

New

# NR33-6000ATC-ESD

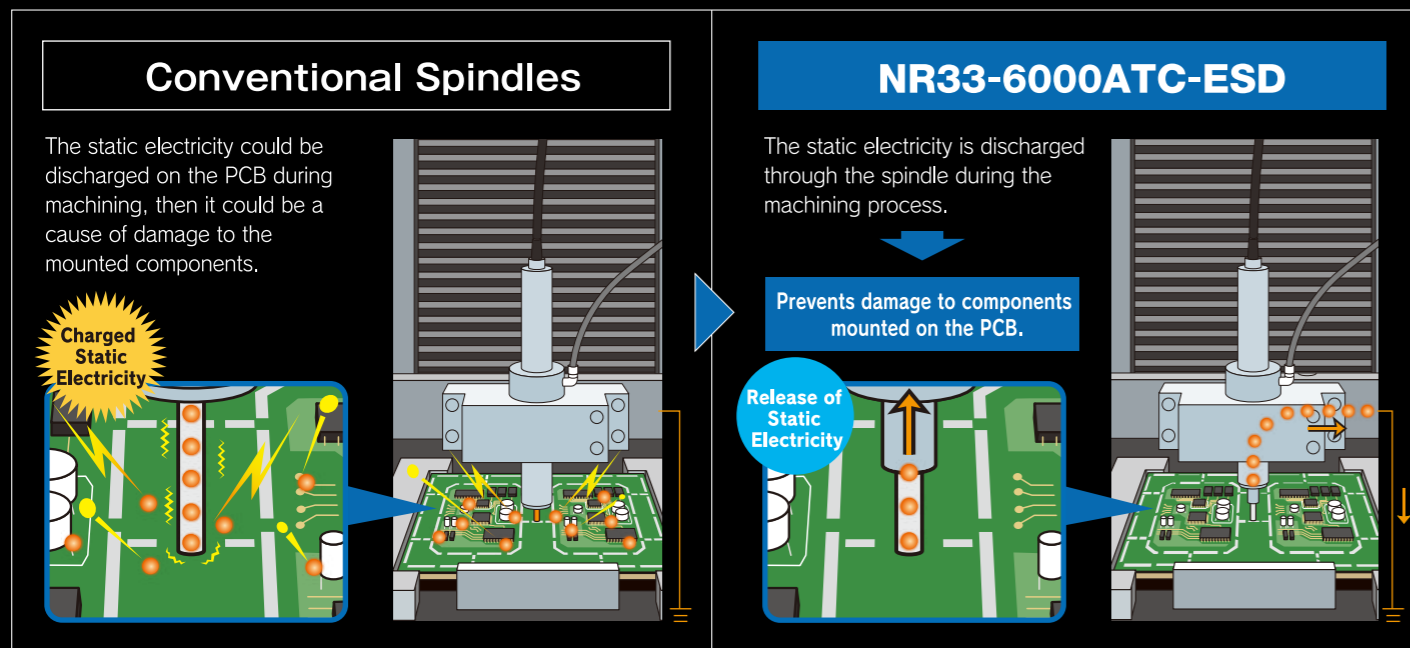
[Antistatic] Automatic Tool Change Spindle

ESD (Electro-Static Discharge) spindle is an antistatic spindle.

Prevents damage to delicate electronic components on the PCB while machining.



## What is an ESD Spindle?



※Image is for illustrative purpose only.

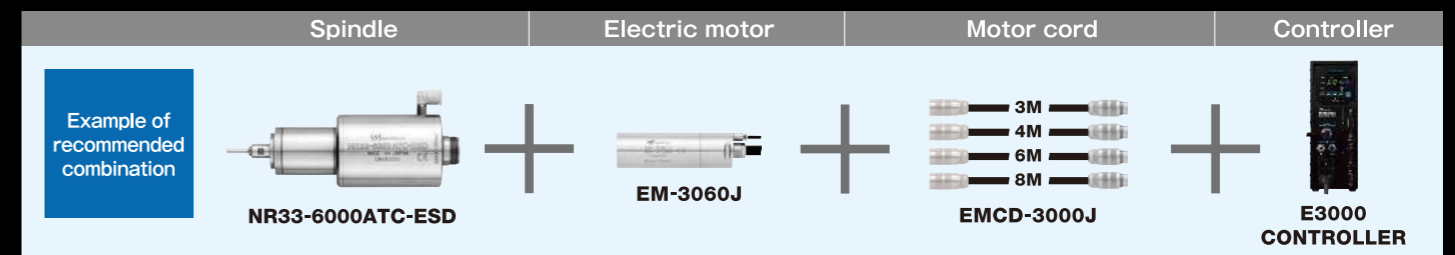
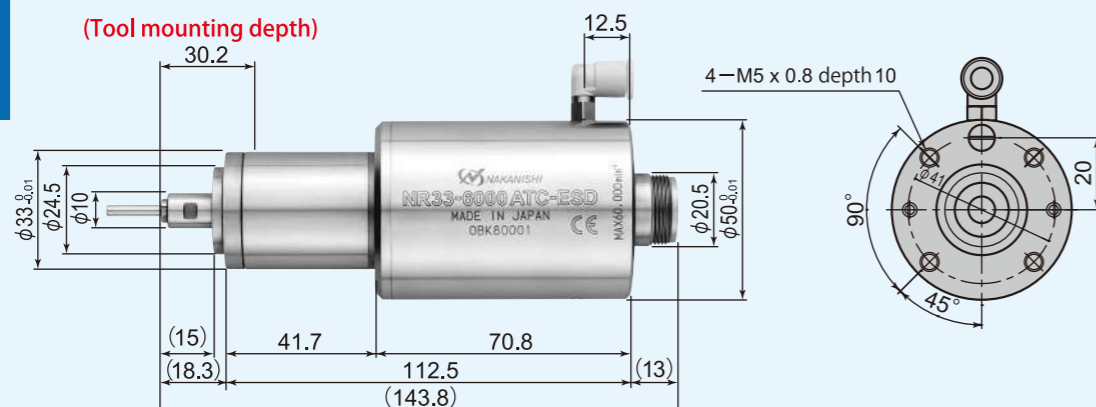
## Performance Characteristics of the NR33-6000ATC-ESD

- Prevents to PCB electronic components due to static electricity conducted during the machining process.
- The 10 x 15 L extended spindle nose length helps to avoid interference with components mounted on the PCB.
- Tool clamping force is twice as strong as the NR50-5100 Series.
- Max. rotation speed is 60,000 min<sup>-1</sup>.
- Automatic Tool Change feature allows for tool changing by supplying air to the spindles clamp/unclamp port.

O.D.	Allowable rotation speed	Air for collet opening	Spindle runout	Collet	Weight
Ø33 mm/Ø50 mm	<b>60,000</b> min <sup>-1</sup> (Motor rotation speed)	<b>0.55 - 0.6</b> MPa	Within <b>1</b> µm	<b>CHB Group</b> (Ø3.175)	<b>1,170</b> g
Standard accessories	Collet Ø3.175 mm (CHB-3.175) / Spanner (6.1 x 8), (9 x 11): 1 pc. each / Bar wrench (K-236): 1 pc. Air hose with filter (K-251): Ø6 mm x 2 m				
Option	Collet (CHB group): Ø2.0, Ø3.0, Ø3.175, Ø3.5, Ø4.0 mm				

Code No.	<b>7788</b>	Model	<b>NR33-6000ATC-ESD</b>
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### Spindle Dimensions



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NAKANISHI INC. 2020





# NAKANISHI SPINDLE E3000

Specifications and design are subject to change without notice.



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Nature of Tochigi, Japan  
Mt. Chausu in Autumn



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.

## ✓ $\varnothing$ 30mm Spindle

- Max. power 350w
- Max. rpm 80,000min<sup>-1</sup>

## ✓ The largest product lines

- 25 types of spindles are available.

## ✓ Spindle runout within 1 $\mu$ m

- 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)

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## Motor (Modular type)

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## Controller

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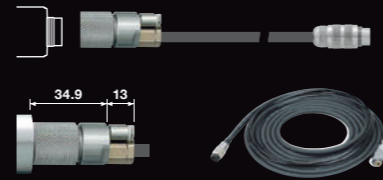
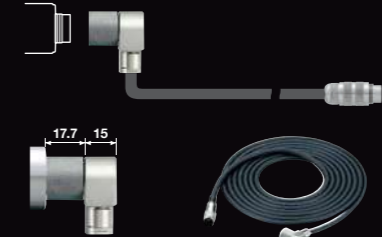

## Selector

Up to 4 motors to control with connecting selector to controller		p.42
<b>E3000 SELECTOR</b> ..... Selector		








## Motor Spindle (One-piece type)

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## Motor cord

<b>1. Straight type</b> [ Feature ] Connection at the body end [ Length ] 4m, 6m, 8m	<b>2. Angle type</b> [ Feature ] Connection at the body end into 90° degree [ Length ] 4m / 6m / 8m	<b>3. Joint type</b> [ Feature ] Connection possible out of the machine [ Length ] 3m / 4m / 6m / 8m [ Connector ] IP68
		
<b>EMCD-3000</b> ..... Straight type motor cord	<b>EMCD-3000A</b> ..... Angle type motor cord	<b>EMCD-3000J</b> ..... Joint type motor cord

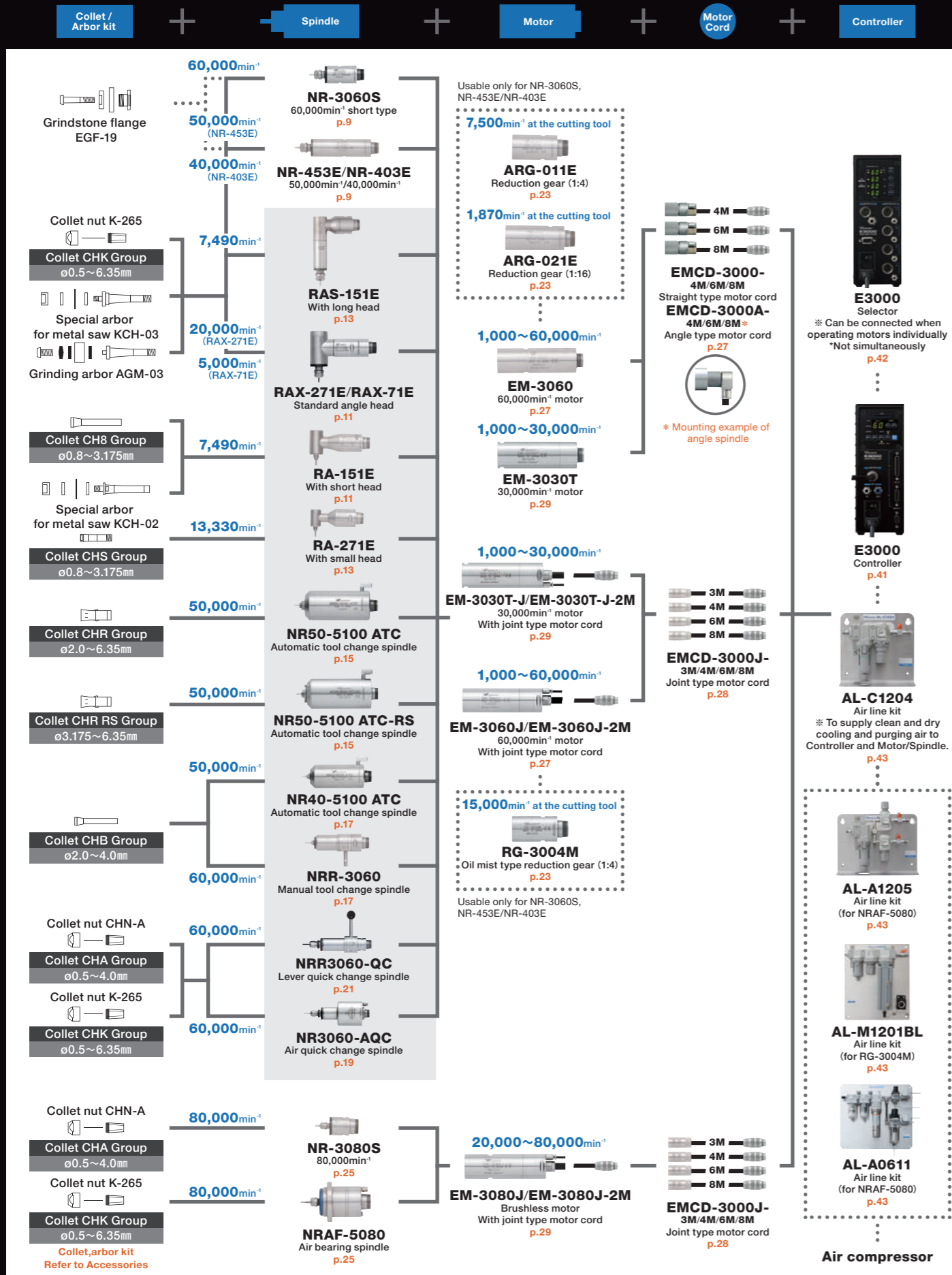
## Accessories

				
<b>GR-30</b> ..... Grip Ring	<b>AL-C1204</b> ..... Air line kit	<b>AL-A1205</b> ..... Air line kit	<b>AL-M1201BL</b> ..... Air line kit	<b>AL-A0611</b> ..... Air line kit
				
<b>CHA / CHB / CHK / CHR / CHR RS / CHS / CHSS / CH8</b> ..... Collet	<b>QC3-K / QC3-K-R / QC3-A / QC3-A-R</b> ..... Collet holder			

