

NAKANISHI SPINDLE E4000

E4000



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NAKANISHI INC. 2018

Specifications and design are subject to change without notice.



PR-K310E Ver.4 '18.11.03.⑦

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 Ø40mm 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 1μm

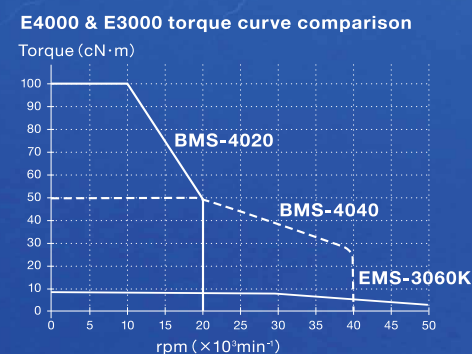
- Optimum for high-precision machining
- Longer tool life

✓ 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

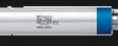
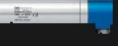
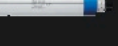
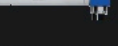


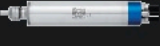
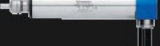
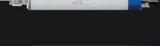
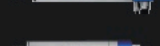
NAKANISHI
1000 CONTROLLER



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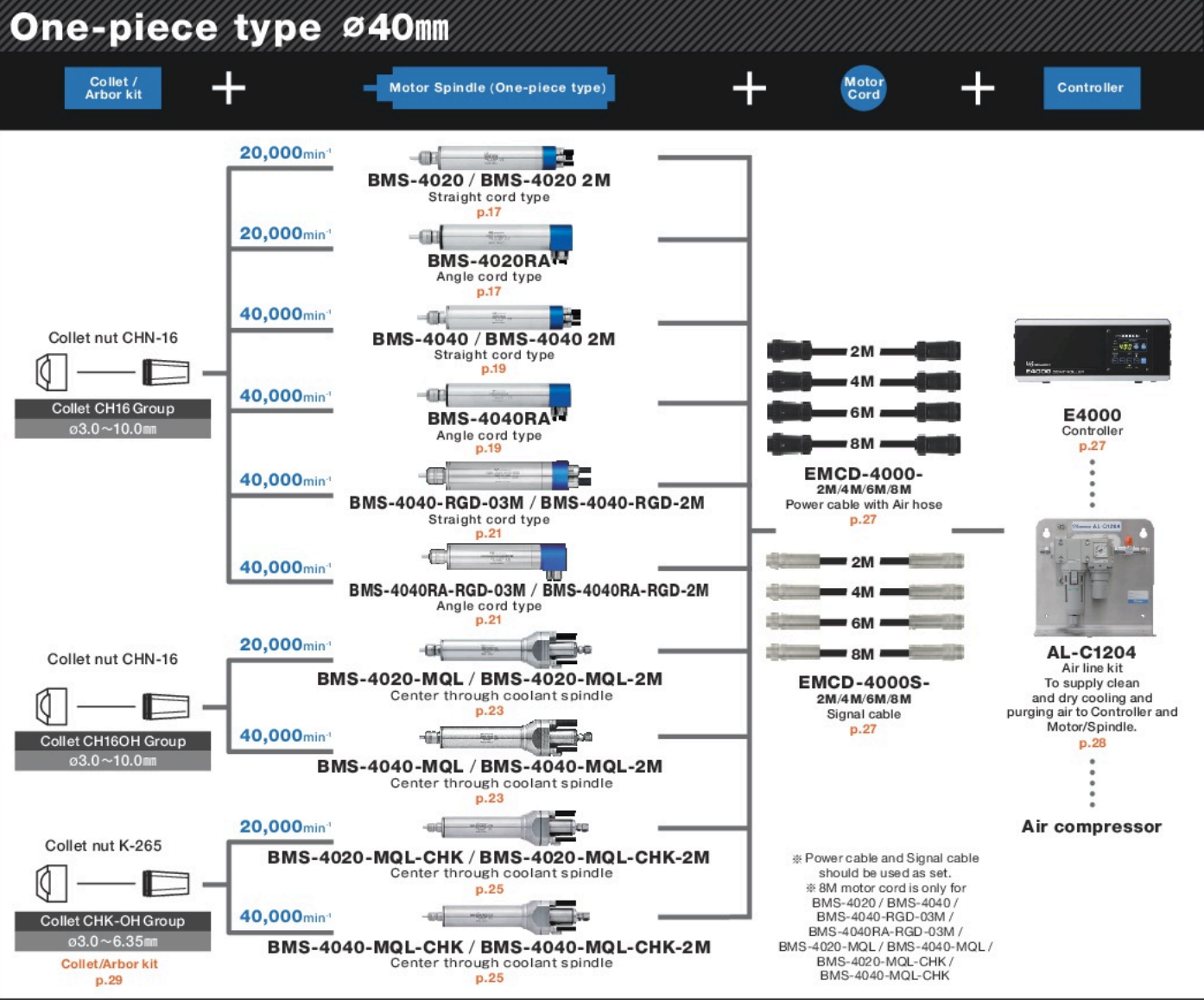
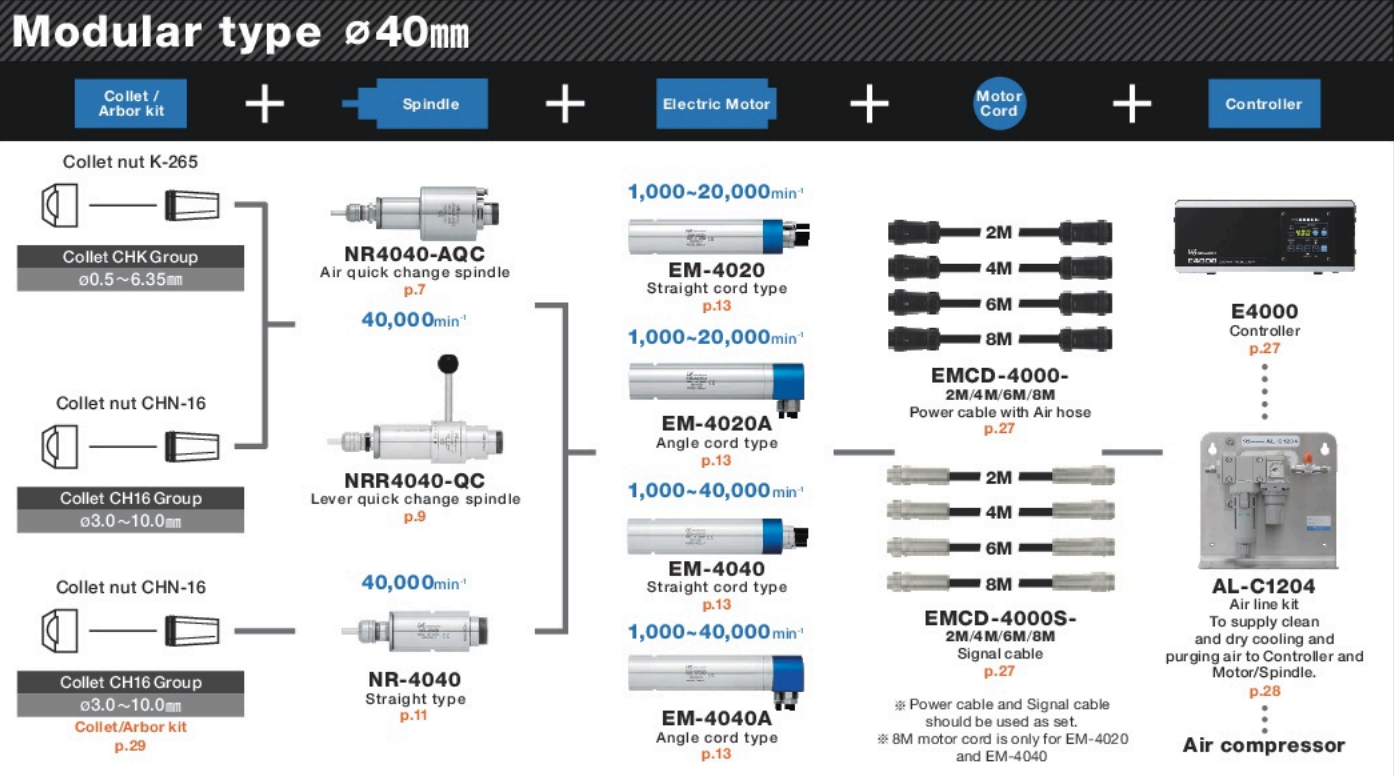
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			p.29
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			p.29

