Instructions for Use
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Symbols

![Warning Symbol]

**WARNING!**
(if persons could be injured)

![Attention Symbol]

**ATTENTION!**
(if property could be damaged)

---

in the Instructions for Use

- ![General Explanation Symbol]
  General explanations, without risk to persons or property

- ![Thermo Washer Disinfectable Symbol]
  Thermo washer disinfectable

- ![Sterilizable Symbol]
  Sterilizable up to the stated temperature

- ![Customer Service Symbol]
  Call customer service
## Symbols

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>🌿</td>
<td>Follow Instructions for Use</td>
</tr>
<tr>
<td>📖</td>
<td>Consult Instructions for Use</td>
</tr>
<tr>
<td>🕒</td>
<td>Date of manufacture</td>
</tr>
<tr>
<td>🔴</td>
<td>Do not dispose of with domestic waste</td>
</tr>
<tr>
<td>🌼</td>
<td>Data Matrix code for product information including UDI (Unique Device Identification)</td>
</tr>
<tr>
<td>🌺</td>
<td>CE marking with identification number of the Notified Body</td>
</tr>
</tbody>
</table>

## on the control unit

<table>
<thead>
<tr>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>📜</td>
<td>Class II equipment</td>
</tr>
<tr>
<td>🧑‍🦳</td>
<td>Foot control</td>
</tr>
<tr>
<td>🔴</td>
<td>On / Off</td>
</tr>
<tr>
<td>🌻</td>
<td>Electric fuse</td>
</tr>
<tr>
<td>⚡️</td>
<td>Type B applied part (not suitable for intracardiac application)</td>
</tr>
<tr>
<td>⬇️</td>
<td>Earth</td>
</tr>
<tr>
<td>📜</td>
<td>Catalogue number</td>
</tr>
<tr>
<td>📜</td>
<td>Serial number</td>
</tr>
<tr>
<td>ℹ️</td>
<td>Supply voltage of the unit</td>
</tr>
<tr>
<td>🌿</td>
<td>Alternating current</td>
</tr>
<tr>
<td>📜</td>
<td>Electric power consumption of the unit</td>
</tr>
<tr>
<td>🎉</td>
<td>Supply current</td>
</tr>
<tr>
<td>🎉</td>
<td>Frequency of the alternating current</td>
</tr>
<tr>
<td>🎉</td>
<td>Revolutions per minute (= rpm)</td>
</tr>
</tbody>
</table>
Symbols

This way up

Fragile, handle with care

Keep dry

»Der Grüne Punkt« (The Green Dot)
trademark of Duales System Deutschland GmbH

Trademark of RESY OfW GmbH
for identification of recyclable transport and outer packaging of paper and cardboard

on the packaging

CE marking
with identification number
of the Notified Body

Data Matrix code
for product information including UDI
(Unique Device Identification)

Data structure in accordance with
Health Industry Bar Code

Permitted temperature range

Humidity,
limitation

Caution! According to Federal law, this medical device may only be sold by or on the order of a dentist, physician or any other medical practitioner licensed by the law of the State in which he or she practices and intends to use or order the use of this medical device.
### Symbols

<table>
<thead>
<tr>
<th>![Image]</th>
<th>Symbol</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>📖</td>
<td>Consult Instructions for Use</td>
<td></td>
</tr>
<tr>
<td>✘️</td>
<td>Not for re-use</td>
<td></td>
</tr>
<tr>
<td>🧿</td>
<td>Latex-free</td>
<td></td>
</tr>
<tr>
<td>✔️</td>
<td>CE marking</td>
<td></td>
</tr>
<tr>
<td>✦</td>
<td>Use by</td>
<td></td>
</tr>
<tr>
<td>💯</td>
<td>Sterilization with ethylene oxide</td>
<td></td>
</tr>
<tr>
<td>📌</td>
<td>Batch code</td>
<td></td>
</tr>
<tr>
<td>🤖</td>
<td>Do not use when package is damaged</td>
<td></td>
</tr>
<tr>
<td>🛑</td>
<td>Do not re-sterilize</td>
<td></td>
</tr>
</tbody>
</table>

**Caution!** According to Federal law, this medical device may only be sold by or on the order of a dentist, physician or any other medical practitioner licensed by the law of the State in which he or she practices and intends to use or order the use of this medical device.
1. Introduction

For your safety and the safety of your patients
These Instructions for Use explain how to use your product. However, we must also warn against possible hazardous situations. Your safety, the safety of your team and, of course, the safety of your patients, are of paramount importance to us.

Observe the safety notes.

Intended use
Mechanical drive unit with coolant supply for transmission instruments with ISO 3964 [DIN 13940] compatible coupling system, for use in dental surgery, implantology and maxillofacial surgery [CMF].

Misuse may damage the medical device and hence cause risks and hazards for patients, users and third parties.

Qualifications of the user
Only suitably qualified medical, technical and specialist trained staff may use the medical device. We have based our developed and design of the medical device on the »physician« target group.
Introduction

Production according to EU Directive
The medical device complies with the regulations of Directive 93/42/EEC.

Responsibility of the manufacturer
The manufacturer can only accept responsibility for the safety, reliability and performance of the medical device when compliance with the following instructions is ensured:

> The medical device must be used in accordance with these Instructions for Use.
> The medical device has no components that can be repaired by the user.
> Modifications or repairs must only be undertaken by an authorized W&H service partner (see page 60).
> The electrical installation at the premises must comply with the regulations laid out in IEC 60364-7-710 ("Installation of electrical equipment in rooms used for medical purposes") or with the regulations applicable in your country.
> Unauthorized opening of the control unit invalidates all claims under warranty and any other claims.

In addition to unauthorized assembly, installation, modification of or repairs to the control unit, motor with cable, transmission instrument and non-compliance with our instructions, improper use will void the warranty and release us from all other claims.
2. Electromagnetic compatibility (EMC)

Medical electrical device is subject to particular precautions with regards to EMC and must be installed and put into operation in accordance with the EMC notes included.

W&H only guarantees compliance of the device with the EMC Directives when it is used with original W&H accessories and spare parts. The use of accessories and spare parts that have not been approved by W&H may lead to increased emission of electromagnetic interference or to reduced resistance to electromagnetic interference.

