NAKANISHI

E4000

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※Specifications and design are subject to change without notice.

www.nakanishi-inc.com
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NAKANISHI INC. 2022

NAKANISHI

E4000



SERIES E4000

ULTRA-HIGH-SPEED & SUPER-PRECISION

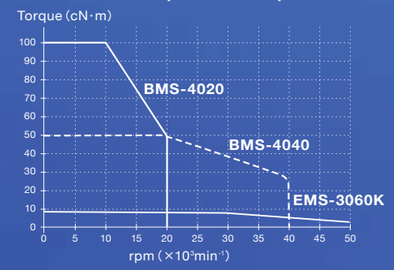
Little Giant

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)

E4000 & E3000 torque curve comparison



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

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Spindle (Modular type)

NR4040-AQC Air quick change spindle p.7
Max.rpm 40,000min-1

NRR4040-QC Lever quick change spindle p.9
Max.rpm 40,000min-1

NR-4040 Straight type p.11
Max.rpm 40,000min-1

Motor (Modular type)

EM-4020 Straight cord type p.13
1,000 ~ 20,000min-1

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

EM-4040 Straight cord type p.13
1,000 ~ 40,000min-1

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

Motor Spindle (One-piece type)

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Max.rpm 20,000min-1

BMS-4020RA Angle cord type p.17
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Max.rpm 40,000min-1

BMS-4040RA Angle cord type p.19
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BMS-4040-RGD-03M / BMS-4040-RGD-2M Straight cord type p.21
Max.rpm 40,000min-1

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Max.rpm 40,000min-1

BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M Coolant through spindle p.25
Max.rpm 20,000min-1

BMS-4040-MQL-CHK / BMS-4040-MQL-CHK-2M Coolant through spindle p.25
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Controller

E4000 CONTROLLER p.27
Controller

Air line kit

AL-C1204 ..... p.28
Air line kit

Motor cord

Power cable with Air hose
【Length】2m、4m、6m、8m
EMCD-4000
Joint type motor cord
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Signal cable
【Length】2m、4m、6m、8m
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Safety relay box

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Grip ring

CH16 / CH16OH / CHK / CHK-OH
Collet
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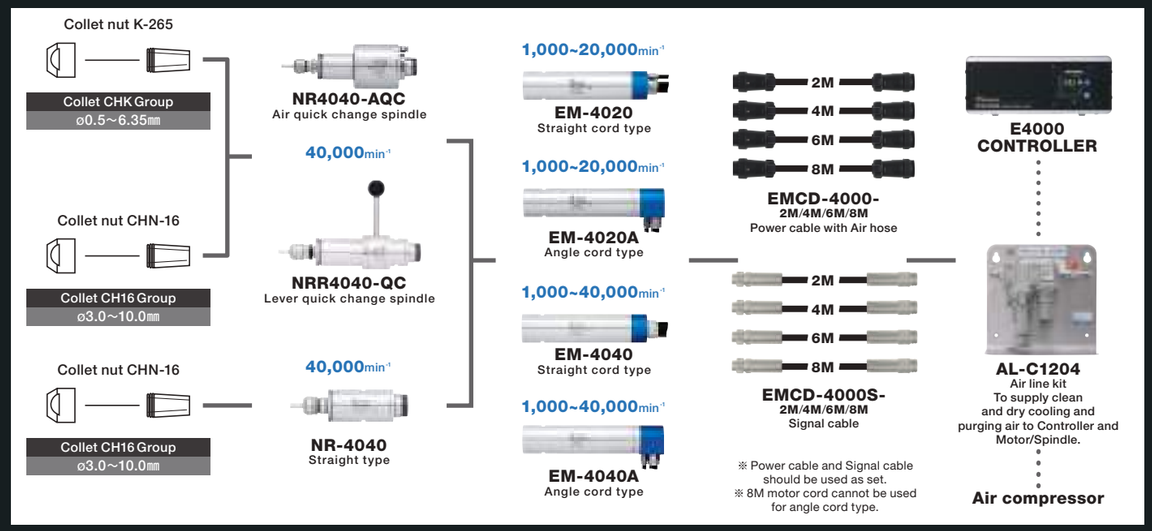
QC5-16 / QC5-16-R / QC5-K / QC5-K-R
Collet holder
..... p.29

