



SERIES

# HES

ULTRA-HIGH-SPEED & SUPER-PRECISION

## Transformer

Your machining center transforms to the high speed machining center

HES510 Max. rpm 50,000min<sup>-1</sup>

HES810 Max. rpm 80,000min<sup>-1</sup>

### ✓ Spindle accuracy within 1 $\mu$ m

- Optimum for high-precision machining
- Longer tool life

### ✓ Ceramic Bearing

- Longer bearing life
- Higher rigidity for heavy cutting

### ✓ 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





[BT]



[NT]

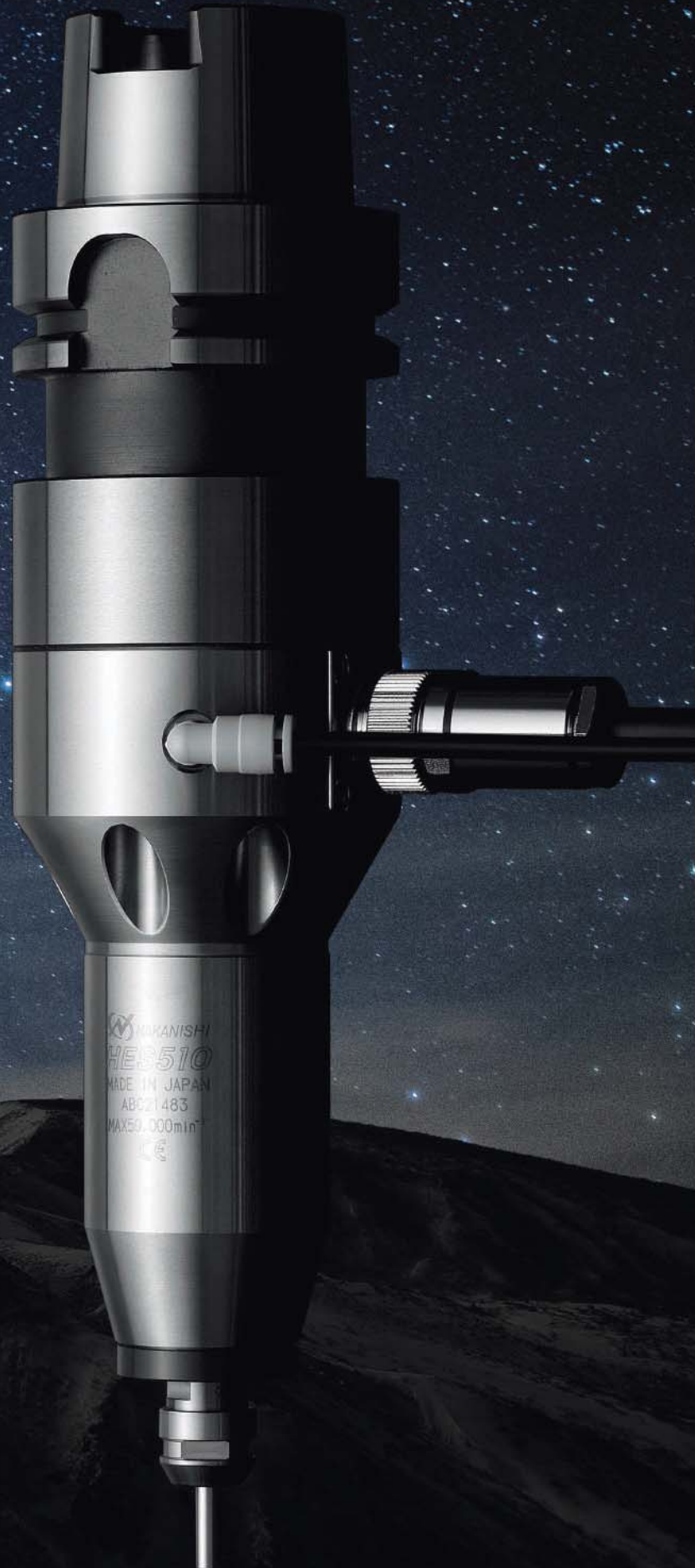


[IT]



[HSK A]

A large variety of  
shank types are available.



Index

80,000min<sup>-1</sup> Motor Spindle

|                                                          |                                                                                     |     |
|----------------------------------------------------------|-------------------------------------------------------------------------------------|-----|
| <b>HES810-BT30</b><br>Max.rpm 80,000min <sup>-1</sup>    |  | p.7 |
| <b>HES810-BT40</b><br>Max.rpm 80,000min <sup>-1</sup>    |  | p.7 |
| <b>HES810-IT40</b><br>Max.rpm 80,000min <sup>-1</sup>    |  | p.7 |
| <b>HES810-BT50</b><br>Max.rpm 80,000min <sup>-1</sup>    |  | p.9 |
| <b>HES810-HSK A63</b><br>Max.rpm 80,000min <sup>-1</sup> |  | p.9 |
| <b>HES810-ST32</b><br>Max.rpm 80,000min <sup>-1</sup>    |  | p.9 |

50,000min<sup>-1</sup> Motor Spindle

|                                                                  |                                                                                       |      |
|------------------------------------------------------------------|---------------------------------------------------------------------------------------|------|
| <b>HES510-BT30</b><br>Max.rpm 50,000min <sup>-1</sup>            |   | p.13 |
| <b>HES510-BT40 / NT40 (M)</b><br>Max.rpm 50,000min <sup>-1</sup> |  | p.13 |
| <b>HES510-IT40</b><br>Max.rpm 50,000min <sup>-1</sup>            |  | p.13 |
| <b>HES510-BT50 / NT50</b><br>Max.rpm 50,000min <sup>-1</sup>     |  | p.15 |
| <b>HES510-ST32</b><br>Max.rpm 50,000min <sup>-1</sup>            |  | p.15 |
| <b>HES510-HSK A63</b><br>Max.rpm 50,000min <sup>-1</sup>         |  | p.17 |

Controller

|                                                                                     |      |
|-------------------------------------------------------------------------------------|------|
|  |      |
| <b>E3000<br/>CONTROLLER</b><br>Controller                                           | p.19 |

Motor cord

|                                                                                      |      |
|--------------------------------------------------------------------------------------|------|
|  |      |
| <b>EMCD-810-4M / 6M / 8M</b><br>Motor cord                                           | p.20 |

