stomdevice

PEOPLE HAVE PRIORITY

W&H

Instructions for use



CE
0297

tigon +

PA-123 / PA-115

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Contents

Symbols ..... 4 – 6
1. Introduction ..... 7 – 8
2. Electromagnetic compatibility (EMC) 9
3. Unpacking 10
4. Equipment supplied 11
5. Safety notes ..... 12 – 16
6. Description of front panel / rear panel ..... 17 – 18
7. Starting operation – General ..... 19 – 20
8. Starting operation – S-N1 foot control 21
9. Tip insertion / removal ..... 22 – 23
10. Switching Tigon+ on / off 24
11. Control unit operation – Setup settings ..... 25 – 30
12. Factory settings 31
13. Control unit operation – Main menu settings ..... 32 – 36
14. Test run 37
15. Error messages ..... 38 – 40

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Contents

16. Hygiene and maintenance ..... 41 – 49
17. Replacing the O-rings 50
18. Replacing the coolant filter 51
19. Replacing the pump cartridge ..... 52 – 53
20. W&H accessories and spare parts ..... 54 – 55
21. Servicing 56
22. Technical data ..... 57 – 58
23. Disposal 59

Explanation of warranty terms 60
Authorized W&H service partners 61

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Symbols in the Instructions for use



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



Suitable for the ultrasonic bath



Call customer service

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Symbols on the Tigon+


Follow Instructions for Use


Consult instructions for use


Class II equipment


Date of manufacture


Electric fuse


Not suitable for intracardiac application – Type B applied part


CE mark with identification number of the Notified Body


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


Do not dispose of with domestic waste


Foot switch


MEDICAL – GENERAL MEDICAL EQUIPMENT WITH RESPECT TO ELECTRICAL SHOCK, FIRE AND MECHANICAL HAZARDS ONLY IN ACCORDANCE WITH UL 60601-1:2006, CAN/CSA-C22.2 No.601.1-M90:2005, CAN/CSA-C22.2 No.60601-1:2008, ANSI/AAMI ES 60601-1:2005 25UX (Control No.)


Article number


Serial number

V Supply voltage of the unit

AC Alternating current

W Electric power consumption of the unit

A Supply current

Hz Frequency of the alternating current

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Symbols on the packaging

CE mark
with identification number
of the Notified Body

This way up

Fragile, handle with care

Keep away from rain

»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

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

Data structure in accordance with
Health Industry Bar Code

Temperature limit

Humidity limitation

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

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

1. Introduction

For your safety and the safety of your patients
These instructions 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.

It is therefore essential that you observe the safety notes on pages 12 – 16.

Intended use
Drive unit with a piezo-ceramic oscillation system, which sets the scaler tip in linear vibration. The drive unit is used to remove supragingival plaque and subgingival concretions, as well as for endodontic applications and for preparing dental enamel.

Misuse can damage the Tigon+ and hence cause risks and hazards for patients, users and third parties.

Qualified use
Tigon+ is only intended for qualified use in dental medicine according to the applicable health and safety regulations, accident prevention measures and in observance of these instructions for use. Tigon+ must only be prepared and maintained by persons who have been instructed in infection protection, personal protection and patient safety. Improper use (e.g. due to lack of hygiene or maintenance), non-compliance with our instructions or the use of accessories and spare parts not approved by W&H invalidates all claims under warranty and any other claims.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Introduction

Qualifications of the user

Tigon+ has been developed and designed for the target group »dentists, dental hygienists, dental employees (prophylaxis) and dental assistants«.

CE 0297

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 Tigon+ when there is compliance with the following directions:

- Tigon+ must be used in accordance with these instructions for use.
- Tigon+ has no components which can be repaired by the user. Assembly, modifications or repairs must only be undertaken by an authorized W&H service partner (see page 61).
- The electrical installation at the premises must comply with the regulations of 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 equipment invalidates all claims under warranty and any other claims.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

2. Electromagnetic compatibility (EMC)

Notes on electromagnetic compatibility (EMC)
Medical electrical equipment 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 guarantees the compliance of the device with the EMC requirements only when used with original W&H accessories and spare parts. The use of other accessories/other spare parts can lead to an increased emission of electromagnetic interference or to a reduced resistance against electromagnetic interference.

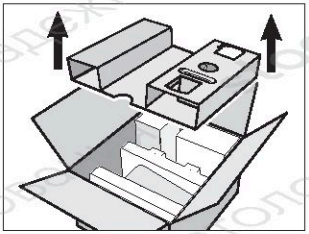
You can find the current EMC manufacturer's declaration on our website at http://wh.com or, alternatively, you can also request a copy directly from the manufacturer.

The irradiation from certain electromagnetic fields can trigger a system failure in isolated cases. If Tigon+ should fail, contact an authorized W&H service partner (see page 61).

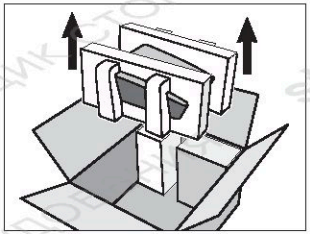
HF communication equipment
Do not use any portable and mobile HF communication equipment (e.g. mobile telephones) during operation. These may affect medical electrical equipment.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

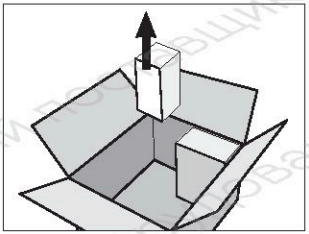
3. Unpacking



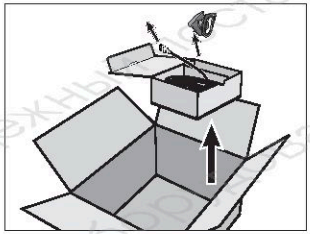
❶ Lift out insert with stand and foot control.



❷ Lift out the control unit.



❸ Remove the carton containing the coolant tank.



❹ Remove the carton containing the accessories supplied.

W&H packaging is environmentally friendly and can be disposed of by industrial recycling companies.

However, we recommend that you keep the original packaging.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

4. Equipment supplied

After unpacking, you should have the following parts:

REF 13931000
- Control unit (230 V),
  (incl. 1.8 m supply hose with coupling, tray, handpiece support and coolant tank) REF 06028700
- Handpiece PA-1 LED REF 06373900
- Tip set: Tip changer with universal tip 1U, 3U and periodontal tip 1P inserted REF 05851800
- Tip set: Tip changer with Implant Clean tip 1I and Endo tip 1E with spanner REF 06382800
- S-N1 foot control REF 06382200
- Handle for SN-1 foot control REF 04653500
- Coolant hose (Ø 6 mm, approx. 2 m) REF 05075600 with coolant filter REF 02675000
- Nozzle cleaner REF 00636901
- O-ring for hose coupling REF 02060203 (2 pcs)
- O-ring for hose coupling REF 05417700 (1 pc)
- Tip card
- Mains cable REF 01343700 (EU)
  or:
  REF 02821400 (USA, CAN, J) / REF 03212700 (UK, IRL) / REF 02909300 (AUS, NZ) / REF 04280600 (CH) / REF 05901800 (DK)

alternatively:
REF 13931001
- Control unit (115 V),
  (incl. 1.8 m supply tube with coupling, tray, handpiece support and coolant tank) REF 06479400

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

5. Safety notes



Inappropriate use
Improper use, in addition to incorrect assembly, installation, modification or repairs of Tigon+ or failure to comply with our instructions invalidates all claims under warranty and any other claims



The control unit is designed for use with the W&H handpiece PA-1 LED so only this is to be used with the control unit. The use of other handpieces could lead to a malfunction or destruction of the electronics.

