PEOPLE HAVE PRIORITY

Instructions for use



CE
0297

alegra

Handpiece
HE-43, HE-43 A/E

Contra-angle handpieces with light
WE-56 LED G, WE-66 LED G, WE-99 LED G

Contra-angle handpieces without light
WE-56, WE-56 A/E, WE-57 E, WE-66, WE-66 A/E, WE-99 A

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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 is the main priority under 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 straight and contra-angle handpiece 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.

Misuse can damage the handpiece/contra-angle and involves risk and danger to the patient, user and third parties.

Production according to EU directive

CE 0297 The straight/contra-angle handpiece is a medical product according to the EU-directive 93/42/EEC.

Skilled application

The straight/contra-angle handpiece is intended only for skilled application in dentistry according to its purpose of use in compliance with the valid health and safety at work regulations, the valid accident prevention regulations as well as in compliance with these Instructions for Use. The handpiece / contra-angle 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



- > Always ensure the correct operating conditions and cooling function.
- > Always ensure that sufficient and adequate cooling is delivered and ensure adequate evacuation. In case of coolant supply failure, the straight/contra-angle handpiece must be stopped immediately.
- > Check the straight/contra-angle handpiece for damage and loose parts prior to use (e.g. press button on the contra-angle handpiece).
- > Use only non-contaminated, filtered, oil-free and dry compressed cooling air to operate the straight-/contra-angle handpiece.
- > The operation of the contra-angle handpiece 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).
- > Danger zones M and G
  In accordance with IEC 60601-1 / UL 60601-1, the straight/contra-angle handpiece is not suitable for use in potentially explosive atmospheres or with potentially explosive mixtures of anaesthetic substances containing oxygen or nitrous oxide.

> Avoid contact between the instrument head and soft tissue (danger of burning due to the press-button heating up).
> Do not use the contra-angle handpiece as a light sensor.
> Do not look directly into the optic outlet.

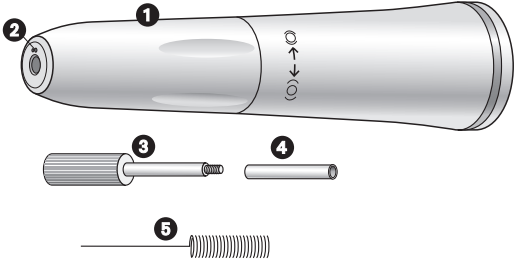
The brightness is dependent on the motor speed.
Always start the motor with a speed of at least 9,000 rpm.

Hygienic maintenance prior to initial use

The straight/contra-angle handpiece is in a clean condition and sealed in PE-film when delivered. Lubricate the contra-angle handpiece prior to initial use. Sterilize straight/contra-angle handpiece, rotary instrument and nozzle cleaner as well as the limit stop and pin remover of the straight handpiece.

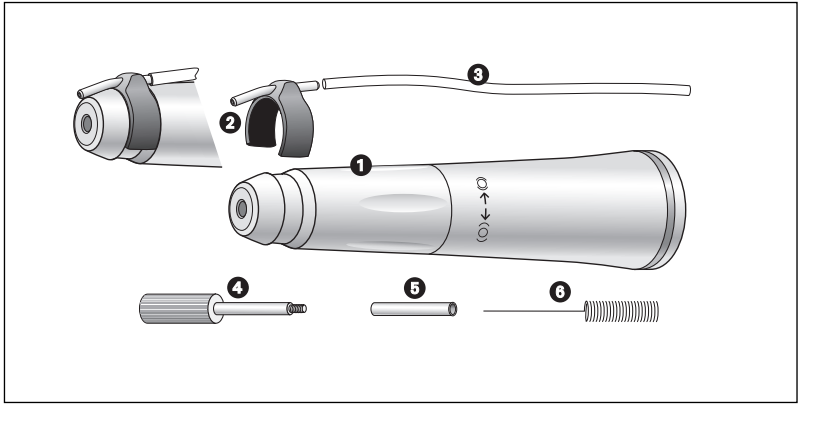
> Oil service Page 25
> Sterilization Page 29

