

# Lighting for Medical and Scientific Applications OSRAM Photo-Optic



SEE THE WORLD IN A NEW LIGHT™ **OSRAM**

HBO

HALOGEN

HBO

OSRAM Photo-Optic lamps are designed and manufactured to meet or exceed clearly defined customer requirements within highly specialized market segments.



# FEATURES



# Advanced Technology Means Better Lighting

## Products Featuring the Latest Technology

The OSRAM name is your assurance that you are using lamps with the most technologically advanced features available today.

## Reliable Performance

OSRAM Photo-Optic lamps give you exceptional performance, high lamp-to-lamp consistency and predictable reliability.

## Cutting-Edge Quality

You can specify OSRAM lamps with complete confidence that you will receive lighting products of the very highest quality in design and manufacture.

## Tailored to Your Application

Because the medical sciences have very specific lighting requirements, there is an extraordinary variety of available OSRAM Photo-Optic lamps to give you the options you need.

HALOGEN  
HBO XBO  
HTI HLX  
HBO XBO  
HTI HLX  
HBO XBO  
HTI HLX



# BENEFITS

# Efficient UV-Generation with High Optical Quality

HBO HBO HBO HBO HBO MERCURY HBO HBO

## Setting the Standard for Microscopy and Fiber-Optics

OSRAM HBO® mercury short arc lamps are widely used in the medical and scientific fields for fluorescent microscopy and industrial UV-curing. In an OSRAM HBO lamp, a luminous arc is generated in a high pressure atmosphere of mercury vapor. Because the arc is only a few millimeters in length, HBO lamps are an almost perfect point source of light. These lamps offer high radiant power in both the UV and visible range, high optical quality and long life. Reflectorized lamps have been specifically designed to provide exceptional efficiency in light guide applications. OSRAM HBO lamps for medical and scientific applications are available from 50 to 500 watts.

### OSRAM HBO® Mercury Lamps at a Glance

#### Available Wattages

50W 100W 200W 350W 500W

#### Typical Applications

Fluorescence Microscopy  
Fiber-Optic Light Sources  
Optical Comparators  
UV-Curing

#### Primary Features

High Optical Quality  
Strong Radiation in UV and Visible Range  
Point-Like Light Source  
AC and/or DC Operation



HBO

HBO



Xenon discharge lamps were first developed by OSRAM over fifty years ago. Today, OSRAM XBO® xenon short arc lamps are used extensively in the medical and scientific communities for microscopy, endoscopy and other minimally invasive surgical procedures. In XBO lamps, a luminous arc occurs between two electrodes in an atmosphere of pure xenon gas. Because the gap between the electrodes is only a few millimeters, XBO lamps can be used as ideal point sources. The lamps feature extremely high light output and a color temperature of approximately 6000K—similar to that of daylight. OSRAM XBO lamps provide a continuous spectrum in the visible range and have a near perfect color rendering index of greater than 95. Other features include constant color properties throughout lamp life, high arc stability, hot restart capability, virtually full light output immediately after ignition, and DC operation. For light guide applications, some lamps feature ellipsoidal dichroic reflectors to provide maximum output.

### Available Wattages

50W      75W      100W      150W      180W      300W

## Primary Features

- High Luminance
- Daylight Color Temperature (approx. 6000K)
- Constant Color Properties throughout Lamp Life
- High CRI >95
- High Arc Stability
- Continuous Spectrum in the Visible Range
- DC Operation





# Precision Lighting for Precision Operations

## HTI METAL HALIDE HTI HTI HTI HTI HTI



### Short Arc Metal Halide Lighting for Demanding Applications

Reflectorized OSRAM HTI™ lamps are an excellent light source for endoscopy and other medical fiber-optic applications. In these AC-operated discharge lamps, an arc is formed in a dense vapor atmosphere consisting of mercury and rare earth halides. With short arc technology for greater optical control, HTI lamps offer high lumen output, daylight color characteristics, and excellent efficacy in a compact package. OSRAM engineers have developed special reflector designs that optimize color homogeneity when used in light-guide applications.

### OSRAM HTI™ Short Arc Metal Halide Lamps at a Glance

#### Available Wattages

150W      250W      400W

#### Typical Applications

Medical Fiber-Optics  
Endoscopy

#### Primary Features

High Luminance  
Dichroic Coated Cold Light Reflector  
Daylight Color Temperature  
Long Service Life



# Specialty Filament Lamps for Economical Versatility

## HLX XENOPHOT™ HALOGEN XENON



### Tungsten Halogen Lamps with OSRAM Quality

OSRAM offers tungsten halogen lamps for a wide variety of medical and scientific applications including overhead surgical and fiber-optic illumination, microscopy, endoscopy and UV-curing. Lamps are available in a range of voltages and wattages with numerous reflector and base configurations. The performance advantage of halogen technology comes from the fact that any tungsten atoms vaporized from the filament are able to combine with the halogen atoms in the fill gas and redeposit on the filament. In addition to helping prevent black carbon deposits from forming on the bulb wall, this process increases luminous efficacy, lumen maintenance and lamp life.

### HLX XENOPHOT™ Technology for Improved Performance

Look for the letters HLX in the ordering codes of OSRAM tungsten halogen lamps. The HLX identifies lamps that employ XENOPHOT™ technology, an innovation first introduced by OSRAM. In XENOPHOT lamps, krypton—the normal fill gas used in halogen lamps—is replaced with xenon gas. The xenon reduces the rate of tungsten vaporization and allows for a higher filament temperature. Depending on the application, XENOPHOT can either improve luminous efficacy or can extend the lamp's service life.



### OSRAM Tungsten Halogen Lamps at a Glance

#### Available Lamp Categories

Low Voltage without Reflector (10W-600W)

Low to Medium Voltage with Reflector

#### Typical Applications

Overhead Surgical Illumination

Microscopy

Fiber-Optic Illumination

Endoscopy

UV-Curing

Bilirubin Treatment

#### Primary Features

Bright, White Halogen Light

Optimum Color Rendering

Many Choices for Maximum Versatility



HALOGEN  
HLX  
XENOPHOT



# OSRAM Photo-Optic Lighting for Medical and Scientific Applications



For Orders and General Information  
in the United States:

## **OSRAM SYLVANIA**

National Customer Support Center  
18725 N. Union Street  
Westfield, IN 46074  
Phone: 888/677-2627  
FAX: 800/762-7192  
E-mail: [specmktso@sylvania.com](mailto:specmktso@sylvania.com)  
[www.sylvania.com](http://www.sylvania.com)

For Orders and General Information  
in Canada:

## **OSRAM SYLVANIA LTD./LTÉE**

2001 Drew Road  
Mississauga, Ontario L5S 1S4  
Phone: 800/265-2852  
FAX: 800/667-6772  
[www.sylvania.com](http://www.sylvania.com)

For Orders and General Information  
in Mexico:

## **OSRAM DE MEXICO, S.A. DE C.V.**

Camino a Tepalcapa No. 8  
Col. San Martín 54900  
Tultitlán/Edo. de México  
Phone: 525/899-1800  
FAX: 525/899-1902  
[www.osram.com.mx](http://www.osram.com.mx)

For more complete and up-to-date information on  
these products visit our web site at [www.sylvania.com](http://www.sylvania.com).  
The following brochures are also available:

*Technology and Application Guide: Metal Halide  
Lamps/Ordering Code:123 W01 E*

*Technology and Application Guide: Tungsten Halogen Low  
Voltage Lamps/Ordering Code:122 W99 E*

*Technology and Application Guide: XBO Theatre  
Lamps/Ordering Code:122 W97 E*