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Technology

- BY TAKFLY GROUP -

www.bonaphotonics.com

¹¹¹¹High Power Fiber Components

Polarization Maintaining/ Polarization Sensitive/ Polarization Insensitive

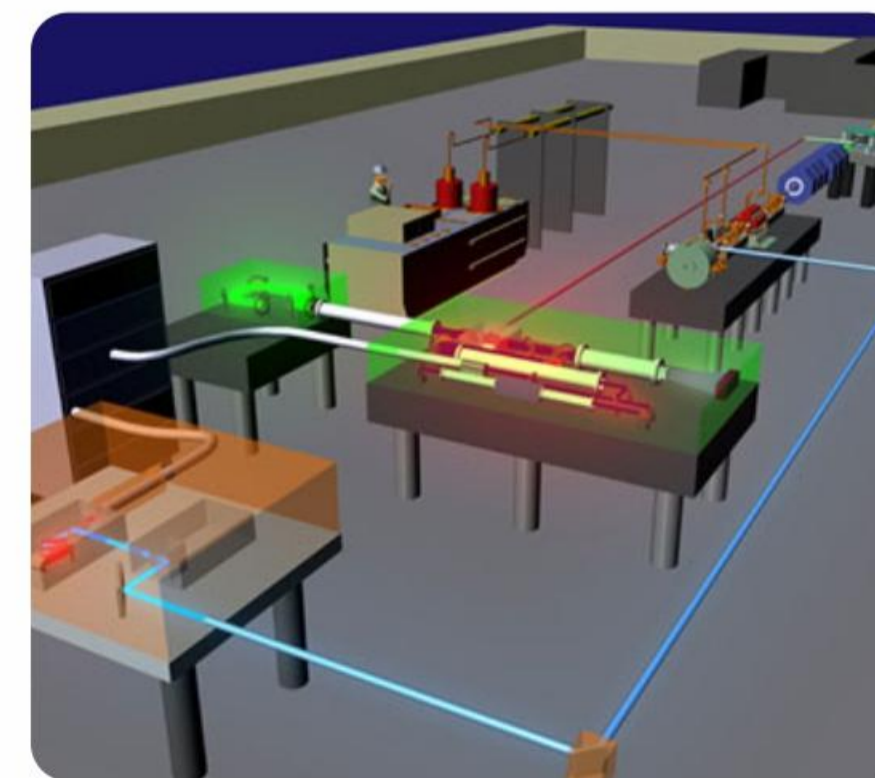
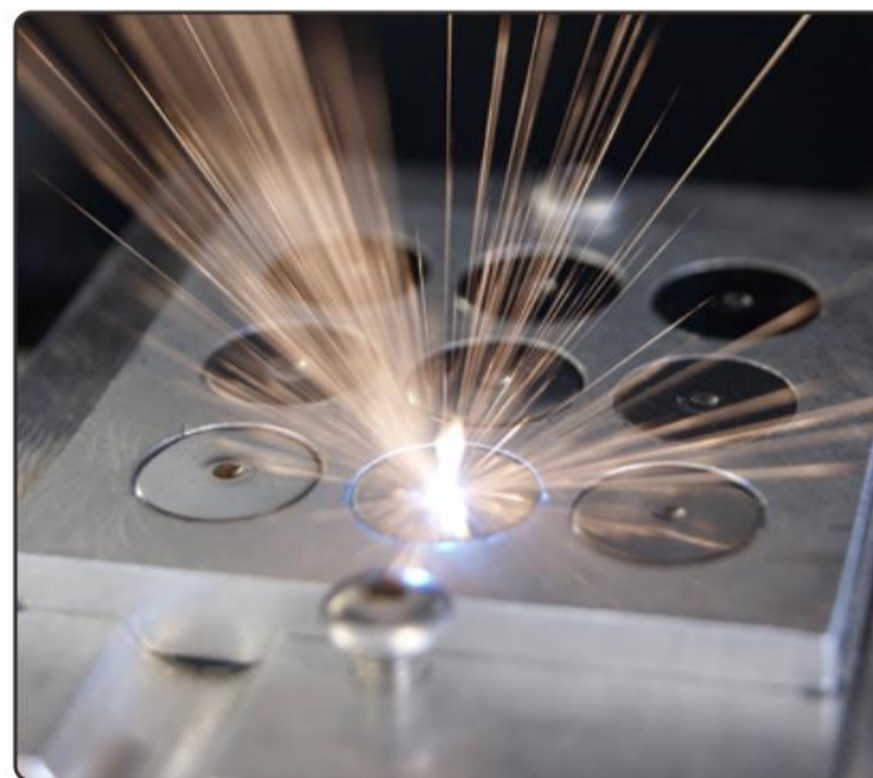
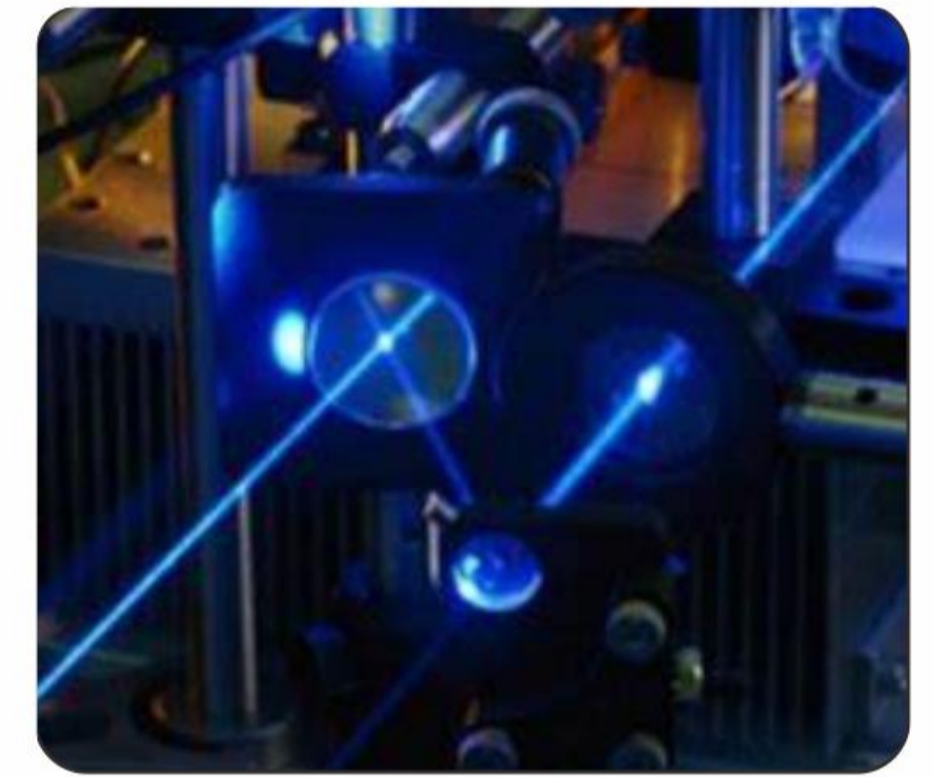
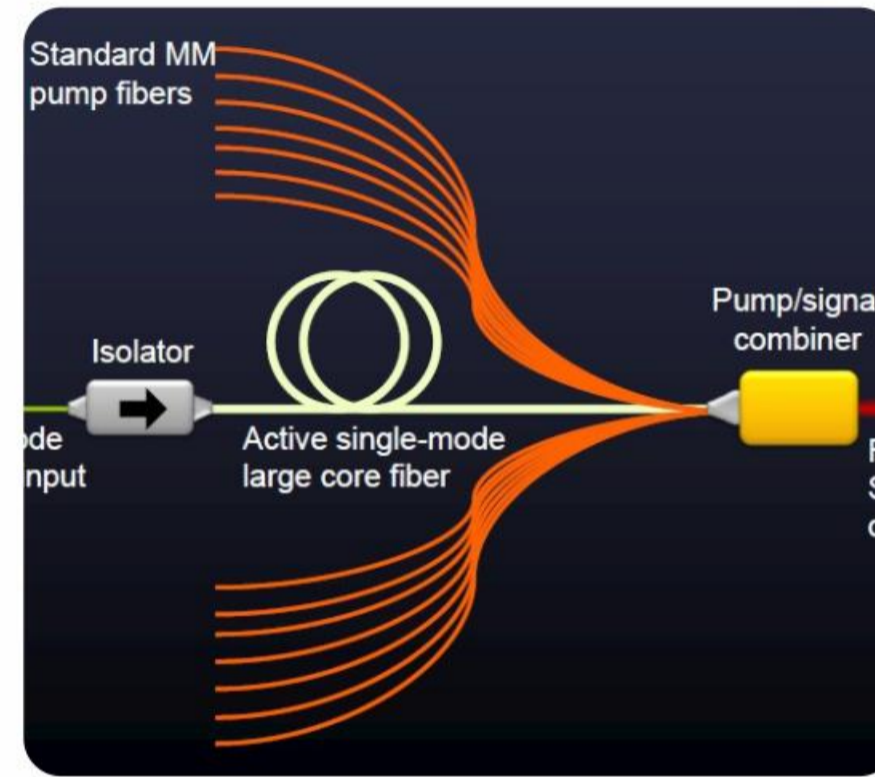
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Application



High Power Micro-optical Components

Compared with CO2 laser, light-pumped YAG laser, semiconductor pumped YGA laser, fiber laser are experiencing rapid growth due to the outstanding advantages, especially the electro-optical conversion efficiency, good beam quality, long life of the pumping source, small size, low power consumption, maintenance-free, easy to use, strong adaptability to the environment, air cooling and other advantages. Bonaocm offers a wide range of superior quality, high power fiber optic components for your fiber laser system needs.

