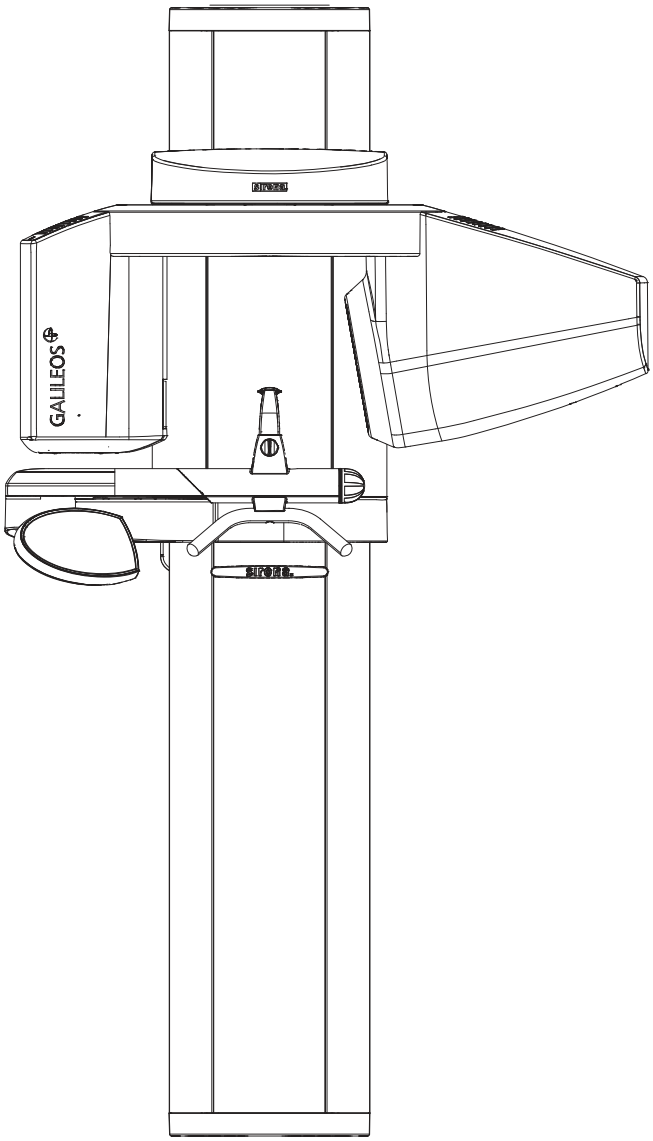
New as of: 07.2008

sirona
The Dental Company

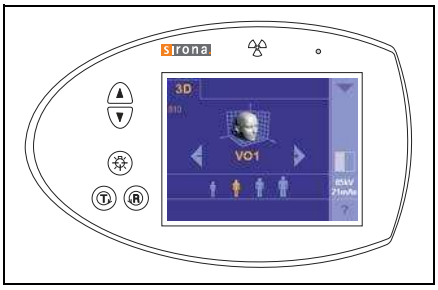
GALILEOS

Maintenance Instructions

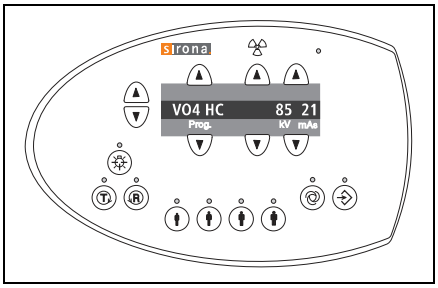
English



GALILEOS



GALILEOS GAX5



Version 3.0

Table of Contents

Note: Pages 3 - 4, 10 - 12 and 16 - 17 are omitted in this document

1 General

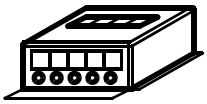
To stay in compliance with the DHHS requirements the GALILEOS must be maintained annually following date of installation.
It is the responsibility of the user to insure that the equipment is maintained with the manufacturer's recommended **Maintenance Instructions** to insure compliance with the Federal Performance Standard.
The manufacturer and the assembler/installer are relieved from responsibility in those cases where noncompliance with the standard results from the user's failure to have the manufacturer's recommended maintenance performed.
The actual maintenance inspection and consequent service must be accomplished by a trained serviceman. Neither the inspection nor service is part of the equipment warranty.

Technical instructions required
Operating Instructions
Service Manual

Instruments and adjustment tools required
All measuring devices must be suitable for measurements on the mains potential.
This includes the pulse counter.
This means: A voltage of 1000 V between a connection and ground must be possible.

1. Digital multimeter Fluke 87 III or equivalent.
   Accuracy:
   DC voltagε ± 0.1 % of reading plus 0.02% of range
   DC currevτ ± 0.4 % of reading plus 0.1% of range.

2. Electromechanical pulse counter, model KESSLER ELLIS KT 203 ±1 pulse, or equivalent..



3. Adjustment set with alignment tool for X-ray beam , test block and needle phantom delivered with the unit, (customer's property).

DANGER RADIATION
Observe the radiation protection guide lines as outlined in the Operating Instructions manual.
X-radiation is emitted as long as the release button is depressed.
The X-ray indicator must light up on the Easypad / Multipad during radiation. An acoustic signal must also be heard.

Power Supply Adequacy
To assure that the GALILEOS system performance is in accordance with Sirona specifications, an adequate power supply for permanently installation is essential.

The Federal Performance Standard for diagnostic X-ray units, code of Federal Regulations, Title 21 CFR, Subchapter J, mandates an adequate power supply.

Duty Cycle
Between exposures maintain at least a cool-off time (automatic exposure blockage, see Operating Instructions manual).

Operating Instructions
During measurements and controls it is necessary to energize or de-energize the unit. For all operating steps please refer to the Operating Instructions manual.

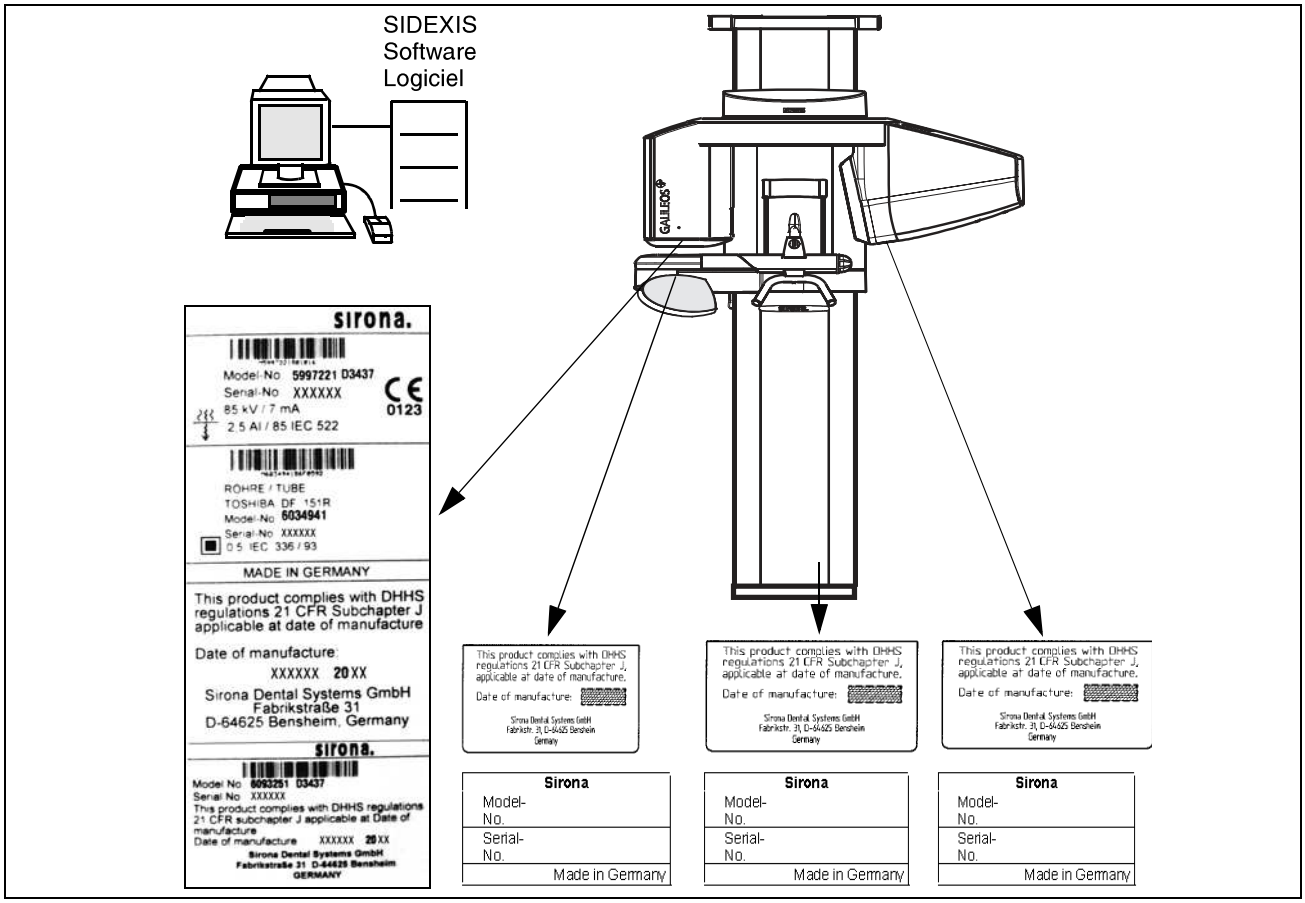
CAUTION with PC Boards!
All PC boards are fitted with electronic components sensitive to electrostatic discharge (ESD). In an environment of moving people electrostatic charges are unavoidable due to friction caused by clothing, carpeting etc.

CAUTION
To prevent damage of electronic chips do not touch same.
Always handle circuit boards by their edges.

WARNING
Electrical Shock Hazard!
Always turn unit OFF before connecting and disconnecting the test leads to the test points

DANGER
Life-threatening voltage on DX6.

