



Max. 40,000min⁻¹ (0.5MPa)

Max. Power 52W (0.5MPa)

High Cost Performance for MC High Speed Main Spindle Solution

Large Variety of Tapers Available
SHANK
Straight, BT30 / 40
NT30 / 40 (M)

Air Motor
The SMS Series use an advanced air motor system allowing for long continuous operation and no heat generation.

Collet
Max. ø4.0mm

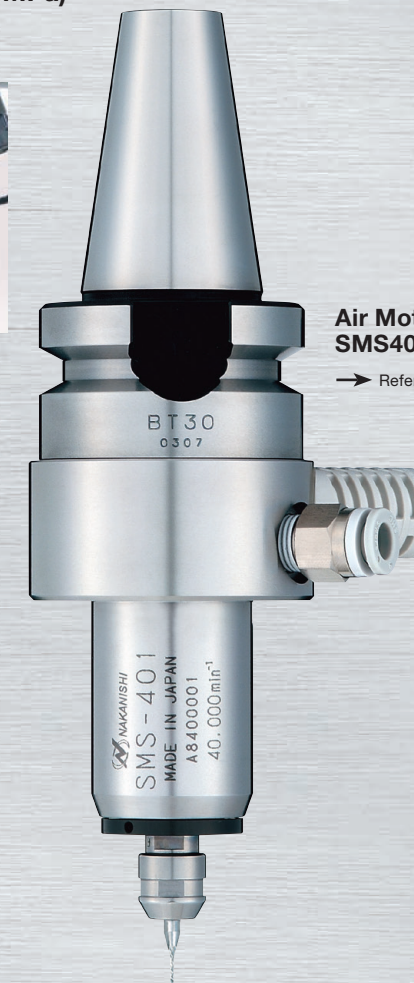
SMS Series



Max. 40,000min⁻¹ (0.5MPa)

Max. Power 52W (0.5MPa)

**Upgrade rigidity 30%
more than SMS400 Series
with Ceramic Bearings**



**Air Motor Spindle
SMS401-BT30**
→ Refer to P.42

**Air Line Kit
AL-M1202**
OPTION → Refer to P.43



**Spindle Runout :
Within 1μm**

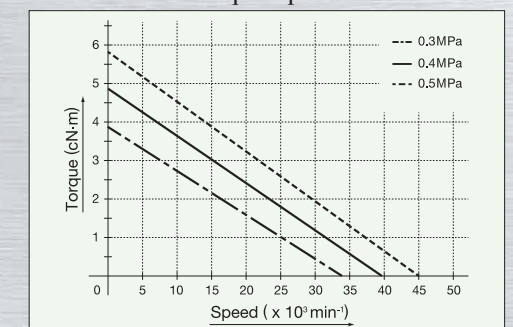
**Collet :
Max. ø4.0mm**

Collet
CHA-4.0

OPTION → Refer to P.44

*Other collet sizes are available.

● SMS Series Torque-Speed Characteristics



SMS Series Connection Diagram

Clean, lubricated, and regulated air is required for the SMS Series spindles. Please refer to the diagram to the right for proper connections. The AL-M1202 incorporates a filter, regulator and lubricator to provide the appropriated air.



SMS Series

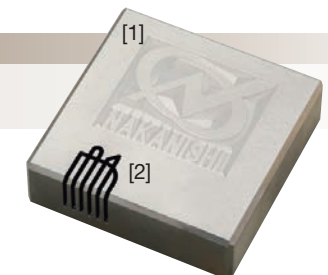


Air Line Kit AL-M1202

Compressor

SMS Series

Case Studies

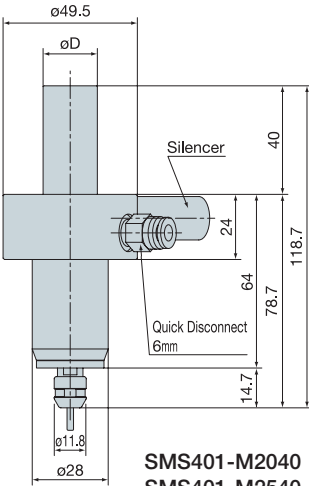


| Material | | STAVAX (HRC 52) | | | |
|------------|-------------|-------------------------------|------------------|--|------------|
| Sample No. | Usable Tool | Motor Speed min ⁻¹ | Work Feed mm/min | Cutting Depth Ad (mm) | Total Time |
| [1] | R0.3x3 | 40,000 | 2,000 | Rough cutting : 0.025 Finishing : 0.005 | 80min |
| [2] | R0.5x12 | | | 0.01 Depth : 10 | 50min |

Air Motor Spindle
< Ceramic Bearings >

SMS401 Straight Type

| Max. Power | Speed | Spindle Runout | Air Consumption |
|-----------------|-------------------------------------|----------------|-----------------|
| 52W (0.5MPa) | 40,000min ⁻¹ (0.5MPa) | Within 1 μm | 120Nℓ/min |



SMS401-M2040
SMS401-M2540
SMS401-H2540

< Specifications >

| | |
|-------------------------|----------------------|
| Proper Air Pressure | : 0.3MPa~0.5MPa |
| Hose Diameter Air Inlet | : ø6.0mm (O.D.) x 2m |

< Standard Equipment Accessories >

- Collet : ø4.0mm (CHA-4.0) • Collet Nut (CHN-A)
- Spanner (8 x 5), (9 x 11) : 1pc. each
- Hose (K-215) : ø6.0mm x 2m • Filter Joint (FJ-01)

*SMS401-H2540— Standard Equipment is Collet ø3.175mm(CHA-3.175).