Accessories

|                                                                                     |                                         |                                                                                     |                                    |                                                                                       |                                            |
|-------------------------------------------------------------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------|
|  | <b>AL-C1204</b><br>Air line kit<br>p.20 |  | <b>CHA / CHK</b><br>Collet<br>p.21 |  | <b>CHN-A / K-265</b><br>Collet nut<br>p.21 |
|-------------------------------------------------------------------------------------|-----------------------------------------|-------------------------------------------------------------------------------------|------------------------------------|---------------------------------------------------------------------------------------|--------------------------------------------|

# Combination Example

**[HES810 SERIES]** HES810-BT40 + EMCD-810-4M + E3000 + AL-C1204 + CHA-4.0



1

+



2

+



3

+



4

**[HES810-BT40]**

|   | Code No.     | Model              | Description      |
|---|--------------|--------------------|------------------|
| 1 | <b>7879</b>  | <b>HES810-BT40</b> | Motor Spindle    |
| 2 | <b>9248</b>  | <b>EMCD-810-4M</b> | Motor Cord 4m    |
| 3 | <b>8421</b>  | <b>E3000</b>       | E3000 Controller |
| 4 | <b>4504</b>  | <b>AL-C1204</b>    | Air line kit     |
| 5 | <b>91440</b> | <b>CHA-4.0</b>     | Collet ø4.0mm    |

**[HES510 SERIES]** HES510-BT40 + EMCD-810-4M + E3000 + AL-C1204 + CHK-4.0



1

+



2

+



3

+



4

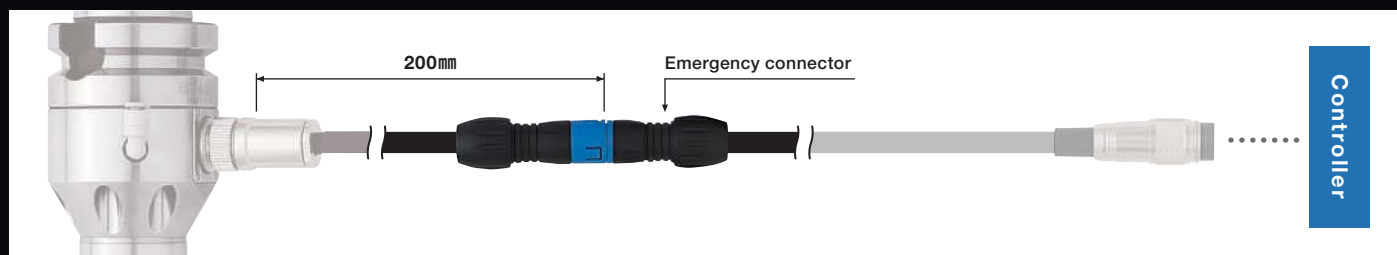
**[HES510-BT40]**

|   | Code No.     | Model              | Description      |
|---|--------------|--------------------|------------------|
| 1 | <b>7891</b>  | <b>HES510-BT40</b> | Motor Spindle    |
| 2 | <b>9248</b>  | <b>EMCD-810-4M</b> | Motor Cord 4m    |
| 3 | <b>8421</b>  | <b>E3000</b>       | E3000 Controller |
| 4 | <b>4504</b>  | <b>AL-C1204</b>    | Air line kit     |
| 5 | <b>91540</b> | <b>CHK-4.0</b>     | Collet ø4.0mm    |

## Safety function

HES810 / 510 have a motor cord with the Emergency connector.

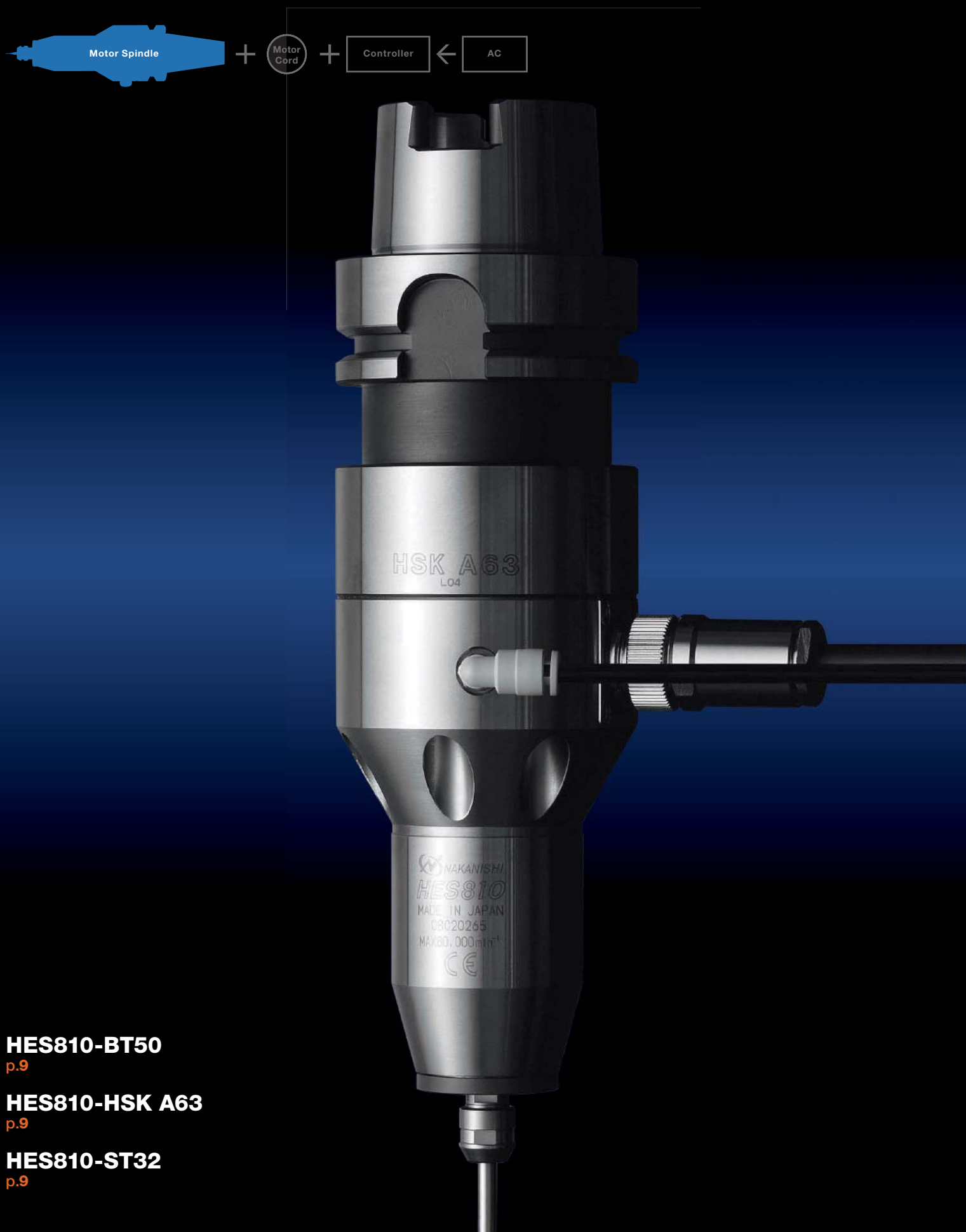
In case the machine spindle rotates by accident, the Emergency connector disconnects by itself to minimize the damage both the machine and controller.



