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CAUTION! (to prevent damage occurring)

WARNING! (risk of injury)

General explanations, without risk to persons or objects

Do not dispose of with domestic waste

UL Component Recognition Mark indicates compliance with Canadian and U.S. requirements
CE 0297
from the manufacturer

Thermal washer disinfectable

Sterilizable up to the stated temperature

REF       Catalog number
SN        Serial number

Date of manufacture
1. Introduction

Creating customer success is a key foundation to the A-dec|W&H quality policy. In support of that effort, this A-dec|W&H product has been developed, manufactured, and subjected to final inspection according to legal regulations, quality norms, and industry standards.

For your safety and the safety of your patients
Prior to initial use please read the instructions for use completely; they explain how to use your A-dec|W&H product and ensure proper, efficient and safe operation.

Intended use
The dental attachment is intended for the following applications: Removal of decayed materials, cavities, and crown cement, removal of fillings, finishing, and polishing of tooth, and restoration surfaces.

Always follow the manufacturer’s recommendations for the handpiece.
Misuse may damage the handpiece, create risks, and pose hazards for patients, users, and others.
Qualifications of the user
We have based our development and design of the dental handpiece on the dentists, dental hygienists, dental employees (prophylaxis), and dental assistants target group.

Production according to EU Directive
The handpiece is a medical product according to the EU Directive 93/42/EEC.

Device labeling statement
U.S. Federal law restricts this device to sale by or on the order of a dentist, physician, or any other practitioner licensed by the law of the state in which he or she practices to use or order the use of this device.

Responsibility of the manufacturer
The manufacturer can only accept responsibility for the safety, reliability, and performance of the handpiece when it is used in compliance with the following directions:
> The handpiece must be used in accordance with these instructions for use.
> The handpiece has no components that can be repaired by the user. Assembly, modifications, or repairs must only be undertaken by authorized A-dec|W&H repair locations.
Skilled application
The handpiece is intended for use only by trained dental or medical practitioners for the purposes listed under the Indications for Use, in accordance with this document, the applicable health and safety regulations, and the valid accident prevention regulations.
The handpiece should be prepared for use and maintained by staff who are trained in procedures for infection control, personal safety, and patient safety. Improper use, (e.g., through poor hygiene and maintenance), non-compliance with our instructions, or the use of accessories, and spare parts that are not approved by A-dec|W&H invalidates all claims under warranty and any other claims.

Service
In the event of malfunctions contact your local retail A-dec dealer or A-dec customer service.
Service and maintenance work must only be carried out by authorized A-dec|W&H repair locations.
2. Safety notes

> Always ensure the correct operating conditions and cooling function.
> Always ensure that sufficient and adequate cooling is delivered and ensure adequate suction.
  In case of coolant supply failure, the handpiece must be stopped immediately.
> Use only non-contaminated, filtered, oil-free, and dry compressed air to operate the handpiece.
> Check the handpiece for damage and loose parts each time before using (e.g., push-button chuck).
> Do not operate the handpiece if it is damaged.
> Perform a test run each time before using.
> Avoid contact between the instrument head and soft tissue
  (danger of burning due to the push-button chuck heating up).
> Run the rinse function for the dental unit once per day.
Cleaning and maintenance prior to initial use

Ensure that the handpiece is in clean condition and sealed in polyethylene (PE) film when the product is first delivered.

- Lubricate the handpiece prior to initial use.
- Sterilize handpiece and cleaning wire as well as the spacer and threaded pin of the handpiece prior to initial use.

See lubrication instructions on page 24
See sterilization instructions on page 28
3. Product description: HK-43 LT

1. Handpiece sleeve with rotary chuck
2. Spray ports
3. Optic outlet [glass rod]
4. Grip
5. Threaded pin
6. Spacer
7. Cleaning wire
Product description: WK-56 LT, WK-66 LT, WK86LT, WK-93 LT, WK-99 LT

1 Push-button chuck
2 Spray ports
3 Optic outlet (glass rod)
4 Grip
5 Retractable lug
6 Cleaning wire
4. Operation – assembly/removal

Do not install or remove the handpiece while the motor is running!

1. Push the handpiece onto the motor and turn it until it clicks.*
2. Verify that the connection to the motor is secure.
3. Pull the attachment to remove it from the motor.

