

BEO D50

The right optics for your application

01

Compact and highly efficient

02

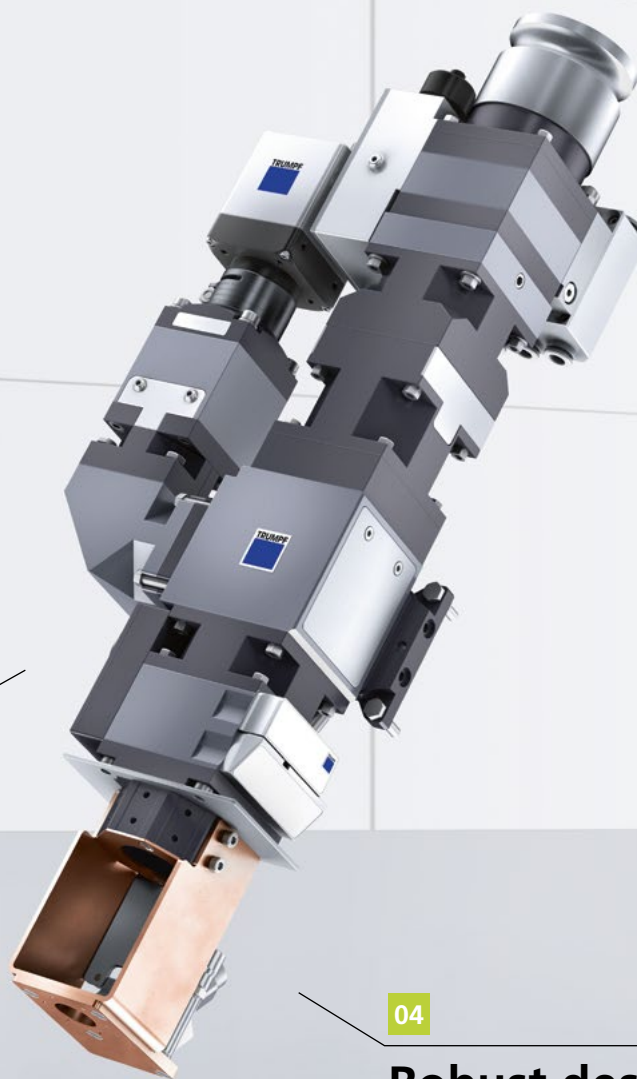
Modular design

03

Integration of additional functions

04

Robust design



01

Compact and highly efficient

With the new processing optics BEO D50, TRUMPF has developed a compact and robust set of optics, which can be used for powers of up to 8 kW. The compact design makes welding in hard-to-reach places possible. The low weight of the processing optics saves resources. Mechanical adapters ensure that the BEO D50 can be used both on machines and for robotic applications.

02

Modular design

The modular system (e.g. BEO D50 0° or with 90° deflector) and the optional components (e.g. camera, sensor system, protective glass cartridge, protective glass holder) enable a large number of designs. As such, the processing optics are adaptable to a variety of spatial and application-specific conditions. And what's more, the BEO D50 is offered with an array of crossjets, MVE nozzles and shielding gas nozzles.

03

Integration of additional functions

The design of the BEO D50 makes it easy to integrate these additional functions: pyrometer for laser plastic welding, camera systems for process monitoring and visualization, sensor systems for process monitoring, seam tracking and welding depth monitoring. Further components of the modular system are the additional coaxial lighting and adapter possibilities for the integration of line lasers for seam tracking and edge detection. The attachment of the BEO D50 is compatible to that of the BEO D70.

