

Operating Instructions – Working with Laser Instruments

According to Technical regulations for Occupational Health and Safety Ordinance on Artificial Optical Radiation (TROS) and

Occupational health and Safety Ordinance on Artificial Optical Radiation (OstrV).

Work space: SupraFAB

Work station: Room 114/115/026-027

Laser Safety Officer: Dr. Bianca Höfer and Dr. Patryk Kusch

Hazards for people and the environment



- **Class 1, as enclosed: Any opening, modification or manipulation of the operation is prohibited, to be carried out only by service, as lasers of higher levels are included, as follows:**
- **Class 3B:** The accessible laser radiation is dangerous to the eye and, in skin in special cases.
- **Class 4:** The accessible laser radiation is very dangerous to the eye and skin. Diffuse scattered radiation can also be dangerous. The laser radiation can also cause fire or explosion hazards.

Protective measures and rules of behaviour



- Enclosure of the laser in normal operation implemented by the company.
- The safety instructions of the device manufacturer listed in the operating instructions must be observed.
- The laser area must be clearly and permanently marked in accordance with Section 7 (3) of the Occupational Health and Safety Ordinance on Artificial Optical Radiation (OstrV). Access to the laser area must be marked with the warning light.
- Unauthorized persons are not permitted to enter (only under supervision).
- In the case of Class 3B and 4 laser equipment, operation must be indicated by warning lights.
- Annual instruction must be provided by the laser safety officer –
- **Eye protection / skin protection:**
- **As housed 3B, 4 lasers: Any opening of the housing is prohibited with the laser running!**
- Laser safety goggles in accordance with DIN EN 208 must be worn when adjusting the laser. Only service personnel can align lasers.
- Before using the eye protection equipment or protective clothing, check that it is suitable for the respective application in accordance with the laser classification and that it has no obvious defects. In case of doubt, the laser safety officer must be consulted
- For laser powers above 0.5 W, there is a potential risk of ignition of flammable substances.
- Highly flammable substances such as: Disinfectants, swabs, covers are to be avoided in the vicinity of the laser effect area.

Behavior in case of danger

Technical emergency numbers Freie Universität Berlin: -55555



- The laser device must be switched off in the event of unusual operating conditions.
- If available, operate the emergency stop switch.
- Remove the key switch from the control panel.
- Inform the responsible laser safety officer and supervisor.
- In the event of fire: As far as is safely possible, attempts to extinguish laser devices should preferably be fought with a CO₂ fire extinguisher.
- **Call the fire brigade on 112**

First aid

Operating Instructions Laser Instruments

Building: SupraFAB

Area of application: Freie
Universität Berlin
Altensteinstr.23a



Rescue the injured person from the danger zone and provide first aid. Alert the emergency services.

If laser radiation has caused eye or skin damage, the injured person must be presented to a D doctor immediately. If necessary, an OCT (optical coherence tomography) should be carried out.

Proper Disposal-Service

Repairs may only be carried out by authorized, competent persons. Regular inspections may only be carried out by qualified persons.

- If the laser class changes during maintenance, the safety regulations of the higher class must be observed.
- The exposure of persons to laser radiation above the maximum permissible irradiation (MZB) must be prevented.
- If laser hazards can occur that cannot be clearly determined in advance, e.g. if light guides break, the employees carrying out maintenance must be equipped in such a way that they are protected against the maximum possible laser radiation.

If you have any further questions, please contact the Occupational Safety department Tel.: -54495

Signature of division management: