Status: 10/2018

Products need labeling

Laser marking system

XENO 1

Made in Germany

Laser marking system XENO 1

**Never has laser marking been so easy!
Unpack the device, install the software,
connect and get started.**

**XENO 1 is a compact desktop system,
offering little footprint and a large work area.**

XENO 1 perfectly fits with marking on metals or plastics.

XENO 1 completes the range of cab laser marking systems in the lower price segment. Processing the system complies with high industrial standards.

The marking plane is adjustable in heights up to 200 mm with the motor-driven moveable Z-axis and easily and quickly with the focus finder. In case of graduated marking surfaces, the scan head is automatically tracked by software.

Depending from the lens, the size of the marking field is 112 x 112 or 180 x 180 mm. It can be moved from the center to the right margin.

The marking can be simulated with the pilot laser.

Interior LED lighting allows observation of the workpiece when the operation door is closed.

The workpiece holder is mounted on the groove plate. A rotary axis is available for cylindrical objects.

The automatic operation door opens or closes within seconds. Material can be inserted manually or by a handling system from three sides.

The extraction and filter system extracts pollutant particles, dusts or gaseous pollutants. It is provided as an accessory.

With the comprehensive cabLase marking software layouts are graphically designed, markings controlled and processes monitored.

The legal environmental regulations RoHS and REACH are observed.

Sample applications

Engraving

Evaporation with high energy density removes the material. An indentation with a sharp outline occurs.

Annealing

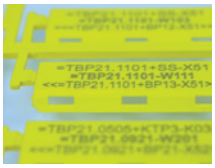
is mainly applied with highly alloyed stainless steel as well as with titanium.

Ablating

The laser ablates the top layer to uncover the underneath material. Examples include anodized layers or paint coatings.

Coloring

is applied with plastics. The way the color changes depends from the chemical composition of the material as well as from ingredients and fillers.



Foaming

The laser melts into the surface of the material.

Details

XENO 1 is a fully equipped laser marking system offering high operating comfort for marking single components and series.

1. **Integrated Ytterbium fiber laser** 20 or 30 W
2. Motor-driven **operation door**
3. Motor-driven **scan head** adjustable in height, with a pilot laser to preview the marking
4. **Focus finder** to set up the marking lane
5. **LED lit work area**
6. **Rotary axis** with a 3-jaw chuck to mark cylindrical objects
7. **Digital I/O** enables control and monitoring, providing 8 freely programmable inputs and outputs
8. **Plug** to connect the rotary axis
9. **Operation panel** with function keys, status displays
10. **Groove plate** to clamp the workpiece carriers
11. **Z-axis,** slideable along the groove plate
12. **Suction hose**

Interfaces

13. **External start signal**
14. **E-stop** to integrate into external safety circuits
15. **External 24 V** for additional operations
16. **2 x Ethernet 10/100 Base**
    As delivered, the device is configured with an IP address or in DHCP mode.
17. **Port to connect the extraction and filter device**

Technical data

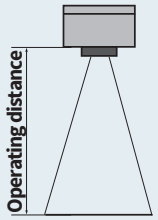
			7.1	7.2	7.3	7.4
Laser marking system			**XENO 1**			
Laser source			Ytterbium fiber laser, pulsed			
cw output power		max. W	20		30	
Pulse energy		mJ	1			
Wave length		nm	1,064			
Beam quality M^2			<1.6			
Pulse width		ns	120			
Pulse frequency		kHz	20 - 60			
Pilot laser / focus finder						
Wave length		nm	650			
cw output power		mW	<0.4			
For plano-spherical lens		type	160.1	254.1	160.1	254.1
Operating distance		mm	210 ± 8	310 ± 8	210 ± 8	310 ± 8
Marking field		mm	112 x 112	180 x 180	112 x 112	180 x 180
Work area height		mm	200	100	200	100
Groove plate W x H x D x pitch		mm	500 x 20 x 375 x 25			
Z-axis stroke motor-driven		mm	210			
Position accuracy		mm	± 0.1			
Repetitive accuracy		mm	± 0.1			
Traversing speed		mm/s	20			
Interior lighting			LED			
Operation door			motor-driven opening / closing			
Workpiece weight		max. kg	30			
Dimensions and weight						
Device	W x H x D	mm	580 x 660 x 700			
	Weight	approx. kg	65			
Laser protection window W x H		mm	100 x 200			
Extraction						
Nozzle flexible hose		NW mm	38			
Suction nozzle		NW mm	50			
Operating data						
Power supply			100-240 VAC, 50/60 Hz			
Power consumption			Standby <35 W / typical 150 W / max. 200 W			
Temperature / humidity	Operation		+5-40 °C / 10-85 % not condensing			
	Storage		0-60 °C / 20-85 % not condensing			
	Transport		–25-60 °C / 20-85 % not condensing			
Approvals			CE, FCC class A			
Laser safety class EN60825-1			Class 1			
Operation panel						
LED indicators			Power, Ready, Emission, Error, Marking			
Buttons illuminated			Control ON/OFF Focus finder ON/OFF Extraction ON/OFF LED ON/OFF		Start Z-axis up / down Rotary axis left / right Operation door open / close	
Switch			E-stop			
Key switch			automatic / manual			
Monitoring						
Safety circuits			closed			
Collective error			Marking laser		Extraction device	
Interfaces						
Work area			Rotary axis		Digital I/O	
Back of device			2 x Ethernet TCP/IP 24 V for digital I/O		Extraction and filter device AF5 External start, external E-stop	

