
FIBER ARRAYS FOR MATERIAL PROCESSING

MULTI BEAM LASER APPLICATIONS

LASER BEAM SHAPING

LASER BEAM COMBINING



FIBER ARRAYS FOR MATERIAL PROCESSING

1D AND 2D FIBER ARRANGEMENTS WITH HIGH PRECISION

Our high-grade fiber arrays enable beam delivery from one or multiple laser sources to the processing location via several optical fiber channels. At the processing location, the 1D or 2D fiber array arrangement can be used for beam shaping, beam combining or further multi-beam application approaches.

FiberBridge Photonics develops and manufactures customer-specific solutions in collaboration with

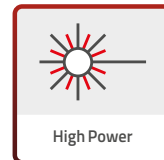
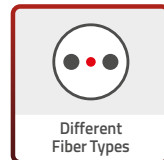
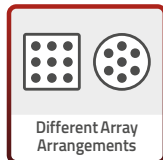
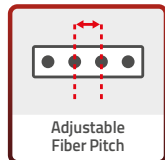
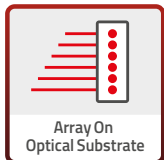
our customers. We provide support in designing the fiber array configuration required for each specific application. The connector of the beam delivery cable can be standard or customized. As a benefit to our customers, we can perform extensive testing of the configured fiber array cables with various high-power laser sources in our application lab. We additionally offer our customers comprehensive environmental tests for our products.

Beam Shaping and Beam Combining with Multiple Optical Fibers



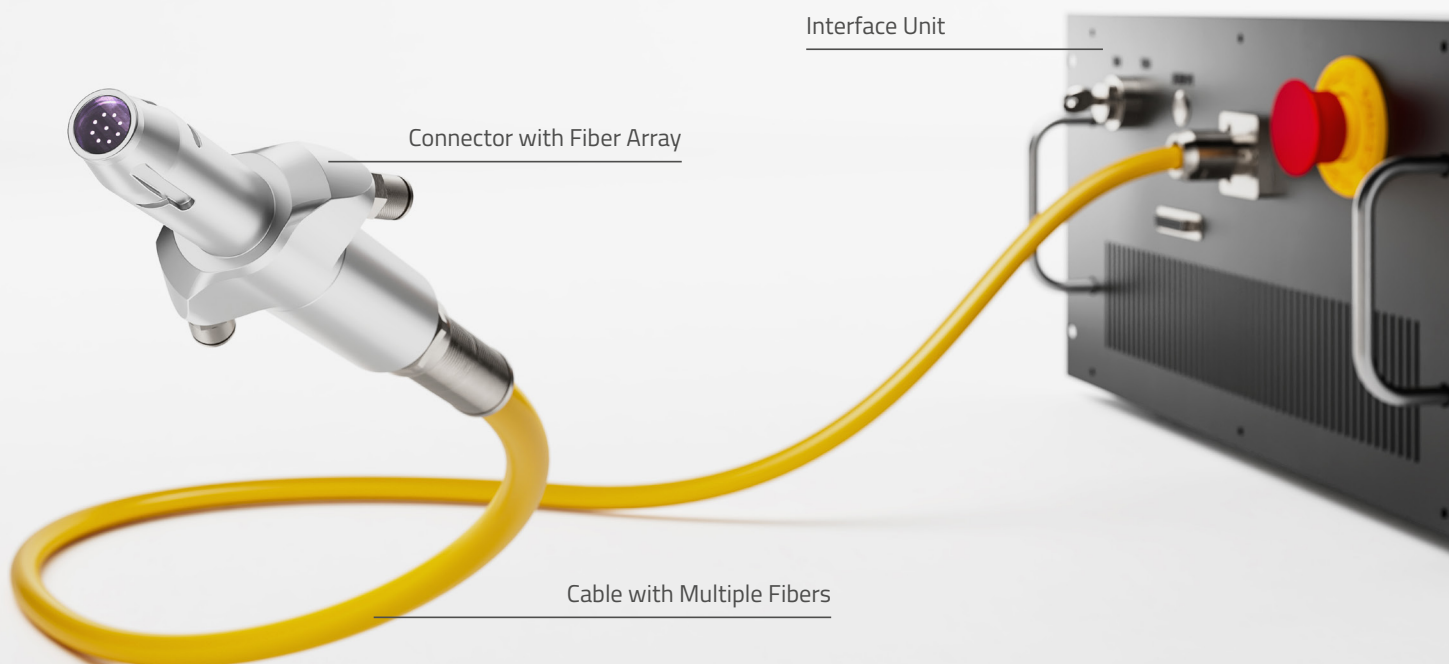
Key Features

- | End-capped fiber arrays
- | For SM and MM Fibers
- | 1D and 2D arrays
- | kW-class power handling capability
- | 100+ fiber channels
- | Outstanding beam quality and PER
- | High precision position of the fiber channels
- | Option: Integrated micro lenses



Applications

- | Multi beam processing
- | Selective laser melting
- | Surface Treatment
- | Direct diode laser processing
- | Spectral beam combining
- | Coherent beam combining

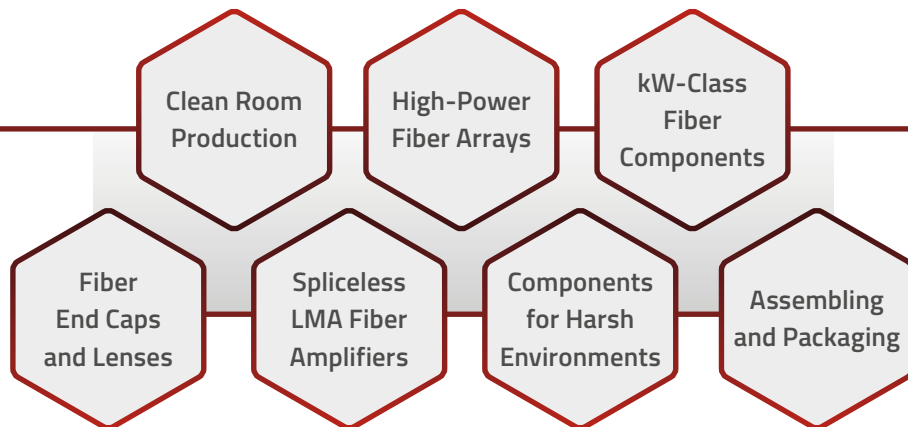


FROM DEVELOPMENT TO SERIES PRODUCTION

FiberBridge Photonics provides high-performance optical fiber components for material processing, life sciences, quantum technology and aerospace industries. Key products in the portfolio include high power fiber components for lasers and amplifiers, such as pump combiners, fiber end caps, fiber end lenses, high-power capable fiber arrays and spliceless LMA fiber amplifier modules.

All fiber components and photonic production lines are developed and manufactured in Germany according to ISO 9001. This level of production control enables us to offer our customers tailored solutions for fiber optic components and assemblies, from design to volume production – including harsh environment applications, for example in the aerospace industry.

Capabilities



Sectors

