

Visible Fiber Lasers

Features

- CW, Active Power Stabilization
- RS232 and USB
- Graphical User Interface
- Air-Cooling
- Safety Interlock

Applications

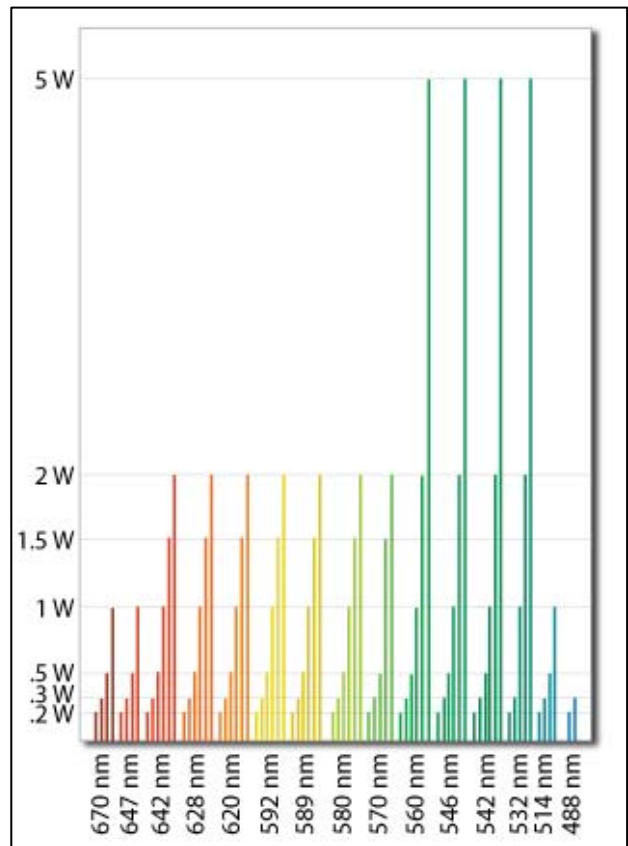
- Fluorescence Microscopy
- Flow Cytometry
- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

Beam Properties

Beam: Collimated
 Transverse Mode: TEM00
 Polarization: Linear
 Orientation of Polarization: Vertical to the base

Beam Parameters

Beam Quality M2: 1.1
 Static Beam Angle: < 5 mrad
 Power Tunability Range: 20 - 100%
 Long Term Wavelength Stability: -0.02 --- +0.02nm



Wavelength	Laser Power
488nm	200mW, 300mW
514nm	200mW, 300mW, 1000mW
532nm	200mW, 300mW, 500mW, 1000mW, 1500mW, 2000mW
542nm	200mW, 300mW, 500mW, 1000mW
546nm	200mW, 300mW, 500mW, 1000mW, 1500mW
560nm	200mW, 300mW, 500mW, 1000mW, 1500mW, 2000mW
570nm	200mW, 300mW, 500mW, 1000mW, 1500mW
580nm	200mW, 300mW, 500mW, 1000mW
589nm	200mW, 300mW, 500mW, 1000mW
592nm	200mW, 300mW, 500mW, 1000mW, 1500mW, 2000mW
620nm	200mW, 300mW, 500mW, 1000mW, 1500mW
628nm	200mW, 300mW, 500mW, 1000mW
642nm	200mW, 300mW, 500mW, 1000mW, 1500mW, 2000mW
647nm	200mW, 300mW, 500mW, 1000mW, 1500mW
670nm	200mW, 300mW, 500mW, 1000mW

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



488nm Visible Fiber Lasers

200 mW, 2RU-VFL-P-200-488

300 mW, 2RU-VFL-P-300-488

Features

- CW, Active Power Stabilization
- RS232 and USB
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- Air-Cooling
- Safety Interlock

Applications

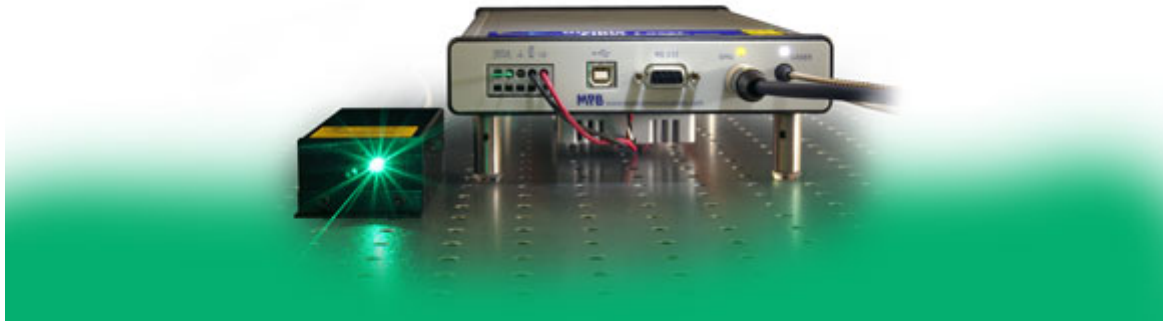
- Fluorescence Microscopy
- Flow Cytometry
- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

