

New

NR33-6000ATC-ESD

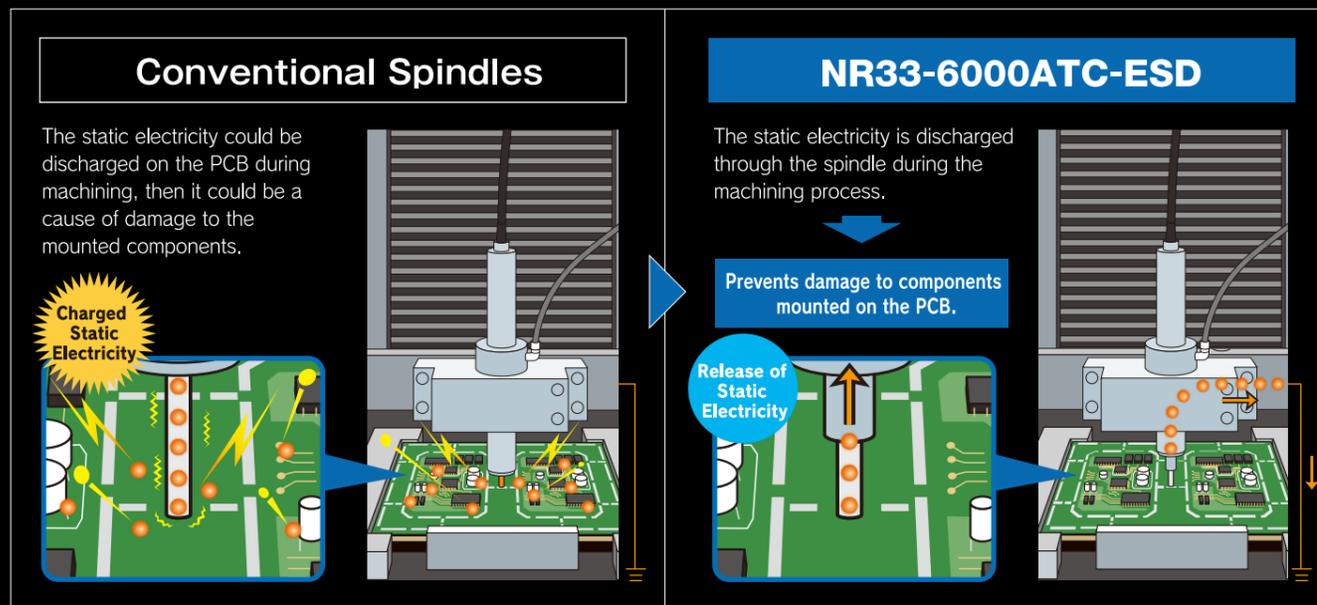
[Antistatic] Automatic Tool Change Spindle

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

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

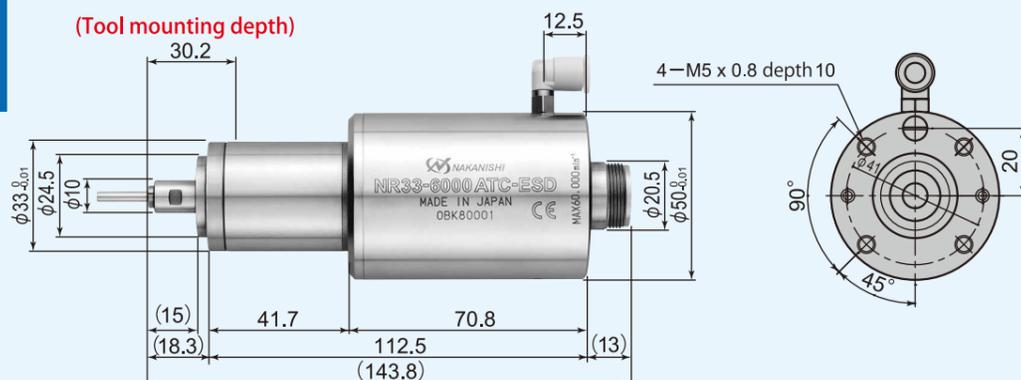


What is an ESD Spindle?



※Image is for illustrative purpose only.

Spindle Dimensions

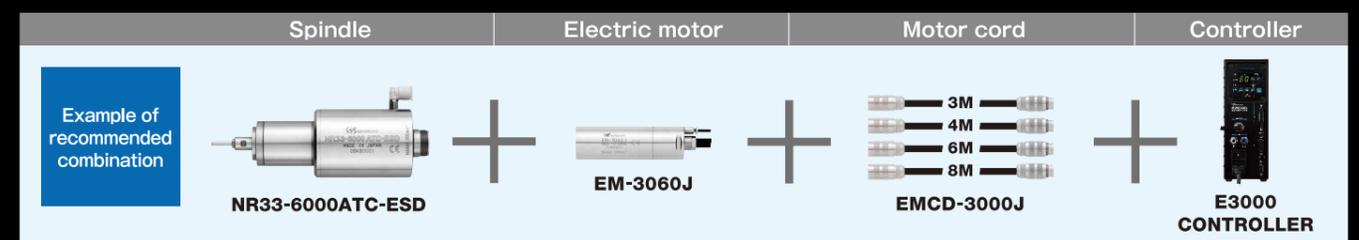


Performance Characteristics of the NR33-6000ATC-ESD

- 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⁻¹.
- 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	60,000 min ⁻¹ (Motor rotation speed)	0.55 - 0.6 MPa	Within 1 µm	CHB Group (Ø3.175)	1,170 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. **7788** Model **NR33-6000ATC-ESD**



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

www.nakanishi-inc.com
NAKANISHI INC. 2020



NAKANISHI SPINDLE E3000

Specifications and design are subject to change without notice.



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

www.nakanishi-inc.com
NAKANISHI INC. 2018

PR-K307E Ver.9 '18.11.05.©

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.

✓ **∅30mm Spindle**

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

✓ **The largest product lines**

- 25 types of spindles are available.

✓ **Spindle runout within 1μm**

- 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 p.9 Straight spindle 60,000min ⁻¹ short type		NR40-5100 ATC p.17 Automatic tool change spindle Open/close by air cylinder	
NR-453E p.9 Straight spindle 50,000min ⁻¹		NRR-3060 p.17 Manual tool change spindle Open/close by lever operation	
NR-403E p.9 Straight spindle 40,000min ⁻¹		NR3060-AQC p.19 Air quick change spindle Clamp/unclamp by air operation	
RAX-271E / RAX-71E p.11 Angle spindle Standard angle head		NRR3060-QC p.21 Lever quick change spindle Clamp/unclamp by lever operation	
RA-151E p.11 Angle spindle With short head		ARG-011E p.23 Reduction gear (1:4)	
RAS-151E p.13 Angle spindle With long head		ARG-021E p.23 Reduction gear (1:16)	
RA-271E p.13 Angle spindle With small head		RG-3004M p.23 Oil mist type reduction gear (1:4)	
NR50-5100 ATC p.15 Automatic tool change spindle Open/close by air cylinder		NR-3080S p.25 Straight spindle 80,000min ⁻¹	
NR50-5100 ATC-RS p.15 Automatic tool change spindle Open/close by air cylinder		NRAF-5080 p.25 Air bearing spindle 80,000min ⁻¹	

Motor (Modular type)

EM-3060 p.27 60,000min ⁻¹ motor	
EM-3060J p.27 60,000min ⁻¹ motor with joint type motor cord	
EM-3030T p.29 30,000min ⁻¹ torque motor	
EM-3030T-J p.29 30,000min ⁻¹ torque motor with joint type motor cord	
EM-3080J p.29	

Controller

E3000 CONTROLLER p.41 Controller	
--	---

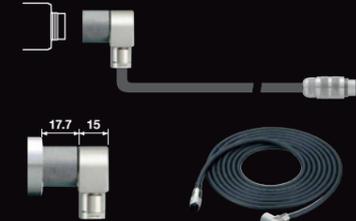
Selector

Up to 4 motors to control with connecting selector to controller	
E3000 SELECTOR p.42 Selector	

Motor Spindle (One-piece type)

EMS-3060K Straight motor spindle p.33 ø30-CHK collet-30cm joint cord	
EMS-3060A Straight motor spindle p.33 ø30-CHA collet-30cm joint cord	
EMR-3008K Straight motor spindle p.33 Motor spindle with reduction gear	
EMA-3020K Angle motor spindle p.35 Standard angle head	
EMA-3020S Angle motor spindle p.35 Built-in angle head	
EM30-S6000 Straight motor spindle p.37 ø30-CHK collet	
EM25-S6000 Straight motor spindle p.37 ø25-CHA collet	
EM20-S6000 Straight motor spindle p.37 ø20-CHA collet	
EMSF-3060K Straight motor spindle p.39 With flange	

Motor cord

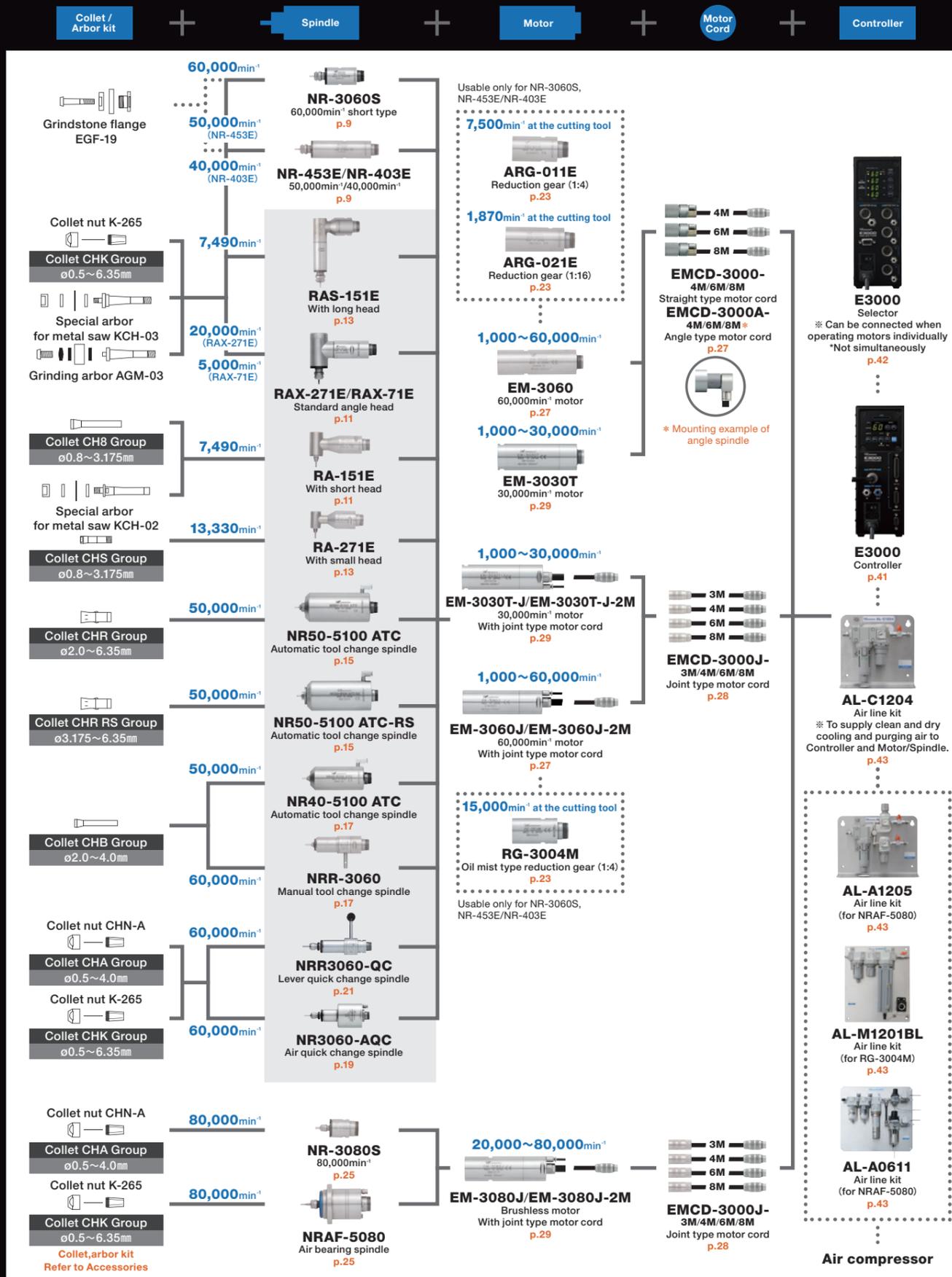
1. Straight type [Feature] Connection at the body end [Length] 4m, 6m, 8m	2. Angle type [Feature] Connection at the body end into 90° degree [Length] 4m / 6m / 8m	3. Joint type [Feature] Connection possible out of the machine [Length] 3m / 4m / 6m / 8m [Connector] IP68
		
