



English

QUBE Assist

Original
Instructions

E



We are pleased that you decided to buy a highly developed piece of equipment from SCHICK and would like to wish you every success when working with your new **QUBE Assist** control unit.

We wrote these instructions to enable you to get accustomed to your new piece of equipment and to provide you with the correct operating and maintenance instructions.

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1. Safety information

- 1.1 Ascertain that your mains supply coincides with the data on the rating plate.
- 1.2 **QUBE Assist**- units are not suitable for the following applications:
 - in areas where there is a risk of explosion
 - for medical applications
 - for working on moist materials
- 1.3 Ensure that all regulatory requirements are observed during use
 - always wear protective glasses
 - provide enough light at the working place
 - use dust suction
- 1.4 Under no circumstances should the motor handpiece be cleaned with compressed air.
- 1.5 Before putting the handpiece down, always insert a rotary instrument or the pin, supplied with the unit, into chuck.

Caution:

- When using rotary instruments, do not exceed the maximum speeds laid down by their manufacturer.
- When operation with left-hand rotation, the collet may loosen when there is a high load.
- Repairs and other technical procedures must only be carried out by suitable qualified personnel, authorized by SCHICK.
- SCHICK do not guarantee the **QUBE Assist** unit should it not have been used in accordance with the instructions.

2. Range of applications

The **QUBE Assist** unit is designed for universal use in dental laboratories when trimming crowns and bridges, respectively acrylic and light chrome cobalt dentures. With its speed range from 200 - 50.000 rpm the SCHICK **QUBE Assist** - unit allows to work all dental materials.

The complete new technology of **QUBE Assist** enables changing the tools without changing the grip position of the hands. The kernel of the technology is the pneumatical chuck system which replaces the normal collet chuck technology.

Conditions of environment:

- interior 5° - 40° C.
- up to 2,000 meter over sea level

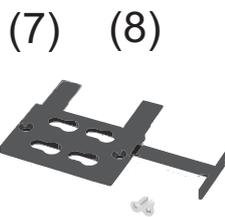
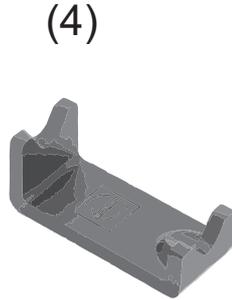
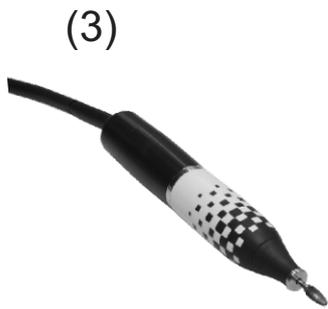
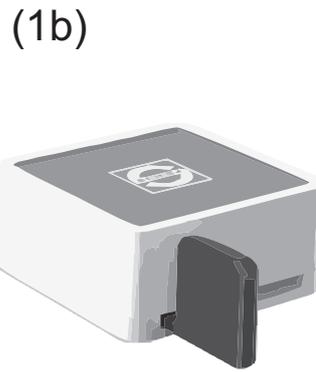
Categorie of overvoltage: II

Grade of pollution: 2



WEEE-Reg.-Nr. DE 78620387

3. Summary QUBE Assist



knee control:

QUBE Assist knee controller		Art.Nr.	
QUBE Assist control unit knee	(1a)	9086	
motorhandpiece with cable	(2)	9020	
control satellite	(3)	9003	
handpiece rack with two keys for changing chuck	(4)	9127	
power supply	(5a)	9102	
velcro	(5b)	9130	
mains cable	(6)	2160	
suspension strip	(7)	9103	
screws - 2 pieces-	(8)	3170	
cable satellite 2m	(9)	9124	
signal transmitter for suction	(10)	9060	
foot switch	(11)	6370/2	
hose with plug NW7	(12)	9297	

foot control:

QUBE Assist foot controller		Art.Nr.:	
QUBE Assist control unit foot	(1b)	9087	
motorhandpiece with cable	(2)	9020	
control satellite	(3)	9003	
handpiece rack with two keys for changing chuck	(4)	9127	
power supply	(5a)	9102	
velcro	(5b)	9130	
mains cable	(6)	2160	
cable satellite 2m	(9)	9124	
signal transmitter for suction	(10)	9060	
foot switch	(11)	6370/2	
hose with plug NW7	(12)	9297	

4. Accessories/options

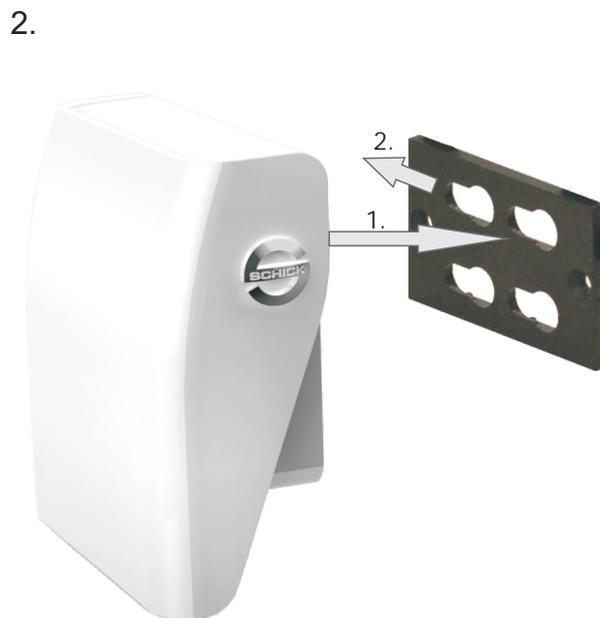
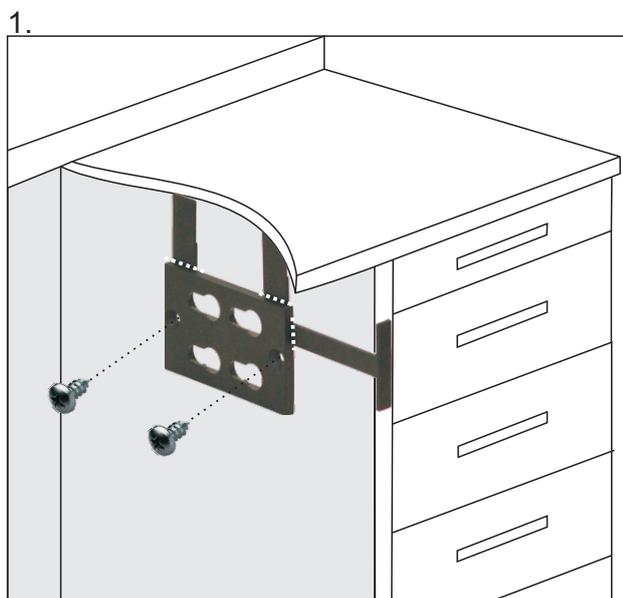
chuck Ø 2,35mm	9142
chuck key	4115
engineers wrench	9188
motor cable complete	9280
cable satellite 0,5m	9124/1
cable satellite 1,5m	9124/2
signal cable QUBE	9229



