

Need **FAST 3D SCANNING** for your high power laser?

ZWOBBEL 3D®

- **6kW dynamic beam shaping** for various applications
- The **fastest spot size adaption** for high power beams (AM)
- **Large plane field correction** in volumes without F-theta optics

Innovation potential and applications

The Zwobbel3D scan heads from ROBUST AO are remarkable for their compactness, high dynamics and power stability. In the smallest of installation spaces, our 3D scan system allows the deflection and positioning of laser beams in a large processing volume.

The Zwobbel3D scan head comprises of mechanics, the Zwobbel 1020 and an upgraded CYCLOPS 2D deflector. The user may implement a source at the entrance and application dedicated opto-mechanics at the output of the stage. We foresee different mechanical interfaces for your freedom to operate.

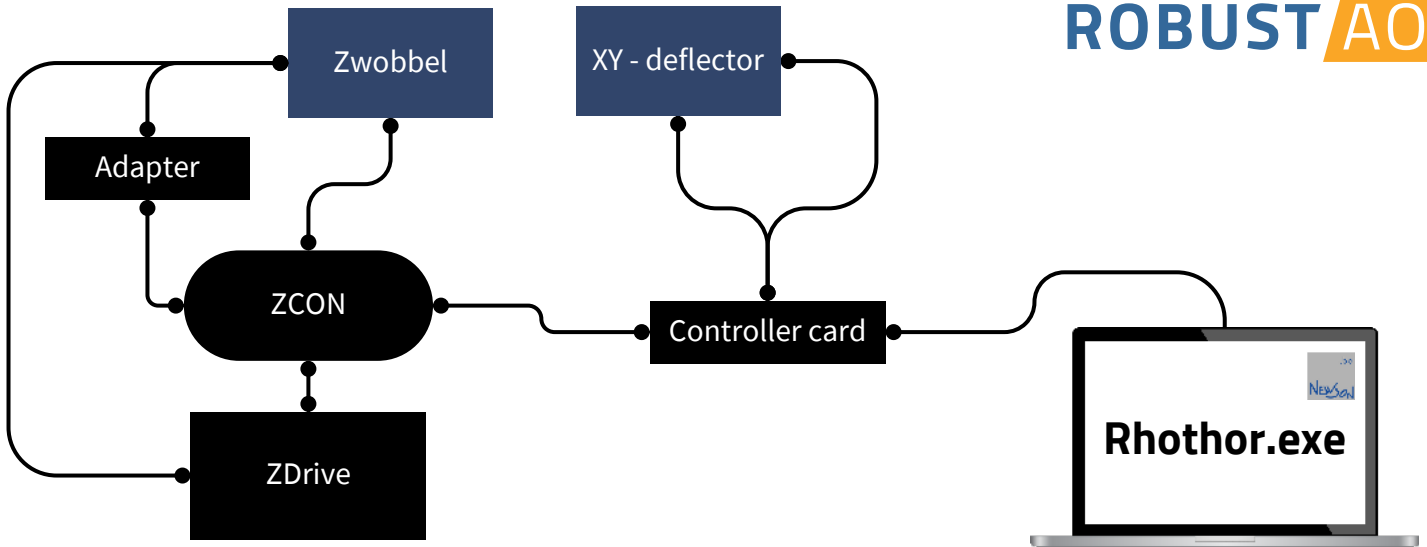
Typical Application Area

The technology comes as a ready to use solution with all the necessary electronics that are computer controlled (USB or Ethernet interface). A proper software is also delivered and also XY2-100 protocols can be used. It is designed to provide the opportunity to investigate:

- 3D - dynamic beam shaping for laser cutting and welding
- Laser Powder Bed Fusion (PBF-L), stereolithography, laser sintering
- 3D-micromaterial processing: structuring, marking, drilling, welding, cutting
- High power laser welding and cutting
- Micro structuring and material machining,

Your Advantages

The two 90° deflection units in combination with laser and focusing lens of your choice enables large operation possibilities. High focusing speeds and extreme wobble capabilities in the smallest installation space are available. We provide high power resistance due to purely reflective system up to 6kW.



Facts & Specifications

Zwobbel3D will be delivered as a set of

- »Zwobbel, single mirror 2D deflector including all needed electronics
- » System control card and software

Technical specification Zwobbel3D

- »Size: 203 mm x 113 mm x100 mm
- »Weight <3kg
- »Aperture: between 10mm and < 20 mm
- »Wavelength 1020 nm – 1080 nm
- »Interface: USB or Ethernet (XY2-100, CAN, UART)
- »x,y oscillating frequency selectable between 0 Hz and 500 Hz
- »z oscillation frequency between 0 Hz and 2000Hz
- »High power up to 6kW CW
- »full focus stroke in 2ms * and z-field size of >20mm for f=200mm lens
- »full scan angle of 200mrad in x and y gives x,y-field size of 40x40mm for f=200mm lens

On request

- »Manual TipTilt alignment mirror or adapter for optical process monitoring mounted in place of the second folding mirror
- »Different tuning options
- »Zwobbel3D® for CO2-Applications and other wavelengths upon request

Contact us now!

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STILL NEED MORE
 Innovation?
Zwobbel 3D®