Scanning solutions for industrial applications
ARGES has been a pioneer in the laser sector for over 20 years. In addition to the production and development of a versatile applicable range of scan heads, ARGES offers individual, customized designs, as well as the realization of complete laser subsystems for the integration into laser systems.

Supportively to an in-house department for mechanical engineering, software and hardware development and production, ARGES provides application and material science laboratories. Thereby it is possible to accompany the customers in demanding projects with specific sampling and material analysis from the beginning on and to develop custom-fit solutions to the required application.

The laser scanning systems are used in the micro and macro laser processing in a variety of fields, such as automotive, electronic or photovoltaics industry, in medical technology or at universities and research centers. The close collaboration with universities and the participation in manifold research projects ensure us to stay ahead in innovative product developments, based on the latest technological opportunities. ARGES products and solutions are spread all over Europe, Asia and the USA – the export rate is about 60%.

Our customers are companies in laser plant engineering, mechanical engineering as well as manufacturing companies.

KNOW-HOW

- Pioneer of the laser sector with over 20 years of experience in the area of industrial scanning systems
- Industry leader in terms of technology thanks to our longstanding commitment to research and development
- High level of flexibility due to our in-house development department and “Made in Germany” production method
- Application- and materials laboratory for customer-specific laser process development including sample manufacturing and precise analysis of materials
## Application and Process Matrix

### Wavelength Range (Standard)

<table>
<thead>
<tr>
<th>Wavelength Range (Standard)</th>
</tr>
</thead>
<tbody>
<tr>
<td>380 - 450 nm</td>
</tr>
<tr>
<td>450 - 500 nm</td>
</tr>
<tr>
<td>500 - 550 nm</td>
</tr>
<tr>
<td>550 - 600 nm</td>
</tr>
<tr>
<td>600 - 700 nm</td>
</tr>
<tr>
<td>700 - 800 nm</td>
</tr>
<tr>
<td>800 - 900 nm</td>
</tr>
<tr>
<td>900 - 1000 nm</td>
</tr>
</tbody>
</table>

### Aperture (mm)

<table>
<thead>
<tr>
<th>Aperture (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>6, 6, 11, 16, 16, 21, 20</td>
</tr>
<tr>
<td>8.5, 11, 16, 21, 31, 36, 50</td>
</tr>
<tr>
<td>21, 36, 50</td>
</tr>
<tr>
<td>8.5, 16, 21, 31, 36, 50</td>
</tr>
<tr>
<td>21, 36, 50</td>
</tr>
<tr>
<td>6, 26</td>
</tr>
</tbody>
</table>

### Applications

#### Laser Drilling

- Laser Drilling
- Single Pulse Drilling
- Percussion Drilling

- Trepanning / Laser Form Drilling
- Single Pulse Drilling
- Percussion Drilling

#### Laser Welding and Laser Soldering

- Laser Welding and Laser Soldering
- Deep Welding
- Deposition / Repair Welding

- Fabrication Welding / Fine Welding
- Single Pulse Drilling
- Percussion Drilling

#### Laser Cutting

- Laser Cutting
- Sublimation Cutting
- Fine Cutting
- Melt Cutting

- Laser Drilling
- Single Pulse Drilling
- Percussion Drilling

#### Laser Perforation

- Laser Perforation
- Single Pulse Perforation

#### Laser Structuring

- Laser Structuring
- Single Pulse Structuring
- Surface Structuring
- Line Structuring

#### Surface Treatment

- Surface Treatment
- Laser Drilling
- Laser Polishing / Melting
- Laser Hardening
- Laser Coating and Cladding

#### Laser Marking

- Laser Marking
- Laser Engraving
- Artwork Marking / Color Changing / Heating
- Colored Ablation Marking / Staining
- Intra Glass Marking