System Chart



Spindle (Modular type)

Shown In Actual Size



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40 NR-4040
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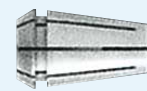
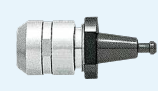
40 NR4040-AQC
p.7



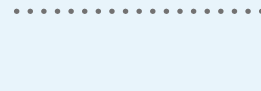
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Spindle
GuideCH16 / CHK
p.29QC5-16/QC5-16-R/QC5-K/QC5-K-R
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NR4040-AQC

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p.13Power cable 2M/4M/6M/8M
Signal cable 2M/4M/6M/8MEMCD-4000 / EMCD-4000S
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E4000 SERIES

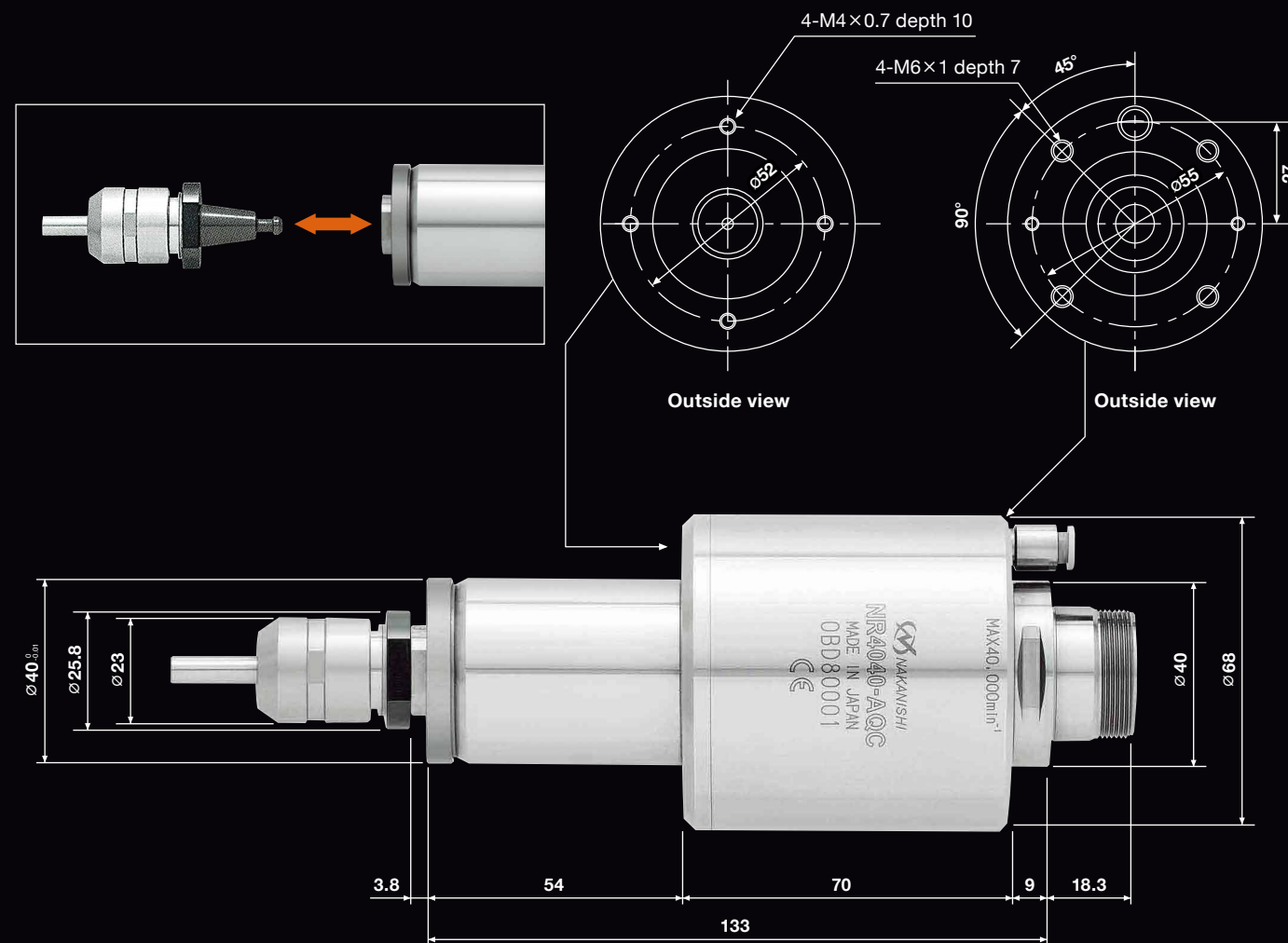
Spindle (Modular type)

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

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 (For collet CH16)	QC5-K / QC5-K-R (For collet CHK)

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

Parts (Optional)

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

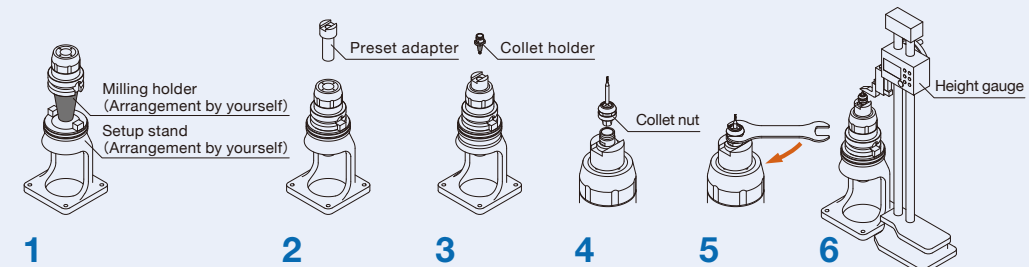
 In case using a Preset adapter, only 1pc. spanner is used.
 CH16 collet $\rightarrow$ 17 $\times$ 22 spanner (1pc.) / CHK collet $\rightarrow$ 12 $\times$ 14 spanner (1pc.) .
Preset adapter
(QC5-16/QC5-K)