Accessories

Plano-spherical lenses F-Theta

Lenses with different marking fields are available.
The smaller the marking field, the higher the resolution.

9.2, 9.3



Plano-spherical lens F-Theta		160.1	254.1
Operating distance	mm	210 ± 8	310 ± 8
Marking field	mm	112 x 112	180 x 180
Spot diameter	µm	~35	~50
Δ Resolution	dpi	725	500

Protective glass for F-Theta

It is mounted on the plano-spherical lens F-Theta and can be replaced in case of a damage.

9.5

Protective glass for F-Theta		160.1	254.1
Outside diameter	mm	75	75

Rotary axis D30.1

For marking on the circumference of a cylindrical workpiece.
The latter can be clamped in the 3-jaw chuck.

11.1

11.2

Rotary axis		D30.1
Rotation speed	rpm	0 - 40
Operating torque	Nm	12
Increment	min. [arcmin]	2.5
Holding torque	Nm	2.0
Through bore	Ø mm	15
Workpiece	Ø max. mm	160*
Distance to groove plate	mm	84
Dimensions W x H x D	mm	125 x 105 x 128
Weight	kg	3
3-jaw chuck		**D30**
Clamping range	inside Ø mm	23 - 76
	outside Ø mm	3 - 76
Connecting cable for rotary axis		**D30**
Length	mm	1,000

*with plano-spherical lens 160.1

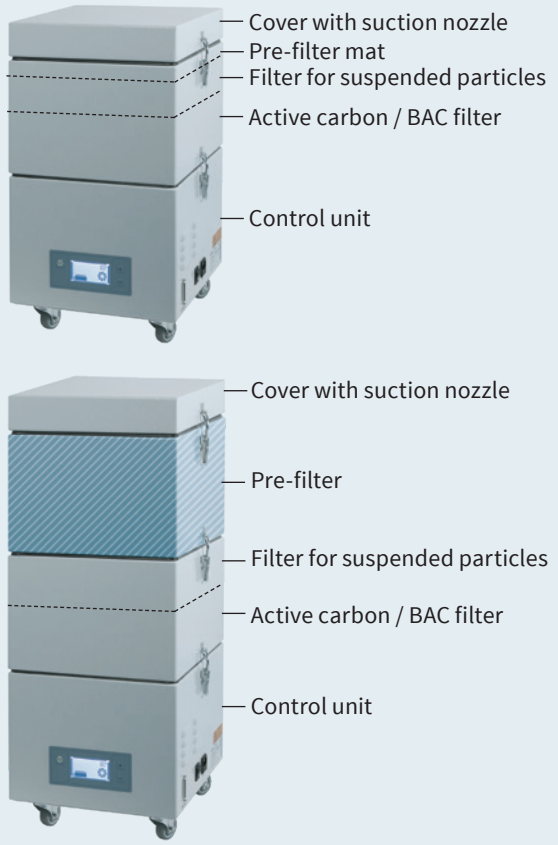
Extraction and filter device AF5

Laser marking processes produce poisonous dusts and gases. The extraction and filter device protects the health of the operators and prevents both the laser area and lens from contamination. At this, it also ensures that the laser power maintains. The air from the working area is extracted by a highly performant turbine via a flexible hose.

The pollutants resp. dusts are separated by the pre-filter and the filter for suspended particles. Gaseous pollutants are absorbed by the active carbon filter. Cleaned air is then returned to the environment.

The extraction and filter device has a modular design, filters are easy to exchange.

8.2



Consumables

8.7 **Pre-filter mat**

8.8 **Pre-filter**
It absorbs approx. 10 times more pollutant particles and dusts than the mat.

8.9 **Filter for suspended particles**

8.11 **Active carbon / BAC filter**

Accessories

8.3 **Pre-filter module**
for retrofitting

8.4 **Suction hose** 2.5 m
included in the scope of delivery

8.5 **Crevice nozzle**
for cleaning the work area;
included in the scope of delivery

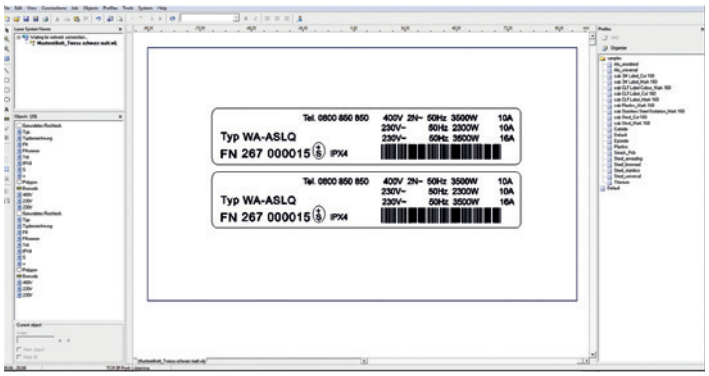
		8.2	8.3
Extraction and filter device		**AF5**	**AF5 with pre-filter module**
Suction power	max. m³/h	230	
Vacuum	max. Pa	11,000	
Filter equipment	**Filter class**		
Pre-filter mat	F5	■	-
Pre-filter	F7	-	■
Filter for suspended particles	H13	■	■
Active carbon / BAC filter		■	■
Dimensions and weights			
Device	Width mm	350	350
	Height mm	650	880
	Depth mm	350	350
	Weight ~kg	40	55
Suction nozzle	NW mm	50	50
Operating data			
Power supply		100-240 VAC, 50/60 Hz	
Power consumption	Standby W	<40	
	typical W	400	
	max. W	1,100	

Temperature / humidity	Operation	+5-40 °C / 10-85 % not condensing
	Storage	–25-55 °C / 20-85 % not condensing
	Transport	–25-55 °C / 20-85 % not condensing
Approvals		CE, FCC, cETLus, W3, CAN ICES-3
Operation panel		
Display		LCD color display
		Filter saturation Error Filter status Turbine / Temperature Suction power Machine error
Button 1 Button 2		Run / Standby Suction power
Interface		
		Serial RS232C
Monitoring		Run / Standby Vacuum filter 1/2 Suction power Rotation speed Temperature error Temperature Turbine error Operating hours Run Filter saturated Operating hours Standby Filter pre-warning (75 %)
Control unit		Run / Standby Suction power ± Reset

cabLase marking software

cablase Editor 5 features are:

- Layout design
- Marking control
- Process monitoring



cabLase at a glance

Software		
Software	cabLase Editor 5	
Fonts		
Font types	All TrueType fonts included in Windows, filled or outline; laser typical single, double, triple line fonts. All font types can be freely scaled and “wobbled”.	
Alignment	Any alignment and direction of rotation, circular ark marking	
Character spacing	Compressing and stretching	
Graphics		
Graphic elements	Lines, circles, rectangles, polygons; hatching of all closed surface elements	
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 align the objects.	
Barcodes		
Linear	Interleaved 2/5 Code 39, Code 93 Code 128	Codabar EAN UPC
2D	DataMatrix, ECC200, QR code	
	All codes are variable as regards height, modular width and ratio; optional check digit or inverted code output	
Further features		
Serial number, time, date		
Variable fields		
Insertion of graphic data of Windows programs		
Programmable laser parameters		
Storage of process and parameter data		
Control of digital inputs and outputs		
Control and monitoring of additional axes, e.g. stroke, rotary and linear axes		

17.1, 17.2

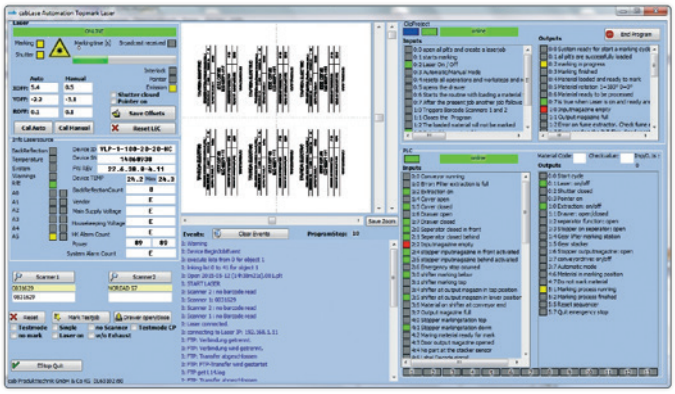
All laser marking system deliveries include a USB software dongle of cabLase Editor 5.

