# HQF Series Lamp-pumped Q-switched Nanosecond Laser

The HQF series lamp-pumped Q-switched nanosecond laser is a compact nanosecond laser featuring a single lamp with single-rod/dual-rod design. The flash lamp has a long service life and is easy to replace. The output beam has a flat-top distribution. The single wavelength and dual-wavelength options are available to output 500mJ, 800mJ or 1.2J respectively at a wavelength of 1064nm. It can also provide supporting components such as articulated arm, control screen, power supply, water cooler, etc. This series of products features compact design, high stability, excellent beam quality, and high energy output. They are widely used in the aesthetic medicine and analytical instrument industries, such as tattoo removal, pigmentation removal, skin rejuvenation, LIBS, and other fields.

## Key Features

- Single and dual wavelength outputs are optional
- Multiple energy options available
- Compact design, easy to integrate
- Excellent beam quality, top hat beam profile
- High cost-effectiveness

## Applications

Aesthetic medicine
Tattoo removal
Pigmentation removal
Skin rejuvenation
Tissue ablation
Laser ranging
Micromachining
Laser-induced fluorescence (LIF)
Particle image velocimetry( PIV)
Laser-based ultrasound detection
Laser shock processing(LSP)
Differential absorption lidar
Raman spectroscopy
Non-linear optics
Laser-induced breakdown spectroscopy(LIBS)

## Technical Specifications

| **Wavelength (nm)** | | **1064 / 532** | | |
|---|---|---|---|---|
| Repetition rate (Hz) | | 1~10 | | |
| Pulse energy (mJ) | | 500mJ@1064nm, 250mJ@532nm | 800mJ@1064nm, 400mJ@532nm | 1200mJ@1064nm, 600mJ@532nm |
| Energy stability RMS | | <2%@1064nm, <3%@532nm | | |
| **Other parameters** | | | | |
| Pulse width FWHM[1] (ns) | | <8 | | |
| Beam full divergence (typ., mrad) | Horizontal @1/e² | <5 | | |
| | Vertical @1/e² | <5 | | |
| Pointing stability[2] (μrad) | | <50 | | |
| Time jitter[3] (RMS,ns) | | <0.5 | | |
| Beam diameter[4] (mm) | | ~9.5 | ~9.5 | ~10.5 |
| Spatial profile | | Top hat | | |
| Polarization state | | linear polarization | | |
| Cooling method | | water cooling | | |
| Electrical Supply | | 220V/110V±10%AC, 50/60Hz | | |
| Power consumption | | <600W | <700W | <700W |
| Environment requirements | | temperature 18~35℃, humidity <75% | | |

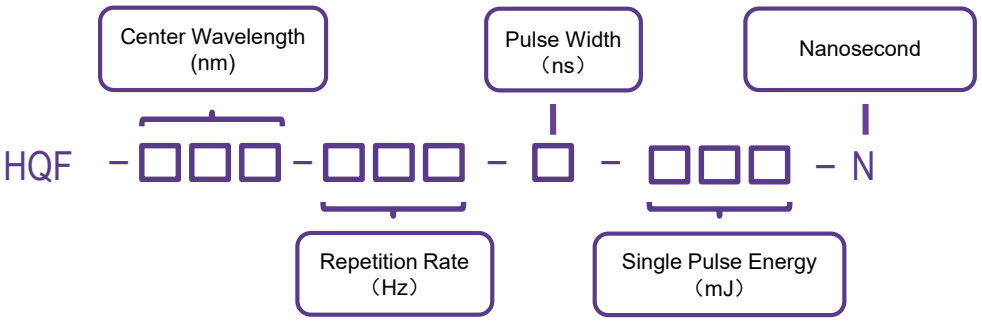
1. Full Width at Half Maximum (FWHM).
2. Deviation from beam mean centroid.
3. With respect to external trigger.
4. Measurement at a distance of 10cm from the laser outlet.

