

efficient.

Simple replacement of Kr+ gas laser



TopWave 405 – 1 Watt @ 405 nm

High coherence diode laser for lithography and holography

- Low cost of operation
- 1 Watt @ 405 nm
- Excellent beam quality, typical $M^2 = 1.15$
- Coherence length > 100 m

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TopWave 405



DANGER – VISIBLE AND INVISIBLE LASER RADIATION, AVOID EYE OR SKIN EXPOSURE TO DIRECT OR SCATTERED RADIATION, CLASS 4 LASER PRODUCT, EN60825-1:2014

Specifications	TopWave 405
Wavelength	405 ± 0.5 nm
Linewidth (@ 5 us)	< 1 MHz
Coherence length	> 100 m
Output Power	1 W
Beam Waist Diameter	1.5 ± 0.2 mm
Beam Waist location	Front bezel ± 25% of Rayleigh range
Transverse Mode	TEM ₀₀
M ² typ. (max.)	1.15 (≤ 1.3)
Beam Divergence (full-angle)	≤ 0.6 mrad
Beam Ellipticity	0.9 - 1.1
Astigmatism	± 25% of Rayleigh range
Beam Pointing Stability*	≤ 5 μrad
Polarization	linear, vertical, ± 3°, > 100:1
Output Power Stability (over 8h)	≤ 1 %
RMS Noise (10 Hz - 10 MHz)	≤ 0.6 %
Warm-Up Time	
Cold Start	< 2 h
From Standby	< 15 min
Lifetime (min. / typ.)	5000 h / 10000 h
Utility and Environmental Requirements	
Laser Head	
Dimensions (H x W x D)	127 x 295 x 500 mm ³
Weight	22 kg
Cooling	Conduction**
Umbilical Length	2 m
Control Unit	
Dimensions (H x W x D)	154 x 448 x 378 mm ³
Weight	9 kg
Cooling	Convection
Operating Temperature Range	20 to 30 °C, stabilized to ± 1 °C, non-condensing
Shipping Requirements	-10 to +50 °C, shipping in a non-condensing environment
Power Supply	AC 100-240 V, 50/60 Hz
Power Consumption (typ.)	< 100 W
Communication Interface	Ethernet, USB
* RMS over 8h @ ambient temperature drift less than ± 1 K	
** Sufficient heat sink has to be provided.	