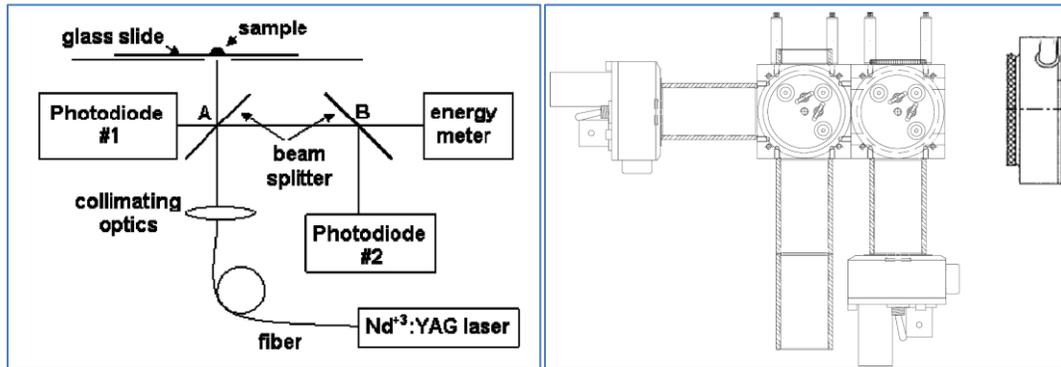


### LITF-01 Laser Ignition Test Fixture for testing advanced primer materials Includes 30 W fiber coupled diode laser



Description: The LITF-01 Laser Ignition Test Fixture is designed to test ignition threshold and delays of laser initiated energetic material.

The open-air laser initiation fixture is designed to be flexible. The standard LITF-01 is equipped with a 30-Watt 80X nm fiber-coupled diode laser. This laser can produce 0 – 30 Watts with pulse durations of 10 – 2000 microseconds. The diode laser is connected to the apparatus through a fiberoptic cable with standard SMA fiberoptic connectors. This allows compatibility with other laser sources.

The laser beam from the fiberoptic is collimated and is propagated vertically with most of the energy going through Beam Splitter A to a stage that is equipped with a removable aperture and a glass microscope slide. A portion of the beam is directed to Beam Splitter B, which directs energy into diagnostics for the laser pulse including an Energy Meter and a Photodiode # 2 for temporal profile measurements. Upon ignition, the optical signature of the energetic material sample passes through the glass slide and is reflected from Beam Splitter A into Photodiode #1. Photodiode # 1 is used to provide a temporal indication of ignition and is used to determine the Time To First Light (TTFL) of the energetic material. Not shown in the illustration is Photodetector # 3, which is used to measure the optical signature from the top of the energetic material sample.

The LITF-01 includes the fiber coupled laser diode and the illustrated apparatus including mounts, optics, and photodiodes. The user will need to provide the energy meter diagnostic and data acquisition such as an oscilloscope.

