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※Specifications and design are subject to change without notice.

www.nakanishi-inc.com
PR-K362E Ver.1 2022-02-24 02. ☺ 650



E4000

NAKANISHI INC. 2022



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

「Little Giant」

This little spindle brings you a giant profit

✓ The Strongest Spindle in its Ø40mm class

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

✓ Spindle accuracy within 1 μm

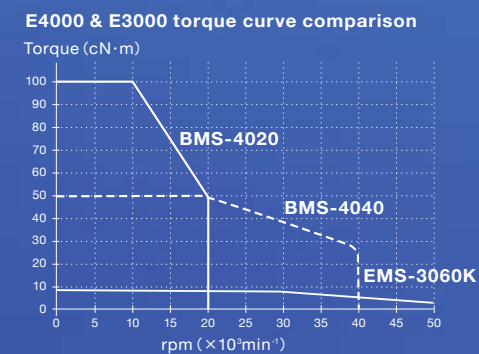
- Optimum for high-precision machining
- Longer tool life

✓ Ceramic Bearing

- Higher rigidity for heavy cutting
- Longer bearing life

✓ Brushless motor

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

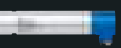


Index

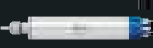
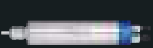
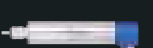
Spindle (Modular type)

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

Motor (Modular type)

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

Motor Spindle (One-piece type)

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

Controller

E4000 CONTROLLER Controller		p.27
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Air line kit

AL-C1204 Air line kit		p.28
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Motor cord

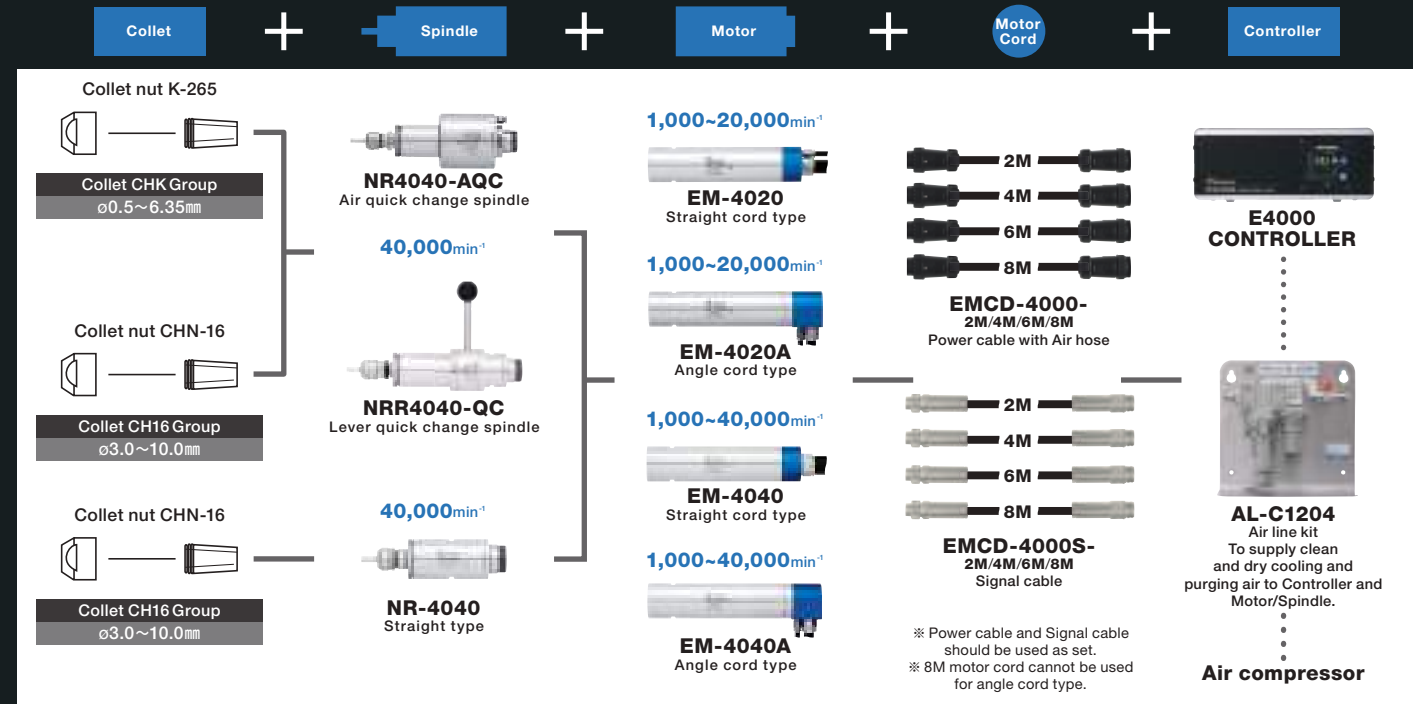
Power cable with Air hose [Length] 2m, 4m, 6m, 8m EMCD-4000 Joint type motor cord p.27	
Signal cable [Length] 2m, 4m, 6m, 8m EMCD-4000S Joint type motor cord p.27	

Accessories

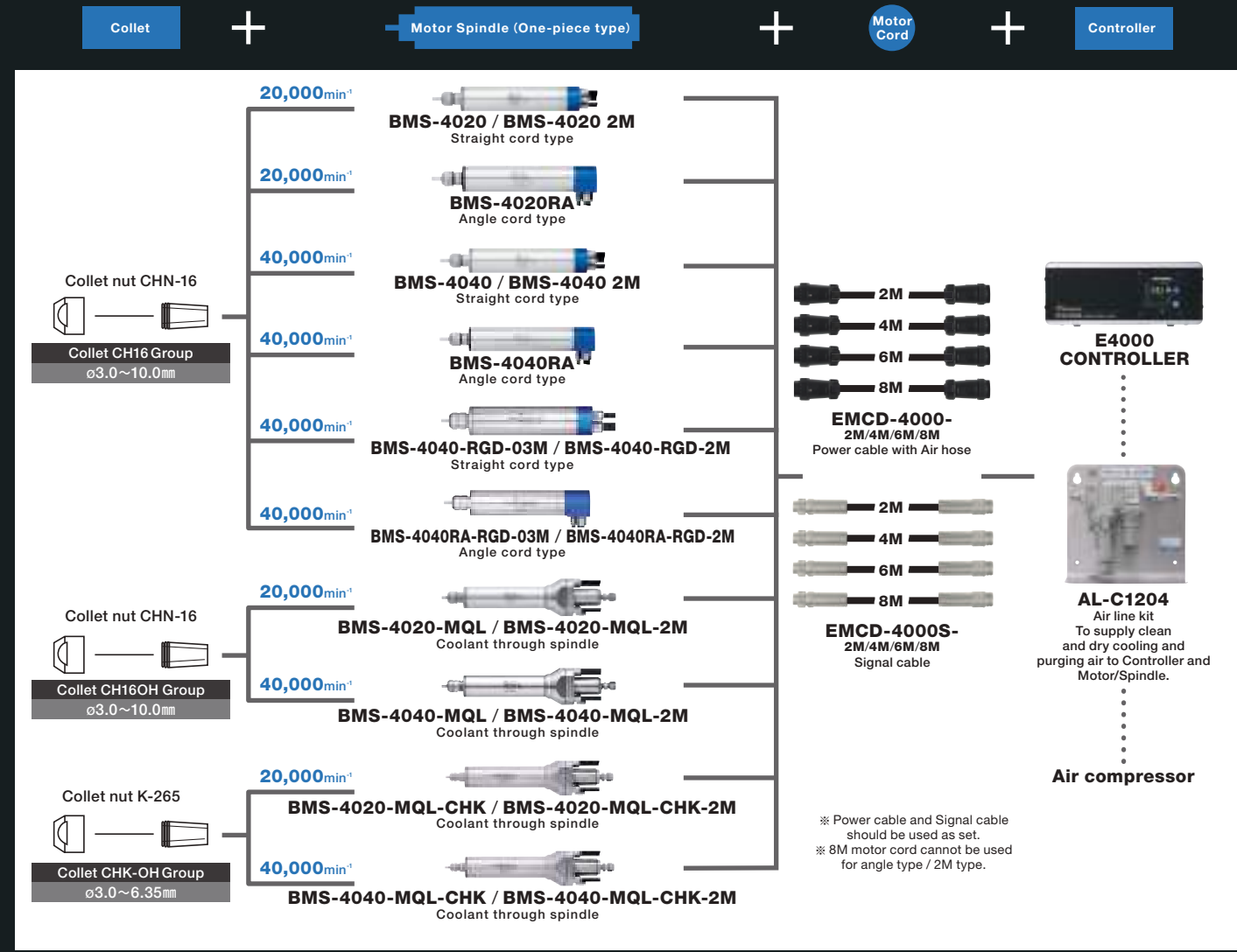
E4000-PB ... p.28 Box for control panel	E4000-SRB ... p.28 Safety relay box	GR-40 p.28 Grip ring	CH16 / CH160H / CHK / CHK-OH Collet p.29	QC5-16 / QC5-16-R / QC5-K / QC5-K-R Collet holder p.29
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System Chart