It is crucial to install the controller and the cable according to "OPERATION MANUAL" in order to function the Emergency connector properly.

HES SERIES

# 80,000min<sup>-1</sup> Motor Spindle



**HES810-BT50**

p.9

**HES810-HSK A63**

p.9

**HES810-ST32**

p.9



## HES810-BT30

p.7

## HES810-BT40 / IT40

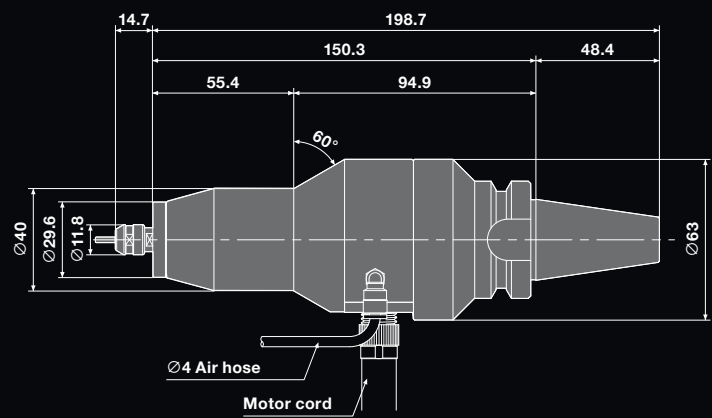
p.7



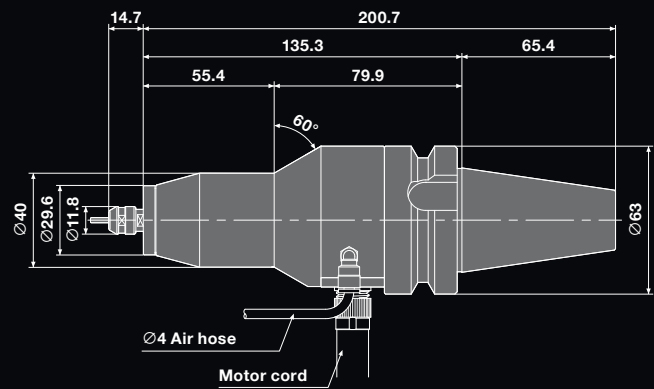
NAKANISHI  
HES810  
MADE IN JAPAN  
00020266  
MAX 20,000m/min<sup>1</sup>  
CE

# 80,000min<sup>-1</sup> Motor Spindle

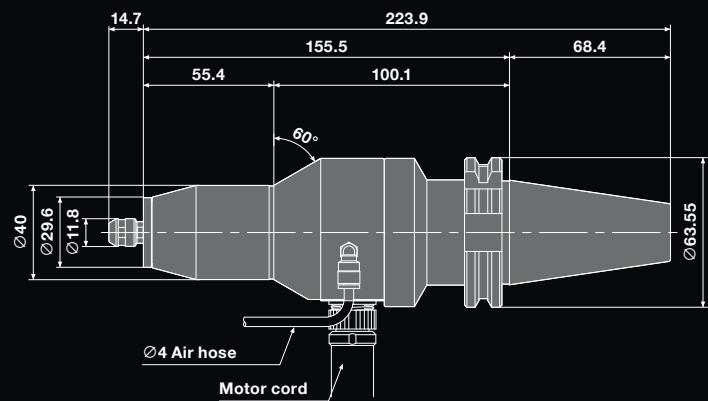
## HES810-BT30



## HES810-BT40



## HES810-IT40





# Specifications

**DXF data** DXF files are available on our website

Order by Code No.

## HES810-BT30

Code No. **7878** Model **HES810-BT30**



| Max. power           | Speed Range                                                                                                                                 | Spindle Accuracy  | Weight       |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| <b>350w</b>          | <b>20,000~80,000min<sup>-1</sup></b><br>※Recommended motor speed : 50,000~80,000min <sup>-1</sup>                                           | <b>Within 1μm</b> | <b>2.0kg</b> |
| Standard Accessories | Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each                                                                                      |                   |              |
| Options              | Collet (CHA Group) : ø0.5 ~ ø4.0mm <b>p.21</b><br>Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                   |              |

※Collet is sold separately.

## HES810-BT40

Code No. **7879** Model **HES810-BT40**



| Max. power           | Speed Range                                                                                                                                 | Spindle Accuracy  | Weight       |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| <b>350w</b>          | <b>20,000~80,000min<sup>-1</sup></b><br>※Recommended motor speed : 50,000~80,000min <sup>-1</sup>                                           | <b>Within 1μm</b> | <b>2.2kg</b> |
| Standard Accessories | Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each                                                                                      |                   |              |
| Options              | Collet (CHA Group) : ø0.5 ~ ø4.0mm <b>p.21</b><br>Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                   |              |

※Collet is sold separately.

