

Air-Speed^{SERIES}

HIGH-SPEED ROTATION & HIGH PRECISION

φ25, φ23, φ20, φ19.05 mm

One-piece type spindle

- Max. power: 130 W • Max. motor speed: 30,000 min⁻¹
- 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.

φ30, φ25, φ22.8 mm

Separate type spindle

- Max. power: 130 W • Max. motor speed: 30,000 min⁻¹
- Free to connect the spindle to the motor for applications.
- Easy to exchange for repairs.



E4000

E3000

E2000

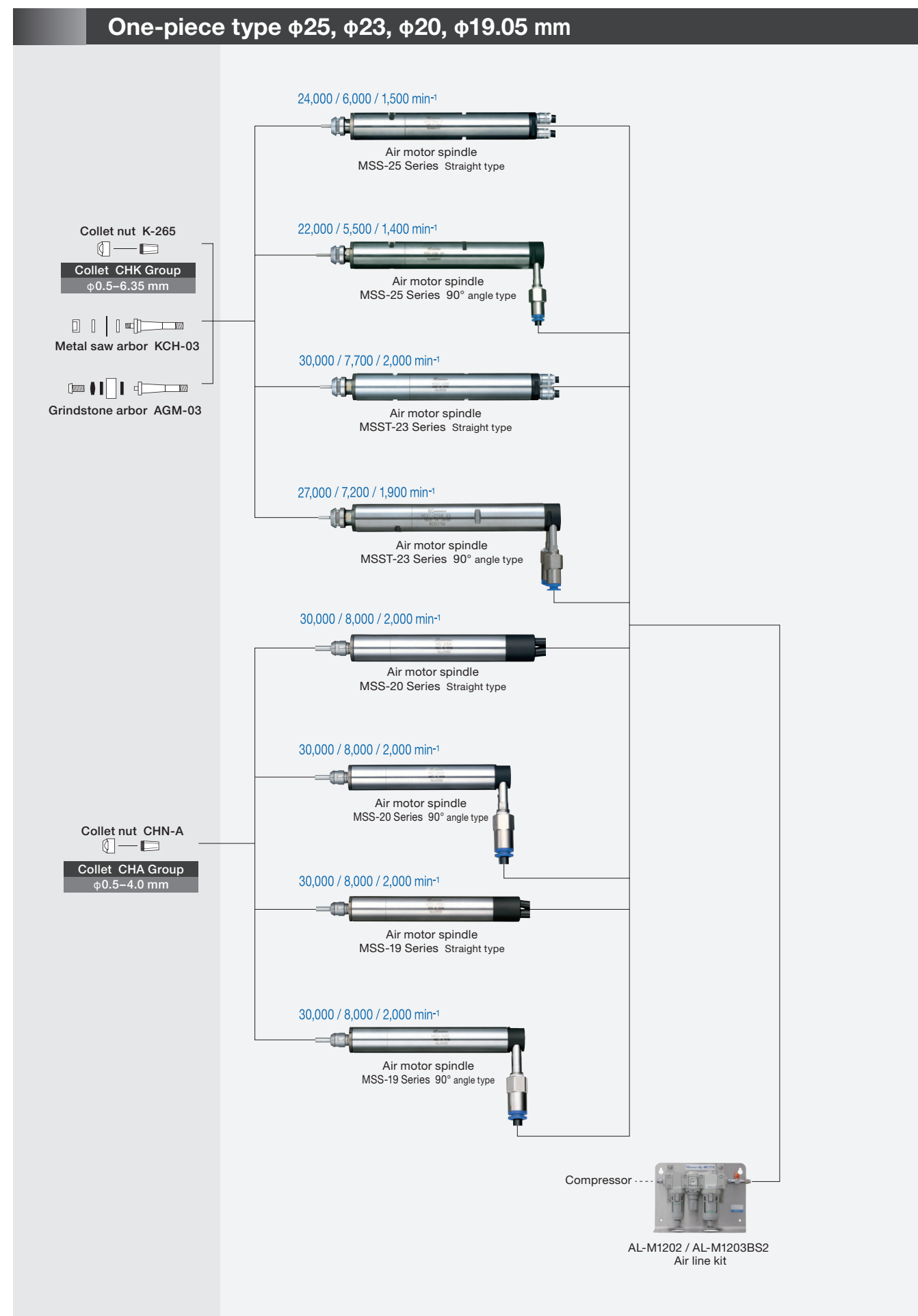
iSpeed3

Air-Speed

HES

TURBINES

ACCESSORIES



▼ AIR MOTOR SPINDLE (One-piece type)

Straight motor spindle



Outside diameter $\phi 25$, $\phi 23$, $\phi 20$, $\phi 19.05$ mm

Max. speed 30,000 min⁻¹

Max. power 130 W

Model Code Example

[1] SERIES CODE
[2] OUTSIDE DIAMETER
[3] SPEED
[4] R=FORWARD (Right)
[5] CODE FOR 90° ANGLE TYPE

•Straight type

MSS 19 08 R

•90° angle type

MSS 19 08 R A

Spindle accuracy:
Within 2 μ m



• Outer housing material

Made from stainless steel (SUS416)

• Highest output power in the class

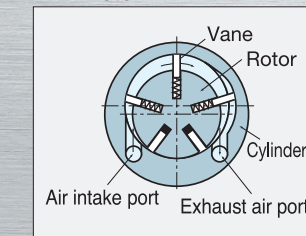
• Silencer

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

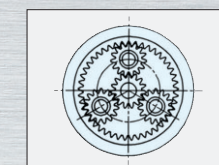
• Speed reduction system

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.

• 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.

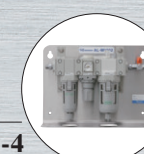


1/4 1/16:

Planetary gear system

Air line kit
AL-M1202

OPTION → See p. 8-3 and p. 8-4



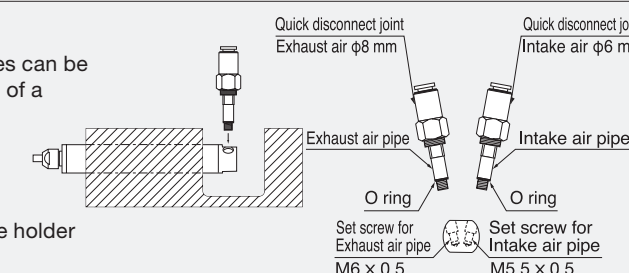
• Installation of the 90° angle type

•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.

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.

• Urethane hose of 6 x 4 for Intake air and 8 x 5 for Exhaust air can be installed.

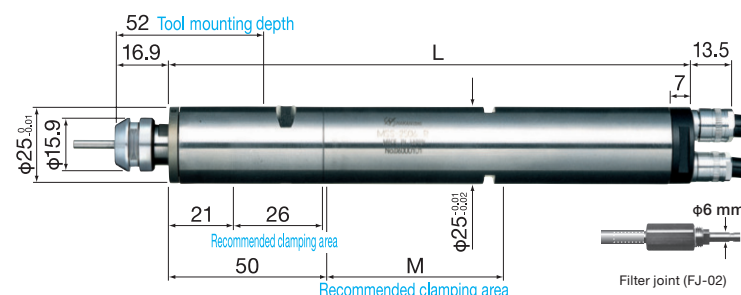


*The motor speed of the 90° angle type is 10% less than that of the Straight type.

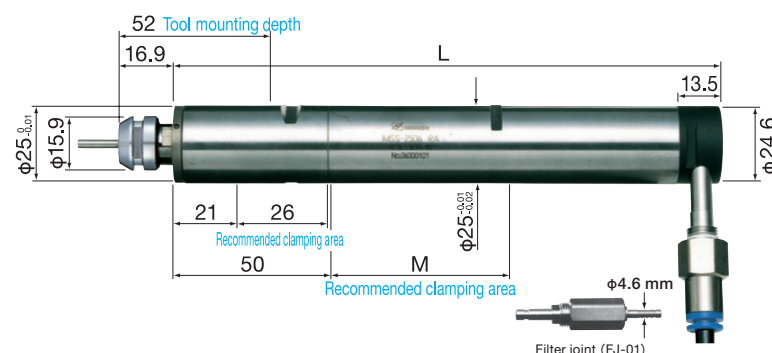
CAD drawings CAD drawings (DXF/STEP) are available on our website

Air motor spindle	O.D.	Collet	Spindle accuracy	Max. power	Air consumption
MSS-25 Series	φ25 mm	CHK Group (φ0.5–φ6.35 mm)	Within 2 μm	130 W	205 NL/min (R) 170 NL/min (RA)

▼ MSS-25 Series Straight type (R)



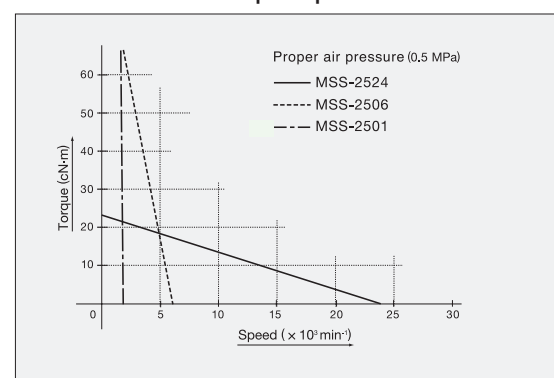
▼ MSS-25 Series 90° angle type (RA)



< Specifications >

Proper air pressure	: 0.3–0.5 MPa
Motor hose (Diameter / Length)	
R-type Intake	: φ6.7 mm (O.D.) × φ4.5 mm (I.D.) × 2 m
Exhaust	: φ7.5 mm (O.D.) × φ5.5 mm (I.D.) × 1 m
RA-type Intake	: φ6.0 mm (O.D.) × φ4.0 mm (I.D.) × 2 m
Exhaust	: φ8.0 mm (O.D.) × φ6.0 mm (I.D.) × 1 m

• MSS-25 Series Torque-Speed Characteristics



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

R 24,000 min⁻¹ (0.5 MPa) / RA 22,000 min⁻¹ (0.5 MPa)

Code No.	7841	Model	MSS-2524R	Shape	Straight	Max. torque	22.5 cN·m	Net weight	395 g	L	131.3 mm	M	25 mm
Code No.	7842	Model	MSS-2524RA	Shape	90° angle	Net weight	436 g	L	137.8 mm				

R 6,000 min⁻¹ (0.5 MPa) / RA 5,500 min⁻¹ (0.5 MPa) 1/4 Speed reduction

Code No.	7843	Model	MSS-2506R	Shape	Straight	Max. torque	85 cN·m	Net weight	485 g	L	164.1 mm	M	58 mm
Code No.	7844	Model	MSS-2506RA	Shape	90° angle	Net weight	526 g	L	170.6 mm				

R 1,500 min⁻¹ (0.5 MPa) / RA 1,400 min⁻¹ (0.5 MPa) 1/16 Speed reduction

Code No.	7845	Model	MSS-2501R	Shape	Straight	Max. torque	332 cN·m	Net weight	475 g	L	168.5 mm	M	62 mm
Code No.	7846	Model	MSS-2501RA	Shape	90° angle	Net weight	516 g	L	175.0 mm				

< Standard equipment and accessories >

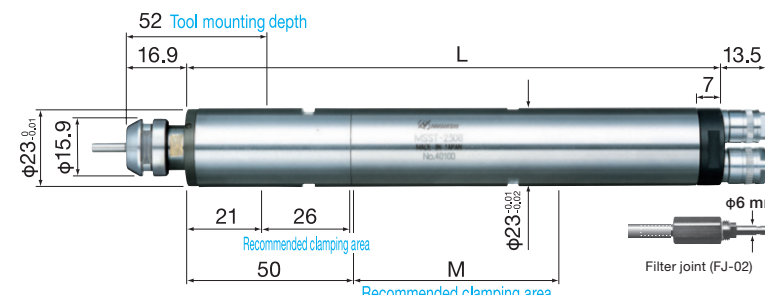
- Collet nut (K-265) · Wrench (12 × 14): 2 pcs.
- Intake and exhaust hose (K-204) (R-type): 1 pc.
- Intake hose (K-215) (RA-type): 1 pc.
- Exhaust hose (K-256) (RA-type): 1 pc.
- Filter joint (FJ-02) (R-type)
- Filter joint (FJ-01) (RA-type)
- Silencer (K-208) *Collet is sold separately.

< Options >

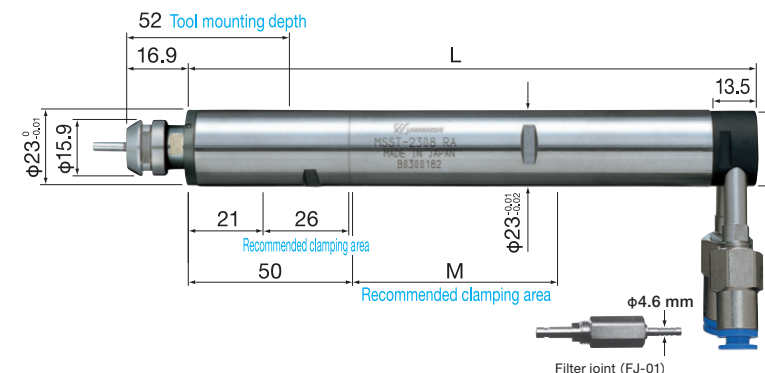
Collet (CHK Group)	: φ0.5–φ6.35 mm p. 8-5
Metal saw arbor (KCH-03)	: φd (I.D.) × under φ30 mm (O.D.)
Grindstone arbor (AGM-03)	: Grindstone I.D. φ5.0 mm

Air motor spindle	O.D.	Collet	Spindle accuracy	Max. power	Air consumption
MSST-23 Series	φ23 mm	CHK Group (φ0.5–φ6.35 mm)	Within 2 μm	108 W	190 NL/min (R) 170 NL/min (RA)

▼ MSST-23 Series Straight type (R)



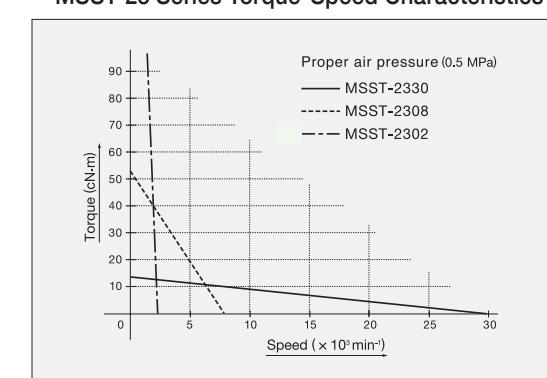
▼ MSST-23 Series 90° angle type (RA)



< Specifications >

Proper air pressure	: 0.3–0.5 MPa
Motor hose (Diameter / Length)	
R-type Intake	: φ6.7 mm (O.D.) × φ4.5 mm (I.D.) × 2 m
Exhaust	: φ7.5 mm (O.D.) × φ5.5 mm (I.D.) × 1 m
RA-type Intake	: φ6.0 mm (O.D.) × φ4.0 mm (I.D.) × 2 m
Exhaust	: φ8.0 mm (O.D.) × φ5.0 mm (I.D.) × 1 m

• MSST-23 Series Torque-Speed Characteristics



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 (0.5 MPa) / RA 27,000 min⁻¹ (0.5 MPa)

Code No.	7833	Model	MSST-2330R	Shape	Straight	Max. torque	13.7 cN·m	Net weight	328 g	L	127.3 mm	M	25 mm
Code No.	7834	Model	MSST-2330RA	Shape	90° angle	Net weight	369 g	L	133.8 mm				

R 7,700 min⁻¹ (0.5 MPa) / RA 7,200 min⁻¹ (0.5 MPa) 1/4 Speed reduction

Code No.	7835	Model	MSST-2308R	Shape	Straight	Max. torque	52 cN·m	Net weight	415 g	L	160.1 mm	M	58 mm
Code No.	7836	Model	MSST-2308RA	Shape	90° angle	Net weight	456 g	L	166.6 mm				

R 2,000 min⁻¹ (0.5 MPa) / RA 1,900 min⁻¹ (0.5 MPa) 1/16 Speed reduction

Code No.	7837	Model	MSST-2302R	Shape	Straight	Max. torque	202 cN·m	Net weight	405 g	L	164.4 mm	M	62 mm
Code No.	7838	Model	MSST-2302RA	Shape	90° angle	Net weight	446 g	L	170.9 mm				

< Standard equipment and accessories >

- Collet nut (K-265) · Wrench (12 × 14): 2 pcs.
- Intake and exhaust hose (K-204) (R-type): 1 pc.
- Intake hose (K-215) (RA-type): 1 pc.
- Exhaust hose (K-216) (RA-type): 1 pc.
- Filter joint (FJ-02) (R-type)
- Filter joint (FJ-01) (RA-type)
- Silencer (K-208) *Collet is sold separately.