2 Visual Check



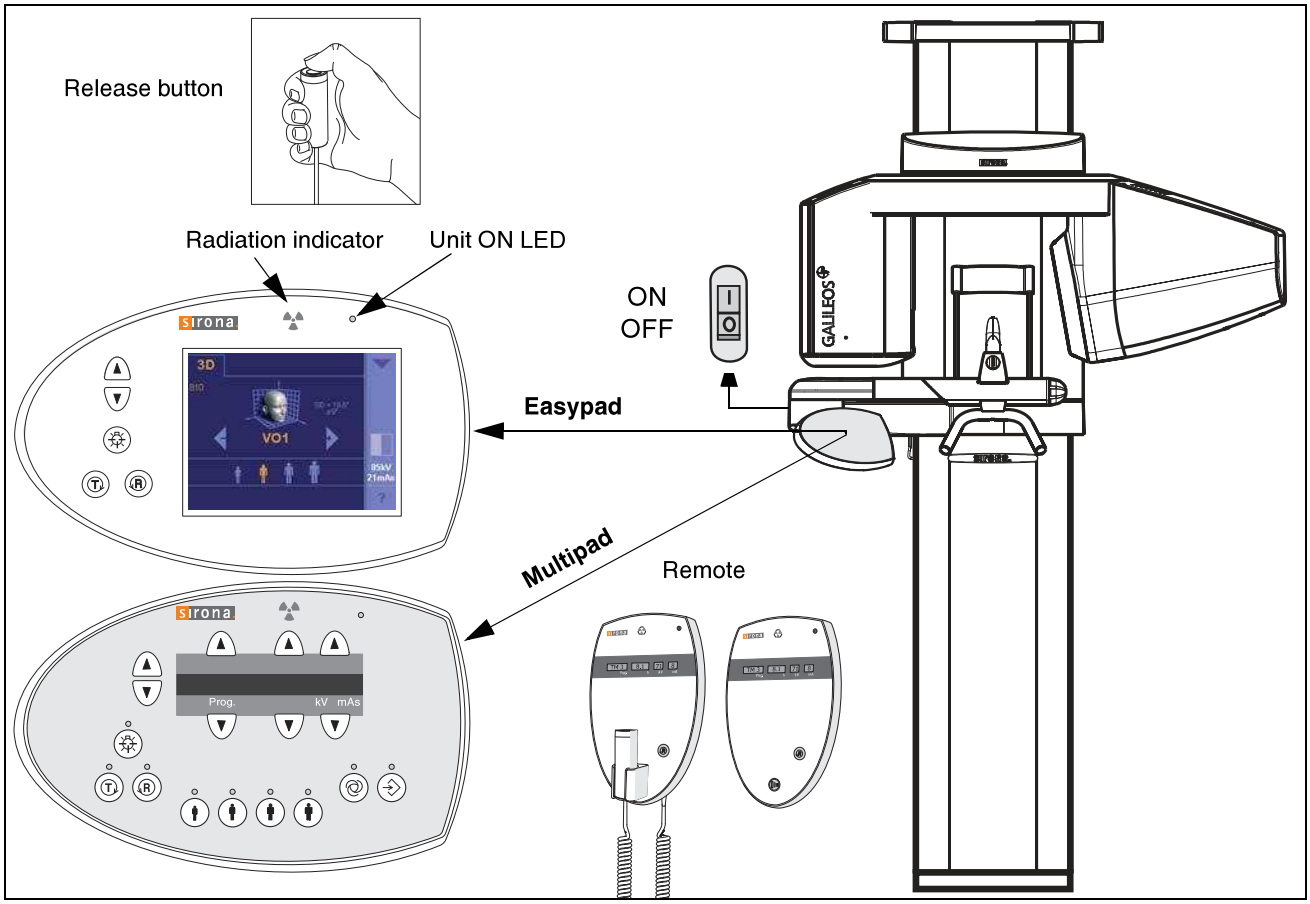
- Look for mechanical damage possibly affecting radiation safety.
- Verify that all labels are affixed and legible.

  Defaced labels must be replaced.
  Order same from Sirona (address, see rear)
  in writing stating:

- Customer Name
- Customer Address

All Model Numbers with Serial Numbers still legible on the unit for identification purposes. For serial numbers see also **Installation Report/Warranty Passport.**

3 Indicator Lights and audible Signal

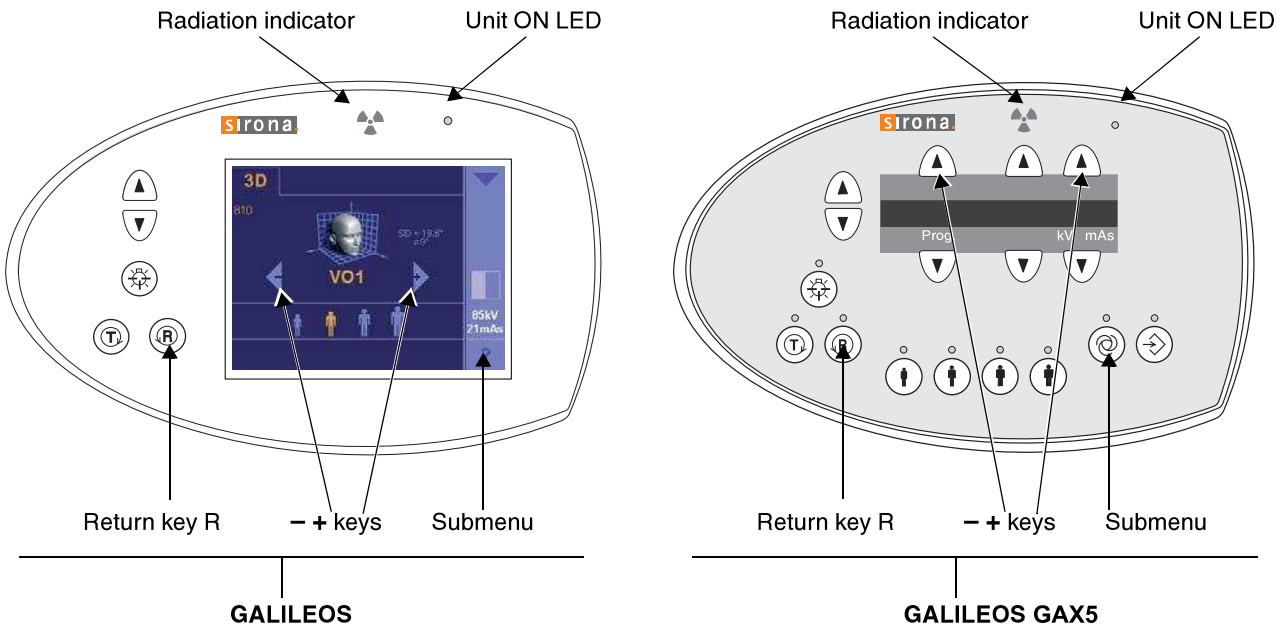


- **Unit ON LED:**
  Depress the main switch into the "**I**" position to turn unit ON.
  The unit adjusts itself automatically, wait about 1 minute.
  The "Unit ON LED" in the upper right corner of the **user interface** will then indicate that the unit is ON.

- **Testing the keys and the functions on the user interface**.
  - When the height adjustment is made the loudspeaker should hum.
  - If remote is installed, test the remote keys and display in addition.
  - The release button must not be defective or broken.

See also Operating Instructions under "Preparing the Exposure" subchapter "Switching the system on".

CAUTION RADIATION !
Observe Radiation Protection Guide Lines
see **Operating Instructions**



- **Make a exposure:**
  - X-ray head must be in the initial position (If not, press return key R).
  - Establish exposure readiness via SIDEXIS XG. For more details and possible error messages see Operating Instructions.
  - Set the **VO1** exposure program using the **– +** keys.
  - Select **85**kV/**14**mAs using **– +** keys.

DANGER RADIATION

- ***Depress the exposure button and hold until the exposure terminates automatically.***
- ***The exposure ends when the rotation and radiation automatically switch off.***
- ***The radiation indication must light up during the exposure period.***
- ***Simultaneously an audible beep must sound at the unit.***

- **Interrupt an exposure – deadman feature**:
  - Observe a cool-off time of max. 5 mins. between exposures (automatic exposure blockage).
  - Setting same as above.

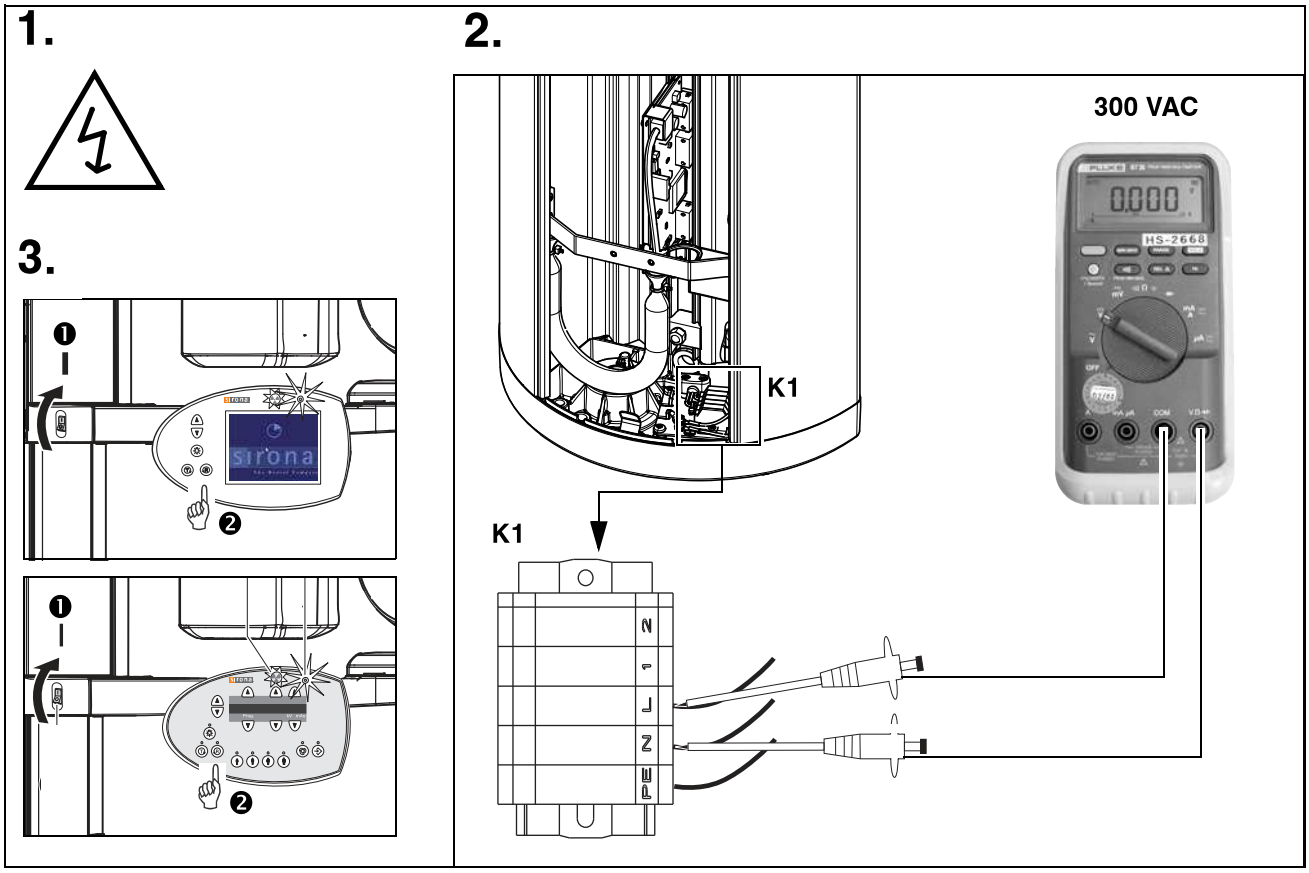
DANGER RADIATION

- ***Depress the release button until X-ray lights up and subsequently release – the exposure must terminate immediately. The radiation indicator lights up.***

DANGER RADIATION

Defective light indicators *constitute a safety hazard to the patient as well as to the operator.*
The user is not permitted to use the unit, until repairs are made!

4 Power supply adequacy



- To determine power supply adequacy, the **line voltage drop** during exposure must be measured.

1. Be sure power is disconnected at the central distribution panel!
- Remove front cover (for details see Service Manual).
2. Select 300VAC line voltage range on multimeter . Connect measuring leads to terminal **K1**, **L** and **N**.
3. Connect power and switch unit ON ❶.
   Wait 1 min. for self-adjustment of the unit.
   Press key **R** ❷ to return X-ray tube head into the initial position.
4. Establish exposure readiness via SIDEXIS XG.
5. Select **highest exposure level** e.g. **85**kV/**28**mAs (for details see User Manual).

DANGER RADIATION

– ***Depress the exposure key until meter reading is obtained.***

Line voltage, no load:	Max. permissible line voltage drop:
180 – 208V	9V
208 – 230V	8V
230 – 240V	7.5V
240 – 264V	7V

Record reading.

- Turn unit OFF.
- Remove meter leads and refit cover.

NOTE

If the voltage drop is not within the specified range *advise the customer, that an adequate power supply must be installed. Refer to Pre-Installation Instructions.*
Disconnect unit and do not release for use!

