



2021 CATALOG



3 p e e p s



iSpeed3

NAKANISHI INC. 2022



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PR-K368E Ver.1 2022-02-28 03. 440

※Specifications and design are subject to change without notice.

SERIES **iSpeed3**
ULTRA-HIGH-SPEED & SUPER-PRECISION

The Finger Tips

You can arrange this finger spindle as you wish and realize a magical machining

Max. power 140W, Max. rpm 80,000min⁻¹

Max. power 150W, Max. rpm 60,000min⁻¹

✔ Spindle accuracy within 1 μm

- Optimum for high-precision machining
- Longer tool life

✔ Ceramic Bearing

- Longer bearing life
- Higher rigidity for heavy cutting

✔ Brushless motor

- No need to replace carbon brushes to enable maintenance-free operation
- Carbon brush dust will no longer penetrate the bearing to extend the product life



Index

Flange type motor spindle

BM-319F p.5
With 50cm joint cord
Max.rpm 80,000min⁻¹



BM-320F p.5
With 50cm joint cord
Max.rpm 80,000min⁻¹



BM-322FL p.7
With 50cm joint cord
Max.rpm 60,000min⁻¹



BM-322FR p.7
With 50cm joint cord
Max.rpm 60,000min⁻¹



BM-322FS p.9
With 50cm joint cord
Max.rpm 60,000min⁻¹

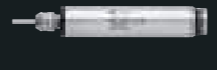


BMF-319 p.11
Max.rpm 80,000min⁻¹

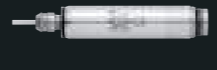


Straight type motor spindle

BMJ-319 p.13
Max.rpm 80,000min⁻¹



BMJ-320 p.13
Max.rpm 80,000min⁻¹



BMJ-322 p.15
Max.rpm 60,000min⁻¹



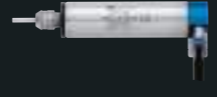
BM-319 p.17
With 50cm joint cord
Max.rpm 80,000min⁻¹



BM-320 p.17
With 50cm joint cord
Max.rpm 80,000min⁻¹



BM-322 p.19
With 50cm joint cord
Max.rpm 60,000min⁻¹



Motor cord

1. Joint type

[Feature] Connection possible out of the machine
[Length] 3m, 5m, 7m



EMCD-BM3 p.22
Joint type motor cord

2. Straight type

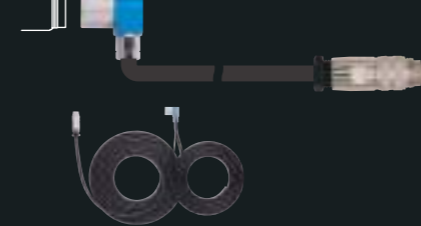
[Feature] Connection at the body end
[Length] 4m, 6m, 8m



EMCD-BM3S p.22
Straight type motor cord

3. Angle type

[Feature] Connection at the body end into 90° degrees
[Length] 4m, 6m, 8m



EMCD-BM3A p.22
Angle type motor cord

Controller

iSpeed3 CONTROLLER
Controller p.21

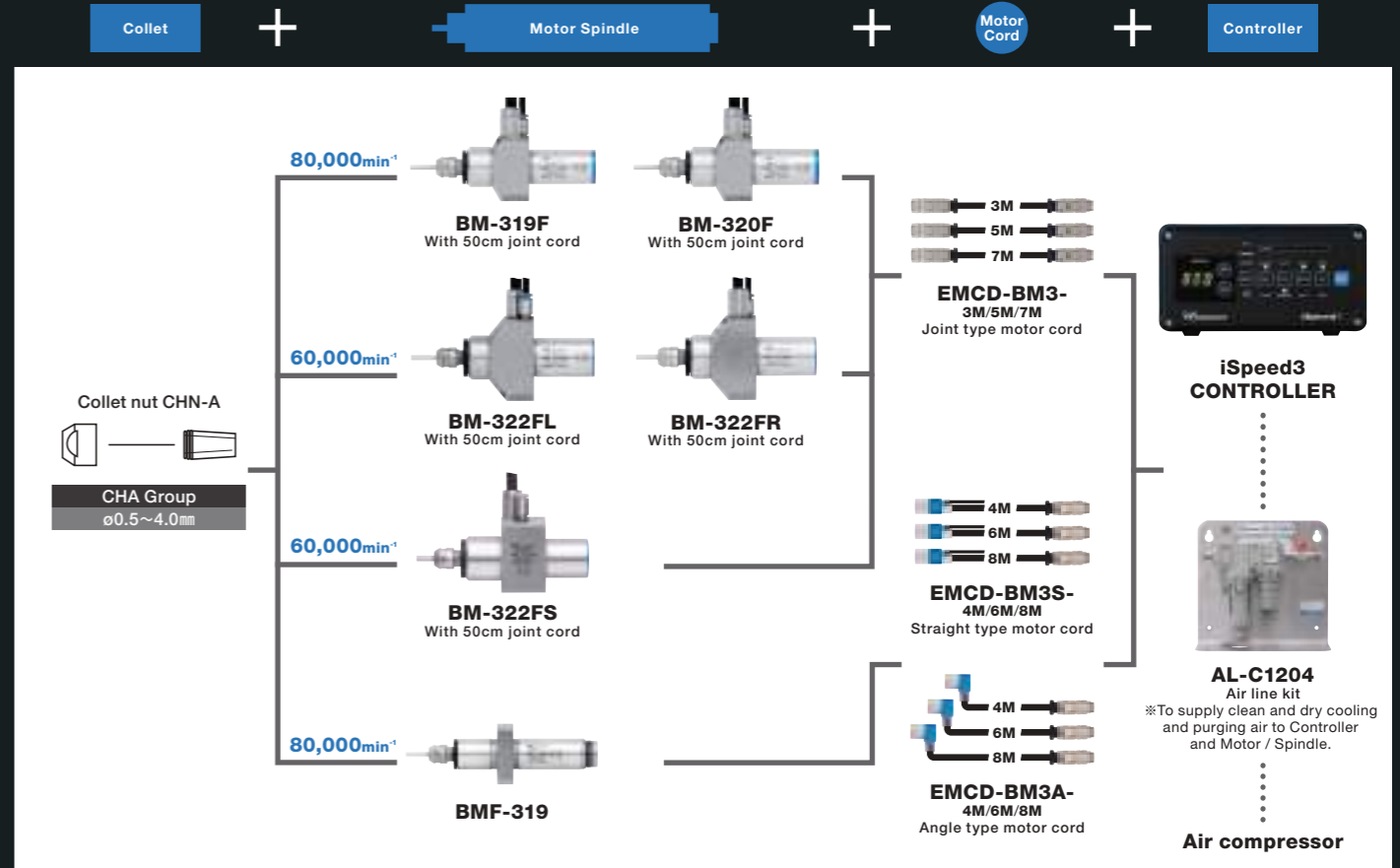
Accessories

AL-C1204
Air line kit p.22

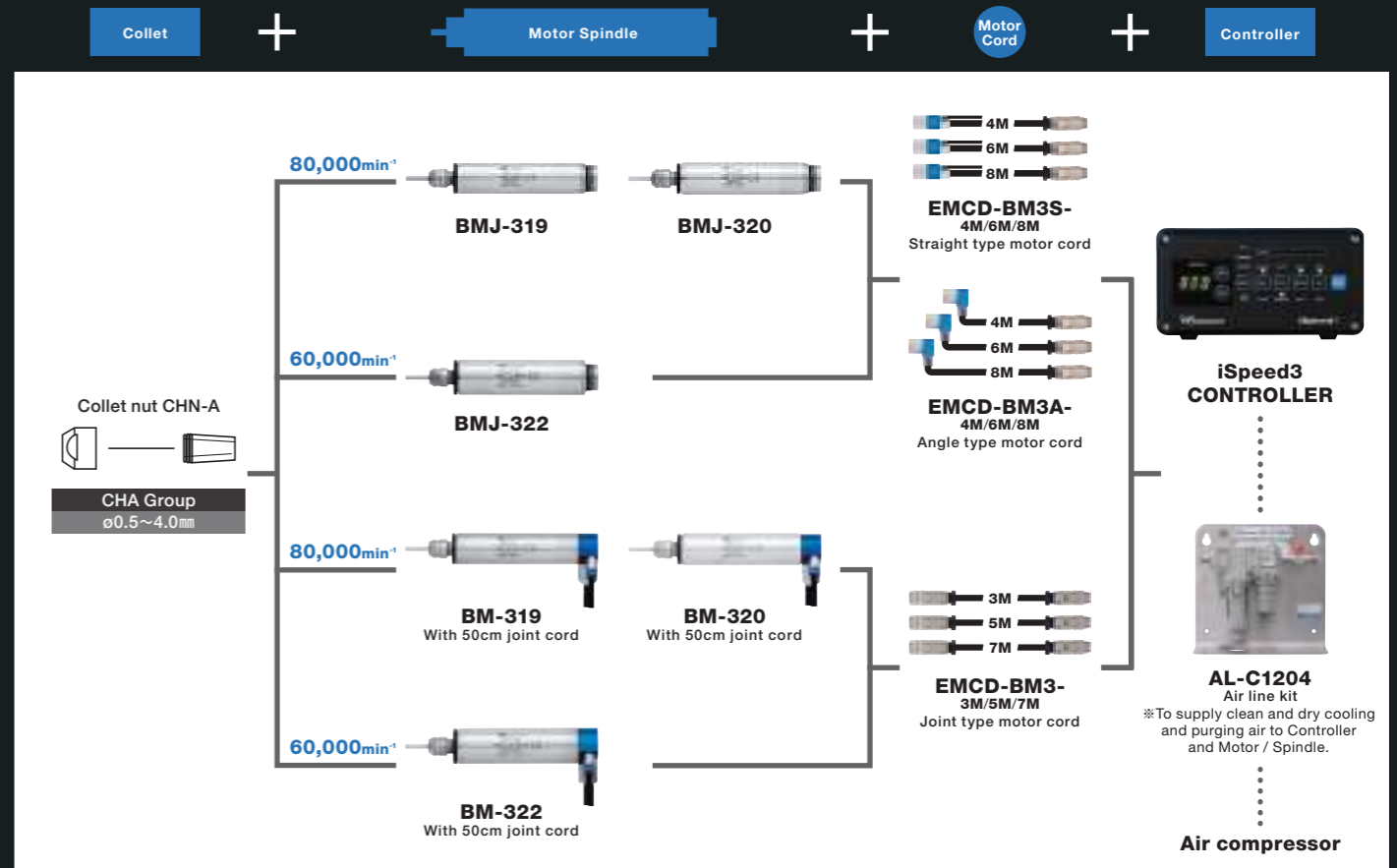
CHA / CHN-A
Collet / Collet nut p.23

System Chart

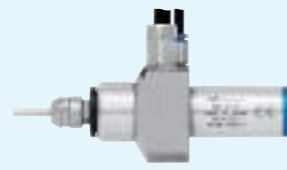
Flange type motor spindle



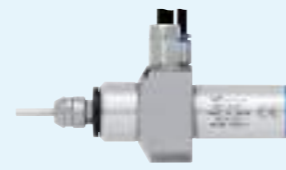
Straight type motor spindle



Spindle Guide



BM-319F



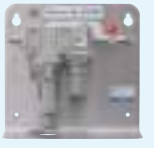
BM-320F



EMCD-BM3



iSpeed3 CONTROLLER



AL-C1204

iSpeed3 SERIES

Shown In Actual Size

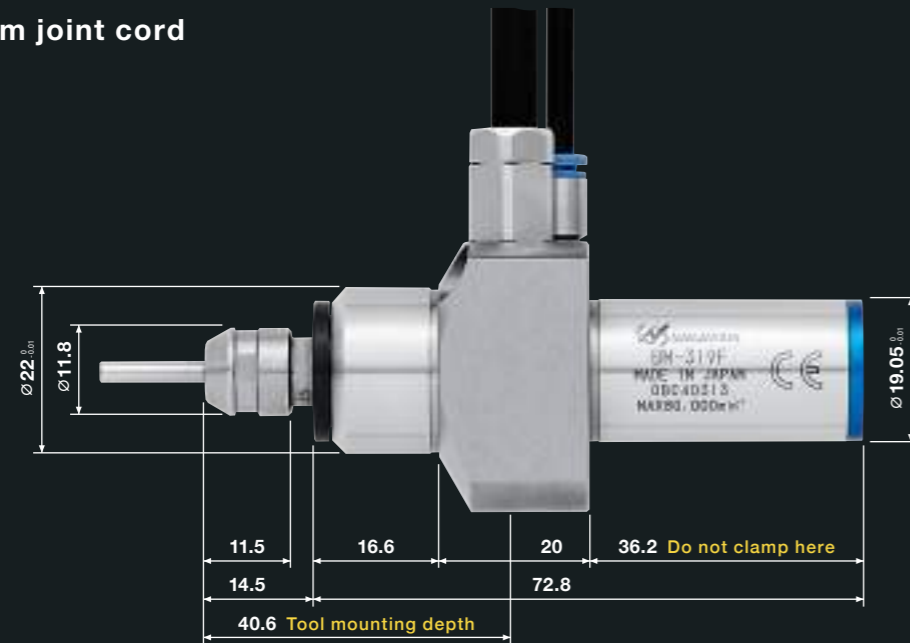
Flange type motor spindle

BM-319F

With 50cm joint cord



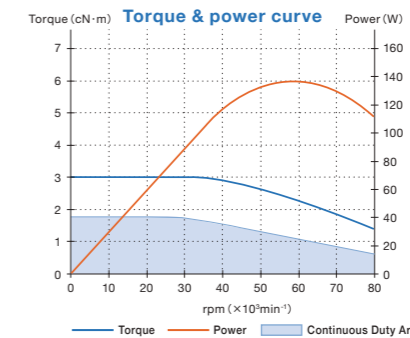
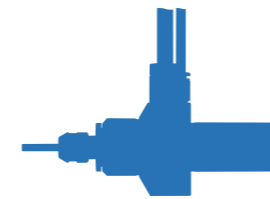
O.D. ϕ 19.05mm



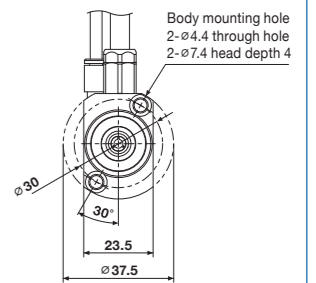
BM-319F

Code No. **7813**

Model **BM-319F**



Dimensions of the holes on the flange



O.D.	Max. rpm	Max. power	Spindle Accuracy	Weight
ϕ 19.05mm	80,000min ⁻¹	140w	Within1 μ m	260g
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each / Bolt : 2pcs. (M4×L25)			
Options	Collet (CHA Group) : ϕ 0.5~ ϕ 4.0mm p.23 Motor cord : Length 3m (9261), 5m (9262), 7m (9263)			

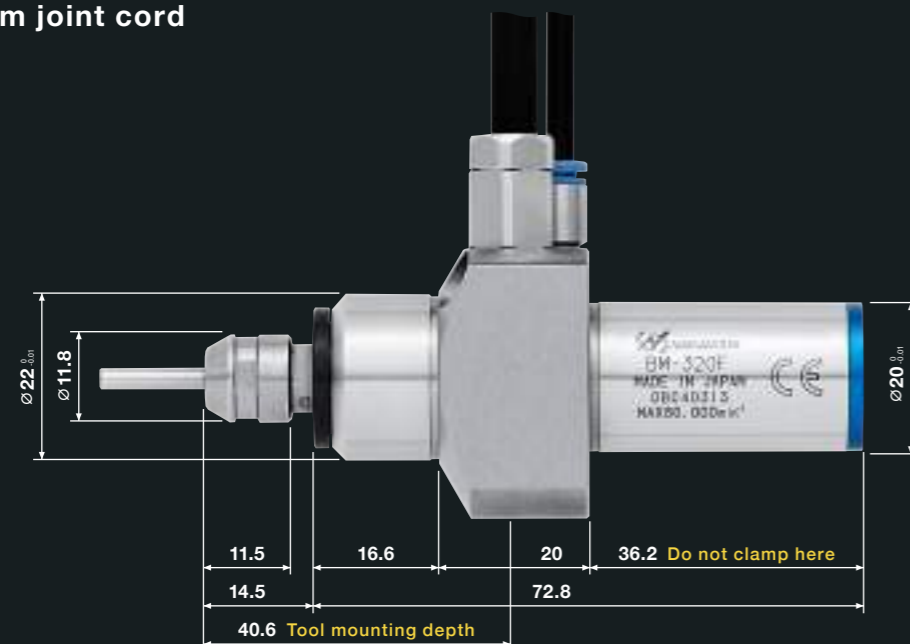
※ Cord length L=0.5m
※ Collet is sold separately.

BM-320F

With 50cm joint cord



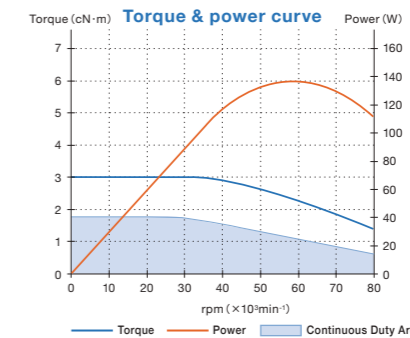
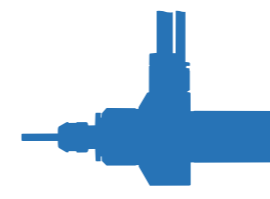
O.D. ϕ 20mm



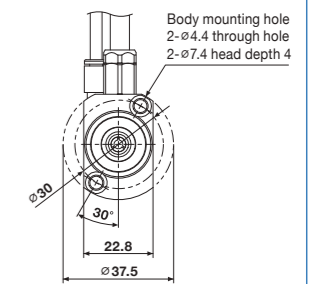
BM-320F

Code No. **7816**

Model **BM-320F**



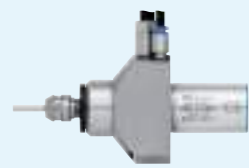
Dimensions of the holes on the flange



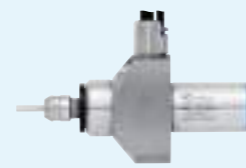
O.D.	Max. rpm	Max. power	Spindle Accuracy	Weight
ϕ 20mm	80,000min ⁻¹	140w	Within1 μ m	270g
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each / Bolt : 2pcs. (M4×L25)			
Options	Collet (CHA Group) : ϕ 0.5~ ϕ 4.0mm p.23 Motor cord : Length 3m (9261), 5m (9262), 7m (9263)			

※ Cord length L=0.5m
※ Collet is sold separately.

Spindle Guide



BM-322FL



BM-322FR



EMCD-BM3



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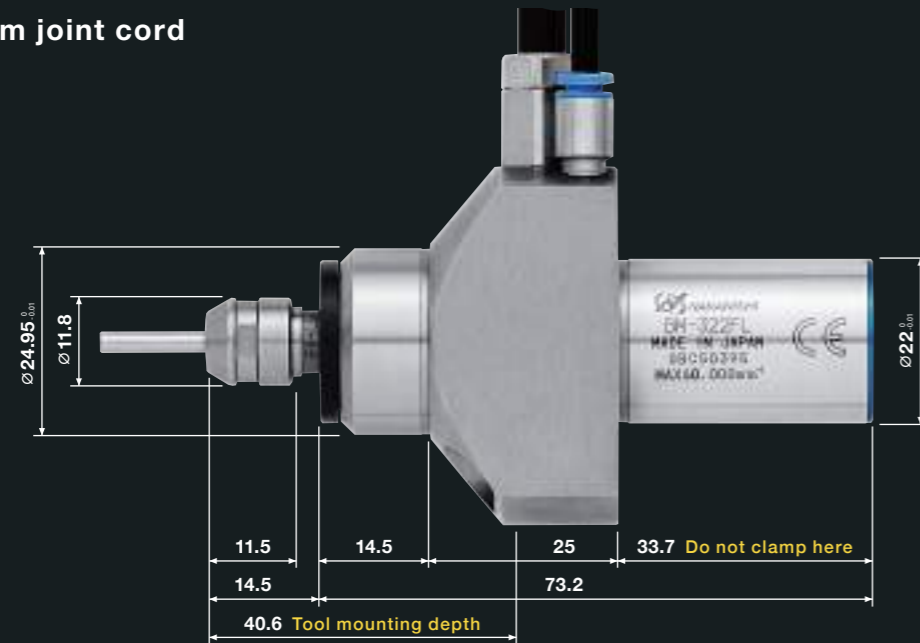
Shown In Actual Size

Flange type motor spindle

BM-322FL
With 50cm joint cord



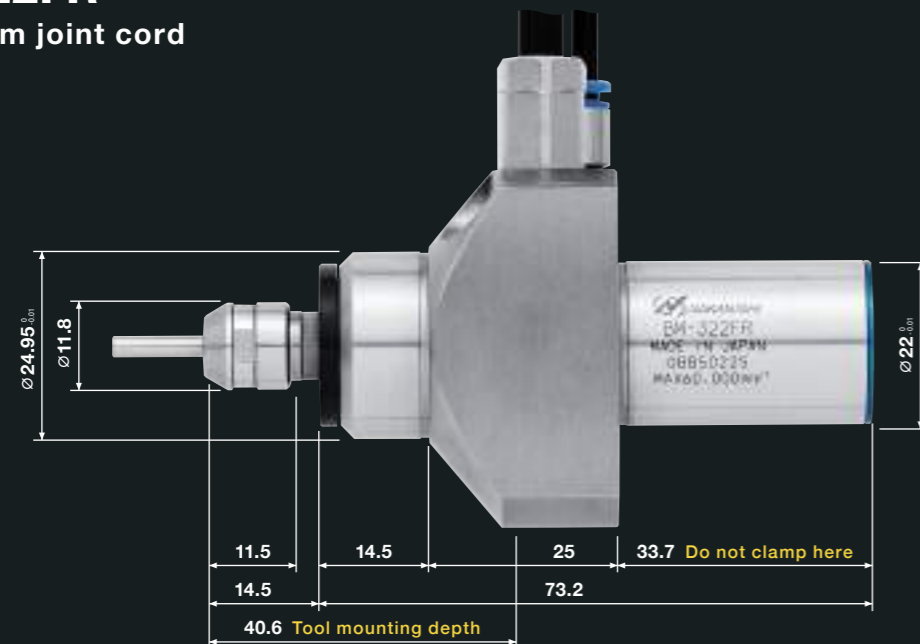
O.D. ϕ 22mm



BM-322FR
With 50cm joint cord



O.D. ϕ 22mm



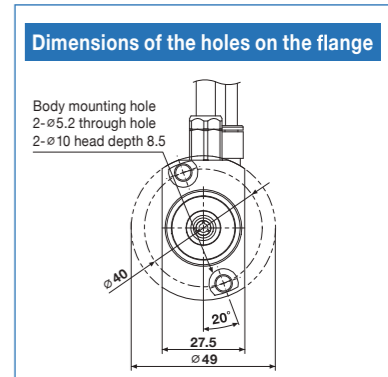
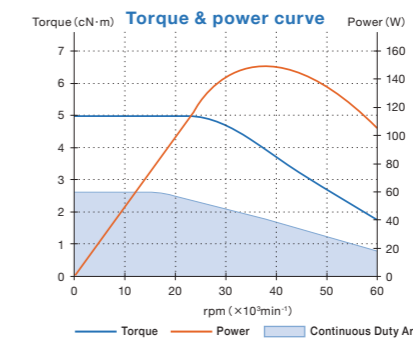
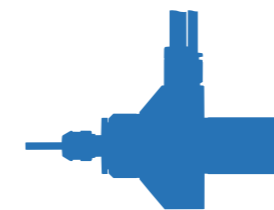
Specifications

DXF data DXF files are available on our website

Order by Code No.

BM-322FL

Code No. **7815** Model **BM-322FL**

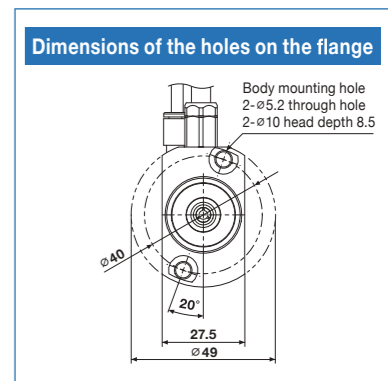
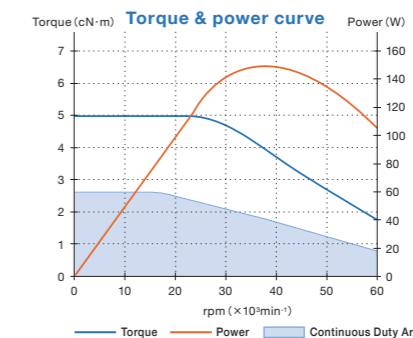
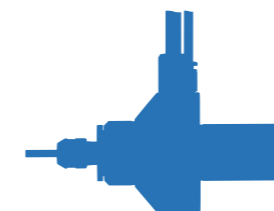


O.D.	Max. rpm	Max. power	Spindle Accuracy	Weight
ϕ 22mm	60,000min ⁻¹	150w	Within1 μ m	360g
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each / Bolt : 2pcs. (M5×L25)			
Options	Collet (CHA Group) : ϕ 0.5~ ϕ 4.0mm p.23 Motor cord : Length 3m (9261), 5m (9262), 7m (9263)			

※ Cord length L=0.5m
※ Collet is sold separately.

BM-322FR

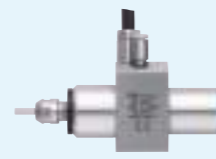
Code No. **7817** Model **BM-322FR**



O.D.	Max. rpm	Max. power	Spindle Accuracy	Weight
ϕ 22mm	60,000min ⁻¹	150w	Within1 μ m	360g
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each / Bolt : 2pcs. (M5×L25)			
Options	Collet (CHA Group) : ϕ 0.5~ ϕ 4.0mm p.23 Motor cord : Length 3m (9261), 5m (9262), 7m (9263)			

※ Cord length L=0.5m
※ Collet is sold separately.

Spindle Guide



BM-322FS



EMCD-BM3



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AL-C1204

iSpeed3 SERIES

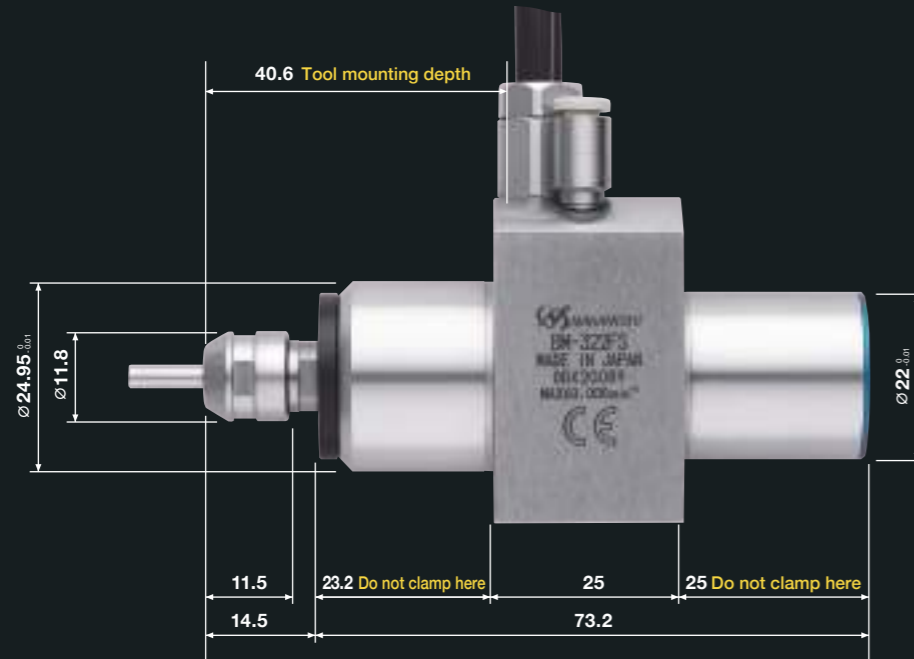
Shown In Actual Size

Flange type motor spindle

BM-322FS
With 50cm joint cord



O.D. $\phi 22\text{mm}$



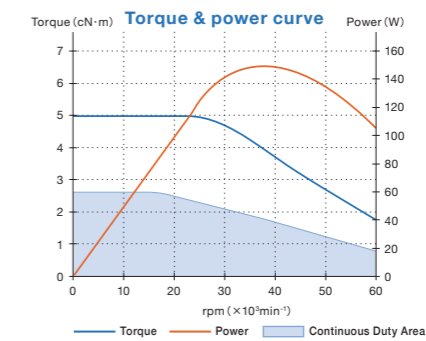
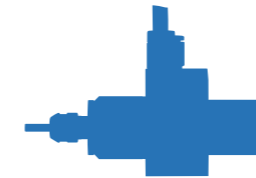
Specifications

DXF data DXF files are available on our website

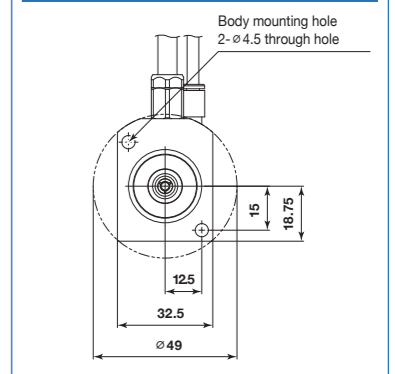
Order by Code No.

BM-322FS

Code No. **7823** Model **BM-322FS**



Dimensions of the holes on the flange



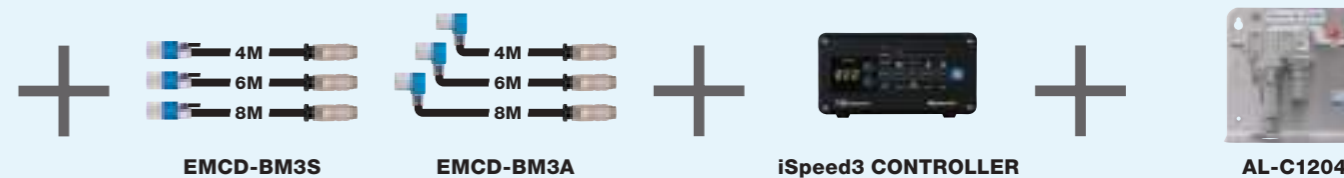
O.D.	Max. rpm	Max. power	Spindle Accuracy	Weight
$\phi 22\text{mm}$	60,000 min^{-1}	150w	Within 1 μm	430g
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each / Bolt : 2pcs. (M4×L35)			
Options	Collet (CHA Group) : $\phi 0.5\sim\phi 4.0\text{mm}$ p.23 Motor cord : Length 3m (9261), 5m (9262), 7m (9263)			

※ Cord length L=0.5m
※ Collet is sold separately.

Spindle Guide



BMF-319



iSpeed3 SERIES

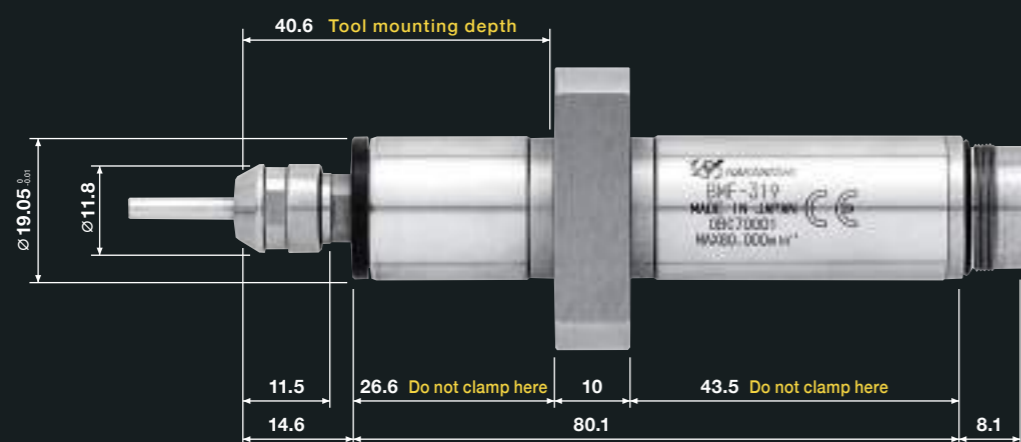
Shown In Actual Size

Flange type motor spindle

BMF-319



O.D. ϕ 19.05mm



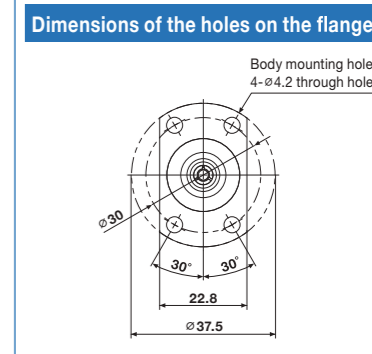
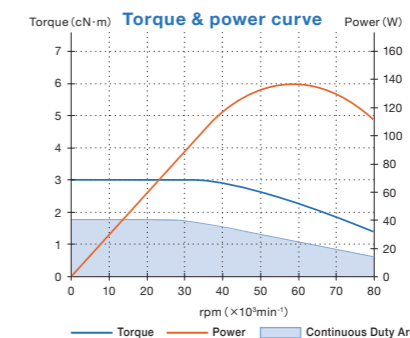
Specifications

DXF data DXF files are available on our website

Order by Code No.

BMF-319

Code No. **7822** Model **BMF-319**



O.D.	Max. rpm	Max. power	Spindle Accuracy	Weight
ϕ 19.05mm	80,000min ⁻¹	140w	Within1 μ m	180g
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each / Bolt : 2pcs. (M4×L16)			
Options	Collet (CHA Group) : ϕ 0.5~ ϕ 4.0mm p.23			
	Motor cord (Straight) : Length 4m (9264), 6m (9265), 8m (9266)			
	Motor cord (Angle) : Length 4m (9267), 6m (9268), 8m (9269)			

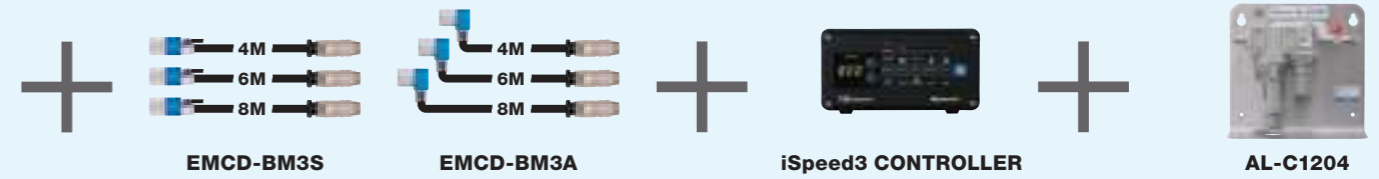
※ Collet is sold separately.

Spindle
Guide

BMJ-319



BMJ-320

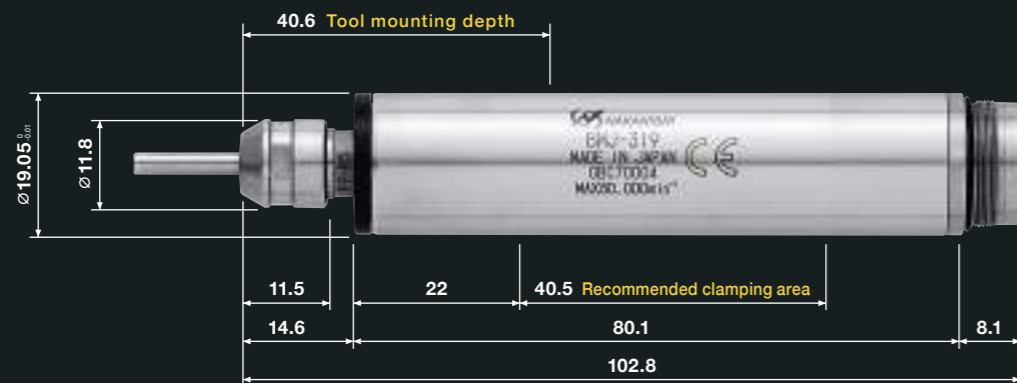


iSpeed3 SERIES

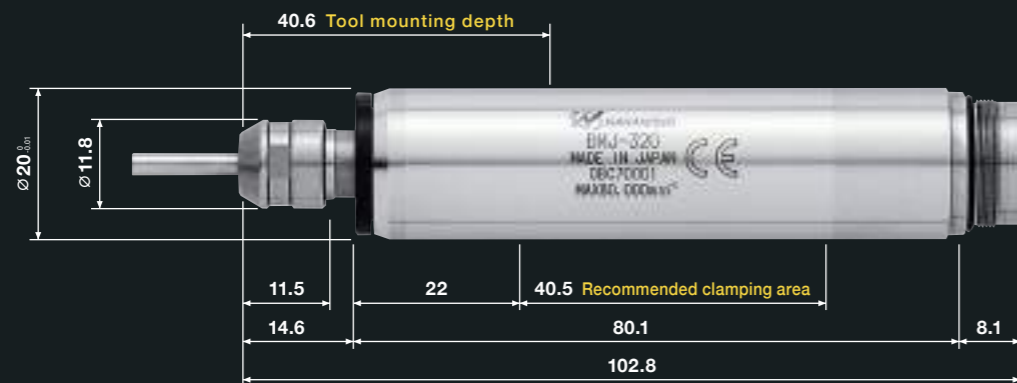
Shown In Actual Size

Straight type motor spindle

BMJ-319

O.D. ϕ 19.05mm

BMJ-320

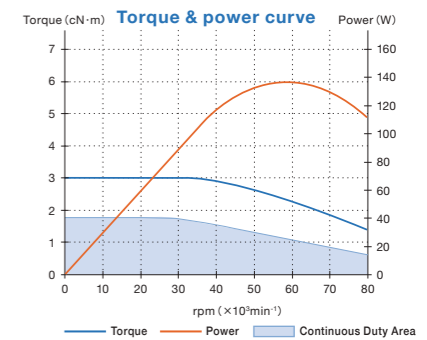
O.D. ϕ 20mm

Specifications

DXF data DXF files are available on our website

Order by Code No.

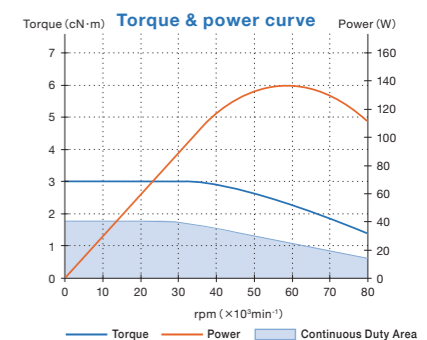
BMJ-319

Code No. **7819** Model **BMJ-319**

O.D.	Max. rpm	Max. power	Spindle Accuracy	Weight
ϕ 19.05mm	80,000min ⁻¹	140w	Within1 μ m	145g
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each			
Options	Collet (CHA Group) : ϕ 0.5~ ϕ 4.0mm p.23 Motor cord (Straight) : Length 4m (9264), 6m (9265), 8m (9266) Motor cord (Angle) : Length 4m (9267), 6m (9268), 8m (9269)			

※ Collet is sold separately.

BMJ-320

Code No. **7820** Model **BMJ-320**

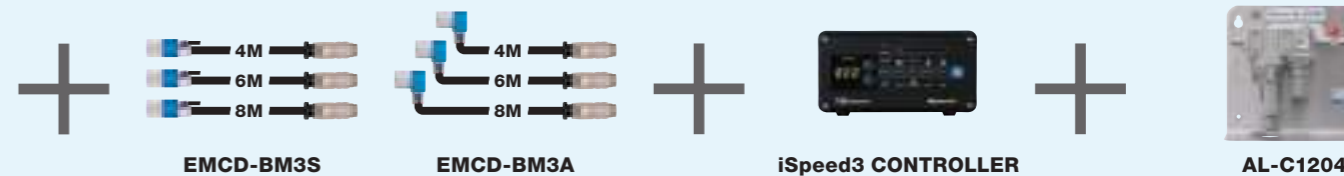
O.D.	Max. rpm	Max. power	Spindle Accuracy	Weight
ϕ 20mm	80,000min ⁻¹	140w	Within1 μ m	160g
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each			
Options	Collet (CHA Group) : ϕ 0.5~ ϕ 4.0mm p.23 Motor cord (Straight) : Length 4m (9264), 6m (9265), 8m (9266) Motor cord (Angle) : Length 4m (9267), 6m (9268), 8m (9269)			

※ Collet is sold separately.

Spindle Guide



BMJ-322



iSpeed3 SERIES

Shown In Actual Size

Straight type motor spindle

BMJ-322



O.D. ϕ 22mm



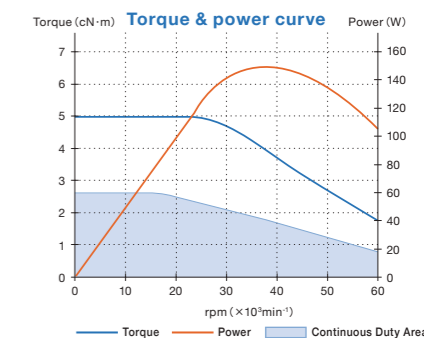
Specifications

DXF data DXF files are available on our website

Order by Code No.

BMJ-322

Code No. **7821** Model **BMJ-322**

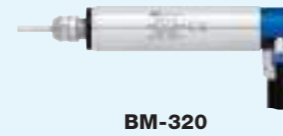


O.D.	Max. rpm	Max. power	Spindle Accuracy	Weight
ϕ 22mm	60,000min ⁻¹	150w	Within1 μ m	190g
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each			
Options	Collet (CHA Group) : ϕ 0.5~ ϕ 4.0mm p.23			
	Motor cord (Straight) : Length 4m (9264), 6m (9265), 8m (9266)			
	Motor cord (Angle) : Length 4m (9267), 6m (9268), 8m (9269)			

* Collet is sold separately.

Spindle
Guide

BM-319



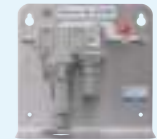
BM-320



EMCD-BM3



iSpeed3 CONTROLLER



AL-C1204

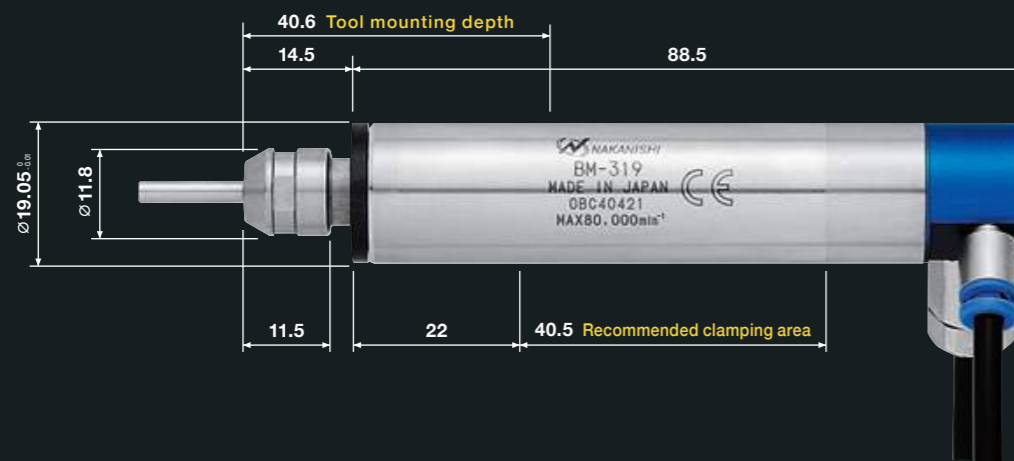
iSpeed3 SERIES

Shown In Actual Size

Straight type motor spindle

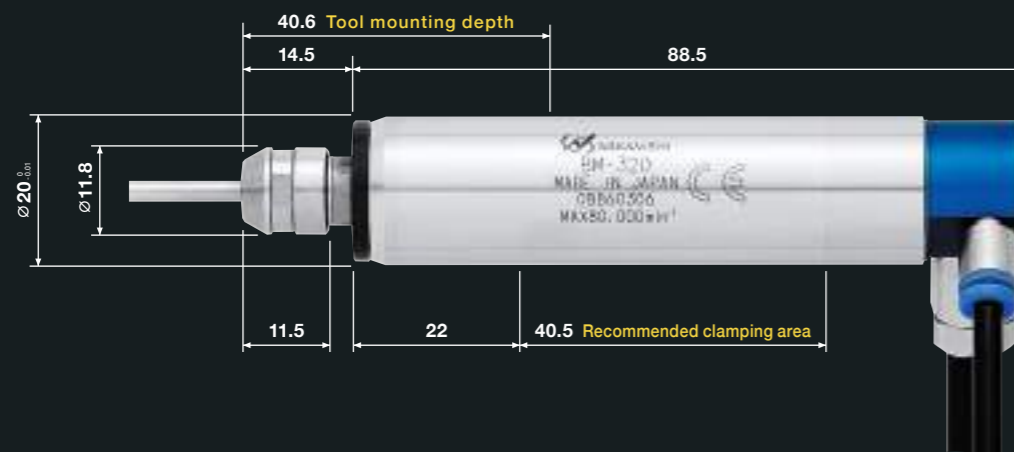
BM-319

With 50cm joint cord

O.D. ϕ 19.05mm

BM-320

With 50cm joint cord

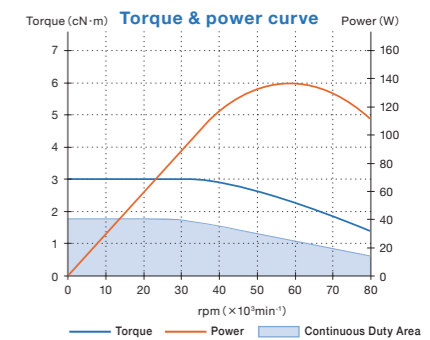
O.D. ϕ 20mm

Specifications

DXF data DXF files are available on our website

Order by Code No.

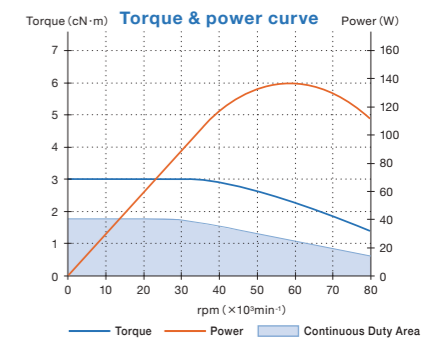
BM-319

Code No. **7810** Model **BM-319**

O.D.	Max. rpm	Max. power	Spindle Accuracy	Weight
ϕ 19.05mm	80,000min ⁻¹	140w	Within1 μ m	210g
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each			
Options	Collet (CHA Group) : ϕ 0.5~ ϕ 4.0mm p.23 Motor cord : Length 3m (9261), 5m (9262), 7m (9263)			

※ Cord length L=0.5m
 ※ Collet is sold separately.

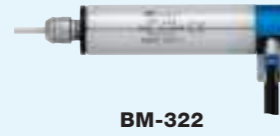
BM-320

Code No. **7811** Model **BM-320**

O.D.	Max. rpm	Max. power	Spindle Accuracy	Weight
ϕ 20mm	80,000min ⁻¹	140w	Within1 μ m	230g
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each			
Options	Collet (CHA Group) : ϕ 0.5~ ϕ 4.0mm p.23 Motor cord : Length 3m (9261), 5m (9262), 7m (9263)			

※ Cord length L=0.5m
 ※ Collet is sold separately.

Spindle Guide



BM-322



EMCD-BM3



iSpeed3 CONTROLLER



AL-C1204

iSpeed3 SERIES

Shown In Actual Size

Straight type motor spindle

BM-322
With 50cm joint cord



O.D. ϕ 22mm



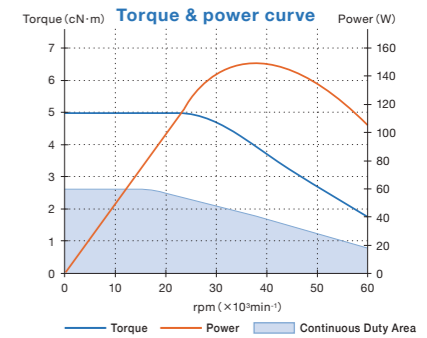
Specifications

DXF data DXF files are available on our website

Order by Code No.

BM-322

Code No. **7814** Model **BM-322**

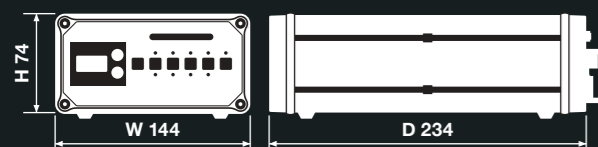


O.D.	Max. rpm	Max. power	Spindle Accuracy	Weight
ϕ 22mm	60,000min ⁻¹	150w	Within1 μ m	250g
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each			
Options	Collet (CHA Group) : ϕ 0.5~ ϕ 4.0mm p.23 Motor cord : Length 3m (9261), 5m (9262), 7m (9263)			

※ Cord length L=0.5m
※ Collet is sold separately.

iSpeed3 Controller

iSpeed3 CONTROLLER Controller



External Input / Output Control Signal Operation

●External Input
Motor Rotating / Stopped, Error Released, Rotating Direction, Motor Speed Setting and etc.

●External Monitor
Motor Current, Error, Warning, Rotating pulse and etc.

●Parameter Setting
Maximum motor speed setting, Fix the motor speed
※For more information, please refer to the operation manual on our website.

Plug type	Code No.
200V (C Type)	8479

※ 8477 (100V), 8478 (120V), 8480 (230V) are available.

Plug type	Area	Product
100V (A Type)	Japan	
120V (B Type)	USA Canada	
200V (C Type)	Without plug	
230V (D Type)	Europe	

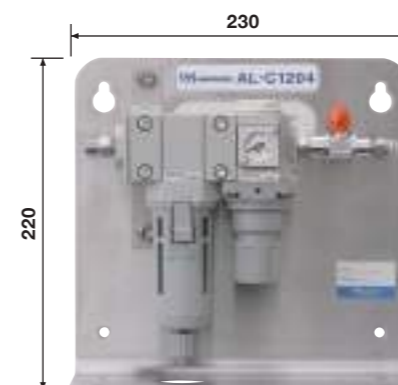
※ Please select Voltage for purchasing.



Motor output	Speed Range	Max. power	Power consumption	Air consumption	Weight
2 Motor spindles (Can't be operated simultaneously.)	1,000~80,000min ⁻¹	150w	0.65A (200V)	1 spindle : 30Nℓ/min (0.25MPa) 2 spindles : 60Nℓ/min (0.25MPa)	3.5kg
Standard Accessories	Power cord : 2m / Air hose with filter (K-251 : 2058) : 2m / Motor connector cap : 2pcs. Bracket : 2pcs. / Plate nut : 4pcs. / M3 bolt : 4pcs. / Fuse : 2pcs.				

Accessories (Air line kit, Motor cord)

AL-C1204 Air line kit



1.9kg

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

Code No.	4504	Model	AL-C1204
Standard Accessories	Hose pipe (K-260) : 2m		

Motor cord

Motor cord	Code No.	Model	Length	Standard Accessories	Compatible model
 Straight type 4M 6M 8M	9264	EMCD-BM3S-4M	4m	Air hose Connector cap (Included)	BMF-319 · BMF-320 BMF-322 · BMF-325 BMJ-319 · BMJ-320 BMJ-322 · BMJ-325
	9265	EMCD-BM3S-6M	6m		
	9266	EMCD-BM3S-8M	8m		
 Angle type 4M 6M 8M	9267	EMCD-BM3A-4M	4m	Air hose Connector cap (Included)	BMF-319 · BMF-320 BMF-322 · BMF-325 BMJ-319 · BMJ-320 BMJ-322 · BMJ-325
	9268	EMCD-BM3A-6M	6m		
	9269	EMCD-BM3A-8M	8m		
 Joint type 3M 5M 7M	9261	EMCD-BM3-3M	3m	Air hose Connector cap (Included)	BM-319F · BM-320F BM-322FL · BM-322FR BM-322FS BM-319 · BM-320 BM-322 · BM-325
	9262	EMCD-BM3-5M	5m		
	9263	EMCD-BM3-7M	7m		

Accessories (Collet, etc.)

Collet	Code No.	Model	I.D.	Compatible model
<p>Collet CHA Group</p>	91494	CHA-3.0AA	ø3.0AA*	BMF-319 · BMF-320 BMF-322 · BMF-325 BMJ-319 · BMJ-320 BMJ-322 · BMJ-325 BM-319F · BM-320F BM-322FL · BM-322FR BM-322FS BM-319 · BM-320 BM-322 · BM-325 *High precision type AA (Run-out Accuracy within 2 μm)
	91496	CHA-3.175AA	ø3.175AA*	
	91495	CHA-4.0AA	ø4.0AA*	
	91492	CHA-2.35	ø2.35	
	91430	CHA-3.0	ø3.0	
	91493	CHA-3.175	ø3.175	
	91440	CHA-4.0	ø4.0	
	—	CHA-□□	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	
	—	CHA-□□	ø1.0, ø1.5, ø2.0, ø2.5, ø3.5 ø1.6	

Collet nut	Code No.	Model	Description	Compatible model
	2102	CHN-A	Collet nut for CHA collet	BMF-319 · BMF-320 · BMF-322 BMF-325 · BMJ-319 · BMJ-320 BMJ-322 · BMJ-325 · BM-319F BM-320F · BM-322FL BM-322FR · BM-322FS BM-319 · BM-320 BM-322 · BM-325

Spacer · Bush	Code No.	Model	Description	Compatible model
	1882	SP-22×10L	Spacer (for BM-322FL / BM-322FR) Dimensions : ø22 (I.D.) × 10mm	BM-322FL · BM-322FR
	1875	RB-20×23	ø23 Bush Dimensions : ø20 (I.D.) × ø23 (O.D.) × 40mm	BMJ-320 · BM-320 BMF-320
	1876	RB-20×22.8	ø22.8 Bush Dimensions : ø20 (I.D.) × ø22.8 (O.D.) × 40mm	BMJ-320 · BM-320 BMF-320
	1877	RB-20×22	ø22 Bush Dimensions : ø20 (I.D.) × ø22 (O.D.) × 40mm	BMJ-320 · BM-320 BMF-320
	1878	RB-20×25	ø25 Bush Dimensions : ø20 (I.D.) × ø25 (O.D.) × 40mm	BMJ-320 · BM-320 BMF-320
	1879	RB-20×25.4	ø25.4 Bush Dimensions : ø20 (I.D.) × ø25.4 (O.D.) × 40mm	BMJ-320 · BM-320 BMF-320
	1883	RB-22×25×34L	ø25 Bush Dimensions : ø22 (I.D.) × ø25 (O.D.) × 33.5mm	BM-322FL · BM-322FR BM-322FS · BMF-322 BMJ-322 · BM-322
	1884	RB-22×25.4×34L	ø25.4 Bush Dimensions : ø22 (I.D.) × ø25.4 (O.D.) × 33.5mm	BM-322FL · BM-322FR BM-322FS · BMF-322 BMJ-322 · BM-322
1887	RB-19.05×25.4×36L	ø25.4 Bush Dimensions : ø19.05 (I.D.) × ø25.4 (O.D.) × 36mm	BM-319F · BMJ-319 BM-319 · BMF-319	

NAKANISHI Solutions LINE UP

Electric Motors & Spindles

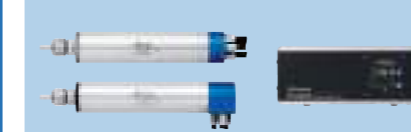


Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

E4000 SERIES

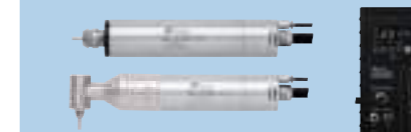
1,000~40,000min⁻¹ Max.1,200W
[ø40mm]



- World's highest power in this class
- Max. power: 1,200W, Max. torque: 1.0N·m

E3000 SERIES

1,000~80,000min⁻¹ Max.350W
[ø30/25/20mm]



- The largest product lines for various processing
- Space-saving solution for small CNC lathe

HES SERIES

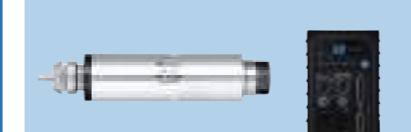
Max.80,000min⁻¹
[For small diameter endmills and drills only]



- The most cost effective solution to add high-speed machining capability
- 80,000min⁻¹, 6.0cN·m
- BT, HSK A63, ST shanks are available
- Driven by E3000 Controller

E2000 SERIES

1,000~50,000min⁻¹ Max.200W
[ø22.8/25mm]



- Small size spindle allows multi-axis installation in limited space

iSpeed3 SERIES

1,000~80,000min⁻¹ Max.150W
[ø19.05/20/22mm]



- Super short motor spindle
- High efficiency brushless motor



- 50,000min⁻¹, 8.75cN·m
- BT, NT, CAT, IT, HSK A, ST shanks are available
- Driven by E3000 Controller

Air Motors & Spindles



Application for CNC lathes / Special purpose machines

Air-Speed SERIES One-piece type

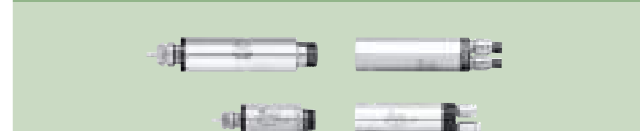
Max.30,000min⁻¹ Max.130W
[ø25/23/20/19.05mm]



- Short body enables the spindle to mount in a limited space on a small NC/CNC lathe or on a special purpose machine

Air-Speed SERIES Modular type

Max.30,000min⁻¹ Max.130W
[ø30/25/22.8mm]



- Separate motor and spindle for flexible application changes
- Adjustable to various application through changing spindles

Air Turbine Spindles

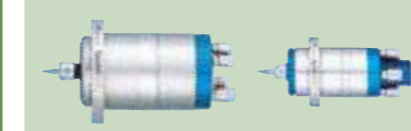


Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

Xpeed SERIES

Max.160,000min⁻¹
[ø65/40mm]



- Extreme accuracy-Runout 1μm
- For high precision small diameter drilling, internal grinding of ceramics
- Long life of spindle thanks to contactless rotation mechanism

PLANET SERIES

Max.65,000min⁻¹



- A milling machine turns into a jig grinder
- For high precision internal grinding

HTS SERIES

150,000min⁻¹
[For small diameter endmills and drills only]



- No thermal expansion on Z axis thanks to air turbine generating little heat
- Ultra high speed 150,000min⁻¹ with higher rigidity thanks to ceramic bearings
- BT, HSK E and straight (M2040) shanks are available



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www.nakanishi-inc.com
PR-K364E Ver.1 2022-06-16 05.  590

SERIES **E3000**
ULTRA-HIGH-SPEED & SUPER-PRECISION

De Facto

E3000 Series has become the largest product lines of electric motor spindle with the decades of effort to respond to the customer's requests from all over the world.

