



Laser Marking System LSG100-FL



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The laser safety housing LSG 100 is the industrial solution for industrial laser marking of parts in series. The robust metal design offers, besides a large working area, space for the integration of the marking laser source and the control PC. Keyboard and monitor are installed in an ergonomic way on a pivot arm. The operation door is pneumatic driven.

Technical Data

Laser Safety Housing			
Working Area l x w x h	980 x 980 x 460 mm		
Base plate T-slot l x w	530 x 375 mm		
Pitch	25 mm		
F-Theta lens	100	160	254
Marking area mm	60 x 60	112 x 112	180 x 180
Marking level mm	30 - 530	0 - 470	0 - 315
Workpiece height max. mm	530	470	315
Workpiece weight max.	50 kg (incl. carrier)		
Laser protection window	100 x 200 mm		
Z-Axis traversing range	500 mm		
Position accuracy Z	0.02 mm		
Rotation angle R-Axis	max. 360°		
Position accuracy R	2.5 (arcmin)		
PLC	Siemens Simatic S7		
Focusing equipment	pointing laser 650 nm / < 1 mW / cl. 2		
Aperture extraction system	DN 50		
Interior light	low energy light bulb, 11 W		
Operating door	pneumatic driven		
Placement	machine mount Ø 80 mm		
Mounting frame	2 x rack mount 19" 4HE		
Dimension l x w x h mm	1120 x 1000 x 2280 (w/o pivot arm)		
Chassis / colour	steel plate / RAL 7035		
Net weight	395 kg		
Weight operable installed	approx. 450 kg		
Operating Panel			
LED-indicators	Power On Emission Collective Error	Laser Ready Mark in Progress Door Closed	
Push button On/Off illuminated	Controls On Extraction On Pointing Laser	Air Supply Light	
Push button	Close Door / Start		
Push button up / down left / right	Z-Axis Rotating Axis		
Interruptor	Emergency Stop		
Key switch	Manual or Automatic Operation		

Interfaces		
Marking laser system	FL10 / 20	
Filtering devices	AF1/2/3/4	
Interface RS232	axis control	
Peripheral connection	rotary axis / THS / auxiliary	
Internal I/O interface	inputs / outputs	
Status Monitoring		
Safety interlock circuits	closed	
Collective failure	marking laser system	
Filtering device	change of filter	
Operating Data		
	LSG 230 V	LSG 120 V
Voltage	220-240 V AC	100-140 V AC
Frequency	50/60 Hz	
Fuse	16 A type B	15 A type B
Power consumption max.	3500 Watt	1750 Watt
Compressed air supply	4-6 bar (58-87 psi) oil free, dry	
Operating temperature	+10 - +35°C	
Air humidity	30 - 85% not condensing	
Laser safety class	class 1	
Approvals	CE	
Content of Delivery		
Operating manual		
Main supply cable		
Connecting cable FL, length 3 m		
Connecting cable PC, length 3 m		
Connecting cable filtering device, length 3 m		
Pivot arm for LCD/TFT Monitor w/ Keyboard Tray		
Additional functionality, special options for air conditioning and integration to production lines as well as workpiece carrier and accessories are available on request.		

Diode Pumped Ytterbium Fiber Laser

With the air cooled Ytterbium fiber lasers cab supplements the delivery program of high resolution, diode pumped marking lasers.

They mark on steel, aluminum, various plastics and many further materials with high beam quality and output power up to 20 watts.

The software cablase provides a graphical interface for real-time control or the COM interface for customized programming. cab offers solutions for integration into manufacturing lines, laser safety workstations as well foil and type plate marking systems.

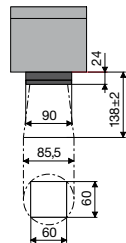
Technical Data

Laser Source	FL10	FL 20
Max. cw power	10 Watt	20 Watt
Pulse energy	0.5 mJ	1 mJ
Laser type	ytterbium fiber laser, pulsed	
Cooling	air cooled	
Wavelength	1064 nm	
Beam quality M ²	< 1.8	
Pulse width	80 - 120 ns	
Pulse frequency	20 - 80 kHz	
Pilot laser	650 nm / < 1 mW / Class 2	
Length fiber connection	4.5 m	2.5 m
Laser safety class	class 4	
Scan head		
Mounting	horizontal / vertical	
Scanning speed	max. 5000 mm/s	
Weight	8 kg	
Dimension h x w x d	110 x 170 x 330 mm	
Control Unit		
Supply voltage / frequency	100 - 240 VAC / 50-60 Hz	
Power consumption	350 Watt	450 Watt
Fuse (230 V)	2.5 AT	
Fuse (110 V)	5 AT	
Weight	17 kg	
Dimension h x w x d	178 x 420 x 420 mm	
Ambient Conditions		
Operating temperature	+5 - +40 °C	
Air humidity	15 - 90 % not condensing	
Interfaces		
PC-Interfaces	PCI, TCP/IP	
Laser Control Interface for	System Ready, Start Marking Laser Emission, Shutter/Chamber Interlock	
Marking Software		
Hardware	min. Pentium IV-PC, 500 MHz, min.1GB RAM, CD-ROM-Disk, 2x PCI Slot (Version PCI), 150 MB free hard drive capacity, 10/100/1000 Ethernet-LAN RJ45,	
Operating Systems	Windows XP®, Windows 7®	

