



## NAKANISHI INC.

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※Specifications and design are subject to change without notice.

[www.nakanishi-inc.com](http://www.nakanishi-inc.com)  
PR-K370E Ver.1 2022-02-28 03. ㊞ 410

HES

NAKANISHI INC. 2022





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 μm

- 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]

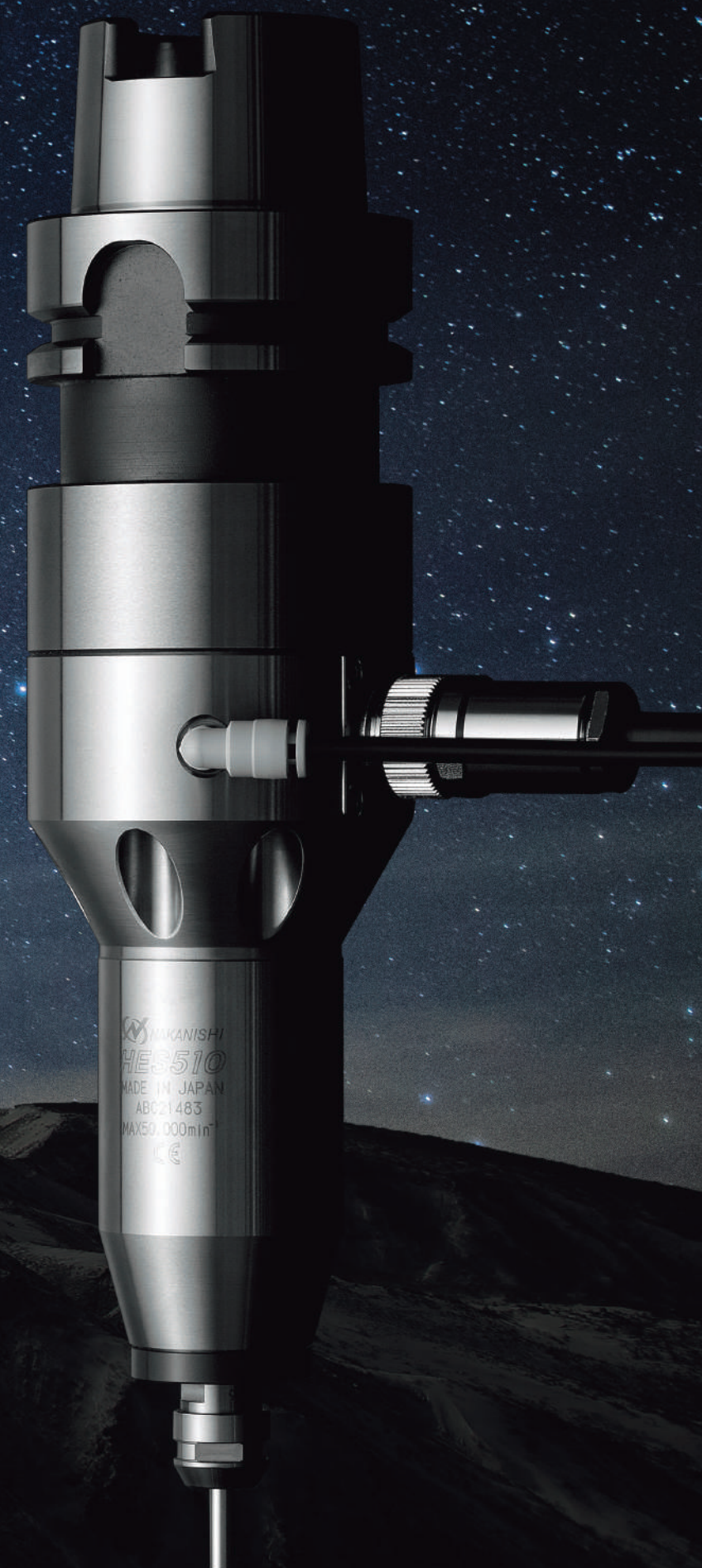


[IT]



