



***Operating manual
ENESKA mobile***



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1 Notes on this manual

This operating manual enables users to operate, care for and maintain the ENESKAmobile (referred to here as the “unit”) correctly. This operating manual is part of the unit and must always be kept available at the place of use. If the unit is passed on to a third party then this operating manual must be passed on too.

Instructions which must be strictly observed to prevent hazards or damage are marked as follows:



Warning!

Warns of hazards that could result in serious injury or death.



Attention!

Warns of hazards that can lead to damage to objects.

For technical problems or other questions please contact the joke service department.

2 Product overview

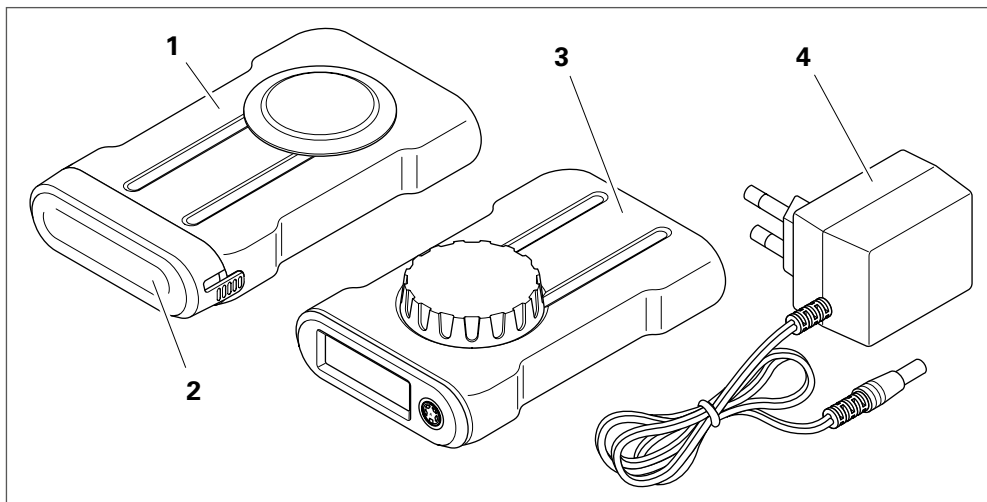


Fig. 1

1	Charger	3	Control unit
2	Battery	4	Power supply unit



You will find a comprehensive system overview in the joke surface treatment catalogue, in the “Drive systems and handpieces” section.

2.1 Nameplate

The nameplate with CE marking is located on the back of the unit.

For the battery pack, charger and handpieces, the manufacturer's mark, type designation, CE marking and serial number are located on the housing.

The nameplate contains the following information in addition to the company address and logo:

Information	Meaning
	Do not dispose of the unit and its components in household waste!
	CE marking, see next section
ENESKAmobile control unit	Unit designation
0012301	Type number
U-Output max.: –	Maximum operating voltage
P-Output max.:	Maximum service output
n_0 : –	Speed range
Serial no.: ____	Serial number of the unit

Always quote the serial number with the unit's type designation when contacting customer service. Exact identification of the unit ensures that you receive the correct information and spare parts.

2.2 CE marking

The CE marking on the nameplate certifies that the unit complies with the basic requirements of the relevant directives according to the Declaration of Conformity.

The Declaration of Conformity is available online at www.joke-technology.de.

2.3 Scope of delivery in the set

- ENESKAmobile including battery pack, charger and power supply unit

We recommend using a second battery pack.

A comprehensive overview of the joke handpieces that can be connected to the unit can be found under ENESKAmobile in the section on drive systems and handpieces in the joke surface machining catalogue.

3 Technical specifications

Mobile control unit	
Motor connections	1 connection for brushless DC motor
Power supply	14.8 V
Quiescent current with motor switched off	130 mA
Max. speed	40,000 rpm
Operating time	up to 3 h
Dimensions (W x H x D) with battery pack	103 x 47 x 176 mm
Weight	484 g (with battery pack), 200 g (without battery pack)
Ambient conditions	10 °C to 25 °C (up to 35 °C with lower runtime) 10% to 85% humidity

Battery pack	
Layout	4 battery cells in series
Rated capacity	3,000 mAh
Energy	44.4 Wh
Rated voltage	14.8 V
Constant discharge current (max.)	12 A
End-of-charge voltage	16.8 V
End-of-discharge voltage with cut-off	11.0 V
Battery voltage for storage	14.8 to 15.6 V
Dimensions (W x H x D)	103 x 34 x 100 mm
Weight	284 g
Ambient conditions	0 °C to 50 °C for charging and storage 10% to 85% humidity

Charger with plug-in power supply unit	
Plug-in power supply unit mains connection	100 to 240 V ~ 50/60 Hz, 0.6 A
Plug-in power supply unit connection	DC 24 V, 1 A, max. 25 W
Charging current	1.5 A
Charging time until ready for use after complete discharge	approx. 3.5 h for 80% battery charge approx. 4 h for 100% battery charge
Discharge current in the absence of charging voltage	approx. 6 mA
Dimensions (W x H x D) plug-in power supply unit	100 x 52 x 70 mm, plus 1,800 mm cable length
Weight of plug-in power supply unit	170 g
Dimensions (W x H x D) charger with battery pack	103 x 40 x 176 mm
Weight of charger	200 g (without battery pack) 484 g (with battery pack)
Ambient conditions	0 °C to 50 °C for charging 10% to 85% humidity



Approved motors	Max. speed (rpm)	Handpiece – motor connection	Motor cable
ENESKAmicro COMPACT HT60	40,000	COMPACT	ENESKAmicro HT
ENESKAmicro COMPACT HT60 SMALL	40,000	COMPACT	ENESKAmicro HT
ENESKAmicro COMPACT HT60-XL	40,000	COMPACT	ENESKAmicro HT
ENESKAmicro COMPACT HT60-D6	40,000	COMPACT	ENESKAmicro HT
ENESKAmicro COMPACT JEM 50C	40,000	COMPACT	JEM 50C
Micromotor JBM 50 HT	40,000	(+)	JBM 50 S/EM
Micromotor JBM 50 S	40,000	(+)	JBM 50 HT/EM
Micromotor JENK-250T	25,000	(-)	JENK-250T/EM
Micromotor JENK-410S	40,000	(-)	JENK-410S/EM

Approved reduction gearbox	Max. speed (rpm)	Speed reduction	Connection
JRG 01	30,000	4 : 1	(-)
JERG 01 B	30,000	4 : 1	(+)

Approved adapters	Max. speed (rpm)	Function
JECN 01 T	35,000	Handpieces with a (-) connection can be connected to motors with a (+) connection

Approved extenders	Max. speed (rpm)	Connection
JCN 01	35,000	(-)

Approved handpieces with a (+) connection	Max. speed (rpm)
JBS 400 belt grinder	15,000
DIPROFIL Di-Pro FXM-N, Mark II hand-held filing machine	7,000 (strokes)
DIPROFIL FPM/ERJ, Mark II hand-held filing machine	7,000 (strokes)
DIPROFIL FPT/ER, Mark II hand-held filing machine	8,000 (strokes)
FMD/3-2/EM hand-held filing machine	7,800 (strokes)
JFMM 4 hand-held filing machine	7,800 (strokes)
JEHG 400 handpiece	30,000
DIPROFIL FMR/E mini hand-held filing machine	8,000 (strokes)
JN 48 mini hand-held filing machine	12,500 (strokes)
FMV/E cross-stroke handpiece	8,000 (strokes)
JEHR 500 quick-release handpiece	50,000 (continuous operation: 40,000)
JEKC 300 angled handpiece	20,000
JERA 270 angled handpiece	20,000
JERA 270 S angled handpiece	18,000
WE4-45 angled handpiece	30,000
WE4-90 angled handpiece	30,000

Approved handpieces with a (-) connection	Max. speed (rpm)
JBS 100 belt grinder	13,000
JIG 400 Filigree handpiece	40,000
DIPROFIL Di-Pro FXM-N, Mark II hand-held filing machine	7,000 (strokes)
DIPROFIL FPM/ERJ, Mark II hand-held filing machine	7,000 (strokes)
DIPROFIL FPT/NR, Mark II hand-held filing machine	8,000 (strokes)
FMD/3-2 hand-held filing machine	7,800 (strokes)
JFMM 3 hand-held filing machine	7,800 (strokes)
JBMH 300 N handpiece	35,000
JHG 210 handpiece	27,000
JMFC 300 M miniature angled handpiece	15,000
JMFC 300 S miniature angled handpiece	15,000
DIPROFIL FMR/N mini hand-held filing machine	8,000 (strokes)
JN 38 mini hand-held filing machine	10,000 (strokes)
DIPROFIL FMV/N cross-stroke handpiece	8,000 (strokes)
JIH 300 quick-release handpiece	40,000
JIR 310 quick-release handpiece	40,000
JIC 390 angled handpiece	20,000
JKC 345 angled handpiece	20,000

4 Safety

4.1 Intended use

The unit is designed exclusively for mobile grinding, milling, deburring and polishing with the tools listed and approved in the joke catalogue.

The unit may only be used with approved components and accessories (see section 3, Technical specifications).

The values in the technical specifications for the individual components must not be exceeded when using the unit.

The unit may only be used as described in this operating manual. Any different or additional use is considered improper. The manufacturer will not be liable for damage resulting from improper use.

4.2 General safety instructions

To avoid danger to persons and material damage, ALWAYS observe the following safety instructions:

- Only use the unit in technically perfect condition.
- Protect the unit from contact with liquids. Never immerse the unit or its components in water or other liquids.
- When working with the unit, always wear safety glasses, gloves and hearing protection.
- Always ensure sufficient extraction of any dust particles that may arise.
- Do not leave the unit unattended when switched on.
- In the event of faults with the unit, immediately rectify them or have them rectified in accordance with this manual.
- Do not make any modifications, additions or conversions to the unit or its components.
- Do not use the unit outdoors.