**HF communication equipment**
Portable HF communications equipment (including peripherals such as antenna cables and external antennas) should be used no closer than 30 cm (12 inches) to the medical device. Otherwise, degradation of the performance of this medical device could result.

The medical device may be interfered by other equipment, even if these other devices comply with CISPR (International special committee on radio interference) emission requirements.

Use of this medical device adjacent to or stacked with other equipment should be avoided because it could result in improper operation. If such use is necessary, this medical device and the other equipment should be observed to verify that they are operating normally.

The medical device is not intended for use in the vicinity of HF surgical devices.
3. Unpacking

1. Remove the packaging.

2. Remove the motor with cable.

3. Remove the foot control, Instructions for Use and accessories.

4. Lift out the insert with the control unit. Remove the mains cable, irrigant support, universal support, irrigation tubing set and Instructions for Use.

W&H packaging is environmentally friendly and can be disposed of by industrial recycling companies. However, we recommend that you keep the original packaging.
4. Scope of delivery

<table>
<thead>
<tr>
<th>Control unit</th>
<th>SI-923 (230 V)</th>
<th>SI-915 (120 V)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>30286000/30286001</td>
<td>30287000/30287001</td>
</tr>
<tr>
<td>REF 436360</td>
<td>Irrigation tubing set 2.2 m (3 pcs, disposable)</td>
<td>X</td>
</tr>
<tr>
<td>REF 07721800</td>
<td>Universal support</td>
<td>X</td>
</tr>
<tr>
<td>REF 04005900</td>
<td>Irrigant support</td>
<td>X</td>
</tr>
<tr>
<td>Mains cable country-specific</td>
<td></td>
<td>X</td>
</tr>
</tbody>
</table>

Optional included in set

<table>
<thead>
<tr>
<th>Control unit</th>
<th>SI-923 (230 V)</th>
<th>SI-915 (120 V)</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>REF 30185000</td>
<td>EM-19 motor without electrical contacts with 1.8 m cable</td>
<td></td>
</tr>
<tr>
<td>REF 30285000</td>
<td>Foot control S-N2</td>
<td></td>
</tr>
</tbody>
</table>
5. Safety notes

> Before using the medical device for the first time, store it at room temperature for 24 hours.
> Check the control unit and the motor with cable for damage and loose parts every time before use.
> Do not operate the control unit and the motor with cable if it is damaged.
> Check the parameter settings every time the device is restarted.
> Perform a test run prior to every treatment.
> The responsibility for the use and timely shutdown of the system lies with the user.
> Ensure that it is possible to complete the operation safely should the control units or instruments fail.

The medical device is not approved for operation in potentially explosive atmospheres.

Do not twist or kink the motor cable! Do not coil it too tightly!
Moisture in the motor with cable may cause a malfunction! (Risk of short circuit)
Safety notes

> Use only original W&H fuses
> Never touch the patient and the electrical connections on the control unit simultaneously.

⚠️ The control unit is classed as “conventional equipment” (closed equipment without protection against the ingress of water).

⚠️ Use the control unit in P4 and P5 programs exclusively with the surgical contra-angle handpieces approved by W&H. Use of other contra-angle handpieces may result in deviation from the indicated torque. The user alone is responsible for the above. The manufacturer does not accept any liability.

⚠️ Power failure
In the event of a power failure, if the control unit is switched off, or when switching between programs, the last values set are saved and re-activated on power-up.

⚠️ System failure
A total system failure does not constitute a critical fault.
Safety notes

**Mains cable / Power switch**
- Only use the mains cable supplied.
- Plug the mains cable only into an earthed power socket.
- Set up the control unit so the power switch and the socket are easily accessible at all times.

**Disconnect the control unit from the power supply in case of danger.**
- Turn off the control unit at the power switch.
- Pull the power plug out of the socket.

**Rotational energy**
Deceleration of the bur can cause the selected torque to be temporarily exceeded, compared to the value set, as a result of the rotational energy stored in the drive system.

Observe the manufacturer's speed and torque specifications for retaining screws for superstructures.
Adjusting these retaining screws with an electric motor presents a potential risk as described above.
Risks due to electromagnetic fields
The functionality of implantable systems, such as cardiac pacemakers and implantable cardioverter defibrillators (ICD) can be affected by electric, magnetic and electromagnetic fields.

- Find out if patient and user have implanted systems before using the medical device and consider the application.
- Weigh the risks and benefits.
- Keep the medical device away from implanted systems.
- Do not place the motor on the patient’s body.
- Make appropriate emergency provisions and take immediate action on any signs of ill-health.
- Symptoms such as raised heartbeat, irregular pulse and dizziness can be signs of a problem with a cardiac pacemaker or ICD.
Follow the directions and safety notes in the Instructions for Use of the foot control.

The foot control is approved for operation in potentially explosive atmospheres (AP).

> Note that when using or setting low speeds, the operation or run-down of rotary instruments is more difficult to detect.

> The ESD spring contact on the bottom of the foot control must be in contact with the ground during operation.

ESD is the abbreviation for “electrostatic discharge”.

ESD spring contact on the bottom of the foot control must be in contact with the ground during operation.
**Safety notes**

The medical device is designed for use with physiological saline solution.

> Always ensure correct operating conditions and that sufficient and adequate coolant is delivered.
> Always provide sufficient coolant and ensure the appropriate suction.
> Use only suitable coolants and follow the manufacturer’s medical data and instructions.
> Use the W&H irrigation tubing set or accessories approved by W&H.

### Irrigation tubing set

Sterile disposable irrigation tubing sets are supplied with the equipment.

> Note the expiration date and only use disposable irrigation tubing with undamaged packaging.
> Replace the disposable irrigation tubing immediately after every treatment.
> Follow your local and country-specific laws, directives, standards and guidelines for disposal.
Safety notes

Transmission instrument

> Follow the directions and safety notes in the Instructions for Use of the transmission instrument.
> Only use transmission instruments with an ISO 3964 (DIN 13940) compatible coupling system and manufacturer approved transmission instruments.
> Follow the directions of the manufacturer of transmission instrument with reference to transmission ratio, maximum speed and maximum torque.

Hygiene and maintenance prior to initial use

> Clean and disinfect the control unit, the motor with cable, the universal support and the irrigant support.
> Sterilize the motor with cable and the universal support.

