

# **Millo / Millo pro**

**Nr. 1804-x000 / 1805-x000**

***Bedienungsanleitung***

***Instruction manual • Mode d'emploi***

***Istruzioni d'uso • Instrucciones de servicio***

***Инструкция по эксплуатации***

***操作说明书 • 取扱説明書 • 사용 설명서***

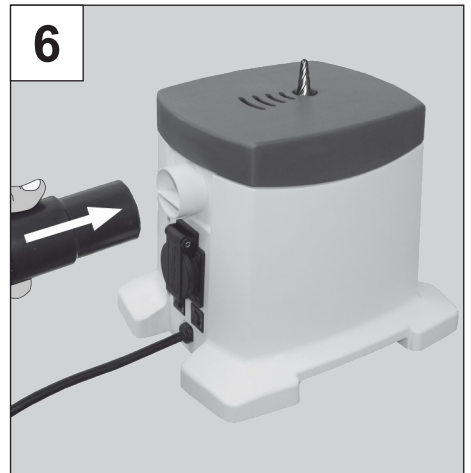
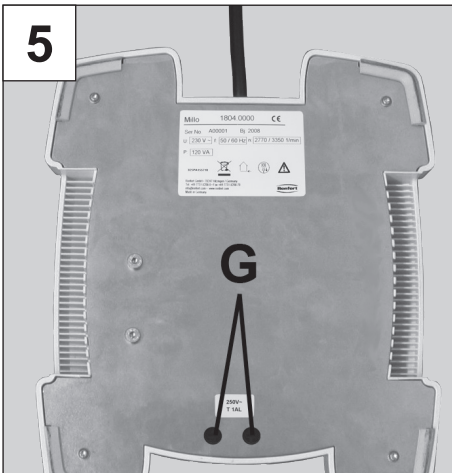
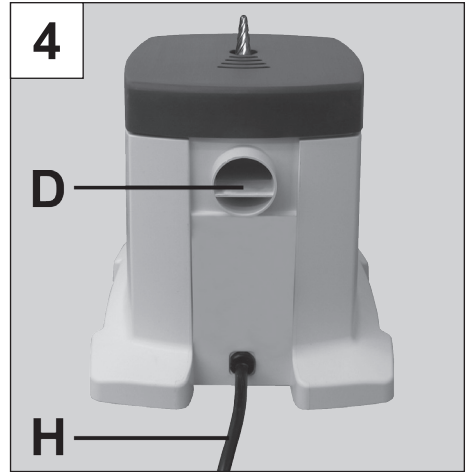
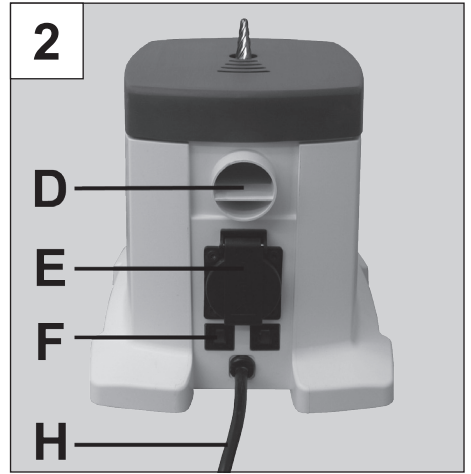
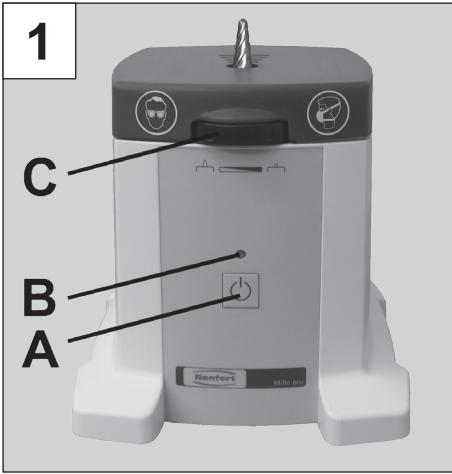