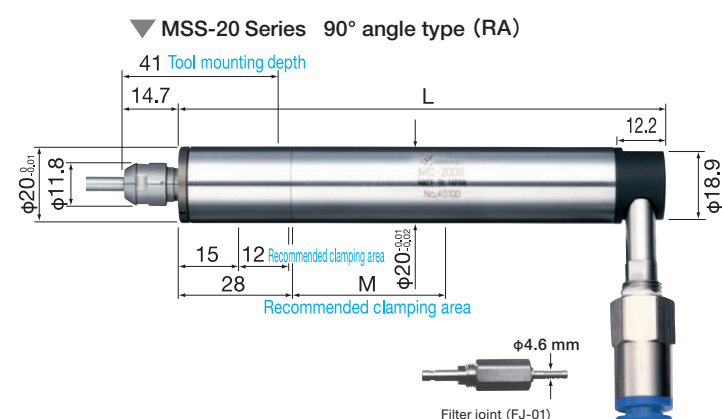
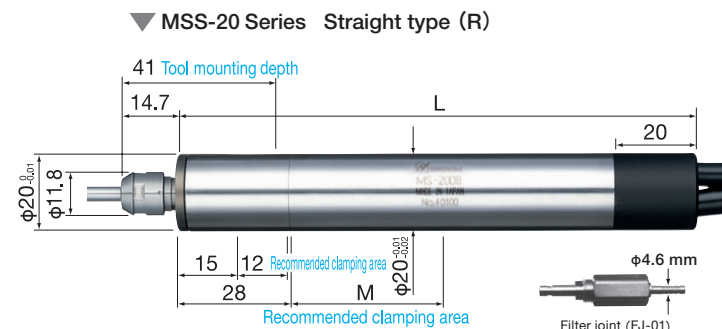
< Options >

Collet (CHK Group)	: φ0.5–φ6.35 mm p. 8-5
Metal saw arbor (KCH-03)	: φd (I.D.) × under φ30 mm (O.D.)
Grindstone arbor (AGM-03)	: Grindstone I.D. φ5.0 mm

CAD drawings

CAD drawings (DXF/STEP) are available on our website

Air motor spindle	O.D.	Collet	Spindle accuracy	Max. power	Air consumption
MSS-20 Series	φ20 mm	CHA Group (φ0.5–φ4.0 mm)	Within 2 μm	72 W	155 NL/min (R · RA)



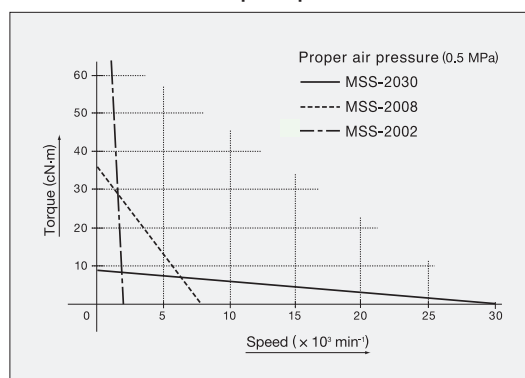
< Specifications >

Proper air pressure : 0.3–0.5 MPa

Motor hose (Diameter / Length)

R-type	Intake	φ5.7 mm (O.D.) × φ3.7 mm (I.D.) × 2 m
	Exhaust	φ6.5 mm (O.D.) × φ5.0 mm (I.D.) × 1 m
RA-type	Intake	φ6.0 mm (O.D.) × φ4.0 mm (I.D.) × 2 m
	Exhaust	φ8.0 mm (O.D.) × φ5.0 mm (I.D.) × 1 m

• MSS-20 Series Torque-Speed Characteristics



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

30,000 min⁻¹ (0.5 MPa)

Code No.	7851	Model	MSS-2030R	Shape	Straight	Max. torque	9.2 cN·m	Net weight	190 g	L	110.9 mm	M	23 mm
Code No.	7852	Model	MSS-2030RA	Shape	90° angle	Max. torque	9.2 cN·m	Net weight	239 g	L	103.1 mm	M	23 mm

8,000 min⁻¹ (0.5 MPa) 1/4 Speed reduction

Code No.	7828	Model	MSS-2008R	Shape	Straight	Max. torque	36 cN·m	Net weight	225 g	L	126.8 mm	M	39 mm
Code No.	7829	Model	MSS-2008RA	Shape	90° angle	Max. torque	36 cN·m	Net weight	274 g	L	119.0 mm	M	39 mm

2,000 min⁻¹ (0.5 MPa) 1/16 Speed reduction

Code No.	7830	Model	MSS-2002R	Shape	Straight	Max. torque	141 cN·m	Net weight	241 g	L	141.0 mm	M	53 mm
Code No.	7831	Model	MSS-2002RA	Shape	90° angle	Max. torque	141 cN·m	Net weight	290 g	L	133.2 mm	M	53 mm

< Standard equipment and accessories >

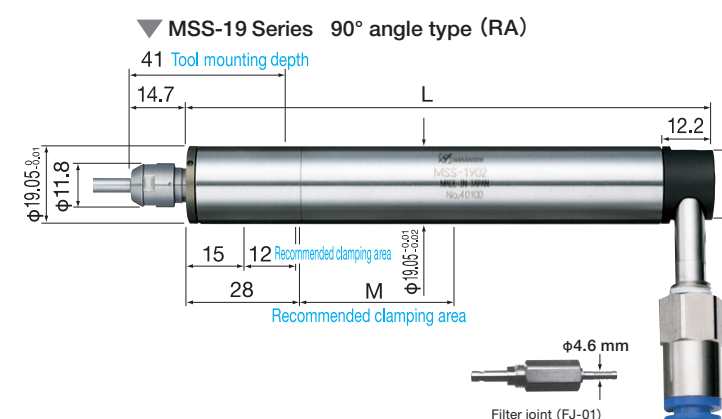
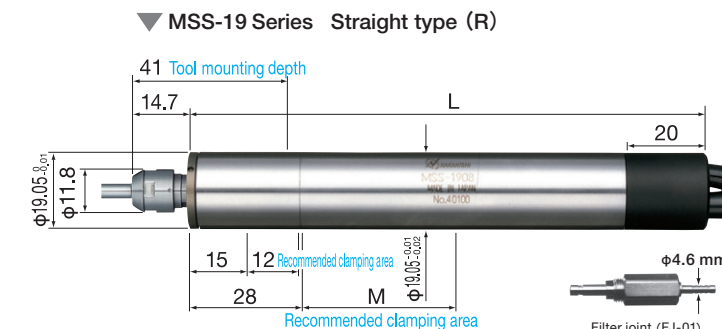
- Collet nut (CHN-A) • Wrench (8 × 5) • (9 × 11): 1 pc. each
- Intake and exhaust hose (K-221) (R-type): 1 pc.
- Intake hose (K-215) (RA-type): 1 pc.
- Exhaust hose (K-216) (RA-type): 1 pc.
- Filter joint (FJ-01)
- Silencer (K-209) (R-type) • Silencer (K-208) (RA-type)

*Collet is sold separately.

< Options >

Collet (CHA Group) : φ0.5–φ4.0 mm **p. 8-5**

Air motor spindle	O.D.	Collet	Spindle accuracy	Max. power	Air consumption
MSS-19 Series	φ19.05 mm	CHA Group (φ0.5–φ4.0 mm)	Within 2 μm	72 W	155 NL/min (R · RA)



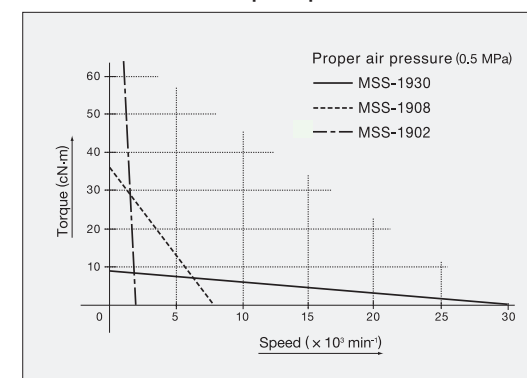
< Specifications >

Proper air pressure : 0.3–0.5 MPa

Motor hose (Diameter / Length)

R-type	Intake	φ5.7 mm (O.D.) × φ3.7 mm (I.D.) × 2 m
	Exhaust	φ6.5 mm (O.D.) × φ5.0 mm (I.D.) × 1 m
RA-type	Intake	φ6.0 mm (O.D.) × φ4.0 mm (I.D.) × 2 m
	Exhaust	φ8.0 mm (O.D.) × φ5.0 mm (I.D.) × 1 m

• MSS-19 Series Torque-Speed Characteristics



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

30,000 min⁻¹ (0.5 MPa)

Code No.	7849	Model	MSS-1930R	Shape	Straight	Max. torque	9.2 cN·m	Net weight	171 g	L	110.9 mm	M	23 mm
Code No.	7850	Model	MSS-1930RA	Shape	90° angle	Max. torque	9.2 cN·m	Net weight	219 g	L	103.1 mm	M	23 mm

8,000 min⁻¹ (0.5 MPa) 1/4 Speed reduction

Code No.	7824	Model	MSS-1908R	Shape	Straight	Max. torque	36 cN·m	Net weight	202 g	L	126.8 mm	M	39 mm
Code No.	7825	Model	MSS-1908RA	Shape	90° angle	Max. torque	36 cN·m	Net weight	250 g	L	119.0 mm	M	39 mm

2,000 min⁻¹ (0.5 MPa) 1/16 Speed reduction

Code No.	7826	Model	MSS-1902R	Shape	Straight	Max. torque	141 cN·m	Net weight	216 g	L	141.0 mm	M	53 mm
Code No.	7827	Model	MSS-1902RA	Shape	90° angle	Max. torque	141 cN·m	Net weight	264 g	L	133.2 mm	M	53 mm

< Standard equipment and accessories >

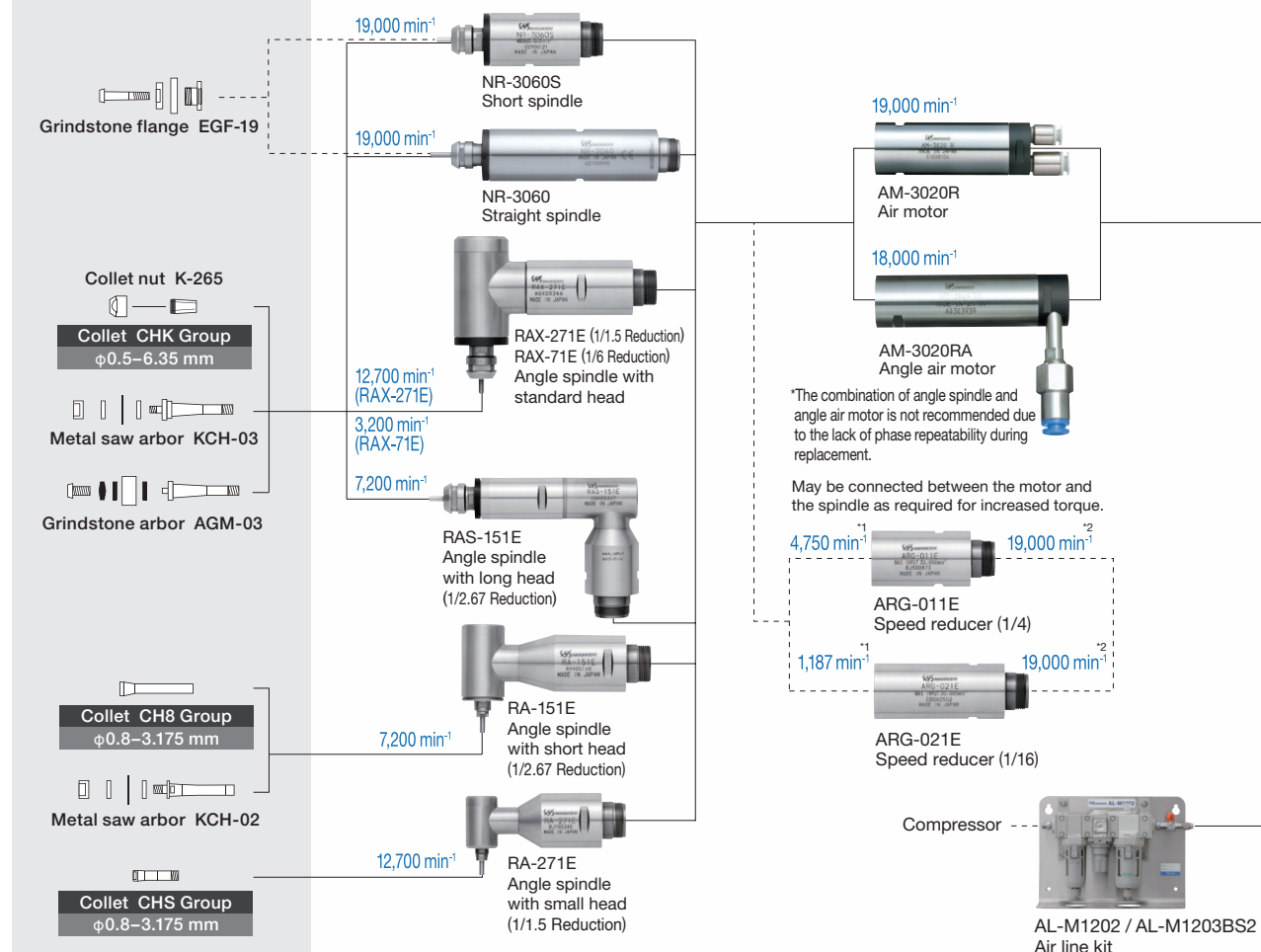
- Collet nut (CHN-A) • Wrench (8 × 5) • (9 × 11): 1 pc. each
- Intake and exhaust hose (K-221) (R-type): 1 pc.
- Intake hose (K-215) (RA-type): 1 pc.
- Exhaust hose (K-216) (RA-type): 1 pc.
- Filter joint (FJ-01)
- Silencer (K-209) (R-type) • Silencer (K-208) (RA-type)

*Collet is sold separately.

