plumbing restrictions in your installation.

**Very high spindle accuracy makes ultra-precision machining possible.**

**Spindle Accuracy**
The spindle accuracy is the spindle runout as measured at the tip of taper on the ID of the spindle.

### MS Series Set-Up Chart
(Air line kit is required for operation)

The MS Series spindles are specifically designed for long term continuous use in high speed machining applications such as small diameter drilling, milling, slitting and grinding applications.

It runs by connecting the air line kit to Compressor [1] directly. Stably adjusted air pressure is supplied through Air Regulator [2] that also controls the speed of spindle. Air is purified by Air Filter [3] and Lubricator [4] supplies lubricant automatically to the air spindle while in operation. Switch [5] controls the operation of air spindle ON and OFF.

**Installation of 90˚ Angle Type**

- MSS - MSST - MSSH 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.

Installation
1. Remove Intake and Exhaust Air Pipes from motor spindle.
2. Insert the straight spindle from the front side of holder and fix it.
3. Mount the intake and exhaust air pipes to the spindle fixed on the holder and attach a hose to the quick disconnect joint.
4. Urethane hose of 6 x 4 for intake air and 8 x 5 for exhaust air can be installed.

The motor speed of 90˚ Angle air connection type motor / spindles are 10% less than that of the straight type.

---

**Spindle Accuracy**
The spindle accuracy is the spindle runout as measured at the tip of taper on the ID of the spindle.

**Outer Housing Material**
The outer housing is (SUS416) precision ground to +0/-0.01mm.

**Configuration**
Either straight or 90˚ air connection types are available depending on the mounting and plumbing restrictions in your installation.

**Very high spindle accuracy makes ultra-precision machining possible.**

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The motor speed of 90˚ Angle air connection type motor / spindles are 10% less than that of the straight type.
MSS-19 · MSS-20 SERIES STRAIGHT · 90° ANGLE TYPE 30,000 · 8,000 · 2,000 min⁻¹(rpm)

**STRaight Type (R)**

- Max. Tool Mounting Depth (1.61")
- L(0.58")
- øD(0.46")
- Recommended Clamping Area
- Filter Joint (FJ-01)

- Proper Air Pressure: 44–73PSI
- Air Consumption: 5.47CFM
- Spindle Accuracy: Within 2 μm
- Motor Diameter / Length: [R-type] Air Intake ø3.7(I.D.) x ø5.7(O.D.) mm / 6 ft
  - Exhaust Air ø5.0(I.D.) x ø6.5(O.D.) mm / 3 ft
- Standard Size Collet (CHA-3.175): ø1/8"
- Collet (CHA-[]): ø0.5 mm~ø4.0 mm (See Page 6-p2 for details)
- Collet Nut (CHN-A): For Collet (CHA)
- Metal Saw Arbor (KCH-01A): For ø0.24"(I.D.) x ø1.18"(O.D.)
- Grindstone Arbor (AGM-01A): For grinding wheel with I.D. of ø5 mm

**90° Angle Type (RA)**

- Max. Tool Mounting Depth (1.61")
- øD(0.46")
- Recommended Clamping Area
- Filter Joint (FJ-01)

- Proper Air Pressure: 73PSI
- Air Consumption: 5.47CFM
- Spindle Accuracy: Within 2 μm
- Motor Diameter / Length: [R-type] Air Intake ø3.7(I.D.) x ø5.7(O.D.) mm / 3 ft
  - Exhaust Air ø5.0(I.D.) x ø6.5(O.D.) mm / 3 ft
- Standard Size Collet (CHA-3.175): ø1/8"
- Collet (CHA-[]): ø0.5 mm~ø4.0 mm (See Page 6-p2 for details)
- Collet Nut (CHN-A): For Collet (CHA)
- Metal Saw Arbor (KCH-01A): For ø0.24"(I.D.) x ø1.18"(O.D.)
- Grindstone Arbor (AGM-01A): For grinding wheel with I.D. of ø5 mm

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

### MSS-19 · MSS-20 SERIES Torque-Speed Characteristics

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Shape</th>
<th>Rotating Direction</th>
<th>Max. Output</th>
<th>Max. Torque</th>
<th>Length</th>
<th>M</th>
<th>Weight (MSS-19 / MSS-20)</th>
<th>Price</th>
</tr>
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<tbody>
<tr>
<td>AS41676</td>
<td>MSS-1930R</td>
<td>Straight</td>
<td>FWD. (CW)</td>
<td>72W</td>
<td>9.2 cN·m</td>
<td>4.37&quot;</td>
<td>0.91&quot;</td>
<td>6.03 oz. / 6.70 oz.</td>
<td>1,306.00</td>
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<tr>
<td>AS41678</td>
<td>MSS-1902R</td>
<td>90° Angle</td>
<td>FWD. (CW)</td>
<td>72W</td>
<td>36 cN·m</td>
<td>4.06&quot;</td>
<td></td>
<td>7.73 oz. / 8.43 oz.</td>
<td></td>
</tr>
<tr>
<td>AS41601</td>
<td>MSS-1908R</td>
<td>Straight</td>
<td>FWD. (CW)</td>
<td>72W</td>
<td>36 cN·m</td>
<td>4.99&quot;</td>
<td>1.54&quot;</td>
<td>7.13 oz. / 7.94 oz.</td>
<td>1,382.00</td>
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<tr>
<td>AS41603</td>
<td>MSS-1908RA</td>
<td>90° Angle</td>
<td>FWD. (CW)</td>
<td>72W</td>
<td>36 cN·m</td>
<td>4.69&quot;</td>
<td></td>
<td>8.82 oz. / 9.67 oz.</td>
<td></td>
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</table>