EMCD-3000 p.27 Straight type motor cord	EMCD-3000A p.27 Angle type motor cord	EMCD-3000J p.28 Joint type motor cord

Accessories

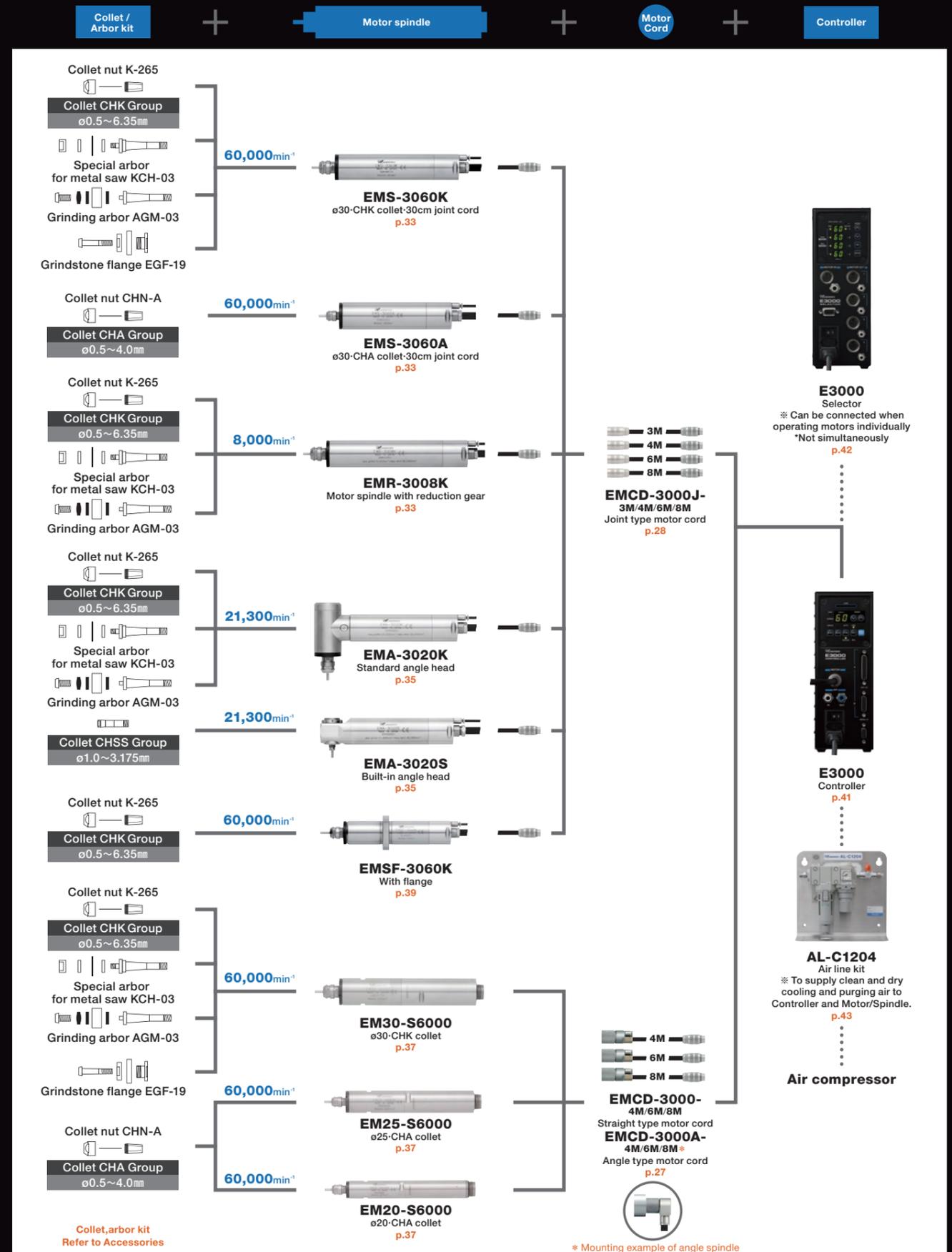
				
GR-30 p.43 Grip Ring	AL-C1204 p.43 Air line kit	AL-A1205 p.43 Air line kit	AL-M1201BL p.43 Air line kit	AL-A0611 p.43 Air line kit
				
CHA / CHB / CHK / CHR / CHR RS / CHS / CHSS / CH8 p.44 Collet				QC3-K / QC3-K-R / QC3-A / QC3-A-R p.45 Collet holder

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



- 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



- 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

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

- 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

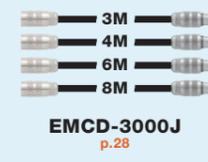
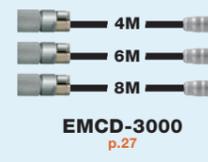
NR-3060S



NR-453E



NR-403E

EM-3060J
p.27EM-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)

NR-3060S

60,000min⁻¹ short type

O.D. ø30mm



NR-3060S

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

O.D.	Max. rpm	Spindle runout	Collet	Weight
ø30mm	60,000 min ⁻¹	Within 1 μm	CHK Group (ø0.5 ~ ø6.35mm)	260g
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 p.44 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⁻¹

O.D. ø30mm



NR-453E

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

O.D.	Max. rpm	Spindle runout	Collet	Weight
ø30mm	50,000 min ⁻¹	Within 1 μm	CHK Group (ø0.5 ~ ø6.35mm)	440g
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 p.44 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⁻¹

O.D. ø30mm



NR-403E

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

O.D.	Max. rpm	Spindle runout	Collet	Weight
ø30mm	40,000 min ⁻¹	Within 1 μm	CHK Group (ø0.5 ~ ø6.35mm)	440g
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 p.44 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

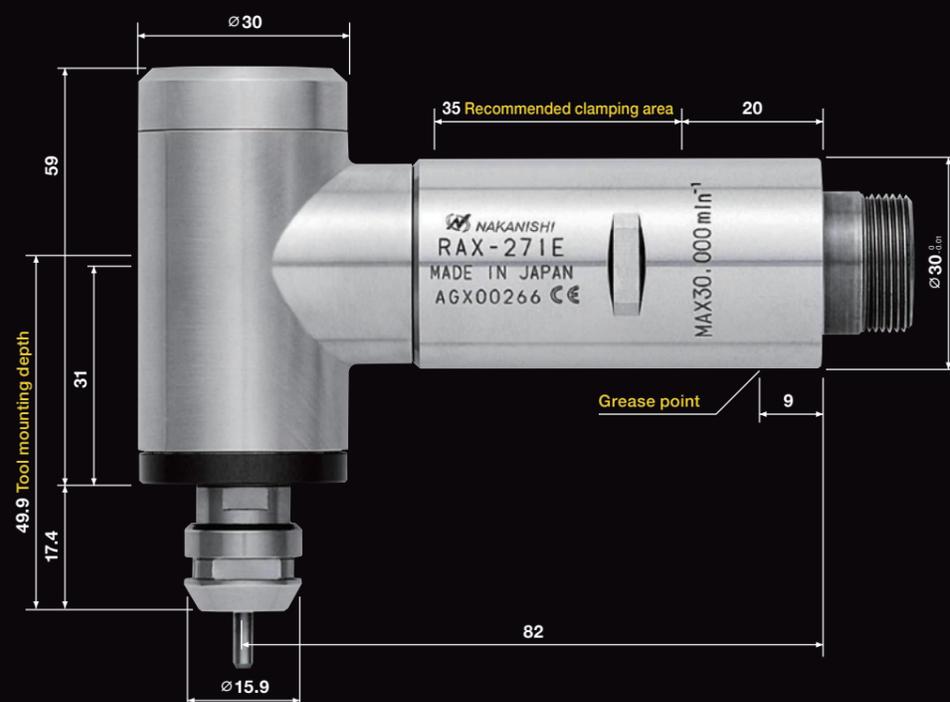
Spindle (Modular type)

RAX-271E / RAX-71E

Standard angle head



O.D. ø30mm



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	ø30mm	20,000 min ⁻¹	$\frac{1}{1.5}$	30,000 min ⁻¹
Spindle runout	Collet	Weight		
Within 2μm	CHK Group (ø0.5 ~ ø6.35mm)	580g		
[Model]	O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
RAX-71E	ø30mm	5,000 min ⁻¹	$\frac{1}{6}$	30,000 min ⁻¹
Spindle runout	Collet	Weight		
Within 2μm	CHK Group (ø0.5 ~ ø6.35mm)	580g		
Standard Accessories	Collet : ø3.0mm (CHK-3.0) / Collet nut (K-265)			
	Spanner (12×14) : 2pcs · (22×27) : 1pc / Grease for reduction gear (10ml) / Grease Dispenser : 1pc			
	Grease nipple : 1pc			
Options	Collet (CHK group) : ø0.5~ø6.35mm p.44			
	Special arbor for metal saw (KCH-03) : for O.D.ø30mm and under			
	Grindstone arbor (AGM-03) : for grindstone I.D.ø5.0mm			



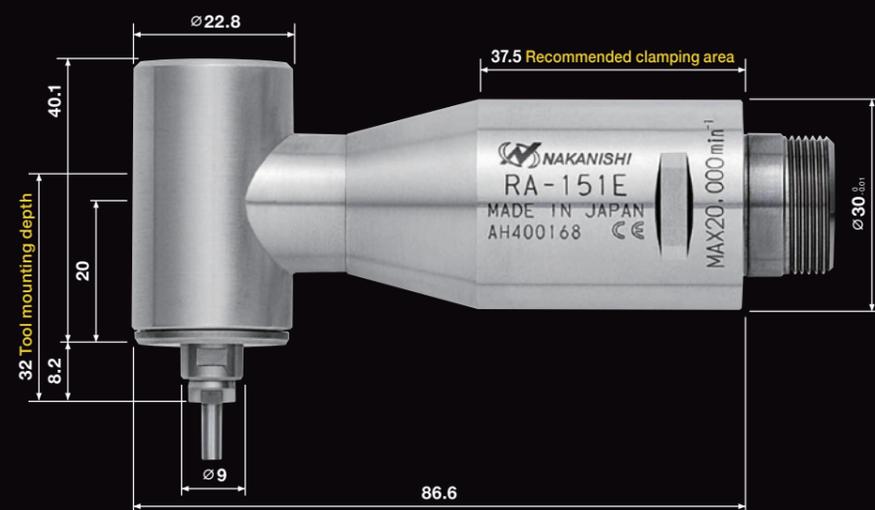
Put grease every 70 to 100 hours to extend the life of the reduction gear.
Grease-up prevents friction of the internal gears and degradation of the existing grease in the reducer.

