



HYPERICO₂ laser series

CO₂ laser technology has been a very successful element of laser material processing for decades and CO₂ lasers are expected to keep serving a significant part of the laser market in the future - especially for non-metal applications. Get ready for the future with the new HYPERICO₂ laser series!

High quality material processing

The new HYPERICO₂ laser family is a redesign of FEHA's proven SMxxxE laser concept. As always, the diffusion cooled and direct current excited CO₂ laser features the highest known beam quality on the market. The beam power can be adjusted from 5% up to the maximum nominal power, with the laser beam maintaining its excellent beam qualities and power stability. Some parameters, like the pointing stability, have been improved. The HYPERICO₂ laser series offers lasers with a variety of wavelengths.

Drive down your cost of ownership

HYPERICO₂ lasers are by far the CO₂ lasers with lowest operating costs of

their class – worldwide! Taking into account all costs from purchasing to operation, our products have the best cost of ownership. Furthermore, FEHA assures efficient service during the whole product life cycle (for a typical laser life time of 40.000 working hours).

Partner with FEHA

Over the years, FEHA has built upon its knowledge and expertise by supporting dozens of our customers' application processes. Benefit from our expertise by partnering with FEHA. Together with you, we find the best solution for your applications, based on your design and engineering process. Get in touch with FEHA at www.feha-laser.de.

Highlights

- **CO₂ laser series with the highest beam quality available on the market today.**
- **Adjustable power range from 5% to 100%.**
- **High productivity due to selection of best wavelength.**
- **Lowest operational cost and best TCO.**

Tilt your expectations



Can you imagine the possibilities?



HYPERICO₂ characteristics

- Lowest operational cost
- Power tuning from 5 to 100% at stabile beam quality
- Pure cw beam without modulation
- OEM easy to integrate or complete laser system
- All CO₂ laser wavelengths (optional)
- Single spectral line operation (optional)

| BEAM PARAMETERS | Version 2-10.6 | Version 3-10.6 | Version 4-10.6 |
|--|----------------|----------------|----------------|
| Beam power cw | > 520 W | > 800 W | > 1250 W |
| Continuous tuneable power | 40 W ... Max. | 60 W ... Max. | 80 W ... Max. |
| Pulse peak power *) | Up to 3 x cw | | |
| Wavelength | 10.6 µm | | |
| Beam propagation ratio M ² | < 1.3 | | |
| Beam diameter at output coupling optic | 13 mm | 14 mm | 14 mm |
| Pointing stability | 0.1 mrad | | |
| Polarisation | Linear | | |
| Pulse frequency max. | 1 kHz | | |
| Pulse width min./max | 250 µs / cw | | |



Die cutting boards



Flexoprint engraving



Micro-perforation of banknotes



Welding and scribing of glass

Application examples

This results in quality and productivity improvements in the processing of materials, such as quartz and borosilicate glass, ceramics, different types of metal including copper and aluminium, paper, cartboard, wood, polymeres. It also allows innovative new applications for high speed modulated processes where the power and wavelength stability of the laser beam is necessary such as engraving of flexo print rollers.

FEHA LaserTec GmbH

FEHA is a worldwide niche supplier in CO₂ laser and optics within high volume markets and high-tech solutions. Besides the HYPERICO₂ laser series, FEHA also offers the MICROSTORM™ Q-switched high power CO₂ laser series.

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