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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 easily and quickly adjustable in height up to 180 mm with the motor-driven moveable Z-axis and the focus finder. In the case of graduated marking surfaces, the scan head is automatically tracked by software.

Depending from the lens, the marking field has a size of 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 focus finder makes it easy to adjust the marking plane.

The automatic operation door opens and closes within two 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 available as an accessory.

With the comprehensive cabLase marking software the layouts are designed graphically, the marking can be controlled and the process monitored.

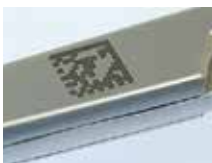
Performance level d guarantees high security. Legal environmental regulations RoHS and REACH are observed.

Sample applications



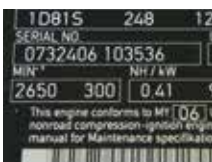
Engraving

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 titanium.



Ablating

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



Coloring

is applied with plastics. The color change 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 single and series markings.



- 1 Integrated 20 or 30 W Ytterbium fiber laser
- 2 Motor-driven operation door
- 3 Motor-driven scan head adjustable in height with a pilot laser previewing the marking
- 4 Focus finder to set up the marking lane
- 5 LED lit working area
- 6 Rotary axis with a 3-jaw chuck to mark cylindrical objects
- 7 Digital I/O for control and monitoring, providing 8 freely programmable inputs and outputs; protective circuit according to IEC 61131-2
- 8 Plug to connect the rotary axis
- 9 Operation panel with control keys and status display
- 10 Groove plate to clamp the workpiece carriers
- 11 Suction hose

Interfaces



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

Technical data XENO 1

		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			
Plano-spherical lenses		160.1	254.1	160.1	254.1
Working distance	mm	202	302	202	302
Marking field	mm	112 x 112	180 x 180	112 x 112	180 x 180
Work area	Height	180	100	180	100
	Width x Depth	500 x 250			
Groove plate W x H x D x pitch		500 x 20 x 250 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 50			
Laser protection window W x H		mm 100 x 200			
Extraction					
Nozzle flexible hose	NW mm	38			
Connector extraction	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			
Performance level		d			
Operation panel					
LED indicators	Power, Ready, Emission, Error, Marking				
Buttons illuminated	Control ON/OFF	Start			
	Focus finder ON/OFF	Z-axis UP/DOWN			
	Extraction ON/OFF	Rotary axis LEFT/RIGHT			
	LED ON/OFF	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	Extraction and filter device AF5			
	24 V for digital I/O	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
Working distance	mm	202 ±4	302 ±4
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 cylindrical workpieces. 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 hole	diameter mm	15
Workpiece	diameter 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 diameter	mm	23 - 76
outside diameter	mm	3 - 76