RA-151E

With short head



O.D. ø30mm



RA-151E

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



O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Collet	Weight
ø30mm	7,490 min ⁻¹	$\frac{1}{2.67}$	20,000 min ⁻¹	CH8 Group (ø0.8 ~ ø3.175mm)	385g
Standard Accessories	Collet : ø3.0mm (CH8-3.0) / Spanner (7×5.5) · (8×5) · (22×27) : 1pc each				
Options	Collet (CH8 group) : ø0.8~ø3.175mm p.44				
	Special arbor for metal saw (KCH-02) : for O.D.ø30mm and under				

Spindle
Guide

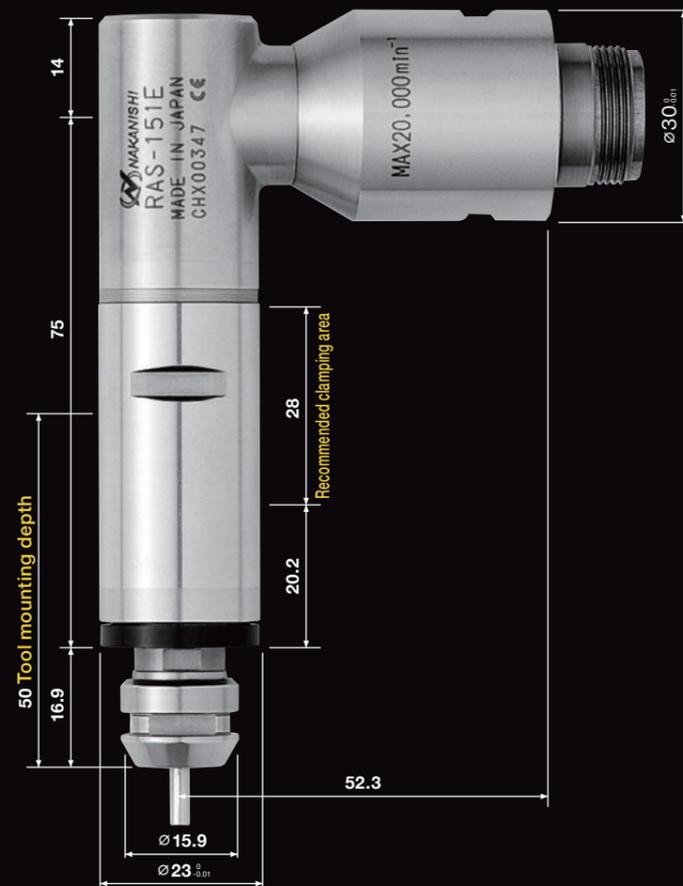
E3000 SERIES

Shown In Actual Size

Spindle (Modular type)

RAS-151E

With long head

O.D. \varnothing 30mm

Specifications

Order by Code No.

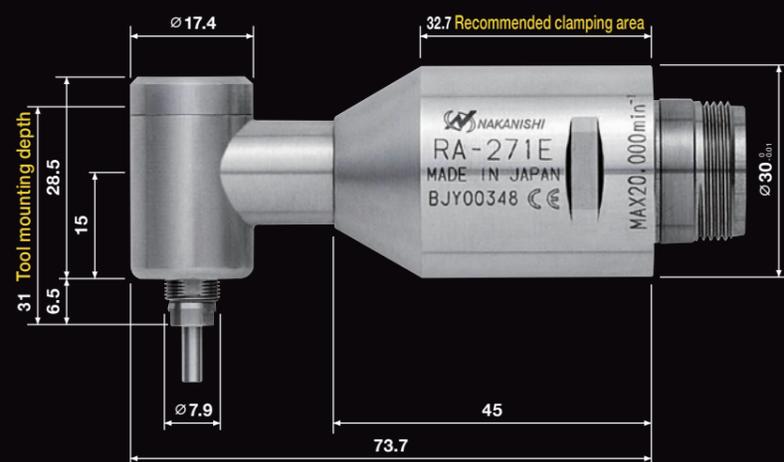
RAS-151E

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

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
\varnothing 30mm	7,490 min ⁻¹	$\frac{1}{2.67}$	20,000 min ⁻¹
Spindle runout	Collet	Weight	
Within 2 μ m	CHK Group (\varnothing 0.5 ~ \varnothing 6.35mm)	413g	
Standard Accessories	Collet : \varnothing 3.0mm (CHK-3.0) / Collet nut (K-265) Spanner (12 \times 14) : 2pcs · (22 \times 27) : 1pc		
Options	Collet (CHK group) : \varnothing 0.5~ \varnothing 6.35mm p.44 Special arbor for metal saw (KCH-03) : for O.D. \varnothing 30mm and under Grinding arbor (AGM-03) : for grindstone I.D. \varnothing 5.0mm		

RA-271E

With small head

O.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) / Spanner (7 \times 5.1) · (8 \times 5) · (22 \times 27) : 1pc each				
Options	Collet (CHS group) : \varnothing 0.8~ \varnothing 3.175mm p.44				

Spindle Guide

CHR / CHR RS
p.44

NR50-5100 ATC



NR50-5100 ATC-RS

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)

NR50-5100 ATC

Automatic tool change spindle

O.D. \varnothing 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. \varnothing 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
\varnothing 50mm	50,000 min ⁻¹	0.55~0.6 MPa	Within 1 μ m	CHR Group (\varnothing 3.175mm)	1,370 g
Standard Accessories	Collet : \varnothing 3.175mm (CHR-3.175) / Spanner (9×11)·(12×14) : 1pc each / Bar wrench (K-236) : 1pc Air hose with filter (K-251) : \varnothing 6mm×2m				
Options	Collet (CHR group) : \varnothing 2.0, \varnothing 3.0, \varnothing 3.175, \varnothing 4.0, \varnothing 6.0, \varnothing 6.35mm p.44				

NR50-5100 ATC-RS

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

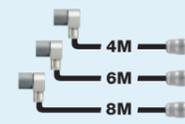
O.D.	Max. rpm	Air pressure of collet open/close	Spindle runout	Collet	Weight
\varnothing 50mm	50,000 min ⁻¹	0.55~0.6 MPa	Within 1 μ m	CHR RS Group (\varnothing 3.175mm)	1,370 g
Standard Accessories	Collet : \varnothing 3.175mm (CHR-3.175RS) / Spanner (9×11)·(12×14) : 1pc each / Bar wrench (K-236) : 1pc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

Spindle
GuideCHB
p.44

NR40-5100 ATC



NRR-3060

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

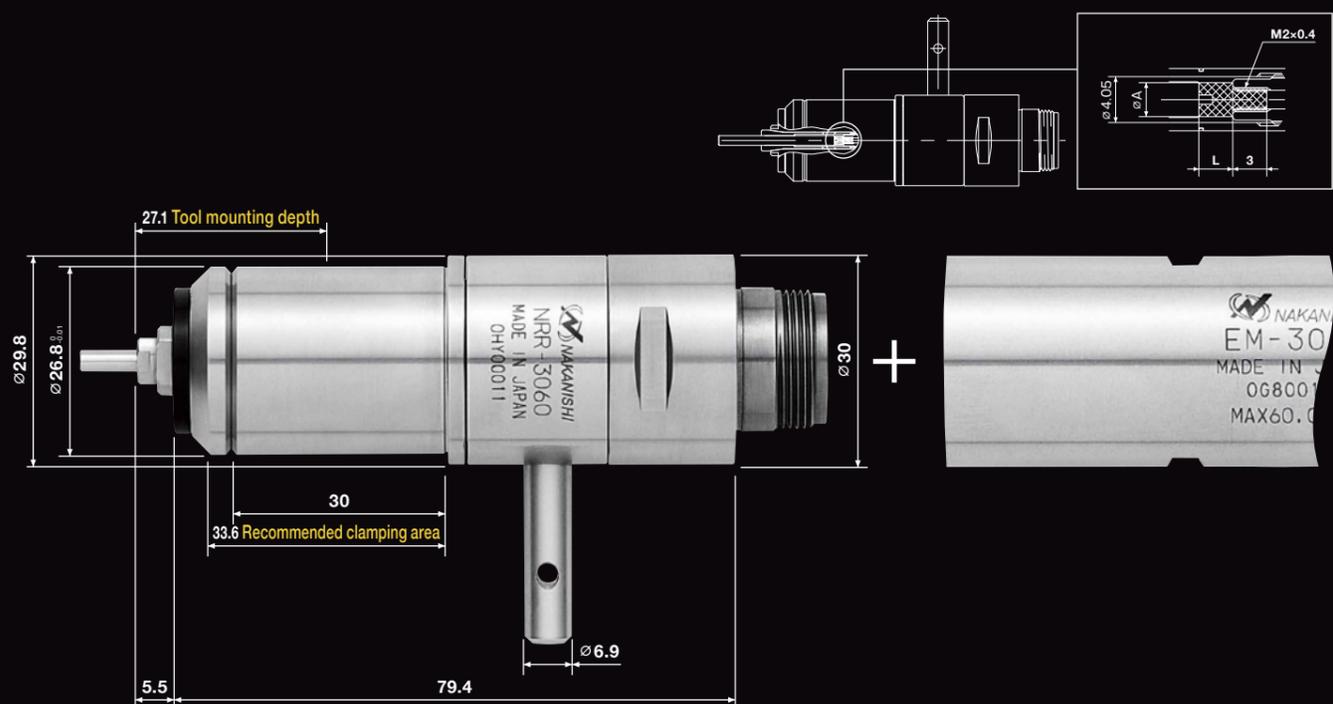
Shown In Actual Size

Spindle (Modular type)

NR40-5100 ATC

Automatic tool
change spindle

NRR-3060

Manual 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	50,000 min ⁻¹	0.55~0.6 MPa	Within 2 μ m	CHB Group ($\varnothing 3.175$ mm)	740g
Standard Accessories	Collet : $\varnothing 3.175$ mm (CHB-3.175) / Spanner (6.1×8) · (9×11) : 1pc each / Bar wrench (K-236) : 1pc Air hose with filter (K-251) : $\varnothing 6$ mm×2m				
Options	Collet (CHB group) : $\varnothing 2.0$, $\varnothing 3.0$, $\varnothing 3.175$, $\varnothing 4.0$ p.44				