Modular type ø40mm



One-piece type ø40mm

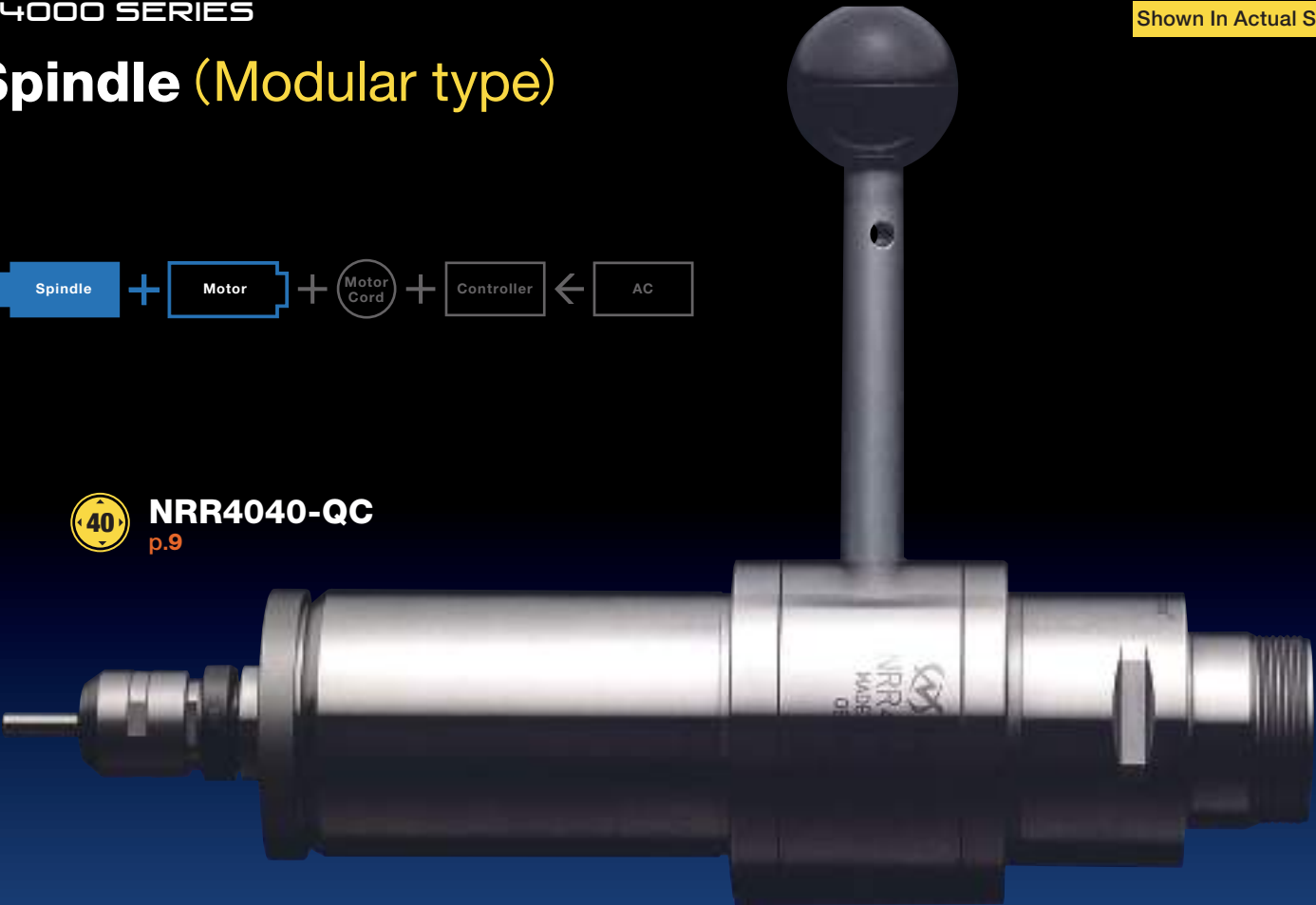


Spindle (Modular type)

Shown In Actual Size



40 **NRR4040-QC**
p.9



40 **NR-4040**
p.11



40 **NR4040-AQC**
p.7



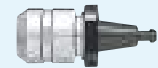
40 **EM-4020**
p.13

40 **EM-4040**
p.13



Spindle
Guide

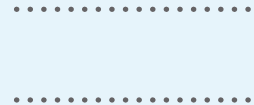
CH16 / CHK



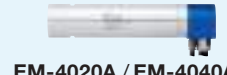
QC5-16/QC5-16-R/QC5-K/QC5-K-R



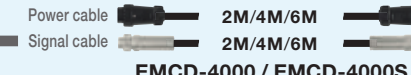
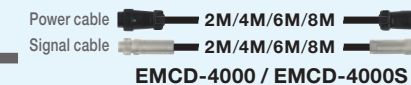
NR4040-AQC



EM-4020 / EM-4040



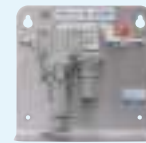
EM-4020A / EM-4040A



EMCD-4000 / EMCD-4000S



E4000 CONTROLLER



AL-C1204

E4000 SERIES

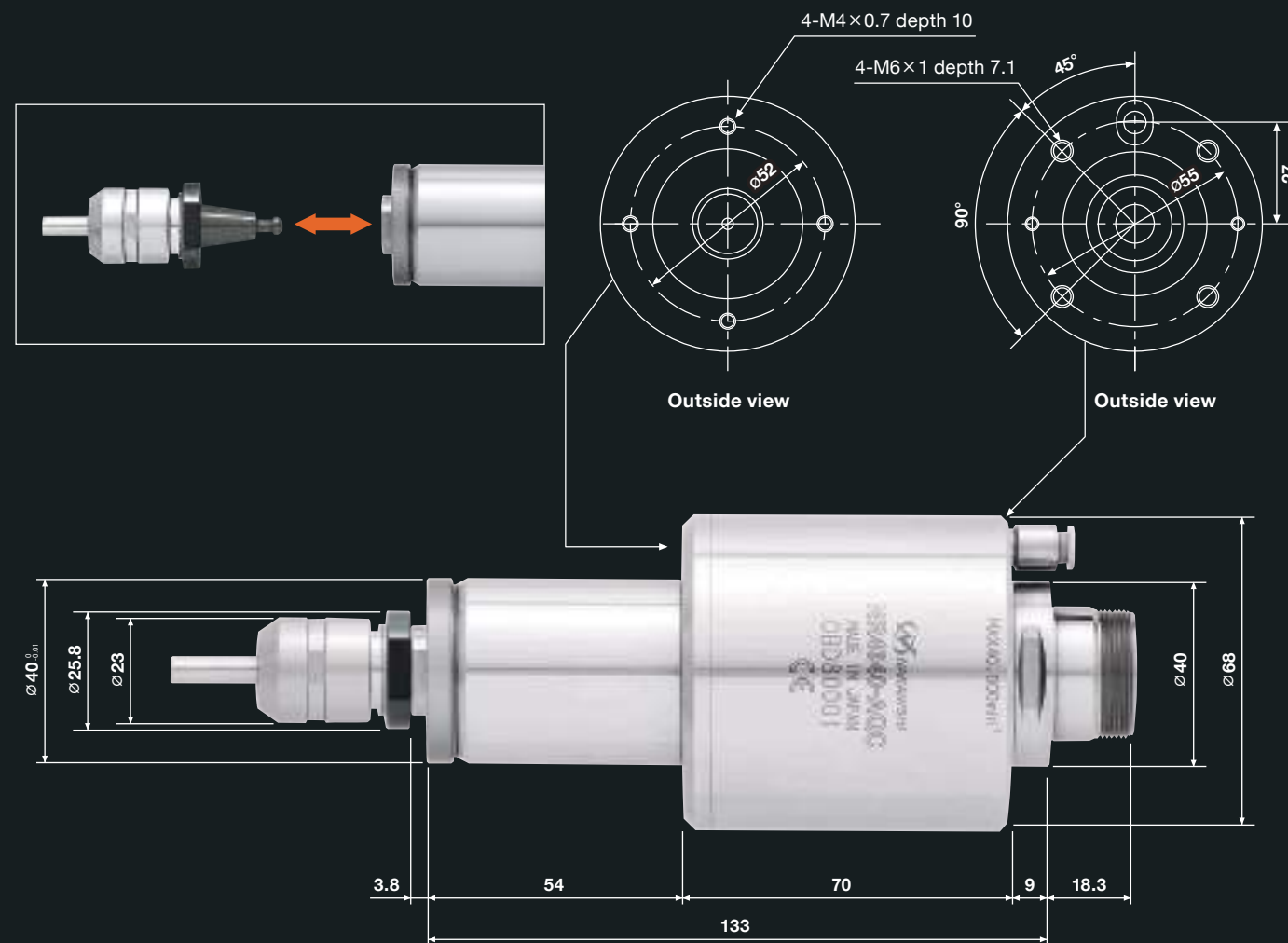
Spindle (Modular type)