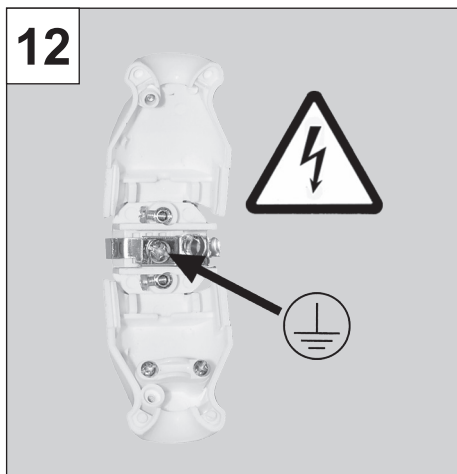
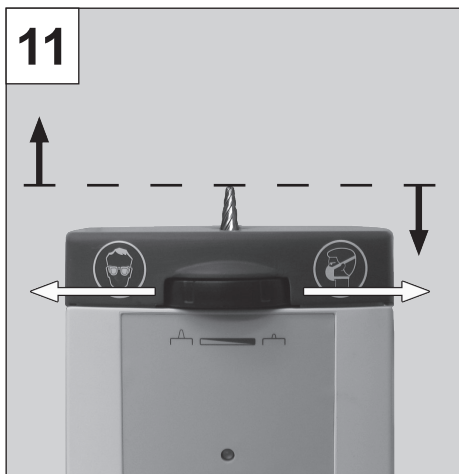
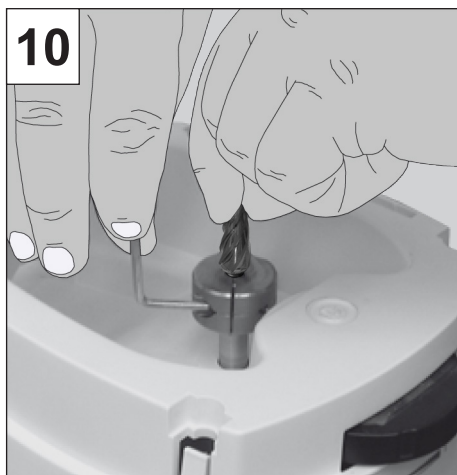
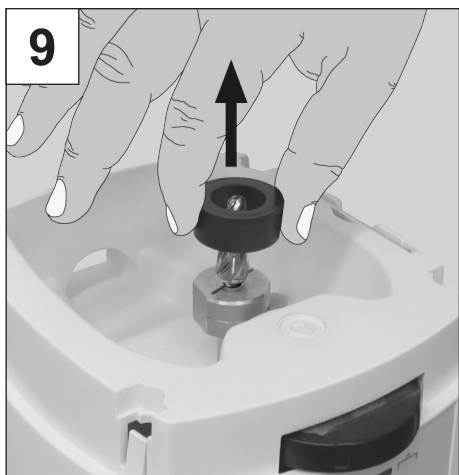
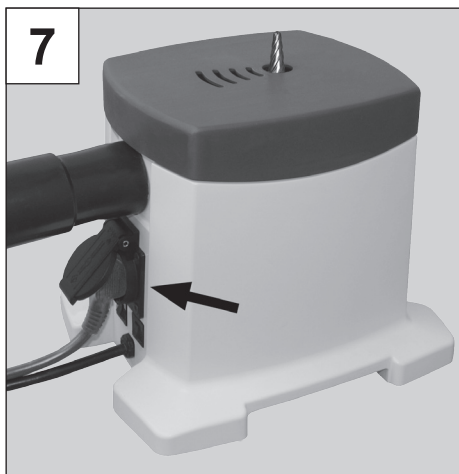
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**Renfert**

Ideas for dental technology





# Millo / Millo pro

No. 1804-x000 / 1805-x000

## ENGLISH

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### Introduction

Thank you for purchasing the *Millo* or *Millo pro* dental arch trimmer.