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

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

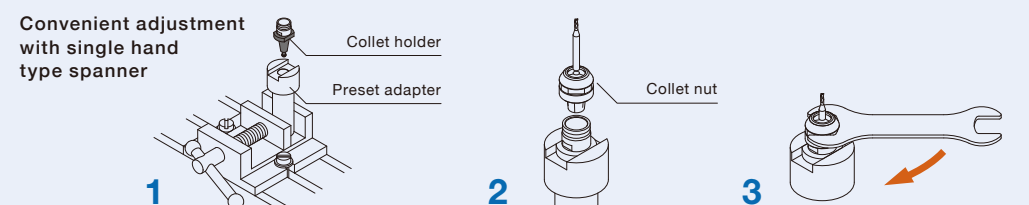
Set-up outside machines

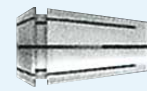
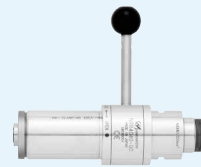
In case using a milling holder



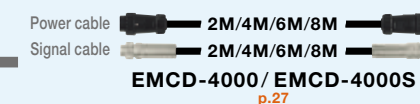
Set-up outside machines

In case using a vice



Spindle
GuideCH16/CHK
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NRR4040-QC

EM-4020/EM-4040
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Signal cable 2M/4M/6M/8M
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E4000 SERIES

Spindle (Modular type)

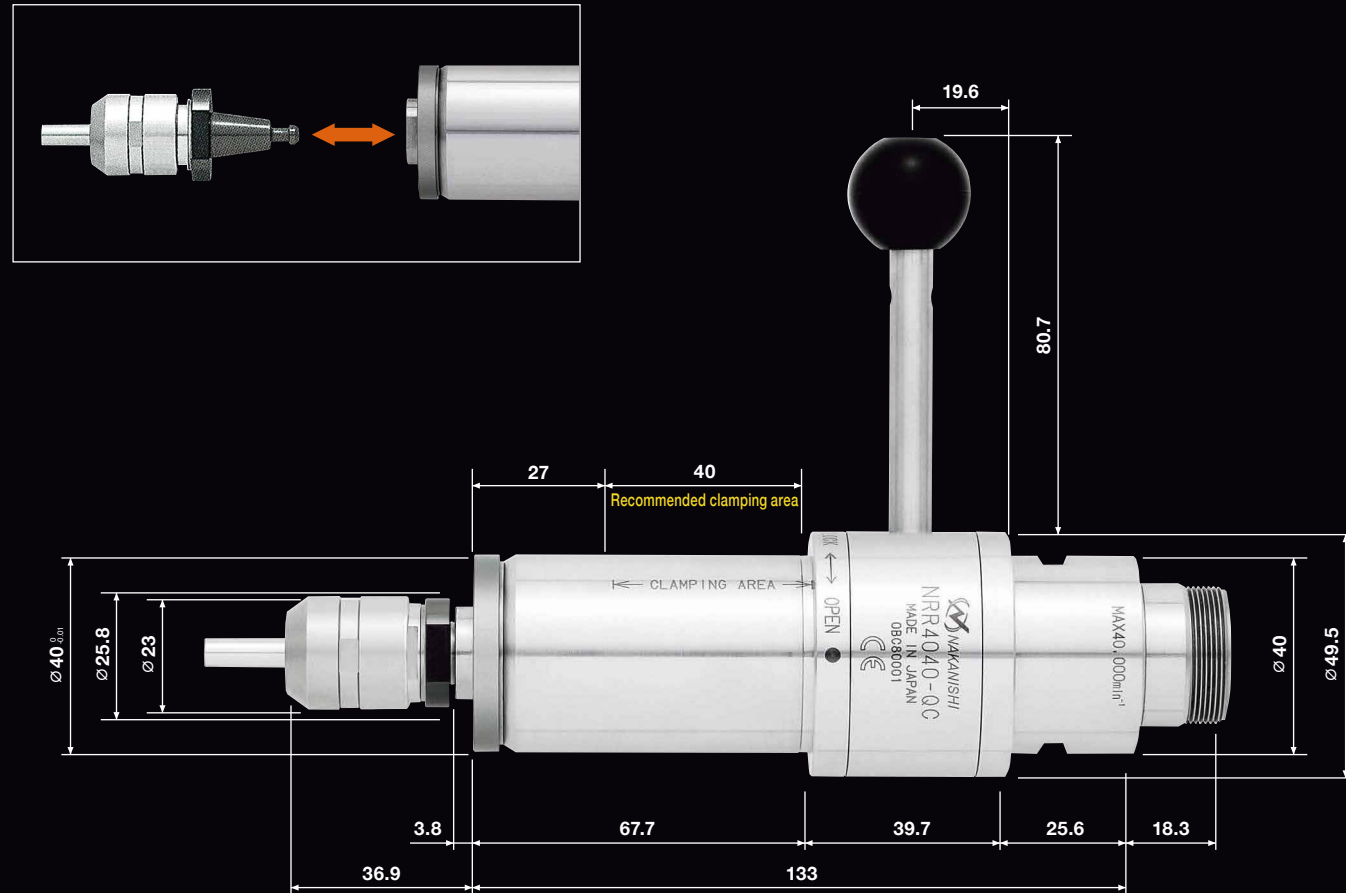
NRR4040-QC

Lever quick change spindle

※Outside view : with QC5-16 collet holder

O.D. ϕ 40mm

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



Specifications

DXF data DXF files are available on our website

Order by Code No.

NRR4040-QC

Code No. 9214 Model NRR4040-QC

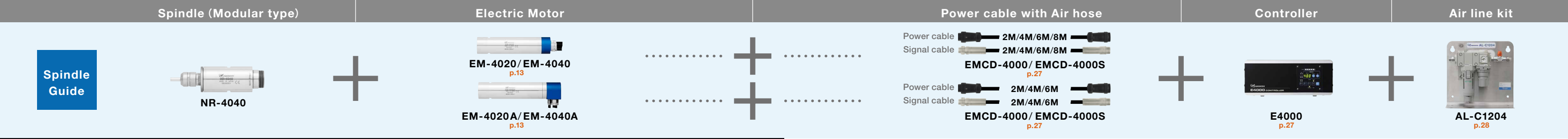
O.D.	Spindle runout	Max. rpm	Lever operating angle	Weight
ϕ 40mm	Within $1\mu\text{m}$	40,000min ⁻¹	90°	1,300g
Motors			Collet holders	
EM-4020 · EM-4020A · EM-4040 · EM-4040A			QC5-16 / QC5-16-R (For collet CH16)	QC5-K / QC5-K-R (For collet CHK)
Standard Accessories Spanner (36) : 1pc.				