Beam Properties

Beam:	Collimated
Transversive Mode:	TEM00
Polarization:	Linear
Orientaion of Polarization:	Vertical to the base

Beam Parameters

Beam Quality M2:	1.1
Static Beam Angle:	< 5 mrad
Power Tunability Range:	20 - 100%
Long Term Wavelength Stability:	-0.02 --- +0.02nm



514nm Visible Fiber Lasers

200 mW, VFL-P-200-514
300 mW, VFL-P-300-514
1000 mW, VFL-P-1000-514

Features

- CW, Active Power Stabilization
- RS232 and USB
- Graphical User Interface
- Air-Cooling
- Safety Interlock

Applications

- Fluorescence Microscopy
- Flow Cytometry
- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

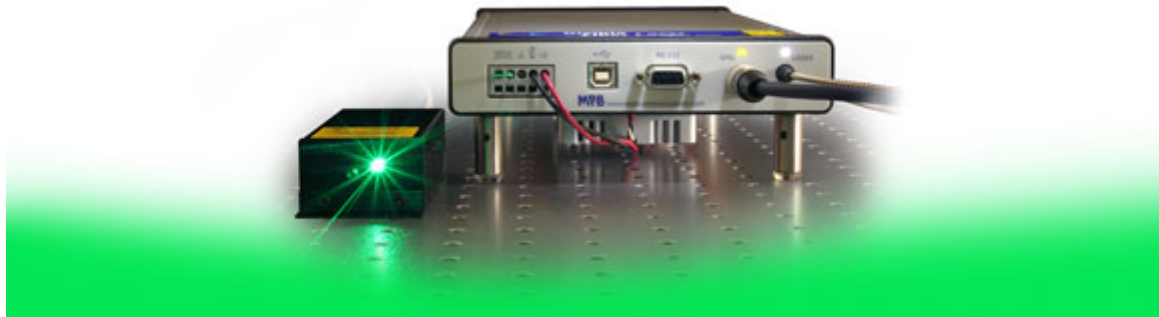
Beam Properties

Beam: Collimated
Transversive Mode: TEM₀₀
Polarization: Linear
Orientation of Polarization: Vertical to the base

Beam Parameters

Beam Quality M₂: 1.1
Static Beam Angle: < 5 mrad
Power Tunability Range: 20 - 100%
Long Term Wavelength Stability: -0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



532nm Visible Fiber Lasers

- 200 mW, VFL-P-200-532
- 300 mW, VFL-P-300-532
- 500 mW, VFL-P-500-532
- 1000 mW, VFL-P-1000-532
- 1000 mW, 2RU-VFL-P-1000-532
- 1500 mW, 2RU-VFL-P-1500-532
- 2000 mW, 2RU-VFL-P-2000-532

Features

- CW, Active Power Stabilization
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Applications

- Fluorescence Microscopy
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- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

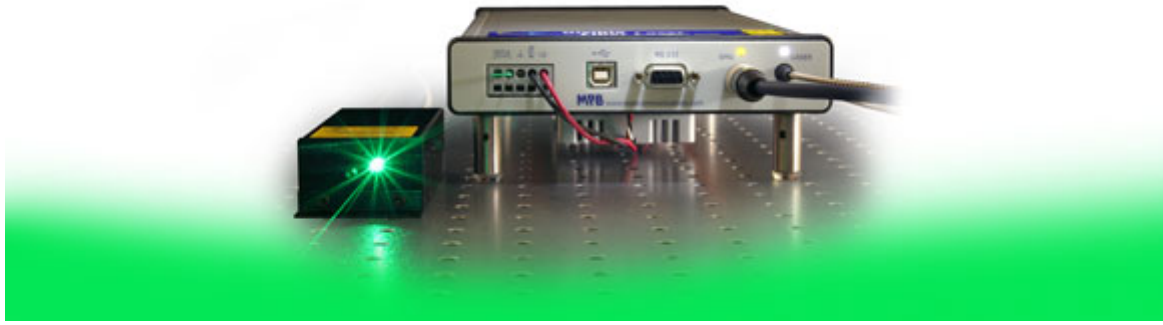
Beam Properties

Beam:	Collimated
Transversive Mode:	TEM00
Polarization:	Linear
Orientaion of Polarization:	Vertical to the base

