

Manual



HP-S² Plus

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Foreword

The foot care unit HP-S² was produced according to strict quality criteria and uses the latest technology in its design. The images in this manual may vary slightly from the product you have bought, as the products are constantly being developed.







This user manual includes a detailed description and explanation of how to use the HP-S² unit. If you have any questions or suggestions, you can contact us by telephone or email.

This user manual belongs with the HP-S² unit. Keep it somewhere safe. If you give this product to someone else, please include this document, as it includes important information on how to use the product correctly.







Short description of functions

The HP-S² is a device for the treatment of callus and nails. The handpiece is compatible with rotating tools such as diamond polishers, steel cutters, and ceramic cutters. These can reach speeds up to 40,000 rpm and therefore provide an efficient way of removing tissue. The direction of rotation can be changed by pressing a button. The integrated spray function emerges reliably bundles emerging dusts. The speed of the bur, the amount of spray function can be adjusted via knob.

Safety Instructions

-  The installation of the working area has to correspond to the relevant regulations. Set up the unit in such a way, that the louvers are not covered and the extracted air can escape well.
-  To avoid the risk of an electric shock, this device might only be connected to a power supply with protective conductor.
-  If you pull the power plug, it will stop the connection to the mains power supply. Set up the unit so that the power plug is always accessible. The power switch should also always be easily accessible.
-  Only switch on the unit if the handpiece rests secured in the handpiece holder, or if you hold it safely in your hand.
-  Prevent the permeation of liquids into the control unit. The electronic elements could be damaged. Clean the outside of the box only with a damped cloth. Be sure you unplug the unit before.
-  Only when pulling the mains cable, you can ensure that the device will be completely disconnected from mains. Check the mains cable regularly for damages, and in case of such let it change or repair by an authorized service center.

Safety Instructions

-  Prevent your hair from wrapping itself around moving parts. If applicable, wear a hair net.
-  When working with materials which might create dust or moisture, use a drilling unit with suction or spray technique. Wear a nose and mouth protection. Always follow the safety instructions provided by the manufacturer of the materials being formed.
-  For safety reasons, you must always wear disposable gloves and protective glasses when operating this unit. In addition, a face mask conforming to EN 14683 type IIR or EN 149 FFP 2 must also be worn.
-  Ensure that the patient's foot and the handpiece are held firmly in place during the work. To prevent injury, work with extreme caution on the foot of the patient, and use only light pressure.
-  If spray liquid leaks from the unit, then a disturbance is present. The unit has to be separated from the socket and cannot be used any longer.
-  Only use distilled water plus a sterilizing additive, e.g. AquaHy (art. 8555). If you use other brands, pay attention to their manuals if you can use them for this purpose. Never use tap water. In case you are working with an alcoholic fluid or other burnable liquids, there is

Safety Instructions

always the danger of fire or explosion. Never refill the tank directly above the unit to avoid accidental spills of spray liquid on the unit.



Change the spray liquid every day. Always add disinfection additive to the distilled water. Rinse the tank daily and fill it with fresh spray liquid every day.



To ensure that the bur/tool sits firmly in the chuck, do not work with tools which

- have an oily shaft,
- are worn,
- are bent.



Before using the equipment, assure that

- the tool can be pushed far enough into the chuck (test this with a dipstick and clean if necessary),
- the inserted tool sits properly in the chuck and will not cant/jam while clamping it,
- the tool is approved for using it at the max speed (see manufacturer's instructions), or
- only use the speed required by the instrument,
- the tool is absolutely dry.



For safety reasons, do not change the tool while the motor is running.

Safety Instructions



Switch off the unit immediately if

- the bur comes off during the treatment itself.
- the motor blocks during the treatment.



Empty the unit if it is not in use for a longer period of time (e.g. before vacations). Clean out the tank. Set the spray function on maximum. Now start the spray function, and the water will spray for approx. 3 minutes. The spray fluid will be blown out of the complete spray system and handpiece.



