PEOPLE HAVE PRIORITY

Instructions for use



CE
0297

alegra

Turbine handpieces with light
Turbine handpieces without light

Turbine handpieces with light

TE-98 LED G, TE-98 LED G BC, TE-98 LED G RM,
TE-98 LED G M, TE-98 LED G N, TE-98 LED G B, TE-98 LED G NQ, TE-98 LED G S

TE-98 C LED G, TE-98 C LED G BC, TE-98 C LED G RM,
TE-98 C LED G M, TE-98 C LED G N, TE-98 C LED G B, TE-98 C LED G NQ, TE-98 C LED G S

TE-97 LED G, TE-97 LED G BC, TE-97 LED G RM,
TE-97 LED G M, TE-97 LED G N, TE-97 LED G B, TE-97 LED G NQ, TE-97 LED G S

TE-97 C LED G, TE-97 C LED G BC, TE-97 C LED G RM,
TE-97 C LED G M, TE-97 C LED G N, TE-97 C LED G B, TE-97 C LED G NQ, TE-97 C LED G S

Turbine handpieces without light

TE-98, TE-98 BC, TE-98 RM, TE-98 M, TE-98 N, TE-98 B, TE-98 NQ, TE-98 S
TE-98 C, TE-98 C BC, TE-98 C RM, TE-98 C M, TE-98 C N, TE-98 C B, TE-98 C NQ, TE-98 C S

TE-97, TE-97 BC, TE-97 RM, TE-97 M, TE-97 N, TE-97 B, TE-97 NQ, TE-97 S
TE-97 C, TE-97 C BC, TE-97 C RM, TE-97 C M, TE-97 C N, TE-97 C B, TE-97 C NQ, TE-97 C S

TE-95, TE-95 BC, TE-95 RM

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W&H Symbols



WARNING!
(risk of injury)



ATTENTION!
(to prevent
damage occurring)



General
explanations,
without risk to
persons or objects



Thermo washer
disinfectable



Sterilizable
up to the stated
temperature



Data Matrix Code for product identification,
e.g. in hygienic maintenance process

Only for USA
Caution! 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 the device.

1. Introduction

Customer satisfaction has absolute priority in the W&H quality policy. This 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. These explain how to use your W&H product and guarantee a smooth and efficient operation.

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

Misuse can damage the turbine handpiece and involves risk and danger to the patients, user and third parties.

Production according to EU directive

CE 0297 This turbine handpiece is a medical product according to the EU directive 93/42/ECC.

Skilled application

The turbine handpiece is intended only for skilled application in the dental or medical field according to its purpose of use in compliance with the valid health and safety at work regulations and the valid accident prevention regulations as well as in compliance with these Instructions for use. The turbine handpiece should be prepared for use and maintained by staff who have been trained in procedures for infection control, personal safety and patient safety. Improper use, (e.g. through poor hygienic maintenance), non-compliance with our instructions or the use of accessories and spare parts which are not approved by W&H, invalidates all claims under warranty and any other claims.

Service

In case of service or repair contact an authorized W&H service partner (see page 39). Service and maintenance work must only be carried out by an authorized W&H service partner.

2. Before use – Safety notes



- The operation of the turbine with light is permitted only on dental units which correspond to the standards IEC 60601-1 (EN 60601-1) and IEC 60601-1-2 (EN 60601-1-2).
  The power supply unit for the dental unit must comply with the following requirements:
  - The compliance with the leakage currents of the application section must be guaranteed by the system assembler.
  - The secondary voltage must be non-earthed.
  - The secondary circuits must be protected against short-circuiting and overloading.
- Danger zones M and G
  In accordance with IEC 60601-1 / UL 60601-1, the turbine handpiece is not suitable for use in potentially explosive atmospheres or with potentially explosive mixtures of anaesthetic substances containing oxygen or nitrous oxide.
- 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 turbine handpiece must be stopped immediately.
- Use only non-contaminated, filtered, oil-free and dry compressed cooling air to operate the turbine handpiece.