## HES810-IT40

Code No. **7883** Model **HES810-IT40**

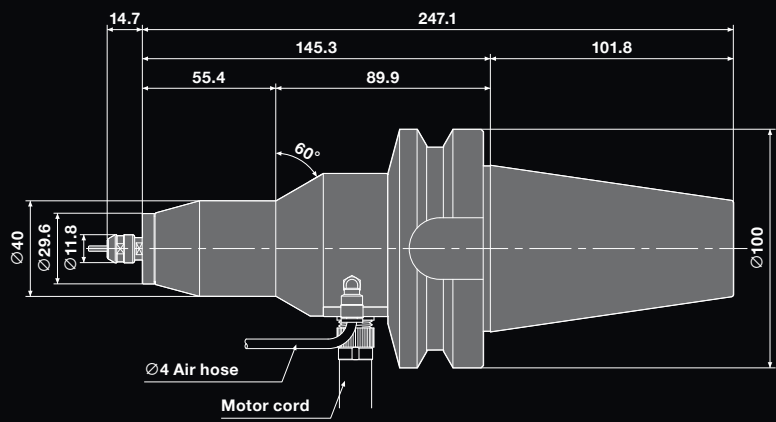


| Max. power           | Speed Range                                                                                                                                 | Spindle Accuracy  | Weight       |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| <b>350w</b>          | <b>20,000~80,000min<sup>-1</sup></b><br>※Recommended motor speed : 50,000~80,000min <sup>-1</sup>                                           | <b>Within 1μm</b> | <b>2.4kg</b> |
| Standard Accessories | Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each                                                                                      |                   |              |
| Options              | Collet (CHA Group) : ø0.5 ~ ø4.0mm <b>p.21</b><br>Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                   |              |

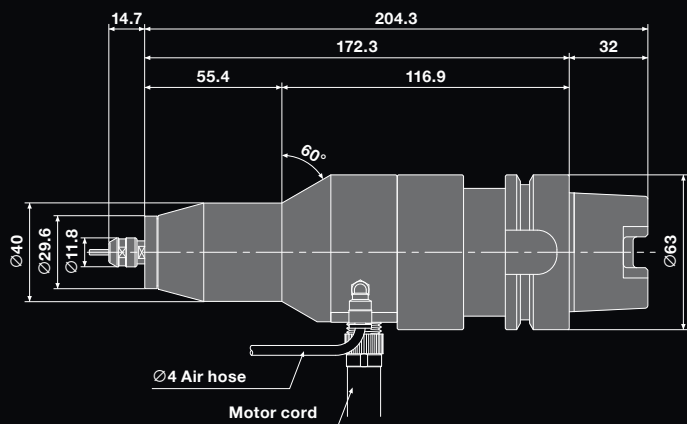
※Collet is sold separately.

80,000min<sup>-1</sup> Motor Spindle

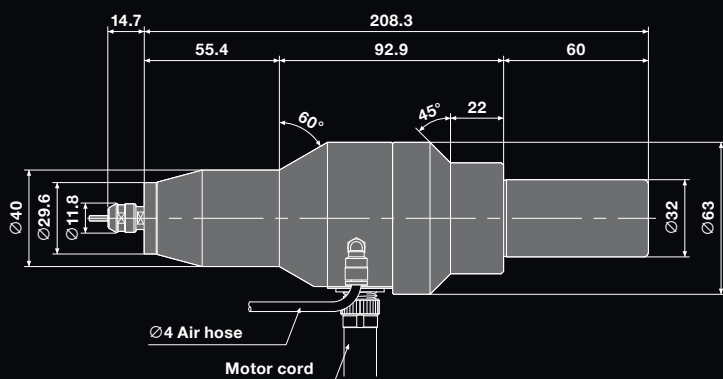
HES810-BT50



HES810-HSK A63



HES810-ST32



# Specifications

**DXF data** DXF files are available on our website

Order by Code No.

## HES810-BT50



Code No. **7880** Model **HES810-BT50**

| Max. power           | Speed Range                                                                                                                                 | Spindle Accuracy  | Weight       |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| <b>350w</b>          | <b>20,000~80,000min<sup>-1</sup></b><br>※Recommended motor speed : 50,000~80,000min <sup>-1</sup>                                           | Within <b>1μm</b> | <b>4.9kg</b> |
| Standard Accessories | Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each                                                                                      |                   |              |
| Options              | Collet (CHA Group) : ø0.5 ~ ø4.0mm <b>p.21</b><br>Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                   |              |

※Collet is sold separately.

## HES810-HSK A63



Code No. **7884** Model **HES810-HSK A63**

| Max. power           | Speed Range                                                                                                                                 | Spindle Accuracy  | Weight       |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| <b>350w</b>          | <b>20,000~80,000min<sup>-1</sup></b><br>※Recommended motor speed : 50,000~80,000min <sup>-1</sup>                                           | Within <b>1μm</b> | <b>2.6kg</b> |
| Standard Accessories | Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each                                                                                      |                   |              |
| Options              | Collet (CHA Group) : ø0.5 ~ ø4.0mm <b>p.21</b><br>Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                   |              |

※Collet is sold separately.

## HES810-ST32



Code No. **7885** Model **HES810-ST32**

| Max. power           | Speed Range                                                                                                                                 | Spindle Accuracy  | Weight       |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|-------------------|--------------|
| <b>350w</b>          | <b>20,000~80,000min<sup>-1</sup></b><br>※Recommended motor speed : 50,000~80,000min <sup>-1</sup>                                           | Within <b>1μm</b> | <b>2.3kg</b> |
| Standard Accessories | Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each                                                                                      |                   |              |
| Options              | Collet (CHA Group) : ø0.5 ~ ø4.0mm <b>p.21</b><br>Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                   |              |

※Collet is sold separately.



