## **Frequad series**

# **CW DUV single frequency laser**

Best suited for the semiconductor inspection

266 nm

213 nm



### **Product overview**

CW 266 nm DUV Laser Frequad Series is composed of deep-ultraviolet (DUV) wavelength (266 nm) continuous wave (CW) single-frequency wavelength conversion lasers which have more than 20 years of history. Stable CW laser operation has been enabled by OXIDE's highly reliable wavelength-conversion crystals and precision voice coil motors (VCMs) achieved by proprietary high-speed servo-locking technology. According to the output desired, three types (Frequad-HP, Frequad-M, and Frequad-C) are available.



Frequad-W

Frequad-W is a newly introduced 213 nm wavelength model that generates stable and long-life CW laser operation enabled by the incorporated wavelength conversion crystals and the servo-locking technology developed with our 266 nm Frequad Series.

#### **Features**

High damage threshold BBO wavelength conversion crystal

The outstanding quality of OXIDE's own BBO crystal provides over 3000 hours single-spot lifetime at 1 W output power, and over 1000 hours at 2 W. Furthermore, the little deterioration of the crystal assures stable motion for a long period of time at high beam quality.



Highly sophisticated servo-lock technology

OXIDE's unique high-speed, high-precision voice coil motor (VCM) servo actuator offers stable CW operation of laser.

Low power consumption

The highly efficient wavelength conversion laser system realized extremely low power consumption – less than 340 W



**OXIDE Corporation** 

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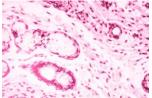


# **Frequad series**

## **Applications**

- Semiconductor inspection
- Photoemission spectroscopy
- UV microscope
- UV Raman spectroscopy
- FBG writing





## **Specifications**

| Model                      | Frequad-HP  | Frequad-M  | Frequad-C                                | Frequad-W   |
|----------------------------|---|--|--|---|
| Product Image              | P   |  | ar ·                                     | P   |
| Wavelength                 | 266 nm  | 266 nm   | 266 nm                                   | 213 nm  |
| Output power               | 1 - 2 W   | 0.3 - 1 W  | 20 - 50 mW                               | 10 mW   |
| Linewidth                  | < 0.005 pm  | < 0.005 pm   | < 0.005 pm                               | < 0.005 pm  |
| Extinction ratio           | > 100:1   | > 100:1  | > 100:1                                  | > 100:1   |
| Beam quality               | TEM <sub>00</sub> , M <sup>2</sup> < 1.2  | TEM <sub>00</sub> , M <sup>2</sup> < 1.2                             | TEM <sub>00</sub> , M <sup>2</sup> < 1.3 | TEM <sub>00</sub>   |
| Polarization               | Vertical, Linear  | Vertical, Linear   | Vertical, Linear                         | Vertical, Linear  |
| Power supply               | AC 100-240V, 50/60Hz  | AC 100-240V, 50/60Hz   | AC 100-240V, 50/60Hz                     | AC 100-240V, 50/60Hz  |
| Power consumption          | < 300 W   | < 340 W  | < 70 W                                   | < 300 W   |
| Cooling                    | Air   | Water  | Air                                      | Air   |
| Dimensions (Head)          | 240 x 840 x 160 mm  | 350 x 590 x 124 mm   | 153 x 202 x 79 mm                        | 240 x 840 x 160 mm  |
| Features,<br>Options, etc. | Partial maintenance (UV unit, fundamental laser) are available No water cooling | Partial maintenance<br>(UV unit, fundamental<br>laser) are available | No water cooling No air purge            | Partial maintenance (UV unit, fundamental laser) are available No water cooling |

We offer more options of CW DUV lasers of various wavelengths to meet your needs. Please feel free to contact us.





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