Parts (Optional)

Collet		You can choose the I.D. size (The following is an example of ϕ 6.0mm.)		Collet holder (With collet nut) QC5-16/K QC5-16/K-R		Spanner	
CH16		I.D. ϕ 3.0mm~10.0mm p.29		QC5-16 / QC5-16-R (For collet CH16)		Spanner 17 × 22 (2pcs.)	
CHK		I.D. ϕ 0.5mm~6.35mm p.29		QC5-K / 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)		Set-up outside machines				In case using a milling holder	
Code No.	9218	1				2	
Model	QC5-16 ADP (For collet QC5-16)	2				3	
		3				4	
		4				5	
		5				6	
		6					
		Set-up outside machines				In case using a vice	
Code No.	9217	1				2	
Model	QC5-K ADP (For collet QC5-K)	2				3	
		3					



Motor (Modular type)

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

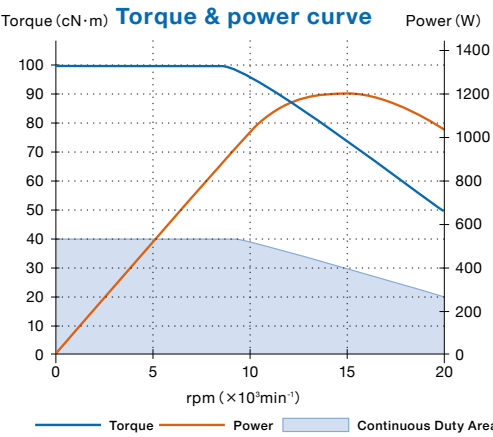
Order by Code No.

EM-4020

EM-4020		Code No.	8348	Model	EM-4020
O.D.	Rpm		Max. power		
Ø40 _{mm}	1,000~20,000 _{min⁻¹}		1,200 _w		
Cord length	Min. Bending Cord Radius	Max. torque		Weight	
0.3 _m	70 _{mm}	1.0 _{N·m}		1,300 _g	
Standard Accessories	Spanner (36) : 1pc.				
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	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

EM-4020A		Code No.	8349	Model	EM-4020A
O.D.	Rpm		Max. power		
Ø40 _{mm}	1,000~20,000 _{min⁻¹}		1,200 _w		
Cord length	Min. Bending Cord Radius	Max. torque		Weight	
2.0 _m	70 _{mm}	1.0 _{N·m}		1,800 _g	
Standard Accessories	Spanner (36) : 1pc.				
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	Power cable with Air hose : Length 2m (9253) ,4m (9254) ,6m (9255)				
	Signal cable : Length 2m (9257) ,4m (9258) ,6m (9259)				

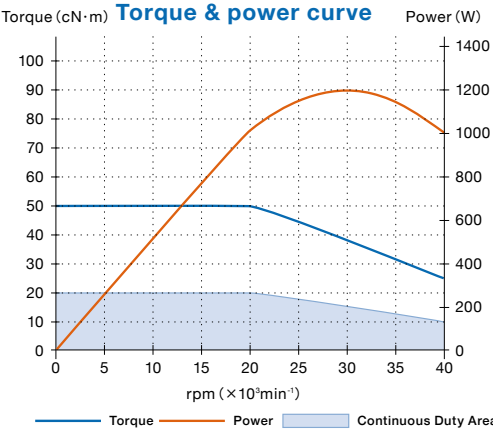


EM-4040

EM-4040		Code No.	8346	Model	EM-4040
O.D.	Rpm		Max. power		
Ø40 _{mm}	1,000~40,000 _{min⁻¹}		1,200 _w		
Cord length	Min. Bending Cord Radius	Max. torque		Weight	
0.3 _m	70 _{mm}	0.5 _{N · m}		1,300 _g	
Standard Accessories	Spanner (36) : 1pc.				
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	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

EM-4040A		Code No.	8347	Model	EM-4040A
O.D.	Rpm		Max. power		
Ø40 _{mm}	1,000~40,000 _{min⁻¹}		1,200 _w		
Cord length	Min. Bending Cord Radius	Max. torque		Weight	
2.0 _m	70 _{mm}	0.5N · m		1,800 _g	
Standard Accessories	Spanner (36) : 1pc.				
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	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)



-  **BMS-4020RA**
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-  **BMS-4040RA**
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-  **BMS-4040RA-RGD-03M / BMS-4040RA-RGD-2M**
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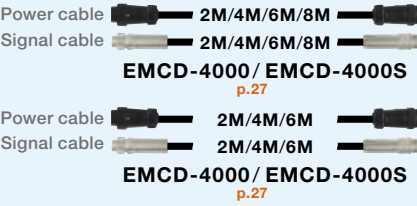


-  **BMS-4020 / BMS-4020 2M**
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-  **BMS-4040 / BMS-4040 2M**
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-  **BMS-4040-RGD-03M / BMS-4040-RGD-2M**
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-  **BMS-4020-MQL / BMS-4020-MQL-2M**
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-  **BMS-4040-MQL / BMS-4040-MQL-2M**
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-  **BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M**
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-  **BMS-4040-MQL-CHK / BMS-4040-MQL-CHK-2M**
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Spindle
Guide



E4000 SERIES

Motor Spindle (One-piece type)

BMS-4020 / BMS-4020 2M

Straight cord type

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



O.D. ø40mm



BMS-4020RA

Angle cord type

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



O.D. ø40mm



Specifications

DXF
data

DXF files are available
on our website

Order by Code No.

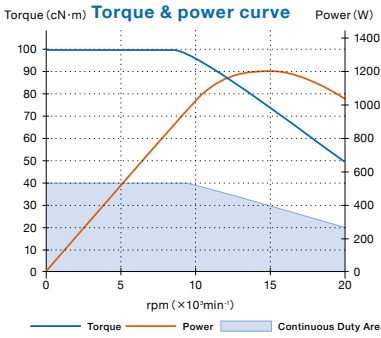
BMS-4020 / BMS-4020 2M

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
ø40mm	20,000min ⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0mm)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
BMS-4020 : 0.3m BMS-4020 2M : 2.0m	70mm	1.0N·m	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

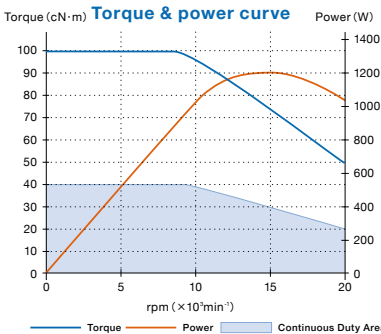


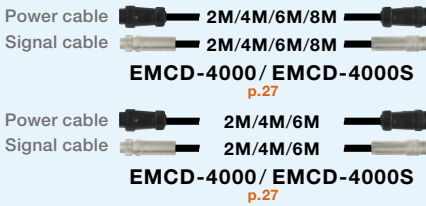
BMS-4020RA

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

O.D.	Max. rpm	Spindle runout	Collet	Max. power
ø40mm	20,000min ⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0mm)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
2.0m	70mm	1.0N·m	2.0kg	
Standard Accessories	Collet : 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)			





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



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



Specifications

DXF data DXF files are available on our website

Order by Code No.

