



E4000



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※Specifications and design are subject to change without notice.

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NAKANISHI INC. 2022



SERIES E4000

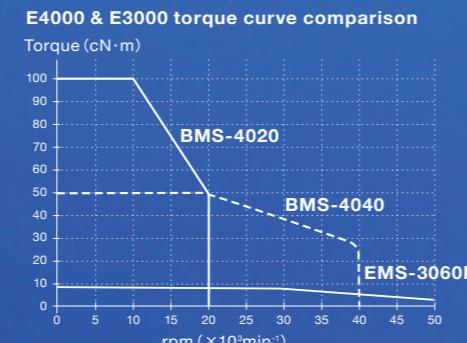
ULTRA-HIGH-SPEED & SUPER-PRECISION

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)

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| | | |
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Motor Spindle (One-piece type)

| | | |
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Controller

| | | | |
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Motor cord

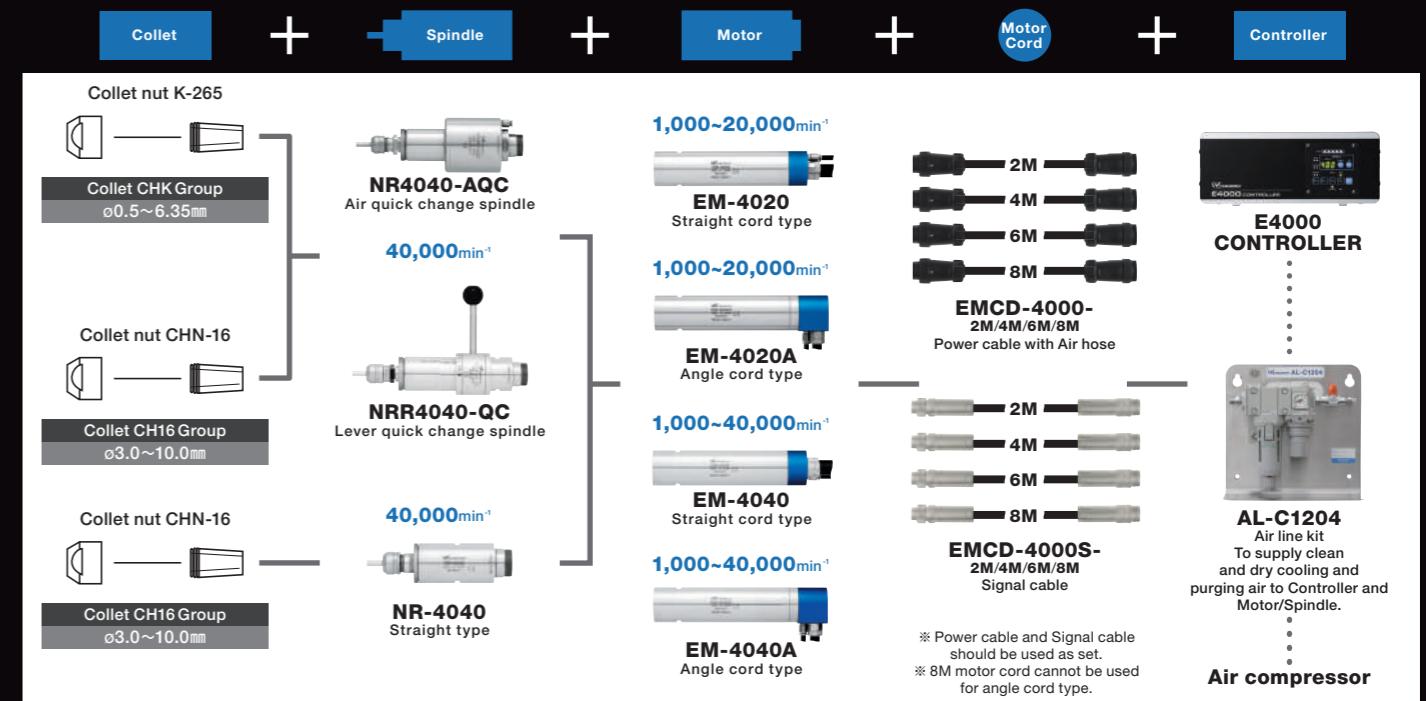
| | | |
|----------------------------------|---------------------------|--------------------------------------------------------------------------------------|
| Power cable with Air hose | [Length] 2m, 4m, 6m, 8m |  |
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Accessories

