

S Basic

original

Instructions

Schick GmbH



We are pleased that you have decided in favor of a technically high-quality device from SCHICK and wish you every success and joy in working with your new technical hand-piece. We have compiled these operating instructions to familiarize you with your new device and to provide you with the necessary information for operation and maintenance.

Project data:

Trade name: **Chic S1 Basic**

Serial number: Axxx xxx

Type: Dental milling device

Manufacturer: Schick GmbH

Lehenkreuzweg 12
D 88433 Schemmerhofen
Phone +49 7356 95000
Fax. +49 7356 950095
info@schick-dental.de
www.schick-dental.de
www.schick-industrie.de

Revision date: 2023/01

contents

1	About these operating instructions.....	6
1.1	General.....	6
1.2	Further documentation.....	6
1.3	Signs and symbols used.....	6
1.4	Structure of the warnings.....	7
1.5	Technical terms and abbreviations used.....	8
2	General safety regulations.....	8
2.1	principles.....	8
2.2	Intended Use.....	8
2.3	Environmental conditions.....	8
2.4	Foreseeable Misuse.....	9
2.5	Selection and qualification of personnel.....	9
2.6	Workplaces for the operating personnel.....	9
2.7	safety devices.....	10
	Fire protection.....	Fehler! Textmarke nicht definiert.
2.8	safety signs.....	10
	meaning.....	10
2.9	protective measures.....	10
	Personal protective equipment.....	10
2.10	safety regulations.....	10
	General information.....	10
	While transporting.....	11
	During installation.....	11
	during operation.....	11
	maintenance and control work.....	11
	maintenance and repair work.....	11
	Structural changes.....	11
2.11	Extension and remodeling.....	11

3	scope of delivery	12
4	Optional accessories	12
5	technical description	13
5.1	overview	13
5.2	functional description	13
5.3	interfaces.....	13
5.4	Features of the tools.....	14
5.5	type label.....	14
6	Transport and Storage	14
6.1	transport	14
	Requirements for the installation site.....	14
6.2	storage	15
	Storage location requirements.....	15
7	Installation and commissioning	15
7.1	installation.....	15
	Necessary tool	15
	Safety precautions before installation	15
7.2	Installation	16
	establish supply.....	16
8	Power stick (optional, not included)	17
9	functions and operation	17
9.1	Switch Q3 BASIC on/off.....	17
9.2	Operating concept and OLED display	17
9.3	service	Fehler! Textmarke nicht definiert.
9.4	Changing the direction of rotation of the handpiece	19
9.5	Tool change – opening and closing of the collet	19
9.6	Fixing the model table.....	20
9.7	Height adjustment of the milling arm	21

9.8	Free milling / measuring.....	21
9.9	Drill	22
9.10	Fixing attachments / attachments	22
10	Installation of the optional light head.....	23
11	Help with disruptions	25
11.1	Procedure in the event of faults or errors in the Q3 Basic control unit	25
11.2	Malfunction and error messages.....	25
12	Maintenance and control work for operators.....	26
12.1	General information	26
12.2	Care and Control Plan	26
12.3	Carry out maintenance and control work.....	27
	Removal and cleaning of the collet on the S1 Basic milling spindle..	27
13	Technical specifications	28
14	Appendix	29
14.1	service address	29
14.2	Declaration of Conformity	30

1 About these operating instructions

Before you operate the S1 Basic for the first time, you must read these operating instructions.

Pay special attention to the chapter "General safety regulations".

1.1 General

These instructions should make it easier for you to get to know the S1 Basic and to use its intended applications.

The operating instructions contain important information on how to operate the S1 Basic safely and properly. Your attention helps:

- to avoid dangers
- Reduce repair costs and downtime
- increase the reliability and lifespan of the product

These instructions must be read and used by every person who is assigned to work with the S1 Basic.

In addition to these operating instructions, the accident prevention and environmental protection regulations applicable at the place of use must also be observed.

Before each use of the device, the knowledgeable user must convince himself of the functional safety and the proper condition of the device.

1.2 Further documentation

Under www.schick-dental.de you will always find the current version of these operating instructions as well as current information about the product.

1.3 Signs and symbols used

The following signs and symbols are used in these instructions:

- Activity symbol: The text after this symbol describes instructions that are to be carried out in the specified order from top to bottom.
- ✓ Result symbol: The text following this symbol describes the result of an action.



