

NAKANISHI SPINDLE E4000

E4000



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NAKANISHI INC. 2018

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Specifications and design are subject to change without notice.



Nature of Tochigi, Japan

SERIES **E4000**
ULTRA-HIGH-SPEED & SUPER-PRECISION

Little Giant

This little spindle brings you a giant profit

✓ The Strongest Spindle in its $\varnothing 40\text{mm}$ class

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

✓ Spindle runout within $1\mu\text{m}$

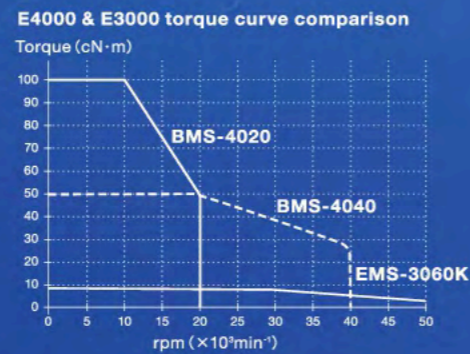
- Optimum for high-precision machining
- Longer tool life

✓ Ceramic Bearing

- Higher rigidity for heavy cutting
- Longer bearing life

✓ Brushless motor

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



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Max.rpm 40,000min⁻¹
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Max.rpm 40,000min⁻¹
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Max.rpm 40,000min⁻¹

Motor (Modular type)

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1,000 ~ 20,000min⁻¹
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1,000 ~ 40,000min⁻¹
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1,000 ~ 40,000min⁻¹

Motor Spindle (One-piece type)

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Controller

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Air line kit

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Joint type motor cord

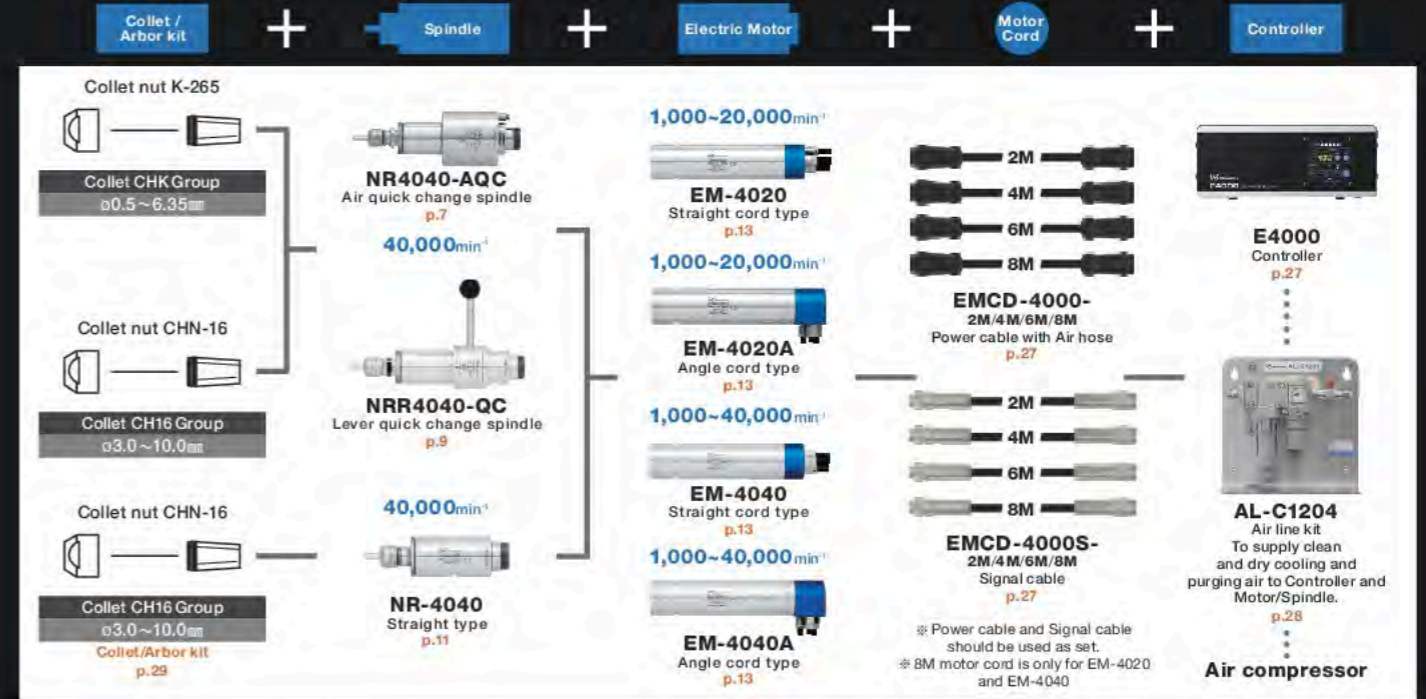
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Accessories (Air line kit, Collet, etc.)

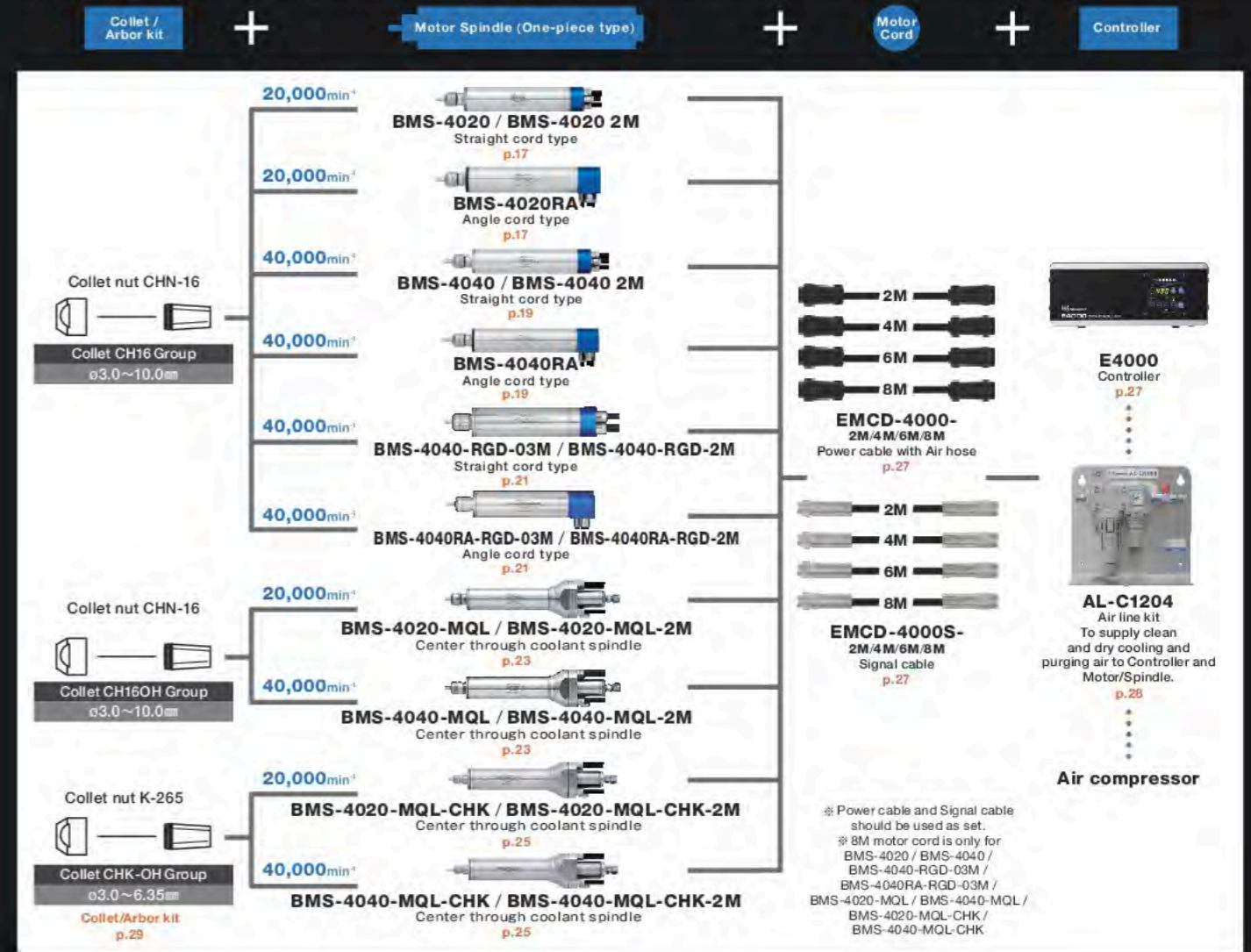
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- CH16 / CH16OH / CHK / CHK-OH** p.29
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Collet holder

System Chart

Modular type ø40mm



One-piece type ø40mm



Shown In Actual Size

Spindle (Modular type)



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40 NR-4040
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40 NR4040-AQC
p.7



40 EM-4020
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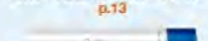
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Spindle Guide