Beam Parameters

Beam Quality M2:	1.1
Static Beam Angle:	< 5 mrad
Power Tunability Range:	20 - 100%
Long Term Wavelength Stability:	-0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



542nm Visible Fiber Lasers

- 200 mW, VFL-P-200-542
- 300 mW, VFL-P-300-542
- 500 mW, VFL-P-500-542
- 1000 mW, VFL-P-1000-542

Features

- CW, Active Power Stabilization
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Applications

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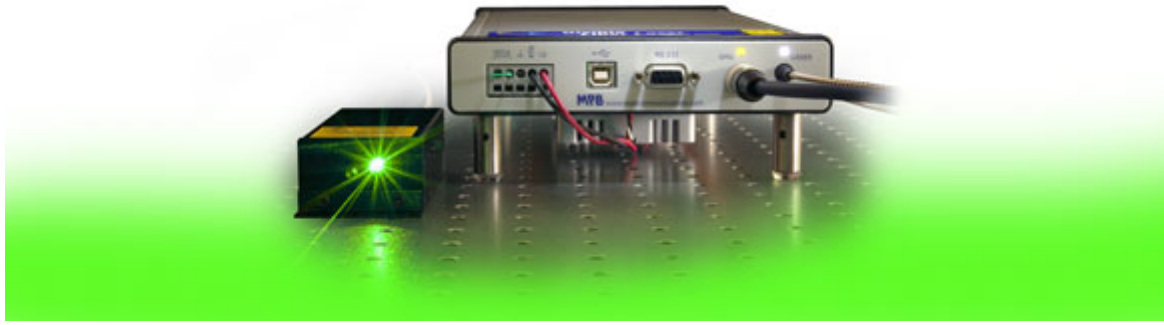
Beam Properties

Beam:	Collimated
Transversive Mode:	TEM00
Polarization:	Linear
Orientation of Polarization:	Vertical to the base

Beam Parameters

Beam Quality M2:	1.1
Static Beam Angle:	< 5 mrad
Power Tunability Range:	20 - 100%
Long Term Wavelength Stability:	-0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



546nm Visible Fiber Lasers

200 mW, VFL-P-200-546
300 mW, VFL-P-300-546
500 mW, VFL-P-500-546
1000 mW, VFL-P-1000-546
1000 mW, 2RU-VFL-P-1000-546
1500 mW, 2RU-VFL-P-1500-546

Features

- CW, Active Power Stabilization
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Applications

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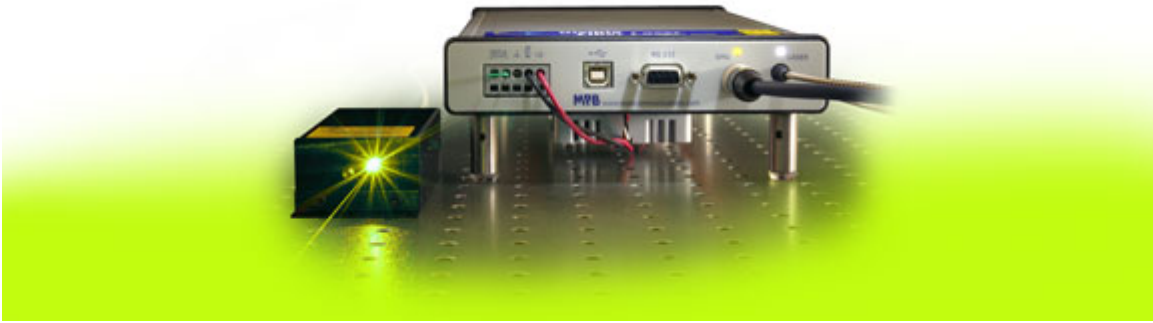
Beam Properties

Beam: Collimated
Transversive Mode: TEM00
Polarization: Linear
Orientation of Polarization: Vertical to the base

Beam Parameters

Beam Quality M2: 1.1
Static Beam Angle: < 5 mrad
Power Tunability Range: 20 - 100%
Long Term Wavelength Stability: -0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



560nm Visible Fiber Lasers

200 mW, VFL-P-200-560
300 mW, VFL-P-300-560
500 mW, VFL-P-500-560
500 mW, 2RU-VFL-P-500-560
1000 mW, VFL-P-1000-560
1000 mW, 2RU-VFL-P-1000-560
1500 mW, 2RU-VFL-P-1500-560
2000 mW, 2RU-VFL-P-2000-560

