

# AvaLight-DH-S-BAL

## Balanced Power

### AvaLight-DH-S-BAL



The AvaLight-DH-S is a powerful deuterium halogen source, but like any unbalanced deuterium halogen source it does have a very dominant alpha peak at 656 nm. This is why Avantes developed the DH-S-BAL, in which this peak is drastically reduced by a dichroic filter. This means less power, but an increase in the dynamic range of a factor 20. A comparison spectrum, which is taken with a standard AvaSpec-2048, is shown on the next page.

The light source delivers a continuous spectrum with high efficiency. The highest stability is in the ultraviolet, visible and near infrared range, from 215 to 2500 nm. An integrated TTL-shutter and filter holder for filters of up to 50x50x5.0 mm are included. The TTL-shutter can be controlled from any AvaSpec spectrometer, which means the auto-save dark-option in AvaSoft software can be used (please note: IC-DB26-2 cable needed).

Connection to the fiber is done through an SMA-905 connector, which features an adjustable focusing lens assembly. This ensures you getting the maximum possible power into your fiber. For all deuterium light sources solarization resistant fibers (-SR) are recommended (see the fiber-optic section of this catalog). The output of the AvaLight-DH-S-BAL is optimized for fibers or bundles up to 600  $\mu\text{m}$ .

- Balanced light source
- Wide spectrum: 215-2500 nm
- Integrated TTL shutter
- High efficiency
- Increased dynamic range

The filter holder can be easily replaced by a direct-attach cuvette holder CUV-DA-DHS (see section accessories) useful for fluorescence or absorbance measurements.

### Technical Data

	Balanced Deuterium (Standard)	Balanced Halogen Lamp
<b>Wavelength Range</b>	215-500 nm	500-2500 nm
<b>Warm-up Time</b>	30 min.	20 min.
<b>Lamp Power</b>	78 W / 0.75 A	5 W / 0.5 A
<b>Lamp Lifetime</b>	2000 hrs	1000 hrs
<b>Noise (AU)</b>	$2 \times 10^{-5}$	$10^{-4}$
<b>Max. drift</b>	$\pm 0.5\%/hr$	$\pm 0.1\%/hr$
<b>Color Temperature</b>	-	3000 K
<b>Optical Power in 200 <math>\mu\text{m}</math> fiber</b>	6 $\mu\text{W}$	17 $\mu\text{W}$
<b>Optical Power in 600 <math>\mu\text{m}</math> fiber</b>	33 $\mu\text{W}$	160 $\mu\text{W}$
<b>Optical Power in 1000 <math>\mu\text{m}</math> fiber</b>	90 $\mu\text{W}$	448 $\mu\text{W}$
<b>Power consumption</b>	90 Watt (190 Watt for heating D-Lamp 4-5 sec.)	
<b>Power Requirements</b>	100-240VAC 50/60 Hz	
<b>Dimensions / Weight</b>	315 x 165 x 140 mm / ca 5 kg.	
<b>Lifetime shutter</b>	1,000,000 cycles (typical)	

For a table of separate 50x50 mm filters to install in AvaLight-D(H)-S see AvaLight-HAL.

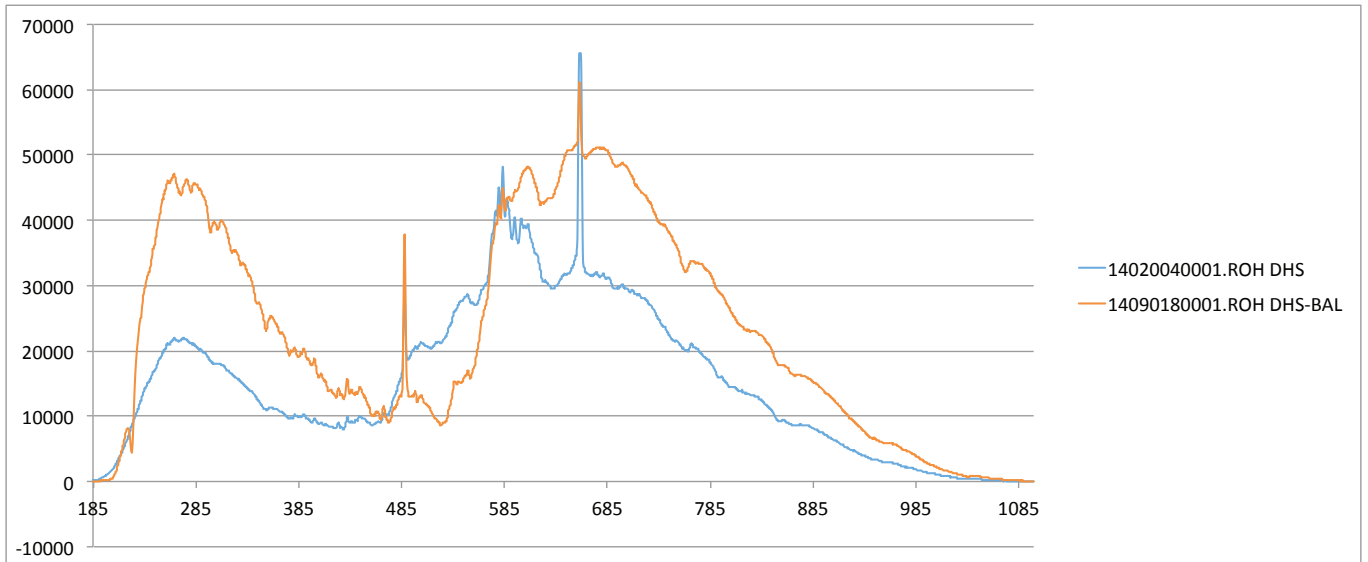


Figure 11 Spectral output AvaLight-DH-S-BAL (red) vs. AvaLight-DH-S (blue). (RAW data)

### Ordering Information

<b>AvaLight-D-S-BAL</b>	• Balanced Deuterium light source, 215-500nm, incl. TTL shutter, -SR fibers needed
<b>AvaLight-DH-S-BAL</b>	• Balanced Deuterium-Halogen light source, 215-2500 nm, incl. TTL shutter, -SR fibers needed
<b>IC-DB26-2</b>	• Interface cable AvaSpec-USB2/EVO platform to AvaLight-D(H)S-BAL
<b>AvaLight-D-B</b>	• Replacement deuterium bulb for AvaLight-D/AvaLight DH-BAL light source
<b>AvaLight-DH-B</b>	• Replacement halogen bulb for AvaLight-DH-BAL light source
<b>CUV-DA-DHS</b>	• Direct-attach cuvette holder for AvaLight-D(H)S-BAL

Add flexibility  
to your spectrometer with  
the Replaceable Slit (-RS) option