5 Controls and indicators

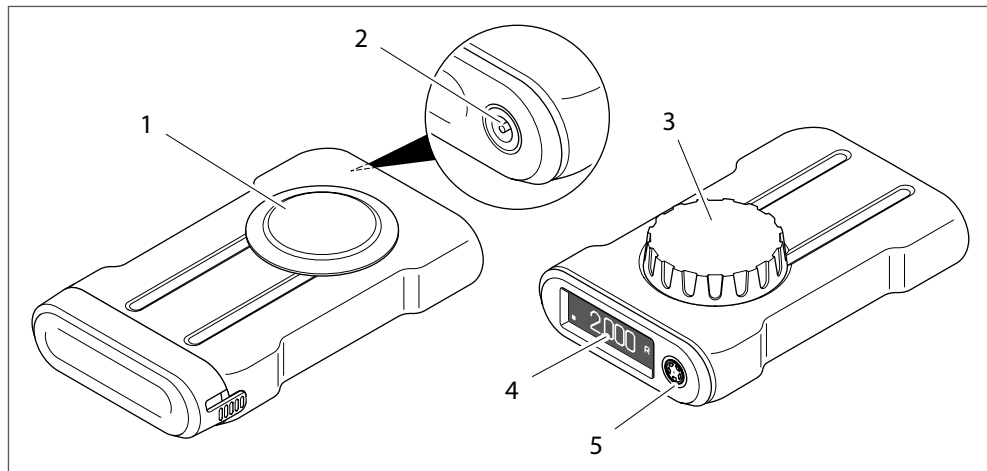


Fig. 2

1	Status display of charging status	3	Rotary knob on the control unit
2	Charging cable connection on the charger	4	Display on the control unit
		5	Motor cable connection on the control unit

5.1 Meaning of the indications on the display

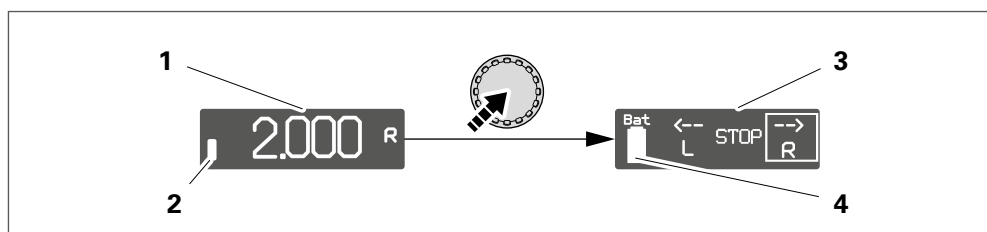


Fig. 3

1	Speed display	3	Direction of rotation display
2	Temperature status display (internal temperature of the unit)	4	Display of battery pack charge status

5.2 Connecting the motor cable to the unit



Attention!

Risk of damage to cables or sockets

If cables are not correctly plugged into sockets, the sockets and cable may be damaged.

- Always plug the motor cable carefully into the socket and make sure that the contacts and threads are not damaged.

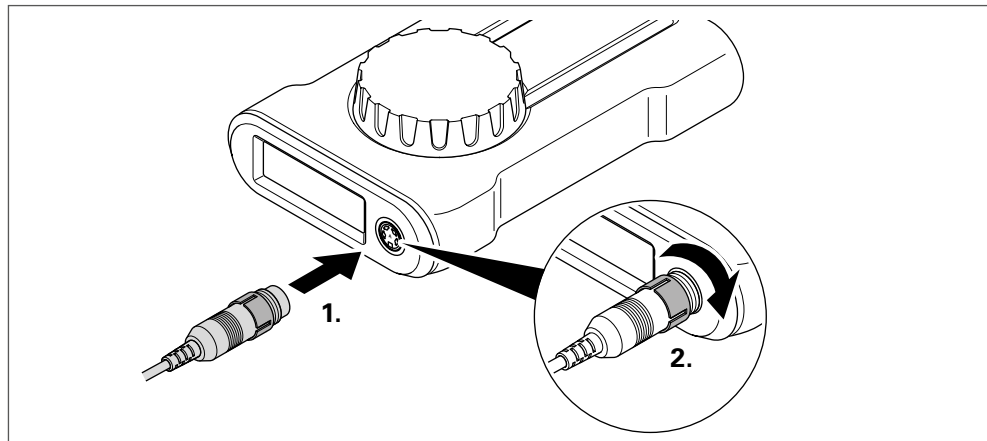


Fig. 4

5.3 Connecting the motor cable to the unit



Caution!

Risk of damage to contacts or threads

If the motor and cable are not correctly plugged together, the contacts and threads may be damaged.

- Always connect the motor and cable carefully and make sure that the contacts and threads are not damaged.

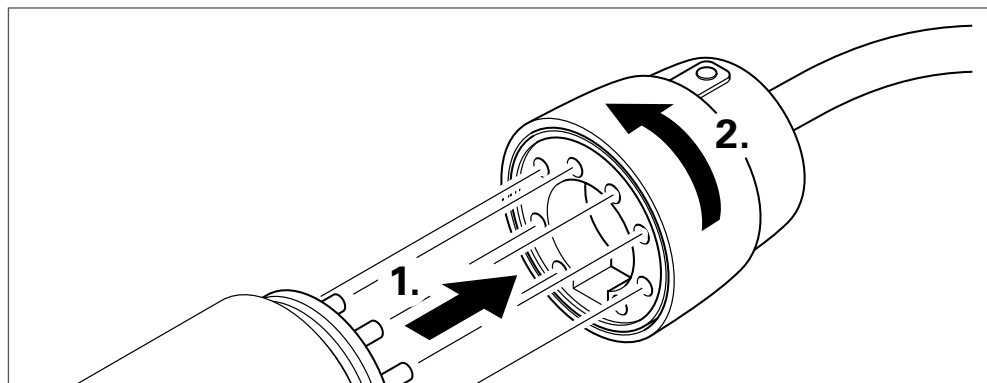


Fig. 5 (Example illustration)

5.4 Connecting a handpiece



Caution!

Risk of damaging the motor or handpiece

The motor and handpiece may be damaged if they are not correctly connected to each other.

- Carefully push the motor and the handpiece into each other and make sure that the handpiece coupling and the threads are not damaged. Always use the tool supplied with the handpiece. If there is resistance before the thread is completely screwed in, first turn the collet of the handpiece manually until the coupling engages.

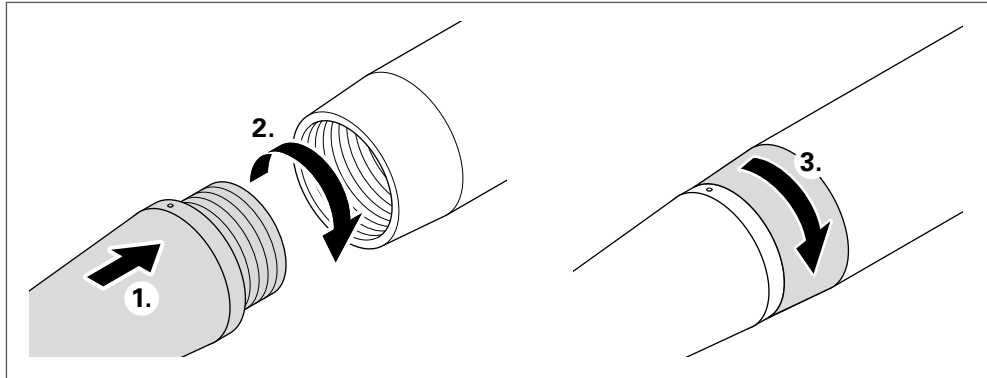


Fig. 6 (Example illustration)

5.5 Fitting or changing the tool on the handpiece



Warning!

Risk of injury from accidental tool rotation

If the unit is switched on when a tool is connected to the handpiece or changed, the handpiece motor may switch on accidentally and injure the operator.

- Only connect or change tools when the unit is switched off.



Warning!

Danger of injury from tools coming loose

If tools are not inserted all the way into the collet, they may come loose and injure the operator.

- To avoid injuries from tools coming loose, always insert them into the collet as far as they will go and also adjust the collet on the JEM 50C, JEHR 500, JIH 300 and JIR 310 handpieces.



Caution!

Risk of damage to the tool

If a dirty tool is fitted on the handpiece, this can damage the tool.

- Thoroughly clean all parts before fitting them.

To change the collet, see section 8.