This unit sets new standards in terms of functionality, efficiency and ergonomics.



**Please read the following operating instructions carefully and adhere to the safety instructions to ensure long-term, problem-free operation of the unit.**

### Symbols

The following symbols contained in these instructions or on the unit indicate:



**Hazard**  
Immediate risk of injury.



**Dangerous voltage**  
Risk of electric shock.



**Caution**  
Risk of damage to the unit if the instruction is not followed.



**Information**  
Useful information to facilitate operation and handling.



**Caution!**  
Wear protective glasses.



**Caution!**  
Wear a face mask.



**Only to be used indoors.**



**Unplug the unit before opening it.**

Other symbols are explained as required.

## Information for the purchaser



Instruct operators on the application, possible hazards during use and operation of the *Millo / Millo pro* arch trimmer based on the user information.

Ensure that this user information is available to operators.

Further information is included in the section:

“Information for the purchaser”  
at the end of these instructions.

## Operating instructions

### 1. Setting up and installation

#### 1.1 Setting up

- Place the unit on a stable, flat workbench.
- Position the unit so that the mains plug is easily accessible.

#### 1.2 Electrical connection

- Ensure that the voltage corresponds to the voltage on the rating plate of the unit.
- Plug in the unit.

#### 1.3 Connecting the extractor



**The *Millo / Millo pro* must be operated with an extractor.**



**The minimum air flow volume of the extractor must be 2040 l/h.**

- Attach the extractor hose to the connector on the unit (Fig. 6).

##### 1.3.1 MILLO PRO

The *Millo pro* has a plug-in socket.

This plug-in socket has an electrical current when the *Millo pro* is switched on so that an extractor can be operated directly with it.



**Do not exceed the connected load for the plug-in socket.**



**The plug-in socket should only be used for connecting an extractor.**

**Connecting other electrical units to the plug-in socket could damage the *Millo pro*.**

- Plug the extractor into the plug-in socket on the back of the *Millo pro* (Fig. 7).

Section D.1 at the end of these instructions offers information concerning electrical systems employing different power plug designs.

The *Millo / Millo pro* is now ready for operation.

## 2. Operation

### 2.1 Controls

*Millo pro* (Fig. 1, 2)

*Millo* (Fig. 3, 4, 5)

- A ON / OFF button
- B ON / OFF LED display
- C Height adjustment (only *Millo pro*)
- D Connector for extractor
- E Plug-in socket for connecting an extractor (only *Millo pro*)
- F Safety cut-out (*Millo pro*, Fig. 2)
- G Fuse links (*Millo*, Fig. 5)
- H Mains cable

### 2.2 Switching on / off

Switching on the unit:

- Press the ON/OFF button (A, Fig. 1 & 3):
  - LED display lights up;
  - cutter rotates.
- Only *Millo pro*:  
Electricity is supplied to the plug-in socket and the connected extractor, which is already switched on, starts.

Switching off the unit:

- Press the ON / OFF button (A, Fig. 1 & 3):
  - LED display goes out;
  - cutter comes to a stop.
- Only *Millo pro*:  
The electricity supply to the plug-in socket is switched off and the connected extractor comes to a stop.

### 2.3 Operating instructions



**Sections of the dental arch may break off during trimming. Wear protective glasses!**



**The dust created during trimming can be hazardous to health. Wear a face mask!**



**Risk of injury to hands! The cutters of the trimmer are sharp.**



#### **Risk of injury!**

**When working with the tapered coarse cutter on plastic dental arches risk of injury by hooking into and flying around. Use the tapered cross-cut cutter for plastic dental arches.**



**Depending on the pressure applied, sound pressure levels of over 85 db(A) can occur. Wear ear protection!**



**Risk of injury by becoming entangled in the unit! Do not operate with unprotected long hair or loose clothing.**

- Control the dental arch on the work table using both hands.
- Always keep hold of the dental arch when it is in contact with the cutter.
- Move the dental arch counter to the rotational direction of the cutter:
  - optimal removal
  - reduces the risk of the cutter catching.