Mains cable
Only use the mains cable supplied.
Only connect to a grounded socket outlet.



Set up the device so that the power switch is easily accessible.
In dangerous situations, the device can be disconnected from the power supply using the power switch or power cable.
The power switch can also be used to safely stop the device.

Control unit
The control unit is classed as »conventional equipment« (closed equipment without protection against the ingress of water).

System failure
A total system failure does not constitute a critical fault.
Simply switch the unit off and then on again.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Safety notes

Intermittent operating mode S3 (8 min operating time / 5 min pause time)
The permissible relative load time is 8 minutes to 5 minutes pause time.

If the operating mode specified is observed no overheating of the system and therefore no injury to the patient, user or third persons arises.
The responsibility for the use and timely shutdown of the system lies with the user.

Danger zones M and G
In accordance with IEC 60601-1/ANSI/AAMI ES 60601-1, Tigon+ is not suitable for use in potentially explosive atmospheres or with potentially explosive mixtures of anaesthetic substances containing oxygen or nitrous oxide.

Tigon+ is not suitable for use in oxygen-enriched atmospheres.

Zone M, also referred to as the "medical environment", includes the part of a room in which potentially explosive atmospheres may occur as a result of the use of analgesics or medical skin cleaning or disinfectants, but only in small quantities and only for a short time.
Zone M comprises a truncated pyramid below the operating table which is tilted outwards at a 30° angle.

Zone G, also referred to as an "enclosed medical gas system", comprises not necessarily fully enclosed cavities in which permanent or temporary potentially explosive mixtures may be generated, supplied or used in small quantities.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Safety notes

This medical device complies with the reference values defined in EN 50527-2-1/2011 for unipolar and bipolar pacemakers and is therefore suitable for patients with pacemakers.

> Keep a safe distance of at least 30 cm between the control unit and your patients during operation.

> Before using Tigon+ for the first time, store it at room temperature for 24 hours.
> Tigon+ is not suitable for surgical treatment.
> Tigon+ is not designed to administer drugs or similar substances.
> Do not connect Tigon+ to the hot water supply.
> Rinse the supply hose through once a day (rinsing function page 26 – 27).
> Never fill or top up the coolant tank with liquids hotter than 30 °C.
> Only use coolants, rinsing/cleaning liquids approved by the manufacturer.

Approved coolants and rinsing liquids

> Sodium chloride (table salt) *naCl*
> Hydrogen peroxide (H2O2) (1 – 3 %)
> Water
> Liquids with the active substance chlorhexidine 0.2%

Approved cleaning agents

> Liquids with the active substance chlorhexidine 0.2%

Applied parts (parts that come into contact with the patient)

> Handpiece, tips, supply hose

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Safety notes



> Tigon+ approved for use only with supply units with category 5 backflow prevention devices as defined in EN 1717.
> Provide sufficient space for unrestricted operation of the foot control.
> Always ensure correct operating conditions and that sufficient and adequate cooling is delivered.
> Always provide sufficient coolant and ensure the appropriate suction (except in endodontic applications).
> Turn off the handpiece immediately in the event of failure in the coolant supply.
Exception for endodontic applications, here use is without coolant.
Max. operating time without coolant is: > 2 minutes in the power range 1 – 30
> 30 seconds in the power range 31 – 40

> Sterilize the handpiece, the tips and the accessories before using for the first time.
> Check Tigon+, the handpiece and the supply hose for damage and loose parts (e.g. tip, LED, O-ring) every time before using. Correct any faults or contact an authorized W&H service partner (see page 61). Do not operate Tigon+ if it is damaged.
> Check the parameter settings every time the device is restarted.
> Perform a test run prior to each treatment.
> Avoid eye contact with the optic outlet.
> Never touch the patient and the connections for the foot control or coolant hose simultaneously.
> Switch Tigon+ off after every application.
> Disconnect Tigon+ from the water supply connection after each use (the control unit does not have an automatic aquastop).

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Safety notes



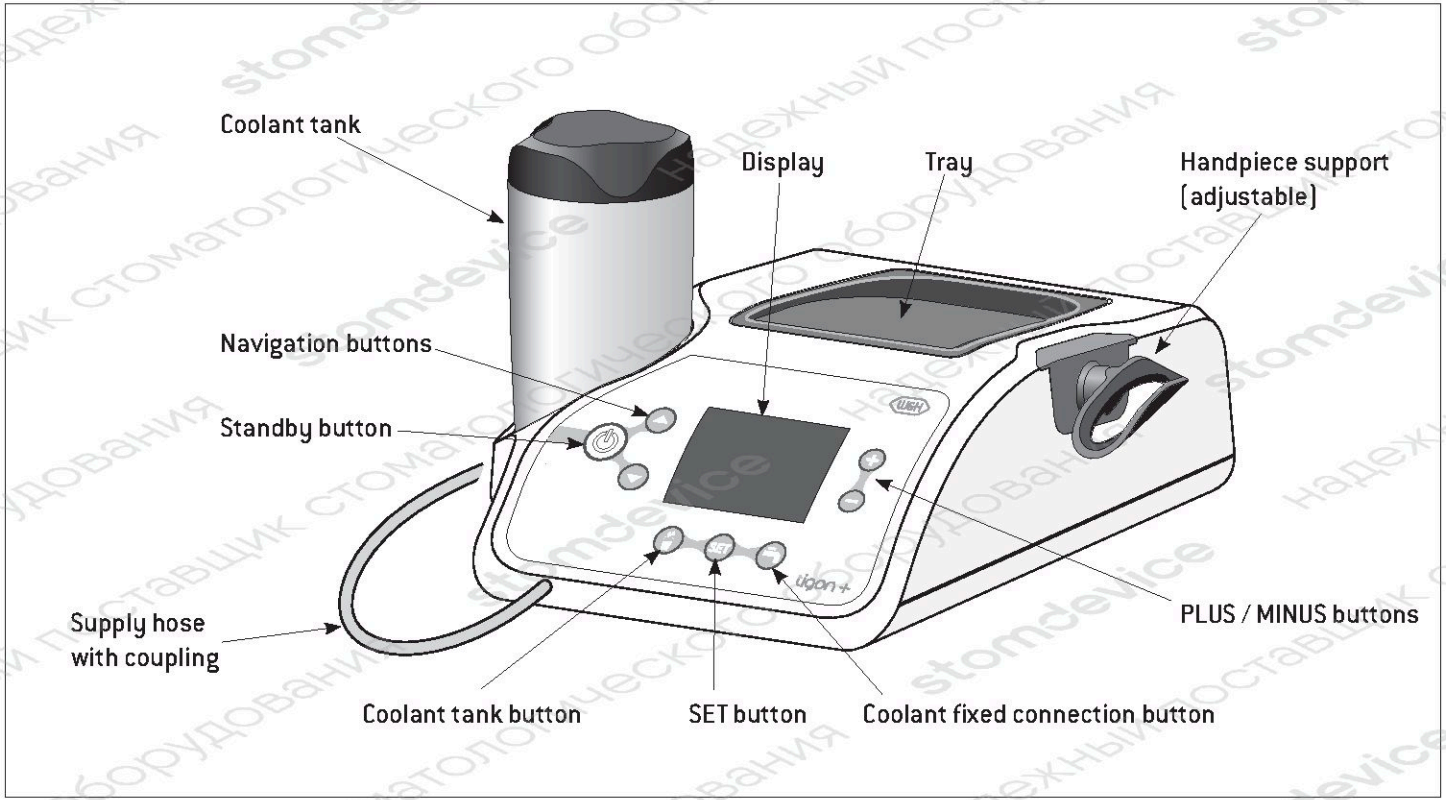
> Only replace the LED socket when the handpiece is at rest.
> Replace faulty or leaky O-rings in the hose coupling immediately.
> Replace a faulty or leaky pump cartridge immediately.
> Disconnect the control unit from the power supply when replacing the pump cartridge.
> When changing the fuse, disconnect the control unit from the power supply and only use W&H original fuses.