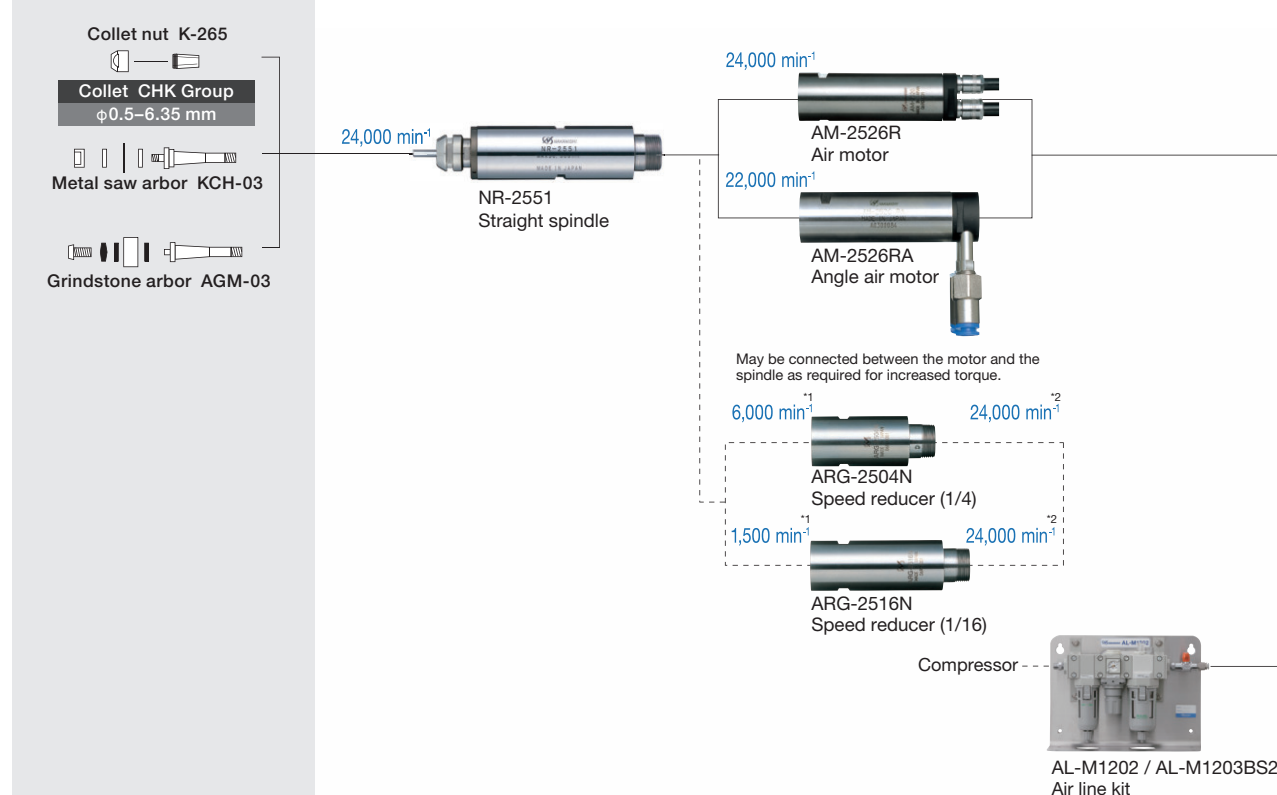
< Options >

Collet (CHA Group) : φ0.5–φ4.0 mm **p. 8-5**

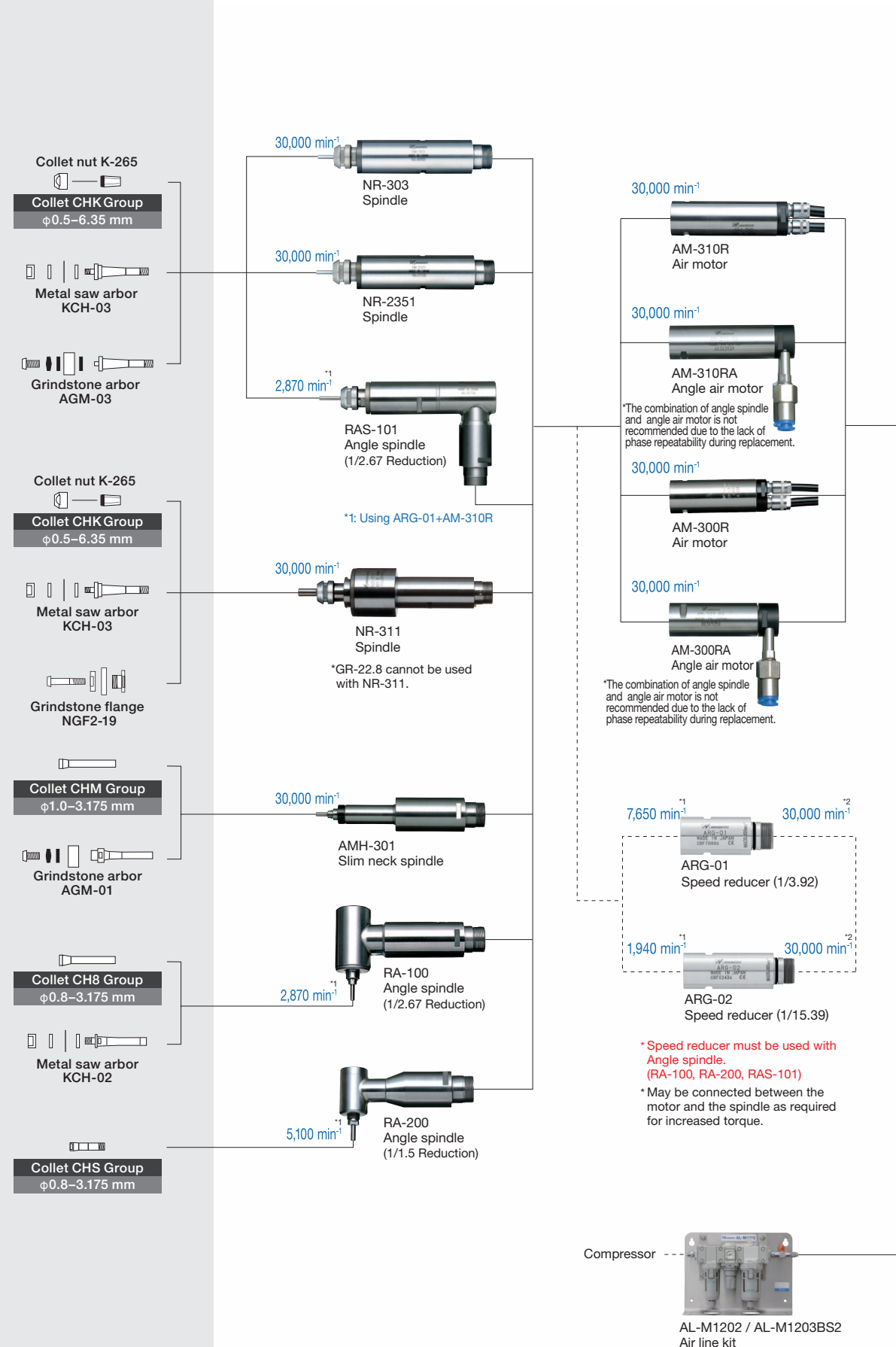
Separate type $\phi 30$ mm



Separate type $\phi 25$ mm



Separate type $\phi 22.8$ mm



*Please maintain not to exceed speed limit. Excess speed will dramatically reduce bearing life.

*1: Max. speed at the cutting tool. *2: Max. allowable motor speed.

E4000

E3000

E2000

ISpeed3

Air-Speed

HES

TURBINES

ACCESSORIES

CAD drawings

CAD drawings (DXF/STEP) are available on our website

Spindle
< Ceramic bearings >
NR-3060

O.D.	Allowable motor speed	Spindle accuracy	Collet	Net weight
φ30 mm	19,000 min ⁻¹ (Using AM-3020R)	Within 1 μm	CHK Group (φ0.5–φ6.35 mm)	480 g

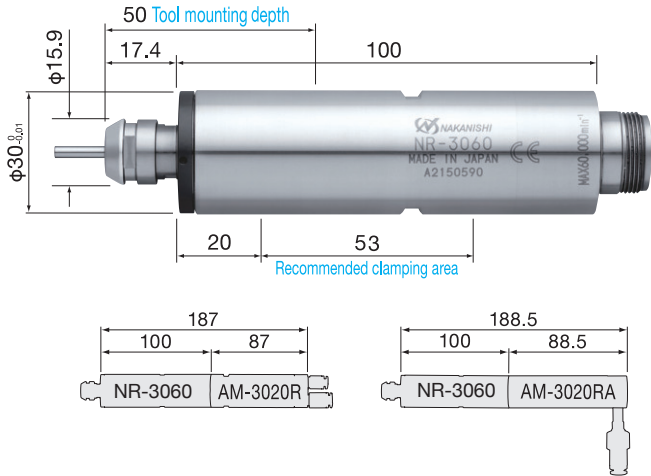
Code No. **7875** Model **NR-3060**

< Standard equipment and accessories >

- Collet nut (K-265)
- Wrench (12 × 14): 2 pcs. • (22 × 27): 1 pc. ***Collet is sold separately.**

< Options >

Collet (CHK Group)	: φ0.5–φ6.35 mm p. 8-5
Metal saw arbor (KCH-03)	: φd (I.D.) × under φ30 mm (O.D.)
Grindstone arbor (AGM-03)	: Grindstone I.D. φ5.0 mm
Grindstone flange (EGF-19)	: φ19.05 (I.D.) × φ40 (O.D.) × 7 (W) mm



▼ AIR MOTOR & SPINDLE (Separate type)

Straight motor spindle



- Outside diameter **φ30 mm**
- Max. speed **19,000** min⁻¹ (Using 0.5 MPa: AM-3020R)
- Max. power **130** W

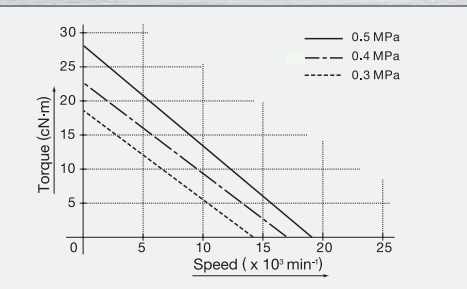
Spindle accuracy:
Within **1** μm



Air line kit
AL-M1202

OPTION → See p. 8-3 and 8-4

• AM-3020R Torque-Speed Characteristics



Collet:
Max. **φ6.35** mm

Collet
CHK-3.0
OPTION → See p. 8-5
*Other collet sizes are available.

Spindle < Ceramic bearings > NR-3060S	O.D.	Allowable motor speed	Spindle accuracy	Collet	Net weight
	φ30 mm	19,000 min ⁻¹ (Using AM-3020R)	Within 1 μm	CHK Group (φ0.5–φ6.35 mm)	260 g

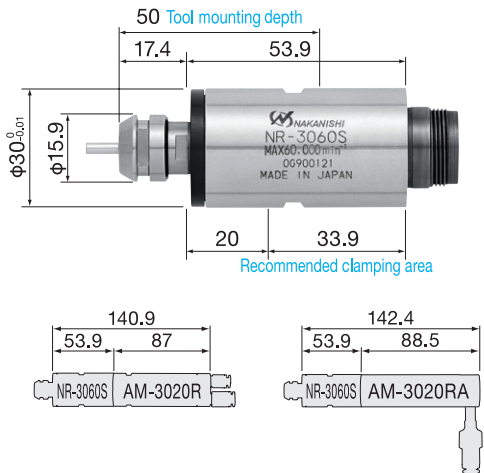
Code No. **7859** Model **NR-3060S**

< Standard equipment and accessories >

- Collet nut (K-265)
- Wrench (12 × 14): 2 pcs. • (22 × 27): 1 pc. ***Collet is sold separately.**

< Options >

Collet (CHK Group)	: φ0.5–φ6.35 mm p. 8-5
Metal saw arbor (KCH-03)	: φd (I.D.) × under φ30 mm (O.D.)
Grindstone arbor (AGM-03)	: Grindstone I.D. φ5.0 mm
Grindstone flange (EGF-19)	: φ19.05 (I.D.) × φ40 (O.D.) × 7 (W) mm



CAD drawings CAD drawings (DXF/STEP) are available on our website

▼ AIR MOTOR & SPINDLE (Separate type)

Angle motor spindle



Outside diameter $\phi 30$ mm

Max. speed **12,700 min⁻¹** (Max. speed at the cutting tool
(Using 0.5 MPa: AM-3020R))

Max. power **130 W**



Air motor
AM-3020R
→ See p. 5-15

Angle spindle
RAX-271E

Air line kit
AL-M1202

OPTION → See p. 8-3 and 8-4

Collet:
Max. $\phi 6.35$ mm

Collet
CHK-3.0

OPTION → See p. 8-5

*Other collet sizes are available.

Angle spindle select sheet

Model	RAX-271E	RAX-71E	RAS-151E	RA-151E	RA-271E
Angle head size O.D.	$\phi 30$ mm	$\phi 30$ mm	$\phi 23$ mm	$\phi 22.8$ mm	$\phi 17.4$ mm
Max. speed at the cutting tool ¹	12,700 min ⁻¹	3,200 min ⁻¹	7,200 min ⁻¹	7,200 min ⁻¹	12,700 min ⁻¹
Using tools	$\phi 0.5$ – $\phi 6.35$ mm		$\phi 0.8$ – $\phi 3.175$ mm		

¹ Using AM-3020R

Angle spindle

RAX-271E

RAX-71E

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Spindle accuracy	Collet	Net weight
$\phi 30$ mm	12,700 min⁻¹	1/1.5	19,000 min⁻¹ (Using AM-3020R)	Within 2 μ m	CHK Group ($\phi 0.5$ – $\phi 6.35$ mm)	580 g
$\phi 30$ mm	3,200 min⁻¹	1/6	19,000 min⁻¹ (Using AM-3020R)	Within 2 μ m	CHK Group ($\phi 0.5$ – $\phi 6.35$ mm)	580 g

Code No. **7856** Model **RAX-271E**

Code No. **7857** Model **RAX-71E**

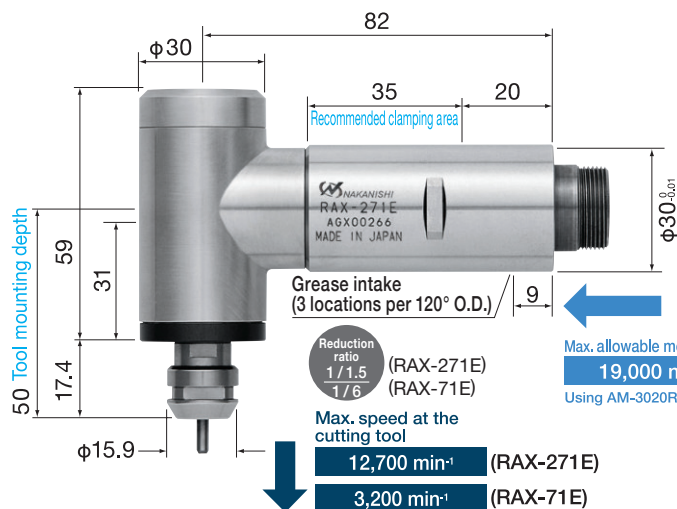
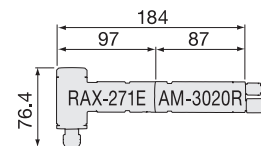
< Standard equipment and accessories >

- Collet nut (K-265) • Wrench (12 × 14): 2 pcs. • (22 × 27): 1 pc.
- Grease for Speed reducer (10 mL) • Grease nipple: 1 pc.

*Collet is sold separately.

< Options >

- Collet (CHK Group) : $\phi 0.5$ – $\phi 6.35$ mm **p. 8-5**
- Metal saw arbor (KCH-03) : ϕd (I.D.) × under $\phi 30$ mm (O.D.)
- Grindstone arbor (AGM-03) : Grindstone I.D. $\phi 5.0$ mm

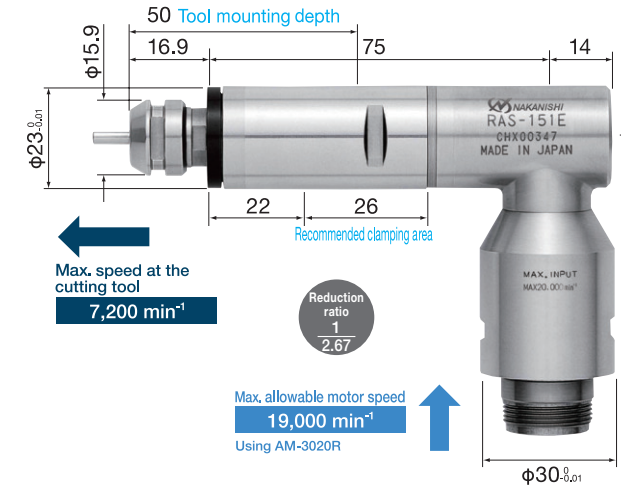


To extend the life expectancy of the Speed reducer, inject grease every 70 to 100 hours. Grease injection prevents friction of the internal gears as well as heat generation. Adding grease also prevents the degradation of the existing grease in the reducer. Please maintain a reducer grease maintenance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

Angle spindle

RAS-151E

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Spindle accuracy	Collet	Net weight
$\phi 23$ mm	7,200 min⁻¹	1/2.67	19,000 min⁻¹ (Using AM-3020R)	Within 2 μ m	CHK Group ($\phi 0.5$ – $\phi 6.35$ mm)	413 g



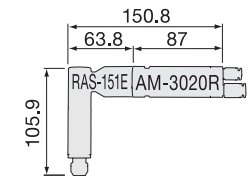
Code No. **7840** Model **RAS-151E**

< Standard equipment and accessories >

- Collet nut (K-265)
- Wrench (12 × 14): 2 pcs. • (22 × 27): 1 pc. *Collet is sold separately.