### MSS-19 · MSS-20 SERIES Torque-Speed Characteristics

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Shape</th>
<th>Rotating Direction</th>
<th>Max. Output</th>
<th>Max. Torque</th>
<th>Length</th>
<th>M</th>
<th>Weight (MSS-19 / MSS-20)</th>
<th>Price</th>
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<tbody>
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<td>AS41605</td>
<td>MSS-1902R</td>
<td>Straight</td>
<td>FWD. (CW)</td>
<td>72W</td>
<td>141 cN·m</td>
<td>5.55&quot;</td>
<td>2.09&quot;</td>
<td>7.62 oz. / 8.50 oz.</td>
<td>1,412.00</td>
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<tr>
<td>AS41607</td>
<td>MSS-1902RA</td>
<td>90° Angle</td>
<td>FWD. (CW)</td>
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<td>36 cN·m</td>
<td>5.24&quot;</td>
<td></td>
<td>9.31 oz. / 10.23 oz.</td>
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</tr>
</tbody>
</table>

**Standard Equipment · Accessories**

- Collet ø1/8" (CHA-3.175): 1 pc.
- Hose (K-221: R type): 6 ft
- Hose (K-215: RA type): ø6 mm x 6 ft
- Hose (K-216: RA type): ø8 mm x 3 ft
- Filter Joint (FJ-01)
- Silencer (K-209: R type), (K-208: RA type)
MSS-22 SERIES STRAIGHT · 90° ANGLE TYPE

30,000 · 8,000 · 2,000 min\(^{-1}\) (rpm)

**STRAIGHT TYPE (R)**

- Proper Air Pressure ........................................ 44–73PSI
- Air Consumption ............................................ 5.47CFM
- Spindle Accuracy ........................................... Within 2 μm
- Motor Hose (Diameter / Length)
  - [R-type] Air Intake ........ ø3.7 (I.D.) x ø5.7 (O.D.) mm / 6 ft
  - Exhaust Air ............... ø5.0 (I.D.) x ø6.5 (O.D.) mm / 3 ft
  - [RA-type] Air Intake .... ø4.0 (I.D.) x ø6.0 (O.D.) mm / 6 ft
  - Exhaust Air ............... ø5.5 (I.D.) ø8.0 (O.D.) mm / 3 ft
- Standard Size Collet (CHA-3.175) ............... ø1/8" (See Page 6-p2 for details)
- Collet (CHA-[ ] ) ......... ø0.5 mm ~ ø4.0 mm
- Collet Nut (CHN-A) ........ For Collet (CHA)
- Metal Saw Arbor (KCH-01A) .... For ø0.24" (I.D.) x ø1.18" (O.D.)
- Grindstone Arbor (AGM-01A) ... For grinding wheel with I.D. of ø5 mm

**90° ANGLE TYPE (RA)**

- Proper Air Pressure ........................................ 44–73PSI
- Air Consumption ............................................ 5.47CFM
- Spindle Accuracy ........................................... Within 2 μm
- Motor Hose (Diameter / Length)
  - [R-type] Air Intake ........ ø3.7 (I.D.) x ø5.7 (O.D.) mm / 6 ft
  - Exhaust Air ......... ø5.0 (I.D.) x ø6.5 (O.D.) mm / 3 ft
  - [RA-type] Air Intake .......... ø4.0 (I.D.) x ø6.0 (O.D.) mm / 6 ft
  - Exhaust Air .......... ø5.5 (I.D.) x ø8.0 (O.D.) mm / 3 ft
- Standard Size Collet (CHA-3.175) ............... ø1/8" (See Page 6-p2 for details)
- Collet (CHA-[ ] ) ......... ø0.5 mm ~ ø4.0 mm
- Collet Nut (CHN-A) ........ For Collet (CHA)
- Metal Saw Arbor (KCH-01A) .... For ø0.24" (I.D.) x ø1.18" (O.D.)
- Grindstone Arbor (AGM-01A) ... For grinding wheel with I.D. of ø5 mm