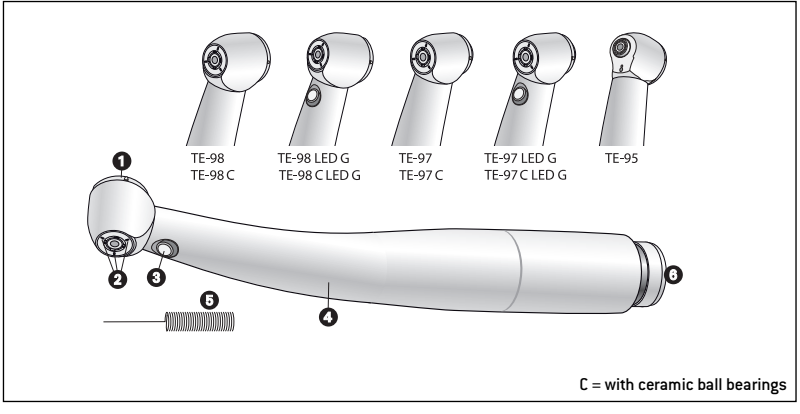
> Check the turbine handpiece for damage and loose parts prior to use (e.g. leaks at the BC/RM connection, press button).
> Do not use the turbine handpiece at soft tissue wounds in the mouth (the air pressure can cause septic substances to penetrate the tissue, resp. can cause embolism).
> Avoid contact between the instrument head and soft tissue (danger of burning due to the press button heating up).
> Do not use the turbine as a light sensor.
> Do not look directly into the optic outlet.

Hygienic maintenance prior to initial use

The turbine handpiece is in a clean condition and sealed in PE-film when delivered. Lubricate the turbine handpiece prior to initial use. Sterilize turbine handpiece and nozzle cleaner.

> Oil service Page 25
> Sterilization Page 29

3. Product description



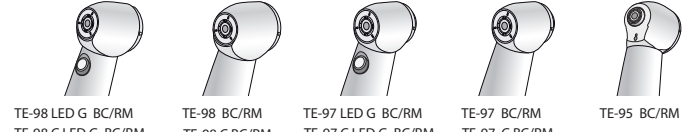
C = with ceramic ball bearings

Turbine with/without light for Roto Quick coupling

1. Press button
2. Spray nozzles
3. LED*
4. Sleeve
5. Nozzle cleaner
6. RQ connection

* TE-98 LED G, TE-98 C LED G TE-97 LED G, TE-97 C LED G

Product description



C = with ceramic ball bearings

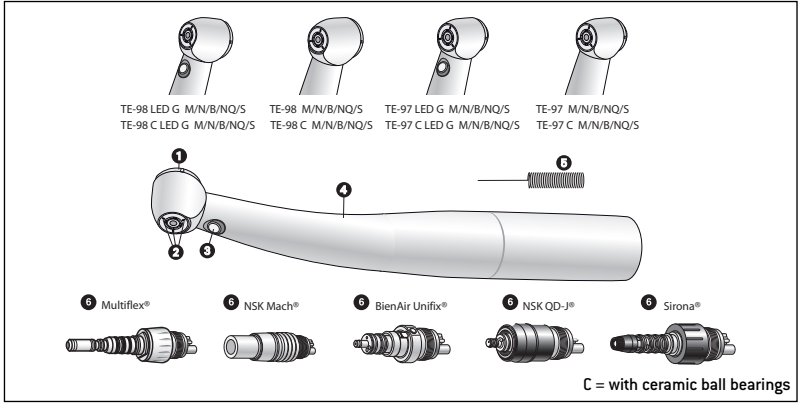
Turbine with/without light for BC/RM connections

❶ Press button
❷ Spray nozzles
❸ LED*
❹ Sleeve
❺ Nozzle cleaner
❻ Turbine hose
❼ Seal

* TE-98 / 97 LED G BC/RM
TE-98 / 97 C LED G BC/RM

Connections:
❽ Drive air
❾ Coolant
❿ Spray air
⓫ Return air

Product description

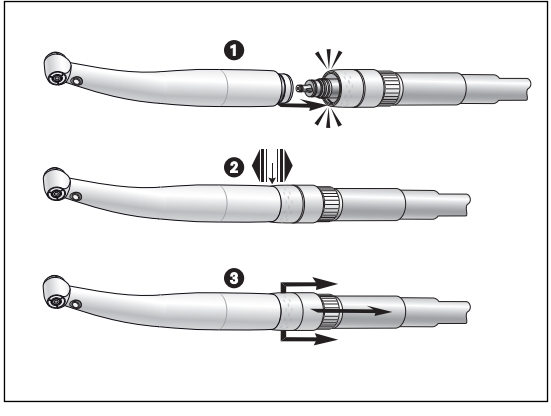


Turbine with/without light for *Multiflex®*, *NSK Mach®*, *BienAir Unifix®*, *NSK QD-J®* and *Sirona®* connections

❶ Press button
❷ Spray nozzles
❸ LED*
❹ Sleeve
❺ Nozzle cleaner
❻ Connections

* TE-98 LED G M/N/B/NQ/S
TE-98 C LED G M/N/B/NQ/S
TE-97 LED G M/N/B/NQ/S
TE-97 C LED G M/N/B/NQ/S

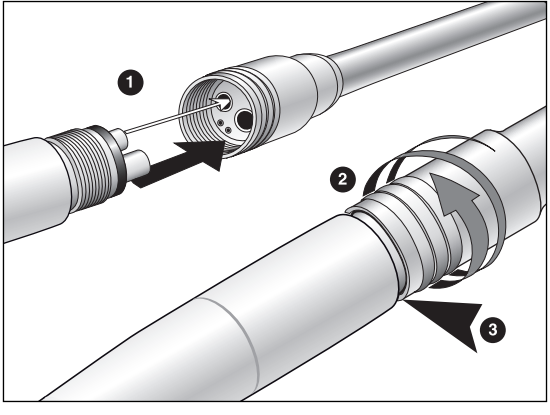
4. Operation



Assembly and removal (Roto Quick connections)

Do not assemble / remove during operation!

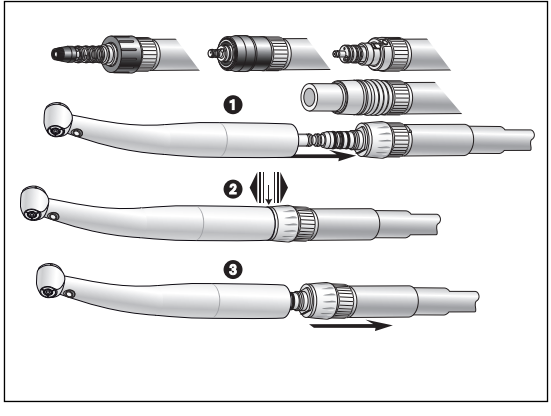
❶ Attach the turbine handpiece to the Roto Quick coupling.
❷ Check the secure hold on the Roto Quick coupling.
❸ Pull the retention sleeve of the Roto Quick coupling back and remove the turbine handpiece by pulling in an axial direction.



Assembly and removal (BC/RM connections)

Do not assemble / remove during operation!

❶ Insert the turbine handpiece with BC/RM connection into the apertures of the turbine hose.
❷ Firmly screw the union nut on.
❸ Check for leaks at the turbine handpiece with RM connection (not possible at BC connection as the return air escapes at the sheath).
> Unscrew the union nut and remove the turbine handpiece from the turbine hose.



Assembly and removal
(*Multiflex®, NSK Mach®, BienAir Unifix®, NSK QD-J®* and *Sirona®* connections)

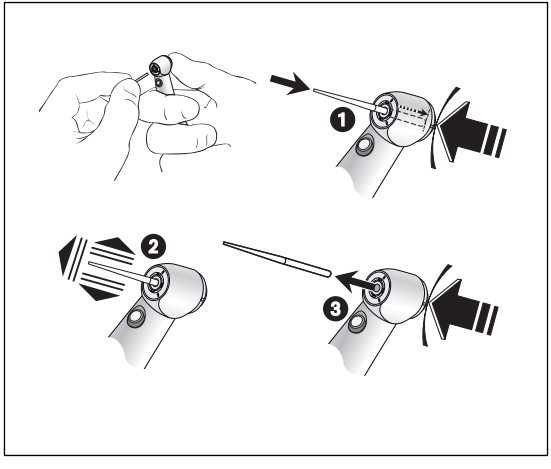
Do not assemble/remove during operation!

❶ Attach the turbine handpiece to the *Multiflex®, NSK Mach®, BienAir Unifix®, NSK QD-J®* and/or *Sirona®* coupling as described by the coupling manufacturer.
❷ Check that the connection to the coupling is secure.
❸ Remove the *Multiflex®, NSK Mach®, BienAir Unifix®, NSK QD-J®* and/or *Sirona®* coupling as described by the coupling manufacturer.

Rotary instruments



> Use only rotary instruments which are in perfect condition and which have shanks that meet the requirements of the DIN EN ISO 1797-1 standard. Follow the operating instructions of the manufacturer.
> Insert rotary instruments only when the turbine handpiece is stationary.
> Do not interfere with the running or slowing down of rotary instruments (protection against injury and infection).
> Do not activate the press button of the turbine handpiece during operation or slowing down. This leads to detachment of the rotary instrument and overheating of the press button (risk of injury).



To change rotary instrument

❶ Activate the press button and at the same time insert the rotary instrument until it reaches the limit stop.
❷ Check secure location by applying slight axial tension.
❸ Remove the rotary instrument by pushing the press button.

Test run

> Insert rotary instrument.
> Start the turbine handpiece.
> If you observe problems (e.g. vibrations, unusual noise, overheating, coolant supply failure or leakage), or discoloration of the LED, **stop the turbine handpiece immediately** and contact an authorized W&H service partner (see Page 39).

5. Hygienic maintenance



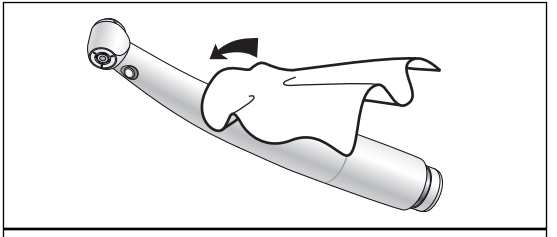
> Follow your country-specific directives, standards and guidelines for cleaning, disinfection and sterilization.
> You can process the turbine handpiece manually or mechanically.

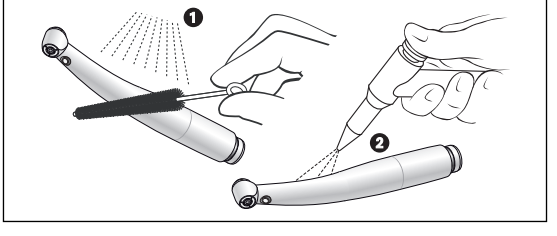


> Wear protective clothing.
> Remove the rotary instrument.
> Remove the turbine handpiece from the coupling and/or from the turbine hose.

> Clean and disinfect the turbine handpiece **immediately after every treatment,** to flush out any liquid (e. g. blood, saliva etc.), which may have seeped in and to prevent settling on the internal parts.

> Sterilize the turbine handpiece following manual or mechanical cleaning, disinfection and lubrication.
> Sterilize the nozzle cleaner following cleaning and disinfection.





Pre-disinfection

> If heavily soiled: Clean first with disinfectant cloths.

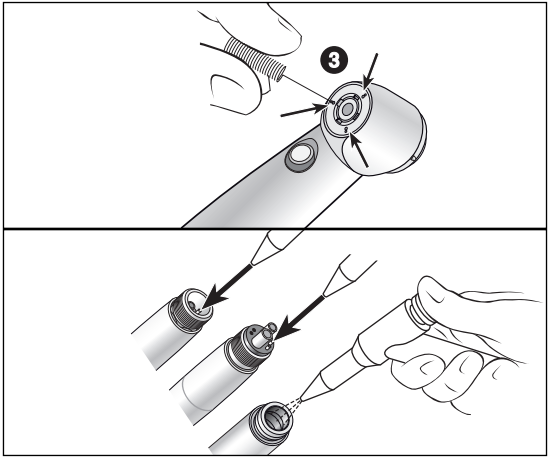
Only use disinfectants that have no protein-fixing effects.

Manual cleaning internal and external

❶ Rinse under demineralized water (< 38 °C) with the aid of a brush (brush is not recommended in U.K.)

❷ Then remove any liquid residues (absorbent cloth, blow dry with compressed air).

Do not place the turbine in liquid disinfectant or in an ultrasonic bath.



Clean spray nozzles

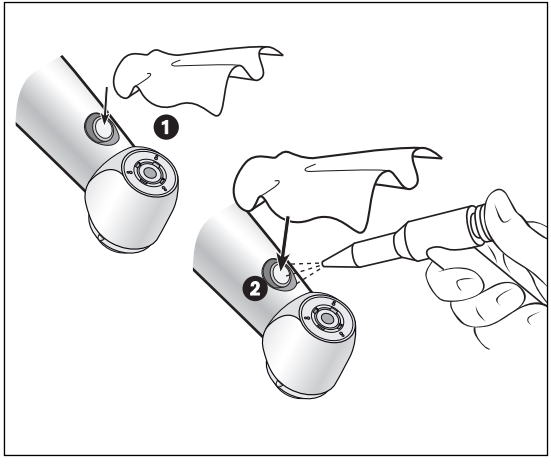
❸ Clean coolant outlets carefully with the nozzle cleaner from dirt and deposits.

> Clean and disinfect the nozzle cleaner in an ultrasonic bath/disinfection bath.

Clean coolant tubes

Blow through the coolant tube with an air syringe.

In the case of clogged up spray nozzles or coolant tubes contact an authorized W&H service partner (see Page 39).



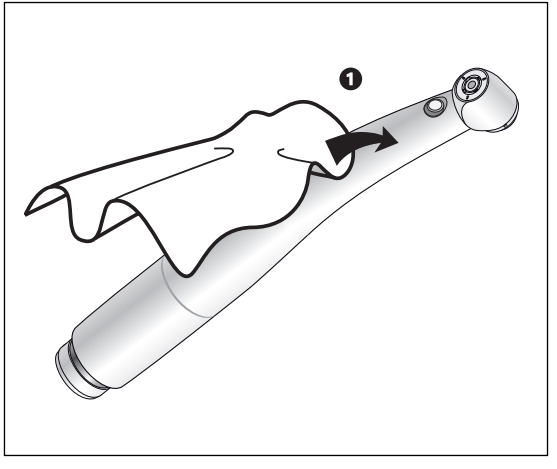
Cleaning of the optic outlet

Avoid scratching of the optic outlet!

❶ Wash the optic outlet with cleaning fluid and a soft cloth.

❷ Blow the optic outlet with air syringe or dry it carefully with a soft cloth.

Carry out a visual inspection after each cleaning process. Do not use the turbine handpiece if the optic outlet is damaged and contact an authorized W&H service partner (see Page 39).



Manual disinfection

> Disinfection with disinfectants,
  ❶ wiping disinfection is recommended.
> Use only disinfectants which do not contain chlorine and which are certified by officially recognized institutes. **For USA:** Use EPA registered surface disinfectants.
> Note the manufacturer's specifications for the use of the disinfectants.

After manual cleaning, disinfection and lubrication you must carry out a final thermal disinfection (unwrapped) or sterilization (wrapped) in the class B or S steam sterilizer (according to EN 13060).

Mechanical cleaning and disinfection internal and external



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

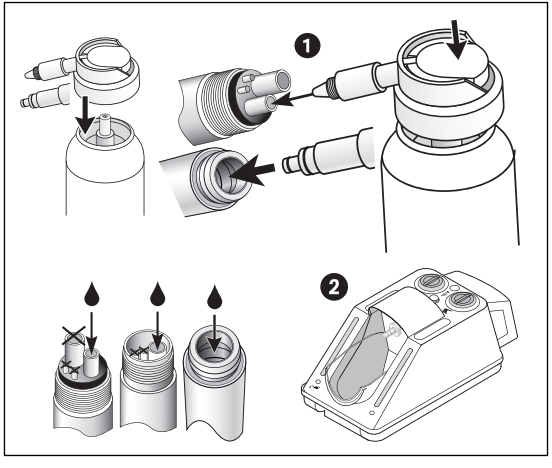


W&H recommends processing with thermo washer disinfector.

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



> Make sure, that the turbine handpiece is completely dry internally and externally after thermo washer disinfection. Remove any liquid residues with compressed air.
> Lubricate the turbine handpiece immediately after thermo washer disinfection.



Daily oil service

Always use the appropriate spray cap with spray nozzle.

❶ Only with W&H Service Oil F1, MD-400

> Follow the instructions for use of the oil spray can.

or

❷ Only with W&H Assistina

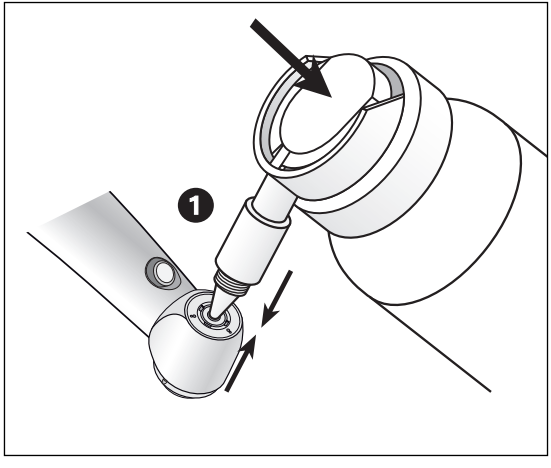
> See instructions for use of Assistina

Recommended lubrication cycles:

> essential after every internal cleaning
> before each sterilization

or

> after 30 minutes of use or at least once daily

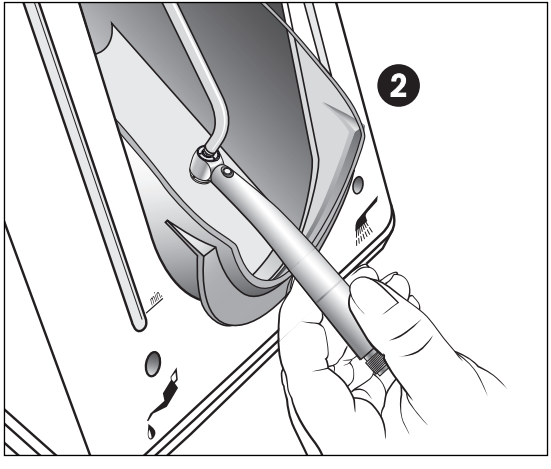


Weekly oil service of the chuck system

❶ Only with W&H Service Oil F1, MD-400

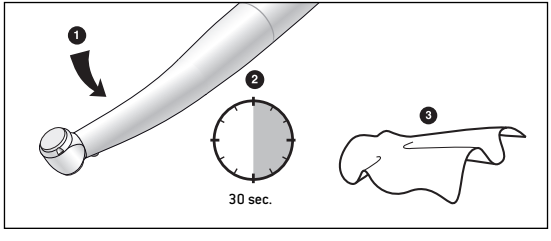
> Fit the spray cap REF 02036100 on the spray can.
> Grip the turbine firmly.
> Press the tip of the spray nozzle firmly into the chuck system.
> Spray for approx. 1 second.

or



❷ Only with W&H Assistina

> Fit the adaptor REF 02693000 onto the maintenance attachment. Direct spray exit nozzle downwards.
> Press the bur side of the turbine handpiece onto the adaptor from below.
> Start the Assistina.
> Press the turbine handpiece onto the adaptor for approx. 10 seconds.
> Remove the turbine handpiece from the adaptor.
> Close the cover of the Assistina and allow it to run for the remainder of the maintenance cycle (approx. 25 seconds).



Test run following oil service

❶ Place the turbine handpiece with the head downward.

❷ Start the turbine handpiece for 30 seconds to remove excessive oil.

> Repeat the complete hygiene and maintenance process at any sign of dirt re-emerging.

❸ Wipe the turbine handpiece with gauze or soft cloth.

Sterilization and storage


W&H recommends sterilization according to EN 13060, class B

> Note the instructions of the unit manufacturer.
> Clean, disinfect and lubricate before sterilizing.
> Wrap the turbine and the accessory in sterile goods packing according to EN 868-5.
> Make sure, that you only remove dry sterile goods.
> Store sterile goods dust-free and dry.

Approved sterilization procedures

 Follow your country-specific directives, standards and guidelines.

> Steam sterilization class B (pre and post vaccum) with sterilizers in accordance with EN 13060.
Sterilization holding time a minimum of 3 minutes at 134 °C (273.2 °F)

or

> Steam sterilization class S with sterilizers in accordance with EN 13060.
The sterilizer manufacturer must give their express approval for the sterilization of turbine handpieces.
Sterilization holding time a minimum of 3 minutes at 134 °C (273.2 °F)

6. W&H Accessories

Use only original W&H accessories and spare parts!

Suppliers: W&H partners

301	W&H Assistina
02671500	Turbine adaptor complete
02083500	RM intermediate adapter on Borden 2(3)-hole fixed connection
02690400	Assistina adapter for all W&H products with the Roto Quick system
04713200	Assistina adapter for *Multiflex*® connection
02693000	Assistina adapter for chuck system
10940021	W&H Service Oil F1, MD-400 (6 pcs)
02036100	Spray cap with nozzle for chuck system
02229200	Spray cap with nozzle for all W&H products with the Roto Quick system
04396100	Spray cap with nozzle for *Multiflex*® connection

05772000	Spray cap with nozzle for *Bien Air Unifix®* connection
05773300	Spray cap with nozzle for *NSK Mach®* connection
05907800	Spray cap with nozzle for *NSK QD-J®* connection
05908000	Spray cap with nozzle for *Sirona®* connection

02015101	Nozzle cleaner
02207300	RM seal
01000700	BC seal

7. Technical Data

* *Multiflex®* is a registered trade mark of Kaltenbach & Voigt GmbH & Co. KG, Biberach
* *NSK Mach®*, *NSK QD-J®* is a registered trade mark of NSK NAKANISHI INC., Japan
* *BienAir Unifix®* is a registered trade mark of Bien-Air Dental SA, Bienne
* *Sirona®* is a registered trade mark of Sirona Dental Systems GmbH, Bensheim



** When using longer rotary instruments (or if the rotary instrument is not inserted up to the limit stop), the user must ensure by correct selection of the operating conditions, that there is no danger to the user, patient or third parties.

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

Power and speed data of air driven motors are largely dependent on the quality of the turbine hoses used and may therefore differ from the specified values.

Alegra turbines with light		TE-98 (C) LED G TE-98 (C) LED G BC/RM TE-98 (C) LED G M*/N*/B*/NQ*/S*	TE-97 (C) LED G TE-97 (C) LED G BC/RM TE-97 (C) LED G M*/N*/B*/NQ*/S*
Rotary instruments	EN ISO 1797-1:1995 (0 mm)	1.6 – 0.01	1.6 – 0.01
max. length approved by W&H	(mm)	25**	21**
min. chuck length		to the limit stop	to the limit stop
max. operating part diameter	(mm)	2	2
Idle mode speed (measured at 2.5 bar)	(rpm)	330,000 ± 30,000	390,000 ± 30,000
Coolant supply volume	ISO 7785-1 (ml/min)	> 50	> 50
Water setting range (rec. water pressure)	(bar)	0.7 – 2 (1.5)***	0.7 – 2 (1.5)***
Chip air setting range (rec. chip air pressure)	(bar)	1.5 – 3 (2)***	1.5 – 3 (2)***
Return air pressure	(bar)	< 0.5	< 0.5
Operating pressure (rec. operating pressure)	(bar)	2.5 – 2.8	2.5 – 2.8
Air consumption	(Nl/min)	30-45	30-45
Chip air consumption at 2 bar	(Nl/min)	> 1.5	> 1.5
Intensity of illumination	(Lux)	22,000	22,000

* see page 33

Alegra turbines without light		TE-98 (C) / TE-98 (C) BC/RM TE-98 (C) M*/N*/B*/NQ*/S* TE-95 / TE-95 BC/RM	TE-97 (C) / TE-97 (C) BC/RM TE-97 (C) M*/N*/B*/NQ*/S*
Rotary instruments	EN ISO 1797-1:1995 (0 mm)	1.6 – 0.01	1.6 – 0.01
max. length approved by W&H	(mm)	25**	21**
min. chuck length		to the limit stop	to the limit stop
max. operating part diameter	(mm)	2	2
Idle mode speed (measured at 2.5 bar)	(rpm)	330,000 ± 30,000	390,000 ± 30,000
Coolant supply volume	ISO 7785-1 (ml/min)	> 50	> 50
Water setting range (rec. water pressure)	(bar)	0.7 – 2 (1.5)***	0.7 – 2 (1.5)***
Chip air setting range (rec. chip air pressure)	(bar)	1.5 – 3 (2)***	1.5 – 3 (2)***
Return air pressure	(bar)	< 0.5	< 0.5
Operating pressure (rec. operating pressure)	(bar)	2.5 – 2.8	2.5 – 2.8
Air consumption	(Nl/min)	30-45	30-45
Chip air consumption at 2 bar	(Nl/min)	> 1.5	> 1.5

* see page 33

Physical characteristics

Temperature in storage:	-40 °C to +70 °C (-40 °F to +158 °F)
Air humidity in storage:	8 % to 80 % (relative), non-condensing at +40 °C (+104 °F)
Temperature in operation:	+10 °C to +40 °C (+50 °F to +104 °F)
Air humidity in operation:	15 % to 80 % (relative), non-condensing at +40 °C (+104 °F)

Letter of indemnity

This W&H product has been manufactured with great care by highly qualified specialists. A wide variety of tests and controls guarantee 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 manufacturer, W&H is liable for material or manufacturing defects within a warranty period of 12 months from the date of purchase.

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.

12 Months Warranty

Authorized W&H service partner

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

W&H (UK) LIMITED, 6 Stroud Wood Business Centre, Park Street, St Albans, Herts AL2 2NJ, United Kingdom
t + 44 1727 874990, **f** + 44 1727 874628, E-Mail: technical.uk@wh.com

W&H Impex Inc., 6490 Hawthorne Drive, Windsor, Ontario, N8T 1J9, Canada
t + 1 800 2656277, + 1 519 9446739, **f** + 1 519 9746121, E-Mail: service.ca@wh.com

W&H Impex Inc., 14300 Henn Rd., Dearborn, MI 48126, USA
t + 1 800 2656277, + 1 519 9446739, **f** + 1 519 9746121, E-Mail: service.us@wh.com

W&H DENTAL-MECHANIK (ASIA) PTE-LTD., 18 Boon Lay Way, #10-94 Tradehub 21, 609966 Singapore
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A-DEC AUSTRALIA CO. INC., Unit 8, 5-9 Ricketty Street, Mascot NWS 2020, Australia
t + 61 2 83324000, **f** + 61 2 83324099, E-Mail: a-dec@a-dec.com.au

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