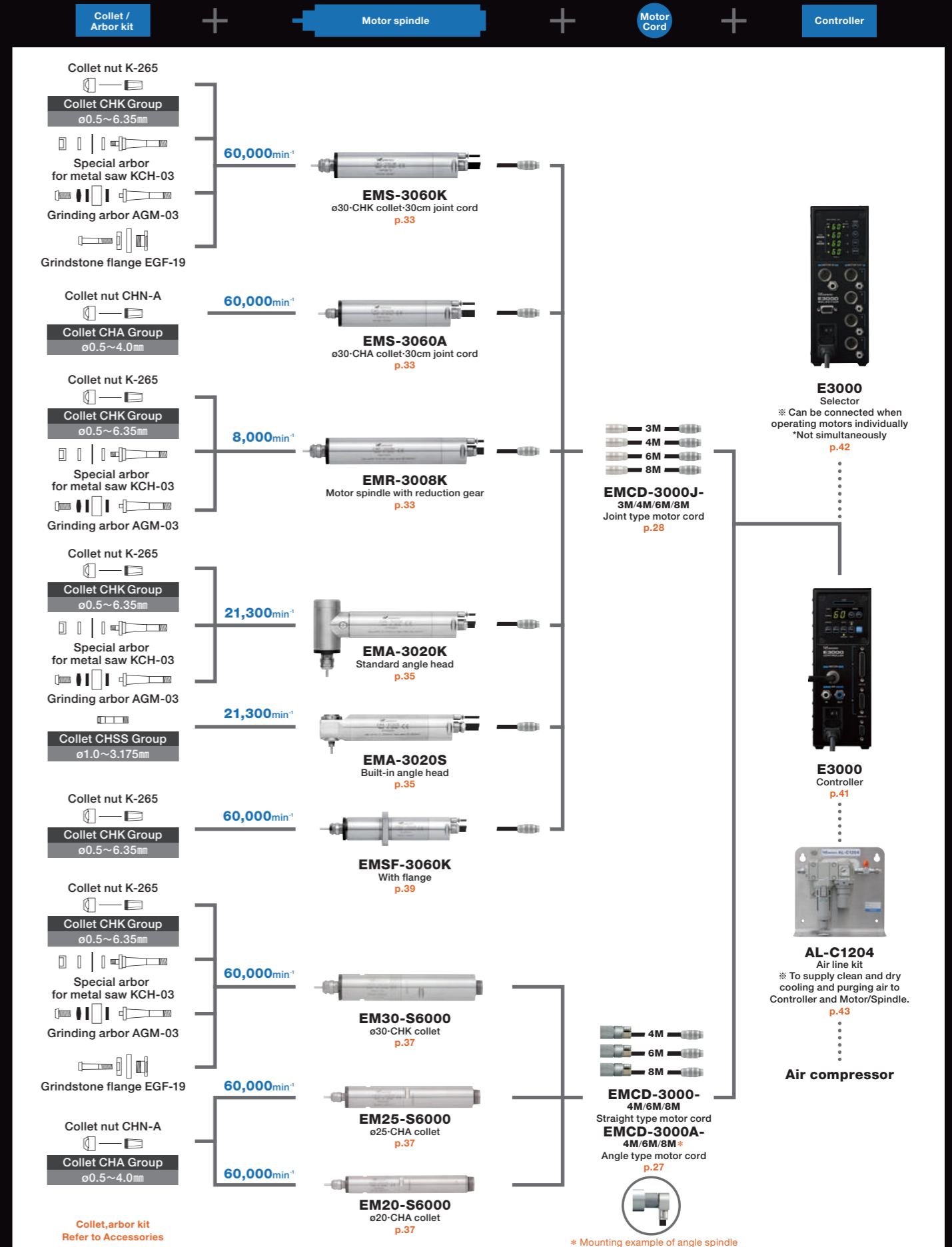


# System Chart

## E3000 Modular type $\phi 30/\phi 25/\phi 20\text{mm}$



## One-piece type $\phi 30/\phi 25/\phi 20\text{mm}$



# Spindle (Modular type)

Shown In Actual Size



- 50** NR50-5100 ATC p.15
- 50** NR50-5100 ATC-RS p.15
- 40** NR40-5100 ATC p.17



- 26** NRR-3060 p.17
- 30** NR3060-AQC p.19
- 30** NRR3060-QC p.21
- 30** ARG-011E p.23
- 30** ARG-021E p.23
- 30** RG-3004M p.23
- 30** NR-3080S p.25
- 48** NRAF-5080 p.25



- 30** NR-3060S p.9
- 30** NR-453E p.9
- 30** NR-403E 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** EM-3060 p.27
- 30** EM-3060J p.27
- 30** EM-3030T p.29
- 30** EM-3030T-J p.29
- 30** EM-3080J p.29





Spindle  
Guide

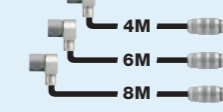
NR-3060S



NR-453E



NR-403E

EM-3060J  
p.27EM-3060  
p.27EM-3030T-J  
p.29EM-3030T  
p.29EMCD-3000J  
p.28EMCD-3000  
p.27EMCD-3000A  
p.27E3000 CONTROLLER  
p.41E3000 SELECTOR  
p.42

E3000 SERIES

Shown In Actual Size

## Spindle (Modular type)

## NR-3060S

60,000min<sup>-1</sup> short type

O.D. ø30mm



## NR-3060S

Code No. **1583**Model **NR-3060S**

O.D.	Max. rpm	Spindle runout	Collet	Weight
ø30mm	<b>60,000</b> min <sup>-1</sup>	Within <b>1</b> μm	<b>CHK Group</b> (ø0.5 ~ ø6.35mm)	<b>260g</b>
Standard Accessories	Collet : ø3.0mm (CHK-3.0) / Collet nut (K-265) / Spanner (12×14) : 2pcs·(22×27) : 1pc			
Options	Collet (CHK group) : ø0.5~ø6.35mm <b>p.44</b> Special arbor for metal saw (KCH-03) : for O.D.ø30mm and under / Grinding arbor (AGM-03) : for grindstone I.D.ø5mm Grindstone flange (EGF-19) : applicable grindstone I.D.ø19.05×O.D.ø40×7mm			

## NR-453E

50,000min<sup>-1</sup>

O.D. ø30mm



## NR-453E

Code No. **1566**Model **NR-453E**

O.D.	Max. rpm	Spindle runout	Collet	Weight
ø30mm	<b>50,000</b> min <sup>-1</sup>	Within <b>1</b> μm	<b>CHK Group</b> (ø0.5 ~ ø6.35mm)	<b>440g</b>
Standard Accessories	Collet : ø3.0mm (CHK-3.0) / Collet nut (K-265) / Spanner (12×14) : 2pcs·(22×27) : 1pc			
Options	Collet (CHK group) : ø0.5~ø6.35mm <b>p.44</b> Special arbor for metal saw (KCH-03) : for O.D.ø30mm and under / Grinding arbor (AGM-03) : for grindstone I.D.ø5mm Grindstone flange (EGF-19) : applicable grindstone I.D.ø19.05×O.D.ø40×7mm			

## NR-403E

40,000min<sup>-1</sup>

O.D. ø30mm



## NR-403E

Code No. **1565**Model **NR-403E**

O.D.	Max. rpm	Spindle runout	Collet	Weight
ø30mm	<b>40,000</b> min <sup>-1</sup>	Within <b>1</b> μm	<b>CHK Group</b> (ø0.5 ~ ø6.35mm)	<b>440g</b>
Standard Accessories	Collet : ø3.0mm (CHK-3.0) / Collet nut (K-265) / Spanner (12×14) : 2pcs·(22×27) : 1pc			
Options	Collet (CHK group) : ø0.5~ø6.35mm <b>p.44</b> Special arbor for metal saw (KCH-03) : for O.D.ø30mm and under / Grinding arbor (AGM-03) : for grindstone I.D.ø5mm Grindstone flange (EGF-19) : applicable grindstone I.D.ø19.05×O.D.ø40×7mm			

Spindle  
Guide

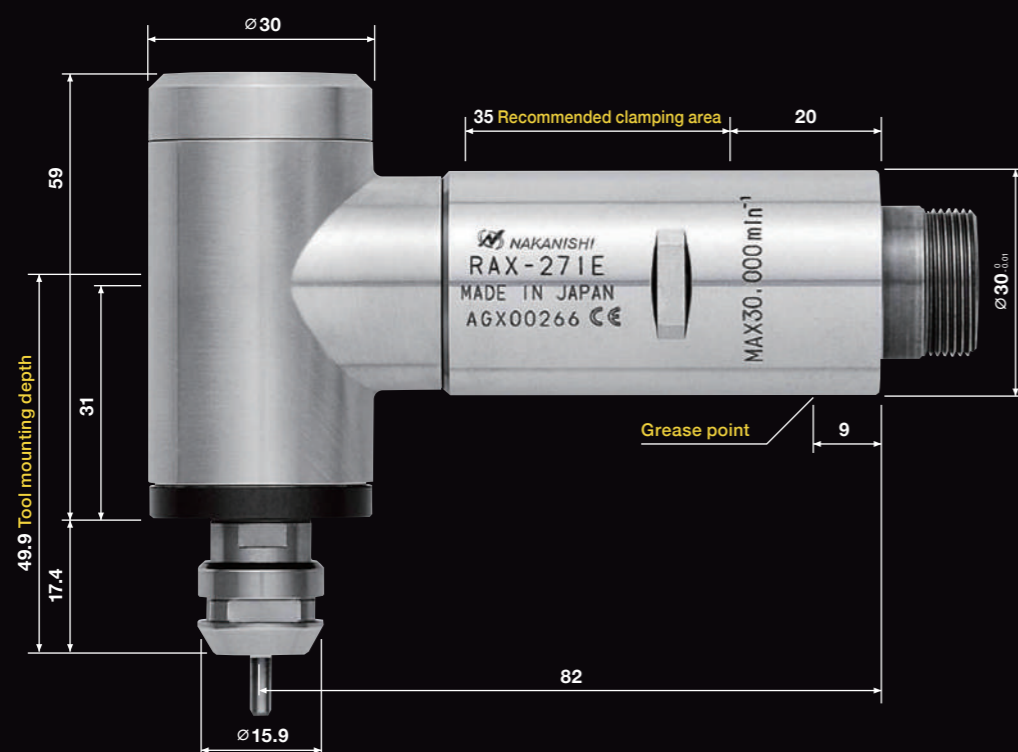
E3000 SERIES

Shown In Actual Size

## Spindle (Modular type)

## RAX-271E / RAX-71E

Standard angle head

O.D.  $\phi$ 30mm

## Specifications

Order by Code No.

## RAX-271E / RAX-71E

Code No.	1578	Model	RAX-271E
Code No.	1579	Model	RAX-71E



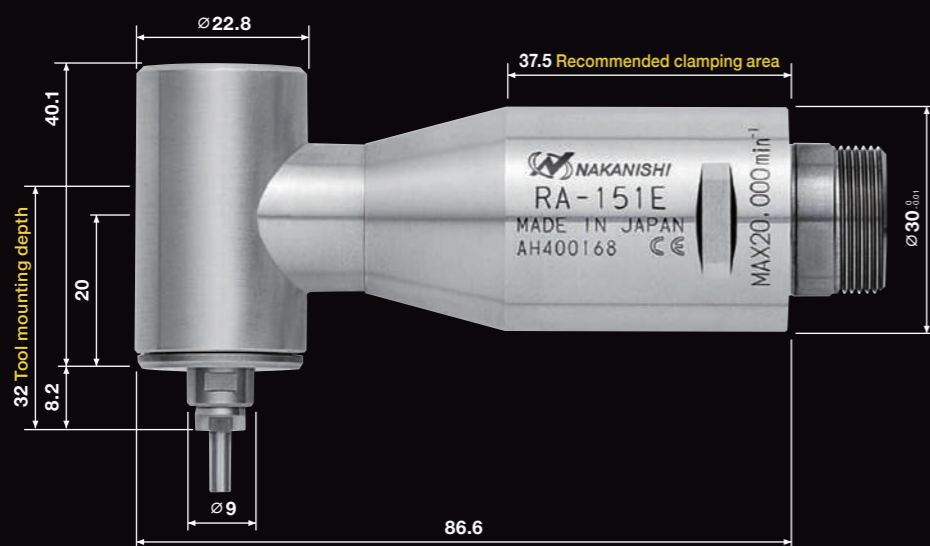
[Model]	O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
RAX-271E	$\phi$ 30mm	20,000 min <sup>-1</sup>	$\frac{1}{1.5}$	30,000 min <sup>-1</sup>
Spindle runout	Collet	Weight		
Within 2 $\mu$ m	CHK Group ( $\phi$ 0.5 ~ $\phi$ 6.35mm)	580g		
[Model]	O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
RAX-71E	$\phi$ 30mm	5,000 min <sup>-1</sup>	$\frac{1}{6}$	30,000 min <sup>-1</sup>
Spindle runout	Collet	Weight		
Within 2 $\mu$ m	CHK Group ( $\phi$ 0.5 ~ $\phi$ 6.35mm)	580g		
Standard Accessories	Collet : $\phi$ 3.0mm (CHK-3.0) / Collet nut (K-265)			
	Spanner (12 $\times$ 14) : 2pcs · (22 $\times$ 27) : 1pc / Grease for reduction gear (10ml) / Grease Dispenser : 1pc			
	Grease nipple : 1pc			
Options	Collet (CHK group) : $\phi$ 0.5~ $\phi$ 6.35mm p.44			
	Special arbor for metal saw (KCH-03) : for O.D. $\phi$ 30mm and under			
	Grindstone arbor (AGM-03) : for grindstone I.D. $\phi$ 5.0mm			



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.

## RA-151E

With short head

O.D.  $\phi$ 30mm

## RA-151E

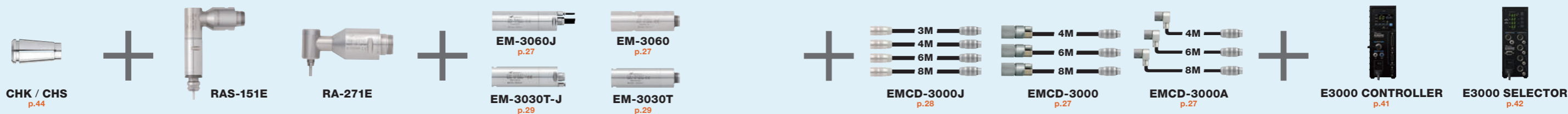
Code No.	1505	Model	RA-151E
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O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Collet	Weight
$\phi$ 30mm	7,490 min <sup>-1</sup>	$\frac{1}{2.67}$	20,000 min <sup>-1</sup>	CH8 Group ( $\phi$ 0.8 ~ $\phi$ 3.175mm)	385g
Standard Accessories	Collet : $\phi$ 3.0mm (CH8-3.0) / Spanner (7 $\times$ 5.5) · (8 $\times$ 5) · (22 $\times$ 27) : 1pc each				
Options	Collet (CH8 group) : $\phi$ 0.8~ $\phi$ 3.175mm p.44				
	Special arbor for metal saw (KCH-02) : for O.D. $\phi$ 30mm and under				



Spindle Guide



E3000 SERIES

Shown In Actual Size

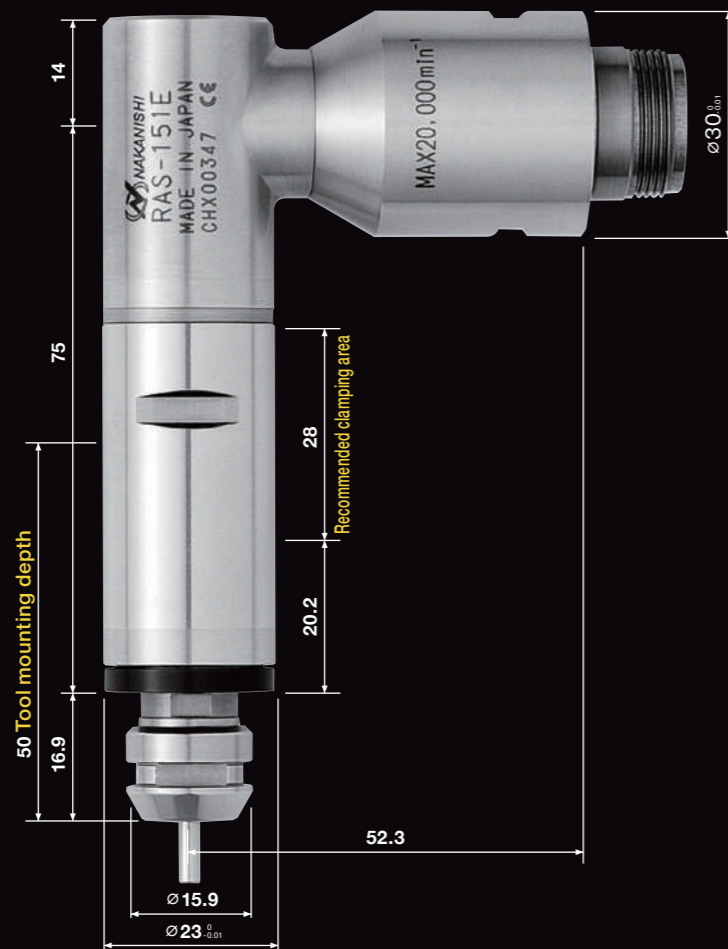
## Spindle (Modular type)

## RAS-151E

With long head



O.D. ø30mm



## Specifications

Order by Code No.