**Torque-Speed Characteristics**

<table>
<thead>
<tr>
<th>Model</th>
<th>Shape</th>
<th>Rotating Direction</th>
<th>Max. Output</th>
<th>Max. Torque</th>
<th>Length</th>
<th>M</th>
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<th>Price</th>
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<tr>
<td>AS91710</td>
<td>MSS-2230R</td>
<td>Straight</td>
<td>FWD. (CW)</td>
<td>72W</td>
<td>9.2 cN · m</td>
<td>4.37&quot;</td>
<td>0.91&quot;</td>
<td>8.18 oz.</td>
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<td>AS91712</td>
<td>MSS-2230RA</td>
<td>90° Angle</td>
<td>FWD. (CW)</td>
<td>72W</td>
<td>9.2 cN · m</td>
<td>4.06&quot;</td>
<td>0.91&quot;</td>
<td>9.88 oz.</td>
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<table>
<thead>
<tr>
<th>Model</th>
<th>Shape</th>
<th>Rotating Direction</th>
<th>Max. Output</th>
<th>Max. Torque</th>
<th>Length</th>
<th>M</th>
<th>Weight</th>
<th>Price</th>
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<tbody>
<tr>
<td>AS81680</td>
<td>MSS-2208R</td>
<td>Straight</td>
<td>FWD. (CW)</td>
<td>72W</td>
<td>36 cN · m</td>
<td>4.99&quot;</td>
<td>1.54&quot;</td>
<td>9.70 oz.</td>
</tr>
<tr>
<td>AS81682</td>
<td>MSS-2208RA</td>
<td>90° Angle</td>
<td>FWD. (CW)</td>
<td>72W</td>
<td>36 cN · m</td>
<td>4.69&quot;</td>
<td>1.54&quot;</td>
<td>11.39 oz.</td>
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<table>
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<th>Model</th>
<th>Shape</th>
<th>Rotating Direction</th>
<th>Max. Output</th>
<th>Max. Torque</th>
<th>Length</th>
<th>M</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS81684</td>
<td>MSS-2202R</td>
<td>Straight</td>
<td>FWD. (CW)</td>
<td>72W</td>
<td>141 cN · m</td>
<td>5.55&quot;</td>
<td>2.09&quot;</td>
<td>10.23 oz.</td>
</tr>
<tr>
<td>AS81686</td>
<td>MSS-2202RA</td>
<td>90° Angle</td>
<td>FWD. (CW)</td>
<td>72W</td>
<td>141 cN · m</td>
<td>5.24&quot;</td>
<td>2.09&quot;</td>
<td>11.92 oz.</td>
</tr>
</tbody>
</table>

**Standard Equipment · Accessories**

- Collet ø1/8" (CHA-3.175) : 1 pc.
- Collet Nut (CHN-A) : 1 pc. each
- Hose (K-221 : R type) : 6 ft
- Hose (K-215 : RA type) : ø6 mm x 6 ft
- Hose (K-216 : RA type) : ø6 mm x 3 ft
- Filter Joint (FJ-02 : R type), (FJ-01 : RA type)
- Silencer (K-209 : R type), (K-208 : RA type)

**Technical Data**

- Proper Air Pressure ........................................ 44–73PSI
- Air Consumption ............................................ 5.47CFM
- Spindle Accuracy ........................................... Within 2 μm
- Motor Hose (Diameter / Length)
  - [R-type] Air Intake ........ ø3.7 (I.D.) x ø5.7 (O.D.) mm / 6 ft
  - Exhaust Air ......... ø5.0 (I.D.) x ø6.5 (O.D.) mm / 3 ft
  - [RA-type] Air Intake .......... ø4.0 (I.D.) x ø6.0 (O.D.) mm / 6 ft
  - Exhaust Air .......... ø5.5 (I.D.) x ø8.0 (O.D.) mm / 3 ft

**Price List**

- CAT. No. AS81684: MSS-2202R Straight FWD. (CW) 72W 141 cN · m 5.55" 2.09" 10.23 oz. 1,412.00
- CAT. No. AS81686: MSS-2202RA 90° Angle FWD. (CW) 72W 141 cN · m 5.24" 2.09" 11.92 oz. 1,412.00

**Recommended Clamping Area**

- Two recommended clamp areas are laser-marked on the spindle. Select one of them for clamping, and do not clamp both areas.
MSST-23 SERIES  STRAIGHT · 90° ANGLE TYPE  30,000 · 8,000 · 2,000 min⁻¹ (rpm)

### STRAIGHT TYPE (R)

- Max. Tool Mounting Depth: 2.05”
- Proper Air Pressure: 44–73 PSI
- Air Consumption (R-type): 6.71 CFM
- Motor Hose (Diameter / Length) R-type: ø4.5 (I.D.) x ø6.7 (O.D.) mm / 6 ft
- Spindle Accuracy: Within 2 μm
- Collet Size: ø0.5 mm ~ ø6.35 mm (See Page 6-p3 for details)
- Collet Nut: K-265
- Metal Saw Arbor: KCH-03
- Grindstone Arbor: AGM-03

### 90° ANGLE TYPE (RA)

- Max. Tool Mounting Depth: 2.05”
- Proper Air Pressure: 44–73 PSI
- Air Consumption (RA-type): 6.00 CFM
- Motor Hose (Diameter / Length) RA-type: ø4.0 (I.D.) x ø6.0 (O.D.) mm / 6 ft
- Spindle Accuracy: Within 2 μm
- Collet Size: ø0.5 mm ~ ø6.35 mm (See Page 6-p3 for details)
- Collet Nut: K-265
- Metal Saw Arbor: KCH-03
- Grindstone Arbor: AGM-03