HES SERIES

# 50,000min<sup>-1</sup> Motor Spindle



**HES510-BT30**

p.13

**HES510-BT40 / NT40 / IT40**

p.13

**HES510-BT50 / NT50**

p.15



**HES510-ST32**

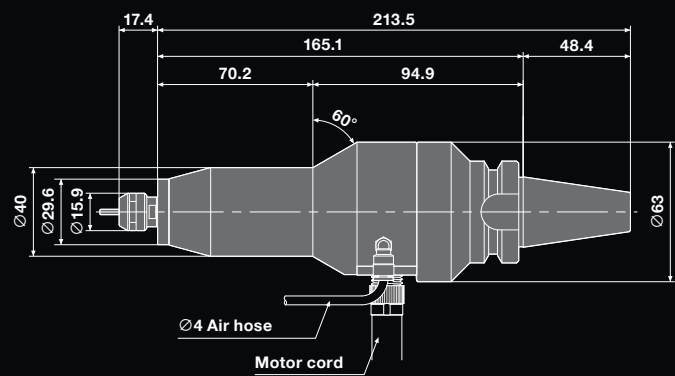
p.15

**HES510-HSK A63**

p.17

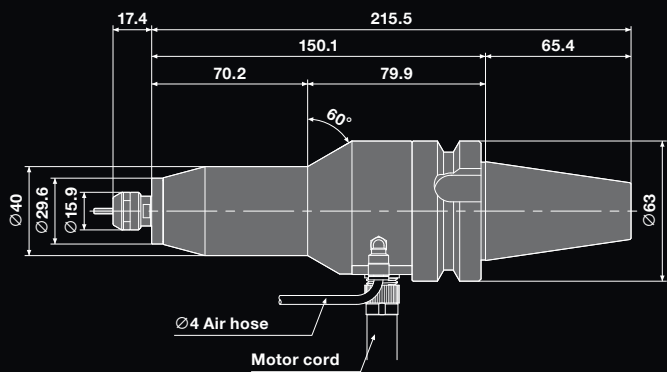
# 50,000min<sup>-1</sup> Motor Spindle

## HES510-BT30

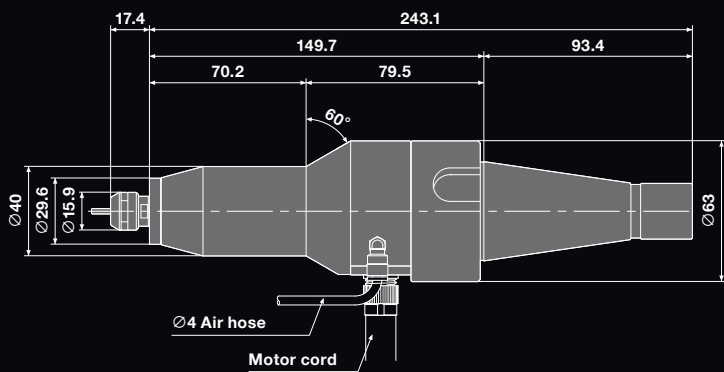


## HES510-BT40 / NT40 (M)

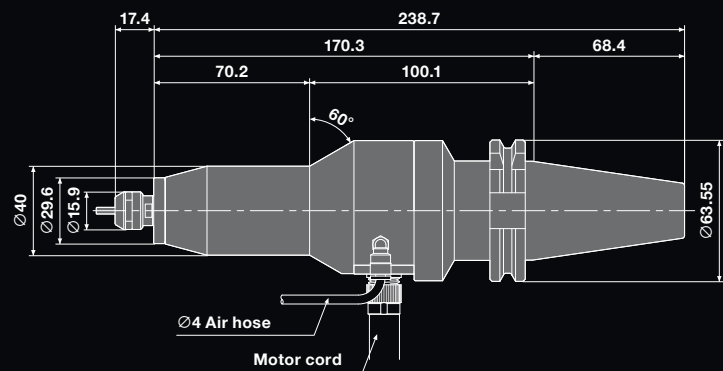
[ BT40 ]



[ NT40 ]



## HES510-IT40



# Specifications

**DXF data** DXF files are available on our website

Order by Code No.

## HES510-BT30



|          |             |       |                    |
|----------|-------------|-------|--------------------|
| Code No. | <b>7890</b> | Model | <b>HES510-BT30</b> |
|----------|-------------|-------|--------------------|

| Max. power           | Speed Range                                                                               | Spindle Accuracy             | Weight       |
|----------------------|-------------------------------------------------------------------------------------------|------------------------------|--------------|
| <b>340w</b>          | <b>5,000~50,000<sub>min</sub><sup>-1</sup></b>                                            | <b>Within 1<sub>μ</sub>m</b> | <b>2.2kg</b> |
| Standard Accessories | Collet nut (K-265) / Wrench (12×14) : 2pcs.                                               |                              |              |
| Options              | Collet (CHK Group) : ø0.5 ~ ø6.35mm <b>p.21</b>                                           |                              |              |
|                      | Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                              |              |

※Collet is sold separately.

## HES510-BT40 / NT40 (M)



|          |             |       |                    |
|----------|-------------|-------|--------------------|
| Code No. | <b>7891</b> | Model | <b>HES510-BT40</b> |
|----------|-------------|-------|--------------------|

|          |             |       |                    |
|----------|-------------|-------|--------------------|
| Code No. | <b>7887</b> | Model | <b>HES510-NT40</b> |
|----------|-------------|-------|--------------------|

|          |             |       |                     |
|----------|-------------|-------|---------------------|
| Code No. | <b>7888</b> | Model | <b>HES510-NT40M</b> |
|----------|-------------|-------|---------------------|

※NT40M-Retention knob threads are metric.

※NT40 and NT40M are discontinued products and limited in stock.

| Max. power           | Speed Range                                                                               | Spindle Accuracy             | Weight                                        |
|----------------------|-------------------------------------------------------------------------------------------|------------------------------|-----------------------------------------------|
| <b>340w</b>          | <b>5,000~50,000<sub>min</sub><sup>-1</sup></b>                                            | <b>Within 1<sub>μ</sub>m</b> | BT40 : <b>2.3kg</b><br>NT40(M) : <b>2.4kg</b> |
| Standard Accessories | Collet nut (K-265) / Wrench (12×14) : 2pcs.                                               |                              |                                               |
| Options              | Collet (CHK Group) : ø0.5 ~ ø6.35mm <b>p.21</b>                                           |                              |                                               |
|                      | Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                              |                                               |

※Collet is sold separately.