NR4040-AQC

Air quick change spindle

O.D. ϕ 40mm

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



Specifications

DXF data DXF files are available on our website

Order by Code No.

NR4040-AQC

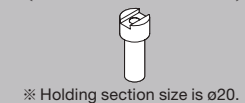
Code No. 9219 **Model** NR4040-AQC

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

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

Parts (Optional)

Collet		Collet holder (With collet nut)		Wrench	
CH16		You can choose the I.D. size (The following is an example of ϕ 6.0mm.)			
I.D. ϕ 3.0mm~10.0mm p.29		QC5-16/K QC5-16/K-R		2083	
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)	
Wrench 17 $\times$ 22 (2pcs.)					
CHK		915 6 0		9215 9224	
I.D. ϕ 0.5mm~6.35mm p.29		QC5-K (For collet CHK) QC5-K-R (For collet CHK)		2026	
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)	
Wrench 12 $\times$ 14 (2pcs.)					

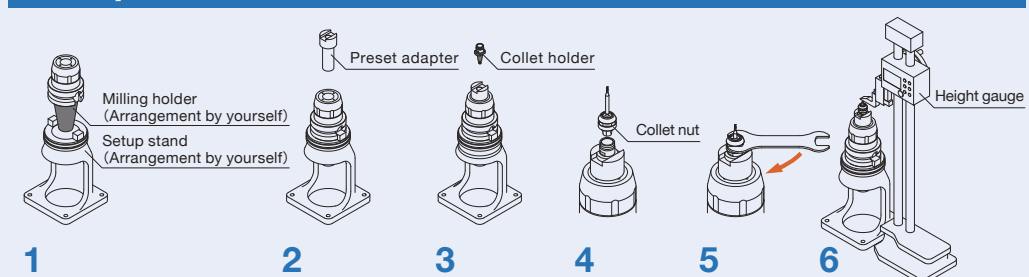
 In case using a Preset adapter, only 1pc. wrench is used.
 CH16 collet $\rightarrow$ 17 $\times$ 22 wrench (1pc.) / CHK collet $\rightarrow$ 12 $\times$ 14 wrench (1pc.) .
Preset adapter
(QC5-16/QC5-K)※ Holding section size is ϕ 20.

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

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

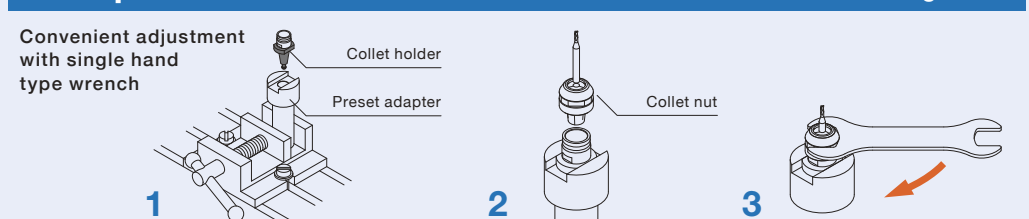
Set-up outside machines

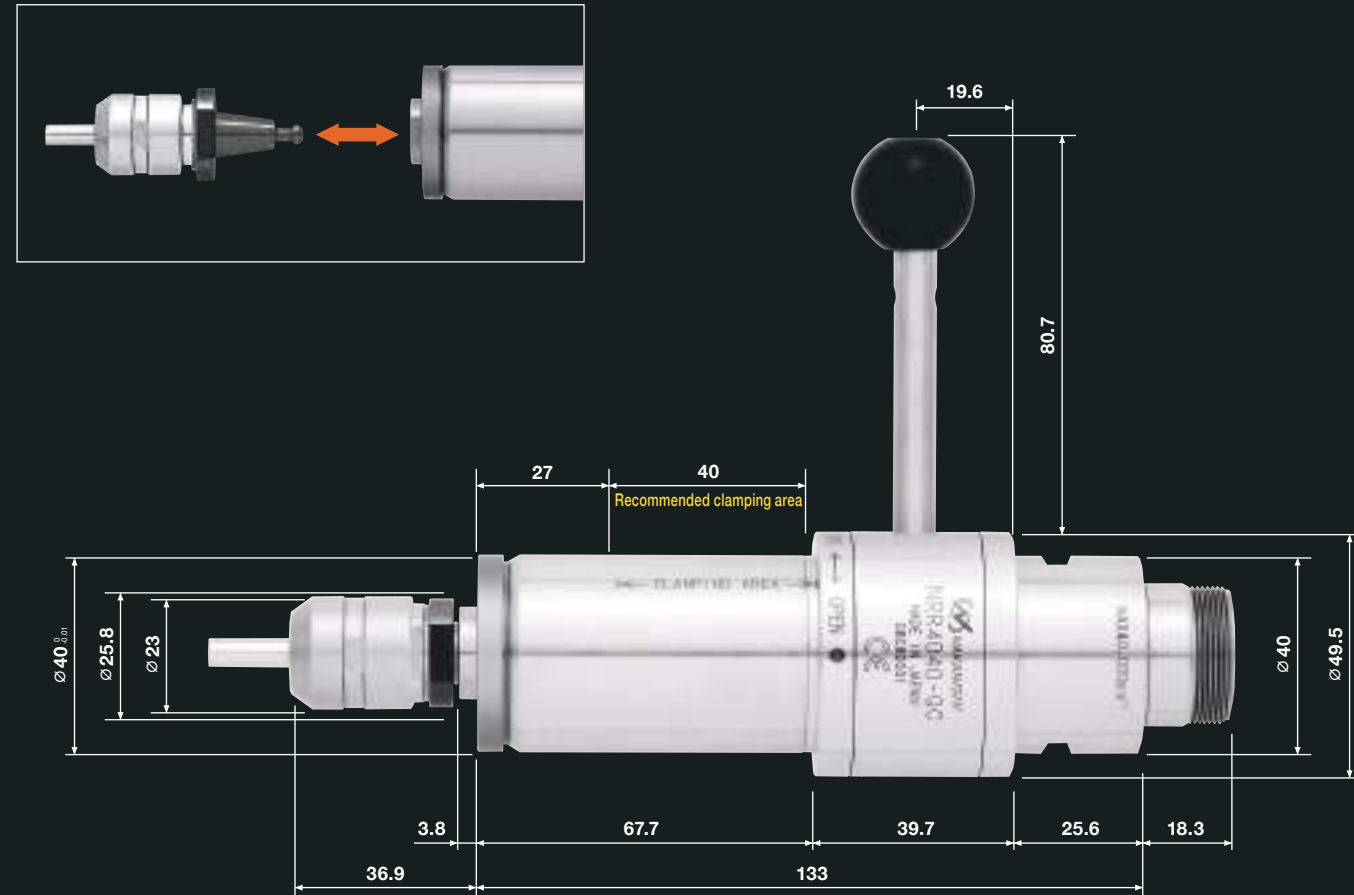
In case using a milling holder



Set-up outside machines

In case using a vice





O.D.	Spindle Accuracy	Max. rpm	Lever operating angle	Weight
Ø40mm	Within1μm	40,000min ⁻¹	90°	1,300g
Motors			Collet holders	
EM-4020・EM-4020A・EM-4040・EM-4040A			QC5-16 / QC5-16-R (For collet CH16)	QC5-K / QC5-K-R (For collet CHK)
Standard Accessories	Wrench (36) : 1pc.			