3. Product description



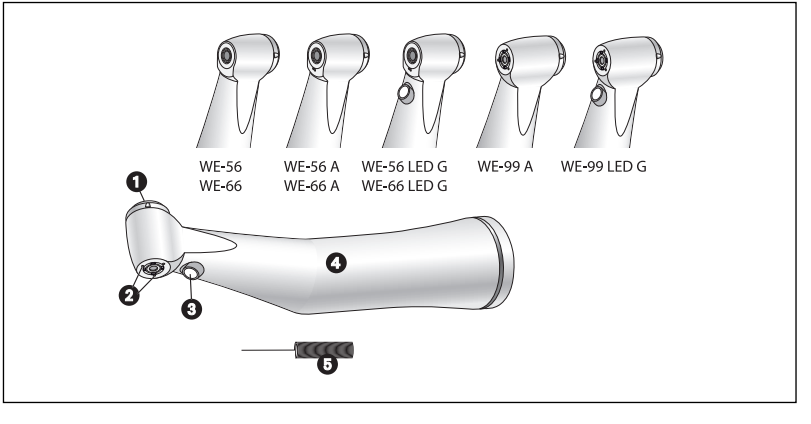
Straight handpiece HE-43 (without spray)
Straight handpiece HE-43 A (Spray internal)

❶ Handpiece sleeve with twist check
❷ Spray nozzles (HE-43 A)
❸ Threaded pin
❹ Bur limit stop
❺ Nozzle cleaner



Straight handpiece HE-43 E (Spray external)

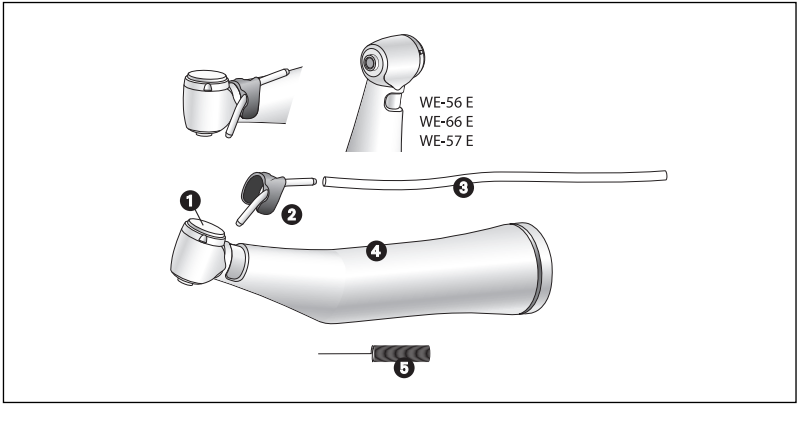
❶ Handpiece sleeve with twist check
❷ Spray clip
❸ Coolant hose
❹ Threaded pin
❺ Bur limit stop
❻ Nozzle cleaner



Contra-angle handpieces (without spray)
Contra-angle handpieces (Spray internal)

❶ Press button
❷ Spray nozzles
(except for WE-56 / WE-66)
❸ LED*
❹ Sleeve
❺ Nozzle cleaner

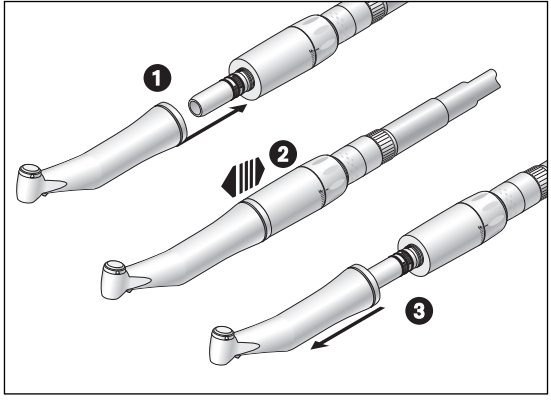
* WE-56 LED G / WE-66 LED G / WE-99 LED G



Contra-angle handpieces (Spray external)