---

**Note:**

- Proper Air Pressure: 44–73 PSI
- Motor Hose (Diameter / Length)
  - R-type: ø4.5 (I.D.) x ø6.7 (O.D.) mm / 6 ft
  - RA-type: ø4.0 (I.D.) x ø6.0 (O.D.) mm / 6 ft
- Spindle Accuracy: Within 2 μm
- Collet Size: ø0.5 mm ~ ø6.35 mm (See Page 6-p3 for details)
- Collet Nut: K-265
- Metal Saw Arbor: KCH-03
- Grindstone Arbor: AGM-03

---

**Standard Equipment & Accessories**

- Collet ø1/8” (CHK-3.175): 1 pc.
- Collet Nut (K-265): 1 pc.
- Wrench (12 x 14): 2 pcs.
- Hose (K-204: R type): ø6 mm x 6 ft
- Hose (K-215: RA type): ø8 mm x 3 ft
- Filter Joint (FJ-02: R type), (FJ-01: RA type)
- Silencer (K-209: R type), (K-208: RA type)

---

**MSST-23 SERIES Torque-Speed Characteristics**

- Proper Air Pressure (73 PSI)
- Torque-Speed Characteristics

---

**Caution:**

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

---

**R : 30,000 min⁻¹ (rpm) (73 PSI) / RA : 27,000 min⁻¹ (rpm) (73 PSI)**

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Shape</th>
<th>Rotating Direction</th>
<th>Max. Output</th>
<th>Max. Torque</th>
<th>Length</th>
<th>M</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS41637</td>
<td>MSST-2330R</td>
<td>Straight</td>
<td>FWD. (CW)</td>
<td>108W</td>
<td>13.7 cN·m</td>
<td>5.01&quot;</td>
<td>0.98&quot;</td>
<td>11.57 oz.</td>
<td>1,322.00</td>
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<tr>
<td>AS41639</td>
<td>MSST-2330RA</td>
<td>90’ Angle</td>
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<td></td>
<td></td>
<td>5.27&quot;</td>
<td></td>
<td>13.02 oz.</td>
<td></td>
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</tbody>
</table>

**R : 8,000 min⁻¹ (rpm) (73 PSI) / RA : 7,200 min⁻¹ (rpm) (73 PSI) 1/4 Speed Reduction**

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Shape</th>
<th>Rotating Direction</th>
<th>Max. Output</th>
<th>Max. Torque</th>
<th>Length</th>
<th>M</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS41645</td>
<td>MSST-2308R</td>
<td>Straight</td>
<td>FWD. (CW)</td>
<td>108W</td>
<td>52 cN·m</td>
<td>6.30&quot;</td>
<td>2.28&quot;</td>
<td>14.64 oz.</td>
<td>1,444.00</td>
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<td>AS41647</td>
<td>MSST-2308RA</td>
<td>90’ Angle</td>
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<td>6.56&quot;</td>
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<td>16.08 oz.</td>
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</table>

**R : 2,000 min⁻¹ (rpm) (73 PSI) / RA : 1,900 min⁻¹ (rpm) (73 PSI) 1/16 Speed Reduction**

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Shape</th>
<th>Rotating Direction</th>
<th>Max. Output</th>
<th>Max. Torque</th>
<th>Length</th>
<th>M</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>AS41653</td>
<td>MSST-2302R</td>
<td>Straight</td>
<td>FWD. (CW)</td>
<td>108W</td>
<td>202 cN·m</td>
<td>6.47&quot;</td>
<td>2.44&quot;</td>
<td>14.29 oz.</td>
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<td>90’ Angle</td>
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<td></td>
<td></td>
<td>6.73&quot;</td>
<td></td>
<td>15.73 oz.</td>
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</tbody>
</table>
**ULTRA-PRECISION ø1.18”(ø30 mm) SPINDLE**

- **Max. Torque**: 22.5 cN · m
- **Max. Output**: 130 W
- **Shape**: Straight

**MSSH-25 · MSS-25 SERIES STRAIGHT · 90° ANGLE TYPE**

**STRAIGHT TYPE (R)**

- Max. Torque: 22.5 cN · m
- Max. Output: 130 W
- Shape: Straight
- Rotating Direction: FWD. (CW)
- Recommended Clamping Area: Ø0.83”

**90° ANGLE TYPE (RA)**

- Max. Torque: 5.43 cN · m
- Max. Output: 15 W
- Shape: 90° Angle
- Rotating Direction: FWD. (CW)
- Recommended Clamping Area: Ø0.83”

---

**MSS Series**

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
</tr>
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<tbody>
<tr>
<td>AS81721</td>
<td>MSSH-2524R</td>
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<td>AS8180</td>
<td>MSS-2524R</td>
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<td>AS81723</td>
<td>MSSH-2524RA</td>
</tr>
<tr>
<td>AS8180</td>
<td>MSS-2524RA</td>
</tr>
</tbody>
</table>

**MSSH-2501, MSS-2501**

- Max. Torque: 2.44 cN · m
- Max. Output: 1 lb. 2.20 oz.
- Shape: 90° Angle
- Rotating Direction: FWD. (CW)
- Recommended Clamping Area: Ø0.897”