BMS-4040 / BMS-4040 2M

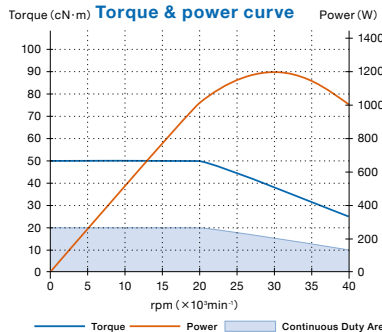


Code No.	1786	Model	BMS-4040
Code No.	7684	Model	BMS-4040 2M

※ 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



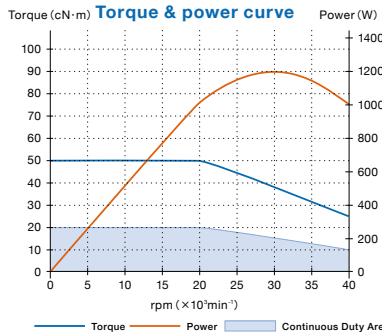
BMS-4040RA



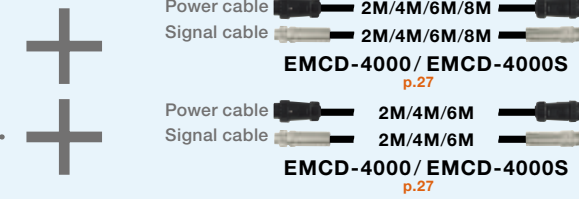
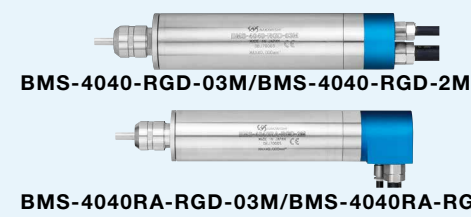
Code No.	1787	Model	BMS-4040RA
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※ Cord length L=2.0m

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 ø6.9mm ※2:In case for the shank ø6.9mm or more



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



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

Angle cord type

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



● 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

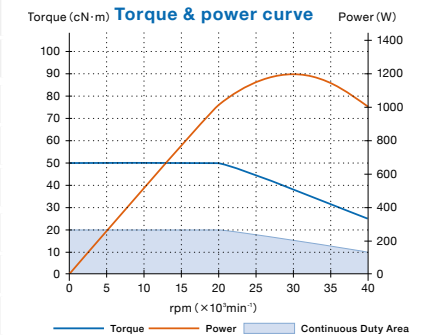


※ Cord length BMS-4040-RGD-03M : L=0.3m / BMS-4040-RGD-2M : L=2.0m.

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

Standard Accessories	Collet nut (CHN-16) 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-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

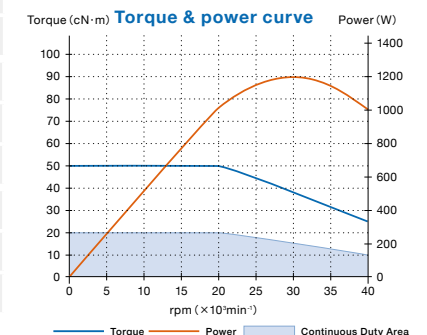


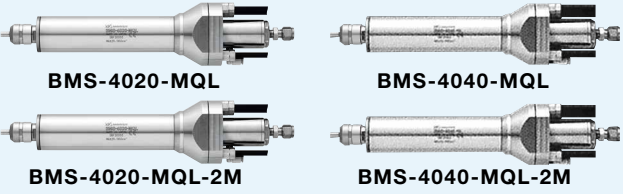
※ Cord length BMS-4040RA-RGD-03M : L=0.3m / BMS-4040RA-RGD-2M : L=2.0m.

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

Standard Accessories	Collet nut (CHN-16) 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-4040-RGD-03M and BMS-4040RA-RGD-03M





! "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

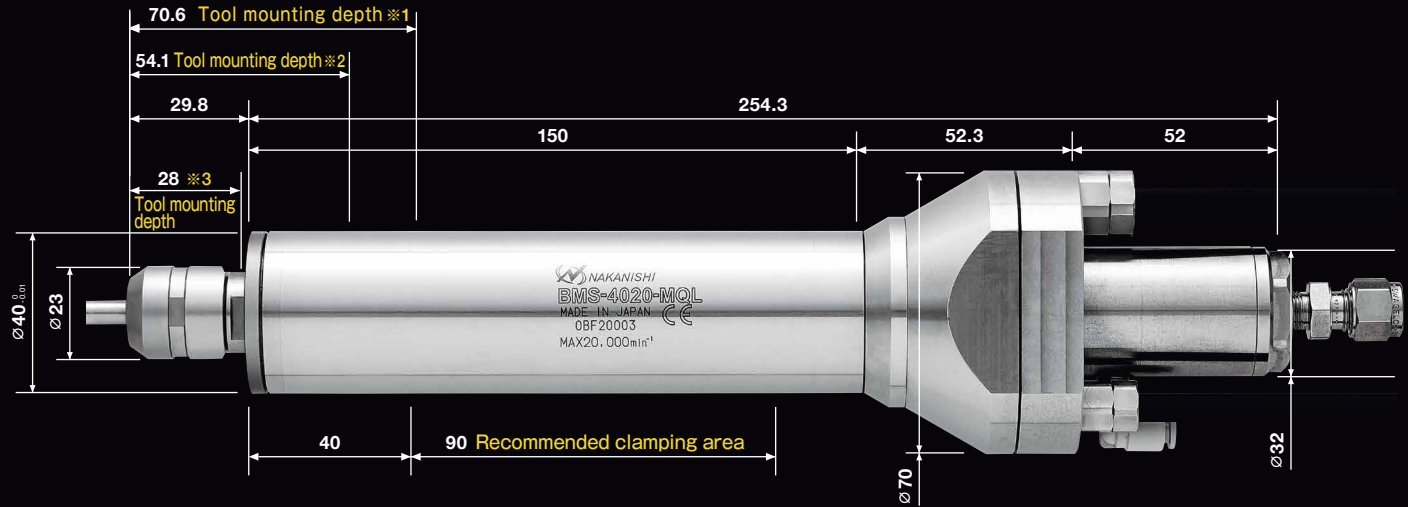
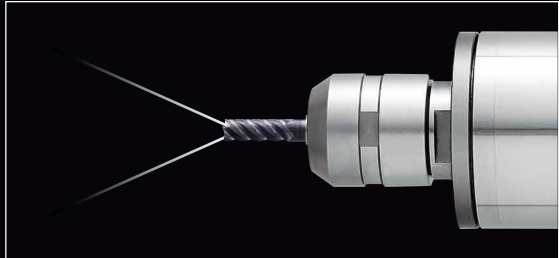
E4000 SERIES

