



**OSCAR**

3D-Printing · Repair · Customization



Lasersystem  
**ProFocus1000**

The tool for additive manufacturing! Design and functional features of our ProFocus1000 direct diode laser for a stable and reproducible welding process:

compact design for optimal accessibility  
weight = 14 kg

easy switch between powder- and wire process

increasing the deposition rate by hot wire with up to 150 A

beam generation and optics in one head

integrated process monitoring and -control

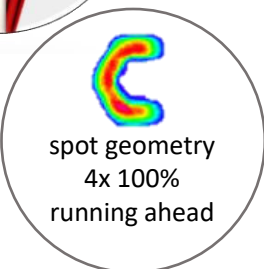
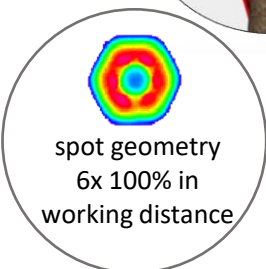
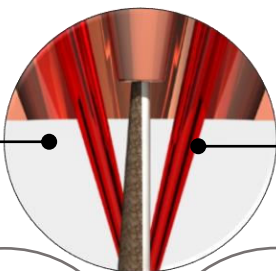
directional Independence through coaxial material feeding of wire and powder

6 individually controllable Laser beams

changeable shielding gas cover < 20 ppm O<sub>2</sub> (Argon)

spot geometry  
6x 100% in working distance

spot geometry  
4x 100% running ahead



3D generation or additive manufacturing has the potential to revolutionize previous design rules and manufacturing processes. The rules and processes enable components with completely new design, functionality, materials, material composites and individualization.

### 3D-Printing



Reinforcement structure rail  
vehicle wagon / side wall

Basic material: S355

Material: Wire

Production time ProFocus: 19 h

### Customization



Drive shaft with additive  
manufacturing technology

Base material: X5CrNi18-10

Material: Wire 1.4430 (316LSi)

Production time ProFocus: 0.7 h

### Repair / Regeneration



Shank chisel 42CrMo4  
(1.7225) , 23 kg

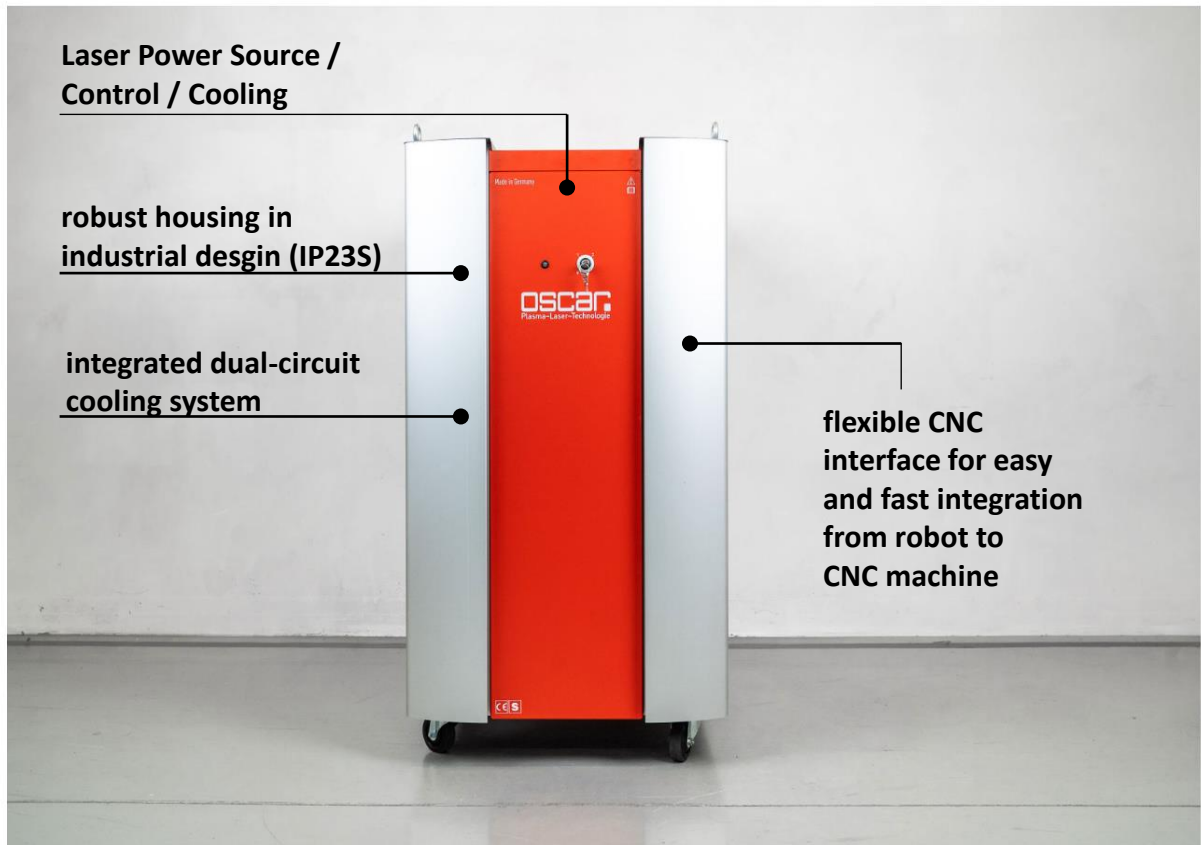
Basic material: tool steel,  
difficult to weld