riveting hammer
Art.no. 1850/2

5. Initial start-up and installation

5.1 Installation of the suspension strip for knee control unit or work bench control unit



- 1 The suspension strip (7) is supplied with a template which acts as an aid for correct positioning of the **QUBE** knee control unit. To do this, the mounting bracket is positioned on the work bench as shown in figure 1, and secured using the screws supplied (8). After installation, the template can simply be detached from the bracket.
2. For installation of the knee control unit, the cavity at the rear of the unit is placed on the bracket and pushed back until it clicks into place (Fig.2).

5.2 Fixing the power supply with the velcro

The delivered velcro can be used to attach the power supply under the workbench (Fig.2).

1.



2.

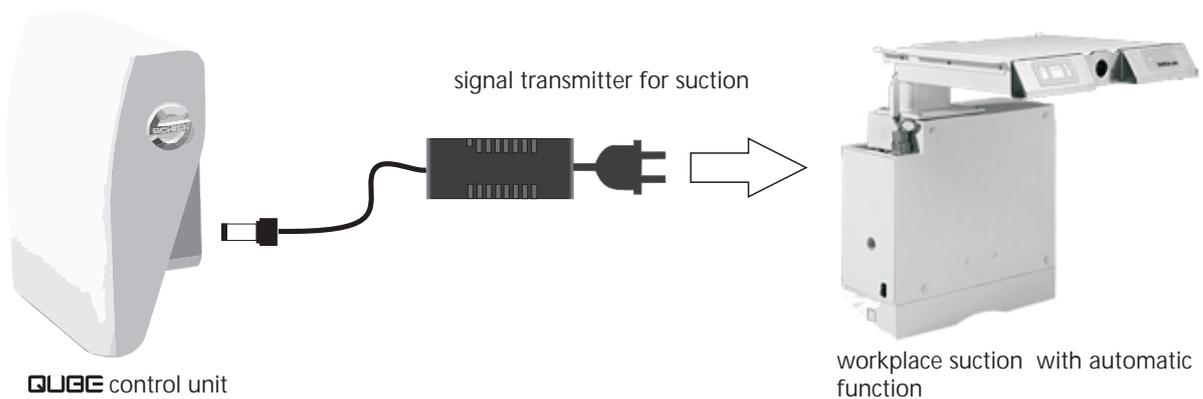


1. Remove one of the protective foils of the velcro and attach it to the power supply.

2. Remove second protective foil and stick the power supply to a clean and even surface. Please avoid permanent load to the power supply by the cables.

5.3 Connection of the signal transmitter for automatic swichting on of a workplace suction device

In order to operate the workplace system together with a workplace suction system with automatic function, the signal transmitter for the suction signal must be connected. This is, as shown in the illustration, inserted in the suction signal jack on the control unit. At the opposite end, in the appropriate connector socket on the workplace suction device.



5.4 Installation suggestion for the foot switch

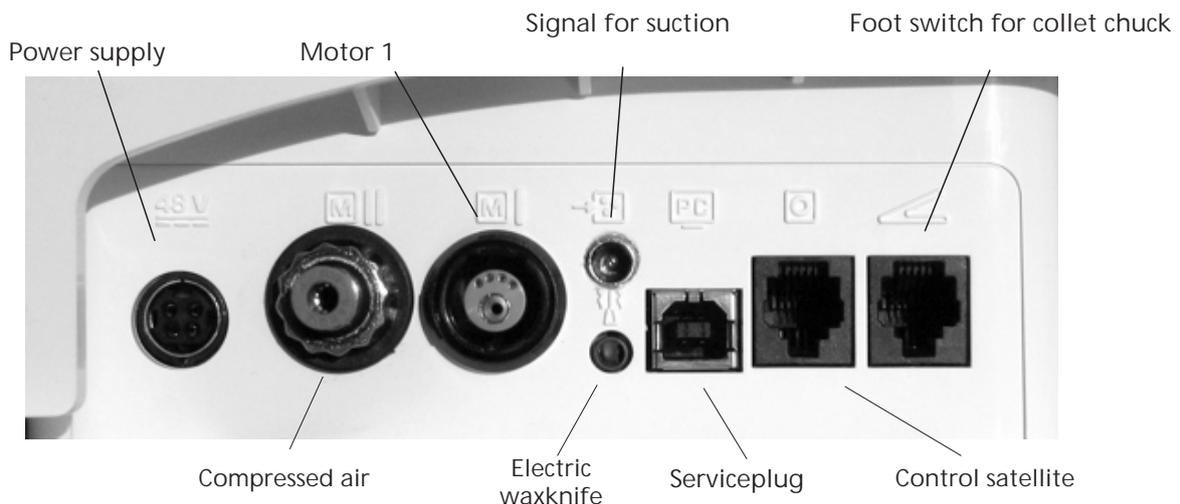
The foot switch for the chuck system can be placed anywhere on the ground or it can be attached to the workbench with velcro fastener. The following position as seen on picture 1 and 2 for the foot switch is proven as a practical and ergonomic solution.



The optimal position for the foot switch depends on the user and should be determined individually.