NRR-3060

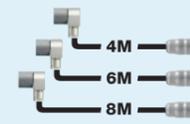
Code No. **1836** Model **NRR-3060**

O.D.	Max. rpm	Spindle runout	Collet	Weight
$\varnothing 26.8$ mm Recommended clamping area	60,000 min ⁻¹	Within 1 μ m	CHB Group ($\varnothing 3.175$ mm)	350g
Standard Accessories	Collet : $\varnothing 3.175$ mm (CHB-3.175) / Spanner (6.1×8) : 2pcs · (22×27) : 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

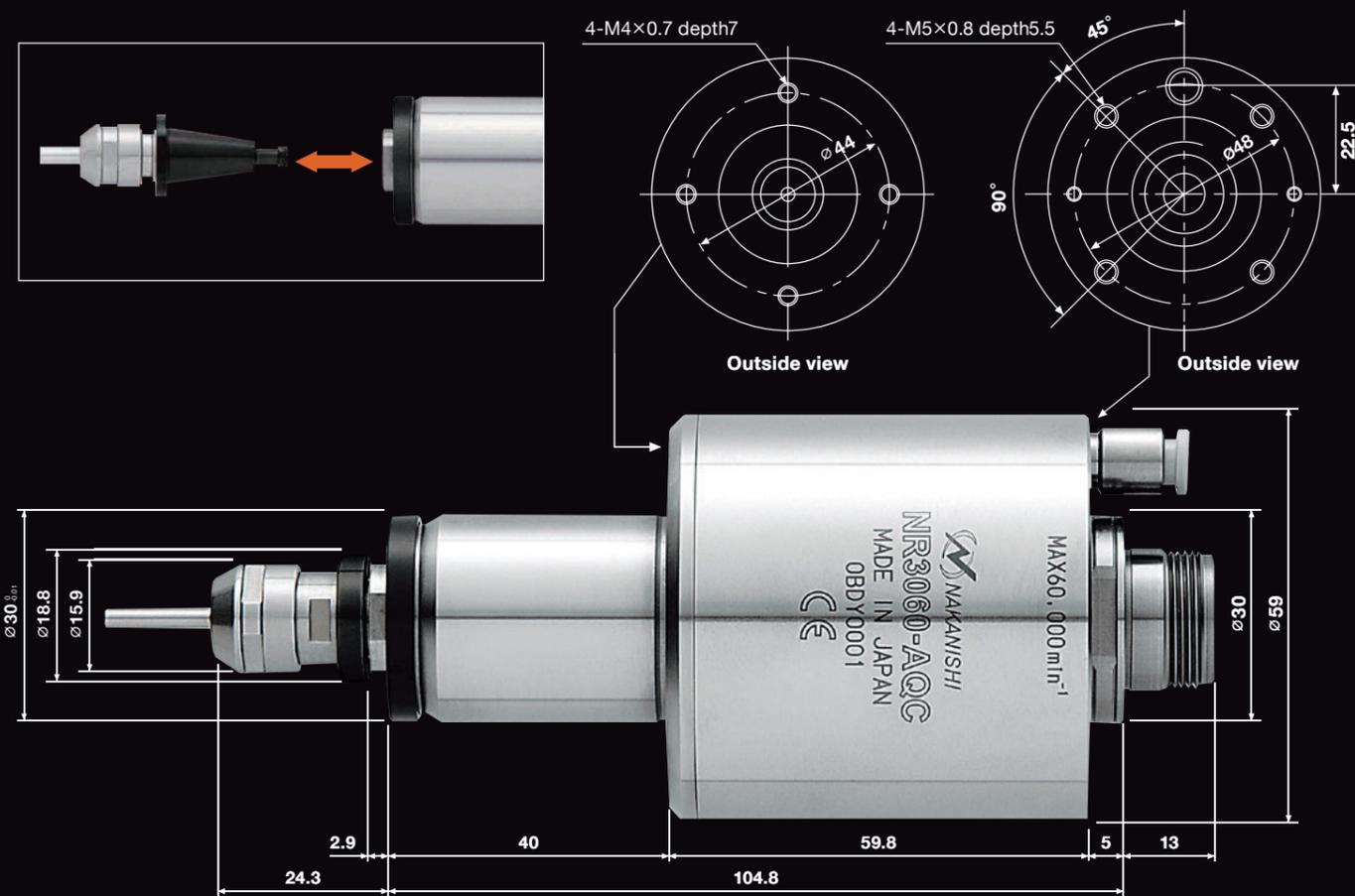
Shown In Actual Size

Spindle (Modular type)

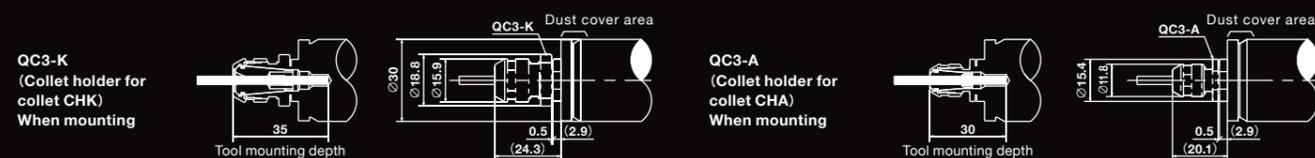
NR3060-AQC

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. ϕ 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
ϕ 30mm	60,000min ⁻¹	0.6MPa	Within 1 μ 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) : ϕ 6mmx2m 1pc

Parts (Optional)

	Collet	Collet holder (Collet nut included)		Spanner		
		QC3-K/A	QC3-K/A-R			
CHK	<p>You can choose the I.D. size (The following is an example of ϕ3.0mm.)</p>	<p>*QC3-K-R/QC3-A-R cannot be used to Preset adapter.</p>				
I.D. ϕ 0.5mm~6.35mm p.44		Code No. 915 3 0	9210		9223	2026
		Model	CHK- 3 . 0 (I.D. ϕ 3.0mm)	QC3-K (for Collet CHK)	QC3-K-R (for Collet CHK)	Spanner 12 x 14 (2pcs.)
CHA						
I.D. ϕ 0.5mm~4.0mm p.44		Code No. 914 3 0	9209		9222	2012
		Model	CHA- 3 . 0 (I.D. ϕ 3.0mm)	QC3-A (for Collet CHA)	QC3-A-R (for Collet CHA)	Spanner 8 x 5 (1pc.) Spanner 9 x 11 (1pc.)

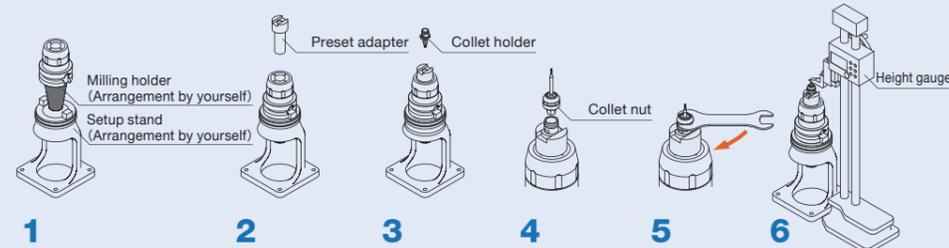
*In case using a Preset adapter, only 1pc. spanner is used.
CHK collet \rightarrow 12 x 14 spanner (1pc.) / CHA collet \rightarrow 9 x 11 spanner (1pc.)Preset adapter
(QC3-K/QC3-A)* Holding section size is ϕ 20.

Code No. 9211

Model QC3-ADP

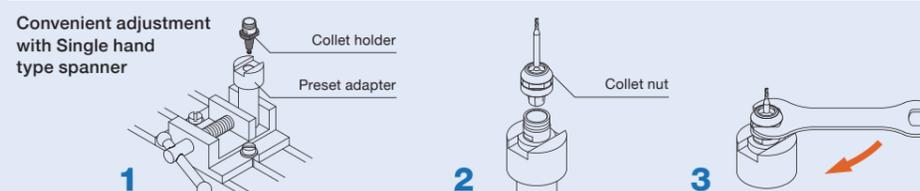
Set-up outside machines

In case using a milling holder



Set-up outside machines

In case using a vice



Convenient adjustment with Single hand type spanner

1

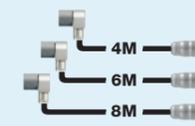
2

3

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

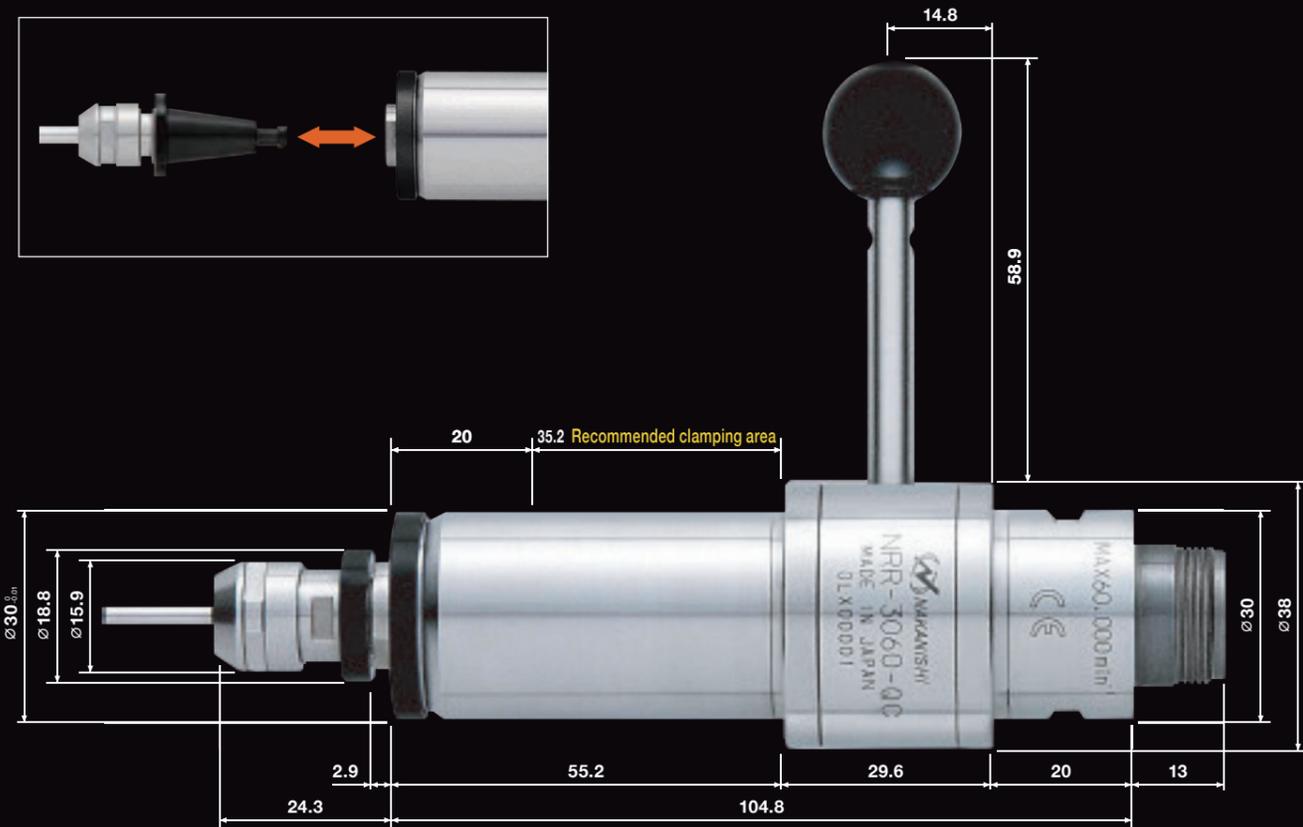
Shown In Actual Size

Spindle (Modular type)