Test run

> Do not hold the motor with transmission instrument at eye level.

> Connect the transmission instrument to the motor. Point the transmission instrument with the head facing downwards.
> Operate the motor with the foot control.

> In the event of operating malfunction (e.g. vibrations, unusual noises or overheating), stop the motor immediately and contact an authorized W&H service partner.
6. Description of front panel

- Program buttons: P1, P2, P3, P4, P5
- Display
- Pump cover
- Irrigant support locator
- Connection for motor
- Pump cover OPEN
Description of rear panel

- Irrigant support locator
- Connection for foot control
- Connection for mains cable
- Fuse holder with 2 fuses
  REF 06352200 (2 x 250 V - T1.6 AH)
- Power switch
  ON / OFF
Description of foot control

**Locator**
attach / detach

**GREEN**
Pump
ON / OFF

**GREY**
Start motor [pedal]
VARIABLE or ON / OFF
(Factory setting = variable)

**ORANGE**
Change program
Programs 1 to 4
Program 5 (torque 20 – 60 Ncm)

**YELLOW**
Change motor direction
forward / reverse operation mode
The motor with cable must not be disassembled.
The motor with cable must not be oiled (pre-oiled for entire service life).

The motor with cable is a type B applied part (not suitable for intracardiac application).

Temperature information
Temperature of the motor on the operator side: max. 55 °C (131°F)
7. Start-up

Place the medical device on a flat level surface.

Ensure that the medical device can be disconnected easily from the power supply.

1. Connect the mains cable and foot control.  
   Pay attention to the positioning!

2. Connect motor cable.  
   Pay attention to the positioning!

3. Insert the irrigant support.  
   Pay attention to the positioning!  
   (maximum load capacity 1.5 kg)

4. Attach the universal support and lock it.

5. Insert/remove the irrigation tubing.  
   Pay attention to the correct order.  
   > Open the pump cover (a).
   > Insert/remove the irrigation tubing (b, c, d).
   > Close the pump cover (e).
8. Control unit

Switch on Control unit

1. Connect the control unit to the power supply.

2. Switch on the control unit at the power switch.

Switch off Control unit

1. Switch off the control unit at the power switch.

2. Disconnect the control unit from the power supply.

Always make sure that the LED displays on the buttons and the display itself are all on when switching on the medical device.
9. Control unit operation

Activate the desired program (P1 – P5) by pressing the corresponding program button. During selection an audible signal can be heard and the Program button lights up. The selected program appears on the display with the adjusted range in rpm, e.g. for P1:

![Display showing 35000 rpm]

**Display settings**
- P1 – P3 speed
- P4 – P5 torque

**Pump function**
ON / OFF

**Error messages**
- Motor temperature too high
- Motor push-in connection

![Error messages icon]

**Display settings**
- P4 – P5 torque in Ncm
- P1 – P3 speed in rpm

![Display showing 35000 Ncm rpm]
Control unit operation

Pressing and holding PLUS / MINUS depressed activates the repeat function and the values are continuously increased / decreased.

1. Press program button (P1–P3)

2. Increase speed

3. Decrease speed

At 40,000 rpm the accuracy of the speed set is ± 10%.
Control unit operation

Program P4: range 5 – 70 Ncm, intermediate stage 32 Ncm.
- The motor switches off automatically when the set torque is reached in forward and reverse operation modes.

Program P5: range 20 – 60 Ncm.
- The control unit automatically switches to reverse operation when the set torque is reached.
- Disengaging and then re-engaging the pedal will switch the device back to forward operation.

Pressing and holding PLUS / MINUS depressed activates the repeat function and the values are continuously increased / decreased.
- A longer confirmation signal is heard on changing from 5 to 70 Ncm (20 to 60) and 70 to 5 Ncm (60 to 20).

Changing torque (P4 – P5)

1. Press the program button (P4 or P5)

2. P4: increase torque in 5-Ncm steps
   P5: increase torque in 10-Ncm steps

3. P4: decrease torque in 5-Ncm steps
   P5: decrease torque in 10-Ncm steps

The accuracy of the set torque in the 20 – 50 Ncm range for the W&H WI-75 E/KM contra-angle handpiece is ± 10%.
- Greater deviations may be encountered with other instruments.
Factory setting 100 % Range 65 %, 80 % and 100 %.
Press and hold the PLUS / MINUS button to continuously increase or decrease the values.

Press and hold program button P2 during this procedure.

1. Press and hold P2 for approx. 4 seconds (the set coolant volume is shown)
2. Continue to press P2 and press PLUS to increase the flow rate
3. Continue to press P2 and press MINUS to decrease the flow rate

After adjusting, program button P2 is illuminated and active.
10. Operation

Change program
Press the ORANGE button to select programs 1 – 4 in ascending order. In program 5 switch the torque steps from 20 – 60 Ncm. The motor direction is automatically set to forward operation every time the program is changed.

⚠️ When changing from program 4 to program 1 and in program 5 from 60 Ncm to 20 Ncm, a longer acknowledgment signal sounds (risk of injury).

Pump ON / OFF
Only when the motor is at complete standstill can the pump be switched on or off by pressing the GREEN button of the foot control. If the pump function is activated, the pump symbol is shown on the display.

Reverse operation
Press the YELLOW button to change from forward operation to reverse operation. On selecting reverse operation, an audible signal can be heard and the selected program button flashes. Before the motor starts in reverse operation, 3 audible warning signals are given.
To change from VARIABLE to ON / OFF

Keep program button P3 depressed throughout this procedure.

1. Keep P3 depressed for approx. 4 seconds

2. Continue to keep P3 depressed and simultaneously press the PLUS and MINUS buttons

3. Continue to keep P3 depressed and adjust the setting.
   - 01 = VARIABLE (factory setting) – press PLUS button
   - 00 = ON/OFF – press MINUS button

After adjusting, program button P3 is illuminated and active.
11. Restoring factory settings

The factory setting always starts with program 1 (P1).

