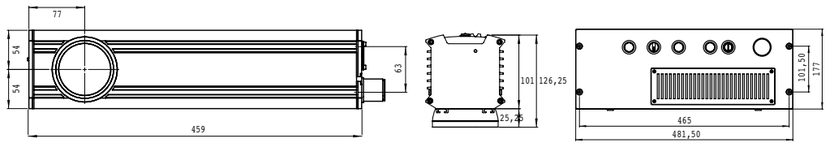
F Duo Series



F - DUO Series & MOPA																		
MODEL				**PULSED & PULSED UHS**												**MOPA**		
POWER				10W		20W		30W		50W		100W				20W		50W
WAVELENGTH				1.062 µm														
LASER SYSTEM				F - 10 PULSED & PULSED UHS		F - 20 PULSED & PULSED UHS		F - 30 PULSED & PULSED UHS		F - 50 PULSED & PULSED UHS		F - 100 PULSED & PULSED UHS				F - 20 MOPA		F - 50 MOPA
MAINS SUPPLY				100V - 240V 50 / 60 Hz (1 Phase + N) 300 VA		100V - 240V 50 / 60 Hz (1 Phase + N) 350 VA		100V - 240V 50 / 60 Hz (1 Phase + N) 400 VA		100V - 240V 50 / 60 Hz (1 Phase + N) 600 VA		100V - 240V 50 / 60 Hz (1 Phase + N) 750 VA				100V - 240V 50 / 60 Hz (1 Phase + N) 350 VA		100V - 240V 50 / 60 Hz (1 Phase + N) 600 VA
DIMENSIONS	Head			108x106.5x469 mm						115x98x463 mm						108x106.5x469 mm		115x98x463 mm
	Rack			464x177x550 mm														
WEIGHT				Net weight: 23Kg - Gross Weight: 27Kg												Net weight: 23Kg - Gross Weight: 27Kg		
SYSTEM				Optical isolator and collimator of the laser source, galvanometric scanners built into the marking head. Control and power electronics, drivers of the scanners, CPU, power supplies and laser source built into the control rack.														
FOCAL SPECIFIC.	TECHNOLOGY			PULSED						PULSED UHS						MOPA		
				F -	10	20	30	50	100	F -	10	20	30	50	100	F -	20	50
	MA (mm)	WD (mm)	FL (mm)	BD (µm)	PD (KW/cm²)	PD (KW/cm²)	PD (KW/cm²)	PD (KW/cm²)	PD (KW/cm2	BD (µm)	PD (KW/cm²)	PD (KW/cm²)	PD (KW/cm²)	PD (KW/cm²)	PD (KW/cm2)	BD (µm)	PD (KW/cm²)	PD (KW/cm²)
	55x55	141	100	16	9709	19417	29126	48542	97085	27	3482	6964	10446	17409	34819	16	19417	48542
	100x100	205	163	26	3654	7308	10962	18270	36540	44	1327	2653	3980	6634	13267	26	7308	18270
	168x168	347	254	41	1505	3009	4514	7524	15045	69	540	1079	1619	2698	5397	41	3009	7524
	212x212	458	346	56	811	1622	2433	4054	8110	94	291	582	873	1454	2908	56	1622	4054
	242x242	554	420	68	551	1101	1652	2752	5505	-	-	-	-	-	-	68	1101	2752
	560x560	888,5	815	132	146	292	438	731	1460	-	-	-	-	-	-	132	292	731
	LEGEND			WD:Working Distance FL:Focal Length MA:Marking Area BD: Spot Beam Diameter PD:Power Density														
	IMPORTANT NOTE			· Working Distance (WD): The distance between the laser system base and the surface to be marked.														
				· Focal Length (FL): The distance between the center of the lens and the surface to be marked.														
				· Approximate values: These values are an approximation, and they are different for each laser system, due to the different optical paths.														
SOFTWARE				· ScanLinux (Standard). · Crystal Font (Standard). · Internal Barcode. · Marca Lite Software.														
USER INTERFACE				· Touch Screen. · Hand Held Terminal. · PC.														
CONTROLLED BY				· Hand Held Terminal with ScanLinux software. · Touch Screen with ScanLinux software. · Full Graphics Interface: includes Marca™ software, dongle and Ethernet cable (TCP / IP). · Marca Lite Software: includes Marca™ software, dongle and Ethernet cable (TCP / IP).														
ACCESSORIES				Handheld Terminal-Touch Screen Terminal - Beam pointer - Encoder Kit - Photocell Kit - Alarm Kit - Fume Extractor - Mounting support - Mounting Bracket U-ARM - Marking paper - Protection goggles - Air Cooling Kit														
ENVIRONMENTAL CONDITIONS				+15ºC (59ºF) at 40ºC (104ºF) external temperature with 50% Duty Cycle or 36ºC(100ºF) external temperature with 100% Duty Cycle. Humidity between 10% and 95%, without condensation. No vibrations.														

** approximate data that may have small variations in reality*





Version JANUARY 2018

Coding, tracing and marking solutions worldwide



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F DUO Series

INDUSTRIAL FIBER LASER

High precision 2D and 3D marking on metals











F DUO Series by **MACSA**

Powerful. Reliable. Precise.

INDUSTRIAL FIBER LASER

F DUO Series

A family of powerful and reliable industrial fibre lasers.

F DUO lasers are **designed for high-speed on-line integration and for use in standalone workstations.**

They are ideal for demanding metal marking applications, but are also effective with other materials such as plastics and composite materials.

F DUO lasers are long life, low maintenance lasers with very low cost of ownership.

The F DUO pulsed fiber laser product range has been extended to include MOPA lasers.







F MOPA

For high precision marking

MOPA technology allows the shape and duration of the waveform to be controlled and selected by the user in order to optimize the conditions for high precision marking and micro machining applications.

- Shorter pulse widths are ideal for marking delicate substrates such as plastics or thin materials. An extended frequency range enables higher repetition rates with shorter pulse widths to be used which leads to higher productivity.
- Longer pulse widths are ideal for deep engraving and other bulk material removal applications.

The key to high precision marking applications is precise thermal management and with 8 selectable and programmmable pulse withds. F MOPA laser is the perfect tool for those demanding, high value add applications.







marca by Macsa id

Macsa lasers are very easy to use thanks to our powerful propietary marking software.
Marca makes it simple to code and mark precisely and consistenly. A userfriendly software to create text, 1D and 2D codes, 3D graphics, graphical files, etc...





integra by Macsa id

YOUR PASSPORT TO 4.0 SMART FACTORY

The modular software to control, manage and optimize the production line.

integraoptima

Application for the centralised management of the coding, marking and labelling process.

integratrack&trace

Solution for controlling production, quality and traceability.

3D marking

2D marks can be mapped to regular 3D geometries such as cylinders, spheres and cones. Additionally irregular geometries can be loaded as 3D CAD files in to Marca software enabling 2D marks to be mapped to irregular 3D surfaces. The Macsa 3D scan head greatly simplifies the mechanical handling of 3D geometries and can eliminate the need for rotary and robotic handling devices. This can significantly increase productivity.

DUO by Macsa

Dual Processor Technology Lasers by Macsa allows high precision marks to be produced even with variable data with no loss of performance. This technology dedicates one processor to data processing and the other to controlling the laser.

3-D Print Head transform your 2D laser to 3D