Always follow the operating instructions. Do not carry out any repairs, modifications or maintenance work yourself. This is only to be accomplished by an authorized specialist. The mains cable may also only be changed by the manufacturer or an authorized specialist. Maintenance records may be supplied to repair workshops and trained technicians upon request. Never remove the housing, while the equipment is plugged in, as some components are live. A spare parts list may be supplied to qualified persons (repair workshops). No responsibility can be accepted for unauthorized or improper tampering with the unit, which nullifies the guarantee and any other liabilities.



Before shipping the device make sure, that the spray liquid tank is empty.

Safety Instructions



When the device is started from standby mode, it will start with the last used speed. If you change the tool, make sure that the last speed is recommended to the tool.



Only use burs/tools which are permitted for speed level saved under M1 – M3!



Children should be supervised not to play with the appliance. Cleaning and user maintenance shall not be made by children without supervision.



This appliance is not intended for use by persons (including children) with reduced physical, sensory or mental capabilities, or lack of experience and knowledge, unless they have been given supervision or instruction concerning use of the appliance by a person responsible for their safety



The unit should only be used by trained persons who are familiar with the operation of the unit.



Children should be supervised not to play with the appliance

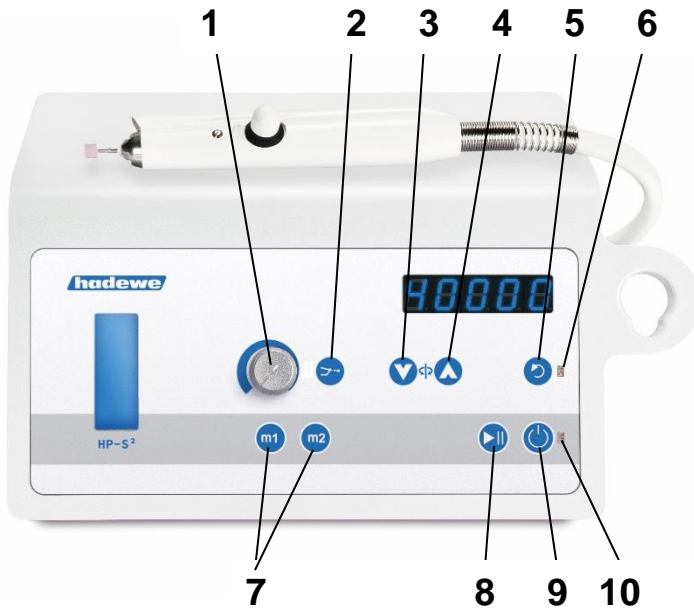
Cleaning & Disinfection



The device is designed to be compatible with rotating instruments which do not penetrate the skin or mucosal or inadvertently may still cause injuries. For this application, please adhere to the cleaning and disinfection instructions provided below. After every treatment, please carry out these steps:

- Remove the rotating tool (e.g. bur) first. To do so, pay attention to the instructions of its manufacturer.
- Remove clothing remains through wiping off easily the unit with a moistened paper cloth. Afterwards clean all surfaces with a disinfection cloth (e.g. Mikrozyd AF cloths of Schülke and Mayr).

Getting to Know the Unit



- 1 spray regulator knob
- 2 turn OFF/ON spray
- 3 decrease speed
- 4 increase speed
- 5 changeover switch for clockwise or anticlockwise operation
- 6 LED is ON during reverse rotation
- 7 memory button for rotation speed M1, M2
- 8 Start/Stop button
- 9 unit ON/OFF (standby)
- 10 standby LED

#

Before Use

Please read through the instructions carefully before using the unit and carefully note the safety advice. Always keep this manual accessible to any users of the drill.

Area of Application

This device should only be used by people who have completed a foot care qualification. Before use, the operator should familiarize with the device by reading this manual or being instructed by another.

The appliance may only be operated indoors. It can be used in a commercial or private environment.

The control unit can be set up in a cabinet, or can be used as a portable unit (e.g. in a carry case). It is suitable for the following scopes:

- foot care (milling, trimming and polishing works),
- manicure (grinding, milling and polishing works).