Info icon: Additional information


1.4 Structure of the warnings

warning levels	signal word	Use at...	Possible consequences if the safety information is not observed:
	DANGER	personal injury (imminent danger)	death or most severe injuries!
	WARNING	personal injury (Possibly dangerous situation)	death or serious injuries!
	ATTENTION	personal injury	Light or minor injuries!


Tab. 1.1 warning levels

The warnings are structured as follows:


- Pictogram with signal word according to warning level
- Description of the hazard (hazard type)
- Description of the consequences of the hazard (hazard consequences)
- Measures (activities) to prevent the hazard

	<p>DANGER!</p> <p>Type of hazard (text)</p> <p>Consequences of danger (text)</p> <p>➤ Security (text)</p>
---	---

warning signs Special safety instructions are given at the relevant places. They are marked with the following symbols.

	<p>General danger spot</p> <p>This sign is placed in front of activities where there is a risk of personal injury and extensive property damage.</p>
---	---

If there is a clear source of danger, one of the following symbols is placed in front of it.

	<p>heavy current</p> <p>This sign indicates activities where there is a risk of electric shock, possibly with fatal consequences.</p>
---	--

	<p>hand injuries</p> <p>This symbol stands in front of activities where there is a risk of hand injuries.</p>
---	--

1.5 Technical terms and abbreviations used

shortcut	meaning

Tab. 1.2 used abbreviations

2 General safety regulations

2.1 principles

Use only at the maximum speeds specified by the tool manufacturer. Only use tools that are intended for the application and performance data of the S1 Basic by the manufacturer/dealer.

Area of application: industry, trade

Personnel qualification: Apprentices and interns only after instruction by an experienced operator

It is operated manually: optionally using the start button, foot pedal or foot pedal.

2.2 Intended Use

The S1 Basic milling device is designed exclusively for universal use in the dental laboratory for processing workpieces such as crowns, bridges made of wax, metal or ceramics. Only tools intended for processing such materials may be used.

Use only inside closed rooms.

2.3 Environmental conditions

Permissible ambient temperature range	+5 °C to +40 °C
Permissible up to max. relative humidity	80% (non-condensing)

degree of pollution	2
air pressure	700hPa to 1060hPa
Max Height	2000 m above sea level
Mains voltage fluctuations	± 10%

2.4 Foreseeable misuse

System must not be used:

- In a potentially explosive atmosphere
- For medical applications on patients
- Processing wet materials
- No flammable and combustible materials
- Any use other than that intended by the manufacturer is misuse
- Cleaning of the handpiece with compressed air is not permitted

2.5 Selection and qualification of personnel

Personnel qualification: Apprentices and interns only after instruction by an experienced operator

2.6 Workplaces for the operating personnel

Workplace in the dental laboratory/practice laboratory/dental practice, industry and trade.

2.7 safety devices

The control unit of the S1 Basic has a display that shows the preset maximum speed.



2.8 safety signs

Note on the type plate on the control unit.



meaning

Read the operating instructions in detail before starting up.

2.9 protective measures

Do not wear long hair loose

Always use suction

Personal protective equipment

safety goggles

extraction at the workplace

2.10 safety regulations

General information

Caution!

Risk of injury from pointed and/or rotating tools!

Wear safety glasses.

While transporting

Transport or dispatch only in the original packaging or suitable shipping carton.

During installation

Access to the power supply must not be made more difficult by the installation.

during operation

Operation and operation only with a sufficiently designed extraction system and protective clothing provided.



In anti-clockwise rotation mode, the collet may come loose when using a standard spindle!

maintenance and control work

- according to the operating instructions
- Apprentices and interns only after instruction by an experienced operator

maintenance and repair work

- Only by the manufacturer
- Setting, teach-in only by trained personnel with specialist knowledge of the respective device class.

Structural changes

Structural changes to the product are not permitted.

2.11 Extension and accessories

The S1 Basic can be expanded with the optionally available ceramic set for processing ceramics under water cooling.



Accessories such as parallel holders or transmission spiders may only be used in the optionally available measuring spindle!