✓ **∅30mm Spindle**

- Max. power 350w
- Max. rpm 80,000min⁻¹

✓ **The largest product lines**

- 26 types of spindles are available.

✓ **Spindle accuracy within 1 μm**

- Optimum for high-precision machining
- Longer tool life

✓ **Ceramic Bearing**

- Longer bearing life
- Higher rigidity for heavy cutting






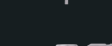


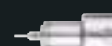

✓ **Brushless motor**



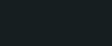
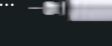

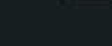
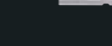


- Maintenance free
- Longer product life thanks to no dust from carbon brushes



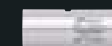
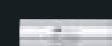

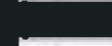
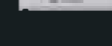
Index

Spindle (Modular type)



NR-3060S Short spindle		p.9
NRF-3060S Short spindle with flange		p.9
NR-3060 Straight spindle		p.9
RAX-271E / RAX-71E Angle spindle Standard angle head		p.11
RA-151E Angle spindle with short head		p.11
RAS-151E Angle spindle with long head		p.13
RA-271E Angle spindle with small head		p.13
NR33-6000ATC-ESD Antistatic spindle		p.15
NR50-5100 ATC RS Automatic tool change spindle Open / close by air cylinder		p.17
NR40-5100 ATC Automatic tool change spindle Open / close by air cylinder		p.19

NRR-3060 Manual tool change spindle Open / close by lever operation		p.19
NR3060-AQC Air quick change spindle Clamp / unclamp by air operation		p.21
NRR3060-QC Lever quick change spindle		p.23
CTS-3030 Coolant through spindle		p.25
ARG-011E Speed reducer (1/4)		p.27
ARG-021E Speed reducer (1/16)		p.27
RG-3004M Oil mist type Speed reducer (1/4)		p.27
NR-3080S Short spindle		p.29
NRAF-5080 Air bearing spindle		p.29

Motor (Modular type)

EM-3060 60,000min ⁻¹ motor		p.31
EM-3060J 60,000min ⁻¹ motor with joint type motor cord		p.31
EM-3030T 30,000min ⁻¹ torque motor		p.33
EM-3030T-J 30,000min ⁻¹ torque motor with joint type motor cord		p.33
EM-3080J 80,000min ⁻¹ motor with joint type motor cord		p.33

Spindle & Motor ø25 Specifications (Modular type)

NR-2551 Straight spindle		p.35
EM25N-5000J 50,000min ⁻¹ motor		p.35


Motor Spindle (One-piece type)

EMS-3060K ø30 Motor spindle CHK collet·30cm joint cord		p.39
EMR-3008K Motor spindle with reduction gear		p.39
EMA-3020K Angle motor spindle Standard angle head		p.41
EMA-3020S Angle motor spindle Built-in angle head		p.41
EM30-S6000 ø30 Motor spindle·CHK collet		p.43
EM25-S6000 ø25 Motor spindle·CHA collet		p.43
EM20-S6000 ø20 Motor spindle·CHA collet		p.43
EMSF-3060K Motor spindle with flange		p.45

Controller

E3000 CONTROLLER Controller		p.47
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Selector

E3000 SELECTOR Selector Up to 4 motors to control with connecting selector to controller		p.48
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Motor cord

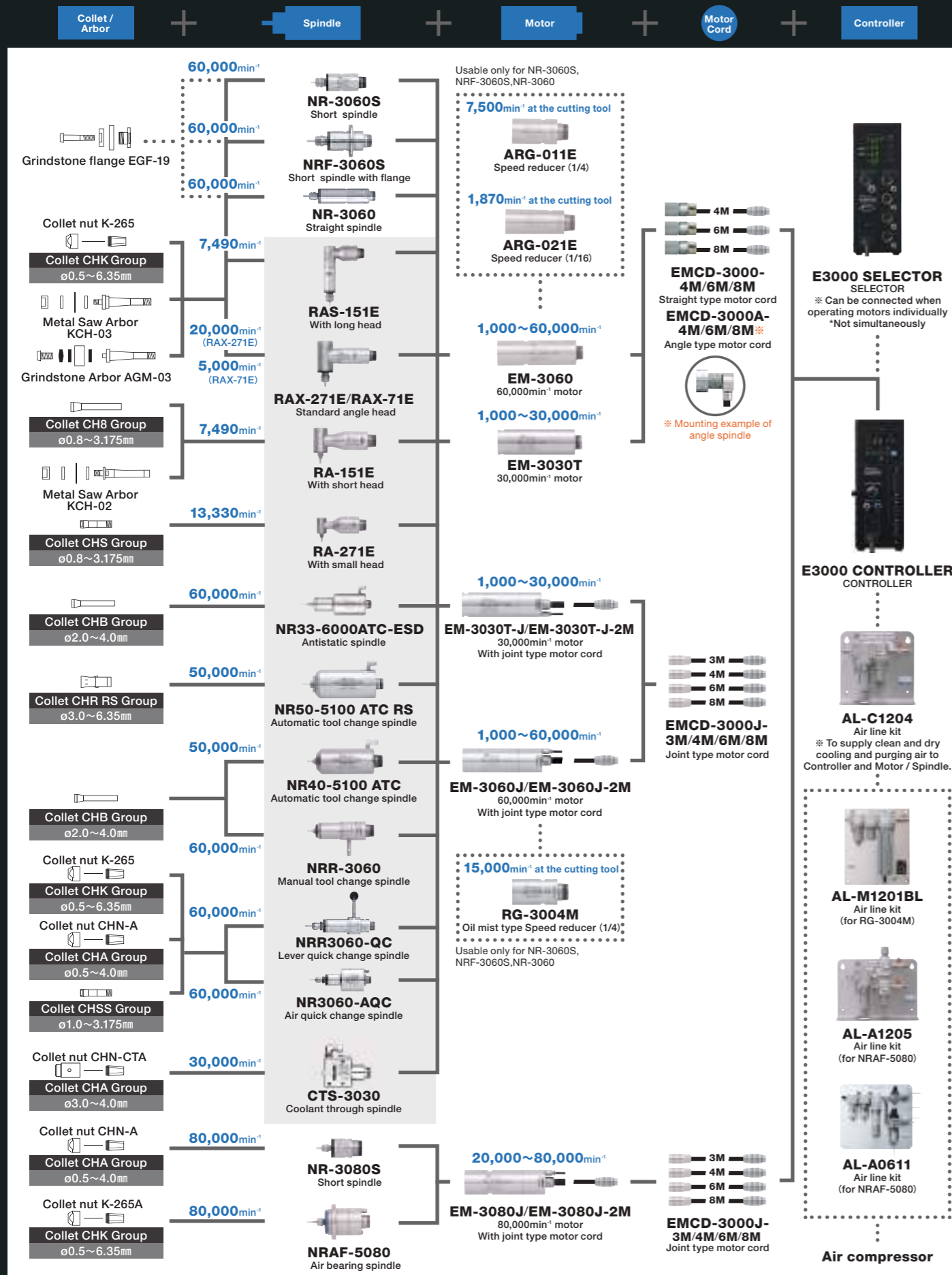
EMCD-3000 Straight type	p.49	EMCD-3000A Angle type	p.49	EMCD-3000J Joint type	p.49
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Accessories

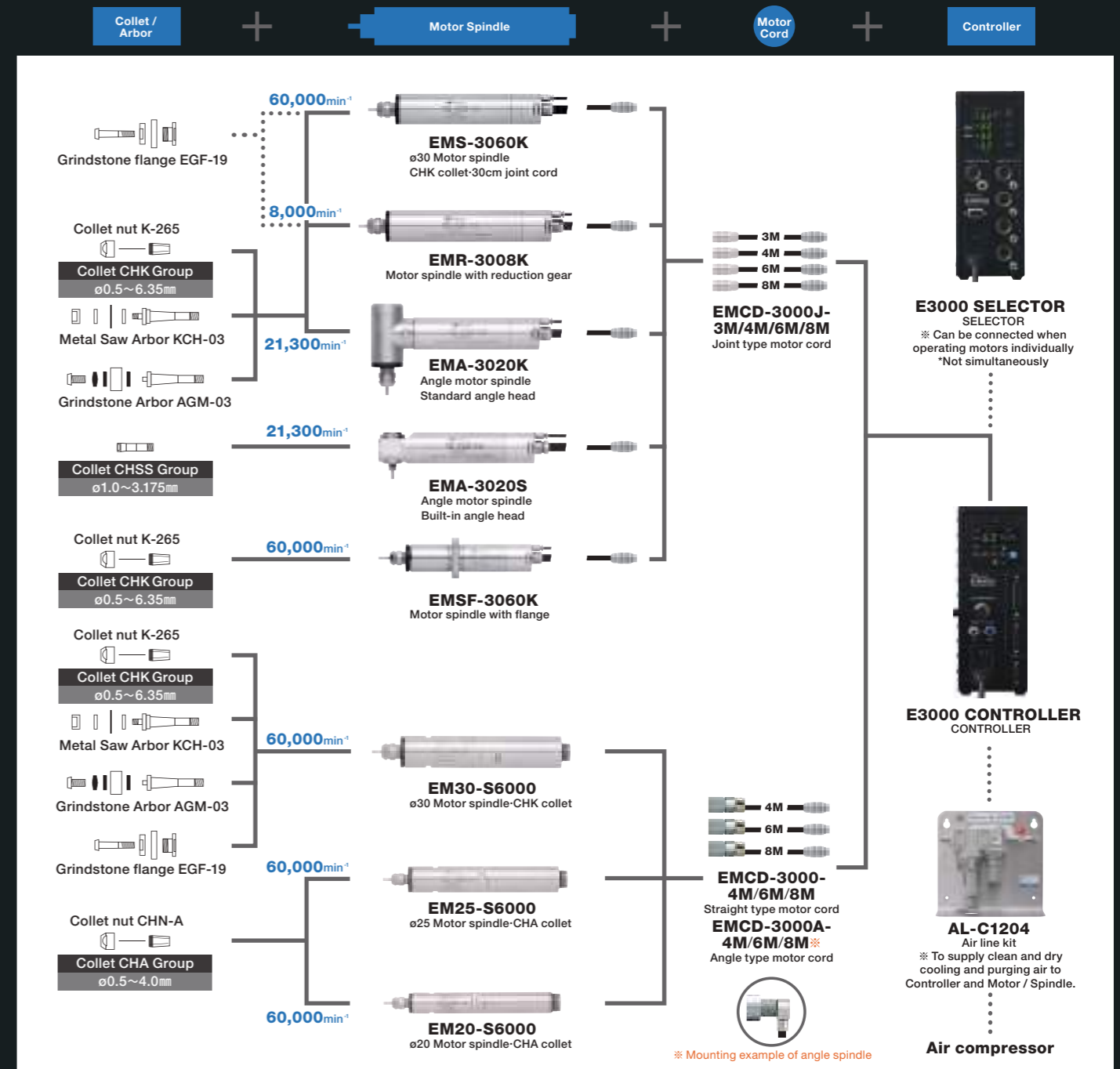
Air line kits p.50	GR-30 Grip ring	p.50	Collets p.51	Collet holders p.52
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System Chart

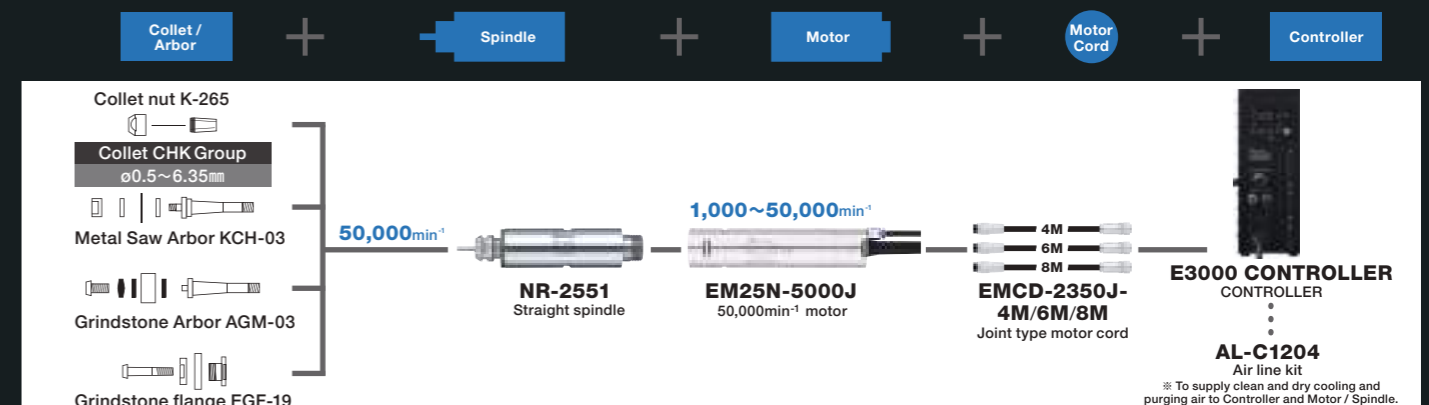
Modular type ø30mm



One-piece type ø30/ø25/ø20mm



Modular type ø25mm



Spindle (Modular type)



- 30** NR-3060S p.9
- 30** NRF-3060S p.9
- 30** NR-3060 p.9
- 30** RAX-271E / RAX-71E p.11
- 30** RA-151E p.11
- 30** RAS-151E p.13
- 30** RA-271E p.13
- 30** NR-3080S p.29
- 48** NRAF-5080 p.29



- 33** NR33-6000ATC-ESD p.15
- 50** NR50-5100 ATC RS p.17
- 40** NR40-5100 ATC p.19



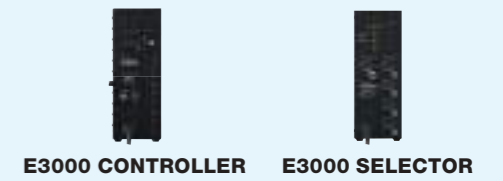
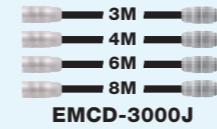
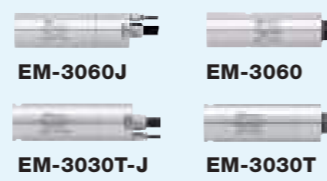
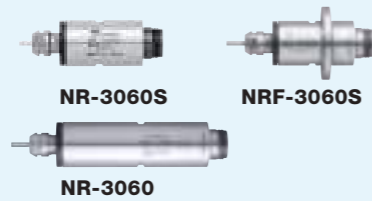
- 26** NRR-3060 p.19
- 30** NR3060-AQC p.21
- 30** NRR3060-QC p.23
- 30** CTS-3030 p.25
- 30** ARG-011E p.27
- 30** ARG-021E p.27
- 30** RG-3004M p.27

- 30** EM-3060 p.31
- 30** EM-3060J p.31
- 30** EM-3030T p.33
- 30** EM-3030T-J p.33
- 30** EM-3080J p.33



- 25** NR-2551 p.35
- 25** EM25N-5000J p.35

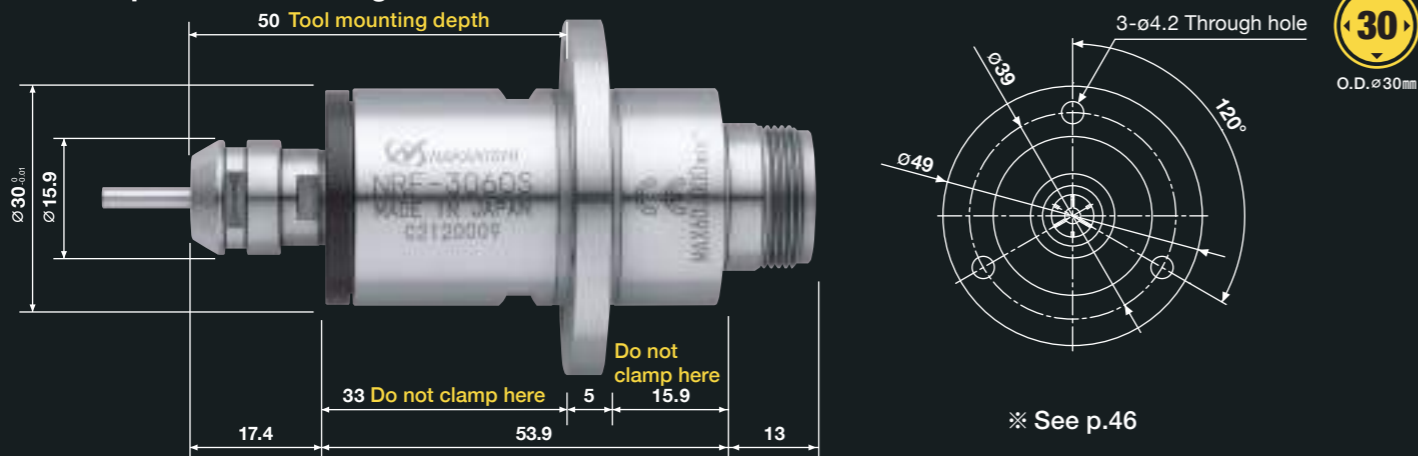


Spindle
Guide

E3000 SERIES

Shown In Actual Size

Spindle (Modular type)

NR-3060S
Short spindleNRF-3060S
Short spindle with flangeNR-3060
Straight spindle

Specifications

DXF data DXF files are available on our website

Order by Code No.

NR-3060S

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

O.D.	Max. rpm	Spindle Accuracy	Collet	Weight
\varnothing 30mm	60,000 min ⁻¹	Within 1 μ m	CHK Group (\varnothing 0.5 ~ \varnothing 6.35mm)	260g
Standard Accessories	Collet nut (K-265) / Wrench (12×14) : 2pcs. · (22×27) : 1pc.			
Options	Collet (CHK Group) : \varnothing 0.5~ \varnothing 6.35mm p.51 Metal Saw Arbor (KCH-03) : \varnothing d (I.D.) × under \varnothing 30mm (O.D.) / Grindstone Arbor (AGM-03) : Grindstone I.D. \varnothing 5.0mm Grindstone Flange (EGF-19) : applicable grindstone I.D. \varnothing 19.05×O.D. \varnothing 40×7mm			

※ Collet is sold separately.

NRF-3060S

Code No. **7795** Model **NRF-3060S**

O.D.	Max. rpm	Spindle Accuracy	Collet	Weight
\varnothing 30mm	60,000 min ⁻¹	Within 1 μ m	CHK Group (\varnothing 0.5 ~ \varnothing 6.35mm)	285g
Standard Accessories	Collet nut (K-265) / Wrench (12×14) : 2pcs. · (22×27) : 1pc. Hexagon Socket Head Screw (M4×12) : 3pcs.			
Options	Collet (CHK Group) : \varnothing 0.5~ \varnothing 6.35mm p.51 Metal Saw Arbor (KCH-03) : \varnothing d (I.D.) × under \varnothing 30mm (O.D.) / Grindstone Arbor (AGM-03) : Grindstone I.D. \varnothing 5.0mm Grindstone Flange (EGF-19) : applicable grindstone I.D. \varnothing 19.05×O.D. \varnothing 40×7mm			

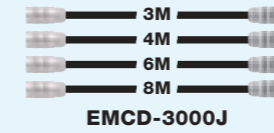
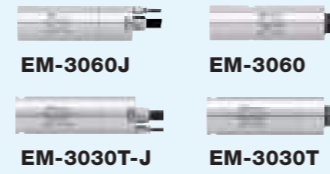
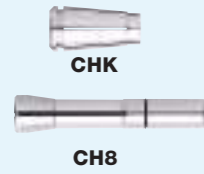
※ Collet is sold separately.

NR-3060

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

O.D.	Max. rpm	Spindle Accuracy	Collet	Weight
\varnothing 30mm	60,000 min ⁻¹	Within 1 μ m	CHK Group (\varnothing 0.5 ~ \varnothing 6.35mm)	420g
Standard Accessories	Collet nut (K-265) / Wrench (12×14) : 2pcs. · (22×27) : 1pc.			
Options	Collet (CHK Group) : \varnothing 0.5~ \varnothing 6.35mm p.51 Metal Saw Arbor (KCH-03) : \varnothing d (I.D.) × under \varnothing 30mm (O.D.) / Grindstone Arbor (AGM-03) : Grindstone I.D. \varnothing 5.0mm Grindstone Flange (EGF-19) : applicable grindstone I.D. \varnothing 19.05×O.D. \varnothing 40×7mm			

※ Collet is sold separately.

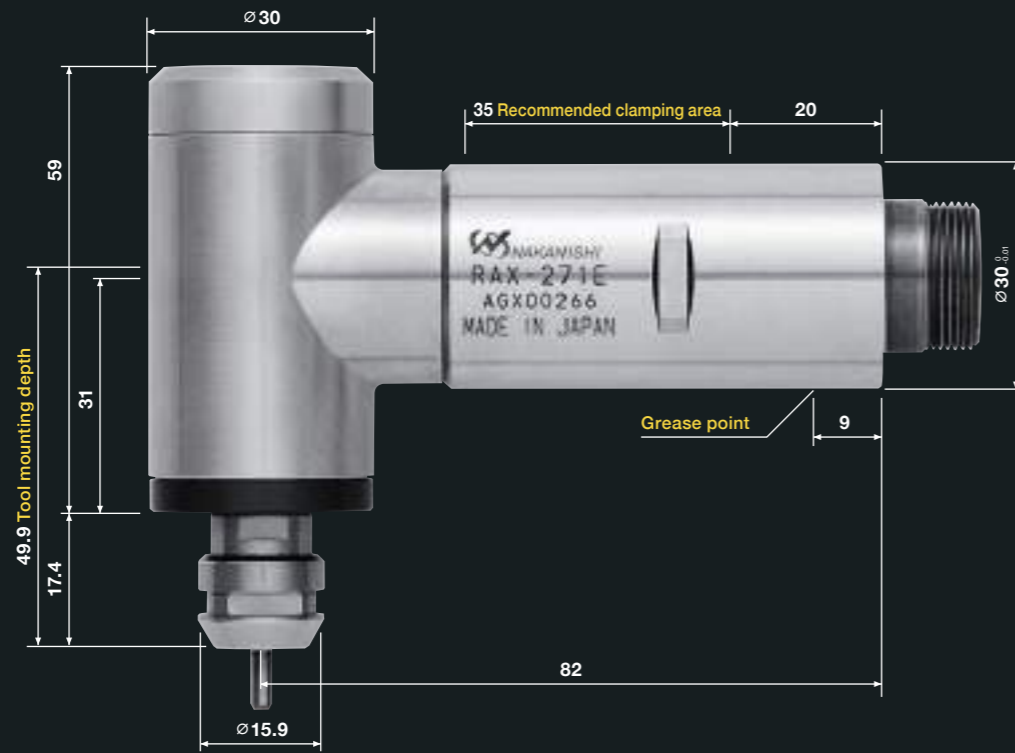
Spindle
Guide

E3000 SERIES

Shown In Actual Size

Spindle (Modular type)

RAX-271E / RAX-71E

Angle spindle
Standard angle headO.D. \varnothing 30mm

Specifications

DXF data DXF files are available on our website

Order by Code No.

RAX-271E / RAX-71E



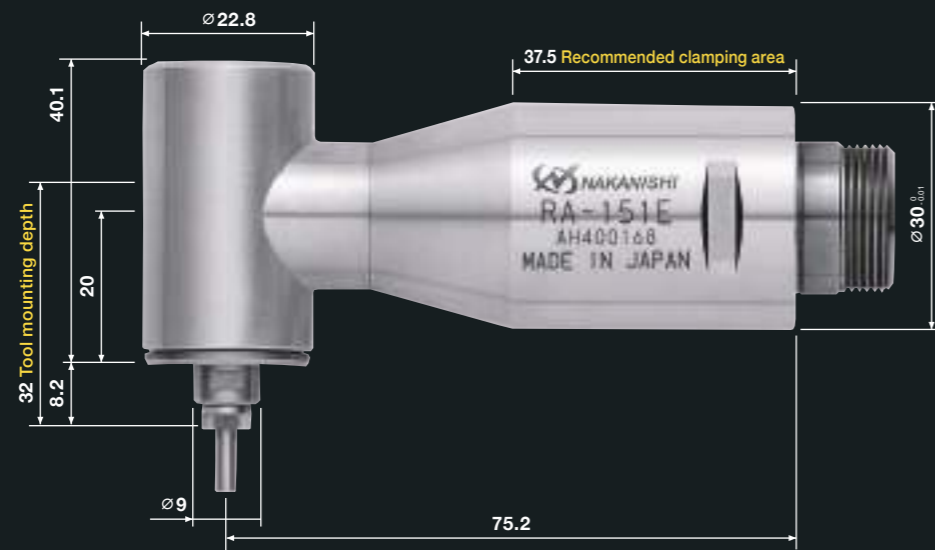
Code No.	7856	Model	RAX-271E
Code No.	7857	Model	RAX-71E

[Model]	O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
RAX-271E	\varnothing 30mm	20,000 min ⁻¹	$\frac{1}{1.5}$	30,000 min ⁻¹
Spindle Accuracy	Collet	Weight		
Within 2 μ m	CHK Group (\varnothing 0.5 ~ \varnothing 6.35mm)	580g		
[Model]	O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
RAX-71E	\varnothing 30mm	5,000 min ⁻¹	$\frac{1}{6}$	30,000 min ⁻¹
Spindle Accuracy	Collet	Weight		
Within 2 μ m	CHK Group (\varnothing 0.5 ~ \varnothing 6.35mm)	580g		
Standard Accessories	Collet nut (K-265) / Wrench (12×14) : 2pcs. · (22×27) : 1pc. Grease for speed reducer (10m ℓ) / Grease nipple : 1pc.			
Options	Collet (CHK Group) : \varnothing 0.5~ \varnothing 6.35mm p.51 Metal Saw Arbor (KCH-03) : \varnothing d (I.D.) × under \varnothing 30mm (O.D.) / Grindstone Arbor (AGM-03) : Grindstone I.D. \varnothing 5.0mm			

※ Collet is sold separately.

Put grease every 70 to 100 hours to extend the life of the speed reducer.
Grease-up prevents friction of the internal gears and degradation of the existing grease in the reducer.

RA-151E

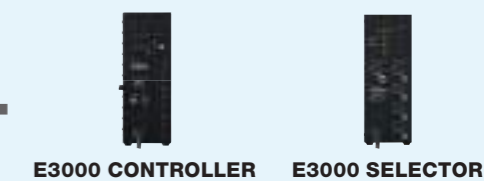
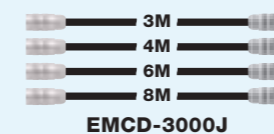
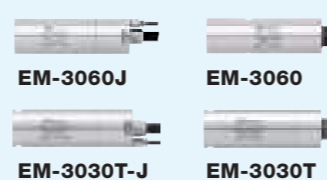
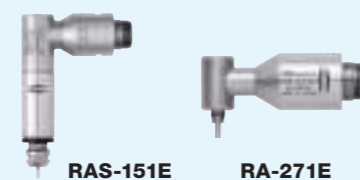
Angle spindle
With short headO.D. \varnothing 30mm

RA-151E



Code No.	1505	Model	RA-151E
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O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Collet	Weight
\varnothing 30mm	7,490 min ⁻¹	$\frac{1}{2.67}$	20,000 min ⁻¹	CH8 Group (\varnothing 0.8 ~ \varnothing 3.175mm)	385g
Standard Accessories	Collet : \varnothing 3.0mm (CH8-3.0) / Wrench (7×5.5) · (8×5) · (22×27) : 1pc. each				
Options	Collet (CH8 Group) : \varnothing 0.8~ \varnothing 3.175mm p.51 Metal Saw Arbor (KCH-02) : \varnothing d (I.D.) × under \varnothing 30mm (O.D.)				

Spindle
Guide

E3000 SERIES

Shown In Actual Size

Spindle (Modular type)

RAS-151E

Angle spindle
With long headO.D. \varnothing 30mm

Specifications

DXF data DXF files are available
on our website

Order by Code No.

RAS-151E

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

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
\varnothing 30mm	7,490 min ⁻¹	$\frac{1}{2.67}$	20,000 min ⁻¹
Spindle Accuracy	Collet <th>Weight</th> <td></td>	Weight	
Within 2 μ m	CHK Group (\varnothing 0.5 ~ \varnothing 6.35mm)	413g	
Standard Accessories	Collet nut (K-265) / Wrench (12×14) : 2pcs. · (22×27) : 1pc.		
Options	Collet (CHK Group) : \varnothing 0.5~ \varnothing 6.35mm p.51 Metal Saw Arbor (KCH-03) : \varnothing d (I.D.) × under \varnothing 30mm (O.D.) / Grindstone Arbor (AGM-03) : Grindstone I.D. \varnothing 5.0mm		

※ Collet is sold separately.

RA-271E

Angle spindle
With small headO.D. \varnothing 30mm

RA-271E

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

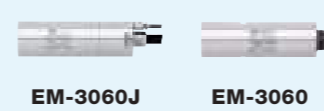
O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Collet	Weight
\varnothing 30mm	13,330 min ⁻¹	$\frac{1}{1.5}$	20,000 min ⁻¹	CHS Group (\varnothing 0.8 ~ \varnothing 3.175mm)	240g
Standard Accessories	Collet : \varnothing 3.0mm (CHS-3.0) / Wrench (7×5.1) · (8×5) · (22×27) : 1pc. each				
Options	Collet (CHS Group) : \varnothing 0.8~ \varnothing 3.175mm p.51				

Spindle
Guide

CHB



NR33-6000ATC-ESD

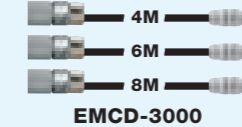


EM-3060J

EM-3060



EMCD-3000J



EMCD-3000



E3000 CONTROLLER



E3000 SELECTOR

E3000 SERIES

Shown In Actual Size

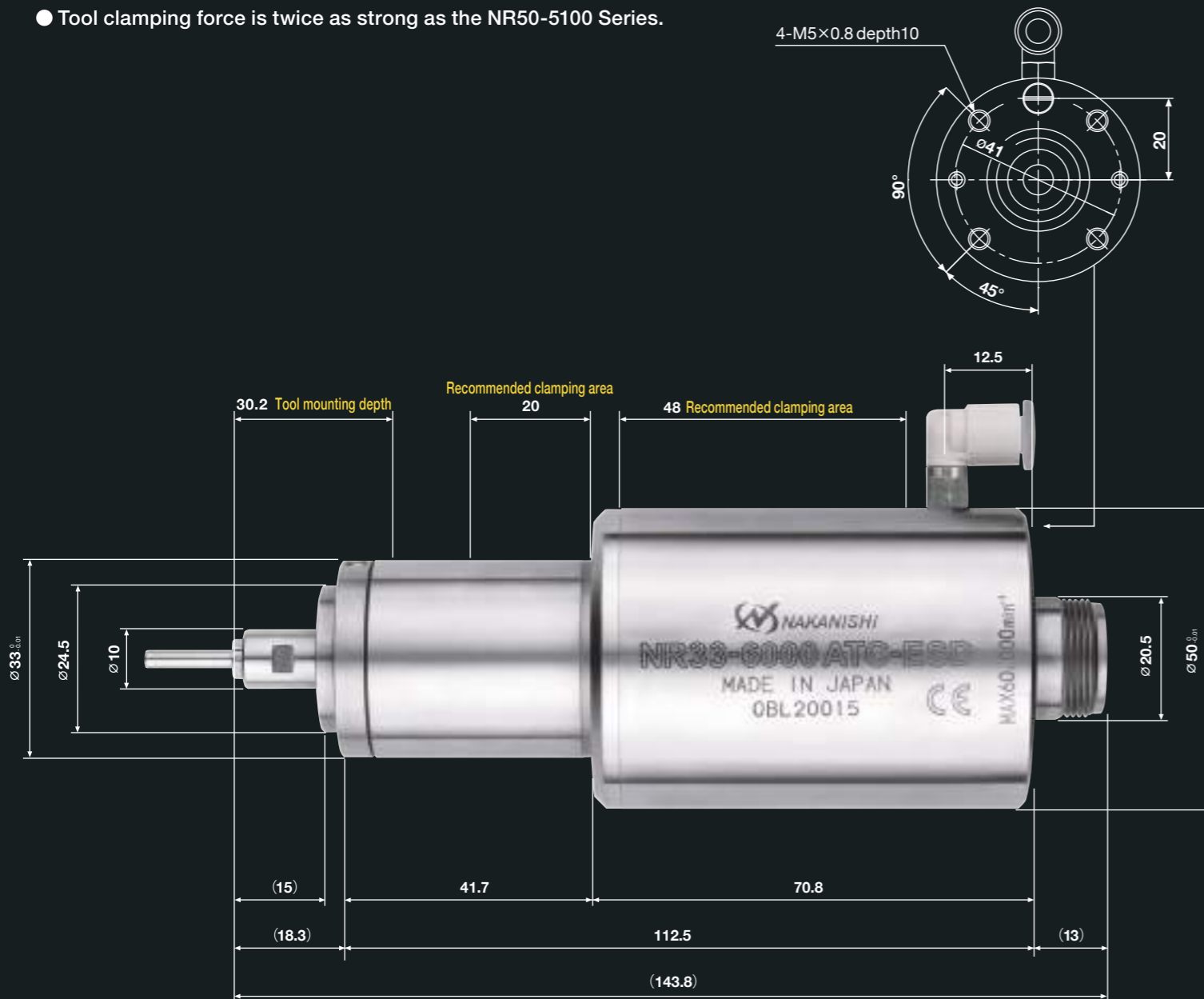
Spindle (Modular type)

NR33-6000ATC-ESD

Antistatic spindle

O.D. ϕ 33mm

- Prevents damage to electronic components on the PCB due to static electricity conducted during the machining process.
- The ϕ 10 x 15L extended spindle nose length helps to avoid interference with components mounted on the PCB.
- Pneumatic tool clamp and unclamp system allows for quick and easy automatic tool change.
- Tool clamping force is twice as strong as the NR50-5100 Series.



Specifications

DXF
dataDXF files are available
on our website

Order by Code No.

NR33-6000ATC-ESD



Code No.

7788

Model

NR33-6000ATC-ESD

O.D.	Allowable rotation speed	Air for collet opening	Spindle Accuracy	Collet	Weight
ϕ 33mm / ϕ 50mm	60,000min ⁻¹ (Motor rotation speed)	0.55~0.6MPa	Within 1 μ m	CHB Group (ϕ 3.175mm)	1,170g
Standard Accessories	Collet : ϕ 3.175mm (CHB-3.175) / Wrench (6.1×8) · (9×11) : 1pc. each / Bar wrench (K-236) : 1pc. Air hose with filter (K-251) : ϕ 6mm×2m				
Options	Collet (CHB Group) : ϕ 2.0, ϕ 3.0, ϕ 3.175, ϕ 3.5, ϕ 4.0mm p.51				

Spindle
Guide

CHR RS



NR50-5100 ATC RS

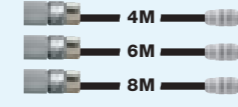


EM-3060J

EM-3060



EMCD-3000J



EMCD-3000



E3000 CONTROLLER



E3000 SELECTOR

E3000 SERIES

Shown In Actual Size

Spindle (Modular type)

NR50-5100 ATC RS Automatic tool change spindle

O.D. ϕ 50mm

This spindle is recommended for the customers who use a big amount of cutting fluid.
"RS" stands for "Rubber Seal". This Rubber Seals added in the collet prevent coolant from going into the collet. In addition, the dust-proof cover which is bigger than NR50-5100 ATC prevents coolant from going into the spindle bearing.



Specifications

DXF
dataDXF files are available
on our website

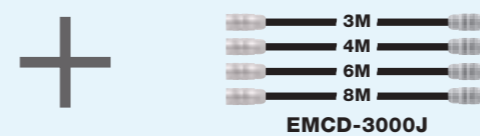
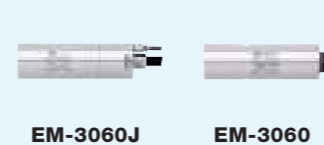
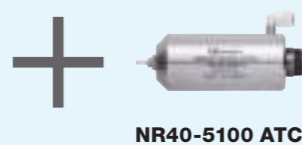
Order by Code No.

NR50-5100 ATC RS

Code No. **7690**Model **NR50-5100 ATC RS**

O.D.	Max. rpm	Air for collet opening	Spindle Accuracy	Collet	Weight
ϕ 50mm	50,000 min ⁻¹	0.55~0.6 MPa	Within 1 μ m	CHR RS Group (ϕ 3.175mm)	1,370g
Standard Accessories	Collet : ϕ 3.175mm (CHR-3.175RS) / Wrench (9×11) · (12×14) : 1pc. each / Bar wrench (K-236) : 1pc. Air hose with filter (K-251) : ϕ 6mm×2m				
Options	Collet (CHR RS Group) : ϕ 3.0, ϕ 3.175, ϕ 4.0, ϕ 6.0, ϕ 6.35mm p.51				

Spindle Guide



E3000 SERIES

Shown In Actual Size

Spindle (Modular type)

NR40-5100 ATC

Automatic tool change spindle



Specifications

DXF data DXF files are available on our website

Order by Code No.

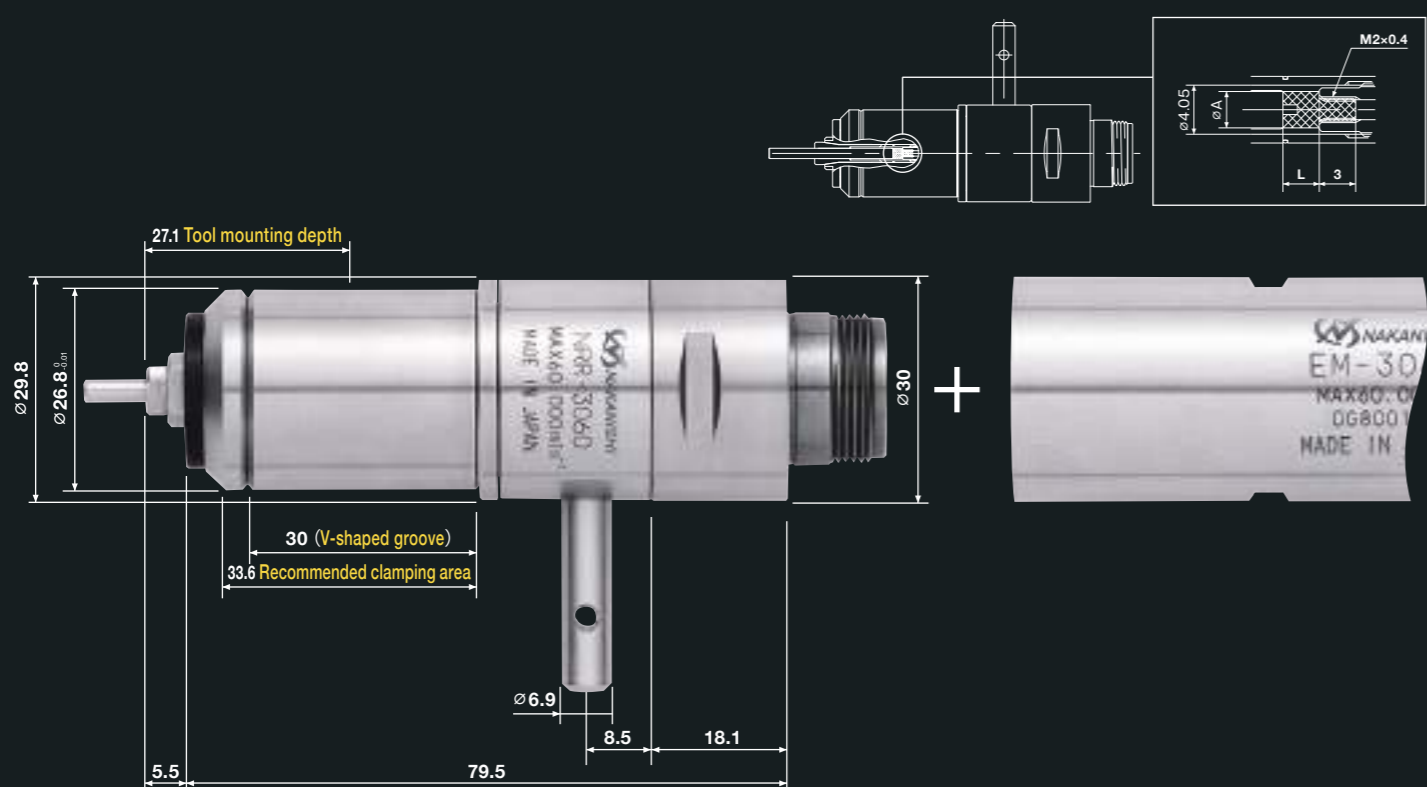
NR40-5100 ATC

Code No. **1582** Model **NR40-5100 ATC**

O.D.	Max. rpm	Air for collet opening	Spindle Accuracy	Collet	Weight
$\phi 40$ mm	50,000 min ⁻¹	0.55~0.6 MPa	Within 2 μ m	CHB Group ($\phi 3.175$ mm)	740g
Standard Accessories	Collet : $\phi 3.175$ mm (CHB-3.175) / Wrench (6.1 \times 8) · (9 \times 11) : 1pc. each / Bar wrench (K-236) : 1pc. Air hose with filter (K-251) : $\phi 6$ mm \times 2m				
Options	Collet (CHB Group) : $\phi 2.0$, $\phi 3.0$, $\phi 3.175$, $\phi 4.0$ mm p.51				

NRR-3060

Manual tool change spindle

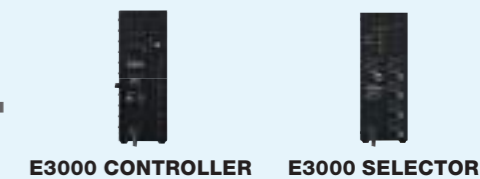
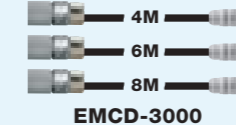
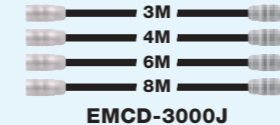
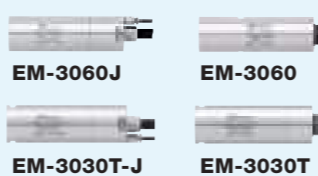
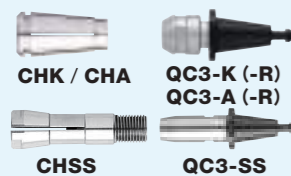


NRR-3060

Code No. **1836** Model **NRR-3060**

O.D.	Max. rpm	Spindle Accuracy	Collet	Weight
$\phi 26.8$ mm Recommended clamping area	60,000 min ⁻¹	Within 1 μ m	CHB Group ($\phi 3.175$ mm)	350g
Standard Accessories	Collet : $\phi 3.175$ mm (CHB-3.175) / Wrench (6.1 \times 8) : 2pcs · (22 \times 27) : 1pc			
Options	Collet (CHB Group) : $\phi 2.0$, $\phi 3.0$, $\phi 3.175$, $\phi 4.0$ mm p.51			

Spindle Guide



E3000 SERIES

Shown In Actual Size

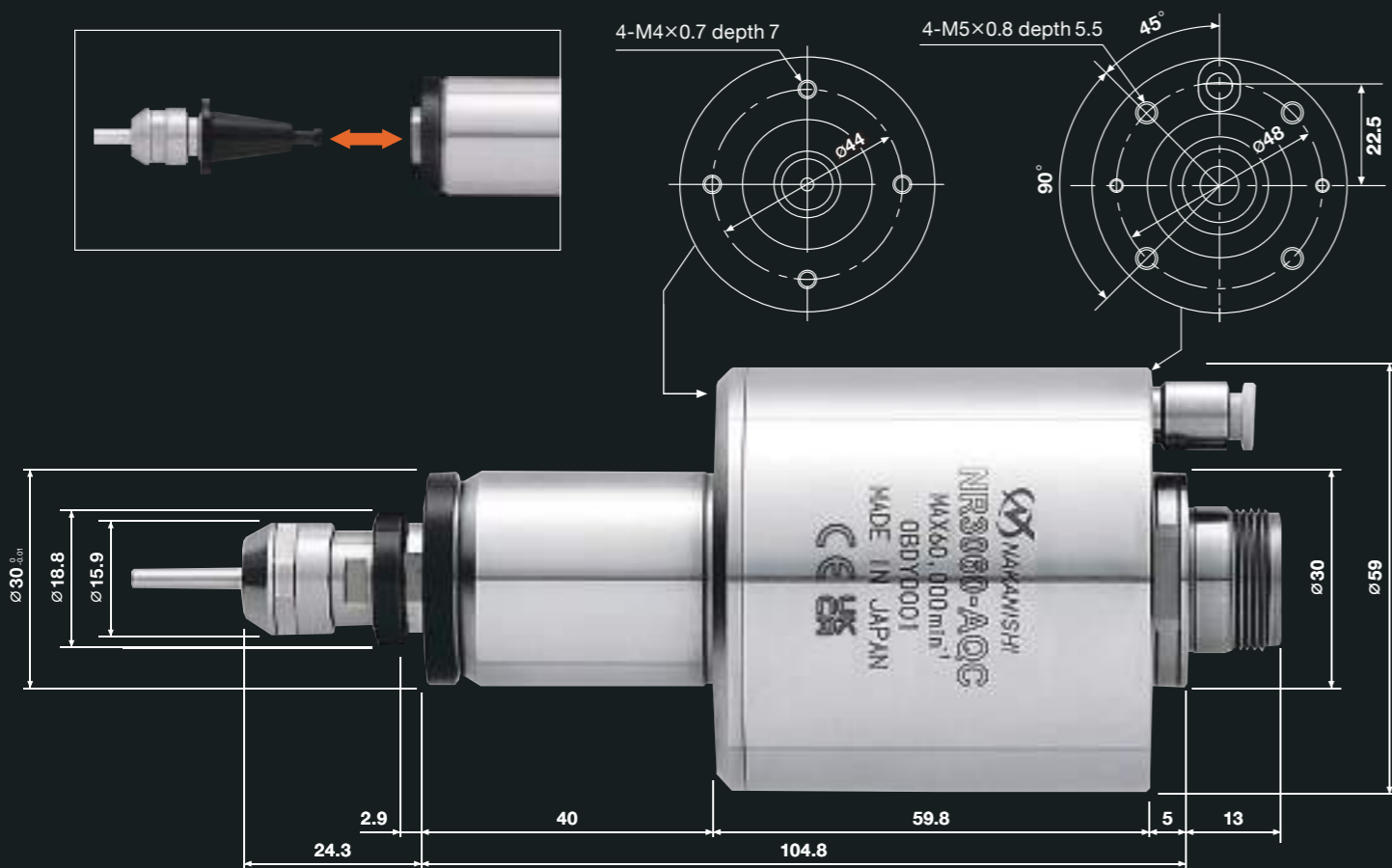
Spindle (Modular type)

NR3060-AQC

Air quick change spindle

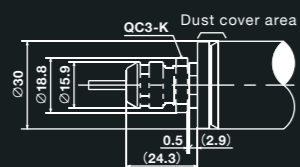
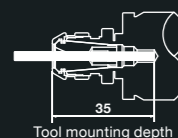
O.D. ϕ 30mm

- Quick and easy collet holder change with air chucking mechanism.
- Enhancing productivity by enabling external tool set-up.
- 3 types of collet holders are available. (CHK ϕ 0.5 ~ 6.35mm, CHA ϕ 0.5 ~ 4.0mm, CHSS ϕ 1.0 ~ 3.175mm)

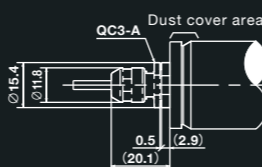
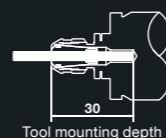


Outside view of the tip of the spindle

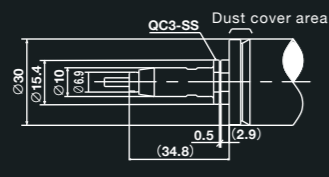
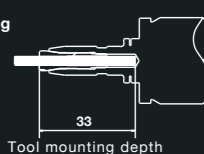
QC3-K
(Collet holder for
collet CHK)
When mounting



QC3-A
(Collet holder for
collet CHA)
When mounting



QC3-SS
(Collet holder for
collet CHSS)
When mounting



Specifications

DXF data DXF files are available on our website

Order by Code No.

NR3060-AQC

Code No. **9220** Model **NR3060-AQC**

O.D.	Max. rpm	Air pressure of collet open/close	Spindle Accuracy	Collet holders	Weight
ϕ 30mm	60,000min ⁻¹	0.6MPa	Within 1 μ m	QC3-K / QC3-K-R (for Collet CHK) QC3-A / QC3-A-R (for Collet CHA) QC3-SS (for Collet CHSS)	1,230g

Standard Accessories Wrench (22×27) : 1pc. / Air hose with filter (K-251) : ϕ 6mm × 2m 1pc.

Parts (Optional)

Collet	Collet holder (Collet nut included)		Wrench		
 You can choose the I.D. size (The following is an example of ϕ 3.0mm.)	QC3-K/A	QC3-K/A-R			
CHK	Code No.	915 3 0	9210	9223	2026
I.D. ϕ 0.5mm~6.35mm p.51	Model	CHK- 3 . 0 (I.D. ϕ 3.0mm)	QC3-K (for Collet CHK)	QC3-K-R (for Collet CHK)	Wrench 12 × 14 (2pcs.)
CHA	Code No.	914 3 0	9209	9222	2012
I.D. ϕ 0.5mm~4.0mm p.51	Model	CHA- 3 . 0 (I.D. ϕ 3.0mm)	QC3-A (for Collet CHA)	QC3-A-R (for Collet CHA)	Wrench 8 × 5 (1pc.)
CHSS	Code No.	930 3 0	7794	2069	2054
I.D. ϕ 1.0mm~3.175mm p.51	Model	CHSS- 3 . 0 (I.D. ϕ 3.0mm)	QC3-SS (for Collet CHSS)	Wrench 6.1 × 8 (1pc.)	Wrench 9 × 11 (1pc.)

Preset adapter
(For QC3 Collet holders)



※ Holding section size is ϕ 20.
※ QC3-K-R/QC3-A-R cannot be used to Preset adapter.

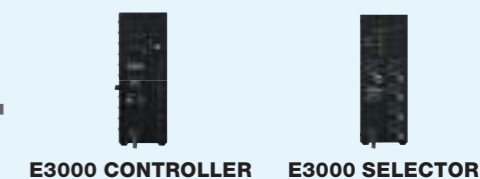
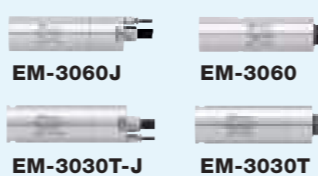
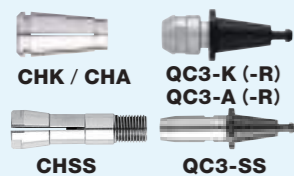
Code No.	9211
Model	QC3-ADP

[Use below Wrenches when using Preset adapter]

CHK collet : 12 × 14 Wrench (1pc.)
CHA collet : 9 × 11 Wrench (1pc.)
CHSS collet : 6.1 × 8 Wrench (1pc.)

See p.53

Spindle Guide



E3000 SERIES

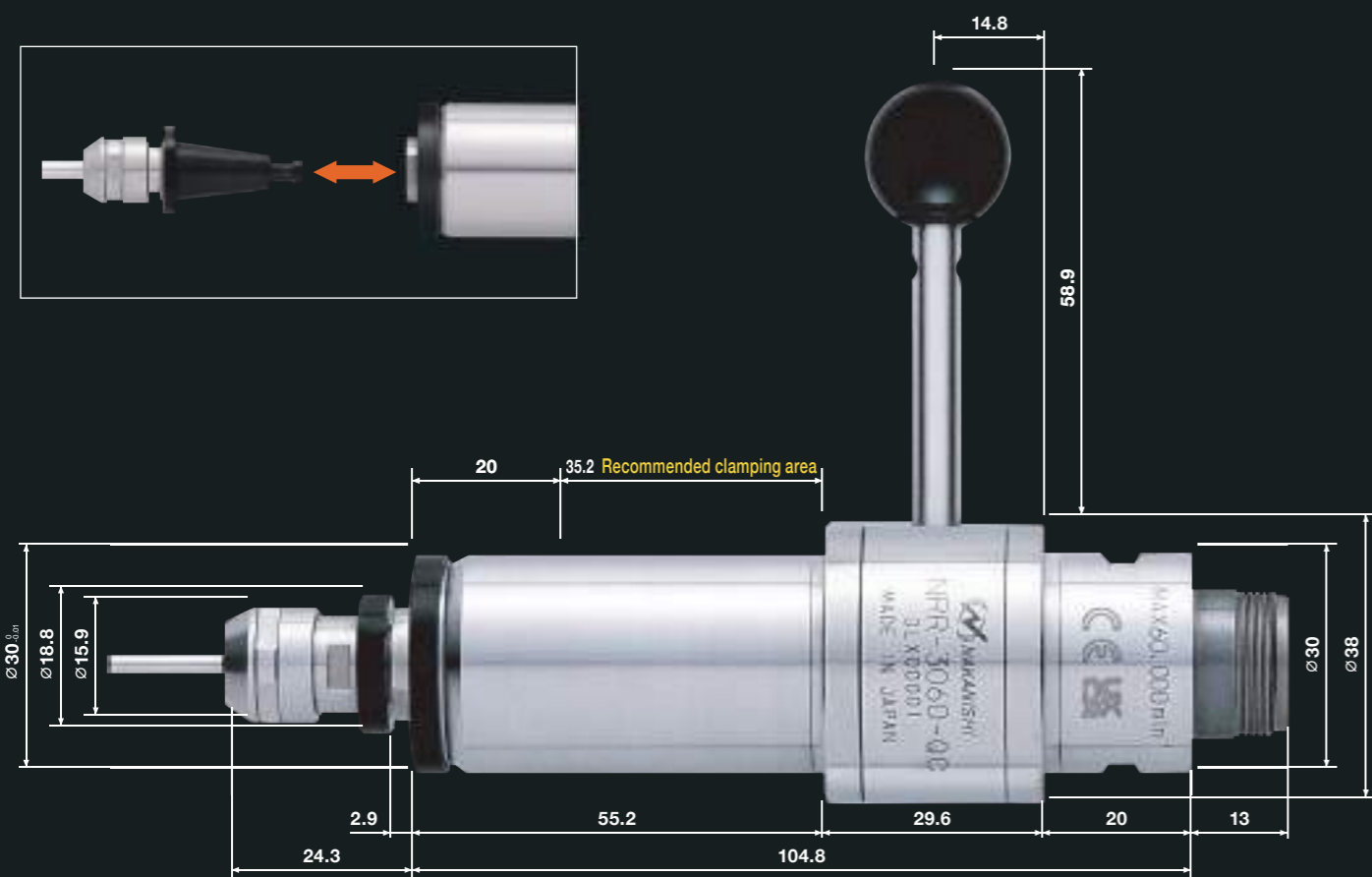
Shown In Actual Size

Spindle (Modular type)

NRR3060-QC

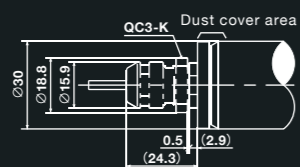
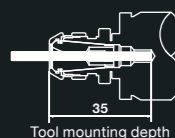
Lever quick change spindle

- Quick and easy collet holder change with lever chucking mechanism.
- Enhancing productivity by enabling external tool set-up.
- 3 types of collet holders are available. (CHK $\phi 0.5 \sim 6.35\text{mm}$, CHA $\phi 0.5 \sim 4.0\text{mm}$, CHSS $\phi 1.0 \sim 3.175\text{mm}$)

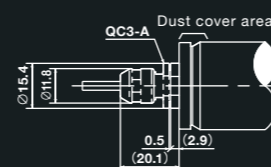
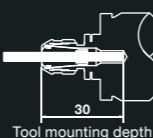
O.D. $\phi 30\text{mm}$ 

Outside view of the tip of the spindle

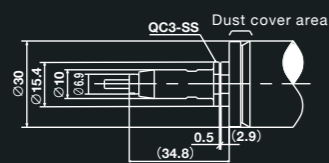
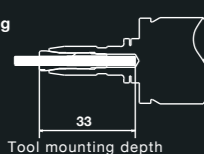
QC3-K
(Collet holder for
collet CHK)
When mounting



QC3-A
(Collet holder for
collet CHA)
When mounting



QC3-SS
(Collet holder for
collet CHSS)
When mounting



Specifications

DXF data DXF files are available on our website

Order by Code No.