## HES510-IT40



|          |             |       |                    |
|----------|-------------|-------|--------------------|
| Code No. | <b>7895</b> | Model | <b>HES510-IT40</b> |
|----------|-------------|-------|--------------------|

| Max. power           | Speed Range                                                                               | Spindle Accuracy             | Weight       |
|----------------------|-------------------------------------------------------------------------------------------|------------------------------|--------------|
| <b>340w</b>          | <b>5,000~50,000<sub>min</sub><sup>-1</sup></b>                                            | <b>Within 1<sub>μ</sub>m</b> | <b>2.6kg</b> |
| Standard Accessories | Collet nut (K-265) / Wrench (12×14) : 2pcs.                                               |                              |              |
| Options              | Collet (CHK Group) : ø0.5 ~ ø6.35mm <b>p.21</b>                                           |                              |              |
|                      | Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                              |              |

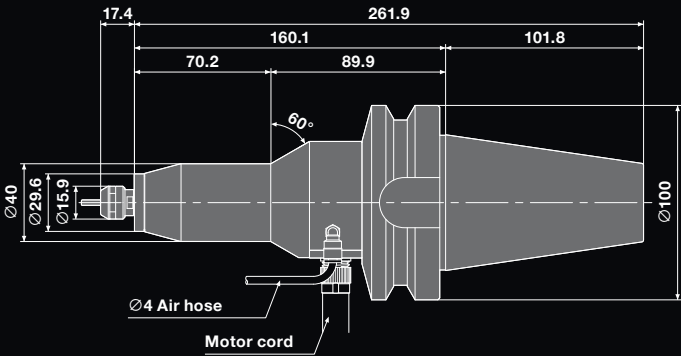
※Collet is sold separately.



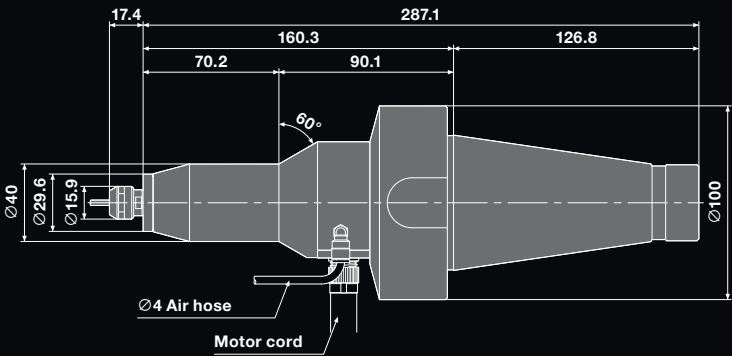
50,000min<sup>-1</sup> Motor Spindle

HES510-BT50 / NT50

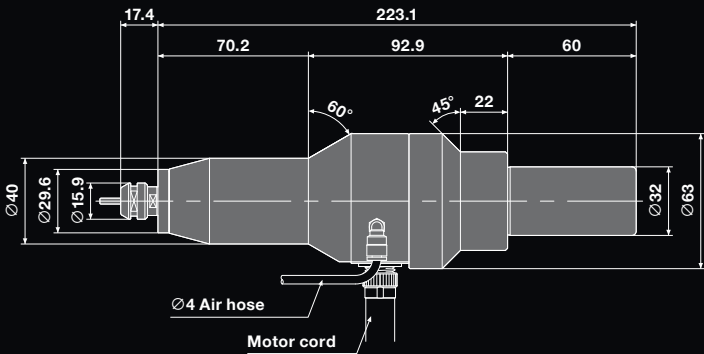
[ BT50 ]



[ NT50 ]



HES510-ST32



# Specifications

**DXF data** DXF files are available on our website

Order by Code No.

## HES510-BT50 / NT50



|          |             |       |                    |
|----------|-------------|-------|--------------------|
| Code No. | <b>7892</b> | Model | <b>HES510-BT50</b> |
| Code No. | <b>7889</b> | Model | <b>HES510-NT50</b> |

※NT50 is a discontinued product and limited in stock.

| Max. power           | Speed Range                                                                               | Spindle Accuracy             | Weight                                     |
|----------------------|-------------------------------------------------------------------------------------------|------------------------------|--------------------------------------------|
| <b>340w</b>          | <b>5,000~50,000<sub>min<sup>-1</sup></sub></b>                                            | <b>Within 1<sub>μ</sub>m</b> | BT50 : <b>5.0kg</b><br>NT50 : <b>5.4kg</b> |
| Standard Accessories | Collet nut (K-265) / Wrench (12×14) : 2pcs.                                               |                              |                                            |
| Options              | Collet (CHK Group) : ø0.5 ~ ø6.35mm <b>p.21</b>                                           |                              |                                            |
|                      | Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                              |                                            |

※Collet is sold separately.

## HES510-ST32



|          |             |       |                    |
|----------|-------------|-------|--------------------|
| Code No. | <b>7899</b> | Model | <b>HES510-ST32</b> |
|----------|-------------|-------|--------------------|

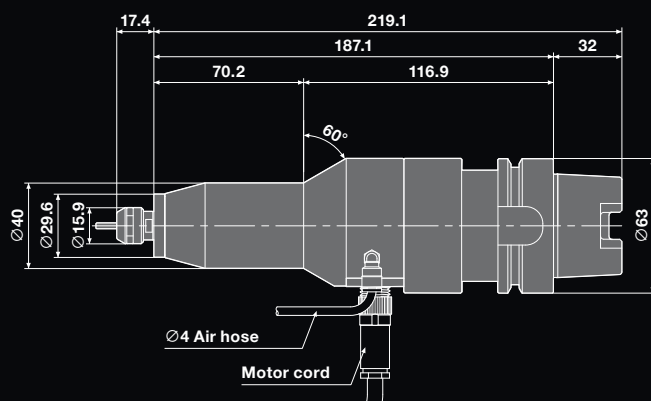
| Max. power           | Speed Range                                                                               | Spindle Accuracy             | Weight       |
|----------------------|-------------------------------------------------------------------------------------------|------------------------------|--------------|
| <b>340w</b>          | <b>5,000~50,000<sub>min<sup>-1</sup></sub></b>                                            | <b>Within 1<sub>μ</sub>m</b> | <b>2.4kg</b> |
| Standard Accessories | Collet nut (K-265) / Wrench (12×14) : 2pcs.                                               |                              |              |
| Options              | Collet (CHK Group) : ø0.5 ~ ø6.35mm <b>p.21</b>                                           |                              |              |
|                      | Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                              |              |

※Collet is sold separately.

HES SERIES

# 50,000min<sup>-1</sup> Motor Spindle

HES510-HSK A63



# Specifications

**DXF data** DXF files are available on our website

Order by Code No.

