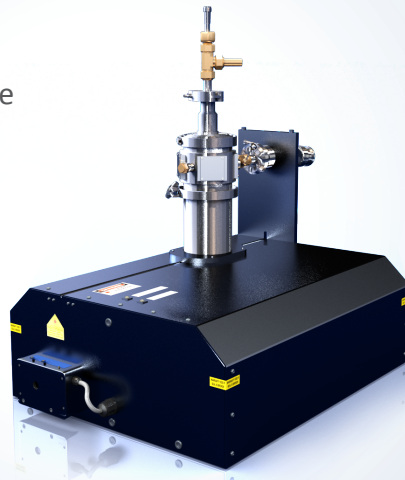


# FLPM and FLPMT Series

## Fe:ZnSe/S Microsecond Pulsed Mid-IR Lasers

**NEW PRODUCT**

Fixed Frequency or 3.9 - 5.0  $\mu\text{m}$  Tunable  
Cryogenically-cooled Optical Head

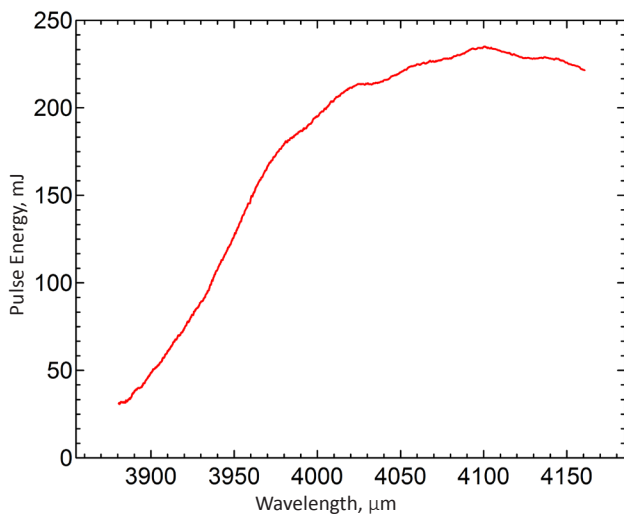


**Applications**

- ▶ Spectroscopy
- ▶ Sensing
- ▶ Thermal Imaging
- ▶ Seeding or Pumping Mid-IR OPOs
- ▶ Defense

**Features**

- ▶ Wavelength Range 3.9 - 5.0  $\mu\text{m}$
- ▶ Output Energy > 400 mJ
- ▶ Output Power up to 35 W
- ▶ Pulse Duration 100 - 300  $\mu\text{s}$
- ▶ Repetition Rate from Single Pulse to 100 Hz



Output Energy vs. Wavelength for FLPMT (100 Hz)

FLPM and FLPMT are Fe:ZnSe/S pulsed, free-running, cryogenically-cooled lasers. Users can select a fixed wavelength within a 3.9 - 5.0  $\mu\text{m}$  range with the FLPM model or choose a wavelength tunable FLPMT model. The lasers provide 200  $\mu\text{s}$  pulses with pulse energy up to 400 mJ and output power up to 35 W. The repetition rate is from a single pulse up to 100 Hz; the spectral linewidth is < 1 nm. FLPMT/FLPM lasers are pumped by IPG's efficient and reliable erbium fiber lasers. The FLPM and FLPMT lasers are used in applications such as Mid-IR sensing and active thermal imaging.

# FLPM and FLPMT Series

## Fe:ZnSe/S Microsecond Pulsed Mid-IR Lasers

| Optical Characteristics           | FLPM                                 | FLPMT                      |
|-----------------------------------|--------------------------------------|----------------------------|
| Mode of Operation                 | Pulsed, free-running                 |                            |
| Central Wavelength, $\mu\text{m}$ | customer-selected in 3.9 - 5.0 range | tunable in 3.9 - 5.0 range |
| Linewidth, nm                     | < 1                                  |                            |
| Average Output Power*, W          | 0.5 - 35, typ. 1.0                   |                            |
| Pulse Energy, mJ                  | 50 - 400, typ. 100                   |                            |
| Pulse Duration, $\mu\text{s}$     | 100 - 300                            |                            |
| Repetition Rate                   | Single Pulse to 100 Hz               |                            |
| Polarization                      | Horizontal                           |                            |
| Beam Diameter* (FW, $1/e^2$ ), mm | 3                                    |                            |
| Beam Divergence, mrad             | < 3                                  |                            |
| Warm up Time, min                 | 15 from standby, 60 from cold start  |                            |

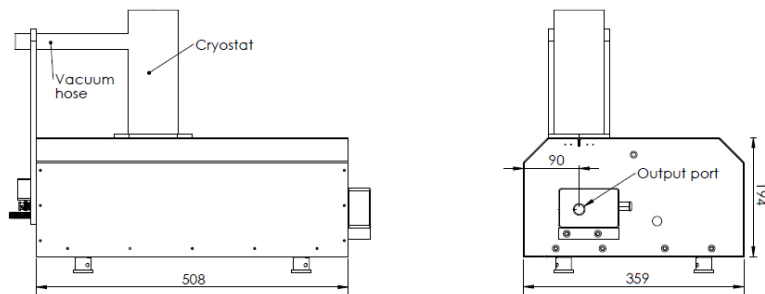
\*Custom output powers are available upon request.

\*\*Beam diameter may be adjusted to meet customer specifications.

### General Characteristics

| Pump Laser                          | IPG Photonics CW Er Fiber Laser |
|-------------------------------------|---------------------------------|
| Pump Laser Dimensions (WxDxH), mm   | 448 x 403 x 132                 |
| Optical Head Dimensions (WxDxH), mm | 359 x 508 x 194                 |
| Gain Element Operation Temp***, K   | 77 - 220                        |
| Supply Voltage 50-60 Hz, VAC        | 110 - 240                       |
| Power Consumption, W                | 500 typ.                        |

\*\*\*Optimal operation temperature of a gain element depends on oscillation wavelength.

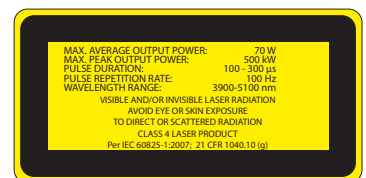


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