NRR3060-QC

Code No. **9208** Model **NRR3060-QC**

O.D.	Max. rpm	Lever operating angle	Spindle Accuracy	Collet holders	Weight
$\phi 30\text{mm}$ Recommended clamping area	60,000 min ⁻¹	90°	Within 1μm	QC3-K / QC3-K-R (for Collet CHK) QC3-A / QC3-A-R (for Collet CHA) QC3-SS (for Collet CHSS)	570g
Standard Accessories Wrench (22×27) : 1pc.					

Parts (Optional)

Collet	Collet holder (Collet nut included) QC3-K/A QC3-K/A-R	Wrench
CHK I.D. $\phi 0.5\text{mm} \sim 6.35\text{mm}$ p.51	QC3-K (for Collet CHK) QC3-K-R (for Collet CHK)	Wrench 12 × 14 (2pcs.)
CHA I.D. $\phi 0.5\text{mm} \sim 4.0\text{mm}$ p.51	QC3-A (for Collet CHA) QC3-A-R (for Collet CHA)	Wrench 8 × 5 (1pc.) Wrench 9 × 11 (1pc.)
CHSS I.D. $\phi 1.0\text{mm} \sim 3.175\text{mm}$ p.51	QC3-SS (for Collet CHSS)	Wrench 6.1 × 8 (1pc.) Wrench 9 × 11 (1pc.)

Preset adapter
(For QC3 Collet holders)

※ Holding section size is $\phi 20$.
※ QC3-K-R/QC3-A-R cannot be used to
Preset adapter.

Code No.	9211
Model	QC3-ADP

[Use below Wrenches when using Preset adapter]

CHK collet : 12 × 14 Wrench (1pc.)
CHA collet : 9 × 11 Wrench (1pc.)
CHSS collet : 6.1 × 8 Wrench (1pc.)

See p.53

Spindle Guide

CHN-CTA

CHA

CTS-3030

EM-3030T-J

EM-3030T

3M
4M
6M
8M
EMCD-3000J4M
6M
8M
EMCD-3000

E3000 CONTROLLER

E3000 SELECTOR

E3000 SERIES

Shown In Actual Size

Spindle (Modular type)

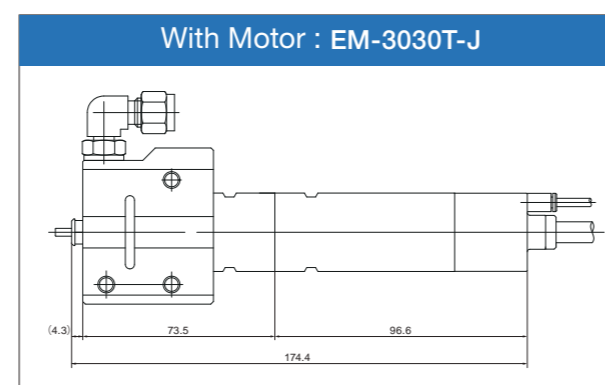
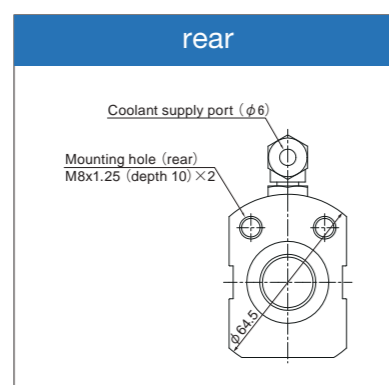
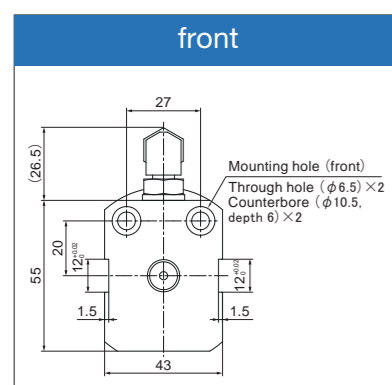
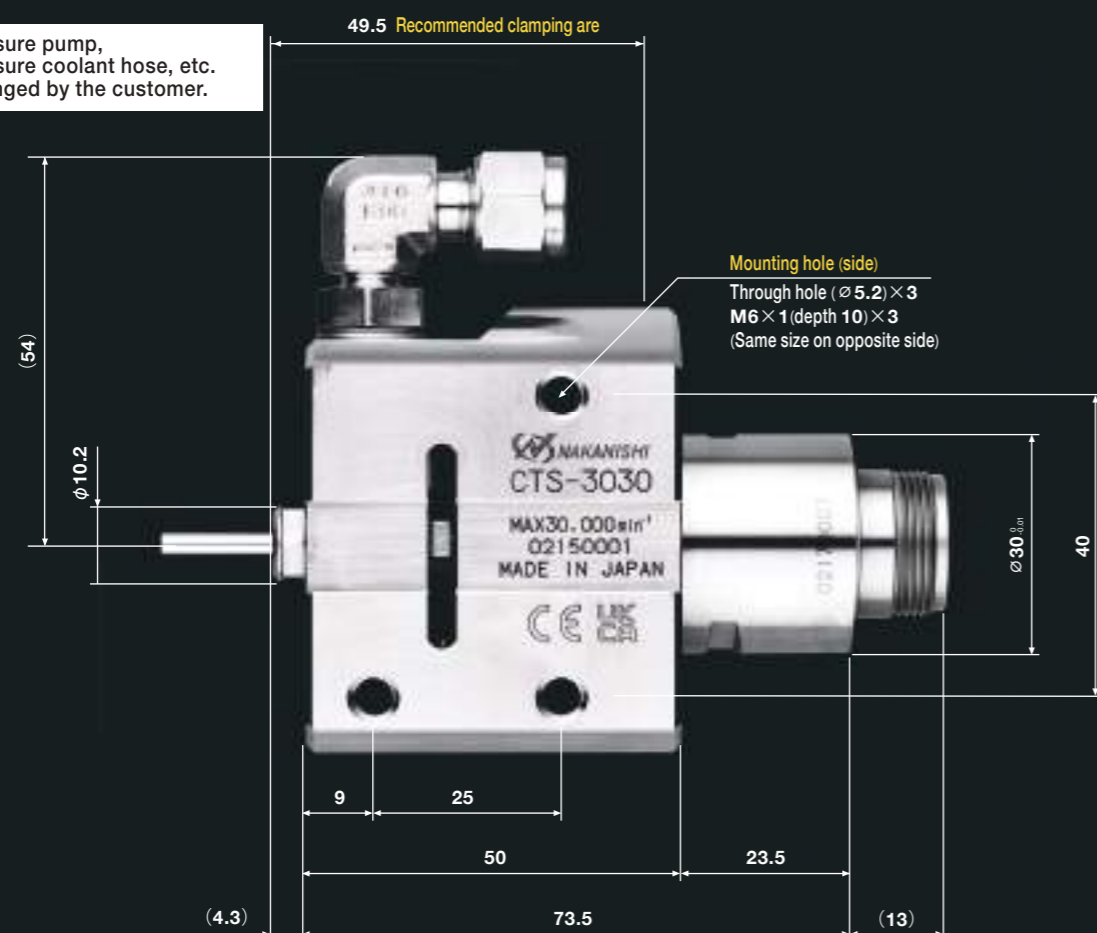
CTS-3030

Coolant through spindle

O.D. ϕ 30mm

- A Spindle that uses an oil hole drill for deep hole drilling.
- To inject coolant from it's tool tip of the drill, there are several advantages, such as improved chip discharge, reduction drilling time, extended tool life, and high precision when performing.

! High-pressure pump,
High-pressure coolant hose, etc.
to be arranged by the customer.



Specifications

DXF data DXF files are available on our website

Order by Code No.

CTS-3030

Code No. 7797 Model CTS-3030



O.D.	Max. rpm	Spindle Accuracy	Collet	Weight
ϕ 30mm	30,000min ⁻¹	Within 1 μ m	CHA Group (ϕ 3.0, ϕ 3.175, ϕ 4.0mm)	885g
Standard Accessories	Wrench (8 \times 5) · (9 \times 11) · (22 \times 27) : 1pc. each			
Options	Collet (CHA Group) : ϕ 3.0, ϕ 3.175, ϕ 4.0mm p.51 Collet nut (CHN-CTA) : 3.0, 3.175, 4.0mm p.52			

※ The Collet and the Collet nut are sold separately. Please match the collet and collet nut size.
※ High precision AA grade types are highly recommended.

パーツ (別売品)

Collet		Collet nut	
ϕ 3.0	Code No.	91494	7798
	Model	CHA-3.0AA	CHN-CTA-3.0
ϕ 3.175	Code No.	91496	7799
	Model	CHA-3.175AA	CHN-CTA-3.175
ϕ 4.0	Code No.	91495	7800
	Model	CHA-4.0AA	CHN-CTA-4.0

Speed Reducer (Modular type)

ARG-011E

Speed Reducer (1/4)



O.D. ∅30mm

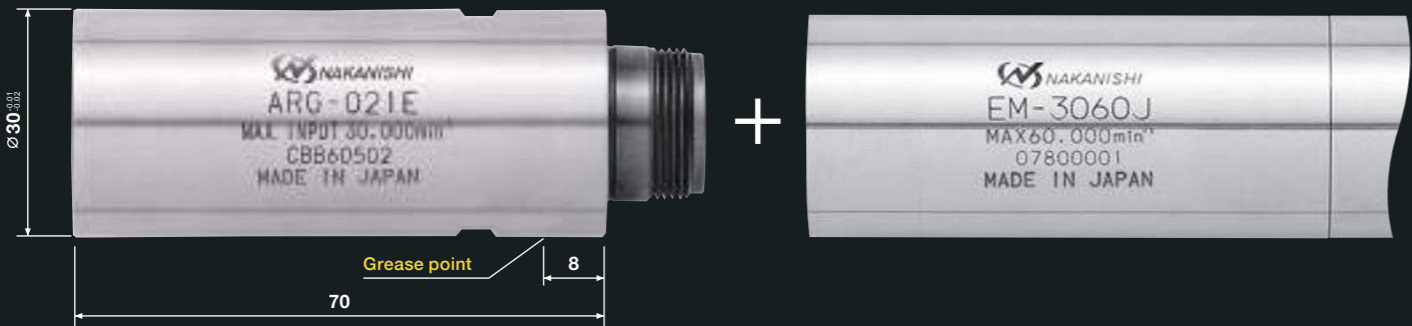


ARG-021E

Speed Reducer (1/16)



O.D. ∅30mm



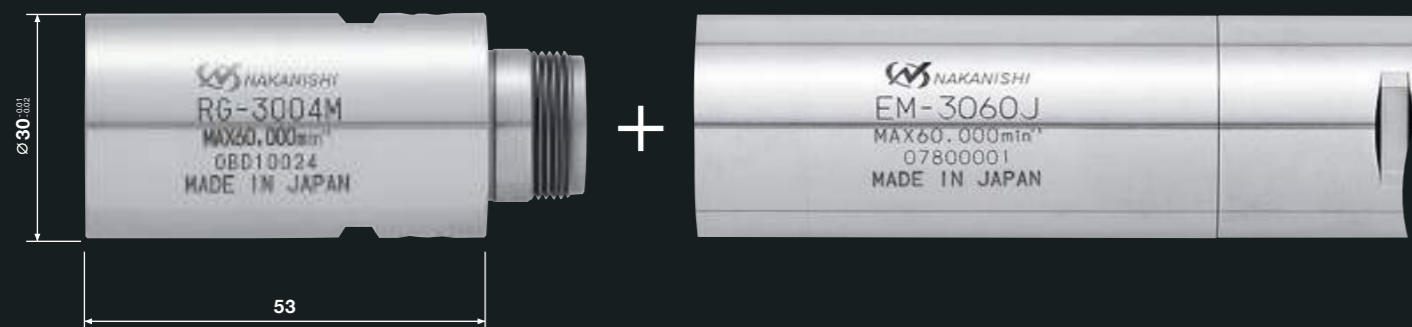
RG-3004M

Oil mist type Speed Reducer (1/4)



O.D. ∅30mm

- Max. input speed 60,000min⁻¹ (standard type 30,000min⁻¹)
- Longer product life by oil mist lubrication
- No greasing is necessary
- Oil mist supply is necessary
- ※ Not recommended for dry machining.



Specifications

DXF data DXF files are available on our website

Order by Code No.

ARG-011E

Code No. **1507** Model **ARG-011E**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Weight
∅30mm	7,500 min ⁻¹	$\frac{1}{4}$	30,000 min ⁻¹	242g

Standard Accessories Grease for reduction gear (10mℓ) / Grease nipple : 1pc.



Put grease every 70 to 100 hours to extend the life of the Speed reducer.
Grease-up prevents friction of the internal gears and degradation of the existing grease in the reducer.

ARG-021E

Code No. **1508** Model **ARG-021E**

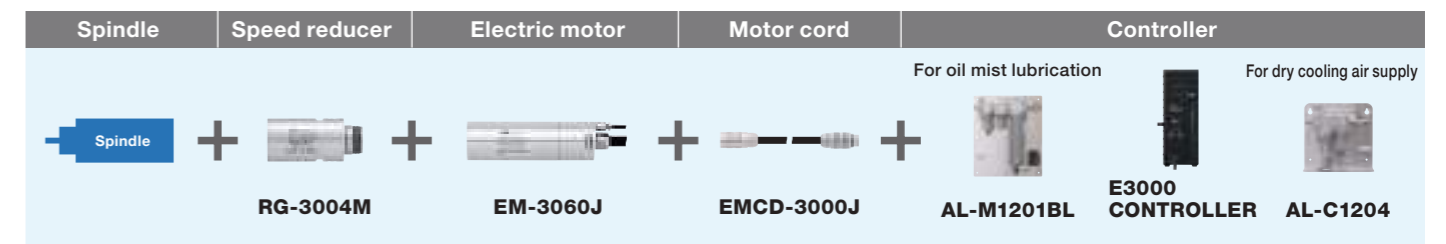
O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Weight
∅30mm	1,870 min ⁻¹	$\frac{1}{16}$	30,000 min ⁻¹	325g

Standard Accessories Grease for reduction gear (10mℓ) / Grease nipple : 1pc.

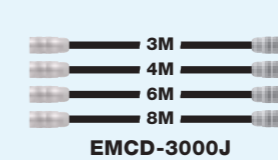
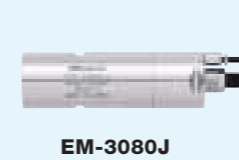
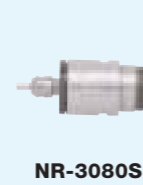
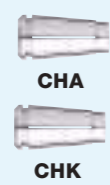


Put grease every 70 to 100 hours to extend the life of the Speed reducer.
Grease-up prevents friction of the internal gears and degradation of the existing grease in the reducer.

RG-3004M

Code No. **7348** Model **RG-3004M**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Weight
∅30mm	15,000 min ⁻¹	$\frac{1}{4}$	60,000 min ⁻¹	240g

Spindle
Guide

E3000 SERIES

Shown In Actual Size

Spindle (Modular type)

NR-3080S
Short spindleO.D. ϕ 30mm

Specifications

DXF
dataDXF files are available
on our website

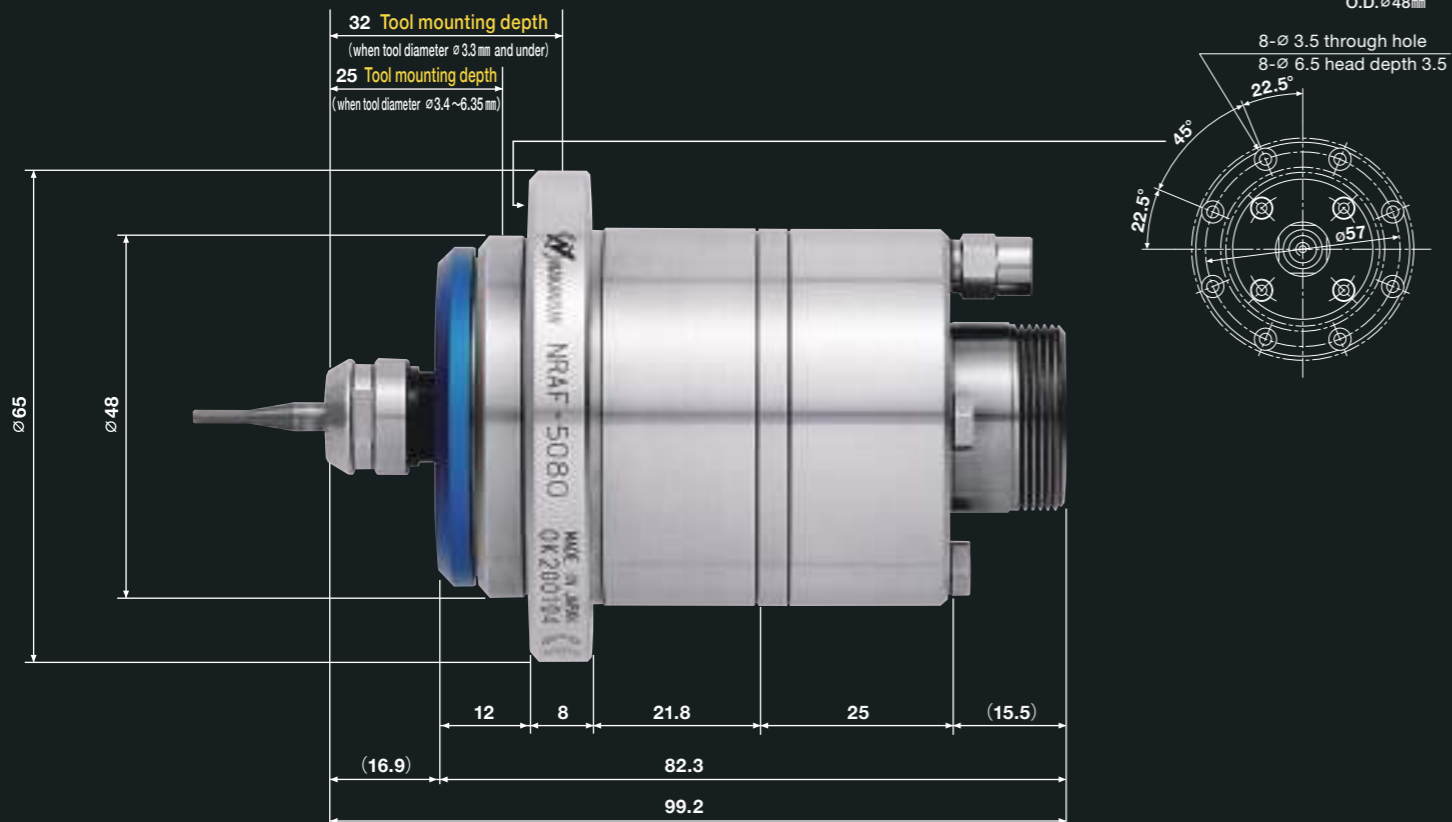
Order by Code No.

NR-3080S

Code No. **7876**Model **NR-3080S**

O.D.	Max. rpm	Spindle Accuracy	Collet	Weight
ϕ 30mm	80,000 min ⁻¹	Within 1 μ m	CHA Group (ϕ 0.5 ~ ϕ 4.0mm)	170g
Standard Accessories	Collet nut (CHN-A) / Wrench (22 \times 27) · (8 \times 5) · (9 \times 11) : 1pc. each			
Options	Collet (CHA Group) : ϕ 0.5 ~ ϕ 4.0mm p.51			

* Collet is sold separately.

NRAF-5080
Air bearing spindleO.D. ϕ 48mm

NRAF-5080

Code No. **1782**Model **NRAF-5080**

O.D.	Max. rpm	Appropriate bearing air pressure	Spindle Accuracy	Collet	Weight
ϕ 48mm	80,000 min ⁻¹	35Nℓ/min (0.5MPa)	Within 1 μ m	CHK Group (ϕ 0.5 ~ ϕ 6.35mm)	810g
Specifications	Body mounting : flange mounting, M3 bolt (8 locations, equidistribution, 45° angle, PCD57) Bearing type : air static bearing / bearing load capacity : radial 18N, thrust 35N Useable Max. diameter of grindstone : ϕ 8.0mm and under on ϕ 6.0mm shank Hose diameter : ϕ 4mm, for bearing air inlet				
Standard Accessories	Collet : ϕ 3.0mm (CHK-3.0) / Collet nut (K-265A) / Wrench (12 \times 14) : 2pcs. Reducer : 1pc. / Inlet air hose (ϕ 4mm \times 4m) : 1pc. / Bar wrench (K-236) : 1pc.				
Options	Collet (CHK Group) : ϕ 0.5 ~ ϕ 6.35mm p.51				

Motor

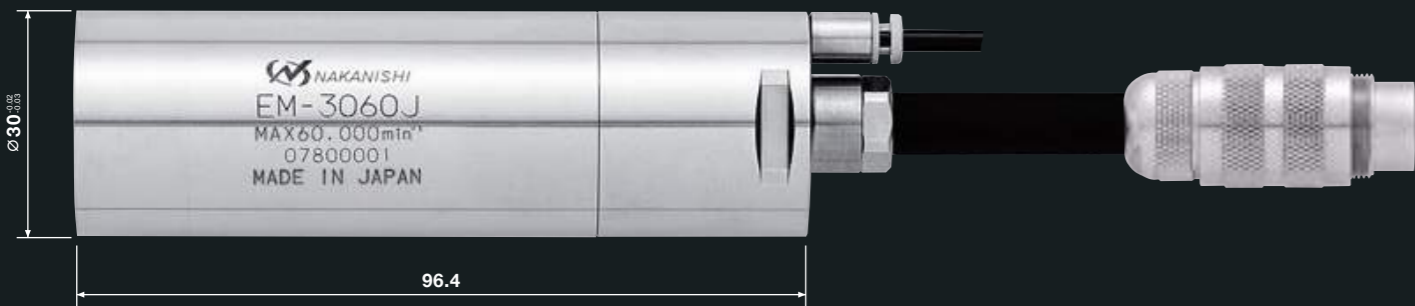
EM-3060

60,000min⁻¹ motor



EM-3060J

60,000min⁻¹ motor with joint type motor cord



Cord length L=0.3m / 2m

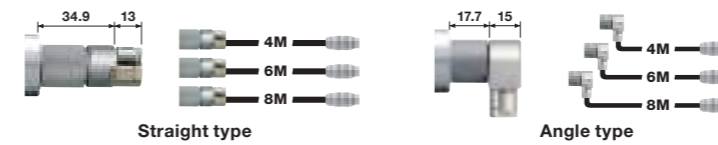
Specifications

DXF data DXF files are available on our website

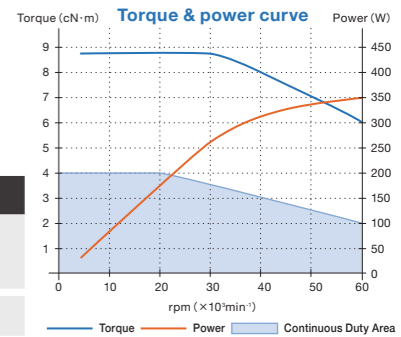
Order by Code No.

EM-3060

Code No. **1597** Model **EM-3060**



O.D.	Speed Range	Max. power	Weight
Ø30mm	1,000 ~ 60,000min ⁻¹	350w	325g
Standard Accessories Wrench (22×27) : 1pc.			



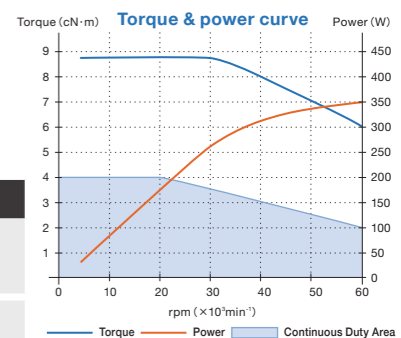
EM-3060J

Length **0.3m** Code No. **1765** Model **EM-3060J**
 Length **2m** Code No. **1779** Model **EM-3060J-2M**



* Joint type motor cord is necessary.

O.D.	Speed Range	Max. power	Weight
Ø30mm	1,000 ~ 60,000min ⁻¹	350w	0.3m : 360g 2 m : 525g
Standard Accessories Wrench (22×27) : 1pc.			



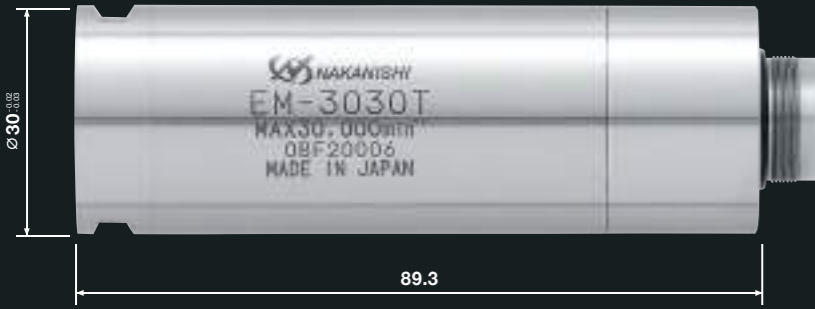
Motor

EM-3030T 30,000min⁻¹ torque motor



O.D. ϕ 30mm

● EM-3030T torque is twice as big as EM-3060.

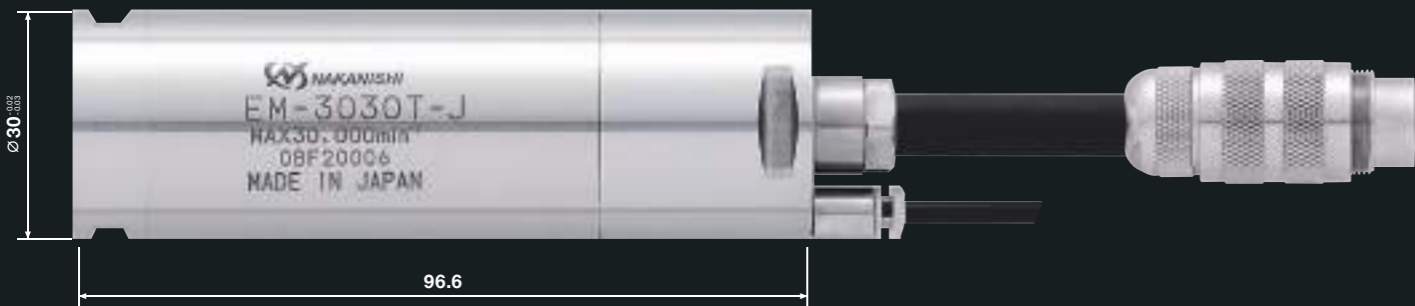


EM-3030T-J 30,000min⁻¹ torque motor with joint type motor cord



O.D. ϕ 30mm

● EM-3030T-J torque is twice as big as EM-3060J.



Cord length L=0.3m / 2m

EM-3080J 80,000min⁻¹ motor with joint type motor cord



O.D. ϕ 30mm



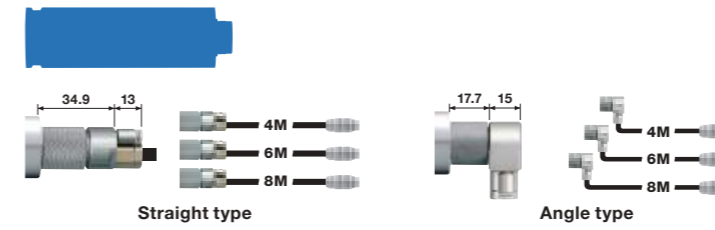
Cord length L=0.3m / 2m

Specifications

DXF data DXF files are available on our website

Order by Code No.

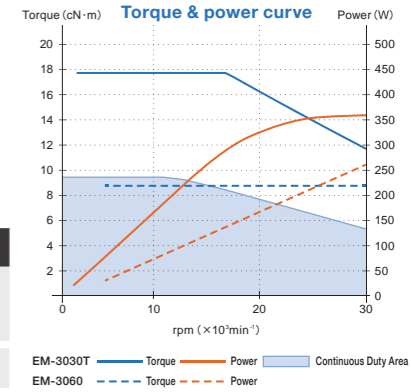
EM-3030T



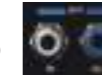
O.D.	Speed Range	Max. power	Weight
ϕ 30mm	1,000 ~ 30,000min ⁻¹	350w	350g

Standard Accessories Wrench (22×27) : 1pc.

Code No. **7360** Model **EM-3030T**



Old type
(Color of air output joint is white)
Controller



New type
(Color of air output joint is blue)
Controller

If EM-3030T is connected to old type non applicable controller, it will not rotate.

EM-3030T-J



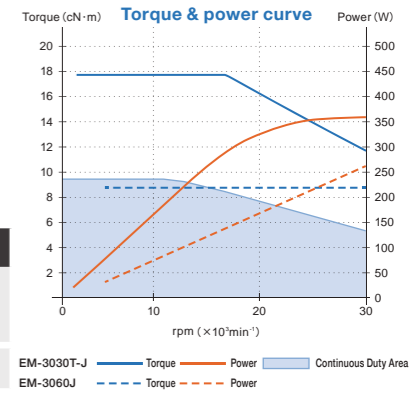
Length	0.3m	Code No.	7358	Model	EM-3030T-J
Length	2m	Code No.	7359	Model	EM-3030T-J-2M



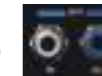
※ Joint type motor cord is necessary.

O.D.	Speed Range	Max. power	Weight
ϕ 30mm	1,000 ~ 30,000min ⁻¹	350w	0.3m : 425g 2 m : 600g

Standard Accessories Wrench (22×27) : 1pc.



Old type
(Color of air output joint is white)
Controller



New type
(Color of air output joint is blue)
Controller

If EM-3030T-J is connected to old type non applicable controller, it will not rotate.

EM-3080J



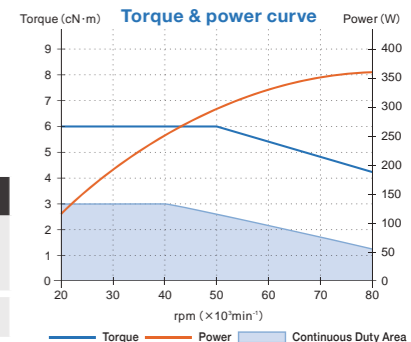
Length	0.3m	Code No.	1781	Model	EM-3080J
Length	2m	Code No.	1788	Model	EM-3080J-2M



※ Joint type motor cord is necessary.

O.D.	Speed Range	Max. power	Weight
ϕ 30mm	20,000 ~ 80,000min ⁻¹	350w	0.3m : 375g 2 m : 550g

Standard Accessories Wrench (22×27) : 1pc.



Spindle
Guide

CHK



NR-2551



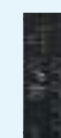
EM25N-5000J



EMCD-2350J



E3000 CONTROLLER



E3000 SELECTOR

E3000 SERIES

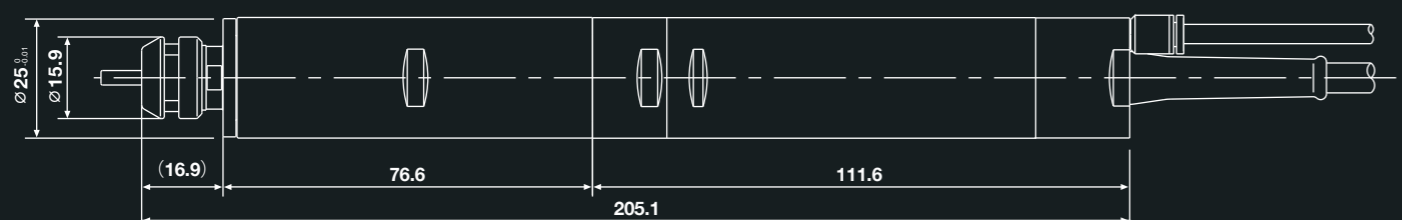
Spindle (Modular type)

Shown In Actual Size

NR-2551
Straight spindleO.D. ϕ 25mmEM25N-5000J
50,000min⁻¹ motorO.D. ϕ 25mm

Cord length L=0.3m

Dimensions when connected



Specifications

DXF data DXF files are available on our website

Order by Code No.

NR-2551

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

O.D.	Max. rpm	Spindle Accuracy	Collet	Weight
ϕ 30mm	50,000min ⁻¹	Within 1 μ m	CHK Group (ϕ 0.5 ~ ϕ 6.35mm)	253g
Standard Accessories Collet nut (K-265) / Wrench (12×14) : 2pcs. · (22×27) : 1pc.				
Options Collet (CHK Group) : ϕ 0.5 ~ ϕ 6.35mm p.51 Metal Saw Arbor (KCH-03) : ϕ d (I.D.) × under ϕ 30mm (O.D.) /Grindstone Arbor (AGM-03) : Grindstone I.D. ϕ 5.0mm Grindstone Flange (EGF-19) : applicable grindstone I.D. ϕ 19.05×O.D. ϕ 40×7mm				

※ Outside diameter ϕ 25.4mm type is also available.

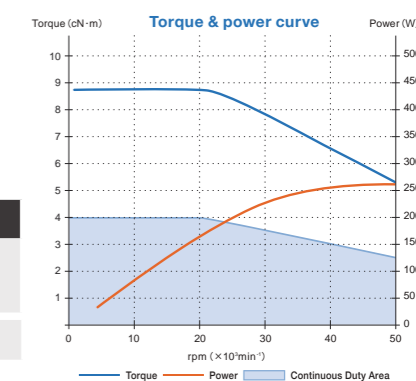
※ Collet is sold separately.

EM25N-5000J

Code No. **7904** Model **EM25N-5000J**

O.D.	Speed Range	Max. Power	Weight
ϕ 25mm	1,000 ~ 50,000min ⁻¹	250w	335g
Standard Accessories Wrench (22×27) : 1pc.			

※ Use EMCD-2350J Series for Motor code.



Motor cord

Motor cord	Cord No.	Model	Model	Standard Accessories	Compatible model
4M	7722	EMCD-2350J-4M	3.7m	Air hose Connector cap (Included)	EM25N-5000J
6M	7723	EMCD-2350J-6M	5.7m		
8M	7724	EMCD-2350J-8M	7.7m		
Joint type					

Motor spindle (One-piece type)



30 EMS-3060K
p.39

30 EMR-3008K
p.39



30 EM30-S6000
p.43

25 EM25-S6000
p.43

20 EM20-S6000
p.43



30 EMA-3020K
p.41

30 EMA-3020S
p.41

30 EMSF-3060K
p.45



Spindle
Guide

CHK



EMS-3060K



EMR-3008K



EMCD-3000J



E3000 CONTROLLER



E3000 SELECTOR

E3000 SERIES

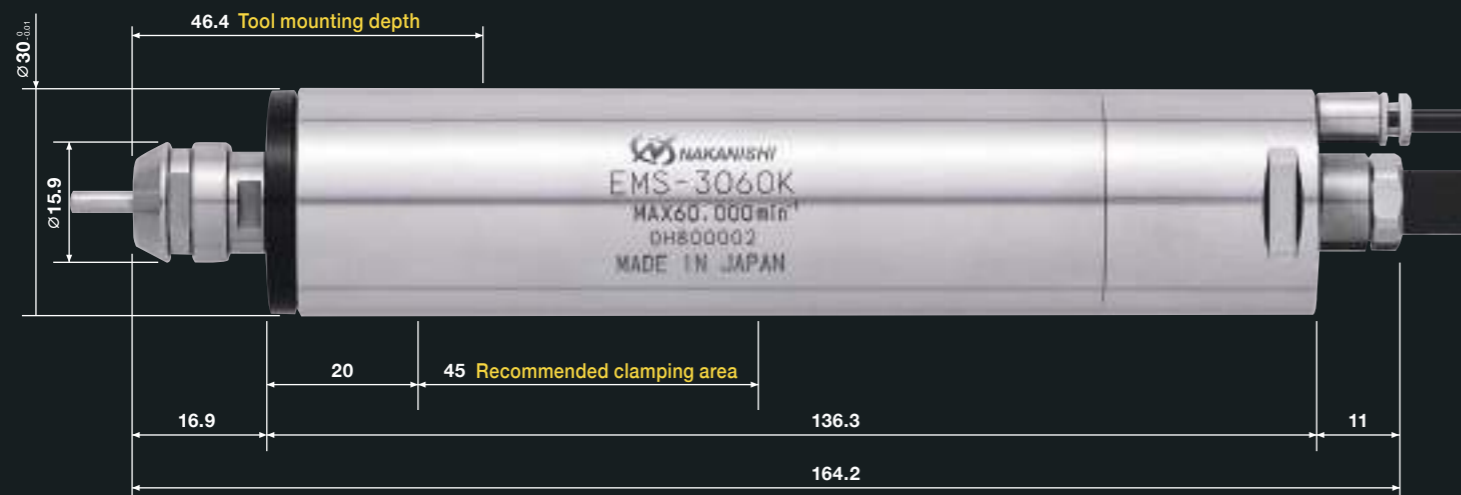
Shown In Actual Size

Motor spindle (One-piece type)

EMS-3060K

ø30 Motor spindle
CHK collet·30cm joint cord

O.D. ø30mm



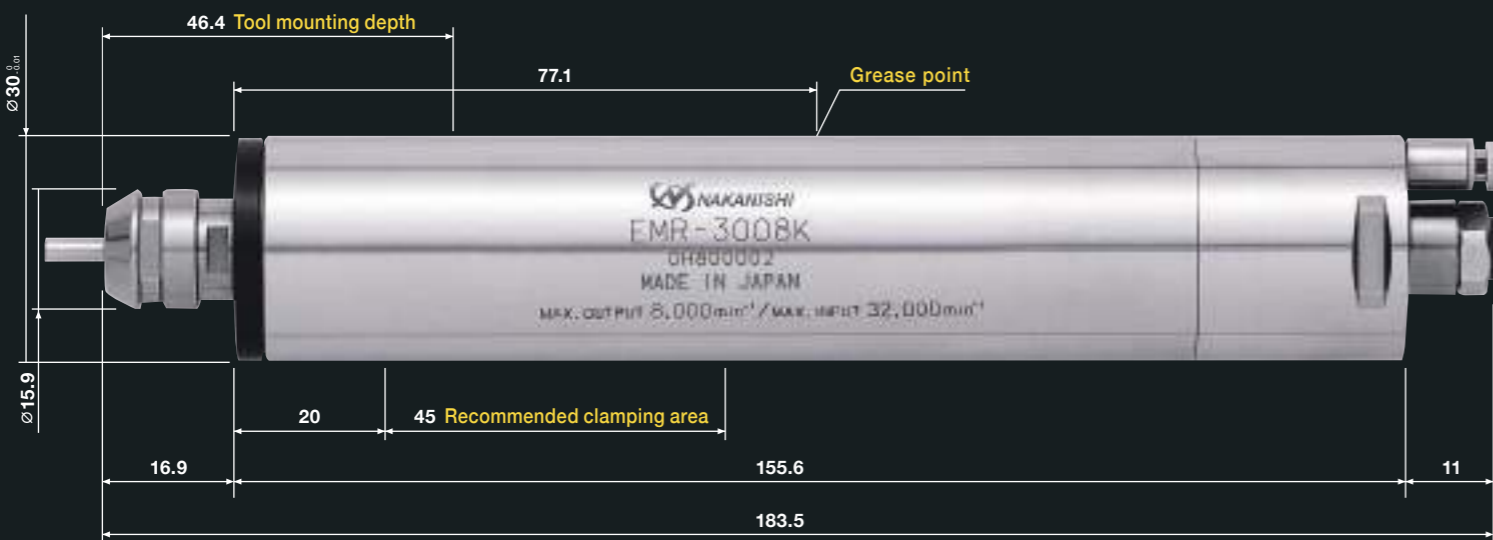
Cord length L=0.3m

EMR-3008K

Motor spindle with reduction gear



O.D. ø30mm



Cord length L=0.3m

Specifications

DXF data DXF files are available on our website

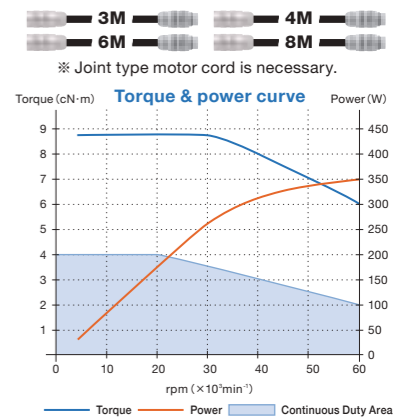
Order by Code No.

EMS-3060K

Code No. **7862** Model **EMS-3060K**

O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power	Weight
ø30mm	60,000min ⁻¹	Within 1μm	CHK Group (ø0.5 ~ ø6.35mm)	350w	565g
Standard Accessories		Collet nut (K-265) / Wrench (12×14) : 2pcs.			
Options		Collet (CHK Group) : ø0.5 ~ ø6.35mm p.51 Motor cord : Length 3m (1778), 4m (1768), 6m (1767), 8m (1766) Metal Saw Arbor (KCH-03) : ød (I.D.) × under ø30mm (O.D.) / Grindstone Arbor (AGM-03) : Grindstone I.D. ø5.0mm Grindstone Flange (EGF-19) : for grindstone I.D. ø19.05×O.D. ø40×7mm			

※ Collet is sold separately.

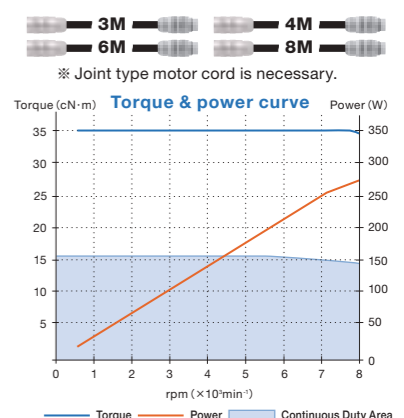


EMR-3008K

Code No. **7869** Model **EMR-3008K**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
ø30mm	8,000min ⁻¹	$\frac{1}{4}$	32,000min ⁻¹
Spindle Accuracy		Collet	Max. power
Within 1μm		CHK Group (ø0.5 ~ ø6.35mm)	350w
Standard Accessories		Collet nut (K-265) / Wrench (12×14) : 2pcs. Grease for reduction gear (10mℓ) / Grease nipple : 1pc.	
Options		Collet (CHK Group) : ø0.5 ~ ø6.35mm p.51 Motor cord : Length 3m (1778), 4m (1768), 6m (1767), 8m (1766) Metal Saw Arbor (KCH-03) : ød (I.D.) × under ø30mm (O.D.) / Grindstone Arbor (AGM-03) : Grindstone I.D. ø5.0mm Grindstone Flange (EGF-19) : for grindstone I.D. ø19.05×O.D. ø40×7mm	

※ Collet is sold separately.



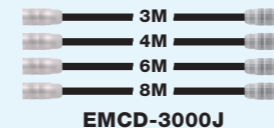
! Put grease every 70 to 100 hours to extend the life of the reduction gear. Grease-up prevents friction of the internal gears and degradation of the existing grease in the reducer.

Spindle
Guide

EMA-3020K



EMA-3020S



EMCD-3000J



E3000 CONTROLLER



E3000 SELECTOR

E3000 SERIES

Shown In Actual Size

Motor spindle (One-piece type)

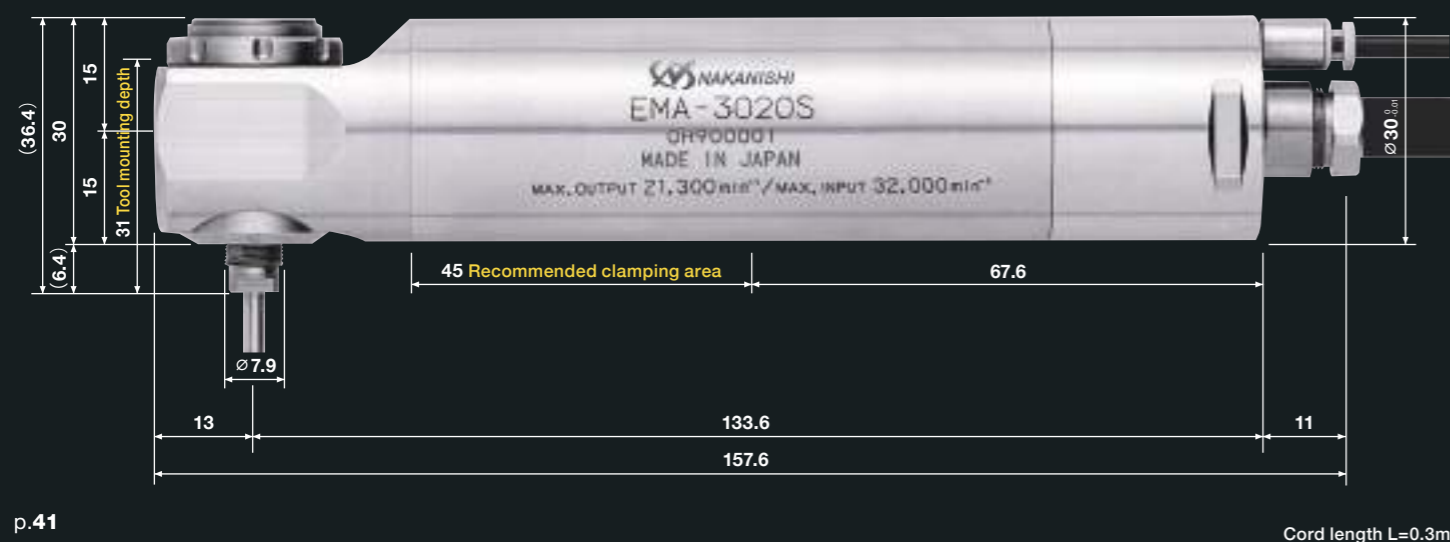
EMA-3020K

Angle motor spindle
Standard angle head

O.D. ϕ 30mm

EMA-3020S

Angle motor spindle
Built-in angle head

O.D. ϕ 30mm

Specifications

DXF data DXF files are available on our website

Order by Code No.

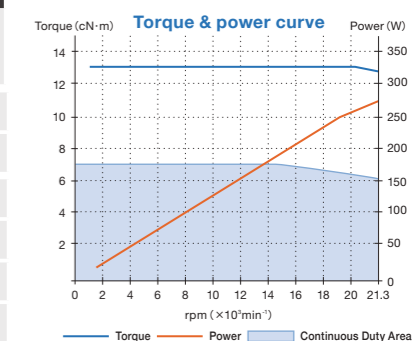
EMA-3020K

Code No. **7874**Model **EMA-3020K**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
ϕ 30mm	21,300 min ⁻¹	$\frac{1}{1.5}$	32,000 min ⁻¹
Spindle Accuracy	Collet	Max. power	Weight
Within 2 μ m	CHK Group (ϕ 0.5 ~ ϕ 6.35mm)	280w	760g
Standard Accessories	Collet nut (K-265) / Wrench (12×14) : 2pcs. Grease for Speed reducer (10mℓ) / Grease nipple : 1pc.		
Options	Collet (CHK Group) : ϕ 0.5 ~ ϕ 6.35mm p.51 Motor cord : Length 3m (1778), 4m (1768), 6m (1767), 8m (1766) Metal Saw Arbor (KCH-03) : ϕ d (I.D.) × under ϕ 30mm (O.D.) / Grindstone Arbor (AGM-03) : Grindstone I.D. ϕ 5.0mm		



* Joint type motor cord is necessary.



* Collet is sold separately.



Put grease every 70 to 100 hours to extend the life of the Speed reducer.
Grease-up prevents friction of the internal gears and degradation of the existing grease in the reducer.

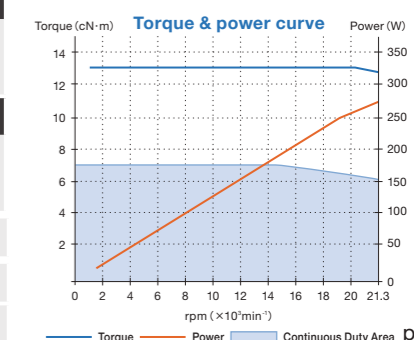
EMA-3020S

Code No. **1758**Model **EMA-3020S**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
ϕ 30mm	21,300 min ⁻¹	$\frac{1}{1.5}$	32,000 min ⁻¹
Spindle Accuracy	Collet	Max. power	Weight
Within 3 μ m	CHSS Group (ϕ 1.0 ~ ϕ 3.175mm)	275w	605g
Standard Accessories	Collet : ϕ 3.0mm (CHSS-3.0) / Wrench (7×5.1) · (8×6.1) : 1pc. each		
Options	Collet (CHSS Group) : ϕ 1.0 ~ ϕ 3.175mm p.51 Motor cord : Length 3m (1778), 4m (1768), 6m (1767), 8m (1766)		



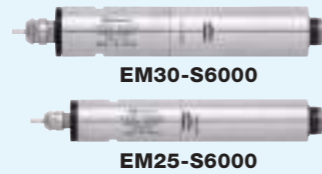
* Joint type motor cord is necessary.



Spindle
Guide

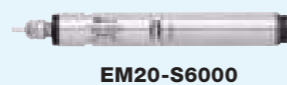
CHK

CHA

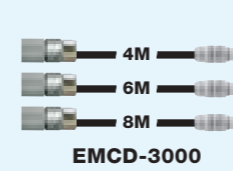


EM30-S6000

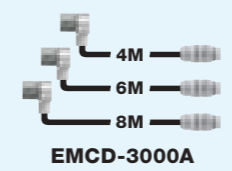
EM25-S6000



EM20-S6000



EMCD-3000



EMCD-3000A



E3000 CONTROLLER



E3000 SELECTOR

E3000 SERIES

Shown In Actual Size

Motor spindle (One-piece type)

EM30-S6000

ø30 Motor spindle · CHK collet



O.D. ø30mm

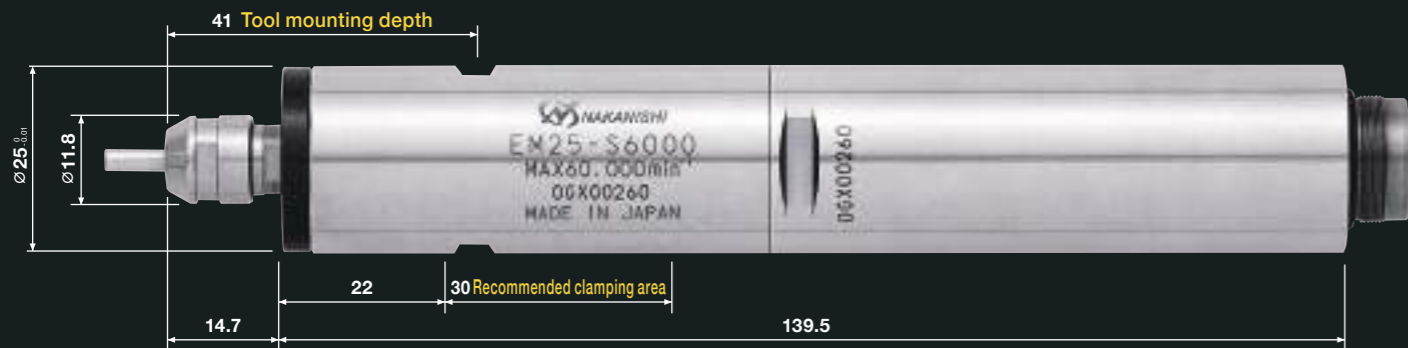


EM25-S6000

ø25 Motor spindle · CHA collet



O.D. ø25mm

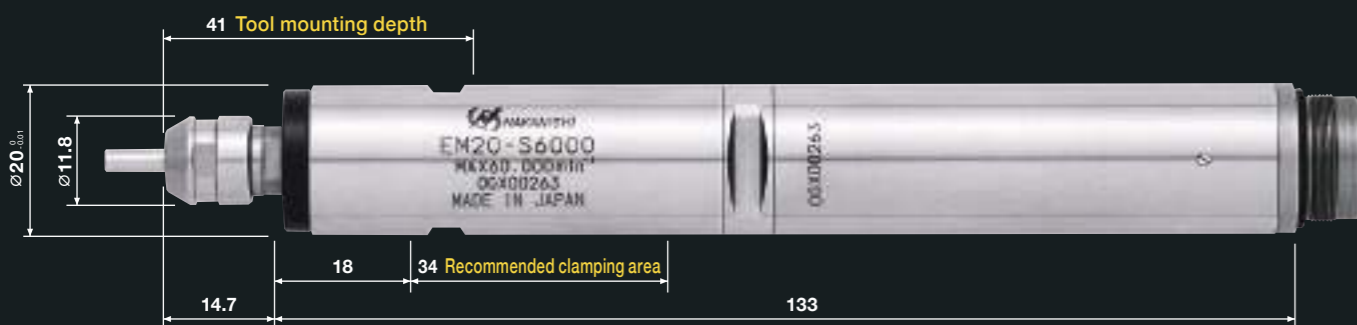


EM20-S6000

ø20 Motor spindle · CHA collet



O.D. ø20mm



Specifications

DXF data DXF files are available on our website

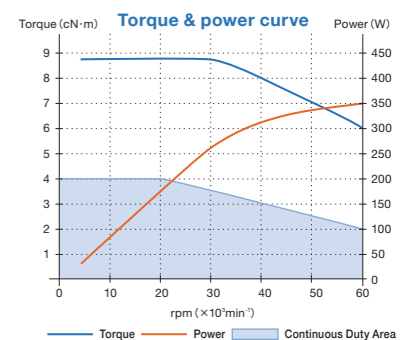
Order by Code No.

EM30-S6000

Code No. **7903**Model **EM30-S6000**

O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power	Weight
ø30mm	60,000min ⁻¹	Within 1μm	CHK Group (ø0.5 ~ ø6.35mm)	350w	575g
Standard Accessories		Collet nut (K-265) / Wrench (12×14) : 2pcs.			
Options		Collet (CHK Group) : ø0.5 ~ ø6.35mm p.51 Motor cord : Length 4m (1748), 6m (1749), 8m (1750) ※Angle type is also available Metal Saw Arbor (KCH-03) : ød (I.D.) × under ø30mm (O.D.) / Grindstone Arbor (AGM-03) : Grindstone I.D. ø5.0mm Grindstone Flange (EGF-19) : for grindstone I.D. ø19.05×O.D. ø40×7mm			

※ Collet is sold separately.

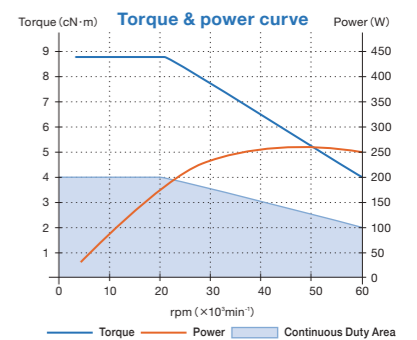


EM25-S6000

Code No. **7858**Model **EM25-S6000**

O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power	Weight
ø25mm	60,000min ⁻¹	Within 1μm	CHA Group (ø0.5 ~ ø4.0mm)	250w	375g
Standard Accessories		Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each			
Options		Collet (CHA Group) : ø0.5 ~ ø4.0mm p.51 Motor cord : Length 4m (1748), 6m (1749), 8m (1750) ※Angle type is also available			

※ Collet is sold separately.

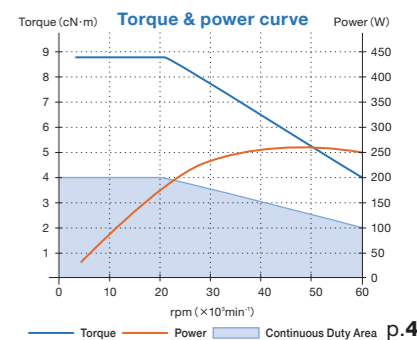


EM20-S6000

Code No. **7860**Model **EM20-S6000**

O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power	Weight
ø20mm	60,000min ⁻¹	Within 1μm	CHA Group (ø0.5 ~ ø4.0mm)	250w	230g
Standard Accessories		Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each			
Options		Collet (CHA Group) : ø0.5 ~ ø4.0mm p.51 Motor cord : Length 4m (1748), 6m (1749), 8m (1750) ※Angle type is also available			

※ Collet is sold separately.



