

Business Fibre

Built to last

Laser marking with guaranteed quality

When marking a workpiece, the goal is to apply a permanent, high-contrast, high-resolution identifying mark to it. The impact on the material, along with any changes to its properties, needs to be kept to a minimum.

Business Fibre laser systems are the perfect solution for fulfilling these requirements.

To ensure that they will always run smoothly, our products are subject to strict quality control at both the development and the production stage. This guarantees safe, reliable operation from machinery that will stand the test of time.

The functional, compact design of these laser systems is taking industrial laser marking to new places.

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DFL Ventus Marker Industrial Design



DFL Ventus Marker Industrial Design

Laser marker for industrial applications

This compact laser system has been specially designed for use in production lines in industrial environments. Its housing is protected against the ingress of dust and water splashing against it, and the versatility of this housing means that it can be installed with ease wherever needed. With a choice between a 19-inch built-in version and a tabletop version, this laser system is available in a range of power classes and beam qualities, depending on the application.

→ Features/properties

→ Optional features

→ Technical specifications

Features/properties

- Functional safety rating PLe acc. to EN ISO 13849-1
- Protection class IP64 (for laser head)
- 100% air-cooled
- Ambient temperatures up to 40 °C (for laser head)
- Can be installed in four different positions
- 3 m fibre length
- Low power consumption
- Control via external PC
- Scalable laser power from 20 to 100 W

Standard interface

- Wide input range of 80-240 V AC
- Eight digital inputs and outputs
- External safety circuit rated PLe

Exclusively with Business Fibre models

Separable laser head and supply unit

MOPA systems with enhanced adjustability (pulse widths)

Optional features

- Imaging systems for automatic object identification (AOI) and camera-assisted positioning of markings (CPM)
- Code readers
- Different lenses for different sizes of marking area
- External USB output e.g. for camera applications

Exclusively with Business Fibre models

Focus shifter: Real-time height adjustment for marking objects with height variations (for further information, see page 11)

Fully integrated control system: Supports various communication protocols, such as TCP / IP, Industrial Ethernet (Siemens S7 connection)

Encoder input for marking on the fly

Serial communication port RS232 / RS485

Ethernet communication port (x2)

