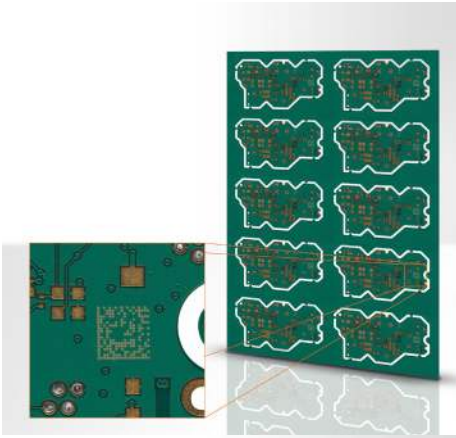
Laser Marking +
Engraving Solutions

FOBA®
Laser at your service

FOBA C-Series

Versatile, powerful and reliable all-rounders for laser etching



CO2 lasers have established themselves as a versatile, reliable and cost-effective solution for industrial direct parts marking. These lasers are especially suitable for applications requiring wavelengths between 9.3 and 10.6 µm.

Classic applications include the marking of plastics and organic materials for traceability, brand protection or decoration in the consumer goods, automotive and electronics industries. In addition to non-metallic materials, ranging from plastics and resins to glass, ceramics, wood, paper and cardboard, gas laser etchers also provide particularly cost effective marks on painted metals and anodized aluminum.

With 10 (C.0102), 30 (C.0302) and powerful 60 (C.0602) watts of laser output power, FOBA's C-Series offers the widest range of CO2 marking lasers on the market that are ideally suited for a wide variety of applications – especially for those with high line speed requirements.

Flexibility is an integral part of the C-Series: **Wavelength, scan head aperture, marking head position, IP rating, laser power and many other parameters can be configured** to meet the specific requirements. With **marking speeds of up to 2,100 characters per second** and **line speeds of up to 900 meters per minute**, FOBA's CO2 marking lasers are perfect for the **efficient application of simple to complex content** – both stationary and in motion (mark-on-the-fly).

PCB: material removal
Roll-over valve: plastic engraving
Connector: engraving/color change

Your benefits:
Fast, high-quality and economical marking

With the C-Series, FOBA offers reliable laser marking systems that have proven themselves in countless industrial applications. Thanks to continuous development and adaptation to market trends, the C-Series offers one of the widest ranges of variants in terms of laser parameters and wavelengths.

Reliability:
- → Air-cooled lasers virtually eliminate maintenance intervals.
- → High resolution marking heads for high quality, permanent and consistently crisp codes ...
- → that assure product traceability and tamper-proofing.

Built-in productivity:
- → A variety of mark window options and high-speed marking heads allow for a throughput increase of up to 67 %.

Simple usability:
- → Most flexible integration solution with 32 standard beam delivery options.
- → Quick set up and easy redeployment via detachable umbilical cable and simple-to-use accessory connections.
- → 4 interface options plus a choice of networking communications to match the preferred workflow.

C-Series		
C.0102	C.0302	C.0602
		
10 W laser output power	30 W laser output power	60 W laser output power
Available wavelengths: 9.3/10.2/10.6 µm Available IP ratings: IP54/IP65 (optional)		

Example applications			
			
electronic component	*glass*	*PCB*	*ignition distributor plug*

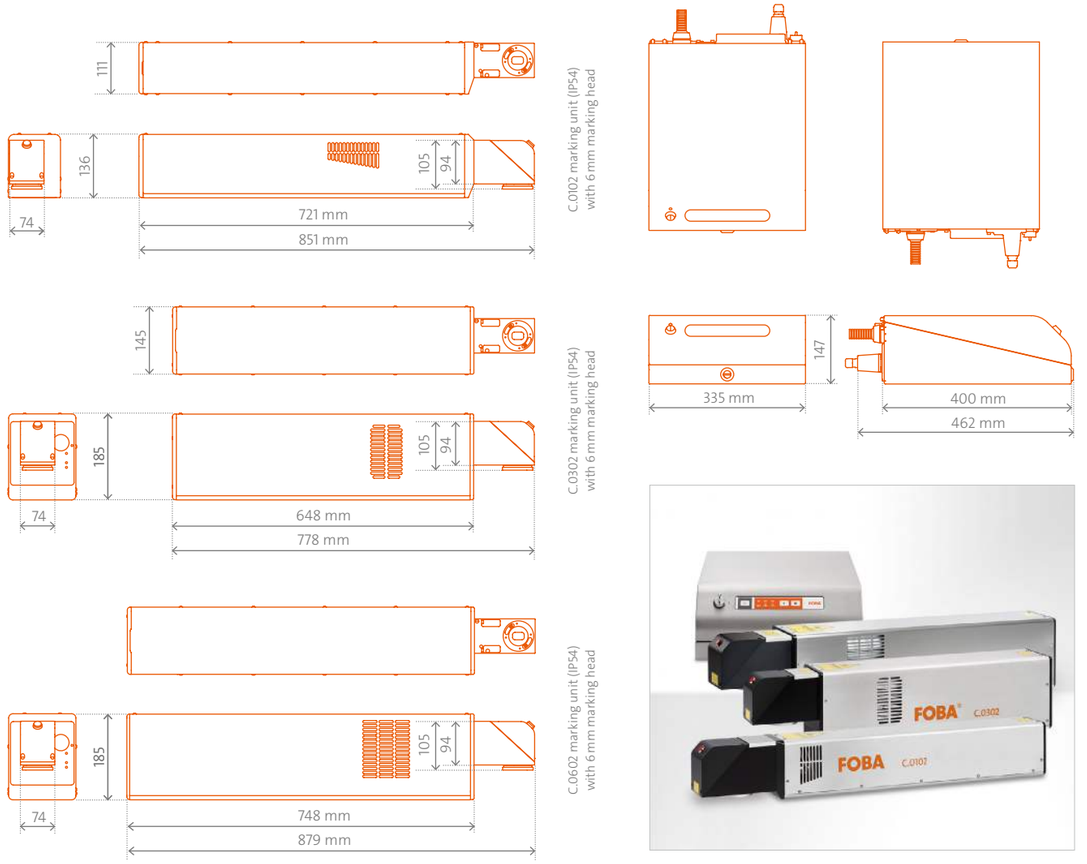
Step on the gas for more efficiency:
CO2 laser basics

