

DH-2000-BAL

Balanced Deuterium Tungsten Halogen Light Source

We've applied our expertise in patterned dichroic filters to create the only combined-spectrum illumination source available that eliminates saturation and signal-to-noise issues associated with the D-alpha line in deuterium sources. Our DH2000-BAL Deuterium Tungsten Halogen Light Source combines deuterium and tungsten halogen light sources into a single optical path that produces a powerful, stable output from 215-2000 nm.

About the D-alpha Line

All deuterium-tungsten halogen sources have a D-alpha line, revealed as a jagged peak in the visible portion of the spectrum, that produces "unbalanced" output in the deuterium and tungsten halogen sources. Correcting for this deuterium line – a sharp spectral feature near 655 nm – is difficult.

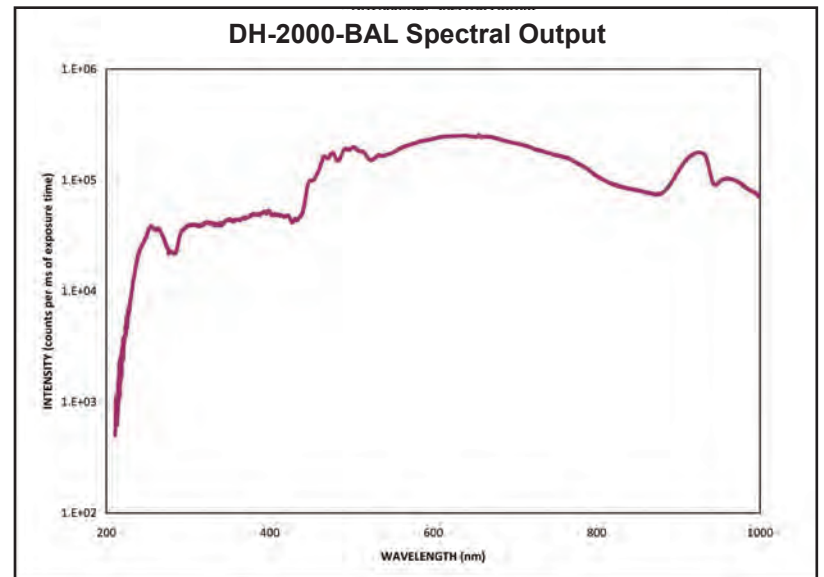
For example, if you adjust spectrometer integration time to reduce the intensity of this saturated spectral line, the efficiency of the system at UV wavelengths drops significantly, compromising signal-to-noise performance. Also, spectrometer efficiency is greatest at about the same spectral range as the 655 nm line, exaggerating its effects.

Proprietary Filtering Technology

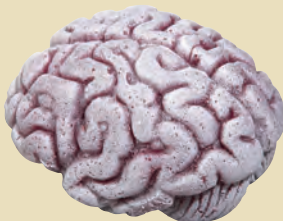
Using the same high-precision patterned dichroic filter technology that distinguishes our Linear Variable Filters, the DH-2000-BAL balances the intensity of the deuterium and tungsten halogen sources, producing a "smoother" spectrum across the entire wavelength range and eliminating problems associated with saturation. By comparison, most combination UV-NIR sources can be adjusted for relative intensity only.



Specifications	
Dimensions:	150 mm x 135 mm x 319 mm
Weight:	3.8 kg
Wavelength range:	210-400 nm (deuterium); 360-1500 nm (tungsten halogen)
Power consumption:	25 W (deuterium); 20 W (tungsten halogen); 190 W maximum
Power requirements:	85-264 V 50/60 Hz
Voltage:	Ignition 350 V/20°; tungsten bulb voltage is adjustable from 4.5 to 11.5 volts
Current:	Operating 85 V/0.3A
Stability:	<5 x 10 ⁶ peak-to-peak (0.1-10.0 Hz)
Drift:	<0.01% per hour
Time to stable output:	40 minutes (deuterium); 20 minutes (tungsten)
Bulb life:	1,000 hours
Operating temperature:	5 °C - 35 °C
Humidity:	5-95% non-condensing at 40 °C
Electronic certifications:	CE; VDI/VDE 0160; EN 61010



Measured with HR2000+ with 25 μm Slit and 400 μm Optical Fiber



Technical Tip

Ultraviolet radiation below 300 nm degrades transmission in silica fibers, resulting in solarization (increased light absorption in the UV fiber that can invalidate data). For applications using the DH-2000 Light Sources at <300 nm, we recommend solarization-resistant assemblies. See Page 135 for details.