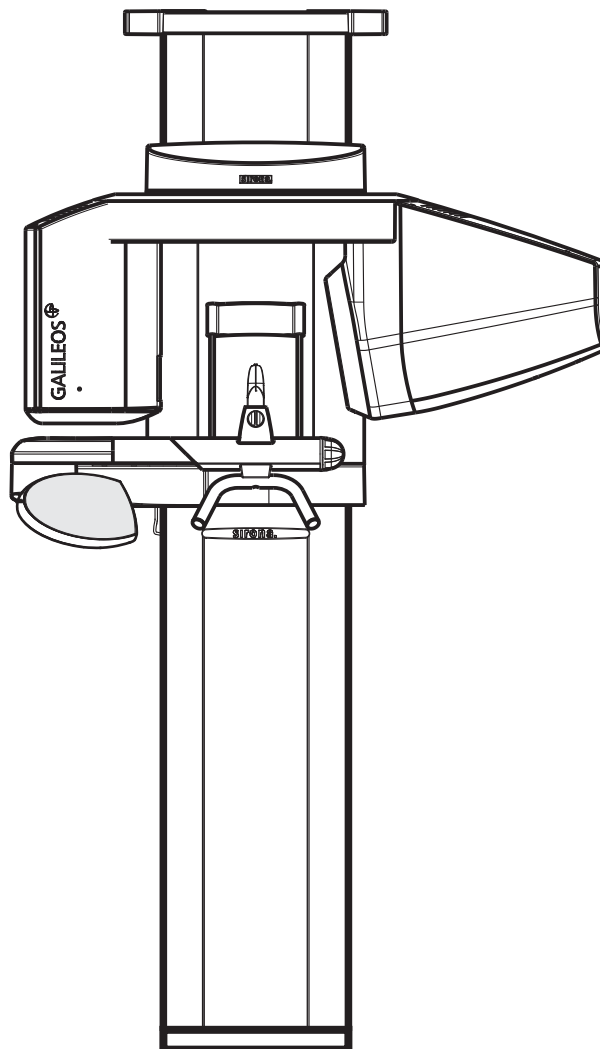


GALILEOS

Inspection and maintenance



Dear customer

You would like to have and will have many years of satisfaction with your **Sirona** X-ray unit.

Safety and reliability are necessary to ensure this.

Your dental dealership offers you service by specially trained engineers for this purpose.

The maintenance should ensure that your product is permanently safe and operational. All components subject to normal wear and tear are checked and, if necessary, replaced. Maintenance work may be performed by the operator only if this is described on the part of Sirona Dental Systems GmbH, otherwise only authorized service engineers of Sirona Dental Systems GmbH or its authorized dealers may be entrusted with the work.

In case you have not concluded a maintenance contract, please contact the customer service department of your dental dealership.

The performed maintenance must be documented in this document, which must be kept with the unit.

We wish you much success and pleasure with your quality product
from **SIRONA Dental Systems**.

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1

Yearly inspection by the system owner

Inspection and maintenance must be performed at predetermined intervals to guarantee the health and safety of all patients, users and third parties.

In order to guarantee the operational safety and reliability of your product, you as the **system owner should check your unit through at least once a year** or commission your dental depot to do so.

In addition, your dental depot offers you maintenance of the system by specially trained engineers; see two Chapter in this document.

All inspection and maintenance work performed by the system owner and/or service engineer must be recorded in this document and kept near the unit!




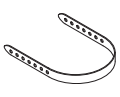



If one or more checks to be performed do not lead to satisfactory results, please contact your dental depot.

1.1 Technical documents

Technical documents	Answer questions with yes (✓) or no (–)											
Date (please enter month/year)												
Operating Instructions available?												
Installation Instructions available?												
Installation Requirements available?												
Installation Report / Warranty Passport available?												
Declaration of Conformity by system integrator available?												
X-ray System Logbook available (for Germany only)?												

If no ⇒ Order missing documents from your dental depot.