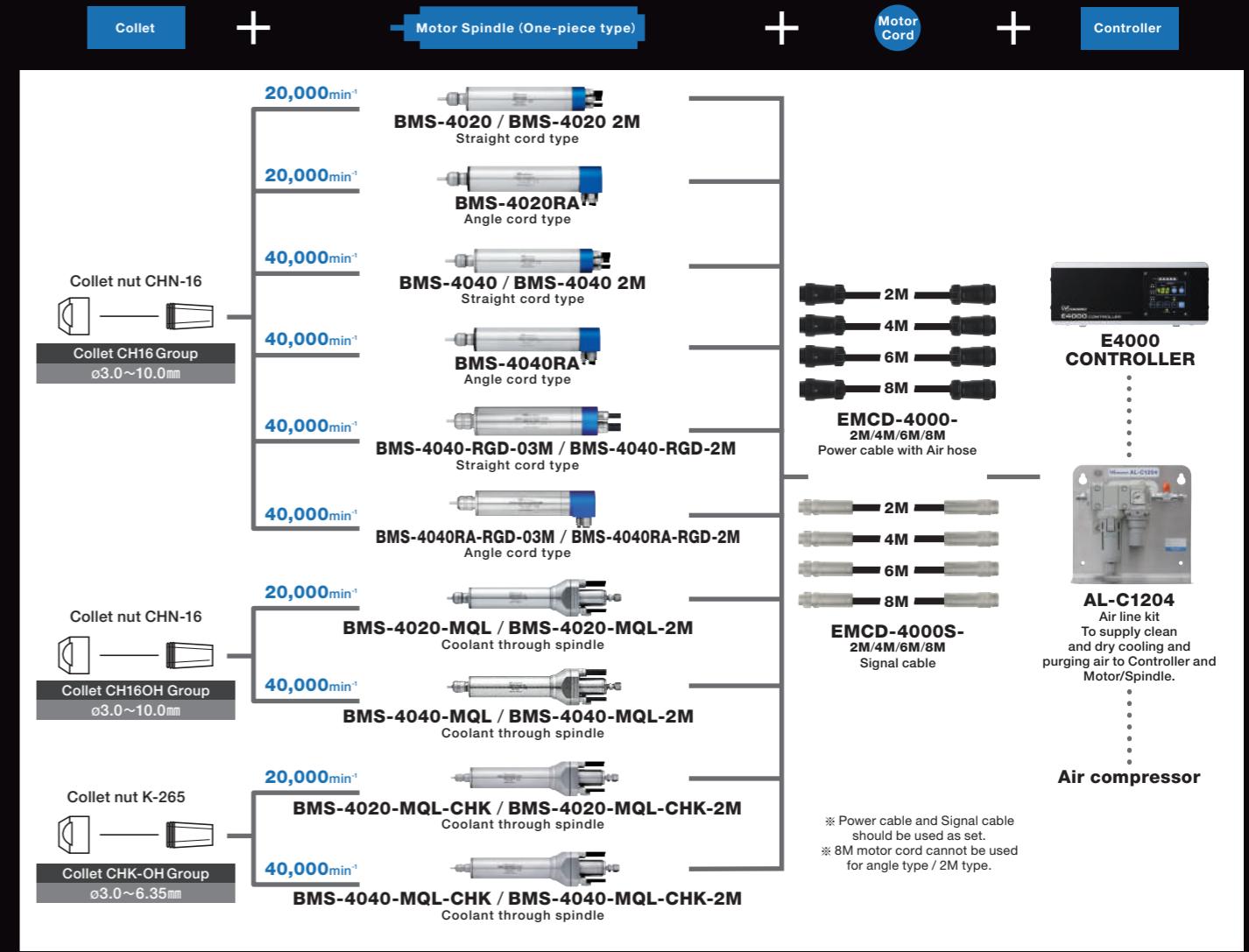
| | | | |
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System Chart

Modular type Ø40mm



One-piece type Ø40mm



Spindle (Modular type)

Shown In Actual Size



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p.9



④ EM-4020
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④ NR-4040
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Spindle Guide



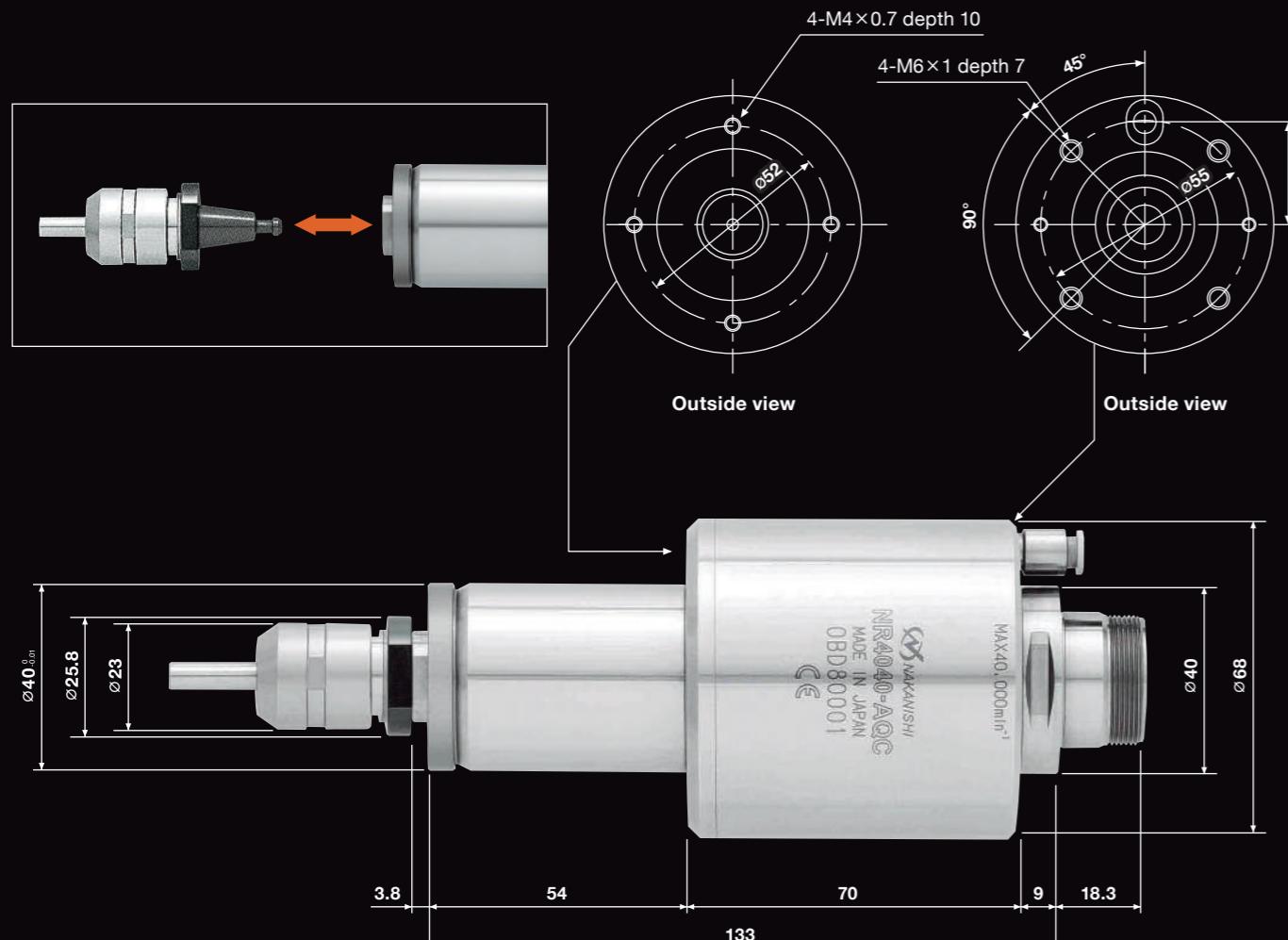
E4000 SERIES

Spindle (Modular type)