Since 2000, Bonacom has been producing high power fiber passive components adopting high power, micro-optics, fiber beam expanding, pump coupling technique. The wavelength ranges from 780nm to 2050nm. Available in PM and non-PM configurations and single / dual clad fiber processing. Bonacom's high power fiber components have proven high temperature reliability, high isolation, ultra-low insertion loss, low wavelength dependent loss. The handling power of micro-optics components can up to 100W average power, 50kW peak power. The handling power of fused components already up to kw level. These components play an important role in one fiber laser system.



High Power Isolator

(780nm, 850nm, 980nm, 1030nm, 1064nm, 1550nm, 1950/2000/2050nm)

- ◎ 300mW 1064nm Isolator (PM / non-PM)
- ◎ 2W 1064nm Isolator (compact size)
- ◎ 30W Isolator (PM / non-PM), 780nm / 850nm / 980nm
- ◎ 30W Isolator (PM / non-PM), 1550nm
- ◎ 50W Isolator (PM / non-PM), 1030nm / 1064nm
- ◎ 100W Isolator (PM / non-PM), 1030nm / 1064nm
- ◎ Dual-core Stage Isolator 50W, 1030nm / 1064nm
- ◎ 100W / 200W 1064nm Fiber-to-Free Space Isolator
- ◎ 100W 1064nm Fiber-to-Free Space Isolator with 650nm Laser Pointer



High Power Micro-optical Components

- ◎ 20W Bandpass Filter, 980nm / 1030nm / 1064nm / 1550nm
- ◎ 20W PM Bandpass Filter
- ◎ 20W FWDM, T1064nm / 1030nm / 1550nm, R 980nm
- ◎ 20W PM FWDM
- ◎ 20W PM Filter Coupler, 1064nm / 1030nm / 1550nm / 1310nm
- ◎ 20W Isolator WDM Hybrid
- ◎ 20W Tap Isolator Hybrid
- ◎ 20W Tap WDM Hybrid
- ◎ 20W Tap Isolator WDM Hybrid
- ◎ 20W Polarization Beam Splitter / Combiner
- ◎ 20W In-line Polarizer
- ◎ 50W Fiber Collimator

High Power Circulator

(780nm, 850nm, 980nm, 1030nm,
1064nm, 1550nm, 1950/2000/2050nm)

- 30W Circulator (PM / non-PM), 780nm / 850nm / 980nm
- 30W Circulator (PM / non-PM), 1550nm
- 50W Circulator (PM / non-PM), 1030nm / 1064nm