## HES510-HSK A63

Code No. **7897** Model **HES510-HSK A63**



| Max. power           | Speed Range                                                                               | Spindle Accuracy  | Weight       |
|----------------------|-------------------------------------------------------------------------------------------|-------------------|--------------|
| <b>340w</b>          | <b>5,000~50,000min<sup>-1</sup></b>                                                       | <b>Within 1μm</b> | <b>2.7kg</b> |
| Standard Accessories | Collet nut (K-265) / Wrench (12×14) : 2pcs.                                               |                   |              |
| Options              | Collet (CHK Group) : ø0.5 ~ ø6.35mm <b>p.21</b>                                           |                   |              |
|                      | Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                   |              |

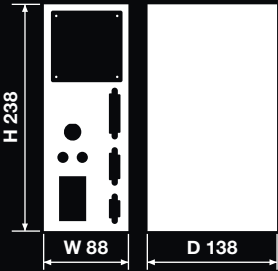
※ Collet is sold separately.

E3000 Controller



E3000 CONTROLLER  
Controller

Code No. 8422



External Input /  
Output Control Signal Operation

- External Input  
Motor ON / OFF, 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.
- Equipped with safety relay break and speed point

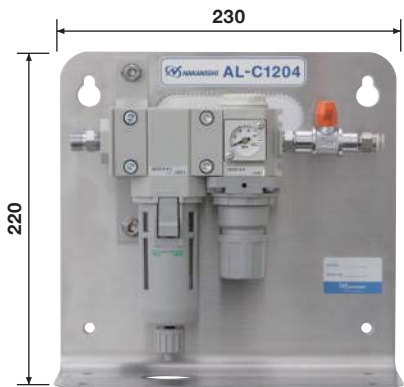
| Speed Range                                           |                   |
|-------------------------------------------------------|-------------------|
| 1,000~80,000min <sup>-1</sup>                         |                   |
| Input Voltage                                         |                   |
| AC100~240v Without plug<br>Multiple output power      |                   |
| Max. power                                            | Power consumption |
| 350w                                                  | AC1.8A            |
| Air consumption                                       | Weight            |
| 30Nℓ/min<br>(at 0.25~0.3MPa)                          | 2.8kg             |
| Standard Accessories                                  |                   |
| Power cord : 2m / Air hose with filter (K-251 : 2058) |                   |
| Reducer / Connector cap (Included)                    |                   |
| Bracket / Nylon Clip / Screw / Rubber pad             |                   |
| Fuse (T6.3AL) 250V : 2pcs.                            |                   |



# Accessories (Air line kit, Motor cord)

## AL-C1204

Air line kit



1.9kg

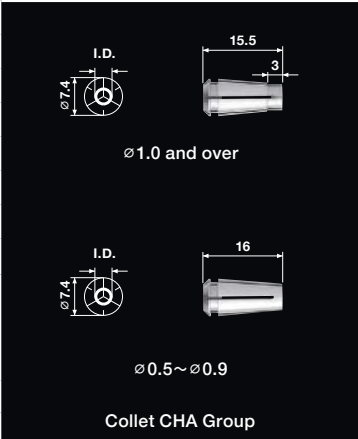
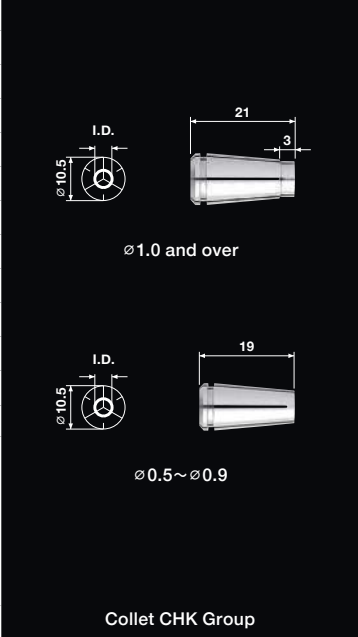
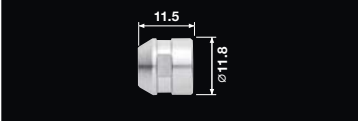
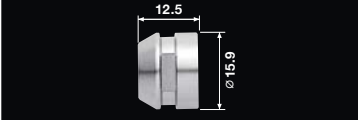
※Recommendation of nominal filtration rating : 0.3μm,  
Pressure range : 0.1-1.0MPa Recommendation of air filter : M2000-WS (CKD)

|                      |                        |       |                 |
|----------------------|------------------------|-------|-----------------|
| Code No.             | <b>4504</b>            | Model | <b>AL-C1204</b> |
| Standard Accessories | Hose pipe (K-260) : 2m |       |                 |

## Motor cord

| Motor cord                                                                             | Code No.    | Model              | Length    | Standard Accessories                                |
|----------------------------------------------------------------------------------------|-------------|--------------------|-----------|-----------------------------------------------------|
|  4M   | <b>9248</b> | <b>EMCD-810-4M</b> | <b>4m</b> | Air cooling hose : ø4mm<br>Connector cap (Included) |
|  6M   | <b>9249</b> | <b>EMCD-810-6M</b> | <b>6m</b> |                                                     |
|  8M | <b>9250</b> | <b>EMCD-810-8M</b> | <b>8m</b> |                                                     |