CH16 / CHK
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NR4040-AQC

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

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

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Power cable 2M/4M/6M

Signal cable 2M/4M/6M

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E4000 SERIES

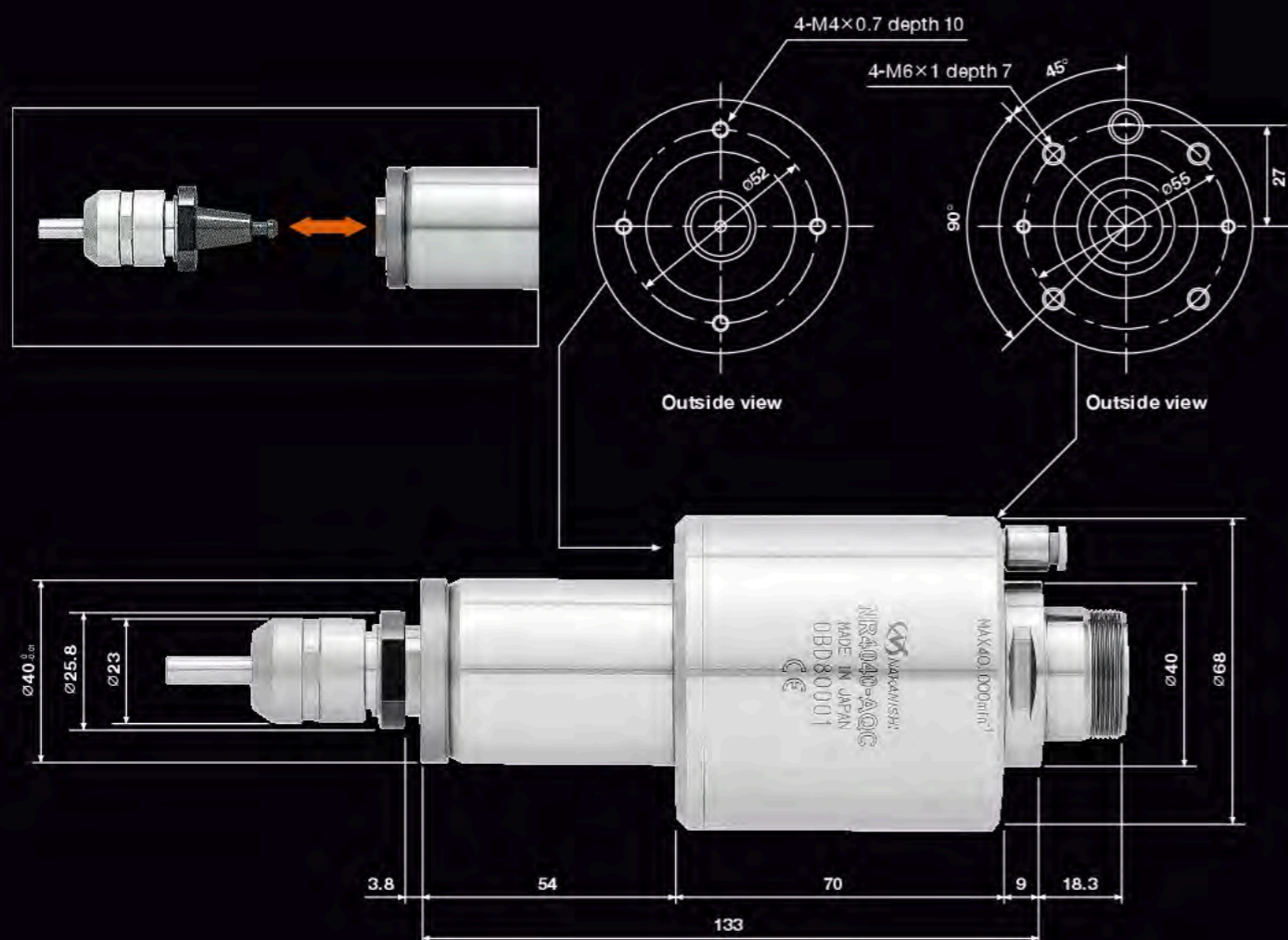
Spindle (Modular type)

NR4040-AQC

Air quick change spindle

O.D. ϕ 40mm

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



Specifications

DXF data DXF files are available on our website

Order by Code No.

NR4040-AQC

DXF-data

Code No. 9219

Model NR4040-AQC

O.D. (Recommended clamping area)	Spindle runout	Max. rpm	Air pressure of collet open/close	Weight
ϕ 40mm	Within 1 μ m	40,000min ⁻¹	0.55 ~ 0.6 MPa	2,160g

Motors	Collet holders
EM-4020 · EM-4020A · EM-4040 · EM-4040A	QC5-16 / QC5-16-R QC5-K / QC5-K-R (For collet CH16) (For collet CHK)

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

Parts (Optional)

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

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

Preset adapter (QC5-16/QC5-K)



Code No. 9218

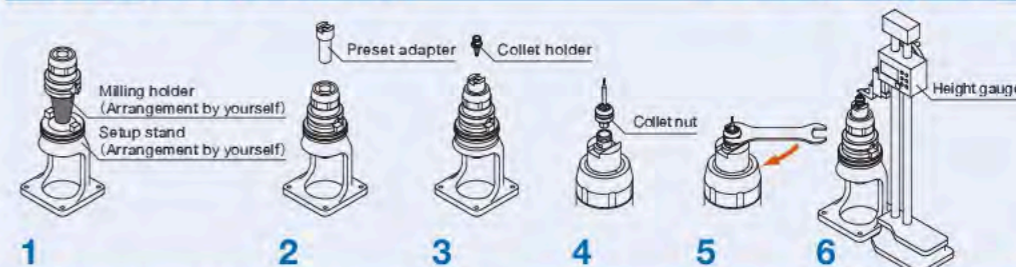
Model QC5-16 ADP
(For collet QC5-16)

Code No. 9217

Model QC5-K ADP
(For collet QC5-K)

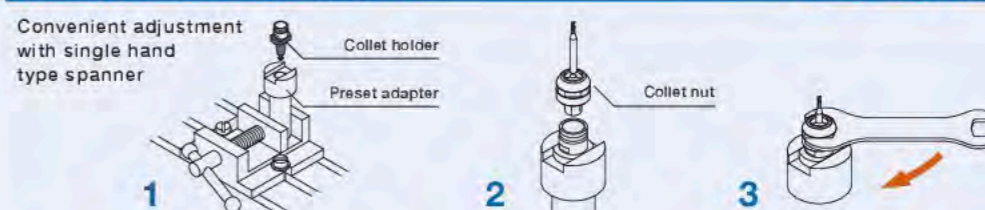
Set-up outside machines

In case using a milling holder

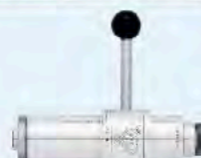


Set-up outside machines

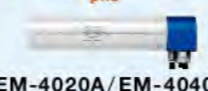
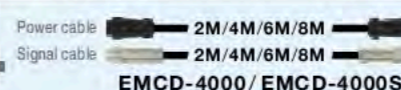
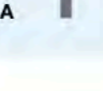
In case using a vice



Spindle Guide

CH16/CHK
p.29QC5-16/QC5-16-R/QC5-K/QC5-K-R
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NRR4040-QC

EM-4020/EM-4040
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E4000 SERIES

Spindle (Modular type)

NRR4040-QC

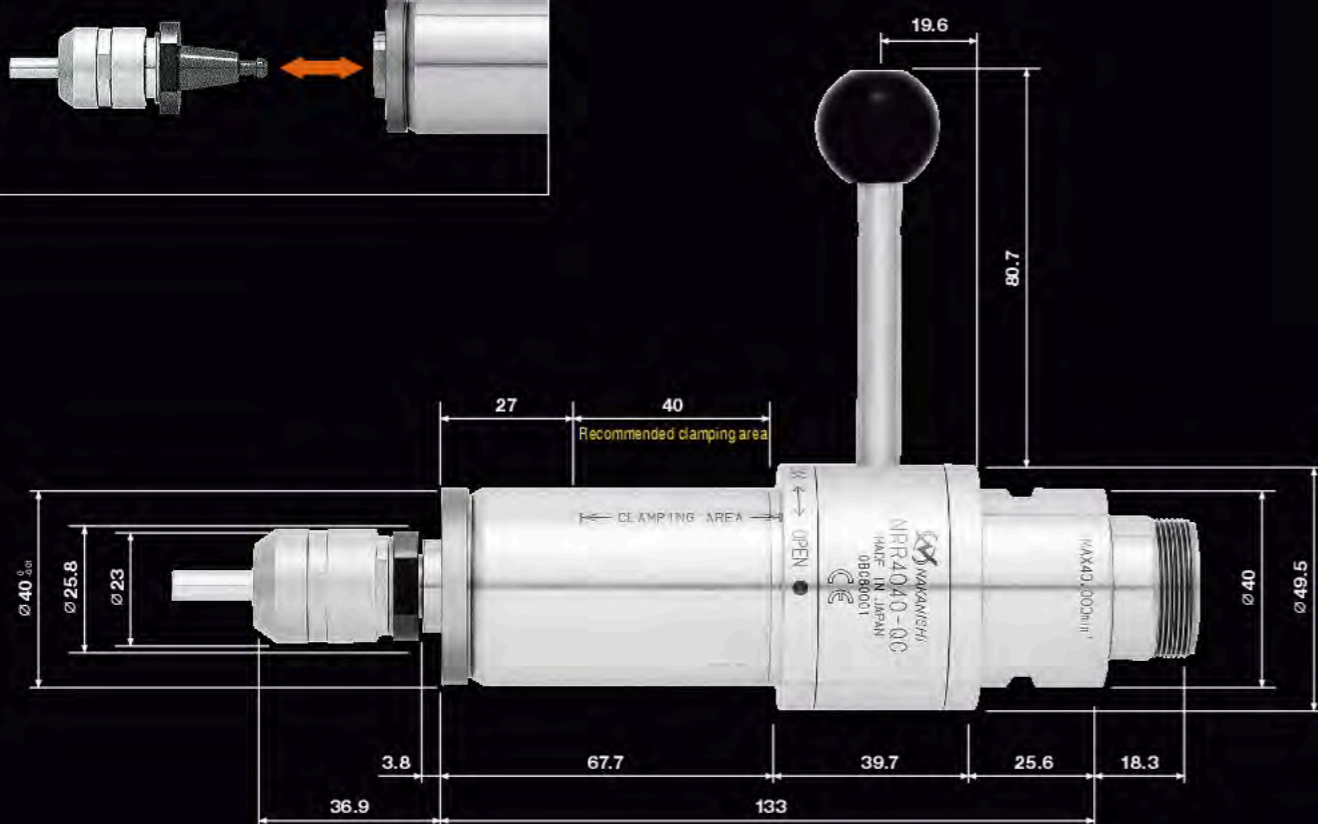
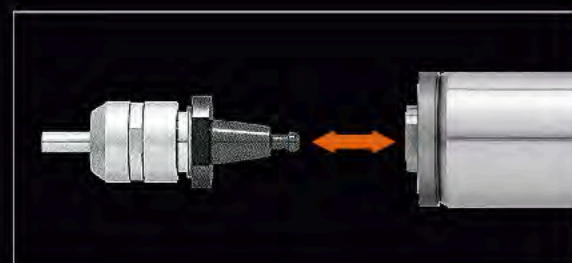
Lever quick change spindle