[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 |
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| <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 |
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| <b>HES510-HSK A63</b><br>Max.rpm 50,000min <sup>-1</sup>         |  | p.17 |

Controller

Motor cord

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



1234

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

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



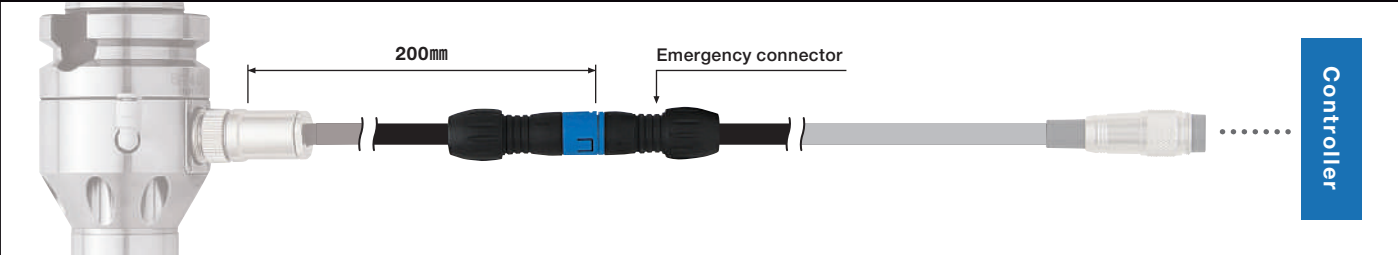
1234

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

Safety function

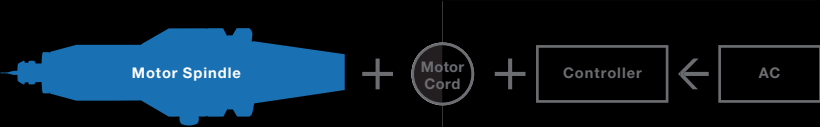
HES810 / 510 have a motor cord with the Emergency connector.

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.