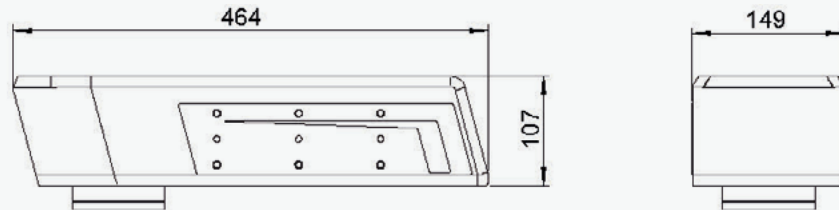
DFL Ventus Marker Industrial Design

Business Fibre

Laser head

Dimensions (l x w x h)
 464 × 149 × 107 mm

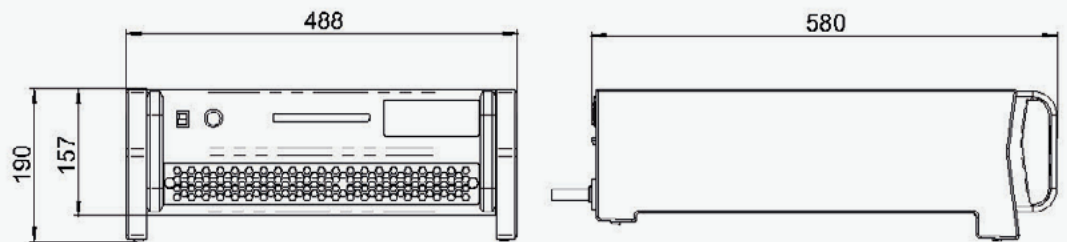
Weight
 7 kg



Supply unit for tabletop system

Dimensions (l x w x h)
 488 × 190 × 580 mm

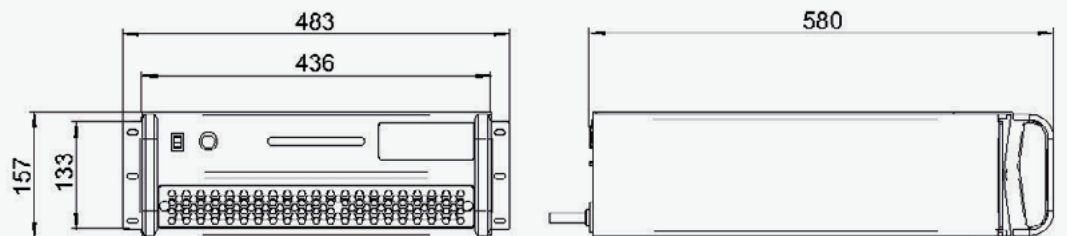
Weight
 25 kg



Supply unit for 19" built-in system

Dimensions (l x w x h)
 483 × 157 × 580 mm

Weight
 22 kg



Technical specifications

DFL Ventus Marker Industrial Design Business Fibre

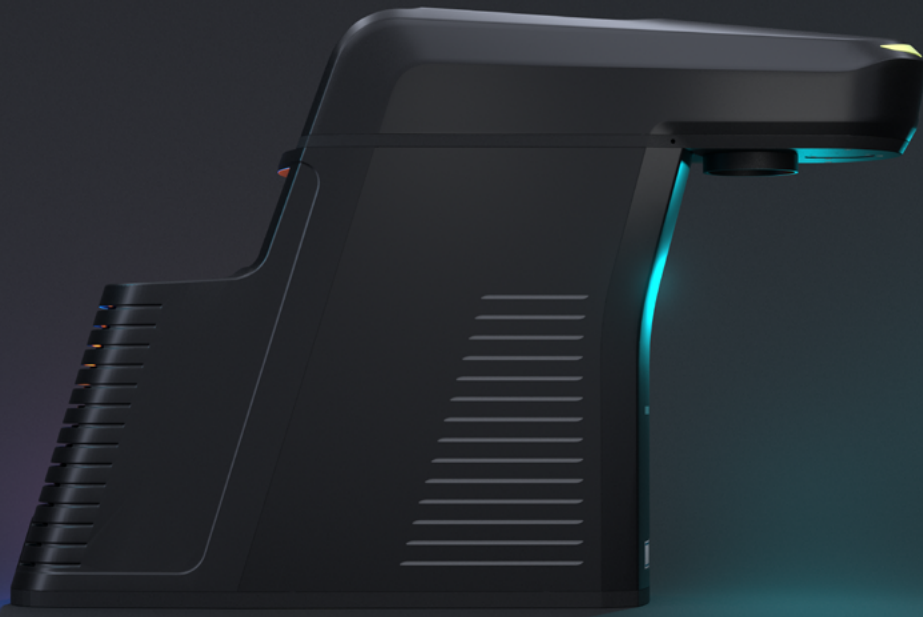
Laser type	Diode-pumped fibre laser (Yb:fibre), MOPA system
Laser power	20-100 W*
Beam quality	$1.3 \leq M^2 \leq 3.7^*$
Wavelength	1064 ± 5 nm
Peak pulse power (max.)	10 KW*
Pulse energy (max.)	0.7 mJ-1.3 mJ*
Number of adjustable pulse forms / widths	2,25-40*
Pulse rate	1 kHz-1 MHz*
Delivery fibre	3 m (optionally 5 m)
Laser class	4 (optionally 1)
Size of marking area	Choose from: 60 × 60 mm/110 × 110 mm/180 × 180 mm**
Power consumption (max.)	600-1000 W*
Mains connection	85-264 V AC/10 A/50-60 Hz
Weight of head / supply unit	7 kg/25 kg
Supply unit dimensions l × w × h	Tabletop system: 580 × 488 × 187 mm/19-inch rack: 580 × 483 × 157 mm
Laser head dimensions l × w × h	464 × 149 × 107 mm
Software	Magic Mark V3
Interfaces	2 serial ports (RS232/RS485)*, 2 Ethernet ports*, USB port, Optional trimming module, interlock connection, Laser-control interface with 8 digital inputs/outputs, power input module
Functional safety acc. to DIN EN ISO 13849-1	PLe

* Depending on system used

** Larger sizes available on request

*** With integrated IPC

DFL Ventus Marker Standard Design



DFL Ventus Marker

Laser marker for superb quality metal marking

The **DFL Ventus Marker** is a high-performance fibre laser that is perfect for marking metals. It is designed to tackle challenging applications with variable pulse widths. Its exceptionally high beam quality delivers first-class marking results.

→ Features/properties

→ Optional features

→ Technical specifications

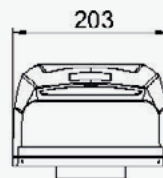
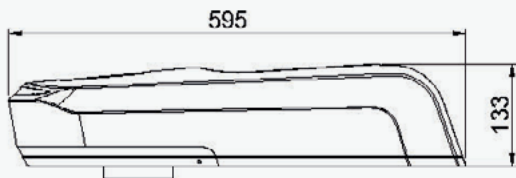
Features/properties Optional features

- Separable laser head and supply unit
- Air-cooled
- Incredibly easy to integrate into existing production lines thanks to the compact and lightweight design

- Imaging systems for automatic object identification (AOI) and camera-assisted positioning of markings (CPM)
- Code readers
- Different lenses for different sizes of marking area
- *Focus shifter* for marking components with height variations

Safety first
Operator safety

The laser safety device (SD) is the core safety module in our laser marking systems. It complies with the safety function requirements set out in DIN EN ISO 13849-1, performance level e.