The device is determined of operating rotating instruments, which will not penetrate the skin or mucous membrane if used appropriate, but could evoke damages accidentally.



In the area of pedicure you have to work with spray or suction techniques.

Fill Spray Liquid Tank

Pull out the spray liquid tank. Hold on to the tank cover and unscrew the tank container. Now fill it with distilled water and anti-germ liquid,

e.g. AquaHy (art. 8555).



Do not exceed the maximum level when filling the tank.

Screw back the cover on the tank container. Make sure it is closed correct. Otherwise, no pressure can be built up. Put the tank back in the housing.

Before Use

Startup Procedure

The working area must conform to the conditions described. Position the device so that the operating buttons are easy to reach and the outlet of the hose is a maximum distance of 60 cm from the patient's foot. The unit should be 30 – 90 cm from the floor.

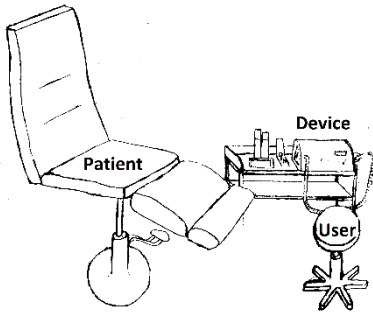


Image: Example of positioning of foot care unit in treatment room

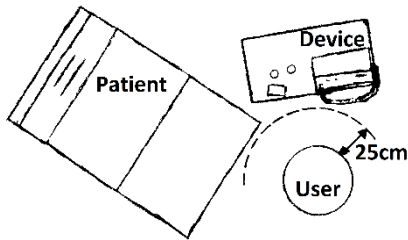


Image: Bird's eye view of work area

If you have a foot switch, insert its plug into the port on the right of the device which displays this symbol



Make sure, that the tank is filled with spray liquid. Ensure that the tool is fixed.

On the back of the device you will find the main power switch. Press this switch to turn the unit on.



Take up the handpiece. To use the device, press the button (8) on the front of the unit.

Application

Work Steps

In the following section the order in which you should use the device is described. Additionally, the individual steps will be explained in detail. Read the complete manual before use.

After you have clamped the instrument, press the standby button (9) to deactivate the standby mode. Use the buttons (3) and (4) to select a rotation speed. Manufacturers often provide recommendations for optimal rotation speeds. However, it is important that you never exceed the maximum recommended rotation speed. To start the handpiece motor, press the button (8).

You can now choose a rotation direction using the button (5). The most commonly used direction is clockwise. Most milling instrument (steel instruments with steel cutters) are optimized for clockwise use. The rotation direction is irrelevant for diamond cutters and high-grade corundum sanders in terms of efficiency. Working anti-clockwise can be beneficial if, for example, the dust obscures your field of vision when working clockwise.

Now, you can turn on the spray by pushing button (2). By using the adjusting knob (1), you can set the amount of the spray liquid.

After setting the speed and the spray amount, you can start with working. If you want to take a break or finish

the job, press the standby button (9). The handpiece motor and spray will turn off. The handpiece can now be placed in its holder on the right of the unit. Alternatively, you can switch the device to standby by pressing and hold the button on the foot switch.

We recommend you disconnect the device from the mains power supply if it is not going to be used for a while. This will save electricity. The mains plug must also be removed when it comes to retiring the device.

Application

Work Positioning

The following images are examples of how to work on various parts of the foot. Always make sure that the foot is firmly gripped and that you can work freely and without strain.



Application



Application

Spray Liquid

Switch off the device. Pull out the spray liquid tank. Hold on to the tank cover and unscrew the tank container. Now fill it with distilled water and anti-germ liquid, e.g. AquaHy (art. 8555).



Do not exceed the maximum level when filling the tank.

Now turn the tank cover back on the tank container. Make sure it is closed correct. Otherwise, no pressure can be built up. Put the tank back in the housing. Switch on the power switch in the rear of the unit.



Never use tap water (Danger of calcification!). Also, do not use explosive or combustible liquids (e.g. alcohol).