1. Press button
2. Spray clip
3. Coolant hose
4. Sleeve
5. Nozzle cleaner

4. Operation



Assembly and removal

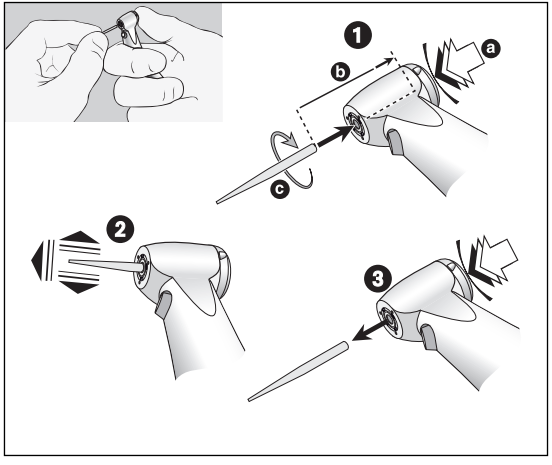
Do not assemble / remove during operation!

❶ Fit the straight/contra-angle handpiece onto the motor.
❷ Check the connection to the motor is secure.
❸ Remove the straight/contra-angle handpiece from the motor by pulling in an axial direction.

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 straight/contra-angle handpiece is stationary.
- Do not interfere with the running or slowing down of rotary instruments.
- Do not activate the rotary chuck of the handpiece or press button of the contra-angle during operation or slowing down. This leads to detachment of the rotary instruments, damage to the rotary chuck (handpiece), and/or makes the press button hot (contra-angle). (Risk of injury)

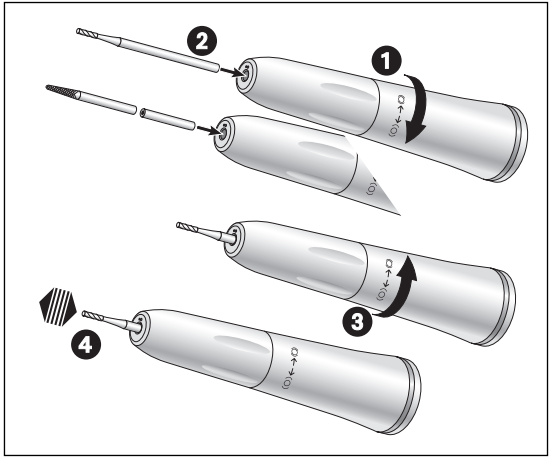


To change rotary instrument with contra-angles

❶ Rotary instrument *ø 1.6 mm:* Insert rotary instrument.
Press the button firmly (a) and at the same time insert the rotary instrument until it reaches the limit stop (b).
Rotary instrument *ø 2.35 mm:* Press the button (a) and at the same time insert the rotary instrument and turn it until it engages (c).

❷ Check that the connection is secure by applying slight axial tension.

❸ Remove the rotary instrument by pushing the press button.



Inserting the rotary instrument with straight handpieces

❶ Rotate the handpiece sleeve in an anticlock-wise (0) direction (opening) until it clicks.

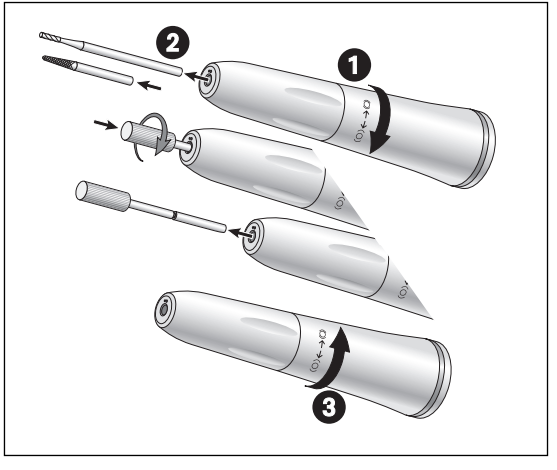
❷ *Handpiece bur:* insert the rotary instrument up to the limit stop.
Contra-angle handpiece bur: insert the bur limit stop and then insert the rotary instrument up to the limit stop. The bur limit stop compensates for the difference in length.

❸ Rotate the handpiece sleeve in a clockwise (0) direction (closing) until it clicks.
Check that the handpiece rotary chuck is closed and the bur has engaged.