Laser head

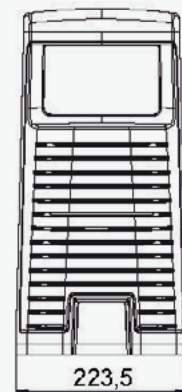
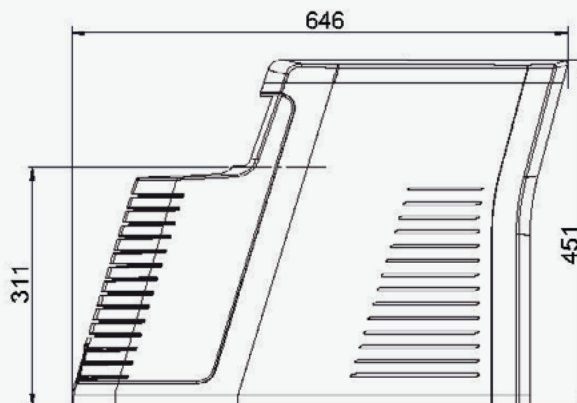
Dimensions (l×w×h)
 595 × 203 × 133 mm

Weight
 9 kg

Supply unit

Dimensions (l×w×h)
 646 × 224 × 451 mm

Weight
 26 kg



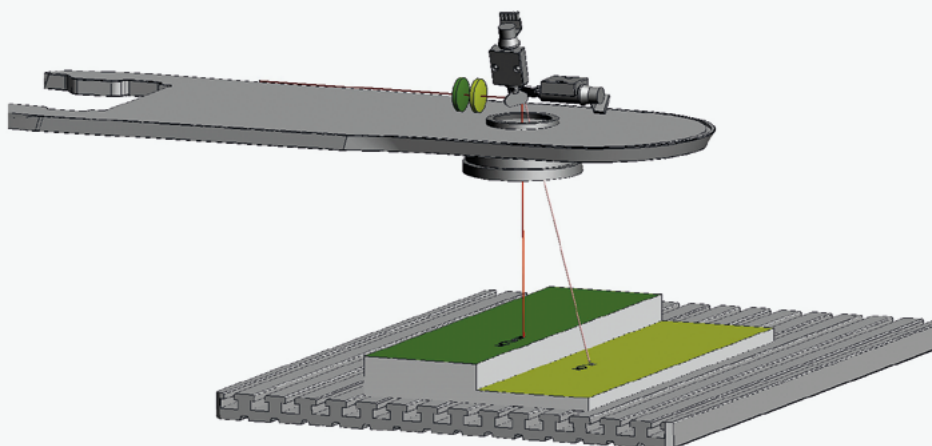
Technical specifications

DFL Ventus Marker Business Fibre

Laser type	Diode-pumped fibre laser (Yb:fibre), MOPA system		
Mode of operation	Pulsed		
Laser power (max.)	20 / 50 / 70 W		
Beam quality M^2	> 1.3 to > 3.7*		
Wavelength	1064 ± 5 nm		
Peak pulse power (max.)	9-20 kW*		
Pulse energy (max.)	0.7-1.3 mJ*		
Number of adjustable pulse forms / widths	2 – 40*		
Pulse rate	1 kHz-1 MHz*		
Delivery fibre	3 m		
Laser class	4		
F-theta lens (choose from options)	100 mm	163 mm	253 mm
Size of marking area	60 × 60 mm	110 × 110 mm	180 × 180 mm
Focus shift (optional)	± 5 mm	± 14 mm	± 35 mm
Power consumption (max.)	600-1000 W*		
Connection	85-264 V AC/10 A/50-60 Hz		
PC interface	USB		
Interlock connection	Two-circuit interlock, SD-ready		
Laser-control interface	For ready/ malfunction signal, external shutter warning light, 8 digital inputs, 8 digital outputs, differential inputs for marking on the fly		
Weight of head / supply unit	8 kg/27 kg		
Supply unit dimensions (l×w×h)	650 × 224 × 460 mm		
Laser head dimensions (l×w×h)	595 × 203 × 140 mm		
Software (included with product)	Magic Mark V3		
Functional safety in accordance with DIN EN ISO 13849-1	PLe		