5.5 Initial start-up

Connect the motor hand piece to the 'motor hand piece 1' socket. Connect the controls satellite (2) to the control unit using the cable (9). Connect the supplied air hose (12) to the socket of the control unit and connect the air plug attached to the hose to the laboratory air supply. A minimum pressure of 87 psi is needed. Connect the plug of the footswitch(11) with the control unit. Plug the network adaptor into the power supply socket on the control unit. To switch on the device, activate the operating component (knee pad, foot lever) once.



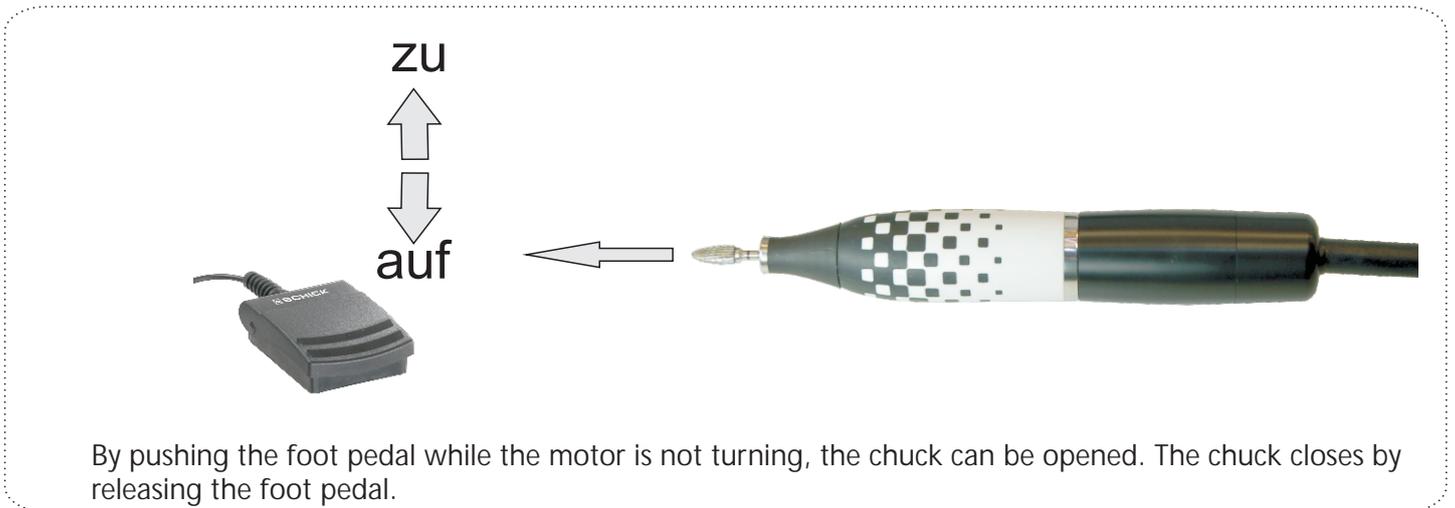
- ⚠ Basically, firstly attach the handpiece, the controls satellite and the electric wax knife (if you have one) before connecting the mains cable and switching the control mechanism on.
- ⚠ Connect the compressed air hose to the QUBE Assist control unit first before connecting the hose to the air supply!
- ⚠ The compressed air has to be completely dry and oil free! Use an air filter if necessary.

5.6 Switching on and off

There is no main switch for the **QUBE Assist** control unit. If the hand piece is not used for more than 60 minutes, it switches off automatically. Alternatively, the device can be switched off manually by simultaneously depressing the touch-tilde +  for longer than 2 seconds. By simply touching the control device (knee pad /foot pedal, MENÜ button on the worktop version), the device is switched on again.

 In order to prevent unnecessary waiting times, when the wax knife is switched on, the control mechanism is not automatically switched off.

6. Tool change on motorhandpiece

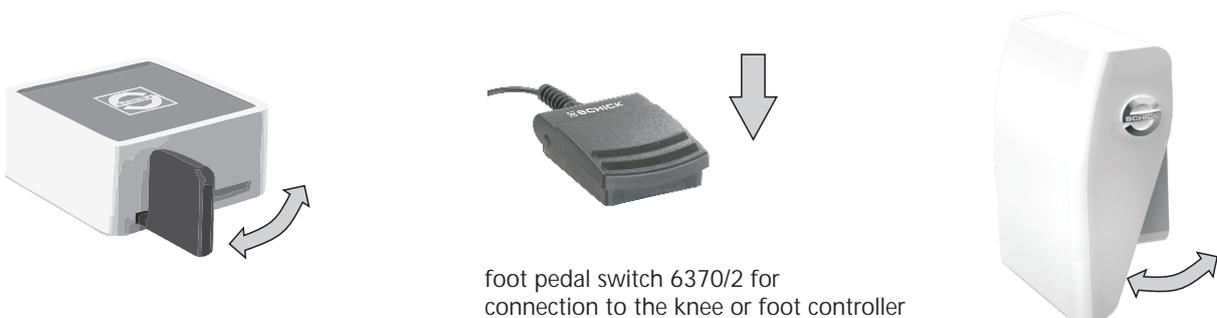


 Only carry out a tool change when the motor is switched off! To optimise the precision and durability of the chuck, the tool or the factory-supplied protective pin must always be in a fixed position, even when not in use.

 Always insert tools as far as possible into the chuck in order to achieve maximum holding power!