*Outside view : with QC5-16 collet holder

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



O.D.φ40mm



Specifications

DXF data DXF files are available on our website

Order by Code No.

NRR4040-QC

DXF data

Code No. 9214

Model NRR4040-QC

O.D.	Spindle runout	Max. rpm	Lever operating angle	Weight
φ40mm	Within 1μm	40,000min ⁻¹	90°	1,300g
Motors			Collet holders	
EM-4020 · EM-4020A · EM-4040 · EM-4040A			QC5-16 / QC5-16-R (For collet CH16)	QC5-K / QC5-K-R (For collet CHK)

Standard Accessories Spanner (36) : 1pc.

Parts (Optional)

Collet	Collet holder (With collet nut)		Spanner
	QC5-16/K	QC5-16/K-R	
CH16 I.D. φ3.0mm~10.0mm p.29	Code No.	931 6 0	9216 9225 2083
	Model	CH16- 6 . 0 (I.D. φ6.0mm)	QC5-16 (For collet CH16) QC5-16-R (For collet CH16) Spanner 17 × 22 (2pcs.)
CHK I.D. φ0.5mm~6.35mm p.29	Code No.	915 6 0	9215 9224 2026
	Model	CHK- 6 . 0 (I.D. φ6.0mm)	QC5-K (For collet CHK) QC5-K-R (For collet CHK) Spanner 12 × 14 (2pcs.)

In case using a Preset adapter, only 1pc. spanner is used.
CH16 collet → 17 × 22 spanner (1pc.) / CHK collet → 12 × 14 spanner (1pc.)

Preset adapter (QC5-16/QC5-K)



Code No. 9218

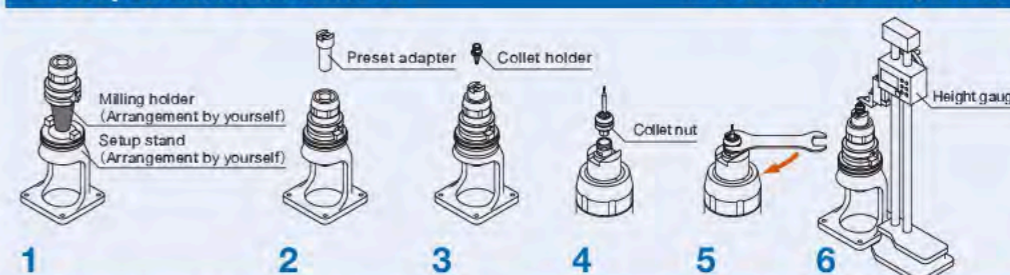
Model QC5-16 ADP
(For collet QC5-16)

Code No. 9217

Model QC5-K ADP
(For collet QC5-K)

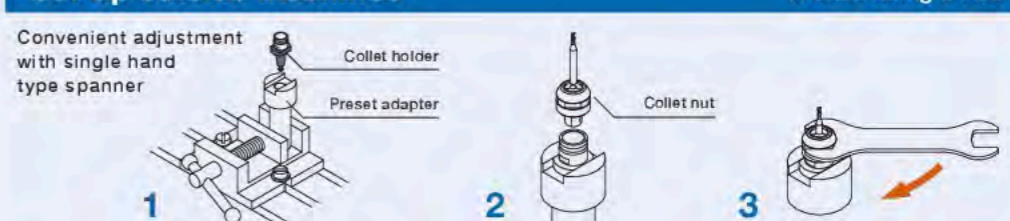
Set-up outside machines

In case using a milling holder



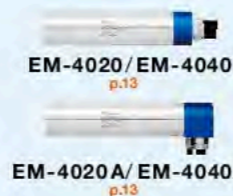
Set-up outside machines

In case using a vice



Spindle
Guide

NR-4040

EM-4020/EM-4040
p.13EM-4020A/EM-4040A
p.13

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

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

EMCD-4000/EMCD-4000S
p.27

Power cable 2M/4M/6M

Signal cable 2M/4M/6M

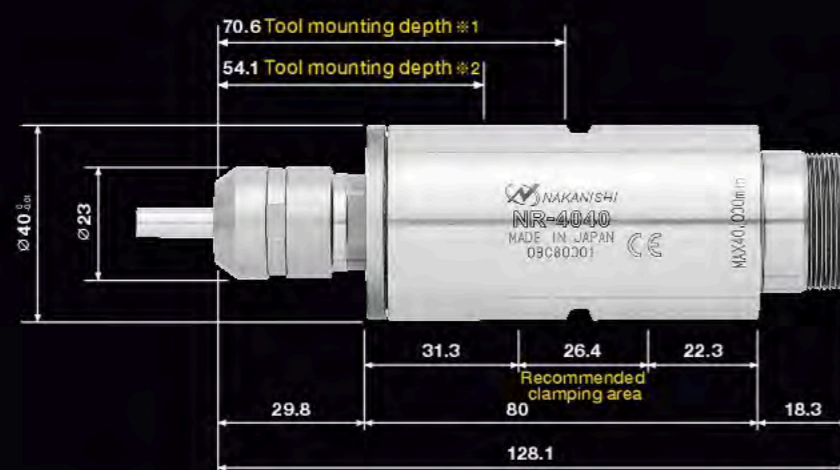
EMCD-4000/EMCD-4000S
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p.27AL-C1204
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E4000 SERIES

Spindle (Modular type)

NR-4040

Straight type

*1:In case for the shank size less than $\phi 6.9\text{mm}$ *2:In case for the shank $\phi 6.9\text{mm}$ or moreO.D. $\phi 40\text{mm}$ 

Specifications

DXF data DXF files are available on our website

Order by Code No.

NR-4040

DXF-data

Code No.

9212

Model

NR-4040

O.D.	Spindle runout	Collet	Max. rpm	Motors	Weight
$\phi 40\text{mm}$	Within $1\mu\text{m}$	CH16 Group ($\phi 3.0 \sim \phi 10.0\text{mm}$)	$40,000\text{min}^{-1}$	EM-4020 · EM-4020A EM-4040 · EM-4040A	700g
Standard Accessories	Collet : $\phi 6.0\text{mm}$ (CH16-6.0) / Collet nut (CHN-16) / Spanner (17 × 22) : 2pcs. · Spanner (36) : 1pc.				
Options	Collet (CH16 Group) : $\phi 3.0\text{mm} \sim \phi 10.0\text{mm}$ p.29				

Motor (Modular type)

Order by Code No.

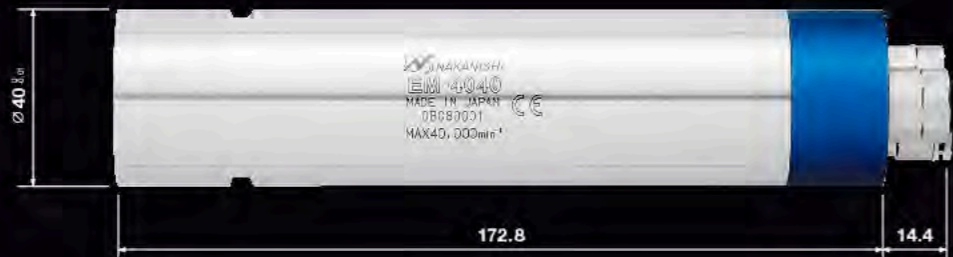
EM-4020 (20,000rpm) Straight cord type



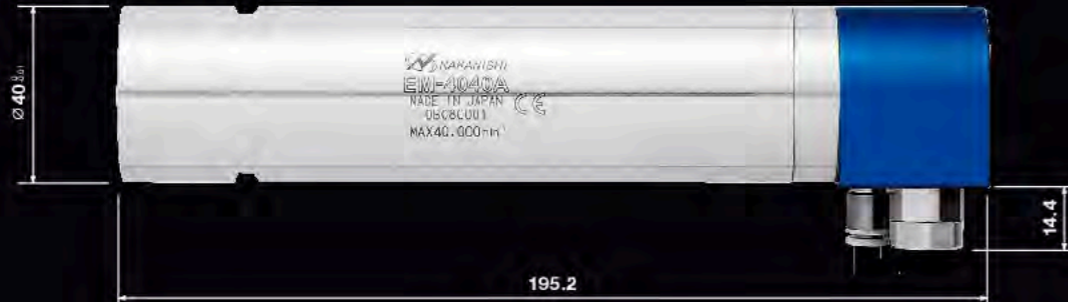
EM-4020A (20,000rpm) Angle cord type



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



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

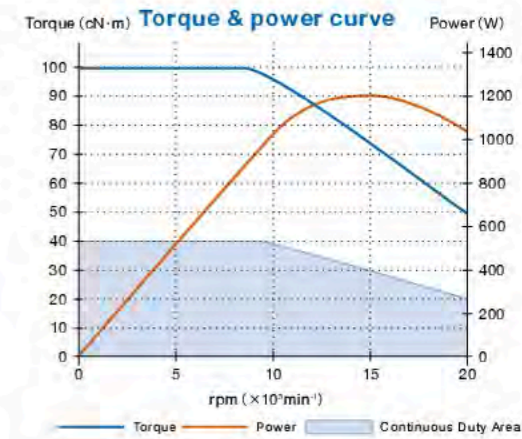


Specifications

DXF data DXF files are available on our website

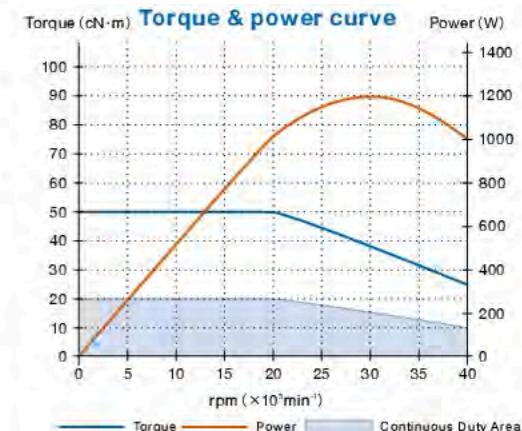
EM-4020	DXF-data	Code No. 8348	Model EM-4020
O.D.	Rpm	Max. power	
40mm	1,000~20,000min⁻¹	1,200w	
Cord length	Min. Bending Cord Radius	Max. torque	Weight
0.3m	70mm	1.0N·m	1,300g
Standard Accessories	Spanner (36) : 1pc.		
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ /min Power cable with Air hose : Connector Diameter : 30mm Signal cable : Connector Diameter : 16mm / Air hose : 6mm		
Options	Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) ,8m (9256) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259) ,8m (9260)		

EM-4020A	DXF-data	Code No. 8349	Model EM-4020A
O.D.	Rpm	Max. power	
40mm	1,000~20,000min⁻¹	1,200w	
Cord length	Min. Bending Cord Radius	Max. torque	Weight
2.0m	70mm	1.0N·m	1,800g
Standard Accessories	Spanner (36) : 1pc.		
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ /min Power cable with Air hose : Connector Diameter : 30mm Signal cable : Connector Diameter : 16mm / Air hose : 6mm		
Options	Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259)		



EM-4040	DXF-data	Code No. 8346	Model EM-4040
O.D.	Rpm	Max. power	
40mm	1,000~40,000min⁻¹	1,200w	
Cord length	Min. Bending Cord Radius	Max. torque	Weight
0.3m	70mm	0.5N·m	1,300g
Standard Accessories	Spanner (36) : 1pc.		
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ /min Power cable with Air hose : Connector Diameter : 30mm Signal cable : Connector Diameter : 16mm / Air hose : 6mm		
Options	Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) ,8m (9256) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259) ,8m (9260)		

EM-4040A	DXF-data	Code No. 8347	Model EM-4040A
O.D.	Rpm	Max. power	
40mm	1,000~40,000min⁻¹	1,200w	
Cord length	Min. Bending Cord Radius	Max. torque	Weight
2.0m	70mm	0.5N·m	1,800g
Standard Accessories	Spanner (36) : 1pc.		
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ /min Power cable with Air hose : Connector Diameter : 30mm Signal cable : Connector Diameter : 16mm / Air hose : 6mm		
Options	Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259)		



Motor Spindle (One-piece type)



40 BMS-4020RA
p.17

40 BMS-4040RA
p.19

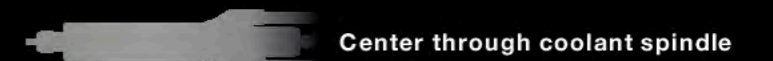
40 BMS-4040RA-RGD-03M / BMS-4040RA-RGD-2M
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40 BMS-4020 / BMS-4020 2M
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40 BMS-4040 / BMS-4040 2M
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40 BMS-4040-RGD-03M / BMS-4040-RGD-2M
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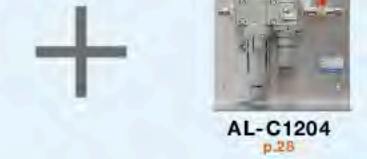
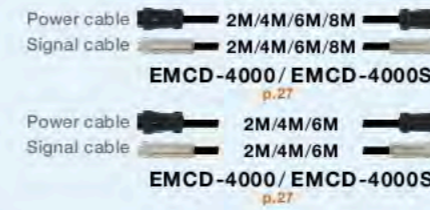
40 BMS-4020-MQL / BMS-4020-MQL-2M
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40 BMS-4040-MQL / BMS-4040-MQL-2M
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40 BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M
p.25

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

Spindle Guide



E4000 SERIES

Motor Spindle (One-piece type)

BMS-4020 / BMS-4020 2M

Straight cord type

*1:In case for the shank size less than $\phi 6.9\text{mm}$ *2:In case for the shank $\phi 6.9\text{mm}$ or more



O.D. $\phi 40\text{mm}$



BMS-4020RA

Angle cord type

*1:In case for the shank size less than $\phi 6.9\text{mm}$ *2:In case for the shank $\phi 6.9\text{mm}$ or more



O.D. $\phi 40\text{mm}$



Specifications

DXF data DXF files are available on our website

Order by Code No.

BMS-4020 / BMS-4020 2M

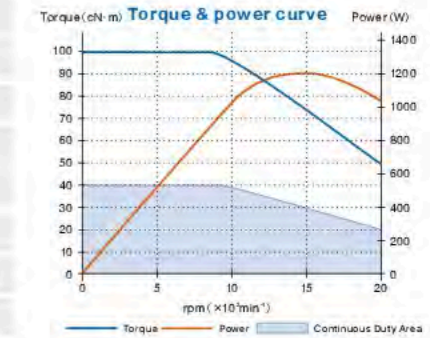


Code No.	1784	Model	BMS-4020
Code No.	7682	Model	BMS-4020 2M

※ Cord length BMS-4020 : L=0.3m / BMS-4020 2M : L=2.0m

O.D.	Max. rpm	Spindle runout	Collet	Max. power
$\phi 40\text{mm}$	20,000 min^{-1}	Within $1\mu\text{m}$	CH16Group ($\phi 3.0 \sim \phi 10.0\text{mm}$)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
BMS-4020 : 0.3m BMS-4020 2M : 2.0m	70mm	1.0N·m	1.5kg	
Standard Accessories	Collet : $\phi 6.0\text{mm}$ (CH16-6.0) / Collet nut (CHN-16) Spanner (17 × 22) : 2pcs.			
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : $\phi 30\text{mm}$ Signal cable : Connector Diameter : $\phi 16\text{mm}$ / Air hose : $\phi 6\text{mm}$			
Options	Collet (CH16 Group) : $\phi 3.0 \sim \phi 10.0\text{mm}$ p.29 Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) ,8m (9256) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259) ,8m (9260)			

※ 8M motor cord is only for BMS-4020 and BMS-4040



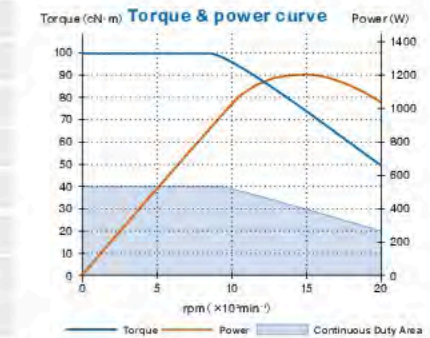
BMS-4020RA



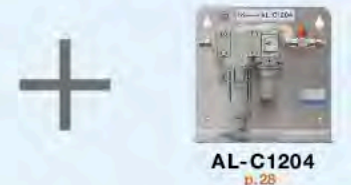
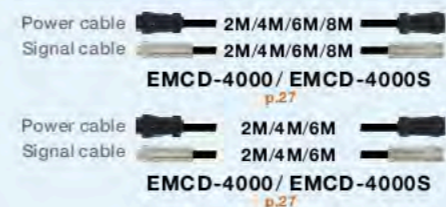
Code No.	1785	Model	BMS-4020RA
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※ Cord length L=2.0m

O.D.	Max. rpm	Spindle runout	Collet	Max. power
$\phi 40\text{mm}$	20,000 min^{-1}	Within $1\mu\text{m}$	CH16Group ($\phi 3.0 \sim \phi 10.0\text{mm}$)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
2.0m	70mm	1.0N·m	2.0kg	
Standard Accessories	Collet : $\phi 6.0\text{mm}$ (CH16-6.0) / Collet nut (CHN-16) Spanner (17 × 22) : 2pcs.			
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : $\phi 30\text{mm}$ Signal cable : Connector Diameter : $\phi 16\text{mm}$ / Air hose : $\phi 6\text{mm}$			
Options	Collet (CH16 Group) : $\phi 3.0 \sim \phi 10.0\text{mm}$ p.29 Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259)			



Spindle Guide



E4000 SERIES

Motor Spindle (One-piece type)

BMS-4040 / BMS-4040 2M

Straight cord type

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



O.D.ø40mm



BMS-4040RA

Angle cord type

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



O.D.ø40mm



Specifications

DXF data DXF files are available on our website

Order by Code No.