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



HES810-BT50  
p.9

HES810-HSK A63  
p.9

HES810-ST32  
p.9

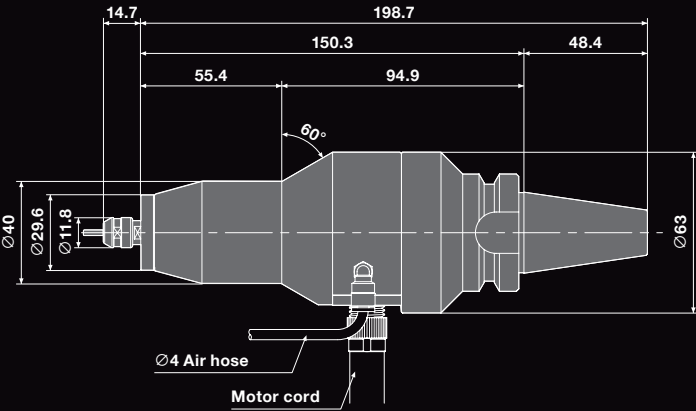
HES810-BT30  
p.7

HES810-BT40 / IT40  
p.7

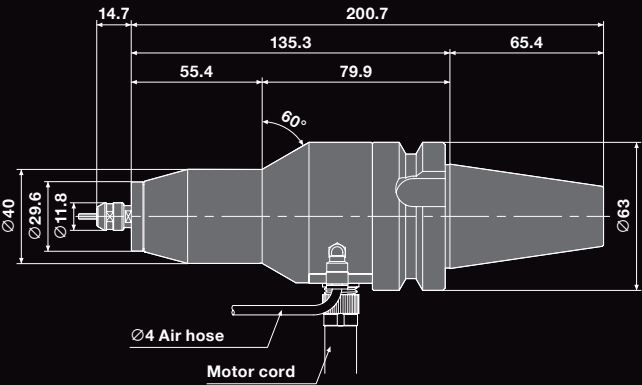


80,000min<sup>-1</sup> Motor Spindle

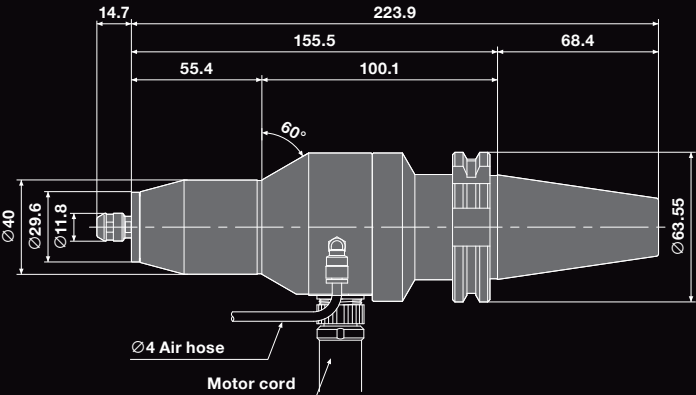
HES810-BT30



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 |
|----------------------|---------------------------------------------------------------------------------------------|------------------|--------|
| 350w                 | 20,000~80,000min <sup>-1</sup><br>※Recommended motor speed : 50,000~80,000min <sup>-1</sup> | Within 1μm       | 2.0kg  |
| Standard Accessories | Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each                                      |                  |        |
| Options              | Collet (CHA Group) : ø0.5 ~ ø4.0mm p.21                                                     |                  |        |
|                      | 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 |
|----------------------|---------------------------------------------------------------------------------------------|------------------|--------|
| 350w                 | 20,000~80,000min <sup>-1</sup><br>※Recommended motor speed : 50,000~80,000min <sup>-1</sup> | Within 1μm       | 2.2kg  |
| Standard Accessories | Collet nut (CHN-A) / Wrench (8×5) · (9×11) : 1pc. each                                      |                  |        |
| Options              | Collet (CHA Group) : ø0.5 ~ ø4.0mm p.21                                                     |                  |        |
|                      | 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

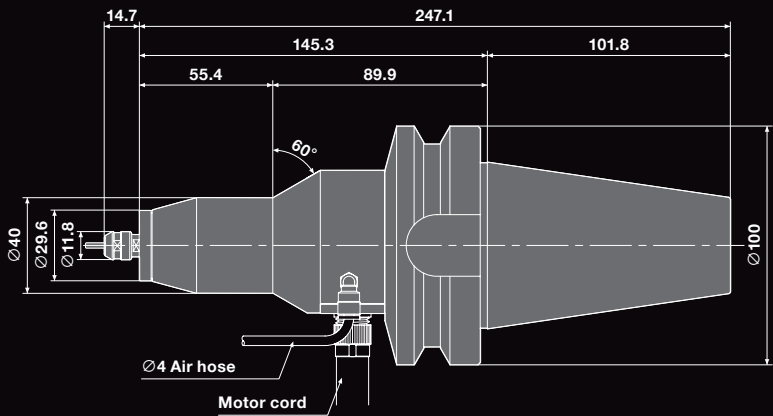


| Max. power           | Speed Range                                                                                 | Spindle Accuracy | Weight |
|----------------------|---------------------------------------------------------------------------------------------|------------------|--------|
| 350w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

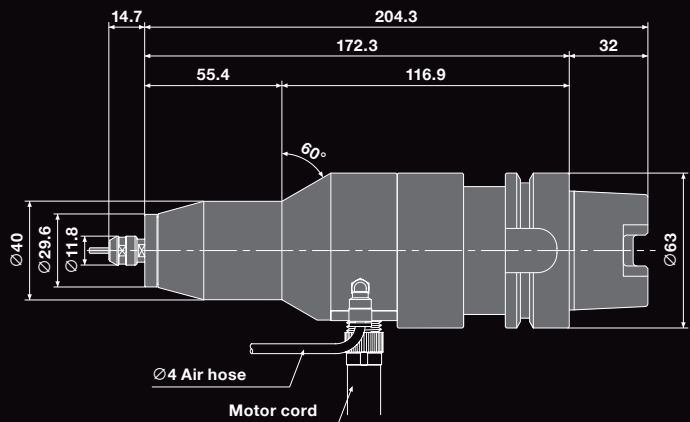
※Collet is sold separately.