3 scope of delivery

	Item No.		
S1 Basic milling device cpl. consisting of:	2800/1	survey spindle	2052/1
S1 Basic basic unit	2805	lead holder	2268
S1 Basic milling spindle	9400/05		
Q3 Basic table control unit incl. power cable	10715		
Model table stainless steel	2407/9		
collet wrench	4115		
counterbalance key	6223		
dust cover	2402		

4 Optional accessories



Light head
Art.No. 2510



Power supply light head
Art.No. 2480/1



Pedal switch for motor on/off
Art.No. 6370/2



Milling set Milling technology
Art.No. 2530/1



S W1 ceramic milling set for wet processing of zirconia in the milling device

Art.No. 2990 /1

Consisting of:

S W1 Water cooling for milling spindle, drip tub, stainless steel model table, light head power supply, collet reduction 3 mm to 1.6 mm, collet reduction 2.35 mm to 1.6 mm

5 technical description

5.1 overview

The S1 Basic is a dental milling device for the production and processing of removable dentures in the dental laboratory.

5.2 functional description

With the S1 Basic, components of removable dentures are parallelized or prepared for a defined insertion direction using a hand-guided milling spindle.

The milling arm, which can be moved freely in three axes, is guided by hand and can be fixed in any position by using adjusting levers. The milling table has an eccentric clamp for the model table.

5.3 interfaces

The S1 Basic has the following interfaces to other machines:

Connection for foot pedal switch or foot pedal.


Connection for power stick.

Switching signal for workplace extraction.

5.4 Features of the tools

Only tools with perfect concentricity are to be used. Shank diameter 2.35 mm or 3 mm depending on the collet variant.

5.5 type label

(1)		1. Manufacturer
(2)		2. Type
(3)		3. serial number
(4)		4. power supply
(5)		5. power
(6)		6. mains frequency
(7)		7. order/item. No.
(8t)		8. CE marking
(8b)		9. Pictogram: Disposal information
(9)		10. Pictogram: Observe the operating instructions
(10)		11. Pictogram: protection class 2

6 Transport and Storage

6.1 transport

If damage to the packaging is visible when the goods are handed over, this must be reported to the transport company immediately and confirmed in writing. The damage must then be reported to Schick GmbH immediately.

Requirements for the installation site

Devices that have cooled down considerably must be brought to room temperature before being used. Risk of condensation forming.

6.2 storage

Storage location requirements

In the original packaging, indoors only, protected from moisture.

7 Installation and commissioning

7.1 installation

Necessary tool

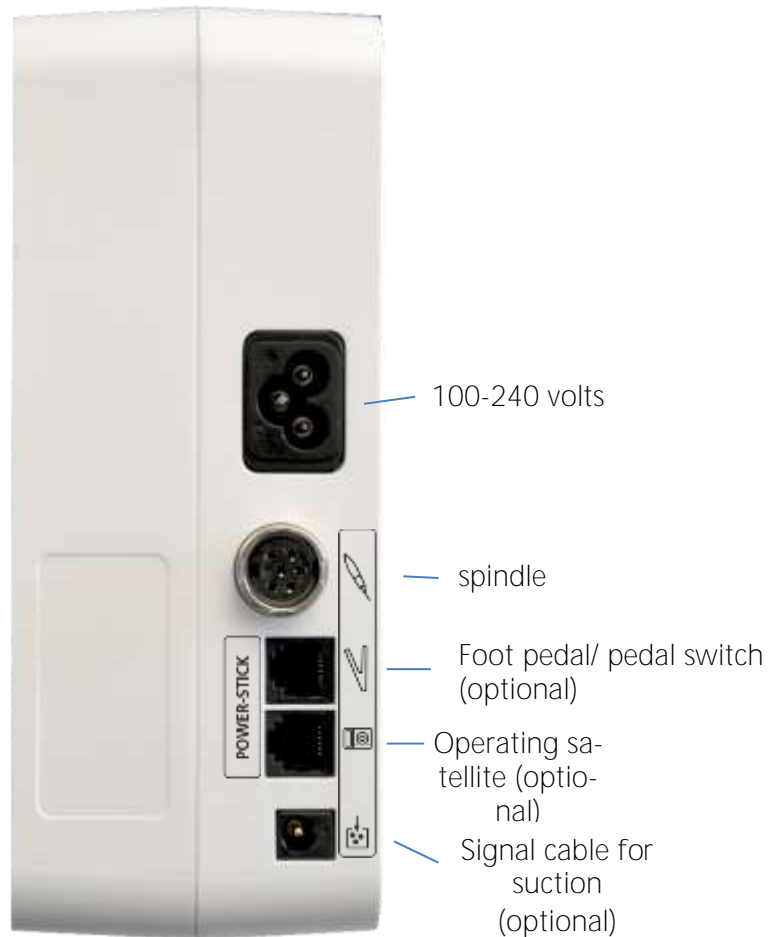
No tools required.