1. Switch off the control unit

2. Press and hold P1 and simultaneously switch on the control unit

3. Press and hold P1 until the display shows the setting »DE FAU«
## Factory settings

<table>
<thead>
<tr>
<th></th>
<th>P1</th>
<th>P2</th>
<th>P3</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transmission</strong></td>
<td>1:1</td>
<td>20:1</td>
<td>20:1</td>
</tr>
<tr>
<td><strong>Speed rpm</strong></td>
<td>35,000</td>
<td>1,200</td>
<td>800</td>
</tr>
<tr>
<td><strong>Setting range rpm</strong></td>
<td>300 – 40,000</td>
<td>15 – 2,000</td>
<td>15 – 2,000</td>
</tr>
<tr>
<td><strong>Motor direction of rotation</strong></td>
<td>forward/reverse</td>
<td>forward/reverse</td>
<td>forward/reverse</td>
</tr>
<tr>
<td><strong>Pump</strong></td>
<td>on</td>
<td>on</td>
<td>on</td>
</tr>
<tr>
<td><strong>Torque Ncm</strong></td>
<td>100 %</td>
<td>100 %</td>
<td>100 %</td>
</tr>
</tbody>
</table>
## Factory settings

<table>
<thead>
<tr>
<th></th>
<th>P4 forward</th>
<th>P4 reverse</th>
<th>P5 forward</th>
<th>P5 reverse</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transmission</strong></td>
<td>20:1</td>
<td>20:1</td>
<td>20:1</td>
<td>20:1</td>
</tr>
<tr>
<td><strong>Speed rpm</strong></td>
<td>15</td>
<td>30</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td><strong>Motor direction of rotation</strong></td>
<td>forward</td>
<td>reverse</td>
<td>forward</td>
<td>reverse</td>
</tr>
<tr>
<td><strong>Pump</strong></td>
<td>on</td>
<td>off</td>
<td>on</td>
<td>on</td>
</tr>
<tr>
<td><strong>Torque Ncm</strong></td>
<td>20</td>
<td>60</td>
<td>20</td>
<td>20</td>
</tr>
<tr>
<td><strong>Setting range Ncm</strong></td>
<td>5 – 70</td>
<td>5 – 70</td>
<td>20 – 60</td>
<td>20 – 60</td>
</tr>
<tr>
<td><strong>Intermediate stage Ncm</strong></td>
<td>32</td>
<td>32</td>
<td>–</td>
<td>–</td>
</tr>
</tbody>
</table>
12. Thread cutter function (chip breaker mode)

When the thread cutter function (P5) is activated, the speed in both forward and reverse operation modes is 20 rpm and can no longer be changed.

When the motor button (grey) on the foot control is pressed, the thread cutter rotates inwards until the set torque is reached. The control unit automatically switches to reverse operation when the set torque is reached. Disengaging and then re-engaging the motor button will switch the control unit back to forward operation.

If the thread cutter function is in reverse operation mode, the control unit can also start with the maximum torque.

1. Press P5 program button.
2. Use Plus/Minus to increase or decrease the torque.
## 13. Error messages

<table>
<thead>
<tr>
<th>Error no.</th>
<th>Description</th>
<th>Solution</th>
</tr>
</thead>
<tbody>
<tr>
<td>00</td>
<td>Electronics overheated – safety shutdown</td>
<td>Switch off device, allow device to cool for at least 10 minutes, re-start</td>
</tr>
<tr>
<td>01</td>
<td>Electronics overloaded</td>
<td>Switch off device, allow device to cool for at least 10 minutes, re-start</td>
</tr>
<tr>
<td>02</td>
<td>Voltage too high</td>
<td>Switch off device, check voltage, re-start</td>
</tr>
<tr>
<td>07</td>
<td>Initialization error</td>
<td>Switch off device, re-start, do not actuate foot control and display when switching on</td>
</tr>
<tr>
<td>09</td>
<td>Foot control error</td>
<td>Switch off device, check plug contacts of foot control, re-start</td>
</tr>
<tr>
<td>19</td>
<td>Running time limiter</td>
<td>Switch off device and re-start</td>
</tr>
<tr>
<td>99</td>
<td>System failure</td>
<td>Switch off device, allow device to cool for at least 10 minutes, re-start</td>
</tr>
<tr>
<td></td>
<td>Motor plug-in connection</td>
<td>Switch off device, check plug contacts, re-start</td>
</tr>
</tbody>
</table>

> If any of the described problems cannot be corrected by the remedy provided above, the unit will need to be inspected by an authorized W&H service partner.
> Switch the control unit off and on again in case of a total system failure.
14. Hygiene and maintenance

Follow your local and national laws, directives, standards and guidelines for cleaning, disinfection and sterilization.

> Wear protective clothing, safety glasses, face mask and gloves.

> Use only oil-free, filtered compressed air with a maximum operating pressure of 3 bar for manual drying.

Cleaning agents and disinfectants

> Read the notes, follow the instructions and heed the warnings provided by the manufacturers of cleaning agents and/or disinfectants.
> Use only detergents which are intended for cleaning and/or disinfecting medical devices made of metal and plastic.
> It is imperative to comply with the concentrations and exposure times specified by the manufacturer of the disinfectant.
> Use disinfectants which have been tested and found effective by the Verbund für Angewandte Hygiene e.V. (VAH = Association for Applied Hygiene), the Österreichisch Gesellschaft für Hygiene, Mikrobiologie und Präventivmedizin (ÖGHMP = Austrian Society for Hygiene, Microbiology and Preventive Medicine), the Food and Drug Administration (FDA) and the U.S. Environmental Protection Agency (EPA).

> The user is responsible for validating its process if the specified cleaning agents and disinfectants are not available.
Hygiene and maintenance

The product lifetime and the medical device’s ability to operate correctly are mainly determined by mechanical stress during use and chemical influences due to processing.

> Send worn or damaged medical devices and/or medical devices with material changes to an authorized W&H service partner.

Limitations on processing

Processing cycles

> We recommend a regular service for the W&H motor with cable after 500 processing cycles or one year.
> We recommend a regular service for the W&H universal support after 250 processing cycles.
Hygiene and maintenance

> Clean and disinfect the medical device immediately after every treatment.
> Wipe the control unit, the motor with cable, the universal support and the irrigant support with disinfectant. Wipe the entire surface of the instrument with disinfectant.

Note that the disinfectant used during pre-treatment is only for personal protection and cannot replace the disinfectant step after cleaning.

Initial treatment at the point of use
Hygiene and maintenance

Motor with cable / Universal support / Irrigant support
> Do not immerse the motor with cable, the universal support or the irrigant support in liquid disinfectant or in an ultrasonic bath.