7. Use of operating units

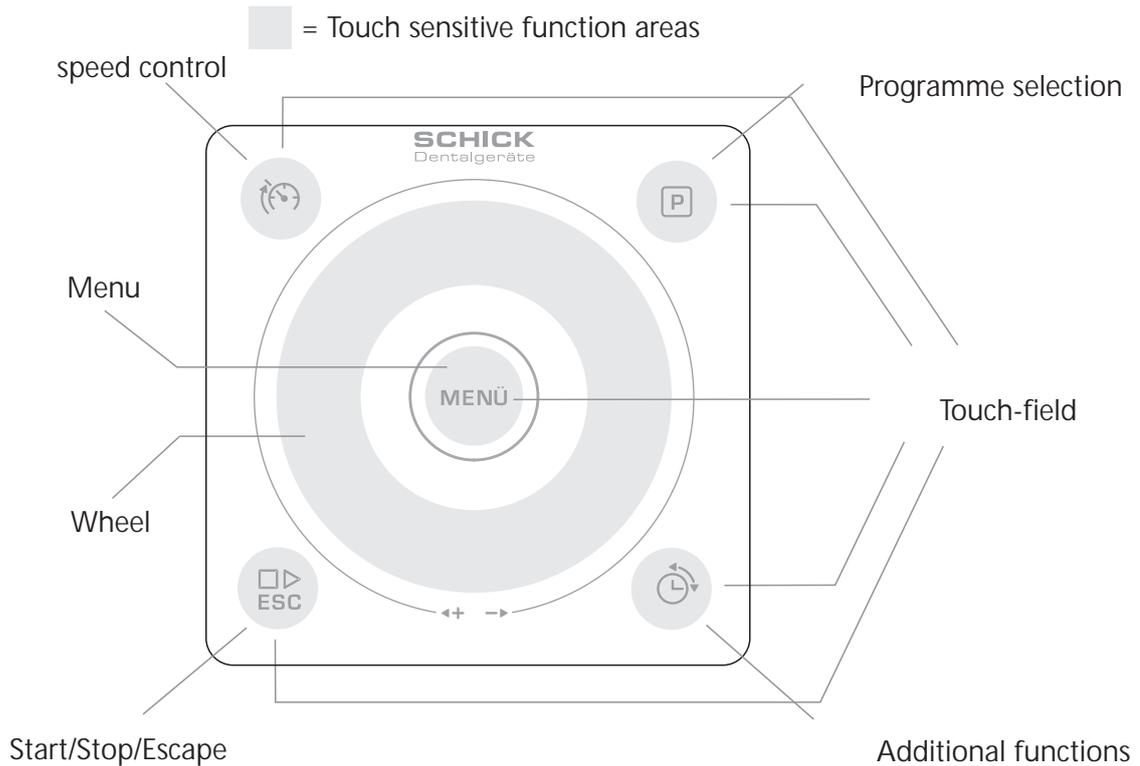
There is continuously variable speed control of the handpiece up to the maximum preset motor speed using the respective control unit (see diagram below).



8. Control satellite

8.1 The touch pad

On the top of the control satellite there are five touch-sensitive keys (hereafter referred to as 'touch-field') and a touch sensitive control dial (hereafter referred to as 'wheel').



8.2. Operation of touch-sensitive surfaces (touch-fields)

Operation of the controls satellite is carried out by a simple touch of the touch fields. Within this, there is a distinction between a single touch, holding for 2 seconds and a rotational motion of the wheel. Each action can be found in the appropriate section of this operating manual.

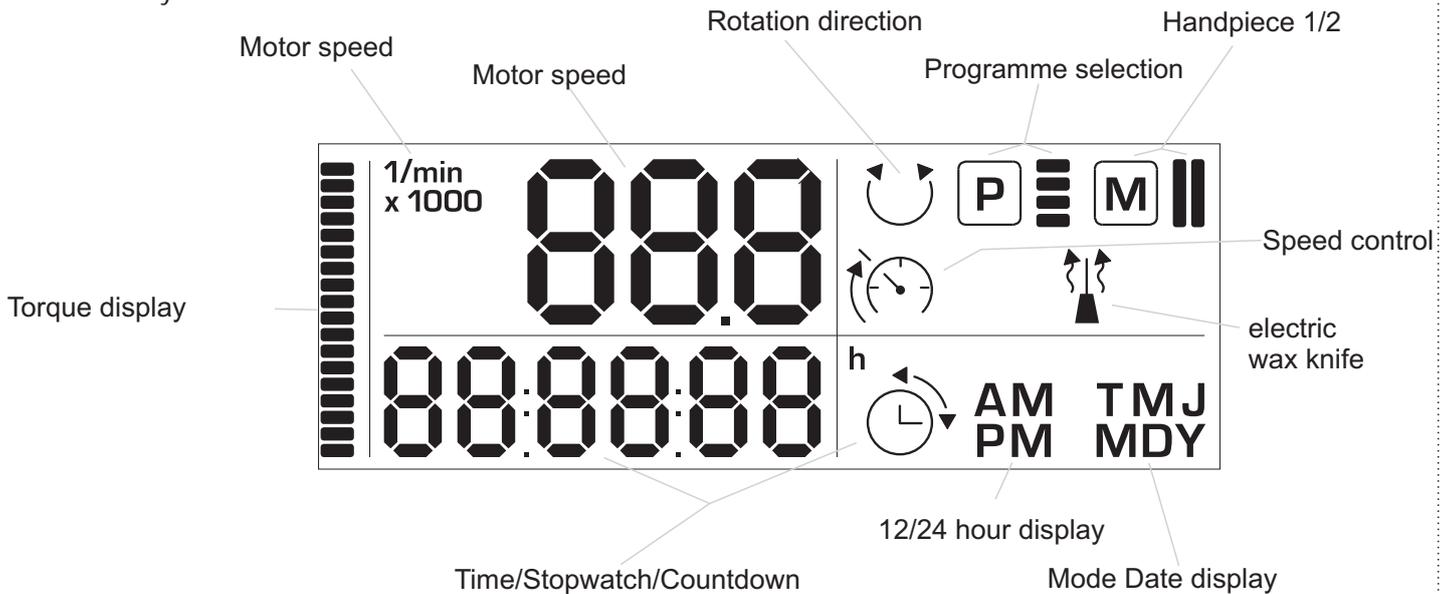
basic operation:

a circular motion on the wheel gives maximum torque, or the speed setting can be adjusted via the menu. Activating the touch-field (MENÜ) for two seconds opens the settings menu. One touch enables you to skip to the next menu point. Simply touching the four outer soft keys enables operation of the additional functions, activation of the cruise control or selection of the four program Memory within the basic display.



8.3 LCD- Information display

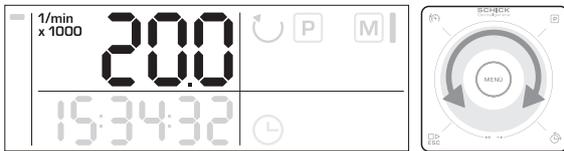
The symbols



9. Basic and additional functions, time and thermometer

9.1 Pre-selection of maximum speed

1.