< Options >

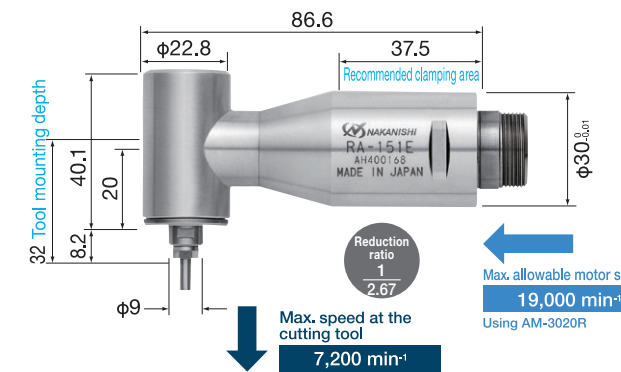
- Collet (CHK Group) : $\phi 0.5$ – $\phi 6.35$ mm **p. 8-5**
- Metal saw arbor (KCH-03) : ϕd (I.D.) × under $\phi 30$ mm (O.D.)
- Grindstone arbor (AGM-03) : Grindstone I.D. $\phi 5.0$ mm



Angle spindle

RA-151E

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Collet	Net weight
$\phi 30$ mm	7,200 min⁻¹	1/2.67	19,000 min⁻¹ (Using AM-3020R)	CH8 Group ($\phi 0.8$ – $\phi 3.175$ mm)	385 g



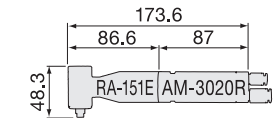
Code No. **1505** Model **RA-151E**

< Standard equipment and accessories >

- Collet: $\phi 3.0$ mm (CH8-3.0)
- Wrench (7 × 5.5) • (8 × 5) • (22 × 27): 1 pc. each

< Options >

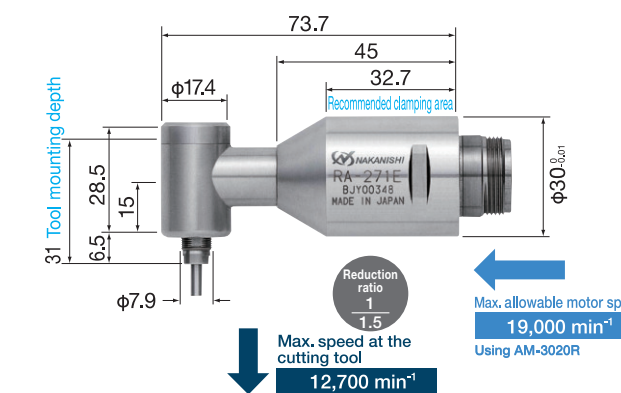
- Collet (CH8 Group) : $\phi 0.8$ – $\phi 3.175$ mm **p. 8-7**
- Metal saw arbor (KCH-02) : ϕd (I.D.) × under $\phi 30$ mm (O.D.)



Angle spindle

RA-271E

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Collet	Net weight
$\phi 30$ mm	12,700 min⁻¹	1/1.5	19,000 min⁻¹ (Using AM-3020R)	CHS Group ($\phi 0.8$ – $\phi 3.175$ mm)	240 g



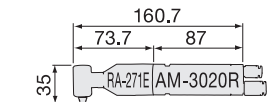
Code No. **1506** Model **RA-271E**

< Standard equipment and accessories >

- Collet: $\phi 3.0$ mm (CHS-3.0)
- Wrench (7 × 5.1) • (8 × 5) • (22 × 27): 1 pc. each

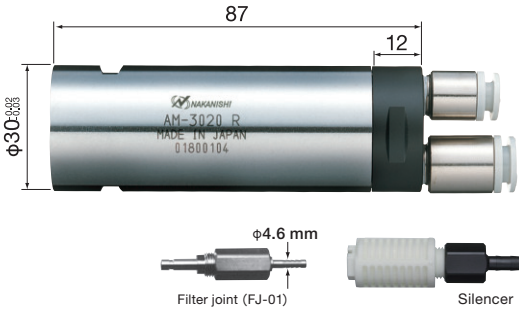
< Options >

- Collet (CHS Group) : $\phi 0.8$ – $\phi 3.175$ mm **p. 8-6**



CAD drawings CAD drawings (DXF/STEP) are available on our website

Air motor (Forward rotation)	O.D.	Motor speed	Max. power	Proper air pressure	Air consumption	Net weight
AM-3020R	φ30 mm	19,000 min ⁻¹ (0.5 MPa)	130 W	0.3–0.5 MPa	180 NL/min	298 g (w/o hose)



Code No.	1797	Model	AM-3020R
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< Specifications >

Motor hose (Diameter / Length)

Intake : φ6.0 mm (O.D.) × φ4.0 mm (I.D.) × 2 m

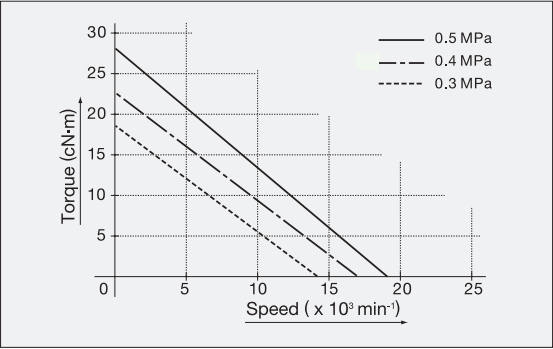
Exhaust : φ8.0 mm (O.D.) × φ6.0 mm (I.D.) × 1 m

< Standard equipment and accessories >

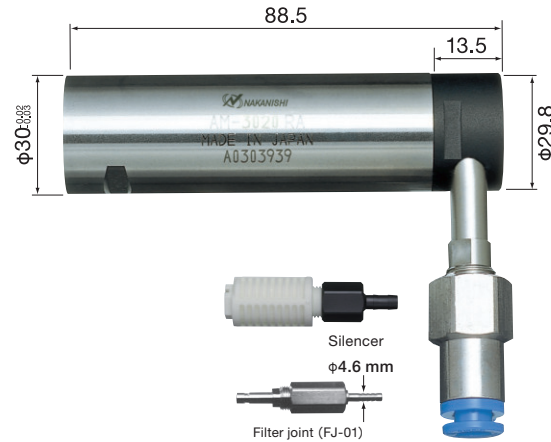
• Intake hose (K-215) • Exhaust hose (K-256)

• Filter joint (FJ-01) • Silencer (K-208) • Wrench (22 × 27): 1 pc.

• AM-3020R Torque-Speed Characteristics



Angle air motor (Forward rotation)	O.D.	Motor speed	Max. power	Proper air pressure	Air consumption	Net weight
AM-3020RA	φ30 mm	18,000 min ⁻¹ (0.5 MPa)	125 W	0.3–0.5 MPa	175 NL/min	339 g (w/o hose)



Code No.	1799	Model	AM-3020RA
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< Specifications >

Motor hose (Diameter / Length)

Intake : φ6.0 mm (O.D.) × φ4.0 mm (I.D.) × 2 m

Exhaust : φ8.0 mm (O.D.) × φ6.0 mm (I.D.) × 1 m

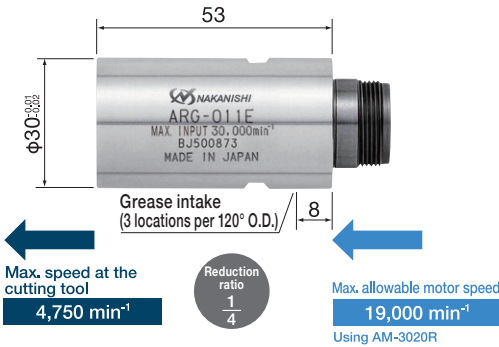
< Standard equipment and accessories >

• Intake hose (K-215) • Exhaust hose (K-256)

• Filter joint (FJ-01) • Silencer (K-208) • Wrench (22 × 27): 1 pc.

*Not recommended for use with angle spindles due to the lack of phase repeatability during replacement.

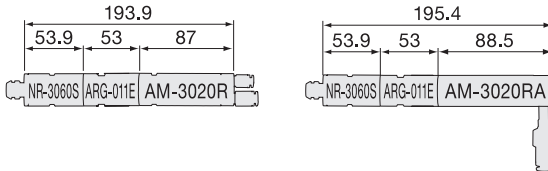
Speed reducer (1/4)	O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Net weight
ARG-011E	φ30 mm	4,750 min ⁻¹	1/4	19,000 min ⁻¹ (Using AM-3020R)	242 g



Code No.	1507	Model	ARG-011E
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< Standard equipment and accessories >

• Grease for Speed reducer (10 mL) • Grease nipple: 1 pc.

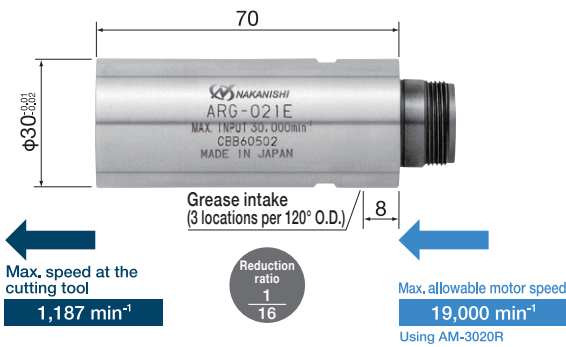


Please maintain not to exceed speed limit.



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.

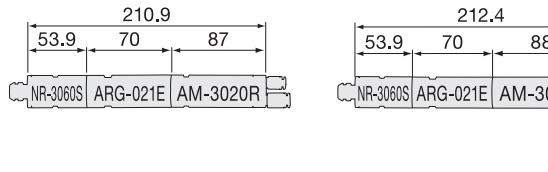
Speed reducer (1/16)	O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Net weight
ARG-021E	φ30 mm	1,187 min ⁻¹	1/16	19,000 min ⁻¹ (Using AM-3020R)	325 g



Code No.	1508	Model	ARG-021E
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< Standard equipment and accessories >

• Grease for Speed reducer (10 mL) • Grease nipple: 1 pc.



Please maintain not to exceed speed limit.



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.

CAD drawings

CAD drawings (DXF/STEP) are available on our website

▼ AIR MOTOR & SPINDLE (Separate type)

Straight motor spindle

Outside diameter $\phi 25$ mm

Max. speed 24,000 min⁻¹ (Using 0.5 MPa: AM-2526R)

Max. power 130 W

Spindle accuracy:
Within 1 μ m

Collet:
Max. $\phi 6.35$ mm

Collet
CHK-3.0
OPTION → See p. 8-5

Air line kit
AL-M1202
OPTION → See p. 8-3 and 8-4

Straight spindle
NR-2551

Air motor
AM-2526R
→ See p. 5-18

AM-2526R Torque-Speed Characteristics

Spindle < Ceramic bearings >	O.D.	Motor speed	Spindle accuracy	Collet	Net weight
NR-2551	$\phi 25$ mm	24,000 min ⁻¹ (Using AM-2526R)	Within 1 μ m	CHK Group ($\phi 0.5$ – $\phi 6.35$ mm)	253 g

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

< Standard equipment and accessories >

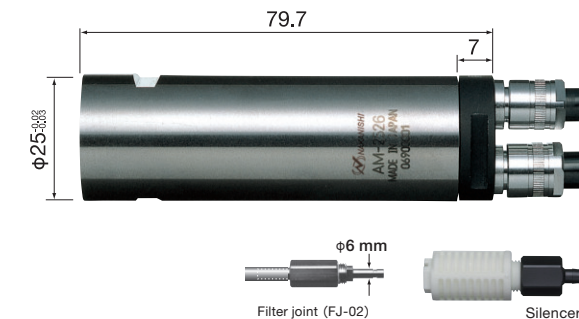
- Collet nut (K-265)
- Wrench (12 x 14): 2 pcs. • (22 x 27): 1 pc. ***Collet is sold separately.**

< Options >

- Collet (CHK Group) : $\phi 0.5$ – $\phi 6.35$ mm **p. 8-5**
- Metal saw arbor (KCH-03) : ϕd (I.D.) x under $\phi 30$ mm (O.D.)
- Grindstone arbor (AGM-03) : Grindstone I.D. $\phi 5.0$ mm

*Outside diameter $\phi 25.4$ mm is also available.
The code number is 7854 and the model is NR-H2551.

Air motor (Forward rotation)	O.D.	Motor speed	Max. power	Proper air pressure	Air consumption	Net weight
AM-2526R	$\phi 25$ mm	24,000 min ⁻¹ (0.5 MPa)	130 W	0.3–0.5 MPa	205 NL/min	200 g (w/o hose)



< Specifications >

Motor hose (Diameter / Length)

Intake : $\phi 6.7$ mm (O.D.) x $\phi 4.5$ mm (I.D.) x 2 m

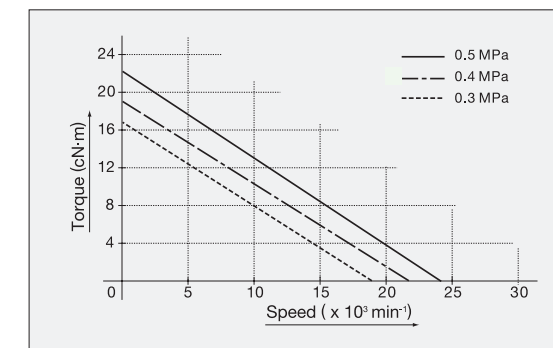
Exhaust : $\phi 7.5$ mm (O.D.) x $\phi 5.5$ mm (I.D.) x 1 m

< Standard equipment and accessories >

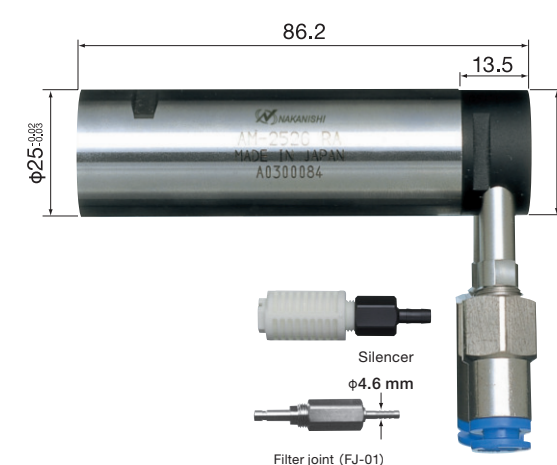
• Intake and exhaust hose (K-204) • Filter joint (FJ-02) • Silencer (K-208)

• Wrench (22 x 27): 1 pc.

• AM-2526R Torque-Speed Characteristics



Angle air motor (Forward rotation)	O.D.	Motor speed	Max. power	Proper air pressure	Air consumption	Net weight
AM-2526RA	$\phi 25$ mm	22,000 min ⁻¹ (0.5 MPa)	120 W	0.3–0.5 MPa	170 NL/min	241 g (w/o hose)



< Specifications >

Motor hose (Diameter / Length)

Intake : $\phi 6.0$ mm (O.D.) x $\phi 4.0$ mm (I.D.) x 2 m

Exhaust : $\phi 8.0$ mm (O.D.) x $\phi 6.0$ mm (I.D.) x 1 m

< Standard equipment and accessories >

• Intake hose (K-215) • Exhaust hose (K-256)

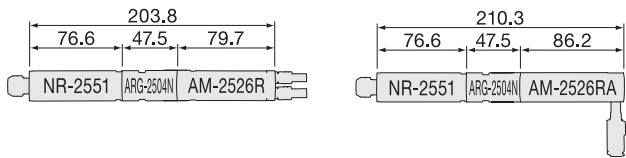
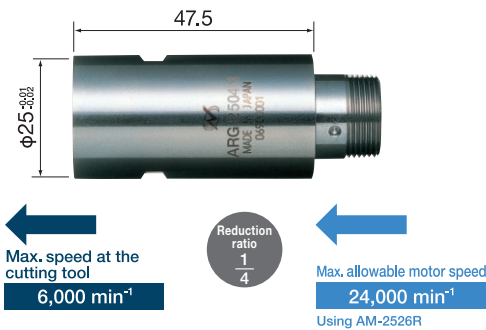
• Filter joint (FJ-01) • Silencer (K-208) • Wrench (22 x 27): 1 pc.