### 2.4 Adjusting the height of the cutter

Only the *Millo pro* (Fig. 11)

Raising the cutter:

- Turn the adjustment wheel to the left.

Lowering the cutter:

- Turn the adjustment wheel to the right.

### 2.5 Changing the cutter



#### **Risk of injury!**

**The cutters are sharp. Take great care when changing the cutters.**



#### **Risk of injury!**

**The cutters heat up during trimming. Allow them to cool before changing them.**



**Always use Renfert cutters.**

Changing the cutters:

- Switch off the unit.
- Unplug the unit.
- Allow the cutter to cool.
- Remove the work table (Fig. 8).
- Remove the protective cap (Fig. 9).

**i** *The protective cap is more easily removed by pressing it together at the flat surfaces of the clamping ring (Fig. 9).*

- Loosen the clamping ring with the Allen key supplied (Fig. 10).

**i** *The Allen key is kept in a holder under the work table.*

- Remove the cutter.
- Insert the new cutter fully into the clamping ring.
- Tighten the clamping ring with the Allen key (Fig. 10).

**!** **Ensure that the clamping ring has been adequately tightened.**

- Replace the protective cap.
- Place the Allen key in the holder.
- Replace the work table.

### 3. Cleaning / Servicing

**!** **Switch off and unplug the unit before cleaning or servicing it.**

#### 3.1 Cleaning the housing

**!** **Never clean the unit under running water or immerse it in water.**

**!** **Do not steam clean the unit.**

**!** **Risk of injury!  
Cover sharp cutters if necessary.**

**!** **Do NOT use cleaning agents that are caustic or abrasive or that contain solvent.**

- Switch off the unit.
- Unplug the unit.
- Wipe the housing with a damp cloth.
- Remove the work table (Fig. 8).
- Vacuum out the dust receptacle and wipe with a damp cloth.
- Dry the unit with a soft, clean cloth.

#### 3.2 Cleaning the work table

- Remove the work table (Fig. 8).
- Clean the work table, e.g. steam clean.
- Dry the work table and replace it on the unit.

#### 3.3 Changing the fuse

##### 3.3.1 MILLO



**Before replacing the fuse, disconnect the unit from the mains power supply by unplugging the power cord from the wall outlet.**



**Never use fuses with a higher rating.**

- Unplug the unit.
- Place the unit on its side.
- Open the fuse holder (G, Fig. 5) and change the fuse.

##### 3.3.2 MILLO PRO

- Unplug the unit.
- Press in the safety cut-out (F, Fig. 2) on the side of the unit.

### 4. Replacement parts

You can find components subject to wear and the spare parts on the spare part list in the internet at [www.renfert.com/p918](http://www.renfert.com/p918).

The components excluded from the warranty (such as consumables or parts subject to wear and tear) are marked on the spare part list.

Serial number and date of manufacturing are shown on the type plate of the unit.

## 5. Package contents

- 1 *Millo / Millo pro* dental arch trimmer
- 1 Cutter, tapered 6-blades (coarse), NOT suitable for plastic models.
- 1 Allen key
- 1 Operating instructions
- 1 Grounded wall plug (No. 1805-0000 only)

## 6. Models

- 1804-0000 *Millo*, 230 V, 50 / 60 Hz  
1804-1000 *Millo*, 120 V, 60 Hz  
1805-0000 *Millo pro*, 230 V, 50 / 60 Hz  
1805-1000 *Millo pro*, 120 V, 60 Hz

## 7. Accessories

- No. 1806-0001 Cutter, conical cross-cut (fine)  
No. 1806-0002 Cutter, tapered 6-blades (coarse), NOT suitable for plastic models.  
No. 2921-0050 *Silent TS*, 230 V, 50 / 60 Hz  
No. 2921-1050 *Silent TS*, 100 - 120 V, 50 / 60 Hz  
No. 90003-4305 Universal hose connector adapter  
No. 2926-0000 Y-junction  
No. 15-0823 PVC Flex super elastic suction hose (sold by the metre)