1. Adjust the maximum speed by making a rotational motion on the wheel.



For using the speedrange between 200 and 1.000 rpm, the maximum speed has to be limited to 1.000 rpm at the control satellite



Please always observe the maximum permitted speed for your tools!



Flashing of the rpm symbol illustrates the pre-selected rpm when the motor is not running. If the handpiece is started using the knee pad or foot lever, the display changes to the current rpm and the rpm symbol is displayed permanently.



When operating the motor hand piece without the controls satellite, the maximum speed is restricted to 30,000 rpm.

9.2 Additional functions, time and thermometer

Using the controls satellite, the following additional functions are available; time, date, stopwatch, countdown, room temperature.

After initial set-up of the unit, the time appears in the LCD display in the bottom left-hand corner, and parallel to it, the time symbol. These additional functions can all be called up one after the other using the 'additional function' touch field.

9.2 Time

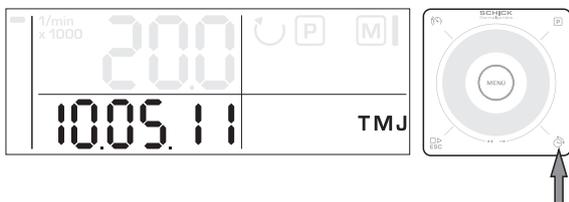
1.



1. Basic time display

9.3 Date display

1.



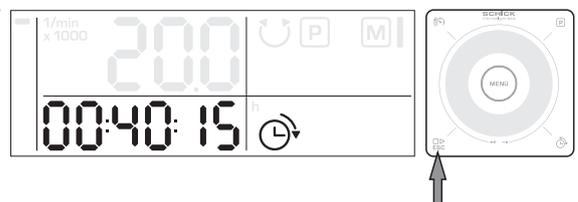
1.  Press to call up date

9.4 Stopwatch

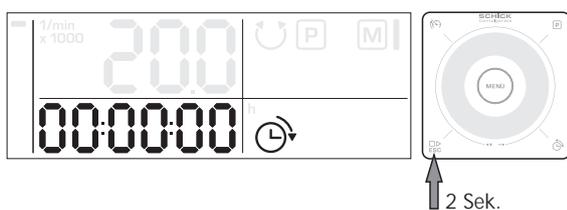
1.



2.

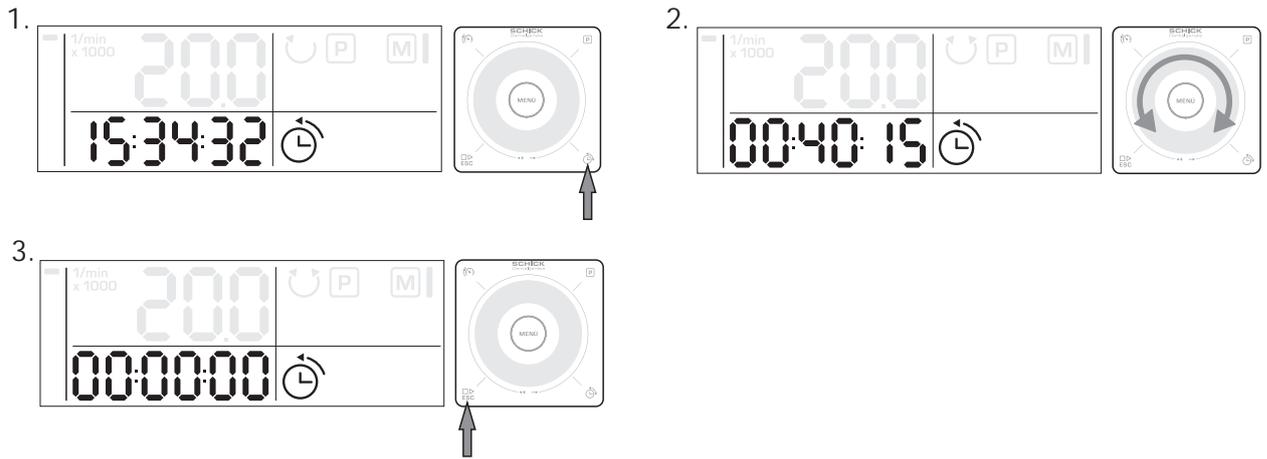


3.



1.  Press to call up stopwatch
2.  Press to start or stop stopwatch
3. Reset to 0, press  for 2 seconds

9.5 Countdown



1.  Press to call up countdown
2. Enter the required time using the wheel
3.  Press to start or stop countdown

Following expiry of the time entered, there is an acoustic signal

9.6 Room temperature display



1.  Press to call up the current room temperature, as measured on the control satellite

One more touch of the time signal  activates a return to the time display.

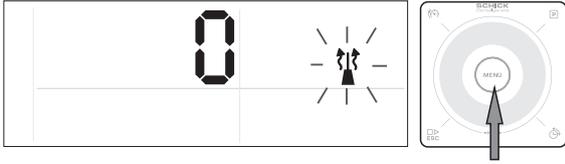
10. Menu structure/basic settings, time and date settings together with user-specific programming

To activate/deactivate the wax knife, adjust the date and time, adjust the direction rotation, and to save individual performance and speed programmes, you need to access the programming level. From each menu you can go to the basic display by using the touch-field . The settings are stored.

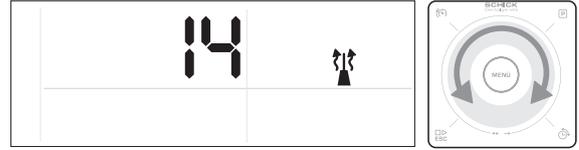
10.1 Switching on the wax knife

(in this respect, please note the recommendations on page 18 and the separate instruction sheet for the wax knife)

1.



2.

