



| 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 | | | | | | Rack | | | | | | Head | | Rack | | | | | | | | | |
| | | 108x106.5x469 mm | | | | | | 115x98x463 mm | | | | | | 108x106.5x469 mm | | 115x98x463 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. | | | | | | | | | | | | | | | | | | | | | | | |
| TECHNOLOGY | | PULSED | | | | | | PULSED UHS | | | | | | MOPA | | | | | | | | | | | |
| | | F - 10 | | 20 | | 30 | | 50 | | 100 | | F - 10 | | 20 | | 30 | | 50 | | F - 10 | | 20 | | 50 | |
| FOCAL SPECIFIC | | 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) | BD (μm) | PD (KW/cm²) | PD (KW/cm²) | BD (μm) | 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 | | 16 | 19417 | | 16 | 19417 | 48542 |
| | | 100x100 | 205 | 163 | 26 | 3654 | 7308 | 10962 | 18270 | 36540 | 44 | 1327 | 2653 | 3980 | 6634 | 13267 | 26 | 7308 | | 26 | 7308 | | 26 | 7308 | 18270 |
| | | 168x168 | 347 | 254 | 41 | 1505 | 3009 | 4514 | 7524 | 15045 | 69 | 540 | 1079 | 1619 | 2698 | 5397 | 41 | 3009 | | 41 | 3009 | | 41 | 3009 | 7524 |
| | | 212x212 | 458 | 346 | 56 | 811 | 1622 | 2433 | 4054 | 8110 | 94 | 291 | 582 | 873 | 1454 | 2908 | 56 | 1622 | | 56 | 1622 | | 56 | 1622 | 4054 |
| | | 242x242 | 554 | 420 | 68 | 551 | 1101 | 1652 | 2752 | 5505 | - | - | - | - | - | - | 68 | 1101 | | 68 | 1101 | | 68 | 1101 | 2752 |
| | | 560x560 | 888,5 | 815 | 132 | 146 | 292 | 438 | 731 | 1460 | - | - | - | - | - | - | 132 | 292 | | 132 | 292 | | 132 | 292 | 731 |

* approximate data that may have small variations in reality



Version JANUARY 2018

F DUO Series

INDUSTRIAL FIBER LASER

High precision 2D and 3D marking on metals



Coding, tracing and marking solutions worldwide



Macsa id
a code you can trust

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 programmable pulse widths. F MOPA laser is the perfect tool for those demanding, high value add applications.



Macsa lasers are very easy to use thanks to our powerful proprietary marking software.

Marca makes it simple to code and mark precisely and consistently. A userfriendly software to create text, 1D and 2D codes, 3D graphics, graphical files, etc...



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



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



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