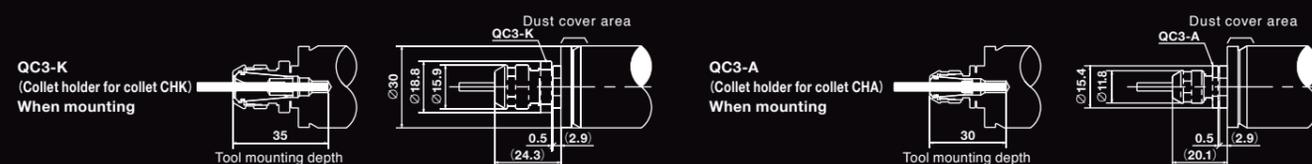
NRR3060-QC

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. ϕ 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
ϕ 30mm Recommended clamping area	60,000 min ⁻¹	Within 1 μ m	QC3-A / QC3-A-R (for Collet CHA) QC3-K / QC3-K-R (for Collet CHK)	90°	570g
Standard Accessories Spanner (22×27) : 1pc					

Parts (Optional)

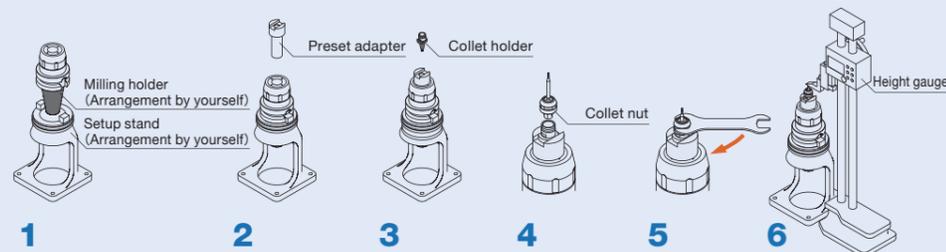
Collet	Collet holder (Collet nut included)		Spanner		
	You can choose the I.D. size (The following is an example of ϕ 3.0mm.) QC3-K/A QC3-K/A-R				
CHK	Code No.	915 3 0	9210	9223	2026
I.D. ϕ 0.5mm~6.35mm p.44	Model	CHK- 3 . 0 (I.D. ϕ 3.0mm)	QC3-K (for Collet CHK)	QC3-K-R (for Collet CHK)	Spanner 12 ×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

*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 ϕ 20.Code No. **9211**Model **QC3-ADP**

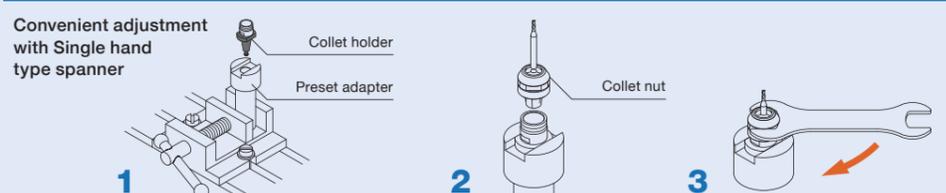
Set-up outside machines

In case using a milling holder



Set-up outside machines

In case using a vice

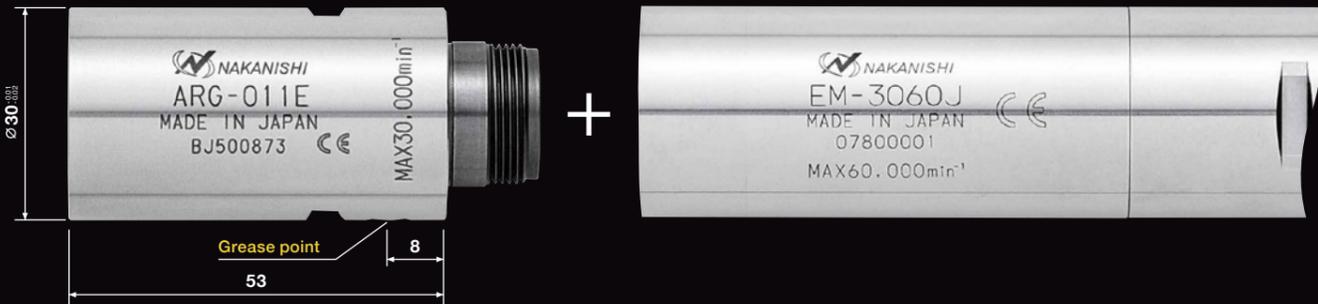


Reduction gear (Modular type)

Order by Code No.

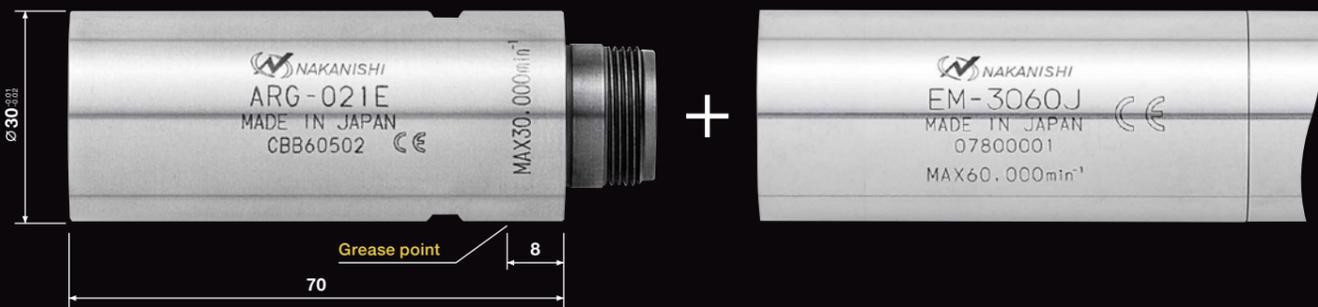
ARG-011E

Reduction gear (1:4)

O.D. \varnothing 30mm

ARG-021E

Reduction gear (1:16)

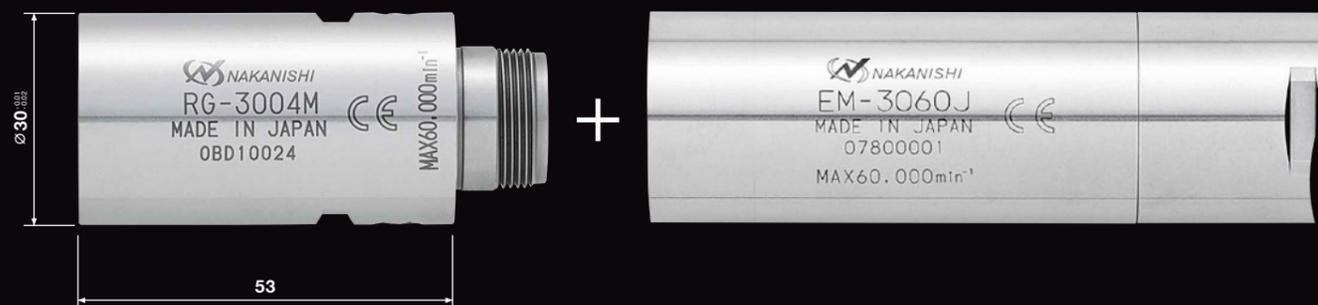
O.D. \varnothing 30mm

RG-3004M

Oil mist type reduction gear (1:4)

O.D. \varnothing 30mm

- Max input speed 60,000min⁻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

ARG-011E

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

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Weight
\varnothing 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 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**

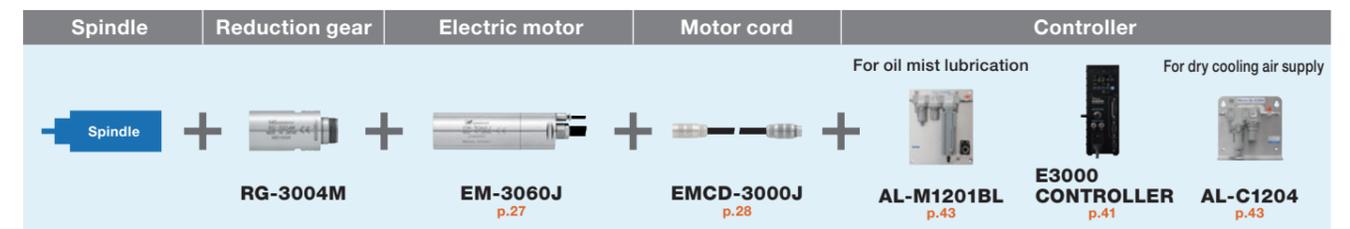
O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm	Weight
\varnothing 30mm	1,870 min ⁻¹	$\frac{1}{16}$	30,000 min ⁻¹	325g

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



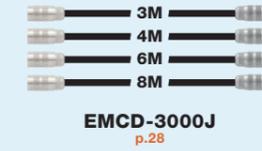
Put grease every 70 to 100 hours to extend the life of the reduction gear.
Grease-up prevents friction of the internal gears and degradation of the existing grease in the reducer.

RG-3004M

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

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

Spindle Guide

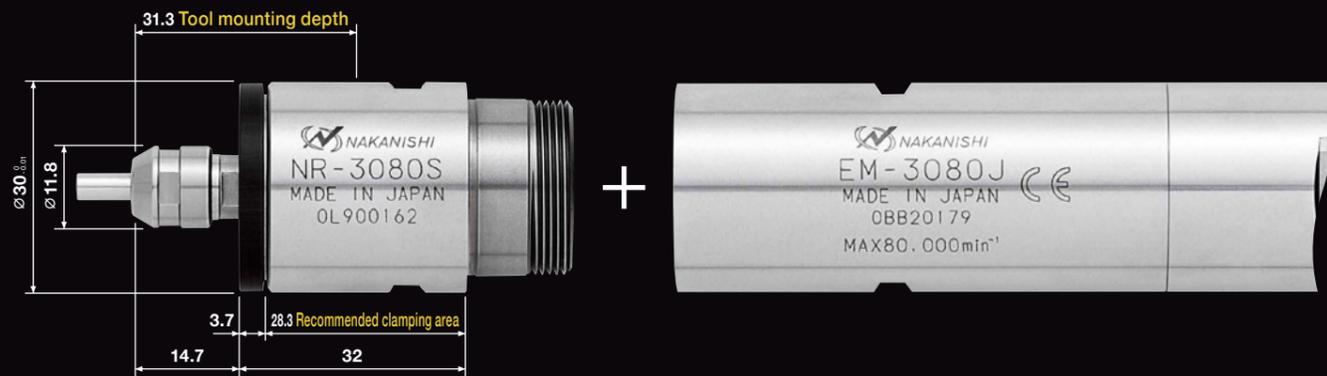


E3000 SERIES

Shown In Actual Size

Spindle (Modular type)

NR-3080S

80,000min⁻¹O.D. ϕ 30mm

Specifications

Order by Code No.