* Depending on system used

Focus shifter



Focus shifter

Special feature

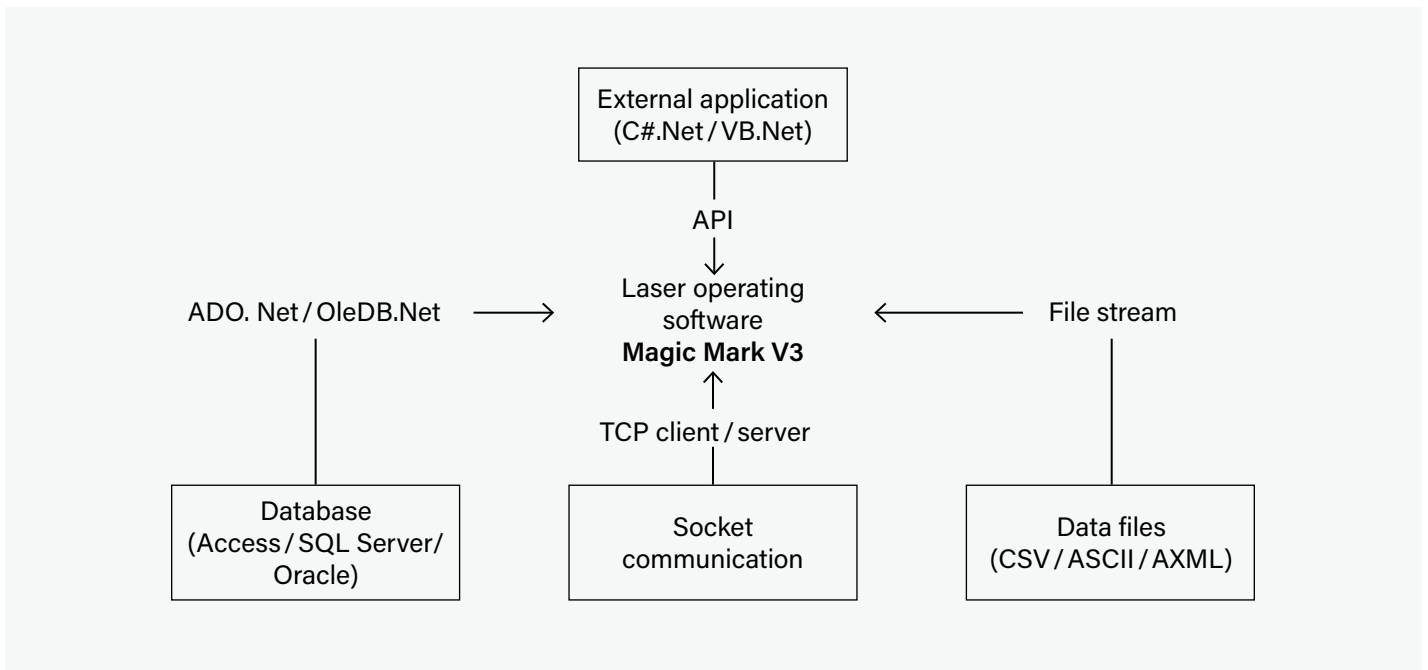
The laser system features an integrated **focus shifter**; this tool is designed to adjust the focal point to compensate for variations in height on a component.

The **focus shifter** works by changing the laser beam's optical properties. This means that mechanical axes are not needed here. The focal point is adjusted incredibly quickly.

Depending on which F-theta lens is used, the focal point can be shifted up to 70 mm (± 35 mm). If a **focus shifter** is installed in the laser system, the **Magic Mark** marking software will automatically detect it and will integrate it as a Z-axis.

Software-based control

The modern software architecture of the **Magic Mark V3** laser marking software enables targeted access to all available functions and allows users to control the laser and laser peripherals (workstation/axis of rotation, etc.).



Internal programming

VB.Net [Winwrap Basic]
integrated into Magic Mark V3

External programming

C#.Net [MS Visual Studio]
Access to class library

Benefits of the Magic Mark V3

Software package
included with product

Predefinable parameter sets

Plugins allow easy addition of functions





Partnerships with ACI Laser Benefits for customers

The search for excellent partnerships is at the heart of everything we do. We offer our customers sustainable solutions based on all-encompassing advice, reliability and stability.

ACI Laser embodies:

- ✓ Made in Germany development and production with over 20 years of experience
- ✓ Complete solutions from a single source: Laser systems, protective housings, software and accessories
- ✓ Customisable laser systems
- ✓ Functions can easily be added to the software using plugins


Made in Germany



Laser. Marking. Solutions.



We would be happy to advise you.

We guarantee you a tailor made, all-in-one solution that meets the requirements of your application. Our experienced sales team provides you with intensive consultation. We look forward to hearing from you.

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