❹ Check that the rotary instrument is held securely by pulling on it in an axial direction.

Test run

> Insert rotary instrument.
> Start the straight/contra-angle handpiece.
> If you observe problems (e.g. vibrations, unusual noise, overheating, coolant supply failure or leakage) or discolouration of the LED, stop the handpiece/contra-angle immediately and contact an authorized W&H service partner (see page 39).



Removing the rotary instrument for straight handpieces

❶ Rotate the handpiece sleeve in an anticlock-wise (0) direction (opening) until it clicks.

❷ *Handpiece bur:* Remove the rotary instrument.
Contra-angle handpiece bur: Screw the threaded pin clockwise into the bur limit stop and and pull the latter out.

❸ Rotate the handpiece sleeve in a clockwise (0) direction (closing) until it clicks.
Check that the handpiece rotary chuck is closed.

5. Hygienic Maintenance



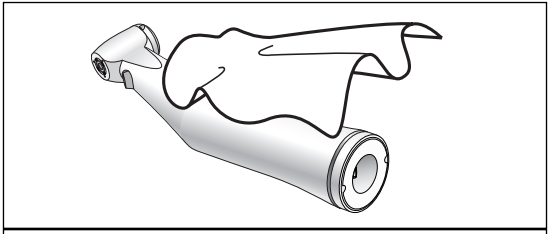
> Follow your country-specific directives, standards and guidelines for cleaning, disinfection and sterilization.
> The straight/contra-angle handpiece can be prepared manually or mechanically.

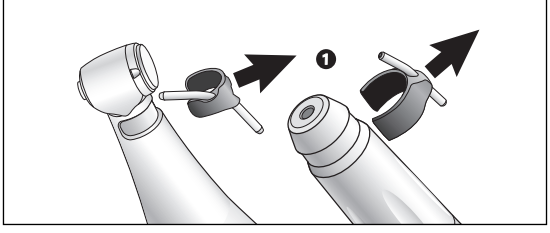


> Wear protective clothing.
> Remove the rotary instrument.
> Remove the straight/contra-angle handpiece from the motor.

> Clean and disinfect the straight/contra-angle handpiece immediately **after every application** 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 handpiece/contra-angle following manual or mechanical cleaning, disinfection, and lubrication.
> Sterilize the nozzle cleaner and spray clips following cleaning and disinfection.





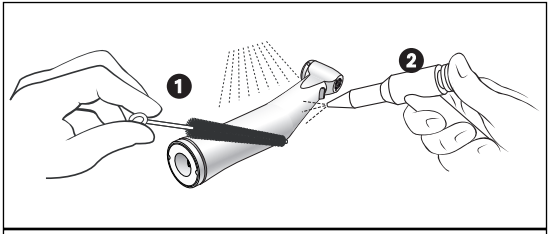
Pre-disinfection

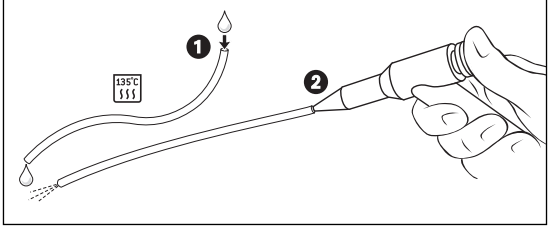
> If heavily soiled: Clean first with disinfectant cloths.

Only use disinfectants that have no proteinfixing effects.

Removing the spray clip
(HE-43 E / WE-56 E / WE-57 E / WE-66 E)

❶ Remove the spray clip





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.)

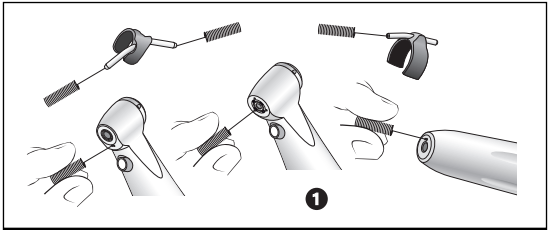
❷ Then remove any liquid residues (absorbent cloth, blow dry with compressed air).

