

Technical Information

No. FO 4447

Edition: 06/00 - subject to change

Substitutes: Edition 03/99

Status: valid

Mercury Short Arc Lamp
for Microlithography

HBO[®] 1002 W/NEL & /NL

n Product description

The OSRAM HBO[®] 1002 W/NEL is a direct current mercury short arc g-line lamp designed for the manufacture of integrated circuits. This lamp type emits a very high radiant intensity in the ultraviolet and visible wavelength range and is especially suited for use in Nikon equipment (NSR-1505 G5, G6, G7, G8). The extended longlife version HBO[®] 1002 W/NEL is also available as longlife type HBO[®] 1002 /NL with 1500h and as standard-version HBO[®] 1002 /N with an average 750h service life. All types can both be operated in constant power operation or pulse mode operation.

n Technical data

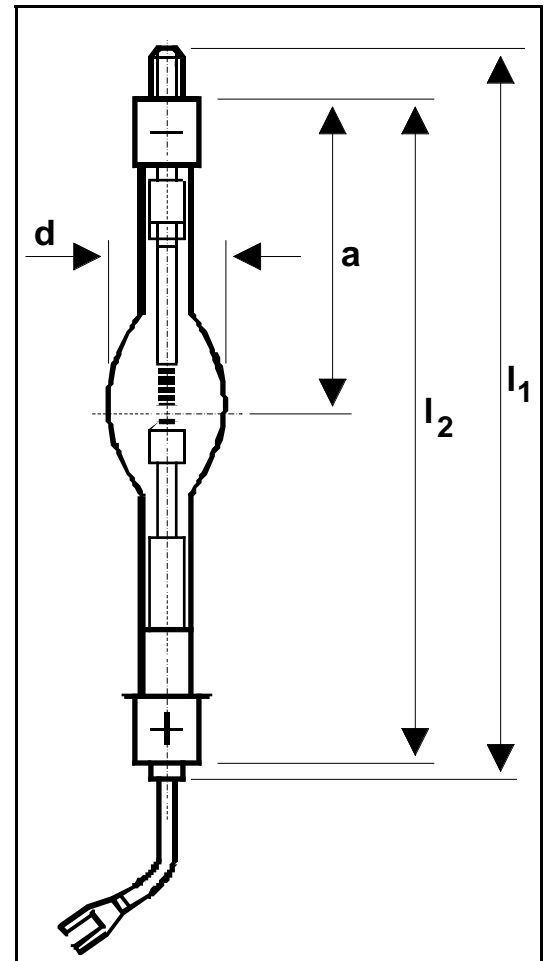
Order reference	HBO [®]	1000 W/NEL	1000 W/NL
Rated lamp wattage (constant power operation)	W	max. 750	
Rated lamp wattage (pulse mode operation)	W	700 / 1.000	
Rated lamp voltage	V	47	
Rated lamp current (=)	A	16	
Ignition voltage (cold)	kV _s	max. 15	
Radiant power (wave length range 350 ... 450)	W	85	
Radiant intensity (wave length range 350 ... 450)	mW/sr	8.300	
Electrode gap e (cold)	mm	3	
Lamp length (overall) l ₁	mm	max. 190	
Lamp length l ₂	mm	166 / max. 168	
Bulb diameter d	mm	28	
LCL a	mm	78,5	
Average service life	h	2.500	1.500
Base		• Cathode: SFc 15-6/25 Sleeve base with thread (M6) • Anode: SFaX 14-5/21 Sleeve base with cable connection (M5)	

n Lamp operation

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

The HBO[®] 1002 W/N types 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[®] lamps must be operated within enclosed, purpose-built housings. When a lamp breaks, mercury is



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released. Particular safety regulations must be paid attention (for details please request technical information no. FO 4574).