

# HSH1002UEO

## Lamps for Photolithography



### Description

PerkinElmer Optoelectronics is a leading manufacturer of mercury short arc lamps ranging in output power from 1000 to 8000 watts. These lamps are used in the production of printed circuit boards, liquid crystal displays and semiconductors. The HSH Series lamps are used worldwide in microlithography systems manufactured by ASML, Canon, GCA, Nikon, Karl Suss, Ultratech Stepper, and SVG. With extremely high stability, uniform output distribution and extended lamp lifetimes, the HSH Series has become the lamp choice of many of the world's leading semiconductor manufacturers.

PerkinElmer has been a leading manufacturer of high intensity arc lamps for more than 30 years and is a premier lamp supplier for solid state lasers, medical equipment, NASA space systems and microlithography. PerkinElmer has steadily advanced lamp performance from 1000 watts to 8000 watts. With the introduction of new materials and proprietary manufacturing processes, we have extended lamp lifetimes from several hundred

hours to more than two thousand hours. The HSH Series provides longer lifetimes, outstanding uniformity, and excellent spectral quality which results in increased throughput, reduced downtime and an overall reduction in the cost of ownership.

### Applications

- Microlithography

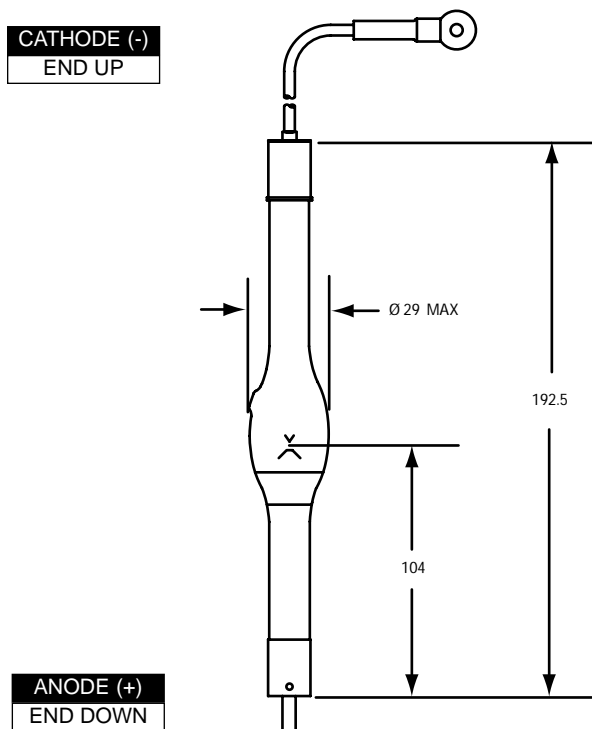


# HSH1002UEO

## Operational Specifications

| Description           | Nominal        | Range               |
|-----------------------|----------------|---------------------|
| Power (idling mode)   | 700 watts      | 650-750 watts       |
| Power (flash mode)    | 1000 watts     | 1050 watts (max)    |
| Current (idling mode) | 16 amps (DC)   | 14.2-17.8 amps (DC) |
| Current (flash mode)  | 21.3 amps (DC) | 19-23.6 amps (DC)   |
| Voltage (idling mode) | 44 volts (DC)  | 39-49 volts (DC)    |
| Voltage (flash mode)  | 47 volts (DC)  | 42-52 volts (DC)    |
| Current Ripple        | 3%             |                     |
| Temperature (at base) | 220°C (max)    |                     |
| Lifetime              | 2500 hours     |                     |

## Dimensions

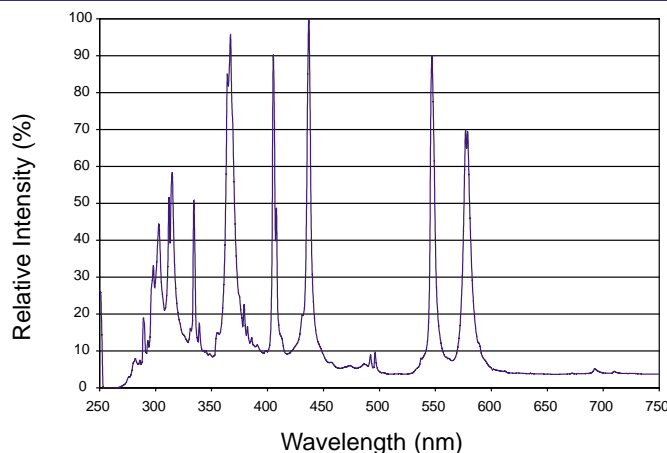


All dimensions are in millimeters.

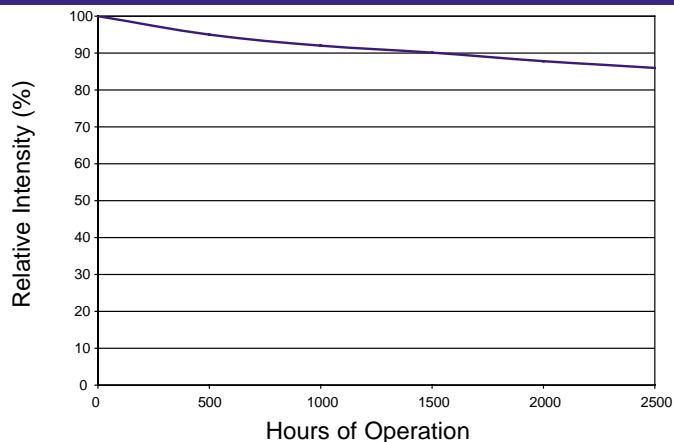
## Physical Specifications

| Description  | Specification       |
|--------------|---------------------|
| Arc Gap      | 3.0 mm (max)        |
| Anode Base   | 19.05 mm Dia        |
| Cathode Base | 14 mm Dia and Cable |

## Spectral Output



## Typical Performance Graph



## Notes

- Lamp must be operated with cathode end up and anode end down. Inclination of lamp axis to vertical must not exceed 10°.

## Part Number References

|          |                       |
|----------|-----------------------|
| Used In  | ULTRATECH 4700, 2244i |
| Replaces | USH1003FAL2           |

PerkinElmer welcomes inquiries about special lamps. We would be pleased to discuss the requirements of your application and the feasibility of designing a lamp specifically suited to your needs.

For more information e-mail us at [opto@perkinelmer.com](mailto:opto@perkinelmer.com) or visit our web site at [www.perkinelmer.com/opto](http://www.perkinelmer.com/opto).

All values are nominal; specifications subject to change without notice.

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