---

**MSSH-2506, MSS-2506**

- Max. Torque: 2.28 cN · m
- Max. Output: 1 lb. 1.11 oz.
- Shape: 90° Angle
- Rotating Direction: FWD. (CW)
- Recommended Clamping Area: Ø0.897”

---

**MSSH-2524, MSS-2524**

- Max. Torque: 2.05 cN · m
- Max. Output: 1 lb. 0.76 oz.
- Shape: 90° Angle
- Rotating Direction: FWD. (CW)
- Recommended Clamping Area: Ø0.897”

---

**MSSH-2524RA, MSS-2524RA**

- Max. Torque: 1.89 cN · m
- Max. Output: 1 lb. 2.55 oz.
- Shape: 90° Angle
- Rotating Direction: FWD. (CW)
- Recommended Clamping Area: Ø0.897”

---

**MSSH-2506RA, MSS-2506RA**

- Max. Torque: 1.67 cN · m
- Max. Output: 1 lb. 2.55 oz.
- Shape: 90° Angle
- Rotating Direction: FWD. (CW)
- Recommended Clamping Area: Ø0.897”

---

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

**Standard Equipment & Accessories**

- Collet ø1/8” (CHK-3.175): 1 pc.
- Collet Nut (K-265): 1 pc.
- Wrench (12 x 14): 2 pcs.
- Hose (K-204 : R-type): 6 ft
- Hose (K-215 : RA-type): ø6 mm x 6 ft
- Hose (K-216 : RA-type): ø8 mm x 3 ft
- Filter Joint (FJ-02 : R-type), (FJ-01 : RA-type)
- Silencer (K-209 : R-type), (K-208 : RA-type)

---

**MSSH-25 · MSS-25 SERIES Torque-Speed Characteristics**

- Proper Air Pressure: 44~73 PSI
- Air Consumption (R-type): 7.24 CFM
- (RA-type): 6.00 CFM
- Spindle Accuracy: Within 2 μm
- Motor Hose (Diameter / Length):
  - [R-type] Air Intake: ø4.5 (I.D.) x ø6.7 (O.D.) mm / 6 ft
  - Exhaust Air: ø5.5 (I.D.) x ø8.0 (O.D.) mm / 3 ft
  - [RA-type] Air Intake: ø4.0 (I.D.) x ø6.0 (O.D.) mm / 6 ft
  - Exhaust Air: ø5.5 (I.D.) x ø8.0 (O.D.) mm / 3 ft
- Standard Size Collet (CHK-3.175): ø1/8”
- Collet Nut (K-265): 1 pc.
- Metal Saw Arbor (KCH-03): ø0.24” x ø1.18” (O.D.)
- Grindstone Arbor (AGM-03): For grinding wheel with I.D. of ø5 mm

---

**Price**

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Shape</th>
<th>Rotating Direction</th>
<th>Max. Output</th>
<th>Max. Torque</th>
<th>Length</th>
<th>M</th>
<th>Weight</th>
<th>Price</th>
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<tbody>
<tr>
<td>AS81721</td>
<td>MSSH-2524R</td>
<td>Straight</td>
<td>FWD. (CW)</td>
<td>130W</td>
<td>22.5 cN · m</td>
<td>5.17”</td>
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</table>

---

**Order by catalog number. 3–p33**
AIR LINE KIT & OIL

CAT. No.  4502 AIR LINE KIT AL-M1202

- 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 the proper air pressure, and the lubricator ensures proper oil flow to the motor and spindle. This Air Line Kit is wall mountable.

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

<table>
<thead>
<tr>
<th>CAT. No.</th>
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<th>Standard Equipment • Accessories</th>
<th>Price</th>
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<tbody>
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<td>AL-M1202</td>
<td>• Air Filter • Air Regulator</td>
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<td></td>
<td></td>
<td>• Air Pressure Gauge • Lubricator</td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td>• Air On-Off Valve</td>
<td></td>
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<tr>
<td></td>
<td></td>
<td>• Hose for Piping (K-275) : 6 ft</td>
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<tr>
<td></td>
<td></td>
<td>• Lubricating Oil (K-211) : 1 pc.</td>
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CAT. No.  4503 AIR LINE KIT AL-M1203BS2

- The AL-M1203BS2 is equipped with 2 (DC+24V) Air Solenoids, a large capacity filter, large capacity oil reservoir, high flow regulator and a low oil level warning alarm, making this unit ideal for use on CNC machines. This Air Line Kit allows for the operation of 2 Air Motors.

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>
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<tbody>
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<td>AL-M1203</td>
<td>• Air Filter • Air Regulator</td>
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<td>BS2</td>
<td>• Air Pressure Gauge • Lubricator</td>
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<td>• Solenoid Valve (DC 24V) : 2 pcs.</td>
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<td>• Buzzer (DC 24V)</td>
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<td>• Hose for Piping (K-275) : 8 ft</td>
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<td>• Lubricating Oil (K-220) : 1 pc.</td>
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LUBRICATING OIL

Lubricating Oil (4 oz.)

