The Ultra-Precision, High-Speed HES810 spindles allow you to use your existing equipment for a much larger variety of operations. Conventional milling machines and machining centers can now do high-speed machining, small diameter drilling and milling with extremely good surface finishes with the HES810. **Max. Output 350W**

### HES810 Features

- **20,000-80,000 min⁻¹(rpm)**
- **Maximum Output 350W**
  The HES810 motor is a brushless DC motor that utilizes hall elements and rare-earth magnets to achieve max. output 350W in a very compact size.
- **Ceramic Bearings**
  The spindle uses a double pair of ceramic bearings in the front and in the rear. This arrangement maximizes both radial and axial rigidity to insure extremely high-precision cutting. The motor also uses ceramic bearings to maximize life expectancy.
- **Smooth Rotation**
  The absence of a commutator and the use of a photo coupler sending a feedback signal of 48 pulses per revolution result in very smooth rotation with low vibration throughout the speed range.
- **One-Piece motor and spindle construction**
  The motor and spindle are built as a single unit minimizing size and weight and allowing usage on a very wide variety or machines.
- **Emergency Connector**
  The system incorporates an emergency, breakaway connector to help prevent system damage in case the machine's main spindle is rotated accidentally.
- **Excellent Durability by air-cooling system**
  Air-cooling motor uses a small volume of air (0.53 CFM) to prevent heat buildup and allow long, continuous operation.
- **Best for small diameter drilling and milling**
  Less than ø0.08"(ø2 mm) small diameter drilling and milling with extremely good surface finishes, using a high-speed brushless motor.

### HES810 Specifications

<table>
<thead>
<tr>
<th>Speed</th>
<th>20,000-80,000 min⁻¹(rpm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Ideal Operating Speed</td>
<td>50,000-80,000 min⁻¹(rpm)</td>
</tr>
<tr>
<td>Max. Output Power</td>
<td>350W</td>
</tr>
<tr>
<td>Spindle Accuracy</td>
<td>Within 1 μm</td>
</tr>
<tr>
<td>Standard Size Collet (CHA-3.175)</td>
<td>ø1/8&quot;</td>
</tr>
</tbody>
</table>

*Optional*

- **Air Line Kit (AL-0201)** For Control Unit NE260
- **Collet (CHA-[[]])** ø0.5 mm-ø4.0 mm
  (See Page 6-p2 for details)
- **Motor Cord (EMCD-810-[[]])** Length 13 ft (9248) / 19 ft (9249) / 26 ft (9250)
  Provided with Air Cooling Hose ø4 mm

**Note**: Motor Cord is sold separately.

### Torque & Output Power Characteristic of HES810

**Output (W)**

- 0.0
- 50
- 100
- 150
- 200
- 250
- 300
- 350
- 400

**Torque (cN.m)**

- 0.0
- 1.0
- 2.0
- 3.0
- 4.0
- 5.0
- 6.0
- 7.0
- 8.0

**Continuous Duty Area**

- 0
- 20
- 40
- 60
- 80

**Speed (x 10³/min⁻¹)**

- 20
- 30
- 40
- 50
- 60
- 70
- 80

**HES810 Connection Drawing**

The HES810 motor and spindle require dry, clean, regulated air. Please refer to the drawing to the right for proper components.

Air Line Kit AL-0201 supplies clean dry air to the control unit through the filter and the regulator.

---

**Note**: Motor Cord is sold separately.

---

**HES810**
HES Series can be used in conjunction with water or oil based coolants.

**Note:** Motor Cord is sold separately.

**HES810-BT30**

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7611</td>
<td>HES810-BT30</td>
<td>• Collet ø1/8&quot; (CHA-3.175) : 1 pc. • Collet Nut (CHN-A) : 1 pc. • Wrench (8 x 5), (9 x 11) : 1 pc. each</td>
<td>4.41 lb.</td>
<td>7611 HES810-BT30 5,150.00</td>
</tr>
</tbody>
</table>