## 8. Troubleshooting

Problem	Cause	Remedy
<b>Unit does not operate after switching it on.</b>	<ul style="list-style-type: none"><li>• Mains cable not plugged in.</li><li>• No electricity supply to the mains socket.</li><li>• Unit connected to an extractor that is switched off.</li></ul>	<ul style="list-style-type: none"><li>• Plug in the mains cable.</li><li>• Check the mains socket.</li><li>• Check the extractor, refer to the extractor instructions if necessary.</li></ul>
<b>Unit switches off during operation.</b>	<ul style="list-style-type: none"><li>• Motor fuse triggered, as the motor temperature is too high.</li><li>• Fuse triggered.</li></ul>	<ul style="list-style-type: none"><li>• Unplug the unit and allow it to cool for approx. 1.5 hrs.</li><li>• Use an extractor (see Section 1.3).</li><li>• Switch on the safety cut-out / replace fuse (see Section 3.3).</li><li>• If the fuse triggers again, return the unit for repair.</li></ul>
<b>Heavy dust accumulation on the work table.</b>	<ul style="list-style-type: none"><li>• Extractor not used.</li><li>• Extraction power too low.</li></ul>	<ul style="list-style-type: none"><li>• Use an extractor (see sect. 1.3).</li><li>• Check the filter of the extractor.</li><li>• Check that the suction hose is not bent.</li><li>• Check that the suction hose is fitted securely to the connector (D, Figure 2, 4).</li><li>• Use a higher extraction setting.</li></ul>



<b>Problem</b>	<b>Cause</b>	<b>Remedy</b>
<b>Fuse triggers.</b>	<ul style="list-style-type: none"> <li>• Load of the connected extractor too high, adhere to the max. connected load (see technical data).</li> </ul>	<ul style="list-style-type: none"> <li>• Connect the extractor separately to the electricity supply.</li> </ul>
<b>Reduced removal or application of greater pressure required.</b>	<ul style="list-style-type: none"> <li>• Cutter blunt</li> </ul>	<ul style="list-style-type: none"> <li>• Change the cutter (see Section 2.5).</li> </ul>
<b>Cutter slips out during operation.</b>	<ul style="list-style-type: none"> <li>• Cutter not inserted far enough into the clamping ring.</li> <li>• Clamping ring not tightened enough.</li> </ul>	<ul style="list-style-type: none"> <li>• Insert the cutter fully into the clamping ring.</li> <li>• Tighten the clamping ring further.</li> </ul>
<b>Cutter cannot be inserted.</b>	<ul style="list-style-type: none"> <li>• Original Renfert cutter not used.</li> </ul>	<ul style="list-style-type: none"> <li>• Always use original Renfert cutters.</li> </ul>
<b>Cutter cannot be removed.</b>	<ul style="list-style-type: none"> <li>• Clamping screw not loosened enough.</li> <li>• Corrosion on the cutter shank.</li> </ul>	<ul style="list-style-type: none"> <li>• Loosen the clamping screw further.</li> <li>• Return the unit for repair.</li> </ul>
<b>Clamping screw cannot be loosened.</b>	<ul style="list-style-type: none"> <li>• Screw overtightened.</li> </ul>	<ul style="list-style-type: none"> <li>• Return the unit for repair.</li> </ul>
<b>Connected extractor does not operate.</b>	<ul style="list-style-type: none"> <li>• Extractor not switched on.</li> <li>• Extractor is in automatic operation mode.</li> <li>• No electricity supply to the plug-in socket.</li> </ul>	<ul style="list-style-type: none"> <li>• Switch on the extractor.</li> <li>• Set the extractor to continuous operation.</li> <li>• Return the unit for repair.</li> </ul>

# Information for the purchaser

The following information is intended to help purchasers ensure safe operation of the *Millo / Millo pro* in their laboratory.