Features

- CW, Active Power Stabilization
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Applications

- Fluorescence Microscopy
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- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

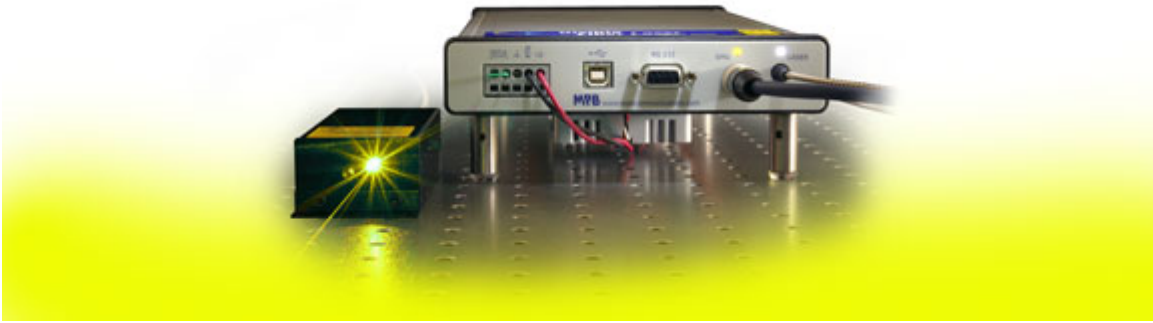
Beam Properties

Beam: Collimated
Transversive Mode: TEM00
Polarization: Linear
Orientation of Polarization: Vertical to the base

Beam Parameters

Beam Quality M2: 1.1
Static Beam Angle: < 5 mrad
Power Tunability Range: 20 - 100%
Long Term Wavelength Stability: -0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



570nm Visible Fiber Lasers

200 mW, VFL-P-200-570
300 mW, VFL-P-300-570
500 mW, VFL-P-500-570
1000 mW, VFL-P-1000-570
1000 mW, 2RU-VFL-P-1000-570
1500 mW, 2RU-VFL-P-1500-570

Features

- CW, Active Power Stabilization
- RS232 and USB
- Graphical User Interface
- Air-Cooling
- Safety Interlock

Applications

- Fluorescence Microscopy
- Flow Cytometry
- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

Beam Properties

Beam: Collimated
Transversive Mode: TEM00
Polarization: Linear
Orientation of Polarization: Vertical to the base

Beam Parameters

Beam Quality M2: 1.1
Static Beam Angle: < 5 mrad
Power Tunability Range: 20 - 100%
Long Term Wavelength Stability: -0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



580nm Visible Fiber Lasers

200 mW, VFL-P-200-580
300 mW, VFL-P-300-580
500 mW, VFL-P-500-580
1000 mW, VFL-P-1000-580

Features

- CW, Active Power Stabilization
- RS232 and USB
- Graphical User Interface
- Air-Cooling
- Safety Interlock

Applications

- Fluorescence Microscopy
- Flow Cytometry
- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

Beam Properties

Beam: Collimated
Transversive Mode: TEM00
Polarization: Linear
Orientation of Polarization: Vertical to the base

Beam Parameters

Beam Quality M2: 1.1
Static Beam Angle: < 5 mrad
Power Tunability Range: 20 - 100%
Long Term Wavelength Stability: -0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



589nm Visible Fiber Lasers

200 mW, VFL-P-200-589
300 mW, VFL-P-300-589
500 mW, VFL-P-500-589
1000 mW, VFL-P-1000-589

Features

- CW, Active Power Stabilization
- RS232 and USB
- Graphical User Interface
- Air-Cooling
- Safety Interlock

Applications

- Fluorescence Microscopy
- Flow Cytometry
- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

Beam Properties

Beam: Collimated
Transversive Mode: TEM00
Polarization: Linear
Orientation of Polarization: Vertical to the base

Beam Parameters

Beam Quality M2: 1.1
Static Beam Angle: < 5 mrad
Power Tunability Range: 20 - 100%
Long Term Wavelength Stability: -0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



592nm Visible Fiber Lasers

- 200 mW, VFL-P-200-592
- 300 mW, VFL-P-300-592
- 500 mW, VFL-P-500-592
- 1000 mW, VFL-P-1000-592
- 1000 mW, 2RU-VFL-P-1000-592
- 1500 mW, 2RU-VFL-P-1500-592
- 2000 mW, 2RU-VFL-P-2000-592

