

FCPA μ Jewel Family

NEW

Ytterbium-doped Femtosecond Fiber Lasers
DE-Series μ Jewel Family



DE1050 Laser Head

Product Features

- Proven industrial reliability in the field since market introduction in 2004
- 50 μ J pulse energy at 200 kHz is ideal for transparent material processing, wide bandgap materials, among many other applications
- Mechanical reliability complies with MIL-STD-810F and IEC 60601-1
- Regulatory certifications available

Typical Configurations*

FCPA DE-Series

NEW

	DE0320	DE0330	DE0540	DE1050
Center Wavelength	1045 \pm 5 nm	1045 \pm 5 nm	1045 \pm 5 nm	1045 \pm 5 nm
Pulse Energy	\geq 20 μ J	\geq 30 μ J	\geq 40 μ J	\geq 50 μ J
Pulse Duration	\leq 450 fs	\leq 450 fs	\leq 450 fs	\leq 350 fs
Repetition Rate	100 kHz**	100 kHz**	100 kHz**	200 kHz**
Average Power	\geq 3 W	\geq 3 W	\geq 5 W	\geq 10 W

* Other configurations available for specialized and OEM applications
 e.g. higher average power, higher pulse energy

** Factory set up to 5 MHz repetition rate available

FCPA μ Jewel Specifications

DE-Series 20 μ J - 40 μ J

DE-Series - 50 μ J

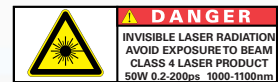
Beam Quality	$M^2 \leq 1.3$	
Polarization	Horizontal with respect to baseplate	
Power Stability	$\leq 1\%$ rms after stabilization over $\pm 1\text{ }^\circ\text{C}$	
Output Aperture Height	55.4 mm	
Laser Head Dimensions	550 x 400 x 149 mm ³	666 x 520 x 165 mm ³
Laser Head Weight	$\leq 25\text{ kg}$	$\leq 45\text{ kg}$
Diode Cassette Dimensions	225 x 287 x 189 mm ³ **	Not Applicable
Diode Cassette Weight	$\leq 10\text{ kg}$ **	Not Applicable
Controller Dimensions	433 x 483 x 222 mm ³	433 x 483 x 222 mm ³
Controller Weight	$\leq 30\text{ kg}$	$\leq 30\text{ kg}$
Head Power Consumption	$\leq 600\text{ W}$	$\leq 1200\text{ W}$
Operating Voltage	100-120 or 200-240 VAC*	100-120 or 200-240 VAC*

* at 50 to 60 Hz

** Diode Cassette Attached to Laser Head

Other Parameters

- Output Trigger: TTL 100 ns pulse
- Operating Temperature: 20-30 $^\circ\text{C}$
- Storage Temperature: 0-50 $^\circ\text{C}$
- Warm-up Time: ≤ 60 minutes
- Cable Length: 3 m



DE-Series Warning Label

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Specification and features may change without notice

FCPA μ Jewel Family

Ytterbium-doped Femtosecond Fiber Lasers



DE2020 Laser Head

Product Features

- Proven industrial reliability in the field since market introduction in 2004
- Mechanical reliability complies with MIL-STD-810F and IEC 60601-1
- Up to 5 MHz repetition rate
- Air-cooled optical laser head
- Simple operation by controller panel or RS-232 interface
- Regulatory certifications available

Typical Configurations*

	DE0210	DE1010	DE2020
Center Wavelength	1041 \pm 5 nm	1045 \pm 5 nm	1045 \pm 5 nm
Average Power	\geq 2 W	\geq 10 W	\geq 20 W
Pulse Duration	\leq 450 fs	\leq 350 fs	\leq 400 fs
Repetition Rate	100 kHz	1 MHz	1 MHz
Pulse Energy	\geq 10 μ J	\geq 10 μ J	\geq 20 μ J

NEW

* Other configurations available for specialized and OEM applications
e.g. higher average power, higher pulse energy

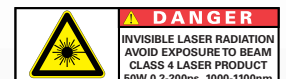
** Factory set up to 5 MHz repetition rate available

FCPA μ Jewel Specifications

	DE0210	DE1010	DE2020
Beam Quality	$M^2 \leq 1.3$		
Polarization	Horizontal with respect to baseplate	Vertical with respect to baseplate	Vertical with respect to baseplate
Power Stability	$\leq 1\%$ rms after stabilization over $\pm 1\text{ }^\circ\text{C}$		
Output Aperture Height	55.4 mm		
Laser Head Dimensions	550 x 400x 149 mm ³	666 x 520 x 165 mm ³	666 x 520 x 165 mm ³
Laser Head Weight	$\leq 25\text{ kg}$	$\leq 45\text{ kg}$	$\leq 45\text{ kg}$
Diode Cassette Dimensions	225 x 287 x189 mm ³ **	Not Applicable	Not Applicable
Diode Cassette Weight	$\leq 10\text{ kg}$ **	Not Applicable	Not Applicable
Controller Dimensions	433 x 483 x 222 mm ³	433 x 483 x 222 mm ³	433 x 483 x 222 mm ³
Controller Weight	$\leq 30\text{ kg}$	$\leq 30\text{ kg}$	$\leq 30\text{ kg}$
Head Power Consumption	$\leq 600\text{ W}$	$\leq 1200\text{ W}$	$\leq 1200\text{ W}$
Operating Voltage	100-120 or 200-240 VAC*	100-120 or 200-240 VAC*	100-120 or 200-240 VAC*

* At 50 to 60 Hz

** Diode Cassette Attached to Laser Head



DE0210, D-10K & DE2020 Warning Label

Other Parameters

- Output Trigger: TTL 100 ns pulse
- Operating Temperature: 20-30 °C
- Storage Temperature: 0-50 °C
- Warm-up Time: ≤ 60 minutes
- Cable Length: 3 m

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