**Instruct operators on the application, possible hazards during use and operation of the arch trimmer based on the user information.**

Ensure that this user information is available to operators.

## A. Application

### A.1 Correct use of the unit

Only use the unit for trimming dental stone or resin dental arches

### A.2 Unapproved use

Only spare parts and accessories supplied or authorized by Renfert GmbH may be used with this product. If other spare parts or accessories are used, this could have a detrimental effect on the safety of the device, increase the risk of serious injury and lead to damage to the environment or the device itself.

### A.3 Ambient conditions (according to DIN EN 61010-1)

The unit should only be operated:

- indoors
- up to 2,000 metres above sea level
- at an ambient temperature of 5 °C - 40 °C [41 °F - 104 °F] \*)
- at a maximum relative humidity of 80 % at 31 °C [87.8 °F], linear reduction up to 50 % relative humidity at 40 °C [104 °F] \*)
- with mains electricity supply provided that the voltage fluctuation is within 10 % of the rated value

- with Pollution Degree 2
- with Overvoltage Category II

\*) The unit can be used at a temperature of 5 °C - 30 °C [41 °F - 86 °F] and at a humidity of up to 80 %. At temperatures of 31 °C - 40 °C [87.8 °F - 104 °F] the humidity must reduce proportionately to ensure that the unit can be operated (e.g. at 35 °C [95 °F] = 65 % humidity, at 40 °C [104 °F] = 50 % humidity). The unit should not be operated at temperatures above 40 °C [104 °F].

## B. Hazards and warnings



**Granted protection is not given any longer in case the unit is not operated according to the instruction manual on hand.**



**Only to be used indoors. The unit is only intended for dry operation and should not be used or stored outdoors or in wet conditions.**



**The unit should only be operated using a mains cable with a country-specific plug system. Any modification required should only be carried out by an electrician.**



**The unit should only be operated if the data on the rating plate corresponds with the data of regional mains voltage.**



**The unit should only be plugged into earthed sockets.**



**The mains socket should be easily accessible.**



**Regularly check connecting cables and hoses (e.g. mains cable) for damage (e.g. kinks, tears, porosity) or deterioration. Do not operate units with damaged mains wires, hoses or other defects.**



The unit should always be operated under supervision.



The plug-in socket is only suitable for connecting an extractor. The recommended connected load should not be exceeded.



**Risk of injury!**  
Risk of injury if the components used are not approved. Always use original Renfert components.



**Wear protective glasses!**



**Wear a face mask!**



Depending on the work piece involved, the operator's work behavior (e.g., application pressure), the setup location and - in particular - the duration of operation, the use of this device can result in hearing damage. The operator is obligated to have the workplace related assessment level checked in accordance with local requirements and to institute appropriate hearing protection measures.



**Wear appropriate personal protective equipment when working with materials that are hazardous to health.**



**Hazardous dust or fumes may be created when trimming with the unit. An extractor that is appropriate for the materials released should be connected.**



**Switch off the unit when trimming is complete.**



**Unplug the unit before carrying out repairs or maintenance on the electrical components.**



**Switch off and unplug the unit before cleaning or servicing it.**



**It is the responsibility of the operator that national regulations during operation and regarding a repeated safety inspection of electrical equipment are complied with.**

**For Germany these are BGV A3 in relation with VDE 0701-0702.**

## C. Approved personnel

Operation and servicing of the *Millo / Millo pro* dental arch trimmer should only be carried out by trained personnel.

## D. Prior to installation



**Compare the data on the rating plate with the data of the regional mains voltage before installation.**



**The unit should only be plugged into earthed sockets.**

### D.1 Connecting the extractor

A corresponding connector (Figure 12) is included in the standard delivery of 230 V units with outlets in accordance with DIN 49441 (Figure 2, E). This connector can be used to make an adapter for your local plug configuration.



