powertrainhone
Precision Honing Machines

Advanced Honing Technology
**Maximum productivity**

The innovative powertrainhone machine concept can be applied to all known honing processes. In addition to conventional honing, innovative processes such as position honing can also be handled. The high processing and cutting speeds, and the optimised workflows significantly boost productivity even further. The modular concept provides the highest levels of flexibility in configuring modern production solutions – for stand-alone machines as well as integrated production lines. Standard function modules combined with customised solutions guarantee optimal results.

**Optimally equipped for the future**

The compact spindle unit with a powerful stroke and efficient spindle drive stands for the highest levels of flexibility. The different sizes of the models satisfy a broad spectrum of applications, with diameters ranging from 68 to 105 mm. The integrated electromechanical feeding unit with force control (EMZ-F) ensures that the process to reproduce the desired results is capable.

The fast and efficient tool change system, with its short tool change times, provides you with the best solution for a range of part types, as well as tool changing as a result of wear or process modifications. Typical areas of applications are all types of car crankcases – meaning that inline blocks or V-blocks can be optimally processed, not to mention crank bores.

**Technical data**

<table>
<thead>
<tr>
<th></th>
<th>PT 600 (module)</th>
<th>PT 600 (transfer)</th>
<th>PT 500 K (module)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Stroke length (mm)</td>
<td>780</td>
<td>780</td>
<td>500</td>
</tr>
<tr>
<td>Diameter, nominal (mm)</td>
<td>68 - 105</td>
<td>68 - 105</td>
<td>68 - 105</td>
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<tr>
<td>Spindle drive</td>
<td>Servomotor</td>
<td>Servomotor</td>
<td>Servomotor</td>
</tr>
<tr>
<td>RPM, max (1/min)</td>
<td>600</td>
<td>600</td>
<td>2000</td>
</tr>
<tr>
<td>Torque (Nm)</td>
<td>max 140</td>
<td>max 140</td>
<td>max 90</td>
</tr>
<tr>
<td>Stroke drive (kW)</td>
<td>Ball screw</td>
<td>Ball screw</td>
<td>Ball screw</td>
</tr>
<tr>
<td>Stroke speed, max (m/min)</td>
<td>40</td>
<td>40</td>
<td>40</td>
</tr>
<tr>
<td>Stroke acceleration, max  (m/s²)</td>
<td>30</td>
<td>30</td>
<td>15</td>
</tr>
<tr>
<td>Required space (WxDxH) (mm)</td>
<td>2400 x 2200 x 3900</td>
<td>model-based x 4900 (H)</td>
<td>model-based x 4280 (H)</td>
</tr>
<tr>
<td>Weight, net (t)</td>
<td>approx. 11</td>
<td>Depending on the model</td>
<td>11</td>
</tr>
<tr>
<td>Noise emissions (dB(A))</td>
<td>&lt; 75</td>
<td>&lt; 75</td>
<td>&lt; 75</td>
</tr>
<tr>
<td>Honing control</td>
<td>Gehring GCU 2.3</td>
<td></td>
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</tbody>
</table>

*Subject to technical changes and variations in design and configuration.*

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**PT-module**

**PT-module with linkage**
High precision technology with exclusive designer looks

Another highlight of the current product line is the design which optimally combines innovative technologies with a stylish appearance. Outstanding features such as an extremely flat operator panel and a large graphic interface provide for an excellent overview and optimum operating conditions. The new control panel also gives a stylish design accent to the new Gehring world. The combination of state-of-the-art technology and exclusive design set the course for Gehring’s continued success in future.

PT 600

The PT 600 is the most recent addition to this product line. For customers who do not require position honing, this new machine is an interesting alternative. As no power needs to be kept in reserve for position honing, the PT 600 machine can operate with less energy. The size of the machine which is exclusively developed for honing inline cylinder blocks is significantly reduced. The compact construction gives the machine a smaller footprint, and with its attached control cabinet, it is optimised for shipment. The PT 600 comes with an optional automatic tool changer for up to 6 tools.

Tool changer for PT-module and transfer with up to 12 tools

Honing unit in a PT-module
Sophisticated technology

- independently moveable honing spindles
- rigid spindle bearings (e.g. for position honing)
- automatic tool changing system for up to 12 tools
- short cycle times thanks to high cutting speeds
- uses standard function groups/subassemblies
- for processing thermally-coated function surfaces
- stock removal of up to 0.5 mm in 20 seconds
- switch-off accuracy of approx. 10 µm when removing 0.4 mm
- internal coolant supply through the honing tool
- spindle drive via servomotors
- latest hone control technology with simple, user-friendly operating interface
- direct force-controlled electro-mechanical feeding systems
- direct in-process gauging system for dimension and form control

Easy configuration

- single modules
- transfer system solution or modular integrated stand-alone modules
- flexible number of spindles
- for inline and V cylinder blocks
- with automatic tool change system
- compatible with a range of loading and unloading systems (roller belts, portal loaders, robots, etc.)

Precision with the Gehring tool concept

Precision and longevity are the hallmarks of our tooling systems. Our tool systems guarantee the highest levels of efficiency, optimised surfaces, and the best possible bore geometries.

Profit from the Gehring tool concept which is especially customised for each machine.

Trust in the technology leader with many years’ experience and global presence! Innovative technology combined with an economical mindset set us apart.