

## HBO Microlithography Lamps for Nikon i-line Systems

Microlithography lamps for Nikon i-line systems

### Areas of application

- Microlithography



### Product features and benefits

- High spectral intensity with peak irradiance at 365nm wavelength, making it ideal for microlithography
- Designed for long lasting performance
- Qualified with Nikon



## Product family datasheet

### Technical data

Product description	General Product Information			
	Product number (Americas)	Product name (Americas)	Family brand	Lamp type
HBO 1000 W/NEL <sup>1)</sup>	69176	HBO 1000W/NEL 1/CS 1/SKU	HBO	DOUBLE ENDED
HBO 1002 W/NEL <sup>1)</sup>	69273	HBO 1002W/47V/NEL 1/CS 1/SKU	HBO	DOUBLE ENDED
HBO 1002 W/NIL <sup>2)</sup>	4050300461403	HBO 1002W/NIL 8/CS 1/SKU		DOUBLE ENDED
HBO 2001 W/NIL <sup>3)</sup>				
HBO 2000 W/NIL	69303	HBO 2000W/26V/NIL 1/CS 1/SKU	HBO	DOUBLE ENDED
HBO 2001 W/NIEL	69306	HBO 2001W/26V/NIEL 1/CS 1/SKU	HBO	DOUBLE ENDED
HBO 2002 W/NIL	69287	HBO 2002W/25V/NIL 1/CS 1/SKU	HBO	DOUBLE ENDED
HBO 2011 W/NIL	69288	HBO 2011W/25V/NIL 6/CS 1/SKU	HBO	DOUBLE ENDED
HBO 2011 W/NILH <sup>4)</sup>	69391	HBO 3011W/NILH 6/CS 1/SKU	HBO	
HBO 2501 W/NIL	69289	HBO 2501W/23V/NIL 4/CS 1/SKU		
HBO 2510 W/NIL	69299	HBO 2510W/23V/NIL 4/CS 1/SKU	HBO	
HBO 3500 W/NIL <sup>4)</sup>	69456	HBO 3500W/NIL 1/CS 1/SKU		

Product description	Global order reference	Electrical Data		Photometric Data
		Nominal wattage	Nominal voltage	Light center length (LCL)
HBO 1000 W/NEL <sup>1)</sup>	HBO 1000 W/NEL	750 W	47.0 V	84.5 mm <sup>5)</sup>
HBO 1002 W/NEL <sup>1)</sup>	HBO 1002 W/NEL	750 W	47.0 V	78.5 mm <sup>5)</sup>
HBO 1002 W/NIL <sup>2)</sup>	HBO 1002 W/NIL		27.1 V	78.5 mm <sup>5)</sup>
HBO 2001 W/NIL <sup>3)</sup>	HBO 2001 W/NIL	1750 W	26.0 V	122.25 mm <sup>5)</sup>
HBO 2000 W/NIL	HBO 2000 W/NIL	1750 W	26.0 V	112.25 mm <sup>5)</sup>
HBO 2001 W/NIEL	HBO 2001 W/NIEL	1750 W	26.0 V	112.0 mm <sup>5)</sup>
HBO 2002 W/NIL	HBO 2002 W/NIL	1750 W	26.0 V	107.75 mm <sup>5)</sup>
HBO 2011 W/NIL	HBO 2011 W/NIL	2011 W	25 V	107.75 mm <sup>5)</sup>
HBO 2011 W/NILH <sup>4)</sup>	HBO 2011 W/NILH	2011 W	24.0 V	107.75 mm <sup>5)</sup>
HBO 2501 W/NIL	HBO 2501 W/NIL	2500 W	23.0 V	157.75 mm <sup>5)</sup>

## Product family datasheet

Product description	Global order reference	Electrical Data		Photometric Data
		Nominal wattage	Nominal voltage	Light center length (LCL)
HBO 2510 W/NIL	HBO 2510 W/NIL	2500 W	23.0 V	157.75 mm <sup>5)</sup>
HBO 3500 W/NIL <sup>4)</sup>	HBO 3500 W/NIL	3500 W	27.0 V	180.0 mm <sup>5)</sup>

Product description	Physical Attributes & Dimensions	Operating Conditions		Lifetime Data
	Length	Burning position	Cooling	Nominal lifetime
HBO 1000 W/NEL <sup>1)</sup>	187.0 mm	Other <sup>6)</sup>		2500 hr
HBO 1002 W/NEL <sup>1)</sup>	187.0 mm	Other <sup>6)</sup>		2500 hr
HBO 1002 W/NIL <sup>2)</sup>	190.0 mm	Other <sup>6)</sup>		1500 hr
HBO 2001 W/NIL <sup>3)</sup>	251.0 mm	Other <sup>6)</sup>		1500 hr
HBO 2000 W/NIL	219.0 mm	Other <sup>7)</sup>		1500 hr
HBO 2001 W/NIEL	251.0 mm	Other <sup>6)</sup>	Forced <sup>8)</sup>	2100 hr
HBO 2002 W/NIL	232.0 mm	Other <sup>7)</sup>		1500 hr
HBO 2011 W/NIL	256.0 mm	Other <sup>7)</sup>	Forced <sup>8)</sup>	1500 hr
HBO 2011 W/NILH <sup>4)</sup>	234.0 mm	Other <sup>7)</sup>		
HBO 2501 W/NIL	357.0 mm	Other <sup>6)</sup>		1500 hr
HBO 2510 W/NIL	357.0 mm	Other <sup>7)</sup>	Forced <sup>8)</sup>	1500 hr
HBO 3500 W/NIL <sup>4)</sup>	382.0 mm	Other <sup>7)</sup>	Forced <sup>8)</sup>	1500 hr

