Laser Marking +
Engraving Solutions

FOBA®
Laser at your service

Technical Data
→ FOBA F.0100-ir Marking Laser

Laser system		F.0100-ir
Overall system	Mechanical configuration	Supply unit, laser control unit, marking unit
	Construction material	supply- & laser control unit -> painted sheet metal marking unit -> painted and anodized metal
	Weight [kg]	Supply unit 11 kg, laser control unit 18 kg, marking unit approx. 55 kg
Environment	Operating temperature (typical, depends on operation)	15 - 32 °C
	Storage temperature	-10 - 60 °C
	Humidity	90 % (max. 20 °C), 30 % (max. 30 °C) non-condensing
	IP rating	marking unit IP21, laser control unit IP20, supply unit IP21
	Cooling	air automatic overheat detection
Laser source	Laser type	Fiber-based ultrashort pulse laser
	Wavelength, typical [nm]	1030
	Laser power [W]	10
	Adjustable Puls width	400 fs - 4 ps
	Puls Energy	up to 100 µJ
	Frequency range	100 kHz – 1 MHz
	Burst Mode	1 – 9 Pulse
	M^2	<1,2
Supply unit	Height x Length x Width [mm]	141.25 x 575 x 436.5
	Cooling	air-cooled
Laser control unit	Height x Length x Width [mm]	140 x 368 x 449
	Cooling	air-cooled
	Supply cable length [m]	2
Marking unit	Scan head	CP-10
	Scan head tuning	Quality and Speed
	Marking Field Calibration	25 point correction possible
	Height x Length x Width [mm]	204,5 x 957,7 (970,0 with IMP) x 242
	Cooling	air-cooled
	Umbilical length – clear length [m]	To the laser control unit: 2,4 m
	Min. bending radius umbilical [mm]	120 mm to the laser control unit
	Available optics [mm]	f =100 / 160 / 254
	Marking speed*	max. 6000 mm/s or 700 Characters/s
	Line width	from 23 µm (depending on used lens)
	Target/pilot laser	always included
	Vision system	optional
	Vision system lighting	standard with vision system
	Mounting position	horizontal
Electrical supply	Voltage range	110 - 240 Volt (autorange); 1-phase
	Frequency	50/60 Hz (autorange)
	Electrical consumption	typical: 400W | maximum: 700W | standby: 50W
Interfaces	User interfaces (PC software)	FOBA Go, MarkUS
	Communication interfaces	TCP/IP, Profibus, PROFINET, EtherCAT, EtherNetIP
Compliance	RoHS conform	yes
	Safety	Integrated safety control FASS (Performance Level D)

** max. markingspeed is depending on application*

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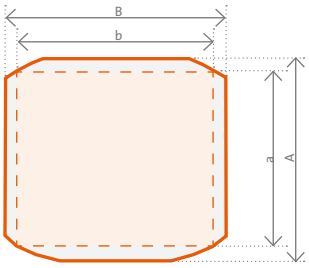
Optics and marking fields

Lens	F100	F160	F254
Focal length [mm]	100	160	240
Working distance [mm] [1]	164.31	269.81	375.99
Max. width A [mm] with FOBA Go	58.18	109.79	172.66
Max. height B [mm] with FOBA Go	105.74	152.68	231.81
Width for max. area rectangle a [mm] with MarkUS	50.97	89.13	138.47
Height for max. area rectangle b [mm] with MarkUS	50.97	89.13	138.47
Focus spot size [µm] [2]	23	37	69
25pt corrected field sizes with MarkUS	40X40	70X70	130X130
Accuracy of the CP-10 scan head without 25pt correction	≤ +/- 0.5% of the marking field size		
Accuracy of the CP-10 scan head with 25pt correc-ton in Root Mean Square [µm] * **	-	+/-25	+/-40

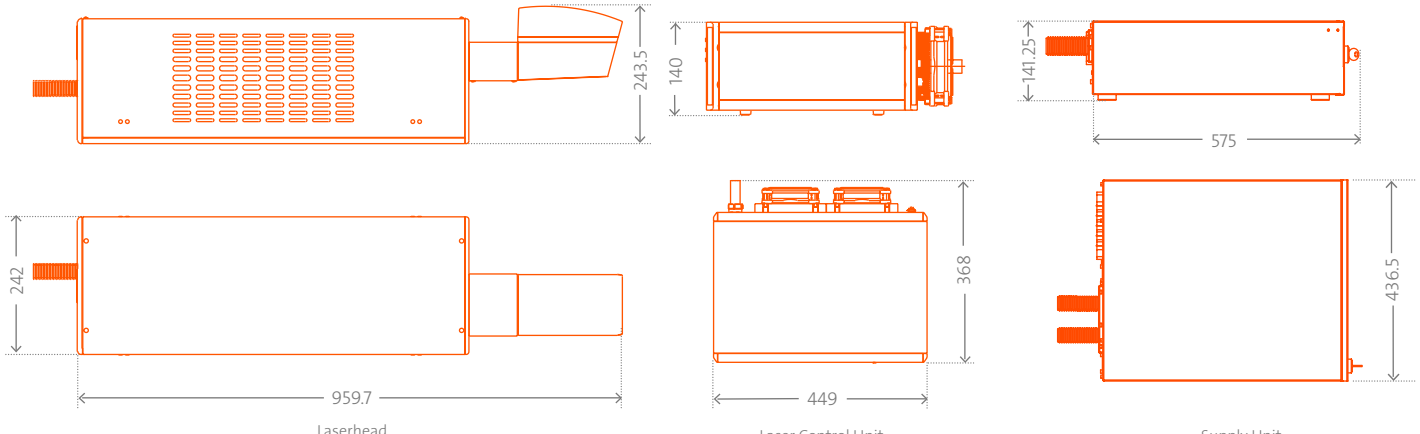
** Values given refer to root mean square errors; hence the absolute error of a single measuring point might be significantly larger*
*** Values are only valid for stabilized ambient temperature conditions with ΔT<2 Kelvin*



Please note: The available marking area AxB (FOBA Draw) is confined by the solid lines!

[1] With possible deviation depending on the system. This deviation relates to system-dependent focus tolerances and not to the working distance of a specific application in which an effect is achieved on the material.
[2] Based on internal theoretical calculation.

Drawings → FOBA F.0100-ir



Laserhead | Laser Control Unit | Supply Unit

Laser class 4