2 Yearly calibration by the service engineer (return following 3 pages to Sirona)

General information for the service engineer

The GALILEOS **Service Manual** (Order No. 61 25 665) is indispensable for performing the calibration. All of the measures required for the calibration are described there in the Chapter “Calibrating the unit.”
Furthermore, the Operating Instructions which have been supplied together with the unit are required.

NOTE

In addition to the annual check by the system owner or other authorized persons, a yearly calibration must also be performed by the service engineer.

Should it be necessary to replace defective components along with parts subject to wear, this must be agreed previously with the customer or dental practice staff.

PLEASE RETURN PAGES TO SIRONA FAX: 1-888-297--8631

Discontinuation of spare part deliveries:
For each system, the spare part deliveries are discontinued after a certain period of time. The system owner will be responsible for safety-relevant failures of systems which continue in operation after that time and can no longer be serviced due to missing spare parts.

Customer data

Customer	
Last name:	
First name:	
Street:	
Post code / city:	
Phone:	

Space for practice stamp

Calibrating the X-ray unit

Assessing X-ray exposures	**Answer questions with yes (✓) or no (–)**									
Date (enter month/year)										
Mechanical unit adjustment OK? See Service Manual										
Diaphram exposure OK? See Service Manual										
Beam field OK? See Service Manual										
Dosimetry OK? See Service Manual										
Sensor calibration OK? See Service Manual										
Iris calibration OK? See Service Manual										
Shading calibration OK? See Service Manual										
Distorsion calibration OK? See Service Manual										
Geometric calibration OK? See Service Manual										
Calibration of touchscreen OK? See Service Manual										

	If no ⇨ Correct fault.

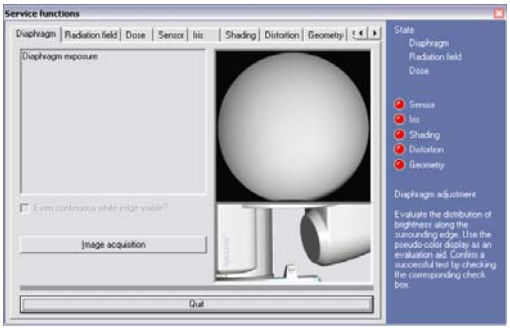
Documenting the yearly calibration

The undersigned confirms that he/she has checked the unit for the above criteria and that he/she has handed over the unit in fully functional condition..

Year	Date of check:	Biometric phantom Serial No.:	Distorsion phantom Serial No.:	Name:	Dealer:	Signature:
1.						
2.						
3.						
4.						
5.						
6.						
7.						
8.						
9.						
10.						
11.						
12.						
13.						
14.						

9 Adjusting / calibrating the system

1.



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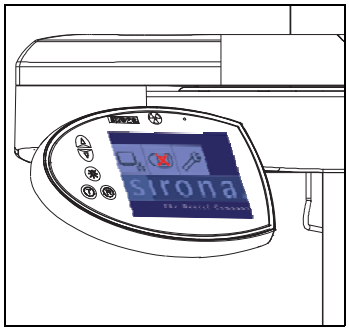

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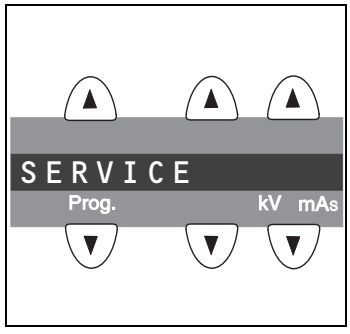
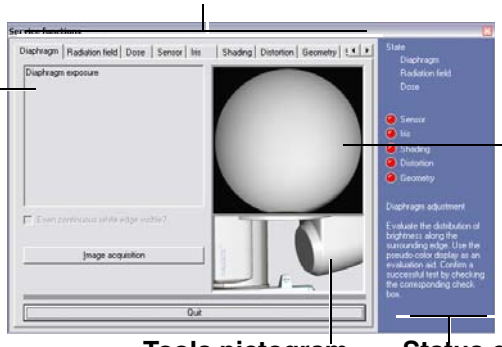




9.1 System adjustment menu

The **SERVICE FUNCTIONS** menu (**1.**) will guide you through the calibration process. This service routine is started from **SIDEXIS XG**:

UTILITIES → CONSTANCY TEST→ 3D → (SELECT X-RAY DEVICE) → SERVICE EXPOSURE → password query → (SELECT X-RAY COMPONENT) → SERVICE FUNCTIONS menu

The queries **SELECT X-RAY DEVICE** and **SELECT X-RAY COMPONENT** will only appear if several units are set up in SIDEXIS XG.

NOTE

*The **SERVICE FUNCTIONS** menu is password-protected. As password, enter the first four digits of the current system date (PC) in reverse order.*
*Example: On 05/30/2004, the service password is **5003***

NOTE

*When you open the **SERVICE FUNCTIONS** menu, the unit switches from the user mode to the PC service mode logged by the PC.*
For GALILEOS:
*This mode is displayed on the Easypad via the PC service image (**2.**).*
For GALILEOS GAX5:
*This mode is displayed on the Multipad via the "SERVICE" display (**3.**).*
.

*In **PC service mode**, the control options that are available on the control panel are determined by SIDEXIS XG and the currently selected service routine. General control of the unit by means of the control panel (as in the user mode) is not possible in this mode.*

The **SERVICE FUNCTIONS** menu contains 9 sub-menus that can be selected using the **menu tabs**.

The **tools pictogram** shows which (if any) test phantom should be used for this particular adjustment step.

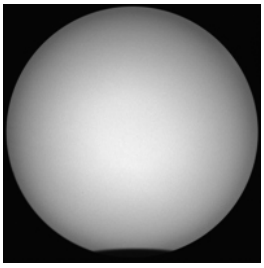
The **message window** displays text messages regarding the adjustment process..

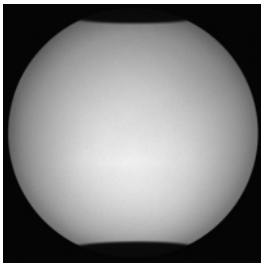
To the right of the menu you can see the **status column**. This column contains information about the system's current calibration state.

✓	green and checked	valid data record, *calibration is in progress.* **No calibration required!**
●	green	calibration data record present, *calibration has not been performed, calibration might not be sufficient.* **Calibration required!**
●	red	invalid data record or no record present **Calibration required!**

To quit the **SERVICE FUNCTIONS** menu, click **CANCEL**.

GALILEOS **GALILEOS GAX5**





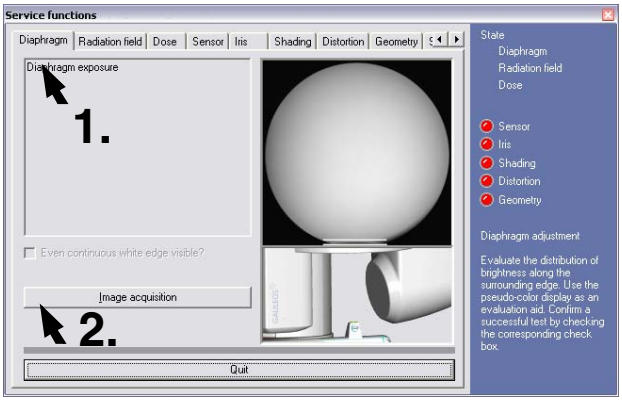
Preview image

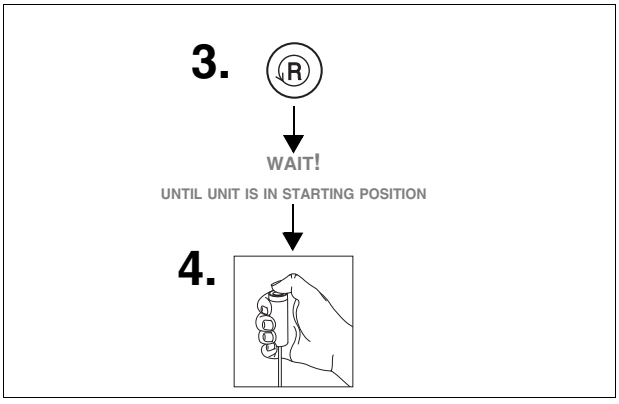
The **DIAPHRAGM** and **SHADING** submenus each contain a preview image that symbolizes the exposure to be taken during the calibration step.

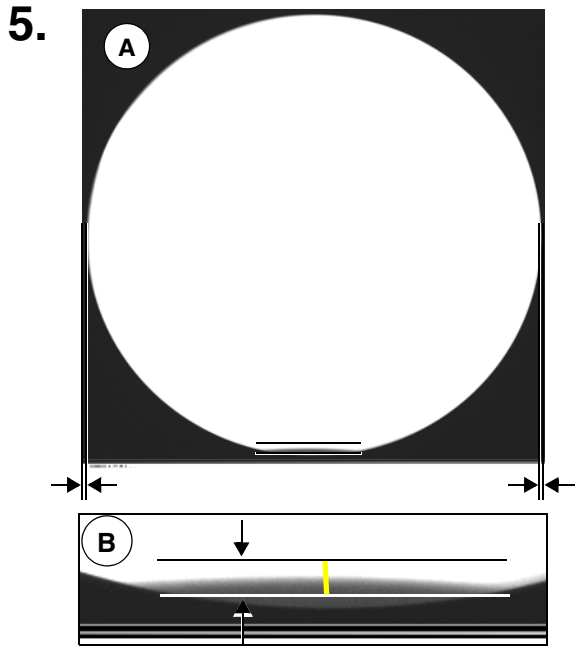
Due to the varying geometry of the GALILEOS and the GALILEOS GAX5 diaphragms, the preview images displayed in these sub-menus differ slightly (see illustrations above).

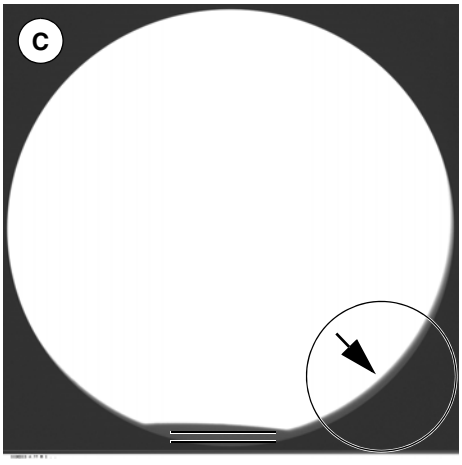
We use only the display of the GALILEOS in these instructions, unless explicit reference is made to the GALILEOS GAX5.

To quit the **SERVICE FUNCTIONS** menu, click **CANCEL**.









Adjustment: not OK

Adjustment: OK

9.2 Diaphragm exposure

9.2.1 GALILEOS diaphragm adjustment „Type 2“

- Open the **SERVICE FUNCTIONS** menu.

1. Select the **DIAPHRAGM** sub-menu.
2. Make SIDEXIS XG ready for exposure:
   Click **IMAGE ACQUISITION**

   The exposure dialog box showing the exposure status appears in SIDEXIS XG.