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



- 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

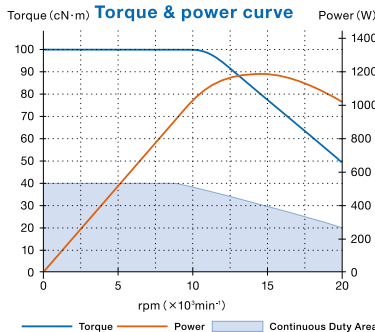


Code No.	7716	Model	BMS-4020-MQL
Code No.	7717	Model	BMS-4020-MQL-2M

※ 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	Within1 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

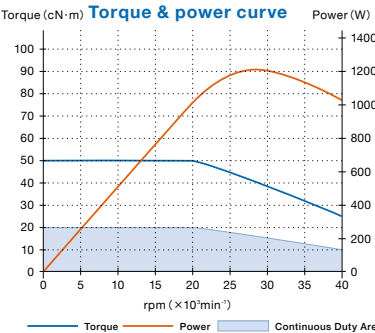


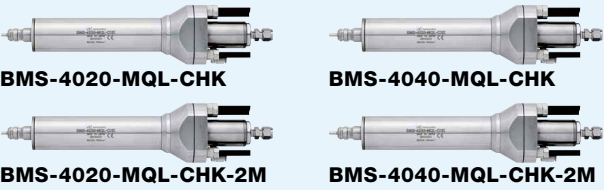
Code No.	7714	Model	BMS-4040-MQL
Code No.	7715	Model	BMS-4040-MQL-2M

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

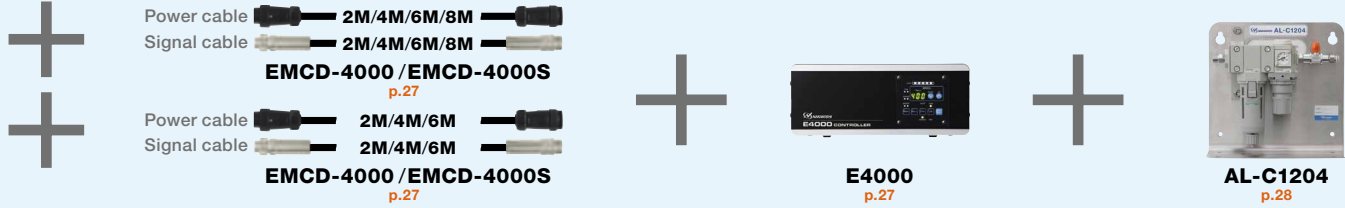
O.D.	Max. rpm	Spindle runout	Collet	Max. power
$\phi 40\text{mm}$	40,000min ⁻¹	Within1 μm	CH16OH Group ($\phi 3.0 \sim \phi 10.0\text{mm}$)	1,200w
Cord length		Min. Bending Cord Radius	Max. torque	Weight
BMS-4040-MQL: 0.3m BMS-4040-MQL-2M: 2.0m		70mm	0.5N·m	BMS-4040-MQL: 2.3kg BMS-4040-MQL-2M: 2.8kg
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





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



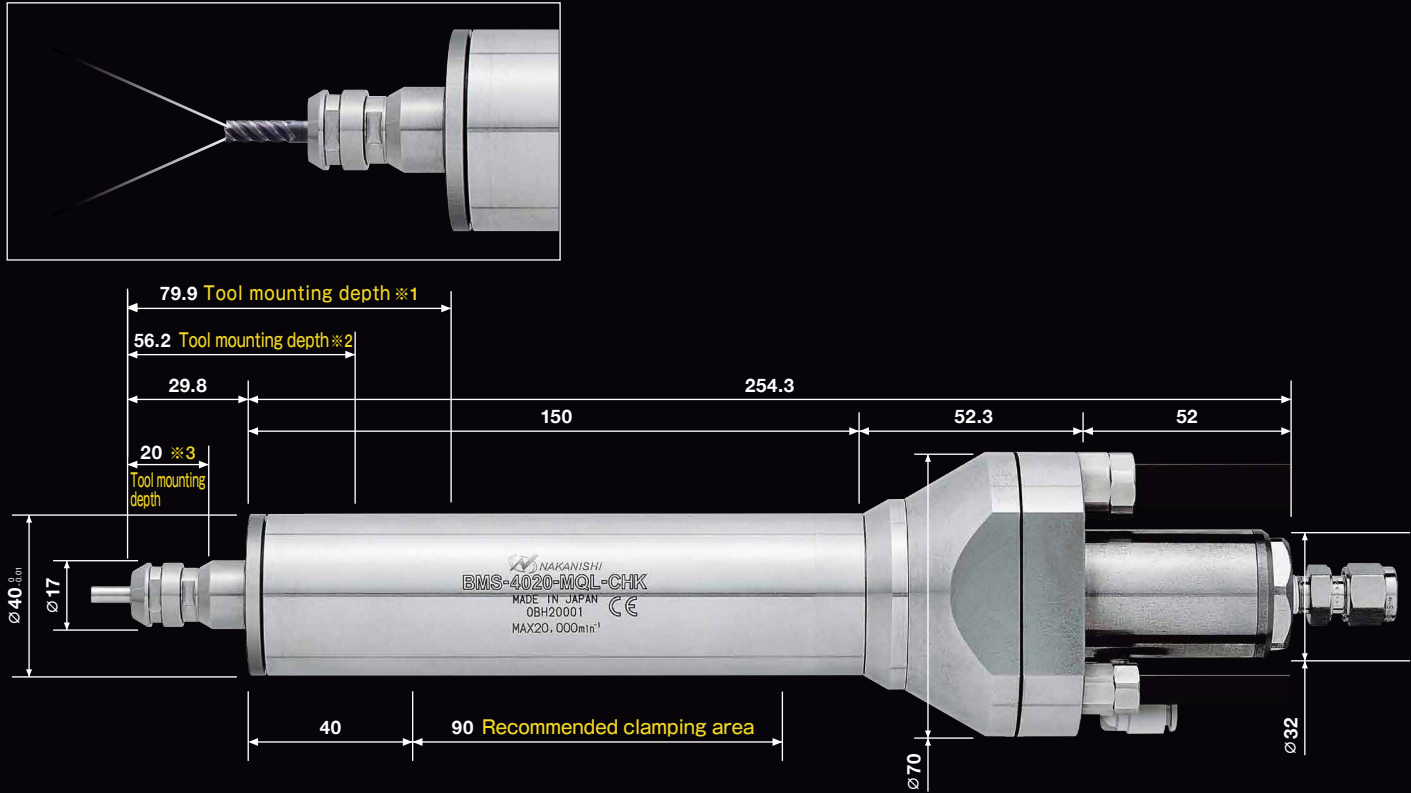
E4000 SERIES

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



- 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

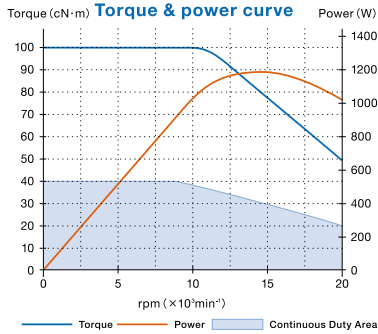
Code No.	7735	Model	BMS-4020-MQL-CHK
Code No.	7736	Model	BMS-4020-MQL-CHK-2M



