

9 Maintenance

9.1 Maintenance schedule for the operator

9.1.1 Every six months

Components	Activity
Manual mode	<ul style="list-style-type: none"> ▶ Check the following functions: <ul style="list-style-type: none"> ■ The light sources are at medium intensity ■ The XY coupling, focus and zoom motor are inactive. ■ The filters are in the swiveled-out position. ■ The control panel is black

9.2 Maintenance schedule for the authorized service

9.2.1 Every twelve months

Component	Activity
Documentation and identification labels	<ul style="list-style-type: none"> ▶ Check that the instructions for use and identification labels are complete, undamaged and legible.
Handles and XY coupling	<ul style="list-style-type: none"> ▶ Check the following functions: <ul style="list-style-type: none"> ■ The visual and acoustic signals are functional. ■ Manual mode is functional. ■ The bearings, stops and suspension mountings are free of play.
Support system and microscope suspension mounting	<ul style="list-style-type: none"> ▶ Check the following functions: <ul style="list-style-type: none"> ■ The bearings, stops and suspension mountings are free of play. ■ Brakes are operational at the maximum permissible OPMI configuration.
Stand column	<ul style="list-style-type: none"> ▶ Check to make sure the column connection is free of play.
Casters	<ul style="list-style-type: none"> ▶ Check the following functions: <ul style="list-style-type: none"> ■ The casters are free from backlash. ■ The casters turn and roll without jamming.

Component	Activity
	<ul style="list-style-type: none"> ■ The brakes and locking tabs hold securely. ■ The cable guards are present.
Light sources	<ul style="list-style-type: none"> ▶ Check to make sure the fan is sufficiently powerful.
Microscope	<ul style="list-style-type: none"> ▶ Check to make sure the optical imaging is in good working order and the field of view is well illuminated.
Zoom, focus and illuminated field diaphragm	<ul style="list-style-type: none"> ▶ Check the following functions: <ul style="list-style-type: none"> ■ The zoom system is running smoothly. ■ The focus, zoom and illuminated field diaphragm can be easily moved.
Accessories such as the objective lens, tube, etc.	<ul style="list-style-type: none"> ▶ Check the following functions: <ul style="list-style-type: none"> ■ The accessories are free of mechanical play. ■ The accessories are secured by knurled screws.
Wireless 14-function foot control panel	<ul style="list-style-type: none"> ▶ Check to make sure the dust and spray water guard is undamaged. ▶ Change the batteries in the 14-function foot control panel.
Integrated video monitor	<ul style="list-style-type: none"> ▶ Check the following functions: <ul style="list-style-type: none"> ■ The housing is undamaged. ■ The image quality is okay. ■ The suspension arm and the gas spring hold the video monitor in the desired position.

9.2.2 Every two years

Component	Activity
Light guide	<ul style="list-style-type: none"> ▶ Check to make sure: <ul style="list-style-type: none"> ■ The light guide is intact. ■ The light field is uniform.
Light source	Check to make sure the light source filters are intact.

9.2.3 Every four years

Component	Activity
Support system and microscope suspension mount	<ul style="list-style-type: none"> ▶ Check to make sure the following components are free of abrasion and damage: <ul style="list-style-type: none"> ■ Supporting structures ■ Interfaces ■ Couplings ■ Connection and fastenings of the spring assemblies
Cables, plugs and switches	<ul style="list-style-type: none"> ▶ Check the following functions: <ul style="list-style-type: none"> ■ The insulation and plug connections of the cables and the device are intact. ■ The cable routing and cable fastenings are tight.
Electronics:	▶ Replace the internal batteries.
Casters	▶ Replace the casters.
Light guide	▶ Replace the light guide.

9.2.4 Every six years

Component	Activity
Integrated video monitor	▶ Replace the support arm, including the gas spring.

9.3 Performing safety inspections

The safety inspection serves to determine and evaluate device safety. The user of this device is obligated to perform and document safety inspections in compliance with IEC 62353.

CAUTION!

Risk of injury without safety inspection!

Hazards and device deficiencies will not be detected in time and can have a negative effect on patients, users, or others.

- ▶ Have a safety inspection in compliance with IEC 62353 performed on time and to the prescribed extent. At the same time, be sure to observe the relevant national regulations.

Prerequisite

- ☑ Only the manufacturer or qualified persons may perform safety inspections.

Action

- ▶ Check to make sure the Instructions for Use are available.
- ▶ Check to make sure all marks and inscriptions on the device are legible.
- ▶ Check the leakage current and the protective ground conductors.
- ▶ Check to make sure the casters and locking devices function properly and are not worn-out.
- ▶ Perform a function check of all switches, buttons, sockets and indicator lamps of the system.
- ▶ Check every six months to make sure manual mode is working.