Tips

> Only use tips approved by W&H and the associated tip changer or spanner.
> An overview for the correct power setting is included with each tip.
> With periodontal tips, the handpiece is suitable for the removal of concretions in the subgingival region, but not for applications which demand sterile conditions.
> Ensure that the original shape of the tip is not changed (e.g. by dropping).
> Tips must not be bent back to shape or reground.
> Only insert the tip when the handpiece is at rest.
> Never touch the tips when vibrating.
> Place the tip changer onto the inserted tip of the handpiece at rest after each treatment. Tips that are changed using the spanner must be removed immediately after treatment with the handpiece.
> Check for the effect of wear on the tips using the accompanying tip card.
> Change tips if there are visible signs of wear.

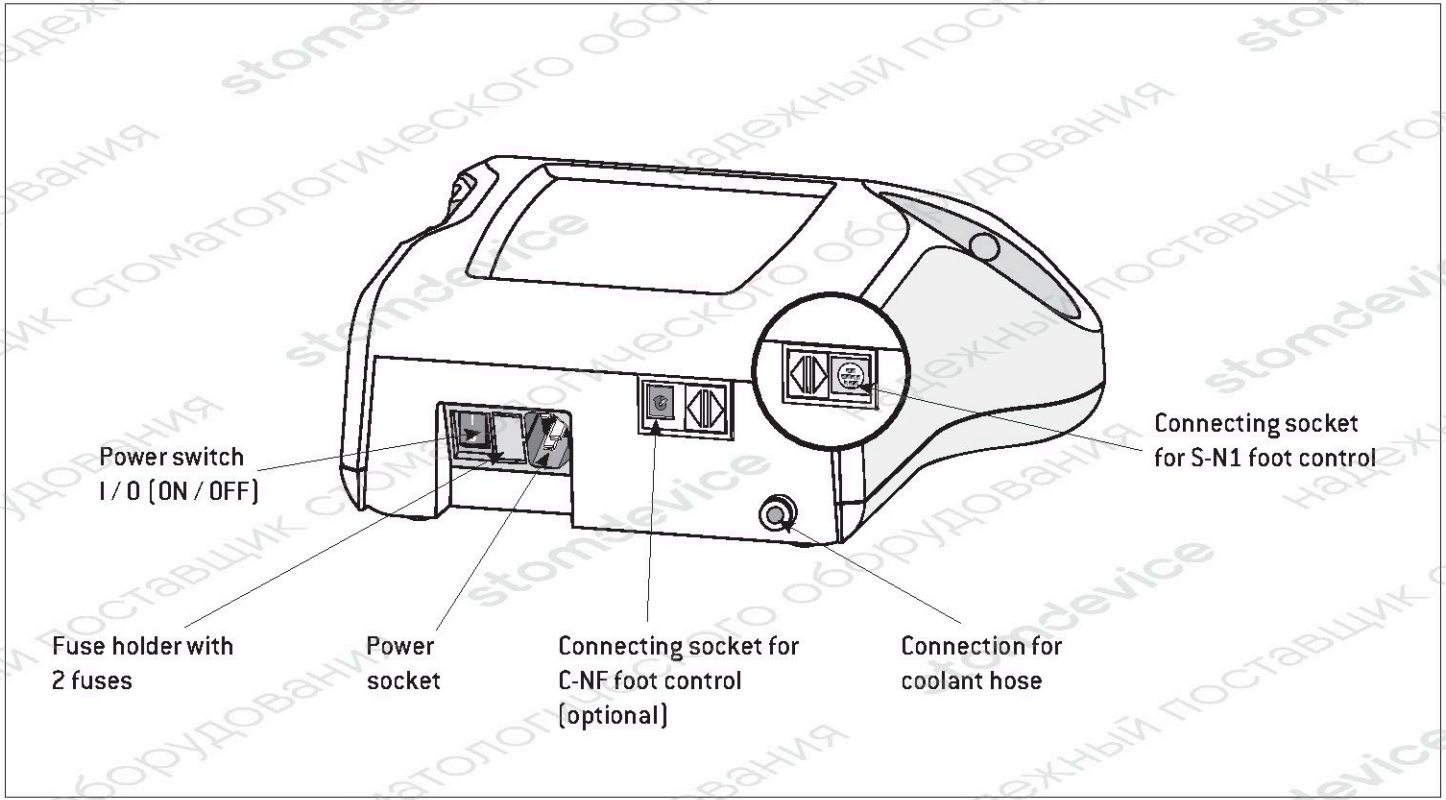
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

6. Description front panel



https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

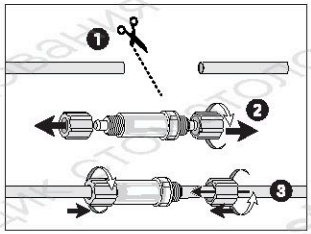
Description rear panel



https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

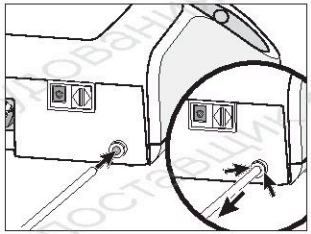
7. Starting operation – General

Always place Tigon+ on a flat level surface.
Make sure that it is easy to disconnect Tigon+ from the power supply.



Mount the coolant filter
(only with use of the coolant fixed connection)

❶ Cut through the coolant hose.
❷ Unscrew the cap nut from the coolant filter.
❸ Attach the coolant hose through the cap nut onto the coolant filter. Screw the cap nut tight.



❹ **a) Insert the coolant hose:**
Push the coolant hose in as far as the stop.
b) Remove the coolant hose:
Pull the connection ring towards the rear and remove the coolant hose.

Continue from step ❻ (see page 20).

or:

If the coolant tank is used
Perform steps ❺ to ❾ (see page 20).

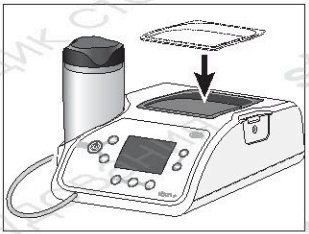
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Starting operation – General

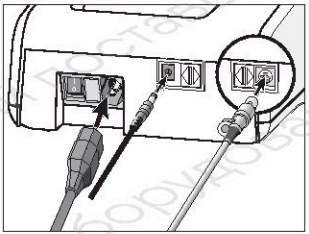


❺ Fill the coolant tank and attach it. The coolant tank snaps audibly into place.

Always remove the coolant tank for refilling.
The filling level indicator does not guarantee the coolant supply.

