

## DC SERIES

CO<sub>2</sub> SLAB LASER  
CUTTING AND WELDING WITHOUT BREAK

## THE PRODUCT

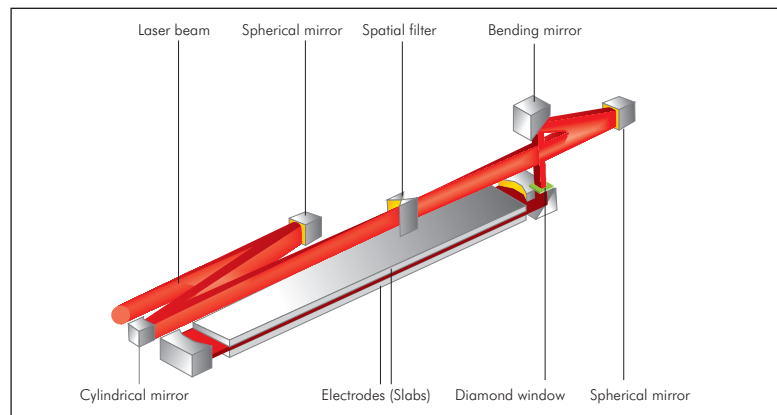
The diffusion-cooled CO<sub>2</sub> Slab lasers are extremely service-friendly. The laser operates with only a few extremely durable components and does not need conventional gas recirculation – leading to a considerable reduction of lifetime costs. Furthermore, the energy saving standby operation leads to minimal energy consumption.

With output powers from 1,000 W to 8,000 W and a wavelength of 10.6 μm in the far infrared range, the CO<sub>2</sub> lasers are perfectly suitable not only for the processing of metals, but also of wood, (fiber-reinforced) plastics, glass, textiles or paper.

The entire DC Series is provided with the “Coherent-ROFIN Control Unit” (RCU). This control enables extended monitoring and control functions, resulting in improved pulse-to-pulse stability, manifold control and log functions including E-Service.

## THE PRINCIPLE

The secret for this technology are the two water-cooled electrodes (slabs). High frequency between these electrodes leads to stimulation of the laser gas. The optical resonator is formed by the front and rear mirrors and the two electrodes. The heat generated in the gas is dissipated by the water-cooled electrodes (diffusion cooling). Thus, the conventional gas circulation systems involving roots blowers or turbines are not required. The crucial advantage of this laser principle is that the laser gas neither needs to be circulated nor to be renewed permanently. That means that turbines and blowers susceptible to deterioration and service are eliminated. Thus, optics integrated into the resonator that are contaminated by flowing laser gas (especially the outcoupling windows) are a thing of the past.



## THE BENEFIT

- 1,000 W to 8,000 W output power and excellent beam quality  
 $M^2 = 1.05$  ( $K = 0.95$ )
- Low service requirements thanks to the robust, low-maintenance design
- Minimal gas consumption due to diffusion cooling
- Energy-saving standby operation with minimal energy consumption
- Configurations: compact version, integration package or head/cabinet combination
- Highest electrical and optical safety levels according to EN/ISO 13849-1/2
- ROFIN Control Unit (RCU) with improved pulsing capabilities, manifold control and log functions including E-Service
- Wall-mountable control cabinet with a small footprint

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