



## Laser Marking System Label Marker

Made in Germany

# 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.

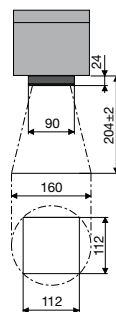
The software cablase provides a graphical interface for real-time control or the COM interface for customized programming. cab offers solutions for integration into manufacturing lines, laser safety workstations as well foil and type plate marking systems.

## Technical Data

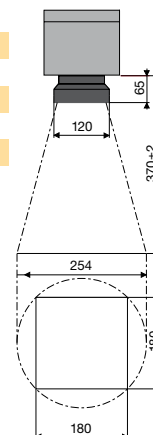
Laser Source	FL10	FL 20
Max. cw power	10 Watt	20 Watt
Pulse energy	0.5 mJ	1 mJ
Laser type	ytterbium fiber laser, pulsed	
Cooling	air cooled	
Wavelength	1064 nm	
Beam quality M <sup>2</sup>	< 1.8	
Pulse width	80 - 120 ns	
Pulse frequency	20 - 80 kHz	
Pilot laser	650 nm / < 1 mW / Class 2	
Length fiber 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		
Temperature/humidity	Operation: + 5 - 40°C / 10 - 85% not condensing	
	Stock: + 0 - 60°C / 20 - 80% not condensing	
	Transport: - 25 - 60°C / 20 - 80% 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	160
Working Distance mm	204±2
Marking Area mm	112 x 112
Spot Diameter µm	~35
△ Resolution dpi	725



254
370±2
180 x 180
~50
500





## Laser Marking System Label Marker

The Label Marker marks labels different in size precise and directly from the roll. Labels can be cut out without any additional tools. The labels can be singularized after the marking by the automatic cutting knife or can be rolled up by means of the External Rewinder ER4/300 LM.

### Technical Data

Label Marker	LM 160 FL	LM 254 FL
F-Theta lens	160	254
Marking area	112 x 112 mm	120 x 180 mm
Working distance fixed	adjustable by mechanical hand wheel	
Working distance nominal	204	370
Laser protection window	50 x 100 mm	
<b>Foil Transport System</b>		
Aperture extraction system	DN 50	
Position accuracy	± 0.2 mm	
Position repeatability	± 0.5 mm	
Speed material transport	200 mm/s	
Type of material	die cut or continuous	
Width of material	25 - 120 mm	
Thickness of material		
with cutter	0.055 - 0.3 mm	
without cutter	0.055 - 3.0 mm	
Weight of material	300 g/m <sup>2</sup>	
Length of single label	4 - 1000 mm	
Outer diameter of roll	max. 300 mm	
Core diameter of roll	40 / 76 mm	
Winding	inside or outside	
Cutter	CU4LF	
<b>Interfaces</b>		
Control interface	PC - RS232	
Marking laser system	fiber laser FL series	
Filtering devices	systems AF1 / AF2	
<b>Operating Panel</b>		
LED-indicators	Continuous Material / Die Cut	
Select switches	Main On / Off E-Stop Automatic / Manual Continuous / Die Cut	
Push buttons	Material Feed Forward Material Feed Reverse Cut	

<b>Status Monitoring</b>		
Safety interlock circuit	closed	
Transport unit	locked	
Material	at marking position	
Material	no material	
<b>Operating Data</b>		
	LM 160 FL	LM 254 FL
Voltage	100-240 V AC	
Frequency	50/60 Hz	
Power consumption max.	150 Watt	
Temperature/humidity		
Operation:	+ 5 - 40°C / 10 - 85% not condensing	
Stock:	+ 0 - 60°C / 20 - 80% not condensing	
Transport:	- 25 - 60°C / 20 - 80% not condensing	
Acoustic level	<64 dB (A)	
Laser safety class	class 1	
Approvals	CE	
Dimension l x w x h	802x375x408mm	802x375x583mm
Dimension l x w x h operable installed	802x440x520mm	802x440x730mm
Chassis / colour	steel plate / anodized clear / RAL 9005	
Net weight	22 kg	
<b>Content of Delivery</b>		
Operating manual		
Main supply cable type CEE 7/7, length 3 m		
Connecting cable FL, length 3 m		
Connecting cable PC, length 3 m		
Connecting cable filtering device, length 3 m		
Suction hose 50, length 2.5 m		
Laser markable continuous foil and die cut material is available on request.		

For current data, please go to [www.cab.de/en/lm](http://www.cab.de/en/lm)



Scan this QR code with your smartphone and learn more about Label Marker.

## 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 Label Marker

Part No.	Device
5528010.xxxx	LM-FLxx
Part No.	Accessories
5525354	External Rewinder ER 4/300 LM
On request	Roll Cart LM w/ 19" Rack Mounts

### 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 m <sup>3</sup> /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 m <sup>2</sup>		
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.			

### External Rewinder ER4/300 LM

Applicable for rewinding endless foil material.



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](http://www.cab.de)**