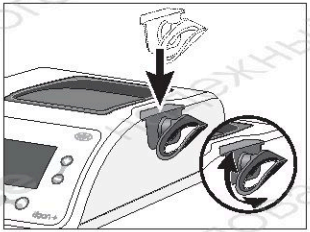


❻ Insert the tray.



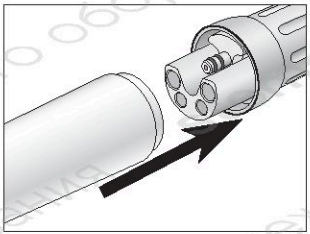
❼ Connect the mains cable and the foot control.

Pay attention to the positioning!



❽ Attach the handpiece support.

You can adjust the handpiece support by turning it.

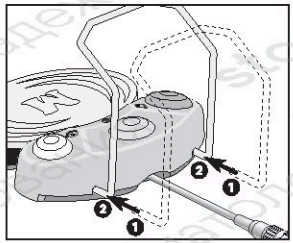


❾ Attach the handpiece to the supply hose.

Pay attention to the positioning of the connections!

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

8. Starting operation – S-N1 foot control



Handle
attach / detach

ORANGE
Change program
Programs 1 – 5

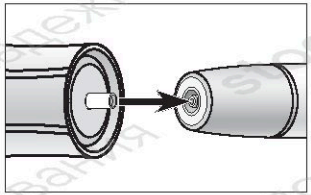
GREEN
Coolant
Press once: increase the coolant quantity
Keep pressing: decrease the coolant quantity

YELLOW
Activate boost function
(see page 31)

GREY
Start scaler
VARIABLE or ON / OFF
To change the setting from VARIABLE to ON / OFF (see page 30)

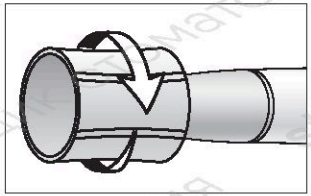
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

9. Insert/remove tip with tip changer

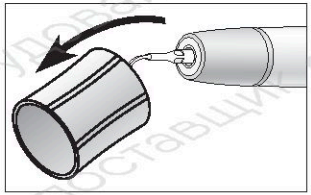


Inserting a tip

❶ Position the tip on the handpiece thread.



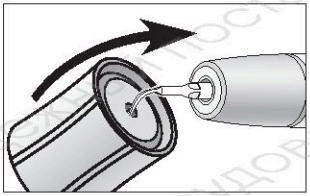
❷ Turn the tip changer until it snaps into place.



❸ Carefully pull off the tip changer.

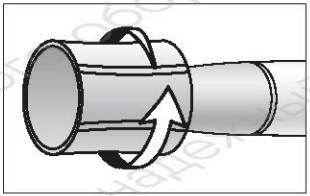
Check the secure attachment of the tip by pulling axially.

Press the tip on a hard surface with approx. 1 N (=100 g) to test the load bearing capacity of the tip.



Removing a tip

❶ Attach the tip changer to the tip.

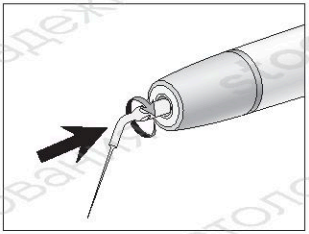


❷ Twist off the tip with the tip changer.

Leave the tip in the tip changer until the hygiene and maintenance process!

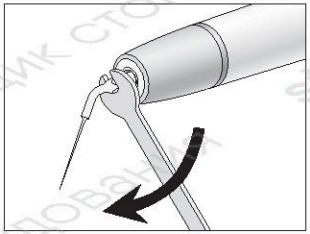
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Insert/remove tip with spanner



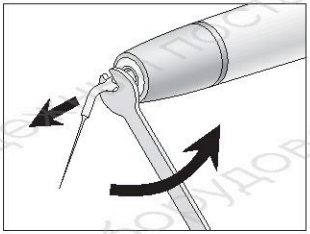
Inserting a tip

❶ Position the tip on the handpiece thread.



❷ Screw the tip tight with the spanner.

Check the secure attachment of the tip by pulling axially.

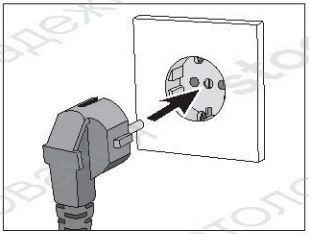


Removing a tip

❶ Screw off the tip with the spanner.

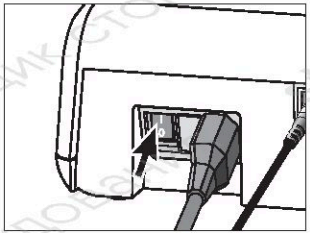
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

10. Switching Tigon+ on / off

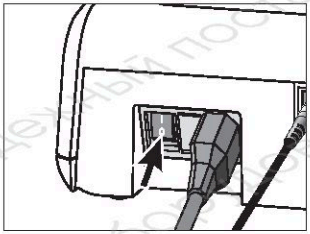


Switching Tigon+ on

❶ Connect Tigon+ to the mains socket.

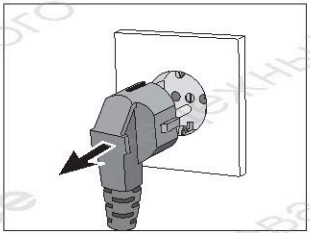


❷ Turn Tigon+ on at the power switch.

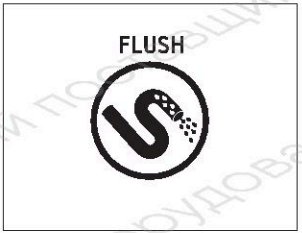


Switching Tigon+ off

❶ Turn Tigon+ off at the power switch.



❷ Unplug Tigon+ from the mains socket.



When the device is switched on, »Rinsing function« appears in the display.

❸ Press the coolant tank or coolant fixed connection button.
❹ Remove the handpiece from the supply hose.
❺ Press the SET button.
> The rinsing function is activated and is visible in the rinsing function progress bar

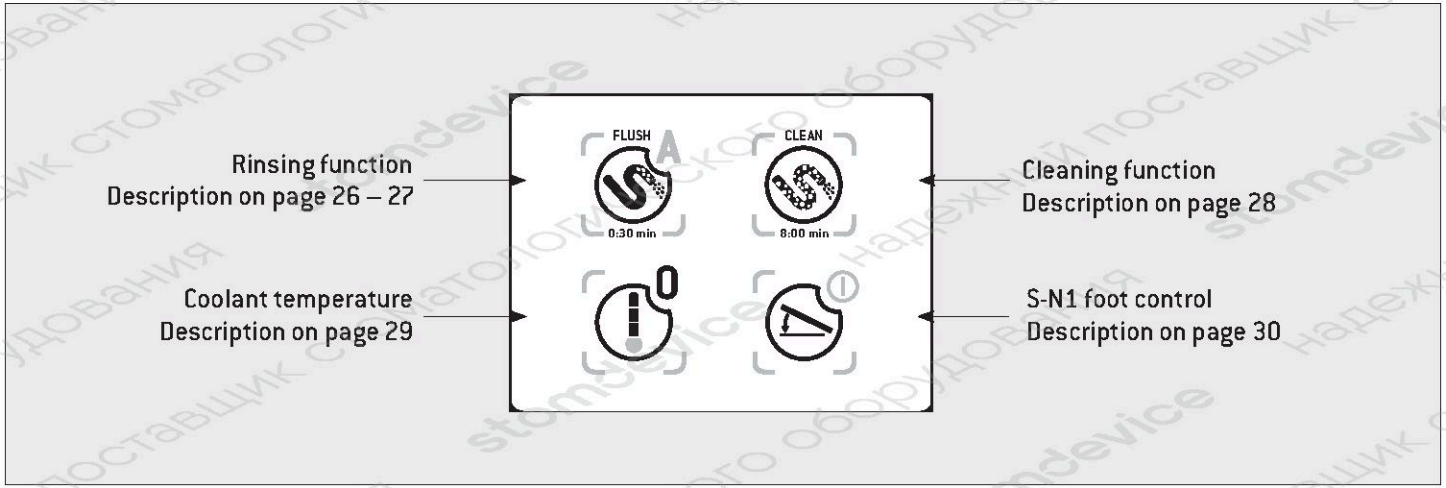
For a description of the »Rinsing function«, see page 26 – 27.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