#### Additive Manufacturing

- Additive Manufacturing
- Laser Sintering / Laser Melting
- Rapid Prototyping

#### Customized Processes / Special Features

- Customized Processes / Special Features
- Prototyping on-the-fly
- Large Field Scribing
- Remote Applications

#### Process Control

- Process Control
- Vision / Inspection and Identification
**Products and solutions**

We offer an extensive product range of scan heads from 2D up to 8D, for a wide range of applications in sectors across the entire industry spectrum, e.g. micro drilling, welding, cutting, marking and many more:

- Available for all commercial wavelengths
- Aperture sizes from 6 to 50 mm
- Available with analog and digital interfaces

**OEM LASER SUBSYSTEMS AND CUSTOM SOLUTIONS**

The development and production of OEM laser subsystems, including:

- Beam sources
- Scanner unit
- ARGES System Controller (ASC)
- ARGES InScript® control software
- Beam guidance and formation

Customized, application-specific developments, including:

- Optical design
- Special mechanical designs
- Customized software solutions

**ARGES SYSTEM CONTROLLER (ASC)**

For supplying power to and controlling ARGES scan heads. Available in 19” housing or desktop models in a variety of configurations – also with integrated laser.

<table>
<thead>
<tr>
<th>ARGES CONTROLLER</th>
<th>ASC-1</th>
<th>ASC-2</th>
<th>ASC-3</th>
<th>ASC-5</th>
<th>ASC-6</th>
</tr>
</thead>
<tbody>
<tr>
<td>Height unit</td>
<td>1</td>
<td>2</td>
<td>3</td>
<td>5</td>
<td>6</td>
</tr>
<tr>
<td>Laser</td>
<td>controls 1 laser</td>
<td>controls 1 laser</td>
<td>1 integ. IR fiber laser up to 100 W</td>
<td>2 integ. IR fiber lasers up to 2</td>
<td>1 integ. laser 150 W (QCW) or 300 / 400 W (CW)</td>
</tr>
<tr>
<td>ARGES scan heads</td>
<td>up to 2</td>
<td>up to 2</td>
<td>up to 2</td>
<td>up to 2</td>
<td>up to 2</td>
</tr>
<tr>
<td>Safety interface</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
<td>yes</td>
</tr>
<tr>
<td>Display</td>
<td>alphanumeric</td>
<td>graphical</td>
<td>graphical</td>
<td>graphical</td>
<td>graphical</td>
</tr>
<tr>
<td>Optional interfaces</td>
<td>either EtherCAT or Profibus</td>
<td>Safety, EtherCAT, Profibus</td>
<td>EtherCAT, Profibus</td>
<td>EtherCAT, Profibus</td>
<td>EtherCAT, Profibus</td>
</tr>
</tbody>
</table>

**ARGES InScript® SOFTWARE**

- Graphical User Interface for easy configuration of laser jobs
- Teach-in function for fast and easy positioning of the laser beam
- Visualization of output for previewing and correction
- Import and editing functions for bitmap and vector files
- Specially developed drivers for extended parameterization of many lasers
- Controller LIB for interfacing to external software
- Script programming for advanced users

**Controllers and software**

 ARGES InScript® Software

- Graphical User Interface for easy configuration of laser jobs
- Teach-in function for fast and easy positioning of the laser beam
- Visualization of output for previewing and correction
- Import and editing functions for bitmap and vector files
- Specially developed drivers for extended parameterization of many lasers
- Controller LIB for interfacing to external software
- Script programming for advanced users
ABOUT ARGES

ARGES develops and manufactures innovative laser scanning systems for laser beam shaping and deflection for demanding applications around the world.

ARGES INDUSTRIAL

Wide range of products and solutions for industrial applications like micro-drilling, welding, marking and many more for a great variety of sectors.

ARGES MEDICAL

Development and production of medical OEM scan modules and subsystems for laser-driven surgical procedures and treatments, mainly in the field of ophthalmology and dermatology.

Technical and constructional data are subject to change. Dated 05/2018