

LASERfibre LF-s

Marking Fibre Laser

■ Diode pumped fibre lasers MediCom **LASERfibre LF** are a new generation of marking lasers with fibre as an active material and a set of reliable laser diodes as a pumping source. This new technology brings on much higher efficiency and therefore lower power consumption and lower cooling requirements. Lasers of type **Laserfibre LF** are cooled directly by air. There are no replacement parts and maintenance free design of the laser cuts down number and complexity of maintenance. Due to use of more pumping laser diodes, the reliability increased dramatically and MTBF more than 100.000 hours reduced price of ownership of laser.

■ Models **LASERfibre LF** are produced as a Q-switched lasers **LF-Q** with power up to 100 W designed for marking and engraving.



Q-switched fibre laser LF20-s
20 W laser is fitted with scanning head containing F-theta lens 254 mm and marking field 160x160mm. Laser power, laser type, size of marking field which affecting spot size are optional.



Fiber laser control unit

Cabinet contains control electronic, air-cooled fiber laser and integrated industrial PC

■ Pulsed lasers are available in two design options – Q-switched and MOPA. Both options have the same maximum power, but differs in the range of working frequency, duration and energy of the output pulse. Different features allow further optimization for certain applications such as a marking of plastics, housings of integrated circuits, silicon keys, etc.

■ Fibre lasers excels with beam quality and marking quality competes with more powerful diode Nd:YAG lasers. Due to fine spot (about 0.02mm) are useful for fine and precious marking and engraving.

■ Series **LF-s** is designed to be integrated into production lines, automatic production machines and other OEM industrial applications. Compact design, reliability and long lifetime of this model excels in marking of final components in industry as well as marking of parts and various materials. Precious and fine marking is useful in all industrial applications.

Technical data of laser:

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|---------------|--|------------------------|---|
| Laser | | Scanning head | |
| Type: | ytterbium fibre laser | Principle: | Galvanometric beam deflection in X and Y axes |
| Wavelength: | 1064 ±5 nm | Type: | Fast scanners |
| Pumping type: | laser diodes | Marking speed: | 0–4000 mm/s |
| Power: | LFQXXS 10, 20, 30, 50, 100 W | Resolution: | 2 µm |
| Switching: | Q-switched 50–200 ns pulses 1 mJ/pulse | Repetition accuracy: | 25 µm |
| Frequency: | Q-switched 20–200 kHz MOPA CW–500 kHz | Focusing optics | Marking field: |
| MBTF: | Q-switched > 100.000 hours | Marking field: | 160x160 mm 100x100 mm*, 250x250 mm* |
| | | Single line width: | Typical 0,06 mm (0,02–0,1 mm depending on optics configuration)* |
| | | Cooling | Direct passive cooling Water free |

Technical data LASERfibre version “S”:

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|--------------------------|--|---------------------------|--|
| System control | | Laser and head | |
| Internal: | Control system checks and sets all equipment operational parameters | Cover: | IP56 |
| Master control computer: | Industrial PC, Intel Core i3 @ 3.1 GHz, 4 GB RAM, USB, SSD 80 GB | Laser dimensions, weight: | IP56 430x80x100 [lxh _{xw}], 10,8 kg |
| Monitor: | LCD display, 19" | Scan head dimensions: | 162x190x160 [lxh _{xw}] |
| Network: | Ethernet 1000 | Working orientation: | Horizontal or vertical |
| Software | | Head connection length: | 3 m*, 5 m, 10 m* |
| Operating system: | Windows 7 | Connection type: | Polyamide, steel cord* industrial connector Harting |
| Control software: | WMark 2012 - the marking control program, Windows environment, full setting of all marking parameters comprehensive set of commands and functions | Mechanical connection: | connection interface of the laser defined by pins |
| | | Cabinet | |
| | | Power supply: | 100–240 V, 50/60 Hz |
| | | Input: | 300–600 W |
| | | Cover: | IP54 |
| | | Dimensions: | 577x453x577 mm [wxhxl] |
| | | Weight: | 43 kg |
| | | Operating conditions: | Temperature 15 °C ÷ 33 °C non-condensing humidity |

Accessories*:

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|-------------------|---|--------------------------|---|
| Connection | | Exhaust system | |
| Logical: | Galvanized insulated input and output signals for external start-up and control | Exhauster Type1: | 180 m ³ /h, regulation 230 V, 1,3 kW |
| Serial: | RS232, communication protocol. The laser is fully controlled by a master system (PLC, PC) | Exhauster Type 2: | 400 m ³ /h, no regulation 380 V, 3,4 kW |
| Ethernet: | TCP/IP | Other accessories | Refer to accessory product brochures and technical data |
| Axis control: | Step motor, DC motor with optical encoder | | |

* alternative or optional accessories