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

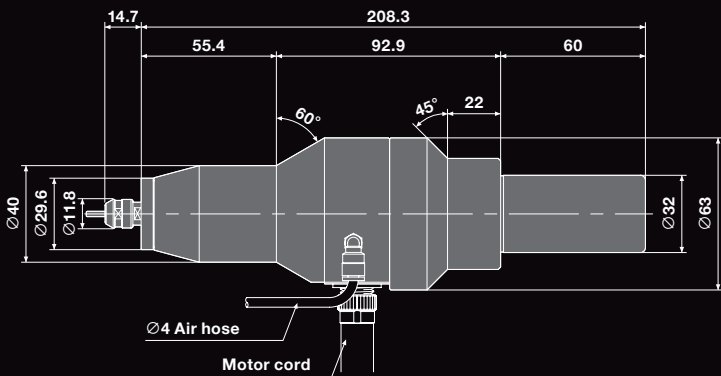
## HES810-BT50



## 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 |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|
| 350w                 | 20,000~80,000min <sup>-1</sup><br>※Recommended motor speed : 50,000~80,000min <sup>-1</sup>                                                 | Within 1μm       | 4.9kg  |
| 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 |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|
| 350w                 | 20,000~80,000min <sup>-1</sup><br>※Recommended motor speed : 50,000~80,000min <sup>-1</sup>                                                 | Within 1μm       | 2.6kg  |
| 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**

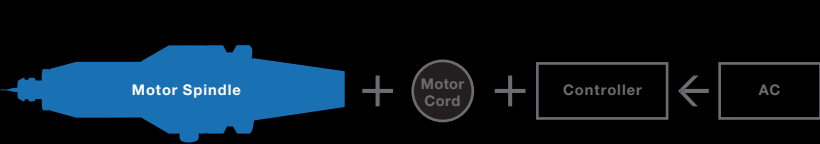


| Max. power           | Speed Range                                                                                                                                 | Spindle Accuracy | Weight |
|----------------------|---------------------------------------------------------------------------------------------------------------------------------------------|------------------|--------|
| 350w                 | 20,000~80,000min <sup>-1</sup><br>※Recommended motor speed : 50,000~80,000min <sup>-1</sup>                                                 | Within 1μm       | 2.3kg  |
| 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.