Others:
Unless otherwise specified, all the data in the above table are the typical values obtained from testing at a wavelength of 1064nm, and the final data is subject to the final test report.
Lasers with wavelength at 355nm or 266nm can be customized upon request.
Customizable long pulse function.

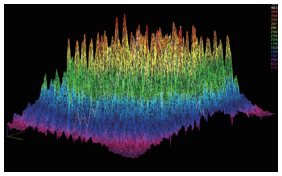
## Order Information

| Wavelength (nm) | Part Number | Repetition Rate (Hz) | Single Pulse Energy (mJ) | Pulse Width (ns) |
|---|---|---|---|---|
| 1064/532 | HQF-1064/532-10-6-500/250-N | 1~10 | 500@1064nm<br>250@532nm | <8 |
| | HQF-1064/532-10-6-800/400-N | 1~10 | 800@1064nm<br>400@532nm | <8 |
| | HQF-1064/532-10-6-1200/600-N | 1~10 | 1200@1064nm<br>600@532nm | <8 |

## Part Numbering Schema

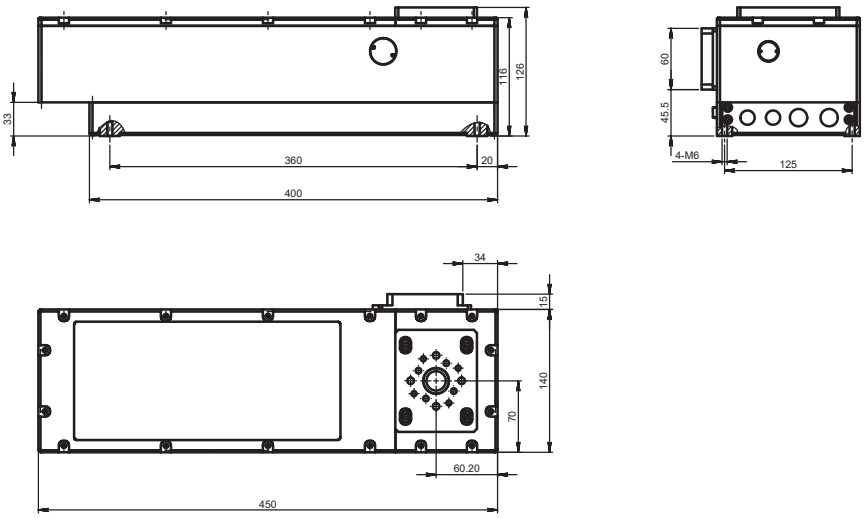



Beam Profile

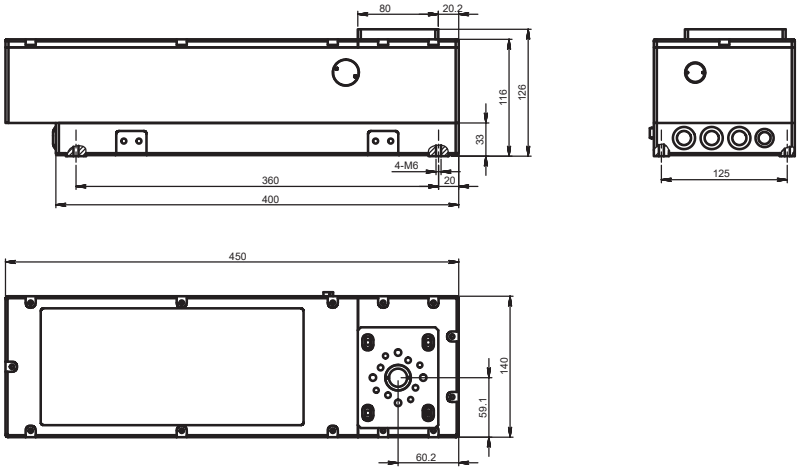


Beam intensity distribution

## Mechanical Drawings (in mm)




HQF-1064/532-10-6-800/400-N & HQF-1064/532-10-6-1200/600-N




HQF-1064/532-10-6-500/250-N