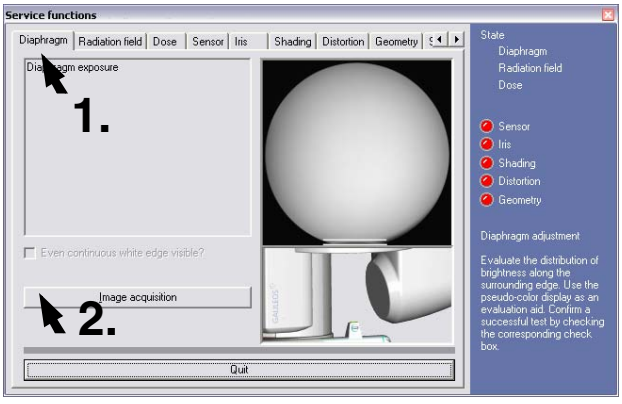
   Service routine **S030.5** is displayed on the Easypad touchscreen.
3. Press the **R key** to move the unit back to the starting position.
4. Press the release button. Hold down the release button until image acquisition is completed and the acoustic signal for end of exposure (double beep) sounds.
5. Evaluate the image.
   - **The brightness distribution along the border surrounding the image on all sides must be uniform (A).**
   - **The distance from the lower edge to the lowest point in the image must be within the tolerance range (inside the auxiliary lines) (B)**

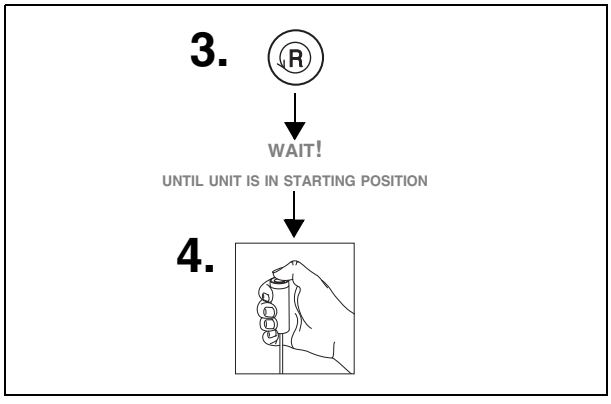
NOTE

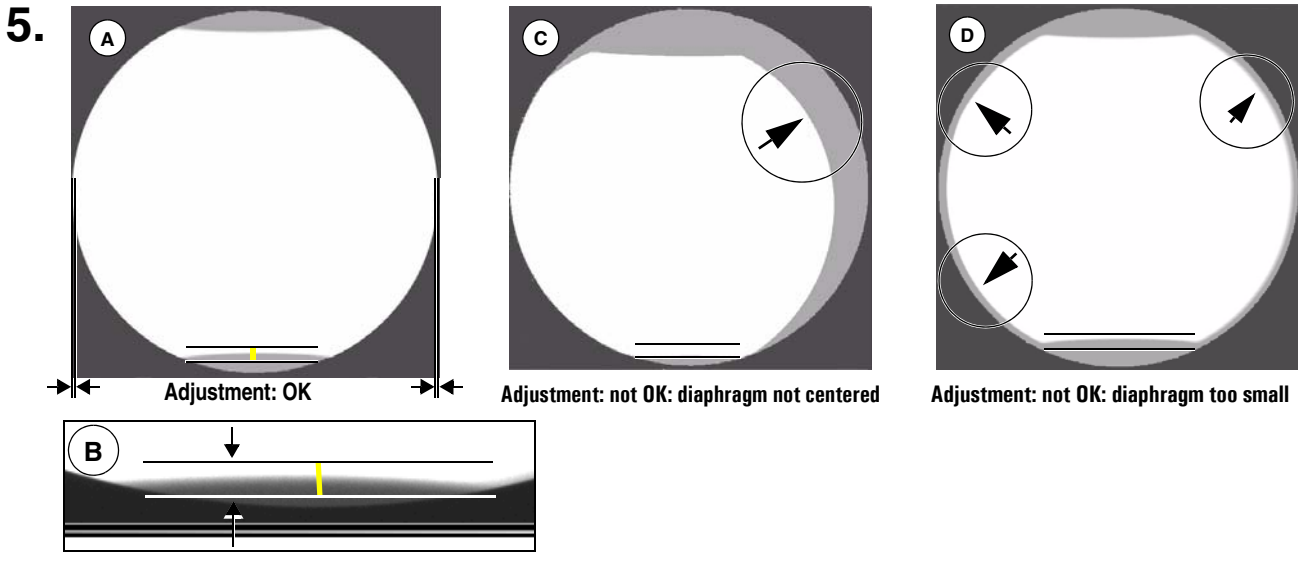
*If the distance between the bottom edge and the lowest point in the image is out of tolerance **(B)** or the brightness distribution along the surrounding border is not uniform **(C)**, the diaphragm must be adjusted mechanically (see Service Manual).*

6. If the exposure is OK **(A+B)**, confirm this by clicking the check box underneath the message window.

   The box will appear checked.







9.2.2 GALILEOS GAX5 diaphragm adjustment „Type 2“

- Open the **SERVICE FUNCTIONS** menu.

1. Select the **DIAPHRAGM** sub-menu.
2. To make SIDEXIS XG ready for exposure:
   Click **IMAGE ACQUISITION**

   The exposure dialog box showing the exposure status appears in SIDEXIS XG.

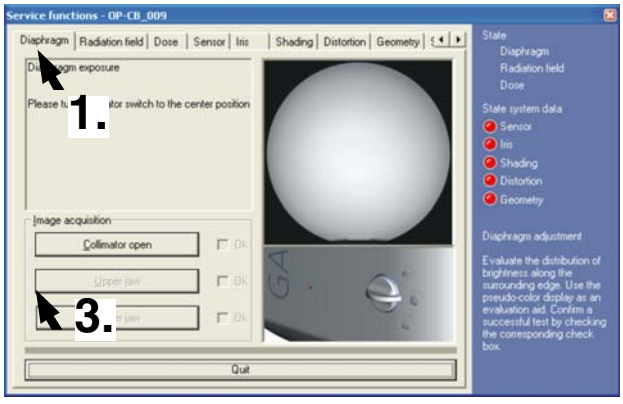
   Service routine **S030.5** is displayed on the Multipad.
3. Press the **R key** to move the unit back to the starting position.
4. Press the release button. Hold down the release button until image acquisition is completed and the acoustic signal that indicates the end of the exposure (double beep) can be heard.
5. Evaluate the image.
   - **The brightness distribution along the border surrounding the image on all sides must be uniform (A).**
   - **The distance from the lower edge to the lowest point in the image must be within the tolerance range (B)**
   - **The brightness distribution along the surrounding border must be uniform (A).**
     A shadow in the image indicates horizontal or vertical displacement of the diaphragm.
   - **No surrounding gray shadow should be visible (D).** A surrounding gray shadow in the image indicates that the diaphragm is too small.

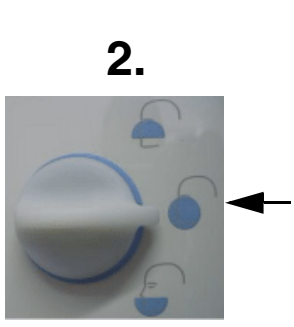
NOTE

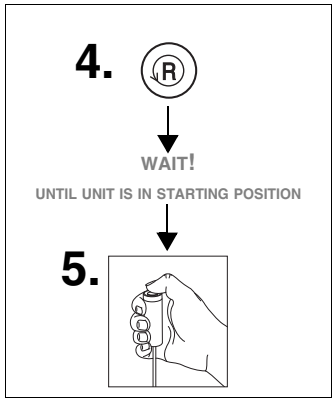
*If the distance between the bottom edge and the lowest point in the image is out of tolerance **(B)** or the brightness distribution along the surrounding border is not uniform **(C)** or a surrounding gray shadow is visible in the image (diaphragm opening too small) **(D)**, the diaphragm must be adjusted mechanically (see Service Manual).*

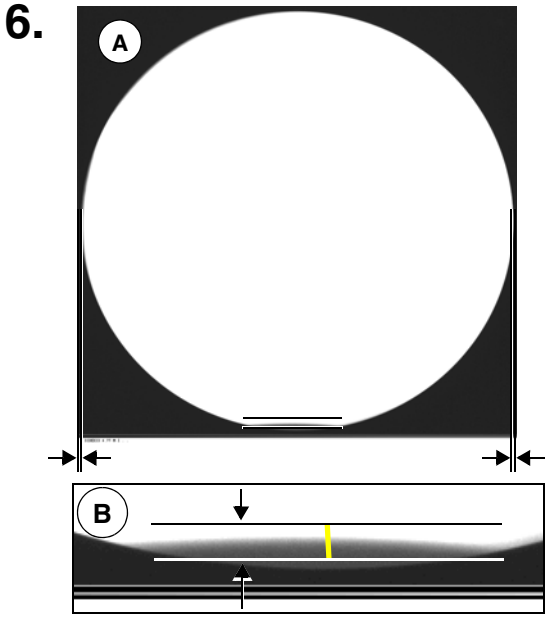
6. If the exposure is OK **(A+B)**, confirm this by clicking the check box underneath the message window.

   The box will appear checked.

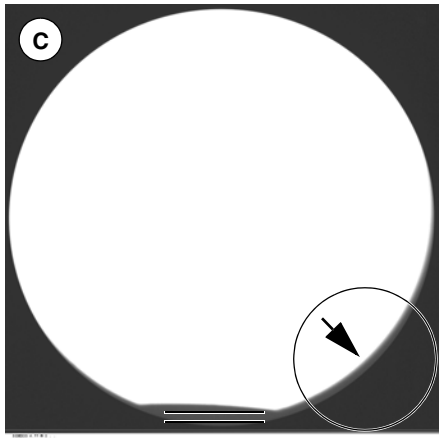








Adjustment: OK



Adjustment: not OK

9.2.3 GALILEOS diaphragm adjustment „Type 3“

- Open the **SERVICE FUNCTIONS** menu.

1. Select the **DIAPHRAGM** sub-menu.
   The **DIAPHRAGM OPEN** button in the **IMAGE ACQUISITION** group is selectable.

   "Open diaphragm" diaphragm setting

2. Set the rotary knob on the tube assembly to the "open diaphragm" position.
3. Bring SIDEXIS XG into exposure readiness for the exposure in the "open diaphragm" diaphragm position: Click the **DIAPHRAGM OPEN** button.

   The exposure dialog box showing the exposure status appears in SIDEXIS XG.

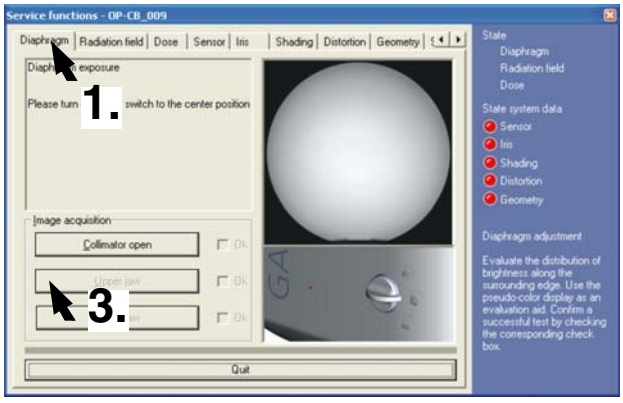
   Service routine **S030.5** is displayed on the Easypad touchscreen.
4. Press the **R key** to move the unit back to the starting position.
5. Press the release button. Hold down the release button until image acquisition is completed and the acoustic signal that indicates the end of the exposure (double beep) can be heard.
6. Evaluate the image.
   - **The brightness distribution along the border surrounding the image on all sides must be uniform (A).**
   - **The distance from the lower edge to the lowest point in the image must be within the tolerance range (inside the auxiliary lines) (B).**

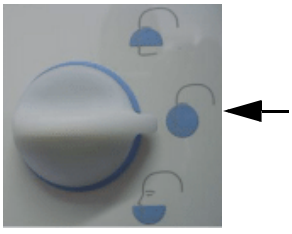
NOTE

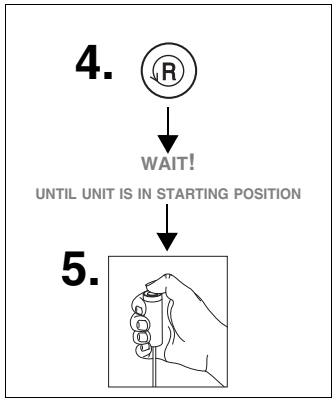
*If the distance between the bottom edge and the lowest point in the image is out of tolerance **(B)** or the brightness distribution along the surrounding border is not uniform **(C)**, the diaphragm must be adjusted mechanically (see Service Manual).*