04

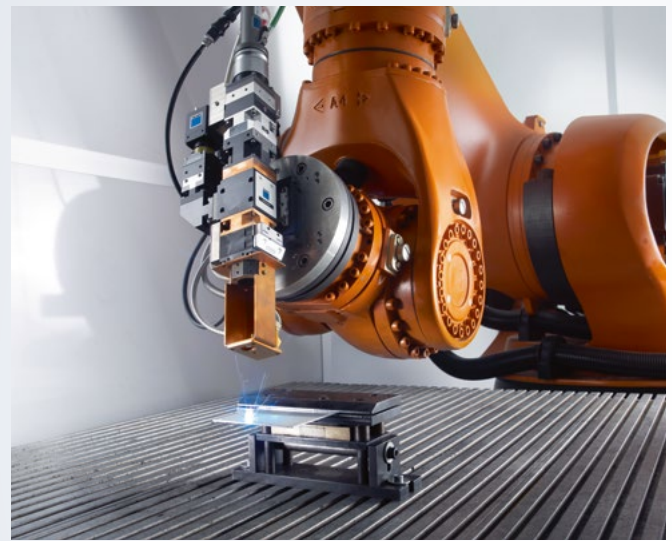
Robust design

The optimized crossjet functionality and the new cartridge module design ensure optimal protection of the objective. Thanks to the optimized and significantly tougher plug receptacle, the laser light cable can be plugged into the optics with even greater ease. The compatibility between the laser device, laser light cable and optics created in the development ensures high-quality process results.



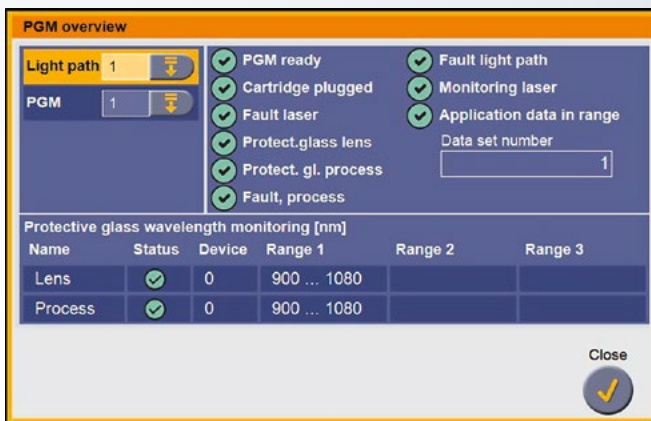
Sophisticated TRUMPF technology as a reliable partner for industrial laser manufacturing

The TRUMPF **processing optics BEO D50** optimally match the laser beam properties to the operation at hand, be it welding, laser hardening, laser softening or ablation. A large number of additional functions such as coaxial lighting and sensor integration expand the industrial application range of these robust processing optics.



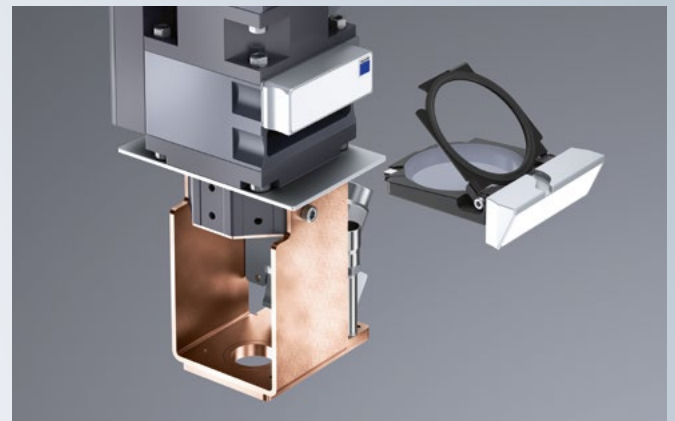
Protective glass with RFID chip

The protective glasses of the BEO D50 come equipped with an RFID chip which contains the most important production data of the protective glass. This makes a quick ordering of new protective glasses possible. The wavelengths that the protective glass is suited for are also recorded. A wavelength check for compatibility with the laser prevents the use of the wrong protective glass. The service length of the protective glass is monitored in TruControl. This provides transparency and process reliability. The data of the RFID chip can also be recorded via wireless communication using mobile devices.