* WK-99 LT S, WK-93 LT S, WK-56 LT S, WK-66 LT S can only be operated on dental motors with an ISO coupling measuring no longer than 23 mm.
Dental burs

> Use only dental burs in good condition with shanks that meet the requirements of the ISO 1797-1 standard. Follow the manufacturer’s operating instructions.
> Insert the dental bur only when the handpiece is stationary.
> Do not touch the dental bur when it is in motion.
> Do not activate the push-button chuck when the handpiece is in operation. This leads to dental bur detachment, damage to the rotary chuck (handpiece) and/or may cause the push-button chuck to overheat (risk of injury).
Insert and remove the dental bur with push-button chuck

1. Dental bur shank diameter 1.6 mm:
   Insert the dental bur.
   Push the button firmly (c) while simultaneously inserting the dental bur until it reaches the limit stop (a).

2. Dental bur shank diameter 2.35 mm:
   Push the button (c) while simultaneously inserting the dental bur and turning until it clicks into place (b).

3. Pull slightly on the dental bur to verify a secure connection.

4. Press the push-button chuck to remove the dental bur.
Insert the dental bur with rotary chuck

1. Rotate the handpiece sheath counterclockwise (opening) until it clicks.
2. Handpiece bur:
   Insert the dental bur up to the limit stop.
3. Latch type bur:
   Insert the spacer, then insert the dental bur up to the limit stop. The spacer compensates for the difference in length.
4. Rotate the handpiece sheath clockwise (closing) until it clicks.
5. Pull slightly on the dental bur to verify a secure connection.
Do not hold the handpiece at eye level when testing to avoid possible injury.

Insert the dental bur.

Start the handpiece.

If you observe problems, such as vibrations, unusual noise, overheating, smell, coolant supply failure, or leakage, **stop the handpiece immediately** and contact your A-dec dealer or A-dec customer service.
Remove the dental bur with rotary chuck

1. Rotate the handpiece sheath counter-clockwise (opening) until it clicks.
2. Remove the dental bur (handpiece or latch-type).
3. Screw the threaded pin clockwise into the spacer, then pull the spacer out.
4. Rotate the handpiece sheath clockwise (closing) until it clicks.
5. Cleaning and maintenance

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

> You can process the handpiece manually or automatically.

> Wear protective clothing and personal protective equipment (PPE).
> Remove the handpiece from the motor.
> Remove the dental bur.

> Clean and disinfect the handpiece immediately after each patient to flush out any liquid (such as blood, saliva, etc.) and to prevent debris from settling on the internal parts.

> Sterilize the handpiece after each patient, following manual or automated cleaning, disinfection, and lubrication.
> Sterilize the cleaning wire following manual cleaning and disinfection.
Pre-Cleaning

> If heavily soiled, clean first with disinfectant cloths.

Do not use disinfectants that contain chlorine or protein fixatives. See manual disinfection on page 22.

Manual cleaning internal and external

1. Rinse and brush off under demineralized water (< 100°F / < 38°C).
2. Remove any liquid residues (absorbent cloth, blow dry with compressed air).

Do not place the handpiece in liquid disinfectant or in an ultrasonic bath.
Clean spray ports

3 Use the cleaning wire to carefully remove dirt and deposits from the spray ports.

Clean and disinfect the cleaning wire in an ultrasonic bath/disinfection bath.

Cleaning of the coolant tubes

> Use an air syringe to blow air through the coolant tube.

In the case of clogged spray ports or coolant tubes, contact your local A-dec dealer or A-dec customer service.
Clean the optic outlet

⚠️ Clean the handpiece with care and avoid scratching the optic outlet.

1. Wash the optic outlet with cleaning/disinfectant fluid and a soft cloth.
2. Dry the optic outlet with an air syringe or soft cloth.

Inspect after each cleaning process. If the optic outlet is damaged, do not use the handpiece and contact your local A-dec dealer or A-dec customer service.
Manual disinfection

- A-dec | W&H recommends wiping the handpiece down with disinfectant.

> Use only disinfectants that do not contain chlorine and are certified by officially recognized institutes. Use EPA-registered surface disinfectants.
> Note the manufacturer’s specifications for the use of the disinfectants.

After manual cleaning, disinfection, and lubrication, you must sterilize the (wrapped) handpiece using a steam sterilizer.
Automated internal and external cleaning and disinfection

The handpiece can be cleaned and disinfected in a thermal washer disinfector.

> Note the manufacturer’s specifications on equipment, cleaning agents, and detergents.

> Make sure that the handpiece is completely dry internally and externally after thermal washer disinfection.

Remove any liquid residues with compressed air.