5.5.1 Compact SE, HT60, HT60 SMALL, HT60 XL

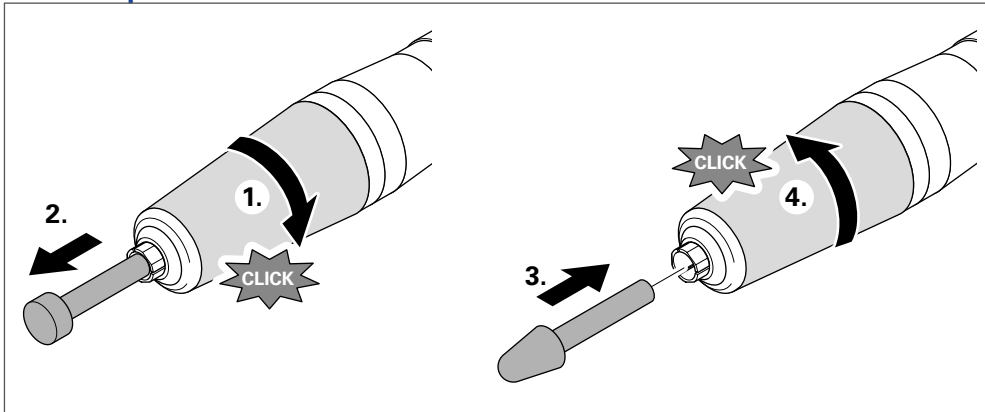


Fig. 7

5.5.2 HT60 D6, HT60-D6 CNC

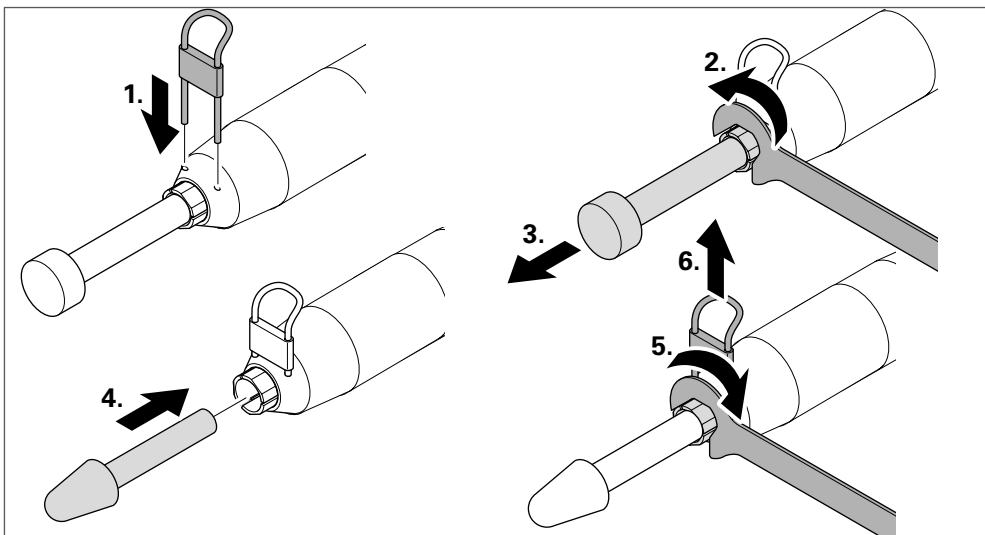


Fig. 8

5.5.3 JEHG 400 / JHG 210

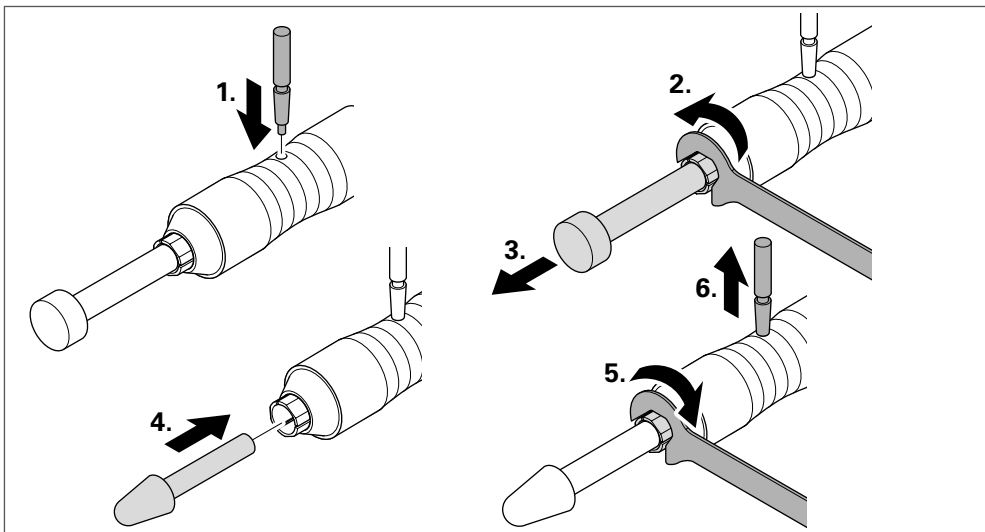


Fig. 9

5.5.4 JEM 50C, JEHR 500, JIR 310

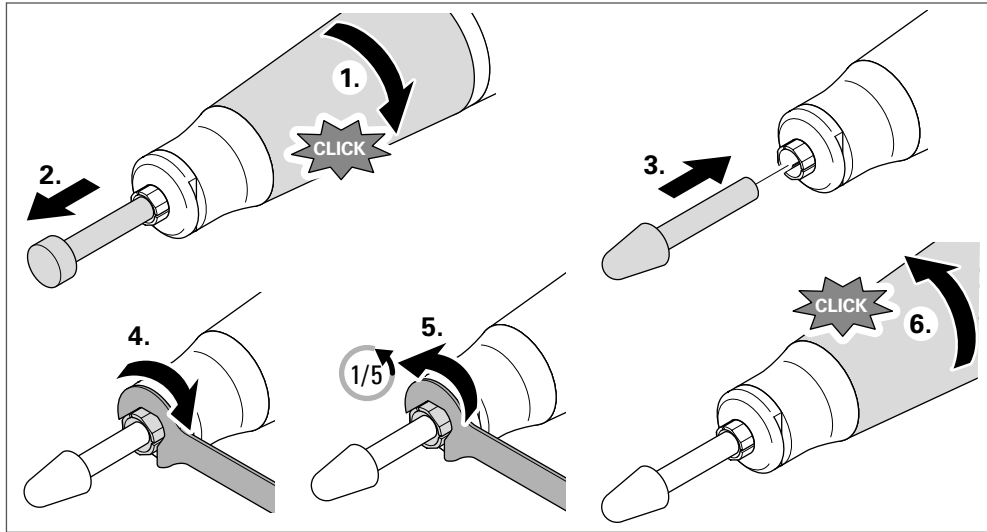


Fig. 10

5.5.5 JERA 270, JBMH 300 N

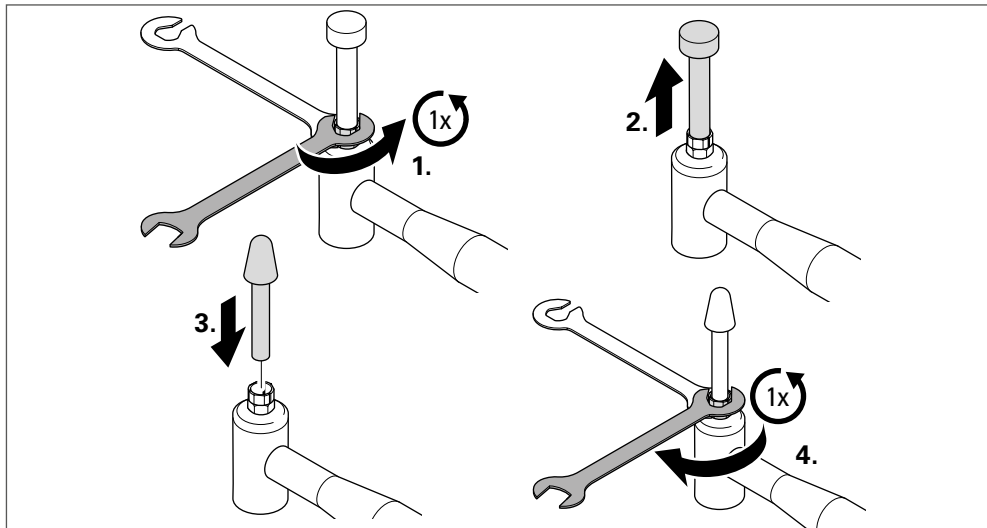


Fig. 11

5.5.6 JERA 270 S

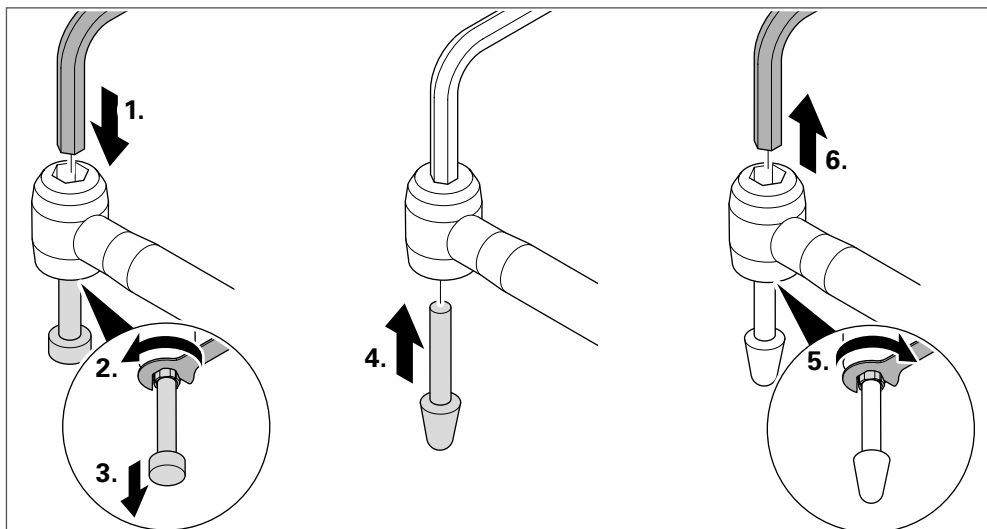


Fig. 12

5.5.7 JIH 300

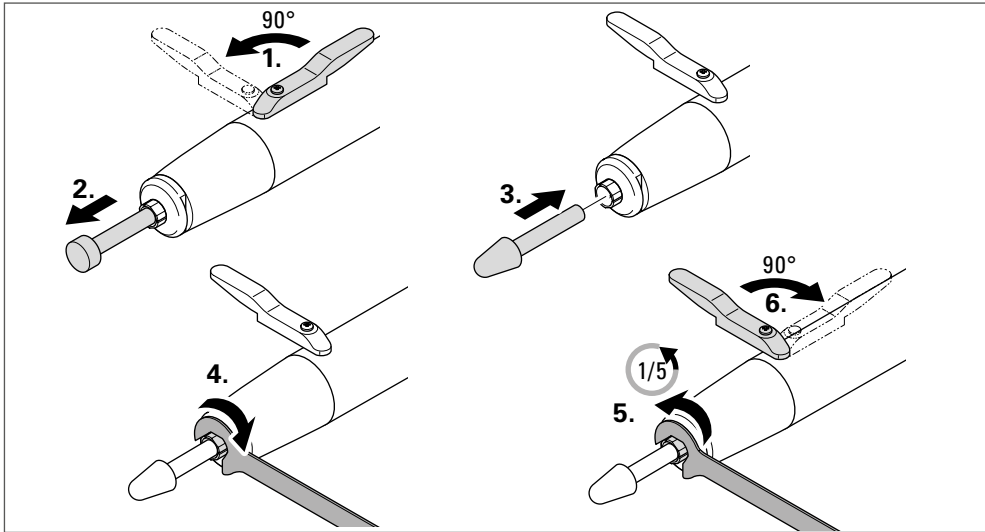


Fig. 13

5.5.8 JKC 345, JIC 390, JEKC 300, WE4-45, WE4-90

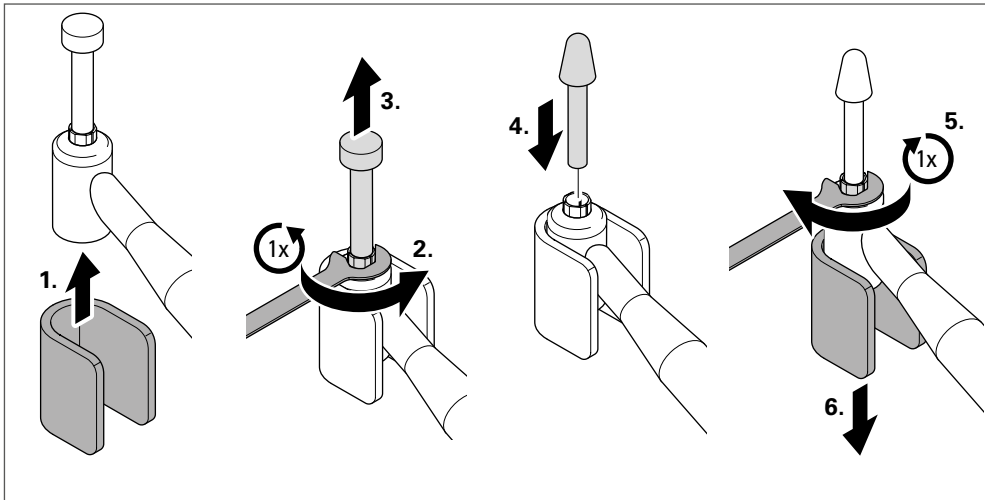


Fig. 14

5.5.9 JMFC 300 S / 300 M

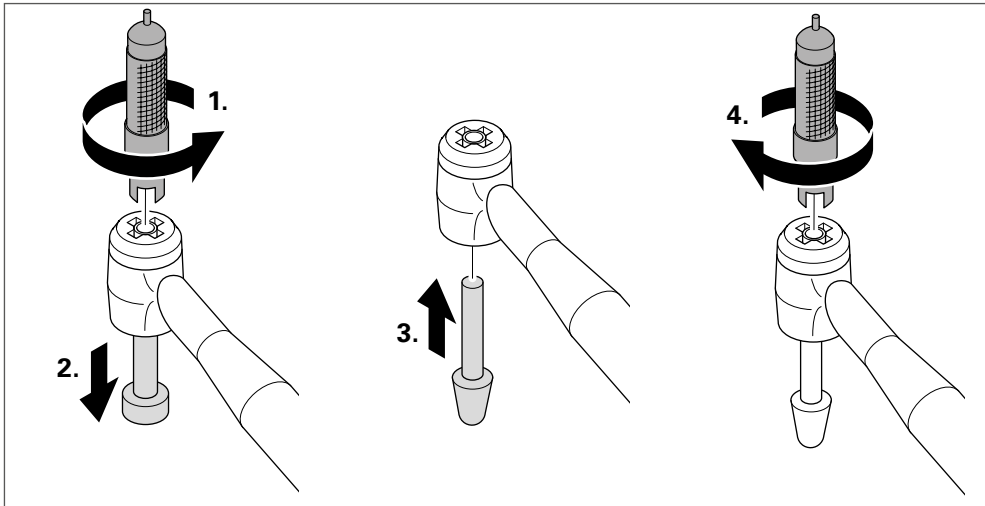


Fig. 15