Safety precautions before installation

When working on the electrical installation, pull out the mains plug.

7.2 Installation

establish supply



- Connect the milling spindle to the "handpiece" socket.
- Optional: Connect a foot pedal to the foot pedal jack (desktop only)
- Optional: Plug the "power chip" into a free socket (operating satellite or foot pedal)
- Optional: Connect a suction point signal cable or signal transmitter to the "Signal cable for suction" socket (for use of the interface, see page 13, 4.3)
- Plug the mains adapter plug into the power supply socket on the control unit.

i Only plug the mains cable into the socket (100 - 240 volts) once the milling spindle has been correctly connected to the control unit.

i The mains cable may only be replaced with an original mains cable from Schick.

8 Power stick (optional, not included)

The Q3 Basic control unit has the option of plugging a power chip into the connection sockets of the foot pedal or control satellite, which increases the power by 2 Ncm and increases the maximum speed by 10,000 rpm.

After plugging in the power stick, it takes up to five seconds for the new performance data to appear on the display.



Please note the maximum permissible speeds of the tools used!

9 functions and operation

9.1 Switch Q3 BASIC on/off

Switching on/off is via the main switch on the back. Readiness indication via the display or LED on the main switch.



The Q3 Basic control unit may only be switched off using the main switch when the spindle is stationary.

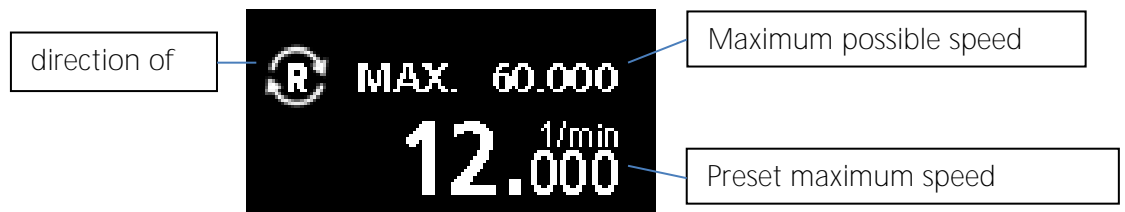
9.2 Operating concept and OLED display

After switching on, the OLED display of the Q3 Basic control device provides information about all operating states of the device.

The following parameters are displayed in detail:

- *operational readiness*: The display shows the preselected maximum speed, the maximum possible speed for the handpiece, the direction of rotation and the cruise control (if activated).
- *Operating condition*: While the engine is running, the display is inverted compared to the basic display.

OLED display basic display (knee version):



OLED display with handpiece running (table version):



The inverted display shows the handpiece is running!



After an hour of non-use, the display turns off. To reactivate it, simply press the foot pedal (optional) or use the rotary knob.



With dynamic control with dyn. foot pedal, the previously set maximum speed is shown in the display line "LIM." (abbreviation LIMIT) after the spindle has started.

9.3 Operation

Tabletop version:

Variable speed control via optional dynamic foot pedal Art.No. 9440 up to the maximum speed set via the rotary knob.

Static handpiece start via the button  to the speed set via the rotary knob.

Static handpiece start via the optional foot switch Art.No. 6370/2 to the speed set via the rotary knob.






It is essential to observe the maximum permissible speed of the clamped tool before starting the handpiece!

9.4 Changing the direction of rotation of the handpiece

The Q3 Basic control unit can be switched from right to left rotation. The default direction of rotation is clockwise.

Changing the direction of rotation:

- button  press once briefly.
- ✓ The symbol  or  the selected direction of rotation is shown on the display or the LED next to the symbol on the foot device lights up.
- ✓ Changing the direction of rotation is acknowledged by a vibration signal on the spindle.