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<td>AA10478</td>
<td>K-211</td>
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Lubricating Oil (32 oz.)

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<td>AA10480</td>
<td>K-202</td>
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<td>22.00</td>
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</tbody>
</table>

*Order by catalog number.*
### CHK Group

**Fit to:** K-265 : CHN-B

**Fit to:**
- NR-302 : ENR-302

**Fit to**

**Model:**
- CHK-1.0
- CHK-3.0
- CHK-3.175
- CHK-4.0
- CHK-4.0AA
- CHK-4.1
- CHK-4.1AA
- CHK-4.2
- CHK-4.2AA
- CHK-4.3
- CHK-4.3AA
- CHK-4.4
- CHK-4.4AA
- CHK-4.5
- CHK-4.5AA
- CHK-4.6
- CHK-4.6AA
- CHK-4.7
- CHK-4.7AA
- CHK-4.8
- CHK-4.8AA
- CHK-4.9
- CHK-4.9AA
- CHK-5.0
- CHK-5.1
- CHK-5.2
- CHK-5.3
- CHK-5.4
- CHK-5.5
- CHK-5.6
- CHK-5.7
- CHK-5.8
- CHK-5.9
- CHK-6.0
- CHK-6.0AA
- CHK-6.0AAE
- CHK-6.3
- CHK-6.35
- CHL-6.35
- CHL-6.35AA

**Model:**
- CHK-1.0 : CHK-1.1
- CHK-1.2 : CHK-1.3
- CHK-1.4 : CHK-1.5
- CHK-1.6 : CHK-1.7
- CHK-1.8 : CHK-1.9
- CHK-2.0 : CHK-2.1
- CHK-2.2 : CHK-2.3
- CHK-2.35 : CHK-2.4
- CHK-2.5 : CHK-2.6
- CHK-2.7 : CHK-2.8
- CHK-2.9 : CHK-3.0
- CHK-3.0AA
- CHK-3.0AAE
- CHK-3.1
- CHK-3.175
- CHK-3.175AA
- CHK-3.2
- CHK-3.3
- CHK-3.4
- CHK-3.5
- CHK-3.6
- CHK-3.7
- CHK-3.8
- CHK-3.9
- CHK-4.0
- CHK-4.0AA
- CHK-4.1
- CHK-4.2
- CHK-4.3
- CHK-4.4
- CHK-4.5
- CHK-4.6
- CHK-4.7
- CHK-4.8
- CHK-4.9
- CHK-5.0

**Fit to:**

**Indicates:**
- Machine Spindle use
- Hand Grinder use

### CHL Group

**Fit to:** CHN-L

**Fit to**

**Indicates:**
- Hand Grinder use
- Machine Spindle use

**CAT. No.** | **Model** | **Inside Diameter d** | **Price** |
--- | --- | --- | --- |
PL4267 | CHK-0.5 | ø0.5 | 295.00 |
91508 | CHK-0.6 | ø0.6 | 295.00 |
PL4267 | CHK-0.7 | ø0.7 | 295.00 |
PL4268 | CHK-0.8 | ø0.8 | 295.00 |
PL4269 | CHK-0.9 | ø0.9 | 295.00 |
PL4270 | CHK-1.0 | ø1.0 | 295.00 |
PL4271 | CHK-1.1 | ø1.1 | 295.00 |
PL4272 | CHK-1.2 | ø1.2 | 295.00 |
PL4273 | CHK-1.3 | ø1.3 | 295.00 |
PL4274 | CHK-1.4 | ø1.4 | 295.00 |
PL4275 | CHK-1.5 | ø1.5 | 295.00 |
PL4276 | CHK-1.6 | ø1.6 | 295.00 |
PL4277 | CHK-1.7 | ø1.7 | 295.00 |
PL4278 | CHK-1.8 | ø1.8 | 295.00 |
91518 | CHK-1.9 | ø1.9 | 295.00 |
PL4279 | CHK-2.0 | ø2.0 | 295.00 |
PL4280 | CHK-2.1 | ø2.1 | 295.00 |
PL4281 | CHK-2.2 | ø2.2 | 295.00 |
PL4282 | CHK-2.3 | ø2.3 | 295.00 |
PL4283 | CHK-2.35 | ø2.35 | 295.00 |
PL4284 | CHK-2.4 | ø2.4 | 295.00 |
PL4285 | CHK-2.5 | ø2.5 | 295.00 |
PL4286 | CHK-2.6 | ø2.6 | 295.00 |
PL4287 | CHK-2.7 | ø2.7 | 295.00 |
PL4288 | CHK-2.8 | ø2.8 | 295.00 |
PL4289 | CHK-2.9 | ø2.9 | 295.00 |
PL4290 | CHK-3.0 | ø3.0 | 295.00 |
91597 | CHK-3.0AA | ø3.0 | 295.00 |
PL4291 | CHK-3.1 | ø3.1 | 295.00 |
PL4292 | CHK-3.175 | ø3.175 | 295.00 |
91598 | CHK-3.175AA | ø3.175 | 295.00 |
PL4293 | CHK-3.2 | ø3.2 | 295.00 |
PL4294 | CHK-3.3 | ø3.3 | 295.00 |
PL4295 | CHK-3.4 | ø3.4 | 295.00 |
PL4296 | CHK-3.5 | ø3.5 | 295.00 |
PL4297 | CHK-3.6 | ø3.6 | 295.00 |
PL4298 | CHK-3.7 | ø3.7 | 295.00 |
PL4299 | CHK-3.8 | ø3.8 | 295.00 |
PL4300 | CHK-3.9 | ø3.9 | 295.00 |
PL4301 | CHK-4.0 | ø4.0 | 295.00 |
91589 | CHK-4.0AA | ø4.0 | 295.00 |
PL4302 | CHK-4.1 | ø4.1 | 295.00 |
91581 | CHK-4.2 | ø4.2 | 295.00 |
PL4303 | CHK-4.3 | ø4.3 | 295.00 |
PL4304 | CHK-4.4 | ø4.4 | 295.00 |
PL4305 | CHK-4.5 | ø4.5 | 295.00 |
PL4306 | CHK-4.6 | ø4.6 | 295.00 |
PL4307 | CHK-4.7 | ø4.7 | 295.00 |
PL4308 | CHK-4.8 | ø4.8 | 295.00 |
91549 | CHK-4.9 | ø4.9 | 295.00 |
PL4309 | CHK-5.0 | ø5.0 | 295.00 |