Motor with cable / Universal support / Irrigant support
> Clean the motor with cable, the universal support and the irrigant support under running tap water (< 35°C / < 95°F).
> Rinse and brush off all internal and external surfaces.
> Remove any liquid residues using compressed air.

Control unit
> Do not immerse the control unit in water or clean under running water.

Foot control
> The ESD spring contact on the bottom of the foot control must be cleaned regularly.
Hygiene and maintenance

Motor with cable / Universal support / Irrigant support

> W&H recommends wipe-down disinfection.

Evidence of the basic suitability of the motor with cable, the universal support and the irrigant support for effective manual disinfection was provided by an independent test laboratory using the disinfectants “mikrozid® AF wipes” (Schülke & Mayr GmbH, Norderstedt) and “CaviWipes™” (Metrex).
Hygiene and maintenance

Automated cleaning and disinfection

Motor with cable / Universal support / Irrigant support

W&H recommends automated cleaning and disinfection using a washer-disinfector (WD).

Read the notes, follow the instructions and heed the warnings provided by the manufacturers of washer-disinfectors, cleaning agents and/or disinfectants.

⚠️ The control unit and foot control are not approved for automated cleaning and disinfection.

Evidence of the basic suitability of the motor with cable, the universal support and the irrigant support for effective automated disinfection was provided by an independent test laboratory using the »Miele PG 8582 CD« washer-disinfector (Miele & Cie. KG, Gütersloh) and the »Dr. Weigert neodisher® MediClean forte« cleaning agent (Dr. Weigert GmbH & Co. KG, Hamburg) according to ISO 15883.

> Cleaning at 55 °C (131°F) – 5 minutes
> Disinfection at 93 °C (200°F) – 5 minutes
Hygiene and maintenance

Motor with cable / Universal support / Irrigant support

> Ensure that the motor with cable, the universal support and the irrigant support are completely dry internally and externally after cleaning and disinfection.

> Remove any liquid residues using compressed air.
Hygiene and maintenance

Inspection, maintenance and testing

Inspection – Motor with cable / Universal support / Irrigant support

> Check the motor with cable, the universal support and the irrigant support after cleaning and disinfection for damage, visible residual soiling and surface changes.
> Reprocess any motor with cable, universal support and irrigant support that are still soiled.
> Sterilize the motor with cable and the universal support following cleaning and disinfection.
Hygiene and maintenance

Motor with cable / Universal support

Wrap the motor with cable and the universal support in sterilization packages that meet the following requirements:

- The sterilization procedure must meet the applicable standards in respect of quality and use and must be suitable for the sterilization method.
- The sterilization package must be large enough for the sterilization goods.
- The loading sterilization package must not be under tension.
Hygiene and maintenance

Motor with cable / Universal support

W&H recommends sterilization according to EN 13060, EN 285 or ANSI/AAMI ST79.

> Read the notes, follow the instructions and heed the warnings provided by the manufacturers of steam sterilizers.
> The program selected must be suitable for the motor with cable and the universal support.

Recommended sterilization cycles

> Steam sterilization (Typ B, N)
> Sterilization time at least 3 minutes at 134°C (273°F), 4 minutes at 132°C (270°F), 30 minutes at 121°C (250°F)
> Maximum sterilization temperature 135°C (275°F)

Evidence of the basic suitability of the motor with cable and the universal support for effective sterilization was provided by an independent test laboratory using the LISA 517 B17L steam sterilizer (W&H Sterilization S.r.l., Brusaporto [BG]) and the CertoClav MultiControl MC2-S09S273 gravitation sterilizer (CertoClav GmbH, Traun).
> “Dynamic-air-removal prevacuum cycle” (type B): temperature 134°C (273°F) – 3 minutes*
    temperature 132°C (270°F) – 4 minutes**
> “Gravity-displacement cycle” (type N): temperature 121°C (250°F) – 30 minutes**

* EN 13060, EN 285, ISO 17665
** ANSI/AAMI ST55, ANSI/AAMI ST79
Motor with cable / Universal support

- Store sterile goods dust-free and dry.
- The shelf life of the sterile goods depends on the storage conditions and type of packaging.
15. Servicing

Regular checks
Regular servicing of function and safety including the accessories is necessary and should be carried out at least once every three years, unless shorter intervals are prescribed by law. The inspection must be undertaken by a qualified organization and must include the following procedures:

Control unit
- External visual inspection
- Measurement of device leakage current
- Measurement of patient leakage current
- Visual inspection of internal components on suspicion of safety interference, e.g., mechanical damage of the enclosure or indicators of overheating

Foot control
- External visual inspection
- Measurement of device leakage current
- Measurement of ESD capacity
- Visual inspection of the ESD spring contact on the bottom of the foot control (electrostatic discharge)
- Function test with check to see if the maximum speed can be reached

The regular inspection must only be performed by an authorized W&H service partner.
Servicing

Repairs and returns
In the event of operating malfunctions immediately contact an authorized W&H service partner. Repairs and maintenance work must only be undertaken by an authorized W&H service partner.

⚠️ > Ensure that the medical device has been completely processed before returning it.

⚠️ > Always return equipment in the original packaging.

⚠️ > Do not coil the cable around the motor and do not twist or kink the motor cable. [Risk of damage]
16. W&H accessories and spare parts

Use only original W&H accessories and spare parts or accessories approved by W&H.