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



**HES510-BT30**  
p.13

**HES510-BT40 / NT40 / IT40**  
p.13

**HES510-BT50 / NT50**  
p.15

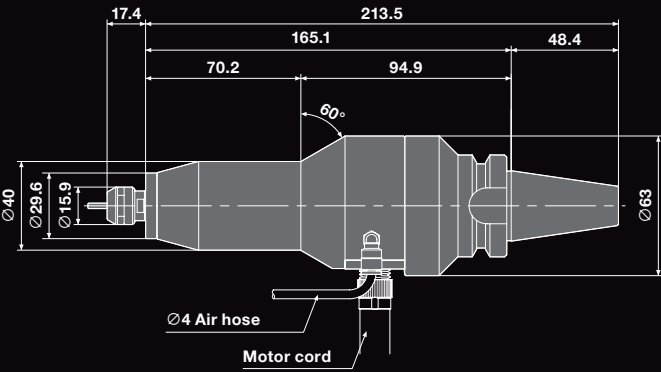


**HES510-ST32**  
p.15

**HES510-HSK A63**  
p.17

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

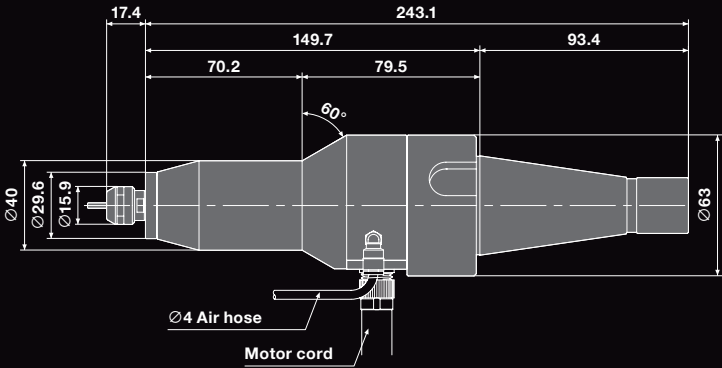
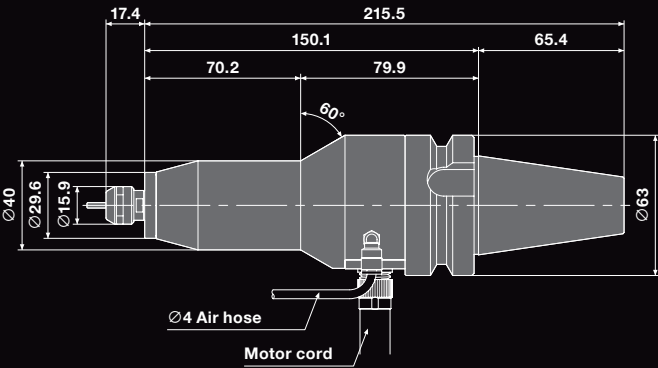
HES510-BT30



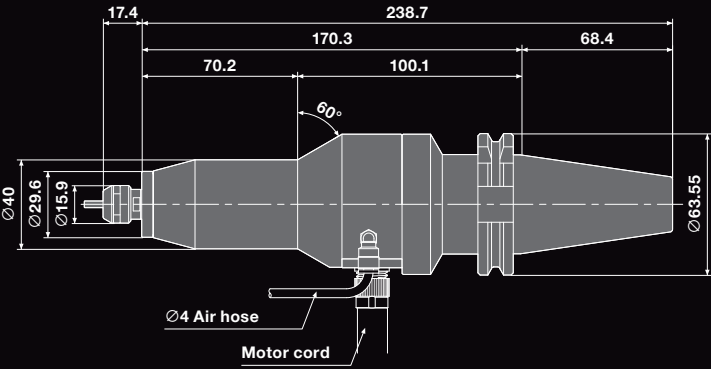
HES510-BT40 / NT40 (M)

[ BT40 ]

[ NT40 ]



HES510-IT40



Specifications

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

Order by Code No.

HES510-BT30

|          |      |       |             |
|----------|------|-------|-------------|
| Code No. | 7890 | Model | HES510-BT30 |
|----------|------|-------|-------------|



| Max. power           | Speed Range                                                                               | Spindle Accuracy | Weight |
|----------------------|-------------------------------------------------------------------------------------------|------------------|--------|
| 340w                 | 5,000~50,000min <sup>-1</sup>                                                             | Within 1μm       | 2.2kg  |
| Standard Accessories | Collet nut (K-265) / Wrench (12×14) : 2pcs.                                               |                  |        |
| Options              | Collet (CHK Group) : ø0.5 ~ ø6.35mm p.21                                                  |                  |        |
|                      | 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. | 7891 | Model | HES510-BT40  |
| Code No. | 7887 | Model | HES510-NT40  |
| Code No. | 7888 | Model | HES510-NT40M |

※NT40M-Retention knob threads are metric.  
※NT40 and NT40M are discontinued products and limited in stock.



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

※Collet is sold separately.

HES510-IT40

|          |      |       |             |
|----------|------|-------|-------------|
| Code No. | 7895 | Model | HES510-IT40 |
|----------|------|-------|-------------|



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

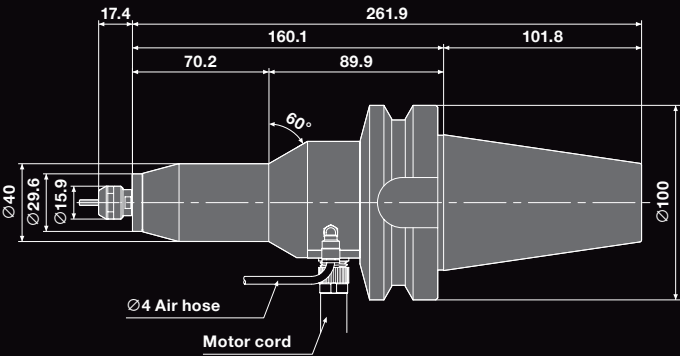
※Collet is sold separately.