1.2 System accessories

System accessories (see Operating Instructions) Not all accessories listed here may be included in the scope of supply, cross out what does not apply.		Answer questions with yes (✓) or no (–)											
Date (please enter month/year)													
	Test phantom available?												
	Forehead support available?												
	Rigid bite block available?												
	Head fastening strap available?												
	Chin rest, complete available?												
	Mandibular bite plate holder available?												
	Maxillary bite plate holder available?												

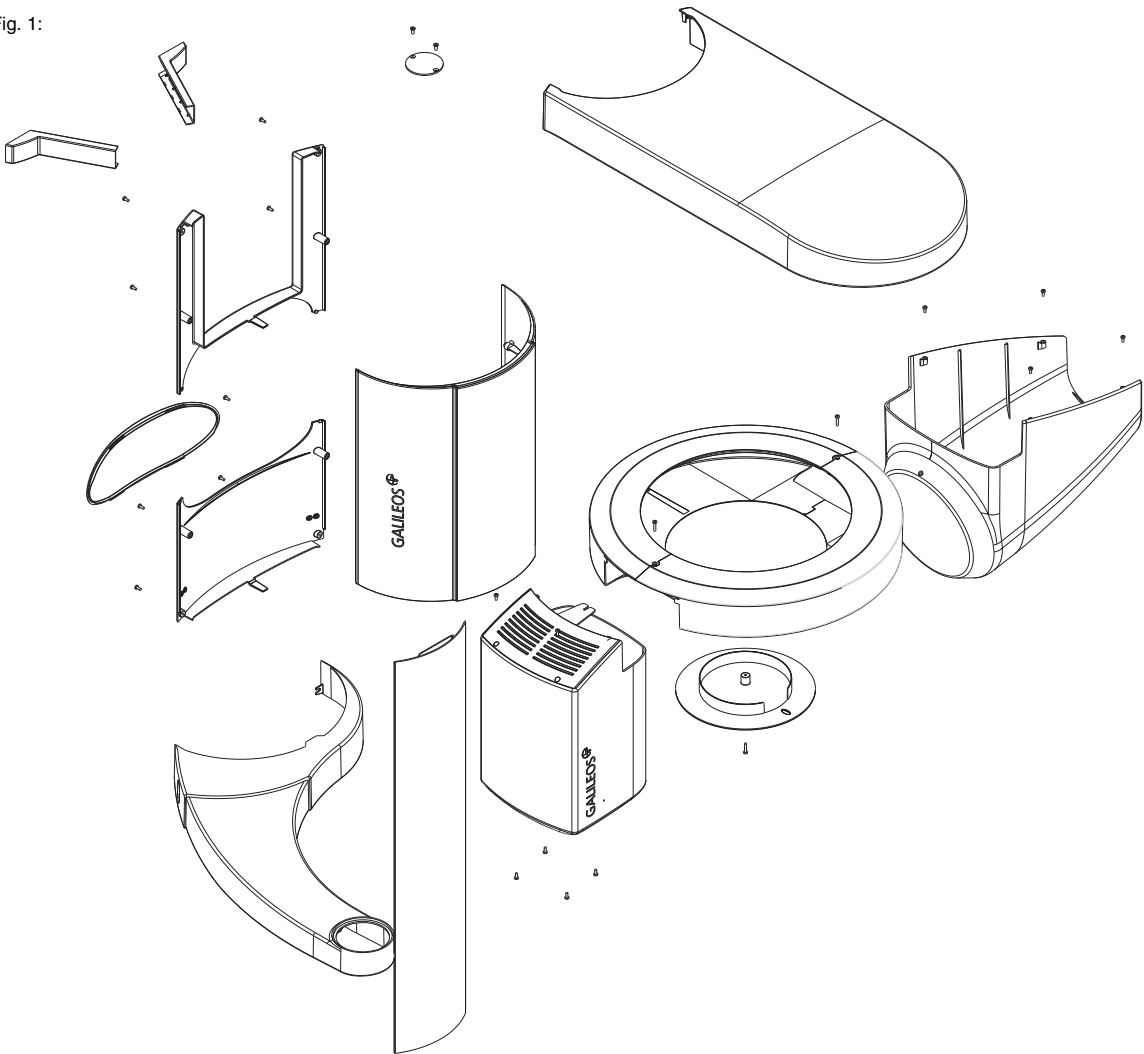
If no ⇒ Order missing accessories from your dental depot.