BMS-4040 / BMS-4040 2M

Code No.	1786	Model	BMS-4040
Code No.	7684	Model	BMS-4040 2M



※ Cord length BMS-4040 : L=0.3m / BMS-4040 2M : L=2.0m

O.D.	Max. rpm	Spindle runout	Collet	Max. power
ø40mm	40,000min ⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0mm)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
BMS-4040: 0.3m BMS-4040 2M: 2.0m	70mm	0.5N·m	1.5kg	
Standard Accessories	Collet : ø6.0mm (CH16-6.0) / Collet nut (CHN-16) Spanner (17 × 22) : 2pcs.			
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ /min Power cable with Air hose : Connector Diameter : ø30mm Signal cable : Connector Diameter : ø16mm / Air hose : ø6mm			
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0mm p.29 Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) ,8m (9256) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259) ,8m (9260)			



※ 8M motor cord is only for BMS-4020 and BMS-4040

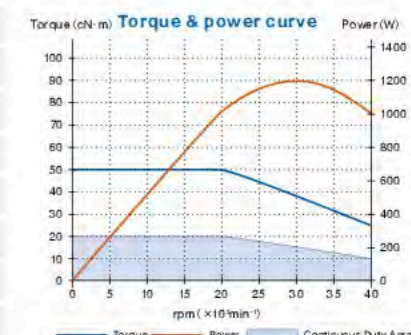
BMS-4040RA

Code No.	1787	Model	BMS-4040RA
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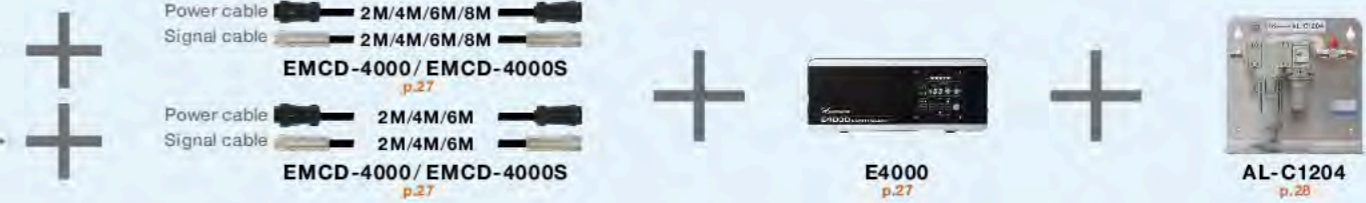
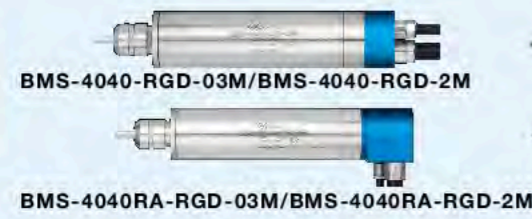


※ Cord length L=2.0m

O.D.	Max. rpm	Spindle runout	Collet	Max. power
ø40mm	40,000min ⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0mm)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
2.0m	70mm	0.5N·m	2.0kg	
Standard Accessories	Collet : ø6.0mm (CH16-6.0) / Collet nut (CHN-16) Spanner (17 × 22) : 2pcs.			
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ /min Power cable with Air hose : Connector Diameter : ø30mm Signal cable : Connector Diameter : ø16mm / Air hose : ø6mm			
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0mm p.29 Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259)			



Spindle Guide



E4000 SERIES

Motor Spindle (Rigidity type)

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

Straight cord type

*1:In case for the shank size less than $\phi 6.9\text{mm}$ * 2:In case for the shank $\phi 6.9\text{mm}$ or more



O.D. $\phi 40\text{mm}$

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



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

Angle cord type

*1:In case for the shank size less than $\phi 6.9\text{mm}$ * 2:In case for the shank $\phi 6.9\text{mm}$ or more



O.D. $\phi 40\text{mm}$

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



Specifications

DXF data DXF files are available on our website

Order by Code No.

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

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

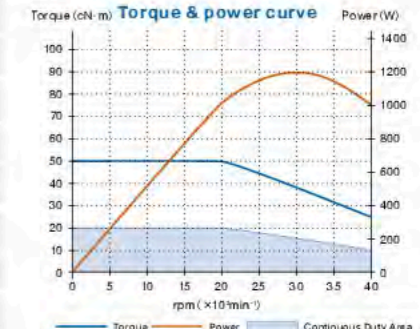


* Cord length BMS-4040-RGD-03M : L=0.3m / BMS-4040-RGD-2M : L=2.0m.

O.D.	Max. rpm	Spindle runout	Collet	Max. power
$\phi 40\text{mm}$	40,000min ⁻¹	Within 1 μm	CH16Group ($\phi 3.0 \sim \phi 10.0\text{mm}$)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
BMS-4040-RGD-03M : 0.3m BMS-4040-RGD-2M : 2.0m	70mm	0.5N·m	BMS-4040-RGD-03M : 1.4kg BMS-4040-RGD-2M : 1.9kg	

Standard Accessories	Collet nut (CHN-16) Spanner (17 × 22) : 2pcs.
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100N ℓ /min Power cable with Air hose : Connector Diameter : $\phi 30\text{mm}$ Signal cable : Connector Diameter : $\phi 16\text{mm}$ / Air hose : $\phi 6\text{mm}$
Options	Collet (CH16 Group) : $\phi 3.0 \sim \phi 10.0\text{mm}$ p.29 Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) ,8m (9256) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259) ,8m (9260)

*8M motor cord is only for BMS-4040-RGD-03M and BMS-4040RA-RGD-03M



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

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

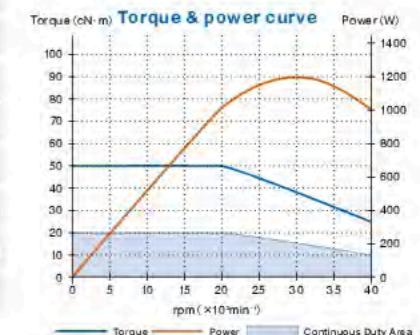


* Cord length BMS-4040RA-RGD-03M : L=0.3m / BMS-4040RA-RGD-2M : L=2.0m.

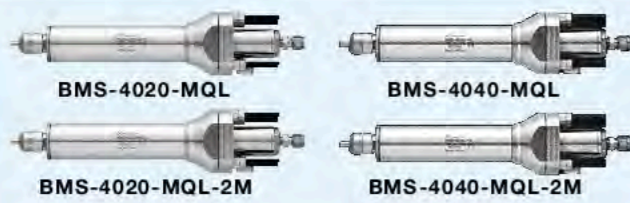
O.D.	Max. rpm	Spindle runout	Collet	Max. power
$\phi 40\text{mm}$	40,000min ⁻¹	Within 1 μm	CH16Group ($\phi 3.0 \sim \phi 10.0\text{mm}$)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
BMS-4040RA-RGD-03M : 0.3m BMS-4040RA-RGD-2M : 2.0m	70mm	0.5N·m	BMS-4040RA-RGD-03M : 1.4kg BMS-4040RA-RGD-2M : 1.9kg	

Standard Accessories	Collet nut (CHN-16) Spanner (17 × 22) : 2pcs.
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100N ℓ /min Power cable with Air hose : Connector Diameter : $\phi 30\text{mm}$ Signal cable : Connector Diameter : $\phi 16\text{mm}$ / Air hose : $\phi 6\text{mm}$
Options	Collet (CH16 Group) : $\phi 3.0 \sim \phi 10.0\text{mm}$ p.29 Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) ,8m (9256) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259) ,8m (9260)