NR4040-AQC

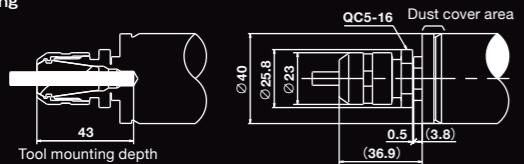
Air quick change spindle

- 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)

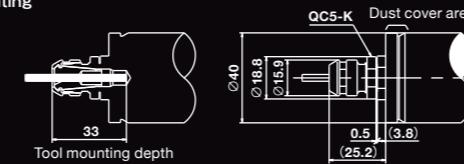


Outside view of the tip of the spindle

■ 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

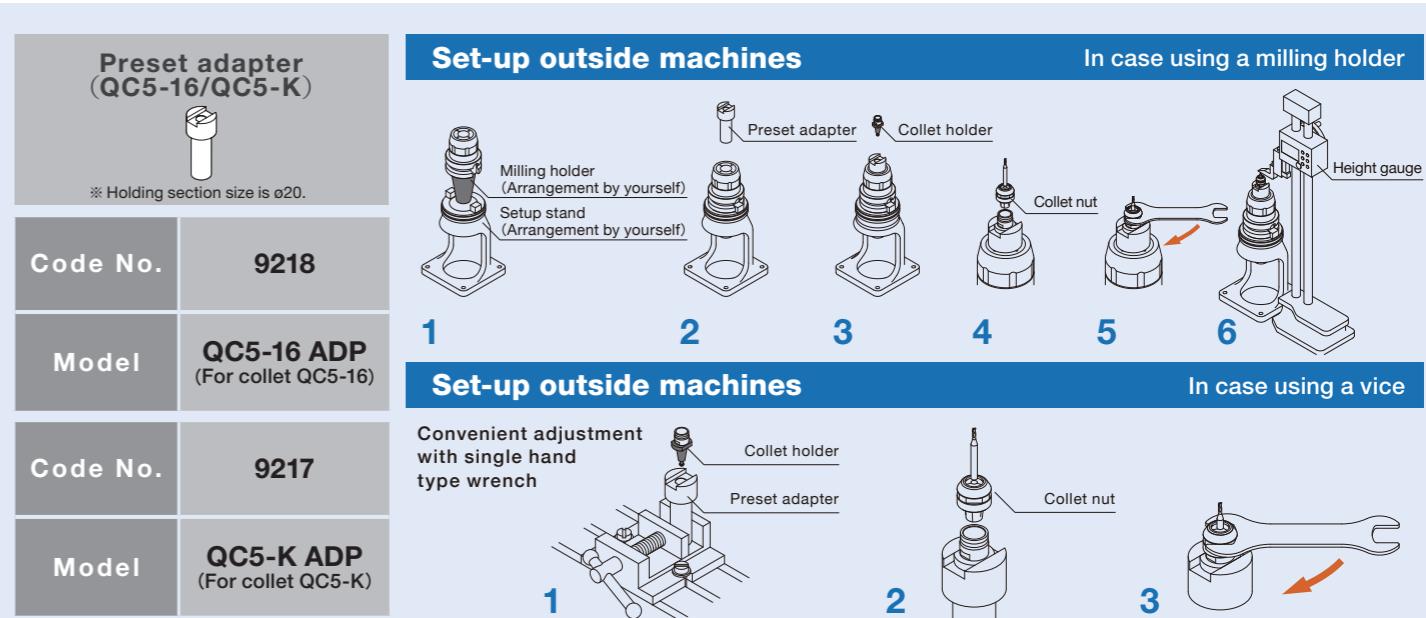
| Code No. | 9219 | Model | NR4040-AQC |
|------------------------|-------|------------------|-------------------------------------------------------------------------|
| O.D. | Ø40mm | Spindle Accuracy | Within 1µm |
| Motors | | | 40,000min⁻¹ |
| Air for collet opening | | | 0.55 ~ 0.6MPa |
| Weight | | | 2,160g |
| Collet holders | | | QC5-16 / QC5-16-R QC5-K / QC5-K-R (For collet CH16) (For collet CHK) |

Standard Accessories Wrench (36) : 1pc. / Air hose with filter (K-251) : Ø6mm × 2m

Parts (Optional)

| | | | |
|----------------------------------------------|--------------------------------------------------------------------------|--------------------------------------------------------------------------------------------------------------------------|------------------------|
| Collet | You can choose the I.D. size (The following is an example of Ø6.0mm.) | + 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. Ø3.0mm~10.0mm p.29 | Code No. 931 6 0 | 9216 | 9225 |
| Model CH16- 6 . 0 | QC5-16 (For collet CH16) | QC5-16-R (For collet CH16) | 2083 |
| CHK I.D. Ø0.5mm~6.35mm p.29 | Code No. 915 6 0 | 9215 | 9224 |
| Model CHK- 6 . 0 | QC5-K (For collet CHK) | QC5-K-R (For collet CHK) | 2026 |
| Wrench 17 × 22 (2pcs.) | | | 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.).



Collet & Collet holder

Spindle (Modular type)