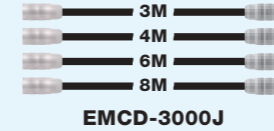
Spindle Guide



CHK



EMSF-3060K



EMCD-3000J



E3000 CONTROLLER



E3000 SELECTOR

E3000 SERIES

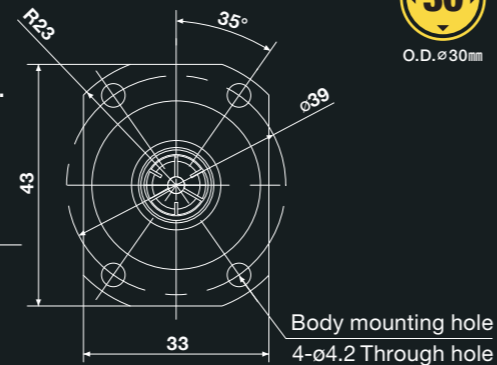
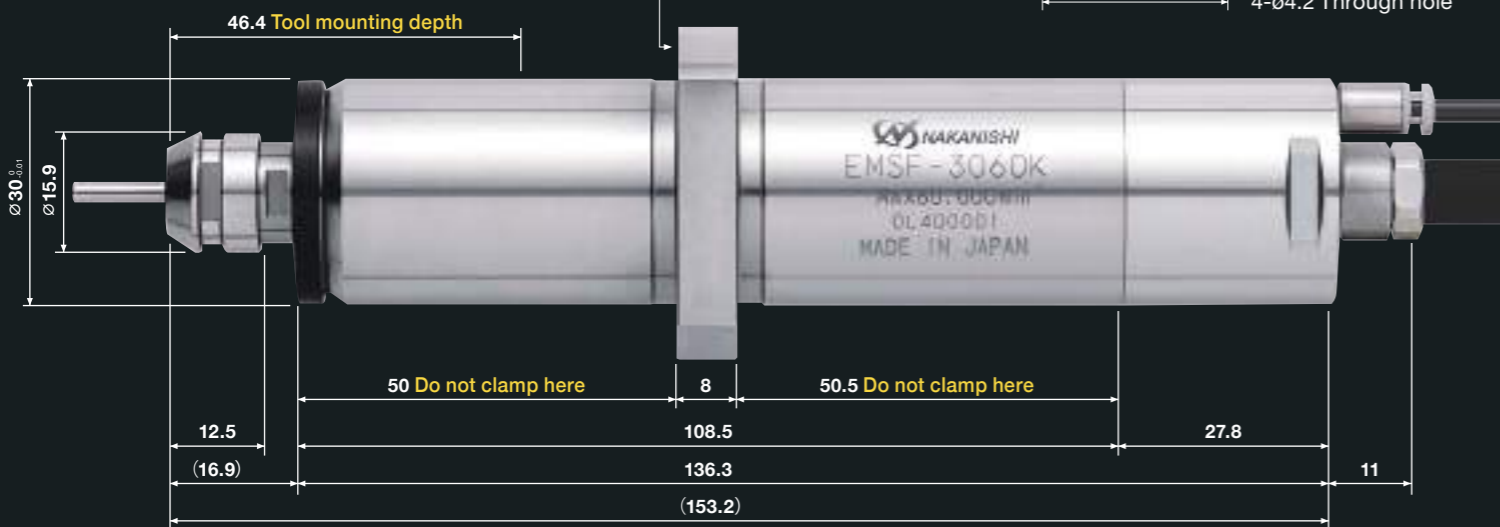
Shown In Actual Size

Motor spindle (One-piece type)

EMSF-3060K

Motor spindle with flange

- Easy clamping / Unclamping of the spindle, Easy mounting to the machine.
- Avoid trouble by excessive tightening.
- Mounting spindle at small intervals available.

O.D. ϕ 30mmBody mounting hole
4- ϕ 4.2 Through hole

Cord length L=0.3m

Specifications

DXF data DXF files are available on our website

Order by Code No.

EMSF-3060K

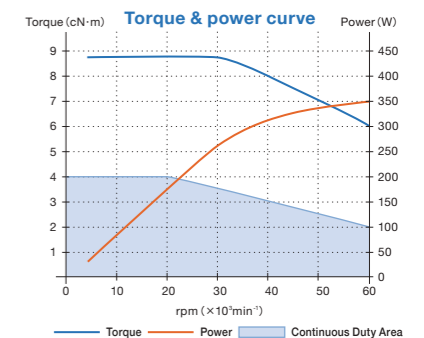
Code No. **7863**Model **EMSF-3060K**

O.D.	Max. rpm	Spindle Accuracy	Collet
ϕ 30mm	60,000min ⁻¹	Within 1 μ m	CHK Group (ϕ 0.5 ~ ϕ 6.35mm)
Max. power	Weight		
350w	620g		
Standard Accessories	Collet nut (K-265) / Wrench (12 \times 14) : 2pcs. Air hose 0.3m : 1pc. / Lock bolt (M4 hexagon socket head bolt) : 4pcs.		
Options	Collet (CHK Group) : ϕ 0.5 ~ ϕ 6.35mm p.51 Motor cord : Length 3m (1778), 4m (1768), 6m (1767), 8m (1766)		

*Collet is sold separately.

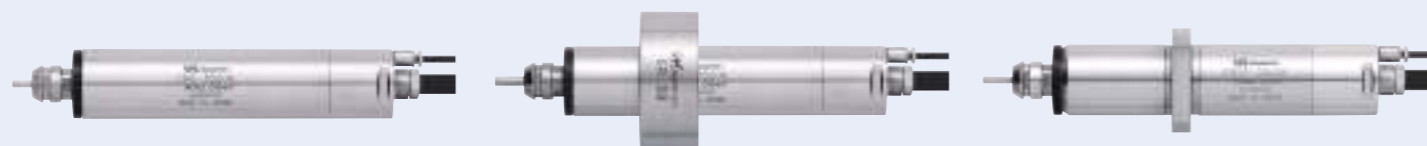


* Joint type motor cord is necessary.



Various ways to mount

3 spindle types are available in E3000 series to meet customer' s demands



Straight type

Mounting devices have to be prepared by user

Straight type + Grip Ring

Type of usage for attachment to straight spindle
Grip Ring TS available

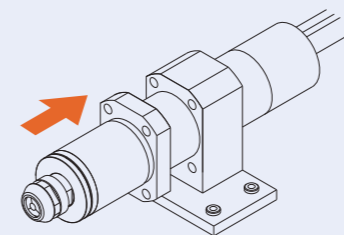
With flange

Type of spindle and mounting device
integrated

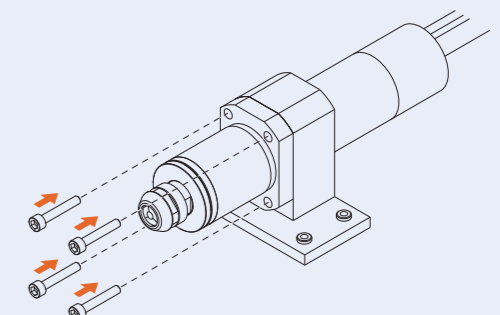
How to mount to a machine tool

In case of EMSF-3060K / NRF-3060S

1 Insert motor spindle body into the holder



2 Tighten the flange with 4 lock bolt (M4)



*Above figures show EMSF-3060K. NRF-3060S has 3 mounting holes (See p.9)

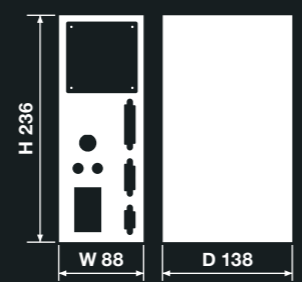
E3000 Controller



E3000 CONTROLLER

Controller

Code No. **8422**



External Input / Output Control Signal Operation

- External Input
Motor ON / OFF, Error Released, Rotating Direction, Motor Speed Setting and etc.
- External Monitor
Motor Current, Error, Warning, Rotating pulse and etc.
- Parameter Setting
Maximum motor speed setting, Fix the motor speed
※For more information, please refer to the operation manual on our website.
- Equipped with safety relay break and speed point

Speed Range	
1,000~80,000min ⁻¹	
Input Voltage	
AC100~240v Without plug Multiple output power	
Max. power	Power consumption
350w	AC1.8A
Air consumption	Weight
30Nℓ/min (at 0.25~0.3MPa)	2.8kg
Standard Accessories	
Power cord : 2m / Air hose with filter (K-251 : 2058)	
Reducer / Connector cap (Included)	
Bracket / Nylon Clip / Screw / Rubber pad	
Fuse (T6.3AL) 250V : 2pcs.	

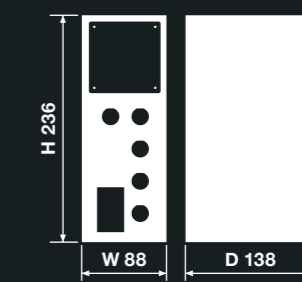
E3000 Selector



E3000 SELECTOR

Selector

Code No. **8426**

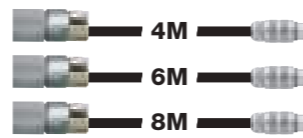
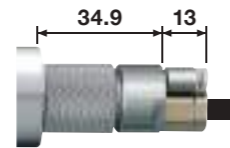


Number of motor		
4pcs. Up to 4 motors to control with connecting selector to controller ※not simultaneously		
Input Voltage		
AC100~240v Without plug Multiple output power		
Power consumption	Air consumption	Weight
AC0.15A	120ℓ/min (When connecting 4 motors)	1.9kg
Standard Accessories		
Power cord : 2m / Communication cable : 60cm		
Selector connecting cord : 60cm		
Connector cap (Included) / Plug to avoid air flow		
Bracket / Nylon Clip / Screw / Rubber pad		
Fuse (T1.6AL) 250V : 2pcs.		

Motor cord

Straight type

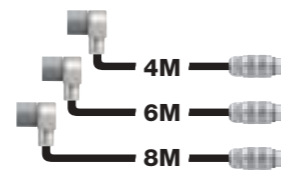
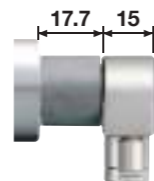
[Feature] Connection at the body end



コード番号	型式	コード長さ	標準装備・付属品	適応機種
1748	EMCD-3000-4M	4m	Air hose Connector cap (Included)	EM-3060 EM-3030T EM30-S6000 EM25-S6000 EM20-S6000
1749	EMCD-3000-6M	6m		
1750	EMCD-3000-8M	8m		

Angle type

[Feature] Connection at the body end into 90° degree



コード番号	型式	コード長さ	標準装備・付属品	適応機種
1744	EMCD-3000A-4M	4m	Air hose Connector cap (Included)	EM-3060 EM-3030T EM30-S6000 EM25-S6000 EM20-S6000
1743	EMCD-3000A-6M	6m		
1742	EMCD-3000A-8M	8m		

Joint type

[Feature] Connection possible out of the machine



コード番号	型式	コード長さ	標準装備・付属品	適応機種
1778	EMCD-3000J-3M	3.0m	Air hose Connector cap (Included)	EM-3060J・EM-3030T-J EMS-3060K・EMS-3060A EMR-3008K・EMA-3020K EMA-3020S・EMSF-3060K EM-3080J
1768	EMCD-3000J-4M	3.7m		
1767	EMCD-3000J-6M	5.7m		
1766	EMCD-3000J-8M	7.7m		

Accessories (Air line kit, etc.)

AL-C1204

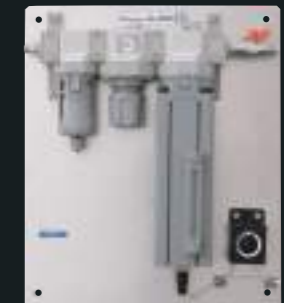
Air line kit
0.3μm filter
※ 1



Code No. **4504** Model **AL-C1204**

AL-M1201BL

Air line kit (for RG-3004M)
0.3μm filter
※ 1



Code No. **4501** Model **AL-M1201BL**

AL-A1205

Air line kit (for NRAF-5080)
0.3μm filter
※ 1 ※ 2



Code No. **4505** Model **AL-A1205**

AL-A0611

Air line kit (for NRAF-5080)
0.01μm filter



Code No. **1548** Model **AL-A0611**

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

※ 2 Customers to provide their own micro-mist separator (filtration rating 0.01 um)

GR-30 Grip Ring



Code No.	1885	Model	GR-30
Standard Accessories	Mounting Bolt (GR-30) M5×25 : 3pcs.		

How to mount to a machine tool

- Loosen the Lock Bolt
- Tighten the Mounting Bolt to widen the inside diameter
- Insert and position the spindle referring to the Recommended Clamping Area on the spindle
- Remove the Mounting Bolt
- Tighten the Lock Bolt (4N·m)
- Affix them to the machine with Mounting Bolt (Recommended tightening torque: 4N·m)

Accessories (Collet, etc.)

Collet	Code No.	Model	I.D.	Compatible model		
<p>Collet CHA Group</p>	91494	CHA-3.0AA	ø3.0AA*	CTS-3030 EM20-S6000 · EM25-S6000 EMS-3060A · NR-3080S * High precision type AA (Run-out Accuracy within 2 μm)		
	91496	CHA-3.175AA	ø3.175AA*			
	91495	CHA-4.0AA	ø4.0AA*			
	91492	CHA-2.35	ø2.35			
	91430	CHA-3.0	ø3.0			
	91493	CHA-3.175	ø3.175			
	91440	CHA-4.0	ø4.0			
<p>Collet CHB Group</p>	—	CHA-□□	ø0.5, ø0.6, ø0.7, ø0.8, ø0.9 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	NR40-5100 ATC NRR-3060-NRR-2651 NR33-6000ATC-ESD		
	92820	CHB-2.0	ø2.0			
	92830	CHB-3.0	ø3.0			
	92893	CHB-3.175	ø3.175			
	92835	CHB-3.5	ø3.5			
	92840	CHB-4.0	ø4.0			
	<p>Collet CHK Group</p>	91597	CHK-3.0AA		ø3.0AA*	EM30-S6000 · EMA-3020K EMS-3060K · EMR-3008K NR-151E · NR-3060S NRF-3060S · NR-3060 NR-403E · RAS-151E RAX-271E · RAX-71E NRAF-5080 * High precision type AA (Run-out Accuracy within 2 μm)
		91598	CHK-3.175AA		ø3.175AA*	
		91599	CHK-4.0AA		ø4.0AA*	
		91600	CHK-6.0AA		ø6.0AA*	
91601		CHK-6.35AA	ø6.35AA*			
91592		CHK-2.35	ø2.35			
91530		CHK-3.0	ø3.0			
91593		CHK-3.175	ø3.175			
91540		CHK-4.0	ø4.0			
91560		CHK-6.0	ø6.0			
<p>Collet CHR Group</p>	—	CHK-□□	ø0.5, ø0.6, ø0.7, ø0.8, ø0.9 ø1.0, ø1.5, ø2.0, ø2.5, ø3.5, ø4.5, ø4.76, ø5.5 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 ø4.1, ø4.2, ø4.3, ø4.4, ø4.6, ø4.7, ø4.8, ø4.9 ø5.1, ø5.2, ø5.3, ø5.4, ø5.6, ø5.7, ø5.8, ø5.9 ø1.6, ø5.0	NR50-5100 ATC		
	91930	CHR-3.0	ø3.0			
	91993	CHR-3.175	ø3.175			
	91996	CHR-6.35	ø6.35			
	91920	CHR-2.0	ø2.0			
	91940	CHR-4.0	ø4.0			
	91960	CHR-6.0	ø6.0			
	<p>Collet CHR RS Group</p>	93201	CHR-3.0RS		ø3.0	NR50-5100 ATC RS *Also available for NR50-5100 ATC
		93202	CHR-3.175RS		ø3.175	
		93203	CHR-4.0RS		ø4.0	
93204		CHR-6.0RS	ø6.0			
93205		CHR-6.35RS	ø6.35			
<p>Collet CHS Group</p>	90592	CHS-2.35	ø2.35	RA-271E		
	90530	CHS-3.0	ø3.0			
	90593	CHS-3.175	ø3.175			
	90516	CHS-1.6	ø1.6			
	—	CHS-□□	ø0.8, ø0.9 ø1.0, ø2.0, ø2.5 ø1.1, ø1.2, ø1.3, ø1.4, ø1.5, ø1.7, ø1.8, ø1.9 ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9			
<p>Collet CHSS Group</p>	93092	CHSS-2.35	ø2.35	EMA-3020S		
	93030	CHSS-3.0	ø3.0			
	93093	CHSS-3.175	ø3.175			
	—	CHSS-□□	ø1.0, ø1.5, ø2.0, ø2.5			
<p>Collet CH8 Group</p>	91092	CH8-2.35	ø2.35	RA-151E		
	91030	CH8-3.0	ø3.0			
	91093	CH8-3.175	ø3.175			
	—	CH8-□□	ø0.8, ø0.9 ø1.0, ø1.5, ø2.0, ø2.5 ø1.1, ø1.2, ø1.3, ø1.4, ø1.6, ø1.7, ø1.8, ø1.9 ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9			

Collet nut	Code No.	Model	Description	Compatible model
	2102	CHN-A	Collet nut for CHA collet	EM20-S6000 · EM25-S6000 EMS-3060A · NR-3080S
	2129	K-265	Collet nut for CHK collet	EM30-S6000 · EMA-3020K EMS-3060K · EMR-3008K NR-151E · NR-3060S NRF-3060S · NR-3060 NR-403E · RAS-151E RAX-271E · RAX-71E
	2158	K-265A	Collet nut for NRAF-5080	NRAF-5080
	7798	CHN-CTA-3.0	Collet nut for CTS-3030	CTS-3030
	7799	CHN-CTA-3.175		
	7800	CHN-CTA-4.0		

Metal Saw Arbor · Grindstone Arbor	Code No.	Model	I.D. / Description / Specifications	Compatible model
	2146	KCH-02 (5.0)	ø5.0 (I.D.)	Metal Saw Arbor ød (I.D.) x under ø30mm (O.D.) Run-out Accuracy : within 0.02mm
	1077	KCH-02 (6.0)	ø6.0 (I.D.)	
	2147	KCH-02 (8.0)	ø8.0 (I.D.)	
	2148	KCH-03 (5.0)	ø5.0 (I.D.)	Metal Saw Arbor ød (I.D.) x under ø30mm (O.D.) Run-out Accuracy : within 0.02m
	2130	KCH-03 (6.0)	ø6.0 (I.D.)	
	2149	KCH-03 (8.0)	ø8.0 (I.D.)	
	2131	AGM-03	Grindstone Arbor Run-out Accuracy : within 0.02mm for Grindstone I.D. ø5.0mm	EMA-3020K · EMS-3060K EMR-3008K NR-3060S · NRF-3060S NR-3060 · RAS-151E RAX-71E · RAX-271E
	2138	EGF-19	Grindstone Flange Available grindstone dimension ø19.05 (I.D.) x ø40 (O.D.) mm x 7 (width) mm	EMS-3060K · EMR-3008K NR-3060S · NRF-3060S NR-3060 · NR-403E

Grease for speed reducer	Code No.	Model	Description	Compatible model
	1547	—	Grease for speed reducer (2.5mℓ)	ARG-011E · ARG-021E EMA-3020K RAX-271E · RAX-71E
	1550	—	Grease for speed reducer (10mℓ)	
	1549	—	Grease for speed reducer (100mℓ)	

Collet holder	Code No.	Model	Description	Compatible model
	9210	QC3-K	Collet holder for CHK * With K-265 (Collet nut)	
	9223	QC3-K-R		
	9209	QC3-A	Collet holder for CHA * With CHN-A (Collet nut)	NR3060-AQC NRR3060-QC
	9222	QC3-A-R		
	7794	QC3-SS	Collet holder for CHSS	

Bush	Code No.	Model	Description × I.D. × O.D.	Compatible model
	1877	RB-20×22	ø22 Bush Dimensions : ø20×ø22×40mm	EM20-S6000 NR-3060S · NR-3060 · NR-403E
	1876	RB-20×22.8	ø22.8 Bush Dimensions : ø20×ø22.8×40mm	
	1875	RB-20×23	ø23 Bush Dimensions : ø20×ø23×40mm	
	1878	RB-20×25	ø25 Bush Dimensions : ø20×ø25×40mm	
	1879	RB-20×25.4	ø25.4 Bush Dimensions : ø20×ø25.4×40mm	
	1880	RB-30×32	ø32 Bush Dimensions : ø30×ø32×45mm	
	1881	RB-30×36	ø36 Bush Dimensions : ø30×ø36×45mm	

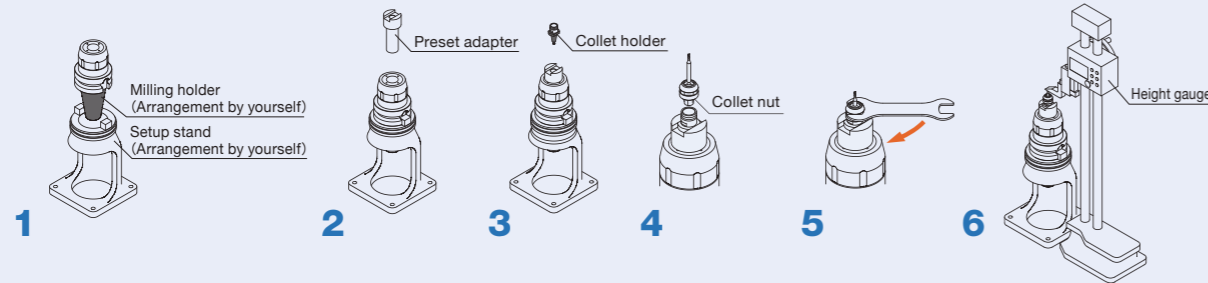
Accessories

Preset adapter	Cod e No.	Model	Description	Compatible model
	9211	QC3-ADP	Preset adapter	QC3-K·QC3-A QC3-SS

For QC3-K/A

Set-up outside machines

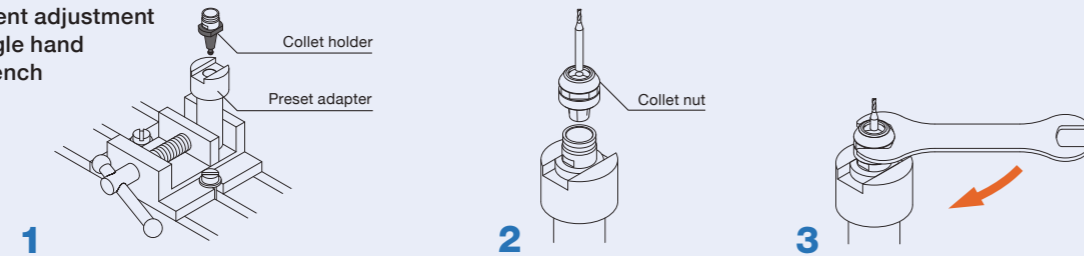
In case using a milling holder



Set-up outside machines

In case using a vice

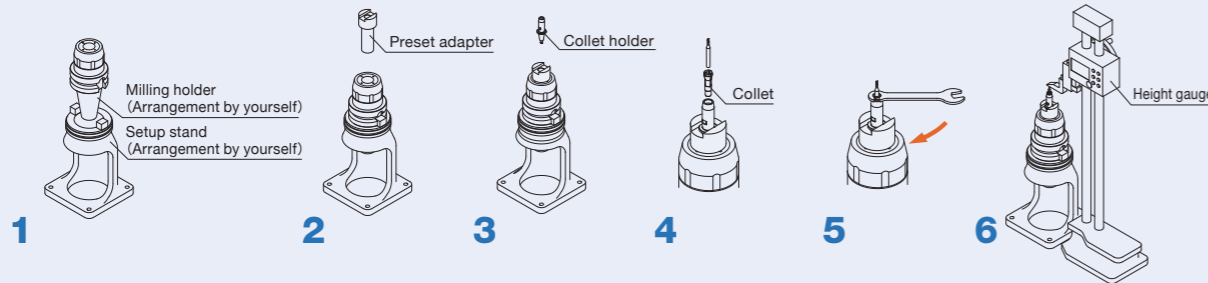
Convenient adjustment with Single hand type Wrench



For QC3-SS

Set-up outside machines

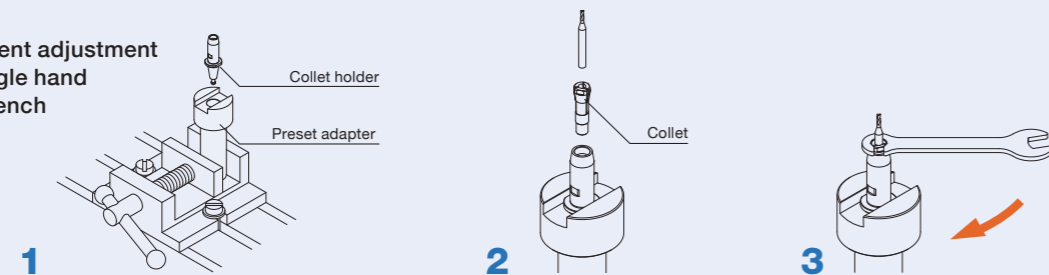
In case using a milling holder



Set-up outside machines

In case using a vice

Convenient adjustment with Single hand type Wrench



NAKANISHI Solutions LINE UP

Electric Motors & Spindles



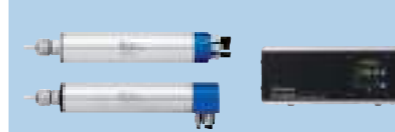
Brushless Motors & Spindles

Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

E4000 SERIES

1,000~40,000min⁻¹ Max.1,200W
[φ40mm]



- World's highest power in this class
- Max. power: 1,200W, Max. torque: 1.0N·m

E3000 SERIES

1,000~80,000min⁻¹ Max.350W
[φ30/25/20mm]



- The largest product lines for various processing
- Space-saving solution for small CNC lathe

HES SERIES

Max.80,000min⁻¹
[For small diameter endmills and drills only]



- [HES810]
- The most cost effective solution to add high-speed machining capability
- 80,000min⁻¹, 6.0cN·m
- BT, HSK A63, ST shanks are available
- Driven by E3000 Controller

E2000 SERIES

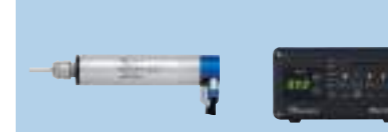
1,000~50,000min⁻¹ Max.200W
[φ22.8mm]



- Small size spindle allows multi-axis installation in limited space

iSpeed3 SERIES

1,000~80,000min⁻¹ Max.150W
[φ19.05/20/22mm]



- Super short motor spindle
- High efficiency brushless motor



- [HES110]
- 50,000min⁻¹, 8.75cN·m
- BT, NT, CAT, IT, HSK A, ST shanks are available
- Driven by E3000 Controller

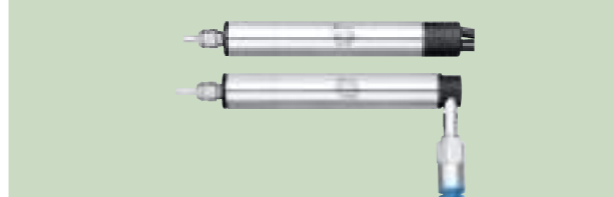
Air Motors & Spindles



Application for CNC lathes / Special purpose machines

Air-Speed SERIES One-piece type

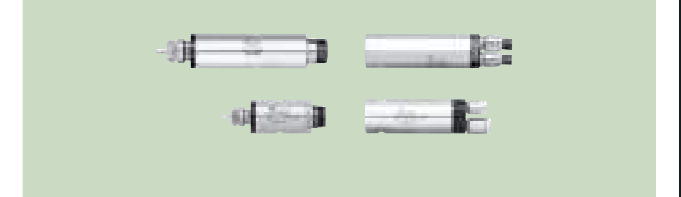
Max.30,000min⁻¹ Max.130W
[φ25/23/20/19.05mm]



- Short body enables the spindle to mount in a limited space on a small NC/CNC lathe or on a special purpose machine

Air-Speed SERIES Modular type

Max.30,000min⁻¹ Max.130W
[φ30/25/22.8mm]



- Separate motor and spindle for flexible application changes
- Adjustable to various application through changing spindles

Air spindle

Air Turbine Spindles

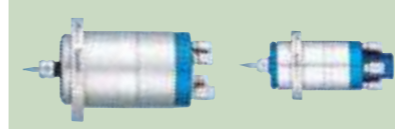


Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

Xpeed SERIES

Max.160,000min⁻¹
[φ65/40mm]



- Extreme accuracy-Runout 1μm
- For high precision small diameter drilling, internal grinding of ceramics
- Long life of spindle thanks to contactless rotation mechanism

PLANET SERIES

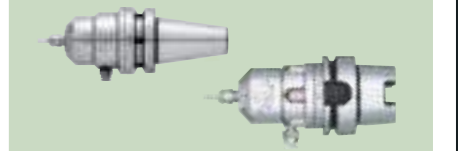
Max.65,000min⁻¹



- A milling machine turns into a jig grinder
- For high precision internal grinding

HTS SERIES

150,000min⁻¹
[For small diameter endmills and drills only]



- No thermal expansion on Z axis thanks to air turbine generating little heat
- Ultra high speed 150,000min⁻¹ with higher rigidity thanks to ceramic bearings
- BT, HSK E and straight (M2040) shanks are available



E4000



NAKANISHI INC.

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PR-K362E Ver.1 2022-02-24 02. 650

※Specifications and design are subject to change without notice.

NAKANISHI INC. 2022



SERIES E4000

ULTRA-HIGH-SPEED & SUPER-PRECISION

Little Giant

This little spindle brings you a giant profit

✓ The Strongest Spindle in its Ø40mm class

- Max power 1,200W
- E4000 torque is 10 times as big as E3000
BMS-4020 (100cN·m), EMS-3060K (10cN·m)

✓ Spindle accuracy within 1 μm

- Optimum for high-precision machining
- Longer tool life

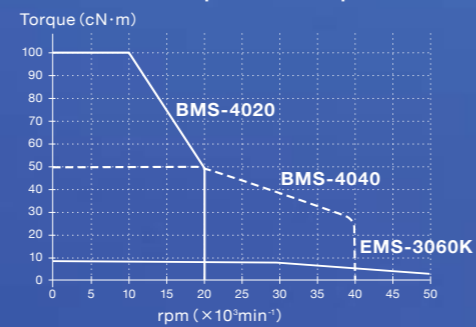
✓ Ceramic Bearing

- Higher rigidity for heavy cutting
- Longer bearing life

✓ Brushless motor

- No need to replace carbon brushes
to enable maintenance-free operation
- Carbon brush dust will no longer penetrate
the bearing to extend the product life

E4000 & E3000 torque curve comparison



Index

Spindle (Modular type)

- NR4040-AQC** Air quick change spindle p.7
Max.rpm 40,000min⁻¹
- NRR4040-QC** Lever quick change spindle p.9
Max.rpm 40,000min⁻¹
- NR-4040** Straight type p.11
Max.rpm 40,000min⁻¹

Motor (Modular type)

- EM-4020** Straight cord type p.13
1,000 ~ 20,000min⁻¹
- EM-4020A** Angle cord type p.13
1,000 ~ 20,000min⁻¹
- EM-4040** Straight cord type p.13
1,000 ~ 40,000min⁻¹
- EM-4040A** Angle cord type p.13
1,000 ~ 40,000min⁻¹

Motor Spindle (One-piece type)

- BMS-4020 / BMS-4020 2M** Straight cord type p.17
Max.rpm 20,000min⁻¹
- BMS-4020RA** Angle cord type p.17
Max.rpm 20,000min⁻¹
- BMS-4040 / BMS-4040 2M** Straight cord type p.19
Max.rpm 40,000min⁻¹
- BMS-4040RA** Angle cord type p.19
Max.rpm 40,000min⁻¹
- BMS-4040-RGD-03M / BMS-4040-RGD-2M** Straight cord type p.21
Max.rpm 40,000min⁻¹
- BMS-4040RA-RGD-03M / BMS-4040RA-RGD-2M** Angle cord type p.21
Max.rpm 40,000min⁻¹
- BMS-4020-MQL / BMS-4020-MQL-2M** Coolant through spindle p.23
Max.rpm 20,000min⁻¹
- BMS-4040-MQL / BMS-4040-MQL-2M** Coolant through spindle p.23
Max.rpm 40,000min⁻¹
- BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M** Coolant through spindle p.25
Max.rpm 20,000min⁻¹
- BMS-4040-MQL-CHK / BMS-4040-MQL-CHK-2M** Coolant through spindle p.25
Max.rpm 40,000min⁻¹

Controller

- E4000 CONTROLLER** p.27
Controller

Air line kit

- AL-C1204** p.28
Air line kit

Motor cord

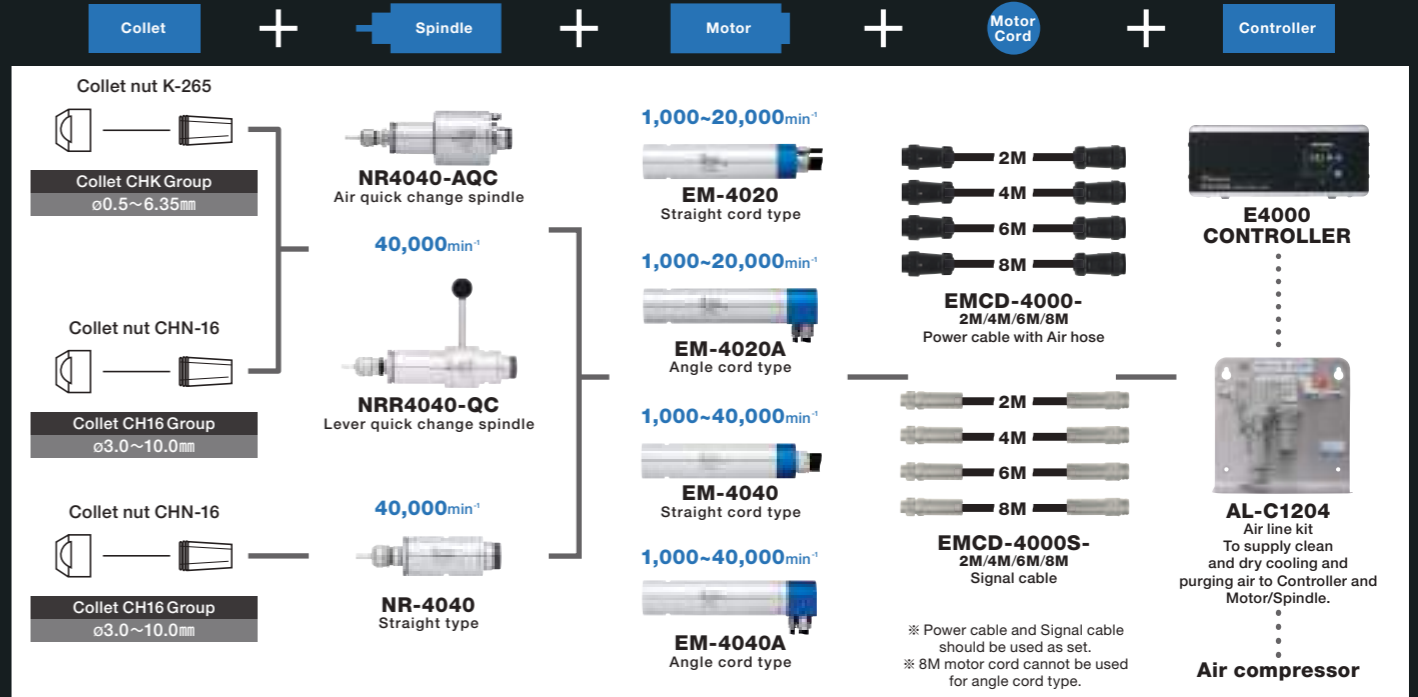
- Power cable with Air hose**
[Length] 2m, 4m, 6m, 8m
EMCD-4000 Joint type motor cord p.27
- Signal cable**
[Length] 2m, 4m, 6m, 8m
EMCD-4000S Joint type motor cord p.27

Accessories

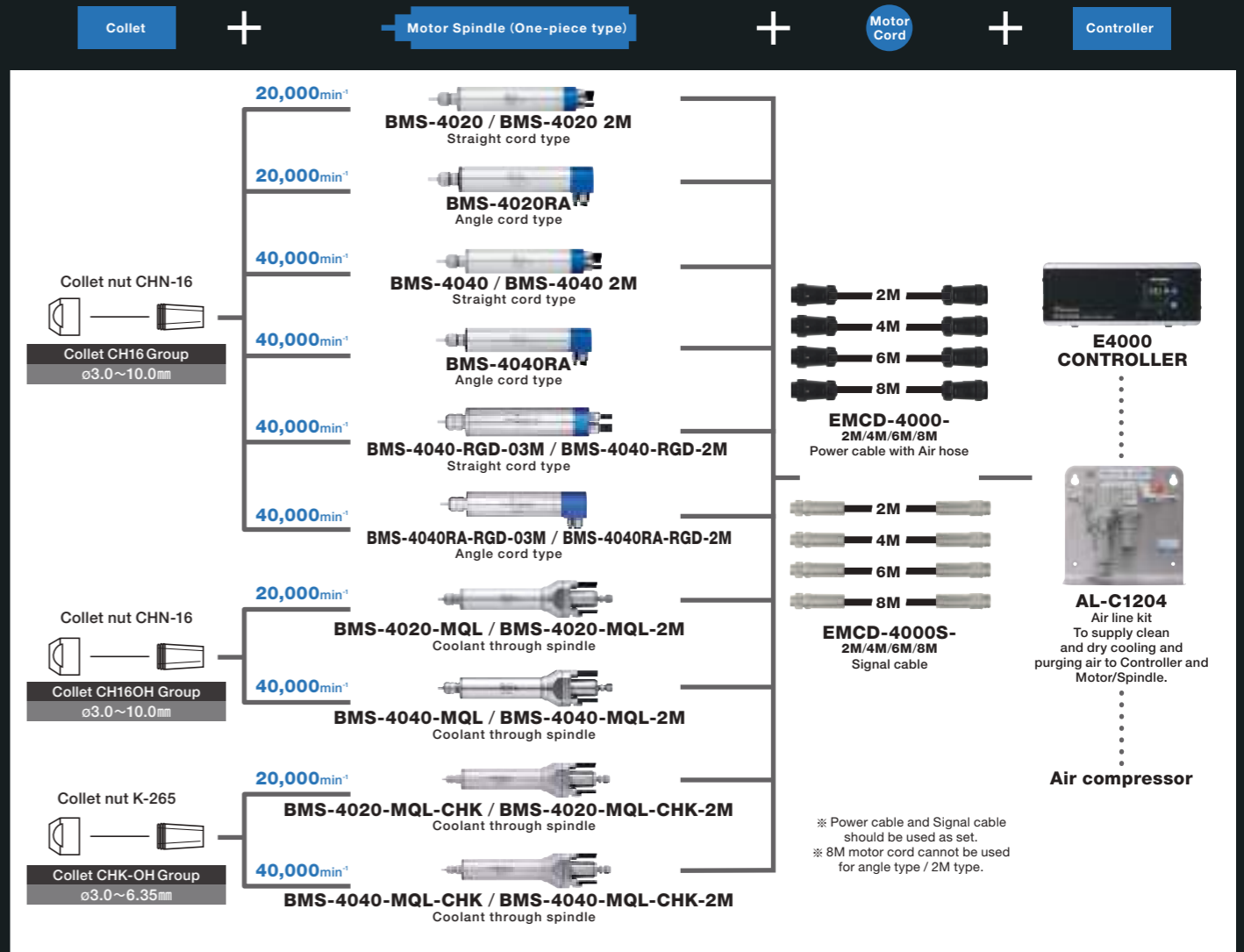
- E4000-PB** p.28
Box for control panel
- E4000-SRB** p.28
Safety relay box
- GR-40** p.28
Grip ring
- CH16 / CH160H / CHK / CHK-OH** p.29
Collet
- QC5-16 / QC5-16-R / QC5-K / QC5-K-R** p.29
Collet holder

System Chart

Modular type ø40mm



One-piece type ø40mm



Shown In Actual Size

Spindle (Modular type)



40 NRR4040-QC
p.9



40 NR-4040
p.11



40 NR4040-AQC
p.7



40 EM-4020
p.13

40 EM-4040
p.13



Spindle Guide



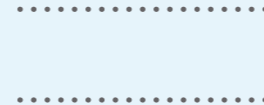
CH16 / CHK



QC5-16/QC5-16-R/QC5-K/QC5-K-R

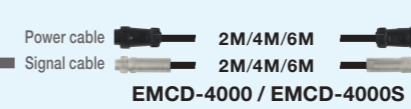
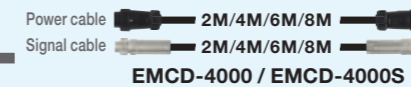


NR4040-AQC

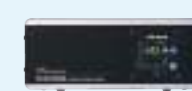


EM-4020 / EM-4040

EM-4020A / EM-4040A



EMCD-4000 / EMCD-4000S



E4000 CONTROLLER



AL-C1204

E4000 SERIES

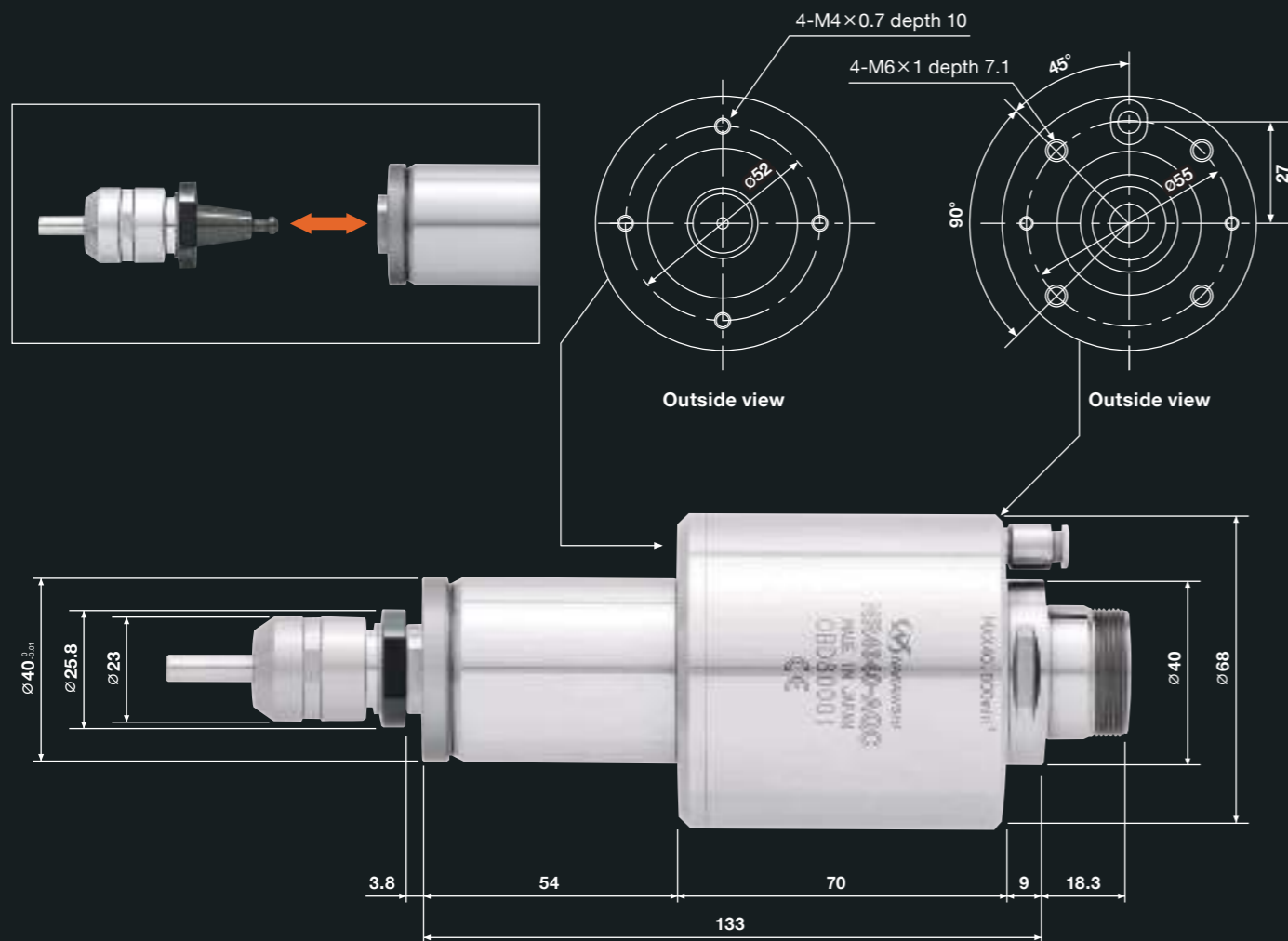
Spindle (Modular type)

NR4040-AQC

Air quick change spindle

O.D. ϕ 40mm

- Auto Tool Change with *BT5 collet holder. *Original
- Enhancing productivity by enabling external tool set-up.
- 2 types of collet holders are available. (CH16 and CHK)



Specifications

DXF data DXF files are available on our website

Order by Code No.

NR4040-AQC

Code No. **9219** Model **NR4040-AQC**

O.D.	Spindle Accuracy	Max. rpm	Air for collet opening	Weight
ϕ 40mm	Within $1\mu\text{m}$	40,000min ⁻¹	0.55 ~ 0.6MPa	2,160g
Motors			Collet holders	
EM-4020 · EM-4020A · EM-4040 · EM-4040A			QC5-16 / QC5-16-R (For collet CH16)	QC5-K / QC5-K-R (For collet CHK)

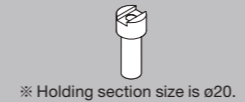
Standard Accessories Wrench (36) : 1pc. / Air hose with filter (K-251) : ϕ 6mm \times 2m

Parts (Optional)

Collet	You can choose the I.D. size (The following is an example of ϕ 6.0mm.)		Collet holder (With collet nut)		Wrench
			QC5-16/K	QC5-16/K-R	
CH16	Code No.	931 6 0	9216	9225	2083
I.D. ϕ 3.0mm~10.0mm p.29	Model	CH16- 6 . 0 (I.D. ϕ 6.0mm)	QC5-16 (For collet CH16)	QC5-16-R (For collet CH16)	Wrench 17 \times 22 (2pcs.)
CHK	Code No.	915 6 0	9215	9224	2026
I.D. ϕ 0.5mm~6.35mm p.29	Model	CHK- 6 . 0 (I.D. ϕ 6.0mm)	QC5-K (For collet CHK)	QC5-K-R (For collet CHK)	Wrench 12 \times 14 (2pcs.)

In case using a Preset adapter, only 1pc. wrench is used.
CH16 collet \rightarrow 17 \times 22 wrench (1pc.) / CHK collet \rightarrow 12 \times 14 wrench (1pc.)

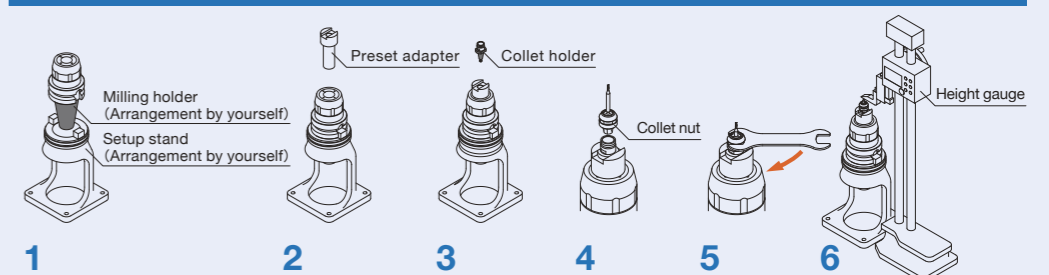
Preset adapter (QC5-16/QC5-K)

* Holding section size is ϕ 20.

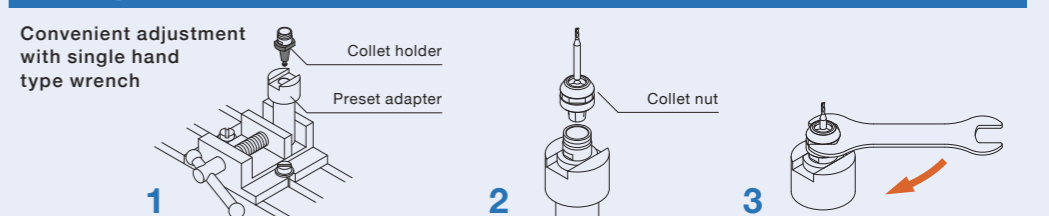
Code No.	9218
Model	QC5-16 ADP (For collet QC5-16)

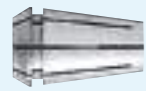
Code No.	9217
Model	QC5-K ADP (For collet QC5-K)

Set-up outside machines

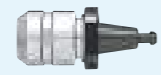


Set-up outside machines



Spindle
Guide

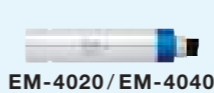
CH16 / CHK



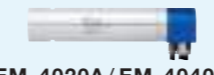
QC5-16/QC5-16-R/QC5-K/QC5-K-R



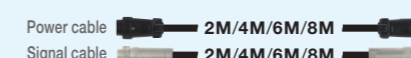
NRR4040-QC



EM-4020 / EM-4040



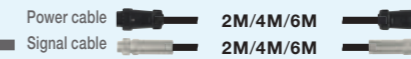
EM-4020A / EM-4040A



Power cable 2M/4M/6M/8M

Signal cable 2M/4M/6M/8M

EMCD-4000 / EMCD-4000S



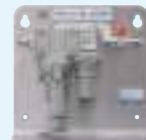
Power cable 2M/4M/6M

Signal cable 2M/4M/6M

EMCD-4000 / EMCD-4000S



E4000 CONTROLLER



AL-C1204

E4000 SERIES

Spindle (Modular type)

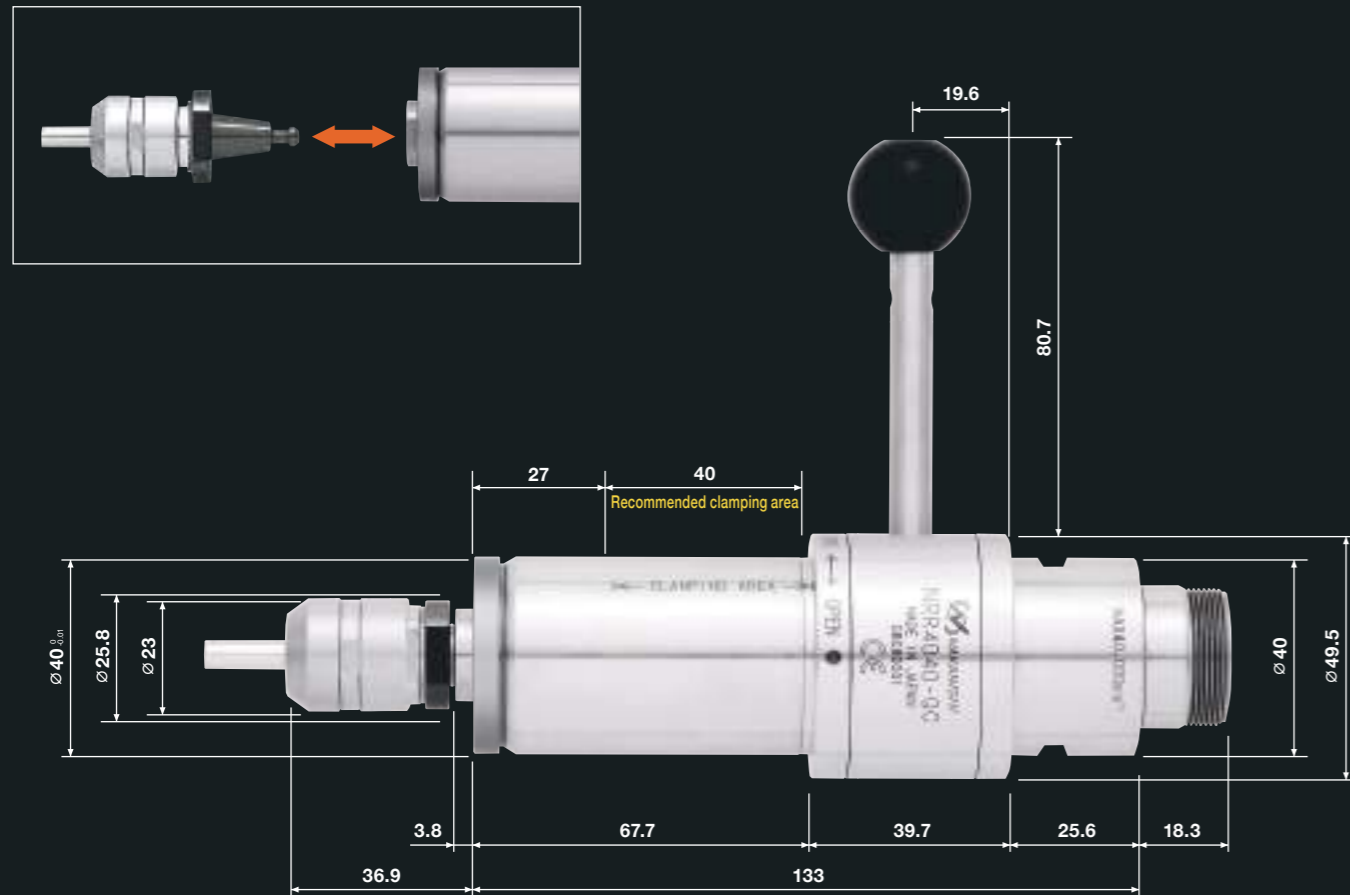
NRR4040-QC

Lever quick change spindle

※Outside view : with QC5-16 collet holder

O.D. ϕ 40mm

- Quick and easy tool change with *BT5 collet holder by lever chucking system. ※Original
- Improvement of adjustment process by setting collet in advance.
- 2 types of collet holders are available. (CH16 and CHK)



Specifications

DXF data DXF files are available on our website

Order by Code No.

NRR4040-QC

Code No. **9214** Model **NRR4040-QC**

O.D.	Spindle Accuracy	Max. rpm	Lever operating angle	Weight
ϕ 40mm	Within $1\mu\text{m}$	40,000min ⁻¹	90°	1,300g
Motors			Collet holders	
EM-4020 · EM-4020A · EM-4040 · EM-4040A			QC5-16 / QC5-16-R (For collet CH16)	QC5-K / QC5-K-R (For collet CHK)

Standard Accessories Wrench (36) : 1pc.

Parts (Optional)

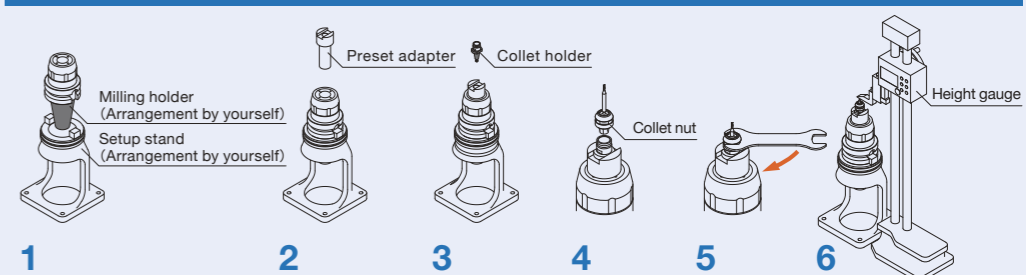
Collet	You can choose the I.D. size (The following is an example of ϕ 6.0mm.)		Collet holder (With collet nut)		Wrench
			QC5-16/K	QC5-16/K-R	
CH16	Code No.	931 6 0	9216	9225	2083
I.D. ϕ 3.0mm~10.0mm p.29	Model	CH16- 6 . 0 (I.D. ϕ 6.0mm)	QC5-16 (For collet CH16)	QC5-16-R (For collet CH16)	Wrench 17 × 22 (2pcs.)
CHK	Code No.	915 6 0	9215	9224	2026
I.D. ϕ 0.5mm~6.35mm p.29	Model	CHK- 6 . 0 (I.D. ϕ 6.0mm)	QC5-K (For collet CHK)	QC5-K-R (For collet CHK)	Wrench 12 × 14 (2pcs.)

In case using a Preset adapter, only 1pc. wrench is used.
CH16 collet → 17 × 22 wrench (1pc.) / CHK collet → 12 × 14 wrench (1pc.)Preset adapter
(QC5-16/QC5-K)※ Holding section size is ϕ 20.

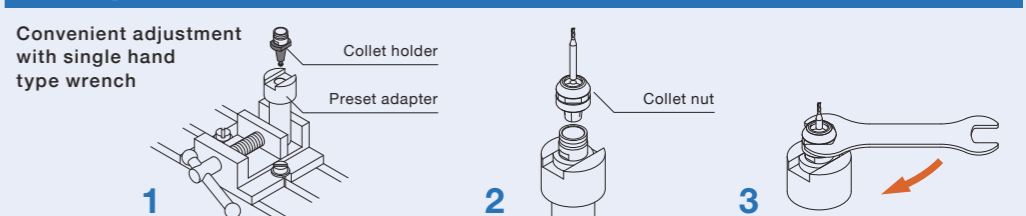
Code No.	9218
Model	QC5-16 ADP (For collet QC5-16)

Code No.	9217
Model	QC5-K ADP (For collet QC5-K)

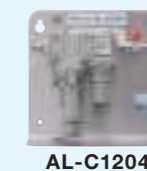
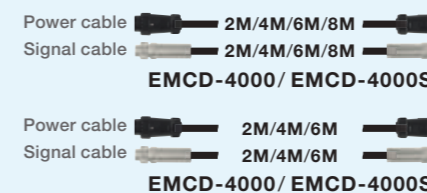
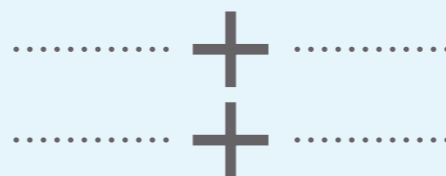
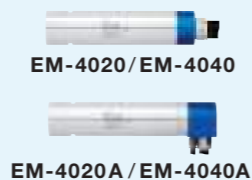
Set-up outside machines



Set-up outside machines



Spindle Guide



E4000 SERIES

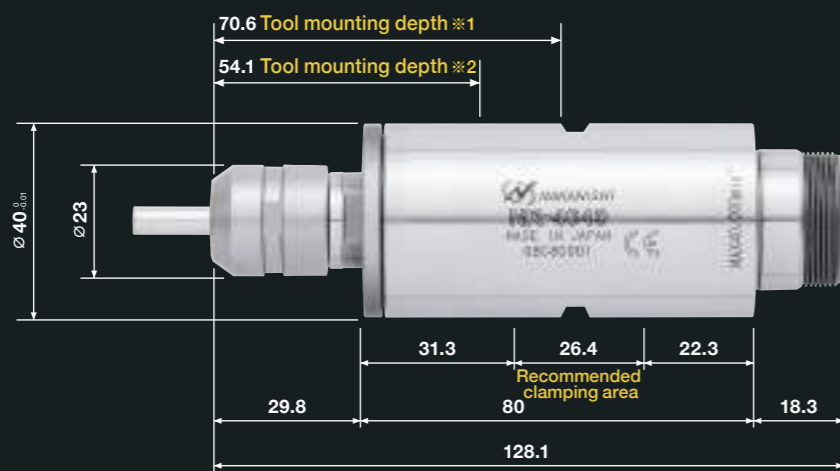
Spindle (Modular type)

NR-4040
Straight type

※1:In case for the shank size less than ø6.9mm
 ※2:In case for the shank ø6.9mm or more



O.D. ø40mm



Specifications

DXF data DXF files are available on our website

Order by Code No.

