

AIR MOTOR SPINDLE

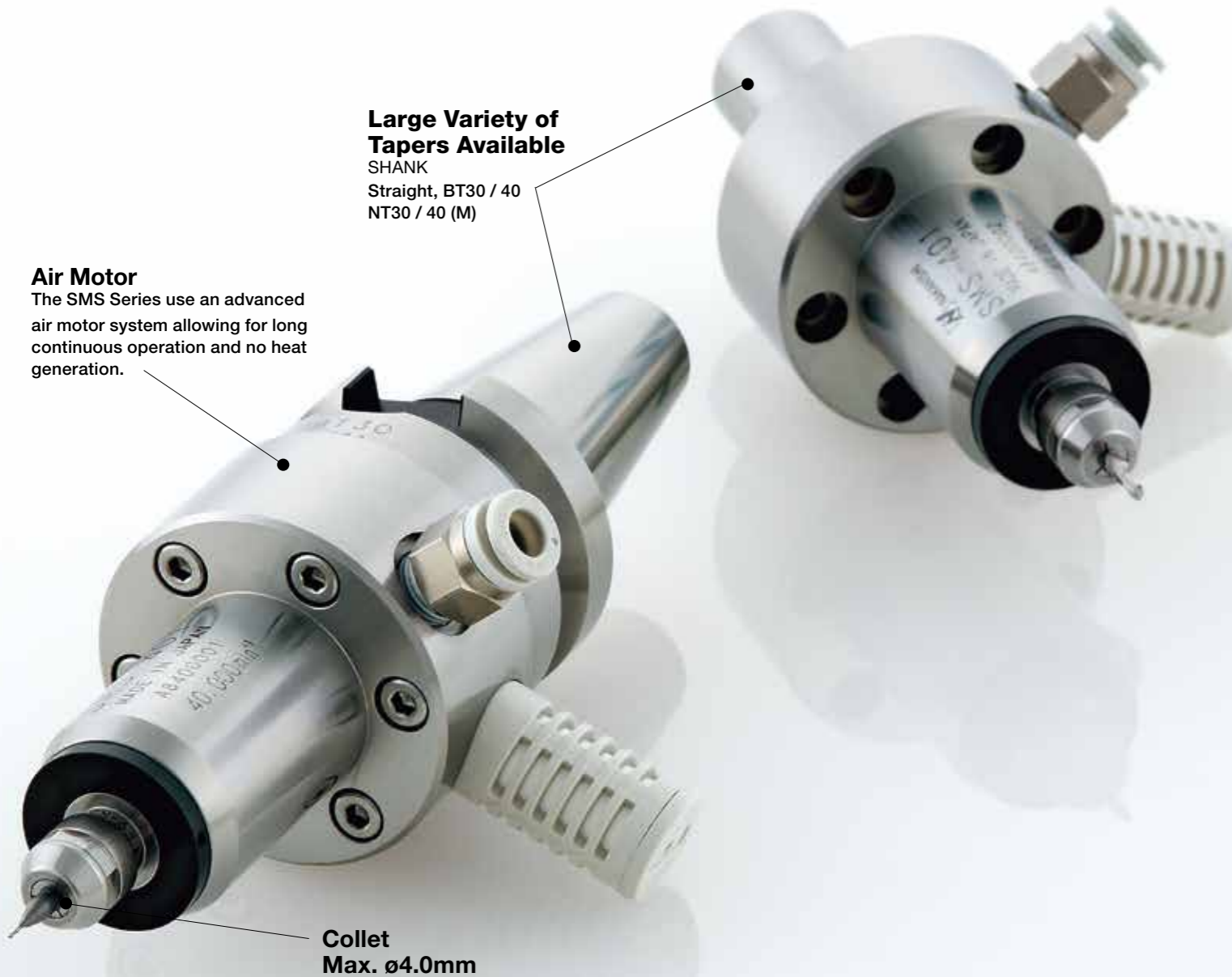
# SMS Series



**Max.** 40,000min<sup>-1</sup> (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.  $\phi 4.0\text{mm}$

## “SMS SERIES” AIR LINE KIT, PARTS

UPGRADE MACHINING CENTERS TO  
HIGH SPEED MACHINES SOLUTION

▼ AIR MOTOR SPINDLE

# SMS Series



**Max.** 40,000min<sup>-1</sup> (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 1 $\mu\text{m}$

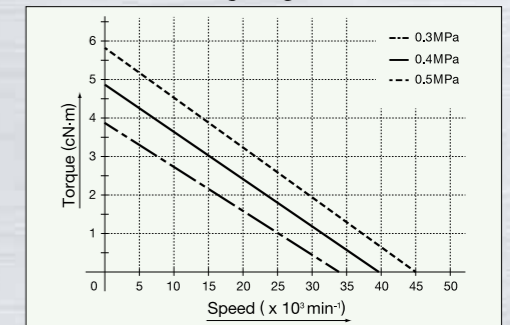
**Collet :**  
Max.  $\phi 4.0\text{mm}$

Collet  
CHA-4.0

**OPTION** → Refer to P.44

\*Other collet sizes are available.

● SMS Series Torque-Speed Characteristics



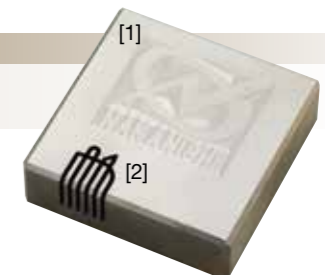
### SMS Series Connection Diagram

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

