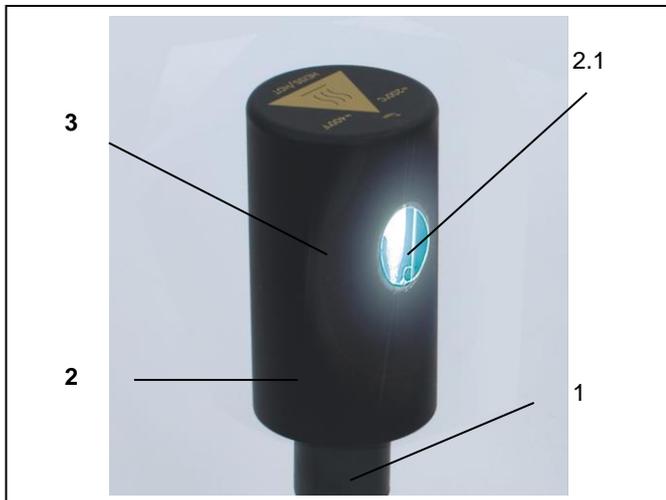


08/19-W10-KW

**45115****High Pressure Mercury Lamp 45115****Safety notes**

- Caution: the lamp becomes very hot – more than 100 °C!
- Connect the lamp to the AC mains (230 V AC) only via a choke
- Do not look into the direct or reflected light beam (UV radiation)
- Do not irradiate the skin (UV)
- Protect the lamp from shocks, falls etc (danger of breakage)
- If the quartz burner and the outer glass shell should break, clean up the mercury properly (e.g. with mercury adsorbent 30683) so that no mercury vapors will form
- Do not inhale the mercury vapors in case both glass parts break.

1. Description

The high pressure mercury lamp supplies a light with high luminosity. The line spectrum of the radiation, which has a high UV output at 365 nm and a rather weak UV-C at 254 nm, is in the wavelength range from about 579 nm to 248 nm.

When warmed up, the linewidth of the pressure broadened lines is some tenths of nanometers.

Experiment examples

- Diffraction, Interference
- Hg-Spectrum
- Fluorescence, Phosphorescence
- Planck's constant

2. Technical Data

- (1) Socket, E 27
- (2) Metall housing
- (2.1) Window Diameter: 30 mm
- (3) inside: Hg-ampoule: quartz tube filled with mercury and sealed electrodes

| | |
|--------------------|------------------------|
| Ignition voltage: | ca. 200 V |
| Operating voltage: | ca. 115 V |
| Operating current: | ca. 0,8 A |
| Power: | 80 W |
| Luminance: | 600 cd/cm ² |
| Mercury content: | 14,6 mg |

3. Scope of delivery

Lamp

4. Accessories

Additionally required:

| | |
|-------------------------------|---|
| 451 195 | Power supply unit for high-pressure mercury lamp or |
| 451 19 | Lamp socket E27, multi-pin connector |
| 451 30 | Universal choke 230 V, 50 Hz |
| Optional mechanical fasteners | |
| 300 02 | Stand base, V-shaped |

5. Operation

Lamp must only be operated with a choke. Do not screw into a socket E27 without ballast.

Socket E 27 (451 19 or 451 195) Connect to the power supply only when lamp is screwed in.

Warm-up time up to full light output: 10 minutes.

Re-ignition of a warmed up lamp can be difficult. Let it cool down to switch it on again.

6. Safety

For the safety instructions here are some detailed explanations

6.1. UV

The exposure limits in the Annexes to 2006/25 / EC have to be observed in the EU. For example, the UV line at 254 nm is allowed to reach a limit Limit E (254nm) = 60 J/m² per day.

The mercury lamp 451 15 emits small amounts of UV radiation and reaches this limit at short distances (cm) within minutes, at 10 cm we measured an intensity that would allow a daily exposure of 1.7 hours.

The employer might have to do a risk assessment.

Basic safety recommendations:

- Do not look into the light
- Use UV absorbing filters if necessary
- UV radiation area might need some marking
- Close eyes and avert when the light seems to be too bright

The lamp needs to be declared as RG3 according to EN 62471, actinic hazard <1000 s.

Working in the direct light for a longer time might require some protection, like gloves.

6.2. Mercury

This lamp contains 14.6 mg of mercury.

A break of the inner ampoule releases no mercury, as long as the outer glass bulb is still intact, and vice versa.

In an unlikely breakdown of both glass bulbs, the mercury is released. In cold condition the remains of the lamp are best packed air-tight and given for disposal.

If both glasses break in hot condition the mercury is immediately released into the room air.

In case the lamp breaks:

- Leave the immediate surroundings of the lamp
- Do not work near the just ruptured lamp, prefer to use a remote emergency stop

In the unlikely event of both glass parts broken:

- Ventilate the room
- Leave the room

6.3. Broken glass

The outer glass tube holds back any splinters of a bursting burner. A violent destruction of the complete lamp from the outside can make glass splinters fly around.

Nevertheless, it is strongly suggested to be careful and wear proper protection, like glasses.

6.4. EU-ban

7. Note: The directive 2005/32 / EC in conjunction with EU Regulation 245/2009 prohibits some mercury lamps for lighting purposes because of mercury content and electrical inefficiency. The 451 15 lamp is not affected because they are used as spectral lamps and are neither "white" nor used for lighting.