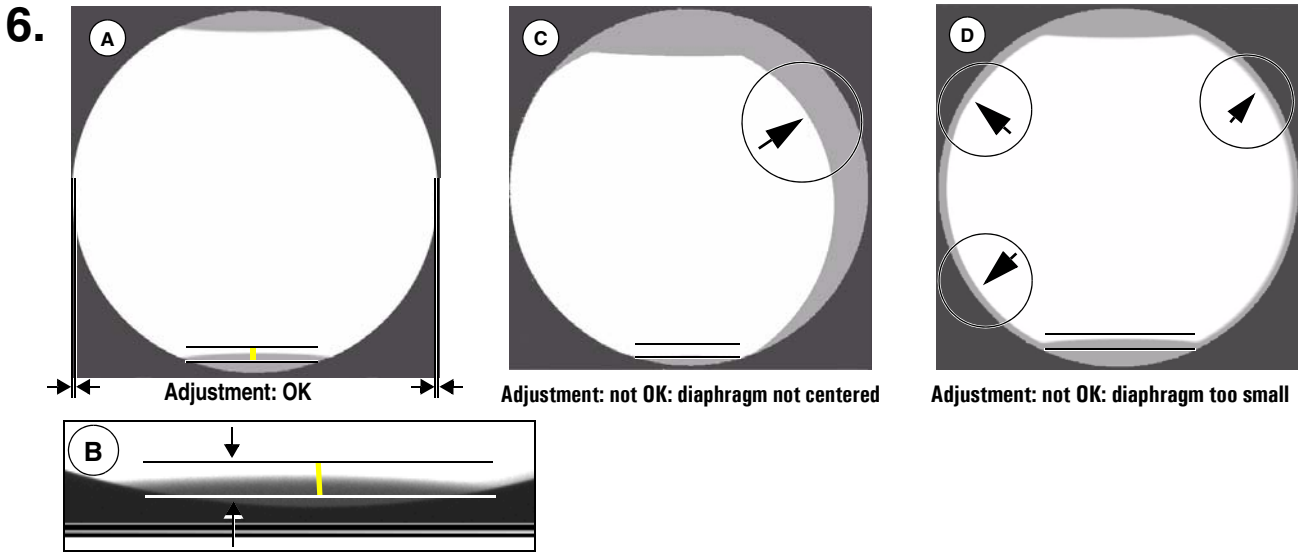
7. If the exposure is OK **(A+B)**, confirm this by clicking the check box underneath the message window.

   The box will appear checked.









9.2.4 GALILEOS GAX5 diaphragm adjustment „Type 3“

- Open the **SERVICE FUNCTIONS** menu.

1. Select the **DIAPHRAGM** sub-menu.
   The **DIAPHRAGM OPEN** button in the **IMAGE ACQUISITION** group is selectable.

   "Open diaphragm" diaphragm setting

2. Set the rotary knob on the tube assembly to the "open diaphragm" position.
3. Bring SIDEXIS XG into exposure readiness for the exposure in the "open diaphragm" diaphragm position: Click the **DIAPHRAGM OPEN** button.

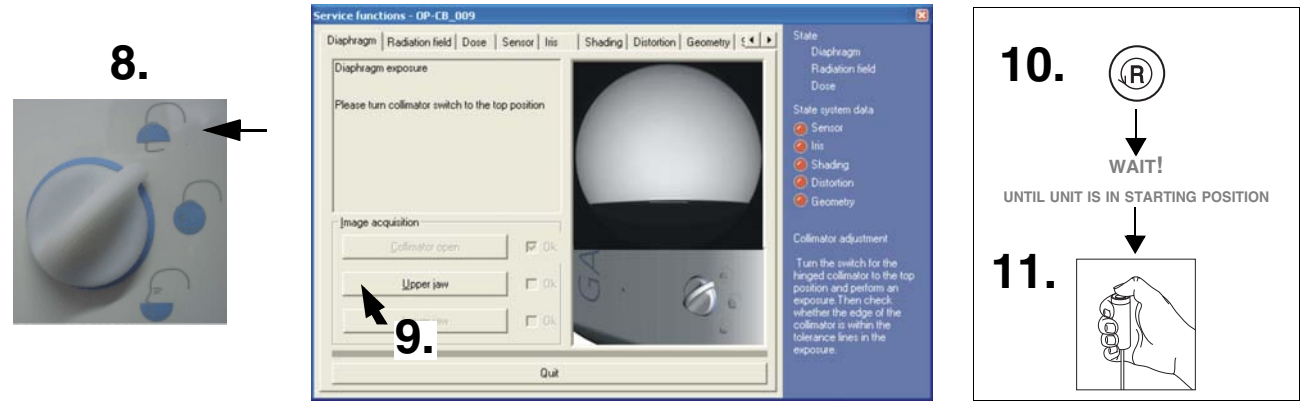
   The exposure dialog box showing the exposure status appears in SIDEXIS XG.

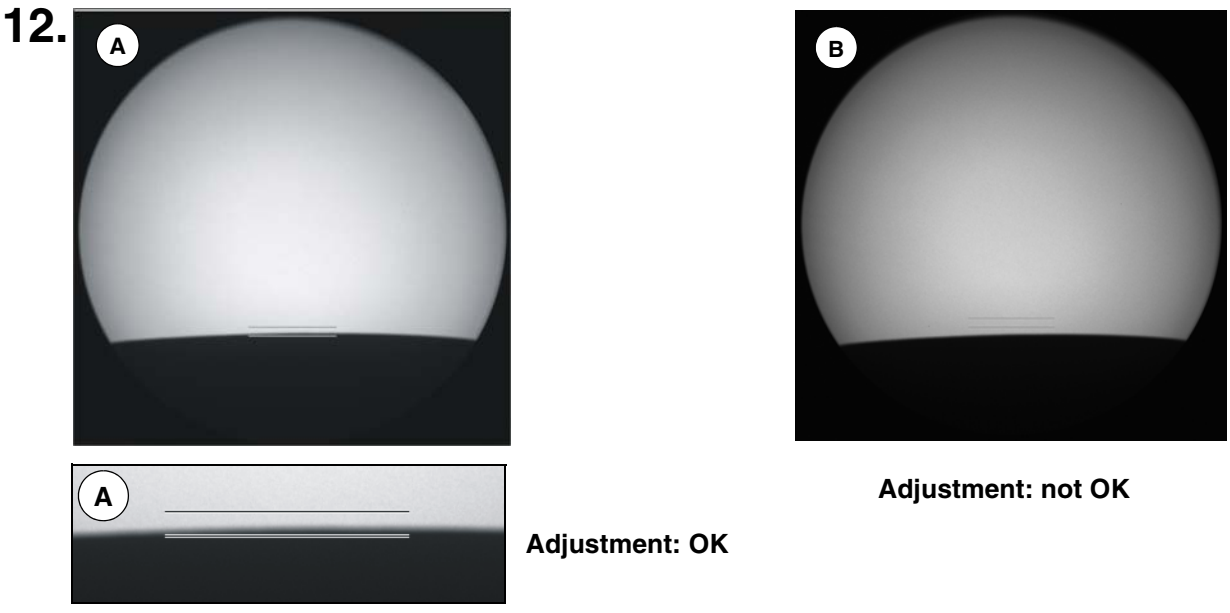
   Service routine **S030.5** is displayed on the Easypad touchscreen.
4. Press the **R key** to move the unit back to the starting position.
5. Press the release button. Hold down the release button until image acquisition is completed and the acoustic signal that indicates the end of the exposure (double beep) can be heard.
6. Evaluate the image.
   - **The brightness distribution along the border surrounding the image on all sides must be uniform (A).**
   - **The distance from the lower edge to the lowest point in the image must be within the tolerance range (B)**
   - **The brightness distribution along the surrounding border must be uniform (A).** A shadow in the image indicates horizontal or vertical displacement of the diaphragm.
   - **No surrounding gray shadow should be visible (D).** A surrounding gray shadow in the image indicates that the diaphragm is too small.

NOTE

*If the distance between the bottom edge and the lowest point in the image is out of tolerance **(B)** or the brightness distribution along the surrounding border is not uniform **(C)** or a surrounding gray shadow is visible in the image (diaphragm opening too small) **(D)**, the diaphragm must be adjusted mechanically (see Service Manual).*

7. If the exposure is OK **(A+B)**, confirm this by clicking the check box underneath the message window.
   The box will appear checked.





Adjustment: OK

Adjustment: not OK

9.2.5 Diaphragm adjustment „Type 3 Upper jaw"

1. Set the rotary knob on the tube assembly to the "maxillary exposure" position.
2. Bring SIDEXIS XG into exposure readiness for the exposure in the "upper jaw" diaphragm position: Click the **UPPER JAW** button.

   The exposure dialog box showing the exposure status appears in SIDEXIS XG.

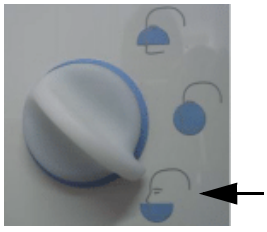
   Service routine **S030.5** is displayed on the Easypad touchscreen.
3. Press the **R key** to move the unit back to the starting position.
4. Press the release button. Hold down the release button until image acquisition is completed and the acoustic signal that indicates the end of the exposure (double beep) can be heard.
5. Evaluate the image.
   - **The distance from the upper edge of the lower lead diaphragm must be within the tolerance range, i.e. inside the auxiliary lines (A).**

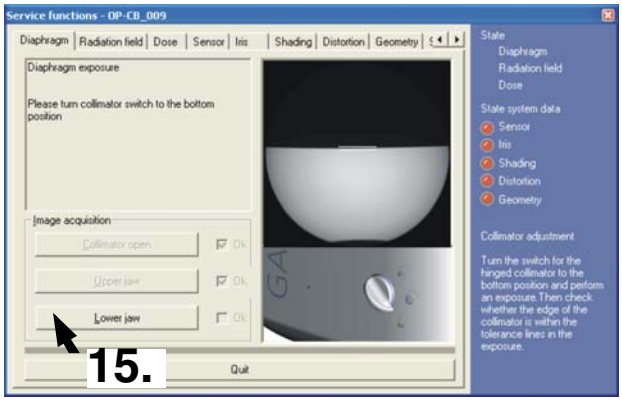
NOTE

If the edge is outside of the tolerance range (B), the diaphragm must be adjusted mechanically (see Service Manual).

6. If the exposure is OK **(A)**, confirm this by clicking the check box located to the right of the **UPPER JAW** button.

14.



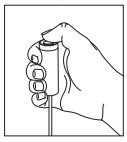


16.

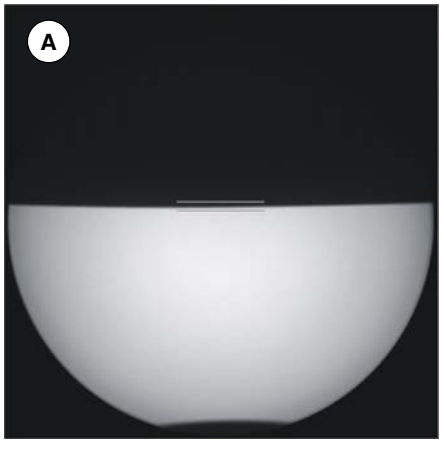
WAIT!