### Case Studies

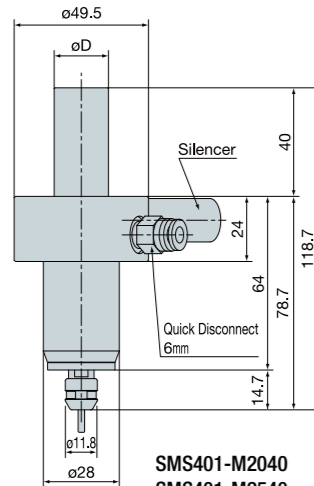


Sample No.	Usable Tool	STAVAX (HRC 52)			
		Motor Speed min <sup>-1</sup>	Work Feed mm/min	Cutting Depth Ad (mm)	Total Time
[1]	R0.3x3	40,000	2,000	Rough cutting : 0.025 Finishing : 0.005	80min
[2]	R0.5x12			0.01 Depth : 10	

Air Motor Spindle  
< Ceramic Bearings >

## SMS401 Straight Type

DXF-data



SMS401-M2040  
SMS401-M2540  
SMS401-H2540

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

< 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 >

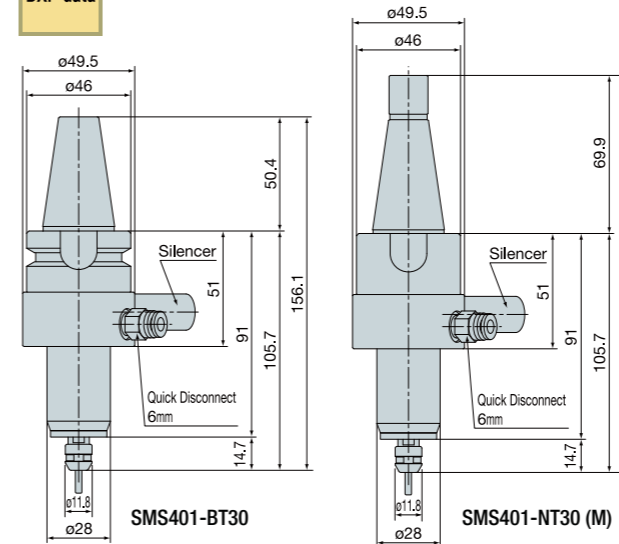
Collet (CHA Group) : ø0.5~ø4.0mm See Page 13 for details  
Grindstone Axis (AGM-01A) : For grinding wheel with I.D. of ø5.0mm