< Optional >

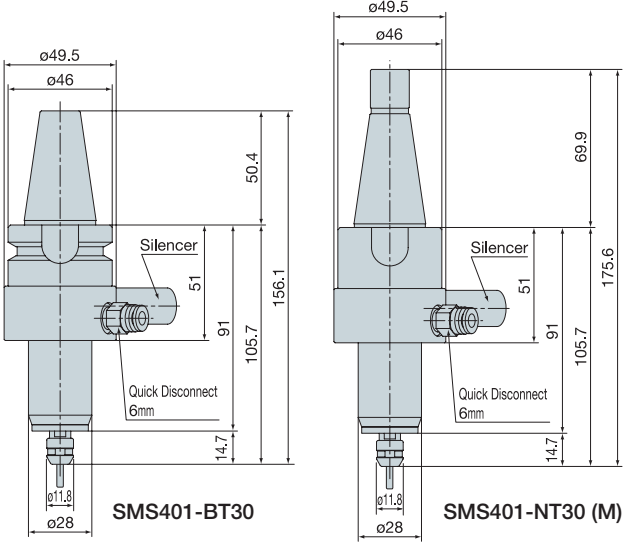
| | | |
|---------------------------|--|-------------------------|
| Collet (CHA Group) | : ø0.5~ø4.0mm | See Page 44 for details |
| Grindstone Axis (AGM-01A) | : For grinding wheel with I.D. of ø5.0mm | |

| | | | | | | | |
|----------|------|-------|--------------|------------|---------|--------|------|
| Code No. | 9121 | Model | SMS401-M2040 | Shank (øD) | ø20mm | Weight | 555g |
| Code No. | 9122 | Model | SMS401-M2540 | Shank (øD) | ø25mm | Weight | 705g |
| Code No. | 9123 | Model | SMS401-H2540 | Shank (øD) | ø25.4mm | Weight | 715g |

Air Motor Spindle
< Ceramic Bearings >

SMS401-BT30 / NT30 (M)

| Max. Power | Speed | Spindle Runout | Air Consumption |
|-----------------|-------------------------------------|----------------|-----------------|
| 52W (0.5MPa) | 40,000min ⁻¹ (0.5MPa) | Within 1 μm | 120Nℓ/min |



SMS401-BT30

SMS401-NT30 (M)

< Specifications >

| | |
|-------------------------|----------------------|
| Proper Air Pressure | : 0.3MPa~0.5MPa |
| Hose Diameter Air Inlet | : ø6.0mm (O.D.) x 2m |

< Standard Equipment Accessories >

- Collet : ø4.0mm (CHA-4.0) • Collet Nut (CHN-A)
- Spanner (8 x 5), (9 x 11) : 1pc. each
- Hose (K-215) : ø6.0mm x 2m • Filter Joint (FJ-01)

< Optional >

| | | |
|---------------------------|--|-------------------------|
| Collet (CHA Group) | : ø0.5~ø4.0mm | See Page 44 for details |
| Grindstone Axis (AGM-01A) | : For grinding wheel with I.D. of ø5.0mm | |

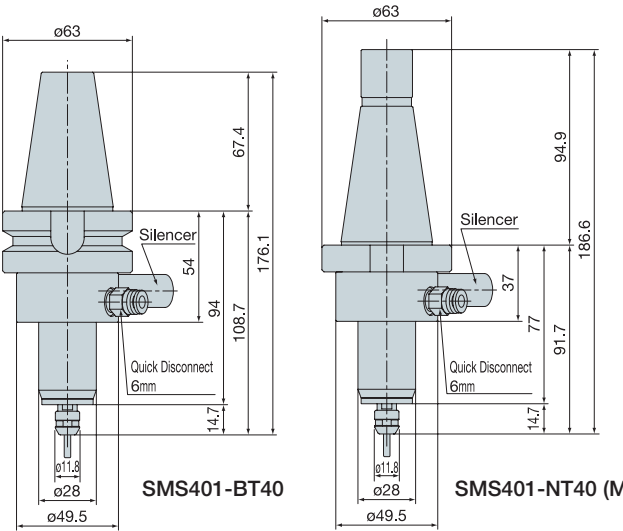
*NT30M – Retention knob threads are metric.

| | | | | | |
|----------|------|-------|--------------|--------|------|
| Code No. | 9126 | Model | SMS401-BT30 | Weight | 935g |
| Code No. | 9127 | Model | SMS401-NT30 | Weight | 965g |
| Code No. | 9128 | Model | SMS401-NT30M | Weight | 975g |