# Accessories (Collet, Collet nut)

| Collet                                                                             | Code No.     | Model       | I.D.                                                                                                                                                                                                           | Compatible model                                                     |
|------------------------------------------------------------------------------------|--------------|-------------|----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|----------------------------------------------------------------------|
|    | <b>91494</b> | CHA-3.0AA   | ø3.0AA ※                                                                                                                                                                                                       | HES810<br>※ High precision type AA<br>(Run-out Accuracy within 2 μm) |
|                                                                                    | <b>91496</b> | CHA-3.175AA | ø3.175AA ※                                                                                                                                                                                                     |                                                                      |
|                                                                                    | <b>91495</b> | CHA-4.0AA   | ø4.0AA ※                                                                                                                                                                                                       |                                                                      |
|                                                                                    | <b>91492</b> | CHA-2.35    | ø2.35                                                                                                                                                                                                          |                                                                      |
|                                                                                    | <b>91430</b> | CHA-3.0     | ø3.0                                                                                                                                                                                                           |                                                                      |
|                                                                                    | <b>91493</b> | CHA-3.175   | ø3.175                                                                                                                                                                                                         |                                                                      |
|                                                                                    | <b>91440</b> | CHA-4.0     | ø4.0                                                                                                                                                                                                           |                                                                      |
|                                                                                    | —            | CHA-□□      | ø0.5,ø0.6,ø0.7,ø0.8,ø0.9                                                                                                                                                                                       |                                                                      |
|                                                                                    |              |             | ø1.1,ø1.2,ø1.3,ø1.4,ø1.7,ø1.8,ø1.9<br>ø2.1,ø2.2,ø2.3,ø2.4,ø2.6,ø2.7,ø2.8,ø2.9<br>ø3.1,ø3.2,ø3.3,ø3.4,ø3.6,ø3.7,ø3.8,ø3.9                                                                                       |                                                                      |
|                                                                                    |              |             | ø1.0,ø1.5,ø2.0,ø2.5,ø3.5                                                                                                                                                                                       |                                                                      |
|                                                                                    |              |             | ø1.6                                                                                                                                                                                                           |                                                                      |
|   | <b>91597</b> | CHK-3.0AA   | ø3.0AA ※                                                                                                                                                                                                       | HES510<br>※ High precision type AA<br>(Run-out Accuracy within 2 μm) |
|                                                                                    | <b>91598</b> | CHK-3.175AA | ø3.175AA ※                                                                                                                                                                                                     |                                                                      |
|                                                                                    | <b>91599</b> | CHK-4.0AA   | ø4.0AA ※                                                                                                                                                                                                       |                                                                      |
|                                                                                    | <b>91600</b> | CHK-6.0AA   | ø6.0AA ※                                                                                                                                                                                                       |                                                                      |
|                                                                                    | <b>91601</b> | CHK-6.35AA  | ø6.35AA ※                                                                                                                                                                                                      |                                                                      |
|                                                                                    | <b>91592</b> | CHK-2.35    | ø2.35                                                                                                                                                                                                          |                                                                      |
|                                                                                    | <b>91530</b> | CHK-3.0     | ø3.0                                                                                                                                                                                                           |                                                                      |
|                                                                                    | <b>91593</b> | CHK-3.175   | ø3.175                                                                                                                                                                                                         |                                                                      |
|                                                                                    | <b>91540</b> | CHK-4.0     | ø4.0                                                                                                                                                                                                           |                                                                      |
|                                                                                    | <b>91560</b> | CHK-6.0     | ø6.0                                                                                                                                                                                                           |                                                                      |
|                                                                                    | <b>91596</b> | 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<br>ø2.1,ø2.2,ø2.3,ø2.4,ø2.6,ø2.7,ø2.8,ø2.9<br>ø3.1,ø3.2,ø3.3,ø3.4,ø3.6,ø3.7,ø3.8,ø3.9<br>ø4.1,ø4.2,ø4.3,ø4.4,ø4.6,ø4.7,ø4.8,ø4.9<br>ø5.1,ø5.2,ø5.3,ø5.4,ø5.6,ø5.7,ø5.8,ø5.9 |                                                                      |
|                                                                                    |              |             | ø1.6,ø5.0                                                                                                                                                                                                      |                                                                      |
| Collet nut                                                                         | Code No.     | Model       | Description                                                                                                                                                                                                    | Compatible model                                                     |
|  | <b>2102</b>  | CHN-A       | Collet nut for CHA collet                                                                                                                                                                                      | HES810                                                               |
|  | <b>2129</b>  | K-265       | Collet nut for CHK collet                                                                                                                                                                                      | HES510                                                               |

# NAKANISHI Solutions LINE UP

## Electric Motors & Spindles

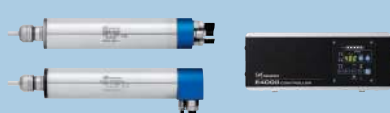
Brushless Motors & Spindles



Application for CNC lathes / Special purpose machines

### E4000 SERIES

1,000~40,000min<sup>-1</sup> Max.1,200W  
[  $\phi 40$ mm ]



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

### E2000 SERIES

1,000~50,000min<sup>-1</sup> Max.200W  
[  $\phi 22.8/25$ mm ]



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

### E3000 SERIES

1,000~80,000min<sup>-1</sup> Max.350W  
[  $\phi 30/25/20$ mm ]



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

### iSpeed3 SERIES

1,000~80,000min<sup>-1</sup> Max.150W  
[  $\phi 19.05/20/22$ mm ]



- Super short motor spindle
- High efficiency brushless motor

### HES SERIES

Max.80,000min<sup>-1</sup>  
[ For small diameter endmills and drills only ]



#### [ HES810 ]

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



#### [ HES110 ]

- 50,000min<sup>-1</sup>, 8.75cN·m
- BT, NT, CAT, IT, HSK A, ST shanks are available
- Driven by E3000 Controller

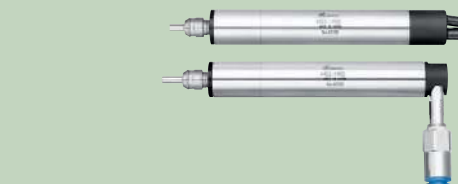
## Air Motors & Spindles



Application for CNC lathes / Special purpose machines

### Air-Speed SERIES One-piece type

Max.30,000min<sup>-1</sup> Max.130W  
[  $\phi 25/23/20/19.05$ mm ]



- 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<sup>-1</sup> Max.130W  
[  $\phi 30/25/22.8$ mm ]



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

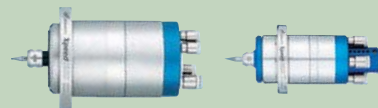
## Air Turbine Spindles



Application for CNC lathes / Special purpose machines

### Xpeed SERIES

Max.160,000min<sup>-1</sup>  
[  $\phi 65/40$ mm ]



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

### PLANET SERIES

Max.65,000min<sup>-1</sup>



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

Application for machining centers and milling machines

### HTS SERIES

150,000min<sup>-1</sup>  
[ 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<sup>-1</sup> with higher rigidity thanks to ceramic bearings
- BT, HSK E and straight (M2040) shanks are available

Electric spindle

Air spindle



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※Specifications and design are subject to change without notice.