6 Operation

6.1 Insert battery into control unit

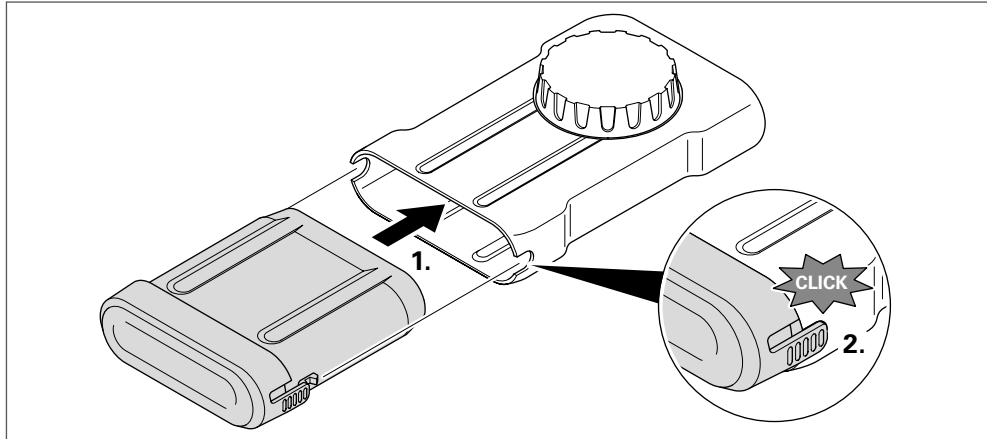


Fig. 16

6.2 Switch the unit on



Fig. 17

6.3 Cancel the key lock (if necessary)



Fig. 18

The key lock is automatically activated 15 seconds after the last operation.

6.4 Choose the direction of rotation

Anti-clockwise rotation can only be selected if the handpiece is approved for two directions of rotation.

Option A:

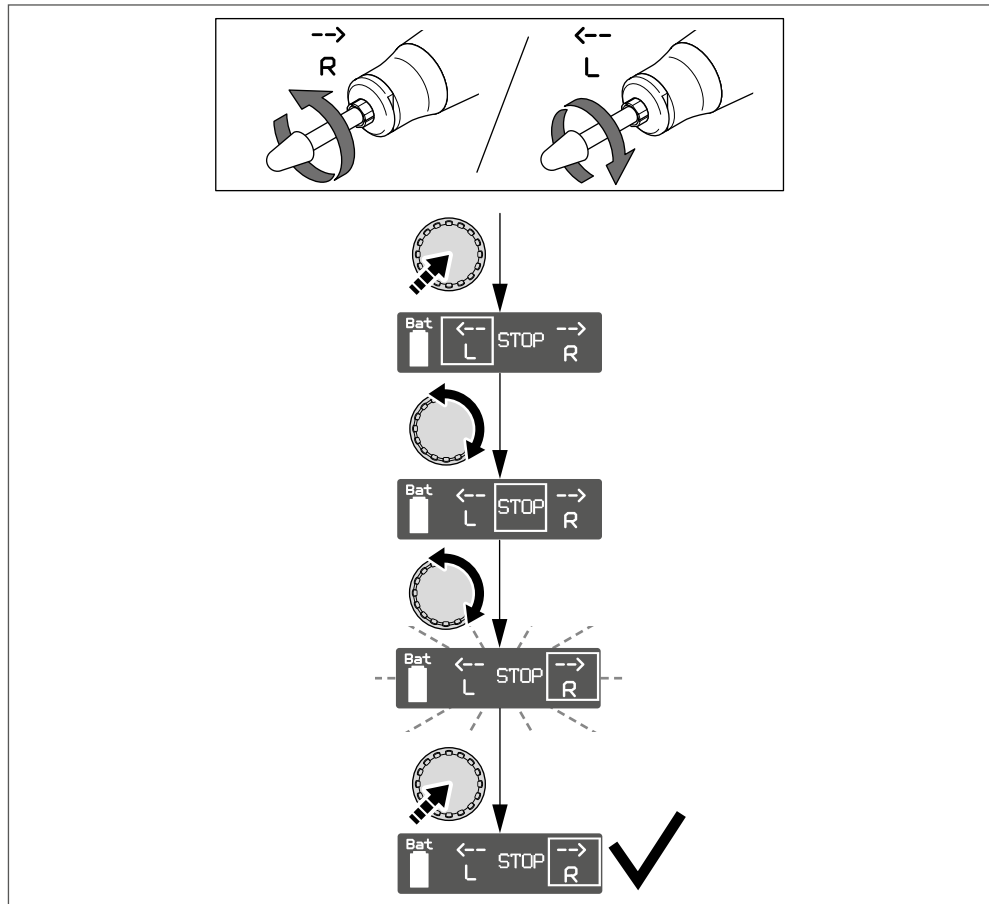


Fig. 19

Option B:

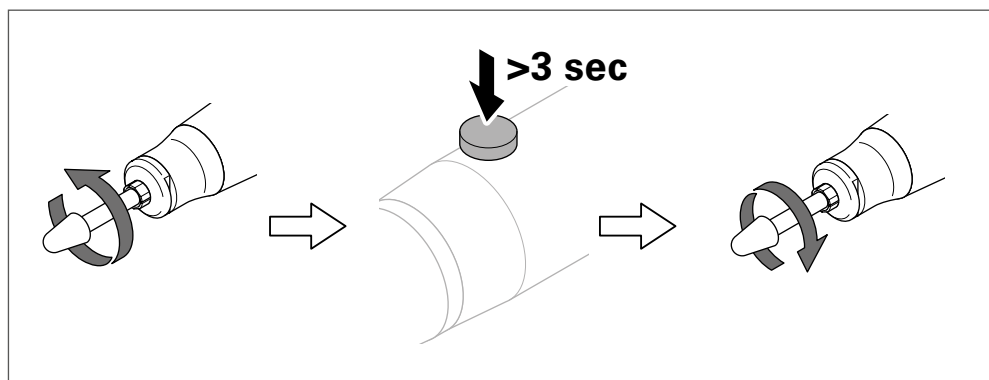


Fig. 20

6.5 Switch the direction of rotation on and off via the handpiece

The change of direction of rotation via the motor switch (see option B, section 6.4) can be switched off to prevent incorrect operation.