Electric Motor

Motor cord

Controller

Air line kit

Spindle Guide



E4000 SERIES

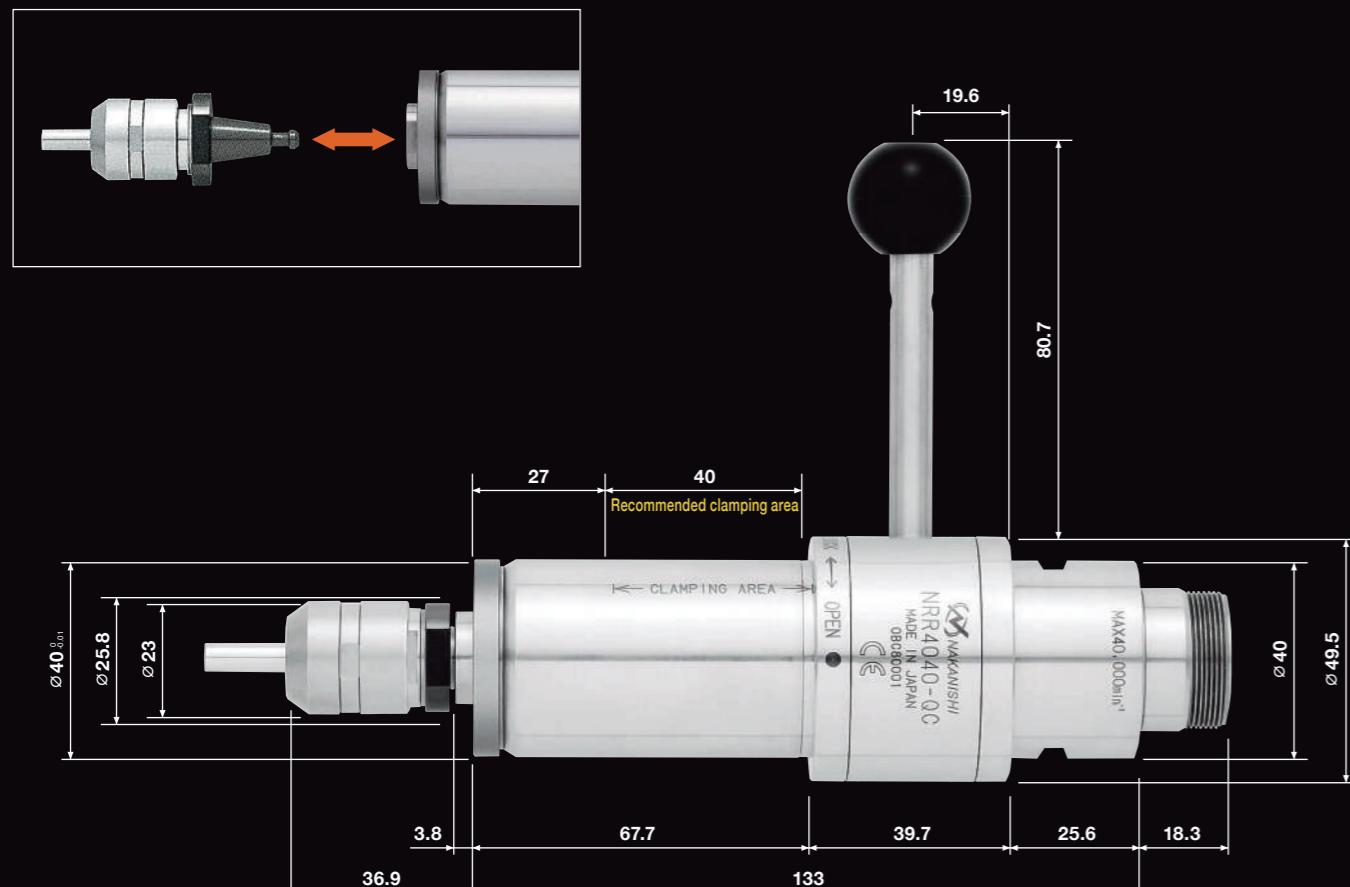
Spindle (Modular type)

NRR4040-QC

Lever quick change spindle

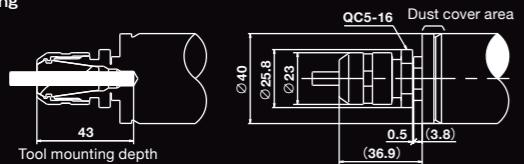
※Outside view : with QC5-16 collet holder

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

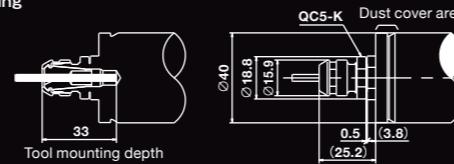


Outside view of the tip of the spindle

■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 |
|-----------------------------------------|------------------|-------------------------|-------------------------------------------------------------------------|--------|
| Ø40mm | Within 1µm | 40,000min ⁻¹ | 90° | 1,300g |
| Motors | | | Collet holders | |
| EM-4020 • EM-4020A • EM-4040 • EM-4040A | | | QC5-16 / QC5-16-R QC5-K / QC5-K-R (For collet CH16) (For collet CHK) | |

Standard Accessories Wrench (36) : 1pc.

Parts (Optional)

| | | | |
|----------------------------------------------|--------------------------------------------------------------------------|-------------------------------|------------------------|
| | You can choose the I.D. size (The following is an example of ø6.0mm.) | | Wrench |
| CH16 I.D. ø3.0mm~10.0mm p.29 | Code No. 931 6 0 | 9216 | 9225 |
| 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 |
| 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.).

| | | |
|----------------------------------------------------|--------------------------------|--------------------------------|
| | Set-up outside machines | In case using a milling holder |
| ※ Holding section size is ø20. | | |
| Code No. 9218 | | |
| Model QC5-16 ADP (For collet QC5-16) | | |
| | 1 | |
| | 2 | |
| | 3 | |
| | 4 | |
| | 5 | |
| | 6 | |
| Set-up outside machines | | In case using a vice |
| Convenient adjustment with single hand type wrench | | |
| | 1 | |
| | 2 | |
| | 3 | |

Spindle (Modular type)

Electric Motor

Motor cord

Controller

Air line kit

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 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

| O.D. | Spindle Accuracy | Collet | Max. rpm | Motors | Weight |
|-----------------------------|------------------|------------------------------|--------------------------|------------------------------------------|--------------------------------------------------------------|
| Ø40 mm | Within 1 µm | CH16 Group (ø3.0 ~ ø10.0 mm) | 40,000 min ⁻¹ | EM-4020 • EM-4020A EM-4040 • EM-4040A | 700g |
| Standard Accessories | | | | | Collet nut (CHN-16) / Wrench (17 x 22) : 2pcs. · (36) : 1pc. |
| Options | | | | | Collet (CH16 Group) : ø3.0mm~ ø10.0mm p.29 |

※ Collet is sold separately.