**Suppliers:** W&H partners ([Link](https://www.wh.com)]

- **04013500**
  Sterilization cassette

- **07948730**
  Transportation case

- **07721800**
  Universal support

- **04005900**
  Irrigant support

- **06352200**
  Fuse (250 V - T1.6AH)
**W&H accessories and spare parts**

- **30185000**
  EM-19 motor without electrical contacts and 1.8 m cable

- **30285000**
  Foot control S-N2

- **04653500**
  Locator for foot control

- **04363600**
  Irrigation tubing set 2.2 m (6 pcs)

- **04719400**
  Irrigation tubing set 2.2 m

- **06290600**
  Hose clips (5 pcs)
# 17. Technical data

<table>
<thead>
<tr>
<th>Control unit</th>
<th>SI-923</th>
<th>SI-915</th>
</tr>
</thead>
<tbody>
<tr>
<td>Mains voltage:</td>
<td>230 V</td>
<td>120 V</td>
</tr>
<tr>
<td>Permissible voltage fluctuation:</td>
<td>220 – 240 V</td>
<td>110 – 130 V</td>
</tr>
<tr>
<td>Rated current:</td>
<td>0.3 – 0.8 A</td>
<td>0.3 – 1.6 A</td>
</tr>
<tr>
<td>Frequency:</td>
<td>50 – 60 Hz</td>
<td></td>
</tr>
<tr>
<td>Mains fuse (2 pcs):</td>
<td>250 V – T1.6 AH</td>
<td></td>
</tr>
<tr>
<td>Maximum power consumption:</td>
<td>160 VA</td>
<td></td>
</tr>
<tr>
<td>Maximum power output:</td>
<td>80 W</td>
<td></td>
</tr>
<tr>
<td>Maximum torque at motor:</td>
<td>5.5 Ncm</td>
<td></td>
</tr>
<tr>
<td>Motor speed range in the rated voltage range:</td>
<td>300 – 40,000 rpm</td>
<td></td>
</tr>
<tr>
<td>Coolant flow rate at 100 %:</td>
<td>min. 90 ml/min</td>
<td></td>
</tr>
<tr>
<td>Dimensions in mm (height x width x depth):</td>
<td>100 x 235 x 240</td>
<td></td>
</tr>
<tr>
<td>Weight in kg:</td>
<td>2.7</td>
<td></td>
</tr>
</tbody>
</table>

## Ambient conditions
- **Temperature during storage and transport:** -40 °C to +70 °C (-40°F to +158°F)
- **Air Humidity for storage and transport:** 8 % to 80 % (relative), non-condensing
- **Temperature in operation:** +10 °C to +35 °C (+50°F to +95°F)
- **Air Humidity in operation:** 15 % to 80 % (relative), non-condensing
Technical data

Classification according to Paragraph 6 of the General Specifications for the Safety of Medical Electrical Equipment according to IEC 60601-1/ANSI/AAMI ES 60601-1

☐ Class II medical electrical equipment (protective earth conductor used for functional earth connection only!)

Type B applied part (not suitable for intracardiac application)

S-N2 is waterproof according to IPX8, 1 m depth of immersion, 1 hour (water-tight in accordance with IEC 60529)

Pollution level: 2
Overvoltage category: II
Altitude: up to 3,000 m above sea level
18. Disposal

Ensure that the parts are not contaminated on disposal.

Follow your local and country-specific laws, directives, standards and guidelines for disposal.

- Medical device
- Waste electrical equipment
- Packaging
The user has been trained to use the medical device correctly in accordance with the legal regulations (medical devices marketing regulations, medical devices act). Particular attention has been paid to the chapters on safety notes, start-up, operation, hygiene and maintenance, and service (regular inspections).

<table>
<thead>
<tr>
<th>Product name</th>
<th>Serial number (SN)</th>
</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer with address</td>
<td></td>
</tr>
<tr>
<td>Distributor with address</td>
<td></td>
</tr>
<tr>
<td>Name of the user</td>
<td>Date of birth and/or personnel number</td>
</tr>
<tr>
<td>Hospital/dental practice/department with address</td>
<td></td>
</tr>
<tr>
<td>Signature of the user</td>
<td></td>
</tr>
<tr>
<td>The signature confirms that the user has been trained to use the medical device and has understood the content.</td>
<td></td>
</tr>
<tr>
<td>Name of the instructor</td>
<td>Date of instruction</td>
</tr>
<tr>
<td>Address of the instructor</td>
<td></td>
</tr>
<tr>
<td>Signature of the instructor</td>
<td></td>
</tr>
</tbody>
</table>
W&H course certificate

The user has been trained to use the medical device correctly in accordance with the legal regulations (medical devices marketing regulations, medical devices act). Particular attention has been paid to the chapters on safety notes, start-up, operation, hygiene and maintenance, and service (regular inspections).

<table>
<thead>
<tr>
<th>Product name</th>
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</tr>
</thead>
<tbody>
<tr>
<td>Manufacturer with address</td>
<td></td>
</tr>
<tr>
<td>Distributor with address</td>
<td></td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Name of the user</th>
<th>Date of birth and/or personnel number</th>
</tr>
</thead>
<tbody>
<tr>
<td>Hospital/dental practice/department with address</td>
<td></td>
</tr>
</tbody>
</table>

Signature of the user

The signature confirms that the user has been trained to use the medical device and has understood the content.

<table>
<thead>
<tr>
<th>Name of the instructor</th>
<th>Date of instruction</th>
</tr>
</thead>
<tbody>
<tr>
<td>Address of the instructor</td>
<td></td>
</tr>
</tbody>
</table>

Signature of the instructor
Explanation of warranty terms

This W&H product has been manufactured with great care by highly qualified specialists. A wide variety of tests and controls guarantees faultless operation. Please note that claims under warranty can only be validated when all the directions in the Instructions for Use have been followed.

As the manufacturer, W&H is liable for material or manufacturing defects within a warranty period of 12 months from the date of purchase. Accessories and consumables (universal support, coolant hose, irrigant support, fuse, locator for foot control, hose clips, mains cable, sterilization cassette) are not covered by the warranty.

We accept no responsibility for damage caused by incorrect handling or by repairs carried out by third parties not authorized to do so by W&H!

Claims under warranty – accompanied by proof of purchase, must be sent to the vendor or to an authorized W&H service partner. The provision of service under warranty extends neither the warranty period nor any other guarantee period.
Authorized W&H service partners

Find your nearest authorized W&H service partner at http://wh.com
Simply go to the menu option »Service« for full details.

Or simply scan the QR code.
Manufacturer’s declaration

Electromagnetic compatibility (EMC)

WARNING: The use of cables, power supplies, accessories other than those specified by the manufacturer may result in increased emission and/or decreased immunity. Only use original W&H accessories.

