

## Technical Information

No. FO 4441

Edition: 11/98 - subject to change

Substitutes: Edition 08/92

Status: valid

Mercury Short Arc Lamp  
for Microlithography

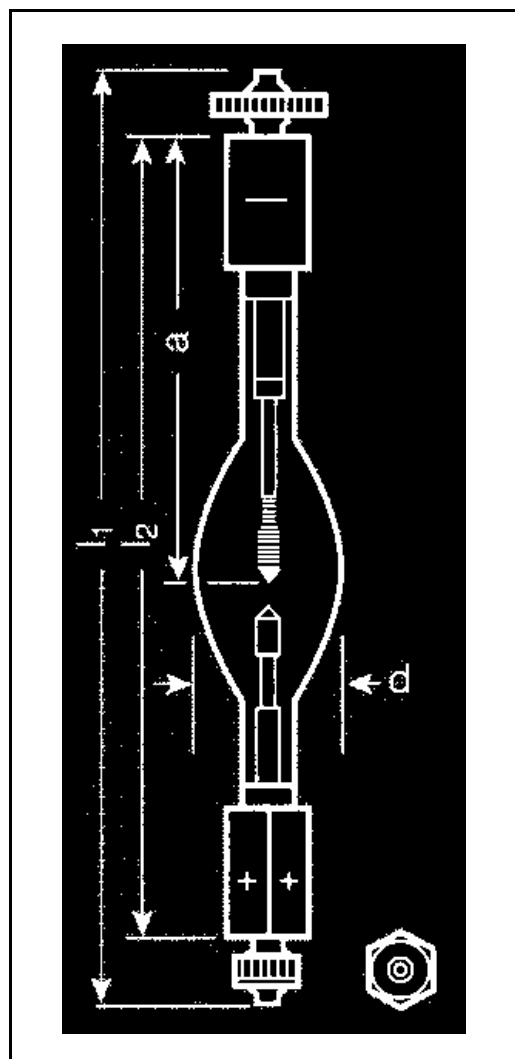
# HBO<sup>®</sup> 1000 W/CEL & /CL

### n Product description

The OSRAM HBO<sup>®</sup> 1000 W/CEL is a mercury short arc lamp designed for the manufacturing of integrated circuits (microchips). This lamp type emits a very high radiant intensity in the ultraviolet and visible wavelength range and is especially suited for use in Canon stepper machines (FPA Mark I, Mark II). The HBO<sup>®</sup> 1000 W/CEL stands out due to its long service life of 2.500h. The lamp is suited for constant power operation and for pulse mode operation. It is also available as standard-version HBO<sup>®</sup> 1000 W/CL with an average 1.500 service life.

### n Technical data

Order reference	HBO <sup>®</sup>	1000 W/CEL	1000 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)	W	85	
Radiant intensity (wave length range 350 ... 450)	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: SFc 15-6/20 Sleeve base with thread (M6)
- Anode: SXFc 15-6/20 Hexagon base with thread (M6)

### n Lamp operation

Maximum permissible base temperature °C 200

Cooling Convection

Burning position vertical, Anode (+) underneath

The HBO<sup>®</sup> 1000 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).