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

Air Motor Spindle  
< Ceramic Bearings >

## SMS401-BT30 / NT30 (M)

DXF-data



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

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

< 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 >

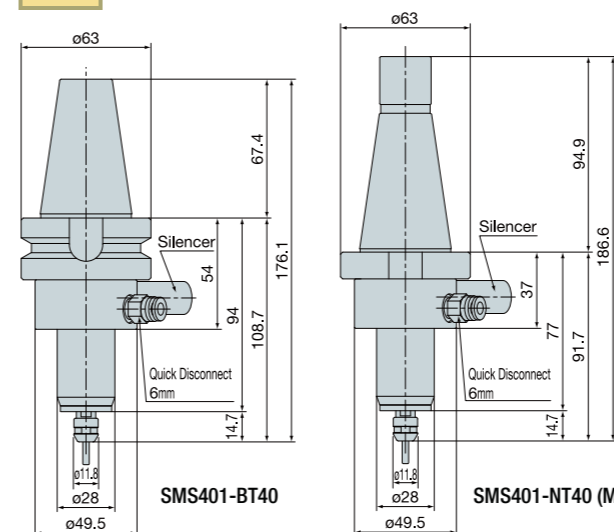
Collet (CHA Group) : ø0.5~ø4.0mm See Page 13 for details  
Grindstone Axis (AGM-01A) : For grinding wheel with I.D. of ø5.0mm

\*NT30M—Retention knob threads are metric.

Air Motor Spindle  
< Ceramic Bearings >

## SMS401-BT40 / NT40 (M)

DXF-data



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

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

< 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 >

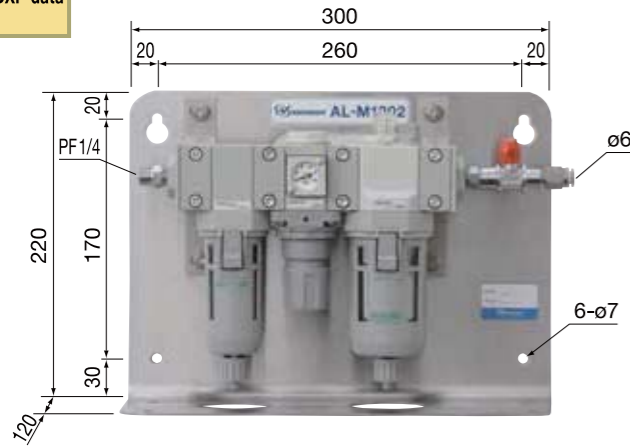
Collet (CHA Group) : ø0.5~ø4.0mm See Page 13 for details  
Grindstone Axis (AGM-01A) : For grinding wheel with I.D. of ø5.0mm

\*NT40M—Retention knob threads are metric.

Air Line Kit

**AL-M1202** (ø6 mm Air Output One-Touch Connector)

DXF-data



■ 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 >

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

■ Parts

Product	Inside Diameter : ød	Fit to	Model	Code No.
 Model : CHA-1.0, CHA-3.0, CHA-3.0AA, CHA-3.175, CHA-3.175AA, CHA-4.0, CHA-4.0AA	ø2.35	SMS series *High precision type	CHA-2.35	<b>91492</b>
	ø3.0		CHA-3.0	<b>91430</b>
	ø3.175		CHA-3.175	<b>91493</b>
	ø4.0		CHA-4.0	<b>91440</b>
	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			
 Model : Besides the above Collet CHA Group	ø3.0AA* ø3.175AA* ø4.0AA*	SMS series	CHA-3.0AA CHA-3.175AA CHA-4.0AA	<b>91494</b> <b>91496</b> <b>91495</b>
 Collet Nut for Collet (CHA)		SMS series	CHN-A	<b>2102</b>
 Grindstone Axis Run-out Accuracy : Within 0.02 mm For Grindstone with ø5.0 mm I.D.		SMS series	AGM-01A	<b>2137</b>
 Lubricating Oil (70cc)		Air Line Kit (AL-M1202)	K-211	<b>1057</b>
 Lubricating Oil (1L)		Air Line Kit (AL-M1202)	K-202	<b>1058</b>

\*: For right hand (cw) rotation only.