Features

- CW, Active Power Stabilization
- RS232 and USB
- Graphical User Interface
- Air-Cooling
- Safety Interlock

Applications

- Fluorescence Microscopy
- Flow Cytometry
- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

Beam Properties

Beam:	Collimated
Transversive Mode:	TEM00
Polarization:	Linear
Orientaion of Polarization:	Vertical to the base

Beam Parameters

Beam Quality M2:	1.1
Static Beam Angle:	< 5 mrad
Power Tunability Range:	20 - 100%
Long Term Wavelength Stability:	-0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



620nm Visible Fiber Lasers

200 mW, VFL-P-200-620
300 mW, VFL-P-300-620
500 mW, VFL-P-500-620
1000 mW, VFL-P-1000-620
1000 mW, 2RU-VFL-P-1000-620
1500 mW, 2RU-VFL-P-1500-620

Features

- CW, Active Power Stabilization
- RS232 and USB
- Graphical User Interface
- Air-Cooling
- Safety Interlock

Applications

- Fluorescence Microscopy
- Flow Cytometry
- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

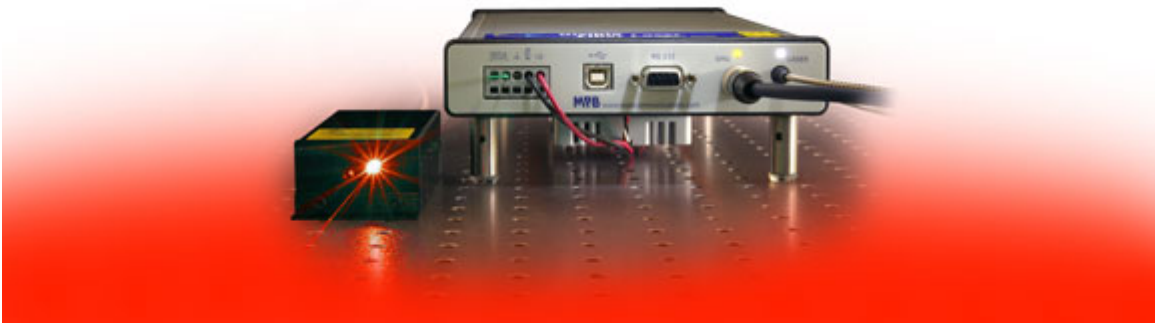
Beam Properties

Beam: Collimated
Transversive Mode: TEM₀₀
Polarization: Linear
Orientation of Polarization: Vertical to the base

Beam Parameters

Beam Quality M₂: 1.1
Static Beam Angle: < 5 mrad
Power Tunability Range: 20 - 100%
Long Term Wavelength Stability: -0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



628nm Visible Fiber Lasers

200 mW, VFL-P-200-628
300 mW, VFL-P-300-628
500 mW, VFL-P-500-628
1000 mW, VFL-P-1000-628

Features

- CW, Active Power Stabilization
- RS232 and USB
- Graphical User Interface
- Air-Cooling
- Safety Interlock

Applications

- Fluorescence Microscopy
- Flow Cytometry
- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

Beam Properties

Beam: Collimated
Transversive Mode: TEM₀₀
Polarization: Linear
Orientation of Polarization: Vertical to the base

Beam Parameters

Beam Quality M₂: 1.1
Static Beam Angle: < 5 mrad
Power Tunability Range: 20 - 100%
Long Term Wavelength Stability: -0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



642nm Visible Fiber Lasers

200 mW, VFL-P-200-642
300 mW, VFL-P-300-642
500 mW, VFL-P-500-642
500 mW, 2RU-VFL-P-500-642
1000 mW, VFL-P-1000-642
1000 mW, 2RU-VFL-P-1000-642
1500 mW, 2RU-VFL-P-1500-642
2000 mW, 2RU-VFL-P-2000-642

Features

- CW, Active Power Stabilization
- RS232 and USB
- Graphical User Interface
- Air-Cooling
- Safety Interlock

Applications

- Fluorescence Microscopy
- Flow Cytometry
- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

Beam Properties

Beam: Collimated
Transversive Mode: TEM00
Polarization: Linear
Orientation of Polarization: Vertical to the base

Beam Parameters

Beam Quality M2: 1.1
Static Beam Angle: < 5 mrad
Power Tunability Range: 20 - 100%
Long Term Wavelength Stability: -0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



647nm Visible Fiber Lasers

- 200 mW, VFL-P-200-647
- 200 mW, 2RU-VFL-P-200-647
- 300 mW, VFL-P-300-647
- 300 mW, 2RU-VFL-P-300-647
- 500 mW, VFL-P-500-647
- 1000 mW, 2RU-VFL-P-1000-647
- 1500 mW, 2RU-VFL-P-1500-647