**HES810-BT40 / NT40 / CAT40**

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7612</td>
<td>HES810-BT40</td>
<td>• Collet ø1/8&quot; (CHA-3.175) : 1 pc. • Collet Nut (CHN-A) : 1 pc. • Wrench (8 x 5), (9 x 11) : 1 pc. each</td>
<td>4.85 lb.</td>
<td>7612 HES810-BT40 5,294.00</td>
</tr>
<tr>
<td>7613</td>
<td>HES810-NT40</td>
<td>• Collet ø1/8&quot; (CHA-3.175) : 1 pc. • Collet Nut (CHN-A) : 1 pc. • Wrench (8 x 5), (9 x 11) : 1 pc. each</td>
<td>5.07 lb.</td>
<td>7613 HES810-NT40 5,294.00</td>
</tr>
<tr>
<td>9201</td>
<td>HES810-CAT40</td>
<td>• Collet ø1/8&quot; (CHA-3.175) : 1 pc. • Collet Nut (CHN-A) : 1 pc. • Wrench (8 x 5), (9 x 11) : 1 pc. each</td>
<td>5.28 lb.</td>
<td>9201 HES810-CAT40 5,294.00</td>
</tr>
</tbody>
</table>

*For dimensions of taper shanks, please see page 4-p30.

*Order by catalog number.

*All HES Series Spindles incorporate an emergency connector.*
**Note:** Motor Cord is sold separately.

---

**HES810-BT50**

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7614</td>
<td>HES810-BT50</td>
<td>• Collet ø1/8&quot; (CHA-3.175) : 1 pc. • Collet Nut (CHN-A) : 1 pc. • Wrench (8 x 5), (9 x 11) : 1 pc. each</td>
<td>10.80 lb.</td>
<td></td>
</tr>
</tbody>
</table>

---

**HES810-HSK A63**

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Weight</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>7615</td>
<td>HES810-HSK A63</td>
<td>• Collet ø1/8&quot; (CHA-3.175) : 1 pc. • Collet Nut (CHN-A) : 1 pc. • Wrench (8 x 5), (9 x 11) : 1 pc. each</td>
<td>5.73 lb.</td>
<td></td>
</tr>
</tbody>
</table>

---

*All HES Series Spindles incorporate an emergency connector.

---

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**HES810-ST32**

```
CAT. No.  | Model        | Standard Equipment - Accessories                  | Weight | Price
---      |--------------|--------------------------------------------------|--------|-------
7616     | HES810-ST32  | • Collet ø1/8" (CHA-3.175) : 1 pc. • Collet Nut (CHN-A) : 1 pc. • Wrench (8 x 5), (9 x 11) : 1 pc. each | 5.07 lb.| 4,934.00 |
```

---

**Note:** Motor Cord is sold separately.

---

**Caution**

- If the machine's main spindle is rotated by mistake, the Emergency Connector on the motor is designed to separate. In order for the Emergency Connector to function as designed it must be set and positioned correctly. Please refer to the owner's manual for proper installation and check the integrity of the Emergency Connector and suspension prior to each use.

---

*All HES Series Spindles incorporate an emergency connector.*

---

**Order by catalog number.** 4-p13

---

*For dimensions of taper shanks, please see page 4-p31, 32.*

---

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MONROVIA, CA USA 91016-7464

Tel: (626) 358-8466   Fax: (626) 358-0076

**Toll Free USA Tel:** (800) 624-2212   **Fax:** (800) 624-2210

Email: info@artcotools.com
**“HES810” CONTROL UNIT**

- AC100-240V for international operation
- 1,000-80,000 min⁻¹(rpm)
- Maximum Output 350W

---

### External Input-Output Connector A
- (D-SUB25 Female)

### External Input-Output Connector B
- (D-SUB15 Female)

### Motor Connector
- Air Output Joint ø6 mm
- Air Input Joint ø6 mm

### Power Switch
- Communicate Connector
- Inlet with Power Fuse

---

**Specifications**

<table>
<thead>
<tr>
<th>Model</th>
<th>NE260</th>
</tr>
</thead>
<tbody>
<tr>
<td>Power Source Plug</td>
<td>AC120V</td>
</tr>
<tr>
<td>Motor Speed</td>
<td>1,000-80,000 min⁻¹(rpm)</td>
</tr>
<tr>
<td>Max. Output Power</td>
<td>350W</td>
</tr>
<tr>
<td>Power Consumption</td>
<td>1.8A</td>
</tr>
<tr>
<td>Air Flow Volume</td>
<td>1.0CFM (36-44PSI)</td>
</tr>
<tr>
<td>Weight</td>
<td>6 lb. 2.77 oz.</td>
</tr>
<tr>
<td>Dimensions</td>
<td>W3.46” x D5.43” x H9.37”</td>
</tr>
</tbody>
</table>

