



FSPL Series

Femtosecond Pulsed Fiber Lasers, 1-500 mW

Data Sheet



Overview

The FSPL Series femtosecond pulsed fiber lasers deliver ultrashort pulse durations below 150 fs, repetition rates up to 80 MHz, and output power levels up to 500 mW. Available in multiple wavelengths including 515 nm, 532 nm, 780 nm, 1030 nm, 1064 nm, and 1560 nm, these ultrafast laser systems are ideal for scientific research, biomedical imaging, nonlinear optics, spectroscopy, semiconductor processing, and precision micromachining applications.

Key Features

- Ultrashort pulse duration <150 fs
- Repetition rates up to 80 MHz
- Available wavelengths from 515 nm to 1560 nm
- Output power from 1 mW to 500 mW
- High beam quality with TEM₀₀ mode output
- Excellent power stability and long-term reliability
- Compact, integrated system design for research and industrial use

Applications

- Two-photon microscopy and bioimaging
- Nonlinear optics research
- Spectral analysis
- Terahertz generation and imaging
- Glass/silicon/thin-film processing
- Precision manufacturing
- Nonlinear optics research

515-1560 nm Specifications

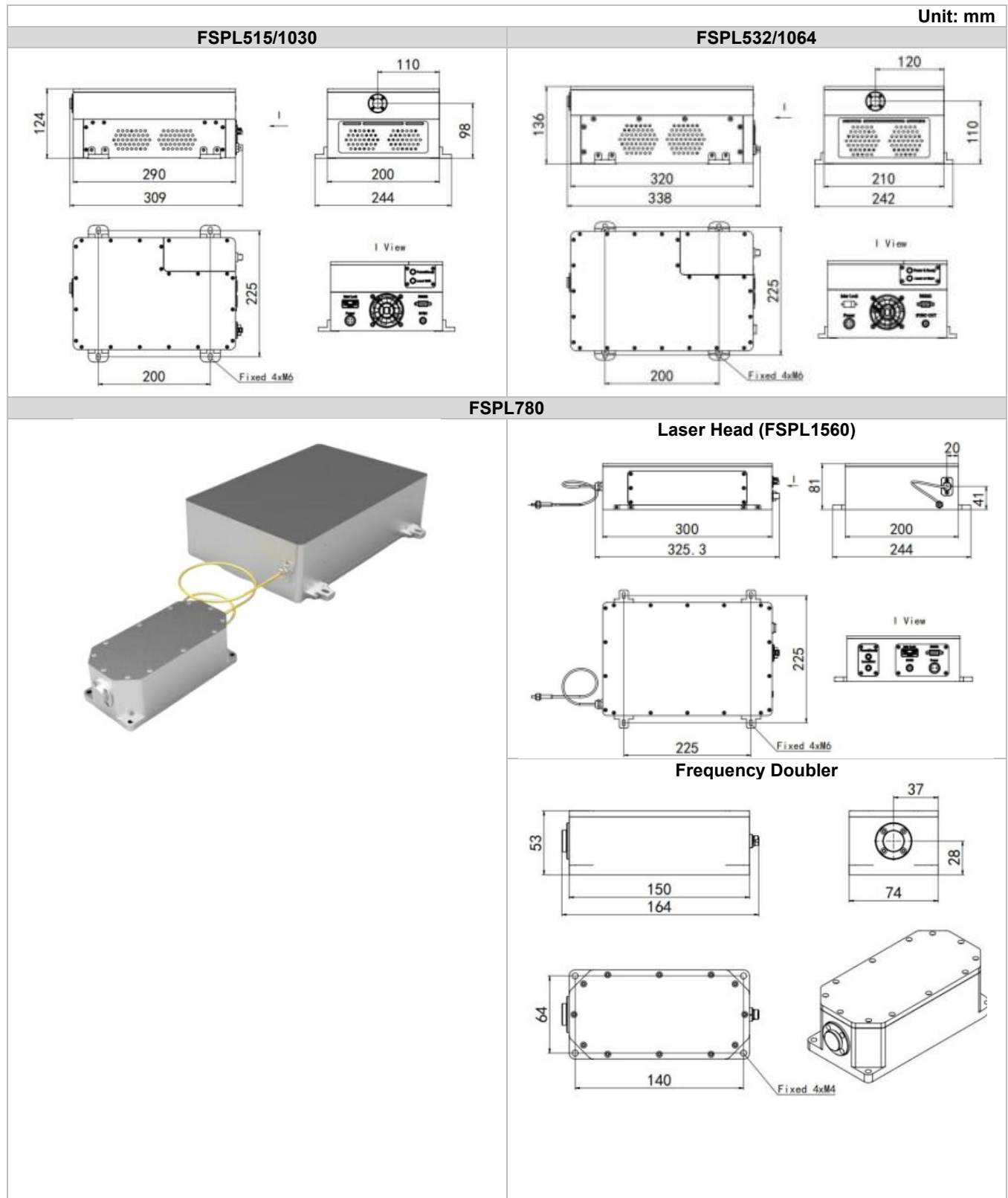
| Parameter | FSPL515 | FSPL532 | FSPL780 | FSPL1030 | FSPL1064 | FSPL1560 |
|---|-------------------|-----------|------------|------------|-----------|------------|
| Wavelength | 515±5 nm | 532±2 nm | 780±15 nm | 1030±10 nm | 1064±5 nm | 1560±30 nm |
| Operating mode | Pulsed | | | | | |
| Average power ⁽¹⁾ | 1-100 mW | 1-100 mW | 1-50 mW | 1-500 mW | 1-500 mW | 1-200 mW |
| Single pulse energy | 1-1.25 nJ | 1-1.25 nJ | 0.1-0.6 nJ | 1-6.25nJ | 1-6.25nJ | 1-2.5 nJ |
| Repetition rate | 80±1 MHz | 80±1 MHz | 80±2 MHz | 80±2 MHz | 80±2 MHz | 80±2 MHz |
| Pulse duration | <150 fs | <150 fs | <100 fs | <150 fs | <150 fs | <50 fs |
| Peak power | 1-7.5 kW | 1-7.5 kW | 1-6 kW | 41.7 kW | 1-41kW | 1-50 kW |
| Ave power stability (rms, 4 hours ±3°C) | <2%, <1% | | | | | |
| Transverse mode | TEM ₀₀ | | | | | |
| Beam quality (M ²) | <1.2 | | | | | |
| Beam divergence, full angle | <1.0 mrad | | | | | |
| Beam diameter at aperture | <2 mm | ~1.0 mm | <2.0 mm | <2.0 mm | <2.0 mm | |
| Cooled method | Air cooled | | | | | |
| Operating temperature | 10-35°C | 10-35°C | 10-35°C | 15-35°C | 10-35°C | 10-35°C |
| Expected lifetime | >10,000 hours | | | | | |