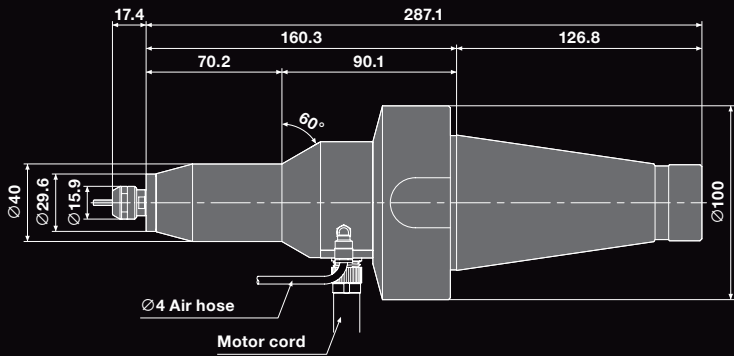
50,000min<sup>-1</sup> Motor Spindle

HES510-BT50 / NT50

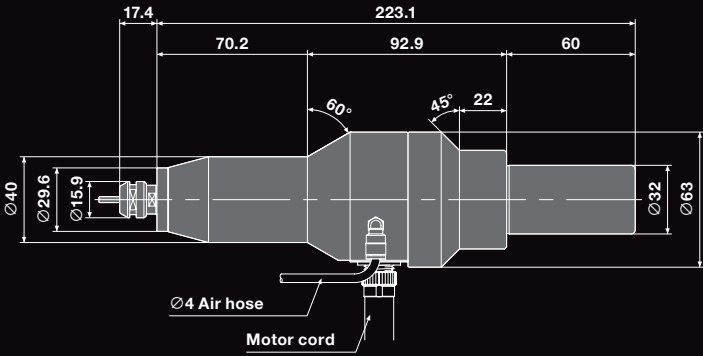
[ BT50 ]



[ NT50 ]



HES510-ST32



Specifications

DXF data DXF files are available on our website

Order by Code No.

HES510-BT50 / NT50



|          |      |       |             |
|----------|------|-------|-------------|
| Code No. | 7892 | Model | HES510-BT50 |
| Code No. | 7889 | Model | HES510-NT50 |

※NT50 is a discontinued product and limited in stock.

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

※Collet is sold separately.

HES510-ST32

|          |      |       |             |
|----------|------|-------|-------------|
| Code No. | 7899 | Model | HES510-ST32 |
|----------|------|-------|-------------|