 Collet You can choose the I.D. size (The following is an example of ø6.0mm.)		 Collet holder (With collet nut)		 Wrench	
CH16 I.D. ø3.0mm~10.0mm p.29	Code No.	931 6 0	9216	9225	2083
	Model	CH16- 6 . 0 (I.D. ø6.0mm)	QC5-16 (For collet CH16)	QC5-16-R (For collet CH16)	Wrench 17 × 22 (2pcs.)
CHK I.D. ø0.5mm~6.35mm p.29	Code No.	915 6 0	9215	9224	2026
	Model	CHK- 6 . 0 (I.D. ø6.0mm)	QC5-K (For collet CHK)	QC5-K-R (For collet CHK)	Wrench 12 × 14 (2pcs.)

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

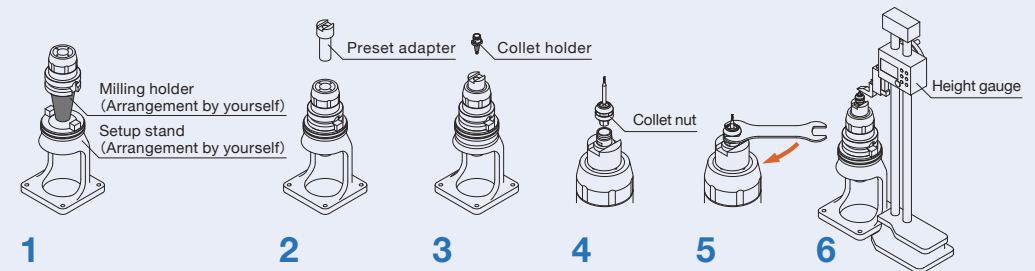


※ Holding section size is $\phi 20$.

Code No.	9218
Model	QC5-16 ADP (For collet QC5-16)
Code No.	9217
Model	QC5-K ADP (For collet QC5-K)

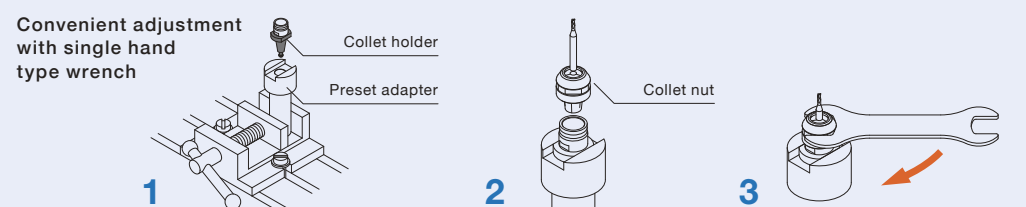
Set-up outside machines

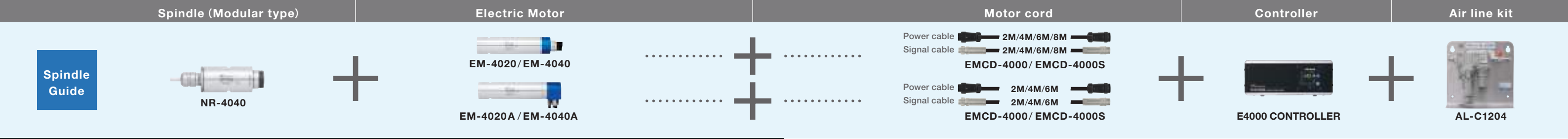
In case using a milling holder



Set-up outside machines

In case using a vice



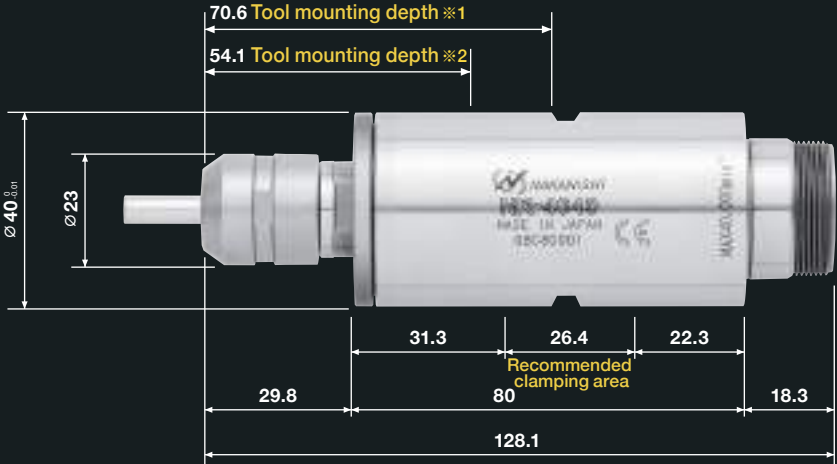


E4000 SERIES

Spindle (Modular type)

NR-4040
Straight type

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



Specifications

DXF data DXF files are available on our website

Order by Code No.

NR-4040

Code No.	7902	Model	NR-4040
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O.D.	Spindle Accuracy	Collet	Max. rpm	Motors	Weight
Ø40 _{mm}	Within1 _{μm}	CH16 Group (ø3.0 ~ ø10.0mm)	40,000 _{min⁻¹}	EM-4020 · EM-4020A EM-4040 · EM-4040A	700 _g
Standard Accessories	Collet nut (CHN-16) / Wrench (17 × 22) : 2pcs. · (36) : 1pc.				
Options	Collet (CH16 Group) : ø3.0mm ~ ø10.0mm p.29				

※ Collet is sold separately.

E4000 SERIES

Motor (Modular type)

EM-4020 (20,000rpm)

Straight cord type



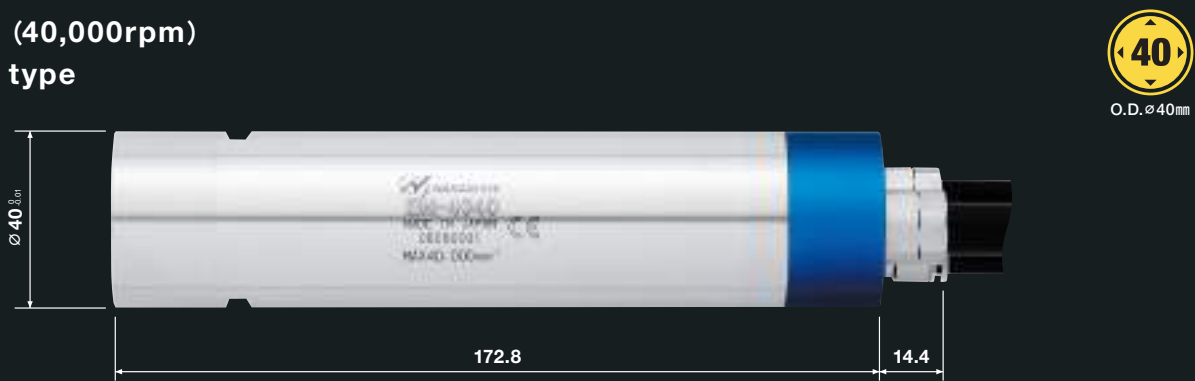
EM-4020A (20,000rpm)

Angle cord type



EM-4040 (40,000rpm)

Straight cord type



EM-4040A (40,000rpm)

Angle cord type



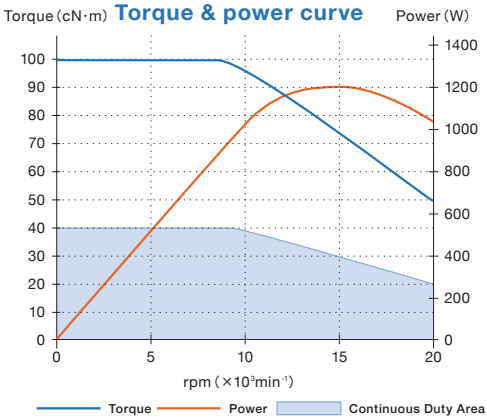
Specifications

DXF data DXF files are available on our website

Order by Code No.