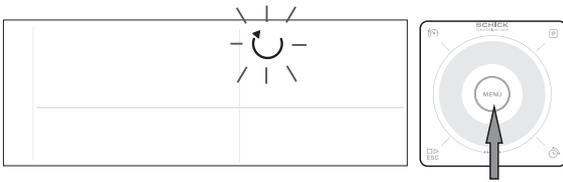


1. **Menü** Press menu for 2 seconds to switch to programming level

2. To activate the wax knife, set a value of 0 by turning the wheel
The heating can be adjusted within the range of 1 to 20

10.2 Switching from right or left rotation

1.



2.



1. **Menü** Press menu to adjust from right or left rotation

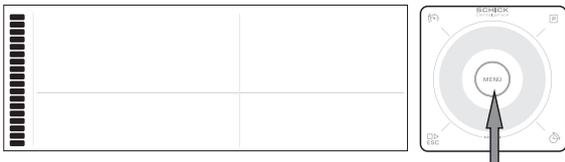
2. Turn the wheel to select the desired direction of rotation of the motor handpiece



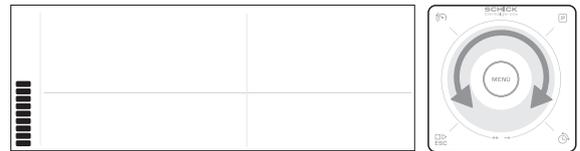
The chuck can become detached when rotating to the left under high strain

10.3 Torque limitation

1.



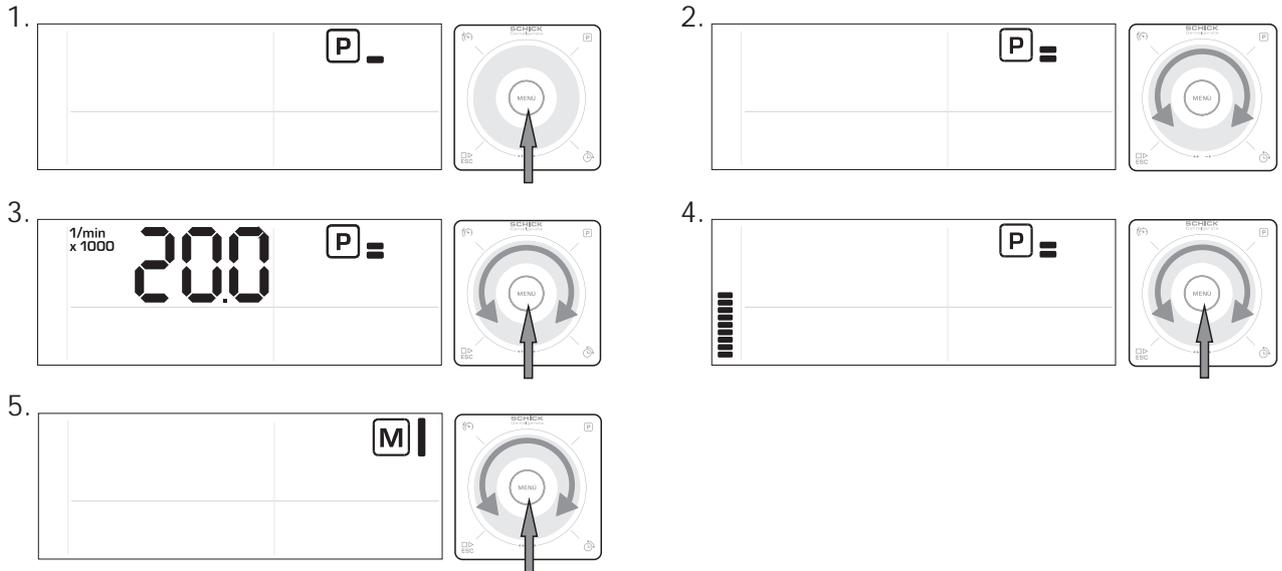
2.



1. **Menü** Press menu to access the torque limitation function

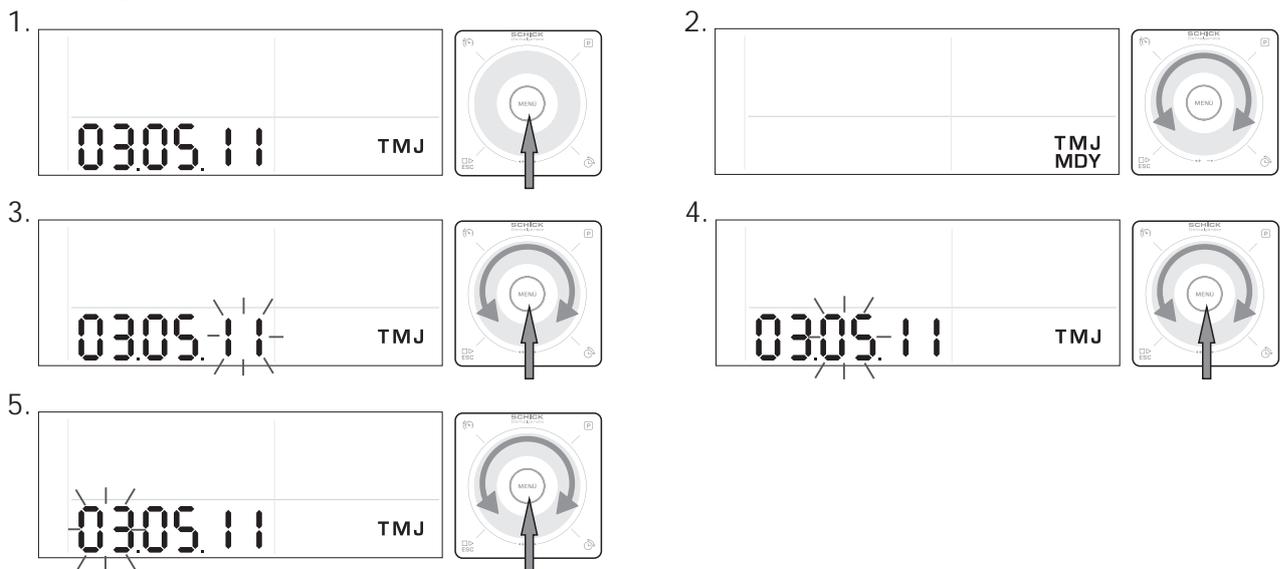
2. Adjust the maximum torque by making a rotational motion on the wheel

