

ULTRA SERIES UP55G SPECIFICATIONS

TYPICAL LASERS

- Large beam
- High Power
- YAG (various)
- Excimer
- DPSSL
- CO₂

COMMON APPLICATIONS

- Cutting & drilling
- UV Machining
- Surface manipulation
- Surgery
- Lithography
- Marking



UP55G-500F-H12

MEASUREMENT CAPABILITY

Spectral Range	0.19 - 11 μm
Maximum Measurable Power	500 W
Noise Equivalent Power ^a	15 mW
Rise Time (Nominal) ^b	2.8 sec
Sensitivity ^c	0.06 mV/W
Calibration Uncertainty ^d	±2.5%
Repeatability	±0.5%
Energy Mode	
Sensitivity	0.013 mV/J
Maximum Measurable Energy ^e	200 J
Noise Equivalent Energy ^a	0.2 J
Minimum Repetition Period	14.3 sec
Maximum Pulse Width	433 ms
Accuracy with energy calibration option	±5%

DAMAGE THRESHOLDS

Max Average Power (Continuous)	500 W	
Max Average Power (2 minutes)	500 W	
Max Average Power Density ^f	8 kW/cm ²	
Pulse Laser Damage Thresholds	Max Energy Density	Peak Power Density
1.064 μm, 360 μs, 5 Hz	9 J/cm ²	25 kW/cm ²
1.064 μm, 7 ns, 10 Hz	1 J/cm ²	143 MW/cm ²
532 nm, 7 ns, 10 Hz	0.6 J/cm ²	86 MW/cm ²
248 nm, 26 ns, 10 Hz	0.3 J/cm ²	43 MW/cm ²

PHYSICAL CHARACTERISTICS

Effective Aperture Diameter	55 mm Ø
Absorber	High Damage Threshold - H12
Cooling	Fan-Cooled
Dimensions	120 (H) mm x 120 (W) mm x 135 (D) mm
Weight (head only)	2.75 kg
Effective Area	23.76 cm ²

a. Nominal value, actual value depends on electrical noise in the measurement system.

b. With Gentec-EO TPM 300CE, DUO, SOLO or P-LINK monitors.

c. Maximum output voltage = sensitivity x maximum power.

d. Including linearity with power. With Gentec-EO monitor.

e. For 360 μs pulses. Higher pulse energy possible when customized for long pulses (ms), less for short pulses (ns).

f. 1064 nm, 100 W CW.

Specifications subject to change without notice.