Note: Never refill the tank directly above the unit to avoid accidental spills of spray liquid on the unit.



The filter (art. 3479) has to be fully under spray liquid. Otherwise, no liquid will be sucked in into the spray system.



Please only use distilled water together with disinfectant AquaHy. Other admixtures could be unsuitable and cause damages at your device. Particularly alcohol-based spray fluids often attack hoses and make them porous.

Application

Insert Bur

The handpiece is equipped with a chuck, that can hold tools that are commonly used in foot care.

Tools may only be inserted when the handpiece is turned off. Insert the bur until it stops. All tools according to EN ISO 1797 with a shank diameter of 2.35 mm can be used.

To open the chuck, push the black knob forward with your thumb and leave it there.



Now insert the tool as far as possible. Pull back the black knob and the tool will be clamped.



For security reasons, only change the tool if the handpiece is turned off.

Adjusting the Speed

Put the handpiece back in the handpiece holder or keep it in your hand. Press the standby button (9) to deactivate the standby mode. Now you can adjust the requested speed with the buttons (3) and (4). Choose the direction with the button (5). To start the device, press the button (8).

Memory Buttons m1, m2

Frequently used speed levels can be saved. Therefore, three memory buttons are available. At first, choose your speed level and then save it by pushing button (7) m1 for 4 seconds. To recall the above speed level simply press button m1 again. Further speeds can be saved with m2.

Spray Function

Turn on the spray function while pushing switch (2). Now the spray system will be filled automatically and a strong spray stream will be blown out of the handpiece for the first 15 sec. Then you can adjust the requested spray stream while turning knob (1).

When turning off the unit or the spray function, the spray liquid is pumped back completely into the tank from the hoses. With this process, a bubbling can be heard in the tank.

Application

Drying Function/Tool Change


Press key (8) and the handpiece and spray will be turned off. Now only air will come out of the top of the handpiece, which you can use to dry the spot of the recent treatment. If you push button (8) again, the handpiece and spray are activated again.



This function can also be used to change your tools while the handpiece is not running.

Foot Switch

Connecting with control unit

Only use the original foot switch (art. 0970) to avoid damages. Insert the plug of the foot switch into the socket with this symbol .

Foot switch function

Long press: Switch device ON/OFF.

Short press: Switch handpiece and spray ON/OFF.

When working with a foot switch, take care that you only use instruments that are approved for use at the maximum speed of the device.

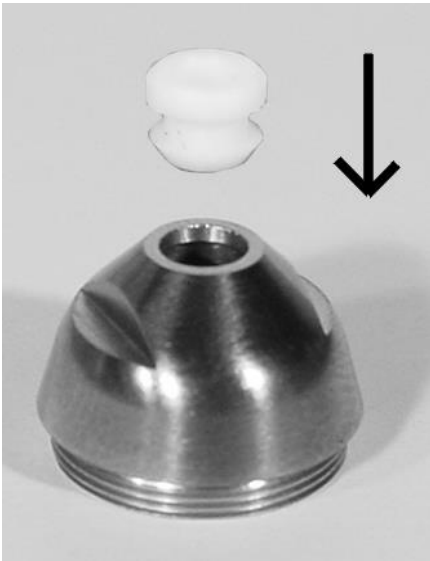
Maintenance & Care

Washer

The top of the handpiece is equipped with a washer (art. 4571). This washer has to be replaced by a new one **every 2 weeks (25 operation hours)**. Unless exchanging it, spray liquid could enter the handpiece and cause of damages of the internal parts.

Exchanging the washer:

Unscrew the top of the handpiece. Pull out the washer with tongs. If any particles of the washer remain, remove them. Push the new washer in the top. Please pay attention to the way it was installed. Screw the top onto the handpiece tip.

