



MORE LIGHT

JENOPTIK-VOTAN® A

Be on the safe side with our
unique laser scoring technology.

Be on the safe side with Jenoptik's technology

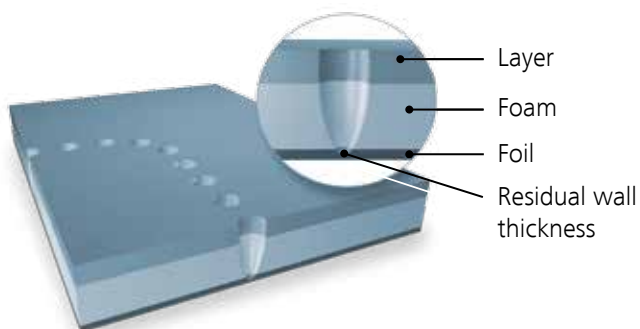


Jenoptik is the leading manufacturer of laser machines for production processes in the automotive industry. We develop 3D laser processing systems and machines that are integrated into your production lines for process optimization and automation. Our proprietary technology provides the basis for the manufacturing of high quality innovative products at high volumes.

The customizable standard platforms of our laser machines are optimized in partnership with you. Customer specific process requirements, production environments and goals are accounted for in developing the most efficient laser systems. Jenoptik laser machines process plastics, metals and leather with maximum reliability, precision and safety.

Technology

From the backside of e.g. an instrument panel the laser creates a customized tear line pattern of controlled holes along the airbag door contour. This perforation will tear exactly as specified in terms of position and force while the airbag deployment. The specific sensor design allows minimum residual wall thicknesses but prevents the laser penetrating the material completely.



Advantages

- Invisible tear line
- 100 % process control
- Absolute functional reliability of the tear line
- Multilayer material composites can be weakened in only one processing step
- Fully controlled and customizable pattern of holes for optimized specific opening behavior
- Material deviations are automatically compensated by the sensor-controlled scoring system
- Specific production parameters are documented online and archived
- Reduction of component costs by integrating the airbag door function into the instrument panel
- Flexible vehicle interior design

We are market leaders thanks to our innovative product line JENOPTIK–VOTAN® A

Ownership of vehicles becomes more and more common to an increasingly diverse global population. A situation that challenges the competitive position of manufactures in two ways: On one hand, there is a requirement for diverse vehicle models to satisfy the demands of the heterogeneous clientele. On the other hand, a necessity for fast and cost-efficient production is pivotal for automotive suppliers. Laser technology

allows for the coalescence of these apparently conflicting demands. High flexibility, low cycle times and complete process control provides economical manufacturing when confronted with a high diversity of products. Expense factors, such as changeover times, scrap rate or a huge footprint are minimized effectively through the application of laser technology. At the same time, laser opens up new possibilities for the automotive industry.



JENOPTIK–VOTAN® A Classic: The full range - no limits.

Our JENOPTIK–VOTAN® A Classic laser scoring system offers a maximum of flexibility of optional process extensions for individual requirements. There is a selection of user-specific installation layouts and various equipment options including assembly variants and additional processing tools.

JENOPTIK–VOTAN® A Compact: economically and flexible expandable.

Our JENOPTIK–VOTAN® A Compact combines the extraordinary quality and productivity of laser scoring with a very compact system layout. This system combines save and material friendly technique of laser scoring with efficiency.

JENOPTIK–VOTAN® A Scan: The high speed beam control by scanner enables the multi cycle operation to reduce the heat impact to sensitive materials and increase laser usage efficiency. Multi sensor control assures top scoring quality at low cost of ownership.

The JENOPTIK – VOTAN® A Scan scanner based system offers a new technological concept. The high speed beam control by scanner enables the multi cycle operation to reduce the heat impact to sensitive materials and increase laser usage efficiency. Multi sensor control assures top scoring quality at low cost of ownership.