Order by Code No.

CAD drawings CAD drawings (DXF/STEP) are available on our website

Speed reducer (1/4)	O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Net weight
ARG-2504N	φ25 mm	6,000 min ⁻¹	$\frac{1}{4}$	24,000 min ⁻¹ (Using AM-2526R)	150 g

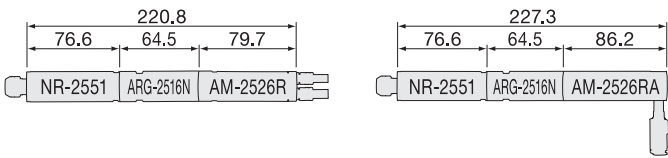
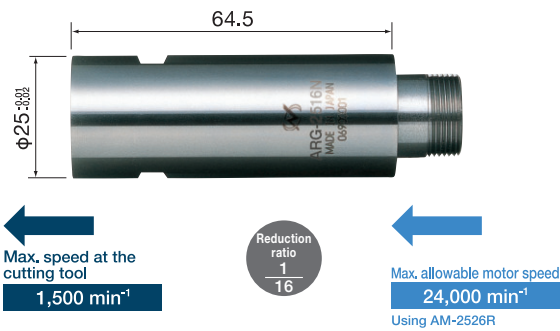
Code No.	1822	Model	ARG-2504N
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⚠ Please maintain not to exceed speed limit.

Speed reducer (1/16)	O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Net weight
ARG-2516N	φ25 mm	1,500 min ⁻¹	$\frac{1}{16}$	24,000 min ⁻¹ (Using AM-2526R)	205 g

Code No.	1824	Model	ARG-2516N
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⚠ Please maintain not to exceed speed limit.

E4000

E3000

E2000

iSpeed3

Air-Speed

HES

TURBINES

ACCESSORIES

CAD drawings CAD drawings (DXF/STEP) are available on our website

▼ AIR MOTOR & SPINDLE (Separate type)

Straight motor spindle

Outside diameter $\phi 22.8$ mm
Max. speed 30,000 min⁻¹ (0.5 MPa)
Max. power 108 W

Air motor
AM-310R → See p. 5-25

Straight spindle
NR-303

Collet:
Max. $\phi 6.35$ mm
Collet
CHK-3.0
OPTION → See p. 8-5
*Other collet sizes are available.
*Please maintain not to exceed speed limit.

Air line kit
AL-M1202
OPTION → See p. 8-3 and 8-4

AM-310R Torque-Speed Characteristics

Proper air pressure
— 0.5 MPa
- - - 0.4 MPa
... 0.3 MPa

Spindle

NR-303

	O.D.	Motor speed	Spindle accuracy	Collet	Net weight
	$\phi 22.8$ mm	30,000 min ⁻¹ (Using AM-310R)	Within 2 μ m	CHK Group ($\phi 0.5$ – $\phi 6.35$ mm)	215 g

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

< Standard equipment and accessories >
• Collet nut (K-265)
• Wrench (12 × 14): 2 pcs. • (20 × 24): 1 pc. *Collet is sold separately.

< Options >
Collet (CHK Group) : $\phi 0.5$ – $\phi 6.35$ mm p. 8-5
Metal saw arbor (KCH-03) : ϕd (I.D.) × under $\phi 30$ mm (O.D.)
Grindstone arbor (AGM-03) : Grindstone I.D. $\phi 5.0$ mm

Spindle
< Ceramic bearings >

NR-2351

	O.D.	Motor speed	Spindle accuracy	Collet	Net weight
	$\phi 22.8$ mm	30,000 min ⁻¹ (Using AM-310R)	Within 1 μ m	CHK Group ($\phi 0.5$ – $\phi 6.35$ mm)	215 g

Code No. **7855** Model **NR-2351**

< Standard equipment and accessories >
• Collet nut (K-265)
• Wrench (12 × 14): 2 pcs. • (20 × 24): 1 pc. *Collet is sold separately.

< Options >
Collet (CHK Group) : $\phi 0.5$ – $\phi 6.35$ mm p. 8-5
Metal saw arbor (KCH-03) : ϕd (I.D.) × under $\phi 30$ mm (O.D.)
Grindstone arbor (AGM-03) : Grindstone I.D. $\phi 5.0$ mm

Spindle

NR-311

	O.D.	Motor speed	Spindle accuracy	Collet	Net weight
	$\phi 22.8$ mm	30,000 min ⁻¹ (Using AM-310R)	Within 2 μ m	CHK Group ($\phi 0.5$ – $\phi 6.35$ mm)	370 g

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

< Standard equipment and accessories >
• Collet nut (K-265)
• Wrench (12 × 14) • (20 × 24): 1 pc. each *Collet is sold separately.

< Options >
Collet (CHK Group) : $\phi 0.5$ – $\phi 6.35$ mm p. 8-5
Metal saw arbor (KCH-03) : ϕd (I.D.) × under $\phi 30$ mm (O.D.)
Grindstone flange (NGF2-19) : $\phi 19.05$ (I.D.) × $\phi 40$ (O.D.) × 7 (W) mm
*GR-22.8 cannot be used with NR-311.

Spindle

AMH-301

	O.D.	Motor speed	Collet	Net weight
	$\phi 22.8$ mm	30,000 min ⁻¹ (Using AM-310R)	CHM Group ($\phi 1.0$ – $\phi 3.175$ mm)	171 g

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

< Standard equipment and accessories >
• Collet: $\phi 3.0$ mm (CHM-3.0)
• Wrench (7 × 5.1) • (6 × 4.5) • (20 × 24): 1 pc. each

< Options >
Collet (CHM Group) : $\phi 1.0$ – $\phi 3.175$ mm p. 8-6
Grindstone arbor (AGM-01) : Grindstone I.D. $\phi 5.0$ mm



Please maintain not to exceed speed limit.

CAD drawings

CAD drawings (DXF/STEP) are available on our website

▼ AIR MOTOR & SPINDLE (Separate type)

Angle motor spindle



Outside diameter $\phi 22.8$ mm

Max. speed **2,870 min⁻¹** Max. speed at the cutting tool
(Using 0.5 MPa: ARG-01+AM-300R)

Max. power **57 W** (Using AM-300R)



Air motor
AM-300R
→ See p. 5-26

Speed reducer
ARG-01

OPTION

→ See p. 5-27

*Reducer must be used with
Angle spindle.

Air line kit
AL-M1202

OPTION

→ See p. 8-3 and 8-4



Collet:
Max. $\phi 3.175$ mm

Collet
CH8-3.0

OPTION

→ See p. 8-7

*Other collet sizes are available.

Angle spindle select sheet

Model	RA-100	RA-200	RAS-101
Angle head size O.D.	$\phi 22.8$ mm	$\phi 17.4$ mm	$\phi 22.8$ mm
Max. speed at the cutting tool ¹	2,870 min ⁻¹	5,100 min ⁻¹	2,870 min ⁻¹ *2
Using tools	$\phi 0.8$ – $\phi 3.175$ mm		$\phi 0.5$ – $\phi 6.35$ mm

*1 Using ARG-01+AM-300R *2 Using ARG-01+AM-310R

*Please maintain not to exceed speed limit.

Angle spindle

RA-100

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Collet	Net weight
$\phi 22.8$ mm	2,870 min⁻¹	1/2.67	7,650 min⁻¹ (Using ARG-01+AM-300R)	CH8 Group ($\phi 0.8$ – $\phi 3.175$ mm)	271 g

Code No.

1024

Model

RA-100

< Standard equipment and accessories >

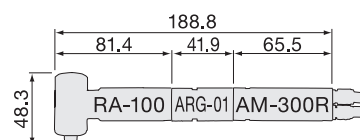
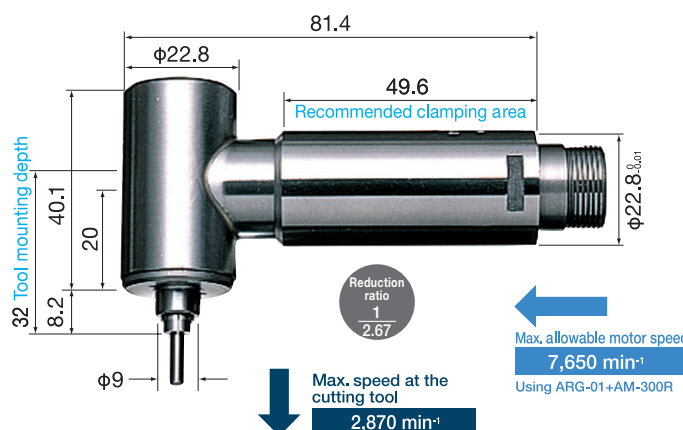
• Collet: $\phi 3.0$ mm (CH8-3.0)

• Wrench (7 × 5.5) · (8 × 5) · (20 × 24): 1 pc. each

< Options >

Collet (CH8 Group) : $\phi 0.8$ – $\phi 3.175$ mm **p. 8-7**

Metal saw arbor (KCH-02) : ϕd (I.D.) × under $\phi 30$ mm (O.D.)

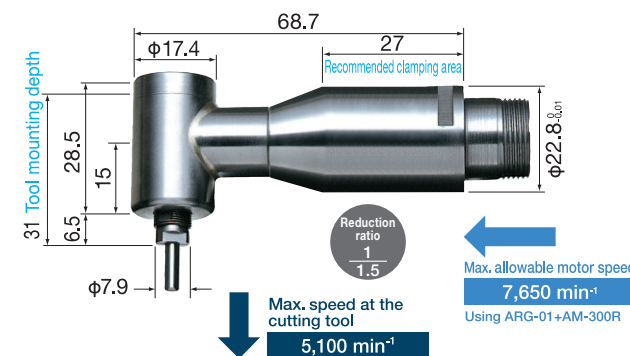


*Reducers are required when used with air motors.

Angle spindle

RA-200

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Collet	Net weight
$\phi 22.8$ mm	5,100 min⁻¹	1/1.5	7,650 min⁻¹ (Using ARG-01+AM-300R)	CHS Group ($\phi 0.8$ – $\phi 3.175$ mm)	165 g



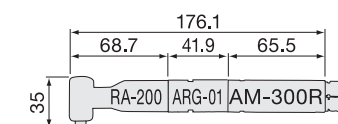
< Standard equipment and accessories >

• Collet: $\phi 3.0$ mm (CHS-3.0)

• Wrench (7 × 5.1) · (8 × 5) · (20 × 24): 1 pc. each

< Options >

Collet (CHS Group) : $\phi 0.8$ – $\phi 3.175$ mm **p. 8-6**

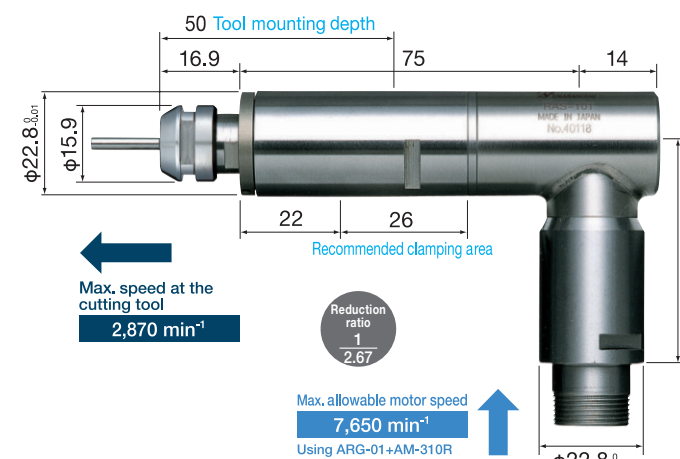


*Reducers are required when used with air motors.

Angle spindle

RAS-101

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Spindle accuracy	Collet	Net weight
$\phi 22.8$ mm	2,870 min⁻¹	1/2.67	7,650 min⁻¹ (Using ARG-01+AM-310R)	Within 2 μ m	CHK Group ($\phi 0.5$ – $\phi 6.35$ mm)	325 g



< Standard equipment and accessories >

• Collet nut (K-265)

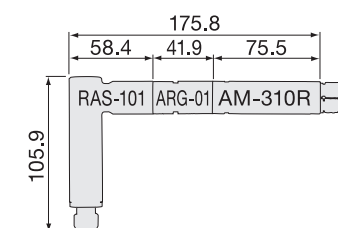
• Wrench (12 × 14): 2 pcs. · (20 × 24): 1 pc. *Collet is sold separately.

< Options >

Collet (CHK Group) : $\phi 0.5$ – $\phi 6.35$ mm **p. 8-5**

Metal saw arbor (KCH-03) : ϕd (I.D.) × under $\phi 30$ mm (O.D.)

Grindstone arbor (AGM-03) : Grindstone I.D. $\phi 5.0$ mm



*Reducers are required when used with air motors.

CAD drawings

CAD drawings (DXF/STEP) are available on our website

Air motor (Forward rotation)	O.D.	Motor speed	Max. power	Proper air pressure	Air consumption	Net weight
AM-310R	φ22.8 mm	30,000 min ⁻¹ (0.5 MPa)	108 W	0.3–0.5 MPa	190 NL/min	203 g (w/o hose)



Code No.	1079	Model	AM-310R
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< Specifications >

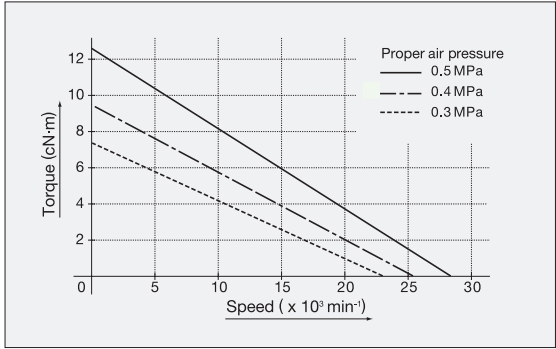
Motor hose (Diameter / Length)

Intake	: φ6.7 mm (O.D.) × φ4.5 mm (I.D.) × 2 m
Exhaust	: φ7.5 mm (O.D.) × φ5.5 mm (I.D.) × 1 m

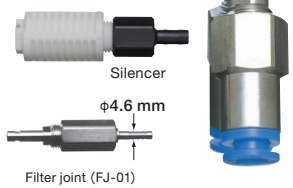
< Standard equipment and accessories >

- Intake and exhaust hose (K-204) • Filter joint (FJ-02) • Silencer (K-208)
- Wrench (20 × 24): 1 pc.

• AM-310R Torque-Speed Characteristics



Angle air motor (Forward rotation)	O.D.	Motor speed	Max. power	Proper air pressure	Air consumption	Net weight
AM-310RA	φ22.8 mm	30,000 min ⁻¹ (0.5 MPa)	108 W	0.3–0.5 MPa	170 NL/min	244 g (w/o hose)



Code No.	1081	Model	AM-310RA
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< Specifications >

Motor hose (Diameter / Length)

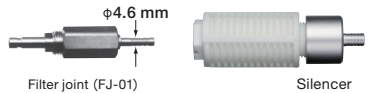
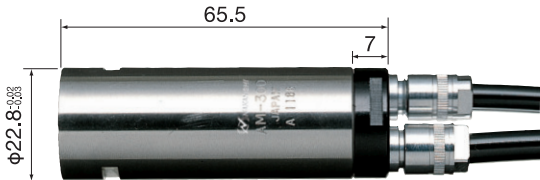
Intake	: φ6.0 mm (O.D.) × φ4.0 mm (I.D.) × 2 m
Exhaust	: φ8.0 mm (O.D.) × φ5.0 mm (I.D.) × 1 m

< Standard equipment and accessories >

- Intake hose (K-215) • Exhaust hose (K-216)
- Filter joint (FJ-01) • Silencer (K-208) • Wrench (20 × 24): 1 pc.

*Not recommended for use with angle spindles due to the lack of phase repeatability during replacement.

