

Maintenance intervals

Regularly checking and maintaining the device is necessary to ensure safe and correct operation of the system and a long service life.

The following table lists the relevant maintenance activities and shows the maximum intervals at which they must be performed.

All maintenance work requires specific technical expertise. It is frequently necessary to open the system for this work.

Please contact your local ZEISS Service in good time for the performance of these maintenance activities.

You will find the contact authorized for your country on the following website: www.zeiss.com/med.

Component	Inspection features and acceptance criteria
No regular tests or maintenance is required in order to maintain electromagnetic compatibility (EMC).	
According to country-specific interval requirements	
Safety check	Checking the safety of the device and electrical safety (see page 265)
Prior to each use	
Brakes	Electrical and mechanical function test: release brakes completely; braking force holds microscope securely in balanced state without any change of position.
Lamps	Check: <ul style="list-style-type: none"> <li data-bbox="783 1529 1342 1563">– Operating hours within permissible range <li data-bbox="783 1574 1401 1608">– Replacement lamp available and ready for use

When specified operating hours have been reached

Lamps	We recommend replacing the lamp after the specified operating hours have been reached (500 hours)
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Every 12 months

Documentation and identification labels	<p>Visual inspection:</p> <ul style="list-style-type: none"> – Manuals and identification labels available, undamaged, complete and legible
Controls such as hand-grips and XY drive	<p>Visual inspection and function test:</p> <ul style="list-style-type: none"> – Probes move easily without play
Carrier system including microscope suspension mounting	<p>Function test:</p> <ul style="list-style-type: none"> – Bearings, stops and suspensions should have no play and move freely – Brakes work at the maximum microscope configuration permitted <p>Maximum load capacity on the microscope body</p> 
Casters	<p>Visual inspection and function test:</p> <ul style="list-style-type: none"> – Seating should have no play; turning and rolling should not be blocked; locking tabs and brakes should be securely positioned – Cable deflectors available
Lighting: Fan	<p>Function test:</p> <ul style="list-style-type: none"> – Fan capacity noticeable
Microscope	<p>Function test:</p> <ul style="list-style-type: none"> – Check on optical imaging and illumination of the field of view
Zoom, focus and illuminated field diaphragm	<p>Function test:</p> <ul style="list-style-type: none"> – Jolt-free operation of the zoom system – No play in focus, zoom and illuminated field diaphragm when adjusting manually

Objective lens, tube and other accessories mounted to the microscope:	Function test: Attached parts without mechanical play, knurled screws tightened and other removable microscope components securely mounted
Optional foot control panel	Visual inspection and function test: <ul style="list-style-type: none"> – Dust and spray water protection complete and undamaged – Replace FCP WL battery
Touchscreen	Visual inspection and function test: <ul style="list-style-type: none"> – No noticeable damage to housing – Checking the image quality – Check the functions of the joints
Light Only mode	To guarantee smooth operation of LIGHT ONLY mode, check its function at regular intervals by enabling the mode (without patient).
Video / Camera	Function test

Every 2 years

Lighting: Light guide	Function test: <ul style="list-style-type: none"> – Check the light guide – Check the illuminated field
Lighting: Optical filters	<ul style="list-style-type: none"> – Heat-absorbing filter and UV filter: – Check the light source filters
Optional AutoDrape	Function test: Drape pump - vacuum capacity noticeable
Uninterruptible power supply (UPS)	<ul style="list-style-type: none"> – Function test: Exchange batteries

Every 4 years

Carrier system including microscope suspension mounting	Visual inspection: <ul style="list-style-type: none"> – No signs of wear on the supporting structure – No signs of wear or damage on the interfaces and couplings – Condition of cable and roller
Cables, plugs and switches	Visual inspection: <ul style="list-style-type: none"> – Undamaged insulation and connectors on system/cable – Check of the cable guide including fasteners
Electronics	We recommend replacing the internal batteries
Navigation	Function test of the interface: <ul style="list-style-type: none"> – By manufacturer of the navigation system

Every 6 years

Casters	We recommend replacing the casters
Light guide	We recommend replacing the light guide

Every 8 years

AutoBalance	Exchange of information and wear parts
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Changing the lamp module

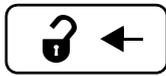
- Replace the spent lamp module (3) only if a replacement (order (3) No. 1277-220) is available locally.