If the spindle is subject to greater stress when rotating anti-clockwise, the collet can theoretically come loose.

9.5 Tool change – opening and closing of the collet

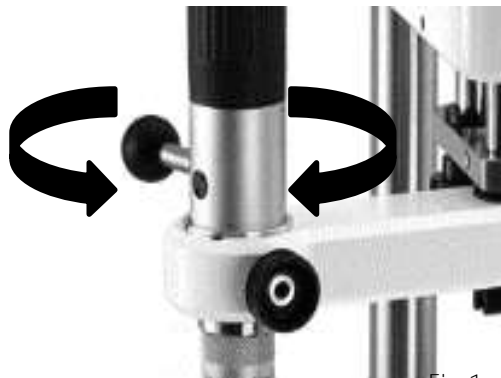


Fig.1

- Turn the clamping lever to the right ("Open") as far as it will go and insert tool
- Turn the clamping actuation lever to the left ("close") as far as it will go and clamp the tool



Tool change only when the engine is switched off! With regard to the accuracy and service life of the collet, a tool or the protective pin supplied by the manufacturer must always be clamped, even when not in use.



Caution: In order to avoid buckling of the tool shanks at high speeds, always insert tools as far as possible into the collet in order to achieve the maximum holding force!

9.6 Fixing the model table

The S1 Basic has an effective fixing option for the model table or the optionally available milling tray.

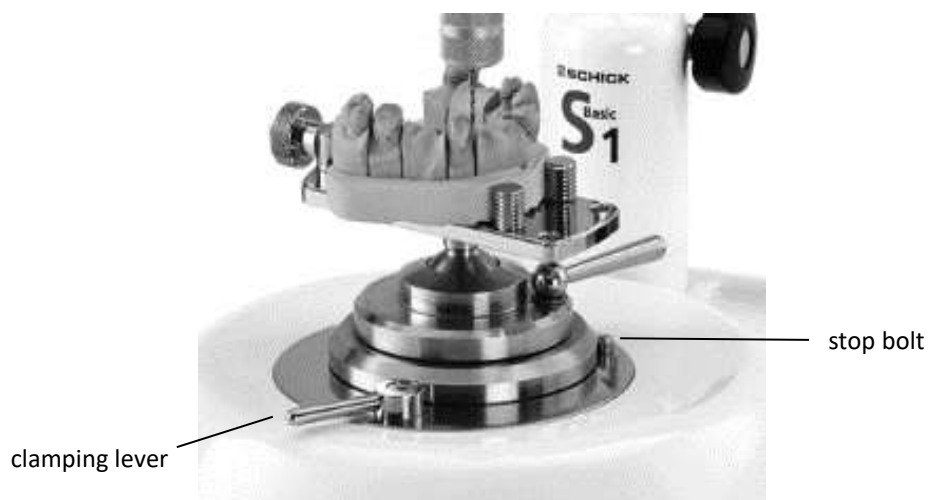


Fig.2

- Insert the two stop bolts into the rear holes and the clamp lever into the front hole.
- ✓ Now the model table or the milling tray can be inserted and clamped by swiveling the lever to the side.

9.7 Height adjustment of the milling arm

The milling arm of the S1 Basic can be steplessly adjusted in height.



Fig.3

- Support the milling arm with one hand to prevent it from falling down unintentionally.
- Loosen the rear clamping screw and adjust the milling arm to the desired working height.
- Tighten the clamping screw.

9.8 Free milling / measuring

The milling arm of the S1 Basic is designed in such a way that it can be moved freely in all directions in order to carry out any milling, blocking out or surveying work. In addition, the individual clamps on the arm joints enable partial or full fixation in any position.

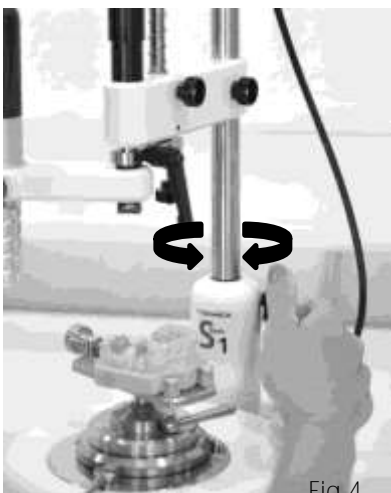


Fig.4



Fig.5

- Loosen the clamping levers of the column clamp and arm clamp as shown in Fig. 4 and 5.