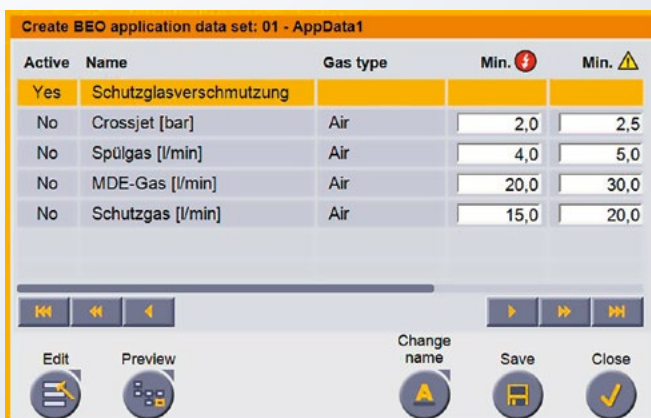
Protective glass monitoring

When using the protective glass monitoring unit, an initial check is made to ensure that the protective glass cartridge is inserted. This feature prevents welding without protective glass. The degree of contamination of the protective glass is also measured and monitored in TruControl. When the limit value is exceeded, a message for the replacement of the protective glass appears. This ensures a long service life of your optics. The combination of the protective glass cartridge and RFID protective glasses makes quick and correctly timed replacement of the protective glass possible.



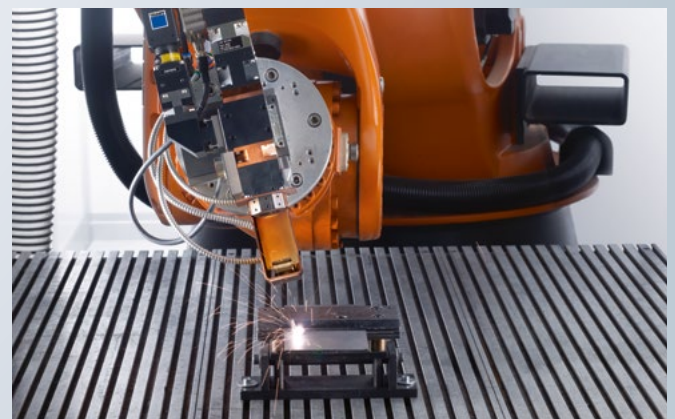
Integrated sensor systems for TRUMPF Condition Monitoring