> Lubricate the dry handpiece immediately after thermal washer disinfection.
Lubrication

Recommended lubrication cycles
> Essential after every internal cleaning
> before each sterilization,
or
> After 30 minutes of use or
   at least once daily.

1. With W&H Service Oil F1, MD-400
   > Follow the instructions on the oil spray can and the packaging.
or
2. With the A-dec W&H Assistina 301 plus
   > See Instructions for use of Assistina.
Weekly lubrication of the WK-99 LT (S) and WK-93 LT (S) chuck system

1. With W&H Service Oil F1, MD-400
   - Fit the spray cap REF 02036100 on the spray can.
   - Hold the handpiece firmly.
   - Push the tip of the spray nozzle firmly into the chuck system.
   - Spray for approximately 1 second.

or
With the A-dec W&H Assistina 301 plus

> Fit the adaptor REF 02693000 onto the maintenance handpiece. Position the exit nozzle downward.
> Press the bur side of the handpiece onto the adaptor from below.
> Start the Assistina.
> Press the handpiece onto the adaptor for approximately 10 seconds.
> Remove the handpiece from the adaptor.
> Close the cover of the Assistina and allow it to run for the remainder of the maintenance cycle (approximately 25 seconds).
Test following lubrication

1. Place the handpiece with the head positioned downward.
2. Start the handpiece for 30 seconds to remove excess oil.
   > Start at the minimum speed and increase to the maximum speed within 5 to 10 seconds.
   > Repeat the complete cleaning and maintenance process with any sign of dirt or debris.
3. Wipe the handpiece with gauze or soft cloth.
   > Sterilize the handpiece.
Sterilization and storage

- Note the instructions of the unit manufacturer.
- Clean, disinfect, and lubricate before sterilization.
- Place the handpiece in a standard handpiece sterilization pouch.
- Make sure that you only remove dry sterile goods from the sterilizer.
- Store sterile goods dust-free and dry.

👉 The standard ISO 14457 stipulates a durability of at least 250 sterilization cycles. We recommend that you regularly service the A-dec|W&H handpiece after 1,000 sterilization cycles or one year of use.
Approved sterilization procedures

Follow your local directives, standards, and guidelines.

> Dynamic-air-removal sterilizers: 270°F (132°C) for 4 minutes or
> Gravity displacement sterilizers: 270°F (132°C) for 15 minutes

> All other sterilization methods are not approved and must not be used.

⚠️ Do not exceed 277°F (136°C) during sterilization.
Allow the load to dry for approximately 20 to 30 minutes before removing from the sterilizer.
# 6. A-dec|W&H accessories and spare parts

Use only original A-dec|W&H accessories and spare parts or accessories approved by W&H.

**Suppliers:** A-dec|W&H partners

<table>
<thead>
<tr>
<th>Code</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>301</td>
<td>Assistina</td>
</tr>
<tr>
<td>02693000</td>
<td>Assistina adaptor for chuck system</td>
</tr>
<tr>
<td>10940021</td>
<td>Service Oil F1, MD-400 (6 pcs)</td>
</tr>
<tr>
<td>02038200</td>
<td>Spray cap with nozzle for handpiece</td>
</tr>
<tr>
<td>02036100</td>
<td>Spray cap with spray nozzle for chuck system</td>
</tr>
<tr>
<td>02015101</td>
<td>Cleaning wire</td>
</tr>
<tr>
<td>01312500</td>
<td>Spacer</td>
</tr>
<tr>
<td>01312600</td>
<td>Threaded pin (for dismantling spacer)</td>
</tr>
</tbody>
</table>
### 7. Technical data handpiece

<table>
<thead>
<tr>
<th>Synea 500 series</th>
<th>HK-43 LT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission ratio</td>
<td>1 : 1</td>
</tr>
<tr>
<td>Colour coding</td>
<td>blue</td>
</tr>
<tr>
<td>Motor coupling</td>
<td>according to ISO 3964</td>
</tr>
<tr>
<td>Dental bur shank diameter</td>
<td>2.35 mm acc. to ISO 1797-1 (mm)</td>
</tr>
<tr>
<td>Length in mm approved by W&amp;H *</td>
<td>Contra-angle bur 34 mm Handpiece bur 50 mm</td>
</tr>
<tr>
<td>Chuck*</td>
<td>Contra-angle shank: with bur limit stop Handpiece shank</td>
</tr>
<tr>
<td>Minimum chuck length *</td>
<td>12 mm to the limit stop</td>
</tr>
<tr>
<td>Maximum motor speed</td>
<td>40,000 rpm</td>
</tr>
<tr>
<td>Spray flow rate</td>
<td>&gt; 0.013 gal/min according to ISO 14457</td>
</tr>
<tr>
<td>Water setting range (recommended water pressure) **</td>
<td>7 – 29 (22) psi</td>
</tr>
<tr>
<td>Chip air setting range (recommended chip air pressure) **</td>
<td>22 – 43.5 (29) psi</td>
</tr>
<tr>
<td>Chip air consumption at 29 psi</td>
<td>&gt; 0.053 CFM</td>
</tr>
</tbody>
</table>