11. Control unit operation – Setup settings

Calling up the setup settings

Press the SET button. Press the ▲ or ▼ button, to select the setup setting.
The selected Setup setting is framed green.



Press the SET button to switch from the Setup settings into the main menu settings.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Control unit operation – Rinsing function

You can start the rinsing function automatically with each restart or manually using the Setup settings.
The rinsing function serves to automatically clean the inside of the coolant channels.



Activating / deactivating the automatic rinsing function



Automatic rinsing function

1. Switch on the control unit
2. Press the coolant tank or coolant fixed connection button
3. Remove the handpiece from the supply hose
4. Press the SET button
   > The rinsing function is activated and visible from the rinsing function progress bar

Cancelling the rinsing function: Press the SET button for 2 seconds.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Control unit operation – Rinsing function



Activating / deactivating the manual rinsing function



Manual rinsing function

1. Press the coolant tank or coolant fixed connection button
2. Remove the handpiece from the supply hose
3. Press the SET button
   > The rinsing function is activated and visible from the rinsing function progress bar

Cancelling the rinsing function: Press the SET button for 2 seconds.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Control unit operation – Cleaning function

The cleaning function serves to automatically clean the inside of the coolant channels.
W&H recommends performing the cleaning function once a month using the active substance chlorhexidine 0.2%.
Then perform a rinsing function with water.



Cleaning function

1. Press the coolant tank button
2. Remove the handpiece from the supply hose
3. Press the SET button
   > The cleaning function is activated and visible from the cleaning function progress bar (approx. 8 minutes).

Cancelling the cleaning function: Press the SET button for 2 seconds.

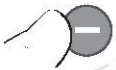
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Control unit operation – Coolant temperature

Coolant temperature
Level 0 = off
Level 1 = low temperature
Level 2 = medium temperature
Level 3 = high temperature



❶ Increasing the temperature



❷ Reducing the temperature

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Control unit operation – S-N1 foot control

This Setup setting can only be selected if the S-N1 foot control is connected.

Switching from VARIABLE to ON / OFF



❶ Foot control



❷ Select setting

= VARIABLE (factory setting)
Stepless power regulation of the scaler tip
(up to the power set in the respective program)

= ON/OFF

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

12. Factory settings (P1 – P5)

Program	P1	P2	P3	P4	P5
Power	20	15	15	35	20
Coolant	5	5	0	5	5
Scaling mode					
*Boost function					
Indication	Scaling 	Paro 	Endo 	Restoration 	All 



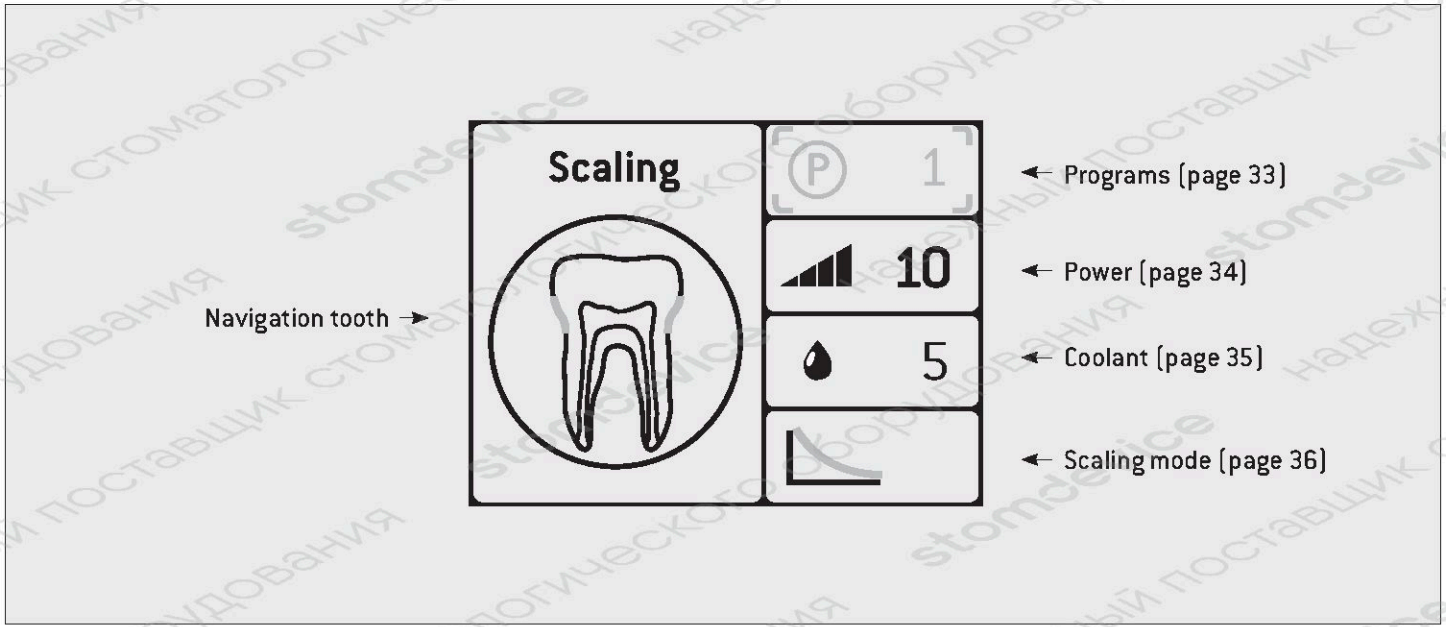
* With the boost function you can increase the power by 20% of the set value.
The boost function is only possible with the S-N1 foot control in »Basic and Power« scaling mode.
Activate the boost function by pressing the yellow button on the S-N1 foot control.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

13. Control unit operation – Main menu settings

Calling up the main menu settings

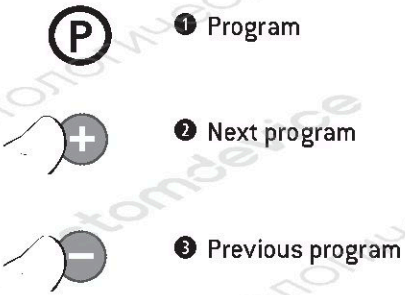
Press the SET button. Press the ▲ or ▼ button, to select the required menu.
The selected menu is framed green.