---

*Order by catalog number.*
## Parts & Collet Nut

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

### ER16-UP / AR16-AA

- **Fit to:** CHN-E
- **Fit to:** AMX-80 (1/3 · 1/9 Ratio) · PSA60-200/260 · PSA60S-200

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Fit to</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>—</td>
<td>ER16-UP</td>
<td>REGO-FIX ER16-UP</td>
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<tr>
<td>—</td>
<td>AR16-AA</td>
<td>ALPS TOOL AR16-AA</td>
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Available in the market

### K-252

- **Fit to:** MFC-300S

<table>
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<th>Model</th>
<th>Inside Diameter d</th>
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<td>RE10360</td>
<td>K-252</td>
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### K-253

- **Fit to:** MFC-300M

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### NKM6 Group (NK Micron Collet)

- **Fit to:** CHN-6

<table>
<thead>
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<th>CAT. No.</th>
<th>Model</th>
<th>Inside Diameter d</th>
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<td>ø2.35</td>
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<td>92092</td>
<td>NKM6-3.0</td>
<td>ø3.0</td>
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<td>92093</td>
<td>NKM6-3.175</td>
<td>ø1.8&quot;</td>
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### Collet Nut CHN-A

- **Fit to:** CHA
- **Fit to:** iSpeed3 · EM20-S6000 · EM25-S6000 · EMS-3060A · HES810 · HP5500 · MSS-19 · MSS-20 · MSS-22 · NR-3080S · NR3060-AQC · NRR3060- QC · PMS-3020A · SMS401

<table>
<thead>
<tr>
<th>CAT. No.</th>
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### Collet Nut CHN-AA

- **Fit to:** CHA
- **Fit to:** HTS · AMS-1501/1510 · AMS-1210

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### Collet Nut CHN-B (For EMS-6040/6040K)

- **Fit to:** CHK
- **Fit to:** EMS-6040 · EMS-6040K

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### Collet Nut CHN-E

- **Fit to:** ER16-UP AR16-AA
- **Fit to:** AMX-80 (1/3 · 1/9 Ratio) · PSA60-200/260 · PSA60S-200

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<thead>
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<th>CAT. No.</th>
<th>Model</th>
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### Collet Nut CHN-L

- **Fit to:** CHL
- **Fit to:** AMX-65 (1/3 · 1/9 Ratio) · PSA40-140/200 · PSA40S-140 · PSA45-160/220 · PSA45S-160 · PSA50-180/240 · PSA50S-180

<table>
<thead>
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### Collet Nut CHN-6
Fit to: NKM6 Group

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### Collet Nut CHN-02
Fit to: CH5

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### Collet Nut CHN-3A
Fit to: CHA

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### Collet Nut CHN-16
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### Collet Nut K-218
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<td>PL12120</td>
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### Collet Nut K-263
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<td>RA11820</td>
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### Collet Nut K-265
Fit to: CHK

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<td>RA11900</td>
<td>K-265</td>
<td>CHK</td>
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### Collet Nut K-265A
Fit to: CHK

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<td>CHK</td>
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**Order by catalog number.**
### Special Drill Chuck Arbor

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<th>Description</th>
<th>CAT. No.</th>
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<tr>
<td><strong>Special Drill Chuck Arbor</strong></td>
<td>For Drill Chuck Jacob’s Taper No. 0 Run-out Accuracy : Within 0.05 mm</td>
<td>AS02136</td>
<td>DCH-J0A</td>
<td><strong>MS-19 · 20 · 22 · MSS-19 · 20 · 22</strong> PS20-70/120</td>
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<td></td>
<td></td>
<td>AS42132</td>
<td>DCH-J0K</td>
<td><strong>MS-19 · 20 · 22 · MSS-19 · 20 · 22</strong> PS20-70/120</td>
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<td></td>
<td></td>
<td>AS42134</td>
<td>DCH-JON</td>
<td><strong>NR-310</strong></td>
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</tbody>
</table>