10.4 User-specific programmes



1. **Menü** Press menu to switch to programme selection
2. Set the programme to be changed by making a rotational motion on the wheel
3. **Menü** Press menu and adjust maximum speed using the wheel
4. **Menü** Press menu and adjust maximum torque using the wheel
5. **Menü** Press menu and select Motor 1 or Motor 2 with the wheel (only with Premium)
6. By pressing **Menü** again, return to menu programme selection. Here, you can now configure a further programme by using the wheel, or by pressing **ESC**, leave the programming level

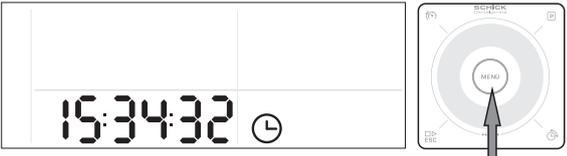
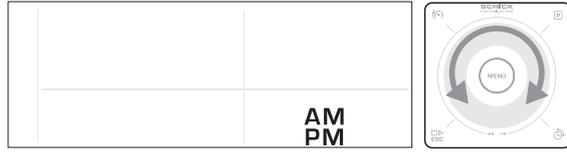
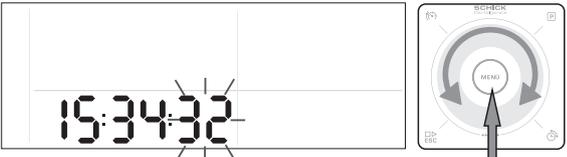
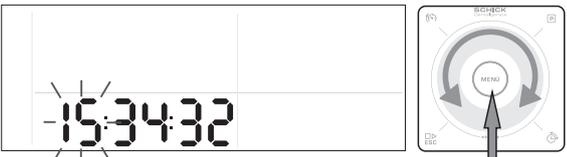
10.5 Setting the date



1. **Menü** Press menu to switch to date settings
2. Adjust the date format by making a rotational motion on the wheel
3. **Menü** Press menu to adjust year and change with the wheel

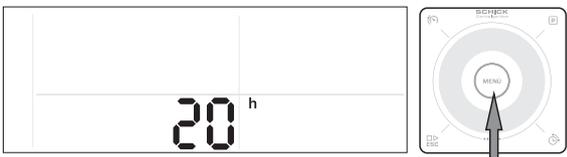
4. **Menu** Press menu to adjust month and change with the wheel
5. **Menu** Press menu to adjust day and change with the wheel and then confirm with menu

10.6 Time setting

1. 
2. 
3. 
4. 
5. 

1. **Menu** Press menu to switch to time setting
2. Adjust the time format (12h/24h) by making a rotational motion on the wheel
3. **Menu** Press menu to adjust seconds and change with the wheel
4. **Menu** Press menu to adjust minutes and change with the wheel
5. **Menu** Press menu to adjust hours and change with the wheel and then confirm with menu

10.7 Operating hours counter

1. 

1. **Menu** Press menu to display the operating hours counter

After pressing **Menu** once more, the display returns to the basic display



Due to the break in cycle at Schick, up to 24 hours can be displayed.



It is possible to leave the programming level at any time by touching the touch field **Esc**. Changes already made are not lost as a result.

11. Speed control function

The motor handpiece can be operated using the speed control function without having to continuously press the control unit.

Two different speed controls can be used via the controls satellites.

1. Simple speed control: speed is maintained without pressing the control lever further as soon as the speed has been held constant for longer than 2 seconds
2. Speed control with touch function: The motor handpiece can be run at the preset speed by a single touch of the operating lever.

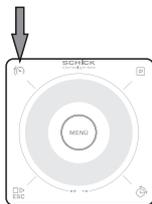
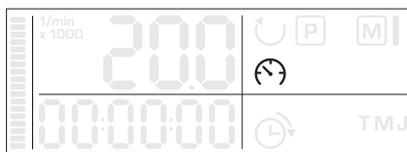


Please always observe the maximum permitted speed for your tools!

To activate the speed control function, proceed as follows:

11.1 Simple speed control

1.

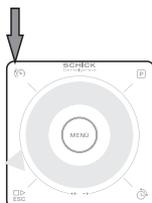
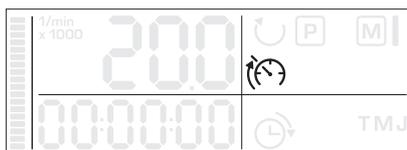


1.  Press to activate the simple speed control function.

The speed control is now active. If a selected speed is held for more than 2 seconds, this speed is saved to the memory and the operating unit (knee pad etc) is no longer needed. To stop, touch the operating unit once

11.2 Speed control with touch function

1.



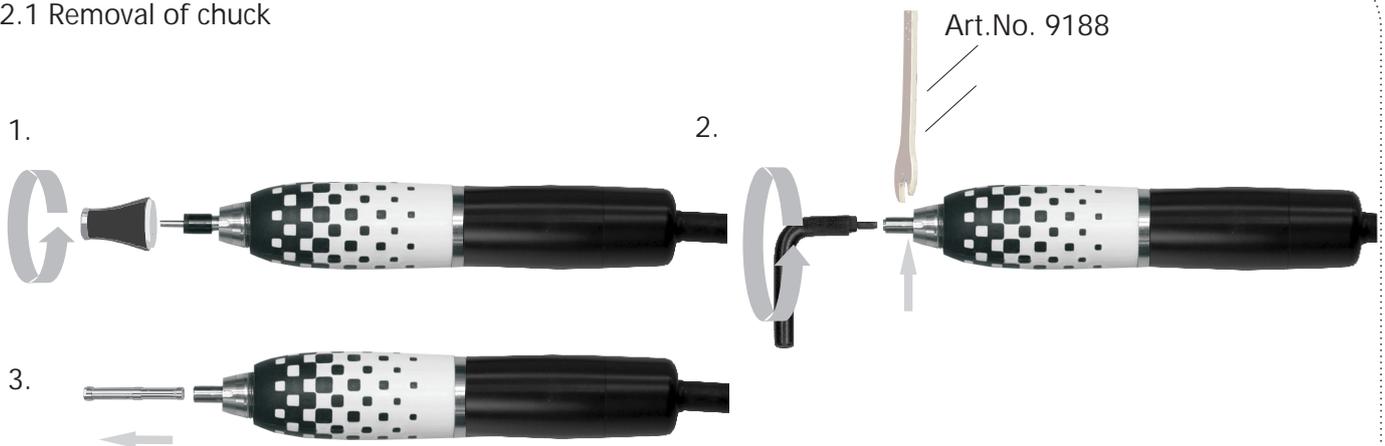
1.  Press to activate speed control with touch function.