<table>
<thead>
<tr>
<th>cables and accessories</th>
<th>length</th>
<th>reference</th>
</tr>
</thead>
<tbody>
<tr>
<td>Country specific mains cable according to W&amp;H country list</td>
<td>2.5 to 3.1 m</td>
<td>Manufacturer: Feller GmbH</td>
</tr>
<tr>
<td>Motor with cable EM-19</td>
<td>1.8 m</td>
<td>Manufacturer: W&amp;H</td>
</tr>
<tr>
<td>Foot controller S-N2</td>
<td>2.85 m</td>
<td>Manufacturer: W&amp;H</td>
</tr>
</tbody>
</table>

Operate the product in a place with a maximum distance to electrical and magnetic interfering transmitters. If operation of the product close to other devices or together in a stack is necessary, observe the correct function of the system.

Electromagnetic Immunity I (Table 2, IEC 60601-1-2:2007)

The product is suitable for use in a specific electromagnetic environment. The customer and/or the user of the product should assure that it is used in an electromagnetic environment as described below.

<table>
<thead>
<tr>
<th>Immunity Test</th>
<th>IEC 60601-Level (3rd Ed.)</th>
<th>IEC 60601-Level (4th Ed.)</th>
<th>Compliance Level</th>
<th>Electromagnetic Environment Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Electrostatic discharge (ESD)</td>
<td>± 6 kV contact ± 8 kV air</td>
<td>± 8 kV contact ± 15 kV air</td>
<td>± 8 kV contact ± 15 kV air</td>
<td>Floor should be wood, concrete or ceramic tile. If floors are covered with synthetic material, the relative humidity should be at least 30 %</td>
</tr>
<tr>
<td>Electrical fast transient/bursts</td>
<td>± 2 kV for power supply lines ± 1 kV for input/output lines 5kHz repetition rate</td>
<td>± 2 kV for power supply lines ± 1 kV for input/output lines 100kHz repetition rate</td>
<td>± 2 kV for power supply lines ± 1 kV for input/output lines Both repetition rates</td>
<td>Mains power quality should be that of a typical commercial and/or hospital environment</td>
</tr>
<tr>
<td>Surge</td>
<td>± 1 kV line(s) to line(s)</td>
<td>± 1 kV line(s) to line(s)</td>
<td>± 1 kV line(s) to line(s)</td>
<td>± 1 kV line(s) to line(s)</td>
</tr>
<tr>
<td>Voltage dips, short interruptions and voltage variations on power supply input lines</td>
<td>&lt;5% $U_r$ (&gt;95% dip in $U_r$) for 0.5 cycle</td>
<td>0% $U_r$ 0.5 cycle @ 0°, 45°, 90°, 135°, 180°, 225°, 270° &amp; 315°</td>
<td>0% $U_r$ 1 cycle And 70% $U_r$ 2500 cycles @ 0°</td>
<td>Complies to both editions requirements</td>
</tr>
<tr>
<td>Power frequency(50/60 Hz) magnetic field</td>
<td>3A/m</td>
<td>30A/m</td>
<td>30A/m</td>
<td>Power frequency magnetic fields should be at levels characteristic of a typical location in a typical commercial or hospital environment.</td>
</tr>
</tbody>
</table>

*Note: $U_r$ is the mains (AC) voltage before apply test levels. *25/30 (250/300) means cycles at 50/60Hz.
### Immunity Test

<table>
<thead>
<tr>
<th>Test Type</th>
<th>IEC 60601-Level (3rd Ed.)</th>
<th>IEC 60601-Level (4th Ed.)</th>
<th>Compliance Level</th>
<th>Electromagnetic Environment Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>Portable and mobile RF communications equipment should be used no closer to any part of the product, including cables, than the recommended separation distance calculated from the equation applicable to the frequency of the transmitter.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Conducted RF (IEC 61000-4-6)</td>
<td>3 V&lt;sub&gt;rms&lt;/sub&gt; 150 kHz to 80 MHz</td>
<td>6 V&lt;sub&gt;rms&lt;/sub&gt; in ISM and amateur radio bands* between 0,15 MHz and 80 MHz</td>
<td>6 V&lt;sub&gt;rms&lt;/sub&gt;</td>
<td>Recommended separation distance:</td>
</tr>
<tr>
<td>Radiated RF (IEC 61000-4-3)</td>
<td>3 V&lt;sub&gt;im&lt;/sub&gt; 80 MHz to 2.5 GHz</td>
<td>10 V&lt;sub&gt;im&lt;/sub&gt; 80 MHz to 2.7 GHz</td>
<td>10 V&lt;sub&gt;im&lt;/sub&gt;</td>
<td></td>
</tr>
<tr>
<td>Where P is the maximum output power rating of the transmitter in Watt (W) according to the transmitter manufacturer and d is the recommended separation distance in meters (m).</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Field strengths from fixed RF transmitters, as determined by an electromagnetic site survey a, should be less than the compliance level b in each frequency range.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Interference may occur in the vicinity of equipment marked with the symbol described lateral.</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**Note 1:** At 80 MHz and 800MHz, the higher frequency range applies.

**Note 2:** These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, people and animals.

* The ISM (industrial, scientific and medical) bands between 0,15 MHz and 80 MHz are 6,765 MHz to 6,795 MHz; 13,553 MHz to 13,567 MHz; 26,957 MHz to 27,283 MHz; and 40,66 MHz to 40,70 MHz. The amateur radio bands between 0,15 MHz and 80 MHz are 1,8 MHz to 2,0 MHz, 3,5 MHz to 4,0 MHz, 5,3 MHz to 5,4 MHz, 7 MHz to 7,3 MHz, 10,1 MHz to 10,15 MHz, 14 MHz to 14,2 MHz, 18,07 MHz to 18,17 MHz, 21,0 MHz to 21,4 MHz, 24,89 MHz to 24,99 MHz, 28,0 MHz to 29,7 MHz and 50,0 MHz to 54,0 MHz.

* Field strengths from fixed transmitters, such as base stations for radio (cellular/cordless) telephones and land mobile radios, amateur radio, AM and FM radio broadcast and TV broadcast cannot be predicted theoretically with accuracy. To assess the electromagnetic environment due to fixed RF transmitters, an electromagnetic site survey should be considered, if the measured field strength in the location in which the product is used exceeds the applicable RF compliance level above, the product should be observed, additional measures may be necessary, such as reorienting or relocating the product.

