

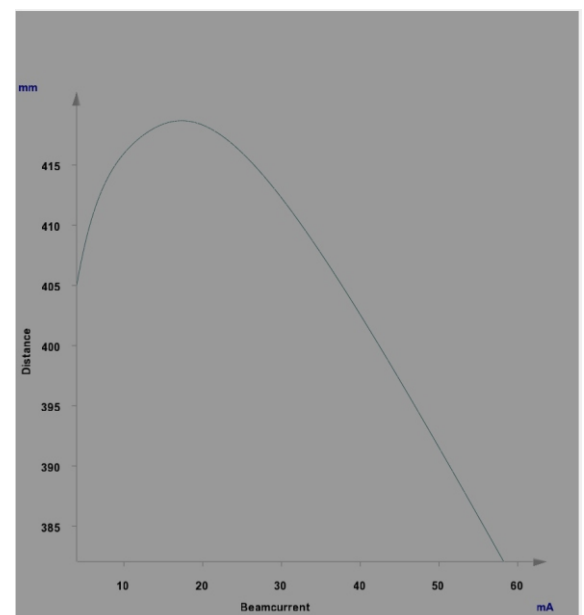
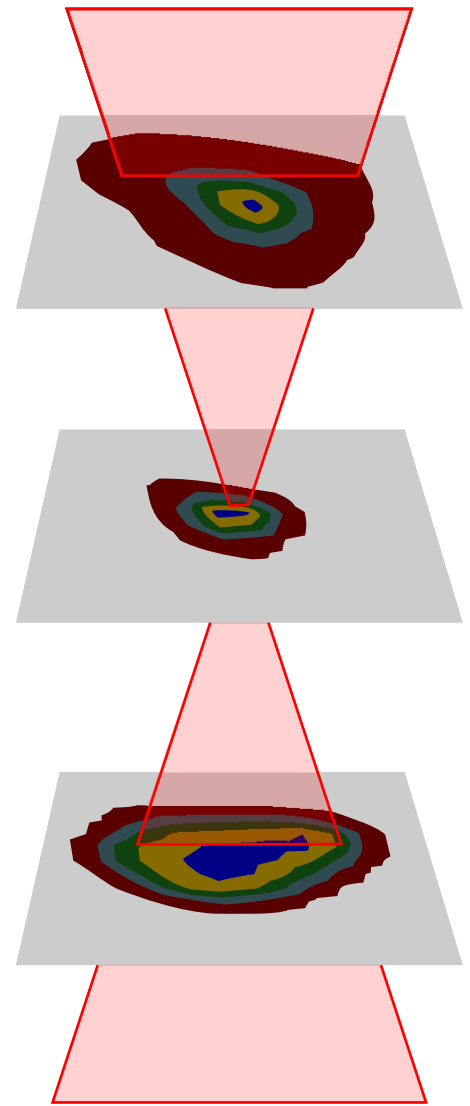
... knowing the electron beam profile -
mastering the welding quality!

Auto Adjustment

- The new diaBEAM system offers vital technical innovations for industrial applications.
- The centerpiece is the sensor which consists of pinhole and of all-encompassing annular aperture. This set-up allows auto-adjustment and auto-calibration of the sensor system. The automatic calibration makes the measuring results operator-independent and opens thus a way to real machine comparability.
- Besides these important innovations, spatial and temporal resolution have been improved and measuring time has been substantially reduced. Measuring the beam profile and determination of a number of characteristic beam diameters takes just a few seconds. The caustic can be recorded within 2.5 minutes e.g. taking 60 partial beam profiles along the beam axis.