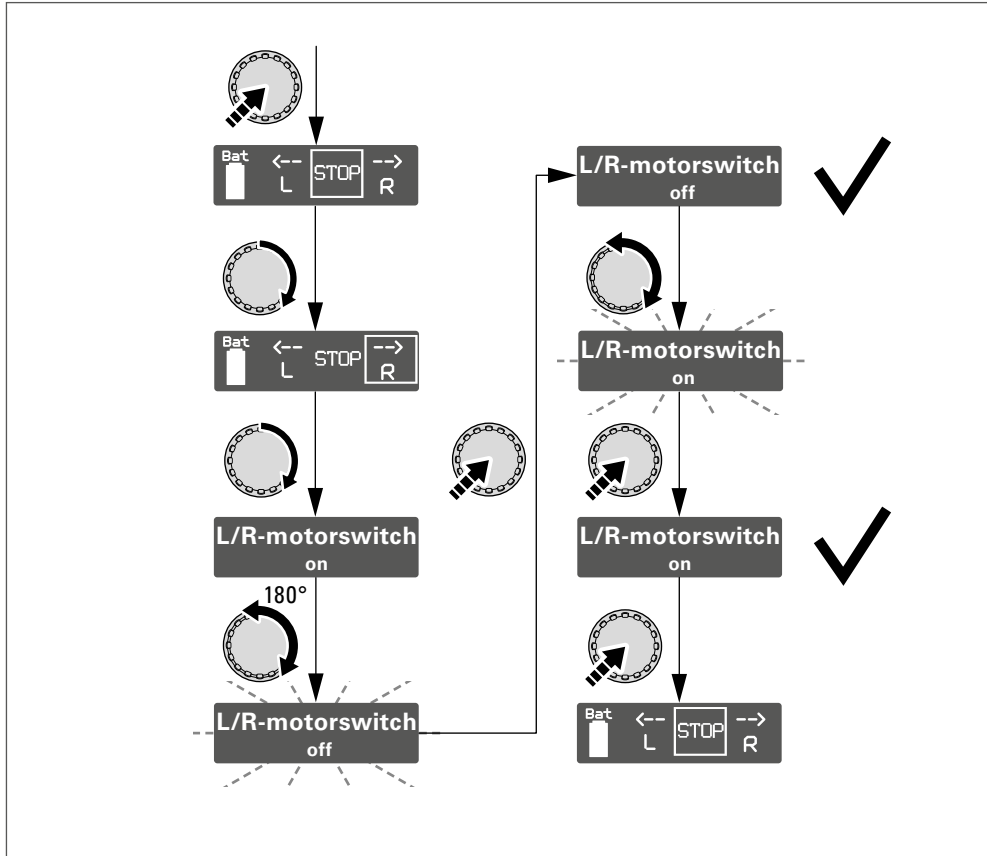


Fig. 21

6.6 Set the speed



Warning!

Danger of injury from tools coming loose

If tools are used at speeds for which they are not designed, they may come loose and cause injury. Damage to the handpiece is also possible.

» Never exceed the maximum permitted speed of the connected components and accessories.



Caution!

Risk of damage to the handpiece when using long tools at high speeds

If long tools are used at excessive speeds, the handpieces can be damaged.

- Reduce the speed according to the table below if the tool protrudes more than 13 mm from the collet.

Tool protrusion	Speed
13 mm to 20 mm	50% of the approved speed
21 mm to 25 mm	30% of the approved speed
26 mm to 50 mm	10% of the approved speed

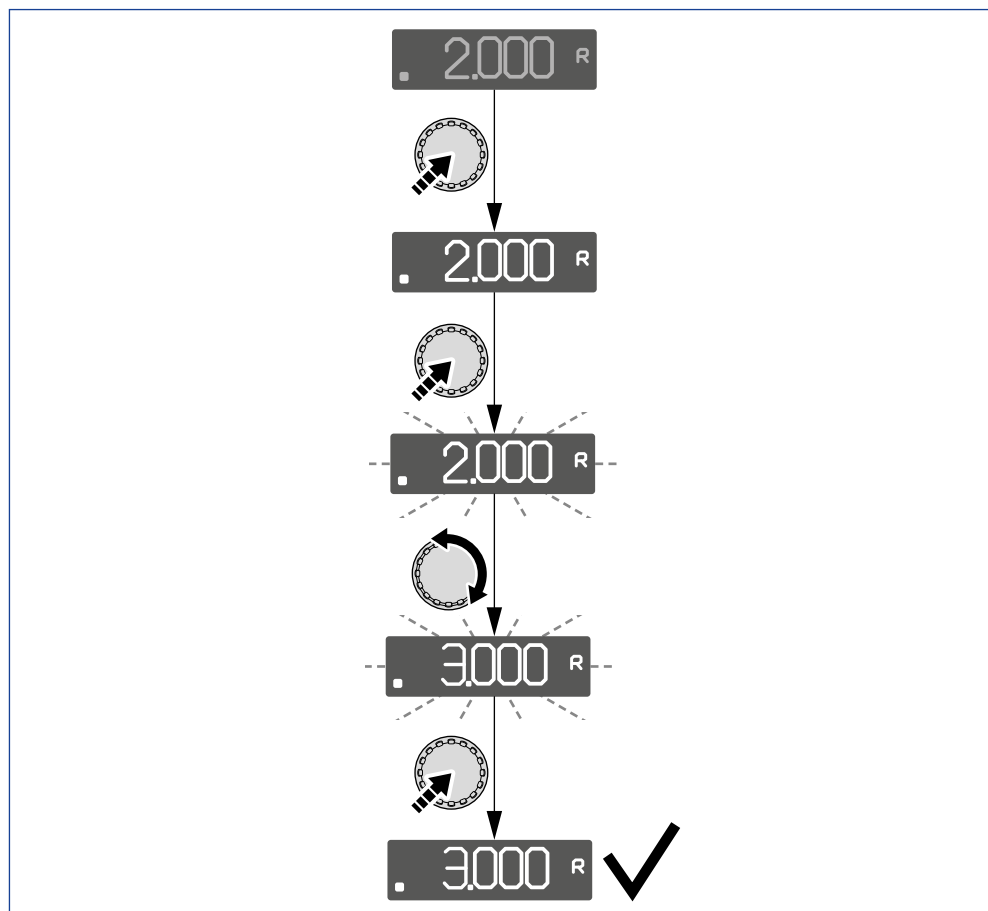


Fig. 22

6.7 Start/stop motor

Option A (only stop motor):

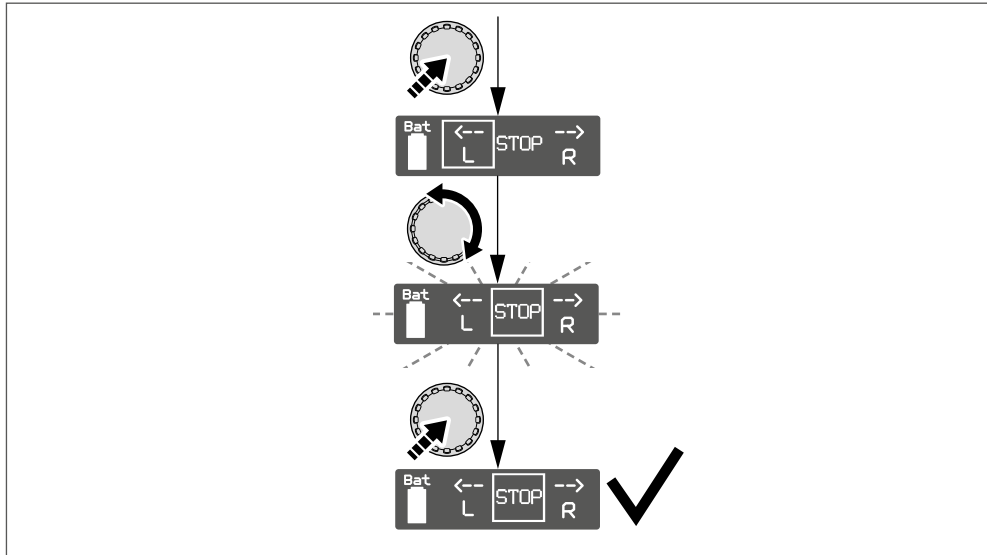


Fig. 23

Option B:

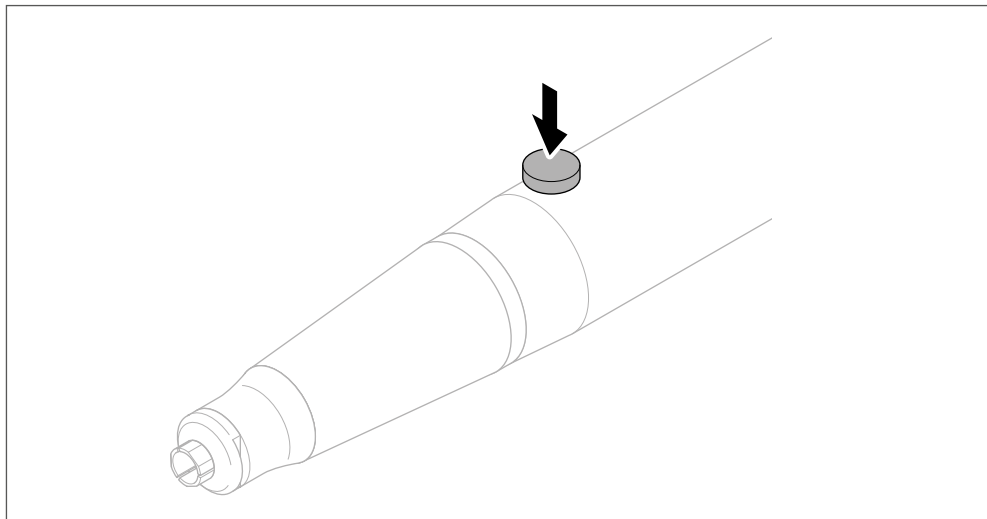


Fig. 24 (Example illustration)

