

## Technical Information

No. FO 4443

Edition:06/00 - subject to change

Substitutes: Edition 03/99

Status: valid

Mercury Short Arc Lamp  
for Microlithography

# HBO<sup>®</sup> 1002 W/CEL & /CL

### n Product description

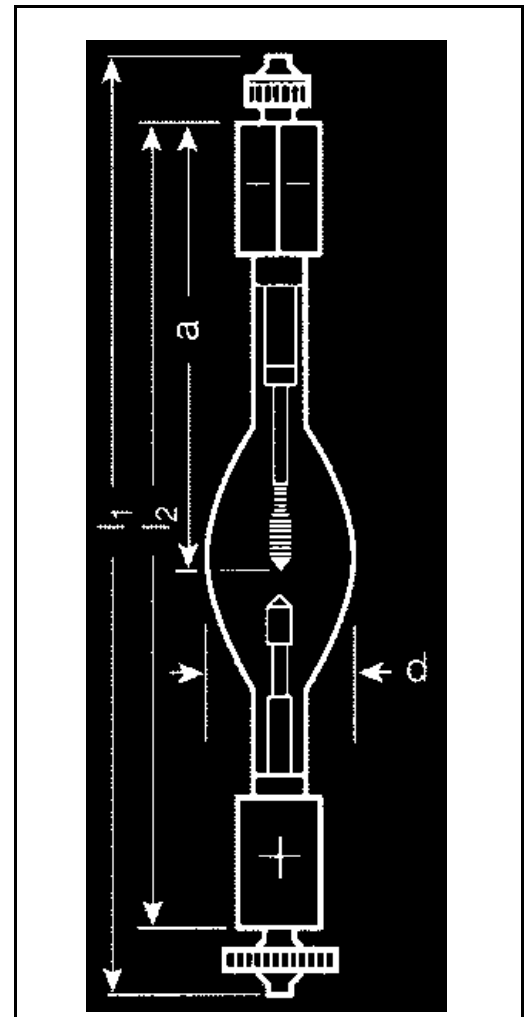
The OSRAM HBO<sup>®</sup> 1002 W/CEL is a mercury short arc lamp designed for the manufacturing of integrated circuits (microchips). The lamp emits very high radiant intensity in the ultraviolet and visible wavelength range and is especially suited for use in Canon stepper machines (FPA 1550 Mark III, Mark IV). The HBO<sup>®</sup> 1002 W/CEL stands out due to its long service life and can be operated both constant power operation and pulse mode operation. It is also available as standard-version HBO<sup>®</sup> 1002 W/CL with an average 1.500h service life.

### n Technical data

Order reference	HBO <sup>®</sup>	1002 W/CEL	1002 W/CL
Rated lamp wattage (constant power operation)	W	max. 750	
Rated lamp wattage (pulse mode operation)	W	700 / 1.000	
Rated lamp voltage	V	47	
Rated lamp current (=)	A	16	
Ignition voltage (cold)	kV <sub>s</sub>	max. 15	
Radiant power (wave length range 350 ... 450 nm; measured at rated power)	W	85	
Radiant intensity (wave length range 350 ... 450 nm; measured at rated power)	mW/sr	8.300	
Electrode gap e	mm	3	
Lamp length (overall) l <sub>1</sub>	mm	--- / max. 175	
Lamp length l <sub>2</sub>	mm	155 / max. 157	
Bulb diameter d	mm	28	
LCL a	mm	78,5	
Average service life	h	2.500	1.500

Base

- Cathode: SXFc 15-6/20 Hexagon base with thread (M6)
- Anode: SFc 15-6/25 Sleeve base with thread (M6)



### n Lamp operation

Maximum permissible base temperature	°C	230
Cooling	Convection	
Burning position	vertical, Anode (+) underneath	

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

### n 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).