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

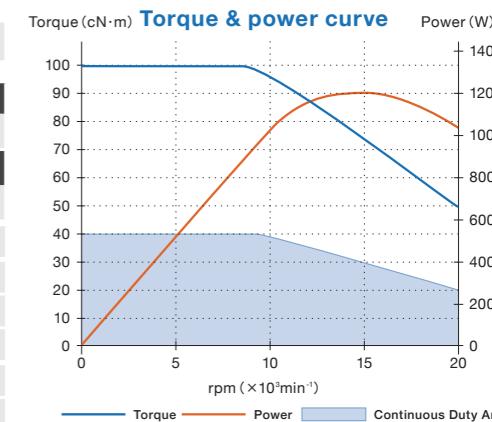
Code No. **8348** Model **EM-4020**

| O.D. | Rpm | Max. power |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Ø40 mm | 1,000~20,000min⁻¹ | 1,200w |
| Cord length | Min. Bending Cord Radius | Max. torque |
| 0.3m | 70mm | 1.0N·m |
| Standard Accessories | Wrench (36) : 1pc. Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min | |
| Specifications | 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**

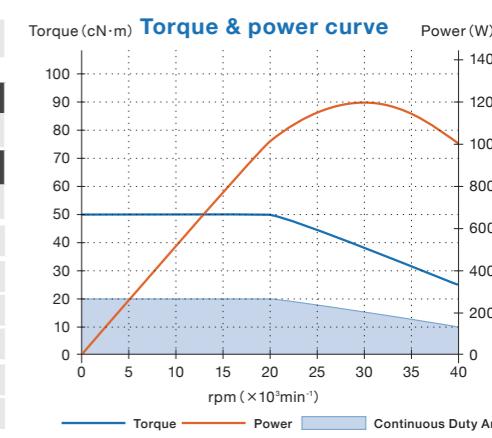
| O.D. | Rpm | Max. power |
|----------------------|----------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Ø40 mm | 1,000~20,000min⁻¹ | 1,200w |
| Cord length | Min. Bending Cord Radius | Max. torque |
| 2.0m | 70mm | 1.0N·m |
| Standard Accessories | Wrench (36) : 1pc. Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min | |
| Specifications | 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) | |



EM-4040

Code No. **8346** Model **EM-4040**

| O.D. | Rpm | Max. power |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------------|---------------|
| Ø40 mm | 1,000~40,000min⁻¹ | 1,200w |
| Cord length | Min. Bending Cord Radius | Max. torque |
| 0.3m | 70mm | 0.5N·m |
| Standard Accessories | Wrench (36) : 1pc. Air pressure : 0.35MPa / Max. Air consumption : 100Nℓ / min | |
| Specifications | 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) | |



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

Spindle Guide



BMS-4020



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



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



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



Specifications

DXF data DXF files are available on our website

BMS-4020 / BMS-4020 2M

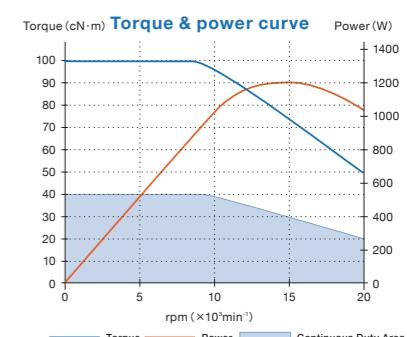


| | | | |
|----------|-------------|-------|--------------------|
| Code No. | 7803 | Model | BMS-4020 |
| Code No. | 7805 | Model | BMS-4020 2M |

| O.D. | Max. rpm | Spindle Accuracy | Collet | Max. power |
|---------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------------------|------------|
| Ø40mm | 20,000min ⁻¹ | Within 1µm | CH16 Group (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 | 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 : 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-4020 2M.

※ Collet is sold separately.



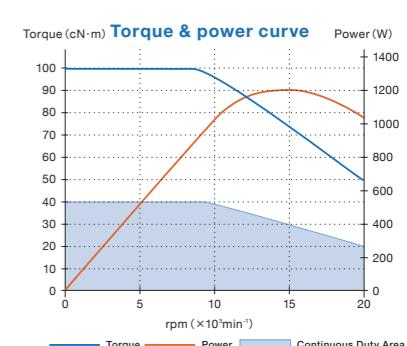
BMS-4020RA

| | | | |
|----------|-------------|-------|-------------------|
| Code No. | 7804 | Model | BMS-4020RA |
|----------|-------------|-------|-------------------|



| O.D. | Max. rpm | Spindle Accuracy | Collet | Max. power |
|----------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------|-----------------------------|------------|
| Ø40mm | 20,000min ⁻¹ | Within 1µm | CH16 Group (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 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) | | | |

※ Collet is sold separately.



Spindle Guide



BMS-4040 2M



+

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



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

40
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

40
O.D. ø40mm



Specifications

DXF data DXF files are available on our website

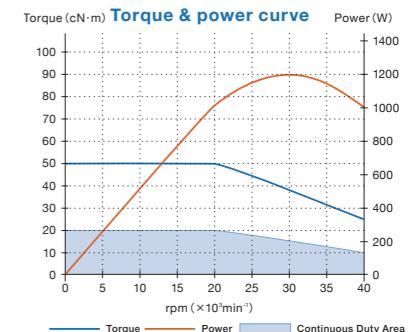
BMS-4040 / BMS-4040 2M

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 | Within 1µm | CH16 Group (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.