When loosening/tightening the individual clamps, make sure that you tighten them just enough so that the joint can no longer move. Avoid excessive tightening of the clamps!

9.9 Drilling

With the S1 Basic, precise bores can be made or interlocks milled without any problems. The drilling function is additionally supported by the adjustable depth stop.

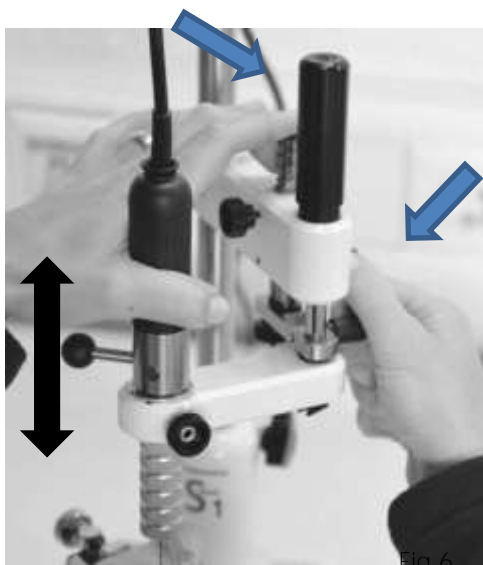


Fig.6



Fig.7

- Pull the spindle down to the desired drilling depth and position while pressing down the spring-loaded guide pin!
- Tighten the milling arm clamp, tighten the column clamp.

To limit the drilling depth, the knurled screw can be turned to the desired position as a depth stop, as shown in Fig.7

9.10 Fixing attachments / attachments

With the additional fixing screw on the milling arm, it is possible to fix the milling arm at any extension depth. Attachments / attachments can thus be fixed without any problems. The measuring spindle is available under item no. 2052/1 available as an accessory.



Fig.8



Fig.9

- Use the measuring spindle instead of the milling spindle.
- Fix the milling arm as shown under point 8.9.
- Pull the survey spindle down to the desired position as shown in Fig.8, lowering the guide rod with it.
- ✓ By tightening the fixing screw, the milling arm is now fixed in the corresponding position and automatically returns to the starting height using the spring balancer as soon as the fixing screw is loosened again.



Danger: Accessories such as parallel holders for attachments, transmission spiders or similar may only be used in the measuring spindle item no. 2052/1!

10 Installation of the optional light head

Instead of the grip sleeve included in the scope of delivery, the optionally available light head item no.: 2510 can be mounted in connection with the power supply item no.: 2480/1 (Fig. 10).