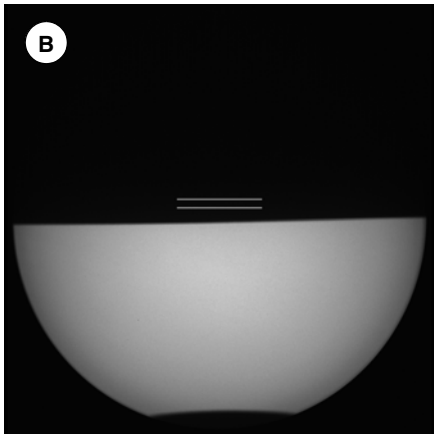
UNTIL UNIT IS IN STARTING POSITION

17.



18.





Adjustment: not OK

Adjustment: OK

9.2.6 Diaphragm adjustment „Type 3 Lower jaw"

1. Set the rotary knob on the tube assembly to the "mandibular exposure" position.
2. Bring SIDEXIS XG into exposure readiness for the exposure in the "lower jaw" diaphragm position: Click the **LOWER JAW** button.

   The exposure dialog box showing the exposure status appears in SIDEXIS XG.

   Service routine **S030.5** is displayed on the Easypad touchscreen.
3. Press the **R key** to move the unit back to the starting position.
4. Press the release button. Hold down the release button until image acquisition is completed and the acoustic signal that indicates the end of the exposure (double beep) can be heard.
5. Evaluate the image.
   - **The distance from the lower edge of the upper lead diaphragm must be within the tolerance range, i.e. inside the auxiliary lines (A).**

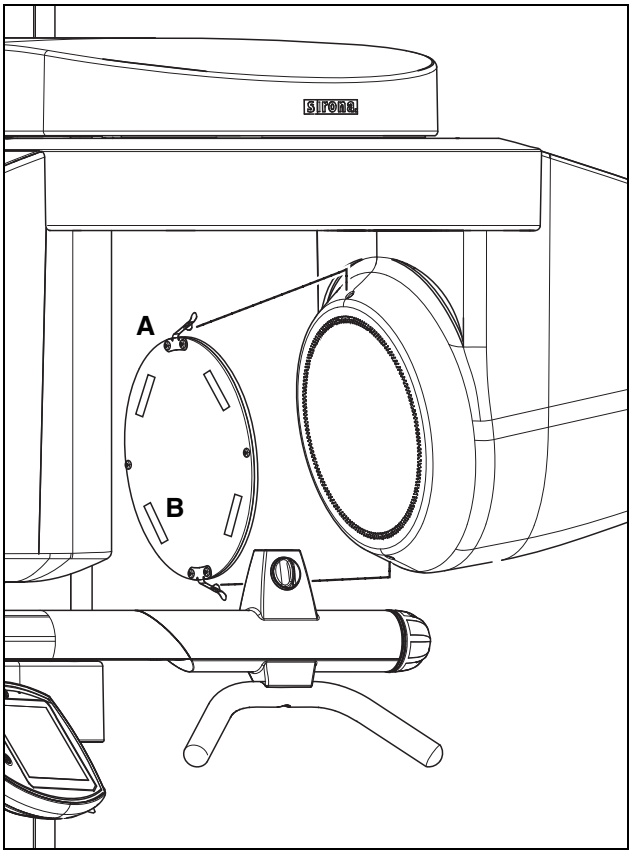
NOTE

*If the edge is outside of the tolerance range **(B)**, the diaphragm must be adjusted mechanically (see Service Manual).*

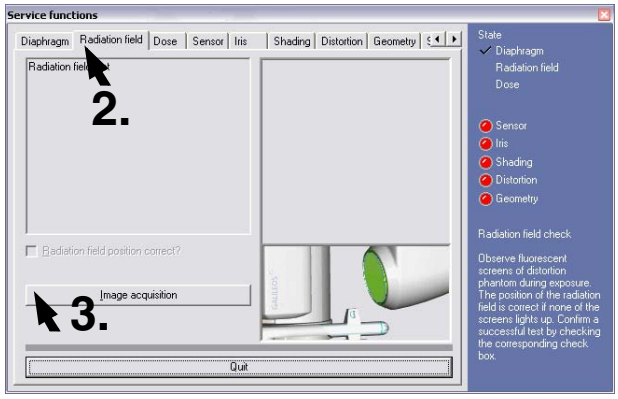
6. If the exposure is OK **(A)**, confirm this by clicking the check box located to the right of the **LOWER JAW** button

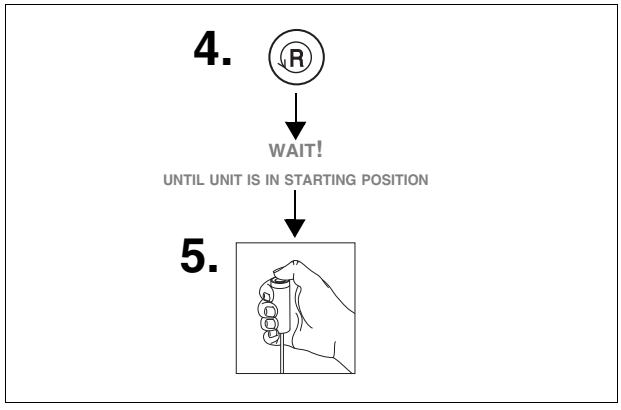
   The box will appear checked.

1.



2.





9.3 Checking the radiation field

NOTE

Illumination must be checked once the diaphragm has been adjusted.

1. Clip distortion phantom **A** onto the X-ray detector cover.
2. Go to the **RADIATION FIELD** sub-menu.
3. Make SIDEXIS XG ready for exposure:
   Click **IMAGE ACQUISITION**

   The exposure dialog box showing the exposure status appears in SIDEXIS XG.

   Service routine **S002.6** is displayed on the control panel.
4. Press the **R key** to move the unit back to the starting position.
5. Press the release button. Hold down the release button while checking the distortion phantom.

   Lighting strips **B** on the distortion phantom ***must not light up***!

NOTE

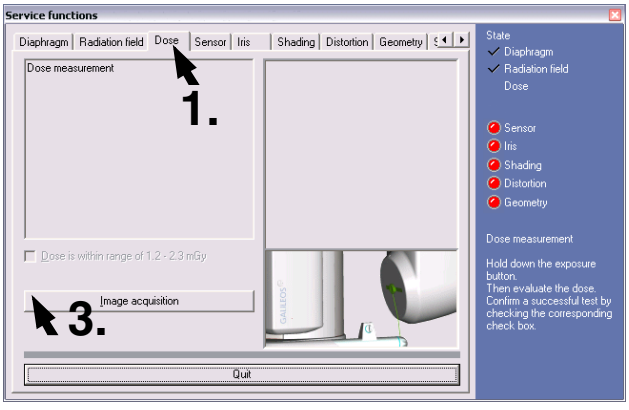
If the strips on the phantoms light up at all it means overexposure of the system, and you cannot continue adjustment. In this case, repeat the diaphragm adjustment procedure and then check the radiation field again. If the lighting strips still light up during the re-check of the radiation field, contact the SIRONA Customer Service Center (KSC) to solve the problem.

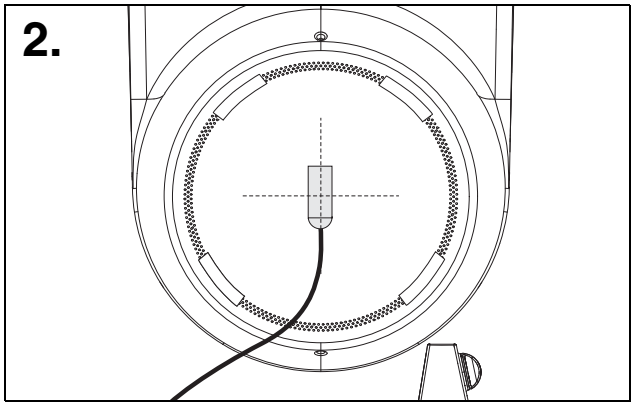
To confirm that the lighting strips on the distortion phantom do not light up, click the check box underneath the message window.

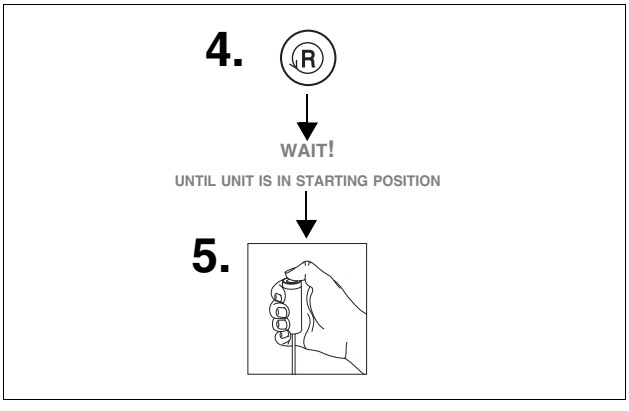
- The box will appear checked.
- Continue the calibration procedure with dosimetry.

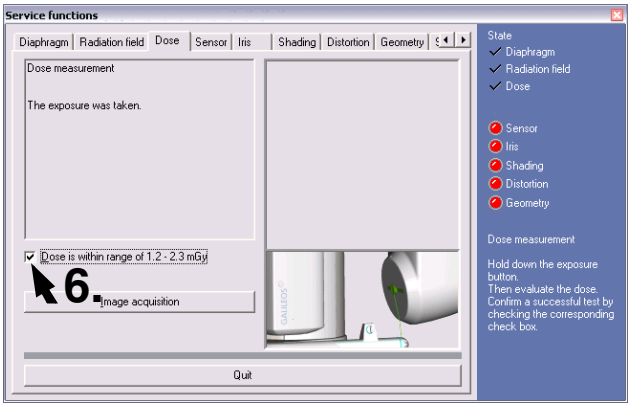
NOTE

Leave the distortion phantom on the unit for the next calibration step.









9.4 Dosimetry

NOTE

A dose measurement device (e.g. Mult-O-Meter type 510L) is required for dosimetry.

The distortion phantom should be clipped onto the X-ray detector cover during the dose measurement process for protection against scratching.

1. Go to the **DOSE** sub-menu.
2. Attach the Mult-O-Meter sensor approximately in the middle of the distortion phantom mounted on the X-ray detector.
3. Make SIDEXIS XG ready for exposure:
   Click **IMAGE ACQUISITION**

   The exposure dialog box showing the exposure status appears in SIDEXIS XG.

   Service routine **S002.6** is displayed on the control panel.
4. Press the **R key** to move the unit back to the starting position.
5. Press the release button. Hold down the release button until image acquisition is completed and the acoustic signal for end of exposure (double beep) sounds. Then read the dose on the Mult-O-Meter.

   The value must be between 1.2 and 2.3 mGray.

NOTE

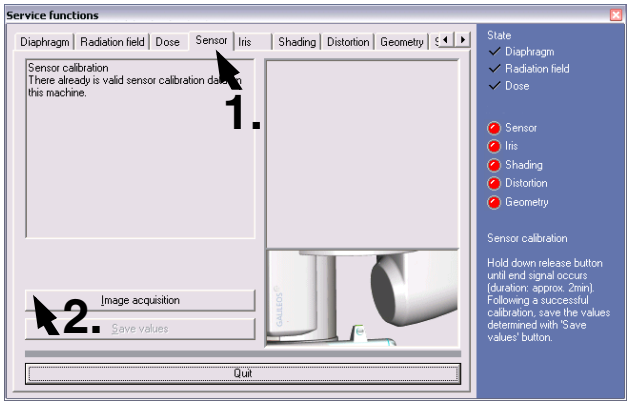
If the value is outside the permissible range (1.2 to 2.3 mGray), check the tube (see Service Manual).