*8M motor cord is only for BMS-4040-RGD-03M and BMS-4040RA-RGD-03M



Spindle Guide



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



Power cable 2M/4M/6M/8M
Signal cable 2M/4M/6M/8M
EMCD-4000 / EMCD-4000S p.27

Power cable 2M/4M/6M
Signal cable 2M/4M/6M
EMCD-4000 / EMCD-4000S p.27



E4000 p.27



AL-C1204 p.28

E4000 SERIES

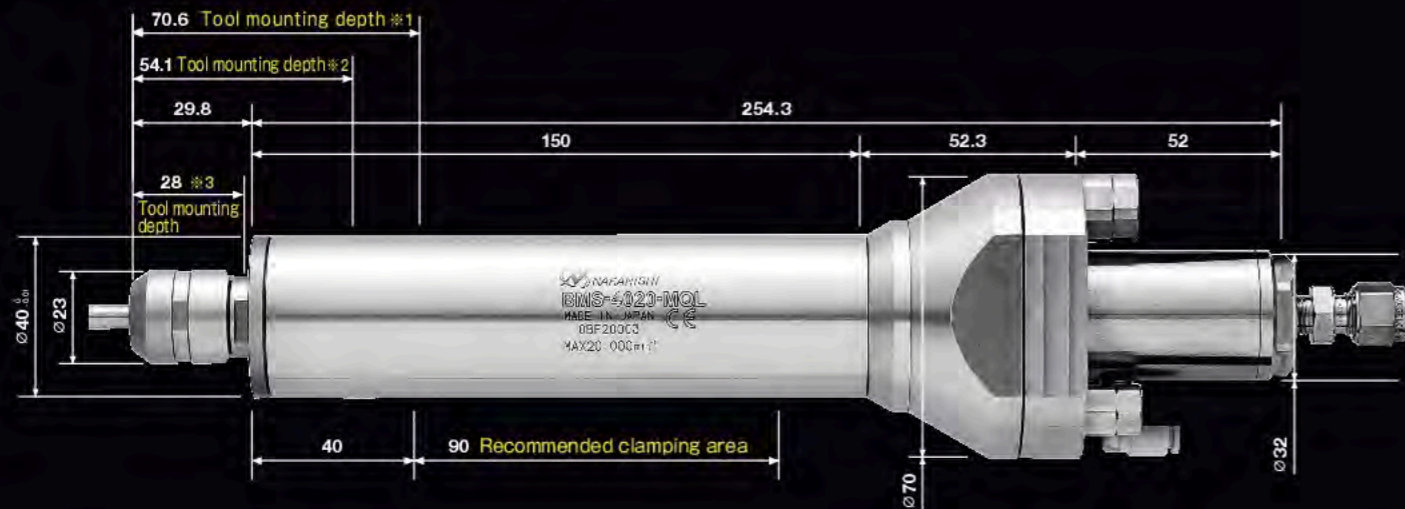
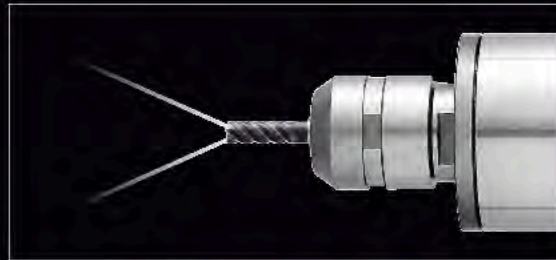
Motor Spindle (One-piece type : $\phi 3.0 \sim \phi 10.0\text{mm}$)

BMS-4020-MQL / BMS-4020-MQL-2M
BMS-4040-MQL / BMS-4040-MQL-2M
Center through coolant spindle



O.D. $\phi 40\text{mm}$

- Pressurized coolant goes through the spindle from the back to tool tip.
- Coolant clears the chips effectively and improves the accuracy, shortens time and extends tool-life.
- ※ "High pressure coolant device" or "oil mist supply device" to be arranged by the customer.



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

Specifications

DXF data DXF files are available on our website

Order by Code No.

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

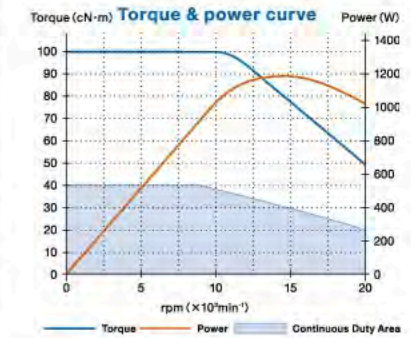
Code No. **7716** Model **BMS-4020-MQL**
Code No. **7717** Model **BMS-4020-MQL-2M**



※ Cord length BMS-4020-MQL : L=0.3m / BMS-4020-MQL-2M : L=2.0m

O.D.	Max. rpm	Spindle runout	Collet	Max. power
$\phi 40\text{mm}$	20,000min ⁻¹	Within 1 μm	CH16OH Group ($\phi 3.0 \sim \phi 10.0\text{mm}$)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
BMS-4020-MQL: 0.3m BMS-4020-MQL-2M: 2.0m	70mm	1.0N·m	BMS-4020-MQL: 2.3kg BMS-4020-MQL-2M: 2.8kg	

Standard Accessories	Collet nut (CHN-16) / Insert / Ferrule Set Spanner (17 × 22) : 2pcs.
Specifications	Coolant pressure : 0.2 ~ 3.0MPa / Oil Mist pressure : 0.2 ~ 1.0MPa Power cable with Air hose : Connector Diameter : $\phi 30\text{mm}$ Signal cable : Connector Diameter : $\phi 16\text{mm}$ / Air hose : $\phi 6\text{mm}$
Options	Collet (CH16OH Group) : $\phi 3.0 \sim \phi 10.0\text{mm}$ p.29 Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) ,8m (9256) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259) ,8m (9260)



※ 8M motor cord is only for BMS-4020-MQL

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

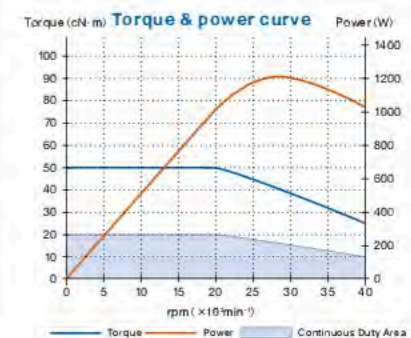
Code No. **7714** Model **BMS-4040-MQL**
Code No. **7715** Model **BMS-4040-MQL-2M**



※ Cord length BMS-4040-MQL : L=0.3m / BMS-4040-MQL-2M : L=2.0m

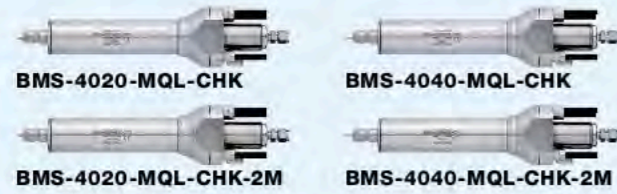
O.D.	Max. rpm	Spindle runout	Collet	Max. power
$\phi 40\text{mm}$	40,000min ⁻¹	Within 1 μm	CH16OH Group ($\phi 3.0 \sim \phi 10.0\text{mm}$)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
BMS-4040-MQL: 0.3m BMS-4040-MQL-2M: 2.0m	70mm	0.5N·m	BMS-4040-MQL: 2.3kg BMS-4040-MQL-2M: 2.8kg	

Standard Accessories	Collet nut (CHN-16) / Insert / Ferrule Set Spanner (17 × 22) : 2pcs.
Specifications	Coolant pressure : 0.2 ~ 3.0MPa / Oil Mist pressure : 0.2 ~ 1.0MPa Power cable with Air hose : Connector Diameter : $\phi 30\text{mm}$ Signal cable : Connector Diameter : $\phi 16\text{mm}$ / Air hose : $\phi 6\text{mm}$
Options	Collet (CH16OH Group) : $\phi 3.0 \sim \phi 10.0\text{mm}$ p.29 Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) ,8m (9256) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259) ,8m (9260)



※ 8M motor cord is only for BMS-4040-MQL

Spindle Guide



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



E4000 SERIES

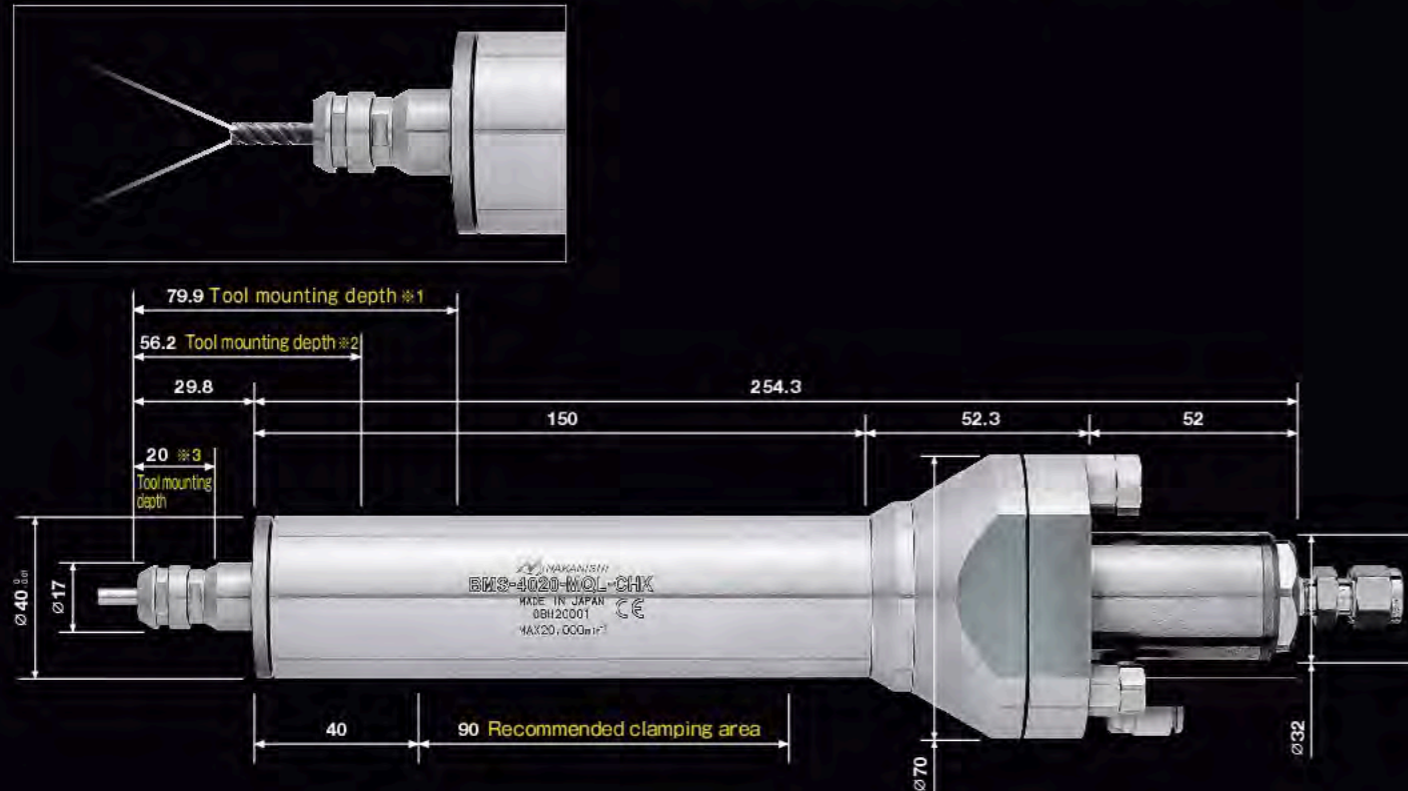
Motor Spindle (One-piece type : $\phi 3.0 \sim \phi 6.35\text{mm}$)

BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M
BMS-4040-MQL-CHK / BMS-4040-MQL-CHK-2M
 Center through coolant spindle



O.D. $\phi 40\text{mm}$

- Pressurized coolant goes through the spindle from the back to tool tip.
 - Coolant clears the chips effectively and improves the accuracy, shortens time and extends tool-life.
- ※ "High pressure coolant device" or "oil mist supply device" to be arranged by the customer.