Fig.10



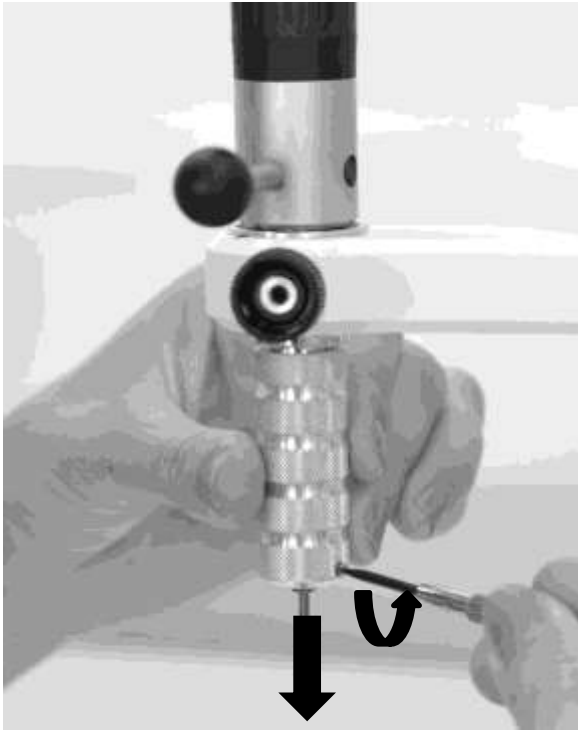


Fig.11

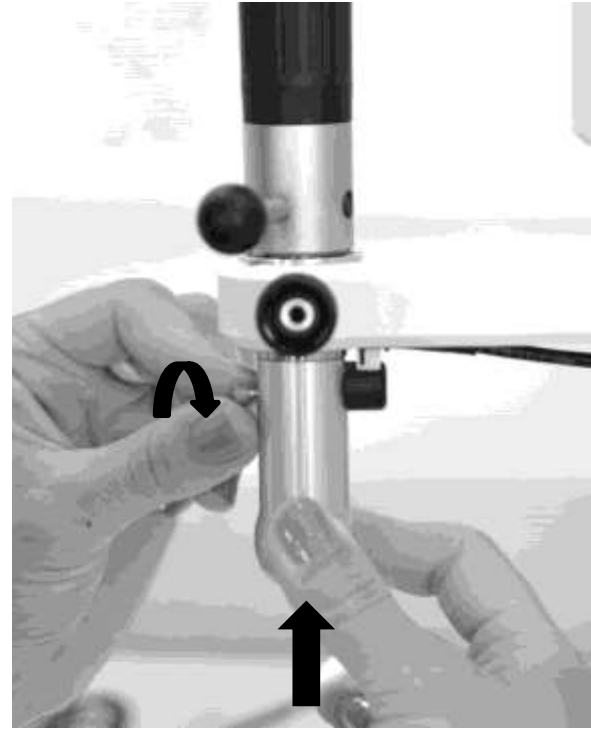


Fig.12

- Unscrew the slotted screw at the end of the grip sleeve and pull the grip sleeve downwards (Fig. 11).
- Connect the light head to the power supply and slide it onto the spindle so that the connector plug can enter the recess in the milling arm.
- Secure the light head with the knurled screw (Fig. 12).
- The connection cable of the light head can be clipped into the holder below the milling arm.
- ✓ Plug in the power pack and switch on the light head using the toggle switch.

11 Help with errors

11.1 Procedure in the event of faults or errors in the Q3 Basic control unit

Error messages disappear immediately from the display as soon as the knee plate or foot pedal is released or the fault is eliminated. Waiting times for a restart are therefore eliminated.

If a fault cannot be rectified using the above description, please contact an authorized service partner or Schick directly.

11.2 Malfunction and error messages

The S1 Basic control units have intelligent control electronics that recognize possible faults and can show them as an error code on the display or via the ready LED. If an error occurs, this is indicated by "ERROR-01".



Example of an error message: ERROR 01

The faults/error messages are divided into categories, with the category being indicated by a flashing code on the ready LED.

The S1 Basic foot control device only shows the error category by flashing the ready LED.

In all control unit variants, if several errors occur at the same time, the error with the higher priority is displayed. As soon as this is no longer present, the lower-priority error is displayed.

category	component	blink code	prioritization
1	Handpiece/Cable	Once short	3
2	handpiece motor	Twice short	2
3	control unit	Three short	1

Detailed error code list:

error code	Error Description	category	cause	remedy
01	No handpiece connected.	1	2 or 3 motor phases not contacted. Always checked when control is on.	Check whether the handpiece is correctly connected.
02	Error in the handpiece cable.	1	One motor phase not contacted. Is always checked when the controller is on.	Replace motor cable.
03	Motor stalls at start.	2	Collet open or handpiece blocked due to bearing damage.	Check whether the tool can be rotated freely.
04	Motor stalls while running	2	Motor stalled for more than 2 seconds while running.	Reduce contact pressure.
05	Motherboard defective	3	Electrical failure on motherboard.	Contact Schick service.
08	Supply voltage error	3	DC link voltage (48V), 18V or 3V3 outside border area.	Contact Schick service.
10	Control unit overloaded	3	Temperatures on motherboard too high.	Allow control unit to cool down.

12 Maintenance and control work for operators

12.1 General information

The Schick handpieces are designed for maximum durability, but the collet should be removed and cleaned from time to time, and the dirt under the handpiece tip should be removed with a brush.

Dirt on the plastic surfaces can be removed with a dry cloth.

Do not use harsh cleaning agents!