Instrument panel with laser scored flap



Laser scoring in hard instrument panel



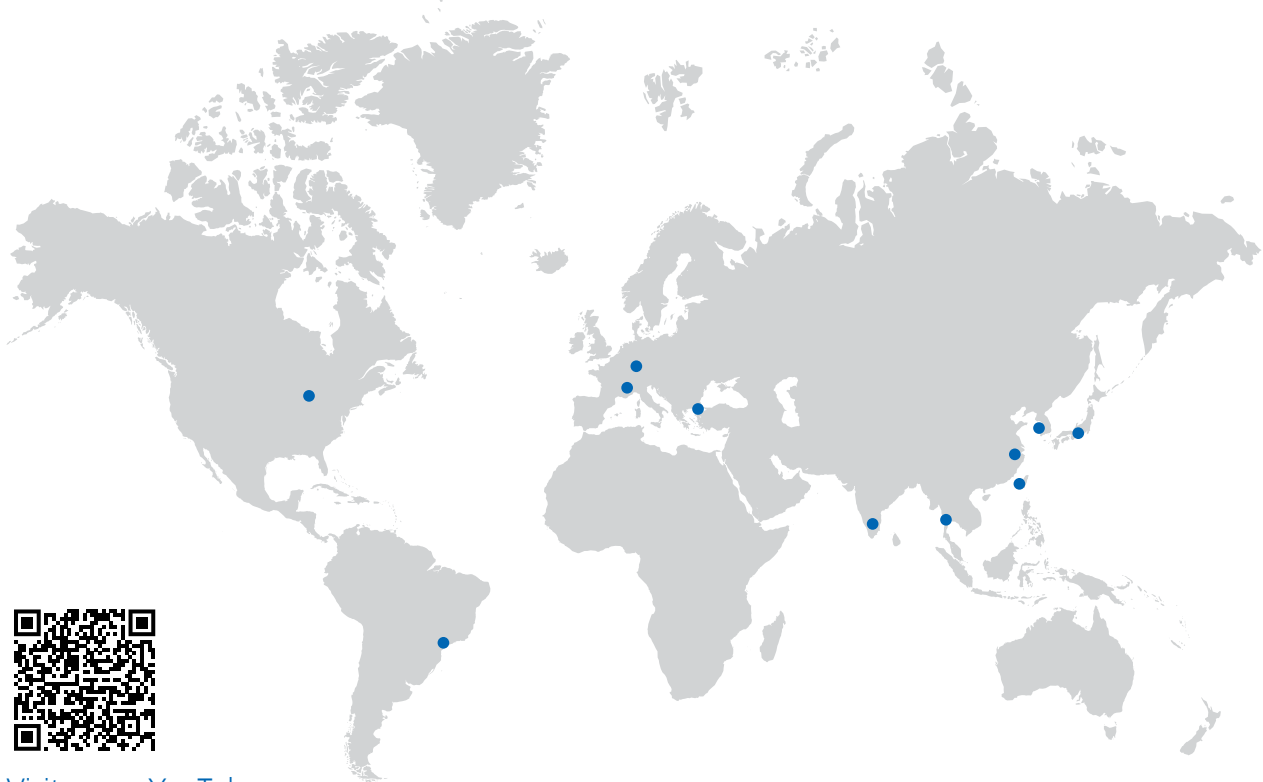
Laser weakening of genuine leather

Technical specifications

	JENOPTIK–VOTAN® A Classic	JENOPTIK–VOTAN® A Compact	JENOPTIK–VOTAN® A Scan
Layout	variable and customizable	fixed	fixed
Footprint	approx. 50 m ²	approx. 30 m ²	approx. 16 m ²
Chiller and filter on a frame (on request)	yes	yes	yes
Fixture interface	robot tool change system	robot tool change system	table quick change system
Control panel	separate movable	integrated into door	integrated in electrical cabinet
Laser	CO ₂ -1500/2000W	CO ₂ -1500/2000W	ultrashort pulse laser or CO ₂ laser
Control	SIMATIC S7	SIMATIC S7-1500 with safety function	SIMATIC S7-1500 with safety function
Sensors	external work sensor and external reference sensors with microcontroller	external work sensor and internal reference sensor	external work sensor array

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

We support you worldwide.



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