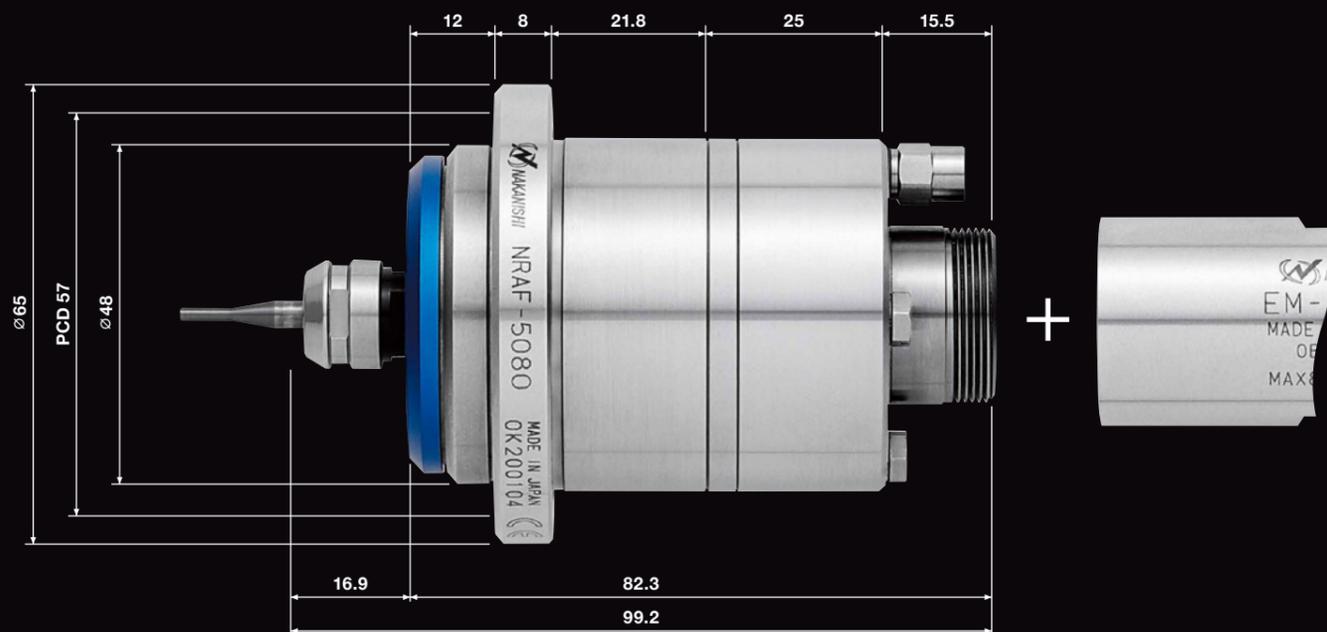
NR-3080S

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

O.D.	Max. rpm	Spindle runout	Collet	Weight
ϕ 30mm	80,000 min ⁻¹	Within1 μ m	CHA Group (ϕ 0.5 ~ ϕ 4.0mm)	170g
Standard Accessories	Collet : ϕ 3.0mm (CHA-3.0) / Collet nut (CHN-A) Spanner (22 \times 27) : 1pc · (8 \times 5) : 1pc · (9 \times 11) : 1pc			
Options	Collet (CHA group) : ϕ 0.5 ~ ϕ 4.0mm p.44			

NRAF-5080

Air bearing spindle

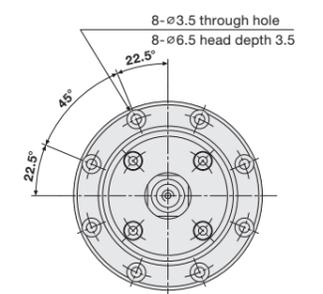
O.D. ϕ 48mm

NRAF-5080

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

O.D.	Max. rpm	Appropriate bearing air pressure	Spindle runout	Collet	Weight
ϕ 48mm	80,000 min ⁻¹	35 NI/min (0.5MPa)	Within1 μ m	CHK Group (ϕ 0.5 ~ ϕ 6.35mm)	560g
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 : 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) Spanner (12 \times 14) : 2pcs · (22 \times 27) : 1pc / Fitting (KQ2H04-M5N) : 1pc Plug (KQ2P-04) : 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.44				

Cross section



Motor / Motor Cord

Order by Code No.

EM-3060 60,000min⁻¹ motor



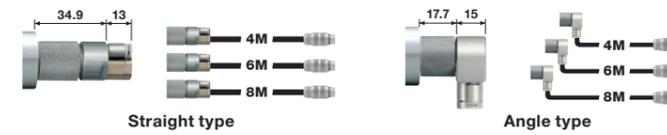
O.D. ϕ 30mm



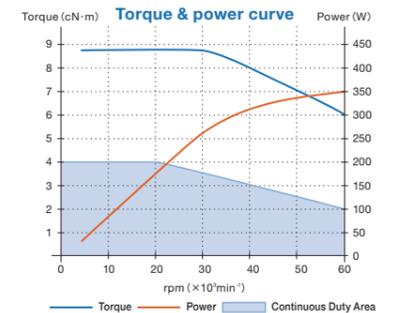
Specifications

EM-3060

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



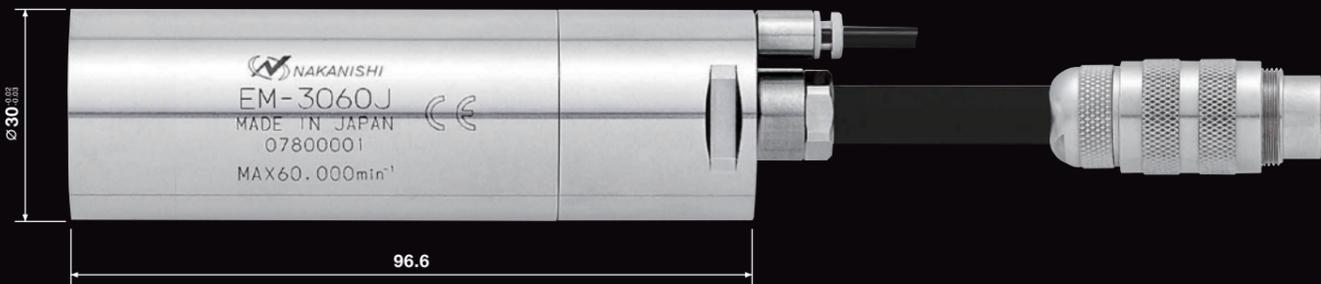
O.D.	Speed Range	Max. power	Weight
ϕ 30mm	1,000 ~ 60,000min ⁻¹	350w	325g
Standard Accessories Spanner (22×27) : 1pc			



EM-3060J 60,000min⁻¹ motor with joint type motor cord



O.D. ϕ 30mm



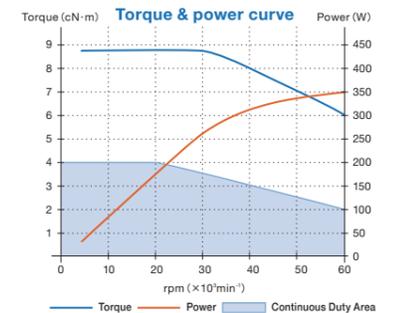
EM-3060J

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
ϕ 30mm	1,000 ~ 60,000min ⁻¹	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	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	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		

Motor cord	Code No.	Model	Length	Standard Accessories	Compatible model
Joint type motor cord	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		

Motor / Motor Cord

Order by Code No.

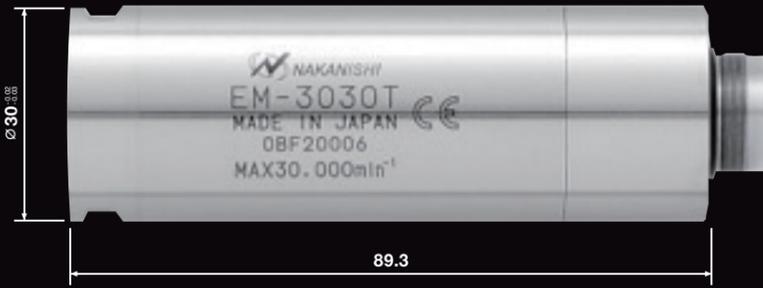
EM-3030T

30,000min⁻¹ torque motor



O.D. ϕ 30mm

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



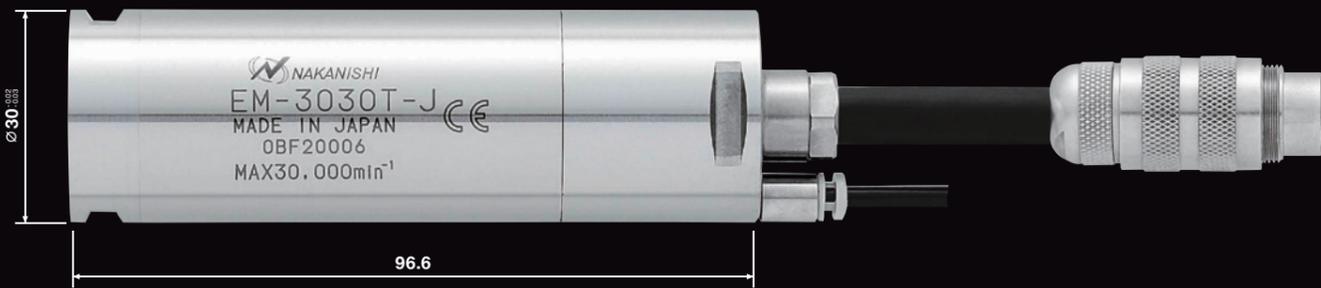
EM-3030T-J

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.