Product description	Environmental & Regulatory Information Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)			
	Primary article identifier	Declaration no. in SCIP database	Candidate list substance 1	CAS No. of substance 1
HBO 1000 W/NEL <sup>1)</sup>	4050300412603	b7aad6b7-239d-4797-a805-ae6751a3f976	Lead	7439-92-1
HBO 1002 W/NEL <sup>1)</sup>	4050300412610	1f2e946d-9c55-4867-9f0d-f02313a6c9b4	Lead	7439-92-1
HBO 1002 W/NIL <sup>2)</sup>	4008321474032   4050300461403	a26110e2-bfaa-414e-a23a-66ef049262ec	Lead	7439-92-1
HBO 2001 W/NIL <sup>3)</sup>	4050300461489	51d17212-f48f-4e56-91b0-487db4ddc57b	Lead	7439-92-1
HBO 2000 W/NIL	4050300812007	52221302-1626-4f9b-9c7d-2853312df798	Lead	7439-92-1
HBO 2001 W/NIEL	4008321806031	d6de528a-2e23-4e10-8990-7757e3521ff6	Lead	7439-92-1
HBO 2002 W/NIL	4050300772721	dafe614e-50f7-4bbb-a24f-2ddcc546c20	Lead	7439-92-1

## Product family datasheet

Environmental & Regulatory Information				
Information according Art. 33 of EU Regulation (EC) 1907/2006 (REACH)				
Product description	Primary article identifier	Declaration no. in SCIP database	Candidate list substance 1	CAS No. of substance 1
HBO 2011 W/NIL	4050300652641   4050300947556	5efb91be-af08-429e- aaec-b47e173fcb09   157b0c08-4c81- 445d-8e68- 87463e9cc30e	Lead	7439-92-1
HBO 2011 W/NILH <sup>4)</sup>	4050300991658   4050300991665	a1a066c2-cfdc-4227- 8c5c-832a0146d005   61f82125-dd19- 4a18-bcd9- b6d55245163a	Lead	7439-92-1
HBO 2501 W/NIL	4050300628288   4050300947297	acad9a73-72da- 4647-89c2- 6332ec6c3c88   faa2dfd8-6274-4952- b7d7-bd1fda2095b5	Lead	7439-92-1
HBO 2510 W/NIL	4050300628400   4050300947433	df583275-90c5- 465a-a872- 03833323bf4a   ff6ff5ad-e173-4d6b- 9e5c-d3c870774670	Lead	7439-92-1
HBO 3500 W/NIL <sup>4)</sup>	4008321786852	5df92030-3a5e- 4864-84bf- e882635c629e	Lead	7439-92-1

Product description	Safe use instruction
HBO 1000 W/NEL <sup>1)</sup>	The identification of the Candidate List substance is sufficient to allow safe use of the article.
HBO 1002 W/NEL <sup>1)</sup>	The identification of the Candidate List substance is sufficient to allow safe use of the article.
HBO 1002 W/NIL <sup>2)</sup>	The identification of the Candidate List substance is sufficient to allow safe use of the article.
HBO 2001 W/NIL <sup>3)</sup>	The identification of the Candidate List substance is sufficient to allow safe use of the article.

## Product family datasheet

Product description	Safe use instruction
HBO 2000 W/NIL	The identification of the Candidate List substance is sufficient to allow safe use of the article.
HBO 2001 W/NIEL	The identification of the Candidate List substance is sufficient to allow safe use of the article.
HBO 2002 W/NIL	The identification of the Candidate List substance is sufficient to allow safe use of the article.
HBO 2011 W/NIL	The identification of the Candidate List substance is sufficient to allow safe use of the article.
HBO 2011 W/NILH <sup>4)</sup>	The identification of the Candidate List substance is sufficient to allow safe use of the article.
HBO 2501 W/NIL	The identification of the Candidate List substance is sufficient to allow safe use of the article.
HBO 2510 W/NIL	The identification of the Candidate List substance is sufficient to allow safe use of the article.
HBO 3500 W/NIL <sup>4)</sup>	The identification of the Candidate List substance is sufficient to allow safe use of the article.

<sup>1)</sup> Lamp suitable for pulsed operation between 700...1000 W/Maximum permissible power 750 W for constant power operation

<sup>2)</sup> Lamp suitable for pulsed operation between 700...1000 W

<sup>3)</sup> Also available as Super Longlife version with 2,250 h lifespan: HBO 2001 W/NIEL (4050300538211)

<sup>4)</sup> Lamp contains overpressure even in cold status - additional safety regulations, supplied with the lamps, have to be fulfilled. Please read Technical bulletin DO-SEM TB 004 carefully

<sup>5)</sup> Distance from end of base to tip of anode or cathode (cold)

## Product family datasheet

6) Anode underneath

7) Anode on top

8) Maximum permissible base temperature: 200 °C

## Product family datasheet

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### Safety advice

Because of their high luminance, UV radiation and high internal pressure (when hot) HBO lamps may only be operated in enclosed lamp casings specially constructed for the purpose. Mercury is released if the lamp breaks. Special safety precautions must be taken. More information is available on request or can be found in the leaflet included with the lamp or in the operating instructions.

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### Application advice

For more detailed application information and graphics please see product datasheet.

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### Disclaimer

Subject to change without notice. Errors and omission excepted. Always make sure to use the most recent release.