**PHOENIX® CB: Build, measure and true all types of PENTAC®, TRI-AC®, CYCLOCUT™ and RSR® cutters in a single operation**

The Phoenix® Cutter Build Machine is an advanced computer-controlled bevel gear cutter set-up and measuring unit. The machine can be used to build face mill and face hob cutters to a high degree of accuracy.

An on-board computer supports the set-up and cutter build operation. This five axis machine utilizes three manual set-up axes and two servo-controlled axes and incorporates two high-resolution linear probes. The measuring cycle is fully automatic. The Phoenix CB can be used to build a variety of stick blade cutters to extremely high accuracy in the shortest amount of time.

The special technique used to measure the cutting edges enables the CB machine to achieve a high degree of accuracy. Measurements results are displayed in graphical form showing radial and tip run-out on the integrated monitor. It can also be printed out and stored for archiving.

**Standard features**
- Machine furnished with mounted electrical enclosure.
- Operator’s control located at front of machine.
- Open Architect Computer control (PC).
- Control of axes: Cutter spindle (C) and blade stop (Z1) and manual adjustment of 3 axes: horizontal (X), vertical (Y), sliding base (Z2).
- USB Port (front access).
- Dual control palm buttons.
- Summary storage capacity for over 200 cutters.
- Security key for control of set-up.
- Work area lighting.
- Standard set of machine and cutter wrenches.
- Electrical equipment for 460 volt, 60 Hertz, 2 phase or 380 volt, 50 Hertz. 2-phase installation.
- Electrics to comply with NFPA 790-1997 technical specifications.
- Inkjet Printer.
- Smooth paint finish.

**Optional equipment**
- Electrical Controls to EC Specifications.
- Machine preparation for air shipment (includes Tropical Storage Protection).
- Replacement parts kits.
- Extended warranty.

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# Specifications

## Workpiece Capacity

<table>
<thead>
<tr>
<th>Workpiece Capacity</th>
<th>Metric</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Face Milling - Cutter Diameter</td>
<td></td>
<td></td>
</tr>
<tr>
<td>RSR® Completing ED*</td>
<td>82 mm to 457 mm</td>
<td>3.25” to 18.00”</td>
</tr>
<tr>
<td>RSR® Completing SD*</td>
<td>127 mm to 457 mm</td>
<td>5.00” to 18.00”</td>
</tr>
<tr>
<td>RSR® Alternate SD*</td>
<td>127 mm to 457 mm</td>
<td>5.00” to 18.00”</td>
</tr>
<tr>
<td>RSR® Alternate ED*</td>
<td>228 mm</td>
<td>9.00”</td>
</tr>
<tr>
<td>Face Hobbing – Cutter Radius</td>
<td></td>
<td></td>
</tr>
<tr>
<td>PENTAC® and TRI-AC® Fine Pitch</td>
<td>51 mm to 105 mm</td>
<td>2.00” to 4.13”</td>
</tr>
<tr>
<td>PENTAC® and TRI-AC® Coarse Pitch</td>
<td>76 mm to 175 mm</td>
<td>2.99” to 6.88”</td>
</tr>
<tr>
<td>CYCLOCUT®</td>
<td>100 mm to 210 mm</td>
<td>3.93” to 8.26”</td>
</tr>
</tbody>
</table>

## Cutter Spindle Metric English

<table>
<thead>
<tr>
<th>Cutter Spindle Metric English</th>
<th>Metric</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Spindle Nose Taper</td>
<td>58.22 mm</td>
<td>2.29”</td>
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</table>

## Axes Control

<table>
<thead>
<tr>
<th>Axes Control</th>
<th>Metric</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>C-Axis Cutter Spindle</td>
<td>Servodrive with Heidenhain Rotary Encoder</td>
<td></td>
</tr>
<tr>
<td>Z1-Axis — Blade Stop</td>
<td>Servodrive with Heidenhain Linear Scale</td>
<td></td>
</tr>
</tbody>
</table>

## Miscellaneous

<table>
<thead>
<tr>
<th>Miscellaneous</th>
<th>Metric</th>
<th>English</th>
</tr>
</thead>
<tbody>
<tr>
<td>Floor Space</td>
<td>1841mm x 999 mm</td>
<td>72” x 39”</td>
</tr>
<tr>
<td>Height</td>
<td>1775 mm</td>
<td>69”</td>
</tr>
<tr>
<td>Weight</td>
<td>1180 Kg</td>
<td>2,601 lbs</td>
</tr>
</tbody>
</table>

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Providing customized solutions for all major gear manufacturing processes on a global basis with an industry-leading array of machines, tools, workholding, inspection and service products:

**BEVEL GEAR SOLUTIONS up to 2,500 mm**
- ✔ Cutting (Spiral and Straight)
- ✔ Cutter Build
- ✔ Grinding
- ✔ Quenching
- ✔ Cutting Tools, All Processes
- ✔ Global Services
- ✔ Blade Grinding
- ✔ Lapping
- ✔ Roll Testing
- ✔ Design Software
- ✔ Workholding

**CYLINDRICAL GEAR SOLUTIONS up to 10,000 mm**
- ✔ Hobbing, Gashing
- ✔ Power Skiving
- ✔ Shaping
- ✔ Shaving
- ✔ Threaded Wheel and Combined Grinding
- ✔ Cutting Tools, All Processes
- ✔ Combined Processes
- ✔ Chamfering/Deburring
- ✔ Profile Grinding
- ✔ Honing
- ✔ Workholding
- ✔ Global Services

**METROLOGY SOLUTIONS all types of gears and gear tools**
- ✔ Analytical Inspection
- ✔ Functional Gages
- ✔ A2LA Gear Calibration Lab
- ✔ Master Gears
- ✔ Workholding
- ✔ Global Services

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