Air Motor Spindle
< Ceramic Bearings >

SMS401-BT40 / NT40 (M)

| Max. Power | Speed | Spindle Runout | Air Consumption |
|-----------------|-------------------------------------|----------------|-----------------|
| 52W (0.5MPa) | 40,000min ⁻¹ (0.5MPa) | Within 1 μm | 120Nℓ/min |



SMS401-BT40

SMS401-NT40 (M)

< Specifications >

| | |
|-------------------------|----------------------|
| Proper Air Pressure | : 0.3MPa~0.5MPa |
| Hose Diameter Air Inlet | : ø6.0mm (O.D.) x 2m |

< Standard Equipment Accessories >

- Collet : ø4.0mm (CHA-4.0) • Collet Nut (CHN-A)
- Spanner (8 x 5), (9 x 11) : 1pc. each
- Hose (K-215) : ø6.0mm x 2m • Filter Joint (FJ-01)

< Optional >

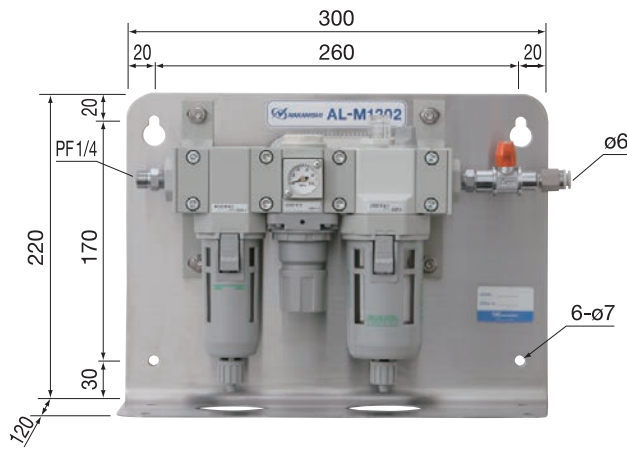
| | | |
|---------------------------|--|-------------------------|
| Collet (CHA Group) | : ø0.5~ø4.0mm | See Page 44 for details |
| Grindstone Axis (AGM-01A) | : For grinding wheel with I.D. of ø5.0mm | |

*NT40M – Retention knob threads are metric.

| | | | | | |
|----------|------|-------|--------------|--------|--------|
| Code No. | 9129 | Model | SMS401-BT40 | Weight | 1,555g |
| Code No. | 9130 | Model | SMS401-NT40 | Weight | 1,285g |
| Code No. | 9131 | Model | SMS401-NT40M | Weight | 1,285g |

Air Line Kit

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.

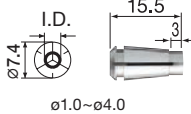
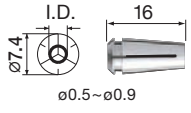

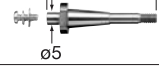


Filter Mesh 0.3 μm

| | | | |
|----------|-------------|-------|-----------------|
| Code No. | 4502 | Model | AL-M1202 |
|----------|-------------|-------|-----------------|

< Standard Equipment Accessories >

- Connection Hose (K-275) : 2m
- Lubricating Oil (K-211) : 1pc.

■Parts

| Product | Inside Diameter : ød | Fit to | Model | Code No. |
|--|--|---|-------------|--------------|
|  ø1.0~ø4.0  ø0.5~ø0.9 Collet CHA Group | ø3.0AA* | SMS series ※ High precision type AA (Spindle runout within 2μm) | CHA-3.0AA | 91494 |
| | ø3.175AA* | | CHA-3.175AA | 91496 |
| | ø4.0AA* | | CHA-4.0AA | 91495 |
| | ø2.35 | | CHA-2.35 | 91492 |
| | ø3.0 | | CHA-3.0 | 91430 |
| | ø3.175 | | CHA-3.175 | 91493 |
| | ø4.0 | | CHA-4.0 | 91440 |
| | ø0.5, ø0.6, ø0.7, ø0.8, ø0.9 | | CHA-□□ | — |
| | ø1.1, ø1.2, ø1.3, ø1.4, ø1.7, ø1.8, ø1.9 ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9 ø3.1, ø3.2, ø3.3, ø3.4, ø3.6, ø3.7, ø3.8, ø3.9 | | | |
| | ø1.0, ø1.5, ø2.0, ø2.5, ø3.5 ø1.6 | | | |
|  | Collet Nut for Collet (CHA) | SMS series | CHN-A | 2102 |
|  | Grindstone Axis Run-out Accuracy : Within 0.02 mm For Grindstone with ø5.0 mm I.D. | SMS series | AGM-01A | 2137 |
|  | Lubricating Oil (70cc) | Air Line Kit (AL-M1202) | K-211 | 1057 |
|  | Lubricating Oil (1L) | Air Line Kit (AL-M1202) | K-202 | 1058 |

*: For right hand (cw) rotation only.