

AIR MOTOR SPINDLE

SMS Series



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. $\phi 4.0\text{mm}$

“SMS SERIES” AIR LINE KIT, PARTS

UPGRADE MACHINING CENTERS TO
HIGH SPEED MACHINES SOLUTION

▼ AIR MOTOR SPINDLE

SMS Series



Max. 40,000min⁻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 1 μm

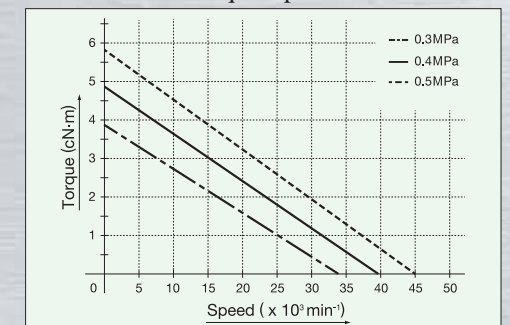
Collet :
Max. $\phi 4.0\text{mm}$

Collet
CHA-4.0

OPTION → Refer to P.44

*Other collet sizes are available.

● SMS Series Torque-Speed Characteristics



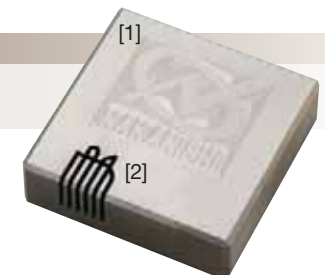
SMS Series Connection Diagram

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

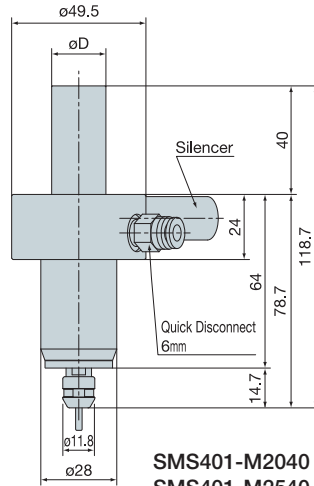


Sample No.	Usable Tool	STAVAX (HRC 52)			
		Motor Speed min ⁻¹	Work Feed mm/min	Cutting Depth Ad (mm)	Total Time
[1]	R0.3x3	40,000	2,000	Rough cutting : 0.025 Finishing : 0.005	80min
[2]	R0.5x12			0.01 Depth : 10	

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	120N /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 >

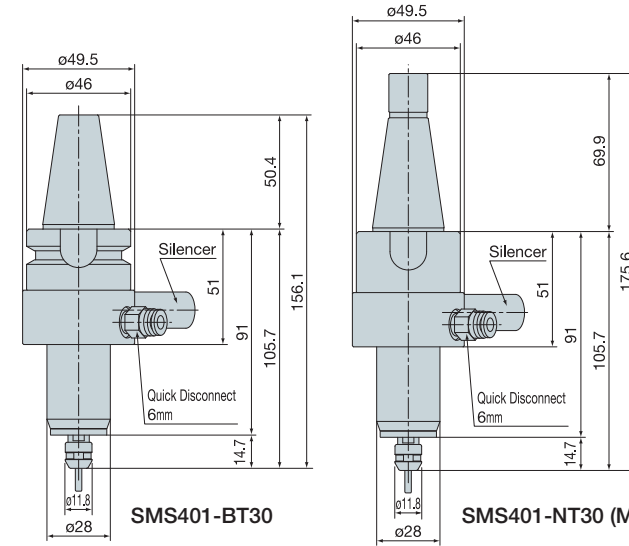
Collet (CHA Group) : ø0.5~ø4.0mm See Page 44 for details
Grindstone Axis (AGM-01A) : For grinding wheel with I.D. of ø5.0mm

Code No.	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)

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

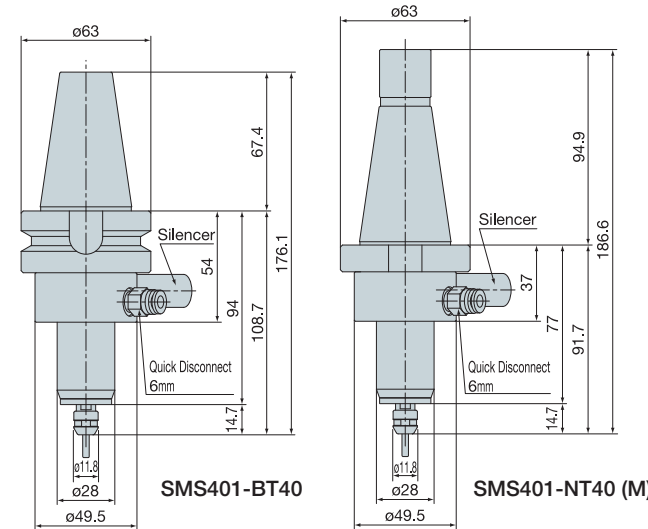
*NT30M – Retention knob threads are metric.

Code No.	Model	Weight
9126	SMS401-BT30	935g
9127	SMS401-NT30	965g
9128	SMS401-NT30M	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	120N /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 >

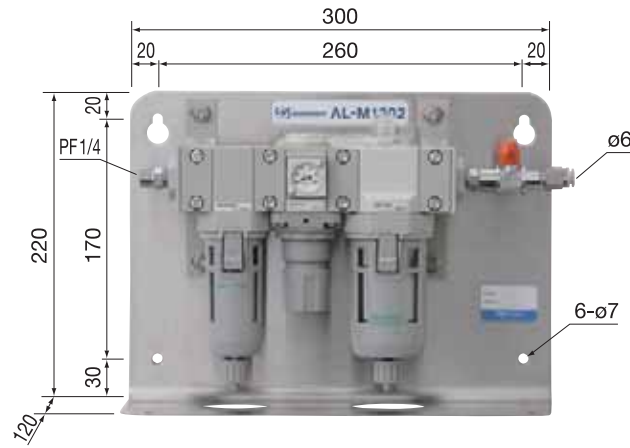
Collet (CHA Group) : ø0.5~ø4.0mm See Page 44 for details
Grindstone Axis (AGM-01A) : For grinding wheel with I.D. of ø5.0mm

*NT40M – Retention knob threads are metric.

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