6.8 Switch the unit off

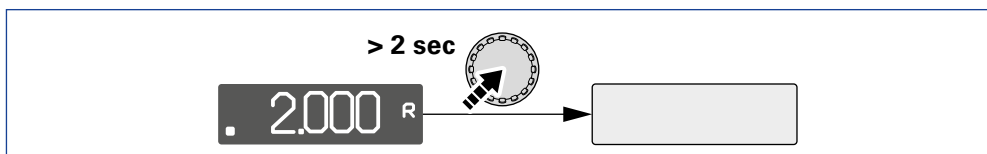


Fig. 25

7 Call up information about the unit

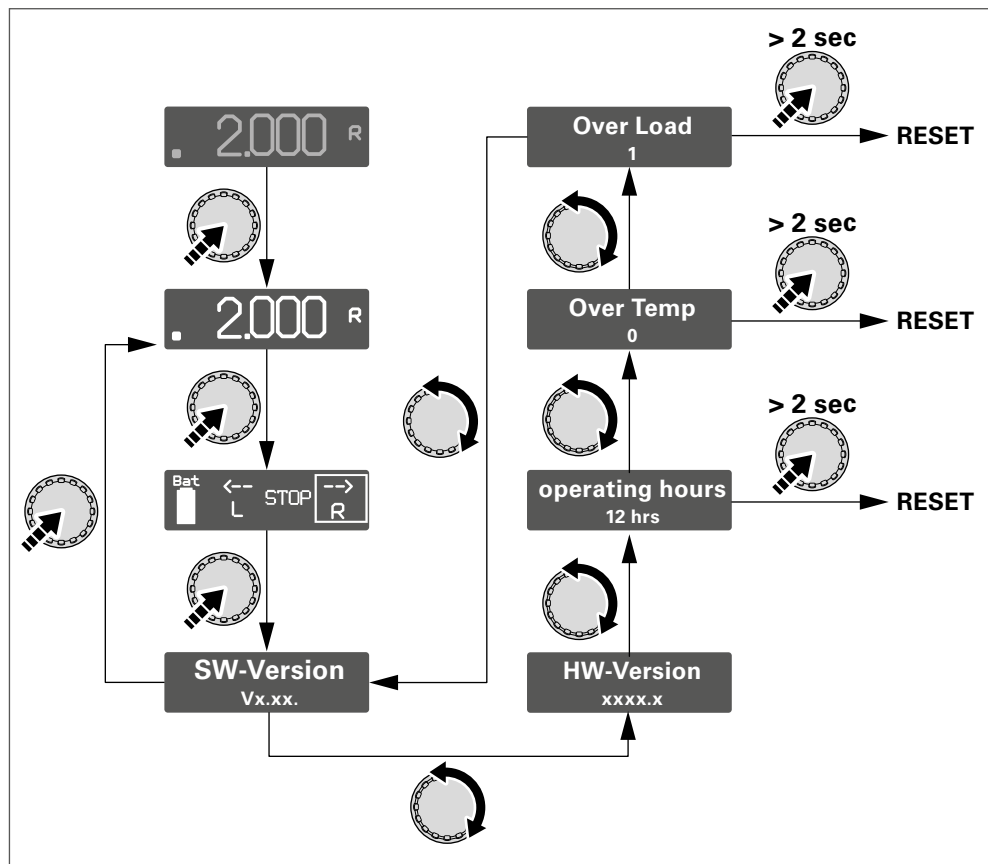


Fig. 26 (Example illustration)

8 Changing the collet



Warning!

Risk of injury from accidental tool rotation

If a tool or collet is connected to the handpiece or changed while the unit is switched on, the handpiece motor may switch on accidentally and injure the operator.

- Only connect or change tools and collets when the unit is switched off.



Warning!

Danger of injury from tools coming loose

If tools are not inserted all the way into the collet, they may come loose and injure the operator.

- To avoid injuries from tools coming loose, always insert them into the collet as far as they will go and also adjust the collet on the JEM 50C, JEHR 500, JIH 300 and JIR 310 handpieces.



Caution!

Risk of damage to the tool

The tool may be damaged if a dirty tool or collet is fitted to the handpiece.

- Thoroughly clean all parts before fitting them.

To remove the tool, see section 5.5.

