Efficient & highly flexible 3D laser cutting solutions with best in class multi robot systems.
JENOPTIK – VOTAN® BIM. Highly accurate 3D laser cutting of metals & plastics

Jenoptik is the leading manufacturer of laser machines for production processes in the automotive industry. We develop 3D laser processing stand-alone machines as well as optimized systems designed for integration into your production lines for process optimization and automation. Jenoptik laser machines are ideal for processing of metal or plastic parts with maximum efficiency and precision.

Best in class 3D laser cutting technology developed by Jenoptik

To define the right processing solution for your new products and materials, Jenoptik supports you with a professional customer application center. Experienced application engineers assist you to reach your targets with our innovative laser machines.

- Highly accurate robot system with an internal beam path
- Highest robot dynamics and precision by lightweight design
- Processing of all 3D plastic or metal parts
- Small footprint
- Flexible tool for smart integration into production lines
- Multi robot solutions for higher automation levels

3D shaped tubes
Interior plastic components
Aluminium light-weight parts
Exterior plastic parts
Preshardened steel for body-in-white
CFRP carbon fiber reinforced plastics
JENOPTIK – VOTAN® BIM is a family of robotic laser cutting equipment designed to meet the demands of high volume production manufacturers. The 3D laser system is designed to provide highest path accuracies at high speeds for best in class cycle times.

The concept behind the JENOPTIK – VOTAN® BIM series is based on a beam guide inside the robot. Different laser sources with a power of up to 4 kW can be used without the need for a complex external beam guide. Several laser cutting robots can be integrated into a single machine in order to achieve a higher output by parallel material processing at a significantly reduced floor space.

Furthermore our robot based machines are the first to enable a complete line integration of the laser cutting process.

**Turnkey system**

JENOPTIK – VOTAN® BIM is a highly flexible plug & play system. It can be equipped with the suitable laser for your specific plastic or metal application. As an option, we provide integrated solutions for waste disposal and exhaust air cleaning. To increase the working envelope and productivity two robot modules can be placed into one standard machine setup at nearly the same footprint.

**Customized solutions based on BIM modules**

The JENOPTIK – VOTAN® BIM modular set up enables customized laser processing systems for laser cutting at higher automation levels. By arranging multiple robot systems and multi purpose fixtures inside of a single cell the productivity per floor space can be dramatically increased. The target of JENOPTIK – VOTAN® BIM is to accompany our customers on the way to a fully integrated and automated laser cutting solution.

**Automated lines for car body assembly**

Beyond laser cutting our extended know how in the field of customized automation will benefit you with tailored robotized solutions for material processing needs like welding, hemming, gluing, riveting and other joining technologies. A clear focus on fully line integrated systems, maximum throughput paired with highest flexibility is our driving factor for your next project.
Technical specifications

Based on the described robot system for 3D cutting applications a turn key system was developed to process standard parts. This system provides a defined interface for easy fixture integration and standard procedures to cut metal or plastic parts. The system is designed to meet automotive requirements in machine uptime, productivity and serviceability.

<table>
<thead>
<tr>
<th>Laser type and output</th>
<th>fiber laser 1 - 4 kW; CO₂ laser 400 –1500 W; other sources on request</th>
</tr>
</thead>
<tbody>
<tr>
<td>Cutting speed</td>
<td>up to 300 mm/s</td>
</tr>
<tr>
<td>Path repeatability</td>
<td>repeatability down to +/- 50 µm</td>
</tr>
<tr>
<td>Beam guide</td>
<td>mirror system integrated in robot</td>
</tr>
<tr>
<td>Part handling</td>
<td>rotary table, shuttle systems or line integrations</td>
</tr>
<tr>
<td>Fixture change</td>
<td>hot swap quick change</td>
</tr>
<tr>
<td>System control</td>
<td>PLC S7 control</td>
</tr>
<tr>
<td>Laser protection</td>
<td>class 1</td>
</tr>
<tr>
<td>Programming</td>
<td>CENIT offline programming or teach panel</td>
</tr>
</tbody>
</table>

We reserve the right to make changes in the interest of technical progress.

We support you worldwide.

![Map of the world](image)

Visit us on YouTube.

JENOPTIK Automatisierungstechnik GmbH | Konrad-Zuse-Strasse 6 | 07745 Jena | Germany
Phone +49 3641 65-2532 | laserprocessing.sales@jenoptik.com | www.jenoptik.com