Features

- CW, Active Power Stabilization
- RS232 and USB
- Graphical User Interface
- Air-Cooling
- Safety Interlock

Applications

- Fluorescence Microscopy
- Flow Cytometry
- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

Beam Properties

Beam:	Collimated
Transversive Mode:	TEM00
Polarization:	Linear
Orientaion of Polarization:	Vertical to the base

Beam Parameters

Beam Quality M2:	1.1
Static Beam Angle:	< 5 mrad
Power Tunability Range:	20 - 100%
Long Term Wavelength Stability:	-0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks



670nm Visible Fiber Lasers

200 mW, VFL-P-200-670
300 mW, VFL-P-300-670
500 mW, VFL-P-500-670
500 mW, 2RU-VFL-P-500-670
1000 mW, 2RU-VFL-P-1000-670

Features

- CW, Active Power Stabilization
- RS232 and USB
- Graphical User Interface
- Air-Cooling
- Safety Interlock

Applications

- Fluorescence Microscopy
- Flow Cytometry
- Ophthalmology
- Spectroscopy
- Medical Biotechnology
- Laser Sintering
- Thin Film & Overlay Metrology

Beam Properties

Beam: Collimated
Transversive Mode: TEM₀₀
Polarization: Linear
Orientation of Polarization: Vertical to the base

Beam Parameters

Beam Quality M₂: 1.1
Static Beam Angle: < 5 mrad
Power Tunability Range: 20 - 100%
Long Term Wavelength Stability: -0.02 --- +0.02nm

All models are also available in 2RU format, compatible to 19", 23" and ETSI racks

Visible Polarized Fiber Lasers



Visible Fiber Lasers (VFL-series) are dependable and easy-to-use sources for a variety of industrial, military and scientific applications.

Exceptional performance is achieved based on the VFL architecture, which draws on our telecom design practices. The all-fiber laser design inherently ensures a narrow linewidth, diffraction limited linearly polarized output with unprecedented wavelength stability.

In addition, the VFL lasers have a low-cost of ownership, with a long lifetime, low power consumption and no maintenance. The traditional concerns of keeping optics clean and cavity alignment sensitivity to temperature and mechanical vibrations do not exist.

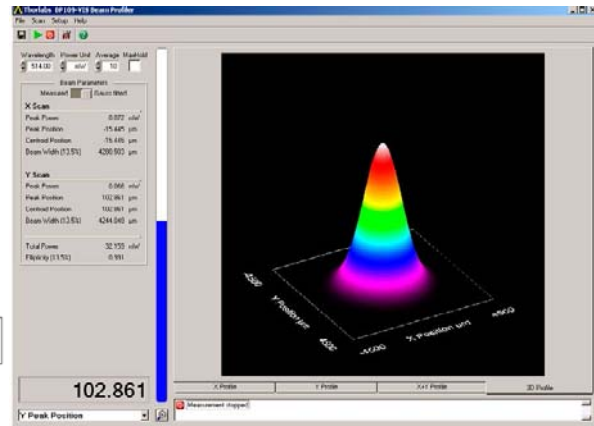
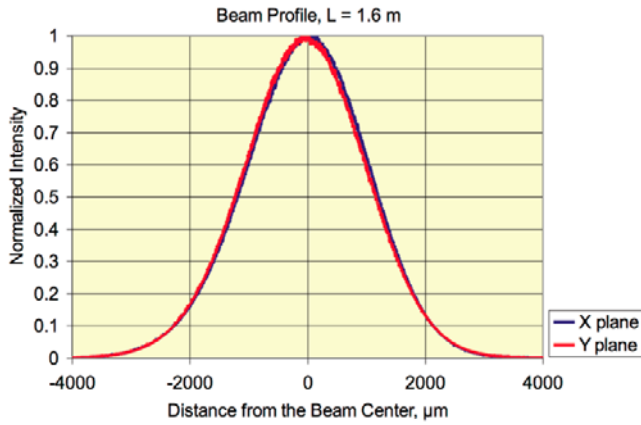
We are able to offer a variety of wavelengths based on similar architectures by using fiber Bragg gratings to establish the laser output wavelength. All units have the same compact size laser head, making the VFLs easy to integrate for system applications.

Built-in intelligence allows control and monitoring through a user-friendly graphical user interface via an RS-232 or USB port and features automatic power control for excellent power stability.