Font Types	
Font formats	All Windows TrueType Fonts, filled or as outline, laser specific Single-, Double and Tripple Line Fonts; all fonts can be freely scaled and „wobbled“.
Font alignments	Any alignment and font direction, radial marking.
Character width	Stretching and compressing possible.
Graphics	
Graphic objects	Line, circle, rectangle, polygon. Hatch and cross hatch for all basic graphic objects.
Graphic formats	PLT, DXF, BMP, JPG, PCX, WMF, EPS, TIF All graphic elements can be scaled, moved, rotated, grouped or mirrored. Special tools are available to tune, align and resize the objects.
Barcodes	
Linear Barcodes	2 of 5 Codabar Code 39, Code 93 EAN Code 128 UPC
2D-Barcodes	Data Matrix, ECC200, QRCode Barcodes are variable in height, module width and ratio. Tuning possibilities and Check Digit generation. Inverted marking possible. Inverted marking of code.
Additional Features of the Marking Software	
Serial number, date, time.	
Variable fields.	
Direct import of graphic data from Windows based applications.	
Programmable laser parameters.	
Process and parameter file saving.	
Control of external and digital inputs and outputs is implemented in the software.	
Additional axes (e.g. for lifting, rotating, linear axis) can be controlled.	
cablase provides a COM Automation Server enabling the user to control the laser from any other user interface developed by e.g. Visual Basic, Borland Builder, provided the programming language has ability to communicate to COM-objects.	

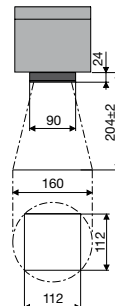
Plano Spherical Lens F-Theta 100

Working Distance mm	138±2
Marking Area mm	60 x 60
Spot Diameter µm	~25
^= Resolution dpi	1000



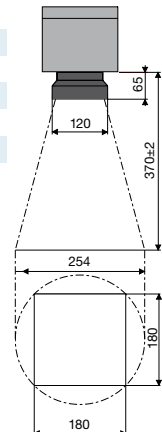
160

Working Distance mm	204±2
Marking Area mm	112 x 112
Spot Diameter µm	~35
Resolution dpi	725



254

Working Distance mm	370±2
Marking Area mm	180 x 180
Spot Diameter µm	~50
Resolution dpi	500



AF1



Exhaust and Filtering Device

Part No.	Device
5906614	Filtering Device AF1 230V
5906615	Filtering Device AF1 120V
Part No.	Accessories
5906616	Filter Set AF1
5906617	Pre-Filter AF1 305x305
5906618	Filter For Suspended Matter AF1 305x305x78
5906619	Activated Carbon Filter 300x300x115
5905818	Suction Hose 50 / 2.5 m
5906682	Connecting Sleeve Extraction Hose d=50
5550888	Cabel 1:1, 15/15-pins, 3m

Delivery Program Laser Marking System LSG100-FL

Part No.	Device
5528001.xxxx	LSG100-FLxx
Part No.	Accessories
5901660	Protective Plastic Sheeting WetEx Keyboard
5525994	Transport Rollers Set
5905933	Rotary Axis ZD30
5905978	3-jaw Chuck ZD30
5526156	Cable Rotary Axis
5525995	Pneumatic Sliding Table 200
5526460	Type Plate Handling THS Standard
Part No.	Special Options
on request	Automation Interface „Inline“
on request	PLC Visualization / Remote Service
on request	LSG100 Air Conditioning

Technical Data

Device Type	AF1	
Dimension l x w x h	355 x 355 x 655 mm	
Space requirement for filter change l x w x h	700 x 700 x 1000 mm	
Weight without filter equipment approx.	29 kg	
IP protection level	IP 42	
Suction capacity max.	100 - 320 m³/h	
Vacuum max.	12500 Pa	
Number of fans	1	
Electrical Power Supply Filtering Device		
Supply voltage	230 V AC	120 V AC
Frequency	50 / 60 Hz	
Power consumption	1.2 kW	
Rated current	7.2 A	10 A
Fuse	16 A	15 A
Operating temperature	+5 - +35 °C	
Storage temperature	+5 - +40 °C	
Maximum installation altitude	2000 m	
Chassis material	steel plate powder coated	
Colour	RAL 7035	
Noise Level at Filtering Device		
Continuous sound pressure level	82 dB (A)	
Acoustic power level to CE DIN 45635-3 1m	67 dB (A)	
Filter Equipment		
Total surface area of particle filter approx.	2.20 m²	
Total weight of gasfilter approx.	6.00 kg	
Total weight of filter equipment approx.	8.20 kg	
Automation Interface		
Status signal	Device OK	
Status signal	Error Filter 100%	
Switching contact	Device ON	
Further application specific filtering devices with increased suction capacity and additional filter equipment are available on request.		

Rotary Axis ZD 30

Applicable for marking the outline of rotationally symmetric work pieces.



Sliding Table 200

The pneumatic driven linear axis allows positioning of workpieces below the laser at 2 predefined positions.



Type Plate Handling

The Type Plate Handling THS Standard is used for batch processing of type plates.



All specifications about delivery, design and technical data are given to the best of our current knowledge and are subject to change without prior notice. **For more information go to www.cab.de**