Laser Engraving Textile

Digital pre-press for textile printing
SPGPrints Austria is part of the SPGPrints Group, a global leader in the textile and graphics printing markets, with an annual turnover of €180 m. The company offers total system solutions for the rotary screen printing, coating and direct laser engraving processes. The Group has taken its 60 years electroforming expertise into a host of precision metals markets. Through continuous innovation and a powerful distribution network, SPGPrints adds significant value to its customers’ processes and products. For more than 38 years, SPGPrints Austria has been involved in manufacturing printing forms and pre-print systems.

In 1986, the first laser engraver for in-the-round textile screens was launched. Since then, over 2000 digital machines have been installed worldwide, supporting markets that range from labels to garment manufacturing. Our products are developed specifically to help reduce operational costs, increase efficiency and boost profitability. We back this up with an extensive global service and support network. This provides a commitment to guaranteed productivity, continuity and reliability.

To ensure continuous technological progress, we support various digital pre-production technologies, such as laser imaging, mask technology and laser exposing.

SPGPrints Austria is fully committed to the development of software to support its hardware and laser systems.

<table>
<thead>
<tr>
<th>Laser / Mask / Film</th>
<th>Coating</th>
<th>Drying</th>
<th>Masking</th>
<th>Exposing</th>
<th>Developing</th>
<th>Polymerizing</th>
<th>Gluing endrings</th>
</tr>
</thead>
<tbody>
<tr>
<td>EXPOSING</td>
<td>5 min</td>
<td>15 min</td>
<td>15 min</td>
<td>5 min</td>
<td>10 min</td>
<td>10 min</td>
<td>10 min</td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>190 min</td>
</tr>
</tbody>
</table>

SPGPrints direct laser engraving systems are the ideal platform for taking your rotary screen engraving process to a higher level. Faster, more efficient, high quality, economical, less environmental impact.

**What is Laser Engraving?**

Laser ablation of the positive image of a printing form by means of a high power CO2 laser source.

**ADVERTAGES**

Less operational costs
- no consumables (ink or wax)
- no gas (sealed laser)
- no (waste) water
- stripping possible

Reduced chance of (human) errors (rejects)
- work under daylight
- no wet area
- fewer process steps
- very simple workflow

No quality limitations
- geometrical designs
- smooth halftones
- fine lines

Time to print
- screens polymerized before engraving

**Comparison TIME to PRINT**

SPGPrints direct laser engraving systems are the ideal platform for taking your rotary screen engraving process to a higher level. Faster, more efficient, high quality, economical, less environmental impact.

**SPGPrints Austria**

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Comparison TIME to PRINT

<table>
<thead>
<tr>
<th>Laser</th>
<th>Coating</th>
<th>Drying</th>
<th>Exposing</th>
<th>Developing</th>
<th>Polymerizing</th>
<th>Gluing endrings</th>
</tr>
</thead>
<tbody>
<tr>
<td>ENGRAVING</td>
<td>35 min</td>
<td>10 min</td>
<td>45 min</td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>10 min</td>
</tr>
<tr>
<td>READY TO PRINT</td>
<td>&gt; 3 hour</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>&lt; 1 hour</td>
</tr>
</tbody>
</table>
The bestLEN 541x is the original SPGPrints laser engraving system, and has already proved itself many times over in some of the most demanding conditions the market has to offer.

