CNC GEAR HOBBING MACHINE

HERA-60/90
• Wet or Dry Gear cutting
• All kinds of Gear software
  - Spur Gear
  - Helical Gear
  - Multi-start Worm with Special head stock (option)
  - Single(double) start worm with single cutter (option)
  - Tapered Gear
  - Crowning Gear
  - Worm Wheel with Tangential software
  - Skiving Hobbing
  - Knurling and Marking
  - Long shaft Gear (max : 465mm)
  - Grinding with CBN (option)
  - Bevel Gear (option)
• Flexible Automation system
  - GANTRY Auto Loader
  - Flexible Combined Conveyor system with both pinion and shaft gear
  - Sub-Loader
• YG Engineer’s recommended various kinds of Jig&Fixture for your productivity.

Implementation of Smart Factory with Industrie 4.0 applied IoT technology to HERA series!
Bed

- **MACHINE BODY WITH SLANT** is rigid and suitable for chip removal
- Installed pre-Loaded precision ROLLER LINEAR BEARINGS on slideways and ZERO BACKLASH BALL SCREWS.
- **Dry Cutting** is available with perfect Inner cover
- Digital scale at X-Axis

C-Axis / Center(U-Axis)

- High Torque Built-In Motor with Accurate Rotary Encoder at C-Axis
- Adjustable location position of center block along with shaft length.
  - Max. workpiece length : 465 mm
- Quill Type center spindle with Hyd. Cylinder (option)

Coordinate Axis

- X - Radial Movement
- Z - Axial Movement
- C - Table Rotation
- A - Hob Head Swivel
- Y - Hob Shift
- U - Center Movement
- B - Hob Rotation

Gantry Loader

X2 - In & Out Movement
WORM CUTTING & SKIVING

- Tapered Hob arbor
- Deburring Unit
- Skiving Device
- Worm Shaft without center
- Skived Worm
- 3 Start Worm with Hob
- Tapered Hob arbor

WORM CUTTING & SKIVING

YUNIL MACHINE
Automation

Y.G engineering ability for/about Automation will provide our Customers satisfaction with flexible Auto-Loading system and Combined Conveyor system decreased cycle time and improved gear quality.

- Combined flexible conveyor system (Shaft and Pinion)
- Easily adjusted Gripper in Sub-Loader for both shaft and Pinion Gear
- Flexible and accurate Gantry Auto Loader with 2 Axis controlled and accuracy & Pinion rack gear
- Sub-Loader which is located in conveyor unit saves 50% Loading Time

Multi Sub-Loader
HERA-90 7-AXIS

Standard Accessories

- Hob Arbor (Ø13, Ø16)
- Collars (3 pcs) 10/20/30mm
- Joint/each size
- Stud Bolt : 2 pcs
- Coolant Unit with Washing pump
- Hyd. Unit with Fan cooler
- Air Conditioner in Electric Cabinet
- Work Light (LED)
- Inner Stainless Cover (For Dry Cutting)
- Washing Line
- 3-Layer Lamp
- Electric Hand wheel (M.P.G.)
- Workpiece Hyd. Power Clamp Device
- Tool quick clamp device
- Various kinds of Software
  - Initial position of workpiece
  - X-Axis retract at power failure
  - Skip on broken Hob tooth
  - Various kinds of Taper Hobbing
  - Various kinds of Crowning Hobbing
  - Centrifugation
- Leveling Bolt (M30 x 100mm) X (6pcs)
- Standard Tool Box
- Operating / Controller Book : 2 Copies
- Operating / Controller CD : 1 Copy

Optional Accessories

- Hob Arbor
- Oil Mist Collector
- Tool Presetter
- Deburring unit
- Steady Rest
- Skiving device
- Magnetic chip conveyor
- Auto-Door
- Worm Milling Head
- Jig & Fixture
- Auto-Loading/UnLoading System
- Conveyor Type Stacker (Pinion and Shaft)
- 2 years Service Contract (SIEMENS or FANUC)
# Technical Data

<table>
<thead>
<tr>
<th></th>
<th>HERA 60</th>
<th>HERA 90</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Max. workpiece dia</strong></td>
<td>60/80mm</td>
<td>90/100mm</td>
</tr>
<tr>
<td><strong>Max. pitch</strong></td>
<td>module 2.0</td>
<td>module 3.0</td>
</tr>
<tr>
<td><strong>Radial. travel (X-axis)</strong></td>
<td>80(10~90)</td>
<td>80(10~90)</td>
</tr>
<tr>
<td><strong>Max. helix angel (A-axis)</strong></td>
<td>+45° / -115°</td>
<td>+55° / -80°</td>
</tr>
<tr>
<td><strong>Hob spindle rpm (B-axis)</strong></td>
<td>6,000rpm</td>
<td>6,000rpm</td>
</tr>
<tr>
<td><strong>Table max. rpm (C-axis)</strong></td>
<td>1,500rpm</td>
<td>1,500rpm</td>
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<tr>
<td><strong>Working range</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Vertical work range (Z-axis)</strong></td>
<td>180</td>
<td>200</td>
</tr>
<tr>
<td><strong>Center stroke range</strong></td>
<td>250</td>
<td>250</td>
</tr>
<tr>
<td><strong>Table diameter</strong></td>
<td>ø90</td>
<td>ø90</td>
</tr>
<tr>
<td><strong>Hob</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Taper of spindle nose</strong></td>
<td>NT #30</td>
<td>NT #30</td>
</tr>
<tr>
<td><strong>Max. hob size (Dia x L)</strong></td>
<td>ø65 (Cutter ø100)</td>
<td>ø65 (Cutter ø100)</td>
</tr>
<tr>
<td><strong>Max. hob shift travel (Y-axis)</strong></td>
<td>100</td>
<td>100</td>
</tr>
<tr>
<td><strong>Rapid / feed speed</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><strong>Axial rapid (Z-axis)</strong></td>
<td>6,000mm/min</td>
<td>6,000mm/min</td>
</tr>
<tr>
<td><strong>Radial rapid (X-axis)</strong></td>
<td>7,500mm/min</td>
<td>7,500mm/min</td>
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<tr>
<td><strong>Hob shift travel (Y-axis)</strong></td>
<td>3,000mm/min</td>
<td>3,000mm/min</td>
</tr>
<tr>
<td><strong>Hob head swiveling</strong></td>
<td>720deg/min</td>
<td>720deg/min</td>
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<tr>
<td><strong>Motor</strong></td>
<td></td>
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</tr>
<tr>
<td><strong>Total power</strong></td>
<td>20KVA</td>
<td>25KVA</td>
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<tr>
<td><strong>Main spindle motor</strong></td>
<td>3.7Kw (7Nm)</td>
<td>3.7Kw (22.1Nm)</td>
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<tr>
<td><strong>Control system</strong></td>
<td>FANUC OiMF/SIEMENS 828D</td>
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<tr>
<td><strong>Floor space (L x W x H)</strong></td>
<td>2,480 x 2,550 x 2,050</td>
<td>2,720 x 2,730 x 2,160</td>
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<tr>
<td><strong>Weight (Approx.)</strong></td>
<td>4.2ton</td>
<td>4.9ton</td>
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<tr>
<td>RANGE</td>
<td>HERA 90</td>
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<tr>
<td>X-AXIS STROKE</td>
<td>80(10～90)</td>
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</tr>
<tr>
<td>Y-AXIS STROKE</td>
<td>100</td>
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</tr>
<tr>
<td>Z-AXIS STROKE</td>
<td>200</td>
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</tr>
<tr>
<td>CENTER STROKE</td>
<td>250</td>
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