

# Tunable External Cavity Laser Kits

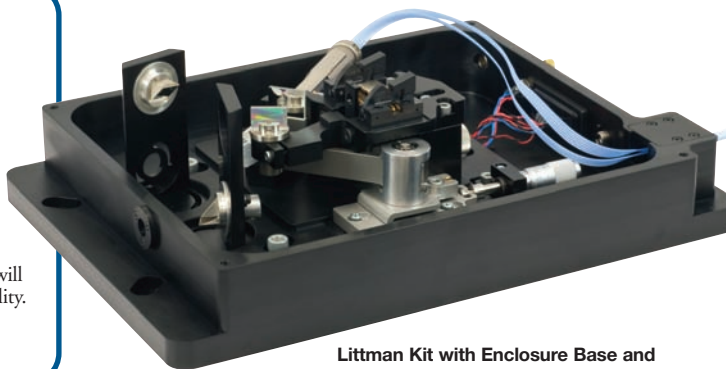
## ECL Kits with a Littrow or Littman Cavity Configuration

### Features

- Mode Hop Free Design\*
- High Power\*\*
- Wide Tuning Range with Picometer Resolution
- Free-Space or Fiber-Coupled Output\*\*
- Gain Element in Windowless Half Butterfly Package
- Interchangeable Optical Components
- High-Precision Pivot Point

\* When purchasing a kit with a Littrow configuration, Thorlabs will factory-align the grating to ensure mode hop free tuning capability.

\*\* Depends on the cavity configuration and gain chip.



Littman Kit with Enclosure Base and Steering Mirrors

Thorlabs' new line of Tunable Laser Kits is designed for superior cavity construction flexibility and high-stability performance. Available for either Littrow or Littman configurations, these extended cavity laser (ECL) kits include everything needed aside from drive electronics. Due to their modularity, they are ideal for educational purposes, component testing, and research. Components are offered to modify the cavity to accommodate Littman or Littrow configurations, and there are numerous gain chip, grating, and tuning actuator options. Additionally, custom ECL components can be easily integrated, which minimizes construction time and cost compared to other tunable laser alternatives.

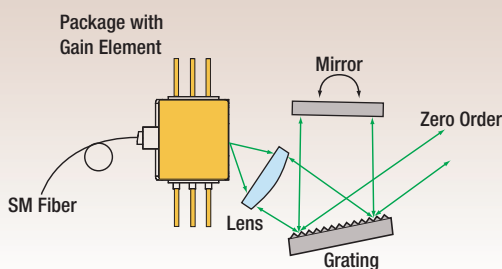
The standard Littrow kit is offered with your choice of a 780, 1300, or 1550 nm single angle facet (SAF) gain chip. The gain chip is mounted on a TEC element to stabilize the laser's output. An aspheric lens is attached to a flexure mechanism to enable translation and thus collimation of the emitted light before it is diffracted by the grating. The grating is mounted on a high-precision pivot arm and tunes the laser by coupling diffraction back into the gain chip.

The position of the pivot is adjusted with a micrometer, which can be used to eliminate mode hop. Output from the ECL is either fiber coupled or free space.

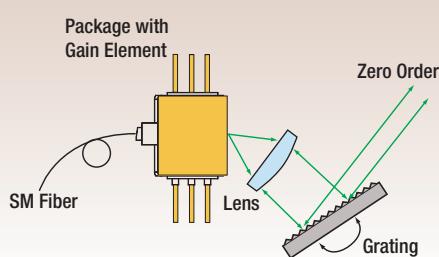
Thorlabs also offers kits with a Littman configuration. These kits are available with either 1300 nm or 1550 nm gain elements. Like the Littrow configuration, light from the gain chip is collimated with an aspheric lens. However, once this light is diffracted by the grating, the light is then reflected off of a mirror and back onto the grating to provide a higher side mode suppression ratio (SMSR). Once the light is diffracted by the grating a second time, the 1<sup>st</sup> order is then coupled back into the gain chip. The Littman configuration provides a narrower linewidth than Littrow lasers, but the total power is sacrificed since light is diffracted by the grating twice. Wavelength selection is provided by rotating the mirror instead of the grating as in the Littrow configuration.

Please contact our technical support department for more information on our standard kits, as well as information on custom kits that incorporate features like enclosures, power monitors, optical amplifiers, isolators, wavemeters, etc.

### Littman Configuration



### Littrow Configuration



### ECL Kits with a Littrow or Littman Cavity Configuration

ITEM #	\$	£	€	RMB	DESCRIPTION
TLK-L780M	\$ 9,900.00	£ 6,831.00	€ 8,811.00	¥ 83,556.00	Tunable Laser Kit, 780 nm, Littman Configuration
TLK-L1300M	\$ 9,700.00	£ 6,693.00	€ 8,633.00	¥ 81,868.00	Tunable Laser Kit, 1300 nm, Littman Configuration
TLK-L1550M	\$ 9,500.00	£ 6,555.00	€ 8,455.00	¥ 80,180.00	Tunable Laser Kit, 1550 nm, Littman Configuration
TLK-L1300R	\$ 10,500.00	£ 7,245.00	€ 9,345.00	¥ 88,620.00	Tunable Laser Kit, 1300 nm, Littrow Configuration
TLK-L1550R	\$ 10,500.00	£ 7,245.00	€ 9,345.00	¥ 88,620.00	Tunable Laser Kit, 1550 nm, Littrow Configuration

### Contact Information

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