## RAS-151E

Code No. **1559** Model **RAS-151E**

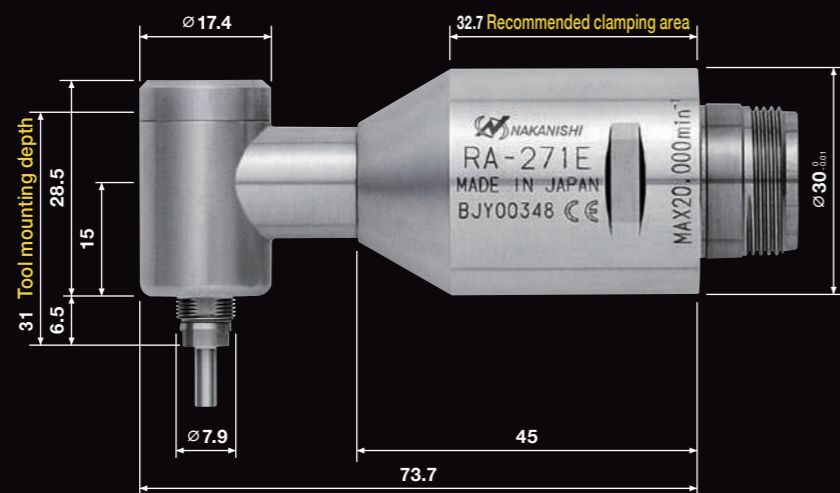
O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
ø30mm	<b>7,490</b> min <sup>-1</sup>	$\frac{1}{2.67}$	<b>20,000</b> min <sup>-1</sup>
Spindle runout	Collet	Weight	
Within <b>2</b> μm	<b>CHK Group</b> (ø0.5 ~ ø6.35mm)	<b>413g</b>	
Standard Accessories	Collet : ø3.0mm (CHK-3.0) / Collet nut (K-265) Spanner (12×14) : 2pcs·(22×27) : 1pc		
Options	Collet (CHK group) : ø0.5~ø6.35mm <b>p.44</b> Special arbor for metal saw (KCH-03) : for O.D.ø30mm and under Grinding arbor (AGM-03) : for grindstone I.D.ø5.0mm		

## RA-271E

With small head



O.D. ø30mm



## RA-271E

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

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Collet	Weight
ø30mm	<b>13,330</b> min <sup>-1</sup>	$\frac{1}{1.5}$	<b>20,000</b> min <sup>-1</sup>	<b>CHS Group</b> (ø0.8 ~ ø3.175mm)	<b>240g</b>
Standard Accessories	Collet : ø3.0mm (CHS-3.0) / Spanner (7×5.1)·(8×5)·(22×27) : 1pc each				
Options	Collet (CHS group) : ø0.8~ø3.175mm <b>p.44</b>				



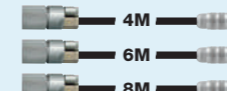
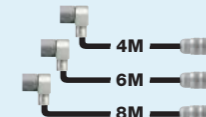
Spindle Guide

CHR / CHR RS  
p.44

NR50-5100 ATC



NR50-5100 ATC-RS

EM-3060J  
p.27EM-3030T-J  
p.29EM-3060  
p.27EM-3030T  
p.29EMCD-3000J  
p.28EMCD-3000  
p.27EMCD-3000A  
p.27E3000 CONTROLLER  
p.41E3000 SELECTOR  
p.42

E3000 SERIES

Shown In Actual Size

## Spindle (Modular type)

### NR50-5100 ATC

Automatic tool change spindle



O.D. 50mm

### NR50-5100 ATC-RS

Automatic tool change spindle

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.



O.D. 50mm

## Specifications

Order by Code No.

### NR50-5100 ATC

Code No. **1580** Model **NR50-5100 ATC**

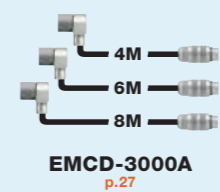
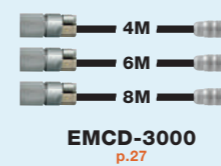
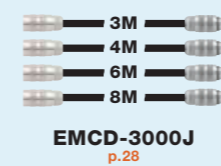
O.D.	Max. rpm	Air pressure of collet open/close	Spindle runout	Collet	Weight
50mm	50,000 min <sup>-1</sup>	0.55~0.6MPa	Within 1 μm	CHR Group (3.175mm)	1,370g
Standard Accessories	Collet : 3.175mm (CHR-3.175) / Spanner (9×11) · (12×14) : 1pc each / Bar wrench (K-236) : 1pc Air hose with filter (K-251) : 6mm×2m				
Options	Collet (CHR group) : 2.0, 3.0, 3.175, 4.0, 6.0, 6.35mm p.44				

### NR50-5100 ATC-RS

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

O.D.	Max. rpm	Air pressure of collet open/close	Spindle runout	Collet	Weight
50mm	50,000 min <sup>-1</sup>	0.55~0.6MPa	Within 1 μm	CHR RS Group (3.175mm)	1,370g
Standard Accessories	Collet : 3.175mm (CHR-3.175RS) / Spanner (9×11) · (12×14) : 1pc each / Bar wrench (K-236) : 1pc Air hose with filter (K-251) : 6mm×2m				
Options	Collet (CHR RS group) : 3.0, 3.175, 4.0, 6.0, 6.35mm p.44				



Spindle  
Guide

E3000 SERIES

Shown In Actual Size

## Spindle (Modular type)

## NR40-5100 ATC

Automatic tool  
change spindle

## Specifications

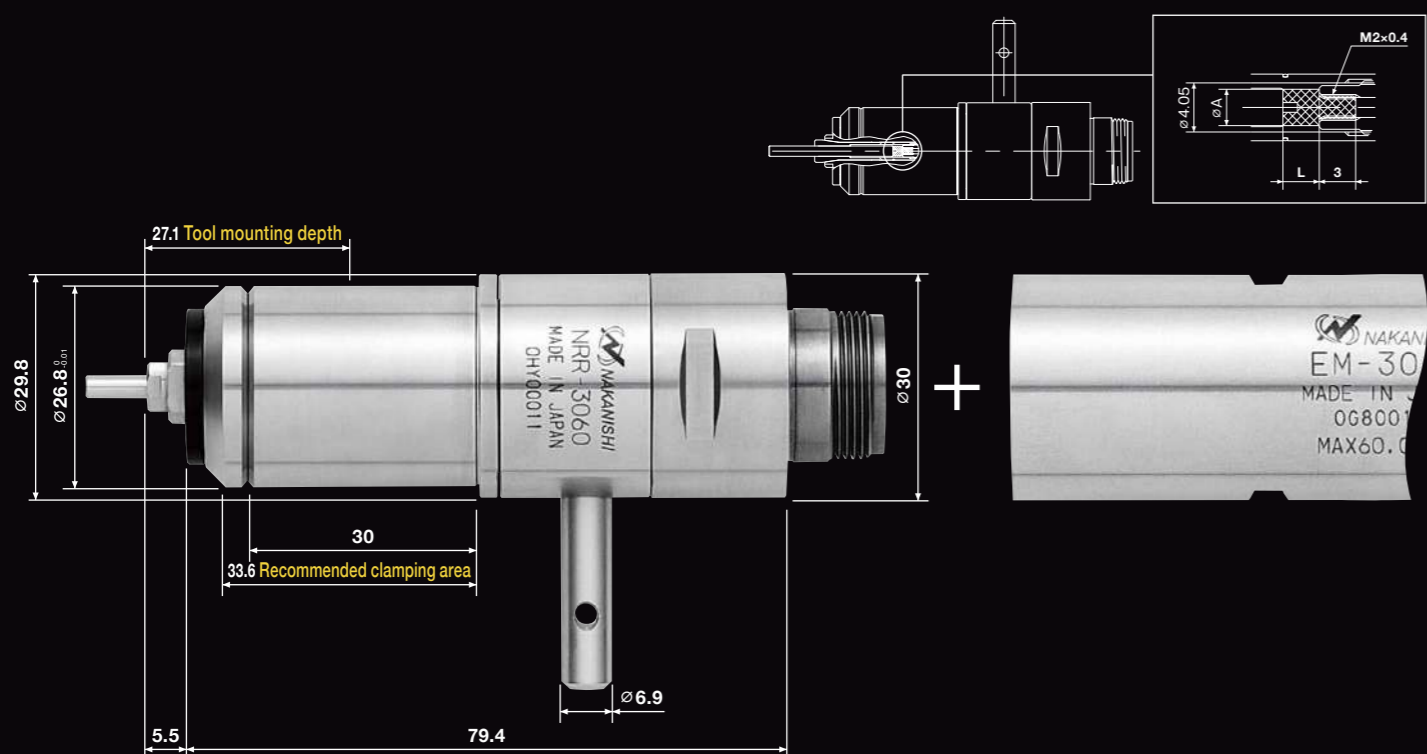
Order by Code No.

## NR40-5100 ATC

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

O.D.	Max. rpm	Air pressure of collet open/close	Spindle runout	Collet	Weight
$\varnothing 40$ mm	<b>50,000</b> min <sup>-1</sup>	<b>0.55~0.6</b> MPa	Within <b>2</b> $\mu$ m	<b>CHB Group</b> ( $\varnothing 3.175$ mm)	<b>740g</b>
Standard Accessories	Collet : $\varnothing 3.175$ mm (CHB-3.175) / Spanner (6.1 $\times$ 8) · (9 $\times$ 11) : 1pc each / Bar wrench (K-236) : 1pc Air hose with filter (K-251) : $\varnothing 6$ mm $\times$ 2m				
Options	Collet (CHB group) : $\varnothing 2.0$ , $\varnothing 3.0$ , $\varnothing 3.175$ , $\varnothing 4.0$ p.44				

## NRR-3060

Manual tool  
change spindle

## NRR-3060

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

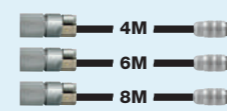
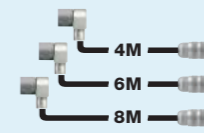
O.D.	Max. rpm	Spindle runout	Collet	Weight
$\varnothing 26.8$ mm Recommended clamping area	<b>60,000</b> min <sup>-1</sup>	Within <b>1</b> $\mu$ m	<b>CHB Group</b> ( $\varnothing 3.175$ mm)	<b>350g</b>
Standard Accessories	Collet : $\varnothing 3.175$ mm (CHB-3.175) / Spanner (6.1 $\times$ 8) : 2pcs · (22 $\times$ 27) : 1pc			
Options	Collet (CHB group) : $\varnothing 2.0$ , $\varnothing 3.0$ , $\varnothing 3.175$ , $\varnothing 4.0$ p.44			



## Spindle Guide

CHK / CHA  
p.44QC3-A / QC3-A-R / QC3-K / QC3-K-R  
p.45

NR3060-AQC

EM-3060J  
p.27EM-3060  
p.27EM-3030T-J  
p.29EM-3030T  
p.29EMCD-3000J  
p.28EMCD-3000  
p.27EMCD-3000A  
p.27E3000 CONTROLLER  
p.41E3000 SELECTOR  
p.42

## E3000 SERIES

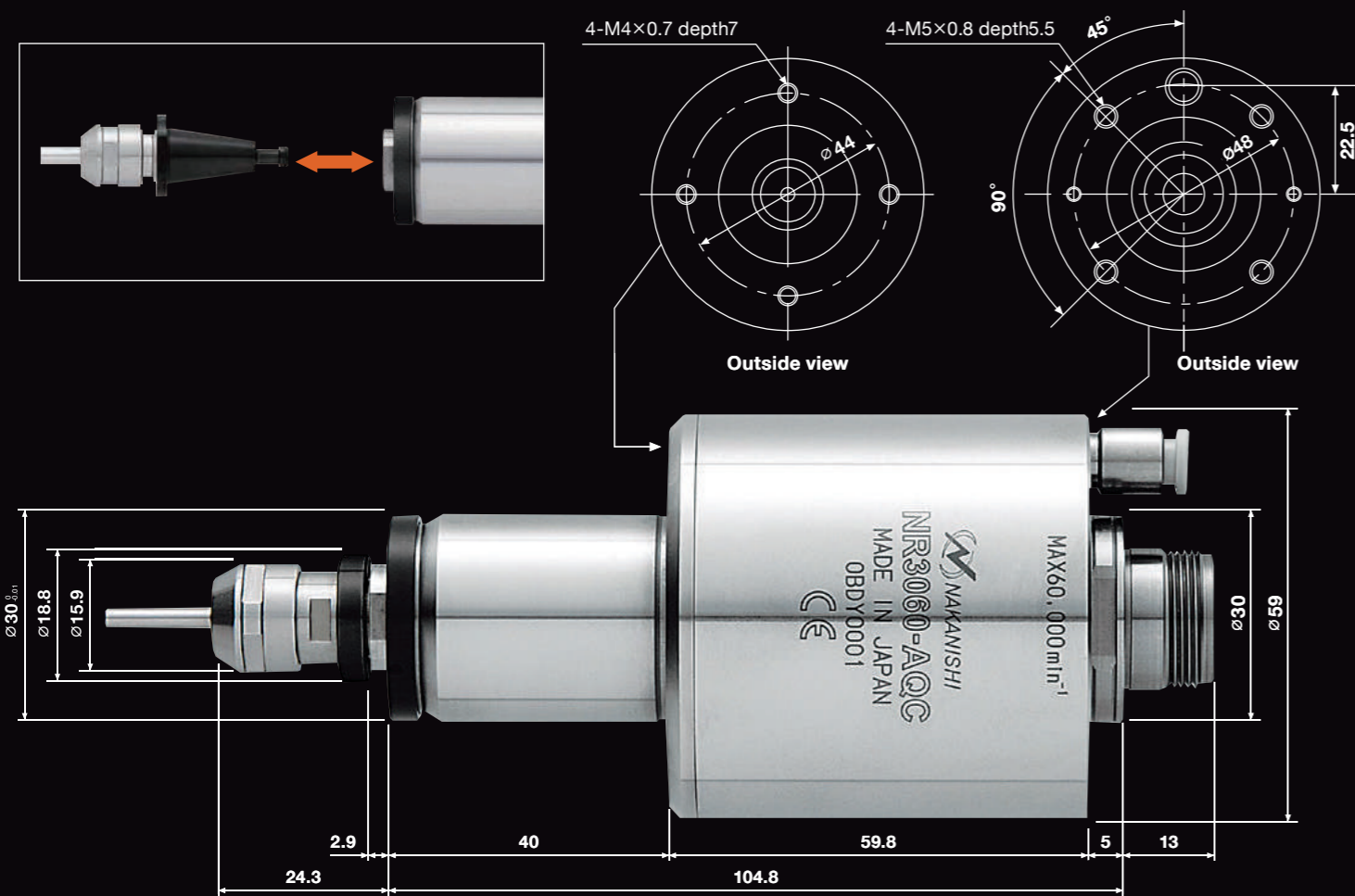
Shown In Actual Size

## Spindle (Modular type)

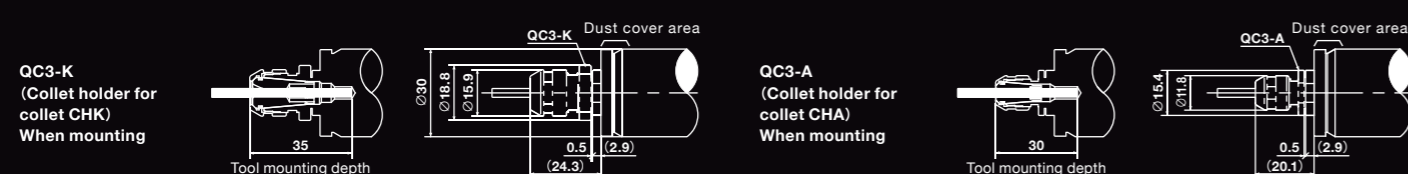
## NR3060-AQC

## Air quick change spindle

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

O.D.  $\phi$ 30mm

## Outside view of the tip of the spindle



## Specifications

Order by Code No.