- faster and higher engraving quality
- finer details
- economical
- no consumables like ink or wax
- no gas consumption
- no wet area
- reduced chance of error
- excellent repeatability
- easy to use
- environmentally friendly
- stripping possible
- CAMPlus software (see page nr. 11)
- fewer process steps
- work under daylight conditions
- screen polymerized before engraving

bestLEN - Benefits

Sharpness  Efficiency  Industry standard

Technical specifications

<table>
<thead>
<tr>
<th>bestLEN 5412 / 5413</th>
<th>Laser</th>
<th>sealed-off CO2 single beam 250W</th>
</tr>
</thead>
<tbody>
<tr>
<td>Resolution</td>
<td>adjustable up to 2032 dpi</td>
<td></td>
</tr>
<tr>
<td>Repeats</td>
<td>518 - 1168 mm</td>
<td></td>
</tr>
<tr>
<td>Engraving time (640/1750)</td>
<td>~ 30 min. (average)</td>
<td></td>
</tr>
<tr>
<td>Screen length</td>
<td>bestLEN 5412  300 - 2100 mm</td>
<td></td>
</tr>
<tr>
<td></td>
<td>bestLEN 5413  300 - 3500 mm</td>
<td></td>
</tr>
<tr>
<td>Dimensions / Weight</td>
<td>bestLEN 5412  LxWxH: 4000 x 1200 x 1500 mm / 1500 kg</td>
<td></td>
</tr>
<tr>
<td></td>
<td>bestLEN 5413  LxWxH: 5453 x 1200 x 1500 mm / 2000 kg</td>
<td></td>
</tr>
</tbody>
</table>
The ecoLEN 531x was developed for engraving operations where cost of operation is an overriding factor. It incorporates the same technology as the bestLEN, yet is considerably less expensive. And you can still obtain better quality than with competitive processes such as ink mask exposing.

With the ecoLEN you can enjoy all the benefits of laser engraving but with a lower level of initial investment. Dedicated software for improved workflow. All advantages of the bestIMAGE CAD software package can also be used together with your ecoLEN engraving system.

- very economical operation
- no limitations in quality
- laser engraver at entry-level price
- all benefits of laser engraving
- no gas consumption
- fewer process steps
- stripping possible
- upgradeable to bestLEN 541x
- CAMPlus software (see page nr. 11)

ecoLEN 5312 / 5313
Laser sealed-off CO2 single beam 150W
Resolution adjustable up to 2032 dpi
Repeats 518 - 1168 mm
Engraving time (640/1750) ~ 40 min. (average)
Screen length:
ecoLEN 5312  300 - 2100 mm
ecoLEN 5313  300 - 3500 mm
Dimensions / Weight:
ecoLEN 5312  LxWxH: 4000 x 1200 x 1500 mm / 1500 kg
ecoLEN 5313  LxWxH: 5453 x 1200 x 1500 mm / 2000 kg
smartLEX

The laser exposure integrates the advantages of the optical exposure of a screen with those of the digital laser technology. The screen made by multi-beam smartLEX is coated with a photo-sensitive lacquer. SPGPrints smartLEX carries out the exposure by hardening the lacquer covering the non-image areas of the lacquer by laser, while the screen revolves at high speed. Thanks to a very focused steady and automatic calibrating UV-laser system, the image is created by direct exposure in a single step with great accuracy. As a result of low power input, no water cooling is necessary. With the multibeam LEX the laser exposure is in all aspects a superior technology.

The Windows based software of this machine is completely user-friendly. The operation via touch screen is self-explanatory. The status of the screen imaging process is continuously displayed on the monitor. The software includes a tested raster list for an on-the-fly raster.

Advantages of the multibeam smartLEX

- Superior quality
- Do-it-yourself installation
- Plug & Play, no training required
- Remote control
- Patented system
- Very low energy consumption
- Easy operation via touch screen

smartLEX - Benefits

Superior quality
Do-it-yourself installation
Plug & Play / No training required
Easy operation via touch screen

What is laser exposing?
Exposing of the negative image of a printing form by means of a number of laser diodes.

