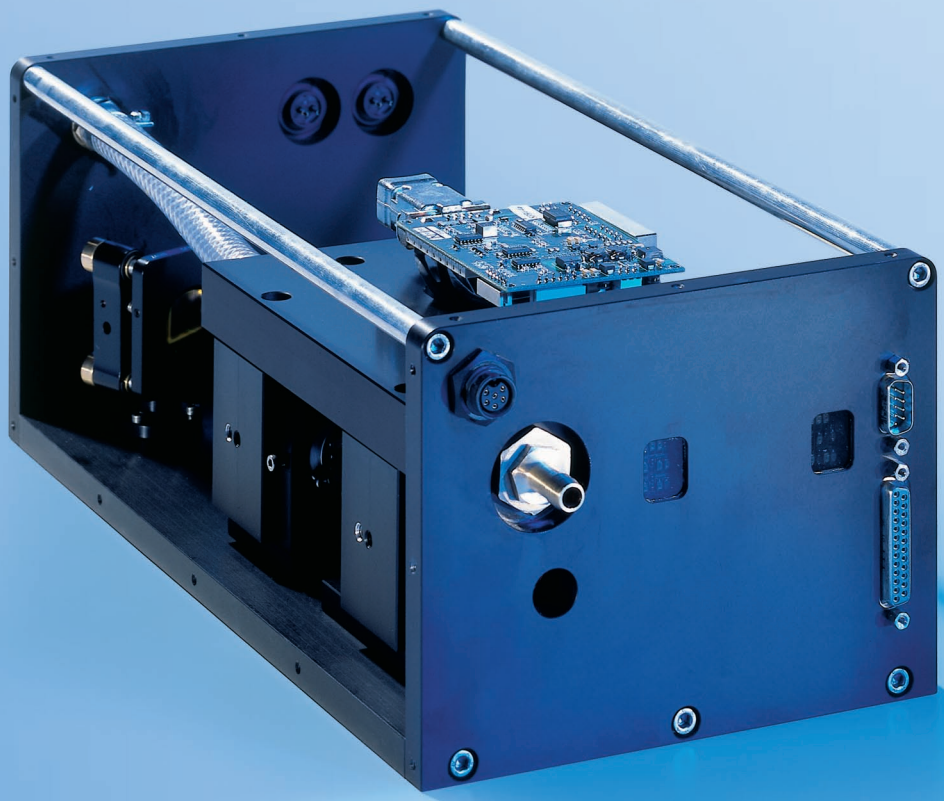
RAYLASE
focus on laser

MODULES FOR POWER CONTROL
AND STABILIZATION FOR CO_2 LASERS

POWER CONTROL DEVICE



External Optical Control and Stabilization of CO_2 Lasers with PCD

- I-PCD®: Laser power control based on the laser spot velocity
- PowStab®: Stabilization of CO_2 laser power to better than ± 1 %
- Beam splitting and individual control of CO_2 laser power at each processing station
- Variation of laser power between 0 and 100 % within milliseconds
- Customized solutions

MODULES FOR POWER CONTROL AND STABILIZATION FOR CO_2 LASERS

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External optical control and stabilization of CO_2 laser power using the patented PCD method enables precision laser processing of stationary or moving materials such as paper, cardboard, plastic films and other forms with CO_2 lasers.

Previously these applications frequently failed due to laser power fluctuations or insufficient control of laser power in relation to the laser spot velocity. Consequences for example were over processing of material and / or damage of the base material in the corners of the cutting geometry. Furthermore, varying results and quality differences could be observed from job to job.

CO_2 MODULE PCD-ATTENUATOR

PRINCIPLE
Laser power can be varied between 0 - 100 % within milliseconds.

INTERFACES
Modules can be controlled either via the high-speed data link with a RAYLASE control card (XY2-100 standard) or alternatively using the analog current or voltage interfaces.

DESIGN
The modules are designed for an input aperture of 15 mm diameter. The maximum power handling per unit is 500 W.

TYPICAL APPLICATIONS
Processing of materials such as paper, cardboard and plastic.

CO_2 MODULE PowStab®

PRINCIPLE
The CO_2 laser operates in quasi-cw mode. Laser power is continuously measured and stabilised by PID closed loop control. Variation of output power is better ± 1 %.

As an option, a higher frequency laser beam can be generated through an acusto-optical modulator (AOM), which is placed behind the control loop.

INTERFACES
Software based closed-loop control in combination with a RAYLASE control card (XY2-100 standard).

DESIGN
The PowStab® modules are designed for an input aperture of 15 mm diameter.
The maximum power handling per unit is 500 W.

TYPICAL APPLICATIONS
Processing of materials such as paper, cardboard and plastic by marking, kiss cutting, through cutting, and perforating in the industry, research and development; marking of special glass; processing on the fly.

CO_2 MODULE I-PCD®

PRINCIPLE
The laser operates in quasi-cw mode. Laser power control is directly related to the velocity of the laser spot in the working field. Laser power can be varied from 0 - 100 % within a few milliseconds.

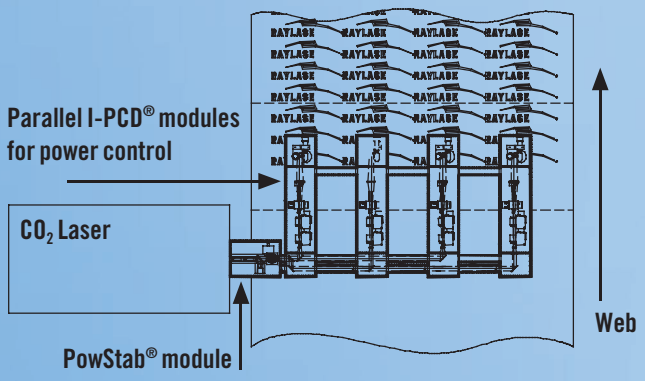
INTERFACES
The modules can be controlled via high-speed data link with a RAYLASE control card (XY2-100 standard).

DESIGN
The I-PCD® modules are designed for an input aperture of 15 mm diameter.
The maximum laser power at each processing station is 500 W.

TYPICAL APPLICATIONS
Processing of materials such as paper, cardboard and plastic by kiss cutting, through cutting, and perforating in industry, research and development; processing on the fly as an option.

SAMPLE CONFIGURATION

Laser power is split into several partial beams, each individually controlled by I-PCD®. Thus different jobs can be processed on each of the parallel processing stations. CO_2 laser power can be kept constant using the optional PowStab® module.



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