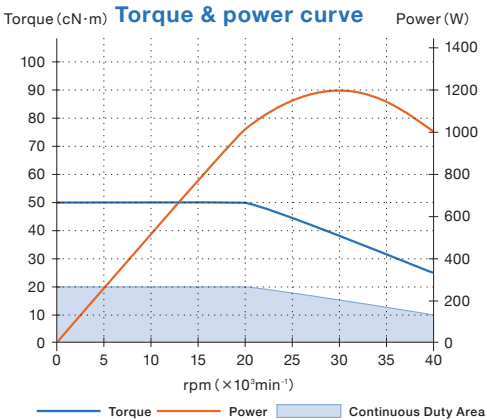
EM-4020		Code No.	8348	Model	EM-4020
O.D.	Rpm		Max. power		
Ø40 _{mm}	1,000~20,000 _{min⁻¹}		1,200 _w		
Cord length	Min. Bending Cord Radius	Max. torque		Weight	
0.3 _m	70 _{mm}	1.0 _{N·m}		1,300 _g	
Standard Accessories		Wrench (36) : 1pc.			
Specifications		Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min			
		Power cable with Air hose : Connector Diameter : ø30mm / Air hose : ø6mm			
		Signal cable : Connector Diameter : ø16mm			
Options		Power cable with Air hose : Length 2m (9253) , 4m (9254) , 6m (9255) , 8m (9256)			
		Signal cable : Length 2m (9257) , 4m (9258) , 6m (9259) , 8m (9260)			

EM-4020A		Code No.	8349	Model	EM-4020A
O.D.	Rpm		Max. power		
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		Wrench (36) : 1pc.			
Specifications		Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min			
		Power cable with Air hose : Connector Diameter : ø30mm / Air hose : ø6mm			
		Signal cable : Connector Diameter : ø16mm			
Options		Power cable with Air hose : Length 2m (9253) , 4m (9254) , 6m (9255)			
		Signal cable : Length 2m (9257) , 4m (9258) , 6m (9259)			



EM-4040		Code No.	8346	Model	EM-4040
O.D.	Rpm		Max. power		
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		Wrench (36) : 1pc.			
Specifications		Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min			
		Power cable with Air hose : Connector Diameter : ø30mm / Air hose : ø6mm			
		Signal cable : Connector Diameter : ø16mm			
Options		Power cable with Air hose : Length 2m (9253) , 4m (9254) , 6m (9255) , 8m (9256)			
		Signal cable : Length 2m (9257) , 4m (9258) , 6m (9259) , 8m (9260)			

EM-4040A		Code No.	8347	Model	EM-4040A
O.D.	Rpm		Max. power		
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		Wrench (36) : 1pc.			
Specifications		Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min			
		Power cable with Air hose : Connector Diameter : ø30mm / Air hose : ø6mm			
		Signal cable : Connector Diameter : ø16mm			
Options		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)



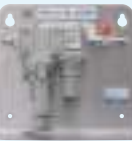
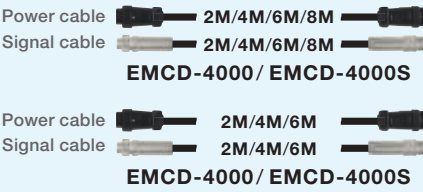
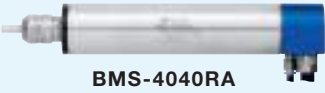
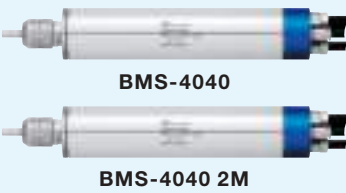
-  **BMS-4020RA**
p.17
-  **BMS-4040RA**
p.19
-  **BMS-4040RA-RGD-03M / BMS-4040RA-RGD-2M**
p.21



-  **BMS-4020 / BMS-4020 2M**
p.17
-  **BMS-4040 / BMS-4040 2M**
p.19
-  **BMS-4040-RGD-03M / BMS-4040-RGD-2M**
p.21



-  **BMS-4020-MQL / BMS-4020-MQL-2M**
p.23
-  **BMS-4040-MQL / BMS-4040-MQL-2M**
p.23
-  **BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M**
p.25
-  **BMS-4040-MQL-CHK / BMS-4040-MQL-CHK-2M**
p.25



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.

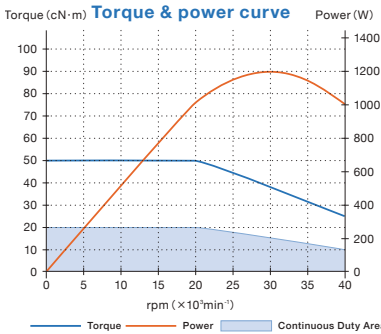
BMS-4040 / BMS-4040 2M



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

O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
Ø40mm	40,000min ⁻¹	Within1μm	CH16Group (Ø3.0 ~ Ø10.0mm)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque		Weight
BMS-4040: 0.3m BMS-4040 2M: 2.0m	70mm	0.5N·m		BMS-4040: 1.5kg BMS-4040 2M: 2.0kg
Standard Accessories	Collet nut (CHN-16) / Wrench (17 × 22) : 2pcs.			
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min			
	Power cable with Air hose : Connector Diameter : Ø30mm / Air hose : Ø6mm			
	Signal cable : Connector Diameter : Ø16mm			
Options	Collet (CH16 Group) : Ø3.0 ~ Ø10.0mm p.29			
	Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255), 8m (9256)			
	Signal cable : Length 2m (9257), 4m (9258), 6m (9259), 8m (9260)			

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



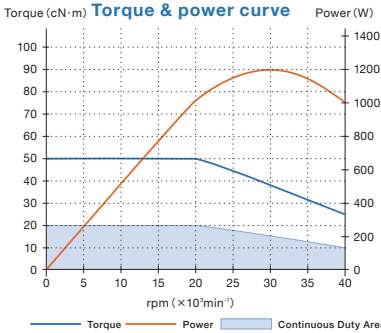
BMS-4040RA



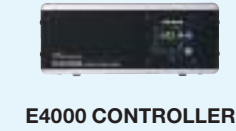
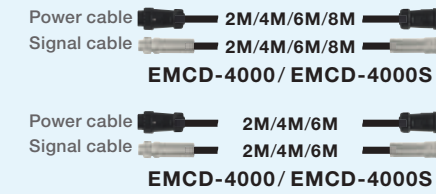
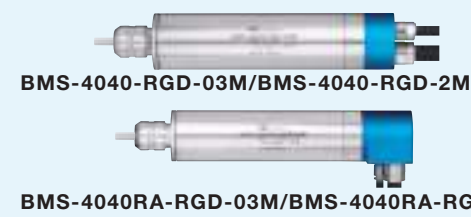
Code No.	7807	Model	BMS-4040RA
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O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
Ø40mm	40,000min ⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0mm)	1,200w
Cord length	Min. Bending Cord Radius	Max. torque	Weight	
2.0m	70mm	0.5N·m	2.0kg	
Standard Accessories	Collet nut (CHN-16) / Wrench (17 × 22) : 2pcs.			
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min			
	Power cable with Air hose : Connector Diameter : ø30mm / Air hose : ø6mm			
	Signal cable : Connector Diameter : ø16mm			
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0mm p.29			
	Power cable with Air hose : Length 2m (9253), 4m (9254), 6m (9255)			
	Signal cable : Length 2m (9257), 4m (9258), 6m (9259)			

※ Collet is sold separately.