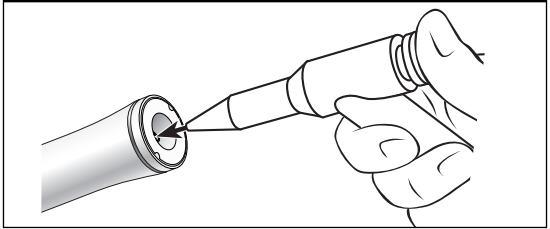
Do not place the handpiece/contra-angle in liquid disinfectant or in an ultrasonic bath!

Clean the external coolant hose (HE-43 E / WE-56 E / WE-57 E / WE-66 E)

❶ Rinse under demineralized water (< 38 °C)

❷ Remove any liquid residues (blow dry with compressed air).





Clean spray nozzles

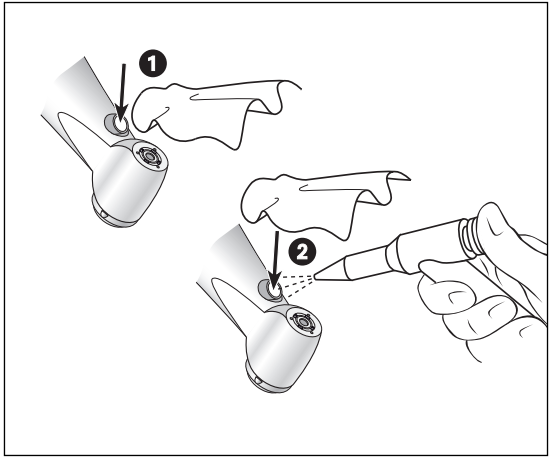
❶ Clean spray nozzles carefully with the nozzle cleaner to remove dirt and deposits.

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

Cleaning the coolant tube

Blow through the coolant tube with an air syringe.

In the case of clogged spray nozzles or coolant tubes contact an authorized W&H service partner.



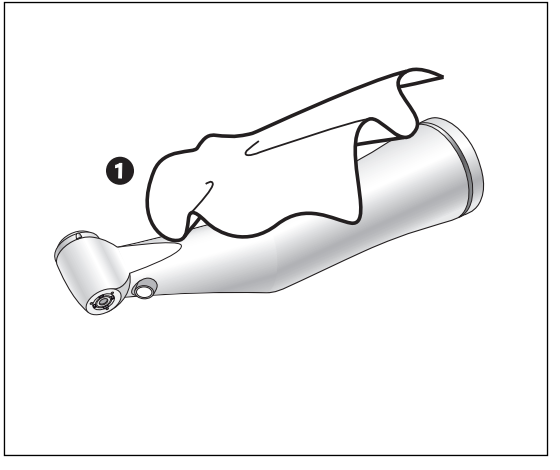
Cleaning the optic outlet for contra-angles with light

Avoid scratching the optic outlet!

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

❷ Dry the optic outlet with an air syringe or carefully with a soft cloth.

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



Manual disinfection

> Disinfect using disinfectants, ❶ application of disinfectant by wiping 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 recommendations regarding the use of 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



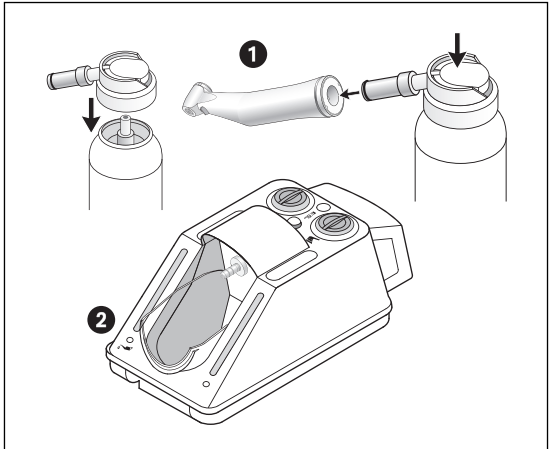
Straight/contra-angle handpiece with this symbol can be cleaned and disinfected in a thermo washer disinfector.



W&H recommends processing with thermo washer disinfector.
Follow the manufacturer's recommendations for devices and cleaning agents.