1.3 Surfaces of the unit

Cover parts	Answer questions with yes (✓) or no (–)											
Date (please enter month/year)												
All cover parts attached at X-ray unit (Fig. 1)?												
All screws on unit housing available?												
Cover parts and mirrors free of damage (no surface damages, e.g. scratches)?												
All cover parts in clean condition? Clean X-ray unit with the recommended cleaning agents (see Operating Instructions).												

If no ⇒ Inform your dental depot.

Fig. 1:



1.4 X-ray unit

X-ray tube assembly and stand condition		Answer questions with yes (✓) or no (–)											
Date (please enter month/year)													
Tube assembly housing palpably/visibly oil-free (Fig. 1)?													

If no ⇒ Inform your dental depot.

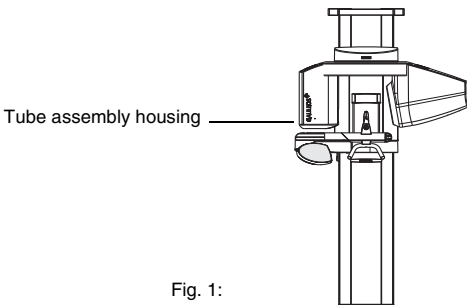


Fig. 1:

1.5 System safety

Safety		Answer questions with yes (✓) or no (–)											
Date (please enter month/year)													
Coiled cable with strain relief and anti-kink sleeve OK (Fig. 1)?													
Power cable and 2nd ground wire free of damage (Fig. 1)?													
Control cable free of damage (Fig. 1)?													
All screws that fasten the X-ray unit to the wall and the support bracket tightly secured and/or unit securely fastened to the stand (Fig. 2)?													
For Japan only: Is the unit immediately switched off when the emergency shutdown switch is activated?													

If no ⇒ Immediately order repair by a service engineer.

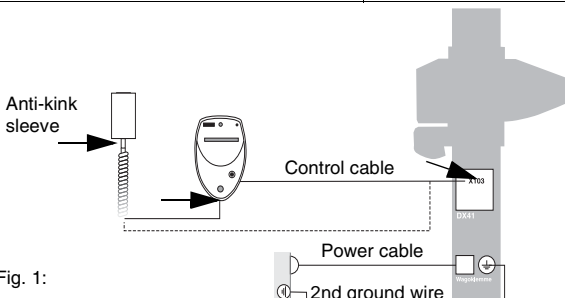


Fig. 1:

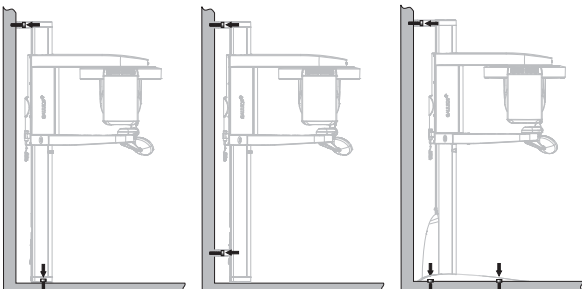


Fig. 2:

1.6 Exposure safety

Exposure safety	Answer questions with yes (✓) or no (–)											
Date (please enter month/year)												
No repeated occurrence of a certain error message (Fig. 1/2)?												
Optical and acoustic signal present when radiation is released (Fig. 1/2)?												
Exposure is immediately interrupted when radiation button is released prematurely (Fig. 1/2)?												
Does rotational movement occur without any atypical running noises?												

If no ⇒ Inform your dental depot.