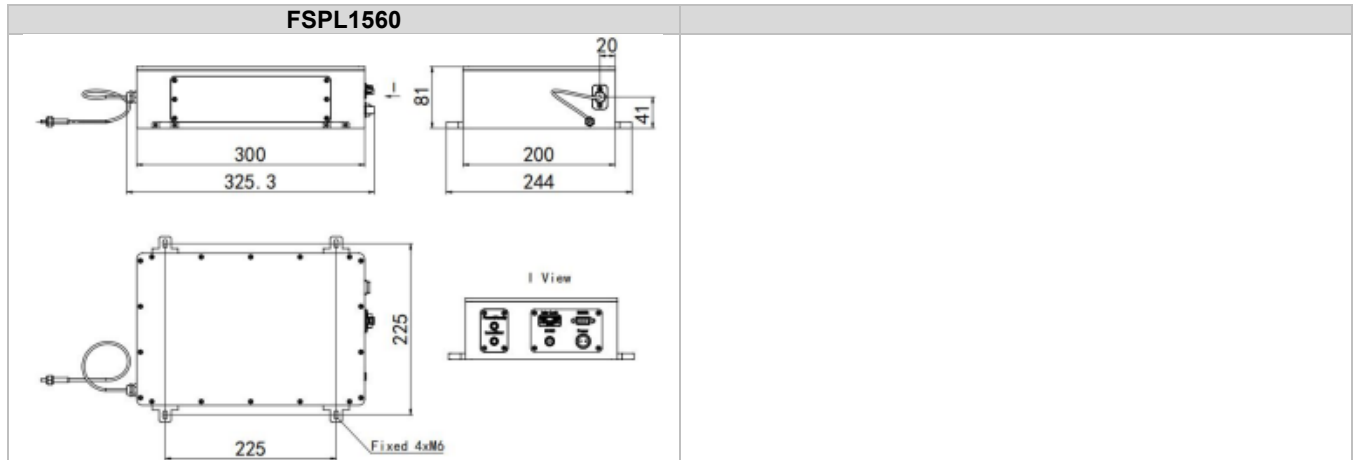
Remarks:

1. Select one fixed value between the output power range.
2. Specifications of the pulsed laser is based on the laser pulsed at the specified repetition rate. If the laser is run at a different repetition rate, the output characteristics may change.
3. Specifications are subject to change without notice.



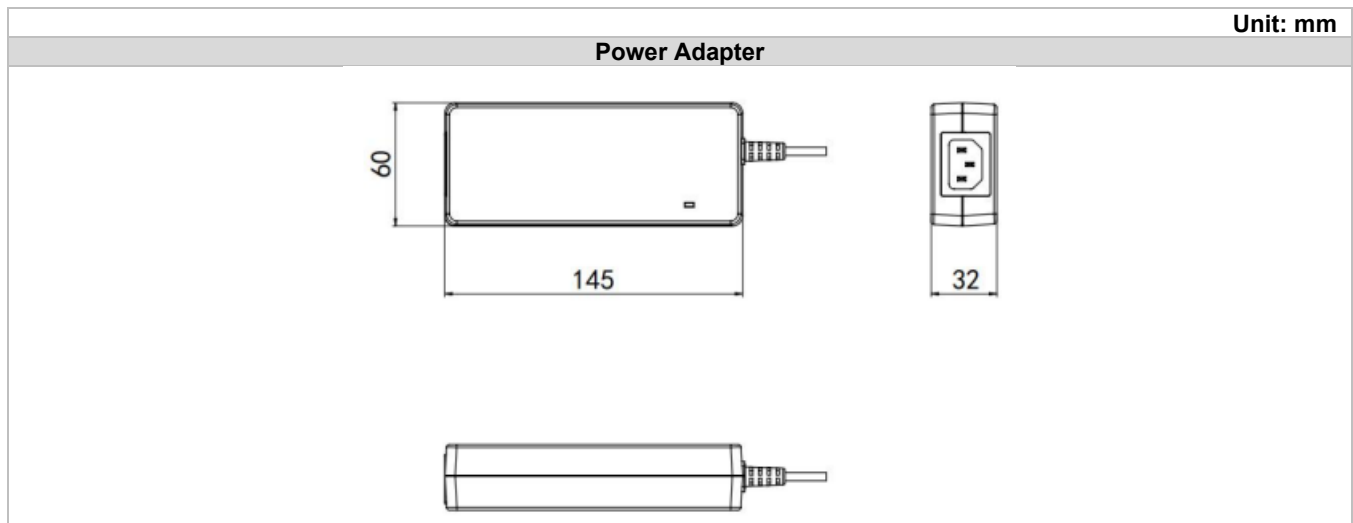
FSPL Series Laser Dimensions





| Parameter | FSPL515/1030 | FSPL532/1064 | FSPL780 | FSPL1560 |
|-----------------------------|--|--|---|---------------------------------------|
| Dimensions | 309(L) x244(W) x124(H) mm ³ | 338(L) x242(W) x136(H) mm ³ | 411(L) x483(W) x132(H) mm ³ | 325(L) x244(W) x81(H) mm ³ |
| Weight | 7.5 kg | 7.5 kg | 17.5 kg | 12.5 kg |
| Beam height from base plate | 98 mm | 110 mm | 28 mm | 41 mm |
| Beam exit (from side) | 110 mm | 120 mm | 37 mm | 20 mm |
| Notes | | | FSPL1560 Laser head + Frequency doubler | |

FSPL Series Power Adapter Dimensions



| Parameter | Power Adapter |
|---------------|--------------------------------------|
| Dimensions | 145(L) x60(W) x32(H) mm ³ |
| Weight | 1.2 kg |
| Input voltage | 100-240VAC |