NAKANISHI

System Chart

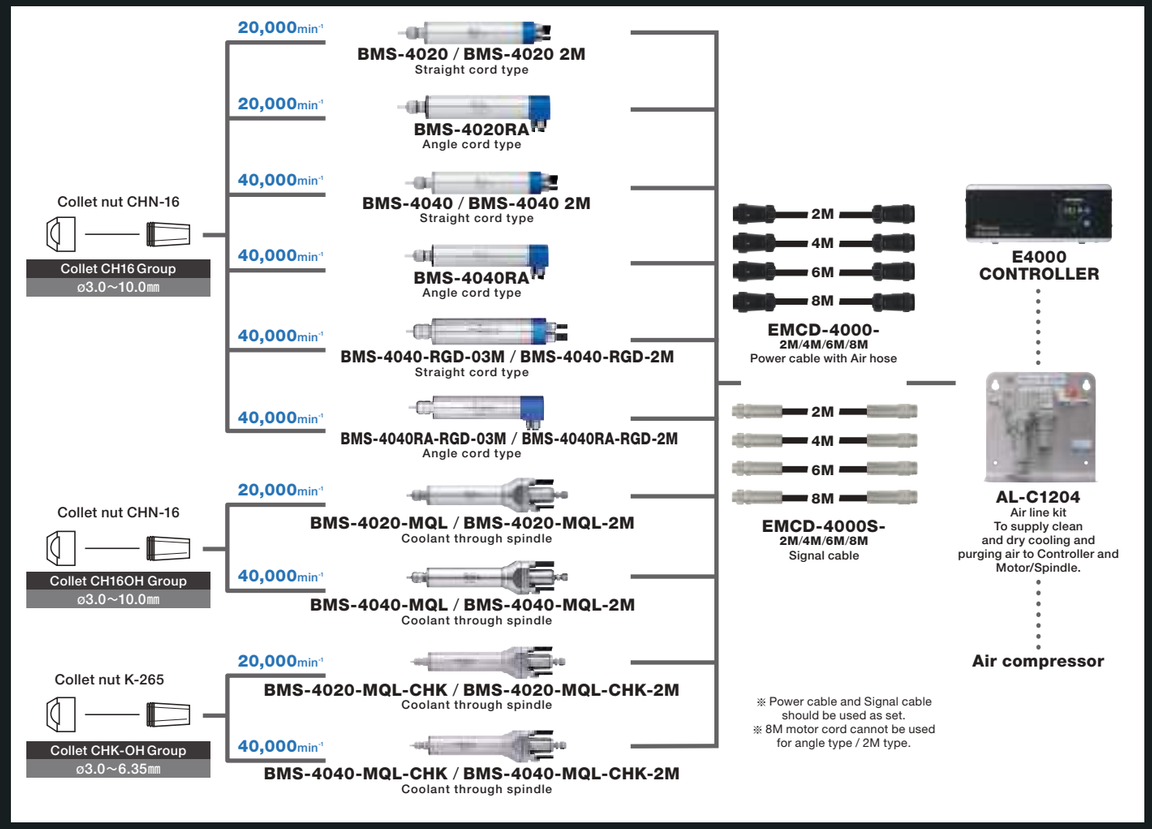
Modular type ø40mm

Collet + Spindle + Motor + Motor Cord + Controller



One-piece type ø40mm

Collet + Motor Spindle (One-piece type) + Motor Cord + Controller



E4000 SERIES

Spindle (Modular type)

Spindle + Motor + Motor Cord + Controller ← AC

Shown In Actual Size



NRR4040-QC
p.9

NR-4040
p.11



NR4040-AQC
p.7



EM-4020
p.13

EM-4040
p.13



Spindle Guide


CH16 / CHK


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


NR4040-AQC

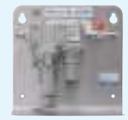

EM-4020 / EM-4040


EM-4020A / EM-4040A

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

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


E4000 CONTROLLER


AL-C1204

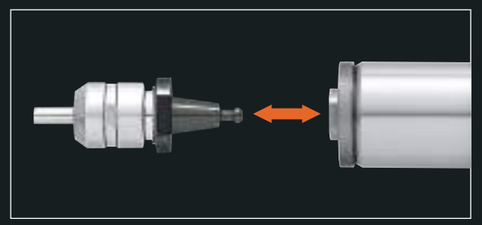
E4000 SERIES

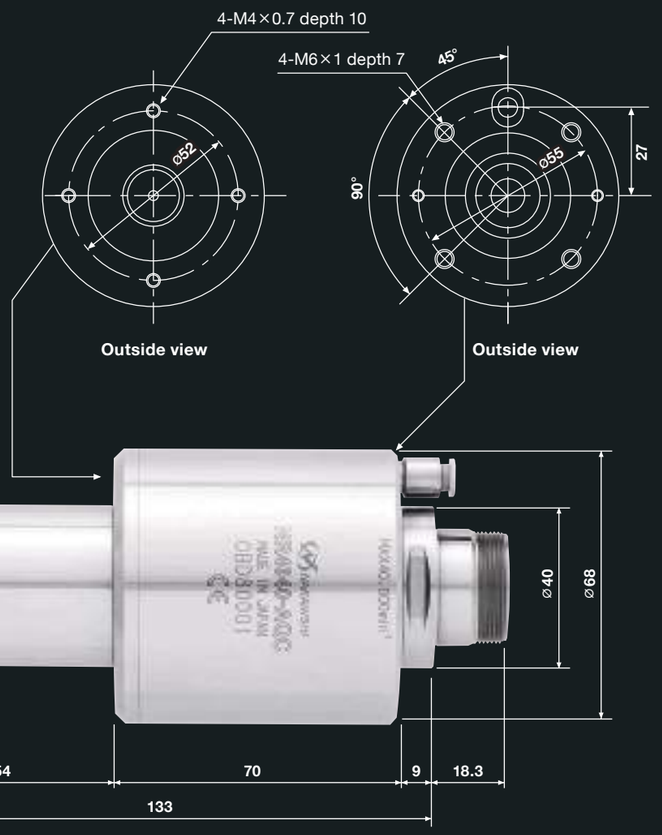
Spindle (Modular type)

NR4040-AQC
Air quick change spindle

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O.D.ø40㎜

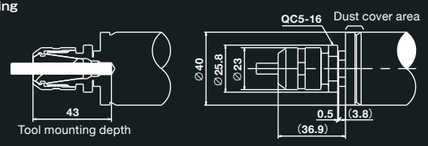
- Auto Tool Change with ※BT5 collet holder. ※Original
- Enhancing productivity by enabling external tool set-up.
- 2 types of collet holders are available. (CH16 and CHK)



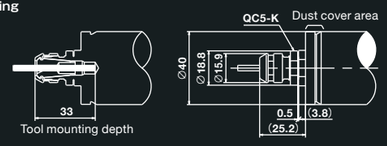


Outside view of the tip of the spindle

■QC5-16
(Collet holder for collet CH16)
When mounting



■QC5-K
(Collet holder for collet CHK)
When mounting



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
ø40㎜	Within1μm	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) : ø6㎜ × 2m

Parts (Optional)

Collet + You can choose the I.D. size (The following is an example of ø6.0㎜.) + Collet holder (With collet nut) QC5-16/K QC5-16/K-R ※ In case using a Preset adapter,QC5-16/K is needed. + Wrench

CH16 I.D. ø3.0㎜~10.0㎜ p.29	Code No.	931 6 0	9216	9225	2083
	Model	CH16- 6 . 0 (I.D. ø6.0㎜)	QC5-16 (For collet CH16)	QC5-16-R (For collet CH16)	Wrench 17 × 22 (2pcs.)
CHK I.D. ø0.5㎜~6.35㎜ p.29	Code No.	915 6 0	9215	9224	2026
	Model	CHK- 6 . 0 (I.D. ø6.0㎜)	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.) .