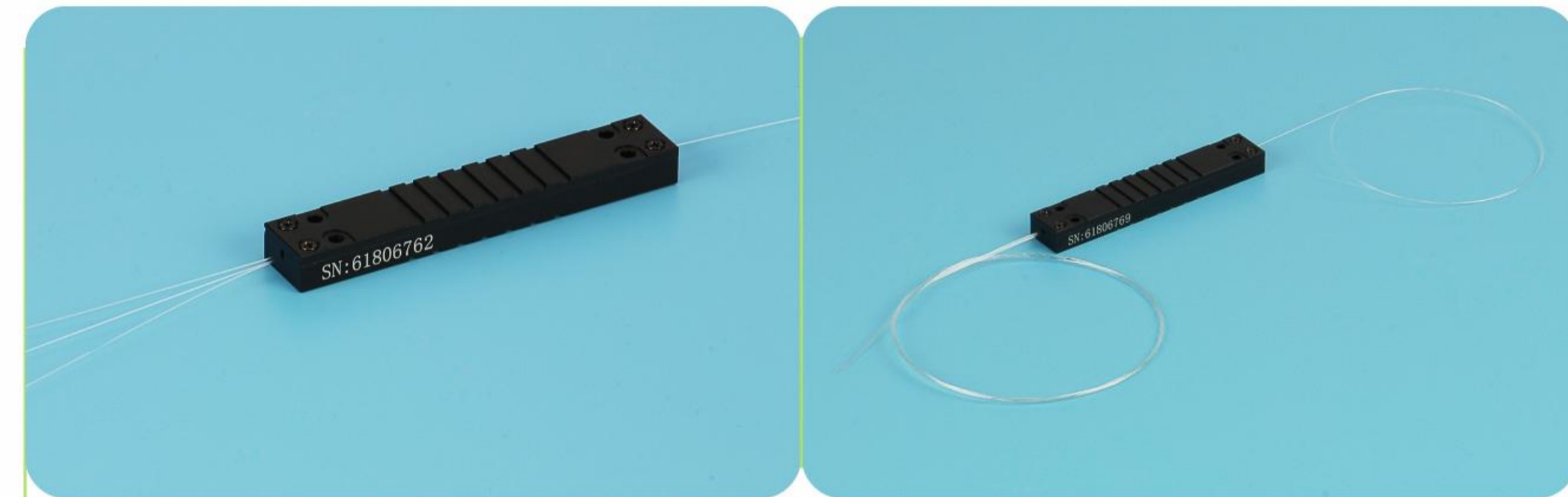
Pump Signal Combiner

All-fiber pump signal combiner is the core components for high power fiber laser, which can break through the power scaling limitation of a single fiber laser by combing several high power fibers into a single fiber to realize the higher output power.

Bonacom has accumulated mature manufacturing technique:

1. Multiple fibers tight arrangement technique
2. Ultra-low loss and arbitrary diameter fiber bundles tapering technique.
3. Tapered fiber bundles cutting & fusion technique
4. High efficiency cladding light filtering technique
5. Strong acid corrosion on fiber cladding technique
6. High efficiency refrigeration and heat dissipation packaging technique

Bonacom's pump signal combiner are available with kw-level handling power and high beam quality. The number of pump port can up to 37, power for each pump can up to 300W. Active fiber, multi-mode fiber, double clad fiber,



- ◎ (1+1)x1 / (2+1)x1 Pump Signal Combiner
- ◎ (6+1)x1 Pump Signal Combiner
- ◎ (18+1)x1 Pumps Signal Combiner
- ◎ 7x1 Pump Combiner
- ◎ 19x1 Pump Combiner
- ◎ 2000nm High Power Pump and Signal Combiners
- ◎ (N+1)x1 Pump Signal Combiner (N≤37)
- ◎ (N+1)x1 PM Pump Signal Combiner (N≤37)
- ◎ (N+1)x1 Reverse Pump Signal Combiner (N≤37)

- ◎ Active (2+1)x1 / (6+1)x1 Pump Signal Combiner

- ◎ Mode Field Adapter (PM or non-PM)
- ◎ Cladding Power Stripper
- ◎ Pump Laser Protector

kw-level FBG for Laser Cavity

Bonacom's FBG mirrors serve as High Reflector (HR) and Output Coupler (OC) mirrors in laser cavities. They feature high pump power, low thermal effect, precise wavelength matching with a wide reflectivity and bandwidth range. Bonacom's FBG mirrors can be laid in our high-power thermal dissipative package, providing mechanical

and shock protection as well as reducing wavelength drift, or simply re-coated with a rugged low index polymer. We can also write the FBG mirrors on the output fiber of the pump combiner, hereby, eliminating a splice, increasing the fiber laser assembly reliability and reducing assembly time.

Wavelength: 1030nm, 1064nm, 1070nm, 1080nm
Power handling: 1000W, 2000W



Bonacom offer industry-standard laser delivery head for medium power laser delivery in medical and industrial applications. Our D80 fiber cable assemblies are terminated with sapphire protected high precision D80 connector for the realization of single-fiber 1000W high-power laser flexible transmission. The transmission efficiency can reach over 90%. Various large-core energy fibers are available from 100 ~ 800 μ m. In addition, Bonacom also supplies cable assemblies equipped with SMA connectors.

- ◎ D80 Cable Assemblies
- ◎ SMA Cable Assemblies

About us

BONACOM designs, develops and manufactures a board range of fiber optical passive components. Applications are telecommunication, fiber sensing, laser metrology, laser radar, laser processing, laser medical and other optoelectronics.

We has accumulated rich experience on processing of basic fiber tip , micro-optics, polarization maintaining, high power, fused tapering, planar light-wave circuit-based, integrated fiber components, functional modules. With the ability of independent innovation R & D, BONACOM has obtained 80 patents. We can offer customized fiber optical products and cost-effective application solutions. Diversified package size from compact to module, optional fiber types from single-clad to dual-clad, single-mode,multie-mode, PM, a broad range of wavelengths from 780nm to 2100nm make Bonacom to be one of the most complete magneto-optical products manufacturers.

Bonacom is a wholly owned subsidiary of the TAKFLY GROUP, founded in 2000 and certificated with ISO9001:2015, ISO14001:2015, ROHS, CE, REACH etc. We own separate industrial park - TAKFLY Industrial Park, the factory area is nearly 1,200,000 sq. ft. together with branches plants and the number of employees as of 2019 is 320 .We have a strong overseas sales team of 28 people, and 36 ~ 110 sq. ft. special exhibition platforms at OFC, ECOC, CIOE, CommunicaAsia, Netcom every year.