Air motor (Forward rotation)	O.D.	Motor speed	Max. power	Proper air pressure	Air consumption	Net weight
AM-300R	φ22.8 mm	30,000 min ⁻¹ (0.4 MPa)	57 W	0.3–0.5 MPa	90 NL/min	135 g (w/o hose)



Code No.	1021	Model	AM-300R
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< Specifications >

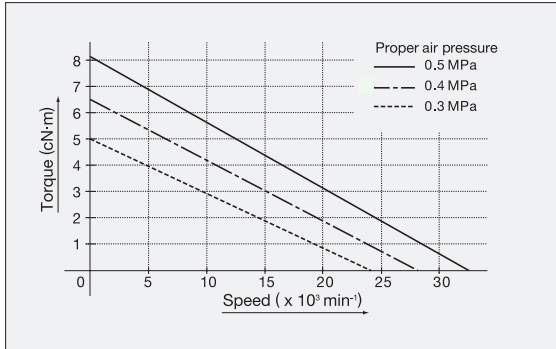
Motor hose (Diameter / Length)

Intake	: φ5.7 mm (O.D.) × φ3.7 mm (I.D.) × 2 m
Exhaust	: φ6.5 mm (O.D.) × φ5.0 mm (I.D.) × 1 m

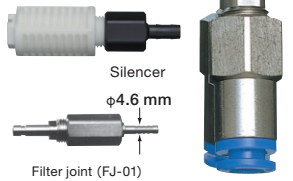
< Standard equipment and accessories >

- Intake and exhaust hose (K-221) • Filter joint (FJ-01) • Silencer (K-209)
- Wrench (20 × 24): 1 pc.

• AM-300R Torque-Speed Characteristics



Angle air motor (Forward rotation)	O.D.	Motor speed	Max. power	Proper air pressure	Air consumption	Net weight
AM-300RA	φ22.8 mm	30,000 min ⁻¹ (0.4 MPa)	57 W	0.3–0.5 MPa	90 NL/min	176 g (w/o hose)



Code No.	1018	Model	AM-300RA
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< Specifications >

Motor hose (Diameter / Length)

Intake	: φ6.0 mm (O.D.) × φ4.0 mm (I.D.) × 2 m
Exhaust	: φ8.0 mm (O.D.) × φ5.0 mm (I.D.) × 1 m

< Standard equipment and accessories >

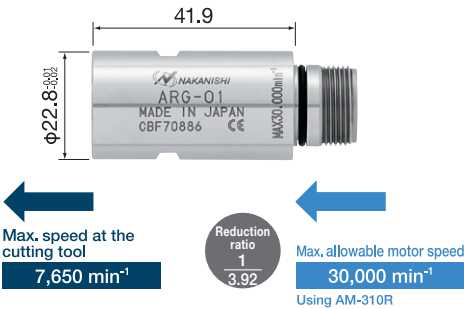
- Intake hose (K-215) • Exhaust hose (K-216)
- Filter joint (FJ-01) • Silencer (K-208) • Wrench (20 × 24): 1 pc.

*Not recommended for use with angle spindles due to the lack of phase repeatability during replacement.

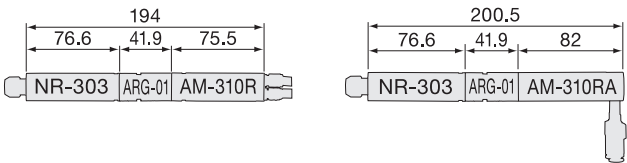
Order by Code No.

CAD drawings CAD drawings (DXF/STEP) are available on our website

Speed reducer (1/3.92)	O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Net weight
ARG-01	φ22.8 mm	7,650 min ⁻¹ (0.5 MPa)	$\frac{1}{3.92}$	30,000 min ⁻¹ (Using AM-310R)	108 g

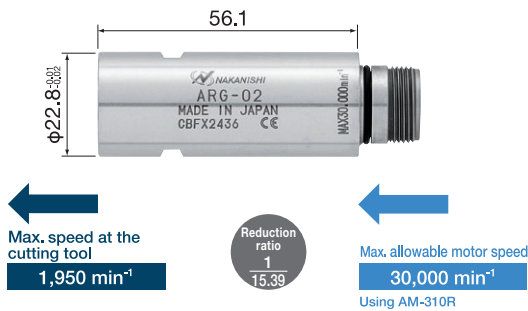


Code No.	1022	Model	ARG-01
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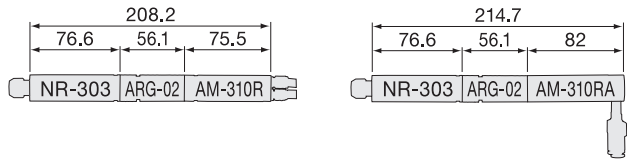


⚠ Please maintain not to exceed speed limit.

Speed reducer (1/15.39)	O.D.	Max. speed at the cutting tool	Reduction ratio	Max. allowable motor speed	Net weight
ARG-02	φ22.8 mm	1,950 min ⁻¹ (0.5 MPa)	$\frac{1}{15.39}$	30,000 min ⁻¹ (Using AM-310R)	148 g



Code No.	1023	Model	ARG-02
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⚠ Please maintain not to exceed speed limit.

E4000

E3000

E2000

iSpeed3

Air-Speed

HES

TURBINES

ACCESSORIES

ACCESSORIES

Air line kit	p. 8-3-4
Collet	p. 8-5-7
Collet nut	p. 8-8
Grip ring / Spacer / Bush	p. 8-9-10
Collet holder / Preset adapter	p. 8-11
COMBOX-NET.EIP, etc.	p. 8-12-14

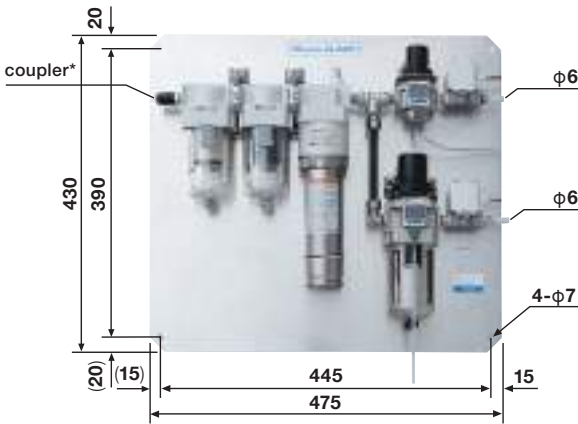


Air line kit

Order by Code No.

AL-A0611

Filtration: 0.01 μm



Code No.	1548	Model	AL-A0611
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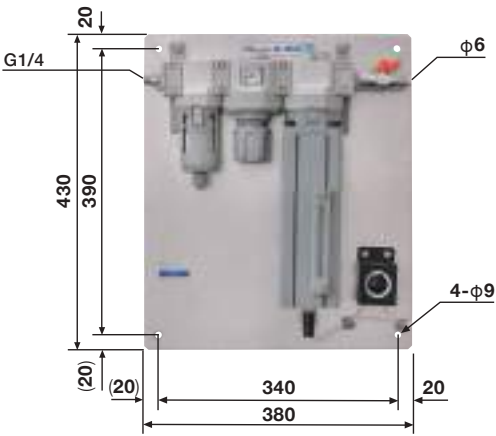
- Air piping
Inlet: Coupler (Model: KK13P-02M made by SMC Corporation)
Outlet: φ6.0 mm × 2 parts
- Net weight: 8.2 kg

Standard accessories	Spacer: 4 pcs.
Standard equipment	Mist separator / Micro-mist separator Membrane air dryer / Air regulator Regulator with Micro-mist separator Digital pressure switch: 2 pcs. / Solenoid valve: 2 pcs.
Compatible model	E3000 (NRAF-5080) · ABT series Xspeed series

*If you do not use our air line kit, please prepare a micro mist separator with 0.01 μm filtration.

AL-M1201BL

Filtration: 0.3 μm



Code No.	4501	Model	AL-M1201BL
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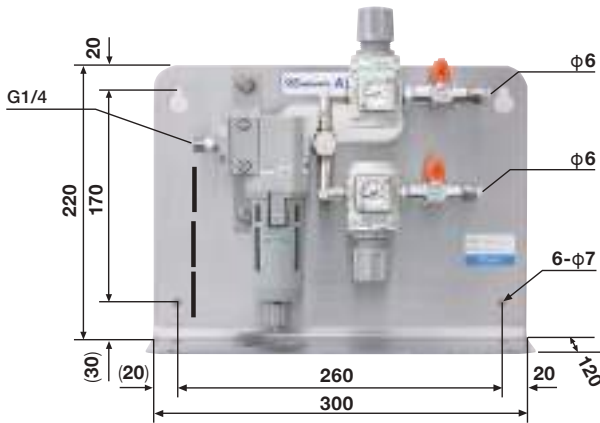
- Air piping
Inlet: G1/4 male thread for connection hose
Outlet: φ6.0 mm
- Net weight: 5.2 kg

Standard accessories	Hose pipe (K-275): 2 m / Connection joint: 1 pc. φ6 mm Air hose: 1 pc. / Spacer: 4 pcs. Lubricating oil (K-202) 1 L: 1 pc. Bolt (M8 × 20 L): 4 pcs.
Standard equipment	Air filter / Air regulator / Lubricator ON-OFF valve / Alarm buzzer
Compatible model	E3000 (RG-3004M) · HTS series PLANET series

*Recommendation of nominal filtration rating: 0.3 μm,
Pressure range: 0.1-1.0 MPa Recommendation of air filter: M2000-WS (CKD)

AL-A1205

Filtration: 0.3 μm



Code No.	4505	Model	AL-A1205
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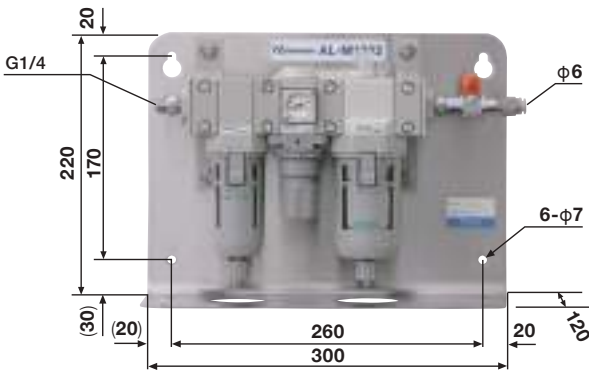
- Air piping
Inlet: G1/4 male thread for connection hose
Outlet: φ6.0 mm × 2 parts
- Net weight: 2.4 kg

Standard accessories	Hose pipe (K-275): 2 m Mounting screw (M6 × 20): 4 pcs. Washer: 4 pcs. / Rubber pad: 4 pcs.
Standard equipment	Oil mist filter / Air regulator: 2 pcs. ON-OFF valve: 2 pcs.
Compatible model	E3000 (NRAF-5080) · ABT series

*Recommendation of nominal filtration rating: 0.3 μm,
Pressure range: 0.1-1.0 MPa Recommendation of air filter: M2000-WS (CKD)

AL-M1202

Filtration: 0.3 μm



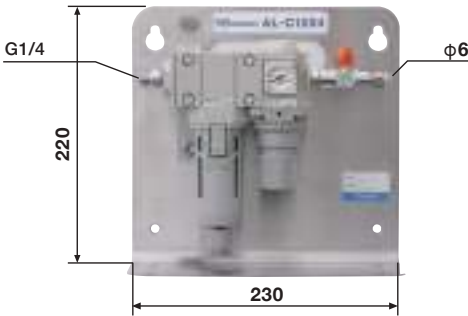
Code No.	4502	Model	AL-M1202
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- Air piping
Inlet: G1/4 male thread for connection hose
Outlet: φ6.0 mm
- Net weight: 2.8 kg

Standard accessories	Hose pipe (K-275): 2 m / Hose band: 1 pc. Lubricating oil (K-211) 70 cc: 1 pc. Mounting screw (M6 × 20): 4 pcs. Washer: 4 pcs. / Rubber pad: 4 pcs.
Standard equipment	Air filter / Air regulator / Lubricator ON-OFF valve
Compatible model	Air-Speed series · HTS series · PLANET series

AL-C1204

Filtration: 0.3 μm



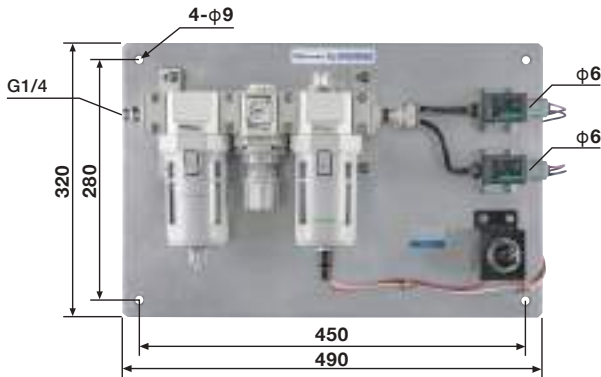
Code No.	4504	Model	AL-C1204
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- Air piping
Inlet: G1/4 male thread for connection hose
Outlet: φ6.0 mm
- Net weight: 1.9 kg

Standard accessories	Hose pipe (K-275): 2 m / Rubber pad: 4 pcs. Mounting screw (M6 × 20): 4 pcs. Washer: 4 pcs. / Hose band: 1 pc.
Standard equipment	Air filter / Air regulator / Air pressure gauge ON-OFF valve
Compatible model	E4000 series · E3000 series · E2000 series iSpeed3 series · HES series

AL-M1203BS2

Filtration: 0.3 μm



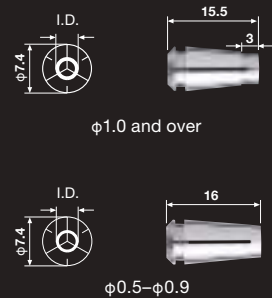
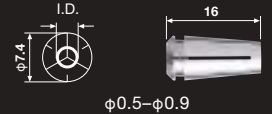
Code No.	4503	Model	AL-M1203BS2
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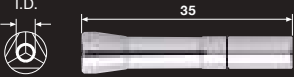
- Air piping
Inlet: G1/4 male thread for connection hose
Outlet: φ6.0 mm × 2 parts
- Net weight: 3.9 kg

Standard accessories	Hose pipe (K-275): 2 m Lubricating oil (K-202) 1 L: 1 pc. Bolt (M8 × 20 L): 4 pcs. / Spacer: 4 pcs.
Standard equipment	Air filter / Air regulator / Lubricator Solenoid valve: 2 pcs. / Alarm buzzer
Compatible model	Air-Speed series

Collet

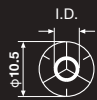
Order by Code No.

CHA Group		Fit nuts: CHN-A, CHN-AA, CHN-CTA, CHN-3A			
		Code No.	Model	I.D. (mm)	Compatible model
		91494	CHA-3.0AA	φ3.0AA*	CTS-2630 / 2620A (Type AA only) CTS-3030 EM20-S6000 · EM25-S6000 EMS-3060A · NR-3080S MSS-19 · MSS-20 · MSS-22 PMS-3020A QC3-A (NRR3060-QC / NR3060-AQC) ABT-1000 / 1600 Xpeed1600 (Type AA only) HES810 series HTS series iSpeed3 series
		91496	CHA-3.175AA	φ3.175AA*	
		91495	CHA-4.0AA	φ4.0AA*	
		91492	CHA-2.35	φ2.35	
		91430	CHA-3.0	φ3.0	
		91493	CHA-3.175	φ3.175	
		91440	CHA-4.0	φ4.0	
		914 □□	CHA-□□	φ0.5, φ0.6, φ0.7, φ0.8, φ0.9 φ1.0, φ1.5, φ2.0, φ2.5, φ3.5 φ1.1, φ1.2, φ1.3, φ1.4, φ1.6, φ1.7, φ1.8, φ1.9 φ2.1, φ2.2, φ2.3, φ2.4, φ2.6, φ2.7, φ2.8, φ2.9 φ3.1, φ3.2, φ3.3, φ3.4, φ3.6, φ3.7, φ3.8, φ3.9	

CHB Group		Code No.	Model	I.D. (mm)	Compatible model
		92820	CHB-2.0	φ2.0	NR33-6000ATC-ESD NR40-5100 ATC · NRR-3060
		92830	CHB-3.0	φ3.0	
		92893	CHB-3.175	φ3.175	
		92835	CHB-3.5	φ3.5	
		92840	CHB-4.0	φ4.0	

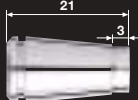
CHK Group

Fit nuts: K-265, K-265A



I.D.

