

## Technical Information

No. FO 4437

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Substitutes: Edition 11/98

Status: valid

Mercury Short Arc Lamp  
for Microlithography

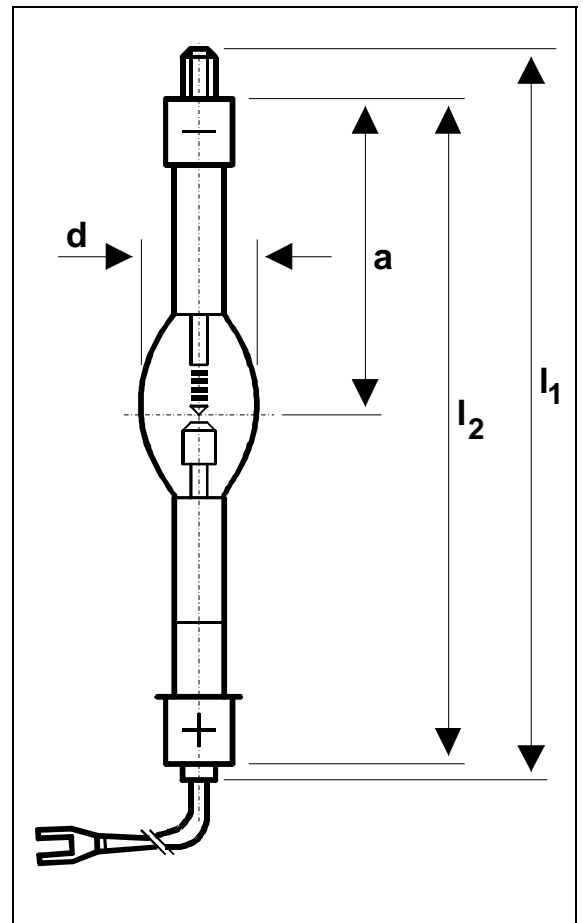
# HBO<sup>®</sup> 1002 W/NIL & /NI

## Product description

The OSRAM HBO<sup>®</sup> 1002 W/NIL is a mercury short arc lamp designed for the manufacturing of integrated circuits (microchips). The lamp emits very high radiant intensity in the ultraviolet and visible wavelength range and is especially suited for use in Nikon i-line stepper machines (NSR 1505 iGA). The HBO<sup>®</sup> 1002 W/NIL is also available as standard-version HBO<sup>®</sup> 1002 W/NI with an average 850h service life. It can both be operated in constant power operation and pulse mode operation.

## Technical data

Order reference	HBO <sup>®</sup>	1002 W/NIL	1002 W/NI
Rated lamp wattage (constant power operation)	W	max. 750	
Rated lamp wattage (pulse mode operation)	W	700 / 1.000	
Rated lamp voltage	V	25,8	
Rated lamp current (=)	A	27,1	
Ignition voltage (cold)	kV <sub>S</sub>	max. 20	
Radiant power (wave length range 365 ± 2,5nm)	W	18,7	
Radiant intensity (wave length range 365 ± 2,5nm)	mW/sr	2.400	
Electrode gap e	mm	3	
Lamp length (overall) l <sub>1</sub>	mm	max. 187	
Lamp length l <sub>2</sub>	mm	max. 168	
Bulb diameter d	mm	29	
LCL a	mm	78,5	
Average service life	h	1.500	850
Base		<ul style="list-style-type: none"><li>• Cathode: SFcX 15-6/25 Sleeve base with thread (M6)</li><li>• Anode: SFaX 14-5/21 with cable connector (M6)</li></ul>	



## Lamp operation

Maximum permissible base temperature	°C	200
Cooling		forced base cooling
Burning position		vertical, Anode (+) underneath

The HBO<sup>®</sup> 1002 W/NIL can either be operated on standard ballasts or on electronic power supplies (ECG).

## Safety Instruction

Because their high luminous efficacy, the UV radiation which they emit and the high pressure within the lamp, HBO<sup>®</sup> lamps must be operated within enclosed, purpose-built housings. When a lamp breaks, mercury is released. Particular safety regulations must be paid attention (for details please request technical information sheet no. FO 4574).