SPECIALTY FIBERS & COMPONENTS | iXblue

SPECIALTY FIBERS AND COMPONENTS FOR HIGH REQUIREMENTS APPLICATIONS

iXblue is a global high-tech company that specializes in the design and manufacturing of advanced autonomous, marine and photonics technologies. The group in-house expertise includes innovative systems and solutions devoted to inertial navigation, subsea positioning, underwater imaging, as well as ship building and tests & simulation means. Employing a workforce of 600+ people in 19 offices worldwide, iXblue has a global footprint and conducts its business in over 40 countires.

Our specialty fibers and components are produced in environmentally controlled production areas to ensure high proof strength, tight tolerances and a high-quality level. With manufacturing facilities located in Lannion, France, iXblue Specialty Fibers Division has over 25 years of experience in designing and manufacturing high performance products. With recently upgraded new facilities and expanded technical team.

iXblue Speciality Fibers Division is developing new fibers and components in close collaboration with customers, We operate worldwide with sales, support and technical teams on all continents.

Our Photonics experts will construct the best solution to precisely fit your application, through intensive and constructive collaboration from initial design to production scale in world class ISO 9001 manufacturing facilities.

iXblue Speciality Fibers Division develops and manufactures a wide range of specialty optical fibers, fiber optic components and subassemblies for diverse industrial applications such as Telecom, Sensing, Defense, Space, Fiber Laser and Harsh Environment.

Sensors

Harsh Environment

Fiber Lasers

Telecom

Automative Lidar

Spacecom

iXblue at a glance

30
YEARS OF EXPERIENCE

+120
MILLION EUROS REVENUES

80%
OF TURNOVER ACHIEVED ABROAD

600+
EMPLOYEES

+120
ACTIVE PATENTS

20%
OF TURNOVER REINVESTED EACH YEAR IN R&D

150
FIBER REFERENCES IN STOCK

5,000
KILOMETERS OF DELIVERED FIBER IN 2018

8,000
FBGS DELIVERED PER YEAR

LASER & AMPLIFIER FIBERS

iXblue develops a full range of doped optical fibers dedicated to a wide range of fiber laser designs and applications.

Main specifications	
Number of Claddings	Single, Double, Triple Clad
Active Doping	Er, Yb, Er/Yb, Tm, Ho, Tm/Ho, Nd P-doped for Raman Amplifer
Core Diameter	up to 30 µm, LMA
Polarization Maintaining	Panda design available

Applications

- Lidar
- High power continuous and pulsed lasers or amplifiers
- 0.9 µm femtoseconds laser sources
- 1 µm industrial lasers
- 1.5 and 2 µm Eye-safe lasers
- CATV and telecom amplifiers
- Space grade amplifiers and lasers

Key features

- Highest efficiency Er/Yb fibers on the market
- High temperature coating
- WW distance record for coherent Lidar for wind measurement
- First PM Neodymium LMA fiber
- More than 10 years experience in Radiation Resistant Doped fiber
- TRL9 Erbium doped fiber
- E-store for fast delivery from stock

Focus on

The need for new earth and universe observation satellites is becoming more and more important, with new challenges in this very hostile space environment where components are exposed to ionizing radiation. Longer missions, very distant satellite for deep space sensing, and new telecommunication demands necessitate stronger photonic devices and components to withstand ionizing radiation.

iXblue has produced more than 20 flying navigation systems that are equipped with our fibers and components. We have developed a strong experience in the qualification of such devices in collaboration with end users as well as National Space and Nuclear agency for the last 10 years.

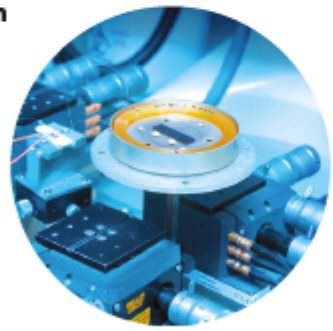
· Learn more on photonics.ixblue.com

OPTICAL FIBER SENSORS

For more than 15 years, iXblue Specialty Fiber Division has developed a large experience in the use of optical fibers in extreme conditions from undersea to space environment including medical to aerospace applications. iXblue Specialty Fiber Division is now offering a large variety of beyond standards fiber for various applications.

Fibers Type	Cladding diameter (µm)	Wavelength range (nm)	PM designs	Key features
PM Gyro Fibers 	40-80	820 to 1550	Tiger Panda	· Reduced coating available · Space Grade available · No twist for easy coil winding · Low PER fluctuation over wide temperature range · Acrylate and Silicon coating available
Polarizing Fibers 	80-125	780 to 1550	Tiger	· > 100 nm polarizing window · > 30 dB extinction ratio · Available as bare fiber, polarizer, full assembly
Spun Fibers 	8-125	1310 to 1550	Tiger Elliptical Core	· Matched PM fiber for current sensors available · EC for low temperature dependence application
Harsh Environnments 	125-400	350 to 1600	Optional	· Radiation resistant · High Energy physics · High temperature operation · Acrylate, acrylate HT, polyimide, aluminium and carbon coating available