## NR3060-AQC

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

O.D.	Max. rpm	Air pressure of collet open/close	Spindle runout	Collet holders	Weight
$\phi$ 30mm	60,000min <sup>-1</sup>	0.6MPa	Within 1 $\mu$ m	QC3-A / QC3-A-R (for Collet CHA) QC3-K / QC3-K-R (for Collet CHK)	1,230g

Standard Accessories Spanner (22x27) : 1pc / Air hose with filter (K-251) :  $\phi$ 6mmx2m 1pc

## Parts (Optional)

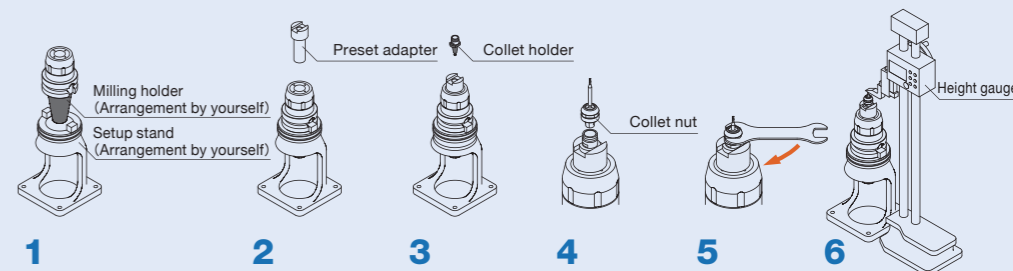
	Collet	Collet holder (Collet nut included)		Spanner					
		QC3-K/A	QC3-K/A-R						
<b>CHK</b>	<p>You can choose the I.D. size (The following is an example of <math>\phi</math>3.0mm.)</p>	<p>*QC3-K-R/QC3-A-R cannot be used to Preset adapter.</p>		Code No.	915 3 0	9210	9223	2026	
I.D. $\phi$ 0.5mm~6.35mm p.44				Model	CHK- 3 . 0 (I.D. $\phi$ 3.0mm)	QC3-K (for Collet CHK)	QC3-K-R (for Collet CHK)	Spanner 12 x 14 (2pcs.)	
<b>CHA</b>				Code No.	914 3 0	9209	9222	2012	2054
I.D. $\phi$ 0.5mm~4.0mm p.44				Model	CHA- 3 . 0 (I.D. $\phi$ 3.0mm)	QC3-A (for Collet CHA)	QC3-A-R (for Collet CHA)	Spanner 8 x 5 (1pc.)	Spanner 9 x 11 (1pc.)

\*In case using a Preset adapter, only 1pc. spanner is used.  
CHK collet  $\rightarrow$  12 x 14 spanner (1pc.) / CHA collet  $\rightarrow$  9 x 11 spanner (1pc.)

Preset adapter  
(QC3-K/QC3-A)\* Holding section size is  $\phi$ 20.Code No. **9211**Model **QC3-ADP**

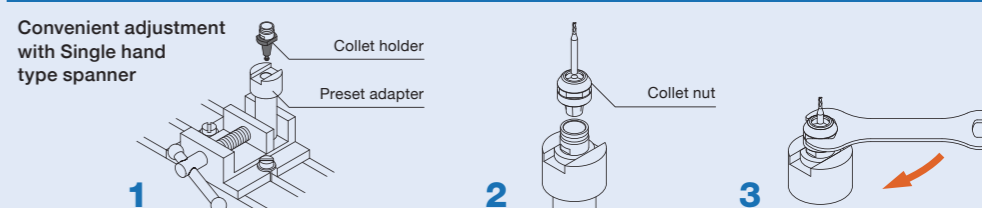
## Set-up outside machines

In case using a milling holder



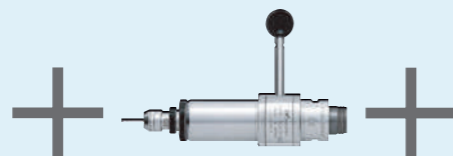
## Set-up outside machines

In case using a vice

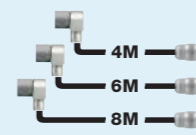




## Spindle Guide

CHK / CHA  
p.44QC3-A / QC3-A-R / QC3-K / QC3-K-R  
p.45

NRR3060-QC

EM-3060J  
p.27EM-3060  
p.27EM-3030T-J  
p.29EM-3030T  
p.29EMCD-3000J  
p.28EMCD-3000  
p.27EMCD-3000A  
p.27E3000 CONTROLLER  
p.41E3000 SELECTOR  
p.42

## E3000 SERIES

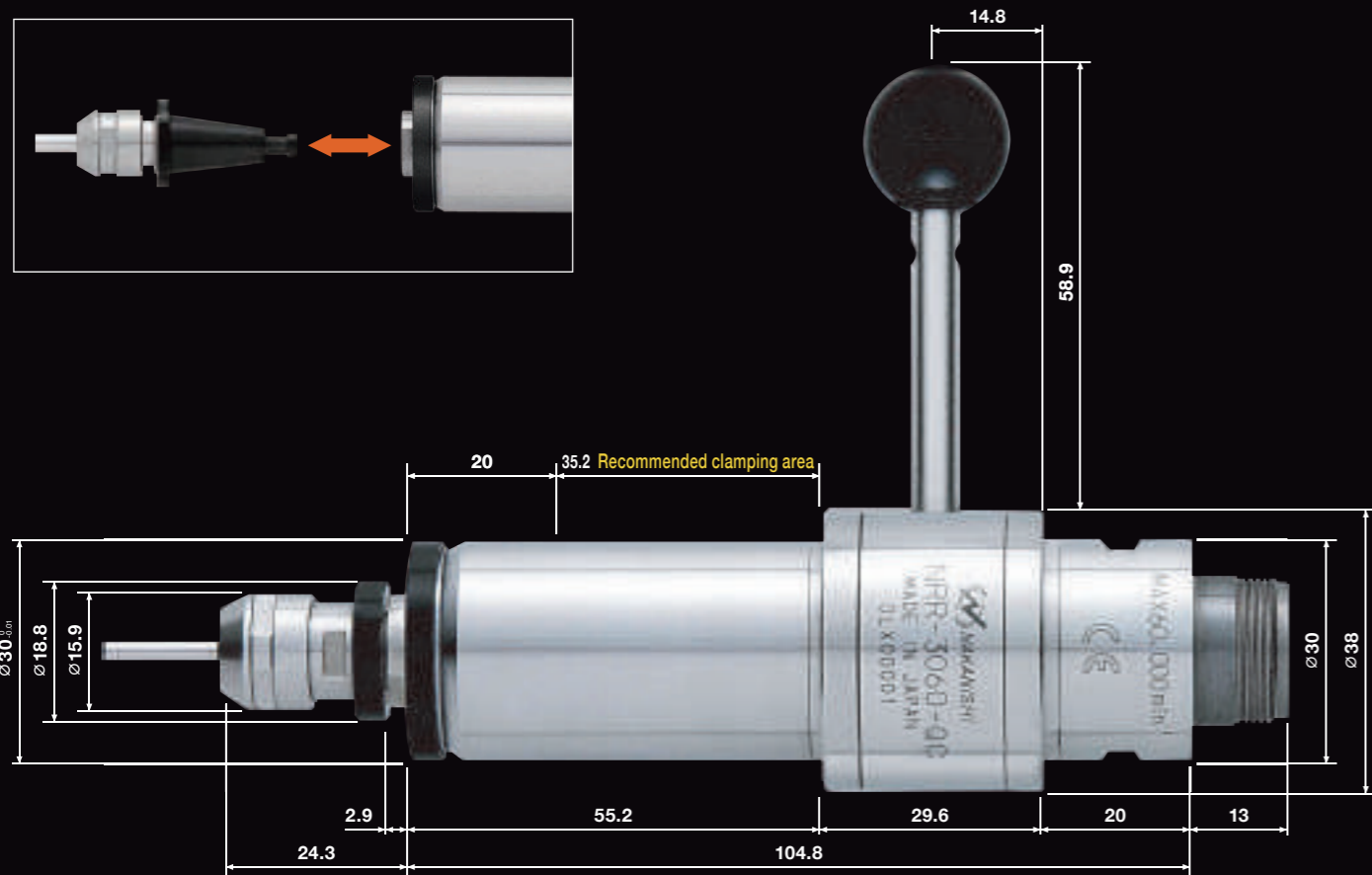
Shown In Actual Size

## Spindle (Modular type)

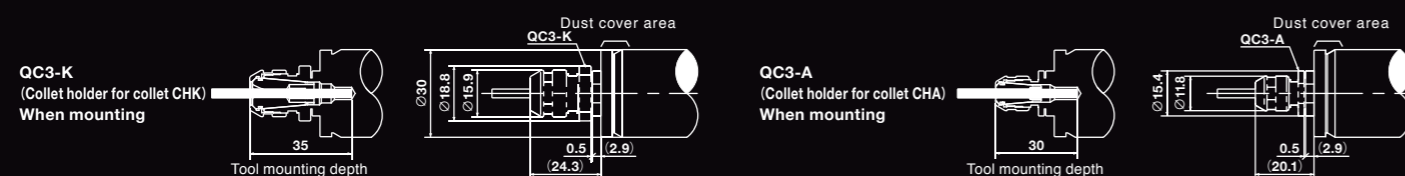
## NRR3060-QC

## Lever quick change spindle

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

O.D.  $\phi$ 30mm

## Outside view of the tip of the spindle



## Specifications

Order by Code No.

## NRR3060-QC

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

O.D.	Max. rpm	Spindle runout	Collet holders	Lever operating angle	Weight
$\phi$ 30mm Recommended clamping area	<b>60,000</b> min <sup>-1</sup>	Within <b>1</b> $\mu$ m	<b>QC3-A / QC3-A-R</b> (for Collet CHA) <b>QC3-K / QC3-K-R</b> (for Collet CHK)	<b>90°</b>	<b>570g</b>
Standard Accessories Spanner (22×27) : 1pc					

## Parts (Optional)

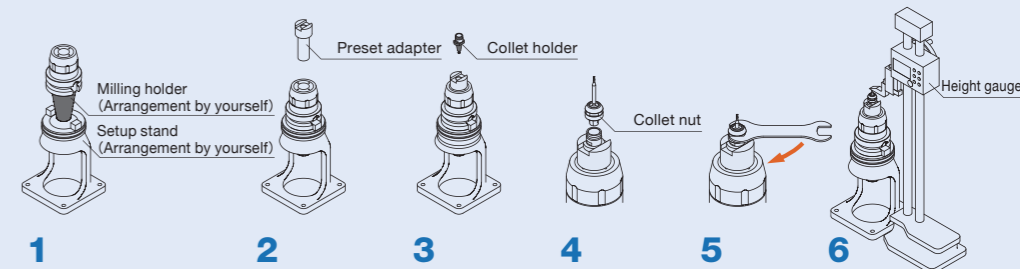
Collet	Collet holder (Collet nut included)		Spanner		
	You can choose the I.D. size (The following is an example of $\phi$ 3.0mm.) 				
<b>CHK</b>	Code No.	<b>915 3 0</b>	<b>9210</b>	<b>9223</b>	<b>2026</b>
I.D. $\phi$ 0.5mm~6.35mm p.44	Model	<b>CHK- 3 . 0</b> (I.D. $\phi$ 3.0mm)	<b>QC3-K</b> (for Collet CHK)	<b>QC3-K-R</b> (for Collet CHK)	<b>Spanner 12 × 14 (2pcs.)</b>
<b>CHA</b>	Code No.	<b>914 3 0</b>	<b>9209</b>	<b>9222</b>	<b>2012</b>
I.D. $\phi$ 0.5mm~4.0mm p.44	Model	<b>CHA- 3 . 0</b> (I.D. $\phi$ 3.0mm)	<b>QC3-A</b> (for Collet CHA)	<b>QC3-A-R</b> (for Collet CHA)	<b>Spanner 8 × 5 (1pc.)</b> <b>Spanner 9 × 11 (1pc.)</b>

\*In case using a Preset adapter, only 1pc. spanner is used.  
CHK collet → 12 × 14 spanner (1pc.) / CHA collet → 9 × 11 spanner (1pc.)

Preset adapter  
(QC3-K/QC3-A)\* Holding section size is  $\phi$ 20.Code No. **9211**Model **QC3-ADP**

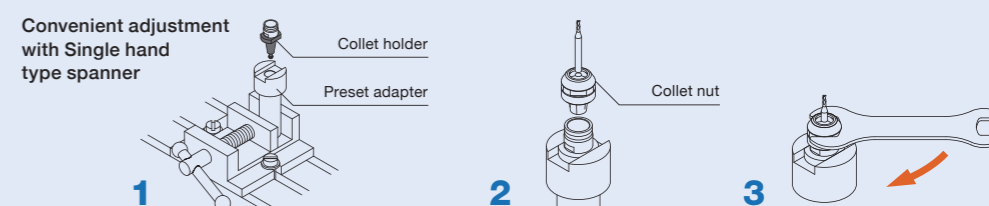
## Set-up outside machines

## In case using a milling holder



## Set-up outside machines

## In case using a vice



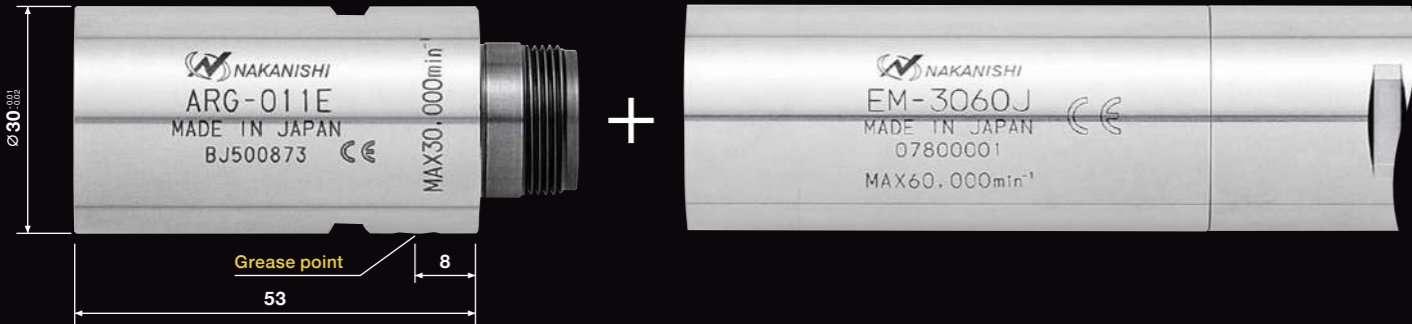


# Reduction gear (Modular type)

Order by Code No.