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



Daily oil service

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

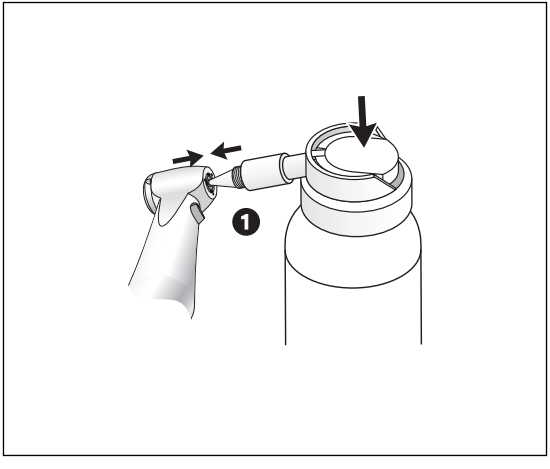
> Please refer to the Instructions for Use of Assistina.

Recommended lubrication cycles

> Essential after every internal cleaning
> Before each sterilization

or

> After 30 minutes of use or
> at least once daily

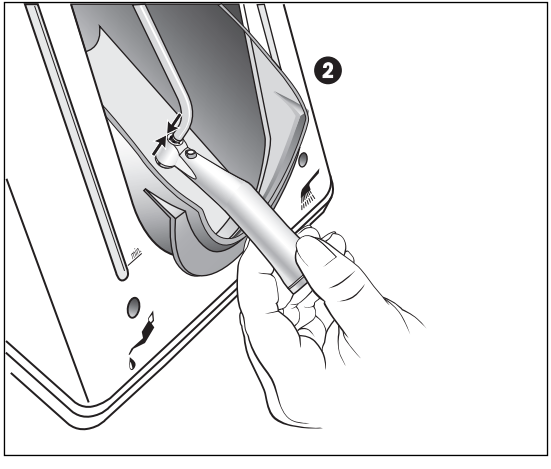


Weekly oil service of the chuck system

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

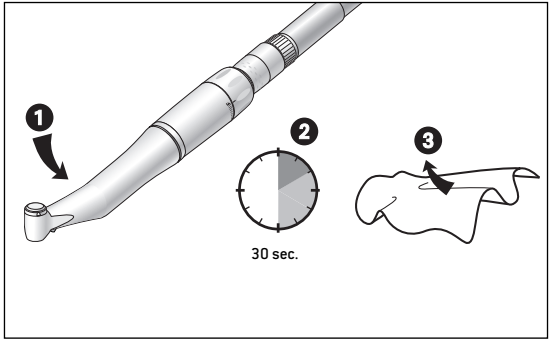
> Fit the spray cap REF 02036100 onto the spray can.
> Hold the contra-angle handpiece firmly.
> Press the tip of the spray cap firmly into the chuck system.
> Spray for approx. 1 second.

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 contra-angle onto the adaptor from below.
> Start the Assistina.
> Press the contra-angle onto the adaptor for approx. 10 seconds.
> Remove the contra-angle 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 straight/contra-angle handpiece with the instrument tip/head downwards.

❷ Start the straight/contra-angle 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 entire hygienic maintenance process if dirt emerges.

❸ Wipe the straight/contra-angle handpiece with gauze or a soft cloth.

Sterilization and storage


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

> Follow the operating instructions of the manufacturer.
> Clean, disinfect and lubricate prior to sterilization.
> Only sterilize cleaned and dried coolant hoses.
> Wrap the straight/contra-angle handpiece and accessories in sterile goods packaging according to EN 868-5.
> Make sure that you only remove dry sterile goods.
> Store sterile goods dust-free and dry.

Approved sterilization methods

 Observe your country-specific guidelines, standards and requirements.