* see page 34
<table>
<thead>
<tr>
<th>Synea 500 series</th>
<th>WK-99 LT</th>
<th>WK-93 LT</th>
<th>WK-56 LT</th>
<th>WK-66 LT</th>
<th>WK-86 LT</th>
</tr>
</thead>
<tbody>
<tr>
<td>Transmission ratio</td>
<td>1:5</td>
<td>1:4.5</td>
<td>1:1</td>
<td>2:1</td>
<td>10:1</td>
</tr>
<tr>
<td>Colour coding</td>
<td>orange</td>
<td>orange</td>
<td>blue</td>
<td>green</td>
<td>green</td>
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<tr>
<td>Motor coupling according to</td>
<td>ISO 3964</td>
<td>ISO 3964</td>
<td>ISO 3964</td>
<td>ISO 3964</td>
<td>ISO 3964</td>
</tr>
<tr>
<td>Dental bur shank diameter</td>
<td>ISO 1797 -1 (mm)</td>
<td>1.6</td>
<td>1.6</td>
<td>2.35</td>
<td>2.35</td>
</tr>
<tr>
<td>Length in mm approved by W&amp;H *</td>
<td>(mm)</td>
<td>25</td>
<td>21</td>
<td>34</td>
<td>34</td>
</tr>
<tr>
<td>Maximum operating part diameter</td>
<td>(mm)</td>
<td>2.5</td>
<td>2</td>
<td>–</td>
<td>–</td>
</tr>
<tr>
<td>Minimum chuck length</td>
<td>until limit stop</td>
<td>until limit stop</td>
<td>engaging</td>
<td>engaging</td>
<td>engaging</td>
</tr>
<tr>
<td>Maximum motor speed</td>
<td>(rpm)</td>
<td>40,000</td>
<td>40,000</td>
<td>40,000</td>
<td>40,000</td>
</tr>
<tr>
<td>Spray flow rate according to ISO 14457 (gal/min)</td>
<td>&gt; 0.013</td>
<td>&gt; 0.013</td>
<td>&gt; 0.013</td>
<td>&gt; 0.013</td>
<td>&gt; 0.013</td>
</tr>
<tr>
<td>Water setting range (recommended water pressure) **</td>
<td>(psi)</td>
<td>7 – 29 (22)</td>
<td>7 – 29 (22)</td>
<td>7 – 29 (22)</td>
<td>7 – 29 (22)</td>
</tr>
<tr>
<td>Chip air setting range (recommended chip air pressure) **</td>
<td>(psi)</td>
<td>22 – 43.5 (29)</td>
<td>22 – 43.5 (29)</td>
<td>22 – 43.5 (29)</td>
<td>22 – 43.5 (29)</td>
</tr>
<tr>
<td>Chip air consumption at 29 psi</td>
<td>(CFM)</td>
<td>&gt; 0.053</td>
<td>&gt; 0.053</td>
<td>&gt; 0.053</td>
<td>&gt; 0.053</td>
</tr>
</tbody>
</table>