NR-4040

Code No. **7902** Model NR-4040

O.D.	Spindle Accuracy	Collet	Max. rpm	Motors	Weight
Ø40mm	Within 1µm	CH16 Group (ø3.0 ~ ø10.0mm)	40,000min ⁻¹	EM-4020 · EM-4020A EM-4040 · EM-4040A	700g
Standard Accessories Collet nut (CHN-16) / Wrench (17 × 22) : 2pcs. · (36) : 1pc.					
Options Collet (CH16 Group) : ø3.0mm ~ ø10.0mm p.29					

※ Collet is sold separately.

Motor (Modular type)

Order by Code No.

EM-4020 (20,000rpm) Straight cord type



O.D. ϕ 40mm



EM-4020A (20,000rpm) Angle cord type



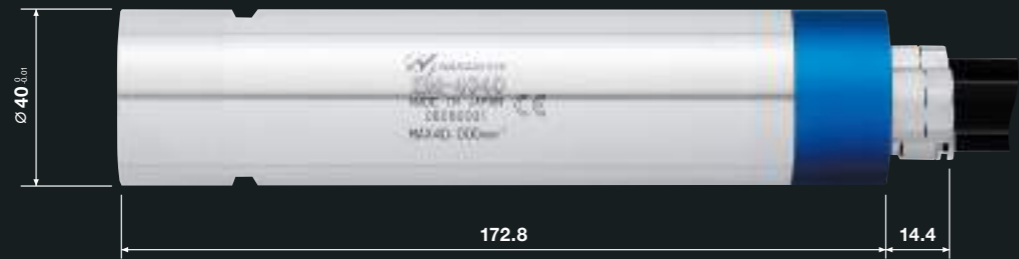
O.D. ϕ 40mm



EM-4040 (40,000rpm) Straight cord type



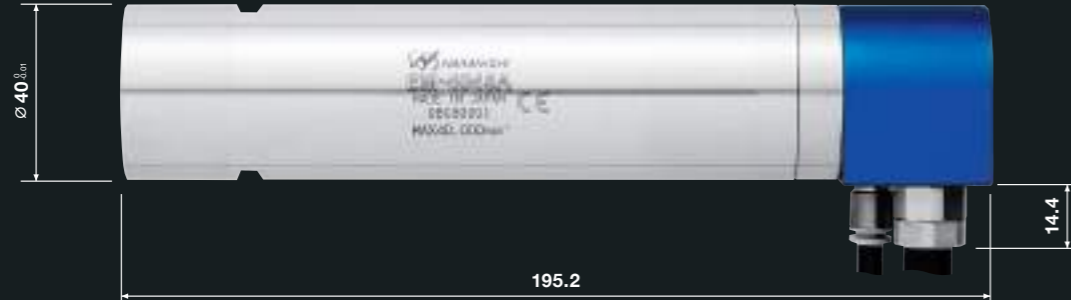
O.D. ϕ 40mm



EM-4040A (40,000rpm) Angle cord type



O.D. ϕ 40mm



Specifications

DXF data DXF files are available on our website

EM-4020

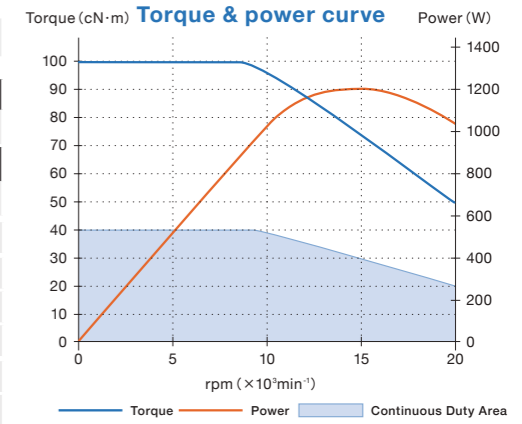
Code No. **8348** Model **EM-4020**

O.D.	Rpm	Max. power	
ϕ 40mm	1,000~20,000min ⁻¹	1,200w	
Cord length	Min. Bending Cord Radius	Max. torque	Weight
0.3m	70mm	1.0N·m	1,300g
Standard Accessories Wrench (36) : 1pc.			
Specifications Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : ϕ 30mm / Air hose : ϕ 6mm Signal cable : Connector Diameter : ϕ 16mm			
Options Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255), 8m (9256) Signal cable : Length 2m (9257), 4m (9258), 6m (9259), 8m (9260)			

EM-4020A

Code No. **8349** Model **EM-4020A**

O.D.	Rpm	Max. power	
ϕ 40mm	1,000~20,000min ⁻¹	1,200w	
Cord length	Min. Bending Cord Radius	Max. torque	Weight
2.0m	70mm	1.0N·m	1,800g
Standard Accessories Wrench (36) : 1pc.			
Specifications Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : ϕ 30mm / Air hose : ϕ 6mm Signal cable : Connector Diameter : ϕ 16mm			
Options Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255) Signal cable : Length 2m (9257), 4m (9258), 6m (9259)			



EM-4040

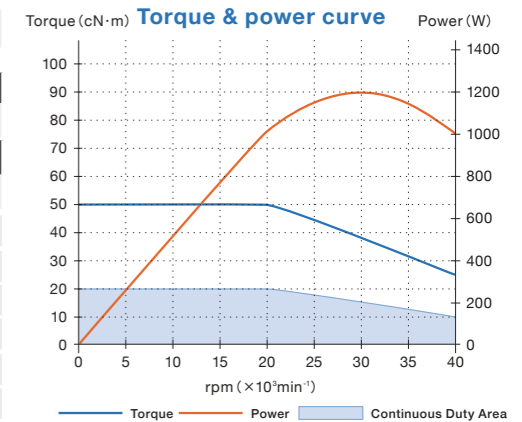
Code No. **8346** Model **EM-4040**

O.D.	Rpm	Max. power	
ϕ 40mm	1,000~40,000min ⁻¹	1,200w	
Cord length	Min. Bending Cord Radius	Max. torque	Weight
0.3m	70mm	0.5N·m	1,300g
Standard Accessories Wrench (36) : 1pc.			
Specifications Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : ϕ 30mm / Air hose : ϕ 6mm Signal cable : Connector Diameter : ϕ 16mm			
Options Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255), 8m (9256) Signal cable : Length 2m (9257), 4m (9258), 6m (9259), 8m (9260)			

EM-4040A

Code No. **8347** Model **EM-4040A**

O.D.	Rpm	Max. power	
ϕ 40mm	1,000~40,000min ⁻¹	1,200w	
Cord length	Min. Bending Cord Radius	Max. torque	Weight
2.0m	70mm	0.5N·m	1,800g
Standard Accessories Wrench (36) : 1pc.			
Specifications Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : ϕ 30mm / Air hose : ϕ 6mm Signal cable : Connector Diameter : ϕ 16mm			
Options Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255) Signal cable : Length 2m (9257), 4m (9258), 6m (9259)			



Motor Spindle (One-piece type)



40 BMS-4020RA
p.17

40 BMS-4040RA
p.19

40 BMS-4040RA-RGD-03M / BMS-4040RA-RGD-2M
p.21



40 BMS-4020 / BMS-4020 2M
p.17

40 BMS-4040 / BMS-4040 2M
p.19

40 BMS-4040-RGD-03M / BMS-4040-RGD-2M
p.21



40 BMS-4020-MQL / BMS-4020-MQL-2M
p.23

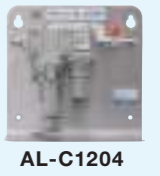
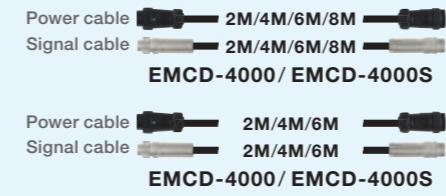
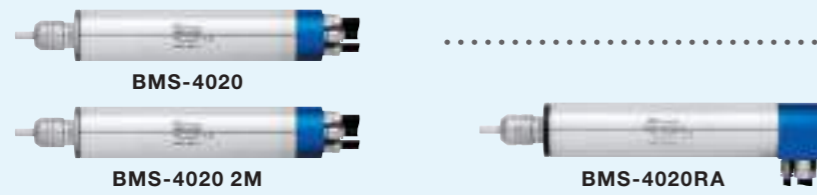
40 BMS-4040-MQL / BMS-4040-MQL-2M
p.23

40 BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M
p.25

40 BMS-4040-MQL-CHK / BMS-4040-MQL-CHK-2M
p.25



Spindle Guide



E4000 SERIES

Motor Spindle (One-piece type)

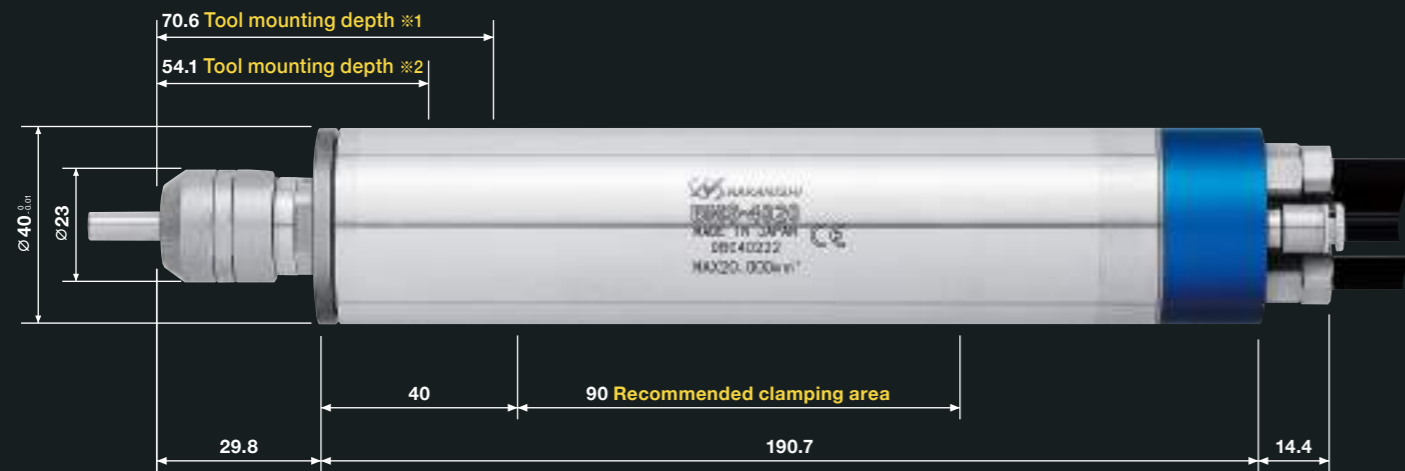
BMS-4020 / BMS-4020 2M

Straight cord type

※1:In case for the shank size less than ø6.9mm ※2:In case for the shank ø6.9mm or more



O.D. ø40mm



Specifications

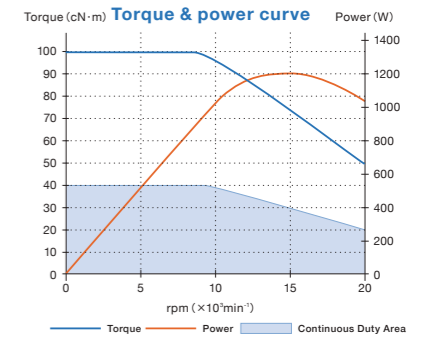
DXF data DXF files are available on our website

Order by Code No.

BMS-4020 / BMS-4020 2M

Code No.	7803	Model	BMS-4020
Code No.	7805	Model	BMS-4020 2M

O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40mm	20,000min ⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0mm)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
BMS-4020 : 0.3m BMS-4020 2M : 2.0m	70mm	1.0N·m	BMS-4020 : 1.5kg BMS-4020 2M : 2.0kg	
Standard Accessories	Collet nut (CHN-16) / Wrench (17 × 22) : 2pcs.			
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : ø30mm / Air hose : ø6mm Signal cable : Connector Diameter : ø16mm			
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0mm p.29 Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255), 8m (9256) Signal cable : Length 2m (9257), 4m (9258), 6m (9259), 8m (9260)			



※ 8M motor cord cannot be used for BMS-4020 2M.
※ Collet is sold separately.

BMS-4020RA

Angle cord type

※1:In case for the shank size less than ø6.9mm ※2:In case for the shank ø6.9mm or more



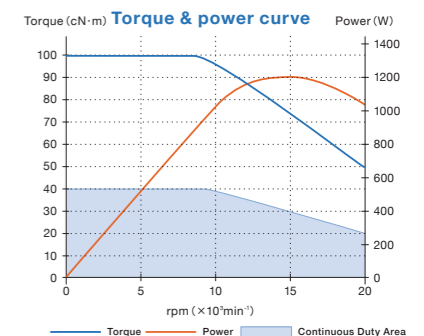
O.D. ø40mm



BMS-4020RA

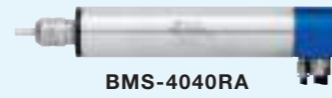
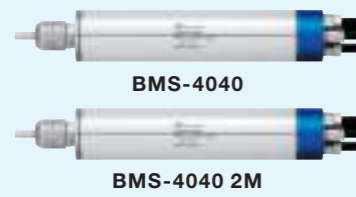
Code No.	7804	Model	BMS-4020RA
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O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40mm	20,000min ⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0mm)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
2.0m	70mm	1.0N·m	2.0kg	
Standard Accessories	Collet nut (CHN-16) / Wrench (17 × 22) : 2pcs.			
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : ø30mm / Air hose : ø6mm Signal cable : Connector Diameter : ø16mm			
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0mm p.29 Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255) Signal cable : Length 2m (9257), 4m (9258), 6m (9259)			



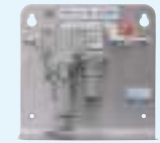
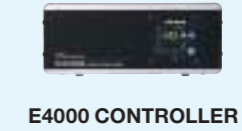
※ Collet is sold separately.

Spindle Guide



Power cable 2M/4M/6M/8M
Signal cable 2M/4M/6M/8M
EMCD-4000/ EMCD-4000S

Power cable 2M/4M/6M
Signal cable 2M/4M/6M
EMCD-4000/ EMCD-4000S



AL-C1204

E4000 SERIES

Motor Spindle (One-piece type)

BMS-4040 / BMS-4040 2M

Straight cord type

※1:In case for the shank size less than ø6.9mm ※2:In case for the shank ø6.9mm or more



O.D. ø40mm



Specifications

DXF data DXF files are available on our website

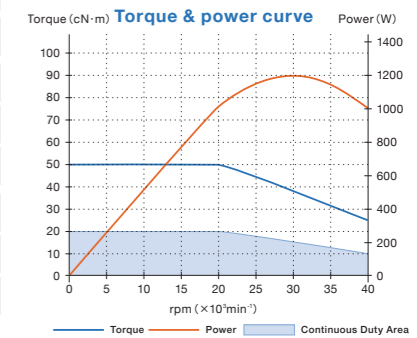
Order by Code No.

BMS-4040 / BMS-4040 2M

Code No.	7806	Model	BMS-4040
Code No.	7809	Model	BMS-4040 2M



O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40mm	40,000min ⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0mm)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
BMS-4040 : 0.3m BMS-4040 2M : 2.0m	70mm	0.5N·m	BMS-4040 : 1.5kg BMS-4040 2M : 2.0kg	
Standard Accessories	Collet nut (CHN-16) / Wrench (17 × 22) : 2pcs.			
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : ø30mm / Air hose : ø6mm Signal cable : Connector Diameter : ø16mm			
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0mm p.29 Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255), 8m (9256) Signal cable : Length 2m (9257), 4m (9258), 6m (9259), 8m (9260)			



※ 8M motor cord cannot be used for BMS-4040 2M.
※ Collet is sold separately.

BMS-4040RA

Angle cord type

※1:In case for the shank size less than ø6.9mm ※2:In case for the shank ø6.9mm or more



O.D. ø40mm

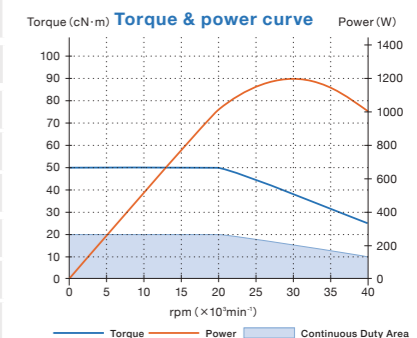


BMS-4040RA

Code No.	7807	Model	BMS-4040RA
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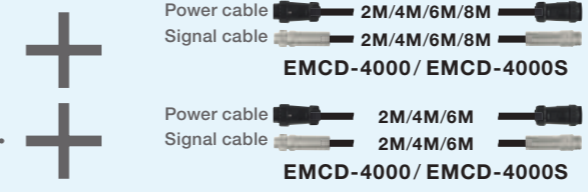
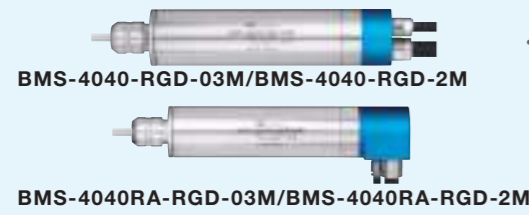


O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40mm	40,000min ⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0mm)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
2.0m	70mm	0.5N·m	2.0kg	
Standard Accessories	Collet nut (CHN-16) / Wrench (17 × 22) : 2pcs.			
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : ø30mm / Air hose : ø6mm Signal cable : Connector Diameter : ø16mm			
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0mm p.29 Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255) Signal cable : Length 2m (9257), 4m (9258), 6m (9259)			



※ Collet is sold separately.

Spindle Guide



E4000 SERIES

Motor Spindle (Rigidity type)

BMS-4040-RGD-03M / BMS-4040-RGD-2M

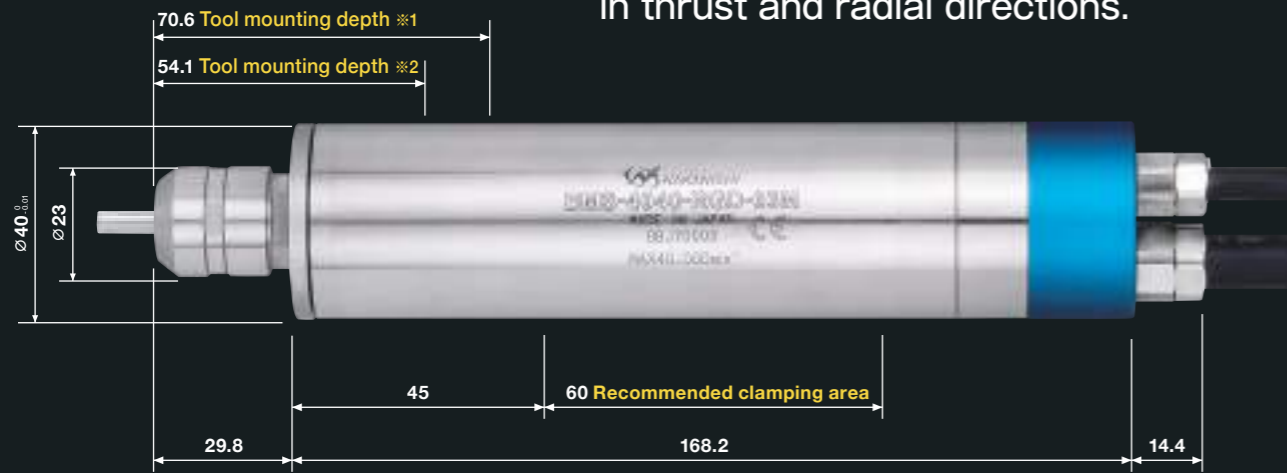
Straight cord type

※1:In case for the shank size less than ø6.9mm ※2:In case for the shank ø6.9mm or more



O.D. ø40mm

● Twice as high rigidity as BMS-4040 in thrust and radial directions.



BMS-4040RA-RGD-03M / BMS-4040RA-RGD-2M

Angle cord type

※1:In case for the shank size less than ø6.9mm ※2:In case for the shank ø6.9mm or more



O.D. ø40mm

● Twice as high rigidity as BMS-4040 in thrust and radial directions.



Specifications

DXF data DXF files are available on our website

Order by Code No.

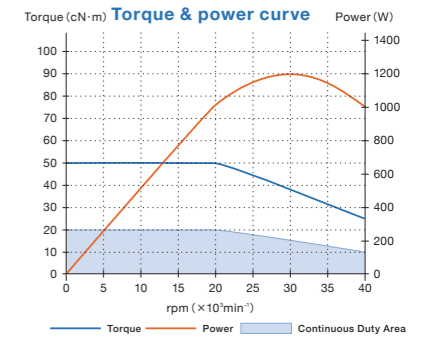
BMS-4040-RGD-03M / BMS-4040-RGD-2M

Code No.	7740	Model	BMS-4040-RGD-03M
Code No.	7769	Model	BMS-4040-RGD-2M



O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40mm	40,000min ⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0mm)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
BMS-4040-RGD-03M : 0.3m BMS-4040-RGD-2M : 2.0m	70mm	0.5N·m	BMS-4040-RGD-03M : 1.4kg BMS-4040-RGD-2M : 1.9kg	

Standard Accessories	Collet nut (CHN-16) / Wrench (17 × 22) : 2pcs.
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : ø30mm / Air hose : ø6mm Signal cable : Connector Diameter : ø16mm
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0mm p.29 Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255), 8m (9256) Signal cable : Length 2m (9257), 4m (9258), 6m (9259), 8m (9260)



※ 8M motor cord cannot be used for BMS-4040-RGD-2M.
※ Collet is sold separately.

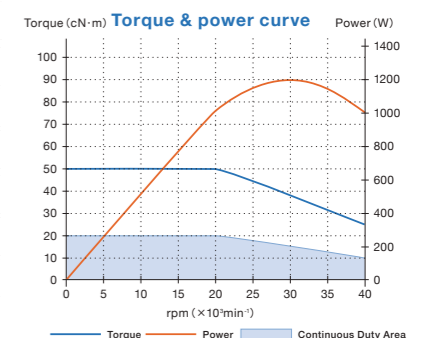
BMS-4040RA-RGD-03M / BMS-4040RA-RGD-2M

Code No.	7741	Model	BMS-4040RA-RGD-03M
Code No.	7770	Model	BMS-4040RA-RGD-2M

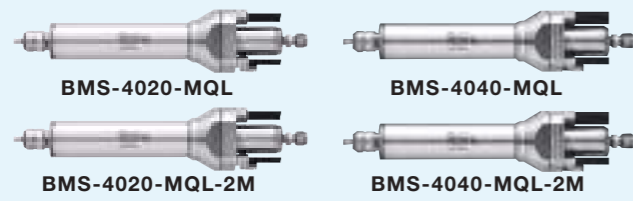


O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40mm	40,000min ⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0mm)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
BMS-4040RA-RGD-03M : 0.3m BMS-4040RA-RGD-2M : 2.0m	70mm	0.5N·m	BMS-4040RA-RGD-03M : 1.4kg BMS-4040RA-RGD-2M : 1.9kg	

Standard Accessories	Collet nut (CHN-16) / Wrench (17 × 22) : 2pcs.
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : ø30mm / Air hose : ø6mm Signal cable : Connector Diameter : ø16mm
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0mm p.29 Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255), 8m (9256) Signal cable : Length 2m (9257), 4m (9258), 6m (9259), 8m (9260)



※ 8M motor cord cannot be used for BMS-4040RA-RGD-2M.
※ Collet is sold separately.



Motor Spindle (One-piece type)

! "High pressure coolant device" or "oil mist supply device" to be arranged by the customer.



Power cable 2M/4M/6M/8M
Signal cable 2M/4M/6M/8M
EMCD-4000/ EMCD-4000S

Power cable 2M/4M/6M
Signal cable 2M/4M/6M
EMCD-4000/ EMCD-4000S



E4000 CONTROLLER



AL-C1204

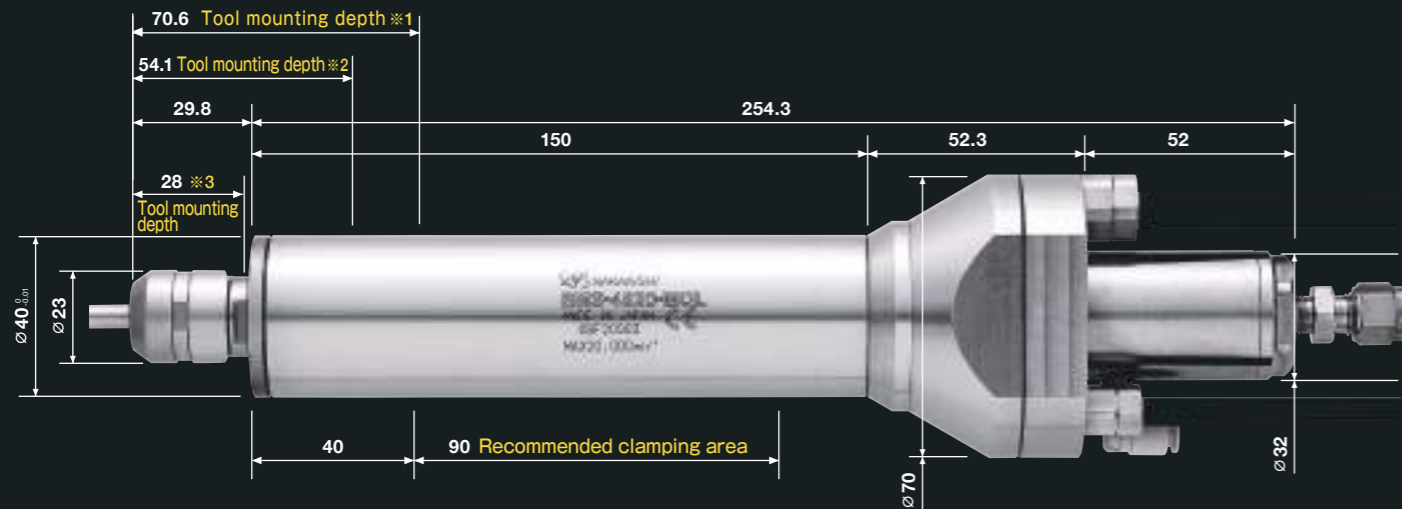
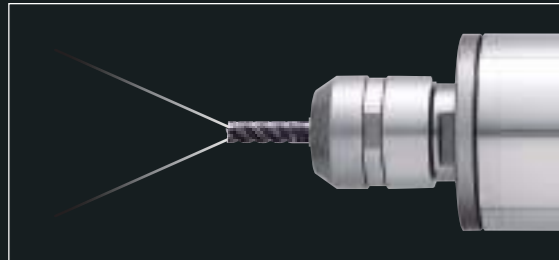
E4000 SERIES

Motor Spindle (One-piece type : $\phi 3.0 \sim \phi 10.0\text{mm}$)

BMS-4020-MQL / BMS-4020-MQL-2M
BMS-4040-MQL / BMS-4040-MQL-2M
Coolant through spindle



- Pressurized coolant entered through the back of the spindle and through the cutting tool at a speed of 40,000 RPM.
- Through coolant improves chip clearance, accuracy, productivity and extends tool-life.
- ※ "High pressure coolant device" or "oil mist supply device" to be arranged by the customer.



※ 1 : In case for the shank $\phi 4\text{mm}$ to less than $\phi 6.9\text{mm}$ (The shank size less than $\phi 4\text{mm}$ is through hole)
 ※ 2 : In case for the shank size $\phi 6.9\text{mm}$ or more
 ※ 3 : The tool needs to be inserted more than 28mm, or the oil leaks

Specifications

DXF data DXF files are available on our website

Order by Code No.

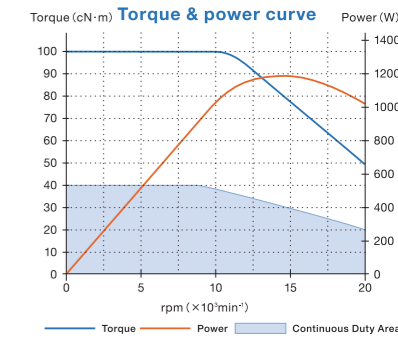
BMS-4020-MQL / BMS-4020-MQL-2M

Code No.	7716	Model	BMS-4020-MQL
Code No.	7717	Model	BMS-4020-MQL-2M



O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
$\phi 40\text{mm}$	20,000min ⁻¹	Within 1 μm	CH16OH Group ($\phi 3.0 \sim \phi 10.0\text{mm}$)	1,200w
Cord length		Min. Bending Cord Radius	Max. torque	Weight
BMS-4020-MQL: 0.3m BMS-4020-MQL-2M: 2.0m		70mm	1.0N·m	BMS-4020-MQL: 2.3kg BMS-4020-MQL-2M: 2.8kg
Standard Accessories		Collet nut (CHN-16) / Insert / Ferrule Set Wrench (17 × 22) : 2pcs.		
Specifications		Coolant pressure : 0.2 ~ 3.0MPa / Oil Mist pressure : 0.2 ~ 1.0MPa Power cable with Air hose : Connector Diameter : $\phi 30\text{mm}$ / Air hose : $\phi 6\text{mm}$ Signal cable : Connector Diameter : $\phi 16\text{mm}$		
Options		Collet (CH16OH Group) : $\phi 3.0 \sim \phi 10.0\text{mm}$ p.29 Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255), 8m (9256) Signal cable : Length 2m (9257), 4m (9258), 6m (9259), 8m (9260)		

※ 8M motor cord cannot be used for BMS-4020-MQL-2M.
 ※ Collet is sold separately.



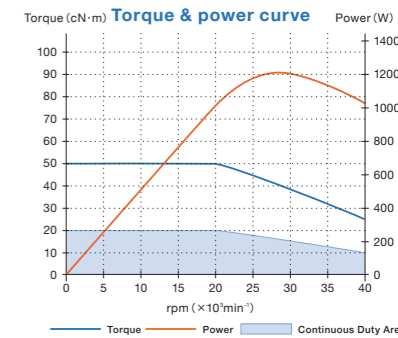
BMS-4040-MQL / BMS-4040-MQL-2M

Code No.	7714	Model	BMS-4040-MQL
Code No.	7715	Model	BMS-4040-MQL-2M

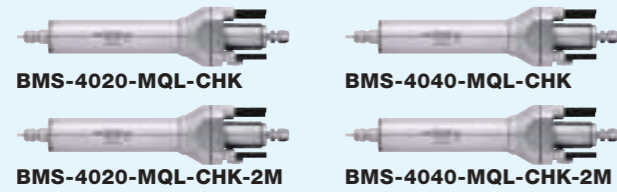


O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
$\phi 40\text{mm}$	40,000min ⁻¹	Within 1 μm	CH16OH Group ($\phi 3.0 \sim \phi 10.0\text{mm}$)	1,200w
Cord length		Min. Bending Cord Radius	Max. torque	Weight
BMS-4040-MQL: 0.3m BMS-4040-MQL-2M: 2.0m		70mm	0.5N·m	BMS-4040-MQL: 2.3kg BMS-4040-MQL-2M: 2.8kg
Standard Accessories		Collet nut (CHN-16) / Insert / Ferrule Set Wrench (17 × 22) : 2pcs.		
Specifications		Coolant pressure : 0.2 ~ 3.0MPa / Oil Mist pressure : 0.2 ~ 1.0MPa Power cable with Air hose : Connector Diameter : $\phi 30\text{mm}$ / Air hose : $\phi 6\text{mm}$ Signal cable : Connector Diameter : $\phi 16\text{mm}$		
Options		Collet (CH16OH Group) : $\phi 3.0 \sim \phi 10.0\text{mm}$ p.29 Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255), 8m (9256) Signal cable : Length 2m (9257), 4m (9258), 6m (9259), 8m (9260)		

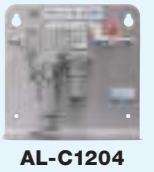
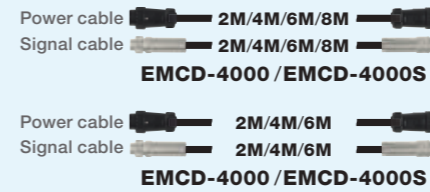
※ 8M motor cord cannot be used for BMS-4040-MQL-2M.
 ※ Collet is sold separately.



Spindle Guide



! "High pressure coolant device" or "oil mist supply device" to be arranged by the customer.



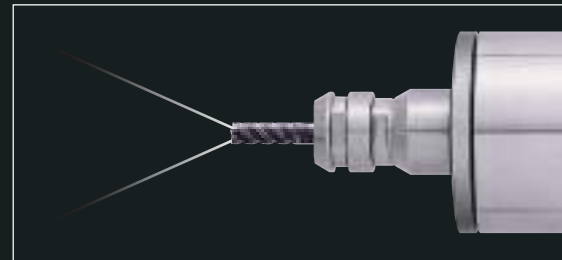
E4000 SERIES

Motor Spindle (One-piece type : $\phi 3.0 \sim \phi 6.35\text{mm}$)

BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M
BMS-4040-MQL-CHK / BMS-4040-MQL-CHK-2M
 Coolant through spindle



- Pressurized coolant entered through the back of the spindle and through the cutting tool at a speed of 40,000 RPM.
- Through coolant improves chip clearance, accuracy, productivity and extends tool-life.
- ※ "High pressure coolant device" or "oil mist supply device" to be arranged by the customer.



※ 1 : In case for the shank $\phi 4\text{mm}$ to less than $\phi 6.35\text{mm}$ (The shank size less than $\phi 4\text{mm}$ is through hole)
 ※ 2 : In case for the shank size $\phi 6.35\text{mm}$
 ※ 3 : The tool needs to be inserted more than 20mm, or the oil leaks

Specifications

DXF data DXF files are available on our website

Order by Code No.

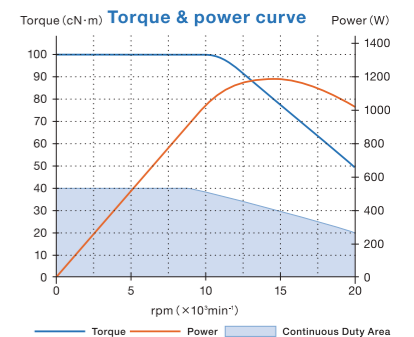
BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M

Code No.	7735	Model	BMS-4020-MQL-CHK
Code No.	7736	Model	BMS-4020-MQL-CHK-2M



O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
$\phi 40\text{mm}$	20,000min ⁻¹	Within 1 μm	CHK-OH Group ($\phi 3.0 \sim \phi 6.35\text{mm}$)	1,200w
Cord length		Min. Bending Cord Radius	Max. torque	Weight
BMS-4020-MQL-CHK : 0.3m BMS-4020-MQL-CHK-2M : 2.0m		70mm	1.0N·m	BMS-4020-MQL-CHK : 2.3kg BMS-4020-MQL-CHK-2M : 2.8kg
Standard Accessories		Collet nut (K-265) / Insert / Ferrule Set Wrench (12 × 14) : 2pcs.		
Specifications		Coolant pressure : 0.2~3.0MPa / Oil Mist pressure : 0.2~1.0MPa Power cable with Air hose : Connector Diameter : $\phi 30\text{mm}$ / Air hose : $\phi 6\text{mm}$ Signal cable : Connector Diameter : $\phi 16\text{mm}$		
Options		Collet (CHK-OH Group) : $\phi 3.0 \sim \phi 6.35\text{mm}$ p.29 Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255), 8m (9256) Signal cable : Length 2m (9257), 4m (9258), 6m (9259), 8m (9260) Adjuster Bolt (7739)		

※ 8M motor cord cannot be used for BMS-4020-MQL-CHK-2M.
 ※ Collet is sold separately.



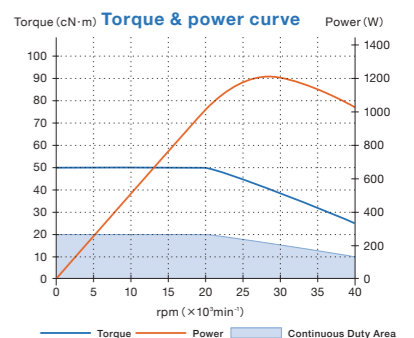
BMS-4040-MQL-CHK / BMS-4040-MQL-CHK-2M

Code No.	7737	Model	BMS-4040-MQL-CHK
Code No.	7738	Model	BMS-4040-MQL-CHK-2M



O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
$\phi 40\text{mm}$	40,000min ⁻¹	Within 1 μm	CHK-OH Group ($\phi 3.0 \sim \phi 6.35\text{mm}$)	1,200w
Cord length		Min. Bending Cord Radius	Max. torque	Weight
BMS-4040-MQL-CHK : 0.3m BMS-4040-MQL-CHK-2M : 2.0m		70mm	0.5N·m	BMS-4040-MQL-CHK : 2.3kg BMS-4040-MQL-CHK-2M : 2.8kg
Standard Accessories		Collet nut (K-265) / Insert / Ferrule Set Wrench (12×14) : 2pcs.		
Specifications		Coolant pressure : 0.2~3.0MPa / Oil Mist pressure : 0.2~1.0MPa Power cable with Air hose : Connector Diameter : $\phi 30\text{mm}$ / Air hose : $\phi 6\text{mm}$ Signal cable : Connector Diameter : $\phi 16\text{mm}$		
Options		Collet (CHK-OH Group) : $\phi 3.0 \sim \phi 6.35\text{mm}$ p.29 Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255), 8m (9256) Signal cable : Length 2m (9257), 4m (9258), 6m (9259), 8m (9260) Adjuster Bolt (7739)		

※ 8M motor cord cannot be used for BMS-4040-MQL-CHK-2M.
 ※ Collet is sold separately.

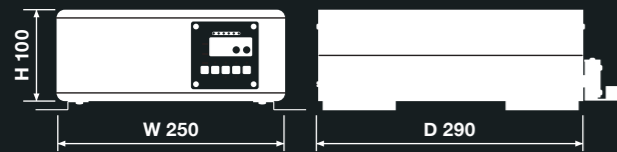


E4000 Controller / Motor cord

E4000 CONTROLLER

Controller

Code No. **8472**



External Input / Output Control Signal Operation

- External Input
Motor Rotating / Stopped, Error Released, Rotating Direction, Motor Speed Setting and etc.
 - External Monitor
Motor Current, Error, Warning, Rotating pulse and etc.
 - Parameter Setting
Maximum motor speed setting, Fix the motor speed
- ※ For more information, please refer to the operation manual on our website.



Max. power	Input Voltage	Speed Range	Power consumption	Air consumption	Weight
1,200w	AC200~240v Without plug Multiple output power	1,000~40,000min⁻¹	3.2A	100Nℓ/min (0.2~0.35MPa)	6.7kg

Standard Accessories	Power cord : 4m / Air hose with filter(K-251:2058) : 2M / Motor connector cap(provided)
	Connector cover(provided) / Bracket : 4pcs. / Rubber pad : 4pcs.

Motor cord	Code No.	Model	Length	Standard Accessories	Compatible model
Power cable with Air hose Connector Diameter : ϕ 30mm	9253	EMCD-4000-2M	2m	Air hose	BMS-4020-BMS-4040-BMS-4020RA BMS-4040RA-BMS-4020 2M BMS-4040 2M-EM-4020-EM-4040 EM-4020A-EM-4040A BMS-4020-MQL-BMS-4020-MQL-2M BMS-4040-MQL-BMS-4040-MQL-2M BMS-4020-MQL-CHK-BMS-4020-MQL-CHK-2M BMS-4040-MQL-CHK-BMS-4040-MQL-CHK-2M BMS-4040-RGD-03M-BMS-4040-RGD-2M BMS-4040RA-RGD-03M-BMS-4040RA-RGD-2M
	9254	EMCD-4000-4M	4m		
	9255	EMCD-4000-6M	6m		
	9256	EMCD-4000-8M	8m		
Signal cable Connector Diameter : ϕ 16mm	9257	EMCD-4000S-2M	2m	-	BMS-4020-BMS-4040-EM-4020-EM-4040 BMS-4020-MQL-BMS-4040-MQL BMS-4020-MQL-CHK-BMS-4040-MQL-CHK BMS-4040-RGD-03M-BMS-4040RA-RGD-03M
	9258	EMCD-4000S-4M	4m		
	9259	EMCD-4000S-6M	6m		
	9260	EMCD-4000S-8M	8m		
					BMS-4020-BMS-4040-EM-4020-EM-4040 BMS-4020-MQL-BMS-4040-MQL BMS-4020-MQL-CHK-BMS-4040-MQL-CHK BMS-4040-RGD-03M-BMS-4040RA-RGD-03M

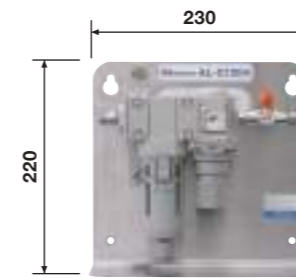
※ Power cable and Signal cable should be used as set.
※ 8M motor cord cannot be used for angle cord type / 2M type.

Operation panel extension cord	Code No.	Model	Specifications	Compatible model
	8474	E4000-PEX4	Cord length : 4m Screw (M3) : 4pcs.	E4000 Controller

Accessories (Air line kit, etc.)

AL-C1204

Air line kit



Weight:1.9kg

※ Recommendation of normal filtration rating : 0.3 μ m, Pressure range : 0.1 ~ 1.0MPa
Recommendation of air filter : M2000-WS (CKD)

Code No.	4504	Model	AL-C1204
Standard Accessories	Air filter / Air regulator / Air pressure gauge		
Compatible model	Air ON-OFF valve / Hose pipe (K-260) : 2m		

E4000-PB

Box for control panel

※ Control panel is sold separately.



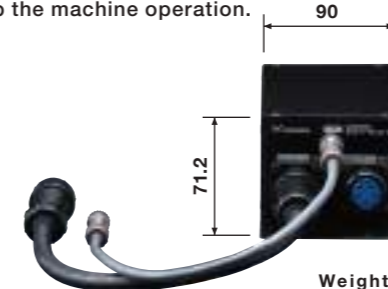
Weight:216g

Code No.	8473	Model	E4000-PB
Standard Accessories	Case / Blind plate / Screw (M3) : 6pcs. / Screw (M4) : 2pcs.		
Compatible model	E4000 Controller		

E4000-SRB

Safety relay box

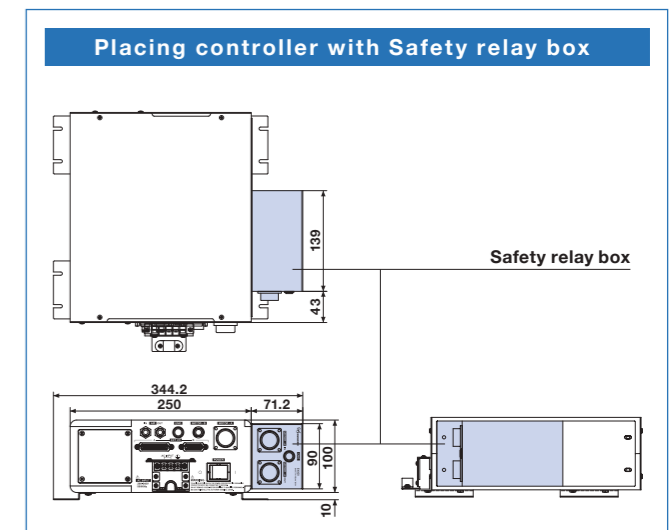
- Mounts directly on E4000 Controller
- Allows Emergency Stop Signal from the CNC to stop the E4000 Motor Spindle of the E4000 Controller to stop the machine operation.



Weight:850g

Standard Accessories	Power cord : 400mm Emergency stop cord : 400mm
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Code No.	8475	Model	E4000-SRB
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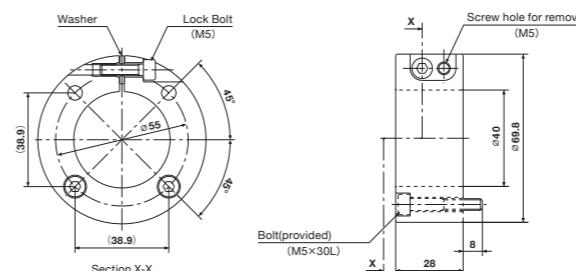


GR-40

Grip Ring

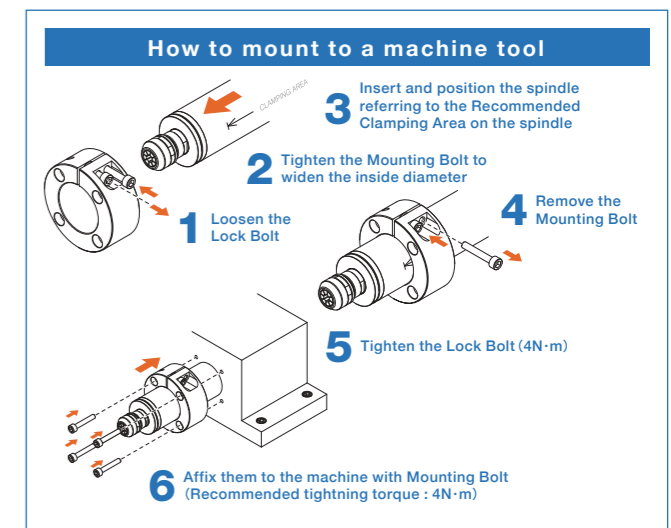


Weight:535g



Standard Accessories	Mounting Bolt (GR-40) M5 \times 30 : 4pcs.
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Code No.	1886	Model	GR-40
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Accessories (Collet, etc.)

Collet	Code No.	Model	I.D.	Compatible model		
<p>※CH16-10.0 Length 24.5 Collet CH16 Group</p>	93130	CH16-3.0	ø3.0	BMS-4020·BMS-4040 BMS-4020 2M·BMS-4040 2M BMS-4020RA·BMS-4040RA·NR-4040 QC5-16 (NR4040-AQC) QC5-16 (NR4040-AQC) BMS-4040-RGD-03M BMS-4040-RGD-2M BMS-4040RA-RGD-03M BMS-4040RA-RGD-2M		
	93193	CH16-3.175	ø3.175			
	93140	CH16-4.0	ø4.0			
	93160	CH16-6.0	ø6.0			
	93196	CH16-6.35	ø6.35			
	93180	CH16-8.0	ø8.0			
	93100	CH16-10.0	ø10			
	<p>※CH16OH-9.0, 10.0 Length 24.5 Collet CH16OH Group</p>	93330	CH16OH-3.0		ø3.0	BMS-4020-MQL BMS-4040-MQL BMS-4020-MQL-2M BMS-4040-MQL-2M
		93331	CH16OH-3.175		ø3.175	
		93340	CH16OH-4.0		ø4.0	
93350		CH16OH-5.0	ø5.0			
93360		CH16OH-6.0	ø6.0			
93363		CH16OH-6.35	ø6.35			
93370		CH16OH-7.0	ø7.0			
93380		CH16OH-8.0	ø8.0			
93390		CH16OH-9.0	ø9.0			
93400		CH16OH-10.0	ø10.0			
<p>ø1.0~ø6.35 Collet CHK Group</p>	91597	CHK-3.0AA	ø3.0AA※	QC5-K (NR4040-QC) QC5-K (NR4040-AQC) ※ High precision type AA (Run-out Accuracy within 2 μm)		
	91598	CHK-3.175AA	ø3.175AA※			
	91599	CHK-4.0AA	ø4.0AA※			
	91600	CHK-6.0AA	ø6.0AA※			
	91601	CHK-6.35AA	ø6.35AA※			
	91592	CHK-2.35	ø2.35			
	91530	CHK-3.0	ø3.0			
	91593	CHK-3.175	ø3.175			
	91540	CHK-4.0	ø4.0			
	91560	CHK-6.0	ø6.0			
<p>ø0.5~ø0.9 Collet CHK-OH Group</p>	91596	CHK-6.35	ø6.35	ø0.5, ø0.6, ø0.7, ø0.8, ø0.9 ø1.0, ø1.5, ø2.0, ø2.5, ø3.5, ø4.5, ø4.76, ø5.5 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, ø4.1, ø4.2, ø4.3, ø4.4, ø4.6, ø4.7, ø4.8, ø4.9, ø5.1, ø5.2, ø5.3, ø5.4, ø5.6, ø5.7, ø5.8, ø5.9 ø1.6, ø5.0		
	93630	CHK-OH-3.0	ø3.0			
	93631	CHK-OH-3.175	ø3.175			
	93640	CHK-OH-4.0	ø4.0			
	93650	CHK-OH-5.0	ø5.0			
	93660	CHK-OH-6.0	ø6.0			
	93663	CHK-OH-6.35	ø6.35			
	<p>23.4 ø23 Collet nut</p>	2161	CHN-16		Collet nut for CH16 Collet	BMS-4020·BMS-4040·BMS-4020 2M BMS-4040 2M·BMS-4020RA·BMS-4040RA NR-4040·QC5-16 (NR4040-QC) QC5-16 (NR4040-AQC) BMS-4020-MQL·BMS-4040-MQL BMS-4020-MQL-2M·BMS-4040-MQL-2M BMS-4040-RGD-03M·BMS-4040-RGD-2M BMS-4040RA-RGD-03M BMS-4040RA-RGD-2M
		2129	K-265		Collet nut for CHK Collet	
		<p>57.1 ø25.8 Collet holder</p>	9216		QC5-16	
9225			QC5-16-R			
9215			QC5-K	Collet holder for CHK ※With K-265		
9224			QC5-K-R			
<p>20 60 ø34.8 22 ø20 Preset adapter</p>		9218	QC5-16 ADP	Preset adapter	QC5-16	
		9217	QC5-K ADP	Preset adapter		
<p>ø2.5 1.5 1.5 20 Adjuster Bolt</p>		7739	ADJUSTER BOLT	Adjuster Bolt	BMS-4020-MQL-CHK BMS-4020-MQL-CHK-2M BMS-4040-MQL-CHK BMS-4040-MQL-CHK-2M	

Collet nut	Code No.	Model	Description	Compatible model
<p>57.1 ø25.8 Collet holder</p>	9216	QC5-16	Collet holder for CH16 ※With CHN-16	NRR4040-QC NR4040-AQC
	9225	QC5-16-R		
<p>45.4 ø18.8 Collet holder</p>	9215	QC5-K	Collet holder for CHK ※With K-265	NRR4040-QC NR4040-AQC
	9224	QC5-K-R		
<p>20 60 ø34.8 22 ø20 Preset adapter</p>	9218	QC5-16 ADP	Preset adapter	QC5-16
	9217	QC5-K ADP	Preset adapter	
<p>ø2.5 1.5 1.5 20 Adjuster Bolt</p>	7739	ADJUSTER BOLT	Adjuster Bolt	BMS-4020-MQL-CHK BMS-4020-MQL-CHK-2M BMS-4040-MQL-CHK BMS-4040-MQL-CHK-2M

NAKANISHI Solutions LINE UP



Electric Motors & Spindles

Brushless Motors & Spindles

Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

E4000 SERIES

1,000~40,000min⁻¹ Max.1,200W
[ø40mm]

- World's highest power in this class
- Max. power: 1,200W, Max. torque: 1.0N·m

E3000 SERIES

1,000~80,000min⁻¹ Max.350W
[ø30/25/20mm]

- The largest product lines for various processing
- Space-saving solution for small CNC lathe

HES SERIES

Max.80,000min⁻¹
[For small diameter endmills and drills only]

- The most cost effective solution to add high-speed machining capability
- 80,000min⁻¹, 6.0cN·m
- BT, HSK A63, ST shanks are available
- Driven by E3000 Controller

E2000 SERIES

1,000~50,000min⁻¹ Max.200W
[ø22.8/25mm]

- Small size spindle allows multi-axis installation in limited space

iSpeed3 SERIES

1,000~80,000min⁻¹ Max.150W
[ø19.05/20/22mm]

- Super short motor spindle
- High efficiency brushless motor

HES10

50,000min⁻¹, 8.75cN·m

- BT, NT, CAT, IT, HSK A, ST shanks are available
- Driven by E3000 Controller



Air Motors & Spindles

Application for CNC lathes / Special purpose machines

Air-Speed SERIES One-piece type

Max.30,000min⁻¹ Max.130W
[ø25/23/20/19.05mm]

- Short body enables the spindle to mount in a limited space on a small NC/CNC lathe or on a special purpose machine

Air-Speed SERIES Modular type

Max.30,000min⁻¹ Max.130W
[ø30/25/22.8mm]

- Separate motor and spindle for flexible application changes
- Adjustable to various application through changing spindles



Air Turbine Spindles

Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

Xpeed SERIES

Max.160,000min⁻¹
[ø65/40mm]

- Extreme accuracy Runout 1μm
- For high precision small diameter drilling, internal grinding of ceramics
- Long life of spindle thanks to contactless rotation mechanism

PLANET SERIES

Max.65,000min⁻¹

- A milling machine turns into a jig grinder
- For high precision internal grinding

HTS SERIES



150,000min⁻¹
[For small diameter endmills and drills only]

- No thermal expansion on Z axis thanks to air turbine generating little heat
- Ultra high speed 150,000min⁻¹ with higher rigidity thanks to ceramic bearings
- BT, HSK E and straight (M2040) shanks are available



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PR-K370E Ver.1 2022-02-28 03.  

※Specifications and design are subject to change without notice.

SERIES **HES**

ULTRA-HIGH-SPEED & SUPER-PRECISION

Transformer

Your machining center transforms to the high speed machining center

HES510 Max. rpm 50,000min⁻¹

HES810 Max. rpm 80,000min⁻¹

✓ Spindle accuracy within 1 μm

- Optimum for high-precision machining
- Longer tool life

✓ Ceramic Bearing

- Longer bearing life
- Higher rigidity for heavy cutting

✓ Brushless motor

- No need to replace carbon brushes to enable maintenance-free operation
- Carbon brush dust will no longer penetrate the bearing to extend the product life



[BT]



[NT]

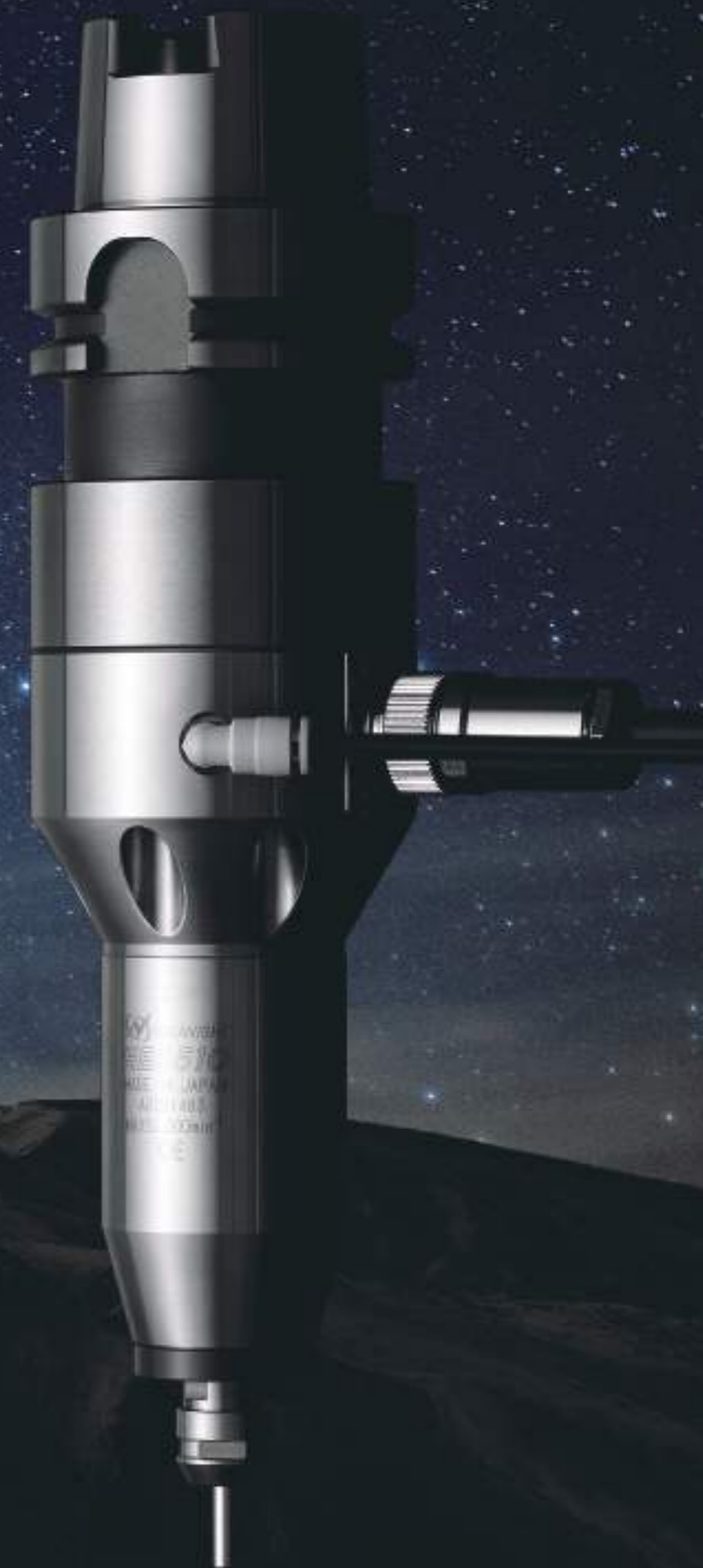


[IT]



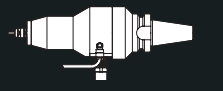





[HSK A]

A large variety of shank types are available.