GALILEOS Easypad

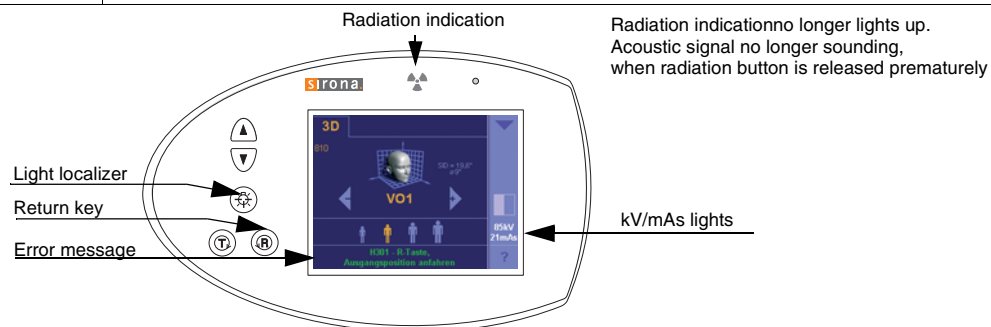


Fig. 1:

GALILEOS Multipad

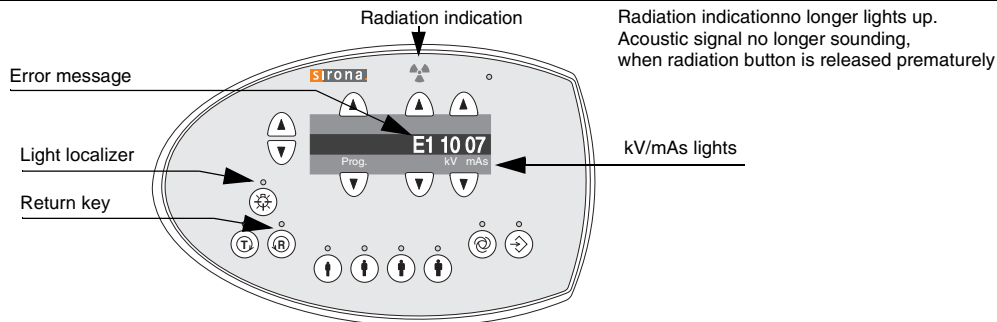


Fig. 2:

1.7 Key functionality

Key functionality	Answer questions with yes (✓) or no (–)											
Date (please enter month/year)												
Membrane foil of the Easypad/ Mutipad keys without cracks or holes (Fig. 1)?												
All numbers and letters on the Easypad/Mutipad show up com- pletely?												
Can the Easypad/Mutipad be positioned reliably and does it remain in the desired position?												

If no ⇒ Inform your dental depot.

**GALILEOS
Easypad**

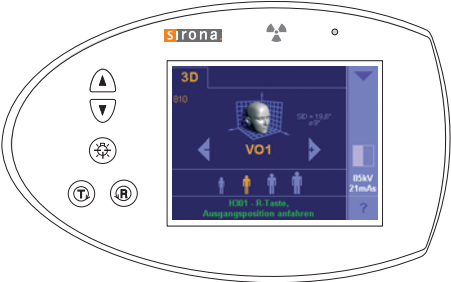
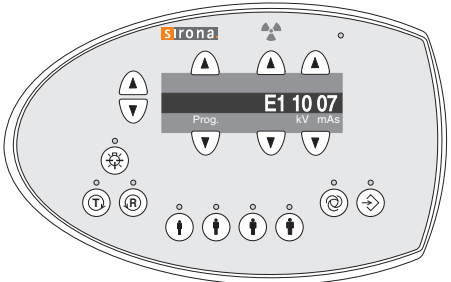


Fig. 1:

**GALILEOS
Mutipad**



1.8 Light localizer functionality

Light localizer	Answer questions with yes (✓) or no (–)											
Date (please enter month/year)												
Vertical and horizontal light beam visible (Fig. 1)?												

If no ⇒ Inform your dental depot.