Spindle Guide



E4000 SERIES

Motor Spindle (Rigidity type)

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

Straight cord type

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



● 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

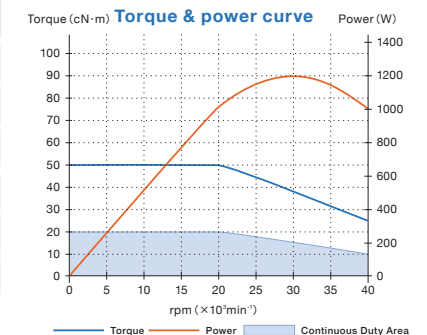


Code No.	7740	Model	BMS-4040-RGD-03M
Code No.	7769	Model	BMS-4040-RGD-2M

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

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

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



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

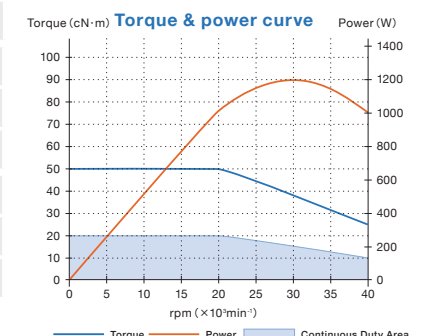


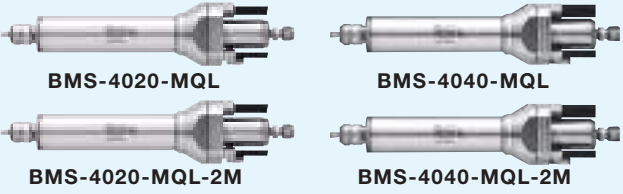
Code No.	7741	Model	BMS-4040RA-RGD-03M
Code No.	7770	Model	BMS-4040RA-RGD-2M

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

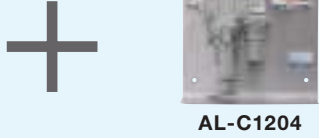
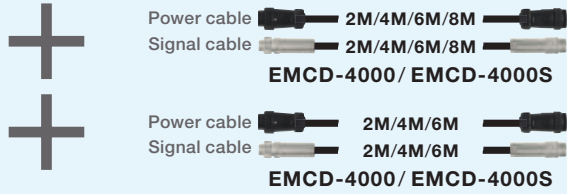
Standard Accessories	Collet nut (CHN-16) / Wrench (17 × 22) : 2pcs.
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min Power cable with Air hose : Connector Diameter : ø30mm / Air hose : ø6mm Signal cable : Connector Diameter : ø16mm
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0mm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

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





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



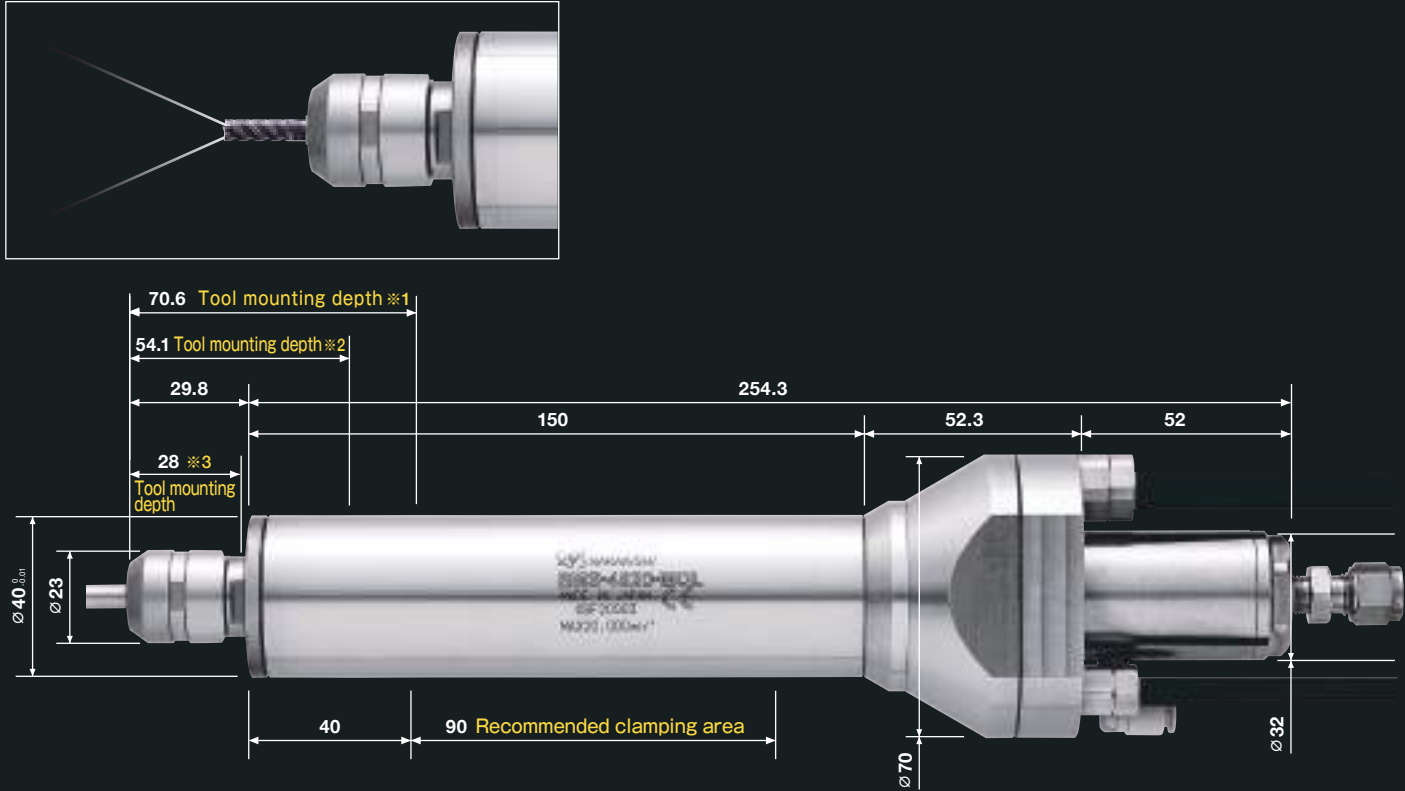
E4000 SERIES

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

BMS-4020-MQL / BMS-4020-MQL-2M
BMS-4040-MQL / BMS-4040-MQL-2M

Coolant through spindle

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



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



Specifications

DXF data DXF files are available on our website

Order by Code No.

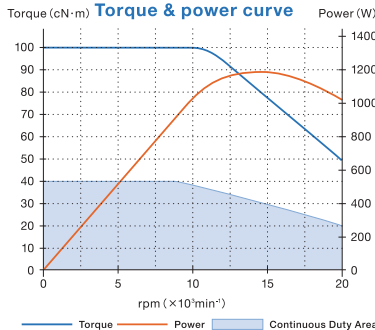
BMS-4020-MQL / BMS-4020-MQL-2M



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

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

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



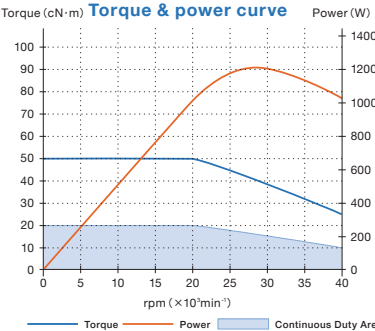
BMS-4040-MQL / BMS-4040-MQL-2M

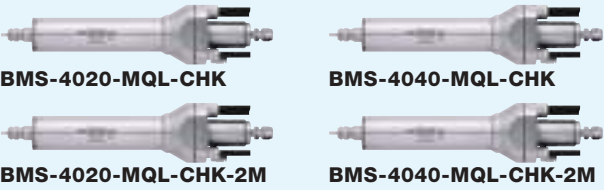


Code No.	7714	Model	BMS-4040-MQL
Code No.	7715	Model	BMS-4040-MQL-2M

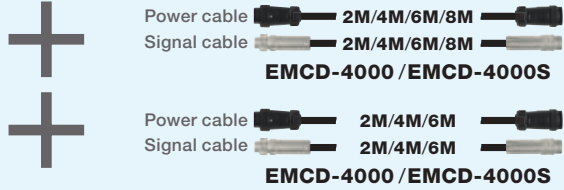
O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
$\phi 40\text{mm}$	$40,000\text{min}^{-1}$	Within $1\mu\text{m}$	CH16OH Group ($\phi 3.0 \sim \phi 10.0\text{mm}$)	1,200w
Cord length		Min. Bending Cord Radius	Max. torque	Weight
BMS-4040-MQL: 0.3m BMS-4040-MQL-2M: 2.0m		70mm	0.5N·m	BMS-4040-MQL: 2.3kg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