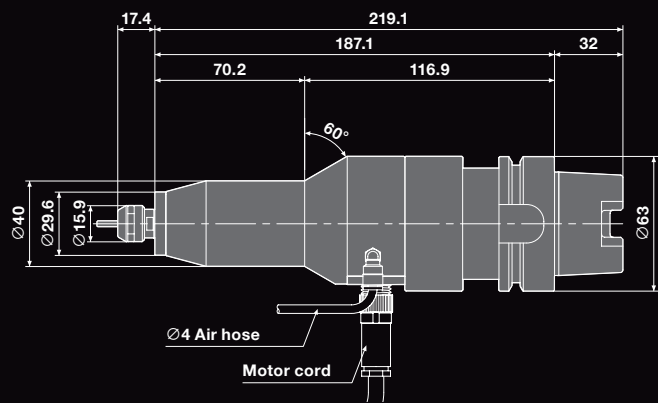


| Max. power           | Speed Range                                                                               | Spindle Accuracy | Weight |
|----------------------|-------------------------------------------------------------------------------------------|------------------|--------|
| 340w                 | 5,000~50,000min <sup>-1</sup>                                                             | Within 1μm       | 2.4kg  |
| Standard Accessories | Collet nut (K-265) / Wrench (12×14) : 2pcs.                                               |                  |        |
| Options              | Collet (CHK Group) : ø0.5 ~ ø6.35mm p.21                                                  |                  |        |
|                      | 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-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 |
|----------------------|-------------------------------------------------------------------------------------------|------------------|--------|
| 340w                 | 5,000~50,000min <sup>-1</sup>                                                             | Within 1μm       | 2.7kg  |
| Standard Accessories | Collet nut (K-265) / Wrench (12×14) : 2pcs.                                               |                  |        |
| Options              | Collet (CHK Group) : ø0.5 ~ ø6.35mm p.21                                                  |                  |        |
|                      | Motor cord : Length 4m (9248), 6m (9249), 8m (9250) Provided with ø4.0mm Air cooling hose |                  |        |

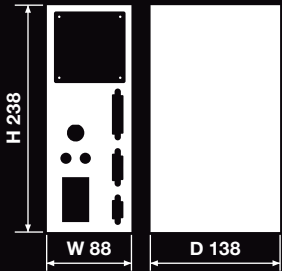
※ Collet is sold separately.



E3000 Controller

E3000 CONTROLLER  
Controller

Code No. 8422



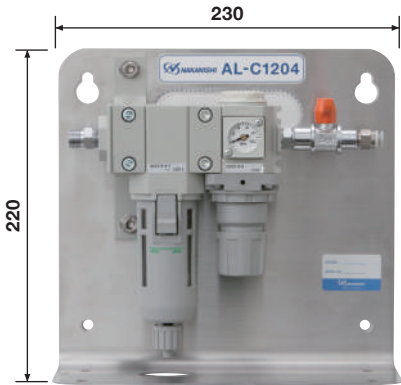
External Input /  
Output Control Signal Operation

- 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)

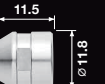
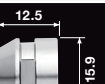
| Code No.             | 4504                   | Model | AL-C1204 |
|----------------------|------------------------|-------|----------|
| Standard Accessories | Hose pipe (K-260) : 2m |       |          |

Motor cord

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

Accessories (Collet, Collet nut)

| Collet                                                                                             | Code No. | Model       | I.D.                                                                                                                                                                                                                                                                                                | Compatible model                                           |
|----------------------------------------------------------------------------------------------------|----------|-------------|-----------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------------|------------------------------------------------------------|
| <br>ø1.0 and over | 91494    | CHA-3.0AA   | ø3.0AA ※                                                                                                                                                                                                                                                                                            | HES810                                                     |
|                                                                                                    | 91496    | CHA-3.175AA | ø3.175AA ※                                                                                                                                                                                                                                                                                          |                                                            |
|                                                                                                    | 91495    | CHA-4.0AA   | ø4.0AA ※                                                                                                                                                                                                                                                                                            |                                                            |
|                                                                                                    | 91492    | CHA-2.35    | ø2.35                                                                                                                                                                                                                                                                                               |                                                            |
|                                                                                                    | 91430    | CHA-3.0     | ø3.0                                                                                                                                                                                                                                                                                                |                                                            |
|                                                                                                    | 91493    | CHA-3.175   | ø3.175                                                                                                                                                                                                                                                                                              |                                                            |
| <br>ø0.5~ø0.9     | 91440    | CHA-4.0     | ø4.0                                                                                                                                                                                                                                                                                                | ※ High precision type AA<br>(Run-out Accuracy within 2 μm) |
|                                                                                                    | —        | CHA-□□      | ø0.5,ø0.6,ø0.7,ø0.8,ø0.9<br>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>ø1.0,ø1.5,ø2.0,ø2.5,ø3.5<br>ø1.6                                                                                                            |                                                            |
|                                                                                                    | 91597    | CHK-3.0AA   | ø3.0AA ※                                                                                                                                                                                                                                                                                            |                                                            |
|                                                                                                    | 91598    | CHK-3.175AA | ø3.175AA ※                                                                                                                                                                                                                                                                                          |                                                            |
| <br>ø1.0 and over | 91599    | CHK-4.0AA   | ø4.0AA ※                                                                                                                                                                                                                                                                                            | HES510                                                     |
|                                                                                                    | 91600    | CHK-6.0AA   | ø6.0AA ※                                                                                                                                                                                                                                                                                            |                                                            |
|                                                                                                    | 91601    | CHK-6.35AA  | ø6.35AA ※                                                                                                                                                                                                                                                                                           |                                                            |
|                                                                                                    | 91592    | CHK-2.35    | ø2.35                                                                                                                                                                                                                                                                                               |                                                            |
|                                                                                                    | 91530    | CHK-3.0     | ø3.0                                                                                                                                                                                                                                                                                                |                                                            |
|                                                                                                    | 91593    | CHK-3.175   | ø3.175                                                                                                                                                                                                                                                                                              |                                                            |
|                                                                                                    | 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<br>ø1.0,ø1.5,ø2.0,ø2.5,ø3.5,ø4.5,ø4.76,ø5.5<br>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<br>ø1.6,ø5.0 |                                                            |
| <br>ø0.5~ø0.9    | 2102     | CHN-A       | Collet nut for CHA collet                                                                                                                                                                                                                                                                           | HES810                                                     |
|                                                                                                    | 2129     | K-265       | Collet nut for CHK collet                                                                                                                                                                                                                                                                           | HES510                                                     |