Vertical light beam

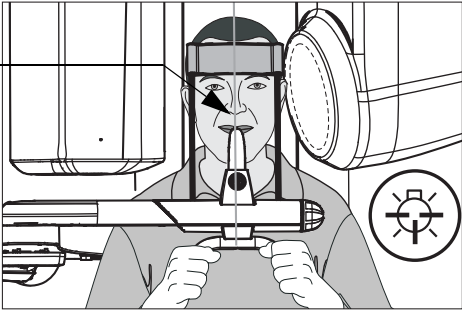


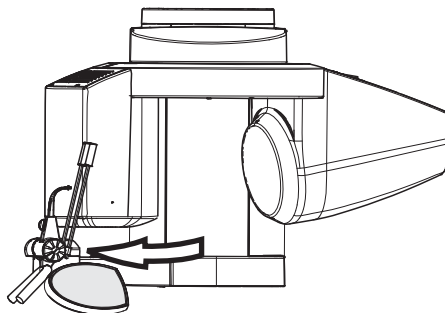
Fig. 1:

1.9 Swivel arm/bite block/forehead support functionality

Swivel arm/bite block/forehead support	Answer questions with yes (✓) or no (–)											
Date (please enter month/year)												
Can the swivel arm be easily swiveled, is the locking mechanism OK, does the swivel arm lock into position (Fig. 1)?												
When swiveled out, is return movement not possible?												
Does the clamping device for the bit block work correctly?												
Does the clamping device for the forehead support work correctly?												

If no ⇒ Inform your dental depot.

Fig. 1:



1.10 Image quality

Image quality	Answer questions with yes (✓) or no (–)											
Date (please enter month/year)												
Typical exposure parameters e.g mAs are not adjusted in order to achieve a constant image quality?												
No recurring deterioration of the image sharpness or contrast?												

If no ⇒ Inform your dental depot.

1.11 Height adjustment functionality

Height adjustment	Answer questions with yes (✓) or no (–)											
Date (please enter month/year)												
Acoustic signal sounds when height is adjusted?												
Height adjustment works without jolting, without slumping and without atypical running noises (e.g. clacking, scuffing)?												
Does the height setting remain the same even after the system has been switched off for a longer period of time?												

If no ⇒ Inform your dental depot.

1.12 Documenting your yearly inspection

The undersigned confirms that he/she has checked the unit for the above criteria and that he/she has informed the competent dental depot in case of any defects.

Year	Inspection date:	Name:	Signature:
1.			
2.			
3.			
4.			
5.			
6.			
7.			
8.			
9.			
10.			
11.			
12.			
13.			
14.			

2 Yearly calibration by the service engineer (for the USA refer to the Maintenance Instructions)

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.

If components bearing a serial number are replaced, the new serial number must be recorded in the table in Chapter 3.4, “Serial numbers of the system”.

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.

2.1 Customer data

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

Space for practice stamp

--

2.2 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										
Diaphragm 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.								

2.3 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.						

3 Maintenance by the service engineer

General information for the service engineer

For performing maintenance work, the **Service Manual GALILEOS**, (Order No. 61 25 665) is indispensable. All measures which are required for maintenance are described there in Chapter "Maintenance". Furthermore, the Operating Instructions which have been supplied together with the unit are required.



NOTE

In addition to the yearly inspection by the system owner or persons authorized by him/her, preventive maintenance has to be performed after 4, 7, 10 years and afterwards every two years.

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.

If components bearing a serial number are replaced, the new serial number must be recorded in the table in Chapter 3.4, "Serial numbers of the system".

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.

3.1 Customer data

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

Space for practice stamp

3.2 Checking the records

Checking the records of the yearly inspection by the system owner		Answer questions with yes (✓) or no (–)									
Maintenance interval (after years)	4	7	10	12	14						
Date (enter month/year)											
Yearly inspection by the system owner has been performed (see Chapter 1)?											
Yearly calibration has been per- formed by the service engineer (see Chapter 2 or Maintenance Instructions)?											
Records are complete?											
All questions answered with yes ?											
All work which has led to a nega- tive result during the checks have been performed?											

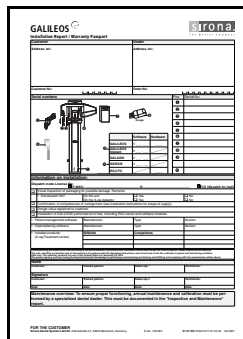
If no ⇒ Perform yearly inspection prior to maintenance.