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





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



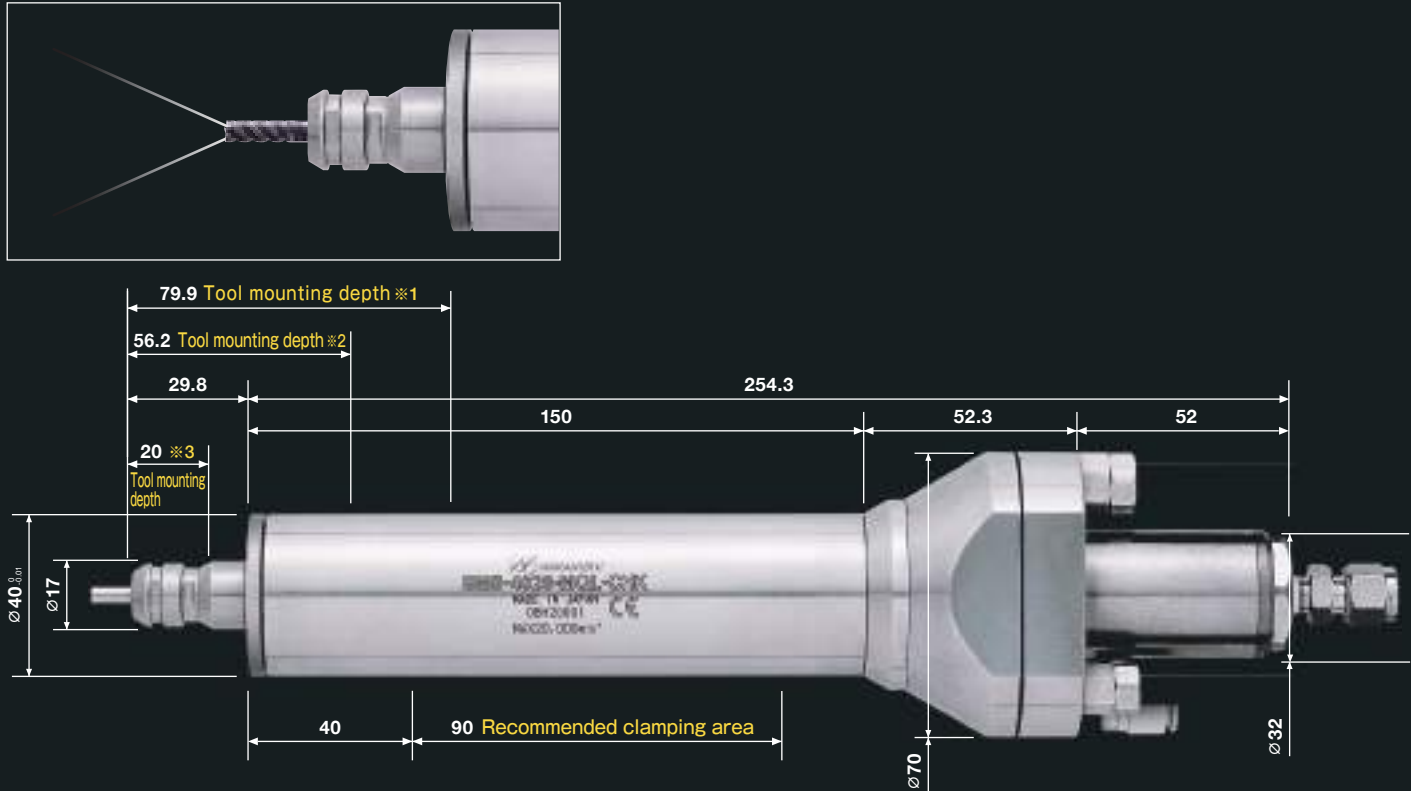
E4000 SERIES

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

BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M
BMS-4040-MQL-CHK / BMS-4040-MQL-CHK-2M

Coolant through spindle

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



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

Specifications

DXF data DXF files are available on our website

Order by Code No.

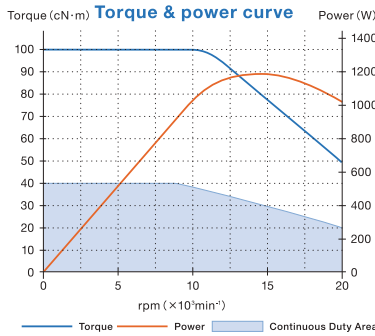
BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M

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



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

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



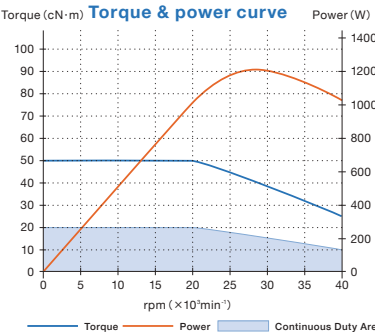
BMS-4040-MQL-CHK / BMS-4040-MQL-CHK-2M

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



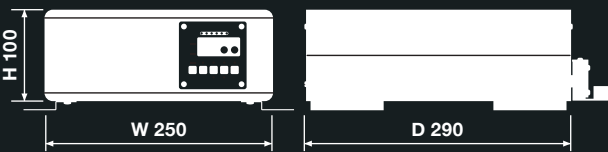
O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
$\phi 40\text{mm}$	$40,000\text{min}^{-1}$	Within $1\mu\text{m}$	CHK-OH Group ($\phi 3.0 \sim \phi 6.35\text{mm}$)	1,200w
Cord length		Min. Bending Cord Radius	Max. torque	Weight
BMS-4040-MQL-CHK : 0.3m BMS-4040-MQL-CHK-2M : 2.0m		70mm	0.5N·m	BMS-4040-MQL-CHK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

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



E4000 Controller / Motor cord

E4000 CONTROLLER
Controller



External Input / Output Control Signal Operation

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



Max. power	Input Voltage	Speed Range	Power consumption	Air consumption	Weight
1,200w	AC200~240v Without plug Multiple output power	1,000~40,000min ⁻¹	3.2A	100Nℓ/min (0.2~0.35MPa)	6.7kg
Standard Accessories		Power cord : 4m / Air hose with filter(K-251:2058) : 2M / Motor connector cap(provided) Connector cover(provided) / Bracket : 4pcs. / Rubber pad : 4pcs.			

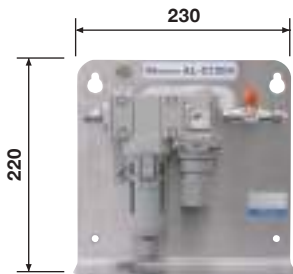
Power cable with Air hose	Motor cord	Code No.	Model	Length	Standard Accessories	Compatible model
	2M	9253	EMCD-4000-2M	2m	Air hose	BMS-4020-BMS-4040-BMS-4020RA BMS-4040RA-BMS-4020 2M BMS-4040 2M-EM-4020-EM-4040 EM-4020A-EM-4040A BMS-4020-MQL-BMS-4020-MQL-2M BMS-4040-MQL-BMS-4040-MQL-2M BMS-4020-MQL-CHK-BMS-4020-MQL-CHK-2M 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		
Signal cable	Connector Diameter : ø30mm					
	2M	9257	EMCD-4000S-2M	2m	-	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	9258	EMCD-4000S-4M	4m		
	6M	9259	EMCD-4000S-6M	6m		
	8M	9260	EMCD-4000S-8M	8m		
	Connector Diameter : ø16mm					

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

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

Accessories (Air line kit, etc.)

