



OPERATING INSTRUCTIONS

11/2023

Signature:

EQUIPMENT – DEVICE – APPARATUS

Permanent magnets

(Cube Biotech, prototype)

DANGER TO HUMANS AND ENVIRONMENT



The strong magnetism and subsequent collision can cause body parts to be crushed and/or broken, sometimes resulting in the separation of body parts or skin.

Splintering on impact can cause cuts or metal parts can penetrate the body. When splintering, metal parts can travel a greater distance and enter the eyes.

The weight of the magnets can also cause bruising and contusions if they fall from laboratory furniture.

PROTECTIVE MEASURES AND RULES OF CONDUCT



Always keep a sufficient distance from solid metal parts and especially from other magnets.

It must be ensured that the magnets are stored securely and at a minimum distance of 20 inches from each other and from metals in order to avoid mutual attraction, which can lead to **minor to heavy** injuries.

Select the working and storage height as well as the respective storage locations of the magnets in such a way that the magnets cannot cause personal injury by falling during handling or storage.

Before operation, stands, laboratory lifting platforms, spatulas and scalpels must be moved to a sufficient distance.

Clean the magnets regularly with a neutral cleaning agent. Allow the magnet to dry after cleaning. Regularly check the sealing and reapply if necessary. Disinfection must be carried out after contact with biological material. Use non-corrosive disinfectants.

If possible, only use plastic containers. If this is not possible, use at least borosilicate glassware.

Employees with pacemakers or implanted defibrillators must not work with the magnets! They must exercise particular caution when using the permanent magnets. If possible, hand over work with magnetization to employees without such auxiliary devices. The required safety distances can be found in the manuals for these devices or can be obtained from the manufacturers.

Carry out a visual inspection after use. If corrosion is visible, do not use the magnet and contact a specialist workshop.

The edges of splinters can be sharp and cause cuts during use. Always wear safety goggles when using magnets. Cut-resistant gloves offer only limited protection.

In the event of an actual or potential collision with the magnets, do not try to stop the collision with your extremities.

This is where crushing, cuts, separations and fractures **will** easily occur.

Magnets are made of metal and conduct electricity due to the materials used. Keep magnets away from power sources.



MALFUNCTIONS AND HAZARDS

Call 911

If corrosion occurs, the rivets used may break off due to the resulting expansion. This may lead to injuries.
Inform your supervisor.
Have maintenance and repairs carried out by a specialist workshop only.

ACCIDENTS AND FIRST AID

Call 911



If there is an open wound, immediately alert first aiders, emergency services or a doctor. Inform your superior.
Every injury, no matter how small, must be entered in the first aid book.

INSPECTIONS - MAINTENANCE - DISPOSAL

Maintenance and repair work may only be carried out with the written permission of the laboratory manager.
The solenoids must be inspected annually by an expert in their operating condition.
Only spare parts that correspond to the original parts in terms of material and design may be used for maintenance.