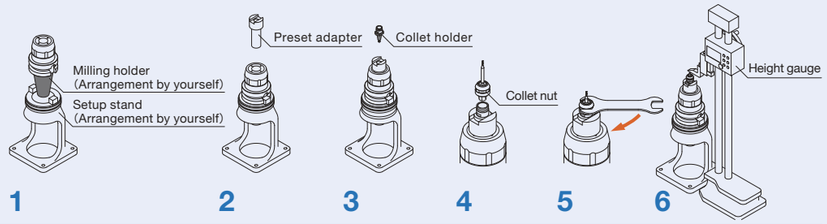
Preset adapter (QC5-16/QC5-K)



※ Holding section size is ø20.

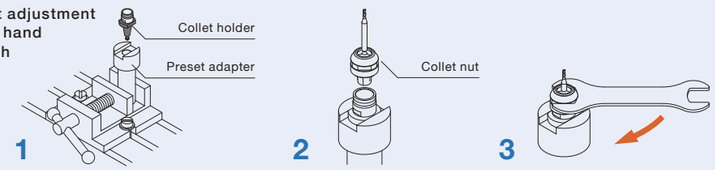
Code No.	9218
Model	QC5-16 ADP (For collet QC5-16)
Code No.	9217
Model	QC5-K ADP (For collet QC5-K)

Set-up outside machines — In case using a milling holder



Set-up outside machines — In case using a vice

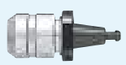
Convenient adjustment with single hand type wrench



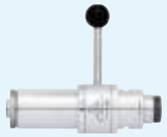
Spindle Guide



CH16 / CHK



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



NRR4040-QC



EM-4020 / EM-4040



EM-4020A / EM-4040A

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

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



E4000 CONTROLLER



AL-C1204

E4000 SERIES

Spindle (Modular type)

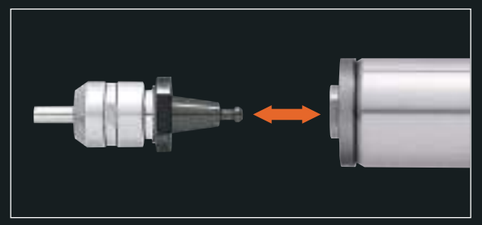
NRR4040-QC

Lever quick change spindle

※Outside view : with QC5-16 collet holder

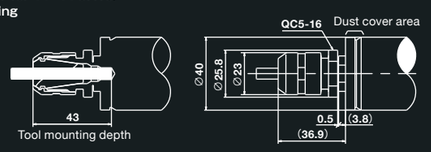
40
O.D.ø40㎜

- 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)

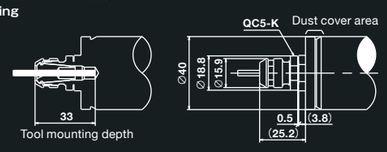


Outside view of the tip of the spindle

■QC5-16
(Collet holder for collet CH16)
When mounting



■QC5-K
(Collet holder for collet CHK)
When mounting



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 Accuracy	Max. rpm	Lever operating angle	Weight
ø40㎜	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.

Parts (Optional)

Collet — You can choose the I.D. size (The following is an example of ø6.0㎜.)

+ Collet holder (With collet nut) (QC5-16/K, QC5-16/K-R)
※ In case using a Preset adapter, QC5-16/K is needed.

+ Wrench

	Code No.	Collet	Collet holder (With collet nut)		Wrench
CH16 I.D. ø3.0㎜~10.0㎜ p.29	Code No.	931 6 0	9216	9225	2083
	Model	CH16- 6 . 0 (I.D. ø6.0㎜)	QC5-16 (For collet CH16)	QC5-16-R (For collet CH16)	Wrench 17 × 22 (2pcs.)
CHK I.D. ø0.5㎜~6.35㎜ p.29	Code No.	915 6 0	9215	9224	2026
	Model	CHK- 6 . 0 (I.D. ø6.0㎜)	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.) .

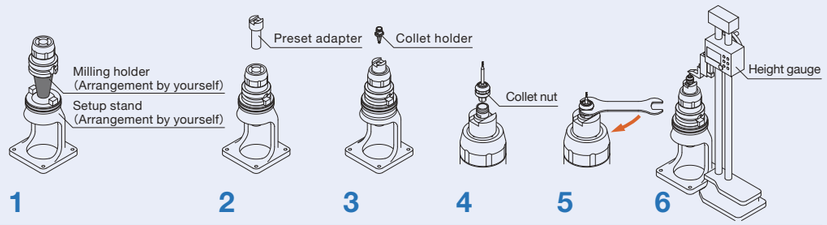
Preset adapter (QC5-16/QC5-K)



※ Holding section size is ø20.