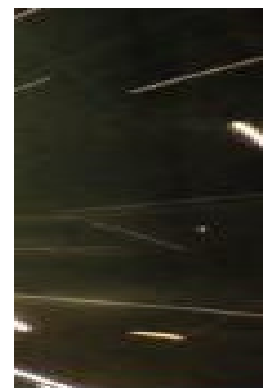
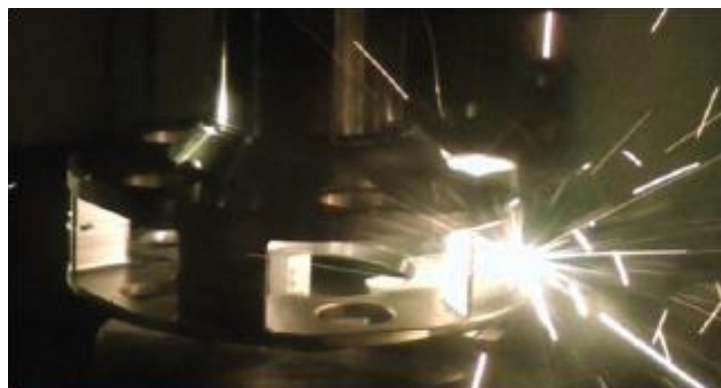
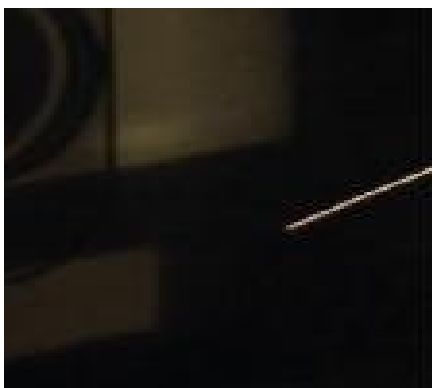
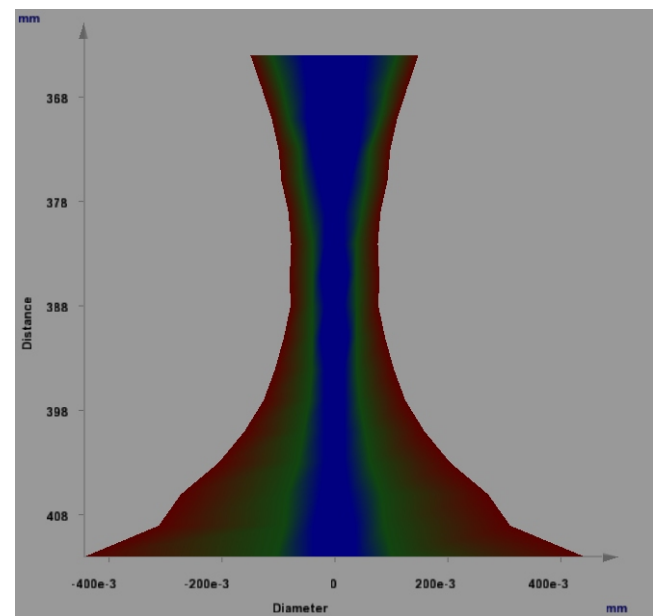
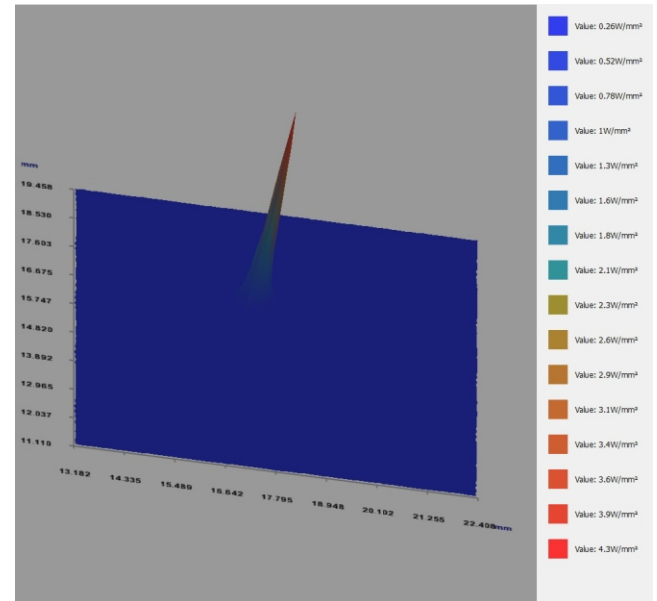
■ Features of the diaBEAM

- focus drift characteristic
- auto calibration procedure
- real time measurement down to 2.5 seconds
- typical Caustic measurement in 2.5 minutes
- beam current measurement
- compact design



Auto Calibration

- The auto adjustment guarantees easy handling of the sensor system. Rough positioning is sufficient for carrying out precise measurements.
- Auto calibration allows operator-independent determination of the beam parameters. Thus, it is possible to compare the welding quality of one machine with that of another machine, or to set the same weld quality predictably for several machines of the same type by means of the beam profile.
- The pinhole allows to record the power density distribution with a high temporal and spatial resolution. The beam core and of the beam edge is characterized by typical threshold diameters automatically, e.g. D10, D50, D90.
- Beam caustic is also determined automatically, utilizing a movable z-axis with a travel range of 160mm.



■ **KEY FEATURES:**

- Focus drift characteristic
- Auto adjustment
- Auto calibration
- Max. beam power 30 kW
- Pinhole diameter: 20 μm
- Caustic measurement: 160 mm travel range
- Determination of e.g. D10, D50, D90
- 60 partial measurements, duration 2.5 minutes
- Measuring time for the beam cross-section: 2.5 seconds
- Beam caustic is also determined automatically, utilizing a movable z-axis with a travel range of 160mm.
- Dimensions: 220 mm x 255 mm x 480 mm (LxBxH)