* see page 34
## Technical data contra-angle handpieces

<table>
<thead>
<tr>
<th>Synea 500 series compact</th>
<th>WK-99 LT S</th>
<th>WK-93 LT S</th>
<th>WK-56 LT S</th>
<th>WK-66 LT S</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Transmission ratio</strong></td>
<td>1:5</td>
<td>1:4,5</td>
<td>1:1</td>
<td>2:1</td>
</tr>
<tr>
<td><strong>Colour coding</strong></td>
<td>orange</td>
<td>orange</td>
<td>blue</td>
<td>green</td>
</tr>
<tr>
<td><strong>Motor coupling with max. length 23 mm</strong></td>
<td>ISO 3964</td>
<td>ISO 3964</td>
<td>ISO 3964</td>
<td>ISO 3964</td>
</tr>
<tr>
<td><strong>Dental bur shank diameter</strong></td>
<td>ISO 1797-1 (mm)</td>
<td>1.6</td>
<td>1.6</td>
<td>2.35</td>
</tr>
<tr>
<td><strong>Length in mm approved by W&amp;H</strong></td>
<td>(mm)</td>
<td>25</td>
<td>21</td>
<td>34</td>
</tr>
<tr>
<td><strong>Maximum operating part diameter</strong></td>
<td>(mm)</td>
<td>2.5</td>
<td>2</td>
<td>–</td>
</tr>
<tr>
<td><strong>Minimum chuck length</strong></td>
<td>until limit stop</td>
<td>until limit stop</td>
<td>engaging</td>
<td>engaging</td>
</tr>
<tr>
<td><strong>Maximum motor speed</strong></td>
<td>(rpm)</td>
<td>40,000</td>
<td>40,000</td>
<td>40,000</td>
</tr>
<tr>
<td><strong>Spray flow rate</strong></td>
<td>ISO 14457 (gal/min)</td>
<td>&gt; 0.013</td>
<td>&gt; 0.013</td>
<td>&gt; 0.013</td>
</tr>
<tr>
<td><strong>Water setting range (recommended water pressure)</strong></td>
<td>(psi)</td>
<td>7 – 29 (22)</td>
<td>7 – 29 (22)</td>
<td>7 – 29 (22)</td>
</tr>
<tr>
<td><strong>Chip air setting range (recommended chip air pressure)</strong></td>
<td>(psi)</td>
<td>22 – 43.5 (29)</td>
<td>22 – 43.5 (29)</td>
<td>22 – 43.5 (29)</td>
</tr>
<tr>
<td><strong>Chip air consumption at 2 psi</strong></td>
<td>(CFM)</td>
<td>&gt; 0.053</td>
<td>&gt; 0.053</td>
<td>&gt; 0.053</td>
</tr>
</tbody>
</table>

* see page 34
* HK-43 LT:
If the dental bur is not inserted up to the limit stop, the minimum chuck length must be maintained. In this case, or when using dental burs longer than 50 mm, the user must ensure, with consideration of the operating conditions, that there is no danger to the user, patients or third parties.

* WK-56 LT, WK-66 LT, WK-86 LT, WK-93 LT, WK-99 LT
WK-99 LT S, WK-93 LT S, WK-56 LT S, WK-66 LT S:
When using longer dental burs (or if the dental bur is not inserted up to the limit stop), the user must ensure, with consideration of the operating conditions, that there is no danger to the user, patient, or third parties.

** The chip air pressure/ water pressure must be set at the same time
The chip air pressure must be higher than the water pressure

\[ \text{rpm} = \text{min}^{-1} \text{ (revolutions per minute)} \]
Temperature information
Temperature of the handpiece at the operator side: max. 131°F (55°C)
Temperature of the handpiece at the patient side: max. 122°F (50°C)
Temperature of the working part (dental bur): max. 105.8°F (41°C)

Physical characteristics
Temperature for storage and transport: -40°F to +158°F (-40°C to +70°C)
Air humidity for storage and transport: 8% to 80% (relative), non-condensing

Ambient temperature during operation: +50°F to +95°F (+10°C to +35°C)
Air humidity during operation: 15% to 80% (relative), non-condensing
8. Recycling and disposal

Recycling
W&H considers that it has a special duty toward the environment. The handpiece along with its packaging has been designed to be as environmentally friendly as possible.

Disposal of the handpiece
Follow your local laws, directives, standards, and guidelines for the disposal of used electrical devices.
Ensure that the parts are not contaminated on disposal.

Disposal of the packaging material
All packaging materials have been selected according to environmentally compatible and disposal aspects and can be recycled. Please send old packaging materials to the relevant collection and reprocessing system. This way, you will contribute to the recycling of raw materials and the reduction of waste.
A-dec warrants all products in this document against defects in material or workmanship for one year from time of delivery. A-dec's sole obligation under the warranty is to provide parts for the repair, or at its option, to provide the replacement product (excluding labor). The buyer shall have no other remedy. All special, incidental, and coincidental damages are excluded.

Written notice of breach of warranty must be given to A-dec within the warranty period. The warranty does not cover damage resulting from improper installation or maintenance, accident or misuse. The warranty does not cover damage resulting from the use of cleaning, disinfecting or sterilization chemicals and processes. Failure to follow instructions provided in the A-dec/W&H instructions for use (operation and maintenance instructions) may void the warranty.

No other warranties as to merchantability or otherwise are made.
A-dec | W&H contacts

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