NOTE



Danger due to hot lamp!

- Only change the lamp module after it has cooled down (this takes approx. 10 min.)
In case of malfunction, the high pressure inside the hot lamp may cause the lamp to burst. The hot surface of the xenon lamp may also cause burns.

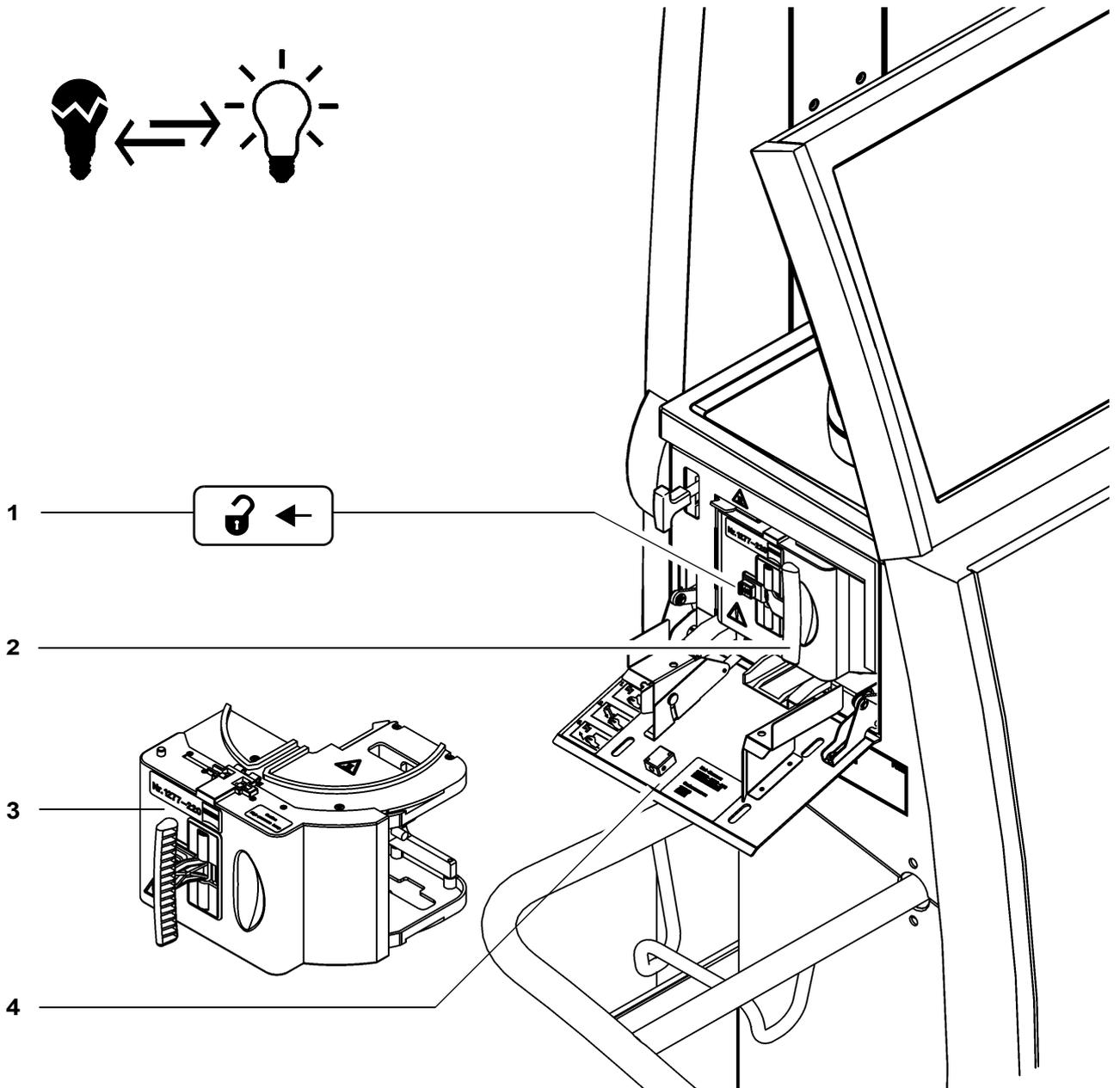


- Only store the used lamp module in the protective case provided for this purpose S (1279-403).
- Never push the red button (1) to the left in the direction of the arrow ("unlock") while the lamp module is outside the lamp housing. The high pressure lamp would then be unprotected.

- First turn off the system at the power switch.
- Remove the protective case from the new lamp module.
- Open the door (4) to the stop.
- Pull grip (2) on the lamp module to the left.
- Carefully remove the lamp module from the lamp housing.
- Put the used lamp module in the protective case (1279-403) provided for this purpose.
- Carefully slide the new lamp module into the lamp housing.
- Push the red button (1) to the left in the direction of the arrow ("unlock") until the grip (2) swings back.
- Close flap (4) by slightly pressing it against the housing until you feel the lock engage.
- After changing the lamp check the brightness level.
With increasing age of the lamp, the actual illumination intensity delivered at each setting decreases. After the lamp change, the illumination intensity of the new lamp is considerably higher.



- Pack the used lamp module in the original protective packaging and ship it to the nearest ZEISS Service representative.



Monitor the device and electrical safety



CAUTION

Risk of injury!

- Make sure that the regular technical safety checks required for this system in accordance with the applicable national regulations are performed on schedule and to the extent prescribed.

To prevent any impairment of the system's safety as a result of aging, wear etc., the operating company must ensure, in accordance with the applicable national regulations, that the regular technical safety checks defined for this system are performed on schedule and to the extent prescribed.

The safety checks may only be performed by ZEISS Service.

The scope of the safety checks of the system must cover at least the following points:

- Availability of the Instructions for Use