Press the SET button to switch from the main menu settings into the Setup menu settings.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Main menu settings – Change program (P1 – P5)



❶ Program

❷ Next program

❸ Previous program

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Main menu settings – Change power

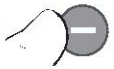
The power range can be set from 1 – 40. Each change is immediately saved in the selected program.
You can also change the power during use.



❶ Power



❷ Increase power



❸ Reduce power

By keeping the PLUS / MINUS button pressed you can continuously increase / decrease the power.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Main menu settings – Change coolant quantity

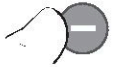
The coolant quantity can be set from 1 – 10. Each change is immediately saved in the selected program.
You can also change the coolant quantity during use.



❶ Coolant



❷ Increase flow rate



❸ Reduce flow rate



Coolant OFF

Max. operating time without coolant is:
> 2 minutes in the power range 1 – 30
> 30 seconds in the power range 31 – 40

By keeping the PLUS / MINUS button pressed you can continuously increase / decrease the coolant flow rate.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Main menu settings – Change scaling mode

Each change is immediately saved in the selected program.
The scaling mode »Basic and Smooth« can be set in program 2.
You cannot change the scaling mode during use.



❶ Change scaling mode



> Smooth: In the »Smooth« mode the power is reduced with increasing pressure on the tip.



> Basic: The handpiece power remains the same irrespective of the load on the scaling tip.



> Power: In the »Power« mode the power is increased with increasing pressure on the tip.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

14. Test run



Do not hold the handpiece at eye level.

> Attach the handpiece to the supply hose.
> Insert the tip.
> Start Tigon+.

> In the event of malfunctions (e.g. vibrations, unusual noises, overheating, coolant failure or leakage), or change of LED colour, **stop Tigon+ immediately** and contact an authorized W&H service partner (see page 61).

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

15. Error messages

Error	Description	Solution
	Foot control not recognized	> Connect foot control correctly > Connect correct foot control
	Foot control defective	> Connect foot control correctly > Connect correct foot control
	**Info:** Foot control recognized	
	Press button (keypad) pressed during power-on	> Release the button on the keypad that was pressed
	Error electronics temperature	> Switch off device and allow to cool down > Observe permissible ambient temperature > Observe operating mode
	Handpiece not recognized	> Attach handpiece > Check LED socket (correctly attached, defective) > Check handpiece coupling > Check supply hose
	Handpiece error	> Handpiece must be dry > Check handpiece coupling > Check supply hose

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Error messages

Error	Description	Solution
	Resonance frequency error	> Check tip (secure attachment, damage) > Check handpiece coupling > Check supply hose
	Heating error	> Check max. coolant temperature (30 °C) > Error disappears automatically when the coolant cools down
	**Info:** Heating error Symbol appears alternating with the navigation tooth	> Starting operation without heating is possible
	Scaler timeout	> Check foot control (must not be active for longer than 15 minutes without interruption)
	**Info:** Low coolant level	> Refill tank
	**Info:** You are in the rinsing function menu	
	**Info:** You are in the cleaning function menu	

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Error messages

Error	Description	Solution
	System error	> Restart device > Contact an authorized W&H service partner
	Display remains dark	> Restart device
	Device does not start	> Check mains cable (not connected or defective) > Check mains voltage (not present or incorrect) > Check mains switch (switch on or defective) > Check fuse (power socket)



If the error messages described cannot be resolved by switching off and restarting Tigon+, it is necessary for an authorized W&H service partner to check (see page 61).
A possible total failure of the device cause by external influences requires switching off and restarting.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

16. Hygiene and maintenance

Follow your local and country-specific laws, directives, standards and guidelines for cleaning, disinfection and sterilization.

> Wear protective clothing.
> Remove the tip from the handpiece.
> Remove the handpiece from the supply hose.

> Clean and disinfect the handpiece **immediately after each treatment**, to rinse out any liquid (e.g. blood, saliva etc.) that may have entered and to prevent the inside parts from seizing.

> Sterilize the handpiece, the tips and accessories following manual or mechanical cleaning and disinfection.

> The control unit is not approved for mechanical cleaning (thermodisinfector) and sterilization.
> Do not immerse the control unit or clean it under running water.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Hygiene and maintenance

Control unit with supply hose, handpiece support, coolant tank, tray and foot control

Pre-disinfection

> If heavily soiled, clean first with disinfectant cloths.



Only use disinfectants that have no protein-fixing effects.

Manual cleaning and disinfection



The front panel of the control unit and the foot control can be wiped clean.
W&H recommends wiping disinfection.

> Use only disinfectants which do not contain chlorine and which are certified by officially recognised institutes.
> Note the manufacturer's specifications for the use of the disinfectants.



Before resuming operation
Wait until the supply hose is completely dry.
Moisture in the supply hose can lead to a malfunction! (Risk of short circuit)

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

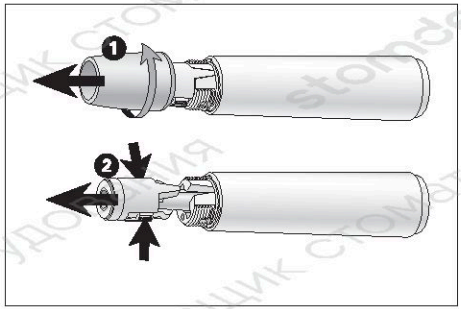
Hygiene and maintenance

Handpiece, tips and accessories

Pre-disinfection

> If heavily soiled, clean first with disinfectant cloths.

Only use disinfectants that have no protein-fixing effects.



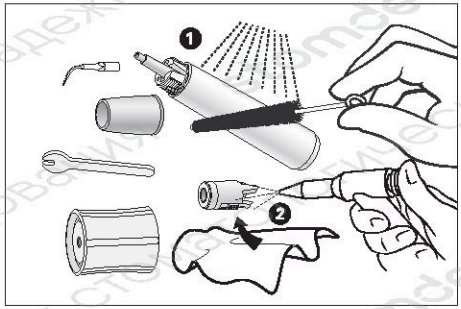
Disassembling the handpiece

❶ Unscrew the handpiece cap.

❷ Press the opposite markings (push) and pull out the LED socket.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Hygiene and maintenance



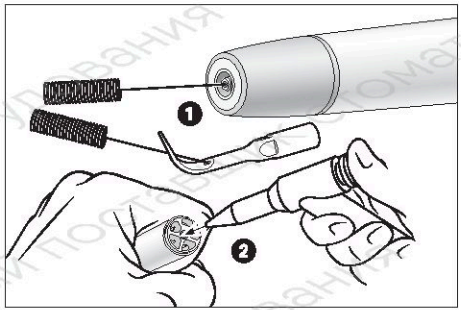
Manual cleaning inside and outside

❶ Rinse and brush off under demineralized water (< 38 °C).

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

Do not place the handpiece and the tip changer in disinfectant solution or in an ultrasonic bath.

You can clean and disinfect the tips in a bur bath or ultrasonic bath.



Cleaning the spray nozzles

❶ Use the nozzle cleaner to remove dirt and deposits from the outlets.

Clean and disinfect the nozzle cleaner in the ultrasonic bath / drill bath.

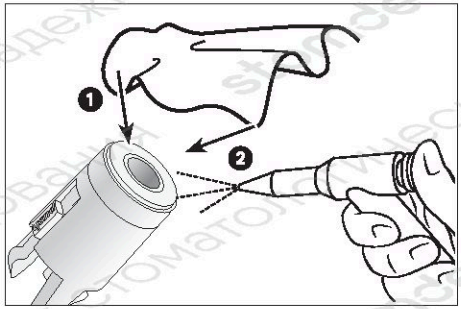
Cleaning the coolant channel

❷ Blow through the coolant channel with the air gun.