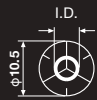
φ10.5



21

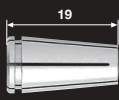
3

φ1.0 and over



I.D.

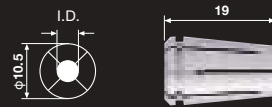
φ10.5



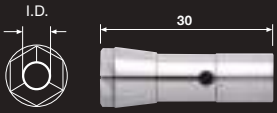
19

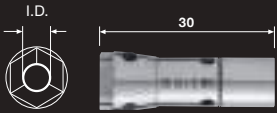
φ0.5~φ0.9

Code No.	Model	I.D. (mm)	Compatible model
91597	CHK-3.0AA	φ3.0AA*	EM30-S6000 · EMA-3020K · EMR-3008K EMS-3060K · NR-2551 · NR-3060 NR-3060S · NR-403E · NR-453E NRAF-5080 · NRF-3060S · RAS-151E RAX-71E · RAX-271E MSS-25 · MSST-23 · PMA-3013K PMR-3005K · PMS-3020K NR-303 · NR-311 · NR-2351 · RAS-101 QC5-K (NRR4040-QC / NR4040-AQC) QC3-K (NRR3060-QC / NR3060-AQC) Xpeed1200 (Type AA only) HES510 series PLANET series
91598	CHK-3.175AA	φ3.175AA*	
91599	CHK-4.0AA	φ4.0AA*	
91600	CHK-6.0AA	φ6.0AA*	
91601	CHK-6.35AA	φ6.35AA*	
91592	CHK-2.35	φ2.35	
91530	CHK-3.0	φ3.0	
91593	CHK-3.175	φ3.175	
91540	CHK-4.0	φ4.0	
91594	CHK-4.76	φ4.76	
91560	CHK-6.0	φ6.0	
91596	CHK-6.35	φ6.35	
915 □□	CHK-□□	φ0.5, φ0.6, φ0.7, φ0.8, φ0.9	
		φ1.0, φ1.5, φ2.0, φ2.5, φ3.5, φ4.5, φ5.0, φ5.5	
		φ1.1, φ1.2, φ1.3, φ1.4, φ1.6, φ1.7, φ1.8, φ1.9 φ2.1, φ2.2, φ2.3, φ2.4, φ2.6, φ2.7, φ2.8, φ2.9 φ3.1, φ3.2, φ3.3, φ3.4, φ3.6, φ3.7, φ3.8, φ3.9 φ4.1, φ4.2, φ4.3, φ4.4, φ4.6, φ4.7, φ4.8, φ4.9 φ5.1, φ5.2, φ5.3, φ5.4, φ5.6, φ5.7, φ5.8, φ5.9	

CHK-OH Group				Fit nut: K-265
	Code No.	Model	I.D. (mm)	Compatible model
	93630	CHK-OH-3.0	φ3.0	CTM-4020 BMS-4020-MQL-CHK / 2M BMS-4040-MQL-CHK / 2M
	93631	CHK-OH-3.175	φ3.175	
	93640	CHK-OH-4.0	φ4.0	
	93650	CHK-OH-5.0	φ5.0	
	93660	CHK-OH-6.0	φ6.0	
	93663	CHK-OH-6.35	φ6.35	

CHM Group		Code No.	Model	I.D. (mm)	Compatible model
		90910	CHM-1.0	φ1.0	AMH-301 · NR-601
		90916	CHM-1.6	φ1.6	
		90920	CHM-2.0	φ2.0	
		90992	CHM-2.35	φ2.35	
		90930	CHM-3.0	φ3.0	
		90993	CHM-3.175	φ3.175	

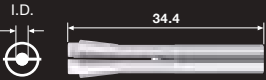
CHR Group		Code No.	Model	I.D. (mm)	Compatible model
		91920	CHR-2.0	φ2.0	NR50-5100 ATC
		91930	CHR-3.0	φ3.0	
		91993	CHR-3.175	φ3.175	
		91940	CHR-4.0	φ4.0	
		91960	CHR-6.0	φ6.0	
		91996	CHR-6.35	φ6.35	

CHR RS Group		Code No.	Model	I.D. (mm)	Compatible model
		93201	CHR-3.0RS	φ3.0	NR50-5100 ATC NR50-5100 ATC RS · NR50-6000ATC-RS
		93202	CHR-3.175RS	φ3.175	
		93203	CHR-4.0RS	φ4.0	
		93204	CHR-6.0RS	φ6.0	
		93205	CHR-6.35RS	φ6.35	

CHS Group		Code No.	Model	I.D. (mm)	Compatible model
		90516	CHS-1.6	φ1.6	RA-200 · RA-271E
		90592	CHS-2.35	φ2.35	
		90530	CHS-3.0	φ3.0	
		90593	CHS-3.175	φ3.175	
		905 □□	CHS-□□	φ0.8, φ0.9	
				φ1.0, φ2.0, φ2.5	
				φ1.1, φ1.2, φ1.3, φ1.4, φ1.5, φ1.7, φ1.8, φ1.9	
				φ2.1, φ2.2, φ2.3, φ2.4, φ2.6, φ2.7, φ2.8, φ2.9	

CHSS Group		Code No.	Model	I.D. (mm)	Compatible model
		93010	CHSS-1.0	φ1.0	EMA-3020S · PMA-3013S QC3-SS (NRR3060-QC / NR3060-AQC)
		93015	CHSS-1.5	φ1.5	
		93020	CHSS-2.0	φ2.0	
		93025	CHSS-2.5	φ2.5	
		93092	CHSS-2.35	φ2.35	
		93030	CHSS-3.0	φ3.0	
		93093	CHSS-3.175	φ3.175	

Collet

CH8 Group				
	Code No.	Model	I.D. (mm)	Compatible model
	91092	CH8-2.35	φ2.35	RA-100 · RA-151E
	91030	CH8-3.0	φ3.0	
	91093	CH8-3.175	φ3.175	
	910 □□	CH8-□□	φ0.8, φ0.9	
			φ1.0, φ1.5, φ2.0, φ2.5	
			φ1.1, φ1.2, φ1.3, φ1.4, φ1.6, φ1.7, φ1.8, φ1.9	
			φ2.1, φ2.2, φ2.3, φ2.4, φ2.6, φ2.7, φ2.8, φ2.9	

CH16 Group					Fit nut: CHN-16
 *CH16-10.0 Length 24.5	Code No.	Model	I.D. (mm)	Compatible model	
	93130	CH16-3.0	φ3.0	BMS-4020 / 2M · BMS-4020RA BMS-4040 / 2M BMS-4040-RGD-03M / 2M BMS-4040RA-RGD-03M / 2M BMS-4040RA · NR-4040 QC5-16 (NRR4040-QC / NR4040-AQC)	
	93193	CH16-3.175	φ3.175		
	93140	CH16-4.0	φ4.0		
	93160	CH16-6.0	φ6.0		
	93196	CH16-6.35	φ6.35		
	93180	CH16-8.0	φ8.0		
	93100	CH16-10.0	φ10.0		

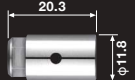
CH16OH Group					Fit nut: CHN-16
 *CH16OH-9.0, 10.0 Length 24.5	Code No.	Model	I.D. (mm)	Compatible model	
	93330	CH16OH-3.0	φ3.0	BMS-4020-MQL / 2M BMS-4040-MQL / 2M	
	93331	CH16OH-3.175	φ3.175		
	93340	CH16OH-4.0	φ4.0		
	93350	CH16OH-5.0	φ5.0		
	93360	CH16OH-6.0	φ6.0		
	93363	CH16OH-6.35	φ6.35		
	93370	CH16OH-7.0	φ7.0		
	93380	CH16OH-8.0	φ8.0		
	93390	CH16OH-9.0	φ9.0		
	93400	CH16OH-10.0	φ10.0		

Collet nut

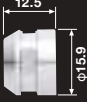
Order by Code No.

CHN-A					Fit collet: CHA Group
	Code No.	Model	Description	Compatible model	
	2102	CHN-A	Collet nut for CHA collet	QC3-A (NRR3060-QC / NR3060-AQC) EM20-S6000 · EM25-S6000 EMS-3060A · NR-3080S MSS-19 · MSS-20 · MSS-22 PMS-3020A HES810 series iSpeed3 series	

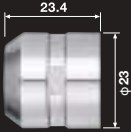
CHN-AA					Fit collet: CHA Group
	Code No.	Model	Description	Compatible model	
	2159	CHN-AA	Collet nut for CHA collet	HTS series	

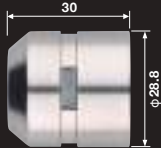
CHN-CTA					Fit collet: CHA Group
	Code No.	Model	Description	Compatible model	
	7798	CHN-CTA-3.0	Collet nut for CHA collet	CTS-2630 / 2620A / 3030	
	7799	CHN-CTA-3.175			
	7800	CHN-CTA-4.0			

CHN-3A					Fit collet: CHA Group
	Code No.	Model	Description	Compatible model	
	2160	CHN-3A	Collet nut for CHA collet	ABT series · Xpeed1600	

K-265					Fit collets: CHK Group, CHK-OH Group
	Code No.	Model	Description	Compatible model	
	2129	K-265	Collet nut for CHK collet	CTM-4020 BMS-4020-MQL-CHK / 2M BMS-4040-MQL-CHK / 2M QC5-K (NRR4040-QC / NR4040-AQC) QC3-K (NRR3060-QC / NR3060-AQC) EM30-S6000 · EMA-3020K · EMR-3008K EMS-3060K · NR-403E · NR-453E NR-2551 · NR-3060 · NR-3060S NRF-3060S · RAS-151E · RAX-71E RAX-271E MSS-25 · MSST-23 NR-303 · NR-311 · NR-2351 · RAS-101 PMA-3013K · PMR-3005K · PMS-3020K HES510 series PLANET series	

K-265A					Fit collet: CHK Group
	Code No.	Model	Description	Compatible model	
	2158	K-265A	Collet nut for CHK collet	NRAF-5080 Xpeed1200	

CHN-16					Fit collets: CH16 Group, CH16OH Group
	Code No.	Model	Description	Compatible model	
	2161	CHN-16	Collet nut for CH16 collet	BMS-4020 / 2M · BMS-4020-MQL / 2M BMS-4020RA · BMS-4040 / 2M BMS-4040-MQL / 2M · BMS-4040RA BMS-4040RA-RGD-03M / 2M BMS-4040-RGD-03M / 2M · NR-4040 QC5-16 (NRR4040-QC / NR4040-AQC)	

CHN-20					Recommended : REGO-FIX ER20/ER20UP
	Code No.	Model	Description	Compatible model	
	7914	CHN-20	Collet nut for BMS-5010 collet	BMS-5010 / RA	

Grip ring

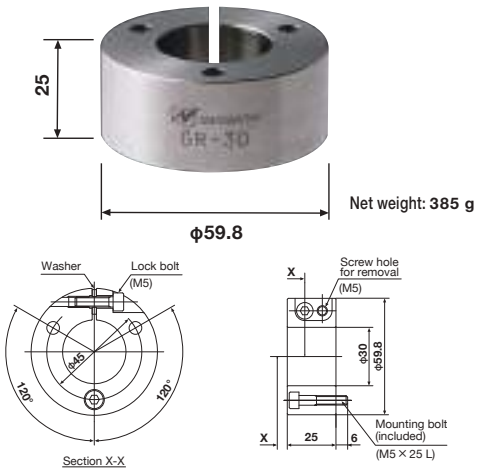
GR-22.8



Code No.	1888	Model	GR-22.8
Standard accessories	Mounting bolt (M5 × 25 L): 3 pcs.		
Compatible model	φ22.8 mm Spindle		

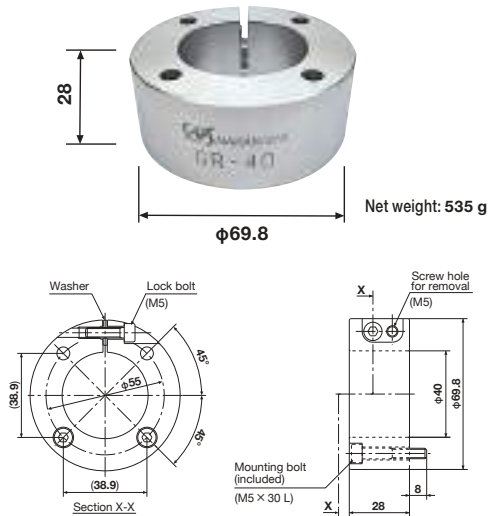
*GR-22.8 cannot be used with NR-311.

GR-30



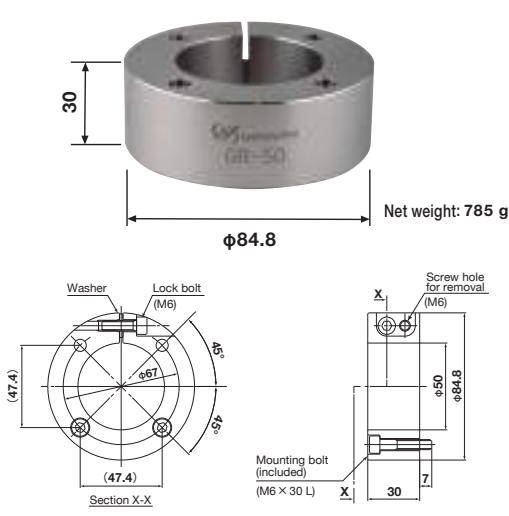
Code No.	1885	Model	GR-30
Standard accessories	Mounting bolt (M5 × 25 L): 3 pcs.		
Compatible model	φ30 mm Spindle		

GR-40



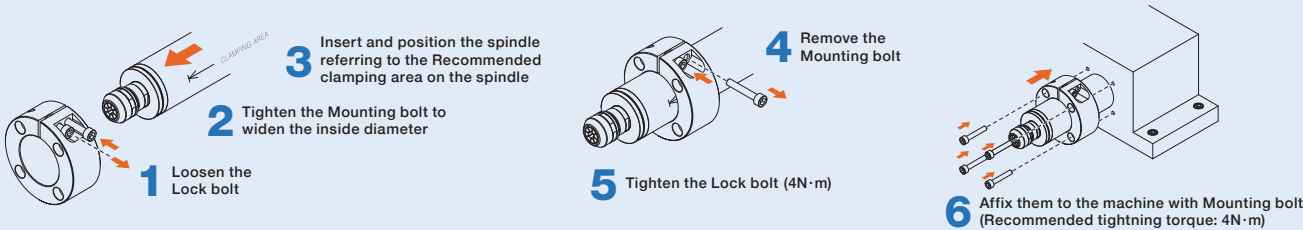
Code No.	1886	Model	GR-40
Standard accessories	Mounting bolt (M5 × 30 L): 4 pcs.		
Compatible model	φ40 mm Spindle		

GR-50



Code No.	1889	Model	GR-50
Standard accessories	Mounting bolt (M6 × 30 L): 4 pcs.		
Compatible model	φ50 mm Spindle		

How to mount to a machine tool



*The above figure shows GR-40 and GR-50, while GR-22.8 and GR-30 require three mounting bolts.