※ 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	Within1 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

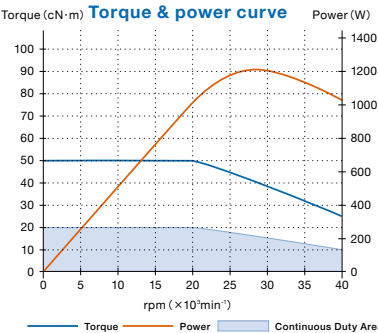
Code No.	7737	Model	BMS-4040-MQL-CHK
Code No.	7738	Model	BMS-4040-MQL-CHK-2M



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

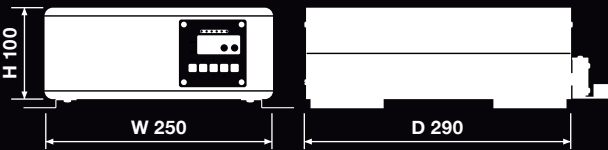
O.D.	Max. rpm	Spindle runout	Collet	Max. power
$\phi 40\text{mm}$	40,000min ⁻¹	Within1 μm	CHK-OH Group ($\phi 3.0 \sim \phi 6.35\text{mm}$)	1,200w
Cord length		Min. Bending Cord Radius	Max. torque	Weight
BMS-4040-MQL-CHK : 0.3m BMS-4040-MQL-CHK-2M : 2.0m		70mm	0.5N·m	BMS-4040-MQL-CHK : 2.3kg BMS-4040-MQL-CHK-2M : 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



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
Power cable with Air hose	9253	EMCD-4000-2M	2m	Air hose	BMS-4020-BMS-4040-BMS-4020RA BMS-4040RA-BMS-4020 2M BMS-4040 2M-EM-4020-EM-4040 EM-4020A-EM-4040A BMS-4020-MQL-BMS-4020-MQL-2M BMS-4040-MQL-BMS-4040-MQL-2M BMS-4020-MQL-CHK-BMS-4020-MQL-CHK-2M BMS-4040-MQL-CHK-BMS-4040-MQL-CHK-2M BMS-4040-RGD-03M-BMS-4040-RGD-2M BMS-4040RA-RGD-03M-BMS-4040RA-RGD-2M
	9254	EMCD-4000-4M	4m		
	9255	EMCD-4000-6M	6m		
	9256	EMCD-4000-8M	8m		
Signal cable	9257	EMCD-4000S-2M	2m	-	BMS-4020-BMS-4040-EM-4020-EM-4040 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
	9258	EMCD-4000S-4M	4m		
	9259	EMCD-4000S-6M	6m		
	9260	EMCD-4000S-8M	8m		BMS-4020-BMS-4040-EM-4020-EM-4040 BMS-4020-MQL-BMS-4040-MQL BMS-4020-MQL-CHK-BMS-4040-MQL-CHK BMS-4040-RGD-03M-BMS-4040RA-RGD-03M

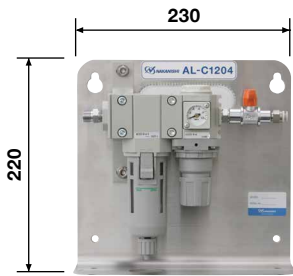
※ Power cable and Signal cable should be used as set. ※ 8M motor cord is only for BMS-4020/BMS-4040/EM-4020/EM-4040/BMS-4020-MQL/BMS-4040-MQL/BMS-4020-MQL-CHK/BMS-4040-MQL-CHK/BMS-4040-RGD-03M/BMS-4040RA-RGD-03M.

Operation panel extention 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.



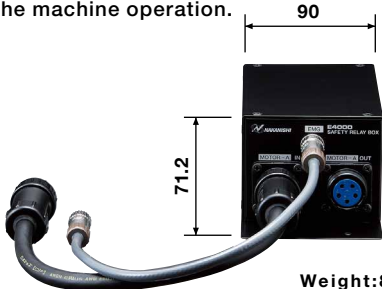
Weight:216g

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

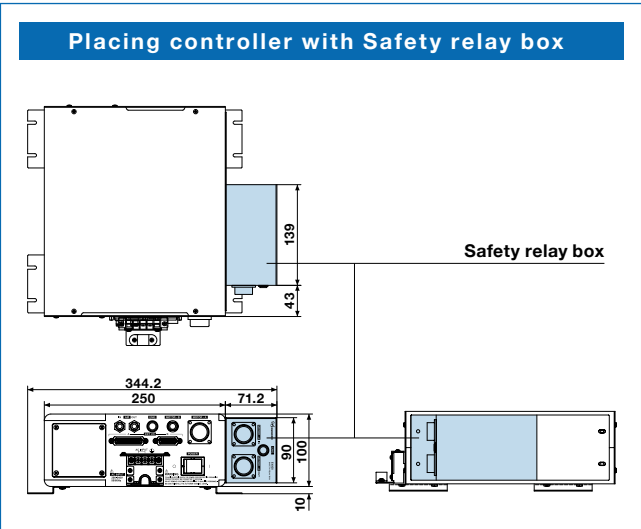
- Mounts directly on E4000 Controller
- Allows Emergency Stop Signal from the CNC to stop the E4000 Motor Spindle of the E4000 Controller to stop the machine operation.



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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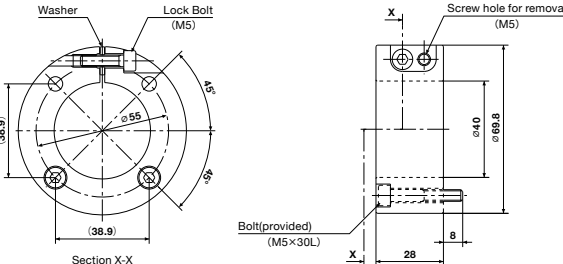