* Over the frequency range 150 kHz to 80 MHz, field strengths should be less than 3 V<sub>im</sub>. 
<table>
<thead>
<tr>
<th>Test frequency MHz</th>
<th>Band MHz</th>
<th>Servicea)</th>
<th>Modulationb)</th>
<th>Maximum power W</th>
<th>Distance m</th>
<th>IMMUNITY TESTLEVEL V/m</th>
</tr>
</thead>
<tbody>
<tr>
<td>385</td>
<td>380 – 390</td>
<td>TETRA 400</td>
<td>Pulse modulation18 Hz</td>
<td>1.8</td>
<td>0.3</td>
<td>27</td>
</tr>
<tr>
<td>450</td>
<td>430 – 470</td>
<td>GMRS 460, FRS 460</td>
<td>FM ± 5 kHz deviation 1 kHz sine</td>
<td>2</td>
<td>0.3</td>
<td>28</td>
</tr>
<tr>
<td>710</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>745</td>
<td></td>
<td></td>
<td>Pulse modulation217 Hz</td>
<td>0.2</td>
<td>0.3</td>
<td>9</td>
</tr>
<tr>
<td>780</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>810</td>
<td>800 – 960</td>
<td>GSM 800/900, TETRA 800, iDEN 820, CDMA 850, LTE Band 5</td>
<td>Pulse modulation18 Hz</td>
<td>2</td>
<td>0.3</td>
<td>28</td>
</tr>
<tr>
<td>1720</td>
<td>1700 – 1900</td>
<td>GSM 1800; CDMA 1900; GSM 1900; DECT; LTE Band 1, 3, 4, 25; UMTS</td>
<td>Pulse modulation217 Hz</td>
<td>2</td>
<td>0.3</td>
<td>28</td>
</tr>
<tr>
<td>1845</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>1970</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2450</td>
<td>2400 – 2570</td>
<td>Bluetooth, WLAN, 802.11 b/g/n, RFID 2450, LTE Band 7</td>
<td>Pulse modulation217 Hz</td>
<td>2</td>
<td>0.3</td>
<td>28</td>
</tr>
<tr>
<td>5240</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5500</td>
<td>5100 – 5800</td>
<td>WLAN 802.11 a/n</td>
<td>Pulse modulation217 Hz</td>
<td>0.2</td>
<td>0.3</td>
<td>9</td>
</tr>
<tr>
<td>5785</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

NOTE: If necessary to achieve the IMMUNITY TEST LEVEL, the distance between the transmitting antenna and the product may be reduced to 1 m. The 1 m test distance is permitted by IEC 61000-4-3.

a) For some services, only the uplink frequencies are included.
b) The carrier shall be modulated using a 50 % duty cycle square wave signal.
c) As an alternative to FM modulation, 50 % pulse modulation at 18 Hz may be used because while it does not represent actual modulation, it would be worst case.
Manufacturer’s declaration

Recommended Separation Distances between portable and mobile HF-communications equipment and the product (Table 6, IEC 60601-1-2:2007)

The product is intended for use in an electromagnetic environment in which radiated RF disturbances are controlled. The customer or the user of the product can help prevent electromagnetic interference by maintaining a minimum distance between portable and mobile RF communications equipment (transmitters) and the product – according on output power and frequency of the communications equipment – as recommended in the following table.

<table>
<thead>
<tr>
<th>Rated maximum output power of transmitter in watts (W)</th>
<th>Separation distance according to the frequency of transmitter in meter (m)</th>
<th>150 kHz to 80 MHz</th>
<th>80 MHz to 800 MHz</th>
<th>800 MHz to 2.5 GHz</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>d = 1.2√P</td>
<td>d = 1.2√P</td>
<td>d = 2.3√P</td>
<td></td>
</tr>
<tr>
<td>0.01</td>
<td>0.12</td>
<td>0.12</td>
<td>0.23</td>
<td></td>
</tr>
<tr>
<td>0.1</td>
<td>0.38</td>
<td>0.38</td>
<td>0.73</td>
<td></td>
</tr>
<tr>
<td>1</td>
<td>1.2</td>
<td>1.2</td>
<td>2.3</td>
<td></td>
</tr>
<tr>
<td>10</td>
<td>3.8</td>
<td>3.8</td>
<td>7.3</td>
<td></td>
</tr>
<tr>
<td>100</td>
<td>12</td>
<td>12</td>
<td>23</td>
<td></td>
</tr>
</tbody>
</table>

For transmitters rated at a maximum output power not listed above, the recommended separation distance d in meters (m) can be estimated using the equation applicable to the frequency of the transmitter, where P is the maximum output power rating of the transmitter in watts (W) according to the transmitter manufacturer.

Note 1: At 80 MHz and 800 MHz, the higher frequency range applies.

Note 2: These guidelines may not apply in all situations. Electromagnetic propagation is affected by absorption and reflection from structures, objects, people and animals.

Electromagnetic Emission (Table 1, IEC 60601-1-2:2007)

The product is suitable for use in a specific electromagnetic environment. The customer and/or the user of the product should assure that it is used in an electromagnetic environment as described below.

<table>
<thead>
<tr>
<th>Emission Test</th>
<th>Compliance</th>
<th>Electromagnetic Environment Guidance</th>
</tr>
</thead>
<tbody>
<tr>
<td>RF-emission CISPR 11</td>
<td>Group 1</td>
<td>The product uses RF energy only for its internal function. Therefore, its RF emissions are very low and not likely to cause any interference in nearby electronic equipment. However, a separation distance of 30 cm shall be maintained.</td>
</tr>
<tr>
<td>RF-emission CISPR 11</td>
<td>Class B</td>
<td>The product is suitable for use in all establishments, including domestic establishments and those directly connected to the public low-voltage power supply network that supplies buildings used for domestic purpose.</td>
</tr>
<tr>
<td>Harmonic emissions IEC 61000-3-2 (*)</td>
<td>Class A</td>
<td>comply with the requirements of IEC 61000-3-2.</td>
</tr>
<tr>
<td>Voltage fluctuations/ flicker emissions IEC 61000-3-3 (*)</td>
<td>complies</td>
<td>comply with the requirements of IEC 61000-3-3.</td>
</tr>
</tbody>
</table>

(*)Remark: for devices with power consumption of 75 W to 1000 W only
Manufacturer

W&H Dentalwerk Bürmoos GmbH
Ignaz-Glaser-Straße 53, 5111 Bürmoos, Austria

t +43 6274 6236-0, f +43 6274 6236-55
office@wh.com wh.com