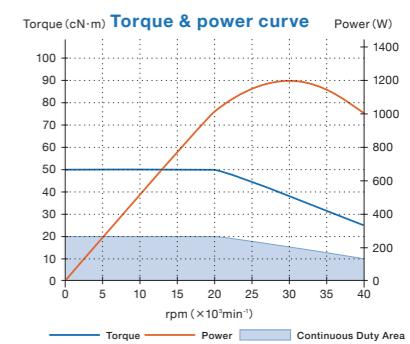


BMS-4040RA

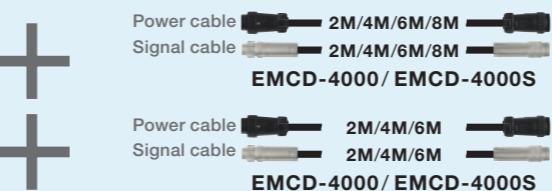
Code No. 7807 Model BMS-4040RA

| O.D. | Max. rpm | Spindle Accuracy | Collet | Max. power |
|-----------------------------|--------------------------|------------------|-----------------------------|--------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ø40mm | 40,000min ⁻¹ | Within 1µm | CH16 Group (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

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

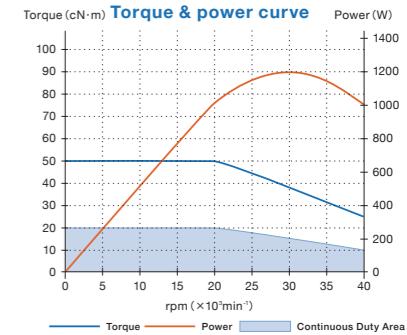
| | | | |
|----------|-------------|-------|------------------|
| Code No. | 7740 | Model | BMS-4040-RGD-03M |
| Code No. | 7769 | Model | BMS-4040-RGD-2M |



| O.D. | Max. rpm | Spindle Accuracy | Collet | Max. power |
|---------------------------------------------------|--------------------------|------------------|-----------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ø40mm | 40,000min ⁻¹ | Within 1µm | CH16 Group (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

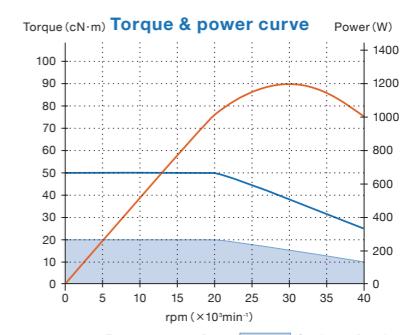
| | | | |
|----------|-------------|-------|--------------------|
| Code No. | 7741 | Model | BMS-4040RA-RGD-03M |
| Code No. | 7770 | Model | BMS-4040RA-RGD-2M |



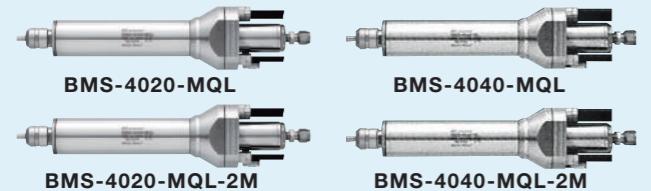
| O.D. | Max. rpm | Spindle Accuracy | Collet | Max. power |
|-------------------------------------------------------|--------------------------|------------------|---------------------------------------------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Ø40mm | 40,000min ⁻¹ | Within 1µm | CH16 Group (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.