> 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
02693000	Assistina adapter for chuck system
10940021	W&H Service Oil F1, MD-400 (6 pcs)
02038200	Spray cap with nozzle for straight/contra-angle handpieces
02036100	Spray cap with nozzle for chuck system
02015101	Nozzle cleaner
00636901	Nozzle cleaner (for straight handpieces HE-43 A/E)
01312500	Bur limit stop
01312600	Threaded pin (for dismantling bur limit stop)
05379500	Spray clip for Exco straight handpiece
05430100	Spray clip for Exco contra-angle handpieces
01524900	Spray tube for Exco straight/contra-angle handpieces (length 185 mm)

Technical Data

Straight handpiece		HE-43 A/E	
Transmission ratio		1:1	
Colour coding		1 blue ring	
Motor coupling acc. to standard		ISO 3965	
Instruments ø	acc. to standard EN ISO 1797-1:1995 (mm)	2.35	
Length approved by W&H	(mm)	Contra-angle handpiece bur 34*	Handpiece bur 50*
Chucking		Contra-angle shank: with bur limit stop*	Handpiece shank
Min. chuck length	(mm)	12*	to the limit stop*
Max. motor speed	(rpm)	40,000	
Spray flow rate	acc. ISO 7785-2 (ml/min)	> 50	
Water setting range (rec. water pressure)	(bar)	0,5 – 2 (1.5)**	
Chip air setting range (rec. chip air pressure)	(bar)	1.5 – 3 (2)**	
Chip air consumption at 2 bar	(Nl/min)	> 1.5	

* If the rotary instrument is not inserted up to the limit stop, the minimum chucking length must be maintained. In this case, or when using rotary instruments longer than 50 mm, the user must ensure by correct selection of the operating conditions that there is no danger to the user, patients or third parties.

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

Contra-angles with light **Contra-angles without light**		**WE-99 LED G /** **WE-99 A**	**WE-66 LED G /** **WE-66 A/E**	**WE-56 LED G /** **WE-56 A/E**	**WE-57 E**
Transmission ratio		1:4.5	4:1	1:1	1:1
Colour coding		1 red ring	1 green ring	1 blue ring	1 blue ring
Motor coupling acc. to standard		ISO 3964	ISO 3964	ISO 3964	ISO 3964
Rotary instruments	EN ISO 1797-1:1995 (ø mm)	1.6	2.35	2.35	1.6
Length approved by W&H	(mm)	25*	34*	34*	25*
Min. chuck length		to the limit stop	engaging	engaging	to the limit stop
Max. motor speed	(rpm)	40,000	40,000	40,000	40,000
Spray flow rate	according to ISO 7785-2 (ml/min)	> 50	> 50	> 50	> 50
Water setting range (rec. water pressure)	(bar)	0.5 – 2 (1.5)**	0.5 – 2 (1.5)**	0.5 – 2 (1.5)**	0.5 – 2 (1.5)**
Chip air setting range (rec. chip air pressure)	(bar)	1.5 – 3 (2)**	1.5 – 3 (2)**	1.5 – 3 (2)**	1.5 – 3 (2)**
Chip air consumption at 2 bar	(Nl/min)	> 1.5	> 1.5	>1.5	> 1.5

* 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.

Straight handpiece (without spray)		HE-43	
Transmission ratio		1:1	
Colour coding		1 blue ring	
Motor coupling acc. to standard		ISO 3965	
Instruments ø	acc. to standard EN ISO 1797-1:1995 (mm)	2.35	
Length approved by W&H	(mm)	Contra-angle handpiece bur 34*	Handpiece bur 50*
Chucking		Contra-angle shank: with bur limit stop*	Handpiece shank
Min. chuck length	(mm)	12*	to the limit stop*
Max. motor speed	(rpm)	40,000	

Contra-angles (without spray)		WE-56	WE-66
Transmission ratio		1:1	4:1
Colour coding		1 blue ring	1 green ring
Motor coupling acc. to standard		ISO 3964	ISO 3964
Rotary instruments	EN ISO 1797-1:1995 (ø mm)	2.35	2.35
Length approved by W&H	(mm)	34*	34*
Min. chuck length		engaging	engaging
Max. motor speed	(rpm)	40,000	40,000

* 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.

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
t + 65 63168370, f + 65 63168371, E-Mail: service.sg@wh.com

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

Manufacturer

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

t +43 / 6274 / 6236-0, **f** +43 / 6274 / 6236-55
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