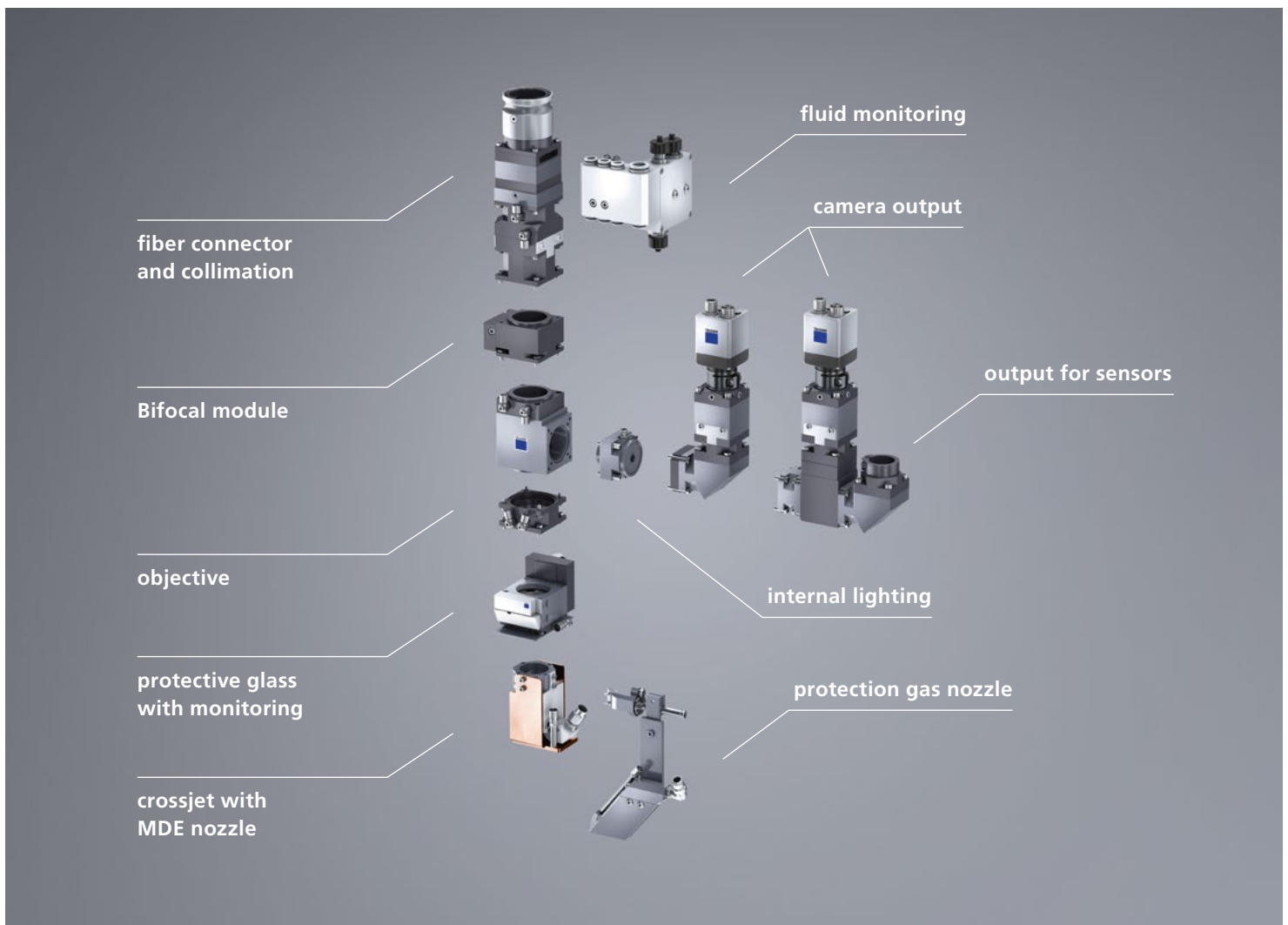
Parameters such as shielding gas flow, crossjet pressure and cooling water temperature are monitored in the ongoing process with the optional MIO module for media monitoring. This enables transparency of assist gas consumption. Increased cooling water temperature may indicate contamination of the optics. With programmed limit values, error messages are generated on time, and the protection of your optics is ensured.



Scattered light sensor

The BEO D50 Smart has a scattered light sensor in the collimation which protects the focusing optics and laser light cable from back reflections. This provides optimal durability, safety and service life for the entire system.





| Technical data | | | |
|-------------------------|-----------------|---|--|
| Product variants | | BEO D50 Basic | BEO D50 Smart |
| Wavelength | nm | 515, 930–1085 | |
| Maximum power | kW | 8 | |
| Standard collimation | mm | 35, 100, 125, 150, 200 | |
| Available focal lengths | mm | 150, 200, 250, 300 | |
| Available options | | 90° version, crossjet, MVE nozzle, shielding gas supply, bi-focal module, camera monitoring, sensor interface, lighting, cartridge module | Additional options of the BEO D50 Smart: Protective glass with RFID chip, protective glass monitoring unit, media monitoring |
| Available sensor system | | VisionLine, CalibrationLine Power | |
| Dimensions (WxDxH) | mm ³ | 138x407x88 ^[1] | |
| Weight | kg | 3.5 ^[1] | 4.5 ^[1] |
| Edge dimensions | mm | 50 x 50 | |

^[1] For a sample configuration with camera monitoring and crossjet.
Subject to alteration. Only specifications in our offer and order confirmation are binding.