CO2 laser markers work with carbon dioxide as stimulating laser medium. Their wavelength is in the infrared range between 9.3 and 10.6 µm. Main areas of application are in the automotive and automotive supplier industry, medical technology, pharmaceuticals, electrical engineering, beverage and packaging industry as well as plastic processing industries.

*Carbon dioxide lasers mark reliably, efficiently and economically. They are extremely powerful and have proven themselves in many years of industrial use, especially due to their **high cost-effectiveness.***

CO2 marking lasers are ideal for the processing of the following materials:
- → *glass*
- → *ceramics*
- → *plastics (incl. PE, PP, PET, PVC)*
- → *rubber and caoutchouc*
- → *foils*
- → *organic materials (wood, paper, cardboard, leather, food)*
- → *painted metals*
- → *anodized Aluminum*

Technical Data
Dimensions



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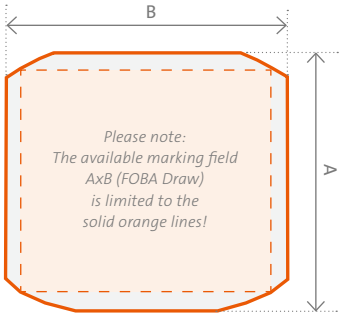
FOBA C.0102/ C.0302/ C.0602

Technical Data

Marking features

Marking heads and focusing	→ 6 mm head with 5 focus lenses (f=64/95/127/190/254 mm) → 10/12/15 mm heads (optional) with various focus lenses (10/12 mm: f=63.5/85/100/150/200/300/351/400 mm, 15 mm: f=100/150/200/300/351/400/500/600 mm)
Marking fields (mm²)	→ 6 mm head: from (AxB) 44.7 x 44.7 to 177.3 x 177.3 → 10 mm head: from (AxB) 30.8 x 38.2 to 294.7 x 406.9 → 12 mm head: from (AxB) 29.1 x 36.2 to 294.7 x 350.8 → 15 mm head: from (AxB) 66.7 x 100.1 to 439.8 x 601.0



Marking field principle

Laser

Type	Sealed CO2 laser, power classes 10/30/60 Watt, Wavelengths 9.3/10.2 and 10.6 µm
Laser class	4 (acc. to IEC 60825-1)

User interfaces

Handheld controller	
PC software	FOBA Draw, MarkUS
Smart Graph Com	Active X interface
Interfaces	Ethernet (TCP/IP), RS232 optional; Inputs for encoders and product detector triggers; I/Os for start/stop, machine/operator interlocks, alarm outputs; additional I/Os available

Integration

Machine safety	Optional safety module for Performance Level d (PL d) in accordance with EN 13849-1
Line integration	Direct integration via scripting interface
Beam delivery	32 standard beam delivery options (beam extension unit/turning unit)
Quick connect	Detachable umbilical for simple integration; available in 3 lengths

Supply

Electrical req.	L/N/PE 100–240 VAC, 50/60 Hz
Power consumption	C.0102: max. 0.4 kW, C.0302: max. 0.7 kW, C.0602: max. 1.15 kW
IP rating	→ Marking unit: IP54 (optional IP65) → Supply unit: IP54 (optional IP65)
Cooling	Air-cooled
Temp./Humidity	5–40 °C / 10–90 %, non-condensing
Weight	→ Marking unit C.0102 (IP54) ~13 kg → Marking unit C.0302 (IP54) ~19 kg → Marking unit C.0602 (IP54) ~27kg → Supply unit (IP54) ~ 12 kg

*Depends on marking head and focus lens

Certifications

CE, TÜV/NRTL, FCC | RoHS conform | CDRH

ALLTEC Angewandte Laserlicht Technologie GmbH
An der Trave 27-31 | 23923 Selmsdorf | Germany
T +49 38823 55-0 | T (US) +1 630 694-3243
info@fobalaser.com | www.fobalaser.com

Laser class 4