- Visual inspection of the system and accessories for damage and legibility of the symbols and labels
- Leakage current test (measuring point: Potential equalization bolt)
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- Function and wear test of the steerable casters and locking tabs
- Function test of all switches, buttons, sockets and indicator lamps of the system
- Function test of the Light Only mode without a patient.
- The drive unit of the AutoBalance function (optional) is subject to natural wearing.
If the drive unit is older than 8 years, it must be exchanged.

Disposal

User information for the disposal of electrical and electronic devices

NOTE**Notes on environmental protection!**

Inappropriate disposal may contaminate the environment!

- Do not dispose of the systems along with normal domestic waste.

Separate disposal according to the local laws/regulations governing the disposal of electrical and electronic equipment is required.



This symbol means that the product must not be disposed of as normal domestic waste.

The correct disposal of electrical or electronic devices helps to protect the environment and to prevent potential hazards to the environment and/or human health which may occur as a result of improper handling of the devices concerned.

For detailed information on the disposal of the product, please contact your local dealer or the device manufacturer or its legal successor. Please also note the manufacturer's current information on the Internet. In the event of resale of the product or its components, the seller is required to inform the buyer that the product must be disposed of in accordance with the applicable national regulations currently in force.

For customers in the European Union

Please contact your dealer or supplier if you wish to dispose of electrical or electronic devices.

Information on disposal in countries outside the European Union

This symbol is only applicable in the European Union. For the disposal of electrical and electronic devices, please observe the relevant national legislation and other regulations applicable in your country.

Disposal of outer packaging material

- Dispose of outer packaging material in accordance with the local legislation and directives.