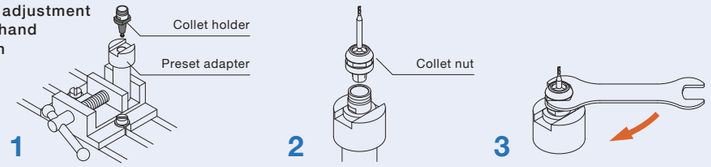
Code No.	9218
Model	QC5-16 ADP (For collet QC5-16)
Code No.	9217
Model	QC5-K ADP (For collet QC5-K)

Set-up outside machines — In case using a milling holder



Set-up outside machines — In case using a vice

Convenient adjustment with single hand type wrench



Spindle Guide



NR-4040

+



EM-4020 / EM-4040



EM-4020A / EM-4040A

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

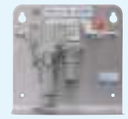
Power cable 2M/4M/6M
Signal cable 2M/4M/6M
EMCD-4000 / EMCD-4000S

+



E4000 CONTROLLER

+



AL-C1204

E4000 SERIES

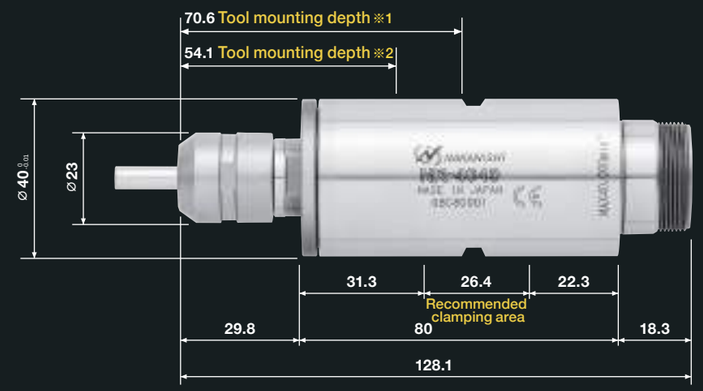
Spindle (Modular type)

NR-4040

Straight type

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

40
O.D.ø40㎜



Specifications

DXF data DXF files are available on our website

Order by Code No.

NR-4040

Code No.	7902	Model	NR-4040

O.D.	Spindle Accuracy	Collet	Max. rpm	Motors	Weight
ø40㎜	Within1μm	CH16 Group (ø3.0 ~ ø10.0㎜)	40,000min-1	EM-4020・EM-4020A EM-4040・EM-4040A	700g

Standard Accessories	Collet nut (CHN-16) / Wrench (17 × 22) : 2pcs.・(36) : 1pc.
Options	Collet (CH16 Group) : ø3.0㎜~ ø10.0㎜ p.29

※ Collet is sold separately.

Motor (Modular type)

EM-4020 (20,000rpm)

Straight cord type



O.D.⌀40㎜

EM-4020A (20,000rpm)

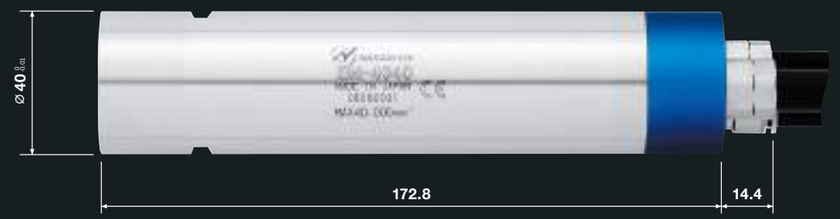
Angle cord type



O.D.⌀40㎜

EM-4040 (40,000rpm)

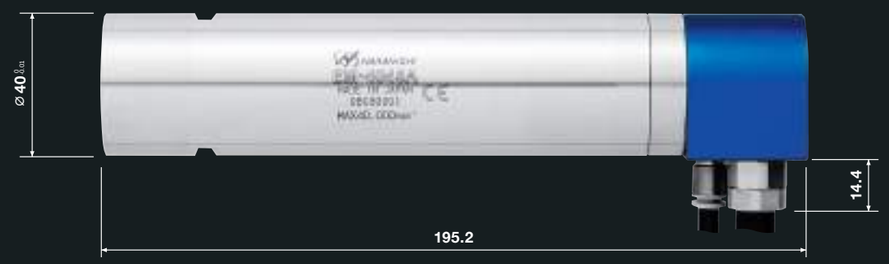
Straight cord type



O.D.⌀40㎜

EM-4040A (40,000rpm)

Angle cord type



O.D.⌀40㎜

Specifications

DXF data — DXF files are available on our website

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Order by Code No.

EM-4020

Code No.	8348	Model	EM-4020

O.D.	Rpm	Max. power
ø40㎜	1,000~20,000min⁻¹	1,200w

Cord length	Min. Bending Cord Radius	Max. torque	Weight
0.3m	70㎜	1.0N·m	1,300g

Standard Accessories	Wrench (36) : 1pc.
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min
	Power cable with Air hose : Connector Diameter : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
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

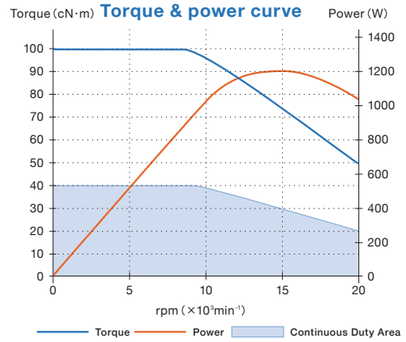
Code No.	8349	Model	EM-4020A

O.D.	Rpm	Max. power
ø40㎜	1,000~20,000min⁻¹	1,200w

Cord length	Min. Bending Cord Radius	Max. torque	Weight
2.0m	70㎜	1.0N·m	1,800g

Standard Accessories	Wrench (36) : 1pc.
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min
	Power cable with Air hose : Connector Diameter : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
Options	Power cable with Air hose : Length 2m (9253) , 4m (9254) , 6m (9255)
	Signal cable : Length 2m (9257) , 4m (9258) , 6m (9259)

Torque & power curve



EM-4040

Code No.	8346	Model	EM-4040

O.D.	Rpm	Max. power
ø40㎜	1,000~40,000min⁻¹	1,200w

Cord length	Min. Bending Cord Radius	Max. torque	Weight
0.3m	70㎜	0.5N·m	1,300g

Standard Accessories	Wrench (36) : 1pc.
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min
	Power cable with Air hose : Connector Diameter : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
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

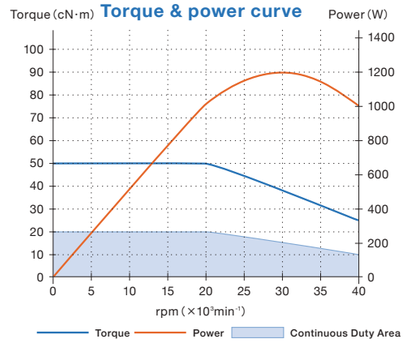
Code No.	8347	Model	EM-4040A

O.D.	Rpm	Max. power
ø40㎜	1,000~40,000min⁻¹	1,200w

Cord length	Min. Bending Cord Radius	Max. torque	Weight
2.0m	70㎜	0.5N·m	1,800g

Standard Accessories	Wrench (36) : 1pc.
Specifications	Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min
	Power cable with Air hose : Connector Diameter : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
Options	Power cable with Air hose : Length 2m (9253) , 4m (9254) , 6m (9255)
	Signal cable : Length 2m (9257) , 4m (9258) , 6m (9259)

Torque & power curve



Motor Spindle (One-piece type)

Shown In Actual Size

Motor Spindle (One-piece type) + Motor Cord + Controller ← AC



Angle cord type

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

Shown In Actual Size

Straight cord type

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

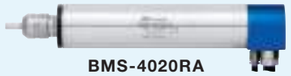
Coolant through spindle

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


BMS-4020


BMS-4020 2M


BMS-4020RA

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

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


E4000 CONTROLLER


AL-C1204

E4000 SERIES

Motor Spindle (One-piece type)

BMS-4020 / BMS-4020 2M

Straight cord type

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

40
O.D.ø40㎜



BMS-4020RA

Angle cord type

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

40
O.D.ø40㎜



Specifications

DXF data DXF files are available on our website

Order by Code No.

BMS-4020 / BMS-4020 2M



Code No.	7803	Model	BMS-4020
Code No.	7805	Model	BMS-4020 2M

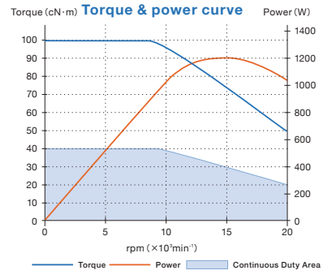
O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40㎜	20,000min⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0㎜)	1,200W

Cord length	Min. Bending Cord Radius	Max. torque	Weight
BMS-4020 : 0.3m BMS-4020 2M : 2.0m	70㎜	1.0N·m	BMS-4020 : 1.5kg BMS-4020 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 : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0㎜ 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 2M.
※ Collet is sold separately.

Torque & power curve



BMS-4020RA



Code No.	7804	Model	BMS-4020RA

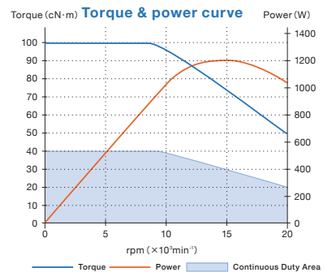
O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40㎜	20,000min⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0㎜)	1,200W

Cord length	Min. Bending Cord Radius	Max. torque	Weight
2.0m	70㎜	1.0N·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 : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0㎜ 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.

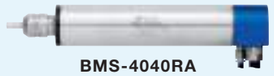
Torque & power curve



Spindle Guide


BMS-4040


BMS-4040 2M


BMS-4040RA

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

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


E4000 CONTROLLER


AL-C1204

E4000 SERIES

Motor Spindle (One-piece type)

BMS-4040 / BMS-4040 2M

Straight cord type

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

40
O.D.ø40㎜



BMS-4040RA

Angle cord type

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

40
O.D.ø40㎜



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

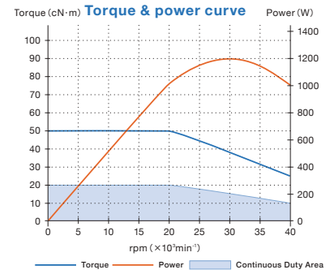
O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40㎜	40,000min⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0㎜)	1,200W

Cord length	Min. Bending Cord Radius	Max. torque	Weight
BMS-4040 : 0.3m BMS-4040 2M : 2.0m	70㎜	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 : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0㎜ 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.

Torque & power curve



BMS-4040RA



Code No.	7807	Model	BMS-4040RA

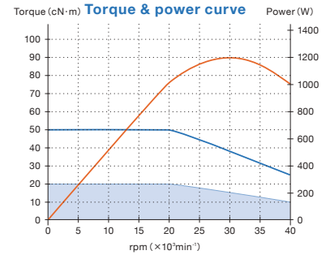
O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40㎜	40,000min⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0㎜)	1,200W

Cord length	Min. Bending Cord Radius	Max. torque	Weight
2.0m	70㎜	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 : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0㎜ 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.