**This adapter may only be made by a qualified electrician! The adapter must not interrupt the ground circuit system!**

## E. Repair

Repairs should only be carried out by qualified personnel.

Repairs to the electrical equipment, which are not specified in these operating instructions, should only be carried out by an electrician.

## F. Disposal instructions

The unit should be disposed of by a specialist firm. The specialist firm should be informed of any hazardous residue in the unit.

### F.1 Disposal instructions for countries in the EU

To conserve and protect the environment, prevent environmental pollution and improve the recycling of raw materials, the European Commission adopted a directive that requires the manufacturer to accept the return of electrical and electronic units for proper disposal or recycling.

Within the European Union units with this symbol should not therefore be disposed of in unsorted domestic waste:



For more information regarding proper disposal please apply at your local authorities.

## G. Technical data

Rated voltage: 220 - 240 V, 50 / 60 Hz  
120 V, 60 Hz

Power consumption: 120 VA (230 V)  
130 VA (120 V)

max. permitted connected  
load of the plug-in socket  
(only *Millo pro*): 2200 VA (230 V)  
1300 VA (120 V)

Total connected load 2320 VA (230 V)  
(only *Millo pro*) max.: 1430 VA (120 V)

Unit fuse T1AL, 250 VAC (230 V)  
(only *Millo*): T2AL, 250 VAC (120 V)

Rated speed: 2770 / 3350 rpm  
(50 / 60 Hz)

LpA \*) (idling): < 70 db(A)

Dimensions, without 214 x 207 x 252 mm  
cutter (W x H x D): [8.4 x 8.2 x 9.9 inch]

Weight, approx.: 5.7 kg  
[12.6 lbs]

\*) sound pressure level in accord. with EN ISO 11202

## H. Disclaimer

Renfert GmbH is not liable for claims for compensation or claims under guarantee if:

- the product is used for purposes other than those stated in the operating instructions.
- the product is modified in any way – apart from modifications described in the operating instructions.
- the product has not been repaired by a specialist firm or original Renfert replacement parts have not been used.
- there is continued use of the product despite obvious safety defects or damage.
- the product has been subjected to mechanical knocks or has been dropped.

## I. Guarantee

Renfert gives a **3-year guarantee** on all parts of the *Millo / Millo pro* provided that the product is used in accordance with the operating instructions.

The original sales invoice of the specialist depot is required for a claim under guarantee.

Parts which are subject to natural wear and tear (wear parts) and consumables are excluded from the guarantee.

These parts are marked in the spare part list.

The guarantee is rendered void in the case of incorrect use, non-adherence to the operating, cleaning, servicing or connection instructions, repairs carried out by the owner or repairs that are not carried out by a specialist firm, use of replacement parts from another manufacturer or unusual or unapproved uses not specified in the user guidelines.

Successful claims under guarantee do not extend the guarantee period.

**Hochaktuell und ausführlich auf ...  
Up to date and in detail at ...  
Actualisé et détaillé sous ...  
Aggiornato e dettagliato su ...  
La máxima actualidad y detalle en ...  
Актуально и подробно на ...**

**[www.renfert.com](http://www.renfert.com)**



Ideas for dental technology

Renfert GmbH • Industriegebiet • 78247 Hilzingen/Germany  
oder: Postfach 1109 • 78245 Hilzingen/Germany  
Tel.: +49 7731 82 08-0 • Fax: +49 7731 82 08-70  
[www.renfert.com](http://www.renfert.com) • [info@renfert.com](mailto:info@renfert.com)

Renfert USA • 3718 Illinois Avenue • St. Charles IL 60174/USA  
Tel.: +1 6307 62 18 03 • Fax: +1 6307 62 97 87  
[www.renfert.com](http://www.renfert.com) • [info@renfertusa.com](mailto:info@renfertusa.com)  
USA: Free call 800 336 7422