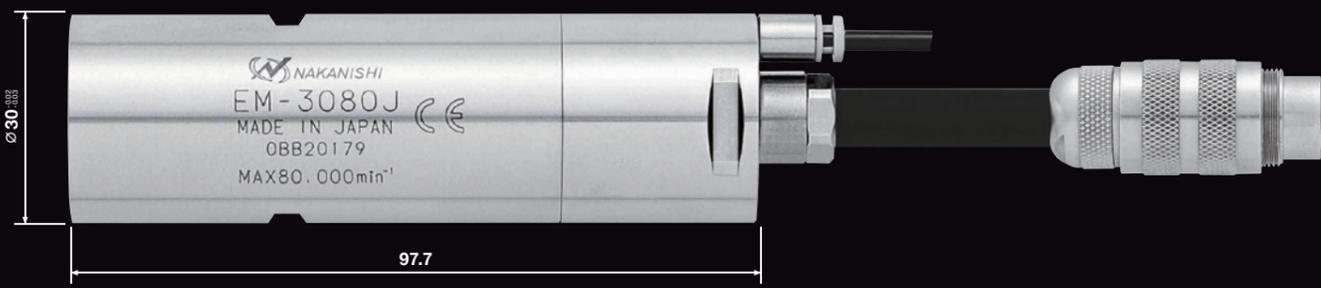
Cord length L=0.3m

EM-3080J

80,000min⁻¹ brushless motor with joint type motor cord

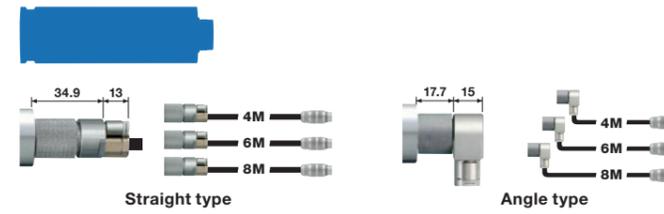


O.D. ϕ 30mm



Specifications

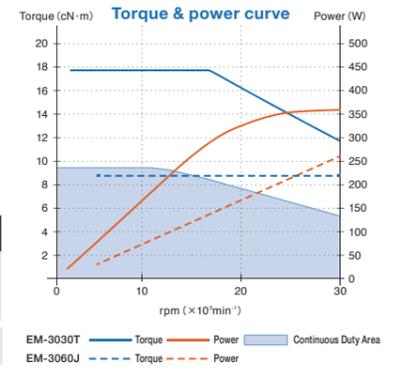
EM-3030T



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



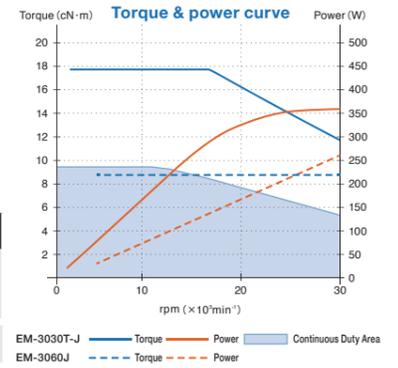
Length	0.3m	Code No.	7358	Model	EM-3030T-J
Length	2m	Code No.	7359	Model	EM-3030T-J-2M



※ Joint Type motor cord is necessary.

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



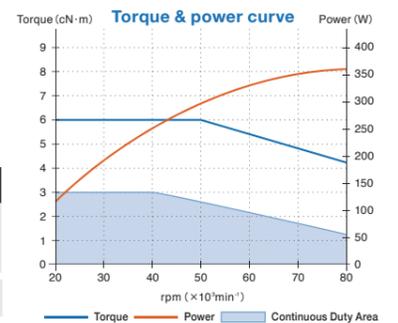
Length	0.3m	Code No.	1781	Model	EM-3080J
Length	2m	Code No.	1788	Model	EM-3080J-2M



※ Joint Type motor cord is necessary.

O.D.	Speed Range	Max. power	Weight
ϕ 30mm	20,000 ~ 80,000min ⁻¹	350w	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



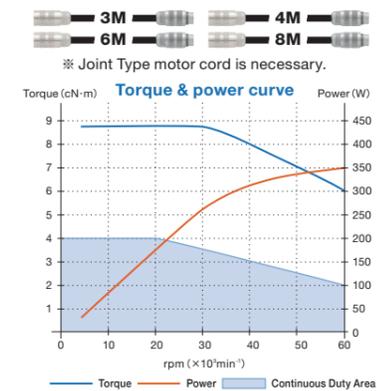
O.D. ø30mm



EMS-3060K

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

O.D.	Max. rpm	Spindle runout	Collet	Max. power	Weight
ø30mm	60,000min ⁻¹	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

ø30-CHA collet-30cm joint cord



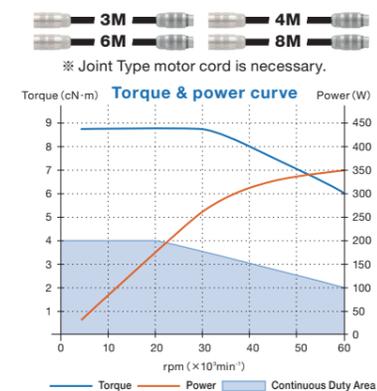
O.D. ø30mm



EMS-3060A

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

O.D.	Max. rpm	Spindle runout	Collet	Max. power	Weight
ø30mm	60,000min ⁻¹	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)			

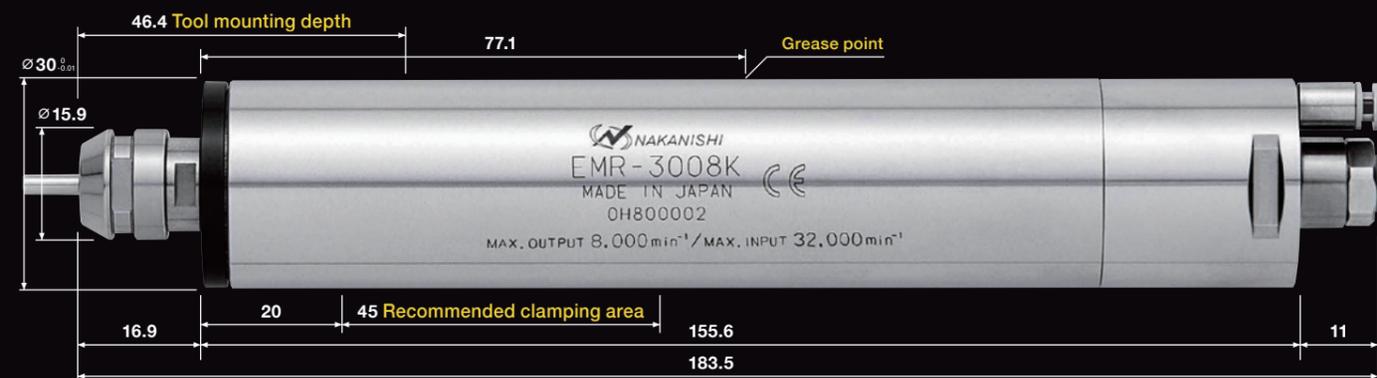


EMR-3008K

Motor spindle with reduction gear



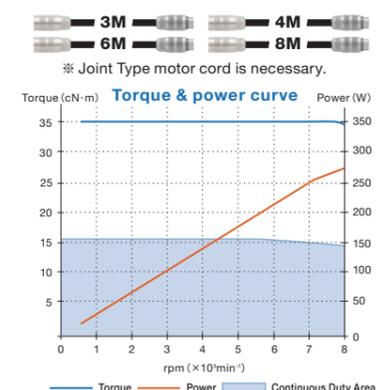
O.D. ø30mm



EMR-3008K

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

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
ø30mm	8,000min ⁻¹	1/4	32,000min ⁻¹
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)

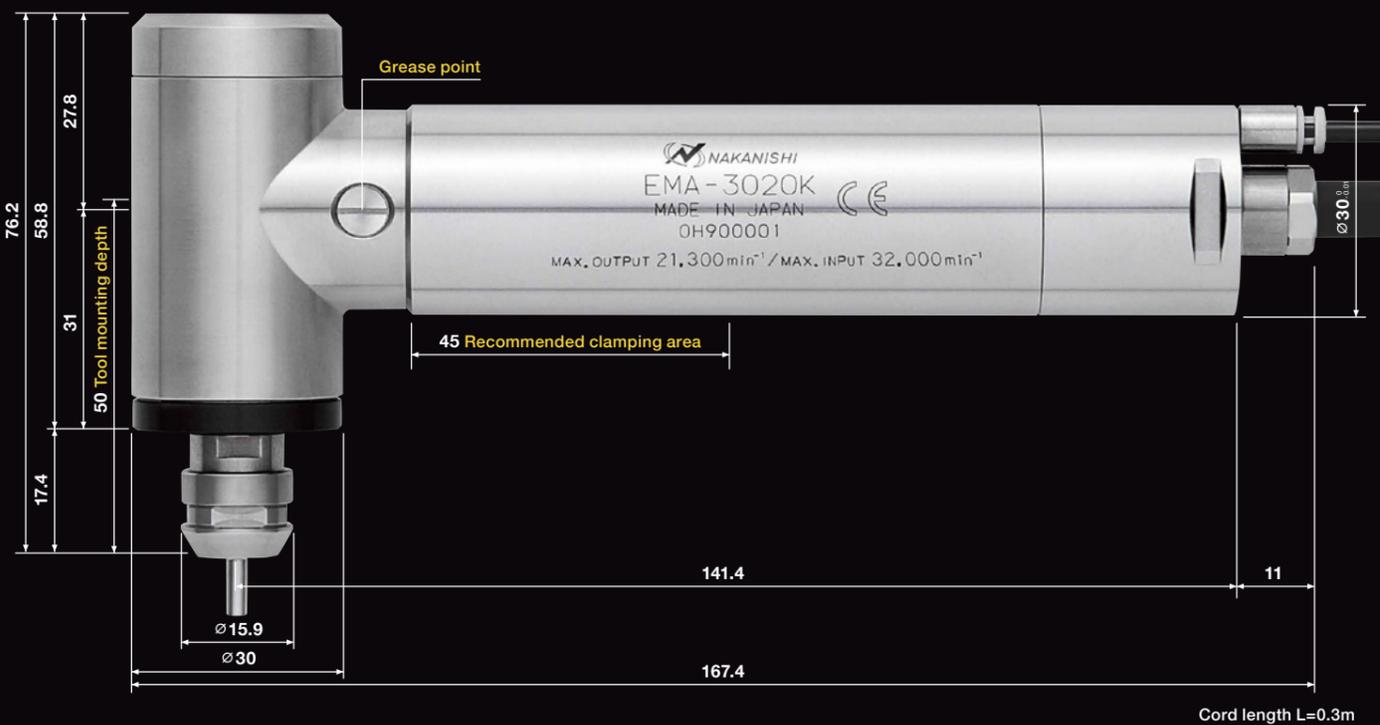
Order by Code No.

EMA-3020K

Standard angle head



O.D. ø30mm



EMA-3020K

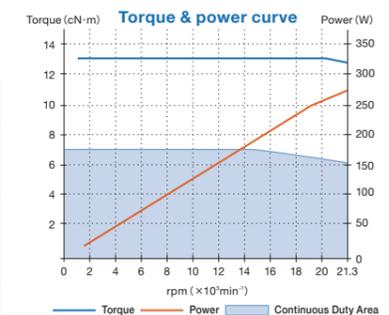


Code No. **1759** Model **EMA-3020K**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
Ø30mm	21,300 min ⁻¹	$\frac{1}{1.5}$	32,000 min ⁻¹
Spindle runout	Collet	Max. power	Weight
Within 2 µm	CHK Group (ø0.5 ~ ø6.35mm)	280w	760g
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. 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

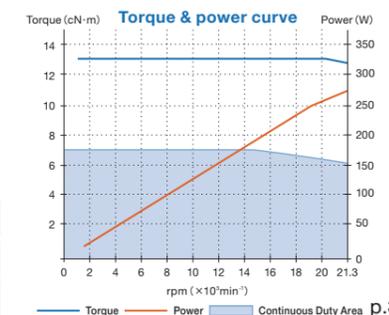


Code No. **1758** Model **EMA-3020S**

O.D.	Max. speed at the cutting tool	Reduction ratio	Max. rpm
Ø30mm	21,300 min ⁻¹	$\frac{1}{1.5}$	32,000 min ⁻¹
Spindle runout	Collet	Max. power	Weight
Within 3 µm	CHSS Group (ø1.0 ~ ø3.175mm)	275w	605g
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 p.44 Motor cord : Length 3m (1778) , 4m (1768) , 6m (1767) , 8m (1766)		



※ Joint Type motor cord is necessary.