3.3 Labels on the system

Comparing labels on the system with Installation Report / Warranty Passport		Answer questions with yes (✓) or no (–)									
Maintenance interval (after years)	4	7	10	12	14						
Date (enter month/year)											
All labels according to Installation Report / Warranty Passport affixed (Fig. 1)?											
All labels legible?											

If no ⇒ Replace missing and/or illegible labels.

Fig. 1:



3.4 Serial numbers of the system

Please enter new Serial No. here when replacing a component:			
X-ray unit		Date	Signature
Serial No. (at initial start-up)			
Serial No.			
Serial No.			
X-ray tube assembly		Date	Signature
Serial No. (at initial start-up)			
Serial No.			
Serial No.			
Serial No.			
Serial No.			
Tube		Date	Signature
Serial No. (at initial start-up)			
Serial No.			
Serial No.			
Serial No.			
Serial No.			
Remote		Date	Signature
Serial No. (at initial start-up)			
Serial No.			
Serial No.			
Serial No.			
X-ray detector		Date	Signature
Serial No. (at initial start-up)			
Serial No.			
Serial No.			
Test phantom		Date	Signature
Serial No. (at initial start-up)			
Serial No.			
Serial No.			

3.5 Functional test

Prior to starting with maintenance work, a functional test must always be performed.

In doing so, it is helpful to read out the error messages, if present.

Refer to Chapter 5.2, "Selecting Service routines".

Inform the customer or dental practice staff about any defects you have detected.

Checking the system functions (observe Operating Instructions)		Answer questions with yes (✓) or no (–)								
Maintenance interval (after years)	4	7	10	12	14					
Date (enter month/year)										
Is there no visible abrasion on the HA motor and threaded rod? See Service Manual										
No atypical running noises audible during height adjustment?										
Jolt-free fine positioning possible during height adjustment?										
Does the height setting remain the same even after the system has been switched off for a longer period of time?										
Is the limit switch for height adjustment functional?										
Acoustic signals audible during height adjustment?										
Clamping device for forehead support works correctly?										
Clamping device for bite block works correctly?										
Can the swivel arm be easily swiveled, is the locking mechanism OK, does the swivel arm lock into position?										
		If no ⇒ Correct fault.								

3.6 Checking the tube data

Checking the tube data		Answer questions with yes (✓) or no (–)								
Maintenance interval (after years)	4	7	10	12	14					
Date (enter month/year)										
Actual kV/mAs values OK?										
Fan working? See Service Manual.										
Does the temperature sensor in the tube assembly indicate a value between ca. 18° and 65°C? See Service Manual.										
If no ⇒ Correct fault.										

3.7 Checking the cables for damage

Checking the cables		Answer questions with yes (✓) or no (–)								
Maintenance interval (after years)	4	7	10	12	14					
Date (enter month/year)										
Power cable OK? See Service Manual.										
Protective ground wire OK?										
Control cable OK?										
Data transfer cable OK?										
If no ⇒ Correct fault.										

3.8 Safety checks

Move unit to working height. Switch power OFF at the main switch for the building installation or disconnect the power plug. Remove covers from the unit.

Performing safety checks	Answer questions with yes (✓) or no (–)									
Maintenance interval (after years)	4	7	10	12	14					
Date (enter month/year)										
Idling roll free of damage? See Service Manual.										
Do grounding straps and cable shields have complete and firm contact?										
Cable shielding OK?										
Protective ground wire resistance complies with specifications? See Service Manual.										
Protective ground wire connections properly attached?										
Unit's leakage current complies with specifications? See Service Manual.										
If no ⇒ Correct fault.										

3.9 Final work

Final work (observe Operating Instructions)	Answer questions with yes (✓) or no (–)									
Maintenance interval (after years)	4	7	10	12	14					
Date (enter month/year)										
System cleaned?										
If no ⇒ Clean system.										

3.10 Documenting maintenance work

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.

Date of maintenance	Name of engineer	Name of dealer	Signature of engineer

Space for remarks

We reserve the right to make any alterations which may be required due to technical improvements.

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D 3437.105.01.03.02 06.2008

Sprache: englisch
Ä.-Nr.: 109 969

Printed in Germany
Imprimé en Allemagne

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61 25 533 D 3437