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

Specifications

DXF data DXF files are available on our website

Order by Code No.

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

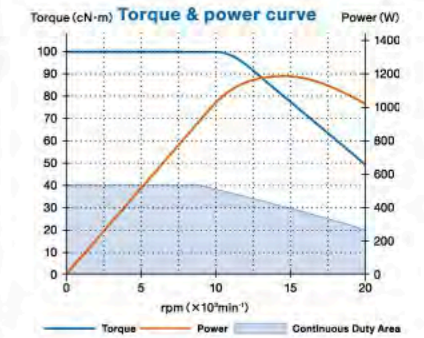
Code No.	7735	Model	BMS-4020-MQL-CHK
Code No.	7736	Model	BMS-4020-MQL-CHK-2M



※ Cord length BMS-4020-MQL-CHK : L=0.3m / BMS-4020-MQL-CHK-2M : L=2.0m

O.D.	Max. rpm	Spindle runout	Collet	Max. power
$\phi 40\text{mm}$	20,000min ⁻¹	Within 1 μm	CHK-OH Group ($\phi 3.0 \sim \phi 6.35\text{mm}$)	1,200w
Cord length		Min. Bending Cord Radius	Max. torque	Weight
BMS-4020-MQL-CHK : 0.3m BMS-4020-MQL-CHK-2M : 2.0m		70mm	1.0N·m	BMS-4020-MQL-CHK : 2.3kg BMS-4020-MQL-CHK-2M : 2.8kg

Standard Accessories	Collet nut (K-265) / Insert / Ferrule Set Spanner (12 × 14) : 2pcs.
Specifications	Coolant pressure : 0.2~3.0MPa / Oil Mist pressure : 0.2~1.0MPa Power cable with Air hose : Connector Diameter : $\phi 30\text{mm}$ Signal cable : Connector Diameter : $\phi 16\text{mm}$ / Air hose : $\phi 6\text{mm}$
Options	Collet (CHK-OH Group) : $\phi 3.0 \sim \phi 6.35\text{mm}$ p.29 Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) ,8m (9256) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259) ,8m (9260) Adjuster Bolt (7739)



※8M motor cord is only for BMS-4020-MQL-CHK

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

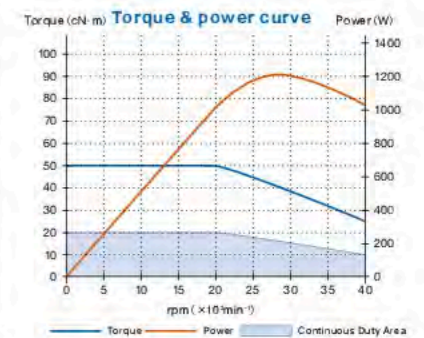
Code No.	7737	Model	BMS-4040-MQL-CHK
Code No.	7738	Model	BMS-4040-MQL-CHK-2M



※ Cord length BMS-4040-MQL-CHK : L=0.3m / BMS-4040-MQL-CHK-2M : L=2.0m

O.D.	Max. rpm	Spindle runout	Collet	Max. power
$\phi 40\text{mm}$	40,000min ⁻¹	Within 1 μm	CHK-OH Group ($\phi 3.0 \sim \phi 6.35\text{mm}$)	1,200w
Cord length		Min. Bending Cord Radius	Max. torque	Weight
BMS-4040-MQL-CHK : 0.3m BMS-4040-MQL-CHK-2M : 2.0m		70mm	0.5N·m	BMS-4040-MQL-CHK : 2.3kg BMS-4040-MQL-CHK-2M : 2.8kg

Standard Accessories	Collet nut (K-265) / Insert / Ferrule Set Spanner (12 × 14) : 2pcs.
Specifications	Coolant pressure : 0.2~3.0MPa / Oil Mist pressure : 0.2~1.0MPa Power cable with Air hose : Connector Diameter : $\phi 30\text{mm}$ Signal cable : Connector Diameter : $\phi 16\text{mm}$ / Air hose : $\phi 6\text{mm}$
Options	Collet (CHK-OH Group) : $\phi 3.0 \sim \phi 6.35\text{mm}$ p.29 Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255) ,8m (9256) Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259) ,8m (9260) Adjuster Bolt (7739)



※8M motor cord is only for BMS-4040-MQL-CHK

E4000 Controller / Motor cord

E4000 Controller



Code No. **8472**



External Input / Output Control Signal Operation

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



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

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

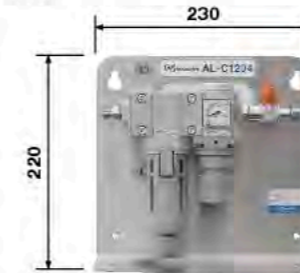
Motor cord	Code No.	Model	Length	Standard Accessories	Compatible model
2M	9253	EMCD-4000-2M	2m	Air hose	BMS-4020-BMS-4040-BMS-4020RA BMS-4040RA-BMS-4020 2M BMS-4040 2M-EM-4020-EM-4040 EM-4020A-EM-4040A BMS-4020-MQL-BMS-4020-MQL-2M BMS-4040-MQL-BMS-4040-MQL-2M BMS-4020-MQL-CHK-BMS-4020-MQL-CHK-2M BMS-4040-MQL-CHK-BMS-4040-MQL-CHK-2M BMS-4040-RGD-03M-BMS-4040-RGD-2M BMS-4040RA-RGD-03M-BMS-4040RA-RGD-2M
4M	9254	EMCD-4000-4M	4m		
6M	9255	EMCD-4000-6M	6m		
8M	9256	EMCD-4000-8M	8m		
2M	9257	EMCD-4000S-2M	2m		BMS-4020-BMS-4040-EM-4020EM-4040 BMS-4020-MQL-BMS-4040-MQL BMS-4020-MQL-CHK-BMS-4040-MQL-CHK BMS-4040-RGD-03M-BMS-4040RA-RGD-03M
4M	9258	EMCD-4000S-4M	4m		
6M	9259	EMCD-4000S-6M	6m		
8M	9260	EMCD-4000S-8M	8m		

※ Power cable and Signal cable should be used as set. ※ 8M motor cord is only for BMS-4020/BMS-4040/EM-4020/EM-4040/BMS-4020-MQL/BMS-4040-MQL/BMS-4020-MQL-CHK/BMS-4040-MQL-CHK/BMS-4040-RGD-03M/BMS-4040RA-RGD-03M.

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

Accessories (Air line kit, etc.)

AL-C1204 Air line kit



Weight: 1.9kg

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

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

E4000-PB Box for control panel

※ Control panel is sold separately.

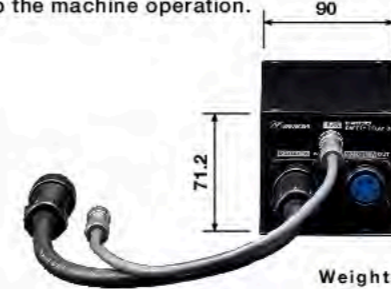


Weight: 216g

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

E4000-SRB Safety relay box

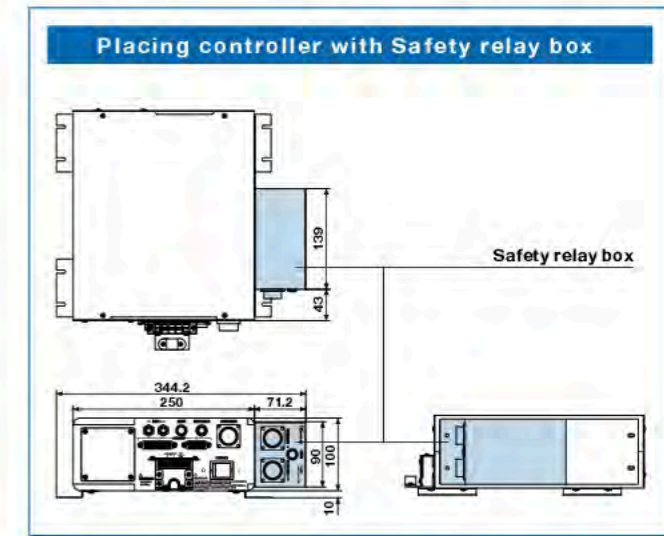
- Mounts directly on E4000 Controller
- Allows Emergency Stop Signal from the CNC to stop the E4000 Motor Spindle of the E4000 Controller to stop the machine operation.