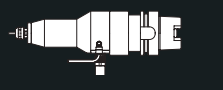


Index

80,000min⁻¹ Motor Spindle


HES810-BT30 Max.rpm 80,000min ⁻¹		p.7
HES810-BT40 Max.rpm 80,000min ⁻¹		p.7
HES810-IT40 Max.rpm 80,000min ⁻¹		p.7
HES810-BT50 Max.rpm 80,000min ⁻¹		p.9
HES810-HSK A63 Max.rpm 80,000min ⁻¹		p.9
HES810-ST32 Max.rpm 80,000min ⁻¹		p.9

50,000min⁻¹ Motor Spindle

HES510-BT30 Max.rpm 50,000min ⁻¹		p.13
HES510-BT40 / NT40 (M) Max.rpm 50,000min ⁻¹		p.13
HES510-IT40 Max.rpm 50,000min ⁻¹		p.13
HES510-BT50 / NT50 Max.rpm 50,000min ⁻¹		p.15
HES510-ST32 Max.rpm 50,000min ⁻¹		p.15
HES510-HSK A63 Max.rpm 50,000min ⁻¹		p.17

Controller

E3000 CONTROLLER
Controller p.19



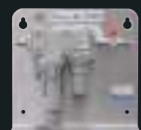
Motor cord

EMCD-810-4M / 6M / 8M p.20
Motor cord




Accessories

AL-C1204
Air line kit p.20



CHA / CHK
Collet p.21

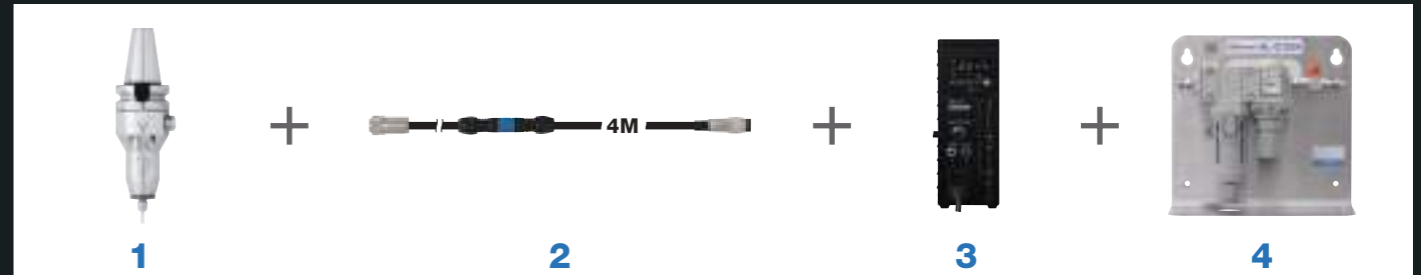


CHN-A / K-265
Collet nut p.21



Combination Example

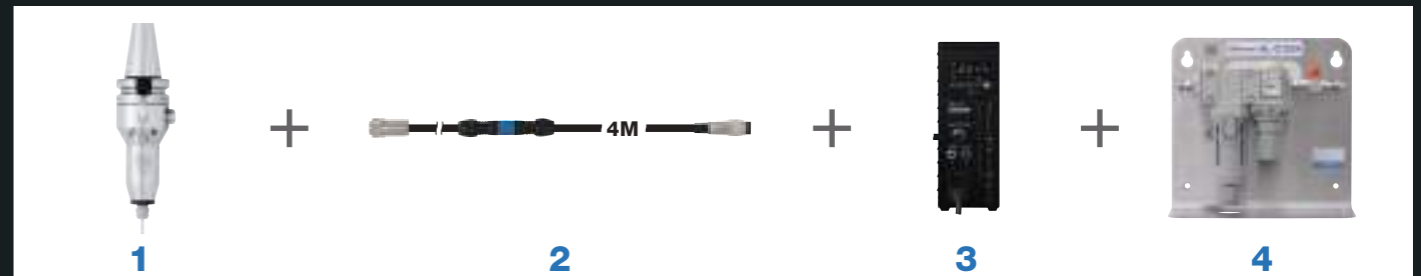
「HES810 SERIES」 HES810-BT40 + EMCD-810-4M + E3000 + AL-C1204 + CHA-4.0



「HES810-BT40」

	Code No.	Model	Description
1	7879	HES810-BT40	Motor Spindle
2	9248	EMCD-810-4M	Motor Cord 4m
3	8421	E3000	E3000 Controller
4	4504	AL-C1204	Air line kit
5	91440	CHA-4.0	Collet ø4.0mm

「HES510 SERIES」 HES510-BT40 + EMCD-810-4M + E3000 + AL-C1204 + CHK-4.0



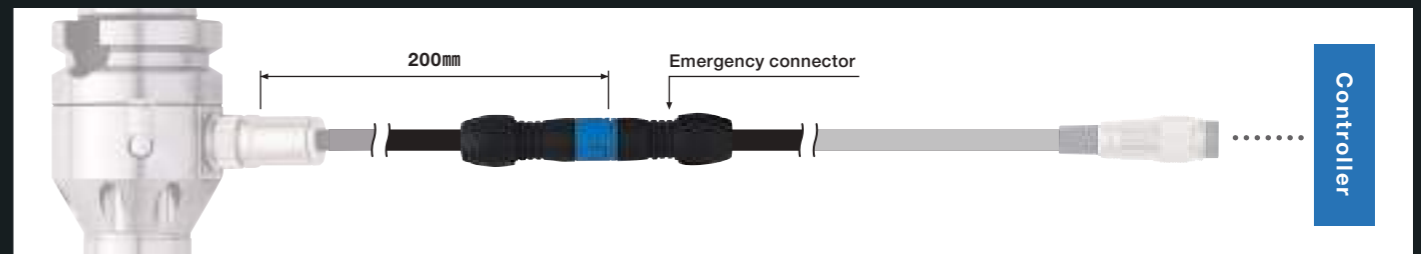
「HES510-BT40」

	Code No.	Model	Description
1	7891	HES510-BT40	Motor Spindle
2	9248	EMCD-810-4M	Motor Cord 4m
3	8421	E3000	E3000 Controller
4	4504	AL-C1204	Air line kit
5	91540	CHK-4.0	Collet ø4.0mm

Safety function

HES810 / 510 have a motor cord with the Emergency connector.

In case the machine spindle rotates by accident, the Emergency connector disconnects by itself to minimize the damage both the machine and controller.



! It is crucial to install the controller and the cable according to "OPERATION MANUAL" in order to function the Emergency connector properly.

80,000min⁻¹ Motor Spindle



HES810-BT50

p.9

HES810-HSK A63

p.9

HES810-ST32

p.9

HES810-BT30

p.7

HES810-BT40 / IT40

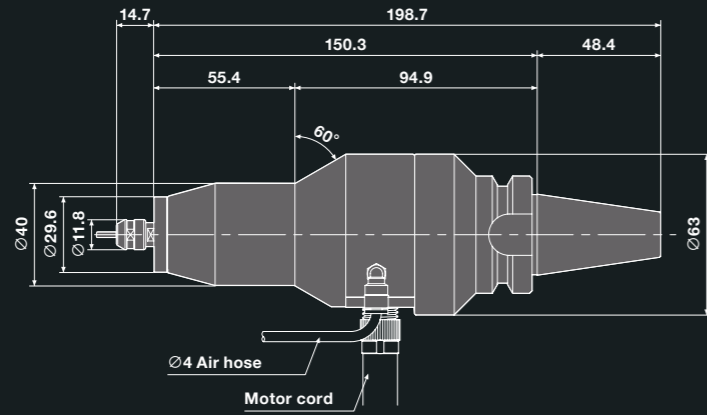
p.7



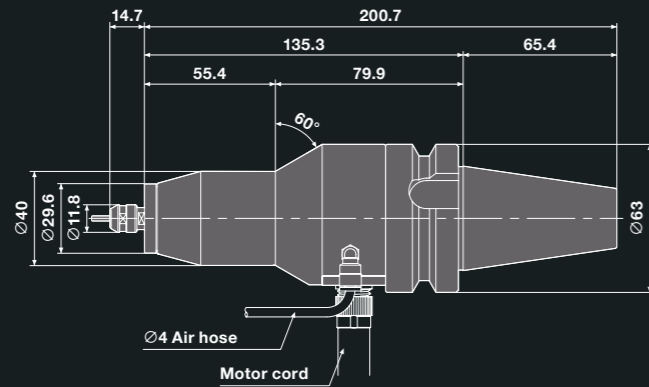
80,000min⁻¹ Motor Spindle

Order by Code No.

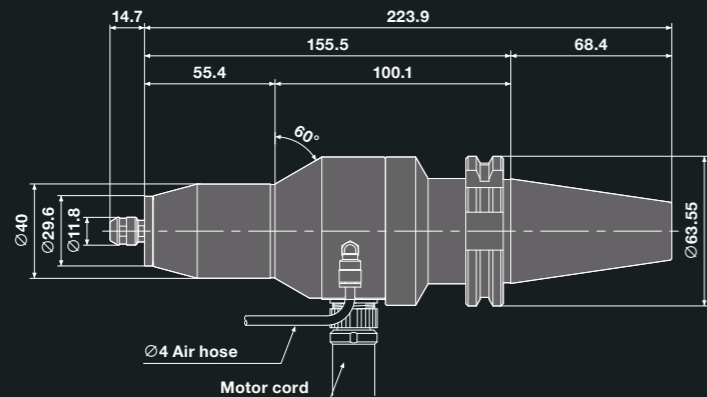
HES810-BT30



HES810-BT40



HES810-IT40



Specifications

DXF data DXF files are available on our website

HES810-BT30

Code No. **7878** Model **HES810-BT30**



Max. power	Speed Range	Spindle Accuracy	Weight
350w	20,000~80,000min⁻¹ ※Recommended motor speed : 50,000~80,000min ⁻¹	Within 1μm	2.0kg
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each		
Options	Collet (CHA Group) : ø0.5 ~ ø4.0mm p.21 Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose		

※Collet is sold separately.

HES810-BT40

Code No. **7879** Model **HES810-BT40**



Max. power	Speed Range	Spindle Accuracy	Weight
350w	20,000~80,000min⁻¹ ※Recommended motor speed : 50,000~80,000min ⁻¹	Within 1μm	2.2kg
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each		
Options	Collet (CHA Group) : ø0.5 ~ ø4.0mm p.21 Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose		

※Collet is sold separately.

HES810-IT40

Code No. **7883** Model **HES810-IT40**



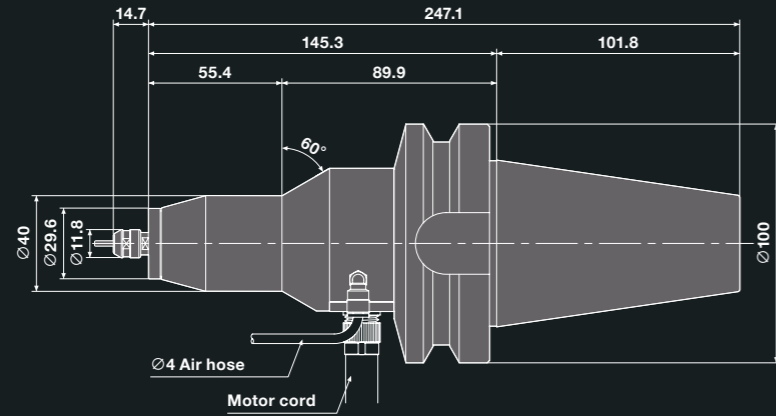
Max. power	Speed Range	Spindle Accuracy	Weight
350w	20,000~80,000min⁻¹ ※Recommended motor speed : 50,000~80,000min ⁻¹	Within 1μm	2.4kg
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each		
Options	Collet (CHA Group) : ø0.5 ~ ø4.0mm p.21 Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose		

※Collet is sold separately.

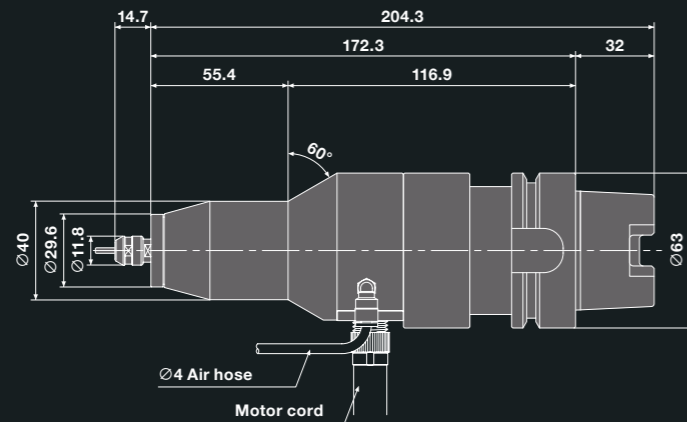
80,000min⁻¹ Motor Spindle

Order by Code No.

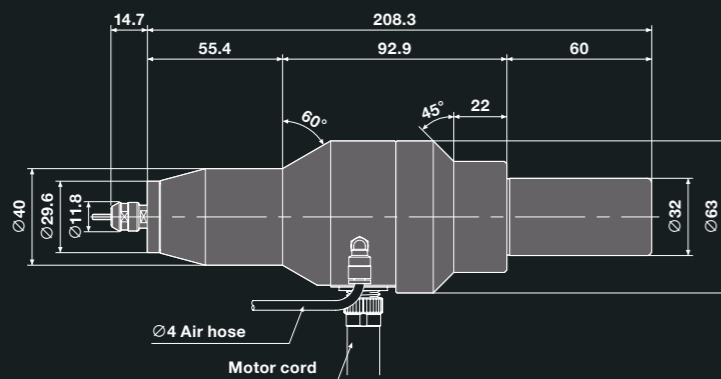
HES810-BT50



HES810-HSK A63



HES810-ST32



Specifications

DXF data DXF files are available on our website

HES810-BT50

Code No. **7880** Model **HES810-BT50**



Max. power	Speed Range	Spindle Accuracy	Weight
350w	20,000~80,000min⁻¹ ※Recommended motor speed : 50,000~80,000min ⁻¹	Within 1μm	4.9kg
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each		
Options	Collet (CHA Group) : ø0.5 ~ ø4.0mm p.21 Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose		

※Collet is sold separately.

HES810-HSK A63

Code No. **7884** Model **HES810-HSK A63**



Max. power	Speed Range	Spindle Accuracy	Weight
350w	20,000~80,000min⁻¹ ※Recommended motor speed : 50,000~80,000min ⁻¹	Within 1μm	2.6kg
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each		
Options	Collet (CHA Group) : ø0.5 ~ ø4.0mm p.21 Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose		

※Collet is sold separately.

HES810-ST32

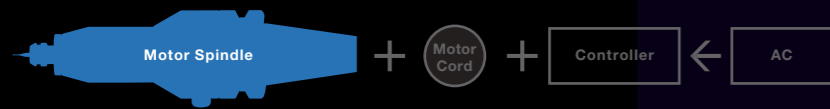
Code No. **7885** Model **HES810-ST32**



Max. power	Speed Range	Spindle Accuracy	Weight
350w	20,000~80,000min⁻¹ ※Recommended motor speed : 50,000~80,000min ⁻¹	Within 1μm	2.3kg
Standard Accessories	Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each		
Options	Collet (CHA Group) : ø0.5 ~ ø4.0mm p.21 Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose		

※Collet is sold separately.

50,000min⁻¹ Motor Spindle



Shown In Actual Size



HES510-BT30

p.13

HES510-BT40 / NT40 / IT40

p.13

HES510-BT50 / NT50

p.15



HES510-ST32

p.15

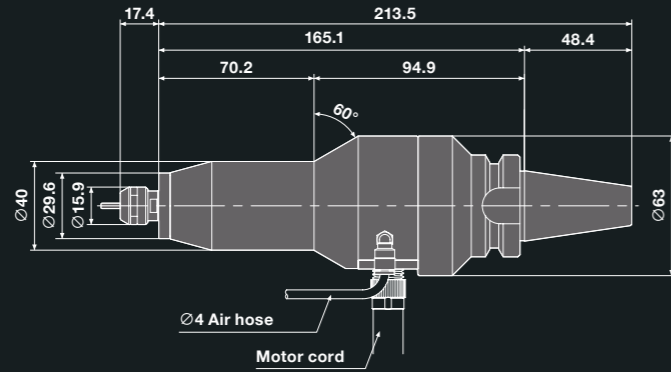
HES510-HSK A63

p.17

50,000min⁻¹ Motor Spindle

Order by Code No.

HES510-BT30



HES510-BT30

Code No. **7890** Model **HES510-BT30**



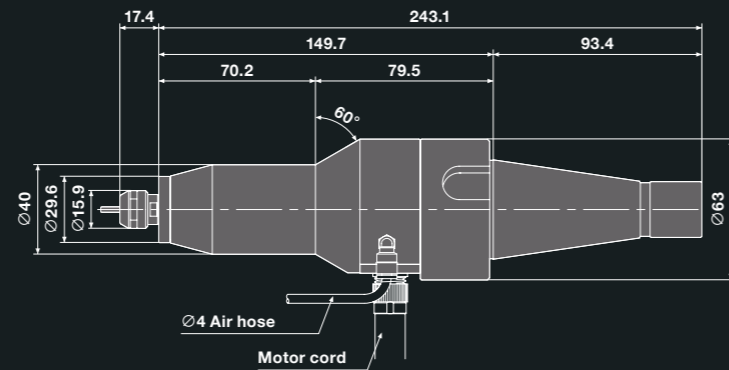
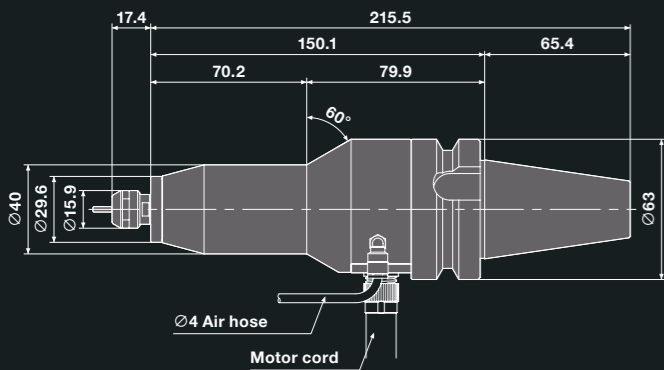
Max. power	Speed Range	Spindle Accuracy	Weight
340w	5,000~50,000min⁻¹	Within 1μm	2.2kg
Standard Accessories	Collet nut (K-265) / Wrench (12×14) : 2pcs.		
Options	Collet (CHK Group) : ø0.5 ~ ø6.35mm p.21 Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose		

※Collet is sold separately.

HES510-BT40 / NT40 (M)

[BT40]

[NT40]



HES510-BT40 / NT40 (M)

Code No. **7891** Model **HES510-BT40**

Code No. **7887** Model **HES510-NT40**

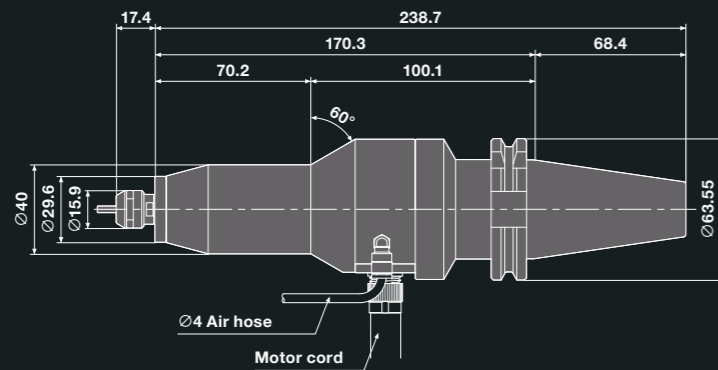
Code No. **7888** Model **HES510-NT40M**

※NT40M-Retention knob threads are metric.
※NT40 and NT40M are discontinued products and limited in stock.

Max. power	Speed Range	Spindle Accuracy	Weight
340w	5,000~50,000min⁻¹	Within 1μm	BT40 : 2.3kg NT40(M) : 2.4kg
Standard Accessories	Collet nut (K-265) / Wrench (12×14) : 2pcs.		
Options	Collet (CHK Group) : ø0.5 ~ ø6.35mm p.21 Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose		

※Collet is sold separately.

HES510-IT40



HES510-IT40

Code No. **7895** Model **HES510-IT40**



Max. power	Speed Range	Spindle Accuracy	Weight
340w	5,000~50,000min⁻¹	Within 1μm	2.6kg
Standard Accessories	Collet nut (K-265) / Wrench (12×14) : 2pcs.		
Options	Collet (CHK Group) : ø0.5 ~ ø6.35mm p.21 Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose		

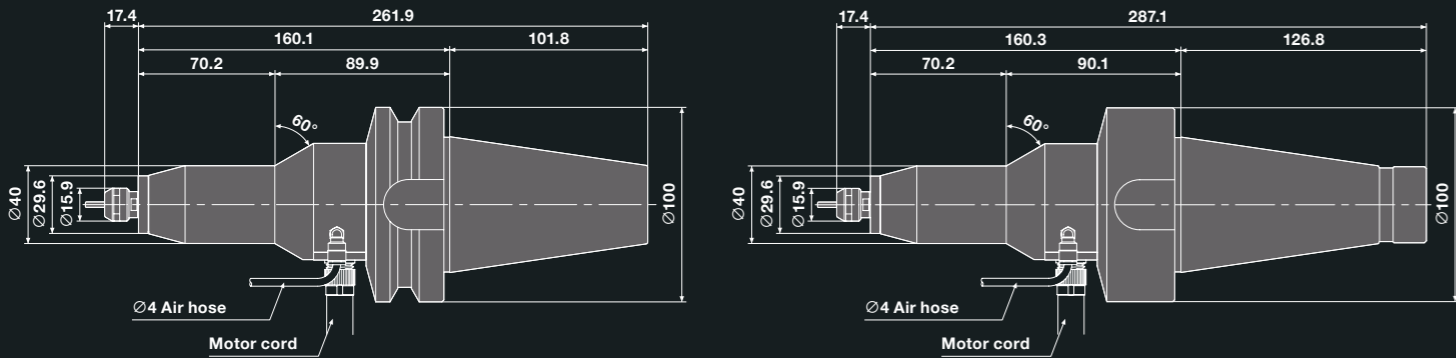
※Collet is sold separately.

50,000min⁻¹ Motor Spindle

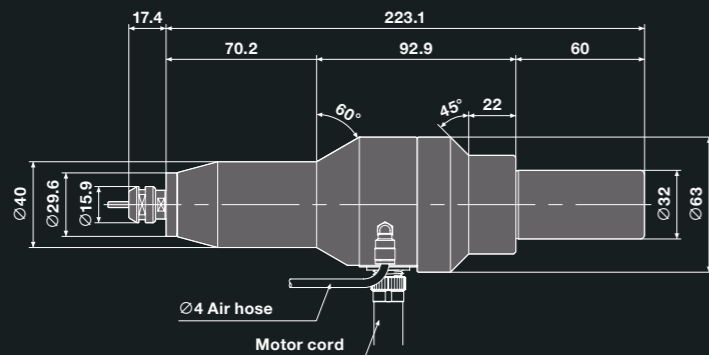
HES510-BT50 / NT50

[BT50]

[NT50]



HES510-ST32



Specifications

DXF data DXF files are available on our website

Order by Code No.

HES510-BT50 / NT50



Code No.	7892	Model	HES510-BT50
Code No.	7889	Model	HES510-NT50

※NT50 is a discontinued product and limited in stock.

Max. power	Speed Range	Spindle Accuracy	Weight
340w	5,000~50,000min⁻¹	Within 1μm	BT50 : 5.0kg NT50 : 5.4kg
Standard Accessories	Collet nut (K-265) / Wrench (12×14) : 2pcs.		
Options	Collet (CHK Group) : ϕ 0.5 ~ ϕ 6.35mm p.21 Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ϕ 4.0mm Air cooling hose		

※Collet is sold separately.

HES510-ST32



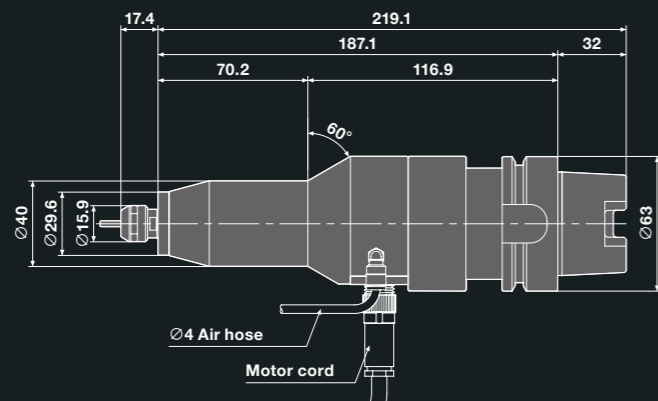
Code No.	7899	Model	HES510-ST32
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Max. power	Speed Range	Spindle Accuracy	Weight
340w	5,000~50,000min⁻¹	Within 1μm	2.4kg
Standard Accessories	Collet nut (K-265) / Wrench (12×14) : 2pcs.		
Options	Collet (CHK Group) : ϕ 0.5 ~ ϕ 6.35mm p.21 Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ϕ 4.0mm Air cooling hose		

※Collet is sold separately.

50,000min⁻¹ Motor Spindle

HES510-HSK A63



Specifications

DXF data DXF files are available on our website

Order by Code No.

HES510-HSK A63

Code No. **7897** Model **HES510-HSK A63**



Max. power	Speed Range	Spindle Accuracy	Weight
340w	5,000~50,000min⁻¹	Within 1μm	2.7kg
Standard Accessories	Collet nut (K-265) / Wrench (12×14) : 2pcs.		
Options	Collet (CHK Group) : $\varnothing 0.5 \sim \varnothing 6.35$ mm p.21 Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with $\varnothing 4.0$ mm Air cooling hose		

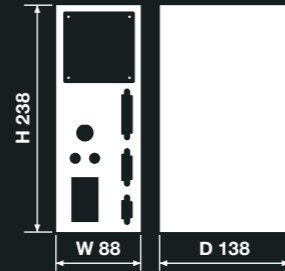
* Collet is sold separately.

E3000 Controller



E3000 CONTROLLER Controller

Code No. **8422**



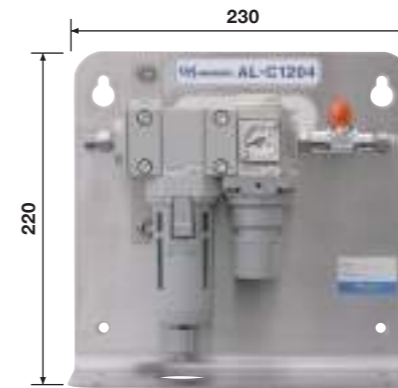
External Input / Output Control Signal Operation

- External Input
Motor ON / OFF, Error Released, Rotating Direction, Motor Speed Setting and etc.
- External Monitor
Motor Current, Error, Warning, Rotating pulse and etc.
- Parameter Setting
Maximum motor speed setting, Fix the motor speed
※For more information, please refer to the operation manual on our website.
- Equipped with safety relay break and speed point

Speed Range	
1,000~80,000min ⁻¹	
Input Voltage	
AC100~240v Without plug Multiple output power	
Max. power	Power consumption
350w	AC1.8A
Air consumption	Weight
30Nℓ/min (at 0.25~0.3MPa)	2.8kg
Standard Accessories	
Power cord : 2m / Air hose with filter (K-251 : 2058)	
Reducer / Connector cap (Included)	
Bracket / Nylon Clip / Screw / Rubber pad	
Fuse (T6.3AL) 250V : 2pcs.	

Accessories (Air line kit, Motor cord)

AL-C1204 Air line kit



1.9kg

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

Code No.	4504	Model	AL-C1204
Standard Accessories	Hose pipe (K-260) : 2m		

Motor cord

Motor cord	Code No.	Model	Length	Standard Accessories
4M	9248	EMCD-810-4M	4m	Air cooling hose : ø4mm Connector cap (Included)
6M	9249	EMCD-810-6M	6m	
8M	9250	EMCD-810-8M	8m	

Accessories (Collet, Collet nut)

Collet	Code No.	Model	I.D.	Compatible model		
<p>ø1.0 and over</p>	91494	CHA-3.0AA	ø3.0AA ※	HES810		
	91496	CHA-3.175AA	ø3.175AA ※			
	91495	CHA-4.0AA	ø4.0AA ※			
	91492	CHA-2.35	ø2.35			
	91430	CHA-3.0	ø3.0			
	91493	CHA-3.175	ø3.175			
<p>ø0.5~ø0.9</p> <p>Collet CHA Group</p>	91440	CHA-4.0	ø4.0	HES810 ※ High precision type AA (Run-out Accuracy within 2 μm)		
	—	CHA-□□	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			
	—	CHA-□□	ø1.0,ø1.5,ø2.0,ø2.5,ø3.5			
	—	CHA-□□	ø1.6			
	—	CHA-□□	ø1.6			
<p>ø1.0 and over</p>	91597	CHK-3.0AA	ø3.0AA ※	HES510		
	91598	CHK-3.175AA	ø3.175AA ※			
	91599	CHK-4.0AA	ø4.0AA ※			
	91600	CHK-6.0AA	ø6.0AA ※			
	91601	CHK-6.35AA	ø6.35AA ※			
	91592	CHK-2.35	ø2.35			
	91530	CHK-3.0	ø3.0			
	91593	CHK-3.175	ø3.175			
	91540	CHK-4.0	ø4.0			
	91560	CHK-6.0	ø6.0			
	91596	CHK-6.35	ø6.35			
	<p>ø0.5~ø0.9</p> <p>Collet CHK Group</p>	—	CHK-□□		ø0.5,ø0.6,ø0.7,ø0.8,ø0.9	HES510 ※ High precision type AA (Run-out Accuracy within 2 μm)
		—	CHK-□□		ø1.0,ø1.5,ø2.0,ø2.5,ø3.5,ø4.5,ø4.76,ø5.5	
—		CHK-□□	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 ø4.1,ø4.2,ø4.3,ø4.4,ø4.6,ø4.7,ø4.8,ø4.9 ø5.1,ø5.2,ø5.3,ø5.4,ø5.6,ø5.7,ø5.8,ø5.9			
—		CHK-□□	ø1.6,ø5.0			
—		CHK-□□	ø1.6,ø5.0			
—		CHK-□□	ø1.6,ø5.0			
Collet nut	Code No.	Model	Description	Compatible model		
		2102	CHN-A	Collet nut for CHA collet	HES810	
	2129	K-265	Collet nut for CHK collet	HES510		

NAKANISHI Solutions LINE UP

Electric Motors & Spindles

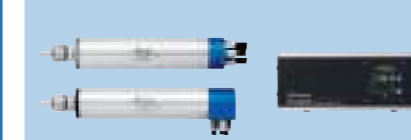


Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

E4000 SERIES

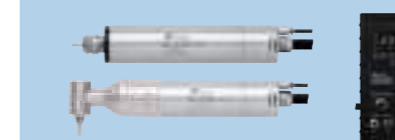
1,000~40,000min⁻¹ Max.1,200W
[ø40mm]



- World's highest power in this class
- Max. power: 1,200W, Max. torque: 1.0N·m

E3000 SERIES

1,000~80,000min⁻¹ Max.350W
[ø30/25/20mm]



- The largest product lines for various processing
- Space-saving solution for small CNC lathe

HES SERIES

Max.80,000min⁻¹
[For small diameter endmills and drills only]



- The most cost effective solution to add high-speed machining capability
- 80,000min⁻¹, 6.0cN·m
- BT, HSK A63, ST shanks are available
- Driven by E3000 Controller

E2000 SERIES

1,000~50,000min⁻¹ Max.200W
[ø22.8/25mm]



- Small size spindle allows multi-axis installation in limited space

iSpeed3 SERIES

1,000~80,000min⁻¹ Max.150W
[ø19.05/20/22mm]



- Super short motor spindle
- High efficiency brushless motor

HES510

50,000min⁻¹, 8.75cN·m



- BT, NT, CAT, IT, HSK A, ST shanks are available
- Driven by E3000 Controller

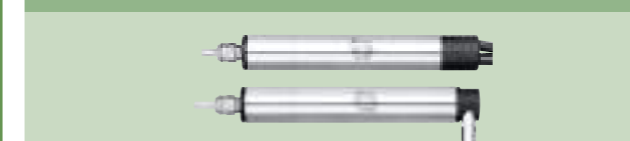
Air Motors & Spindles



Application for CNC lathes / Special purpose machines

Air-Speed SERIES One-piece type

Max.30,000min⁻¹ Max.130W
[ø25/23/20/19.05mm]



- Short body enables the spindle to mount in a limited space on a small NC/CNC lathe or on a special purpose machine

Air-Speed SERIES Modular type

Max.30,000min⁻¹ Max.130W
[ø30/25/22.8mm]



- Separate motor and spindle for flexible application changes
- Adjustable to various application through changing spindles

Air Turbine Spindles



Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

Xpeed SERIES

Max.160,000min⁻¹
[ø65/40mm]



- Extreme accuracy-Runout 1μm
- For high precision small diameter drilling, internal grinding of ceramics
- Long life of spindle thanks to contactless rotation mechanism

PLANET SERIES

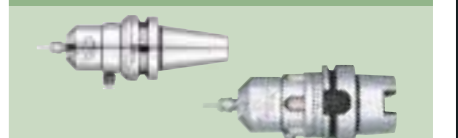
Max.65,000min⁻¹



- A milling machine turns into a jig grinder
- For high precision internal grinding

HTS SERIES

150,000min⁻¹
[For small diameter endmills and drills only]

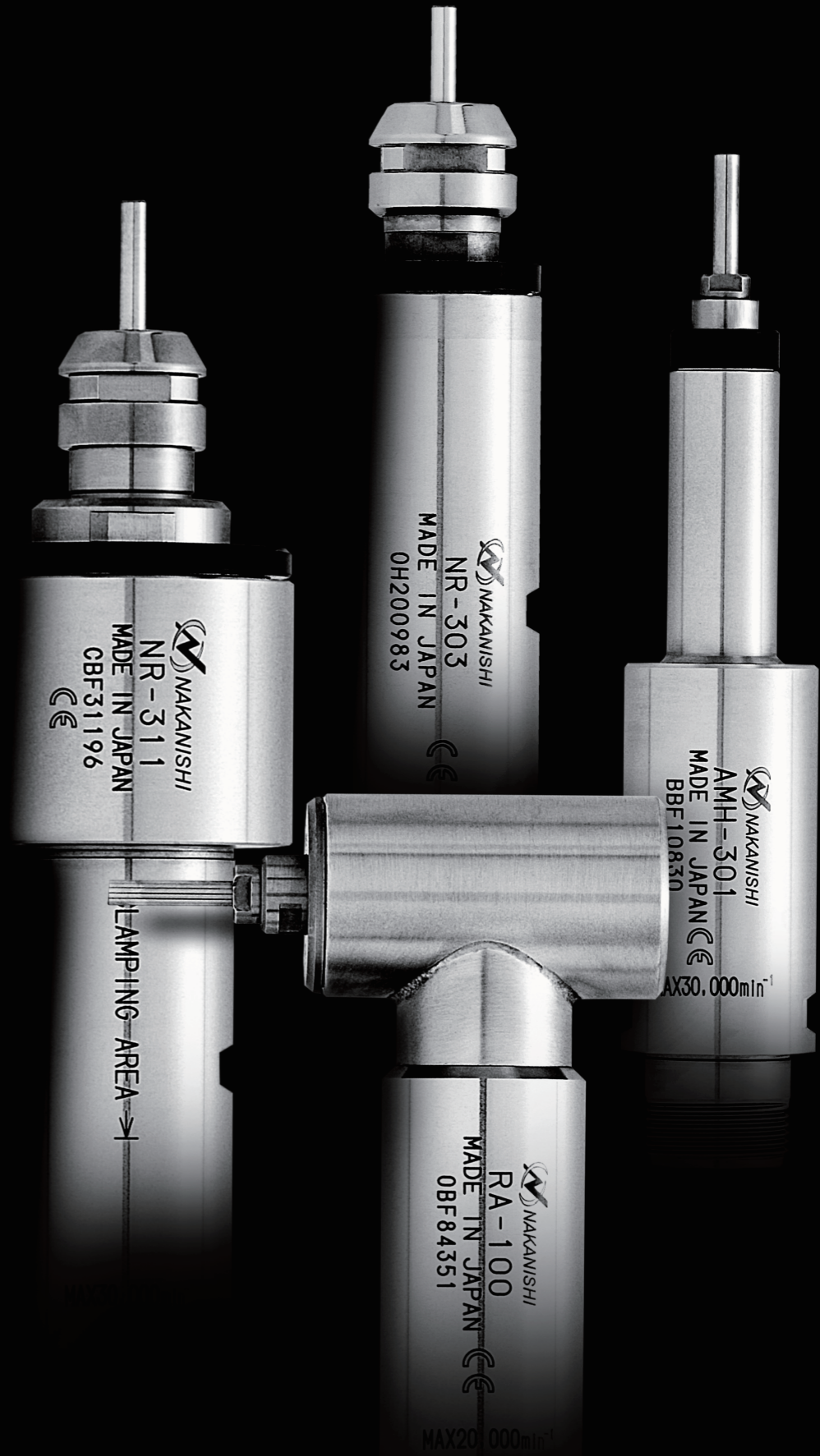


- No thermal expansion on Z axis thanks to air turbine generating little heat
- Ultra high speed 150,000min⁻¹ with higher rigidity thanks to ceramic bearings
- BT, HSK E and straight (M2040) shanks are available

E2000



E2000



NAKANISHI INC. 2022

NAKANISHI INC.

Headquarters · Factory
700 Shimohinata, Kanuma, Tochigi 322-8666, Japan
TEL: +81-289-64-3520 / FAX: +81-289-62-1135

www.nakanishi-inc.com
PR-K366E Ver.1 2022-02-24 02. 440

※Specifications and design are subject to change without notice.

SERIES **E2000**
ULTRA-HIGH-SPEED & SUPER-PRECISION

Baby-E

Smallest model in Nakanishi E series

✔ Spindle accuracy within 1 μm

- Optimum for high-precision machining
- Longer tool life

✔ Ceramic Bearing

- Higher rigidity for heavy cutting
- Longer bearing life




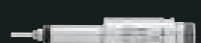
✔ Brushless motor

- No need to replace carbon brushes to enable maintenance-free operation
- Carbon brush dust will no longer penetrate the bearing to extend the product life

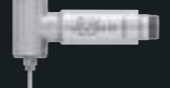




Index


Straight type spindle

NR-303		p.5
NR-2351		p.5
NR-311		p.7
AMH-301		p.7

Angle type spindle

RA-100		p.9
RA-200		p.9
RAS-101		p.11

Motor

EM-2350J		p.13
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Speed reducer

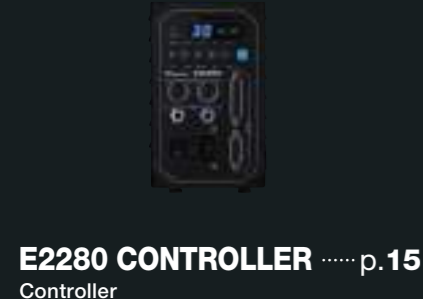
ARG-01		p.13	ARG-02		p.13
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Motor cord

EMCD-2350J	Motor cord	p.16
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Motor cord [Length] 4m, 6m, 8m

Controller

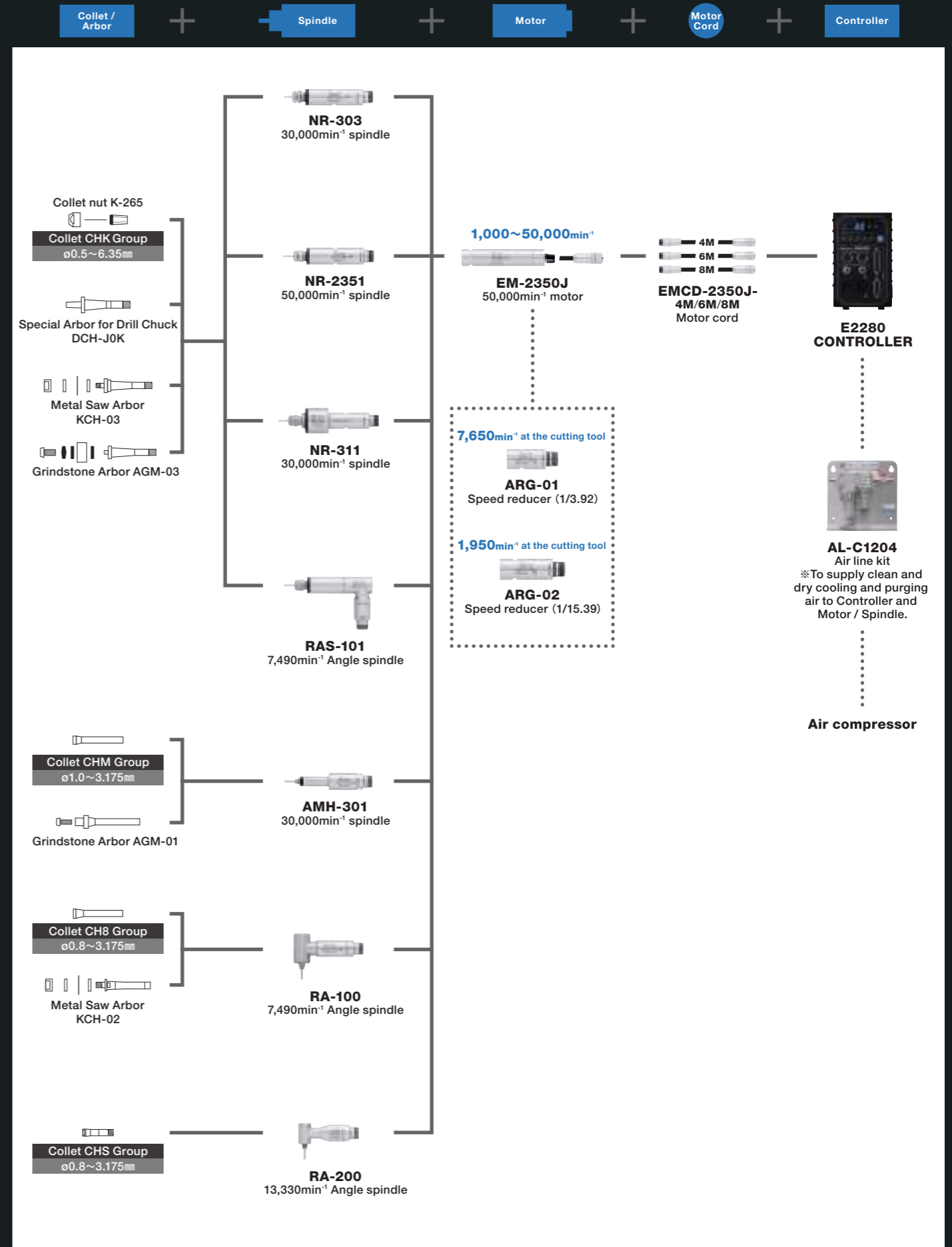


Accessories



System Chart

[E2000]



Spindle
Guide

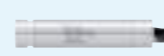
CHK



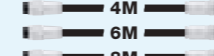
NR-303



NR-2351



EM-2350J



EMCD-2350J



E2280 CONTROLLER



AL-C1204

E2000 SERIES

Shown In Actual Size

Straight type spindle

NR-303

O.D. \varnothing 22.8mm

Specifications

DXF
dataDXF files are available
on our website

Order by Code No.

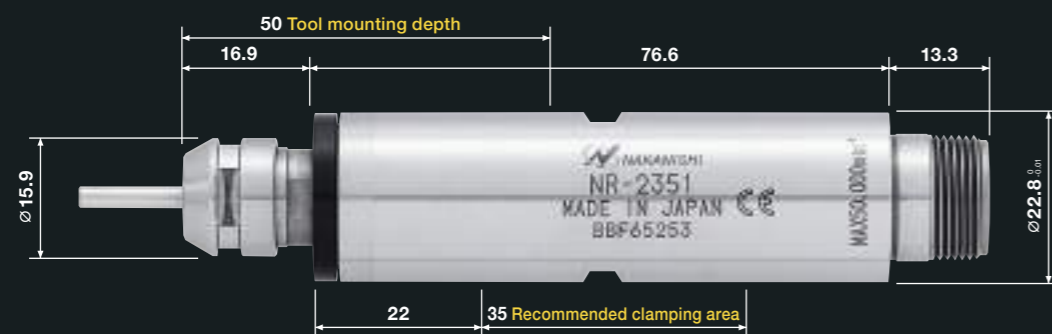
NR-303

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

O.D.	Max. rpm	Spindle Accuracy	Collet	Weight
\varnothing 22.8mm	30,000min ⁻¹	Within 2 μ m	CHK Group (\varnothing 0.5 ~ \varnothing 6.35mm)	215g
Standard Accessories		Collet nut (K-265) / Wrench (12 \times 14) : 2pcs. · (20 \times 24) : 1pc.		
Options		Collet (CHK Group) : \varnothing 0.5~ \varnothing 6.35mm p.17 Metal Saw Arbor (KCH-03) : \varnothing d (I.D.) \times under \varnothing 30mm (O.D.) Grindstone Arbor (AGM-03) : Grindstone I.D. \varnothing 5.0mm		

* Collet is sold separately.

NR-2351

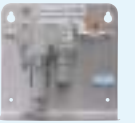
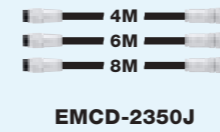
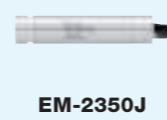
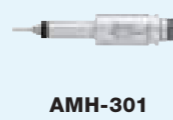
O.D. \varnothing 22.8mm

NR-2351

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

O.D.	Max. rpm	Spindle Accuracy	Collet	Weight
\varnothing 22.8mm	50,000min ⁻¹	Within 1 μ m	CHK Group (\varnothing 0.5 ~ \varnothing 6.35mm)	215g
Standard Accessories		Collet nut (K-265) / Wrench (12 \times 14) : 2pcs. · (20 \times 24) : 1pc.		
Options		Collet (CHK Group) : \varnothing 0.5~ \varnothing 6.35mm p.17 Metal Saw Arbor (KCH-03) : \varnothing d (I.D.) \times under \varnothing 30mm (O.D.) Grindstone Arbor (AGM-03) : Grindstone I.D. \varnothing 5.0mm		

* Collet is sold separately.

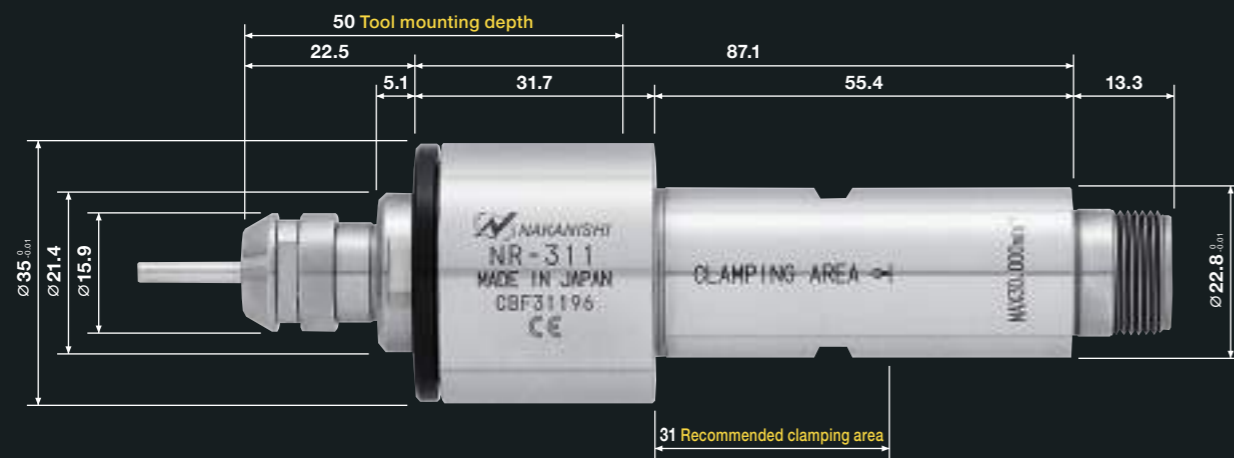
Spindle
Guide

E2000 SERIES

Shown In Actual Size

Straight type spindle

NR-311

O.D. \varnothing 22.8mm

Specifications

DXF data DXF files are available on our website

Order by Code No.

NR-311

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

O.D.	Max. rpm	Spindle Accuracy	Collet	Weight
\varnothing 22.8mm	30,000min ⁻¹	Within 2 μ m	CHK Group (\varnothing 0.5 ~ \varnothing 6.35mm)	370g
Standard Accessories		Collet nut (K-265) / Wrench (12×14) · (20×24) : 1pc. each		
Options		Collet (CHK Group) : \varnothing 0.5~ \varnothing 6.35mm p.17 Metal Saw Arbor (KCH-03) : \varnothing d (I.D.) × under \varnothing 30mm (O.D.) Grindstone Flange (NGF2-19) : \varnothing 19.05 (I.D.) × \varnothing 40 (O.D.) × 7mm (W)		

* Collet is sold separately.

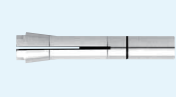
AMH-301

O.D. \varnothing 22.8mm

AMH-301

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

O.D.	Max. rpm	Collet	Weight
\varnothing 22.8mm	30,000min ⁻¹	CHM Group (\varnothing 1.0 ~ \varnothing 3.175mm)	171g
Standard Accessories		Collet : \varnothing 3.0mm (CHM-3.0) / Wrench (7×5.1) · (6×4.5) · (20×24) : 1pc. each	
Options		Collet (CHM Group) : \varnothing 1.0~ \varnothing 3.175mm p.17 Grindstone Arbor (AGM-01) : Grindstone I.D. \varnothing 5.0mm	

Spindle
Guide

CH8 / CHS



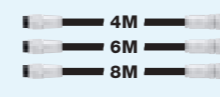
RA-100



RA-200



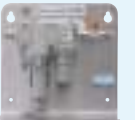
EM-2350J



EMCD-2350J



E2280 CONTROLLER



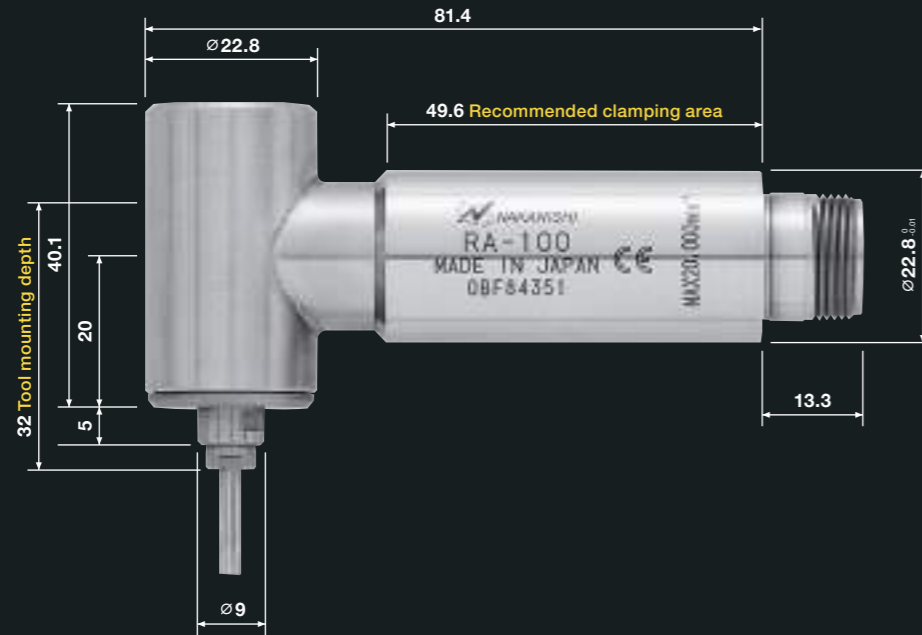
AL-C1204

E2000 SERIES

Shown In Actual Size

Angle type spindle

RA-100

O.D. \varnothing 22.8mm

Specifications

DXF
dataDXF files are available
on our website

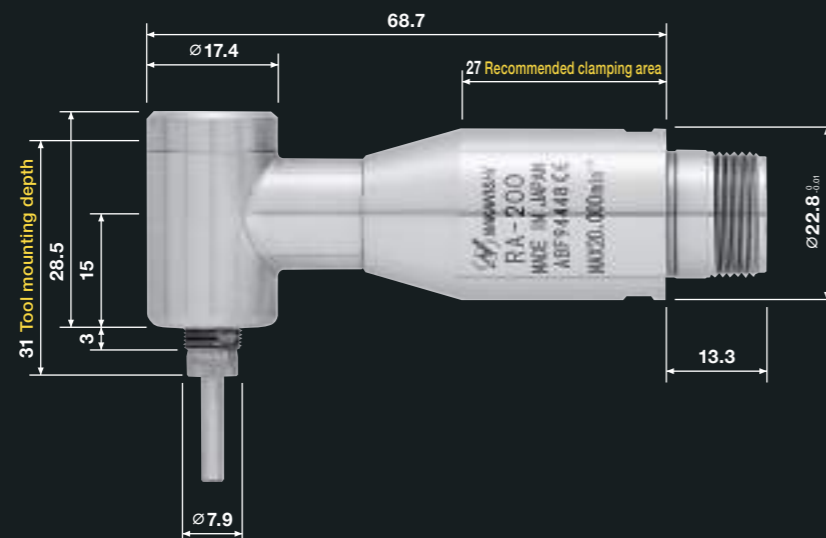
Order by Code No.

RA-100

Code No. **1024** Model **RA-100**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. Allowable Motor Speed for The Spindle	Collet	Weight
\varnothing 22.8mm	7,490 min ⁻¹	$\frac{1}{2.67}$	20,000 min ⁻¹	CH8 Group (\varnothing 0.8 ~ \varnothing 3.175mm)	271g
Standard Accessories		Collet : \varnothing 3.0mm (CH8-3.0) / Wrench (7×5.5) · (8×5) · (20×24) : 1pc. each			
Options		Collet (CH8 Group) : \varnothing 0.8~ \varnothing 3.175mm p.17 Metal Saw Arbor (KCH-02) : \varnothing d (I.D.) × under \varnothing 30mm (O.D.)			

RA-200

O.D. \varnothing 22.8mm

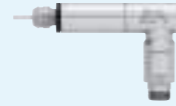
RA-200

Code No. **1075** Model **RA-200**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. Allowable Motor Speed for The Spindle	Collet	Weight
\varnothing 22.8mm	13,330 min ⁻¹	$\frac{1}{1.5}$	20,000 min ⁻¹	CHS Group (\varnothing 0.8 ~ \varnothing 3.175mm)	165g
Standard Accessories		Collet : \varnothing 3.0mm (CHS-3.0) / Wrench (7×5.1) · (8×5) · (20×24) : 1pc. each			
Options		Collet (CHS Group) : \varnothing 0.8~ \varnothing 3.175mm p.17			

Spindle
Guide

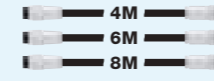
CHK



RAS-101



EM-2350J



EMCD-2350J



E2280 CONTROLLER



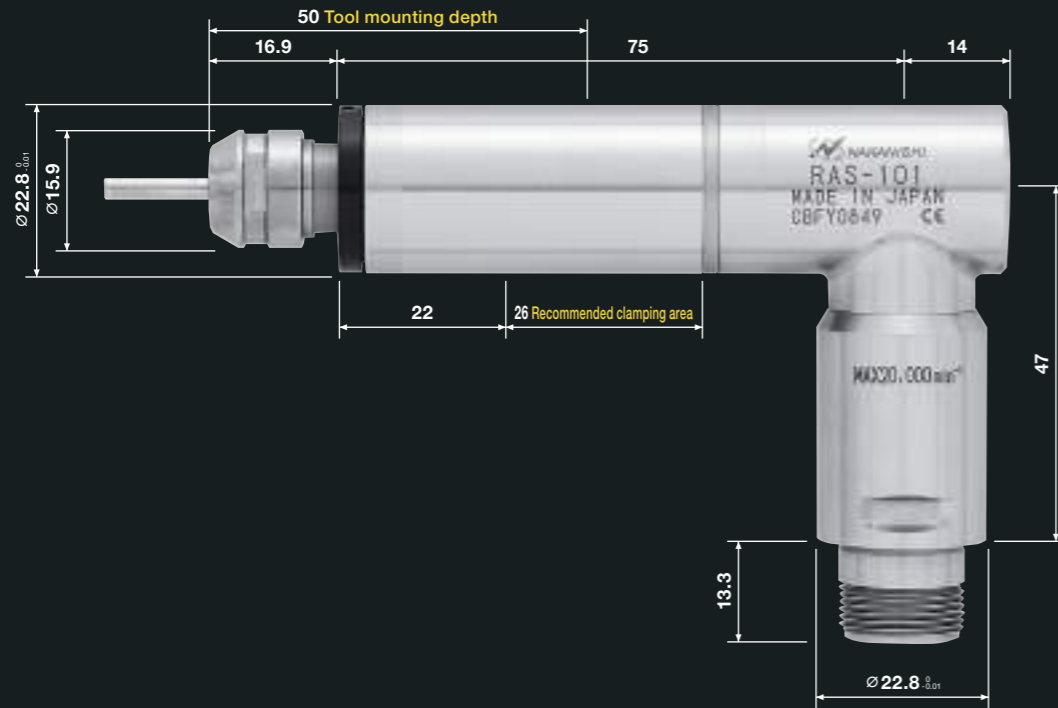
AL-C1204

E2000 SERIES

Shown In Actual Size

Angle type spindle

RAS-101

O.D. ϕ 22.8mm

Specifications

DXF data DXF files are available on our website

Order by Code No.