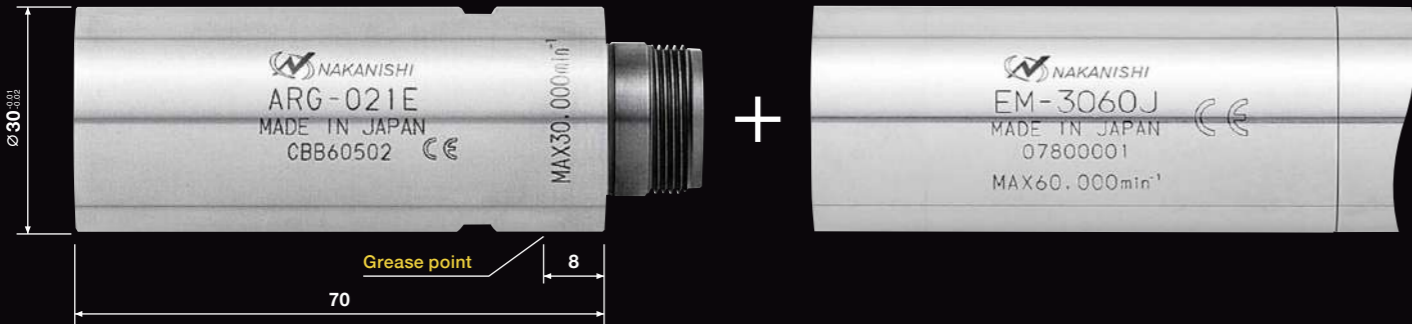
## ARG-011E

Reduction gear (1:4)

O.D.  $\varnothing$ 30mm

## ARG-021E

Reduction gear (1:16)

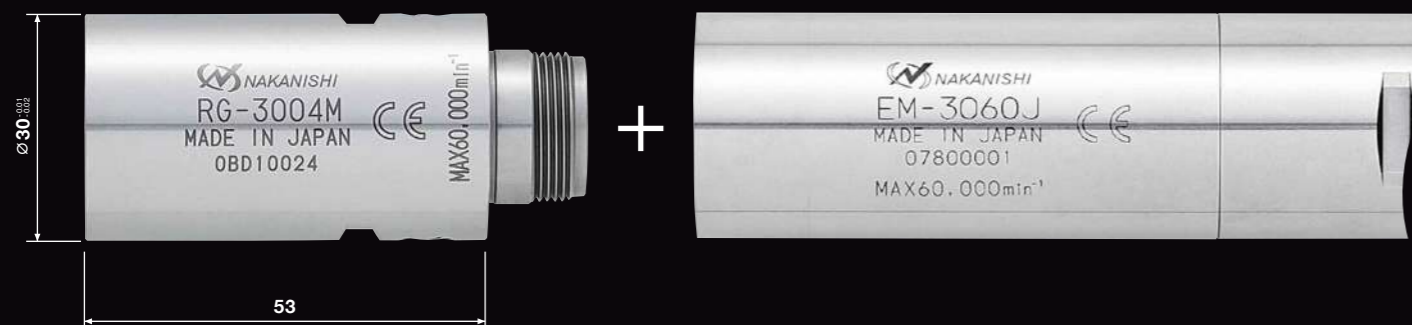
O.D.  $\varnothing$ 30mm

## RG-3004M

Oil mist type reduction gear (1:4)

O.D.  $\varnothing$ 30mm

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



# Specifications

## ARG-011E

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

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Weight
$\varnothing$ 30mm	<b>7,500</b> min <sup>-1</sup>	$\frac{1}{4}$	<b>30,000</b> min <sup>-1</sup>	<b>242g</b>

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



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.

## ARG-021E

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

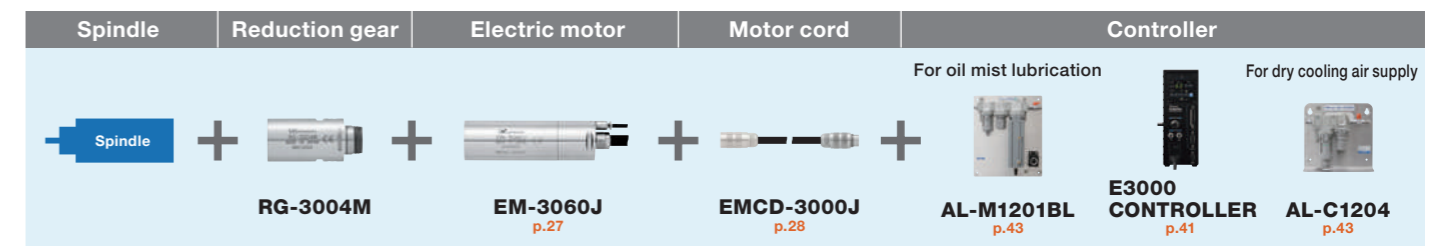
O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Weight
$\varnothing$ 30mm	<b>1,870</b> min <sup>-1</sup>	$\frac{1}{16}$	<b>30,000</b> min <sup>-1</sup>	<b>325g</b>

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



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.

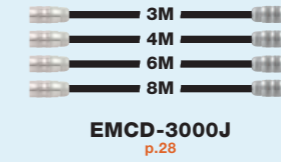
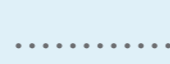
## RG-3004M

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

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Weight
$\varnothing$ 30mm	<b>15,000</b> min <sup>-1</sup>	$\frac{1}{4}$	<b>60,000</b> min <sup>-1</sup>	<b>240g</b>



Spindle Guide



E3000 SERIES

Shown In Actual Size

## Spindle (Modular type)

NR-3080S  
80,000min<sup>-1</sup>



## Specifications

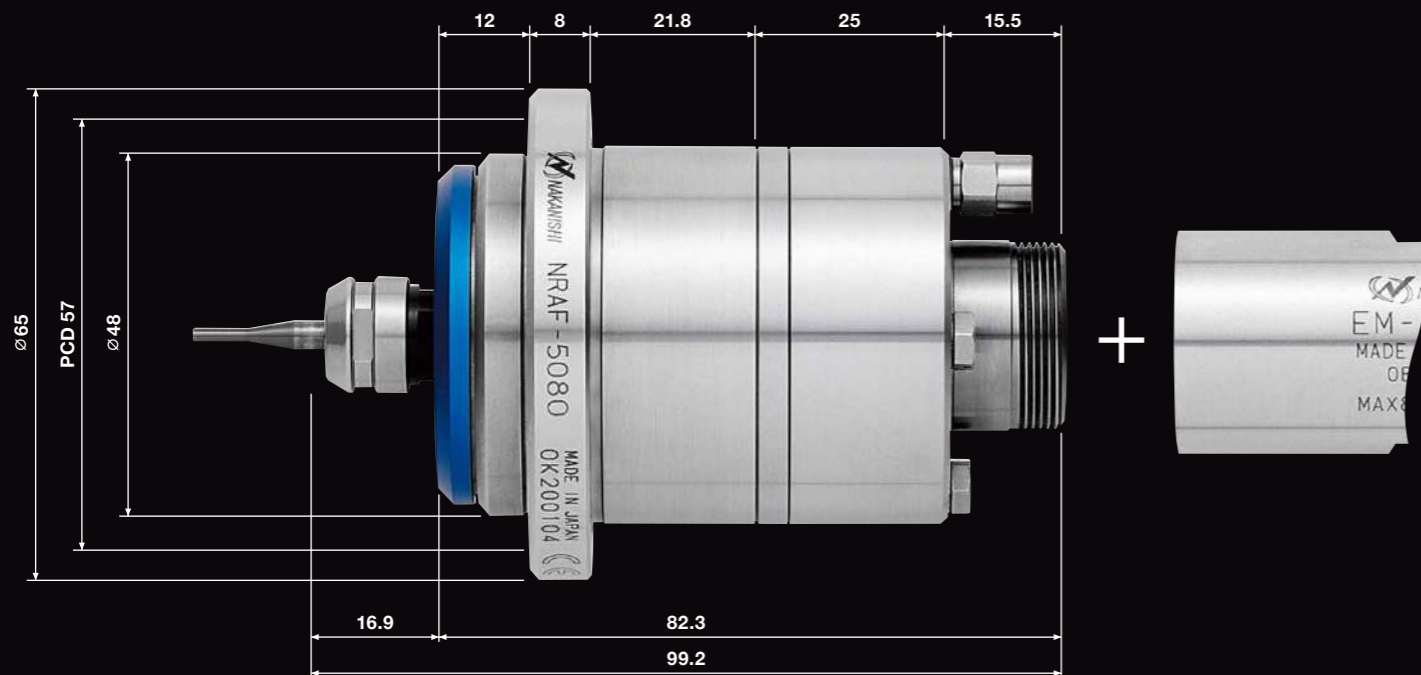
Order by Code No.

NR-3080S

Code No. **1783** Model **NR-3080S**

O.D.	Max. rpm	Spindle runout	Collet	Weight
∅30mm	<b>80,000</b> min <sup>-1</sup>	Within1μm	<b>CHA Group</b> (∅0.5 ~ ∅4.0mm)	<b>170g</b>
Standard Accessories	Collet : ∅3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (22×27) : 1pc · (8×5) : 1pc · (9×11) : 1pc			
Options	Collet (CHA group) : ∅0.5 ~ ∅4.0mm <b>p.44</b>			

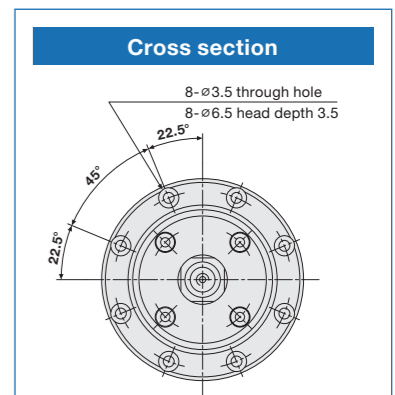
NRAF-5080  
Air bearing spindle



NRAF-5080

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

O.D.	Max. rpm	Appropriate bearing air pressure	Spindle runout	Collet	Weight
∅48mm	<b>80,000</b> min <sup>-1</sup>	<b>35</b> NI/min (0.5MPa)	Within1μm	<b>CHK Group</b> (∅0.5 ~ ∅6.35mm)	<b>560g</b>
Specifications	Body mounting : flange mounting, M3 bolt (8 locations, equidistribution, 45° angle, PCD57) Bearing type : air static bearing / bearing load capacity : radial 20N, thrust 40N Useable Max. diameter of grindstone : ∅8.0mm and under on ∅6.0mm shank Hose diameter : ∅4mm , for bearing air inlet				
Standard Accessories	Collet : ∅3.0mm (CHK-3.0) / Collet nut (K-265A) Spanner (12×14) : 2pcs · (22×27) : 1pc / Fitting (KQ2H04-M5N) : 1pc Plug (KQ2P-04) : 1pc, Inlet air hose (∅4mm×4m) : 1pc, Bar wrench (K-236) : 1pc				
Options	Collet (CHK group) : ∅0.5 ~ ∅6.35mm <b>p.44</b>				



# Motor / Motor Cord

Order by Code No.

## EM-3060 60,000min<sup>-1</sup> motor



O.D.  $\phi$ 30mm



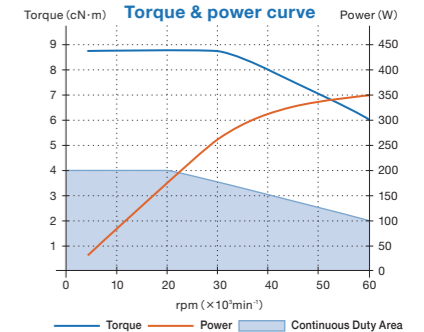
# Specifications

## EM-3060

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



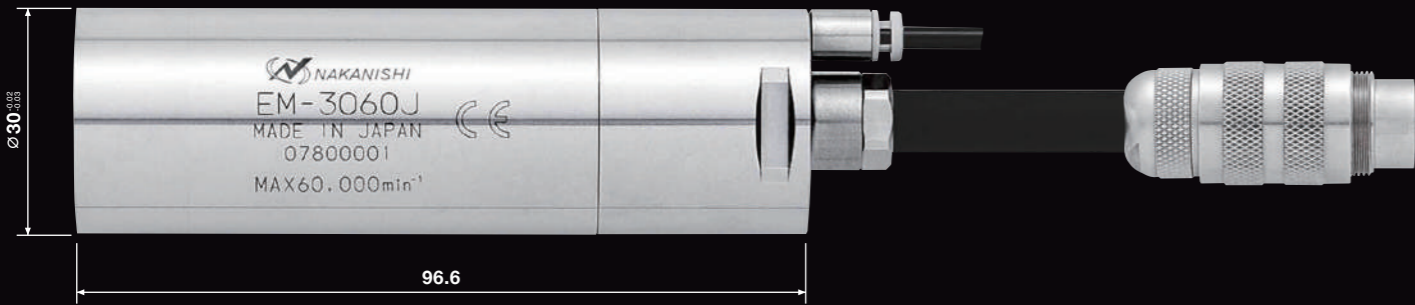
O.D.	Speed Range	Max. power	Weight
$\phi$ 30mm	1,000 ~ 60,000min <sup>-1</sup>	350w	325g
Standard Accessories Spanner (22×27) : 1pc			



## EM-3060J 60,000min<sup>-1</sup> motor with joint type motor cord



O.D.  $\phi$ 30mm



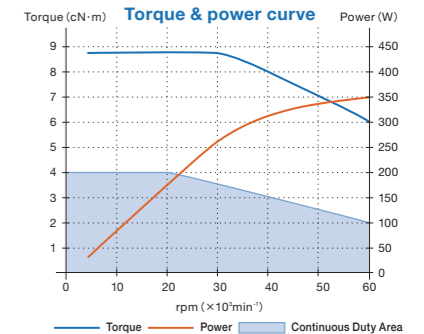
## EM-3060J

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
$\phi$ 30mm	1,000 ~ 60,000min <sup>-1</sup>	350w	360g (Motor cord is not included.)
Standard Accessories Spanner (22×27) : 1pc			



Motor cord	Code No.	Model	Length	Standard Accessories	Compatible model
Straight type	<b>1748</b>	EMCD-3000-4M	4m	Air hose Connector cap (Included)	EM-3060 EM-3030T EM30-S6000 EM25-S6000 EM20-S6000
	<b>1749</b>	EMCD-3000-6M	6m		
	<b>1750</b>	EMCD-3000-8M	8m		
Angle type	<b>1744</b>	EMCD-3000A-4M	4m	Air hose Connector cap (Included)	EM-3060 EM-3030T EM30-S6000 EM25-S6000 EM20-S6000
	<b>1743</b>	EMCD-3000A-6M	6m		
	<b>1742</b>	EMCD-3000A-8M	8m		

Motor cord	Code No.	Model	Length	Standard Accessories	Compatible model
Joint type motor cord	<b>1778</b>	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
	<b>1768</b>	EMCD-3000J-4M	3.7m		
	<b>1767</b>	EMCD-3000J-6M	5.7m		
	<b>1766</b>	EMCD-3000J-8M	7.7m		



# Motor / Motor Cord

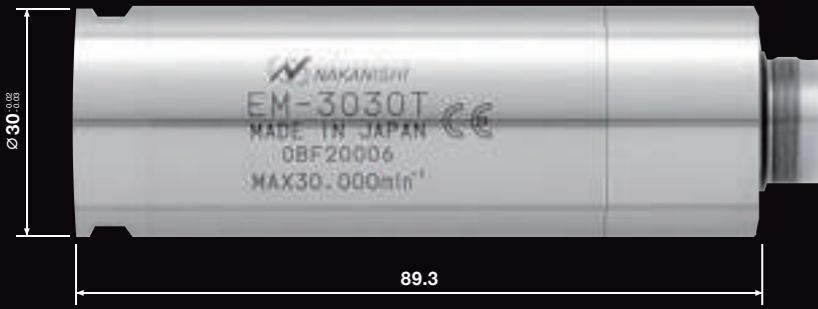
Order by Code No.