Applications

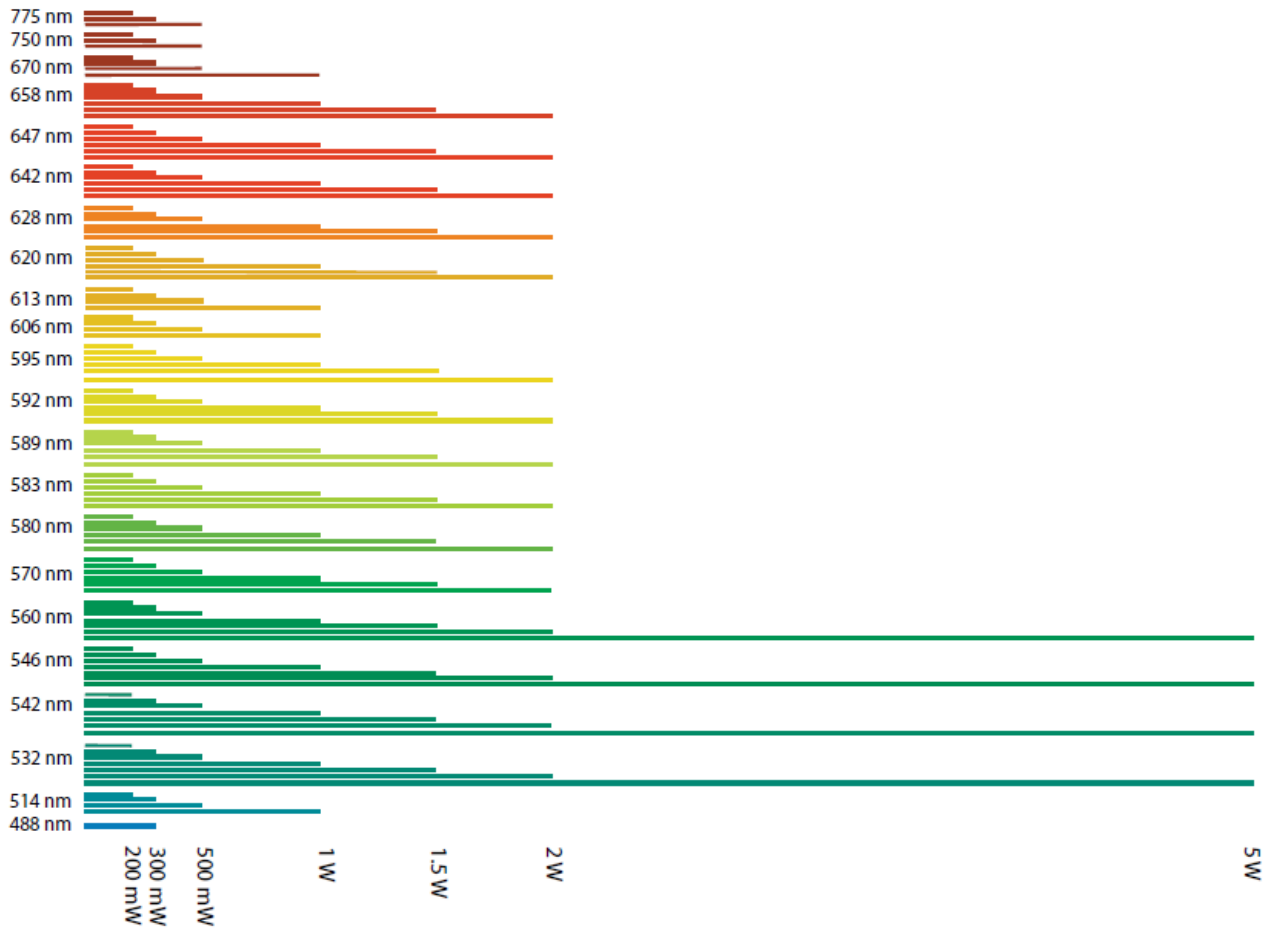
- .. Fluorescence Microscopy
- .. Flow Cytometry
- .. Structured Illumination
- .. DNA Sequencing
- .. Ophthalmology
- .. Spectroscopy
- .. Laser Sintering