Torque & power curve



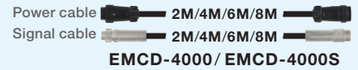
Spindle Guide



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



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





E4000 CONTROLLER



AL-C1204

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

40 O.D.ø40㎜

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

40 O.D.ø40㎜

● 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

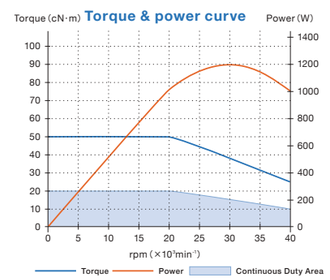
O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40㎜	40,000min⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0㎜)	1,200W

Cord length	Min. Bending Cord Radius	Max. torque	Weight
BMS-4040-RGD-03M : 0.3m BMS-4040-RGD-2M : 2.0m	70㎜	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 : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0㎜ 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.

Torque & power curve



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



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

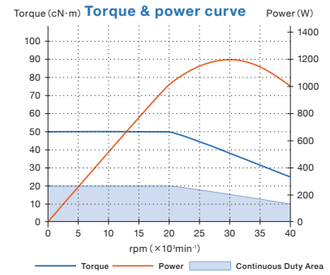
O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40㎜	40,000min⁻¹	Within1μm	CH16Group (ø3.0 ~ ø10.0㎜)	1,200W

Cord length	Min. Bending Cord Radius	Max. torque	Weight
BMS-4040RA-RGD-03M : 0.3m BMS-4040RA-RGD-2M : 2.0m	70㎜	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 : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
Options	Collet (CH16 Group) : ø3.0 ~ ø10.0㎜ 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.

Torque & power curve



Spindle Guide


BMS-4020-MQL


BMS-4040-MQL


BMS-4020-MQL-2M


BMS-4040-MQL-2M

! "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

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


E4000 CONTROLLER


AL-C1204

E4000 SERIES

Motor Spindle (One-piece type : ϕ3.0 ~ϕ10.0㎜)

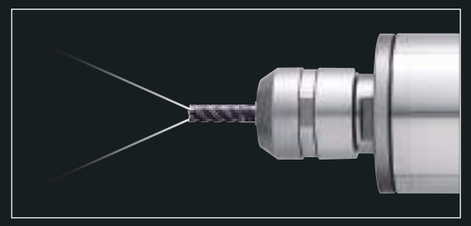
BMS-4020-MQL / BMS-4020-MQL-2M
BMS-4040-MQL / BMS-4040-MQL-2M

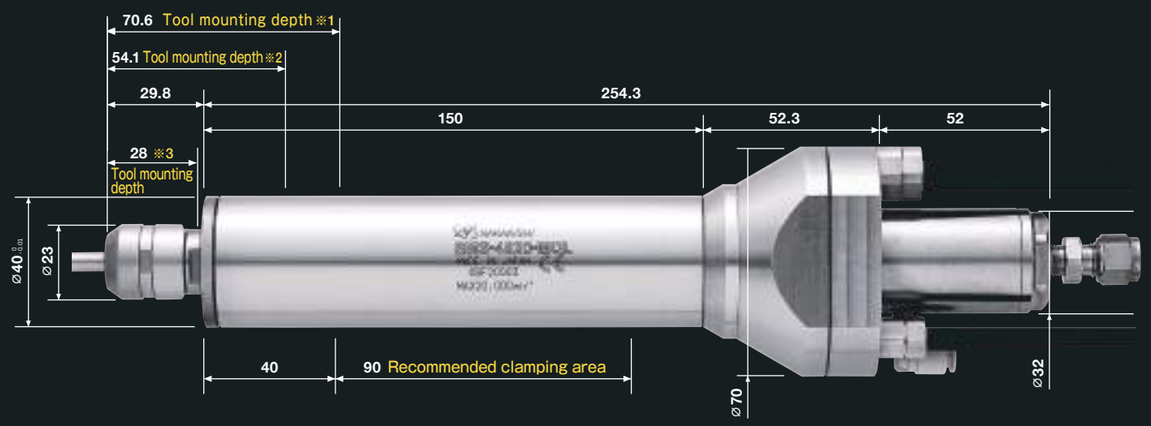
40
O.D.ø40㎜

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 ϕ 4mm to less than ϕ 6.9mm (The shank size less than ϕ 4mm is through hole)
※2 : In case for the shank size ϕ 6.9mm 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

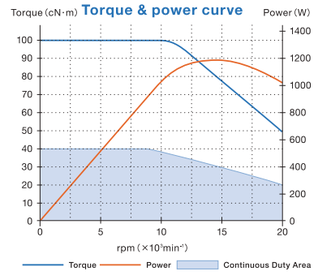
O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40㎜	20,000min⁻¹	Within1μm	CH16OHGroup (ø3.0 ~ ø10.0㎜)	1,200W

Cord length	Min. Bending Cord Radius	Max. torque	Weight
BMS-4020-MQL:0.3m BMS-4020-MQL-2M:2.0m	70㎜	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 : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
Options	Collet (CH16OH Group) : ø3.0 ~ ø10.0㎜ 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.

Torque & power curve



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



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

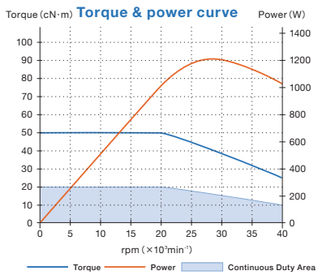
O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40㎜	40,000min⁻¹	Within1μm	CH16OHGroup (ø3.0 ~ ø10.0㎜)	1,200W

Cord length	Min. Bending Cord Radius	Max. torque	Weight
BMS-4040-MQL:0.3m BMS-4040-MQL-2M:2.0m	70㎜	0.5N·m	BMS-4040-MQL : 2.3kg BMS-4040-MQL-2M : 2.8kg

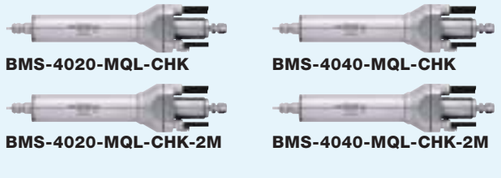
Standard Accessories	Collet nut (CHN-16) / Insert / Ferrule Set
	Wrench (17 × 22) : 2pcs.
Specifications	Coolant pressure : 0.2 ~ 3.0MPa / Oil Mist pressure : 0.2 ~ 1.0MPa
	Power cable with Air hose : Connector Diameter : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
Options	Collet (CH16OH Group) : ø3.0 ~ ø10.0㎜ 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.

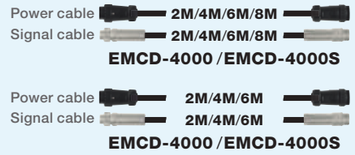
Torque & power curve



Spindle Guide



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




E4000 CONTROLLER


AL-C1204

E4000 SERIES

Motor Spindle (One-piece type : ϕ3.0 ~ϕ6.35㎜)

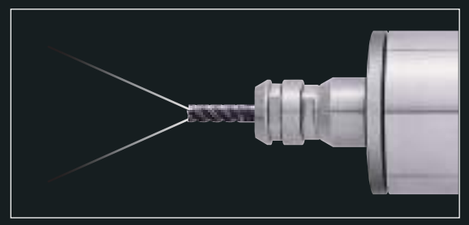
BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M
BMS-4040-MQL-CHK / BMS-4040-MQL-CHK-2M

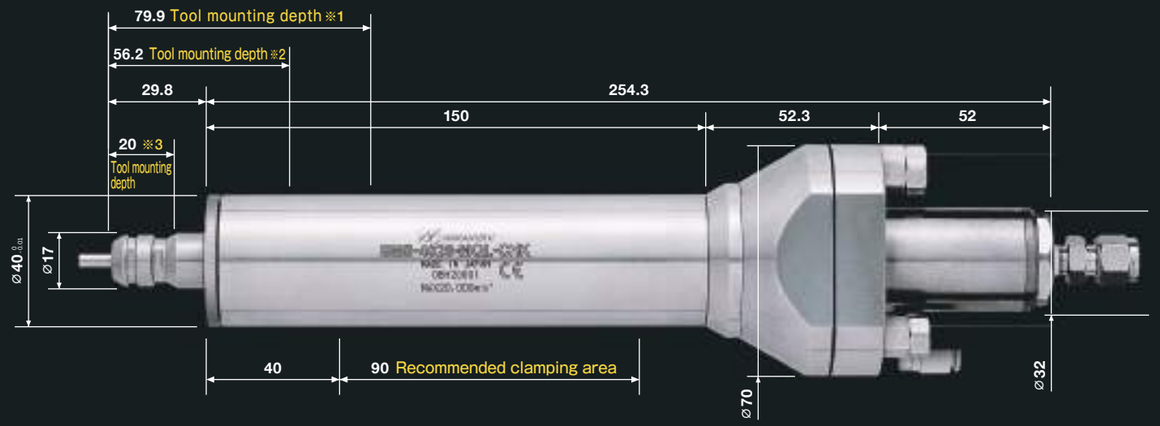
40
O.D.ø40㎜

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 ϕ 4mm to less than ϕ 6.35mm (The shank size less than ϕ 4mm is through hole)
※ 2 : In case for the shank size ϕ 6.35mm
※ 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

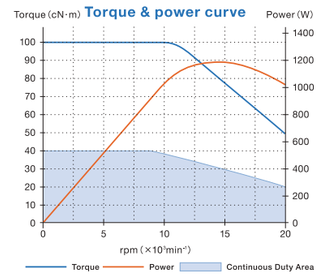
O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40㎜	20,000min⁻¹	Within1μm	CHK-OHGroup (ø3.0 ~ ø6.35㎜)	1,200W

Cord length	Min. Bending Cord Radius	Max. torque	Weight
BMS-4020-MQL-CHK : 0.3m BMS-4020-MQL-CHK-2M : 2.0m	70㎜	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 : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
Options	Collet (CHK-OH Group) : ø3.0 ~ ø6.35㎜ 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.

Torque & power curve



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

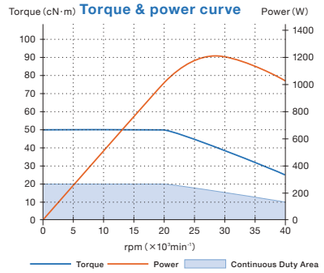
O.D.	Max. rpm	Spindle Accuracy	Collet	Max. power
ø40㎜	40,000min⁻¹	Within1μm	CHK-OHGroup (ø3.0 ~ ø6.35㎜)	1,200W

Cord length	Min. Bending Cord Radius	Max. torque	Weight
BMS-4040-MQL-CHK : 0.3m BMS-4040-MQL-CHK-2M : 2.0m	70㎜	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 : ø30㎜ / Air hose : ø6㎜
	Signal cable : Connector Diameter : ø16㎜
Options	Collet (CHK-OH Group) : ø3.0 ~ ø6.35㎜ 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.

Torque & power curve

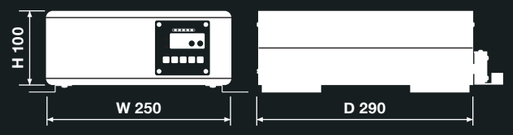


E4000 Controller / Motor cord

E4000 CONTROLLER

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	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.

Motor cord	Code No.	Model	Length	Standard Accessories	Compatible model
Power cable with Air hose 2M 4M 6M 8M Connector Diameter : ø30㎜	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		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
Signal cable 2M 4M 6M 8M Connector Diameter : ø16㎜	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
	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 cannot be used for angle cord type / 2M type.