8.1 COMPACT SE

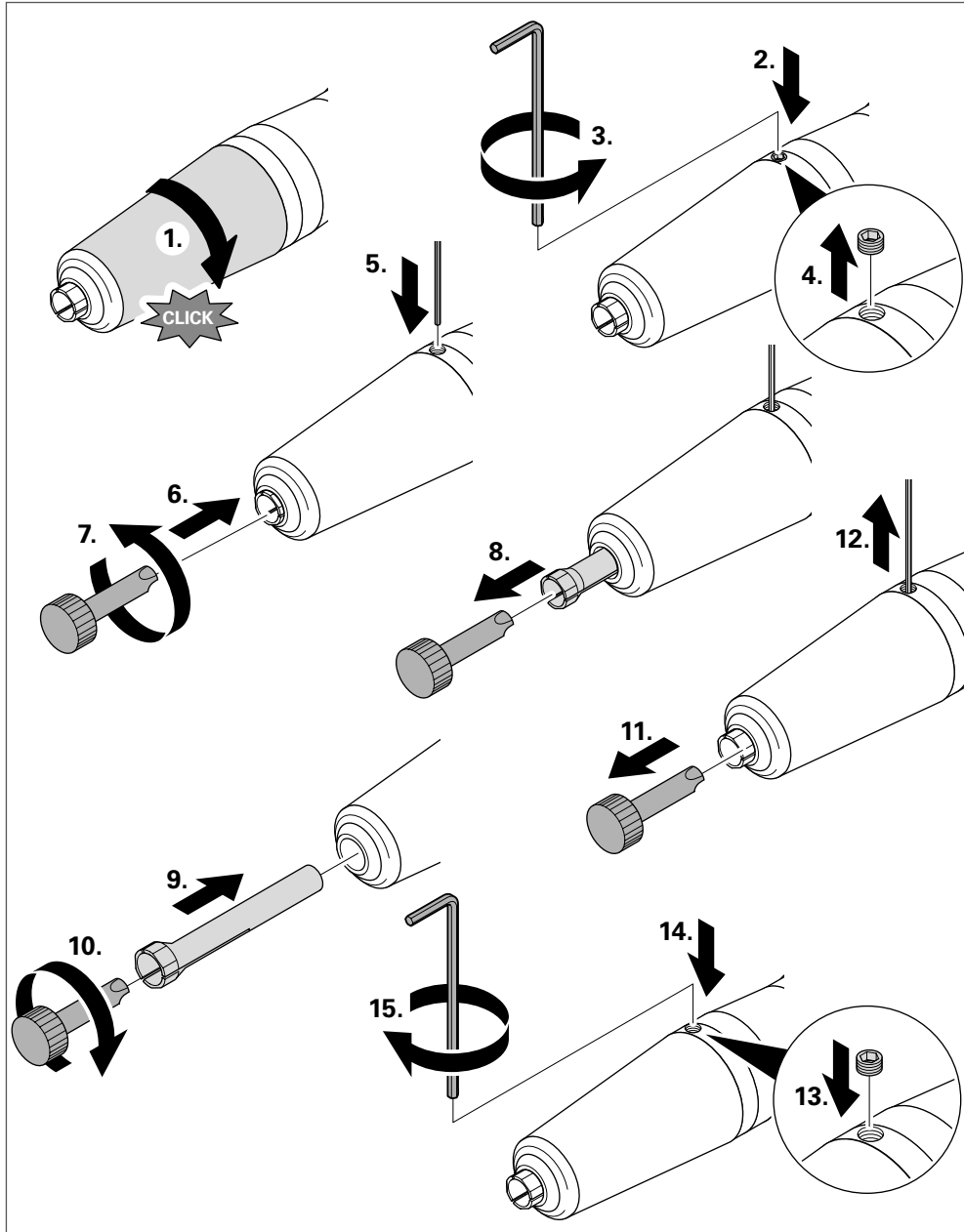


Fig. 27

8.2 HT60, HT60 XL

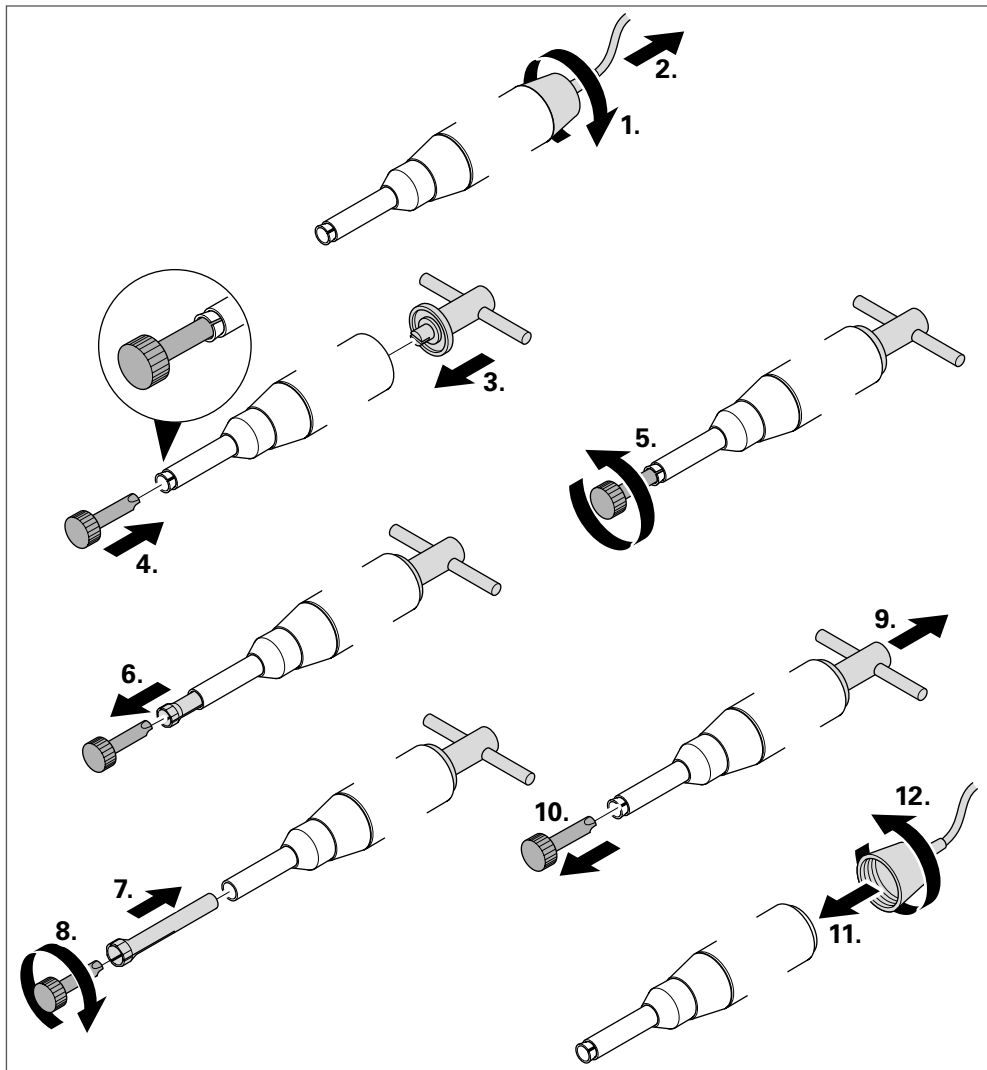


Fig. 28

8.3 HT60 D6, HT60-D6 CNC

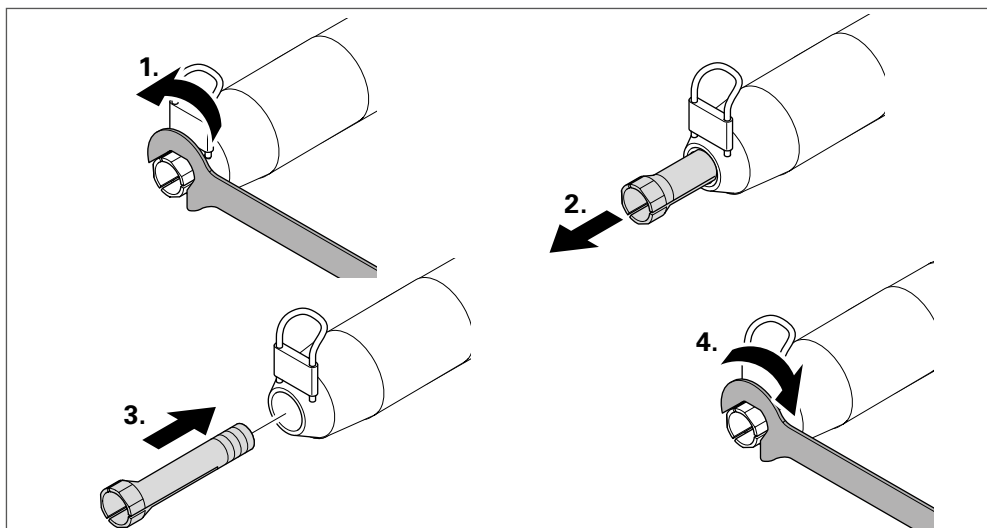


Fig. 29

8.4 HT60 SMALL

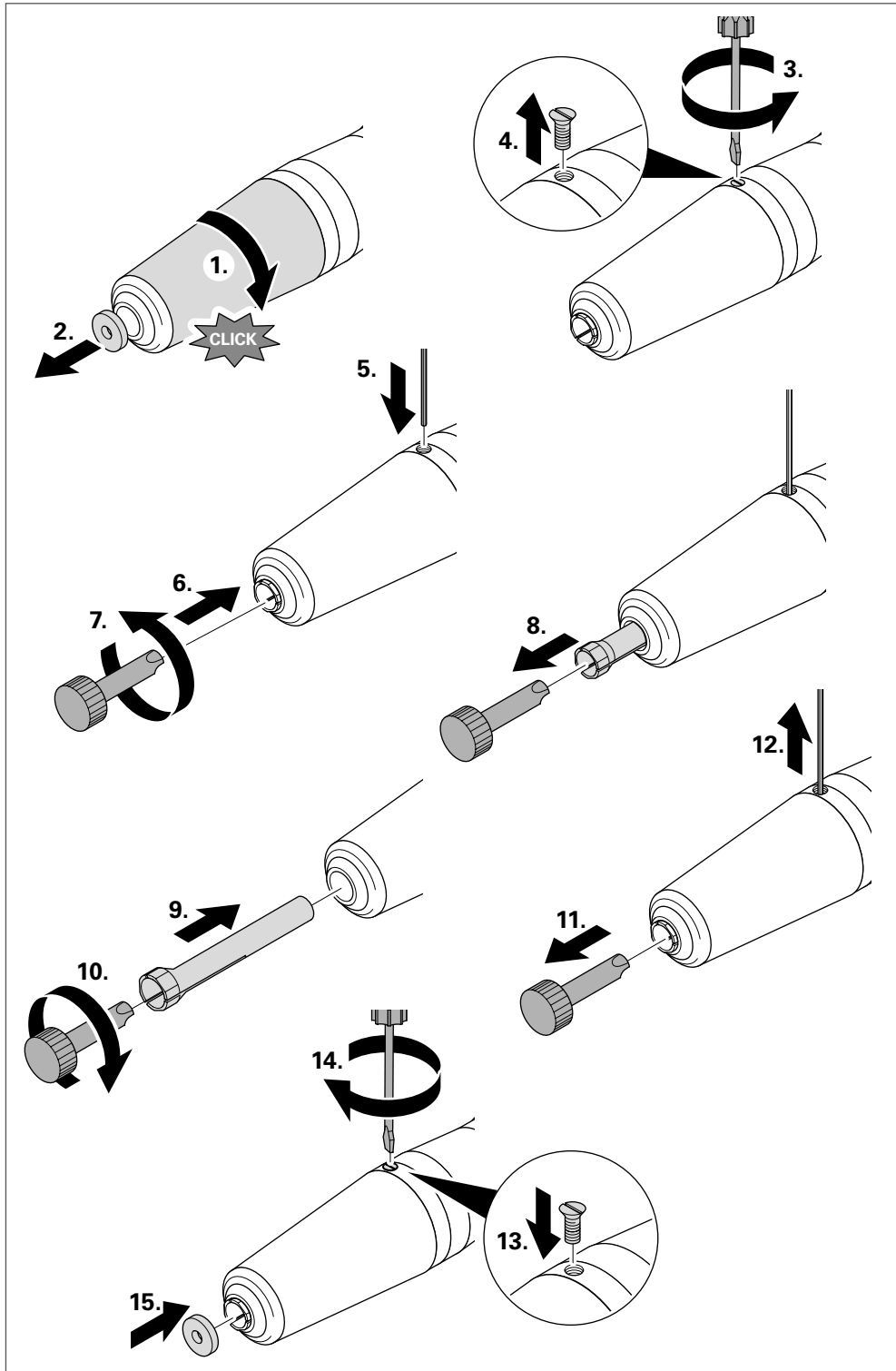


Fig. 30

8.5 JEHG400/JHG210

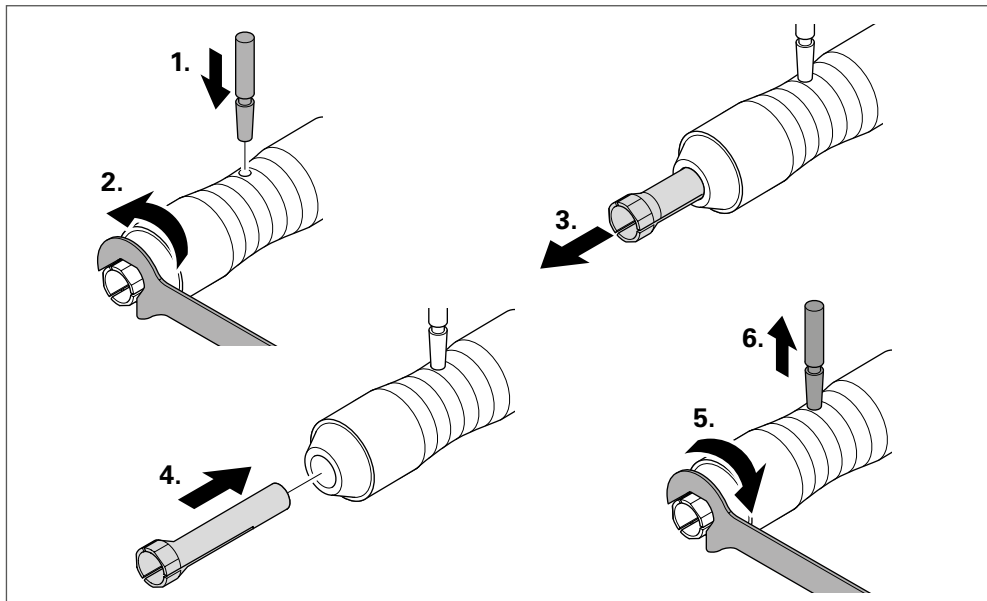