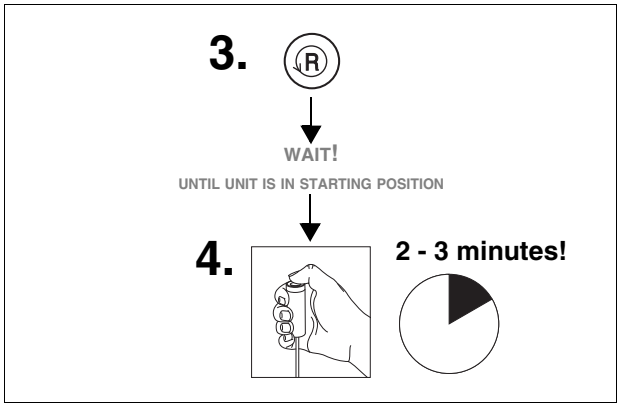
6. To confirm that the dose is within the **permissible range between 1.2 and 2.3 mGray**, click the check box underneath the message window.

   The box will appear checked.

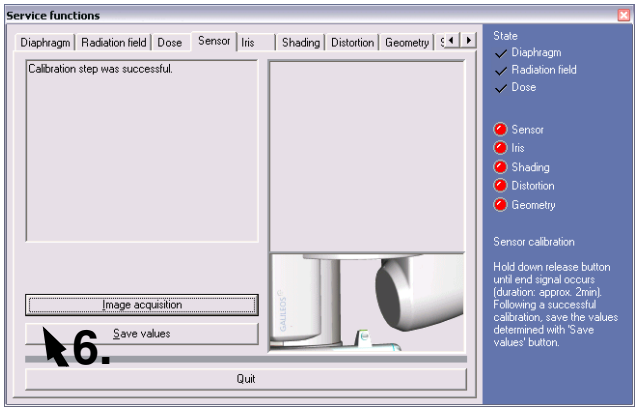
- Remove the sensor from the distortion phantom again and remove the phantom from the X-ray detector.
- Dosimetry is now completed.

- Continue the calibration procedure with sensor calibration.





5.



9.5 Sensor calibration

1. Go to the **SENSOR** sub-menu.
2. Make SIDEXIS XG ready for exposure:
   Click **IMAGE ACQUISITION**

   The exposure dialog box showing the exposure status appears in SIDEXIS XG.

   Service routine **S010.14** is displayed on the control panel.
3. Press the **R key** to move the unit back to the starting position.
4. Press the release button. Hold down the release button until image acquisition is completed and the acoustic signal for end of exposure (double beep) sounds – this takes approx. 2 – 3 minutes.
5. The acquired images are transferred from the unit to the Reconstruction and Control Unit (RCU).
   This may take 2 – 3 minutes.

   The evaluation of the sensor calibration is then displayed in the message window.

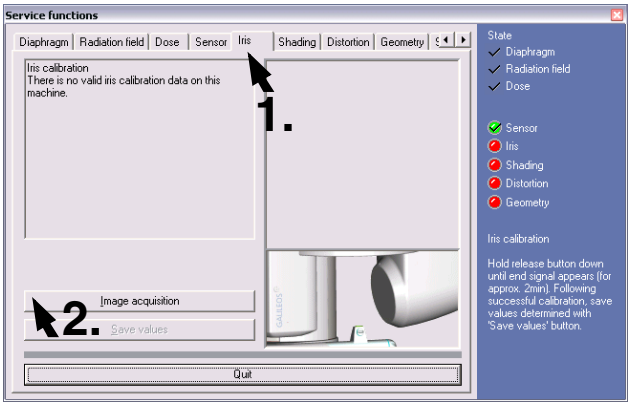
NOTE

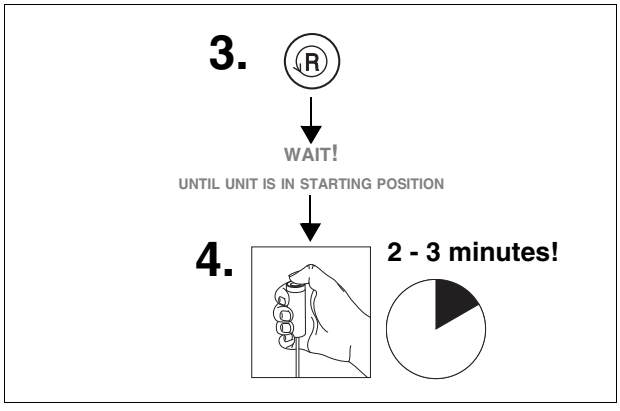
If the information in the message window indicates that calibration is not ok and/or not possible, keep repeating the procedure starting with Step 2 until calibration is ok and/or possible.

If you have repeated the procedure three times and still have not attained a positive result, please contact the SIRONA Customer Service Center.

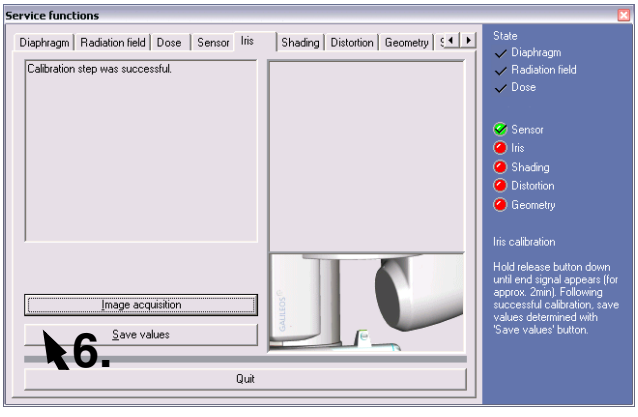
6. If calibration is ok and/or possible (see above), click **SAVE VALUES** to save the calibration.
7. Sensor calibration is now completed.

- Continue the calibration procedure with iris calibration.





5.



9.6 Iris calibration

1. Go to the **IRIS** sub-menu.
2. Make SIDEXIS XG ready for exposure:
   Click **IMAGE ACQUISITION**

   The exposure dialog box showing the exposure status appears in SIDEXIS XG.

   Service routine **S010.10** is displayed on the control panel.
3. Press the **R key** to move the unit back to the starting position.
4. Press the release button. Hold down the release button until image acquisition is completed and the acoustic signal for end of exposure (double beep) sounds this takes approx. 2 – 3 minutes.
5. The acquired images are transferred from the unit to the Reconstruction and Control Unit (RCU).
   This may take 2 – 3 minutes.

   The evaluation of the iris calibration is then displayed in the message window.

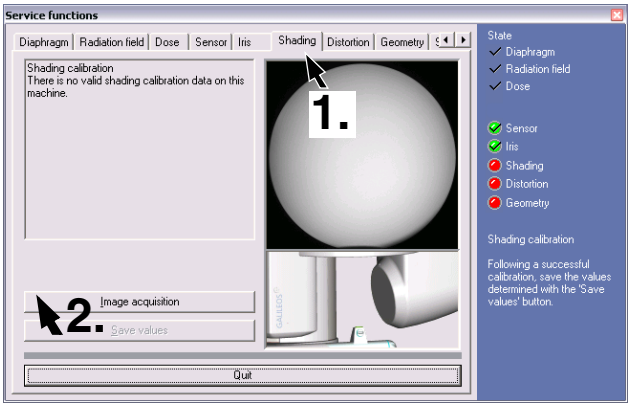
NOTE

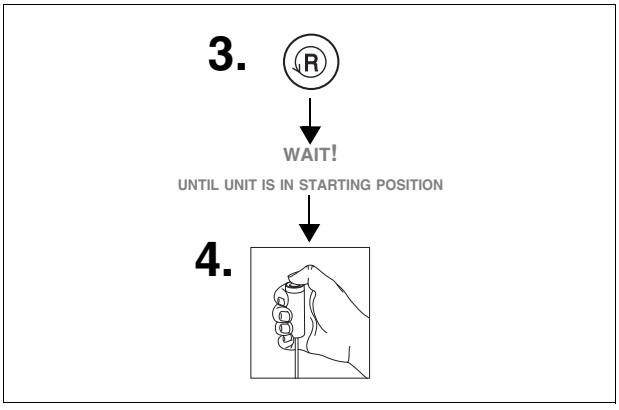
If the information in the message window indicates that calibration was not successful, keep repeating the procedure starting with step 2 until calibration is ok.

If you have repeated the procedure three times and still have not attained a positive result, please contact the SIRONA Customer Service Center.

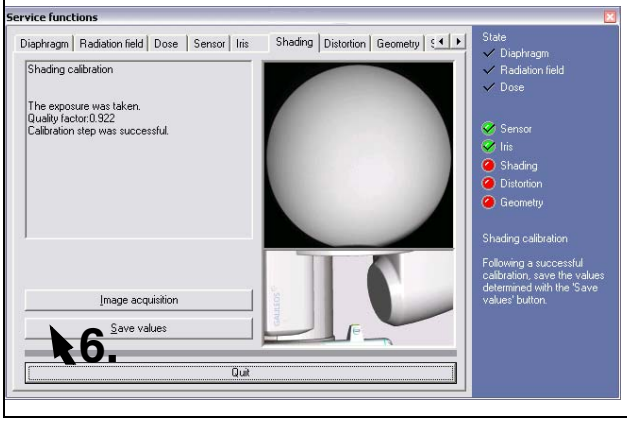
6. If calibration was successful, click **SAVE VALUES** to save the calibration.

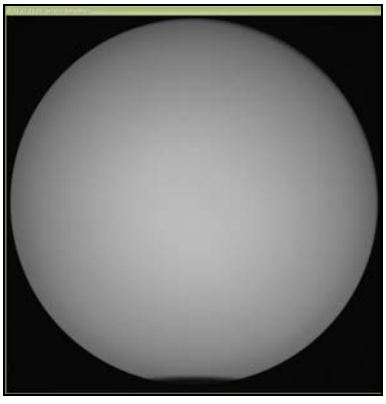
- Iris calibration is now completed.
- Continue the calibration procedure with shading calibration.





5.





9.7 Shading calibration

1. Go to the **SHADING** sub-menu.
2. To make SIDEXIS XG ready for exposure:
   Click **IMAGE ACQUISITION**

   The exposure dialog box showing the exposure status appears in SIDEXIS XG.

   Service routine **S010.11** or **S010.15** (extended shading calibration) is displayed on the control panel.
3. Press the **R key** to move the unit back to the starting position.
4. Press the release button. Hold down the release button until image acquisition is completed and the acoustic signal that indicates the end of the exposure (double beep) can be heard.
5. The Shading exposure and the evaluation of the Shading calibration are displayed in the message window.

NOTE

If the message window indicates that the calibration was not successful, repeat the procedure starting with step 2 until the calibration is OK.

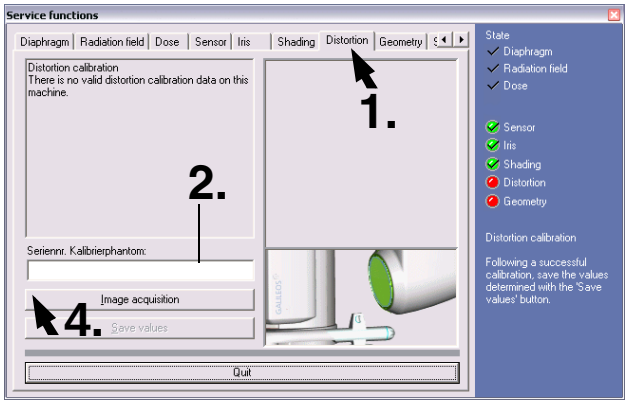
If you have repeated the procedure three times and still have not attained a positive result, please contact the SIRONA Customer Service Center.