*For right hand (cw) rotation only.*

### Special Metal Saw Arbor

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>CAT. No.</th>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Special Metal Saw Arbor</strong></td>
<td>Dimensions of Metal Saw : ød x ø1.18” (O.D.) Run-out Accuracy : Within 0.02 mm</td>
<td>AS02135</td>
<td>KCH-01A (5.0)</td>
<td><strong>MS-19 · 20 · 22 · MSS-19 · 20 · 22</strong> PS20-70/120</td>
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<td>2135</td>
<td>KCH-01A (6.0)</td>
<td>PS20-70/120</td>
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<td>2155</td>
<td>KCH-01A (8.0)</td>
<td>PS20-70/120</td>
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<td>AS42133</td>
<td>KCH-01N (5.0)</td>
<td><strong>MSTN-23 · NR-310</strong></td>
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<td>2133</td>
<td>KCH-01N (6.0)</td>
<td><strong>MSTN-23 · NR-310</strong></td>
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<td></td>
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<td>2154</td>
<td>KCH-01N (8.0)</td>
<td><strong>MSTN-23 · NR-310</strong></td>
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<td>AS11434</td>
<td>KCH-02 (5.0)</td>
<td><strong>RA-100 · RA-151E · RA-2511 · RA-H2511</strong></td>
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<td>1077</td>
<td>KCH-02 (6.0)</td>
<td><strong>RA-100 · RA-151E · RA-2511 · RA-H2511</strong></td>
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<td>KCH-02 (8.0)</td>
<td><strong>RA-100 · RA-151E · RA-2511 · RA-H2511</strong></td>
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<td>K301085</td>
<td>KCH-03 (5.0)</td>
<td><strong>MN-302</strong></td>
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<td>42130A</td>
<td>KCH-03 (6.0)</td>
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<td>KCH-03 (8.0)</td>
<td><strong>MN-302</strong></td>
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*For right hand (cw) rotation only.*
# Grindstone Arbor

<table>
<thead>
<tr>
<th>Product</th>
<th>Description</th>
<th>CAT. No.</th>
<th>Model</th>
<th>Fit to</th>
<th>Price</th>
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<tbody>
<tr>
<td>Grindstone Arbor</td>
<td>(for Cup Wheel &amp; Rubber Pad)</td>
<td>NK11045</td>
<td>NCH-01</td>
<td>IMPULSE</td>
<td>19.00</td>
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<tr>
<td>Grindstone Arbor</td>
<td>Run-out Accuracy - Within 0.02 mm For Grindstone with ø6.0 mm I.D.</td>
<td>AS11029</td>
<td>AGM-01</td>
<td>AMH-300 · AMH-301 · NR-600 · NR-601 · SMS401</td>
<td>74.00</td>
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<td>Grindstone Arbor</td>
<td>Run-out Accuracy - Within 0.02 mm For Grindstone with ø6.0 mm I.D.</td>
<td>AS02137</td>
<td>AGM-01A</td>
<td>MS-19 · 20 · MSS-19 · 20 · 22 · PS20-70/120 · PS20S-70 · PSA23-80/130 PSA23S-80 · NR-200 · SMS400 · HP500</td>
<td>74.00</td>
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<td>Grindstone Arbor</td>
<td>Run-out Accuracy - Within 0.02 mm For Grindstone with ø6.0 mm I.D.</td>
<td>AS42131</td>
<td>AGM-03</td>
<td>E3000 · E3000-1 · NR-600 · NR-601 · SMS401</td>
<td>74.00</td>
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<td>Grindstone Arbor (Diamond)</td>
<td>Run-out Accuracy - Within 0.02 mm For Grindstone with ø6.0 mm I.D.</td>
<td>AS43737</td>
<td>AX-105</td>
<td>NR-310</td>
<td>238.00</td>
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<td>Grindstone Arbor (CBN)</td>
<td>Run-out Accuracy - Within 0.02 mm For Grindstone with ø6.0 mm I.D.</td>
<td>AS02137</td>
<td>AGM-01A</td>
<td>MS-19 · 20 · MSS-19 · 20 · 22 · PS20-70/120 · PS20S-70 · PSA23-80/130 PSA23S-80 · NR-200 · SMS400 · HP500</td>
<td>74.00</td>
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<td>Grindstone Arbor (Blank)</td>
<td>Run-out Accuracy - Within 0.02 mm For Grindstone with ø6.0 mm I.D.</td>
<td>AS02137</td>
<td>AGM-01A</td>
<td>MS-19 · 20 · MSS-19 · 20 · 22 · PS20-70/120 · PS20S-70 · PSA23-80/130 PSA23S-80 · NR-200 · SMS400 · HP500</td>
<td>74.00</td>
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*For right hand (cw) rotation only.

**Note:**
- For right hand (cw) rotation only.
- * indicates Hand Grinder use
- ** indicates Machine Spindle use

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