12.2 Care and Control Plan

Handpiece Care and Control Plan:

interval	maintenance and control activities	Remarks
Weekly	Dismantle tip and remove dirt	Do not use compressed air!
Per month	Remove collet, clean and grease	Grease with item no. 51/1

12.3 Carry out maintenance and control work

Removal and cleaning of the collet on the S1 Basic milling spindle



1. remove tool.
2. Unscrew and remove the motor cable
3. Insert the collet wrench (Art. No. 4115) into the opened collet, hold the counter-hold wrench (Art. No. 6233) on the wrench flat on the motor shaft and turn the collet out counter-clockwise with a jerk, if necessary by tapping on the collet wrench
4. Pull the collet out of the shaft

- i** In the collet there is a stop bolt for short shanks, which can be removed or replaced as required.
- i** The milling spindle does not have to be removed from the milling device to remove the collet.
- i** After thorough cleaning of the collet, it should be lightly greased on the outside with special grease (Article No. 51/1) before reassembly.
- i** Only tighten the collet slightly when reinstalling! The collet tightens itself during normal operation (clockwise rotation).
- i** With regard to the accuracy and service life of the collet, a tool or the protective pin supplied by the manufacturer must always be clamped, even when not in use.
- i** Never clean the handpiece with compressed air!
- i** The corresponding collet keys can be found on the underside of the handpiece tray.
- i** The spare parts listed may only be replaced with original spare parts from Schick.

13 Technical specifications

General data and dimensions	Q3 Basic table control unit with milling spindle
speed range	200 – 40,000 rpm
Max. Torque	7Ncm
diameter	30mm
length	158mm
weight without cable	240g
weight with cable	370g
cooling	Closed system without cooling
drive system	Brushless DC motor
operating voltage	100-240 volts, 50-60 Hz
continuous recording power	160 watts
concentricity	< 0.02mm
collets	Ø 2.35 and 3.0 mm (optional)
tool change	quick release

control units:

Dimensions	S1 Basic	Q3 Basic
Broad	220mm	106mm
Height	400mm	200mm
depth	270mm	207mm
Weight	7.2g	1,880g

The total vibration value during operation is less than 2.5 m/s²

14 Appendix

14.1 service address

Schick GmbH

Lehenkreuzweg 12

88433 Schemmerhofen

Phone: +49 7356 9500-0

Fax: +49 7356 950095

Email: info@schick-dental.de

Internet: www.schick-dental.de

Schick GmbH
Lehenkreuzweg 12
D-88433 Schemmerhofen
Telephone +49 7356 9500-0
Fax +49 7356 9500-95
Email info@schick-dental.de
Internet www.schick-dental.de
www.schick-industrie.de

Schick GmbH reserves the right to change this documentation and the descriptions, dimensions and technical data contained therein without prior notice.

Schick GmbH assumes no responsibility for possible errors in this documentation. Under no circumstances can Schick GmbH be held liable for damage or consequential damage resulting from the use of this documentation or the hardware and software described therein.

The user is responsible for backing up and maintaining data. Schick GmbH assumes no liability whatsoever for the loss or manipulation of existing databases.

We would like to point out that any type of duplication, even for internal purposes, is prohibited. The content may not be made available to any third party and may not be used for purposes other than intended.

© Copyright remains with Schick GmbH

14.2 Declaration of Conformity

We, Schick GmbH
Lehenkreuzweg 12
D-88433 Schemmerhofen

hereby declare that the product

**S1 Basic consisting of
S1 Basic basic unit 2805
combined with
Q3 Basic table controller 10715**



Optional: foot switch (on/off) 6370/2

complies with the following relevant provisions:

2006/42/EC (Machinery Directive)
2014/30/EU (EMC Directiven)
2011/65/EU (RoHS)

Name/address of
document officer
In the community:

Wolfgang Schick
Lehenkreuzweg 12
88433 Schemmerhofen

Schemmerhofen, January 2023



W. Schick
chief Executive Officer

Technical changes reserved

In terms of device safety and the
Radio protection according to the applicable regulations according to VDE.

These instructions for use are always accessible, preferably in
kept close to the device!

At this point we would also like to point out that
a corresponding one for such technically high-quality devices
Repair service and specially trained specialists
is required.

The house SCHICK guarantees you flawless
Repairs with original spare parts. To each of us
repairs carried out in-house will refer you to the
exchanged parts are granted a guarantee period of 6 months.