Speed control with touch function is now active. Once the control unit is pressed, the handpiece starts at the preset speed on the control satellite.

12. Cleaning and Maintenance/Removing the chuck

The **QUBE Assist** motor handpiece is designed for maximum durability and therefore, the chuck and the tip should be removed and cleaned from time to time.

12.1 Removal of chuck



1. Push the foot switch for opening the chuck and hold during the whole process
2. Remove tool, unscrew tip of handpiece and remove dustcap
3. Place the chuck key (Art. no. 4115) on the open chuck, and with an open spanner, (Art.no. 9188) hold the shaft firmly on the key surface and pull out the chuck with a jolting action or by tapping on the chuck key
4. Remove the chuck from the shaft und release foot switch

After thoroughly cleaning the chuck, before replacing, it should be slightly greased on the outer surface (with grease Art.no. 51/1).

Before the chuck can be re-installed, the foot switch for the chuck has to be pressed and hold during the whole installation process

Only fasten the chuck lightly when reinstalling! The chuck will fix itself firmly as part of its normal operation.



To optimise the precision and durability of the chuck, a tool or the factory supplied protective pin must always be fixed, even when not in use.



Never clean the handpiece with compressed air!



The required chuck keys are located in the underside of the handpiece holder.

12.2 Removing/changing the motor cable on the **QUBE Assist** handpiece

1. Unscrew the cable cap from the rear end of the handpiece
2. Detach the plug element of the motor cable from the handpiece

13. Possible error messages

The **QUBE Assist** control unit has an intelligent control electronics system which recognises possible defects and can display them with an error code on the control unit.

If there is a defect, this is shown with a flashing red light on the controls satellites, with a flashing red SCHICK-logo on the **QUBE Assist** control unit and with an error message with the following format "E xxyy".

Example:



Error code: E 0201 - no motor connected

Error code	Error description	Error removal
E 0201	no motor connected	Check whether handpiece is correctly connected (motor output 1 / motor output 2)
E 0801	motor overload	reduce pressure to the tool
E 0802	cable break	Remove motorcable
	motor blocked	Check if chuck is closed, make sure that the shaft can be easily moved
general error	unit flashes red, no display at the satellite	Check cabel satellite
general error	switching off by control satellite not possible. Bad response of Touchfields  + 	Full reset by disconnecting from mains plug. Don't touch satellite while restarting the unit.
general error	chuck cannot be opened / tools are blocked	Make sure that the compressed air supply delivers a minimum of 87 psi

13.1 Reset after error message

Error messages will disappear immediately from the display when the control level is released or the fault is eliminated. This means no waiting times for a restart.

Exception: If the table top model is used without a footswitch reset of the error messages by simultaneously press and hold the reset touch fields **Menu** +  + **P**. A full reset can be done by pressing the touch fields  +  for 2 sec., or by disconnecting the mains supply.

If an error cannot be removed following the above description, please contact an authorised service partner or Schick directly.

14. Set up suggestions for the electric wax knife

The heating power of the electric wax knife can be adjusted from level 1 to 20.

The following set up suggestions are based on the Schick DesignWax and can be used as an example for individual adjustments.

Wax	Set up	Working temperature
Cervical wax lila	Level 10	approx. 125°C
Ceramic wax yellow	Level 11-12	approx. 130° - 135°C
Modelling wax grey	Level 15	approx. 140°C
Milling wax green	Level 15-17	approx. 140° - 150°C

15. Technical Data

Speed range: 200 - 50.000 rpm

Torque max.: 7,5 Ncm

Handpiece **QUBE Assist**

diameter: max. 29 mm

length: 169 mm

weight without cable: 200g

weight with cable: 370g

cooling system: sealed system,
no ventilator

drive system: DC-Motor, no commutator

concentricity: < 0,02 mm

chuck: Ø 2,35 mm

changing of burs : operated by foot switch

The oscillation total value during operation is below 2,5 m/s² (EN 28662).

Control units:

dimensions:	knee control	foot control	foot switch
width:	95 mm	155 mm	110 mm
height:	203 mm	75 mm	41 mm
depth:	210 mm	220 mm	140 mm
weight:	902 g	1.820 g	300 g

Dimensions:	satellite	power supply
width:	80 mm	175 mm
height:	39 mm	35 mm
depth:	80 mm	70 mm
weight:	346 g	682 g

Operating voltage 100 - 240 V

Output 160 Watt

Overload protection No waiting time when restarting

Compressed air

supply: 6 - 7 bar / 87 - 101 psi

16. Declaration of Conformity

We, the SCHICK GmbH
Lehenkreuzweg 12
D-88433 Schemmerhofen

declare herewith, that the products

QUBE Assist - consisting of
QUBE Assist - motorhandpiece 9003 in connection with
QUBE Assist - unit 9086 and 9087



are in conformity with the following provisions of Directive:

2006/42/EG (machinery directive)
2014/30/EU (EMV directive)
2011/65/EU (RoHS)

Name and address of
person in charge: Wolfgang Schick
Lehenkreuzweg 12
88433 Schemmerhofen

Schemmerhofen, February 2016

W. Schick
Director

Subject to technical modifications

This unit complies with the current VDE (German association of electrical technicians) regulations concerning safety and suppression.

These instructions should be readily accessible and are best kept close to the unit itself.

We would like to take this opportunity to advise you that a proper repair service and suitable qualified personnel are required for such highly developed technical equipment. SCHICK guarantees to carry out perfect repairs using original spare parts.

manufacturer:



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Telefax +49 7356 9500-95
E-Mail info@schick-dental.de
Internet www.schick-dental.de