

# Ascend<sup>®</sup> High Power kHz Green Pump Lasers

Pulsed DPSS Green Lasers for Ti:Sapphire Amplifier Pumping

mks | Spectra-Physics<sup>®</sup>

Elevate your research with the Ascend series pump lasers from Spectra-Physics. Ascend is an industrial diode-pumped solid state, Q-switched laser capable of more than 60 W at 527 nm. Ascend delivers optimal performance for pumping the Spectra-Physics Spitfire<sup>®</sup> Ace™ and Solstice<sup>®</sup> Ace amplifiers. Ascend yields the most efficient amplifiers commercially available, delivering industry-leading output power and energy, beam quality and reliability.

Ascend is based upon proprietary technology that employs an ultra-efficient cooling scheme to provide maximum stability and long-term reliability. When used for pumping a Spectra-Physics amplifier, Ascend is the most reliable, most efficient and lowest noise pump laser available.

Ascend configurations can be easily changed to maximize the utility of your amplifier system. The Ascend flexibility means you can design experiments anywhere in the 1 to 10 kHz repetition rate range. Ascend is available in >60 W and >40 W output power levels to support your specific amplifier system configuration and requirements.

Ascend continues Spectra-Physics' long-standing commitment to producing the highest performing, most reliable diode-pumped solid state lasers. Ascend combines industrial reliability and ruggedness with leading-edge performance to maximize the performance of your Spectra-Physics ultrafast amplifier.

## The Ascend Advantage

- Optimal performance for pumping Spectra-Physics ultrafast amplifiers
- Excellent beam quality for maximum efficiency
- Industrial platform with outstanding reliability
- Up to >60 W average power
- Repetition rates – 1 to 10 kHz
- Fully computer controlled



## Ascend Specifications<sup>1,2</sup>

|  | Ascend 60   | Ascend 40 |
|--|---|-----------|
| <b>General Characteristics</b>                       |   |           |
| Wavelength   | 527 nm  |           |
| Average Power  | 1 kHz:  | >35 W     |
|  | 5 kHz:  | >60 W     |
|  | 10 kHz:   | >50 W     |
| Pulse Energy   | 1 kHz:  | >35 mJ    |
|  | 5 kHz:  | >12 mJ    |
|  | 10 kHz:   | >5 mJ     |
| Nominal Repetition Rate                              | 1–10 kHz  |           |
| <b>Beam Characteristics</b>                          |   |           |
| Spatial Mode   | Multimode   |           |
| Polarization   | Linear, horizontal  |           |
| Beam Diameter  | 3 mm (nominal)  |           |
| Power Stability (over 8 hours at stable temperature) | <0.15% rms  |           |
| Beam Pointing Stability                              | <10 $\mu$ rad/ $^{\circ}$ C                               |           |
| <b>Electrical/Mechanical Specifications</b>          |   |           |
| Electrical Requirements                              | 110/230 VAC, single phase, 60/50 Hz, 2 x 15/10 A          |           |
| Laser Head Dimensions                                | 20 x 10 x 7.1 in (50.8 x 25.4 x 17.9 cm)                  |           |
| Laser Head Weight                                    | 40 lbs (18 kg)  |           |
| Power Supply Dimensions                              | Rack Mountable, 18 x 19 x 7 in (45.47 x 48.26 x 17.53 cm) |           |
| Power Supply Weight                                  | 30 lbs (14 kg)  |           |
| Power Cable Length                                   | Umbilical - 2.95 m  |           |

1. Due to our continuous product improvement program, specifications are subject to change without notice.

2. The Ascend is a Class IV – High-Power Laser, whose beam is, by definition, a safety and fire hazard. Take precautions to prevent exposure to direct and reflected beams. Diffuse as well as specular reflections can cause severe skin or eye damage.

## Ascend Dimensions

