

Datasheet

High power / Short wavelength fiber delivery systems - kineFLEX-HPV / kineFLEX-UV

The kineFLEX-HPV™ and kineFLEX-UV™ are robust laser beam delivery systems from the kineFLEX™ family of products.

This fiber delivery technology is designed around pre-focussed and integrated optical assemblies the fiber is automatically mode matched to your laser parameters to achieve transmission efficiencies greater than 65%.

Singlemode fiber enables the user to decouple the laser beam astigmatism and dynamic beam pointing instability from the measurement application. Fiber also provides a convenient packaging solution by relocating sources of heat and by removing bulk components thereby reducing the number of optical surfaces from the beam alignment scheme.

The kinematic design of the laser to fiber coupler enables true 'Plug & Play' benefits for singlemode and polarization-preserving fiber designs. Sub-micron repeatability and sub-microradian stability mean systems can be aligned once only and are stable for multiple remove and insert operations, thus providing true modularity for instrument designs.

Qioptiq fiber systems can be customized for exacting OEM specifications. Outputs can be configured to

produce pure Gaussian profiles, extremely low wavefront and zero aberrations, as well as engineered spatial profiles and shapes. Singlemode fiber designs are also available for multi-wavelength, broadband transmission (>240nm), and Ultra-High Vacuum compatibility.

Some of the product features include:

- For single wavelengths of 375nm, 488nm and 532nm
- Guaranteed for performance at high power levels of 500mW as standard
- Highly stable to thermal effects with zero misalignment
- Stable ruggedized platform for industrial applications
- Polarization maintaining and singlemode transmission
- Custom OEM versions available
- Higher power and multiple wavelength versions available on request



Technical specification

Operating wavelengths			Units
High power ¹	488	532	nm
UV ²		375	nm
Operating performance			
Polarization ratio		≤ -20	dB
Throughput efficiency ³		≥ 65	%
Fiber parameters			
Fiber length		1 to 3	m
Fiber protective jacket		Stainless steel, 5mm OD	-
Collimated output beam			
Beam diameter		0.7	mm
M Squared		typ 1.1	-
Pointing stability		≤ 1	μrad/°C
Beam divergence		Diffraction Limited	-
Mechanical dimensions		Ø12 x 50	mm
Beam position		≤ ± 0.15	mm
Beam angle		≤ ± 0.5	mrad
Environmental conditions			
Storage temperature		10 to 50	°C
Operating pressure		Atmospheric	-
Operating temperature		10 to 40	°C
Operating humidity		Non-condensing	-

¹ Incident input power upto 500mW

² Incident input power upto 20mW

³ Assuming 0.7 input beam diameter

Note: OEM versions available please call

Order code:

kineFLEX-HPV[®] / kineFLEX-UV[®]

Fiber type, (P)olarization maintaining

Fiber length (m)

Fiber Jacket (S)tainless Steel

Operating Wavelength (nm)

Input beam diameter (mm)

Output termination 0.7

Fiber Optics



kineFLEX™

Robust laser beam delivery system for precision measurement applications

- Fiber coupling for DPSS, diode and gas lasers
- Highly repeatable and stable operation
- Greater than 65% coupling efficiency



kineFLEX-DUO™

Robust laser beam delivery system for two laser sources at visible wavelengths

- Efficient and simple beam combination
- Visible wavelengths
- Rugged platform for industrial applications



laserPLATE™

Rapid and convenient mechanical mounting and packaging system for laser to fiber alignment

- Compatible and integrated laser to fiber coupling
- Combined laser chassis and heatsink
- Easy to integrate and align

Lasers



iFLEX2000™

Extremely reliable and robust fiber coupled laser designed for volume manufacturing

- UV, Visible and NIR Wavelengths
- Integrated drive and temperature control electronics
- Modular singlemode fiber delivery system



iFLEX-Mustang™

Fiber coupled solid state laser with on-board acousto-optic modulation

- DPSS lasers, 488, 532 and 561nm
- High long term stability and low noise
- 25mW of output power



iFLEX-Q3™

Compact laser diode system for precision optical instrumentation

- Exceptional brightness, stability and long-term reliability
- Highly polarized beam
- Versatile, small form laser head and remote electronics module

Multi-laser Engines



iFLEX-Adder™

5 into 1 fiber-coupled laser beam combination system

- True 'Plug & Play' capability enabling ultimate flexibility of laser suite
- Upgradeable from 2 to 5 wavelengths as required
- Compatible with kineFLEX™ and kineFLEX-HPV™



iFLEX-Viper™

The world's first integrated Multi-laser Engine

- Combines 5 wavelengths in one instrument
- Delivers wavelengths via a singlemode fiber optic cable
- On-board acousto-optic modulation up to 3MHz

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