Spindle Guide



EM30-S6000



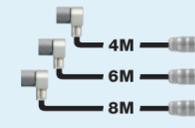
EM25-S6000



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

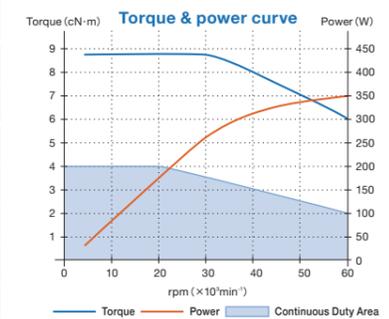


EM30-S6000

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

O.D.	Max. rpm	Spindle runout	Collet	Max. power	Weight
ø30mm	60,000min ⁻¹	Within1 μm	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

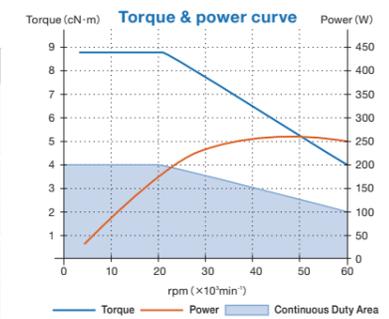


EM25-S6000

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

O.D.	Max. rpm	Spindle runout	Collet	Max. power	Weight
ø25mm	60,000min ⁻¹	Within1 μm	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

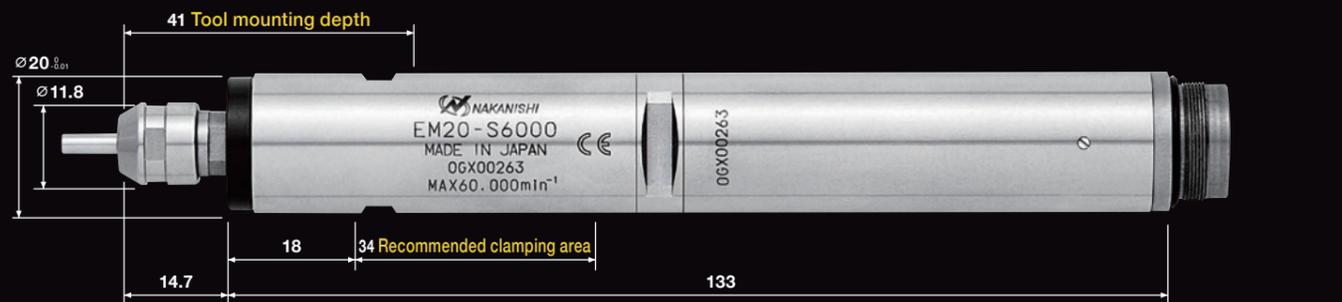


EM20-S6000

ø20-CHA collet



O.D. ø20mm

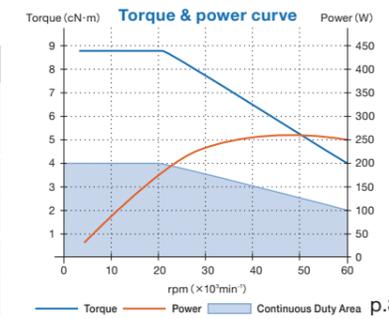


EM20-S6000

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

O.D.	Max. rpm	Spindle runout	Collet	Max. power	Weight
ø20mm	60,000min ⁻¹	Within1 μm	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)

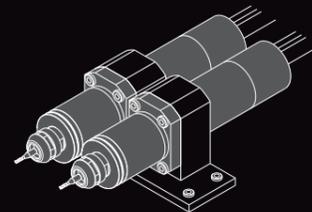
EMSF-3060K

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. ϕ 30mm



Cord length L=0.3m

Specifications

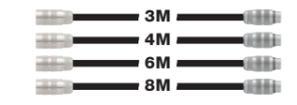
Order by Code No.

EMSF-3060K

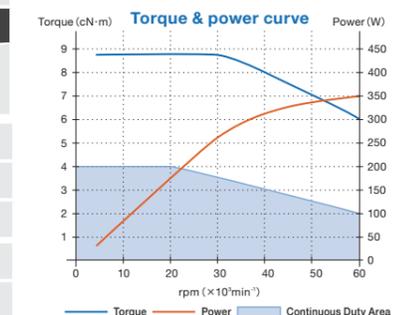
Code No. **7643** Model **EMSF-3060K**



O.D.	Max. rpm	Spindle runout	Collet
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 : ϕ 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) : ϕ 0.5 ~ ϕ 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

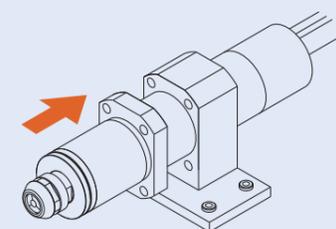
With flange

Type of spindle and mounting device integrated

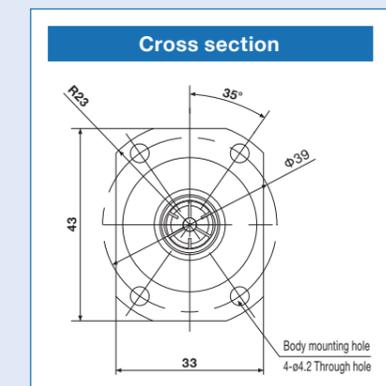
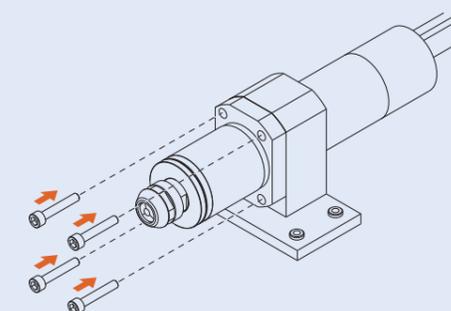
How to mount to a machine tool

in case of EMSF-3060K

1 insert motor spindle body into the holder



2 tighten the flange with 4 lock bolt (M4)



E3000 Controller

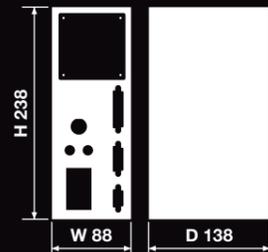


E3000 CONTROLLER

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 ⁻¹		
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		

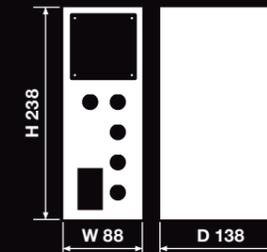
Selector



E3000 SELECTOR

Selector

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



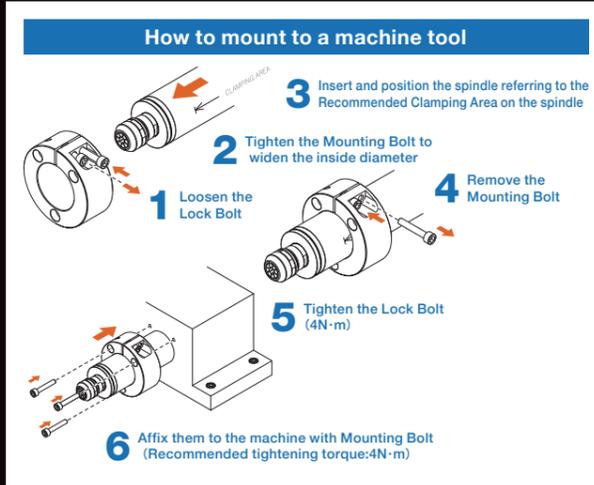
Number of motor		
4pcs Up to 4 motors to control with connecting selector to controller *not simultaneously		
Input Voltage		
AC100~240v		
Power consumption	Air consumption	Weight
AC0.15A	120ℓ/min (When connecting 4 motors)	1.9kg
Standard Accessories		
Power cord : 2m / Communication cable : 60cm		
Selector 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**

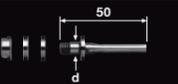
Compatible model

E3000 Controller

Collet	Code No.	Model	I.D.	Compatible model			
<p>Collet CHA Group</p>	91494	CHA-3.0AA	ø3.0AA*	EM20-S6000 · EM25-S6000 EMS-3060A · NR-3080S * High precision type AA (Spindle runout within 2μm)			
	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>Collet CHB group</p>	92820	CHB-2.0	ø2.0		NR40-5100 ATC NRR-3060-NRR-2651		
	92830	CHB-3.0	ø3.0				
	92893	CHB-3.175	ø3.175				
	92840	CHB-4.0	ø4.0				
	91597	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)			
	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					
<p>Collet CHK Group</p>	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				
	91930	CHR-3.0	ø3.0	NR50-5100 ATC			
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				
	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					
<p>Collet CHS group</p>	93092	CHSS-2.35	ø2.35				
	93030	CHSS-3.0	ø3.0		EMA-3020S		
	93093	CHSS-3.175	ø3.175				
	<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	
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
	<p>Collet CH8 group</p>	91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.0			
		91093	CH8-3.175	ø3.175			
<p>Collet CH8 group</p>		91092	CH8-2.35	ø2.35			
		91030	CH8-3.0	ø3.			

Accessories

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 NR-403E · NR-453E RAS-151E RAX-271E · RAX-71E
	2158	K-265A	Collet nut for NRAF-5080	NRAF-5080

Special arbor · Grinding arbor	Code No.	Model	I.D. / Description / Specifications	Compatible model	
	2146	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
	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.)	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
	2130	KCH-03 (6.0)	ø6.0 (I.D.)		
	2149	KCH-03 (8.0)	ø8.0 (I.D.)		
	2131	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	
	2138	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
	1547	—	Grease for reduction gear (2.5ml)	ARG-011E · ARG-021E EMA-3020K RAX-271E · RAX-71E
	1550	—	Grease for reduction gear (10ml)	
	1549	—	Grease for reduction gear (100ml)	

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

Preset adapter	Code No.	Model	Description	Compatible model
	9211	QC3-ADP	Preset adapter	QC3-K QC3-A

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



- [HESB10]
- The most cost effective solution to add high-speed machining capability
- 80,000min⁻¹, 6.0cN·m
- BT,NT,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
[ø19.05/20/22/25mm]



- Super short motor spindle
- High efficiency brushless motor



- [HESS10]
- 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

Application for machining centers and milling machines

AM SERIES One-piece type
1,000~60,000min⁻¹ 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⁻¹ Max.125W
[ø22.8mm]



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

SMS SERIES
40,000min⁻¹
[For small diameter endmills and drills only]



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

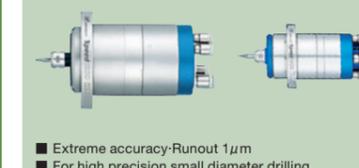
Air Turbine Spindles



Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

Xped SERIES
Max.160,000min⁻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

Electric spindle

Air spindle