| Collet nut                                                                                   | Code No. | Model | Description               | Compatible model |
|----------------------------------------------------------------------------------------------|----------|-------|---------------------------|------------------|
| <br>ø11.8 | 2102     | CHN-A | Collet nut for CHA collet | HES810           |
| <br>ø15.9 | 2129     | K-265 | Collet nut for CHK collet | HES510           |

NAKANISHI Solutions LINE UP

Electric spindle

### Electric Motors & Spindles

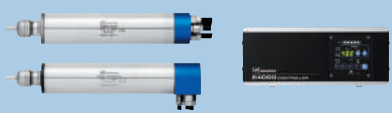
Brushless Motors & Spindles

Spindle + Motor + Controller ← AC

Application for CNC lathes / Special purpose machines

#### E4000 SERIES

1,000~40,000min<sup>-1</sup> Max.1,200W  
[ ø40mm ]



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

#### E3000 SERIES

1,000~80,000min<sup>-1</sup> Max.350W  
[ ø30/25/20mm ]



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

#### E2000 SERIES

1,000~50,000min<sup>-1</sup> Max.200W  
[ ø22.8/25mm ]



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

#### iSpeed3 SERIES

1,000~80,000min<sup>-1</sup> Max.150W  
[ ø19.05/20/22mm ]



- Super short motor spindle
- High efficiency brushless motor

Application for machining centers and milling machines

### HES SERIES

Max.80,000min<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



[ HES510 ]

- 50,000min<sup>-1</sup>, 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<sup>-1</sup> Max.130W  
[ ø25/23/20/19.05mm ]



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

#### Air-Speed SERIES Modular type

Max.30,000min<sup>-1</sup> Max.130W  
[ ø30/25/22.8mm ]



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

Application for machining centers and milling machines

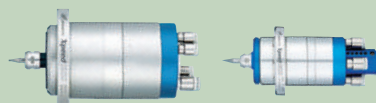
### Air Turbine Spindles

Air Turbine Spindles + Air line kit ← Air compressor

Application for CNC lathes / Special purpose machines

#### Xpeed SERIES

Max.160,000min<sup>-1</sup>  
[ ø65/40mm ]



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

#### PLANET SERIES

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

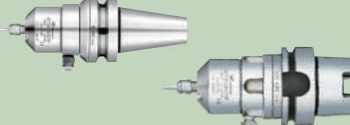


- A milling machine turns into a jig grinder
- For high precision internal grinding

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

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