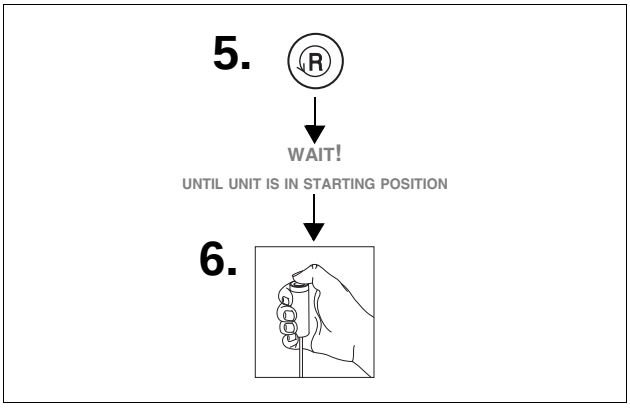
CAUTION

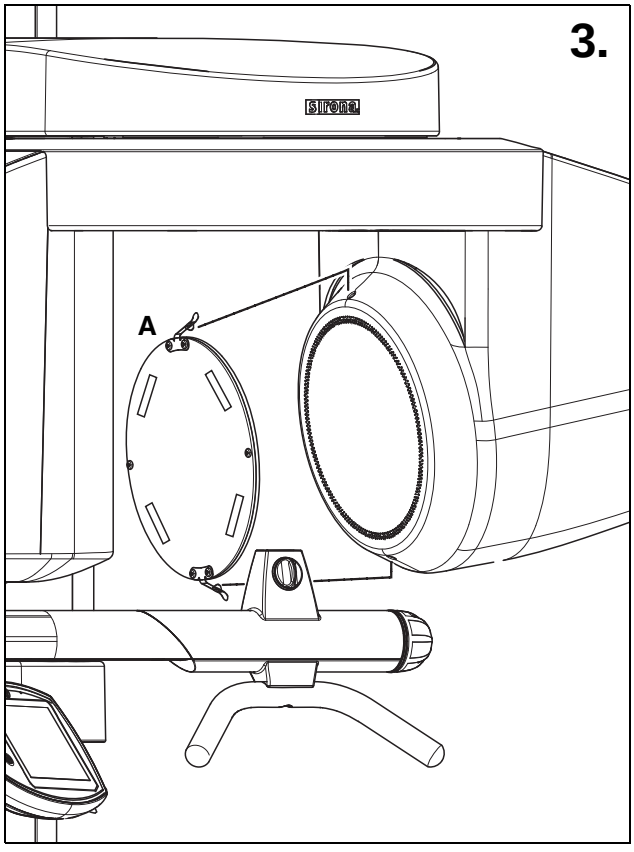
No foreign bodies may be visible on the shading exposure. If this is the case, check the beam path for foreign bodies and remove them if applicable. Repeat the calibration.

6. If calibration was successful, click **SAVE VALUES** to save the calibration.

- Shading calibration is now completed.
- Continue the calibration procedure with distortion calibration.







9.8 Distortion calibration

1. Go to the **DISTORTION** sub-menu.
2. Read off the serial number of distortion phantom **A** from the ID label of the phantom and enter it in the text box located in the **DISTORTION** submenu:
3. Clip distortion phantom **A** onto the X-ray detector cover.
4. Make SIDEXIS XG ready for exposure:
   Click **IMAGE ACQUISITION**

   The exposure dialog box showing the exposure status appears in Sidexis.

   Service routine **S010.12** is displayed on the control panel.
5. Press the **R key** to move the unit back to the starting position.
6. Press the release button. Hold down the release button until image acquisition is completed and the acoustic signal for end of exposure (double beep) sounds.
7. The acquired images are transferred from the unit to the Reconstruction Control Unit (RCU).
   This may take 2 – 3 minutes.

   The evaluation of the iris calibration is then displayed in the message window.

NOTE

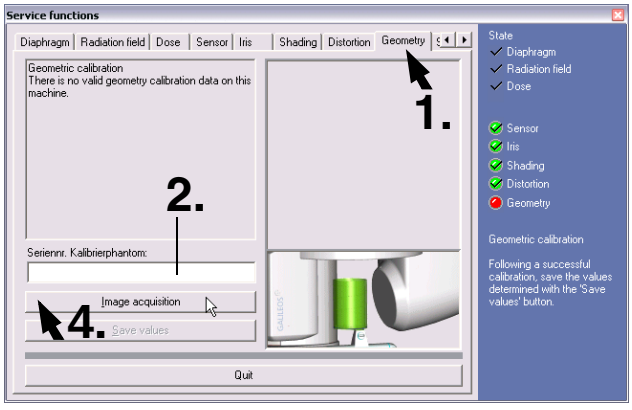
If the information in the message window indicates that calibration was not successful, check the calibration phantom to make sure that it is not damaged.

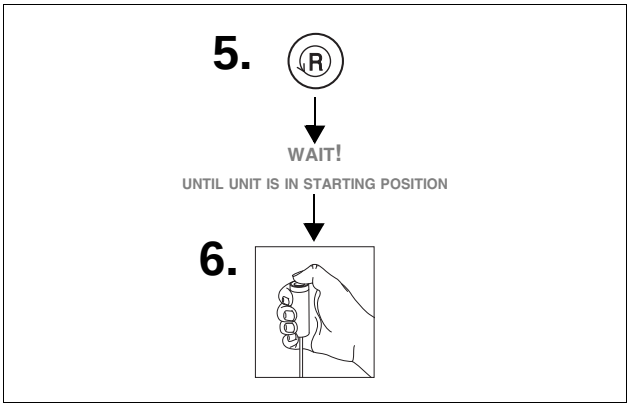
If the phantom checks out OK (all balls are present and correctly positioned), repeat the procedure starting with point 3 as often as required until the calibration is OK.

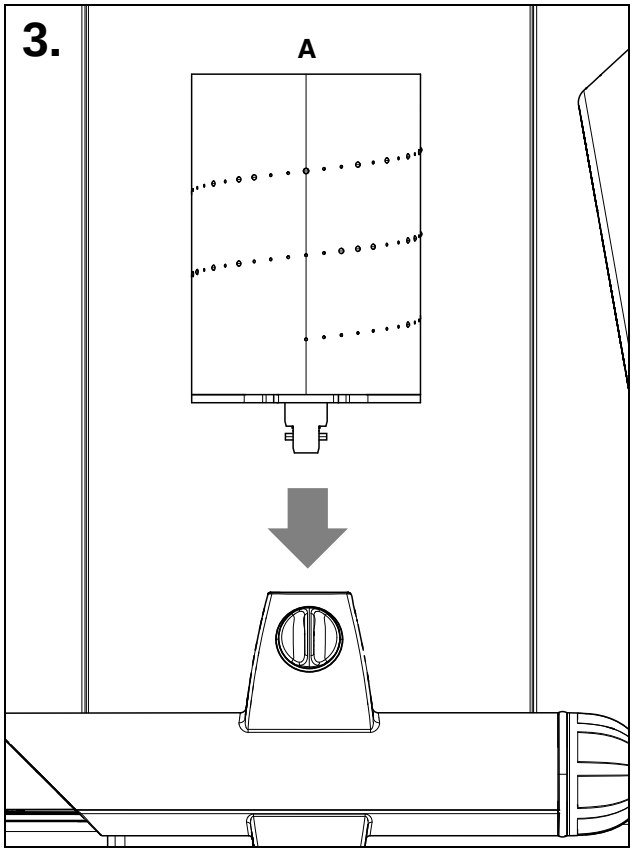
If you have repeated the procedure three times and still have not attained a positive result, please contact the SIRONA Customer Service Center.

8. If calibration was successful, click **SAVE VALUES** to save the calibration.

- Remove the distortion phantom.
- Distortion calibration is now completed.
- Continue the calibration procedure with the geometric calibration.







9.9 Geometric calibration

1. Go to the **GEOMETRY** sub-menu.
2. Read off the serial number of geometric phantom **A** from the ID label of the phantom and enter it in the text box located in the **GEOMETRY** submenu.
3. Insert geometric phantom **A** in the bite block holder of the unit.

NOTE

Make sure that the phantom is firmly seated and straight in the bite block holder.

4. Make SIDEXIS XG ready for exposure:
   Click **IMAGE ACQUISITION**

   The exposure dialog box showing the exposure status appears in Sidexis.

   Service routine **S010.13** is displayed on the control panel.
5. Press the **R key** to move the unit back to the starting position.
6. Press the release button. Hold down the release button until image acquisition is completed and the acoustic signal for end of exposure (double beep) sounds.
7. The acquired images are transferred from the unit to the Reconstruction and Control Unit (RCU).
   This may take 2 – 3 minutes.

   The evaluation of the calibration is then displayed in the message window.

NOTE

If the information in the message window indicates that calibration was not successful, check the calibration phantom to make sure that it is not damaged.

If the phantom checks out OK (all balls present are and correctly positioned), repeat the procedure starting with point 3 as often as required until the calibration is OK.

If you have repeated the procedure three times and still have not attained a positive result, please check the mechanical geometry of the unit (see Service Manual). Adjust the unit if necessary and then repeat the calibration.

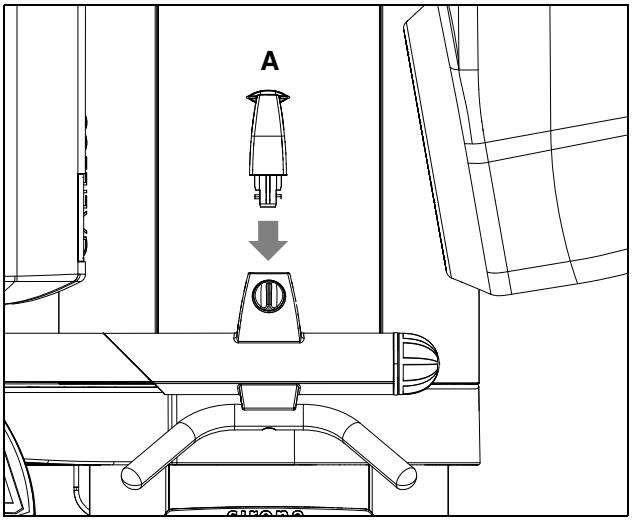
If this still does not lead to a positive result, please contact the SIRONA Customer Service Center.

8. If calibration was successful, click **SAVE VALUES** to save the calibration.

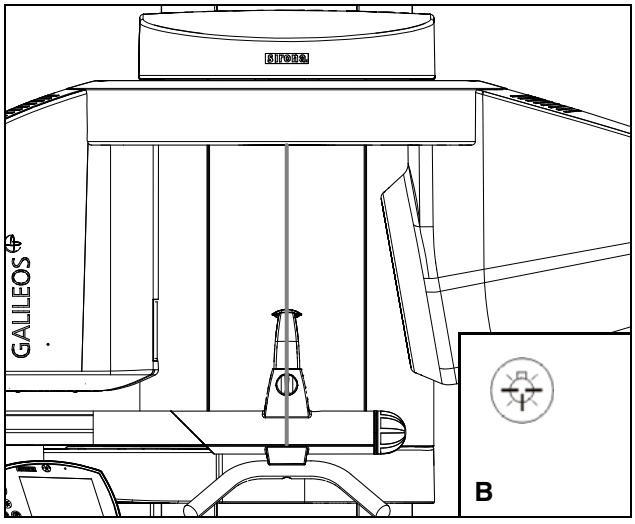
- Remove the geometric phantom.
- **Calibration of the GALILEOS is now completed.**

10 Checking the laser

1.



2.



1. Place the bite block **A** in the bite block holder for the unit (see User Manual).
2. Check the laser:

- Switch on the **light localizer** with key **B** on the Easypad. **The Lasers generate a red line.**

WARNING

Class 2 radiation is emitted during installation. Always keep eyes a minimum distance of 100mm away from the laser. Do not stare into the beam.

SAG laser (vertical line)

The laser beam must be visible in the center of the bite block as a vertical line.

NOTE

To adjust the lasers, see Service Manual
No controls are available to adjust the laser power.

Label