Technical specifications

<table>
<thead>
<tr>
<th>smartLEX 6962 / 6963</th>
<th>UV source multibeam</th>
</tr>
</thead>
<tbody>
<tr>
<td>Laser</td>
<td>1000 - 2540 dpi</td>
</tr>
<tr>
<td>Exposure resolution</td>
<td>(R640/1750) ~ 18 min.</td>
</tr>
<tr>
<td>Lacquer used</td>
<td>UV sensitive standard*</td>
</tr>
<tr>
<td>Repeat size</td>
<td>640 - 1168 mm</td>
</tr>
<tr>
<td>Screen length</td>
<td>6962 150 - 2100 mm</td>
</tr>
<tr>
<td>Screen length</td>
<td>6963 150 - 3500 mm</td>
</tr>
<tr>
<td>Supported file formats</td>
<td>.tif .lyr .bmp .pub .png (.pdf optional)</td>
</tr>
<tr>
<td>Ambient conditions</td>
<td>clean and air-conditioned</td>
</tr>
<tr>
<td>Room temperature</td>
<td>16 - 25 °C</td>
</tr>
<tr>
<td>Relative air humidity (non-condensing)</td>
<td>20 - 60 %</td>
</tr>
<tr>
<td>Power input</td>
<td>max. 1.5 kW</td>
</tr>
<tr>
<td>Dimensions / Weight</td>
<td>6962: 4000 x 1200 x 1500 mm / 1260 kg</td>
</tr>
<tr>
<td>Dimensions / Weight</td>
<td>6963: 5453 x 1200 x 1500 mm / 1620 kg</td>
</tr>
</tbody>
</table>

* recommended SPGPrints SCR 100, SCR 110 or SCR 64
bestIMAGE

bestIMAGE is the best possible CAD software solution for textile printing industries on the market!

Why?
- bestIMAGE is an innovative software package, developed to achieve the highest quality in the shortest time
- bestIMAGE can be integrated into the entire production process, like no other software
- the modular concept makes it easy to provide an optimum software package to fit our customers’ needs
- all modules are working “hand to hand” to simplify connection between designing (CAD) and engraving (CAM)
- direct connection to digital Printers and Rotary Printers

bestIMAGE CAMPlus

CAMPlus is a machine control software for engraving, exposing or masking devices based on bestIMAGE software. CAMPlus includes the „CAM Output“ as well as many other functions for manipulating and preparing files. bestIMAGE CAMPlus applies the *.lyr file format where multiple separations are stored “all-in-one” including all necessary information for preparing the digital data. Of course files like *.g08, *.grt, *.sep, *.dle, *.tif, *.pdf, files and many more are still supported by the new software.

bestIMAGE - Benefits

- Most modern architecture
- Modular concept
- Engraving coloring & printing
- Bitmap & vector objects
- Production calibration
- Screen list
- Halftone preview
- Raster data
- Output preview
- ISL connection
The SPGPrints service organization offers

- direct customer support
- remote maintenance and diagnostics via internet
- area coordinators as the responsive partners to our customers
- experienced and certified service engineers and application specialists
- a world-wide network of agents to provide spare parts and local support
- SPGPrints Group companies, located worldwide, to serve our customers with all service & support inquiries

SPGPrints Service offers fast and full support for any request you may have. You will profit from our long-term experience and our highly qualified team. Continuous improvements guarantee reliable and sustainable success for your business. Your requirements define the goals for our Service & Support program.

Your satisfaction is our goal!

SPGPrints at your service worldwide!

Products

- installation and start-up
- flexible customer training
- maintenance training
- worldwide 24h-hotline & field service
- individual product upgrades
- modular maintenance & service contracts
- original SPGPrints spare parts
- remote diagnostics

Upgrades

- ecoLEN 531x to bestLEN 541x (250W)
- bestLEN 641x to bestLEN 841x (580W)
- MAX to MAX 256
- ecoLEX to bestLEX
- LEN 3000 to bestLEN 541x
- LEN 4000 to bestLEN 541x
- LEN 3000/4000 to CAMPlus
SPGPrints
SPGPrints is the leading provider of system and application know-how in textile and graphics printing processes as well as two-dimensional, high accuracy, metal precision products. For further information, please visit www.spgprints.com.

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