Material: wire, UTP A73G3

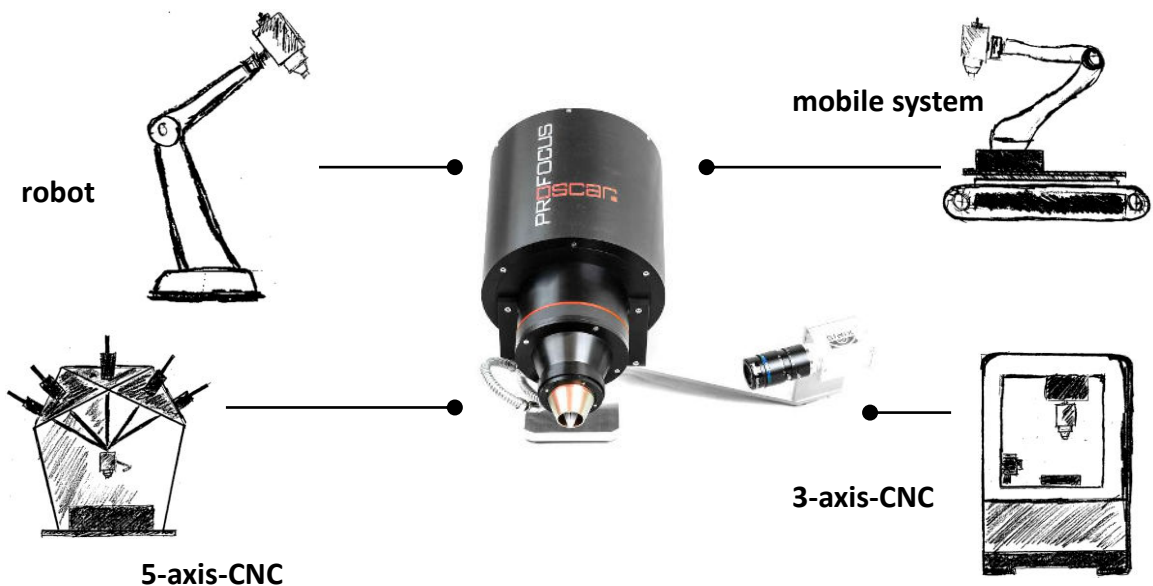
Production time ProFocus: 1h

For the successful introduction of additive manufacturing in the industrial environment, reliable and robust system technology is a basic requirement. Our OSCAR Laser system benefits from Kjellberg's many years of know-how and combines the latest technologies with powerful hardware and software.

## System Technology From One Source

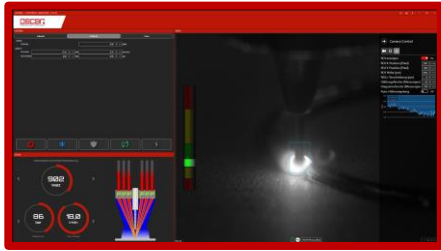


Compatible system technology prepared for various guidance systems, for example by modular M2M interface.



In the field of software, we rely on a powerful process control system for regulating all relevant process parameters via the ProFocus HMI (human-machine interface).

## Innovative Process Control



- StartControl - automated part detection
- WireWatcher – wire break control
- HeightControl – automated height correction
- Integrated UHDR process monitoring

## The Key Facts

- Laser Power: 1 kW
- Laserbeam: 6 (individually controllabe)
- Dimension: Ø 195 x 360 mm (Laserhead)
- Weight: 14 kg
- Layer Width: 2 mm
- Penetration: < 0,5 mm
- Welding Wire: Ø 0,8 – 1,2 mm
- Deposition Rate: up to 1 kg/h (wire)
- Powder Fraction: 45 -150 µm
- Materials: Steels / Ni-Based / Ti-Based / Cu / Al / Hard Materials (Powder) etc.

## Contact

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Youtube:



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