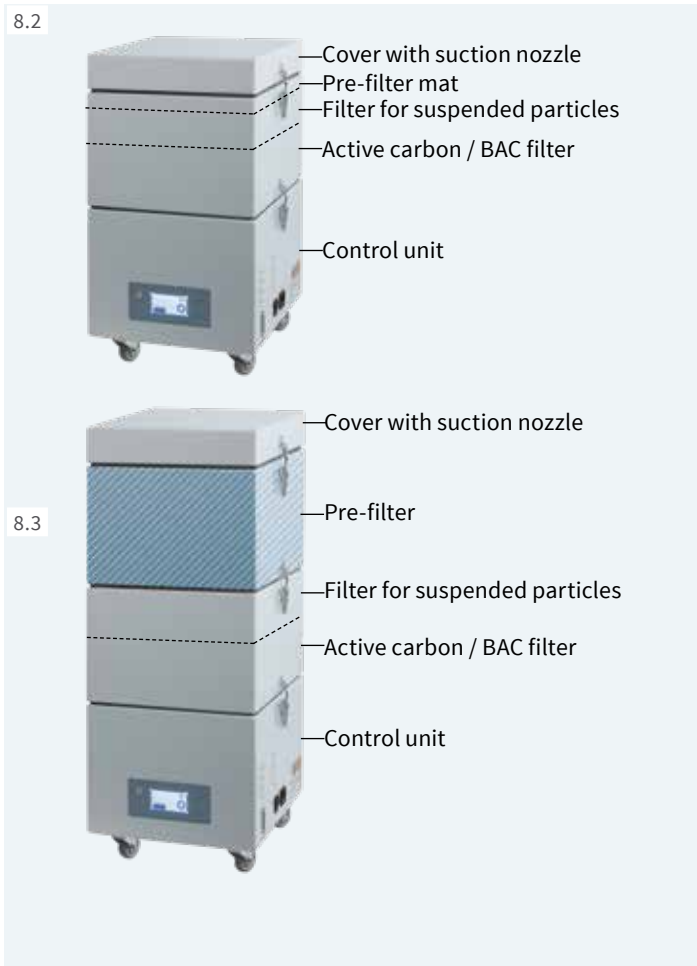
*with plano-spherical lens 160.1

Extraction and filter device AF5

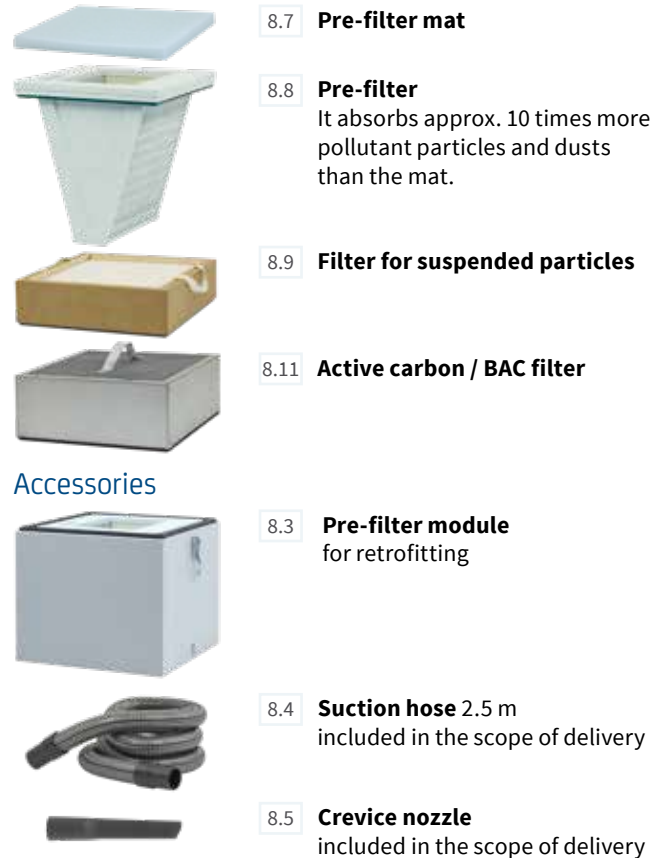
Laser marking processes produce poisonous dusts and gases. The extraction and filter device protects the health of the operators and prevents both the laser area and lens from contamination. By this, it also ensures that the laser power maintains. The air from the working area is extracted by a highly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



Consumables



Extraction and filter device		8.2		
		AF5	AF5 with pre-filter module	
Suction power	max. m³/h	230		
Vacuum	max. Pa	11,000		
Filter equipment		Filter class		
Pre-filter mat	F7	■	-	
Pre-filter	F5	-	■	
Filter for suspended particles	F7	■	■	
Active carbon / BAC filter		■	■	
Dimensions and weights				
Device	Height	mm	650	880
	Width	mm	350	350
	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	0-60 °C / 20-85 % not condensing	
	Transport	-25-60 °C / 20-85 % not condensing	
Approvals	CE, FCC		
Operation panel			
Indicators	LCD color display		
	Filter saturation	Error	
	Filter status	Turbine / Temperature	
	Suction power	Machine error	
Button 1	Run / Standby		
Button 2	Suction power		
Interfaces			
Monitoring	Serial RS232C		
	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

All the marking laser systems have installed the marking software cabLase Editor 5.

Software 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		

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

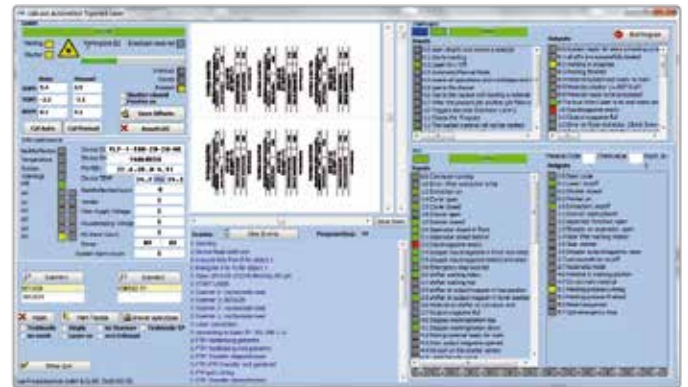
cabLase allows remote control serial, via Ethernet or ProfiBus, by a master control unit such as a PC / PLC. Programming commands are available for layout selection, change of marking data, process control and monitoring.

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. It provides 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
11.3	5528250.001	E-stop dongle
11.4	5526096.001	USB Software-Dongle cabLase Editor 5
11.5	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, 2.0 m Cable SUB-D25 male/male, 3.0 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 deliveries, 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

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cab
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