## EM-3030T 30,000min<sup>-1</sup> torque motor



O.D.  $\phi$ 30mm

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

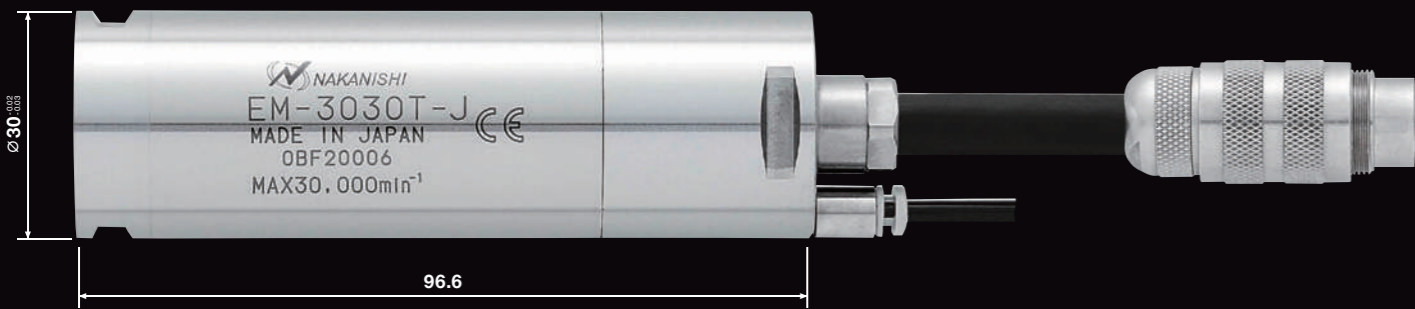


## EM-3030T-J 30,000min<sup>-1</sup> torque motor with joint type motor cord



O.D.  $\phi$ 30mm

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

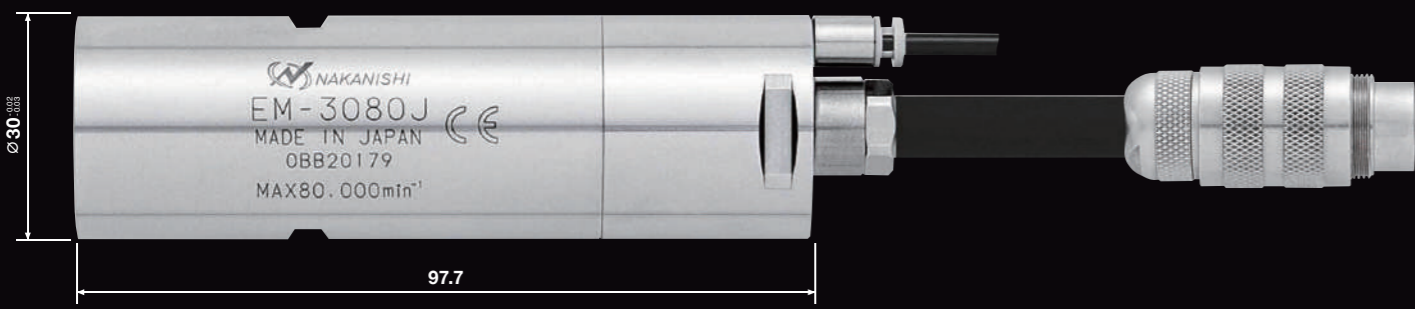


Cord length L=0.3m

## EM-3080J 80,000min<sup>-1</sup> brushless motor with joint type motor cord

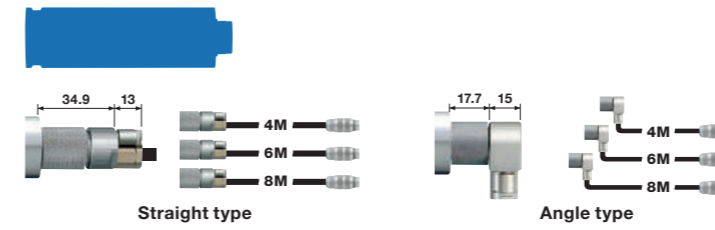


O.D.  $\phi$ 30mm



# Specifications

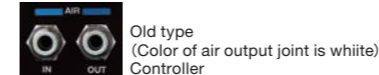
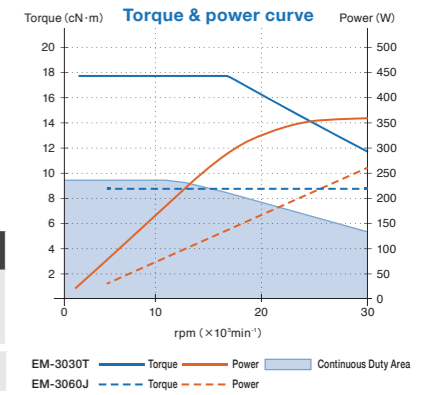
## EM-3030T



O.D.	Speed Range	Max. power	Weight
$\phi$ 30mm	1,000 ~ 30,000min <sup>-1</sup>	350w	340g

Standard Accessories Spanner (22×27) : 1pc

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



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

## EM-3030T-J



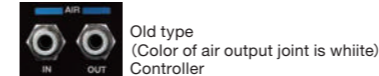
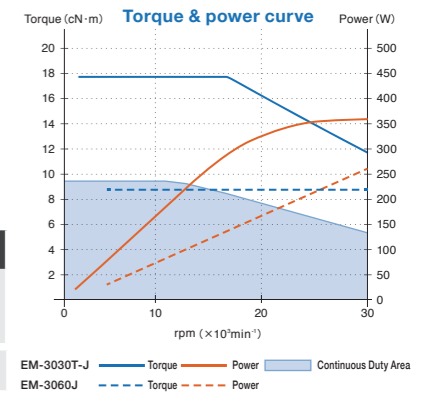
Length	0.3m	Code No.	<b>7358</b>	Model	<b>EM-3030T-J</b>
Length	2m	Code No.	<b>7359</b>	Model	<b>EM-3030T-J-2M</b>



※ Joint Type motor cord is necessary.

O.D.	Speed Range	Max. power	Weight
$\phi$ 30mm	1,000 ~ 30,000min <sup>-1</sup>	350w	415g (Motor cord is not included.)

Standard Accessories Spanner (22×27) : 1pc



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

## EM-3080J



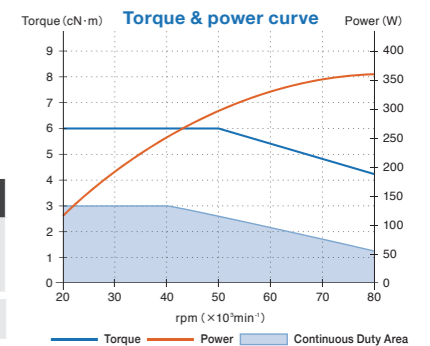
Length	0.3m	Code No.	<b>1781</b>	Model	<b>EM-3080J</b>
Length	2m	Code No.	<b>1788</b>	Model	<b>EM-3080J-2M</b>



※ Joint Type motor cord is necessary.

O.D.	Speed Range	Max. power	Weight
$\phi$ 30mm	20,000 ~ 80,000min <sup>-1</sup>	350w	360g (Motor cord is not included.)

Standard Accessories Spanner (22×27) : 1pc



# Motor spindle (One-piece type)



**30** EMS-3060K  
p.33

**30** EMS-3060A  
p.33

**30** EMR-3008K  
p.33



**30** EM30-S6000  
p.37

**25** EM25-S6000  
p.37

**20** EM20-S6000  
p.37



**30** EMA-3020K  
p.35

**30** EMA-3020S  
p.35

**30** EMSF-3060K  
p.39



Spindle Guide



EMS-3060K



EMS-3060A



EMR-3008K



EMCD-3000J  
p.28



E3000 CONTROLLER  
p.41



E3000 SELECTOR  
p.42

E3000 SERIES

Shown In Actual Size

# Motor spindle (One-piece type)

Order by Code No.

## EMS-3060K

ø30-CHK collet-30cm joint cord



O.D. ø30mm

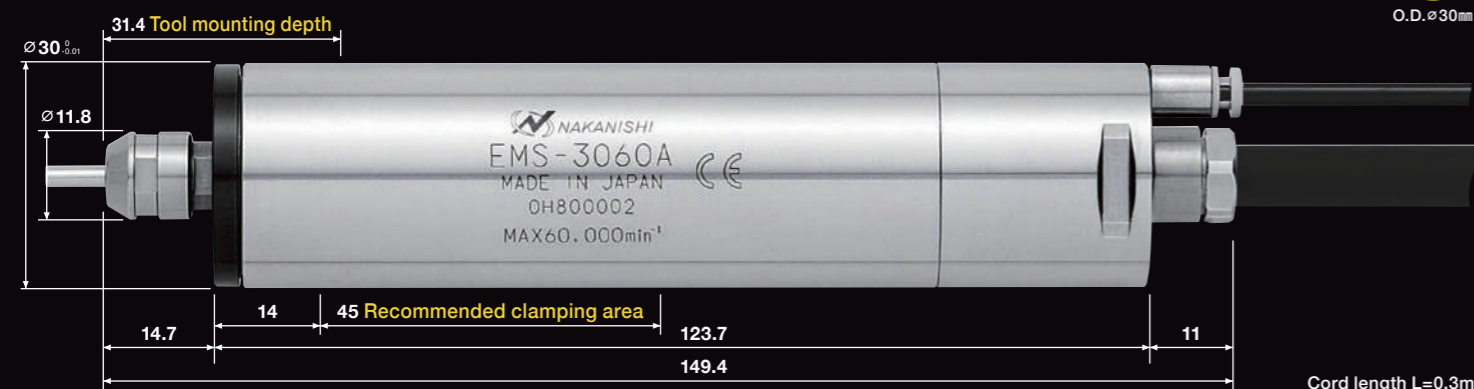


## EMS-3060A

ø30-CHA collet-30cm joint cord



O.D. ø30mm

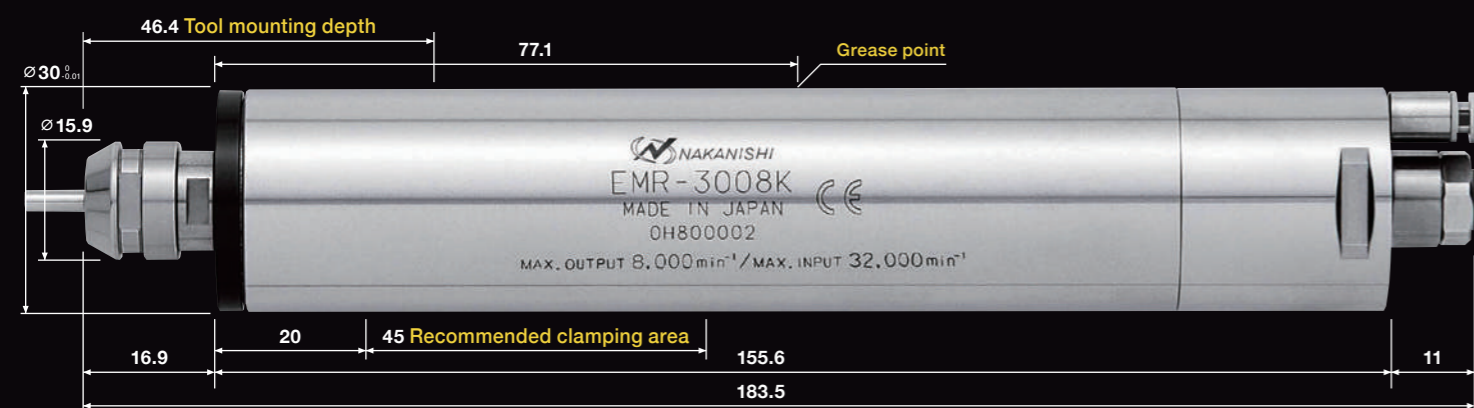


## EMR-3008K

Motor spindle with reduction gear



O.D. ø30mm

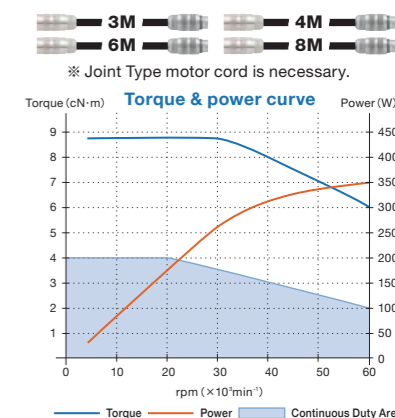


# Specifications

### EMS-3060K

Code No. **1756** Model **EMS-3060K**

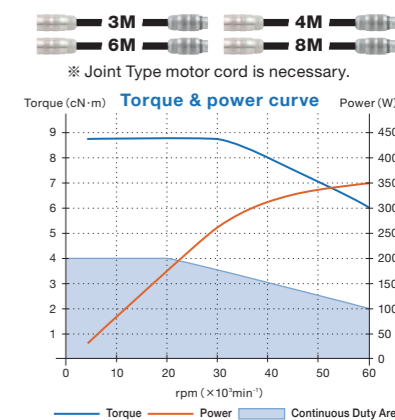
O.D.	Max. rpm	Spindle runout	Collet	Max. power	Weight
ø30mm	60,000min <sup>-1</sup>	Within 1 μm	CHK Group (ø0.5 ~ ø6.35mm)	350w	565g
Standard Accessories		Collet : ø3.0mm (CHK-3.0) / Collet nut (K-265) Spanner (12×14) : 2pcs			
Options		Collet (CHK Group) : ø0.5 ~ ø6.35mm p.44 Motor cord : Length 3m (1778) , 4m (1768) , 6m (1767) , 8m (1766) Special arbor for metal saw (KCH-03) : for O.D. ø30mm and under Grinding arbor (AGM-03) : for grindstone I.D. ø5.0mm Grindstone flange (EGF-19) : for grindstone I.D. ø19.05×O.D. ø40×7mm			



### EMS-3060A

Code No. **1755** Model **EMS-3060A**

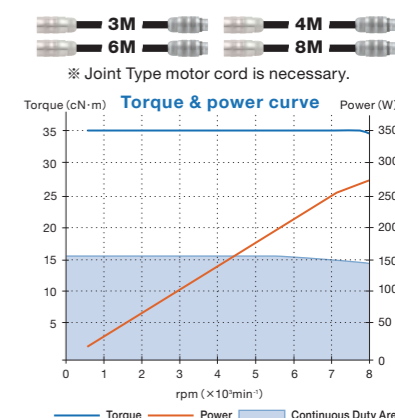
O.D.	Max. rpm	Spindle runout	Collet	Max. power	Weight
ø30mm	60,000min <sup>-1</sup>	Within 1 μm	CHA Group (ø0.5 ~ ø4.0mm)	350w	495g
Standard Accessories		Collet : ø3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (8×5) · (9×11) : 1pc each			
Options		Collet (CHA Group) : ø0.5 ~ ø4.0mm p.44 Motor cord : Length 3m (1778) , 4m (1768) , 6m (1767) , 8m (1766)			