Spindle Guide



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

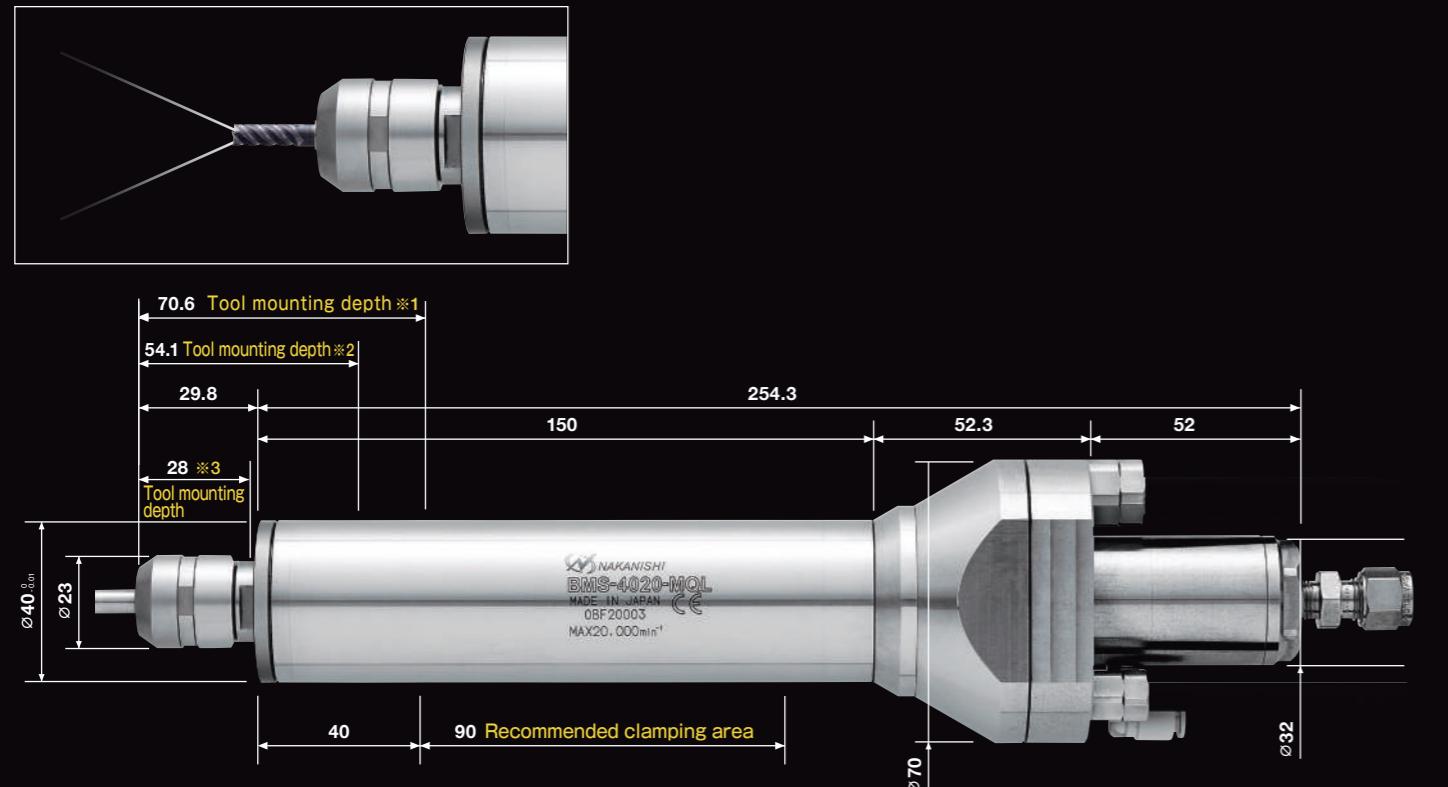
E4000 SERIES

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

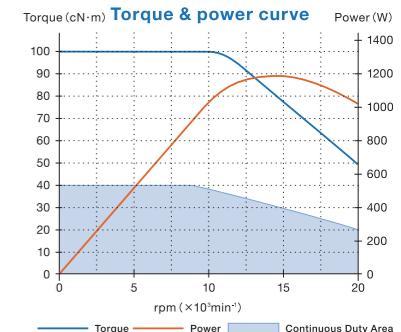
BMS-4020-MQL / BMS-4020-MQL-2M

| | | | |
|----------|-------------|-------|------------------------|
| 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.

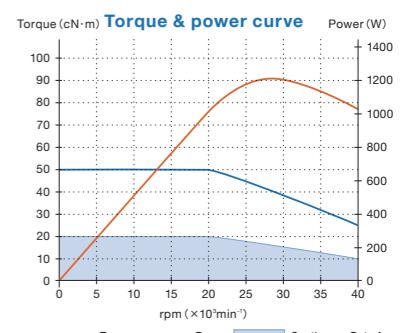
**BMS-4040-MQL / BMS-4040-MQL-2M**

| | | | |
|----------|-------------|-------|------------------------|
| 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.



Spindle Guide



BMS-4020-MQL-CHK



BMS-4040-MQL-CHK



BMS-4020-MQL-CHK-2M



BMS-4040-MQL-CHK-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 : $\phi 3.0 \sim \phi 6.35\text{mm}$)**BMS-4020-MQL-CHK / BMS-4020-MQL-CHK-2M****BMS-4040-MQL-CHK / BMS-4040-MQL-CHK-2M**

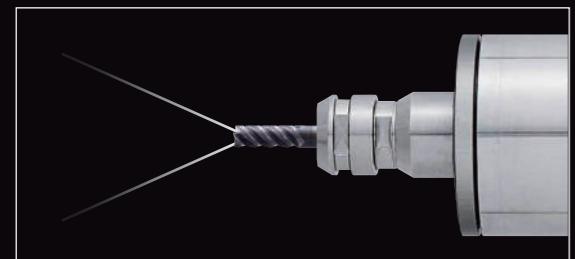
Coolant through spindle



- 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

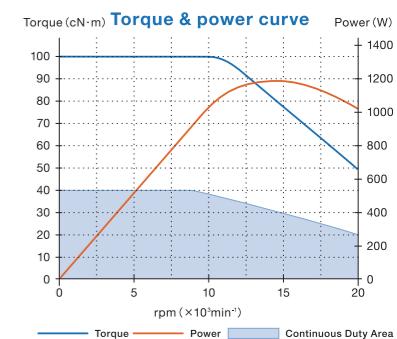
Code No. 7736

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

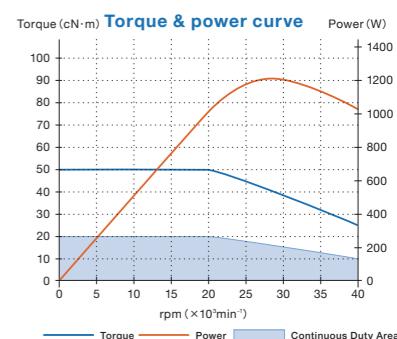
Code No. 7738

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.

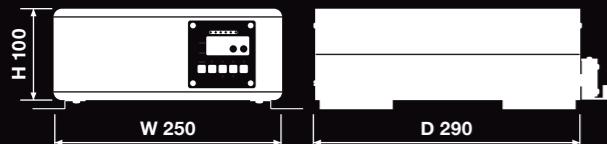
※ Collet is sold separately.



E4000 Controller / Motor cord

E4000 CONTROLLER

Controller



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. | | | | |

| Power cable with Air hose | Motor cord | Code No. | Model | Length | Standard Accessories | | Compatible model |
|---------------------------|------------|----------|---------------|--------|----------------------|------------------|------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| | | | | | Standard Accessories | Compatible model | |
| | 2M | 9253 | EMCD-4000-2M | 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 | 9254 | EMCD-4000-4M | 4m | | | 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 |
| | 6M | 9255 | EMCD-4000-6M | 6m | | | 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-4040RA-RGD-2M BMS-4040RA-RGD-03M-BMS-4040RA-RGD-2M |
| | 8M | 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 |
| | 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-4040RA-RGD-2M BMS-4040RA-RGD-03M-BMS-4040RA-RGD-2M |
| | 4M | 9258 | EMCD-4000S-4M | 4m | | | 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 |
| | 6M | 9259 | EMCD-4000S-6M | 6m | | | 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 |
| | 8M | 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 |

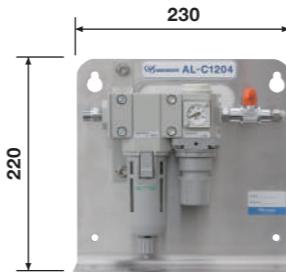
※ Power cable and Signal cable should be used as set.
※ 8M motor cord cannot be used for angle cord type / 2M type.