Why the VFL-Series... Excellent Beam Performance

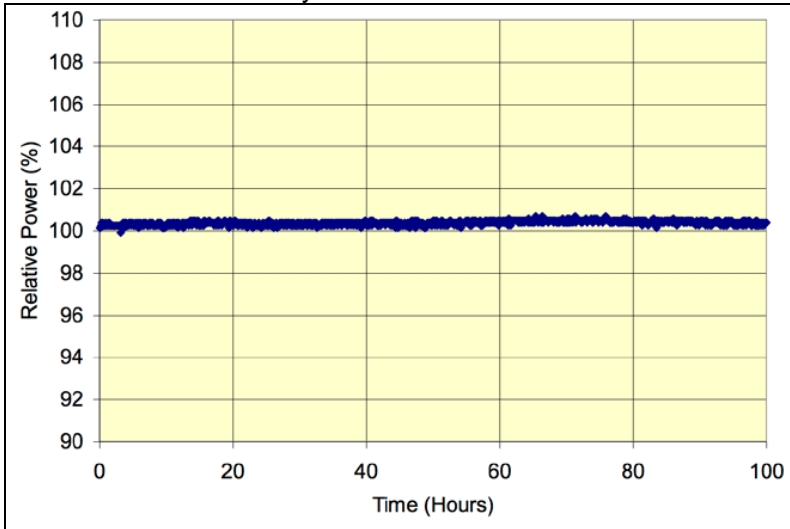


Diameter: $W = 0.3\text{mm}$, measured at 20 mm from the output window
Divergence: $Q_x=2.4\text{mrad}$; $Q_y=2.4\text{mrad}$ (full angle)

Wide choice of Emission Wavelengths and Output Powers

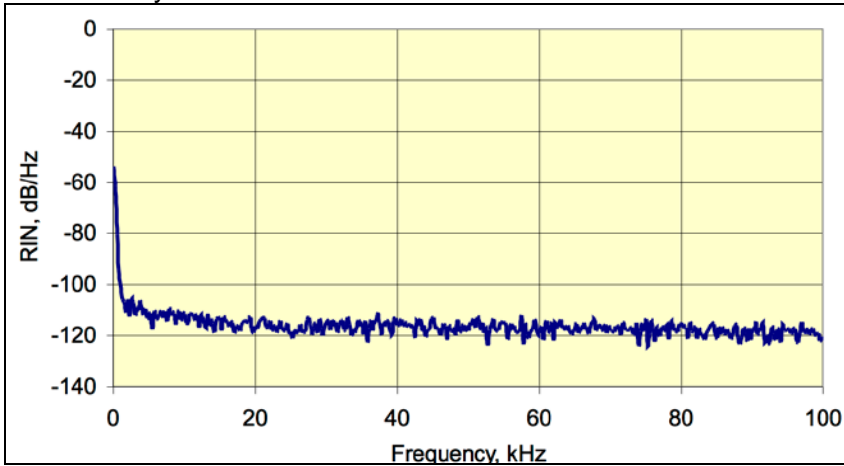


Unrivaled Power Stability

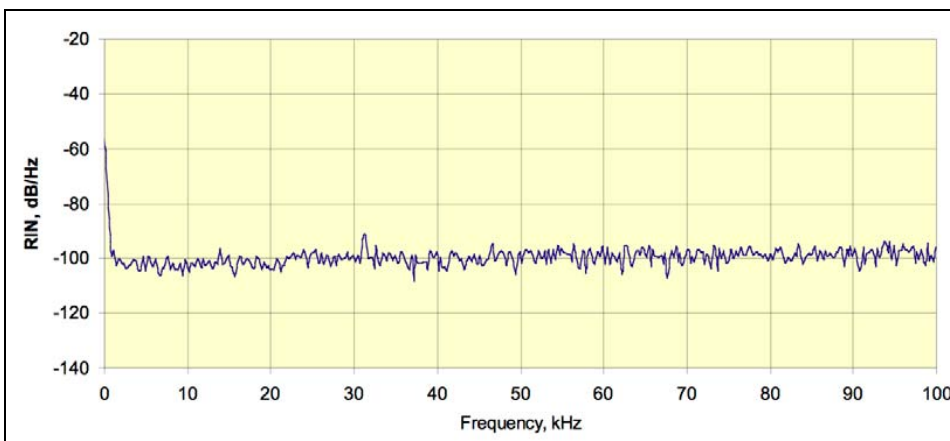


Output Power Stability in APC mode of the 580-nm CW Fiber Laser Low Intensity Noise

Low Intensity Noise



Relative Intensity Noise Spectrum of the Single Frequency VFL-P-300-514SF, Integrated RMS Noise 0.06%



Relative Intensity Noise Spectrum of the VFL-P-1000-592, Integrated RMS Noise 0.4%

Precision & Flexibility

All the Visible Fiber Lasers are also available in 2RU Packaging

Low Cost of Ownership

High wall plug efficiency

Low power consumption

Zero maintenance

Long lifetime based on components with Telecom Pedigree