Spacer

Spacer	Code No.	Model	Description / Description (I.D. × T)	Compatible model
	1882	SP-22 × 10 L	Spacer (φ22 × 10 mm)	BM-322FL · BM-322FR

Bush

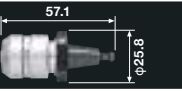
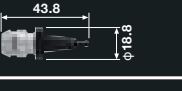
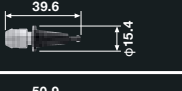
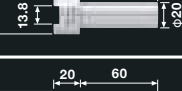
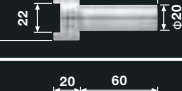
Bushings to allow smaller diameter spindles to be mounted in larger diameter holders

Bush	Code No.	Model	Description / Dimensions (I.D. × O.D. × L)	Compatible model
	1887	RB-19.05 × 25.4 × 36 L	φ25.4 Bush (φ19.05 × φ25.4 × 36 mm)	BM-319 · BM-319F · BMF-319 · BMJ-319 MSS-1902R / RA · MSS-1908R / RA MSS-1930R / RA
	1877	RB-20 × 22	φ22 Bush (φ20 × φ22 × 40 mm)	BM-320 · BMF-320 · BMJ-320 · EM20-S6000 MSS-2002R / RA · MSS-2008R / RA MSS-2030R / RA
	1876	RB-20 × 22.8	φ22.8 Bush (φ20 × φ22.8 × 40 mm)	BM-320 · BMF-320 · BMJ-320 · EM20-S6000 MSS-2002R / RA · MSS-2008R / RA MSS-2030R / RA
	1875	RB-20 × 23	φ23 Bush (φ20 × φ23 × 40 mm)	BM-320 · BMF-320 · BMJ-320 · EM20-S6000 MSS-2002R / RA · MSS-2008R / RA MSS-2030R / RA
	1878	RB-20 × 25	φ25 Bush (φ20 × φ25 × 40 mm)	BM-320 · BMF-320 · BMJ-320 · EM20-S6000 MSS-2002R / RA · MSS-2008R / RA MSS-2030R / RA
	1879	RB-20 × 25.4	φ25.4 Bush (φ20 × φ25.4 × 40 mm)	BM-320 · BMF-320 · BMJ-320 · EM20-S6000 MSS-2002R / RA · MSS-2008R / RA MSS-2030R / RA
	1883	RB-22 × 25 × 34 L	φ25 Bush (φ22 × φ25 × 33.5 mm)	BM-322 · BM-322FL · BM-322FR BM-322FS · BMF-322 · BMJ-322
	1884	RB-22 × 25.4 × 34 L	φ25.4 Bush (φ22 × φ25.4 × 33.5 mm)	BM-322 · BM-322FL · BM-322FR BM-322FS · BMF-322 · BMJ-322
	1872	RBS-22.8 × 25	φ25 Bush (φ22.8 × φ25 × 25 mm)	AMH-301 · NR-303 · NR-311 · NR-2351 RA-200 · RAS-101
	1871	RB-22.8 × 25	φ25 Bush (φ22.8 × φ25 × 44 mm)	RA-100
	1874	RBS-22.8 × 25.4	φ25.4 Bush (φ22.8 × φ25.4 × 25 mm)	AMH-301 · NR-303 · NR-311 · NR-2351 RA-200 · RAS-101
	1873	RB-22.8 × 25.4	φ25.4 Bush (φ22.8 × φ25.4 × 44 mm)	RA-100
	1880	RB-30 × 32	φ32 Bush (φ30 × φ32 × 45 mm)	NR-3060 · NR-3060S · NR-403E
	1881	RB-30 × 36	φ36 Bush (φ30 × φ36 × 45 mm)	NR-3060 · NR-3060S · NR-403E

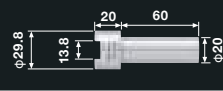
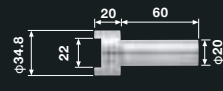
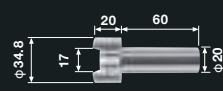
Adjuster bolt

Adjuster bolt	Code No.	Model	Description	Compatible model
	7739	ADJUSTER BOLT	Adjuster bolt	BMS-4020-MQL-CHK / 2M BMS-4040-MQL-CHK / 2M

Collet holder

Collet holder	Code No.	Model	Description	Compatible model
	9216	QC5-16	Collet holder for CH16 *with CHN-16	NR4040-AQC · NRR4040-QC
	9225	QC5-16-R		
	9215	QC5-K	Collet holder for CHK *with K-265	
	9224	QC5-K-R		
	9210	QC3-K	Collet holder for CHK *with K-265	NR3060-AQC · NRR3060-QC
	9223	QC3-K-R		
	9209	QC3-A	Collet holder for CHA *with CHN-A	
	9222	QC3-A-R		
	7794	QC3-SS	Collet holder for CHSS	

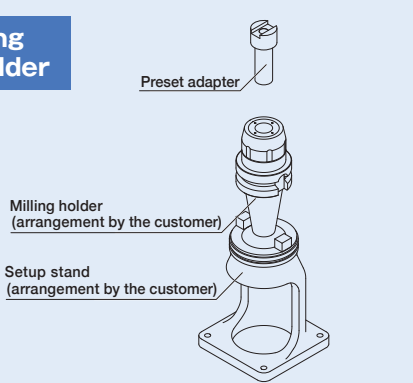
Preset adapter

Preset adapter	Code No.	Model	Description	Compatible collet holder
	9211	QC3-ADP	Preset adapter for QC3	QC3-A · QC3-K · QC3-SS
	9218	QC5-16 ADP	Preset adapter for QC5-16	QC5-16
	9217	QC5-K ADP	Preset adapter for QC5-K	QC5-K

Set-up outside machines

1

In case using a milling holder

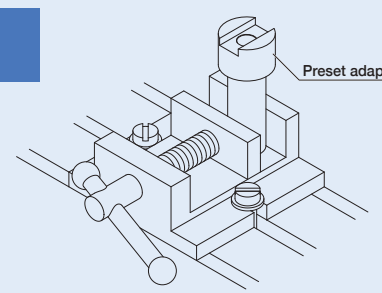


Preset adapter

Milling holder (arrangement by the customer)

Setup stand (arrangement by the customer)

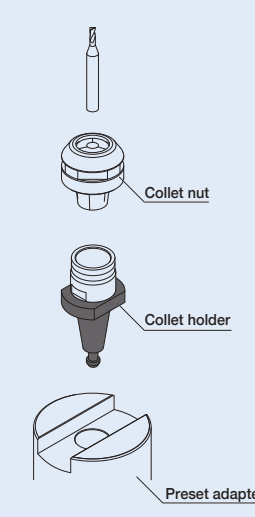
In case using a vice



Preset adapter

2

For QC3-K/A
QC5-16/K

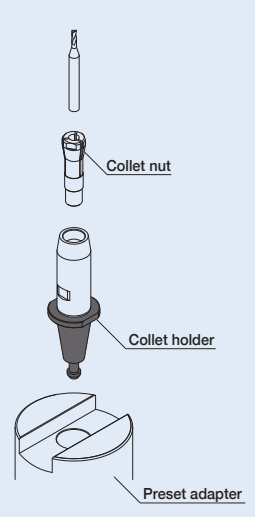


Collet nut

Collet holder

Preset adapter

For QC3-SS

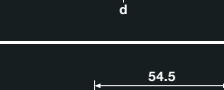
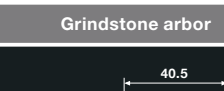
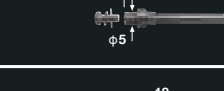
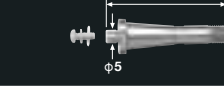
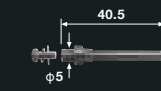
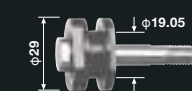


Collet nut

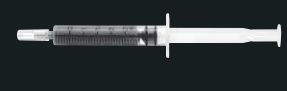
Collet holder

Preset adapter

Metal saw arbor · Grindstone arbor · Grindstone flange

Metal saw arbor	Code No.	Model	Description / Specifications	Compatible model
	2146	KCH-02 (5.0)	φ5.0 (I.D.)	RA-100 · RA-151E
	1077	KCH-02 (6.0)	φ6.0 (I.D.)	
	2147	KCH-02 (8.0)	φ8.0 (I.D.)	
	2148	KCH-03 (5.0)	φ5.0 (I.D.)	EM30-S6000 · EMA-3020K · EMR-3008K EMS-3060K · MSS-25 · MSST-23 · NR-303 · NR-311 NR-403E · NR-453E · NR-2551 · NR-2551 · NR-3060 NR-3060S · NRF-3060S · PMA-3013K · PMR-3005K PMS-3020K · RAS-101 · RAS-151E RAX-71E · RAX-271E
	2130	KCH-03 (6.0)	φ6.0 (I.D.)	
	2149	KCH-03 (8.0)	φ8.0 (I.D.)	
Grindstone arbor	Code No.	Model	Description / Specifications	Compatible model
	1029	AGM-01	Grindstone arbor Run-out accuracy: within 0.02 mm Grindstone I.D. φ5.0 mm	AMH-301 · NR-601
	2131	AGM-03	Grindstone arbor Run-out accuracy: within 0.02 mm Grindstone I.D. φ5.0 mm	EM30-S6000 · EMA-3020K · EMR-3008K EMS-3060K · MSS-25 · MSST-23 · NR-303 · NR-403E NR-453E · NR-2351 · NR-2551 · NR-3060 · NR-3060S NRF-3060S · PMA-3013K · PMS-3020K · RAS-101 RAS-151E · RAX-71E · RAX-271E
Grindstone flange	Code No.	Model	Description / Specifications	Compatible model
	2138	EGF-19	Grindstone flange Available grindstone dimension φ19.05 (I.D.) × φ40 (O.D.) mm × 7 (width) mm	EM30-S6000 · EMR-3008K · EMS-3060K NR-403E · NR-453E · NR-2551 · NR-3060 · NR-3060S NRF-3060S · PMS-3020K
	2143	NGF2-19	Grindstone flange Available grindstone dimension φ19.05 (I.D.) × φ40 (O.D.) mm × 7 (width) mm	NR-311

Grease · Oil

Grease	Code No.	Model	Description	Compatible model
	1547	—	Grease for Speed reducer (2.5 mL)	ARG-011E · ARG-021E EMR-3008K · EMA-3020K RAX-271E · RAX-71E PMR-3005K
	1550	—	Grease for Speed reducer (10 mL)	
	1549	—	Grease for Speed reducer (100 mL)	
Oil	Code No.	Model	Description	Compatible model
	1057	K-211	Lubricating oil (70 cc)	Air line kit (AL-M1201BL · AL-M1202 · AL-M1203BS2)
	1058	K-202	Lubricating oil (1 L)	

COMBOX



Code No.	8495	Model	COMBOX
Specifications	Input voltage: DC24 V (DC23-25 V) Dimensions: W142 × D240 × H31 mm / Net weight: 1.2 kg		
Standard equipment and accessories	I/F Cable (High density D-SUB 15 connector): 1 pc. Cable D · E · F: 1 pc. each / Relay: 1 pc. Screw · Nut: 2 pcs. each / Connector cap: 4 pcs.		
Compatible controllers	E3000 controller · iSpeed3 controller		
External connecting device	CNC automatic lathe For details, please contact us or your local distributor.		

Network Interface COMBOX-NET.EIP

Easy IoT remote control and management of Nakanishi Spindle via EtherNet/IP.

Easy connection to a robot or special-purpose machine tool's PLC with a single LAN cable.

Code No.	7796	Model	COMBOX-NET.EIP
Code No.	7906	Model	COMBOX-NET D-sub Cable Set



EtherNet/IP™ is a trademark of ODVA, Inc.

Feature 1 Remote management through IoT

- **Easy remote error/warning display**
Error or warning output from the controller can be easily displayed remotely. *Display contents vary depending on S/N
- **Up to 4 sensors (digital × 2, analog × 2) can be connected**
Various commercially available sensors can be added and used for condition monitoring.



PLC display example

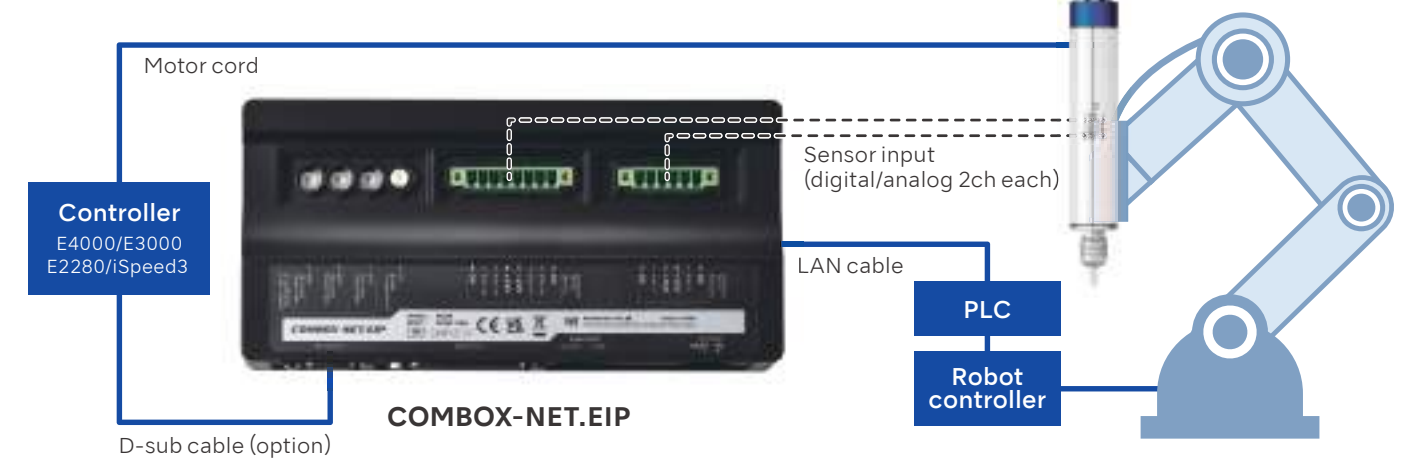
Feature 2 Reduce design and production work hours

- **Connectable to Ethernet/IP compatible devices via LAN cable** *Support for other protocols is pending
- **Reduction of the number of lines in the ladder program in PLCs is possible**
- **I/O-related devices are no longer needed, reducing the amount of wiring required**

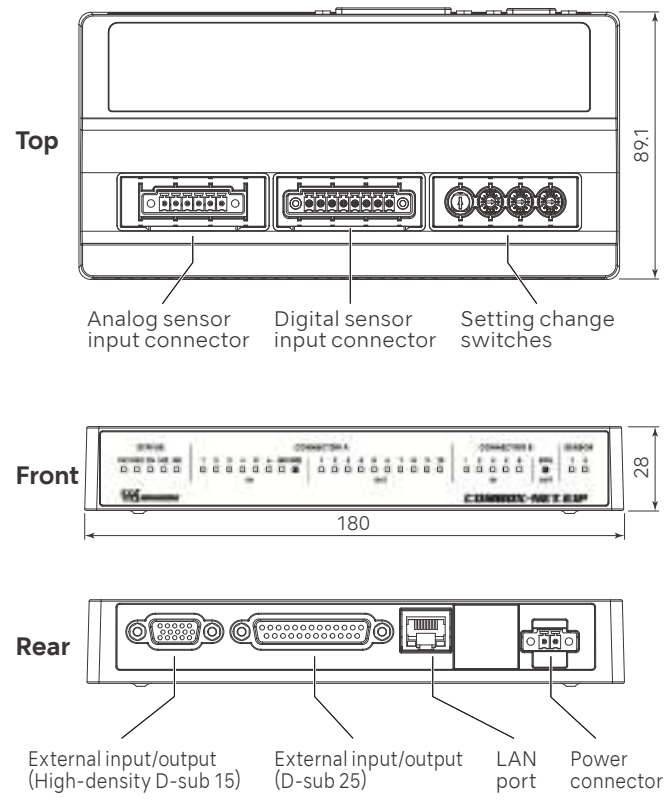
33% reduction in work hours
(compared to in-house measurements)



Connection example Simple configuration to connect to robots



Outside view



Specifications

Communication standard	EtherNet/IP
Baud rate	10 Mbps / 100 Mbps
Communication cycle (RPI)	4 ms or more
LAN cable specifications	Straight, category 5 or higher (STP cable recommended)
Rated input voltage	DC 24 V±10%
Dimensions	W180 × D89.1 × H28 mm
Net weight	282 g

Basic package

COMBOX-NET.EIP Main Body	1 pc.
Bracket	1 pc.
Mounting screw	4 pcs.
Power connector	1 pc.
Protect covers	Attached on the main body

Code No.	7796	Model	COMBOX-NET.EIP
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*D-sub cables are sold separately.

Option

Code No.	7906	Model	COMBOX-NET D-sub Cable Set
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D-sub 15 cable (500 mm) and D-sub 25 cable (500 mm)
*Since D-sub cable has special size, we recommend the above product.

Compatible controllers Connectable to all 4 models All inputs and outputs are handled via network communication.



*Controllers with the above S/Ns or later will display an error or warning code.
Controllers with the S/Ns prior to the above will only indicate the presence or absence of an error or warning.

E4000
E3000
E2000
iSpeed3
Air-Speed
HES
TURBINES
ACCESSORIES