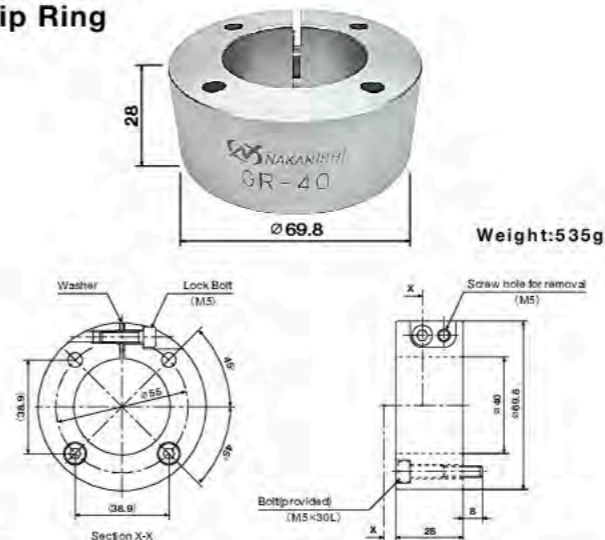
Weight: 850g

Standard Accessories	Power cord : 400mm Emergency stop cord : 400mm
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Code No.	8475	Model	E4000-SRB
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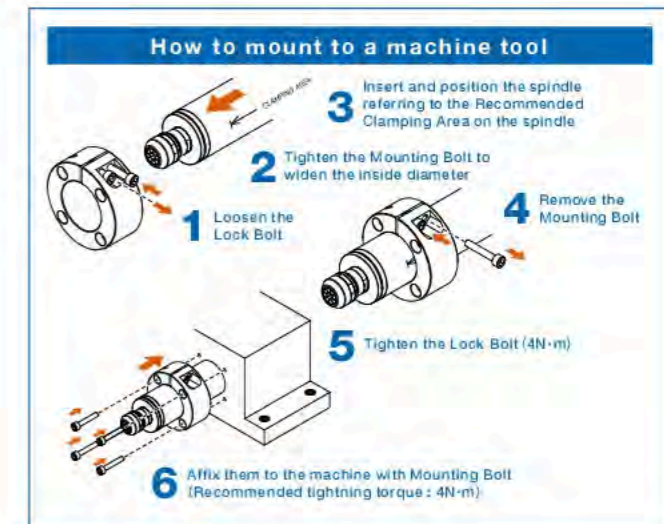
GR-40 Grip Ring



Weight: 535g

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

Collet	Code No.	Model	I.D.	Compatible model
	93130	CH16-3.0	ø3.0	BMS-4020·BMS-4040
	93193	CH16-3.175	ø3.175	BMS-4020 2M·BMS-4040 2M
	93140	CH16-4.0	ø4.0	BMS-4020RA·BMS-4040RA·NR-4040
	93160	CH16-6.0	ø6.0	QC5-16 (NRR4040-QC)
	93196	CH16-6.35	ø6.35	QC5-16 (NR4040-AQC)
	93180	CH16-8.0	ø8.0	BMS-4040-RGD-03M
	93100	CH16-10.0	ø10	BMS-4040RA-RGD-03M
	93330	CH16OH-3.0	ø3.0	BMS-4040RA-RGD-2M
	93331	CH16OH-3.175	ø3.175	
	93340	CH16OH-4.0	ø4.0	BMS-4020-MQL
	93350	CH16OH-5.0	ø5.0	BMS-4040-MQL
	93360	CH16OH-6.0	ø6.0	BMS-4020-MQL-2M
	93363	CH16OH-6.35	ø6.35	BMS-4040-MQL-2M
	93370	CH16OH-7.0	ø7.0	
	93380	CH16OH-8.0	ø8.0	
	93390	CH16OH-9.0	ø9.0	
	93400	CH16OH-10.0	ø10.0	
	91592	CHK-2.35	ø2.35	
	91530	CHK-3.0	ø3.0	
	91593	CHK-3.175	ø3.175	
	91540	CHK-4.0	ø4.0	
	91560	CHK-6.0	ø6.0	
	91596	CHK-6.35	ø6.35	
			ø0.5, ø0.6, ø0.7, ø0.8, ø0.9	
			ø1.0, ø1.5, ø2.0, ø2.5, ø3.5, ø4.5, ø4.76, ø5.5	QC5-K (NRR4040-QC)
			ø1.1, ø1.2, ø1.3, ø1.4, ø1.7, ø1.8, ø1.9, ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9, ø3.1, ø3.2, ø3.3, ø3.4, ø3.6, ø3.7, ø3.8, ø3.9, ø4.1, ø4.2, ø4.3, ø4.4, ø4.6, ø4.7, ø4.8, ø4.9, ø5.1, ø5.2, ø5.3, ø5.4, ø5.6, ø5.7, ø5.8, ø5.9	QC5-K (NR4040-AQC)
		CHK-□□		※ High precision type AA (Spindle runout within 2 μm)
	91597	CHK-3.0AA	ø3.0AA※	
	91598	CHK-3.175AA	ø3.175AA※	
	91599	CHK-4.0AA	ø4.0AA※	
	91600	CHK-6.0AA	ø6.0AA※	
	91601	CHK-6.35AA	ø6.35AA※	
	93630	CHK-OH-3.0	ø3.0	
	93631	CHK-OH-3.175	ø3.175	BMS-4020-MQL-CHK
	93640	CHK-OH-4.0	ø4.0	BMS-4020-MQL-CHK-2M
	93650	CHK-OH-5.0	ø5.0	BMS-4040-MQL-CHK
	93660	CHK-OH-6.0	ø6.0	BMS-4040-MQL-CHK-2M
	93663	CHK-OH-6.35	ø6.35	

Collet nut	Code No.	Model	Description	Compatible model
	2161	CHN-16	Collet nut for CH16 Collet	BMS-4020·BMS-4040·BMS-4020 2M BMS-4040 2M·BMS-4020RA·BMS-4040RA NR-4040·QC5-16 (NRR4040-QC) QC5-16 (NR4040-AQC)
	2129	K-265	Collet nut for CHK Collet	BMS-4020-MQL·BMS-4040-MQL BMS-4020-MQL-2M·BMS-4040-MQL-2M BMS-4040-RGD-03M·BMS-4040-RGD-2M BMS-4040RA-RGD-03M BMS-4040RA-RGD-2M
				QC5-K (NRR4040-QC) · QC5-K (NR4040-AQC) BMS-4020-MQL-CHK·BMS-4020-MQL-CHK-2M BMS-4040-MQL-CHK·BMS-4040-MQL-CHK-2M

Collet holder	Code No.	Model	Description	Compatible model
	9216	QC5-16	Collet holder for CH16 ※With CHN-16	NRR4040-QC NR4040-AQC
	9225	QC5-16-R		
	9215	QC5-K	Collet holder for CHK ※With K-265	NRR4040-QC NR4040-AQC
	9224	QC5-K-R		

Preset adapter	Code No.	Model	Description	Compatible model
	9218	QC5-16 ADP	Preset adapter	QC5-16
	9217	QC5-K ADP	Preset adapter	QC5-K

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

NAKANISHI Solutions LINE UP

Electric Motors & Spindles



Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

E4000 SERIES
1,000 ~ 40,000 min⁻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 ~ 80,000 min⁻¹ Max. 350W
[ø30/25/20mm]



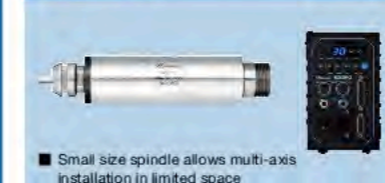
- The largest product lines for various processing
- Space-saving solution for small CNC lathe

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



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

E2000 SERIES
1,000 ~ 50,000 min⁻¹ Max. 200W
[ø22.8/25mm]



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

iSpeed3 SERIES
1,000 ~ 80,000 min⁻¹ Max. 150W
[ø19.05/20/22/25mm]



- Super short motor spindle
- High efficiency brushless motor



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

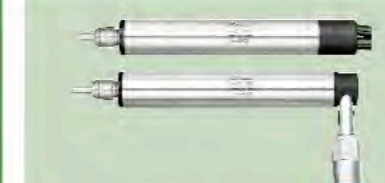
Air Motors & Spindles



Application for CNC lathes / Special purpose machines

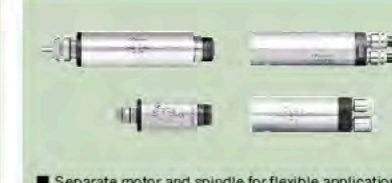
Application for machining centers and milling machines

AM SERIES One-piece type
1,000 ~ 60,000 min⁻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 ~ 30,000 min⁻¹ Max. 125W
[ø22.8mm]



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

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



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

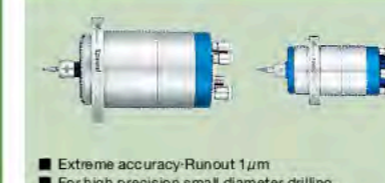
Air Turbine Spindles



Application for CNC lathes / Special purpose machines

Application for machining centers and milling machines

Xpeed SERIES
Max. 160,000 min⁻¹
[ø85/40mm]



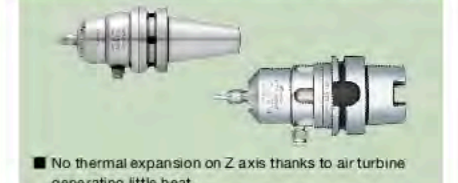
- Extreme accuracy Runout 1 μm
- For high precision small diameter drilling, internal grinding of ceramics
- Long life of spindle thanks to contactless rotation mechanism

PLANET SERIES
Max. 65,000 min⁻¹



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

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



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