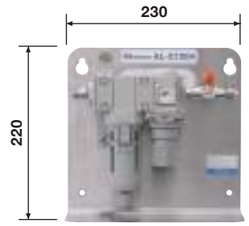
Operation panel extention cord	Code No.	Model	Specifications	Compatible model
	8474	E4000-PEX4	Cord length : 4m Screw (M3) : 4pcs.	E4000 Controller

NAKANISHI

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.



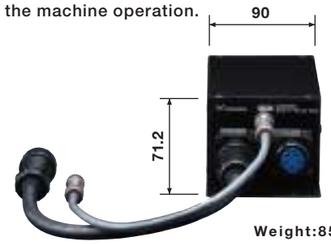
Weight:216g

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.

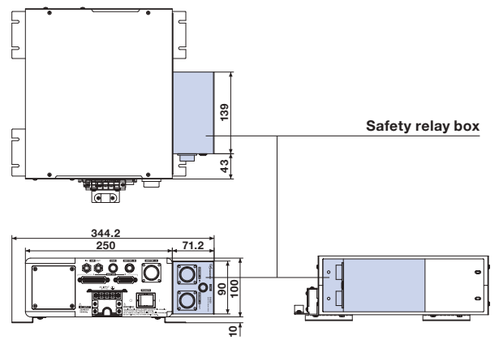


Weight:850g

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

Code No.	8475	Model	E4000-SRB

Placing controller with Safety relay box

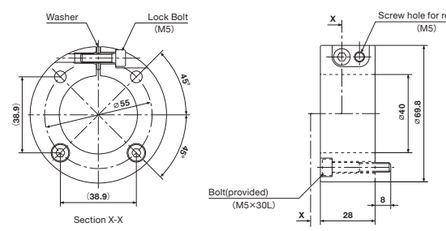


GR-40

Grip Ring



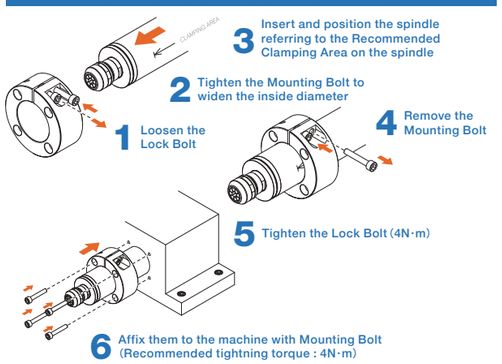
Weight:535g



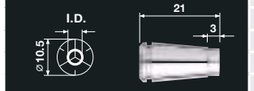
Standard Accessories	Mounting Bolt (GR-40) M5 × 30 : 4pcs.

Code No.	1886	Model	GR-40

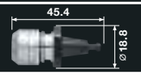
How to mount to a machine tool

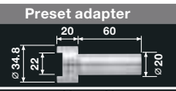
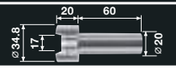


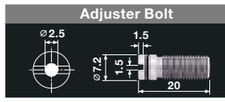
Accessories (Collet, etc.)

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	
	93180	CH16-8.0	ø8.0	
	93100	CH16-10.0	ø10	
 ※CH16OH-9.0, 10.0 Length 24.5 Collet CH16OH Group	**93330**	CH16OH-3.0	ø3.0	BMS-4020-MQL BMS-4040-MQL BMS-4020-MQL-2M BMS-4040-MQL-2M
	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	
	93390	CH16OH-9.0	ø9.0	
	93400	CH16OH-10.0	ø10.0	
 ø1.0～ø6.35	**91597**	CHK-3.0AA	ø3.0AA※	QC5-K (NRR4040-QC) QC5-K (NR4040-AQC) ※ High precision type AA (Run-out Accuracy within 2 μm)
	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	
 ø0.5～ø0.9 Collet CHK Group	**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	
	–	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	
 Collet CHK-OH Group	**93630**	CHK-OH-3.0	ø3.0	BMS-4020-MQL-CHK BMS-4020-MQL-CHK-2M BMS-4040-MQL-CHK BMS-4040-MQL-CHK-2M
	93631	CHK-OH-3.175	ø3.175	
	93640	CHK-OH-4.0	ø4.0	
	93650	CHK-OH-5.0	ø5.0	
	93660	CHK-OH-6.0	ø6.0	
	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) 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**	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

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
[ø40㎜]



- World's highest power in this class
- Max. power: 1,200W, Max. torque: 1.0N·m

E3000 SERIES

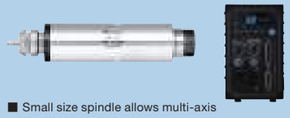
1,000～80,000min⁻¹ Max.350W
[ø30/25/20㎜]



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

E2000 SERIES

1,000～50,000min⁻¹ Max.200W
[ø22.8㎜]



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

iSpeed3 SERIES

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



- 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



[HES510]

- 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

Air-Speed SERIES One-piece type

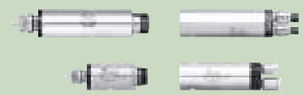
Max.30,000min⁻¹ Max.130W
[ø25/23/20/19.05㎜]



- 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
[ø30/25/22.8㎜]



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

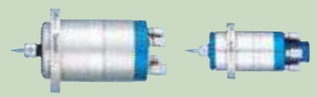
Air Turbine Spindles

Air Turbine Spindles + Air line kit ← Air compressor

Application for CNC lathes / Special purpose machines

Xpeed SERIES

Max.160,000min⁻¹
[ø65/40㎜]



- 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

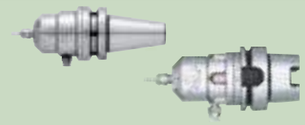


- A milling machine turns into a jig grinder
- For high precision internal grinding

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