RAS-101

Code No. **7839** Model **RAS-101**

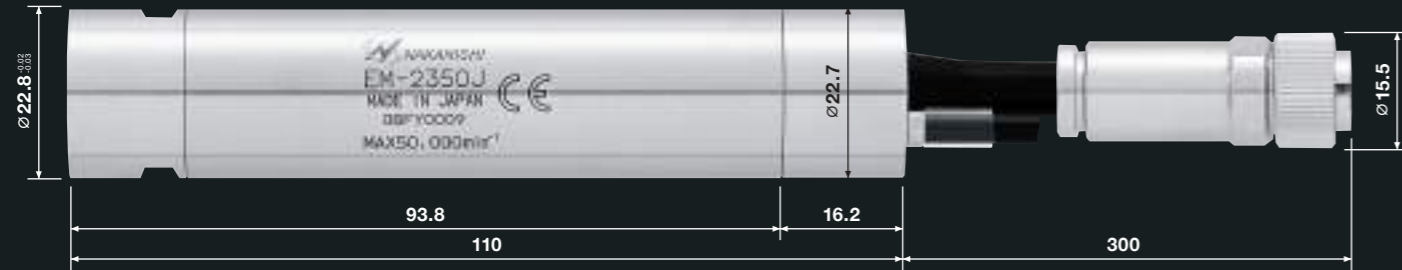
O.D.	Max. speed at the cutting tool	Reduction ratio	Max. Allowable Motor Speed for The Spindle	Spindle Accuracy	Collet	Weight
ϕ 22.8mm	7,490min ⁻¹	$\frac{1}{2.67}$	20,000min ⁻¹	Within 2 μ m	CHK Group (ϕ 0.5 ~ ϕ 6.35mm)	325g
Standard Accessories		Collet nut (K-265) / Wrench (12×14) : 2pcs. · (20×24) : 1pc.				
Options		Collet (CHK Group) : ϕ 0.5~ ϕ 6.35mm p.17 Metal Saw Arbor (KCH-03) : ϕ d (I.D.) × under ϕ 30mm (O.D.) Grindstone Arbor (AGM-03) : Grindstone I.D. ϕ 5.0mm				

* Collet is sold separately.

Motor / Speed reducer

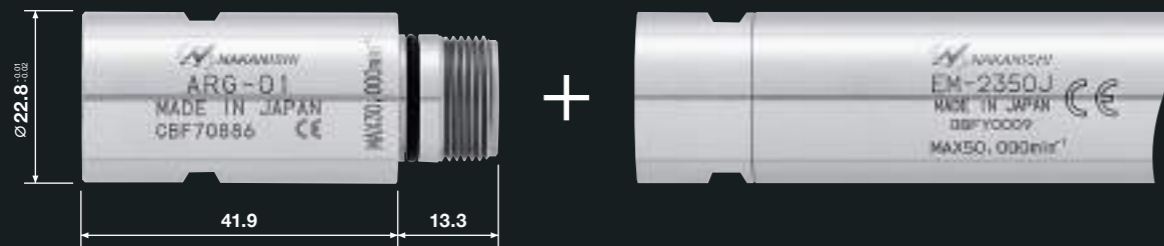
EM-2350J

Motor

O.D. \varnothing 22.8mm

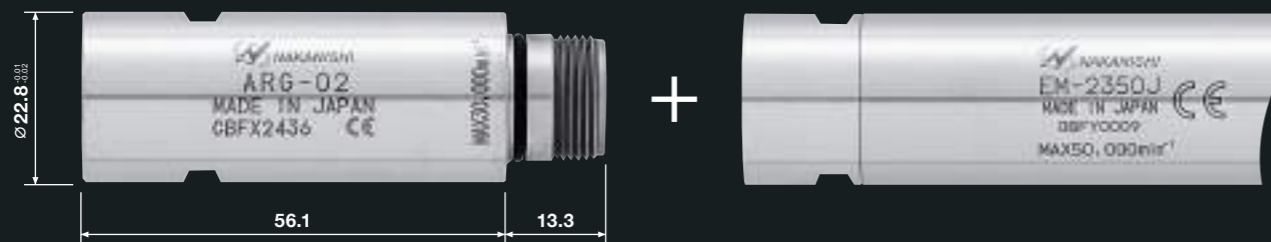
ARG-01

Speed reducer (1/3.92)

O.D. \varnothing 22.8mm

ARG-02

Speed reducer (1/15.39)

O.D. \varnothing 22.8mm

Specifications

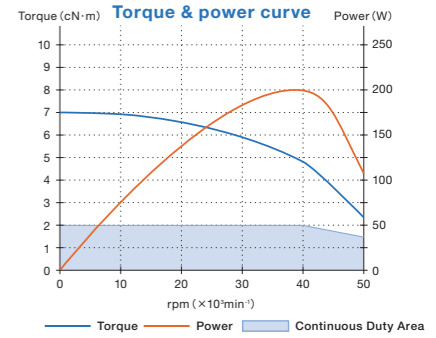
DXF data DXF files are available on our website

Order by Code No.

EM-2350J

Code No. **7721** Model **EM-2350J**

O.D.	Speed Range	Max. power	Weight
\varnothing 22.8mm	1,000~50,000min ⁻¹	200w	260g (Motor cord is included.)
Standard Accessories Wrench (20×24) : 1pc.			
Options Motor cord : Length 4m (7722), 6m (7723), 8m (7724)			



ARG-01

Code No. **1022** Model **ARG-01**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Weight
\varnothing 22.8mm	7,650min ⁻¹	$\frac{1}{3.92}$	30,000min ⁻¹	108g

ARG-02

Code No. **1023** Model **ARG-02**

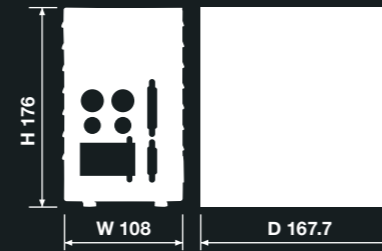
O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Weight
\varnothing 22.8mm	1,950min ⁻¹	$\frac{1}{15.39}$	30,000min ⁻¹	148g

E2280 Controller



E2280 CONTROLLER Controller

Code No. **7720**



Equipped with selector

- Up to 2 motors to control
※not simultaneously
- Providing individual speed control of each motor

External Input / Output Control Signal Operation

- External Input
Motor ON / OFF,
Error Released, Rotating Direction,
Motor Speed Setting and etc.
- External Monitor
Motor Current, Error, Warning,
Rotating pulse and etc.
- Parameter Setting
Maximum motor speed setting,
Fix the motor speed
※For more information, please refer to the
operation manual on our website.

Speed Range		Input Voltage	Max. power
1,000~50,000min ⁻¹		AC100~240v Without plug Multiple output power	200w
Power consumption	Air consumption		Weight
AC1.4A	1motor : 30Nℓ/min (0.25MPa) / 2motors : 63Nℓ/min (0.30MPa)		2.2kg
Standard Accessories			
Power cord : 3m / Air hose with filter (K-251 : 2058) : 2m / Power cord hook			
Connector cap (Included) / Connector cover (Included)			
Bracket / Air branching joint / Fuse / Mounting screw / Reducer			

Accessories (Air line kit, etc.)

AL-C1204 Air line kit



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

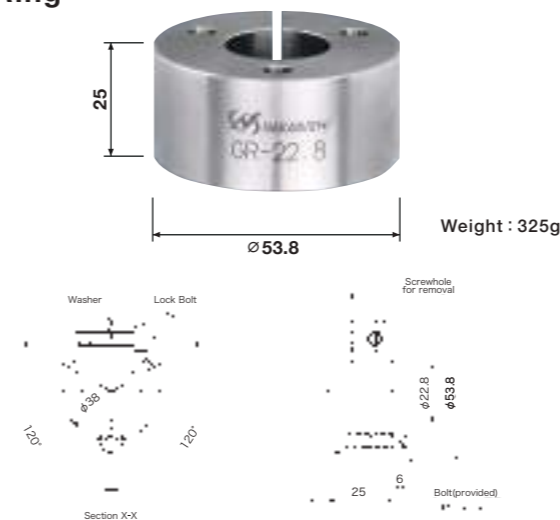
Code No.	4504	Model	AL-C1204
Standard Accessories		Hose pipe (K-260) : 2m	

Motor cord

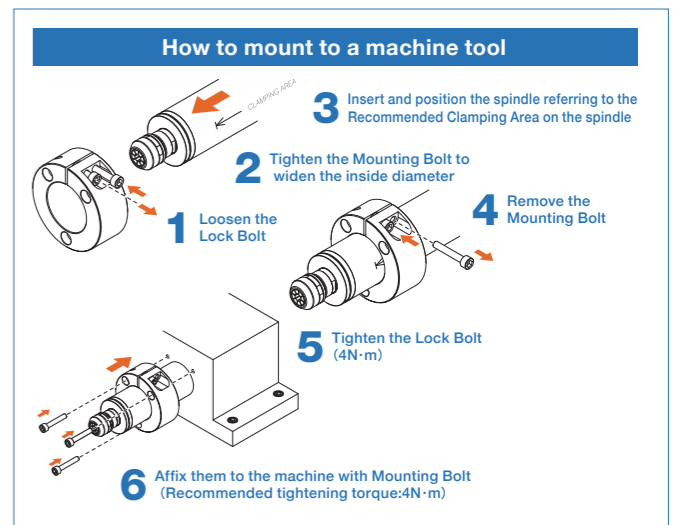
Motor cord	Code No.	Model	Length	Standard Accessories	Compatible model
4M	7722	EMCD-2350J-4M	3.7m	Air hose Connector cap (Included)	EM-2350J
6M	7723	EMCD-2350J-6M	5.7m		
8M	7724	EMCD-2350J-8M	7.7m		
Joint type					

GR-22.8 Grip Ring

Code No. **1888** Model **GR-22.8**



Standard Accessories Mounting Bolt (GR-22.8) M5 × 25 : 3pcs.



Accessories (Collet, etc.)

Collet	Code No.	Model	I.D. / Description	Compatible model		
<p>Collet CHK Group</p>	91597	CHK-3.0AA	ø3.0AA※	NR-2351 · NR-303 · NR-311 RAS-101 ※ High precision type AA (Run-out Accuracy within 2 μm)		
	91598	CHK-3.175AA	ø3.175AA※			
	91599	CHK-4.0AA	ø4.0AA※			
	91600	CHK-6.0AA	ø6.0AA※			
	91601	CHK-6.35AA	ø6.35AA※			
	91592	CHK-2.35	ø2.35			
	91530	CHK-3.0	ø3.0			
	91593	CHK-3.175	ø3.175			
	91540	CHK-4.0	ø4.0			
	91560	CHK-6.0	ø6.0			
	91596	CHK-6.35	ø6.35			
	—	CHK-□□	ø0.5, ø0.6, ø0.7, ø0.8, ø0.9 ø1.0, ø1.5, ø2.0, ø2.5, ø3.5, ø4.5, ø4.76, ø5.5 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 ø4.1, ø4.2, ø4.3, ø4.4, ø4.6, ø4.7, ø4.8, ø4.9 ø5.1, ø5.2, ø5.3, ø5.4, ø5.6, ø5.7, ø5.8, ø5.9 ø1.6, ø5.0			
	<p>Collet CHM Group</p>	90992	CHM-2.35		ø2.35	AMH-301
		90930	CHM-3.0		ø3.0	
90993		CHM-3.175	ø3.175			
90916		CHM-1.6	ø1.6			
—	CHM-□□	ø1.0, ø2.0				
<p>Collet CHS Group</p>	90592	CHS-2.35	ø2.35	RA-200		
	90530	CHS-3.0	ø3.0			
	90593	CHS-3.175	ø3.175			
	90516	CHS-1.6	ø1.6			
—	CHS-□□	ø0.8, ø0.9 ø1.0, ø2.0, ø2.5 ø1.1, ø1.2, ø1.3, ø1.4, ø1.5, ø1.7, ø1.8, ø1.9 ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9				
<p>Collet CH8 Group</p>	91092	CH8-2.35	ø2.35	RA-100		
	91030	CH8-3.0	ø3.0			
	91093	CH8-3.175	ø3.175			
—	CH8-□□	ø0.8, ø0.9 ø1.0, ø1.5, ø2.0, ø2.5 ø1.1, ø1.2, ø1.3, ø1.4, ø1.6, ø1.7, ø1.8, ø1.9 ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9				
	2129	K-265	Collet nut for CHK collet	NR-2351 · NR-303 · NR-311 RAS-101		

Metal Saw Arbor · Grindstone Arbor	Code No.	Model	I.D. / Description / Specifications	Compatible model
	2132	DCH-J0K	Special Arbor for Drill Chuck For drill chuck Jacob's taper No.0 Run-out Accuracy : within 0.05mm	NR-2351 · NR-303 · NR-311 RAS-101
	2146	KCH-02 (5.0)	ø5.0 (I.D.)	RA-100
	1077	KCH-02 (6.0)	ø6.0 (I.D.)	
	2147	KCH-02 (8.0)	ø8.0 (I.D.)	
	2148	KCH-03 (5.0)	ø5.0 (I.D.)	
	2130	KCH-03 (6.0)	ø6.0 (I.D.)	NR-2351 · NR-303 · NR-311 RAS-101
	2149	KCH-03 (8.0)	ø8.0 (I.D.)	
	1029	AGM-01	Grindstone Arbor Run-out Accuracy : within 0.02mm Grindstone I.D. ø5.0mm	AMH-301
	2131	AGM-03	Grindstone Arbor Run-out Accuracy : within 0.02mm Grindstone I.D. ø5.0mm	NR-2351 · NR-303 · RAS-101

※ For right hand (cw) rotation only.

NAKANISHI Solutions LINE UP

Electric Motors & Spindles



Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

E4000 SERIES

1,000~40,000min⁻¹ Max.1,200W
[ø40mm]



- World's highest power in this class
- Max. power: 1,200W, Max. torque: 1.0N·m

E3000 SERIES

1,000~80,000min⁻¹ Max.350W
[ø30/25/20mm]



- The largest product lines for various processing
- Space-saving solution for small CNC lathe

HES SERIES

Max.80,000min⁻¹
[For small diameter endmills and drills only]



- The most cost effective solution to add high-speed machining capability
- 80,000min⁻¹, 6.0cN·m
- BT, HSK A63, ST shanks are available
- Driven by E3000 Controller

E2000 SERIES

1,000~50,000min⁻¹ Max.200W
[ø22.8/25mm]



- Small size spindle allows multi-axis installation in limited space

iSpeed3 SERIES

1,000~80,000min⁻¹ Max.150W
[ø19.05/20/22mm]



- Super short motor spindle
- High efficiency brushless motor



- 50,000min⁻¹, 8.75cN·m
- BT, NT, CAT, IT, HSK A, ST shanks are available
- Driven by E3000 Controller

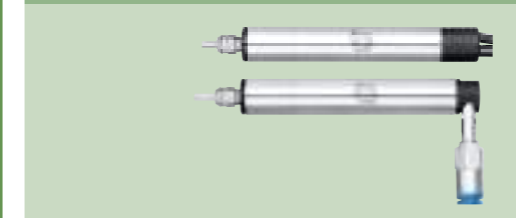
Air Motors & Spindles



Application for CNC lathes / Special purpose machines

Air-Speed SERIES One-piece type

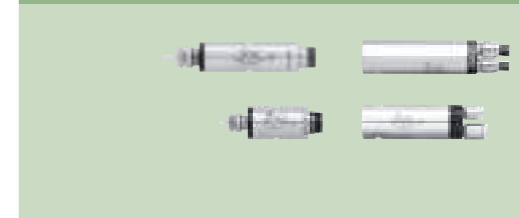
Max.30,000min⁻¹ Max.130W
[ø25/23/20/19.05mm]



- Short body enables the spindle to mount in a limited space on a small NC/CNC lathe or on a special purpose machine

Air-Speed SERIES Modular type

Max.30,000min⁻¹ Max.130W
[ø30/25/22.8mm]



- Separate motor and spindle for flexible application changes
- Adjustable to various application through changing spindles

Air Turbine Spindles

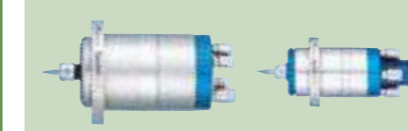


Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

Xpeed SERIES

Max.160,000min⁻¹
[ø65/40mm]



- Extreme accuracy-Runout 1μm
- For high precision small diameter drilling, internal grinding of ceramics
- Long life of spindle thanks to contactless rotation mechanism

PLANET SERIES

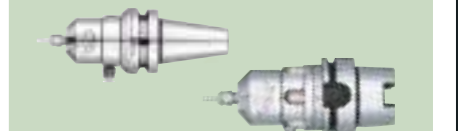
Max.65,000min⁻¹



- A milling machine turns into a jig grinder
- For high precision internal grinding

HTS SERIES

150,000min⁻¹
[For small diameter endmills and drills only]



- No thermal expansion on Z axis thanks to air turbine generating little heat
- Ultra high speed 150,000min⁻¹ with higher rigidity thanks to ceramic bearings
- BT, HSK E and straight (M2040) shanks are available

AirSpeed Air Motor Spindles



AirSpeed

NAKANISHI INC. 2022



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PR-K372E Ver.1 2022-03-02 015. 870

※Specifications and design are subject to change without notice.

One Piece Type Spindle

- 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.



Outside Diameter **ø25, ø23, ø20, ø19.05mm**

Max. **30,000min⁻¹**

Max. Power **130W**



Separate Type Spindle

- Free to connect the spindle to the motor for applications.
- Easy to exchange for repairs.



Outside Diameter **ø30, ø25, ø22.8mm**

Max. **30,000min⁻¹**

Max. Power **130W**



One Piece Type $\phi 25, \phi 23, \phi 20, \phi 19.05\text{mm}$

Collet nut K-265

Collet CHK Group
 $\phi 0.5 - \phi 6.35\text{mm}$

Metal Saw Arbor KCH-03

Grindstone Arbor AGM-03

24,000 / 6,000 / 1,500min ⁻¹	Air Motor Spindle MSS-25 Series Straight type
22,000 / 5,500 / 1,400min ⁻¹	Air Motor Spindle MSS-25 Series Angle type
30,000 / 7,700 / 2,000min ⁻¹	Air Motor Spindle MSST-23 Series Straight type
27,000 / 7,200 / 1,900min ⁻¹	Air Motor Spindle MSST-23 Series Angle type
30,000 / 8,000 / 2,000min ⁻¹	Air Motor Spindle MSS-20 Series Straight type
30,000 / 8,000 / 2,000min ⁻¹	Air Motor Spindle MSS-20 Series Angle type
30,000 / 8,000 / 2,000min ⁻¹	Air Motor Spindle MSS-19 Series Straight type
30,000 / 8,000 / 2,000min ⁻¹	Air Motor Spindle MSS-19 Series Angle type

● Air Motor

Compressor

Air line kit
AL-M1202 / AL-M1203BS2

Collet nut CHN-A

Collet CHA Group
 $\phi 0.5 - \phi 4.0\text{mm}$

※ Please refer to the concerned product introduction page about the details.

▼ AIR MOTOR SPINDLE (One Piece Type)

Straight Spindle



Outside Diameter $\phi 25, \phi 23, \phi 20, \phi 19.05\text{mm}$

Max. 30,000min⁻¹

Max. Power 130W

Model Code Example

[1] SERIES CODE	MSS	[2] OUTSIDE DIAMETER	19	[3] SPEED	08	[4] R=FORWARD (Right)	R
[5] CODE FOR 90° ANGLE TYPE						[5] CODE FOR 90° ANGLE TYPE	A

Spindle Accuracy :
Within 2 μm



● **Outer Housing Material**

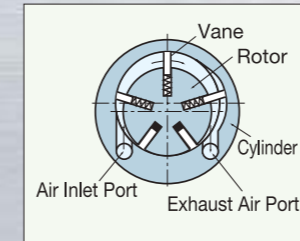
Made from stainless steel (SUS416)

● **Configuration**

2 Types available, Straight type & 90° Angle type.

● **Highest output power in the class**

● **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.

● **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.



1/4 1/16 :
Planetary Gear System

Air line kit
AL-M1202

OPTION → Refer to P.29



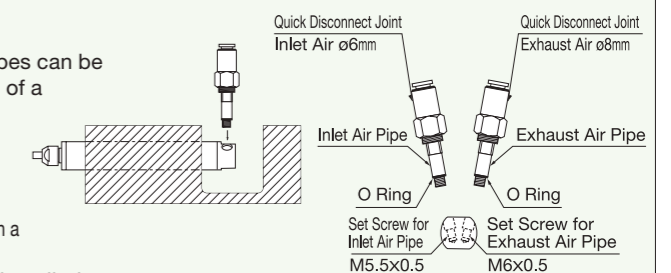
● **Installation of the 90° Angle Type**

● 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 Inlet and Exhaust Air Pipes from motor spindle.
- [2] Insert the straight spindle from the front side of holder and fix it.
- [3] Mount the inlet and exhaust air pipes to the spindle fixed on the holder and attach a hose to the quick disconnect joint.

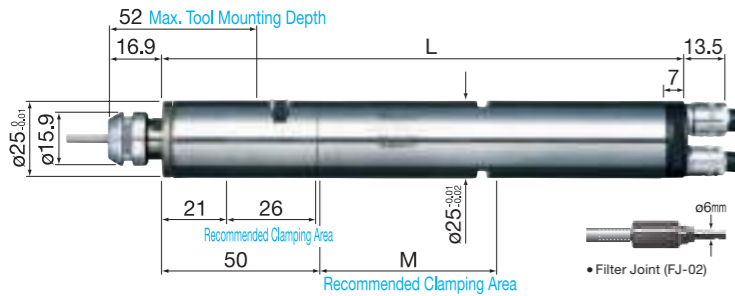
● Urethane hose of 6 x 4 for inlet air and 8 x 5 for exhaust air can be installed.



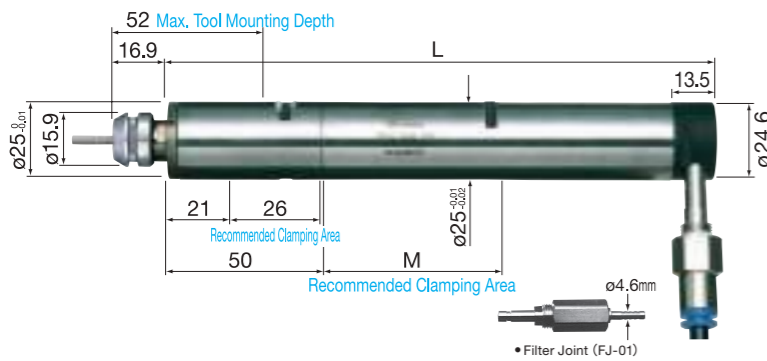
※ The motor speed of the 90° Angle type is 10% less than that of the straight type.

Air Motor Spindle		O.D.	Collet	Spindle Accuracy	Max. Power	Air Consumption
MSS-25 Series		ø25mm	ø0.5~ø6.35mm (CHK Group)	Within 2 µm	130W	205Nℓ/min (R) 170Nℓ/min (RA)

▼ MSS-25 Series STRAIGHT TYPE (R)



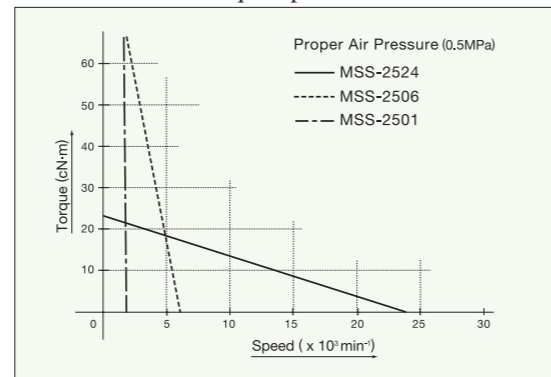
▼ MSS-25 Series 90° ANGLE TYPE (RA)



< Specifications >

Motor Hose (Diameter / Length)	
R-Type	Air Inlet : ø6.7mm (O.D.) x 2m Exhaust Air : ø7.5mm (O.D.) x 1m
RA-Type	Air Inlet : ø6.0mm (O.D.) x 2m Exhaust Air : ø8.0mm (O.D.) x 1m

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

Code No.	Model	Shape	Max. Torque	Weight	L	M	DXF-data
7841	MSS-2524R	Straight	22.5cN·m	395g	131.3mm	25mm	MSS-2524R DXF-data
7842	MSS-2524RA	90° Angle		436g	137.8mm		MSS-2524RA DXF-data

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

Code No.	Model	Shape	Max. Torque	Weight	L	M	DXF-data
7843	MSS-2506R	Straight	85cN·m	485g	164.1mm	58mm	MSS-2506R DXF-data
7844	MSS-2506RA	90° Angle		526g	170.6mm		MSS-2506RA DXF-data

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

Code No.	Model	Shape	Max. Torque	Weight	L	M	DXF-data
7845	MSS-2501R	Straight	332cN·m	475g	168.5mm	62mm	MSS-2501R DXF-data
7846	MSS-2501RA	90° Angle		516g	175.0mm		MSS-2501RA DXF-data

< Standard Accessories >

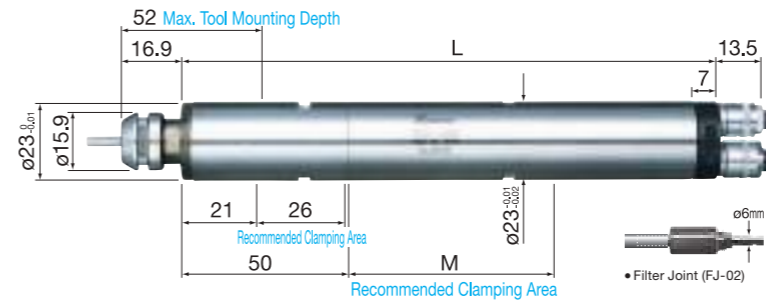
- Collet Nut (K-265) • Wrench (12 x 14) : 2pcs.
- Hose (K-204) (R-type) : 1pc.
- Hose (K-215) (RA-type) : 1pc.
- Hose (K-256) (RA-type) : 1pc.
- Filter Joint (FJ-02) (R-type) • Filter Joint (FJ-01) (RA-type)
- Silencer (K-208)

< Options >

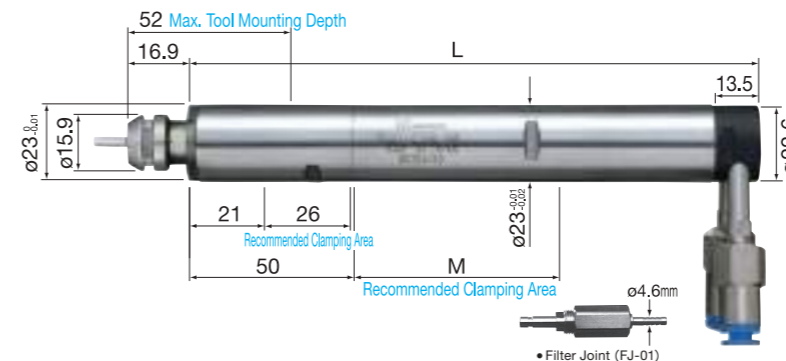
- Collet (CHK Group) : ø0.5~ø6.35mm See Page 30 for details
- Metal Saw Arbor (KCH-03) : ød (I.D.) x under ø30mm (O.D.)
- Grindstone Arbor (AGM-03) : Grindstone I.D. ø5.0mm
- ※ Refer to Page p.4 for mounting instructions for the 90° Angle Type.
- ※ Outside diameter ø25.4 mm type are also available.
- ※ Collet is sold separately.

Air Motor Spindle		O.D.	Collet	Spindle Accuracy	Max. Power	Air Consumption
MSST-23 Series		ø23mm	ø0.5~ø6.35mm (CHK Group)	Within 2 µm	108W	190Nℓ/min (R) 170Nℓ/min (RA)

▼ MSST-23 Series STRAIGHT TYPE (R)



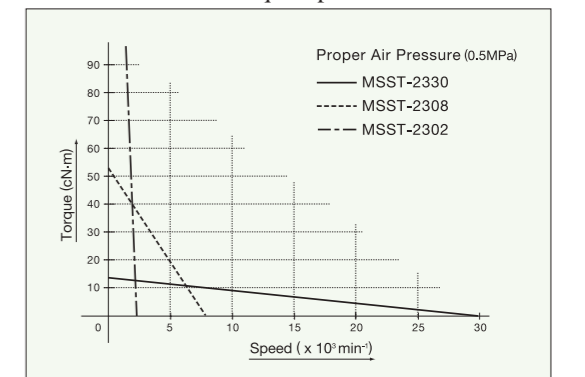
▼ MSST-23 Series 90° ANGLE TYPE (RA)



< Specifications >

Proper Air Pressure	
: 0.3~0.5MPa	
Motor Hose (Diameter / Length)	
R-Type	Air Inlet : ø6.7mm (O.D.) x 2m Exhaust Air : ø7.5mm (O.D.) x 1m
RA-Type	Air Inlet : ø6.0mm (O.D.) x 2m Exhaust Air : ø8.0mm (O.D.) x 1m

● 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 30,000min⁻¹ (0.5MPa) / RA 27,000min⁻¹ (0.5MPa)

Code No.	Model	Shape	Max. Torque	Weight	L	M	DXF-data
7833	MSST-2330R	Straight	13.7cN·m	328g	127.3mm	25mm	MSST-2330R DXF-data
7834	MSST-2330RA	90° Angle		369g	133.8mm		MSST-2330RA DXF-data

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

Code No.	Model	Shape	Max. Torque	Weight	L	M	DXF-data
7835	MSST-2308R	Straight	52cN·m	415g	160.1mm	58mm	MSST-2308R DXF-data
7836	MSST-2308RA	90° Angle		456g	166.6mm		MSST-2308RA DXF-data

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

Code No.	Model	Shape	Max. Torque	Weight	L	M	DXF-data
7837	MSST-2302R	Straight	202cN·m	405g	164.4mm	62mm	MSST-2302R DXF-data
7838	MSST-2302RA	90° Angle		446g	170.9mm		MSST-2302RA DXF-data

< Standard Accessories >

- Collet Nut (K-265) • Wrench (12 x 14) : 2pcs.
- Hose (K-204) (R-type) : 1pc.
- Hose (K-215) (RA-type) : 1pc.
- Hose (K-216) (RA-type) : 1pc.
- Filter Joint (FJ-02) (R-type) • Filter Joint (FJ-01) (RA-type)
- Silencer (K-208)

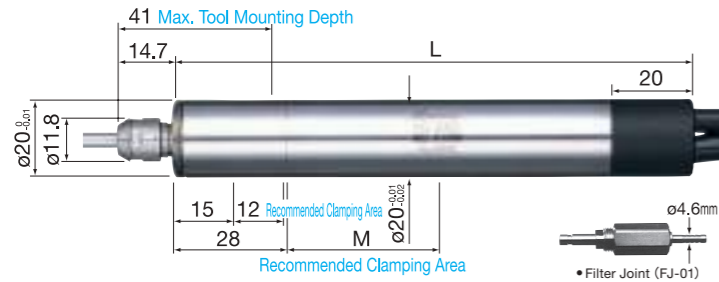
< Options >

- Collet (CHK Group) : ø0.5~ø6.35mm See Page 30 for details
- Metal Saw Arbor (KCH-03) : ød (I.D.) x under ø30mm (O.D.)
- Grindstone Arbor (AGM-03) : Grindstone ø5.0mm
- ※ Refer to Page p.4 for mounting instructions for the 90° Angle Type.
- ※ Collet is sold separately.

Air Motor Spindle
MSS-20 Series

	O.D.	Collet	Spindle Accuracy	Max. Power	Air Consumption
	ø20mm	ø0.5~ø4.0mm (CHA Group)	Within 2 µm	72W	155Nℓ/min (R · RA)

▼ MSS-20 Series STRAIGHT TYPE (R)



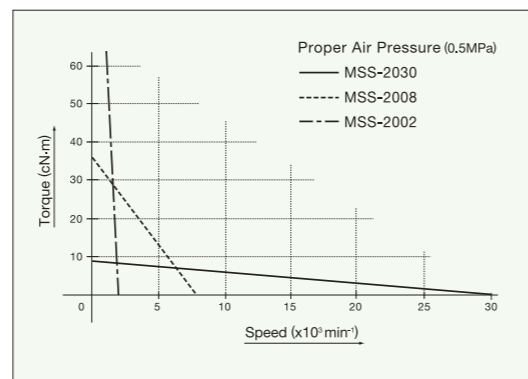
< Specifications >

Proper Air Pressure : 0.3~0.5MPa

Motor Hose (Diameter / Length)

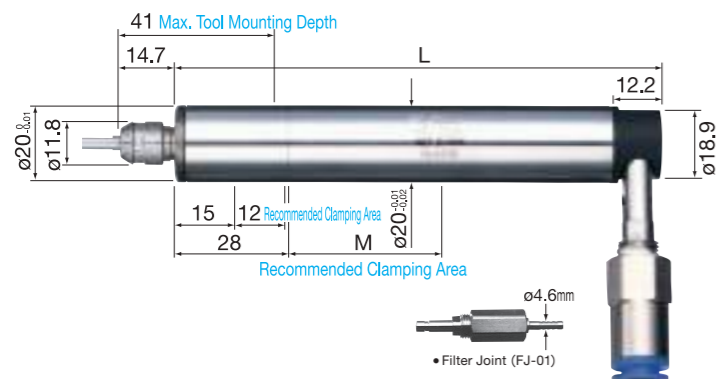
R-Type	Air Inlet	: ø3.7mm (I.D.) x ø5.7mm (O.D.) x 2m
	Exhaust Air	: ø5.0mm (I.D.) x ø6.5mm (O.D.) x 1m
RA-Type	Air Inlet	: ø4.0mm (I.D.) x ø6.0mm (O.D.) x 2m
	Exhaust Air	: ø6.0mm (I.D.) x ø8.0mm (O.D.) x 1m

● 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.

▼ MSS-20 Series 90° ANGLE TYPE (RA)



30,000 min⁻¹ (0.5MPa)

Code No.	Model	Shape	Max. Torque	Weight	L	M	DXF-data
7851	MSS-2030R	Straight	9.2cN·m	190g	110.9mm	23mm	MSS-2030R DXF-data
7852	MSS-2030RA	90° Angle		239g	103.1mm		MSS-2030RA DXF-data

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

Code No.	Model	Shape	Max. Torque	Weight	L	M	DXF-data
7828	MSS-2008R	Straight	36cN·m	225g	126.8mm	39mm	MSS-2008R DXF-data
7829	MSS-2008RA	90° Angle		274g	119.0mm		MSS-2008RA DXF-data

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

Code No.	Model	Shape	Max. Torque	Weight	L	M	DXF-data
7830	MSS-2002R	Straight	141cN·m	241g	141.0mm	53mm	MSS-2002R DXF-data
7831	MSS-2002RA	90° Angle		290g	133.2mm		MSS-2002RA DXF-data

< Standard Accessories >

- Collet Nut (CHN-A) • Wrench (8 x 5), (9 x 11) : 1pc. each
- Hose (K-221) (R-type) : 1pc.
- Hose (K-215) (RA-type) : 1pc.
- Hose (K-216) (RA-type) : 1pc.
- Filter Joint (FJ-01)
- Silencer (K-209) (R-type) • Silencer (K-208) (RA-type)

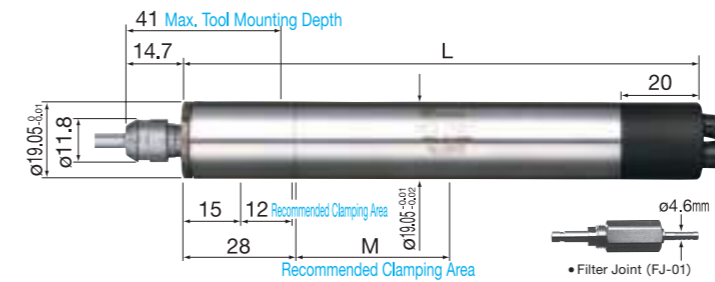
< Options >

- Collet (CHA Group) : ø0.5~ø4.0mm See Page 30 for details
- ※ Refer to Page p.4 for mounting instructions for the 90° Angle Type.
- ※ Collet is sold separately.

Air Motor Spindle
MSS-19 Series

	O.D.	Collet	Spindle Accuracy	Max. Power	Air Consumption
	ø19.05mm	ø0.5~ø4.0mm (CHA Group)	Within 2 µm	72W	155Nℓ/min (R · RA)

▼ MSS-19 Series STRAIGHT TYPE (R)



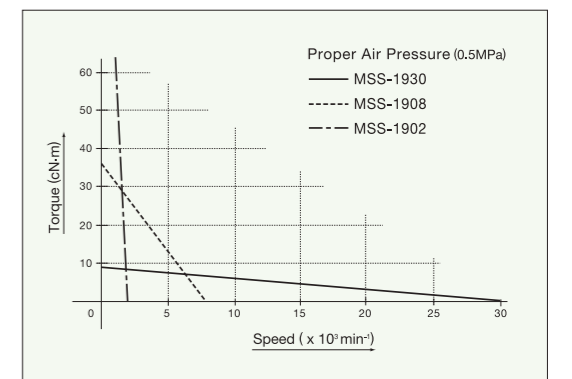
< Specifications >

Proper Air Pressure : 0.3~0.5MPa

Motor Hose (Diameter / Length)

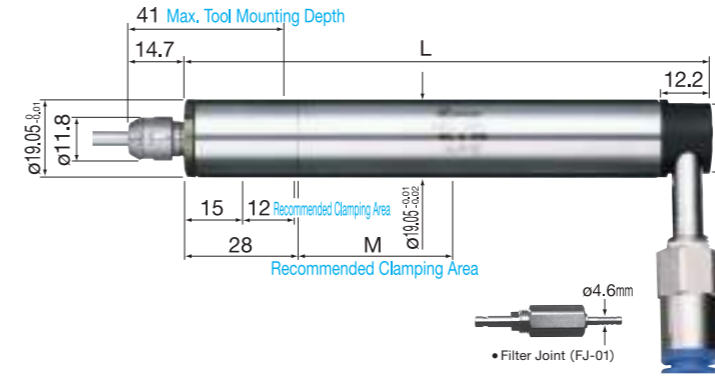
R-Type	Air Inlet	: ø3.7mm (I.D.) x ø5.7mm (O.D.) x 2m
	Exhaust Air	: ø5.0mm (I.D.) x ø6.5mm (O.D.) x 1m
RA-Type	Air Inlet	: ø4.0mm (I.D.) x ø6.0mm (O.D.) x 2m
	Exhaust Air	: ø6.0mm (I.D.) x ø8.0mm (O.D.) x 1m

● 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.

▼ MSS-19 Series 90° ANGLE TYPE (RA)



30,000 min⁻¹ (0.5MPa)

Code No.	Model	Shape	Max. Torque	Weight	L	M	DXF-data
7849	MSS-1930R	Straight	9.2cN·m	171g	110.9mm	23mm	MSS-1930R DXF-data
7850	MSS-1930RA	90° Angle		219g	103.1mm		MSS-1930RA DXF-data

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

Code No.	Model	Shape	Max. Torque	Weight	L	M	DXF-data
7824	MSS-1908R	Straight	36cN·m	202g	126.8mm	39mm	MSS-1908R DXF-data
7825	MSS-1908RA	90° Angle		250g	119.0mm		MSS-1908RA DXF-data

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

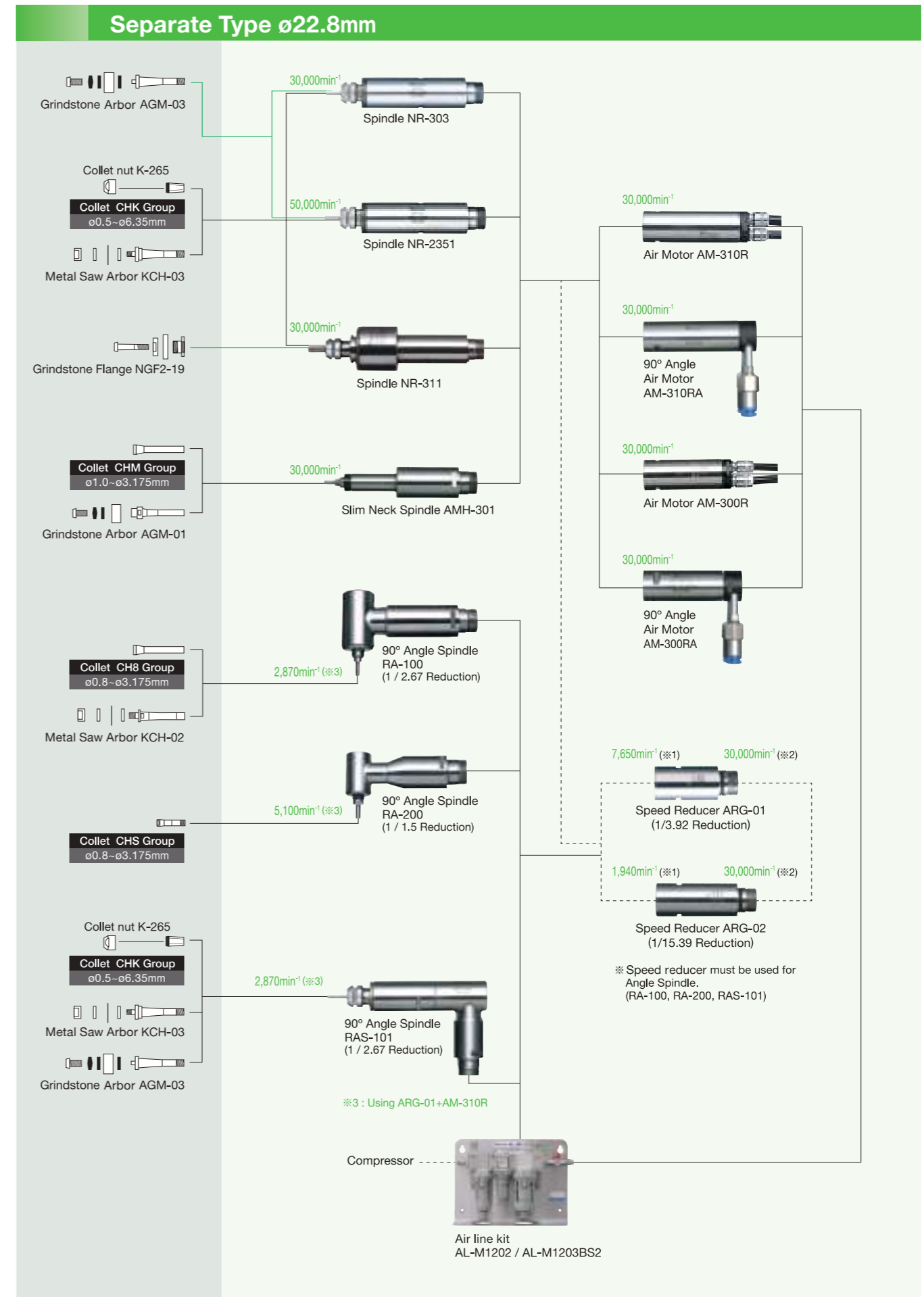
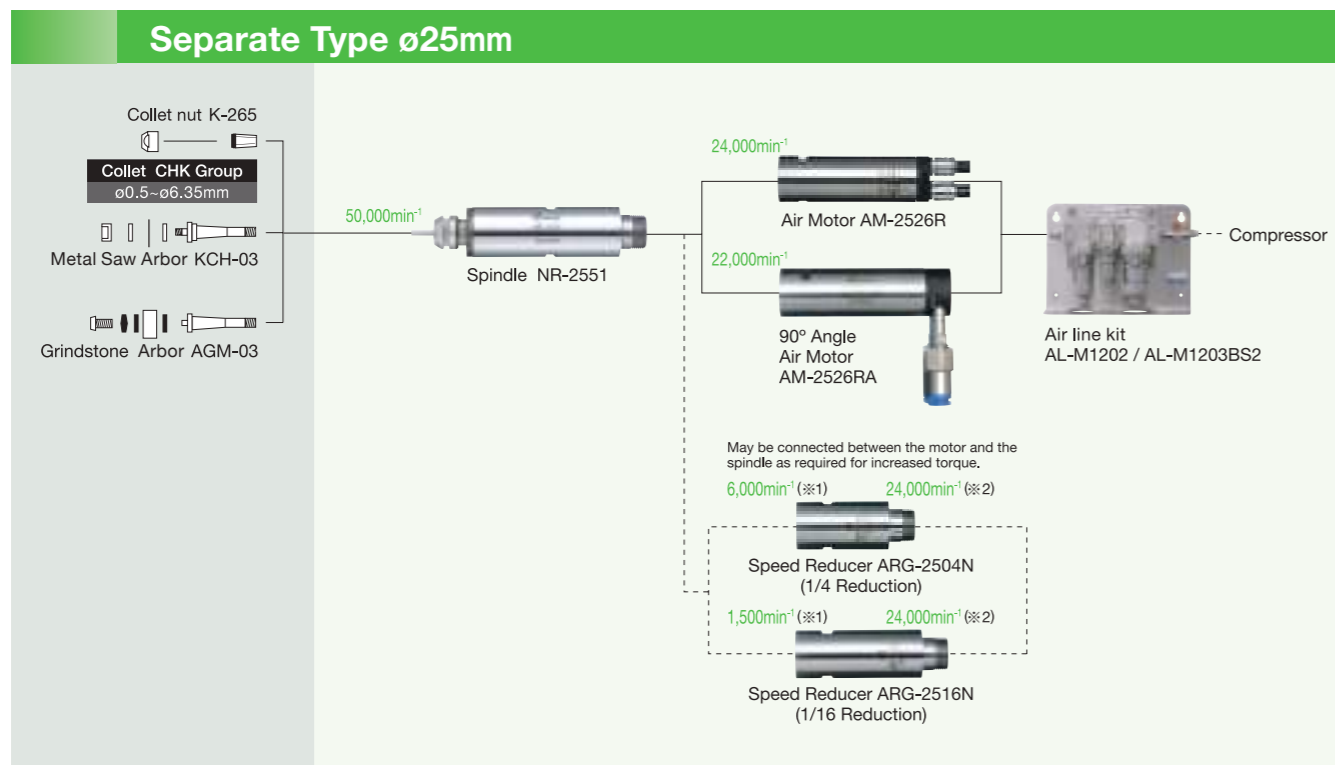
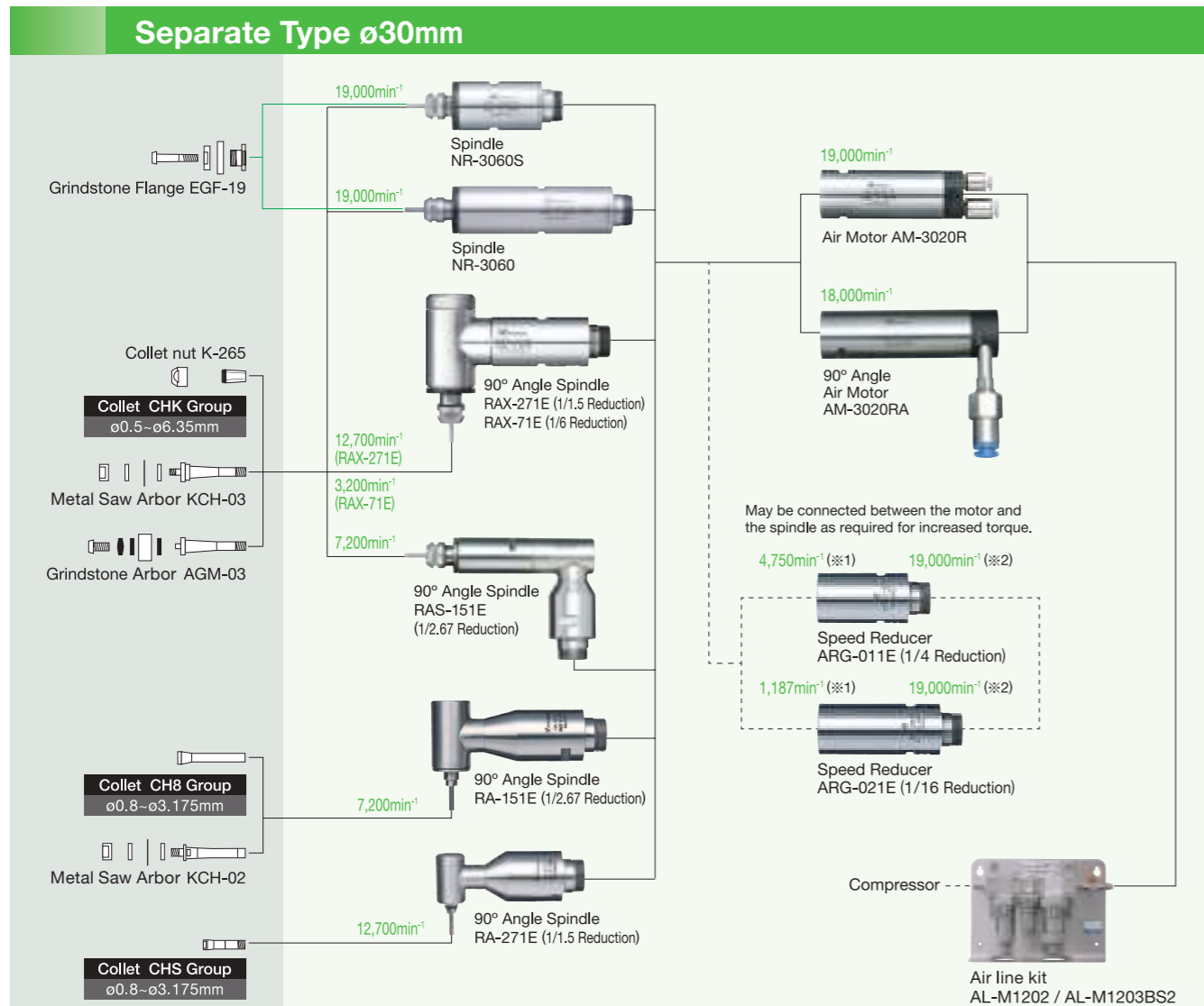
Code No.	Model	Shape	Max. Torque	Weight	L	M	DXF-data
7826	MSS-1902R	Straight	141cN·m	216g	141.0mm	53mm	MSS-1902R DXF-data
7827	MSS-1902RA	90° Angle		264g	133.2mm		MSS-1902RA DXF-data

< Standard Accessories >

- Collet Nut (CHN-A) • Wrench (8 x 5), (9 x 11) : 1pc. each
- Hose (K-221) (R-type) : 1pc.
- Hose (K-215) (RA-type) : 1pc.
- Hose (K-216) (RA-type) : 1pc.
- Filter Joint (FJ-01)
- Silencer (K-209) (R-type) • Silencer (K-208) (RA-type)

< Options >

- Collet (CHA Group) : ø0.5~ø4.0mm See Page 30 for details
- ※ Refer to Page p.4 for mounting instructions for the 90° Angle Type.
- ※ Collet is sold separately.




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

※ 1 : Maximum rotating speed at the cutting tool. ※ 2 : Maximum allowable motor speed for the spindle.

※ Please refer to the concerned product introduction page about the details.

▼ AIR MOTOR & SPINDLE (Separate Type)

Straight Spindle



Outside Diameter $\varnothing 30\text{mm}$

Max. $19,000\text{min}^{-1}$ (Using 0.5MPa : AM-3020R)

Max. Power 130W

Spindle Accuracy :
Within $1\ \mu\text{m}$

90° Angle Type Air Motor is available

Air Motor AM-3020R
→ Refer to P.15

Air line kit AL-M1202

OPTION → Refer to P.29

Straight Spindle NR-3060S

Collet :
Max. $\varnothing 6.35\text{mm}$

Collet CHK-3.0
OPTION → Refer to P.30

※ Other collet sizes are available.

AM-3020R Torque-Speed Characteristics



Spindle
< Ceramic Bearings >
NR-3060

O.D.	Speed	Spindle Accuracy	Collet	Weight
$\varnothing 30\text{mm}$	$19,000\text{min}^{-1}$ (Using AM-3020R)	Within $1\ \mu\text{m}$	$\varnothing 0.5\sim\varnothing 6.35\text{mm}$ (CHK Group)	420g

DXF-data



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

< Standard Accessories >

- Collet Nut (K-265)
- Wrench (12 x 14) : 2pcs., (22 x 27) : 1pc.

< Options >

Collet (CHK Group) : $\varnothing 0.5\sim\varnothing 6.35\text{mm}$ See Page 30 for details

Metal Saw Arbor (KCH-03) : $\varnothing d$ (I.D.) x under $\varnothing 30\text{mm}$ (O.D.)

Grindstone Arbor (AGM-03) : Grindstone I.D. $\varnothing 5.0\text{mm}$

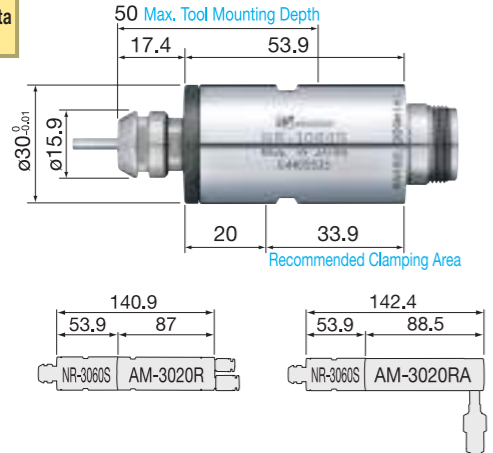
Grindstone Flange (EGF-19) : $\varnothing 19.05$ (I.D.) x $\varnothing 40$ (O.D.) x 7 (W) mm

※ Collet is sold separately.

Spindle
< Ceramic Bearings >
NR-3060S

O.D.	Speed	Spindle Accuracy	Collet	Weight
$\varnothing 30\text{mm}$	$19,000\text{min}^{-1}$ (Using AM-3020R)	Within $1\ \mu\text{m}$	$\varnothing 0.5\sim\varnothing 6.35\text{mm}$ (CHK Group)	260g

DXF-data



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

< Standard Accessories >

- Collet Nut (K-265)
- Wrench (12 x 14) : 2pcs., (22 x 27) : 1pc.

< Options >

Collet (CHK Group) : $\varnothing 0.5\sim\varnothing 6.35\text{mm}$ See Page 30 for details

Metal Saw Arbor (KCH-03) : $\varnothing d$ (I.D.) x under $\varnothing 30\text{mm}$ (O.D.)

Grindstone Arbor (AGM-03) : Grindstone I.D. $\varnothing 5.0\text{mm}$

Grindstone Flange (EGF-19) : $\varnothing 19.05$ (I.D.) x $\varnothing 40$ (O.D.) x 7 (W) mm

※ Collet is sold separately.

Please maintain not to exceed speed limit.

▼ AIR MOTOR & SPINDLE (Separate Type)

Angle Spindle

Outside Diameter $\phi 30\text{mm}$

Max. $12,700\text{min}^{-1}$ (Rotating speed at the cutting tool) (Using 0.5MPa : AM-3020R)

Max. Power 130W



Air Motor AM-3020R → Refer to P.15

90° Angle Spindle RAX-271E

Air line kit AL-M1202
OPTION → Refer to P.29

Collet :
Max. $\phi 6.35\text{mm}$

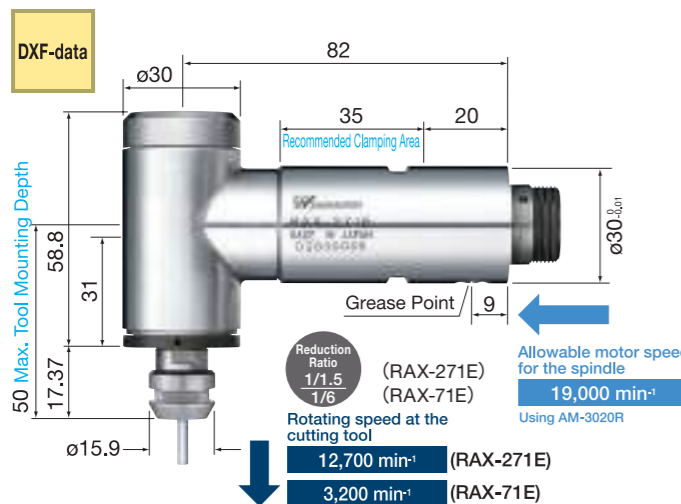
Collet CHK-3.0
OPTION → Refer to P.30
※ Other collet sizes are available.