AL-C1204
Air line kit



Weight:1.9kg
※ Recommendation of normal filtration rating : 0.3 μ m, Pressure range : 0.1 ~ 1.0MPa
Recommendation of air filter : M2000-WS (CKD)

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

E4000-PB
Box for control panel

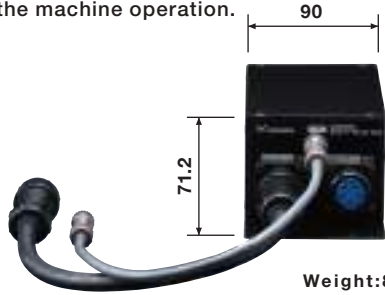


※ Control panel is sold separately.
Weight:216g

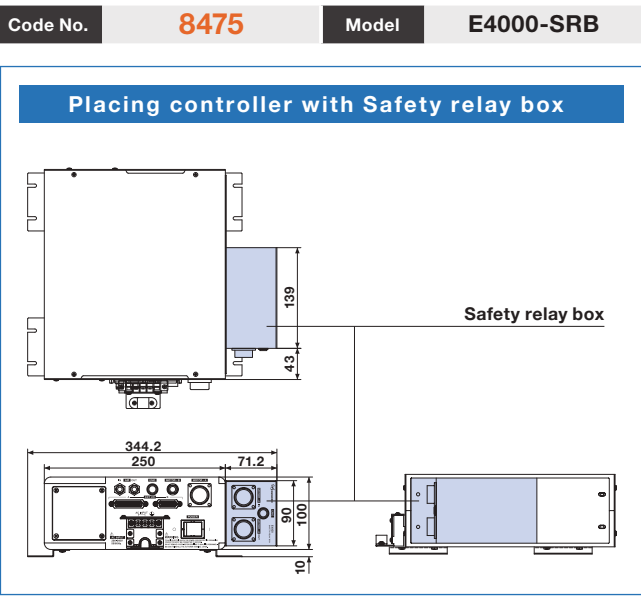
Code No.	8473	Model	E4000-PB
Standard Accessories	Case / Blind plate / Screw (M3) : 6pcs. / Screw (M4) : 2pcs.		
Compatible model	E4000 Controller		

E4000-SRB
Safety relay box

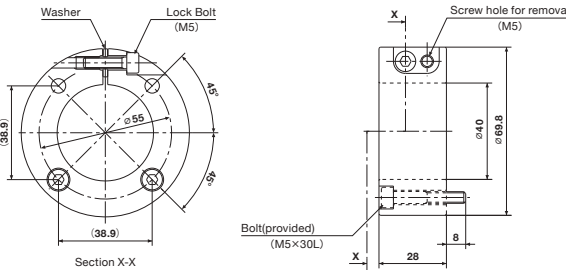
- Mounts directly on E4000 Controller
- Allows Emergency Stop Signal from the CNC to stop the E4000 Motor Spindle of the E4000 Controller to stop the machine operation.



Standard Accessories	Power cord : 400mm Emergency stop cord : 400mm
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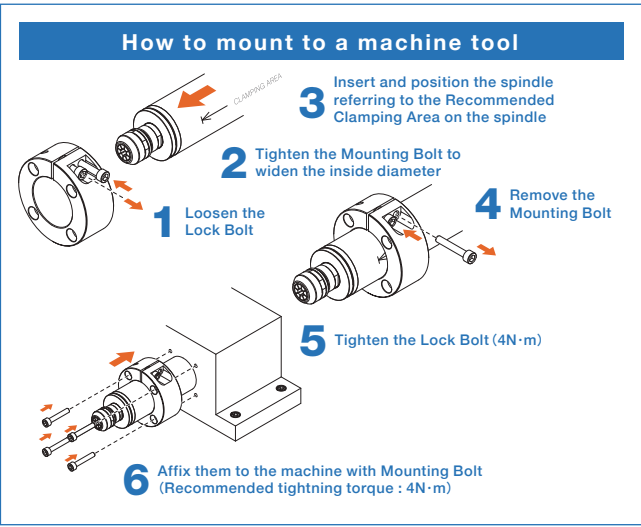


GR-40
Grip Ring

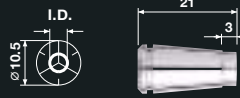


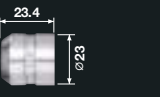
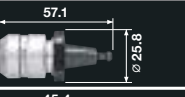
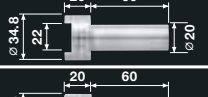
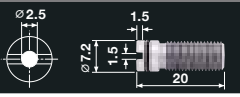
Standard Accessories	Mounting Bolt (GR-40) M5 × 30 : 4pcs.
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Code No.	1886	Model	GR-40
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Accessories (Collet, etc.)

Collet	Code No.	Model	I.D.	Compatible model
 ※CH16-10.0 Length 24.5 Collet CH16 Group	93130	CH16-3.0	ø3.0	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
	93193	CH16-3.175	ø3.175	
	93140	CH16-4.0	ø4.0	
	93160	CH16-6.0	ø6.0	
	93196	CH16-6.35	ø6.35	
 ※CH16OH-9.0, 10.0 Length 24.5 Collet CH16OH Group	93180	CH16-8.0	ø8.0	BMS-4020-MQL BMS-4040-MQL BMS-4020-MQL-2M BMS-4040-MQL-2M
	93100	CH16-10.0	ø10	
	93330	CH16OH-3.0	ø3.0	
	93331	CH16OH-3.175	ø3.175	
	93340	CH16OH-4.0	ø4.0	
	93350	CH16OH-5.0	ø5.0	
	93360	CH16OH-6.0	ø6.0	
	93363	CH16OH-6.35	ø6.35	
	93370	CH16OH-7.0	ø7.0	
	93380	CH16OH-8.0	ø8.0	
 ø1.0 ~ ø6.35 Collet CHK Group	93390	CH16OH-9.0	ø9.0	QC5-K (NRR4040-QC) QC5-K (NR4040-AQC) ※ High precision type AA (Run-out Accuracy within 2 μm)
	93400	CH16OH-10.0	ø10.0	
	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※	
	91592	CHK-2.35	ø2.35	
	91530	CHK-3.0	ø3.0	
	91593	CHK-3.175	ø3.175	
 ø0.5 ~ ø0.9 Collet CHK-OH Group	91540	CHK-4.0	ø4.0	BMS-4020-MQL-CHK BMS-4020-MQL-CHK-2M BMS-4040-MQL-CHK BMS-4040-MQL-CHK-2M
	91560	CHK-6.0	ø6.0	
	91596	CHK-6.35	ø6.35	
	—	CHK- □□	ø0.5, ø0.6, ø0.7, ø0.8, ø0.9 ø1.0, ø1.5, ø2.0, ø2.5, ø3.5, ø4.5, ø4.76, ø5.5 ø1.1, ø1.2, ø1.3, ø1.4, ø1.7, ø1.8, ø1.9, ø2.1, ø2.2, ø2.3, ø2.4, ø2.6, ø2.7, ø2.8, ø2.9, ø3.1, ø3.2, ø3.3, ø3.4, ø3.6, ø3.7, ø3.8, ø3.9, ø4.1, ø4.2, ø4.3, ø4.4, ø4.6, ø4.7, ø4.8, ø4.9, ø5.1, ø5.2, ø5.3, ø5.4, ø5.6, ø5.7, ø5.8, ø5.9 ø1.6, ø5.0	
			ø1.0, ø1.5, ø2.0, ø2.5, ø3.5, ø4.5, ø4.76, ø5.5	

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	
	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 spindle

Electric Motors & Spindles

Brushless Motors & Spindles

Spindle

+

Motor

+

Controller

←

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

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
[ø19.05/20/22mm]



■ Super short motor spindle
■ High efficiency brushless motor

Application for machining centers and milling machines

HES SERIES

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



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



[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

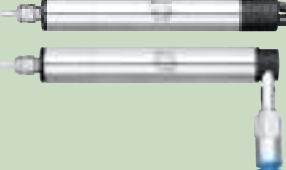
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Air compressor

Application for CNC lathes / Special purpose machines

Air-Speed SERIES One-piece type

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



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

Air-Speed SERIES Modular type

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



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

Application for machining centers and milling machines

Air Turbine Spindles

Air Turbine Spindles

+

Air line kit

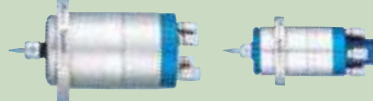
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Air compressor

Application for CNC lathes / Special purpose machines

Xpeed SERIES

Max.160,000min⁻¹
[ø65/40mm]



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

PLANET SERIES

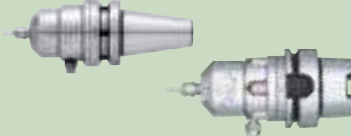
Max.65,000min⁻¹



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

HTS SERIES

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



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

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