GR-40

Grip Ring

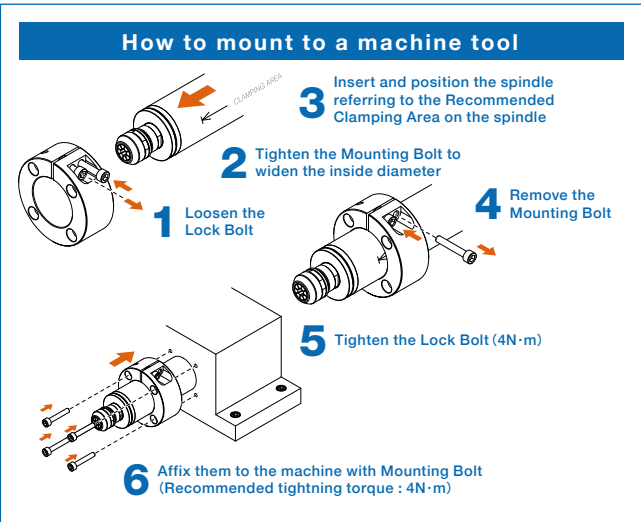


Weight:535g

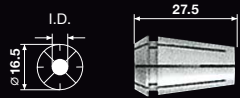
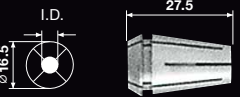
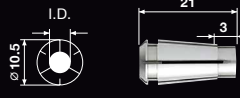
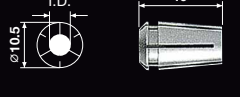
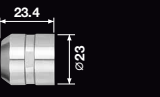
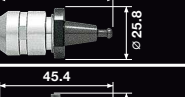
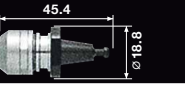
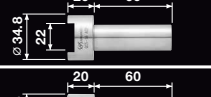
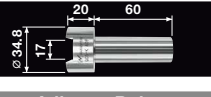
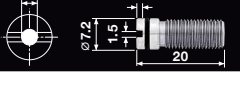


Standard Accessories	Mounting Bolt (GR-40) M5 × 30 : 4pcs.
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Code No.	1886	Model	GR-40
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Accessories (Collet,etc.)

Collet	Code No.	Model	I.D.	Compatible model
 CH16-10.0 Length 24.5 Collet CH16 Group	93130 93193 93140 93160 93196 93180 93100	CH16-3.0 CH16-3.175 CH16-4.0 CH16-6.0 CH16-6.35 CH16-8.0 CH16-10.0	ø3.0 ø3.175 ø4.0 ø6.0 ø6.35 ø8.0 ø10	BMS-4020·BMS-4040 BMS-4020 2M·BMS-4040 2M BMS-4020RA·BMS-4040RA·NR-4040 QC5-16 (NRR4040-QC) QC5-16 (NR4040-AQC) BMS-4040-RGD-03M BMS-4040-RGD-2M BMS-4040RA-RGD-03M BMS-4040RA-RGD-2M
 ※CH16OH-9.0, 10.0 Length 24.5 Collet CH16OH Group	93330 93331 93340 93350 93360 93363 93370 93380 93390 93400	CH16OH-3.0 CH16OH-3.175 CH16OH-4.0 CH16OH-5.0 CH16OH-6.0 CH16OH-6.35 CH16OH-7.0 CH16OH-8.0 CH16OH-9.0 CH16OH-10.0	ø3.0 ø3.175 ø4.0 ø5.0 ø6.0 ø6.35 ø7.0 ø8.0 ø9.0 ø10.0	BMS-4020-MQL BMS-4040-MQL BMS-4020-MQL-2M BMS-4040-MQL-2M
 ø1.0 ~ ø6.35  ø0.5 ~ ø0.9 Collet CHK Group	91592 91593 91540 91560 91596 91597 91598 91599 91600 91601	CHK-2.35 CHK-3.0 CHK-3.175 CHK-4.0 CHK-6.0 CHK-6.35 CHK-3.0AA CHK-3.175AA CHK-4.0AA CHK-6.0AA CHK-6.35AA	ø2.35 ø3.0 ø3.175 ø4.0 ø6.0 ø6.35 ø3.0AA※ ø3.175AA※ ø4.0AA※ ø6.0AA※ ø6.35AA※	QC5-K (NRR4040-QC) QC5-K (NR4040-AQC) ※ High precision type AA (Spindle runout within 2μm)
 Collet CHK-OH Group	93630 93631 93640 93650 93660 93663	CHK-OH-3.0 CHK-OH-3.175 CHK-OH-4.0 CHK-OH-5.0 CHK-OH-6.0 CHK-OH-6.35	ø3.0 ø3.175 ø4.0 ø5.0 ø6.0 ø6.35	BMS-4020-MQL-CHK BMS-4020-MQL-CHK-2M BMS-4040-MQL-CHK BMS-4040-MQL-CHK-2M
Collet nut	Code No.	Model	Description	Compatible model
	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) BMS-4020-MQL·BMS-4040-MQL BMS-4020-MQL-2M·BMS-4040-MQL-2M BMS-4040-RGD-03M·BMS-4040-RGD-2M BMS-4040RA-RGD-03M BMS-4040RA-RGD-2M
	2129	K-265	Collet nut for CHK Collet	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 9225	QC5-16 QC5-16-R	Collet holder for CH16 ※With CHN-16	NRR4040-QC NR4040-AQC
	9215 9224	QC5-K QC5-K-R	Collet holder for CHK ※With K-265	NRR4040-QC NR4040-AQC
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 spindle

Electric Motors & Spindles

Brushless Motors & Spindles

Spindle

+

Motor

+

Controller

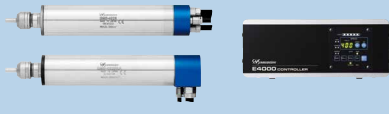
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AC

Application for CNC lathes / Special purpose 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

E2000 SERIES

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



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

Application for machining centers and milling machines

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

iSpeed3 SERIES

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



■ Super short motor spindle

■ High efficiency brushless motor

HES SERIES

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



[HES810]

■ The most cost effective solution to add high-speed machining capability

■ 80,000min⁻¹, 6.0cN·m

■ BT,NT,HSK A63,ST shanks are available

■ Driven by E3000 Controller



[HESS10]

■ 50,000min⁻¹, 8.75cN·m

■ BT,NT,CAT,IT,HSK A,ST shanks are available

■ Driven by E3000 Controller

Air spindle

Air Motors & Spindles

Spindle

+

Motor

+

Air line kit

←

Air compressor

Application for CNC lathes / Special purpose 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

Application for machining centers and milling machines

SMS SERIES

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



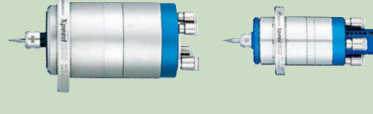
■ Ceramic bearings for higher rigidity and precision

■ Straight and BT,NT shanks are available

Air Turbine Spindles

Xpeed SERIES

Max.160,000min⁻¹
[ø65/40mm]



■ Extreme accuracy·Runout 1μm

■ For high precision small diameter drilling, internal grinding of ceramics

■ Long life of spindle thanks to contactless rotation mechanism

PLANET SERIES

Max.65,000min⁻¹



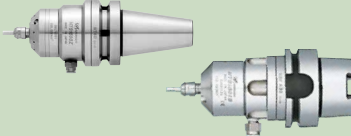
■ A milling machine turns into a jig grinder

■ For high precision internal grinding

Application for machining centers and milling machines

HTS SERIES

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



■ No thermal expansion on Z axis thanks to air turbine generating little heat

■ Ultra high speed 150,000min⁻¹ with higher rigidity thanks to ceramic bearings

■ BT,HSK E and straight (M2040)shanks are available

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