If the exit openings or coolant channels are blocked, contact an authorized W&H service partner (see page 61).

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Hygiene and maintenance



Cleaning of the optic outlet

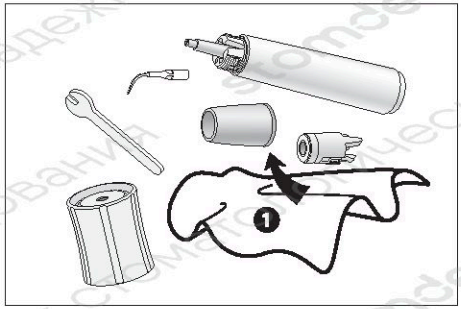
Avoid scratching of the optic outlet!

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

Carry out a visual inspection after cleaning each time. Do not put the handpiece into operation if the optic outlet is damaged and contact an authorized W&H service partner (see page 61).

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Hygiene and maintenance

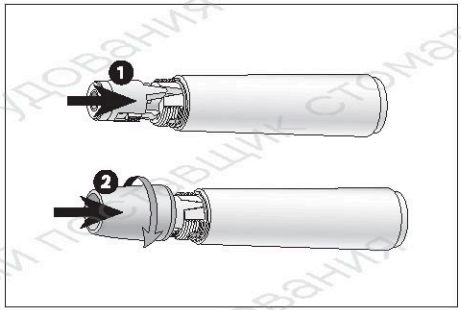


Manual disinfection

W&H recommends wiping disinfection.

> Use only disinfectants which do not contain chlorine and which are certified by officially recognised institutes.
> Note the manufacturer's specifications for the use of the disinfectants.

After manual cleaning and disinfection, you must carry out a final sterilization (wrapped) in a class B or S steam sterilizer (as per EN 13060).



Assembling the handpiece

Always operate the handpiece with the handpiece cap fitted!

❶ Attach the LED socket to the handpiece.
Pay attention to the positioning of the connections!

❷ Screw on the handpiece cap.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

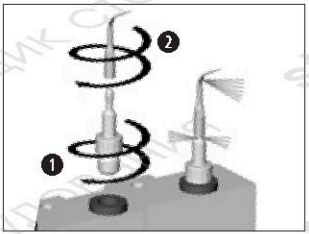
Hygiene and maintenance

Handpiece, tips and accessories, handpiece support, coolant tank, tray

Mechanical cleaning and disinfection inside and outside

The handpiece, the tips and the accessories, the handpiece support, the coolant tank and the tray can be cleaned and disinfected in the thermodisinfector.

> Use the W&H adaptor kit REF 07233500 for the thermo washer disinfector to prepare the tips.



❶ Screw the W&H adaptor into the adaptor on the injector rail.

❷ Screw the tip onto the W&H adaptor.

W&H recommends preparation in the thermodisinfector.

> Follow the manufacturer's recommendations for devices, cleaning and rinsing agents.

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

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Hygiene and maintenance

Sterilization and storage



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

> Note the manufacturer's specifications.
> Clean and disinfect prior to sterilization.
> Only sterilize the tip in the tip changer. This does not include tips which are replaced using the spanner.
> Wrap the handpiece and accessories in sterile goods packaging according to EN 868-5.
> Make sure that you only remove dry sterile goods from the sterilizer.
> Store sterile goods dust-free and dry.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Hygiene and maintenance

Approved sterilization procedures

> Steam sterilization class B with sterilizers in accordance with EN 13060.
Sterilization holding time a minimum of 3 minutes at 134 °C.

or

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

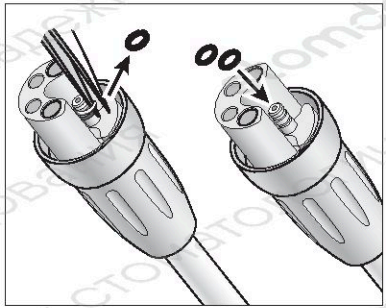
The PA-1 LED handpiece is not suitable for hygienic preparation and sterilization in universal hygiene equipment (DAC Universal, KaVo Lifetime and Siemens Hygienecenter).

Before resuming operation
Wait until the handpiece is completely dry.
Moisture in the handpiece can lead to a malfunction! (Risk of short circuit)

Wait until the tip, the tip changer and the spanner have completely cooled down. (Risk of burns)

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

17. Replacing the O-rings



Hose coupling

> Remove the two O-rings with tweezers and replace them carefully with new O-rings.

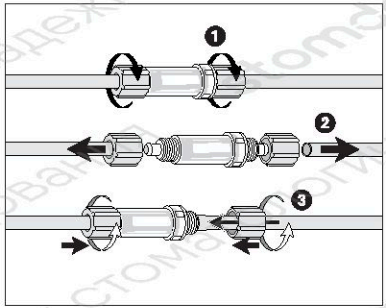


Coolant tank

> Remove the O-ring with tweezers and replace it carefully with a new O-ring.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

18. Replacing the coolant filter



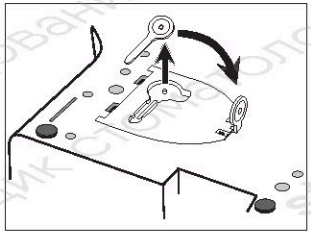
Replace the coolant filter if it is visibly soiled or after 1 year at the latest.

1. Unscrew the cap nut from the coolant filter.
2. Pull off the coolant hose from the coolant filter.
3. Attach the coolant hose through the cap nut onto the new coolant filter. Screw the cap nut tight.

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

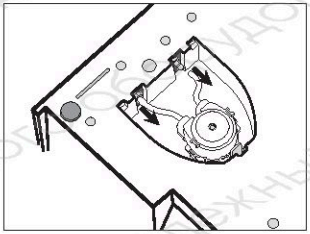
19. Replacing the pump cartridge

Disconnect the mains cable and the foot control.
Remove the tray and the coolant tank from the control unit.
Turn the control unit around.

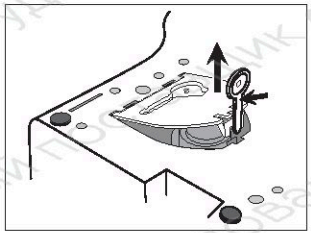


❶ Remove the key and insert it into the opening.

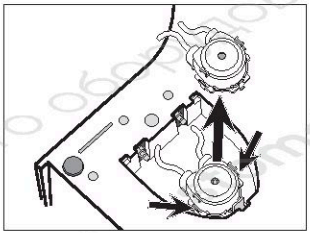
Pay attention to the positioning!



❸ Pull off the coolant hoses.



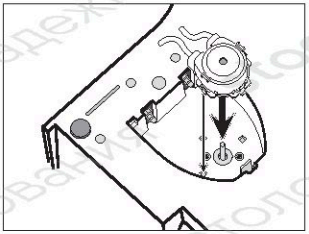
❷ Press the key forwards and remove the cover.



❹ Press the opposite points on the pump cassette and pull it out.