### EMR-3008K

Code No. **1757** Model **EMR-3008K**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
ø30mm	8,000min <sup>-1</sup>	1/4	32,000min <sup>-1</sup>
Spindle runout	Collet	Max. power	Weight
Within 1 μm	CHK Group (ø0.5 ~ ø6.35mm)	350w	650g
Standard Accessories		Collet : ø3.0mm (CHK-3.0) / Collet nut (K-265) Spanner (12×14) : 2pcs / Grease for reduction gear (10ml) / Grease nipple : 1pc	
Options		Collet (CHK Group) : ø0.5 ~ ø6.35mm p.44 Motor cord : Length 3m (1778) , 4m (1768) , 6m (1767) , 8m (1766) Special arbor for metal saw (KCH-03) : for O.D. ø30mm and under / Grinding arbor (AGM-03) : for grindstone I.D. ø5mm	



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  
p.28



E3000 CONTROLLER  
p.41



E3000 SELECTOR  
p.42

E3000 SERIES

Shown In Actual Size

# Motor spindle (One-piece type)

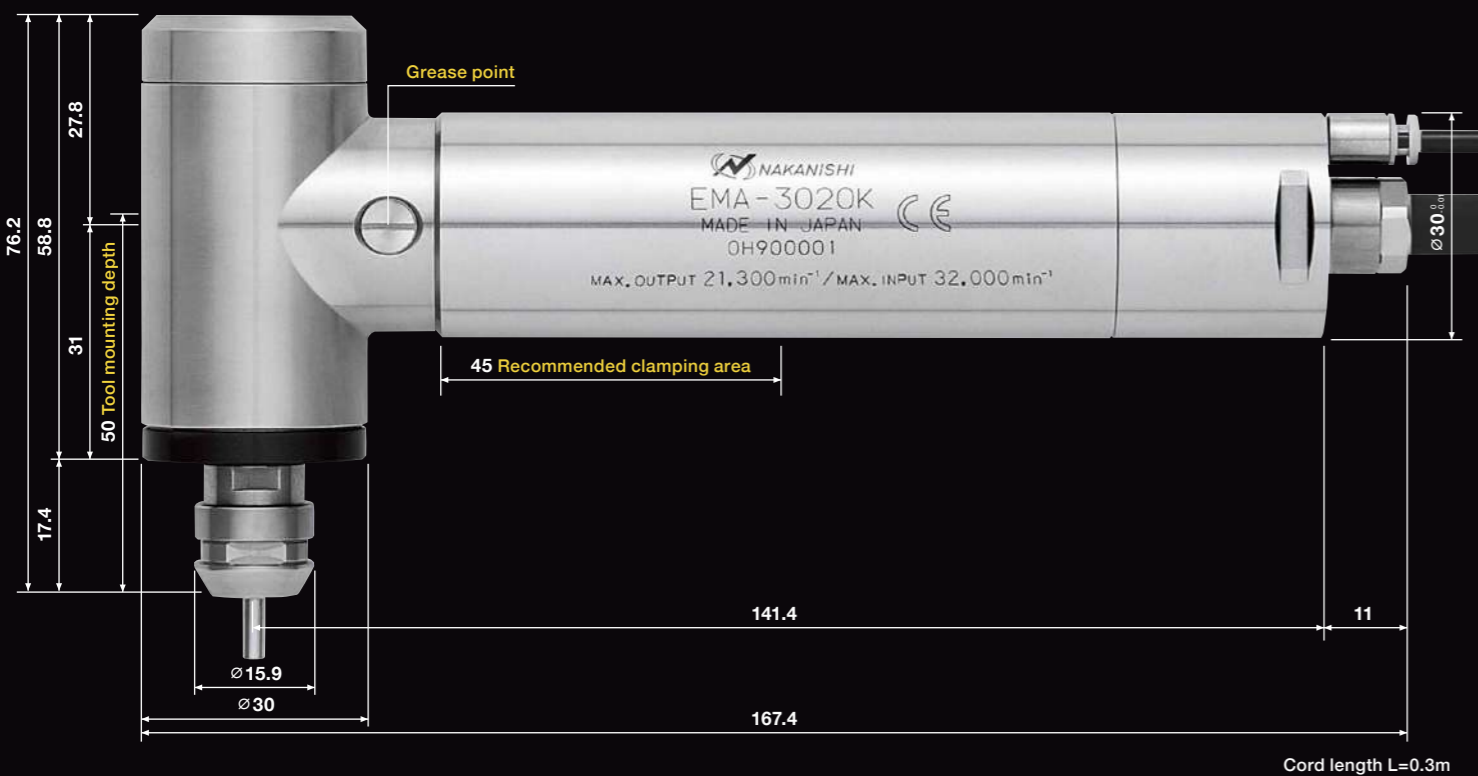
Order by Code No.

## EMA-3020K

Standard angle head



O.D. ø30mm

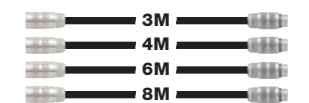


## EMA-3020K

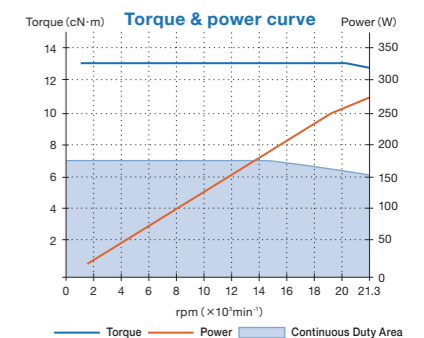


Code No. **1759** Model **EMA-3020K**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
Ø30mm	<b>21,300</b> min <sup>-1</sup>	$\frac{1}{1.5}$	<b>32,000</b> min <sup>-1</sup>
Spindle runout	Collet	Max. power	Weight
Within <b>2</b> µm	<b>CHK Group</b> (ø0.5 ~ ø6.35mm)	<b>280w</b>	<b>760g</b>
Standard Accessories	Collet : ø3.0mm (CHK-3.0) / Collet nut (K-265) Spanner (12×14) : 2pcs / Grease for reduction gear (10ml) / Grease nipple : 1pc		
Options	Collet (CHK Group) : ø0.5 ~ ø6.35mm <b>p.44</b> Motor cord : Length 3m (1778) , 4m (1768) , 6m (1767) , 8m (1766) Special arbor for metal saw (KCH-03) : for O.D. ø30mm and under Grinding arbor (AGM-03) : for grindstone I.D. ø5.0mm		



※ Joint Type motor cord is necessary.



**!** 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.

## EMA-3020S

Built-in angle head



O.D. ø30mm



## EMA-3020S

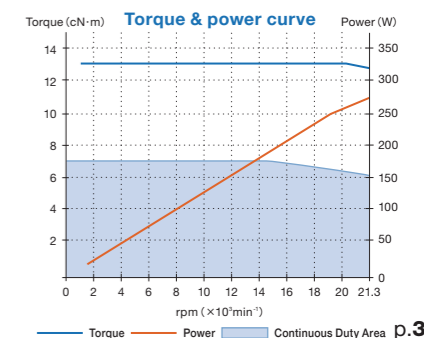


Code No. **1758** Model **EMA-3020S**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
Ø30mm	<b>21,300</b> min <sup>-1</sup>	$\frac{1}{1.5}$	<b>32,000</b> min <sup>-1</sup>
Spindle runout	Collet	Max. power	Weight
Within <b>3</b> µm	<b>CHSS Group</b> (ø1.0 ~ ø3.175mm)	<b>275w</b>	<b>605g</b>
Standard Accessories	Collet : ø3.0mm (CHSS-3.0) / Spanner (7×5.1) · (8×6.1) : 1pc each		
Options	Collet (CHSS Group) : ø1.0 ~ ø3.175mm <b>p.44</b> Motor cord : Length 3m (1778) , 4m (1768) , 6m (1767) , 8m (1766)		



※ Joint Type motor cord is necessary.





Spindle Guide



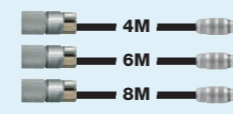
EM30-S6000



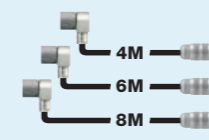
EM25-S6000



EM20-S6000



EMCD-3000  
p.27



EMCD-3000A  
p.27



E3000 CONTROLLER  
p.41



E3000 SELECTOR  
p.42

E3000 SERIES

Shown In Actual Size

# Motor spindle (One-piece type)

Order by Code No.

## EM30-S6000

ø30-CHK collet



O.D. ø30mm

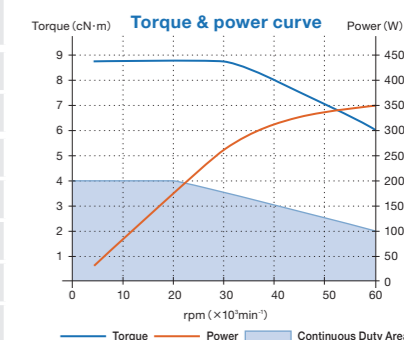


### EM30-S6000

Code No. **1747** Model **EM30-S6000**

O.D.	Max. rpm	Spindle runout	Collet	Max. power	Weight
ø30mm	60,000min <sup>-1</sup>	Within1μm	CHK Group (ø0.5 ~ ø6.35mm)	350w	575g

Standard Accessories	Collet : ø3.0mm (CHK-3.0) / Collet nut (K-265) Spanner (12×14) : 2pcs
Options	Collet (CHK Group) : ø0.5 ~ ø6.35mm p.44 Motor cord : Length 4m (1748) , 6m (1749) , 8m (1750) *Angle type is also available Special arbor for metal saw (KCH-03) : for O.D. ø30mm and under Grinding arbor (AGM-03) : for grindstone I.D. ø5.0mm Grindstone flange (EGF-19) : for grindstone I.D. ø19.05×O.D. ø40×7mm



## EM25-S6000

ø25-CHA collet



O.D. ø25mm

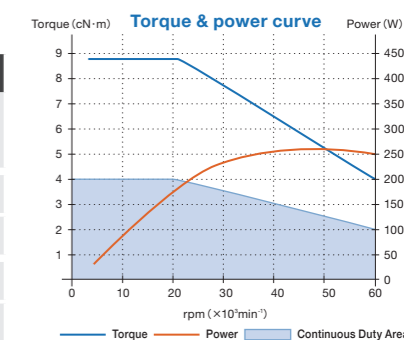


### EM25-S6000

Code No. **1746** Model **EM25-S6000**

O.D.	Max. rpm	Spindle runout	Collet	Max. power	Weight
ø25mm	60,000min <sup>-1</sup>	Within1μm	CHA Group (ø0.5 ~ ø4.0mm)	250w	375g

Standard Accessories	Collet : ø3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (8×5) · (9×11) : 1pc each
Options	Collet (CHA Group) : ø0.5 ~ ø4.0mm p.44 Motor cord : Length 4m (1748) , 6m (1749) , 8m (1750) *Angle type is also available

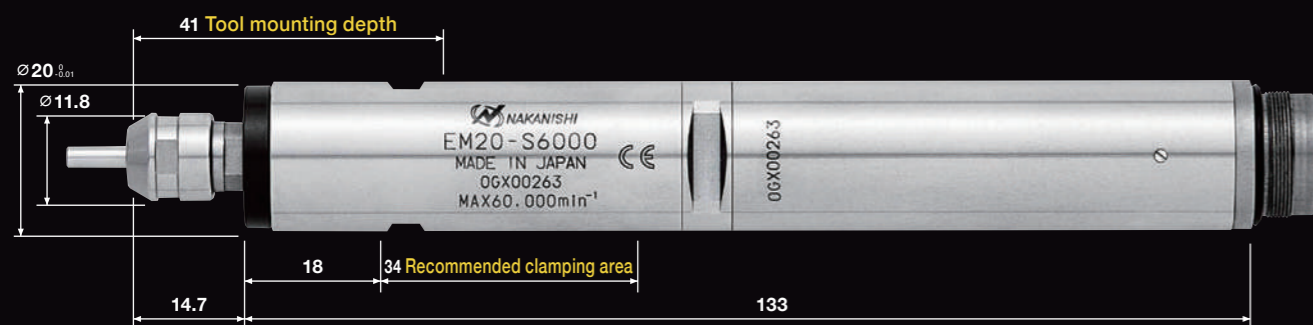


## EM20-S6000

ø20-CHA collet



O.D. ø20mm

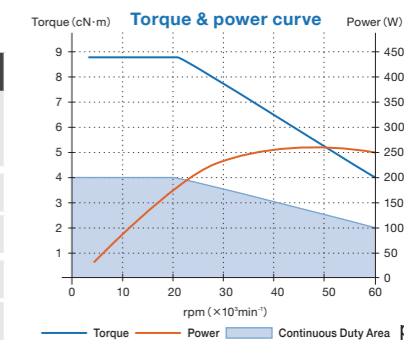


### EM20-S6000

Code No. **1745** Model **EM20-S6000**

O.D.	Max. rpm	Spindle runout	Collet	Max. power	Weight
ø20mm	60,000min <sup>-1</sup>	Within1μm	CHA Group (ø0.5 ~ ø4.0mm)	250w	230g

Standard Accessories	Collet : ø3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (8×5) · (9×11) : 1pc each
Options	Collet (CHA Group) : ø0.5 ~ ø4.0mm p.44 Motor cord : Length 4m (1748) , 6m (1749) , 8m (1750) *Angle type is also available



Spindle Guide



E3000 SERIES

Shown In Actual Size

# Motor spindle (One-piece type)

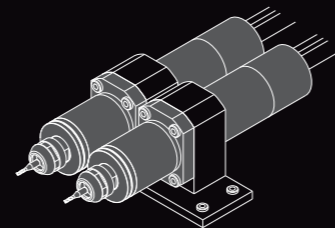
## EMSF-3060K

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.  $\phi$ 30mm



Cord length L=0.3m

# Specifications

Order by Code No.

## EMSF-3060K

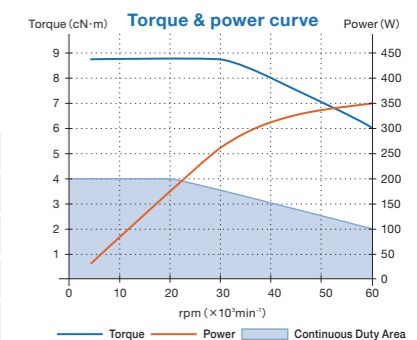


Code No. **7643** Model **EMSF-3060K**

O.D.	Max. rpm	Spindle runout	Collet
$\phi$ 30mm	60,000min <sup>-1</sup>	Within1 $\mu$ m	CHK Group ( $\phi$ 0.5 ~ $\phi$ 6.35mm)
Max. power	Weight		
350w	620g		
Standard Accessories	Collet : $\phi$ 3.0mm (CHK-3.0) / Collet nut (K-265) Spanner (12 $\times$ 14) : 2pcs, Air hose 0.3m : 1pc Lock bolt (M4 hexagon socket head bolt) : 4pcs		
Options	Collet (CHK Group) : $\phi$ 0.5 ~ $\phi$ 6.35mm p.44 Motor cord : Length 3m (1778) , 4m (1768) , 6m (1767) , 8m (1766)		



※ Joint Type motor cord is necessary.