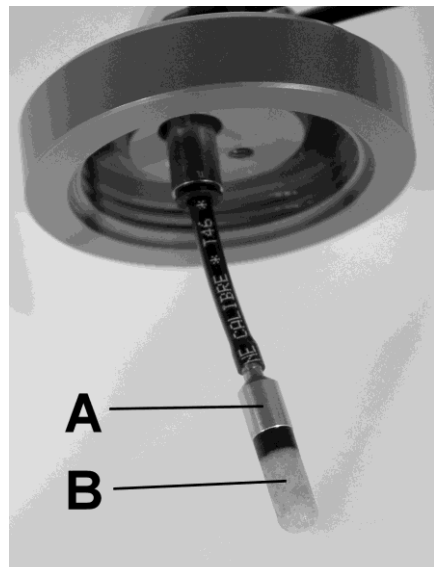


Filter

Even smallest parts of dirt could block the nozzle, which sits in the top. Avoiding such blockages, there is a spray liquid filter (art. 3497) installed in the cap of the tank. We recommend to change this every time, when it is covered with some dirt, at least twice a year. Still make sure, no parts of dirt enter the tank. Rinse it quite regularly.

Exchanging the water filter:

Take off the cap of the tank. Hold the metal piece (A) and unscrew the filter (B). Now you can screw the new filter.



Maintenance & Care

Cleaning Function

Use the cleaning function if the nozzle is blocked. Turn the unit off using button (8). Remove the filter at first. For its instructions see paragraph above.

Fill the tank with distilled water. Close the tank and put it back into the unit. Adjust the amount of spray button (1) on maximum. Now press button (2) and keep it pressed until "CLEAN" appears in the display. The complete cleaning process will last three minutes. If requested, you could cancel the process by pushing button (9).

During the cleaning process, the liquid will be washed out of the whole spray system. Parts of dirt are rinsed into the tank. Do not use this liquid again. Clean the tank immediately after realizing a blockage in the nozzle. Otherwise, the dirt particles might stick together.

Clean the filter carefully and put it back in the adapter. Refill the tank with new spray liquid.



Use the cleaning function only if the nozzle is blocked. Do not use the function if the unit works properly.

Maintenance Overview

What has to be done?	How often? Done by whom?
changing the washer 4571	Every 2 weeks (25 operation hours) by user user
changing the filter 3497	every 6 months by user
maintenance by repair workshop (changing worn parts; housing; cleaning; check leakage current)	every 250 hours of operation, after one year at the latest by repair workshop

Handling Instructions



Always deposit the handpiece with the top downwards. This will prevent liquid from entering the handpiece.



Never put the handpiece into any kind of liquid, and never oil or grease the handpiece. Clean its surface with a dampened cloth. Pay attention, that no moisture or liquid enters the handpiece. Never use spray disinfection.



Never put wet burs or instruments in the handpiece. Moisture can damage the internal parts of the handpiece.



Any materials are used prevent a formation of rust. In cases in which a rust infestation was found within the handpiece, thorough inspections and examinations always have proved that the rust had a foreign origin (which was usually caused by the tools used in these circumstances). Even in high-grade steel instruments of well-known manufacturers, formation of rust can appear, e.g. due to incorrect treatment with chemical cleaning and disinfection liquids. This extraneous rust affects internal parts of the handpiece in form of rust bloom and causes pitting. Therefore, when you not working with the handpiece, always remove the bur/tool from it.



Always make sure that you do not let the handpiece fall down or exposes it to any shocks. The ball bearings and the motor could be damaged by this.



Only work with tools, which are flawless. Do not work with tools

- which are bent or out of balance
- whose shaft is worn out or
- which are rusty.



Working with faulty tools will cause a stronger vibration of the handpiece. A damage of the ball bearings, clamping technique or motor could be the consequence.



Working with high pressure will not improve the outcome of your work, since the motor will even be slowed down. A second disadvantage is the stronger impact on the ball bearings and the motor, which will shorten their life span in the long run.



Always working with maximum speed might have a similar effect. Please make sure that the speed setting you use is according to the work you are doing and the instruments you are working with.

Troubleshooting

Handpiece vibrates, is very noisy and/or becomes warm in the front part.

Use of bent burs/tools. → Use a different bur/tool to test this. The bur/tool itself can be tested with the Bur Shaft Tester (art. 4990) to see if it is bent.

Maximum allowed speed of the tool was exceeded, which caused a stronger vibration. → Pay attention to the tool (e.g. bur, capper, and instrument) manufacturers handling details.

Bur/tool can be inserted only with difficulty or not at all.

Use of bent burs/tools. → Use a different bur/tool to test this. The bur/tool itself can be tested with the Bur Shaft Tester (art. 4990) to see if it is bent.

It does not spray.

Pressure cannot be set up in the tank, because the lid is not tightened well.

There are parts of dirt in the spray system. → Clean the spray system according to the instructions in the manual.

The filter (art. 3497) in the tank is blocked. → Change the filter.

Unit does not work at all.

Check if the main switch of the unit is turned on at the side of the unit.

Foot switch is used constantly or faulty. → Pull out the socket of the foot switch to see if this is the cause.

Pull out the mains plug to reset the device.

After lengthy use unit does not spray.

Unit is overheated. → Slots of the unit should not be covered or blocked. Let cool down the unit for a while.

The unit shows different sound levels at different sites of use.

The sound level varies according to the surroundings of the unit. If you set up the unit directly in front of a wall, the sound is reflected stronger, as if it would, while standing further away from a wall.

The motor of the handpiece stutters (e.g. 1 sec.) while switching it on.

Very seldom this error might occur. It would not damage the motor at all.

Spray stream stutters.

There is air in the spray system. After 5 min running, this effect will disappear.

Acceleration of the spray stream.

Note: To reduce the starting time of the spray, turn the spray regulator on Max. After the spray started, adjust the stream to the requested amount of water.

Fluid leaks out of the unit.

Please be aware of the maximum filling level of the tank. Do not exceed the maximum level when filling the tank.

Technical Data

0593 HP-S² Plus

total weight: 3,5 kg
dimension: W245xH133xD190 mm
power supply: 230 V ~, 50 Hz
rated current: 0,5 A
fuse primary:
 F1/F2: 500 mA delay action fuse,
 ceramics
fuse sec. thermo fuse
protection class I
accuracy of speed display: ±10%

handpiece:

type B applied part
diameter: 17 - 22 mm
length: 143 mm
speed: 6000 - 40000 rpm
vibration: <2,5 m/s²

Accessories & Spare Parts

Art.

0970	foot switch
3497	filter
4571	washer
8555	AquaHy

The clamping system is designed for rotating instruments, which have a shaft of 2,35 mm in accordance with DIN EN ISO 1797-1.

Operating Time

The device is designed for extended usage.

Ambient Conditions

The device is intended for use in dry closed rooms.

Operation:

Temp.: +10 °C to +26 °C
Rel. humidity: 25% to 75%
(not condensed)
Air pressure: 700 hPa to 1060 hPa

Storage:

Temp: -5°C to +55°C
Rel. humidity: 10% to 95%
(not condensed)
Air pressure: 500 hPa to 1060 hPa

Transport (up to 4 weeks):

Temp: -5°C to +55°C
Rel. humidity: 10% to 95%
(not condensed)
Air pressure: 500 hPa to 1060 hPa

Declaration of Conformity

We declare under our sole responsibility, that the product podiatry unit 0593, which this declaration relates, are conform to the following standards or normative documents:

2014/30/EU EMC directive
2014/35/EU low voltage directive

hadewe GmbH – Grambartstraße 10
30165 Hannover

Technical Data

Disposal



For orderly disposal of your unit, please contact your distributor in your country.

Safety Check

A safety check must be done in compliance with the regulations of the country where the device is used. The inspection interval is once a year.

Technical Data

Symbol



Caution!



Important Note!



Follow instructions for use!



temperature limit
(indicates the lower and upper temperature limit)



air pressure: permissible range



air humidity: permissible range



Keep dry!



alternating current



direct current



safety fuse



type B applied part



socket foot switch



date of manufacture



start/ stop

m1, m2

memory buttons for speed



rotation



do not dispose in household waste



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