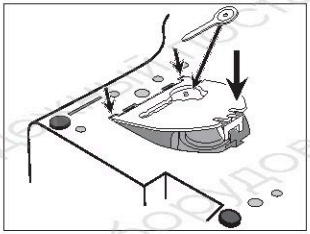
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Replacing the pump cartridge

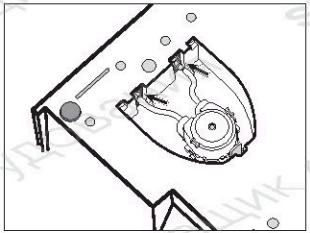


❺ Install a new pump cartridge.

The pump cartridge snaps into place.



❼ Fit the cover and the key.



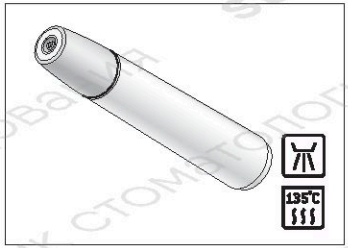
❻ Attach the coolant hoses.

As far as the stop.

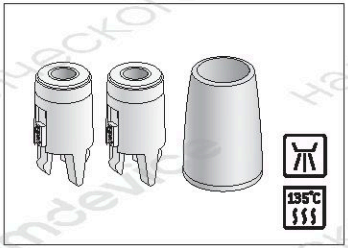
https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

20. W&H accessories and spare parts

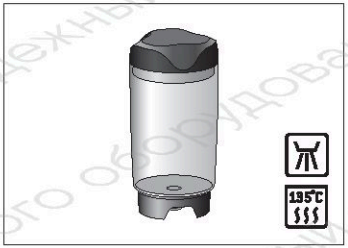
Use only original W&H accessories/spare parts or accessories approved by W&H.
Reference source: W&H Partner



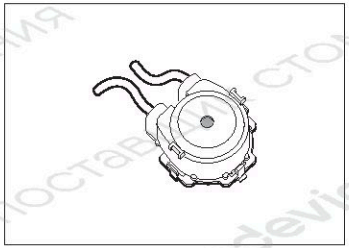
06373900
PA-1 LED handpiece



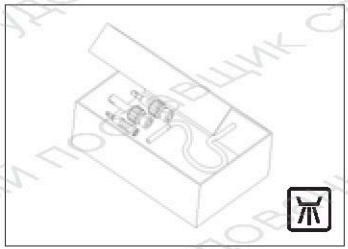
06382900
LED socket incl. handpiece cap



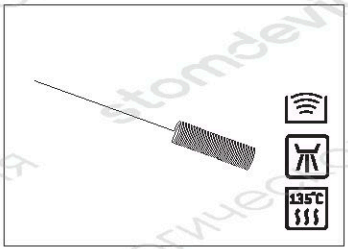
05974000
Coolant tank



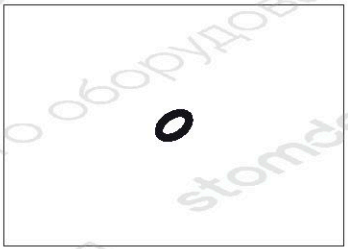
06030500
Pump cartridge



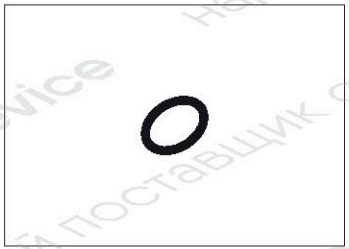
07233500
W&H adaptor kit



00636901
Nozzle cleaner



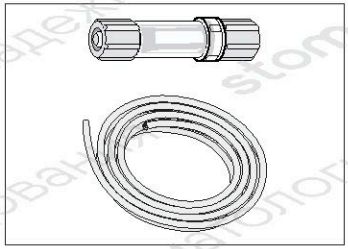
02060203
O-ring
for hose coupling (1 pc)



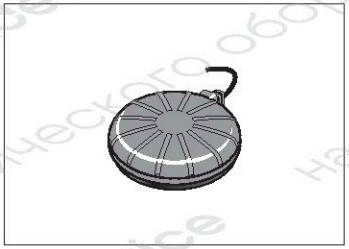
05417700
O-ring
for coolant tank (1 pc)

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

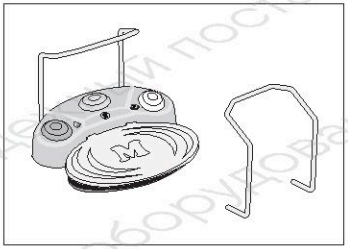
W&H accessories and spare parts



02675000
Coolant filter
05075600
Coolant hose



04717300
C-NF foot control
(optional)



06382200
S-N1 foot control
04653500
Handle for S-N1 foot control

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

21. Servicing

Regular checking of Tigon+

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 organisation and needs to include the following procedures:

- visual inspection for outside damage
- measurement of device leakage current
- measurement of earth leakage current
- measurement of enclosure leakage current
- internal visual inspection on suspicion of safety interference, e. g. mechanical damage of the enclosure or indicators of overheating

We recommend that these tests only be undertaken by an authorized W&H service partner (see page 61).

Repair

If a defect occurs, always return all the equipment, due to the fact that with handpiece malfunctions, an inspection of the electronic controls is also necessary!

Returns

- Refer all questions to an authorized W&H service partner (see page 61).
- Always return equipment in the original packaging!

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

22. Technical data

Tigon+	PA-123 / PA-115
Supply voltage:	220 – 240 V / 110 – 130 V
Nominal current:	0.1 – 1.6 A / 0.1 – 2.5 A
Permissible voltage fluctuation:	±10 %
Max. output power to the handpiece under load (ultrasonic):	10 W
Frequency:	50 – 60 Hz
Max. power consumption	120 VA
Max. coolant flow:	approx. 50 ml/min
Water pressure:	1 – 6 bar
Fuses:	2x 250 V - T1.6AH / 2x 250 V - T2.5AH
Operating mode:	S3 (8 min / 5 min)
Dimensions in mm (WxDxH):	276.5 x 300 x 178
Weight in kg:	3.9

Ambient conditions	
Temperature during storage and transport:	-40 °C to +70 °C (-40 °F to +158 °F)
Air humidity during 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

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Technical data

Classification according to Paragraph 5 of the General Specifications for the Safety of Medical Electrical Equipment according to IEC 60601-1/UL 60601-1



Class II equipment (type of protection against electric shock)



Type B applied part (not suitable for intracardiac application)



The C-NF foot control is protected against drops of water falling vertically (IPX1 as per IEC 60529)
The S-N1 foot control is protected against ingress of water (IPX8 to IEC 60529)

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

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

23. Disposal



Ensure that the parts are not contaminated on disposal.



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

> Waste electrical equipment
> Accessories and spare parts
> Packaging

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

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 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 the manufacturer, W&H is liable for material or manufacturing defects within a warranty period of 24 months from the date of purchase. Accessories and consumables (tips, tip changers, pump cartridge, coolant hose, coolant filter, nozzle cleaner, O-rings, adaptor kit) are excluded from 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 supplier or to an authorized W&H service partner. The provision of service under warranty extends neither the warranty period nor any other guarantee period.

24 months warranty

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

Authorized W&H service partners

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 872254, 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 AUSTRIA GMBH, Ignaz-Glaser-Straße 53, A-5111 Bürmoos,
t +43 6274 6236-239, **f** +43 6274 6236-890, E-Mail: office.at@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

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ

stomdevice

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**

Form-Nr. 50706 AEN
Rev. 013 / 10.11.2017
Subject to alterations

https://stomdevice.ru - стоматологическое и зуботехническое оборудование с доставкой по России и СНГ