Angle Spindle Select Sheet

Model	RAX-271E	RAX-71E	RAS-151E	RA-151E	RA-271E
Angle Head Size O.D.	$\phi 30\text{mm}$	$\phi 30\text{mm}$	$\phi 23\text{mm}$	$\phi 22.8\text{mm}$	$\phi 17.4\text{mm}$
Rotating speed at the cutting tool ^{※1}	$12,700\text{min}^{-1}$	$3,200\text{min}^{-1}$	$7,200\text{min}^{-1}$	$7,200\text{min}^{-1}$	$12,700\text{min}^{-1}$
Using Tools	$\phi 0.5\sim\phi 6.35\text{mm}$		$\phi 0.8\sim\phi 3.175\text{mm}$		

※1 Using AM-3020R

90° Angle Spindle	O.D.	Rotating speed at the cutting tool	Reduction Ratio	Allowable motor speed for the spindle	Spindle Accuracy	Collet	Weight
RAX-271E	$\phi 30\text{mm}$	$12,700\text{min}^{-1}$ ※	$\frac{1}{1.5}$	$19,000\text{min}^{-1}$ (Using AM-3020R)	Within $2\mu\text{m}$	$\phi 0.5\sim\phi 6.35\text{mm}$ (CHK Group)	580g
RAX-71E	$\phi 30\text{mm}$	$3,200\text{min}^{-1}$ ※	$\frac{1}{6}$	$19,000\text{min}^{-1}$ (Using AM-3020R)	Within $2\mu\text{m}$	$\phi 0.5\sim\phi 6.35\text{mm}$ (CHK Group)	580g



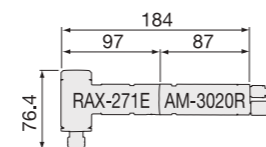
※ Maximum rotating speed at the cutting tool for the reduction ratio.

Code No.	7856	Model	RAX-271E
Code No.	7857	Model	RAX-71E

- < Standard Accessories >
- Collet Nut (K-265)
 - Wrench (12 x 14) : 2pcs., (22 x 27) : 1pc.
 - Grease for speed reducer (10m ℓ)
 - Grease Nipple : 1pc.

- < Options >
- Collet (CHK Group) : $\phi 0.5\sim\phi 6.35\text{mm}$ See Page 30 for details
 - Metal Saw Arbor (KCH-03) : ϕd (I.D.) x under $\phi 30\text{mm}$ (O.D.)
 - Grindstone Arbor (AGM-03) : Grindstone I.D. $\phi 5.0\text{mm}$

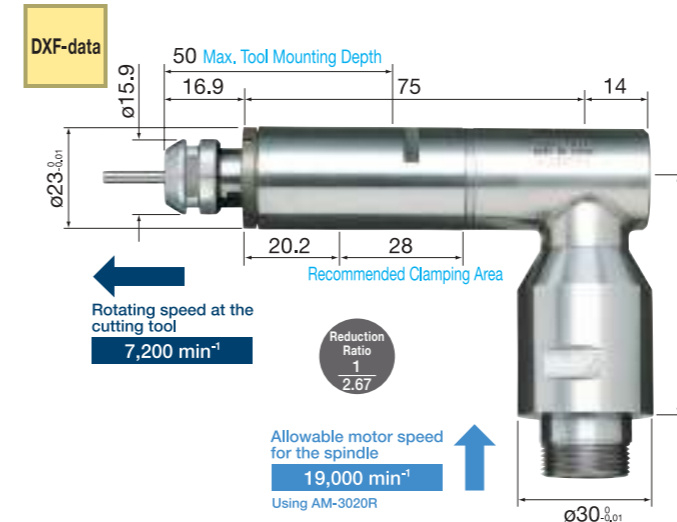
※ Collet is sold separately.



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.

90° Angle Spindle	O.D.	Rotating speed at the cutting tool	Reduction Ratio	Allowable motor speed for the spindle	Spindle Accuracy	Collet	Weight
RAS-151E	$\phi 30\text{mm}$	$7,200\text{min}^{-1}$ ※	$\frac{1}{2.67}$	$19,000\text{min}^{-1}$ (Using AM-3020R)	Within $2\mu\text{m}$	$\phi 0.5\sim\phi 6.35\text{mm}$ (CHK Group)	413g

※ Maximum rotating speed at the cutting tool for the reduction ratio.



Code No.	7840	Model	RAS-151E
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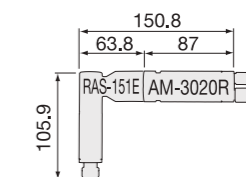
< Standard Accessories >

- Collet Nut (K-265)
- Wrench (12 x 14) : 2pcs., (22 x 27) : 1pc.

< Options >

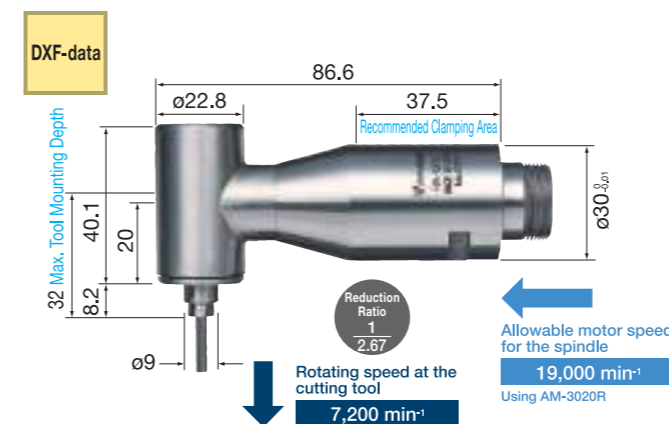
Collet (CHK Group) : $\phi 0.5\sim\phi 6.35\text{mm}$ See Page 30 for details

※ Collet is sold separately.



90° Angle Spindle	O.D.	Rotating speed at the cutting tool	Reduction Ratio	Allowable motor speed for the spindle	Collet	Weight
RA-151E	$\phi 30\text{mm}$	$7,200\text{min}^{-1}$ ※	$\frac{1}{2.67}$	$19,000\text{min}^{-1}$ (Using AM-3020R)	$\phi 0.8\sim\phi 3.175\text{mm}$ (CH8 Group)	385g

※ Maximum rotating speed at the cutting tool for the reduction ratio.



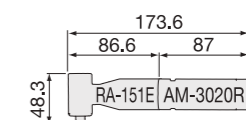
Code No.	1505	Model	RA-151E
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< Standard Accessories >

- Collet : $\phi 3.0\text{mm}$ (CH8-3.0)
- Wrench (7 x 5.5), (8 x 5), (22 x 27) : 1pc. each

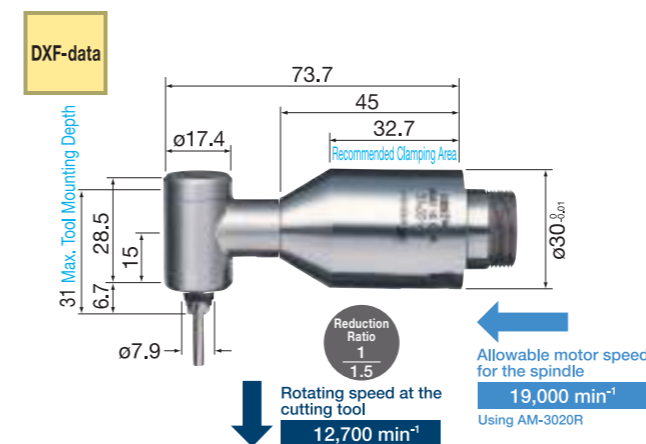
< Options >

Collet (CH8 Group) : $\phi 0.8\sim\phi 3.175\text{mm}$ See Page 30 for details



90° Angle Spindle	O.D.	Rotating speed at the cutting tool	Reduction Ratio	Allowable motor speed for the spindle	Collet	Weight
RA-271E	$\phi 30\text{mm}$	$12,700\text{min}^{-1}$ ※	$\frac{1}{1.5}$	$19,000\text{min}^{-1}$ (Using AM-3020R)	$\phi 0.8\sim\phi 3.175\text{mm}$ (CHS Group)	240g

※ Maximum rotating speed at the cutting tool for the reduction ratio.



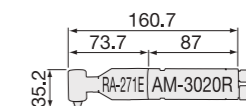
Code No.	1506	Model	RA-271E
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< Standard Accessories >

- Collet : $\phi 3.0\text{mm}$ (CHS-3.0)
- Wrench (7 x 5.1), (8 x 5), (22 x 27) : 1pc. each

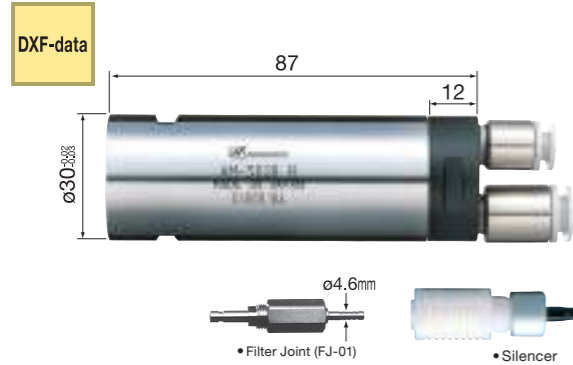
< Options >

Collet (CHS Group) : $\phi 0.8\sim\phi 3.175\text{mm}$ See Page 30 for details



 Please maintain not to exceed speed limit.

Air Motor (Forward Rotation)	O.D.	Motor Speed	Max. Power	Proper Air Pressure	Air Consumption	Weight
AM-3020R	ø30mm	19,000 min ⁻¹ (0.5MPa)	130 W	0.3~0.5 MPa	180 Nℓ/min	298 g (w/o hose)



Code No. **1797** Model **AM-3020R**

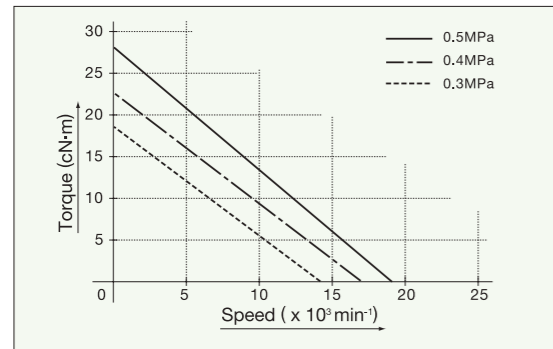
< Specifications >

Motor Hose (Diameter / Length)
Air Inlet : ø4.0mm (I.D.) x ø6.0mm (O.D.) x 2m
Exhaust Air : ø6.0mm (I.D.) x ø8.0mm (O.D.) x 1m

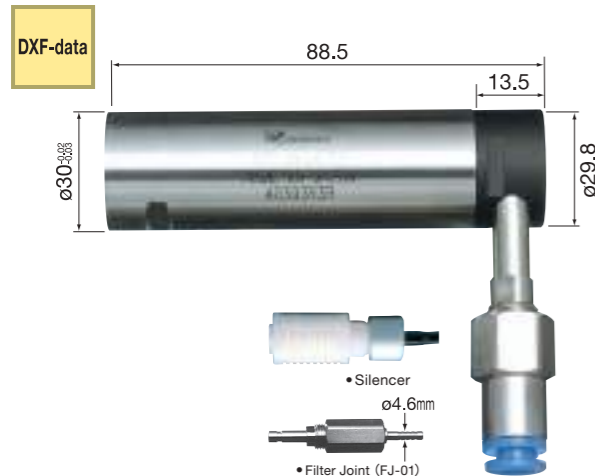
< Standard Accessories >

• Hose (K-215) : ø6.0mm x 2m • Hose (K-256) : ø8.0mm x 1m
• Filter Joint (FJ-01) • Silencer (K-208) • Wrench (22 x 27) : 1pc.

● AM-3020R Torque-Speed Characteristics



90° Angle Air Motor (Forward Rotation)	O.D.	Motor Speed	Max. Power	Proper Air Pressure	Air Consumption	Weight
AM-3020RA	ø30mm	18,000 min ⁻¹ (0.5MPa)	125 W	0.3~0.5 MPa	175 Nℓ/min	339 g (w/o hose)



Code No. **1799** Model **AM-3020RA**

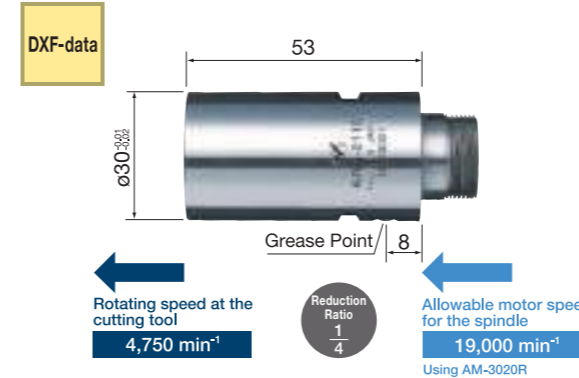
< Specifications >

Motor Hose (Diameter / Length)
Air Inlet : ø4.0mm (I.D.) x ø6.0mm (O.D.) x 2m
Exhaust Air : ø6.0mm (I.D.) x ø8.0mm (O.D.) x 1m

< Standard Accessories >

• Hose (K-215) : ø6.0mm x 2m • Hose (K-256) : ø8.0mm x 1m
• Filter Joint (FJ-01) • Silencer (K-208) • Wrench (22 x 27) : 1pc.

Speed Reducer (1/4)	O.D.	Rotating speed at the cutting tool	Reduction Ratio	Allowable motor speed for the spindle	Weight
ARG-011E	ø30mm	4,750 min ⁻¹ *	1/4	19,000 min ⁻¹ (Using AM-3020R)	242 g

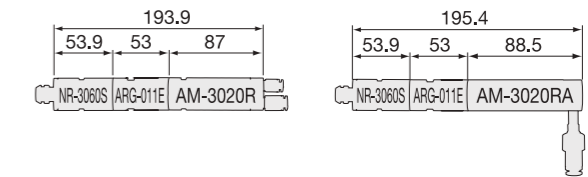


※ Maximum rotating speed at the cutting tool for the reduction ratio.

Code No. **1507** Model **ARG-011E**

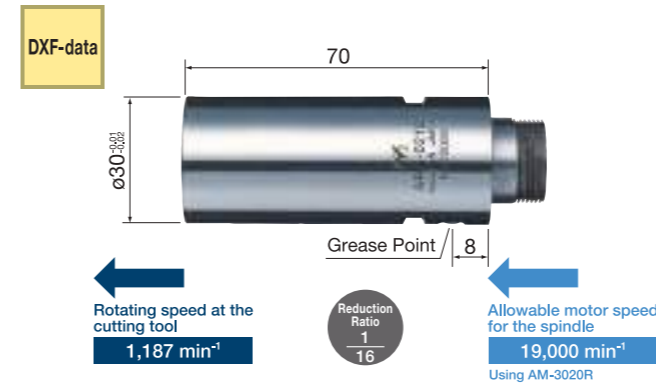
< Standard Accessories >

• Grease for speed reducer (10mℓ) • Grease Nipple : 1pc.



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.	Rotating speed at the cutting tool	Reduction Ratio	Allowable motor speed for the spindle	Weight
ARG-021E	ø30mm	1,187 min ⁻¹ *	1/16	19,000 min ⁻¹ (Using AM-3020R)	325 g

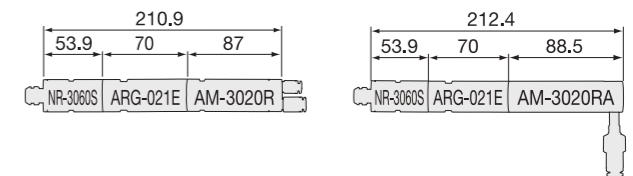


※ Maximum rotating speed at the cutting tool for the reduction ratio.

Code No. **1508** Model **ARG-021E**

< Standard Accessories >


• Grease for speed reducer (10mℓ) • Grease Nipple : 1pc.



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.

▼ AIR MOTOR & SPINDLE (Separate Type)

Straight Spindle



Outside Diameter $\varnothing 25\text{mm}$

Max. $24,000\text{min}^{-1}$ (Using 0.5MPa : AM-2526R)

Max. Power **130W**

Spindle Accuracy : Within 1 μm

90° Angle Type Air Motor is available

Air Motor AM-2526R → Refer to P.18

Straight Spindle NR-2551

Collet : Max. $\varnothing 6.35\text{mm}$

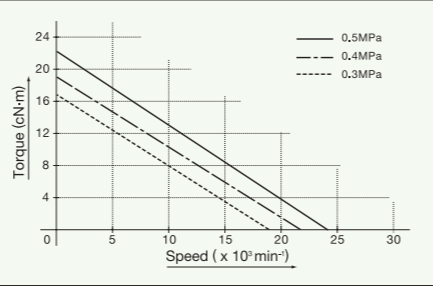
Collet CHK-3.0 → Refer to P.30

Air line kit AL-M1202 → Refer to P.29

OPTION → Refer to P.30

※ Other collet sizes are available.

● AM-2526R Torque-Speed Characteristics



Spindle < Ceramic Bearings >	O.D.	Speed	Spindle Accuracy	Collet	Weight
NR-2551	$\varnothing 25\text{mm}$	$50,000\text{min}^{-1}$	Within 1 μm	$\varnothing 0.5 \sim \varnothing 6.35\text{mm}$ (CHK Group)	253g

DXF-data



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

< Standard Accessories >

- Collet Nut (K-265)
- Wrench (12 x 14) : 2pcs., (22 x 27) : 1pc.

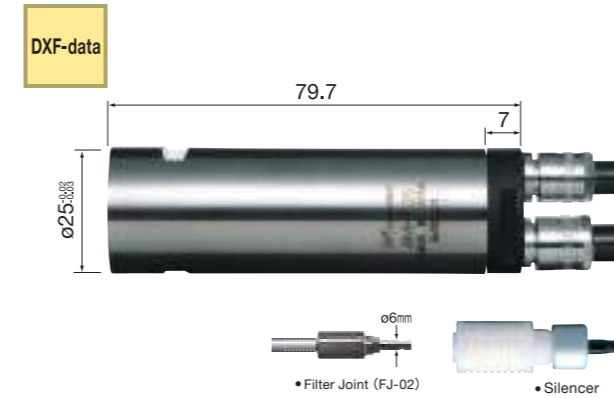
< Options >

- Collet (CHK Group) : $\varnothing 0.5 \sim \varnothing 6.35\text{mm}$ See Page 30 for details
- Metal Saw Arbor (KCH-03) : \varnothing (I.D.) x under $\varnothing 30\text{mm}$ (O.D.)
- Grindstone Arbor (AGM-03) : Grindstone I.D. $\varnothing 5.0\text{mm}$

※ Outside diameter $\varnothing 25.4\text{mm}$ type is also available.

※ Collet is sold separately.

Air Motor (Forward Rotation)	O.D.	Motor Speed	Max. Power	Proper Air Pressure	Air Consumption	Weight
AM-2526R	$\varnothing 25\text{mm}$	$24,000\text{min}^{-1}$ (0.5MPa)	130W	0.3~0.5MPa	205Nℓ/min	200g (w/o hose)



Code No. **1801** Model **AM-2526R**

< Specifications >

Motor Hose (Diameter / Length)

Air Inlet : $\varnothing 4.5\text{mm}$ (I.D.) x $\varnothing 6.7\text{mm}$ (O.D.) x 2m

Exhaust Air : $\varnothing 5.5\text{mm}$ (I.D.) x $\varnothing 7.5\text{mm}$ (O.D.) x 1m

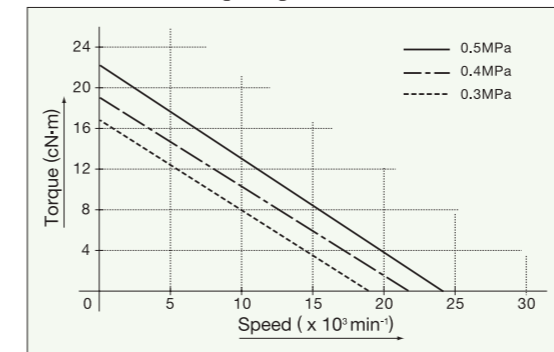
< Standard Accessories >

• Hose (K-204) : 2m • Filter Joint (FJ-02) • Silencer (K-208)

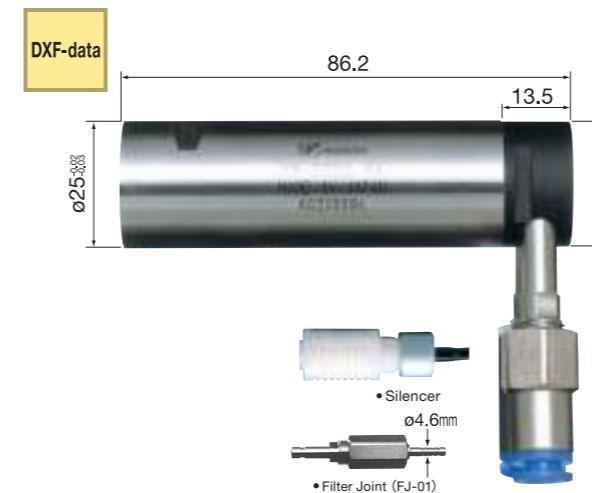
• Wrench (22 x 27) : 1pc.

※ Outside diameter $\varnothing 25.4\text{mm}$ type is also available.

● AM-2526R Torque-Speed Characteristics



90° Angle Air Motor (Forward Rotation)	O.D.	Motor Speed	Max. Power	Proper Air Pressure	Air Consumption	Weight
AM-2526RA	$\varnothing 25\text{mm}$	$22,000\text{min}^{-1}$ (0.5MPa)	120W	0.3~0.5MPa	170Nℓ/min	241g (w/o hose)



Code No. **1803** Model **AM-2526RA**

< Specifications >

Motor Hose (Diameter / Length)

Air Inlet : $\varnothing 4.0\text{mm}$ (I.D.) x $\varnothing 6.0\text{mm}$ (O.D.) x 2m


Exhaust Air : $\varnothing 5.5\text{mm}$ (I.D.) x $\varnothing 8.0\text{mm}$ (O.D.) x 1m

< Standard Accessories >

• Hose (K-215) : $\varnothing 6.0\text{mm}$ x 2m • Hose (K-256) : $\varnothing 8.0\text{mm}$ x 1m

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


※ Outside diameter $\varnothing 25.4\text{mm}$ type is also available.

 Please maintain not to exceed speed limit.

Speed Reducer (1/4)	O.D.	Rotating speed at the cutting tool	Reduction Ratio	Allowable motor speed for the spindle	Weight
ARG-2504N	ø25mm	6,000 min ⁻¹ *	1/4	24,000 min ⁻¹ (Using AM-2526R)	150 g

* Maximum rotating speed at the cutting tool for the reduction ratio.

DXF-data



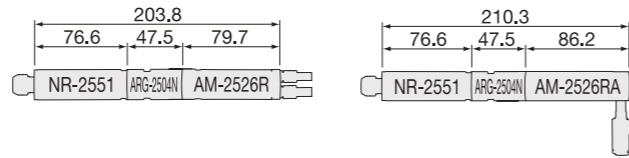
Rotating speed at the cutting tool
6,000 min⁻¹

Reduction Ratio
1/4

Allowable motor speed for the spindle
24,000 min⁻¹
Using AM-2526R

Code No. **1822** Model **ARG-2504N**

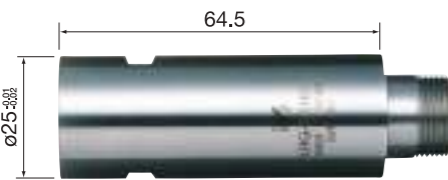
* Outside diameter ø25.4mm type is also available.



Speed Reducer (1/16)	O.D.	Rotating speed at the cutting tool	Reduction Ratio	Allowable motor speed for the spindle	Weight
ARG-2516N	ø25mm	1,500 min ⁻¹ *	1/16	24,000 min ⁻¹ (Using AM-2526R)	205 g

* Maximum rotating speed at the cutting tool for the reduction ratio.

DXF-data



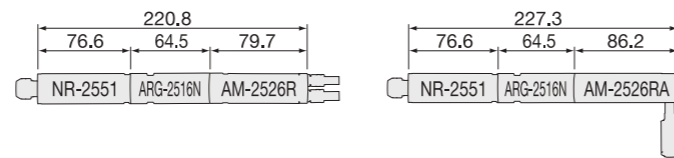
Rotating speed at the cutting tool
1,500 min⁻¹

Reduction Ratio
1/16

Allowable motor speed for the spindle
24,000 min⁻¹
Using AM-2526R

Code No. **1824** Model **ARG-2516N**

* Outside diameter ø25.4mm type is also available.



▼ AIR MOTOR & SPINDLE (Separate Type)

Straight Spindle

Outside Diameter $\varnothing 22.8\text{mm}$

Max. $30,000\text{min}^{-1}$ (0.5MPa)

Max. Power 108W

90° Angle Type Air Motor is available

Air Motor AM-310R → Refer to P.25

Straight Spindle NR-303

OPTION → Refer to P.29

Collet :
Max. $\varnothing 6.35\text{mm}$

Collet CHK-3.0
OPTION → Refer to P.30

※ Other collet sizes are available.
※ Please maintain not to exceed speed limit.

AM-310R Torque-Speed Characteristics

Proper Air Pressure
— 0.5MPa
- - - 0.4MPa
... 0.3MPa

Spindle **NR-303**

O.D.	Speed	Spindle Accuracy	Collet	Weight
$\varnothing 22.8\text{mm}$	$30,000\text{min}^{-1}$ (Using AM-310R)	Within $2\ \mu\text{m}$	$\varnothing 0.5\sim\varnothing 6.35\text{mm}$ (CHK Group)	215g

DXF-data 50 Max. Tool Mounting Depth

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

< Standard Accessories >

- Collet Nut (K-265)
- Wrench (12 x 14) : 2pcs., (20 x 24) : 1pc.

< Options >

- Collet (CHK Group) : $\varnothing 0.5\sim\varnothing 6.35\text{mm}$ See Page 30 for details
- Metal Saw Arbor (KCH-03) : $\varnothing d$ (I.D.) x under $\varnothing 30\text{mm}$ (O.D.)
- Grindstone Arbor (AGM-03) : Grindstone I.D. $\varnothing 5.0\text{mm}$

※ Collet is sold separately.

Spindle **NR-2351**

< Ceramic Bearings >

O.D.	Speed	Spindle Accuracy	Collet	Weight
$\varnothing 22.8\text{mm}$	$50,000\text{min}^{-1}$	Within $1\ \mu\text{m}$	$\varnothing 0.5\sim\varnothing 6.35\text{mm}$ (CHK Group)	215g

DXF-data 50 Max. Tool Mounting Depth

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

< Standard Accessories >

- Collet Nut (K-265)
- Wrench (12 x 14) : 2pcs., (20 x 24) : 1pc.

< Options >

- Collet (CHK Group) : $\varnothing 0.5\sim\varnothing 6.35\text{mm}$ See Page 30 for details
- Metal Saw Arbor (KCH-03) : $\varnothing d$ (I.D.) x under $\varnothing 30\text{mm}$ (O.D.)
- Grindstone Arbor (AGM-03) : Grindstone I.D. $\varnothing 5.0\text{mm}$

※ Allowable Motor Speed : $50,000\text{min}^{-1}$
※ Collet is sold separately.

Spindle **NR-311**

O.D.	Speed	Spindle Accuracy	Collet	Weight
$\varnothing 22.8\text{mm}$	$30,000\text{min}^{-1}$ (Using AM-310R)	Within $2\ \mu\text{m}$	$\varnothing 0.5\sim\varnothing 6.35\text{mm}$ (CHK Group)	370g

DXF-data 50 Max. Tool Mounting Depth

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

< Standard Accessories >

- Collet Nut (K-265)
- Wrench (12 x 14), (20 x 24) : 1pc. each

< Options >

- Collet (CHK Group) : $\varnothing 0.5\sim\varnothing 6.35\text{mm}$ See Page 30 for details
- Metal Saw Arbor (KCH-03) : $\varnothing d$ (I.D.) x under $\varnothing 30\text{mm}$ (O.D.)
- Grindstone Flange (NGF2-19) : $\varnothing 19.05$ (I.D.) x $\varnothing 40$ (O.D.) x 7 (W)mm

※ Collet is sold separately.

Spindle **AMH-301**

O.D.	Speed	Collet	Weight
$\varnothing 22.8\text{mm}$	$30,000\text{min}^{-1}$ (Using AM-310R)	$\varnothing 1.0\sim\varnothing 3.175\text{mm}$ (CHM Group)	171g

DXF-data 30 Max. Tool Mounting Depth

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

< Standard Accessories >

- Collet : $\varnothing 3.0\text{mm}$ (CHM-3.0)
- Wrench (7 x 5.1), (6 x 4.5), (20 x 24) : 1pc. each

< Options >

- Collet (CHM Group) : $\varnothing 1.0\sim\varnothing 3.175\text{mm}$ See Page 30 for details
- Grindstone Arbor (AGM-01) : Grindstone I.D. $\varnothing 5.0\text{mm}$

Please maintain not to exceed speed limit.

▼ AIR MOTOR & SPINDLE (Separate Type)

Angle Spindle

Outside Diameter $\phi 22.8\text{mm}$

Max. $2,870\text{min}^{-1}$ (Rotating speed at the cutting tool) (Using 0.5MPa : ARG-01+AM-300R)

Max. Power 57W (Using AM-300R)

Air Motor AM-300R → Refer to P.26

Reducer must be used for Angle Spindle

Speed Reducer ARG-01
OPTION → Refer to P.27

Air line kit AL-M1202
OPTION → Refer to P.29

Collet :
Max. $\phi 3.175\text{mm}$

Collet CH8-3.0
OPTION → Refer to P.30
※ Other collet sizes are available.

Angle Spindle Select Sheet

Model	RA-100	RA-200	RAS-101
Angle Head Size O.D.	$\phi 22.8\text{mm}$	$\phi 17.4\text{mm}$	$\phi 22.8\text{mm}$
Rotating speed at the cutting tool ^{※1}	$2,870\text{min}^{-1}$	$5,100\text{min}^{-1}$	$2,870\text{min}^{-1}$
Using Tools	$\phi 0.8\sim\phi 3.175\text{mm}$	$\phi 0.5\sim\phi 6.35\text{mm}$	

※ 1 Using ARG-01+AM-300R ※ 2 Using ARG-01+AM-310R
※ Please maintain not to exceed speed limit.

90° Angle Spindle

Model	RA-100
O.D.	$\phi 22.8\text{mm}$
Rotating speed at the cutting tool	$2,870\text{min}^{-1}$
Reduction Ratio	$\frac{1}{2.67}$
Allowable motor speed for the spindle	$7,650\text{min}^{-1}$ (Using ARG-01+AM-300R)
Collet	$\phi 0.8\sim\phi 3.175\text{mm}$ (CH8 Group)
Weight	271g

※ Maximum rotating speed at the cutting tool for the reduction ratio.

Code No. **1024** Model **RA-100**

< Standard Accessories >

- Collet : $\phi 3.0\text{mm}$ (CH8-3.0)
- Wrench (7 x 5.5), (8 x 5), (20 x 24) : 1pc. each

< Options >

- Collet (CH8 Group) : $\phi 0.8\sim\phi 3.175\text{mm}$ See Page 30 for details
- Metal Saw Arbor (KCH-02) : ϕd (I.D.) x under $\phi 30\text{mm}$ (O.D.)

DXF-data

Rotating speed at the cutting tool: $2,870\text{min}^{-1}$

Allowable motor speed for the spindle: $7,650\text{min}^{-1}$ (Using ARG-01+AM-300R)

Collet (CH8 Group) : $\phi 0.8\sim\phi 3.175\text{mm}$ See Page 30 for details

90° Angle Spindle

Model	RA-200
O.D.	$\phi 22.8\text{mm}$
Rotating speed at the cutting tool	$5,100\text{min}^{-1}$
Reduction Ratio	$\frac{1}{1.5}$
Allowable motor speed for the spindle	$7,650\text{min}^{-1}$ (Using ARG-01+AM-300R)
Collet	$\phi 0.8\sim\phi 3.175\text{mm}$ (CHS Group)
Weight	165g

※ Maximum rotating speed at the cutting tool for the reduction ratio.

Code No. **1075** Model **RA-200**

< Standard Accessories >

- Collet : $\phi 3.0\text{mm}$ (CHS-3.0)
- Wrench (7 x 5.1), (8 x 5), (20 x 24) : 1pc. each

< Options >

- Collet (CHS Group) : $\phi 0.8\sim\phi 3.175\text{mm}$ See Page 30 for details

DXF-data

Rotating speed at the cutting tool: $5,100\text{min}^{-1}$

Allowable motor speed for the spindle: $7,650\text{min}^{-1}$ (Using ARG-01+AM-300R)

90° Angle Spindle

Model	RAS-101
O.D.	$\phi 22.8\text{mm}$
Rotating speed at the cutting tool	$2,870\text{min}^{-1}$
Reduction Ratio	$\frac{1}{2.67}$
Allowable motor speed for the spindle	$7,650\text{min}^{-1}$ (Using ARG-01+AM-310R)
Spindle Accuracy	Within $2\mu\text{m}$
Collet	$\phi 0.5\sim\phi 6.35\text{mm}$ (CHK Group)
Weight	325g

※ Maximum rotating speed at the cutting tool for the reduction ratio.

Code No. **7839** Model **RAS-101**

< Standard Accessories >

- Collet Nut (K-265)
- Wrench (12 x 14) : 2pcs., (20 x 24) : 1pc.

< Options >

- Collet (CHK Group) : $\phi 0.5\sim\phi 6.35\text{mm}$ See Page 30 for details
- ※ Collet is sold separately.

DXF-data

Rotating speed at the cutting tool: $2,870\text{min}^{-1}$

Allowable motor speed for the spindle: $7,650\text{min}^{-1}$ (Using ARG-01+AM-310R)

Air Motor (Forward Rotation)	O.D.	Motor Speed	Max. Power	Proper Air Pressure	Air Consumption	Weight
AM-310R	ø22.8mm	30,000min ⁻¹ (0.5MPa)	108W	0.3~0.5MPa	190Nℓ/min	203g (w/o hose)

DXF-data



Code No. **1079** Model **AM-310R**

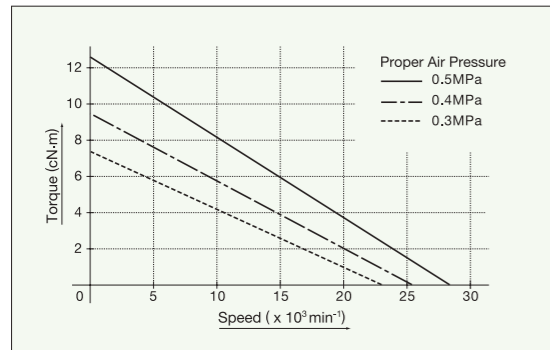
< Specifications >

Motor Hose (Diameter / Length)
Air Inlet : ø4.5mm (I.D.) x ø6.7mm (O.D.) x 2m
Exhaust Air : ø5.5mm (I.D.) x ø7.5mm (O.D.) x 1m

< Standard Accessories >

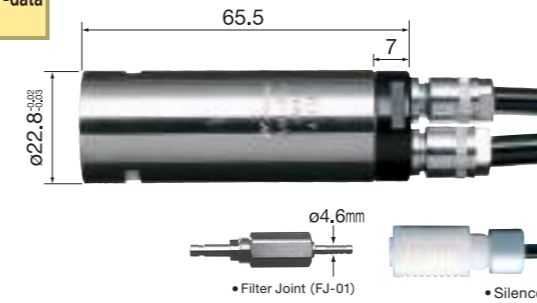
- Hose (K-204) : 2m • Filter Joint (FJ-02) • Silencer (K-208)
- Wrench (20 x 24) : 1pc.

● AM-310R Torque-Speed Characteristics



Air Motor (Forward Rotation)	O.D.	Motor Speed	Max. Power	Proper Air Pressure	Air Consumption	Weight
AM-300R	ø22.8mm	30,000min ⁻¹ (0.4MPa)	57W	0.3~0.5MPa	90Nℓ/min	135g (w/o hose)

DXF-data



Code No. **1021** Model **AM-300R**

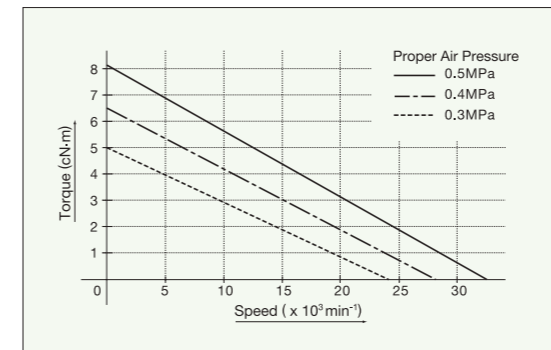
< Specifications >

Motor Hose (Diameter / Length)
Air Inlet : ø3.7mm (I.D.) x ø5.7mm (O.D.) x 2m
Exhaust Air : ø5.0mm (I.D.) x ø6.5mm (O.D.) x 1m

< Standard Accessories >

- Hose (K-221) : 2m • Filter Joint (FJ-01) • Silencer (K-209)
- Wrench (20 x 24) : 1pc.

● AM-300R Torque-Speed Characteristics



90° Angle Air Motor (Forward Rotation)	O.D.	Motor Speed	Max. Power	Proper Air Pressure	Air Consumption	Weight
AM-310RA	ø22.8mm	30,000min ⁻¹ (0.5MPa)	108W	0.3~0.5MPa	170Nℓ/min	244g (w/o hose)

DXF-data



Code No. **1081** Model **AM-310RA**

< Specifications >

Motor Hose (Diameter / Length)
Air Inlet : ø4.0mm (I.D.) x ø6.0mm (O.D.) x 2m
Exhaust Air : ø5.5mm (I.D.) x ø8.0mm (O.D.) x 1m

< Standard Accessories >

- Hose (K-215) : ø6.0mm x 2m • Hose (K-216) : ø8.0mm x 1m
- Filter Joint (FJ-01) • Silencer (K-208) • Wrench (20 x 24) : 1pc.

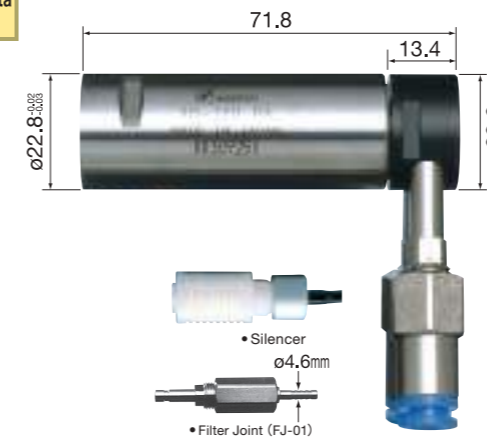
Air line kit
AL-M1202

OPTION → Refer to P.29



90° Angle Air Motor (Forward Rotation)	O.D.	Motor Speed	Max. Power	Proper Air Pressure	Air Consumption	Weight
AM-300RA	ø22.8mm	30,000min ⁻¹ (0.4MPa)	57W	0.3~0.5MPa	90Nℓ/min	176g (w/o hose)

DXF-data



Code No. **1018** Model **AM-300RA**

< Specifications >

Motor Hose (Diameter / Length)
Air Inlet : ø4.0mm (I.D.) x ø6.0mm (O.D.) x 2m
Exhaust Air : ø5.5mm (I.D.) x ø8.0mm (O.D.) x 1m


< Standard Accessories >

- Hose (K-215) : ø6.0mm x 2m • Hose (K-216) : ø8.0mm x 1m
- Filter Joint (FJ-01) • Silencer (K-208) • Wrench (20 x 24) : 1pc.

Air line kit
AL-M1202

OPTION → Refer to P.29

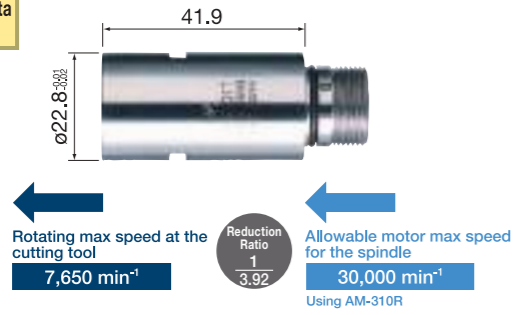


 Please maintain not to exceed speed limit.

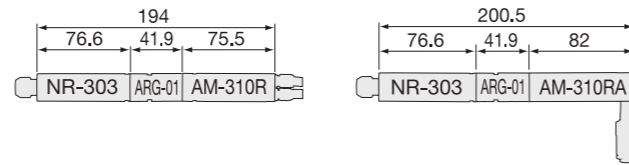
Speed Reducer (1/3.92)	O.D.	Rotating Max. speed at the cutting tool	Reduction Ratio	Allowable motor Max. speed for the spindle	Weight
ARG-01	ø22.8mm	7,650 min ⁻¹ * (0.5MPa)	$\frac{1}{3.92}$	30,000 min ⁻¹ (Using AM-310R)	108g

* Maximum rotating speed at the cutting tool for the reduction ratio.

DXF-data



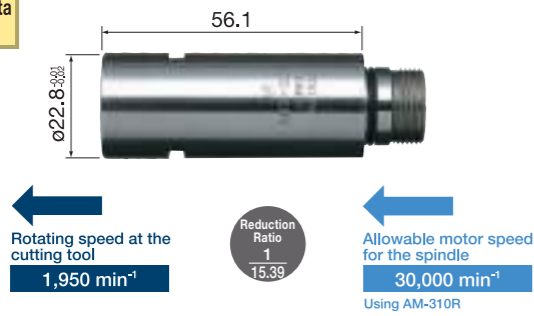
Code No. **1022** Model **ARG-01**



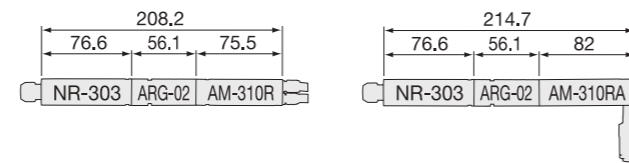
Speed Reducer (1/15.39)	O.D.	Rotating speed at the cutting tool	Reduction Ratio	Allowable motor speed for the spindle	Weight
ARG-02	ø22.8mm	1,950 min ⁻¹ * (0.5MPa)	$\frac{1}{15.39}$	30,000 min ⁻¹ (Using AM-310R)	148g

* Maximum rotating speed at the cutting tool for the reduction ratio.

DXF-data

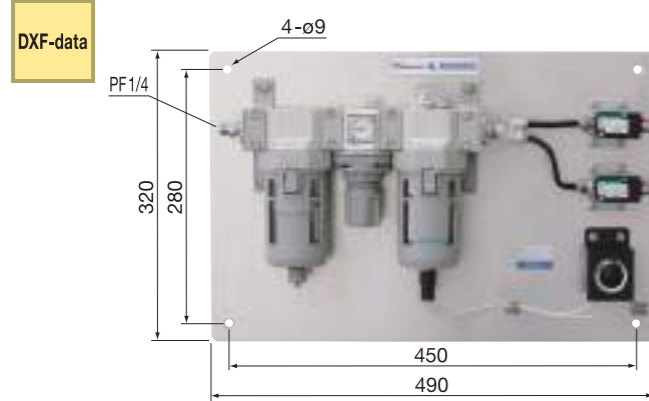


Code No. **1023** Model **ARG-02**



Air Line Kit

AL-M1203BS2 (For ø6mm Hose)



■ The AL-M1203BS2 is fitted with 2 (DC+24V) solenoid operated air valves a large capacity filter and lubricator a high flow regulator, and low oil warning system making this the ideal air line system for installation on NC and CNC machinery. This Air Line Kit allows for operation of 2 air motors.

Filter Mesh 0.3 µm

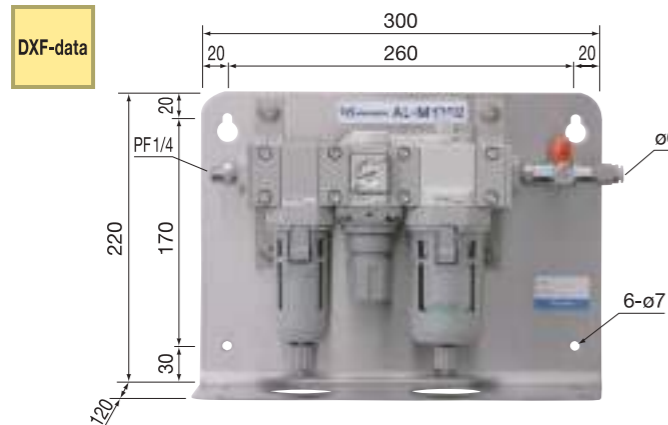
Code No. **4503** Model **AL-M1203BS2**

< Standard Accessories >

• Connection Hose (K-275) : 2m • Lubricating Oil (K-202) : 1pc.

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 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

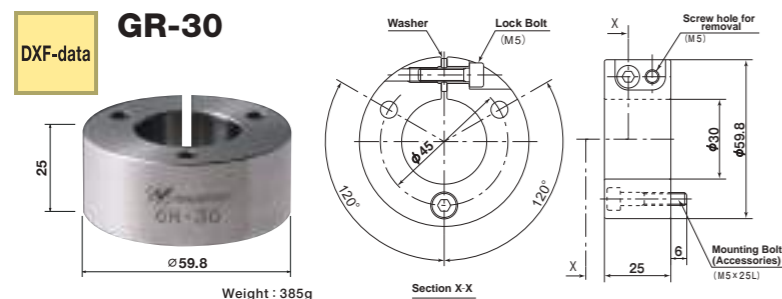
Code No. **4502** Model **AL-M1202**

< Standard Accessories >

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

Grip Ring

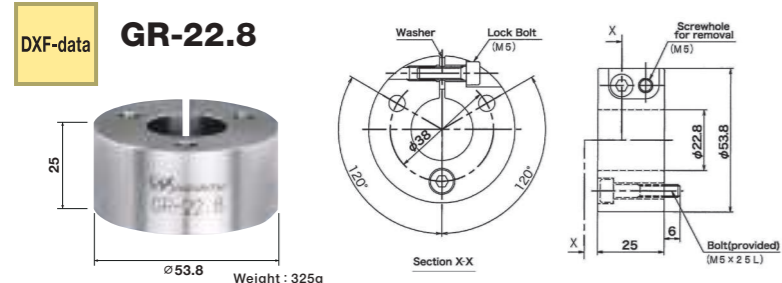
GR-30 / GR-22.8



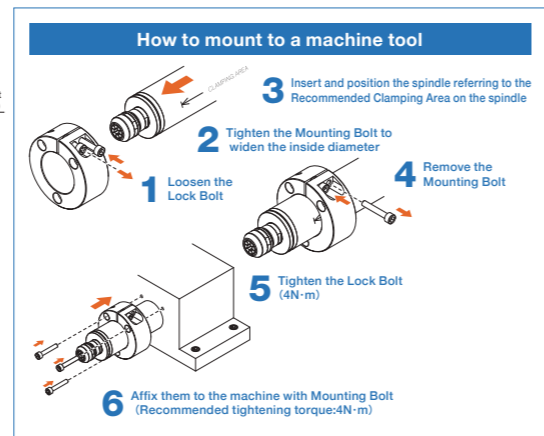
Code No. **1885** Model **GR-30**

Code No. **1888** Model **GR-22.8**

Standard Accessories Mounting Bolt (GR-30) M5x25 : 3pcs.



Standard Accessories Mounting Bolt (GR-22.8) M5x25 : 3pcs.



Collet • Collet Nut

Product	Code No.	Model	I.D.	Compatible model
 Collet CHA Group	91494	CHA-3.0AA	ø3.0AA ※	MSS-19, MSS-20, MSS-22 PMS-3020A ※ High precision type AA (Run-out Accuracy within 2 µm)
	91496	CHA-3.175AA	ø3.175AA ※	
	91495	CHA-4.0AA	ø4.0AA ※	
	91492	CHA-2.35	ø2.35	
	91430	CHA-3.0	ø3.0	
	91493	CHA-3.175	ø3.175	
 Collet CHA Group	91440	CHA-4.0	ø4.0	
	—	CHA-□□	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	
	—	CHA-□□	ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9	
	—	CHA-□□	ø3.1, ø3.2, ø3.3, ø3.4, ø3.6, ø3.7, ø3.8, ø3.9	
	—	CHA-□□	ø1.0, ø1.5, ø2.0, ø2.5, ø3.5	
 Collet CHK Group	91597	CHK-3.0AA	ø3.0AA ※	MSS-25, MSST-23, NR-2351, NR-2551 NR-303, NR-311, NR-3060S, NR-3060 NR-403E, NR-453E, PMA-3013K PMS-3020K, PMR-3005K, RAS-101 RAS-151E, RAX-71E, RAX-271E ※ High precision type AA (Run-out Accuracy within 2 µm)
	91598	CHK-3.175AA	ø3.175AA ※	
	91599	CHK-4.0AA	ø4.0AA ※	
	91600	CHK-6.0AA	ø6.0AA ※	
	91601	CHK-6.35AA	ø6.35AA ※	
	91592	CHK-2.35	ø2.35	
	91530	CHK-3.0	ø3.0	
	91593	CHK-3.175	ø3.175	
	91540	CHK-4.0	ø4.0	
	91560	CHK-6.0	ø6.0	
 Collet CHK Group	91596	CHK-6.35	ø6.35	
	—	CHK-□□	ø0.5, ø0.6, ø0.7, ø0.8, ø0.9	
	—	CHK-□□	ø1.0, ø1.5, ø2.0, ø2.5, ø3.5, ø4.5, ø4.76, ø5.5	
	—	CHK-□□	ø1.1, ø1.2, ø1.3, ø1.4, ø1.7, ø1.8, ø1.9	
	—	CHK-□□	ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9	
	—	CHK-□□	ø3.1, ø3.2, ø3.3, ø3.4, ø3.6, ø3.7, ø3.8, ø3.9	
 Collet CHSS Group	93092	CHSS-2.35	ø2.35	PMA-3013S
	93030	CHSS-3.0	ø3.0	
	93093	CHSS-3.175	ø3.175	
 Collet CHM Group	—	CHSS-□□	ø1.0, ø1.5, ø2.0, ø2.5	
	90992	CHM-2.35	ø2.35	AMH-301, NR-601
	90930	CHM-3.0	ø3.0	
	90993	CHM-3.175	ø3.175	
	90916	CHM-1.6	ø1.6	
—	CHM-□□	ø1.0, ø2.0		
 Collet CHS Group	90592	CHS-2.35	ø2.35	RA-200, RA-271E
	90530	CHS-3.0	ø3.0	
	90593	CHS-3.175	ø3.175	
	90516	CHS-1.6	ø1.6	
	—	CHS-□□	ø0.8, ø0.9	
	—	CHS-□□	ø1.0, ø2.0, ø2.5	
 Collet CH8 Group	91092	CH8-2.35	ø2.35	RA-100, RA-151E
	91030	CH8-3.0	ø3.0	
	91093	CH8-3.175	ø3.175	
 Collet CHN Group	—	CH8-□□	ø0.8, ø0.9	
	—	CH8-□□	ø1.0, ø1.5, ø2.0, ø2.5	
 Collet KHN Group	2102	CHN-A	Collet Nut for Collet (CHA)	MSS-19, MSS-20, MSS-22 PMS-3020A
	2129	K-265	Collet Nut for Collet (CHK)	MSS-25, MSST-23, NR-2351, NR-2551, NR-303 NR-311, NR-3060S, NR-3060, NR-403E NR-453E, PMA-3013K, PMS-3020K, PMR-3005K RAS-101, RAS-151E, RAX-71E, RAX-271E

■ Metal Saw Arbor · Grindstone Arbor

Product	Code No.	Model	I.D. / Description / Specification	Compatible model
	2146	KCH-02 (5.0)	Metal Saw Arbor Dimensions of Metal Saw ød (I.D.) x under ø30mm (O.D.) Run-out Accuracy : within 0.02 mm	RA-100, RA-151E
	1077	KCH-02 (6.0)		
	2147	KCH-02 (8.0)		
	2148	KCH-03 (5.0)	Metal Saw Arbor Dimensions of Metal Saw ød (I.D.) x under ø30mm (O.D.) Run-out Accuracy : within 0.02 mm	MSS-25, MSST-23, NR-2351, NR-2551, NR-303 NR-311, NR-3060S, NR-3060, NR-403E NR-453E, PMA-3013K, PMS-3020K, PMR-3005K RAS-101, RAS-151E, RAX-71E, RAX-271E
	2130	KCH-03 (6.0)		
	2149	KCH-03 (8.0)		
	1029	AGM-01	Grindstone Arbor Run-out Accuracy : within 0.02 mm Grindstone I.D. ø5.0mm	AMH-301, NR-601
	2131	AGM-03	Grindstone Arbor Run-out Accuracy : within 0.02 mm Grindstone I.D. ø5.0mm	MSS-25, MSST-23, NR-2351, NR-2551 NR-303, NR-3060S, NR-3060, NR-403E NR-453E, PMA-3013K, PMS-3020K RAS-101, RAS-151E, RAX-71E, RAX-271E
	2143	NGF2-19	Grindstone Flange Applicable Grindstone Dimensions ø19.05 (I.D.) x ø40 (O.D.) x 7 (W) mm	NR-311
	2138	EGF-19		NR-3060S, NR-3060 NR-403E, NR-453E, PMS-3020K

※ For right hand (cw) rotation only.

■ Bush

Bushes to allow smaller dia. spindles to be mounted in larger dia. holders.

Product	Code No.	Model	Description x I.D. x O.D.
	1887	RB-19.05 x 25.4 x 36L	ø25.4 Bush Dimensions: ø19.05 x ø25.4 x 36mm
	1877	RB-20 x 22	ø22 Bush Dimensions: ø20 x ø22 x 40mm
	1876	RB-20 x 22.8	ø22.8 Bush Dimensions: ø20 x ø22.8 x 40mm
	1875	RB-20 x 23	ø23 Bush Dimensions: ø20 x ø23 x 40mm
	1878	RB-20 x 25	ø25 Bush Dimensions: ø20 x ø25 x 40mm
	1879	RB-20 x 25.4	ø25.4 Bush Dimensions: ø20 x ø25.4 x 40mm
	1883	RB-22 x 25 x 34L	ø25 Bush Dimensions: ø22 x ø25 x 33.5mm
	1884	RB-22 x 25.4 x 34L	ø25.4 Bush Dimensions: ø22 x ø25.4 x 33.5mm
	1872	RBS-22.8 x 25	ø25 Bush Dimensions: ø22.8 x ø25 x 25mm
	1871	RB-22.8 x 25	ø25 Bush Dimensions: ø22.8 x ø25 x 44mm
	1874	RBS-22.8 x 25.4	ø25.4 Bush Dimensions: ø22.8 x ø25.4 x 25mm
1873	RB-22.8 x 25.4	ø25.4 Bush Dimensions: ø22.8 x ø25.4 x 44mm	

■ Metal Fitting & Filter Joint

Product	Description	Code No.	Model	Compatible model
	Metal Fitting (for ø6 Quick Disconnecting Joint)	2035	K-241	(For K-215 Hose)
	Metal Fitting (for ø6 Quick Disconnecting Joint)	2036	K-242	(For K-204 Hose)
	Filter Joint (for ø6 Quick Disconnecting Joint)	2038	FJ-01	(For K-215 Hose) (For K-221 Hose) (For K-247 Hose) (For K-254 Hose)
	Filter Joint (for ø6 Quick Disconnecting Joint)	2039	FJ-02	(For K-204 Hose)

■ Hose

Product	Description	Code No.	Model	Compatible model
	Hose ø6mm (O.D.) (INLET) 2m	2028	K-215	AM-2526 (RA · LA), AM-300 (RA · LA) AM-310 (RA · LA), AM-3020, AM-600RA PMA-3013K, PMA-3013S PMA-3020A, PMS-3020K MSS-19 · 20 · 22 · 25 (RA), MSST-23 (RA)
	Hose ø8mm (O.D.) (EXHAUST) 1m	2029	K-216	AM-300 (RA · LA), AM-310 (RA · LA) AM-600RA, MSS-19 · 20 · 22 (RA) MSST-23 (RA)
	Hose ø8mm (O.D.) (EXHAUST) 1m	2052	K-256	AM-3020, PMA-3013K, PMA-3013S PMR-3005K, PMS-3020A, PMS-3020K AM-2526 (RA · LA), MSS-25 (RA)
	Hose 2m	2030	K-204	AM-2526 (R · L), AM-310 (R · L) AM-600R, MSST-23 (R)
	Hose 2m	2049	K-221	AM-300 (R · L), MSS-19 · 20 · 22 (R)

■ Grease

Product	Description	Code No.	Model	Compatible model
	Grease for speed reducer (2.5mℓ)	1547	—	ARG-011E, ARG-021E PMR-3005K, PMA-3013K RAX-271E, RAX-71E
	Grease for speed reducer (10mℓ)	1550	—	
	Grease for speed reducer (100mℓ)	1549	—	

■ Oil

Product	Description	Code No.	Model	Compatible model
	Lubricating Oil (70cc)	1057	K-211	Air Line Kit (AL-M1202, AL-M1203BS2)
	Lubricating Oil (1ℓ)	1058	K-202	