Stand-alone mode
cabLase supports marking without the need of a PC. The marking layouts and related fonts are downloaded to the control unit of the laser and managed by the software. Digital signals provide process control and monitoring.

Remote host mode
cabLase allows remote control serial, via Ethernet or ProfiBus, by a master control unit such as a PC / PLC. Programming commands are available for layout selection, change of marking data, process control and monitoring.

Remote API interface
This is most useful especially in combination with complex production processes. It allows to generate objects and their parameter setting, as well as to externally manage and process consisting layouts and variable data via a PC / PLC.

COM Automation Server
for customer specific marking applications. Provided is a command library including all the functions of the cabLase marking software.

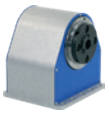


Integration in ERP and MES systems
cabLase provides program modules to integrate marking systems in MES and ERP platforms. As cab is a member of the SAP Printer Vendor Program, labeling applications can, for example, be connected to the SAP data stream.

Industry 4.0

Industry 4.0 and the Internet of Things symbolize tomorrow's smart production. User software and connectivity are keys for their implementation. cab marking laser systems are future-proof and provide all necessary programming and data interfaces. **We are looking forward to advise you in your application!**

Delivery program

Pos.		Part no.	Device
7.1		**5528130**	Laser marking system XENO 1 20 W / 160.1 including lens
7.2		**5528140**	Laser marking system XENO 1 20 W / 254.1 including lens
7.3		**5528150**	Laser marking system XENO 1 30 W / 160.1 including lens
7.4		**5528160**	Laser marking system XENO 1 30 W / 254.1 including lens
	Scope of delivery	Laser marking system XENO 1 including lens USB software dongle cabLase Editor 5 Power cable type E+F, 1.8 m Patch cable CAT 5e, 3 m E-stop dongle Operator's manual DE / EN	
Pos.		**Part no.**	**Accessories**
9.2		**5527254.001**	Plano-spherical lens F-Theta 160.1 112 x 112 mm
9.3		**5525038.001**	Plano-spherical lens F-Theta 254.1 180 x 180 mm
9.5		**5528310.001**	Protective glass for F-Theta 160.1, 254.1
11.1		**5906350**	Rotary axis D30.1 consisting of connecting cable, axis control
11.2		**5905978**	3-jaw chuck D30
11.4		**5528250.001**	E-stop dongle
11.5		**5528368**	Foot switch
Pos.		**Part no.**	**Software**
17.1		**5526096.001**	USB Software dongle cabLase Editor 5
17.2		**5526094**	USB Software dongle cabLase Editor 5, save only

Pos.		Part no.	Extraction and filter device
8.2		**5907550**	Extraction and filter device AF5 including filter set
	Scope of delivery	Extraction and filter device including filter set Suction hose Crevice nozzle Power cable type E+F, 2 m Cable SUB-D25 male/male, 3 m Operator's manual DE / EN	
Pos.		**Part no.**	**Accessories**
8.3		**5907570**	Pre-filter module including pre-filter
8.4		**5907537.001**	Suction hose, 2.5 m
8.5		**5907174.001**	Crevice nozzle
Pos.		**Part no.**	**Consumables** **Pack unit**
8.7		**5906555.001**	Pre-filter mat 10
8.8		**5907575.001**	Pre-filter 1
8.9		**5906569.001**	Filter for suspended particles 1
8.11		**5906570.001**	Active carbon / BAC filter 1

Scopes of delivers, design and technical specifications correspond to the date of the printing. Subject to change. The data provided in the catalog do not represent any warranty or guarantee.

Information is also available on the Internet:
www.cab.de/en/laser

Germany
cab Produkttechnik GmbH & Co KG
Karlsruhe
Phone +49 721 6626 0
www.cab.de

France
cab Technologies S.à.r.l.
Niedermodern
Phone +33 388 722501
www.cab.de/fr

USA
cab Technology, Inc.
Chelmsford, MA
Phone +1 978 250 8321
www.cab.de/us

Mexico
cab Technology, Inc.
Juárez
Phone +52 656 682 4301
www.cab.de/es

Taiwan
cab Technology Co., Ltd.
Taipei
Phone +886 (02) 8227 3966
www.cab.de/tw

China
cab (Shanghai) Trading Co., Ltd.
Shanghai
Phone +86 (021) 6236 3161
www.cab.de/cn

China
cab (Shanghai) Trading Co., Ltd.
Guangzhou
Phone +86 (020) 2831 7358
www.cab.de/cn

South Africa
cab Technology (Pty) Ltd.
Randburg
Phone +27 11 886 3580
www.cab.de/za

we identify more