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

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)

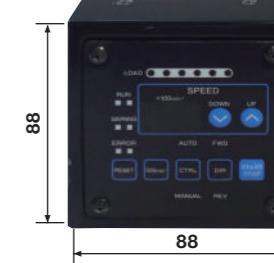
Code No. 4504 Model AL-C1204

| | |
|----------------------|-------------------------------------------------|
| 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

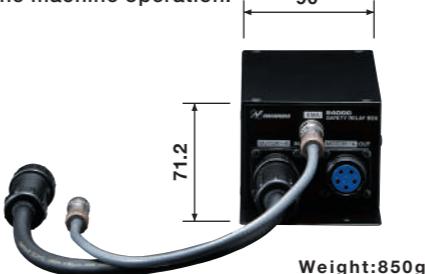
Code No. 8473 Model E4000-PB

| | |
|----------------------|--------------------------------------------------------------|
| Standard Accessories | Case / Blind plate / Screw (M3) : 6pcs. / Screw (M4) : 2pcs. |
| Compatible model | E4000 Controller |

E4000-SRB

Safety relay box

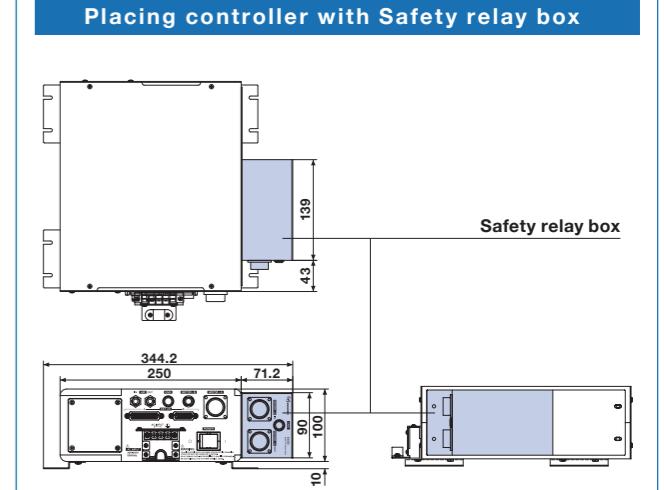
- Mounts directly on E4000 Controller
- Allows Emergency Stop Signal from the CNC to stop the E4000 Motor Spindle of the E4000 Controller to stop the machine operation.



Weight: 850g

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

Code No. 8475 Model E4000-SRB

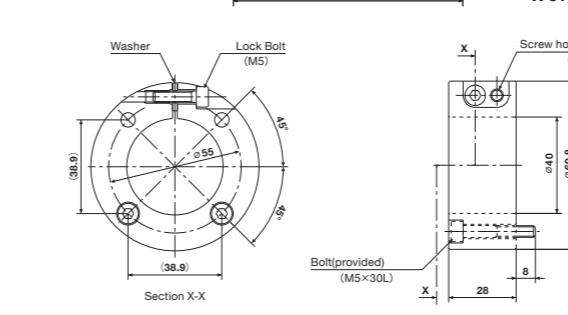


GR-40

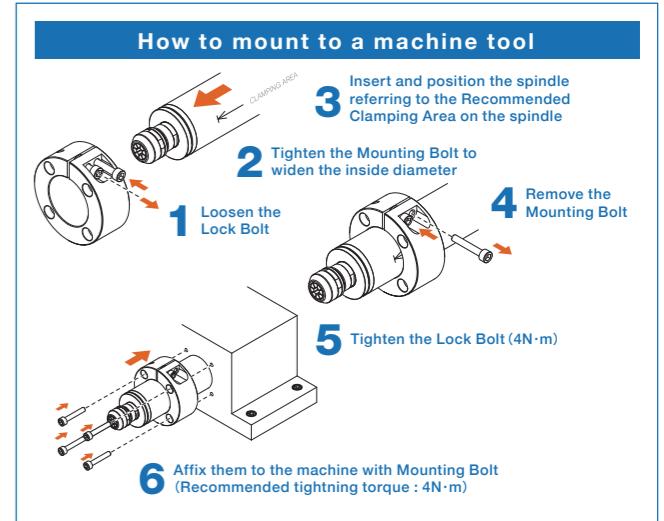
Grip Ring



Weight: 535g



Code No. 1886 Model GR-40



Accessories (Collet, etc.)

| | Code No. | Model | I.D. | Compatible model |
|----------------------------|----------|---------------|----------------------------------------|-------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|
| Collet | | | | |
| | 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) |
| | 93193 | CH16-3.175 | ø3.175 | BMS-4040-RGD-03M BMS-4040-RGD-2M BMS-4040RA-RGD-03M BMS-4040RA-RGD-2M |
| | 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 | |
| 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 | |
| Collet CHK Group | | | | |
| | 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 | QC5-K (NRR4040-QC) QC5-K (NR4040-AQC) |
| | 91593 | CHK-3.175 | ø3.175 | |
| | 91540 | CHK-4.0 | ø4.0 | |
| | 91560 | CHK-6.0 | ø6.0 | |
| | 91596 | CHK-6.35 | ø6.35 | |
| | | | | ■ High precision type AA (Run-out Accuracy within 2 µm) |
| | | CHK-□□ | | ø0.5~ø6.35 ø0.5~ø0.9 |
| Collet CHK-OH Group | | | | - |
| | 93630 | CHK-OH-3.0 | ø3.0 | |
| | 93631 | CHK-OH-3.175 | ø3.175 | |
| | 93640 | CHK-OH-4.0 | ø4.0 | BMS-4020-MQL-CHK BMS-4020-MQL-CHK-2M BMS-4040-MQL-CHK BMS-4040-MQL-CHK-2M |
| | 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 Solutions LINE UP

Electric Motors & Spindles
Brushless Motors & Spindles

Application for CNC lathes / Special purpose machines

E4000 SERIES
1,000~40,000min⁻¹ Max.1,200W
[ø40mm]

E3000 SERIES
1,000~80,000min⁻¹ Max.350W
[ø30/25/20mm]

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

Spindle + Motor + Controller ← AC

Application for machining centers and milling machines

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

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

HES510
■ 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 Motors & Spindles

Application for CNC lathes / Special purpose machines

Air-Speed SERIES One-piece type
Max.30,000min⁻¹ Max.130W
[ø25/23/20/19.05mm]

Air-Speed SERIES Modular type
Max.30,000min⁻¹ Max.130W
[ø30/25/22.8mm]

Air Turbine Spindles

Application for CNC lathes / Special purpose machines

Xpeed SERIES
Max.160,000min⁻¹
[ø65/40mm]

PLANET SERIES
Max.65,000min⁻¹

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

Spindle + Motor + Air line kit ← Air compressor

Application for machining centers and milling machines

Air Turbine Spindles
+ Air line kit ← Air compressor

Air line kit

Air compressor

Air line kit

Air compressor