

Technical Information

No. FO 4443

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Substitutes: Edition 06/00

Status: valid

Mercury Short Arc Lamp
for Microlithography

HBO[®] 1002 W/CL

■ Product description

The OSRAM HBO[®] 1002 W/CL is a mercury short arc lamp designed for the manufacturing of integrated circuits (microlithography). 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[®] 1002 W/CL is also available as enhanced-version HBO[®] 1002 W/CEL with an average 2.500h service life and can be operated both constant power operation and pulse mode operation.

■ Technical data

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|---|------------------|-------------|
| Order reference | HBO [®] | 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 _s | 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 ₁ | mm | max. 175 |
| Lamp length l ₂ | mm | 155 |
| Bulb diameter d | mm | 28 |
| LCL a | mm | 78.5 |
| Guaranteed life | h | 1,500 |

| | |
|------|---|
| Base | <ul style="list-style-type: none">• Cathode: SXFc 15-6/20 Hexagon base with thread (M6)• Anode: SFc 15-6/25 Sleeve base with thread (M6) |
|------|---|

■ Lamp operation

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

■ Safety Instruction

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