## Nakanishi spindles can be mounted in various ways

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 type Ring

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

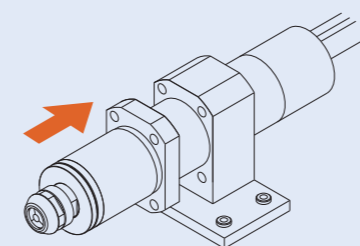
### With flange

Type of spindle and mounting device integrated

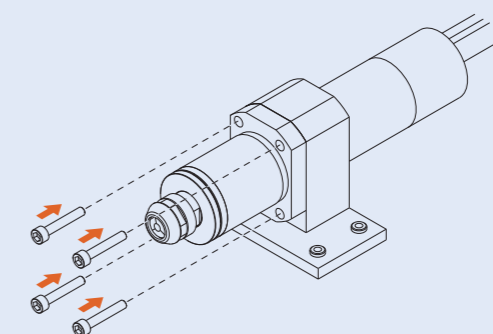
## How to mount to a machine tool

in case of EMSF-3060K

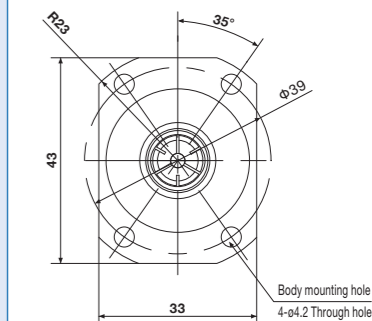
1 insert motor spindle body into the holder



2 tighten the flange with 4 lock bolt (M4)



### Cross section





# E3000 Controller

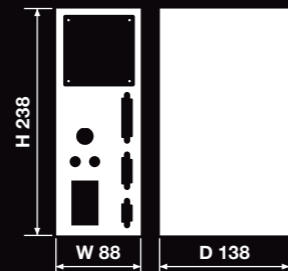


## E3000 CONTROLLER

Controller

Plug type	Code No.
100V (A Type)	8421
120V (B Type)	9775
200V (C Type)	8422
230V (D Type)	9776

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



### 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.
- Equipped with safety relay break and speed point

Speed Range		
1,000~80,000min <sup>-1</sup>		
Input Voltage		Max. power
AC100~240v		350w
Power consumption	Air consumption	Weight
AC1.8A	30Nℓ/min (at 0.25~0.3MPa)	2.8kg
Standard Accessories		
Power cord : 2m / Air hose with filter (K-251: 2058) : 2m		
Reducer / Connector cap (Included)		
Bracket / Nylon Clip / Screw / Rubber pad		
Fuse (T6.3AL) 250V : 2pcs		

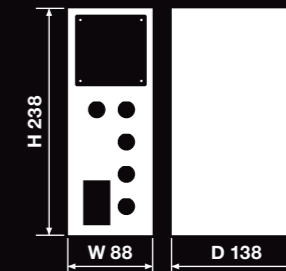
# Selector



## E3000 SELECTOR

Selector

Plug type	Code No.
100V (A Type)	8425
120V (B Type)	9781
200V (C Type)	8426
230V (D Type)	9782



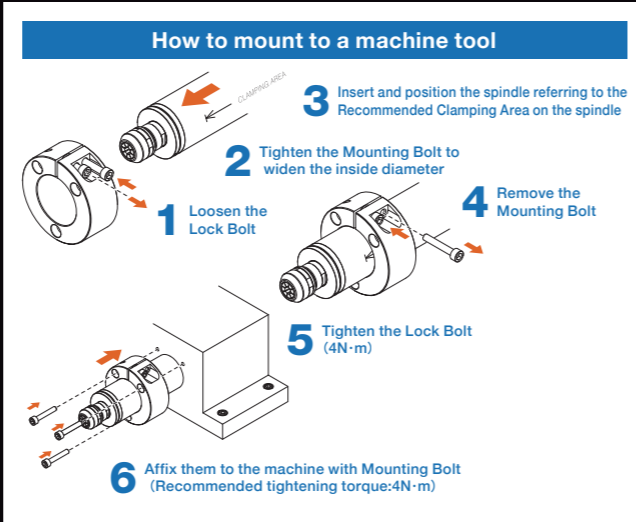
Number of motor		
4pcs Up to 4 motors to control with connecting selector to controller *not simultaneously		
Input Voltage		
AC100~240v		
Power consumption	Air consumption	Weight
AC0.15A	120ℓ/min (When connecting 4 motors)	1.9kg
Standard Accessories		
Power cord : 2m / Communication cable : 60cm		
Selector connecting cord : 60cm		
Connector cap (Included) / Plug to avoid air flow		
Bracket / Nylon Clip / Screw / Rubber pad		
Fuse (T1.6AL) 250V : 2pcs		

# Accessories

## GR-30 Grip Ring



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



**Standard Accessories**

Mounting Bolt (GR-30) M5×25 : 3pcs

## AL-C1204 Air line kit 0.3μm filter



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

**Standard Accessories**

Hose pipe (K-260) : 2m

## AL-A1205 Air line kit (for NRAF-5080) 0.3μm filter



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

**Standard Accessories**

Hose pipe (K-260) : 2m

## AL-M1201BL Air line kit (for RG-3004M) 0.3μm filter



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

**Standard Accessories**

Hose pipe (K-260) : 2m

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

## AL-A0611 Air line kit (for NRAF-5080) 0.01μm filter



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

## E3000-PEX4 Control panel extension cord (4m)



Code No. **8407** Model **E3000-PEX4**

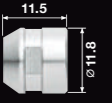
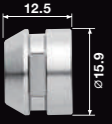
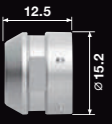
**Compatible model**

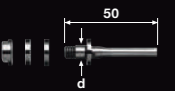
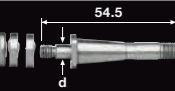

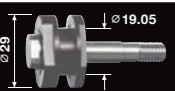
E3000 Controller




Collet	Code No.	Model	I.D.	Compatible model		
<p>Collet CHA Group</p>	<b>91494</b>	CHA-3.0AA	ø3.0AA*	EM20-S6000 · EM25-S6000 EMS-3060A · NR-3080S  * High precision type AA (Spindle runout within 2μm)		
	<b>91496</b>	CHA-3.175AA	ø3.175AA*			
	<b>91495</b>	CHA-4.0AA	ø4.0AA*			
	<b>91492</b>	CHA-2.35	ø2.35			
	<b>91430</b>	CHA-3.0	ø3.0			
	<b>91493</b>	CHA-3.175	ø3.175			
<p>Collet CHB group</p>	<b>92820</b>	CHB-2.0	ø2.0		NR40-5100 ATC NRR-3060-NRR-2651	
	<b>92830</b>	CHB-3.0	ø3.0			
	<b>92893</b>	CHB-3.175	ø3.175			
	<b>92840</b>	CHB-4.0	ø4.0			
	<b>91597</b>	CHK-3.0AA	ø3.0AA*	EM30-S6000 · EMA-3020K EMS-3060K · EMR-3008K NR-151E · NR-3060S NR-403E · NR-453E RAS-151E · RAX-271E RAX-71E · NRAF-5080  * High precision type AA (Spindle runout within 2μm)		
	<b>91598</b>	CHK-3.175AA	ø3.175AA*			
<b>91599</b>	CHK-4.0AA	ø4.0AA*				
<b>91600</b>	CHK-6.0AA	ø6.0AA*				
<b>91601</b>	CHK-6.35AA	ø6.35AA*				
<b>91592</b>	CHK-2.35	ø2.35				
<p>Collet CHK Group</p>	<b>91530</b>	CHK-3.0	ø3.0			
	<b>91593</b>	CHK-3.175	ø3.175			
	<b>91540</b>	CHK-4.0	ø4.0			
	<b>91560</b>	CHK-6.0	ø6.0			
	<b>91596</b>	CHK-6.35	ø6.35			
	<b>91930</b>	CHR-3.0	ø3.0	NR50-5100 ATC		
<b>91993</b>	CHR-3.175	ø3.175				
<b>91996</b>	CHR-6.35	ø6.35				
<b>91920</b>	CHR-2.0	ø2.0				
<b>91940</b>	CHR-4.0	ø4.0				
<b>91960</b>	CHR-6.0	ø6.0				
<p>Collet CHR RS group</p>	<b>93201</b>	CHR-3.0RS	ø3.0		NR50-5100 ATC RS *Also available for NR50-5100 ATC	
	<b>93202</b>	CHR-3.175RS	ø3.175			
	<b>93203</b>	CHR-4.0RS	ø4.0			
	<b>93204</b>	CHR-6.0RS	ø6.0			
	<b>93205</b>	CHR-6.35RS	ø6.35			
	<b>90592</b>	CHS-2.35	ø2.35	RA-271E		
<b>90530</b>	CHS-3.0	ø3.0				
<b>90593</b>	CHS-3.175	ø3.175				
<b>90516</b>	CHS-1.6	ø1.6				
<p>Collet CHS group</p>	<b>93092</b>	CHSS-2.35	ø2.35			EMA-3020S
	<b>93030</b>	CHSS-3.0	ø3.0			
	<b>93093</b>	CHSS-3.175	ø3.175			
	<b>91092</b>	CH8-2.35	ø2.35		RA-151E	
	<b>91030</b>	CH8-3.0	ø3.0			
	<b>91093</b>	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>	<b>91092</b>	CH8-2.35	ø2.35			
	<b>91030</b>	CH8-3.0	ø3.0			
	<b>91093</b>	CH8-3.175	ø3.175			
	<b>91092</b>	CH8-2.35	ø2.35			
	<b>91030</b>	CH8-3.0	ø3.0			
	<b>91093</b>	CH8-3.175	ø3.175			


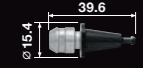


# Accessories


Collet nut	Code No.	Model	Description	Compatible model
	<b>2102</b>	CHN-A	Collet nut for CHA collet	EM20-S6000 · EM25-S6000 EMS-3060A · NR-3080S
	<b>2129</b>	K-265	Collet nut for CHK collet	EM30-S6000 · EMA-3020K EMS-3060K · EMR-3008K NR-151E · NR-3060S NR-403E · NR-453E RAS-151E RAX-271E · RAX-71E
	<b>2158</b>	K-265A	Collet nut for NRAF-5080	NRAF-5080

Special arbor · Grinding arbor	Code No.	Model	I.D. / Description / Specifications	Compatible model	
	<b>2146</b>	KCH-02 (5.0)	ø5.0 (I.D.)	Special arbor for metal saw ød (I.D.) x ø30mm (O.D.) and under Spindle runout : within 0.02mm	RA-151E
	<b>1077</b>	KCH-02 (6.0)	ø6.0 (I.D.)		
	<b>2147</b>	KCH-02 (8.0)	ø8.0 (I.D.)		
	<b>2148</b>	KCH-03 (5.0)	ø5.0 (I.D.)	Special arbor for metal saw ød (I.D.) x ø30mm (O.D.) and under Spindle runout : within 0.02mm	EMA-3020K · EMS-3060K EMR-3008K NR-3060S · RAS-151E RAX-71E · RAX-271E
	<b>2130</b>	KCH-03 (6.0)	ø6.0 (I.D.)		
	<b>2149</b>	KCH-03 (8.0)	ø8.0 (I.D.)		
	<b>2131</b>	AGM-03	Grinding arbor Spindle runout : within 0.02mm for grindstone I.D. ø5.0mm	EMA-3020K · EMS-3060K EMR-3008K NR-3060S · RAS-151E RAX-71E · RAX-271E	
	<b>2138</b>	EGF-19	Grindstone flange Available grindstone dimension ø19.05 (I.D.) x ø40 (O.D.) mm x 7 (width) mm	EMS-3060K · NR-3060S NR-403E · NR-453E	

Grease for reduction gear	Code No.	Model	Description	Compatible model
	<b>1547</b>	—	Grease for reduction gear (2.5ml)	ARG-011E · ARG-021E EMA-3020K RAX-271E · RAX-71E
	<b>1550</b>	—	Grease for reduction gear (10ml)	
	<b>1549</b>	—	Grease for reduction gear (100ml)	

Collet holder	Code No.	Model	Description	Compatible model
	<b>9210</b>	QC3-K	Collet holder for CHK ※ With K-265 (Collet nut)	NR3060-AQC NRR3060-QC
	<b>9209</b>	QC3-A	Collet holder for CHA ※ With CHN-A (Collet nut)	NR3060-AQC NRR3060-QC
	<b>9222</b>	QC3-A-R		

Preset adapter	Code No.	Model	Description	Compatible model
	<b>9211</b>	QC3-ADP	Preset adapter	QC3-K QC3-A

Bush	Code No.	Model	Description × I.D. × O.D.	Compatible model
	<b>1877</b>	RB-20×22	ø22 Bush Dimensions : ø20×ø22×40mm	EM20-S6000
	<b>1876</b>	RB-20×22.8	ø22.8 Bush Dimensions : ø20×ø22.8×40mm	EM20-S6000
	<b>1875</b>	RB-20×23	ø23 Bush Dimensions : ø20×ø23×40mm	EM20-S6000
	<b>1878</b>	RB-20×25	ø25 Bush Dimensions : ø20×ø25×40mm	EM20-S6000
	<b>1879</b>	RB-20×25.4	ø25.4 Bush Dimensions : ø20×ø25.4×40mm	EM20-S6000
	<b>1880</b>	RB-30×32	ø32 Bush Dimensions : ø30×ø32×45mm	NR-3060S · NR-453E NR-403E
	<b>1881</b>	RB-30×36	ø36 Bush Dimensions : ø30×ø36×45mm	NR-3060S · NR-453E NR-403E

# 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<sup>-1</sup> 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<sup>-1</sup> Max.350W  
[ ø30/25/20mm ]



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

**HES SERIES**  
Max.80,000min<sup>-1</sup>  
[ For small diameter endmills and drills only ]



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

**E2000 SERIES**  
1,000~50,000min<sup>-1</sup> Max.200W  
[ ø22.8/25mm ]



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

**iSpeed3 SERIES**  
1,000~80,000min<sup>-1</sup> Max.150W  
[ ø19.05/20/22/25mm ]



- Super short motor spindle
- High efficiency brushless motor



- 50,000min<sup>-1</sup>, 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

Application for machining centers and milling machines

**AM SERIES One-piece type**  
1,000~60,000min<sup>-1</sup> Max.350W  
[ ø30/25/20mm ]



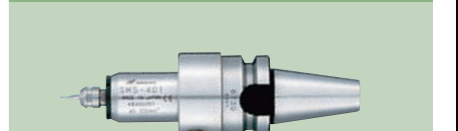
- Short body enables the spindle to mount in a limited space on a small NC/CNC lathe or on a special purpose machine

**AM SERIES Modular type**  
5,000~30,000min<sup>-1</sup> Max.125W  
[ ø22.8mm ]



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

**SMS SERIES**  
40,000min<sup>-1</sup>  
[ For small diameter endmills and drills only ]



- Ceramic bearings for higher rigidity and precision
- Straight and BT,NT shanks are available

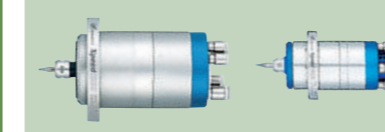
## Air Turbine Spindles



Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

**Xped SERIES**  
Max.160,000min<sup>-1</sup>  
[ ø65/40mm ]



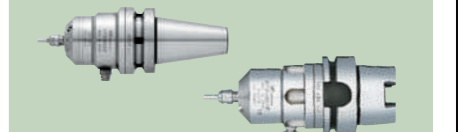
- Extreme accuracy-Runout 1μm
- For high precision small diameter drilling, internal grinding of ceramics
- Long life of spindle thanks to contactless rotation mechanism

**PLANET SERIES**  
Max.65,000min<sup>-1</sup>



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

**HTS SERIES**  
150,000min<sup>-1</sup>  
[ 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<sup>-1</sup> with higher rigidity thanks to ceramic bearings
- BT,HSK E and straight (M2040)shanks are available

Electric spindle

Air spindle