

LASRAM

F E M T O L A

FEMTOSECOND
LASER

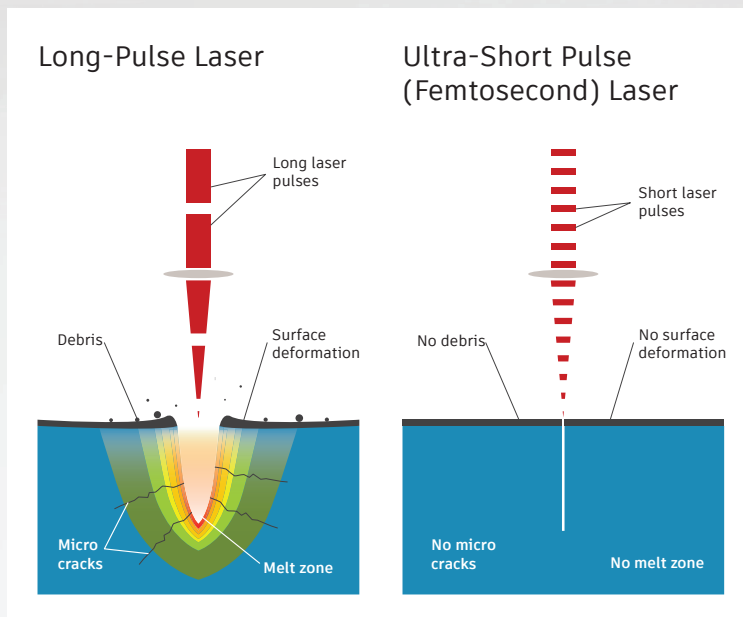
Ultra-High Precision Machining Station



With Femtola, ultra high precision “cold” laser cutting, marking and manufacturing is possible, due to the lack of heat transfer to the surrounding material.

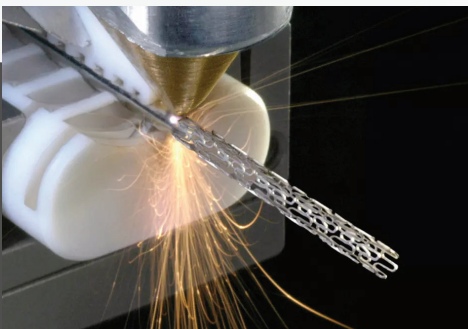
MAIN FEATURES

- High Power (60W)
- 10 µm Spot Diameter
- Ultra-High Precision Cutting and Drilling
- “Cold Laser Cutting”
- Manufacturing of Micro Structures



APPLICATIONS

- **Medical**
 Polymer stents
 NiTi stents
 Glass cutting and drilling
 Thin-walled pipe cutting
 3D micro structures inside glass
 Micro parts
- **Automotive**
 Stainless steel injection nozzles
 Ceramic microfilters

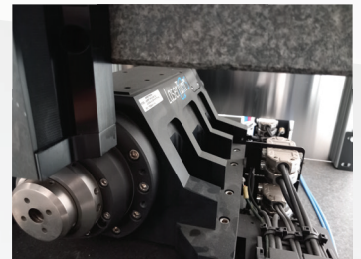
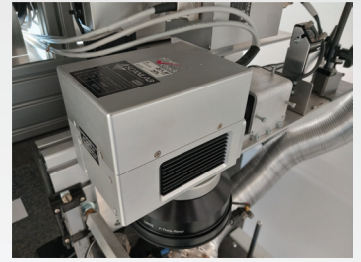


Stent making process with the Femtosecond laser technology. (Coherent)

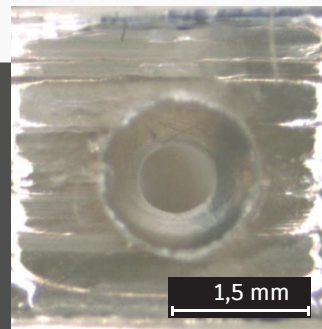
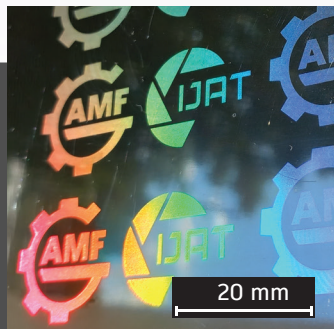
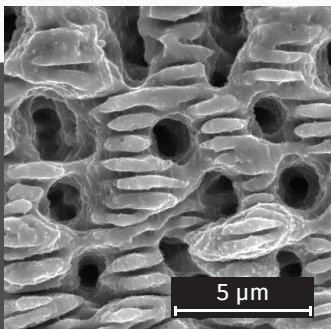


1mm by 1mm sized QR code marking on a brushed stainless steel sheet. (Bay Zoltán Nonprofit Ltd. for Applied Research)





- **Electronics**
 - Thin film/foil cutting
 - Thin film ablation
 - Dielectric cutting
 - Silicon wafer cutting
 - Layer removal in solar cell
 - IC package cutting
- **Biophotonic**
 - Microfluid structures in glass
- **Watch industry**
 - Micro parts
 - Balance trimming
 - Stainless steel marking
 - Sapphire glass marking
- **Friction control**
 - Surface wettability
 - Surface microstructures



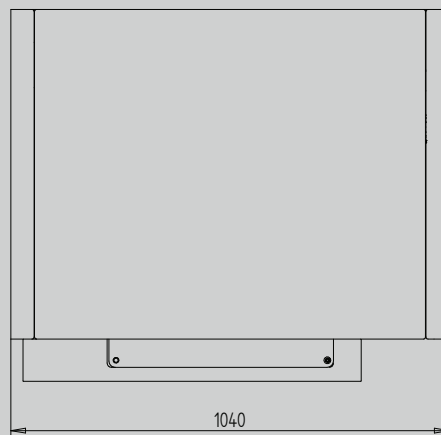
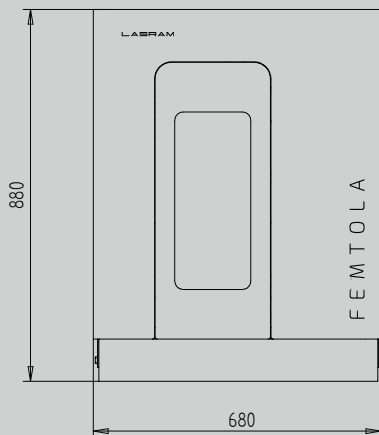
Creating laser-induced periodic surface structures results separated line-by-line color formation on austenitic steel. (Bay Z.)

Precision drilling into glass: 1,5mm clean diameter. (Bay Z.)



Specifications

Wavelength:	1030 ± 5 nm
Rated power:	40 W
Impulse energy:	200 µJ
Pulse length:	400 fs
Beam quality M2:	1,2
Repeat frequency:	1000 KHz
Peak performance:	600 MW
Beam diameter:	3 mm
Beam divergence:	1,0 mrad
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Beam guide:	f-theta
Scanner movement range:	
X / Y / Z	100 / 100 / 50 mm
Micromanipulator:	
X axis:	100 mm
Positioning accuracy:	5 µm
Repeat accuracy:	1 µm
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A-axis:	360°
Load capacity:	1,5 kg
Positioning accuracy:	± 15 arcsec
Repeat accuracy:	± 3 arcsec



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About Lasram

Lasram is a European medical and industrial laser system developer and manufacturer company, based in Hungary and Germany. Lasram products are developed, tested and manufactured according to the international standards. The company is EN ISO 9001:2008 and EN ISO 13485:2003 certified and has EN ISO 14001:2004 environmental management certificate.

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