---

**CAT. No. 8443 CONTROL UNIT NE260**

80,000 min⁻¹(rpm)

---

**E3200 Control Unit**

<table>
<thead>
<tr>
<th>CAT. No.</th>
<th>Plug Type</th>
<th>Model</th>
<th>Standard Equipment - Accessories</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>8443</td>
<td>120V</td>
<td>NE260</td>
<td>• Power Cord : 6 ft  • Air Hose with filter  • Reducer  • Air Plug (Provided)  • Connector Cap (Provided)  • Bracket  • Power Cord Grip  • Screw  • Rubber Pad  • Fuse (T6.3AL) 250V : 2 pcs.</td>
<td>2,035.00</td>
</tr>
</tbody>
</table>

---

**Power Source Plug**

<table>
<thead>
<tr>
<th>Plug Type</th>
<th>Main Usable Area</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>For 100V</td>
<td>For Japan</td>
<td><img src="image" alt="For Japan Plug" /></td>
</tr>
<tr>
<td>(A type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For 120V</td>
<td>For U.S.A. and Canada</td>
<td><img src="image" alt="For U.S.A. and Canada Plug" /></td>
</tr>
<tr>
<td>(B type)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Plug Type</th>
<th>Main Usable Area</th>
<th>Product</th>
</tr>
</thead>
<tbody>
<tr>
<td>For 200V</td>
<td>Without Plug</td>
<td><img src="image" alt="Without Plug" /></td>
</tr>
<tr>
<td>(C type)</td>
<td></td>
<td></td>
</tr>
<tr>
<td>For 230V</td>
<td>For Europe</td>
<td><img src="image" alt="For Europe Plug" /></td>
</tr>
<tr>
<td>(D type)</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

---

*Please refer to Technical Data 7-p12~p17 in detail about External Input-Output Connector.

*AC100-240V for international operation. Please check the power source plug type and order accordingly.
**“HES810” AIR LINE KIT & MOTOR CORD**

**AIR LINE KIT  AL-0201**

The AL-0201 is a **Clean air** supply unit. Dust in the compressed air is eliminated by the filter in the first stage and the regulator provides accurate and stable air to the control unit.

**Motor Cord**

<table>
<thead>
<tr>
<th>Product</th>
<th>CAT. No.</th>
<th>Description · Model</th>
<th>Length</th>
<th>Standard Equipment · Accessories</th>
<th>Fit to</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Motor Cord 4M</td>
<td>9248</td>
<td>EMCD-810-4M</td>
<td>13 ft</td>
<td>Air Cooling Hose : ø4 mm, Reducer, Plug Cap</td>
<td>HES810</td>
<td>381.00</td>
</tr>
<tr>
<td>Motor Cord 6M</td>
<td>9249</td>
<td>EMCD-810-6M</td>
<td>19 ft</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Motor Cord 8M</td>
<td>9250</td>
<td>EMCD-810-8M</td>
<td>26 ft</td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Control Panel Extension Cord**

<table>
<thead>
<tr>
<th>Control Panel Extension Cord</th>
</tr>
</thead>
<tbody>
<tr>
<td>CAT. No.</td>
</tr>
<tr>
<td>----------</td>
</tr>
<tr>
<td>8407</td>
</tr>
</tbody>
</table>

**HES Purchasing Example**

<table>
<thead>
<tr>
<th>Description</th>
<th>CAT. No.</th>
<th>Model</th>
<th>Price</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spindle with CAT40</td>
<td>9201</td>
<td>HES810-CAT40</td>
<td></td>
</tr>
<tr>
<td>Control Unit</td>
<td>8443</td>
<td>NE260</td>
<td></td>
</tr>
<tr>
<td>13 ft Motor Cord</td>
<td>9248</td>
<td>EMCD-810-4M</td>
<td></td>
</tr>
<tr>
<td>Air Line Kit</td>
<td>AL0201</td>
<td>AL-0201</td>
<td></td>
</tr>
</tbody>
</table>

**Total**

---

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*Order by catalog number.*