Focus on



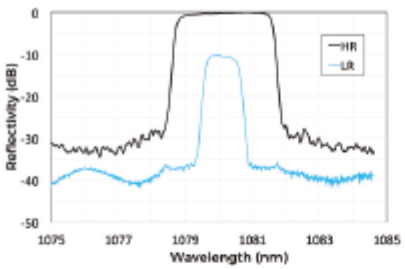
Since its inception, iXblue has been using iXblue Specialty Fiber Division fibers for its own fiber-optic gyroscopes (FOG). Today, iXblue is a globally recognized manufacturer of FOG-based inertial navigation system and equips systems in various markets and environments: space, energy, naval and land defense or volcanology. iXblue's products are operating from the deepest oceans to outer space (-6km up to 1.600.000 km).

FIBER BRAGG GRATINGS

Whether you need to select a particular wavelength, flatten the gain on a WDM or shape a spectum to your particular requirements, iXblue's components are suited for the most advanced needs. In addition, iXblue provides on demand athermal or dissipative packages.

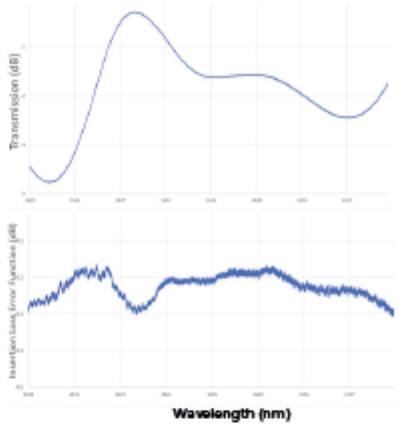
FBG laser mirrors pairs

- All fiber types: single, double or triple clads; PM
- From 600 to 2100 nm
- HR reflectivity up to 99.9%
- HR FWHM from 0.5 to 1.5 nm



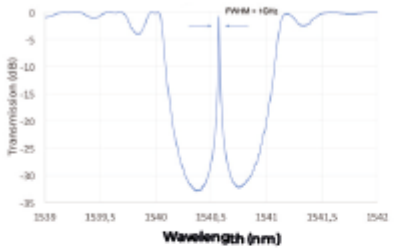
Gain flattening filters

- Low reflection slanted GFF for Terrestrial and Submarine grades
- Available in recoat, athermal or non-athermal package
- C&L bands
- PM version available



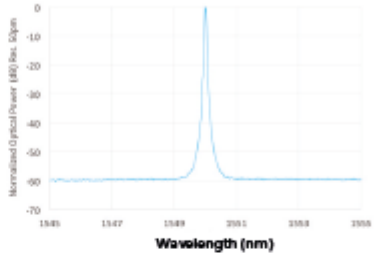
Ultra-narrow bandwidth filters

- Narrow band: < 1 GHz bandwidth filter
- Low Insertion Loss
- Fine adjustement of central wavelength
- Athermal packaging available



Low linewidth single frequency lasers (DFB)

- Combination of iXblue doped fibers and FBG technologies
- 1.5 and 2 µm available
- 1 kHz linewidth
- Up to 10 mW output power



Focus on

- High Power Mirror Laser cavity @ 1, 1.5 and 2 µm
- Improved thermal slope by a factor of ten
- Handling pump power up to 3 kW

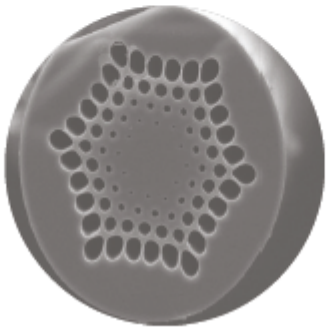
CUSTOM SOLUTIONS

iXblue Specialty Fiber Division, as a recognized manufacturer of high-end specialty fibers and components, can accommodate various customization requirements. In addition, our production processes and capacities allows us to address large volume requests.

Custom fibers

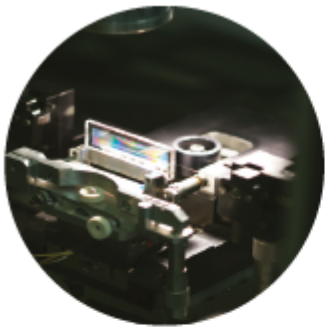
Mastering of the entire production process, from the preform to the fiber caracterization

Custom Fiber Coils



Multicore fibers, hollow Core fibers and Photonics Crystal fibers

Custom components



FBG from 400 to 2100 nm
Apodized profile,
High SLSR
All fiber types

Key figures

20
OEM customers including GAFA

20
Scientific papers published every years

5,000
Kilometers of fiber delivered in 2018

8,000
FBGs delivered per year

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Your challenge, our dedicated and custom solutions.

Visit our website to learn more about our products, technology and applications.
photonics.ixblue.com

Our sales and technical team is ready to assist you. For any request,
feel free to contact us: contact.photonics@ixblue.com

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PHOTONICS