Fig. 31

8.6 JEM 50C, JEHR 500, JIR 310

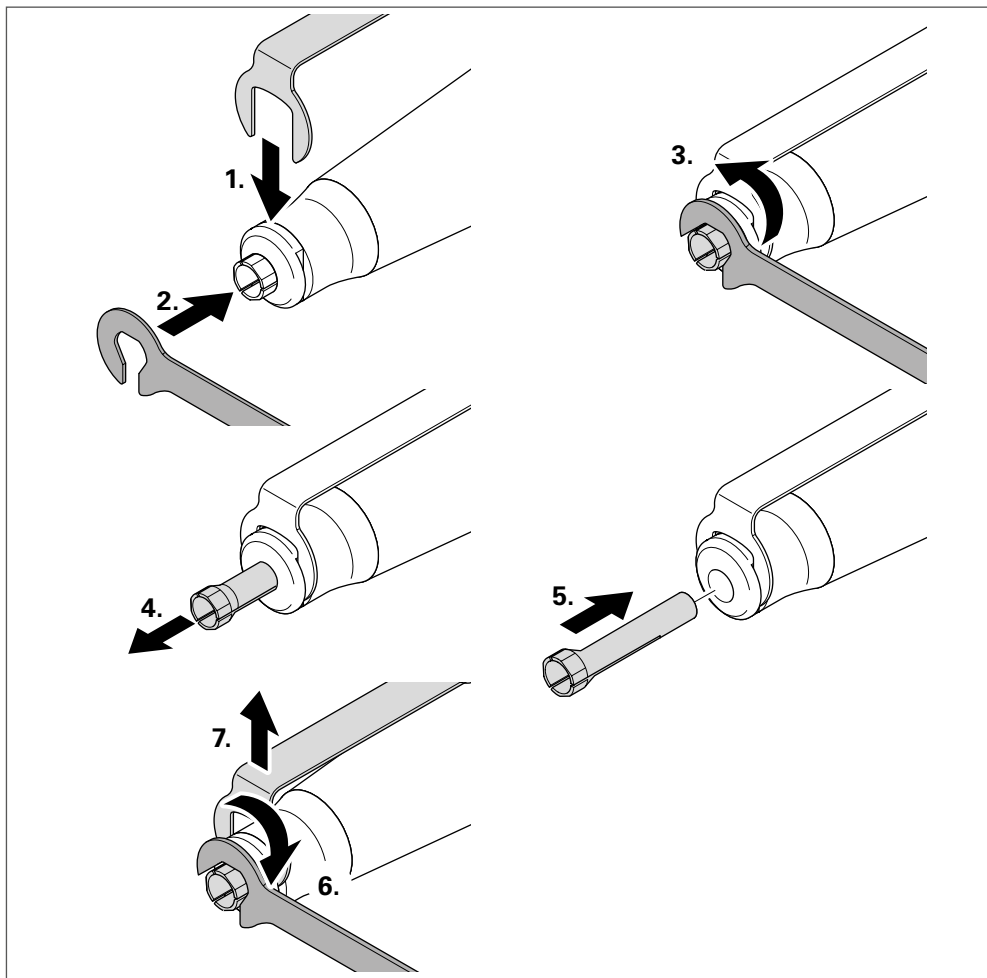


Fig. 32

8.7 JERA 270, JBMH 300 N

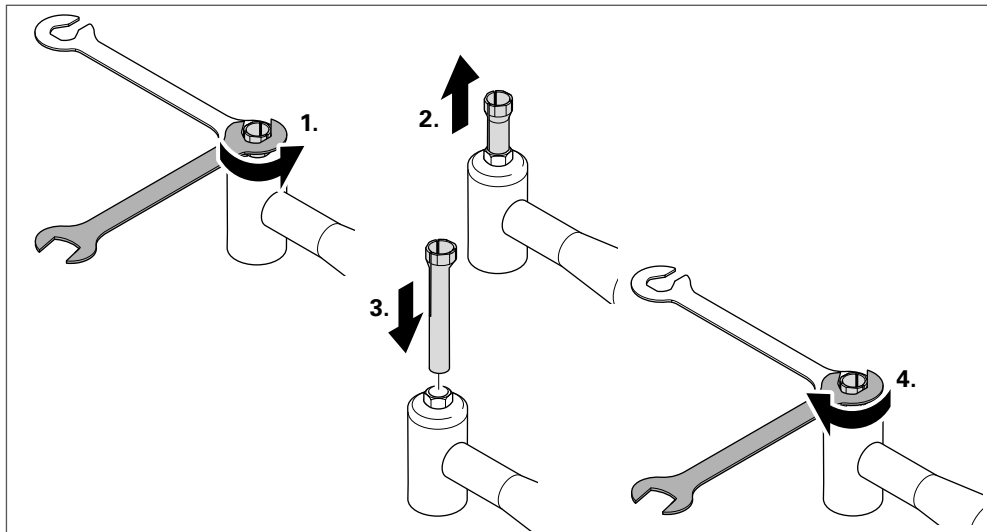


Fig. 33

8.8 JERA 270 S

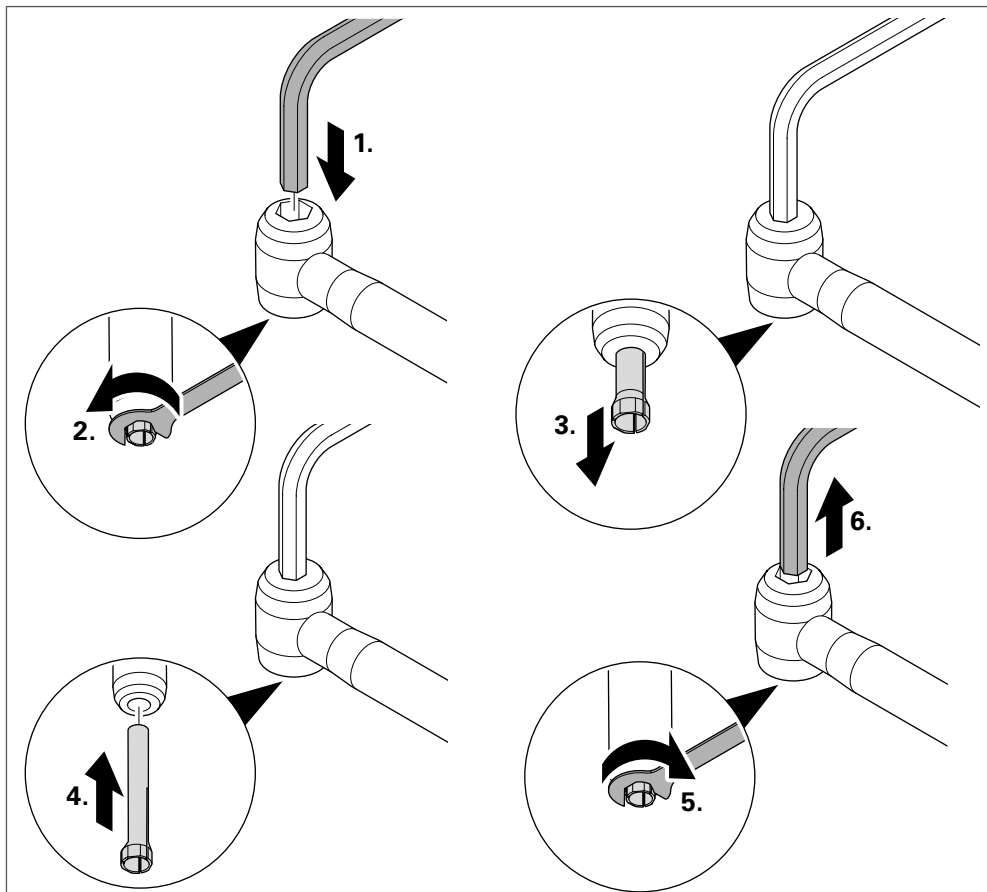


Fig. 34

8.9 JIH 300

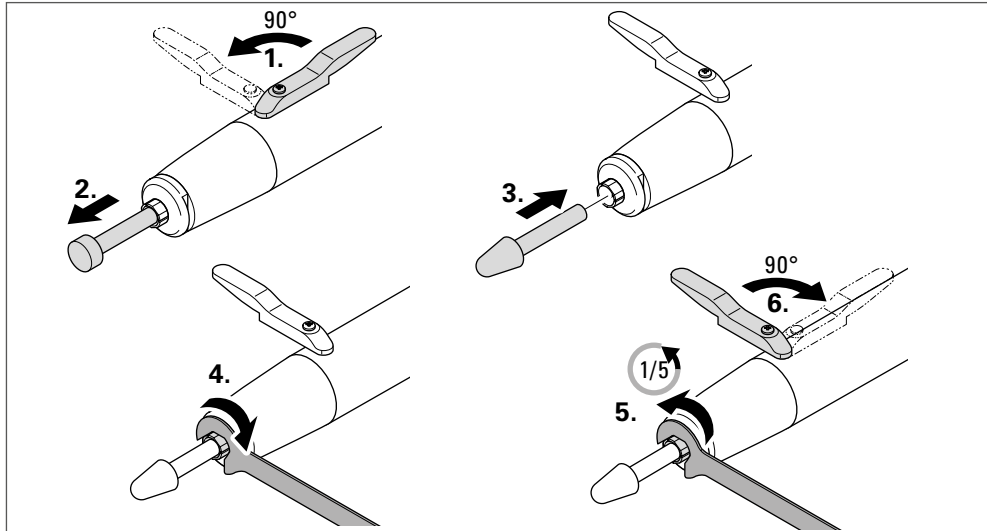


Fig. 35

8.10 JKC 345, JIC 390, JEKC 300, WE4-45, WE4-90

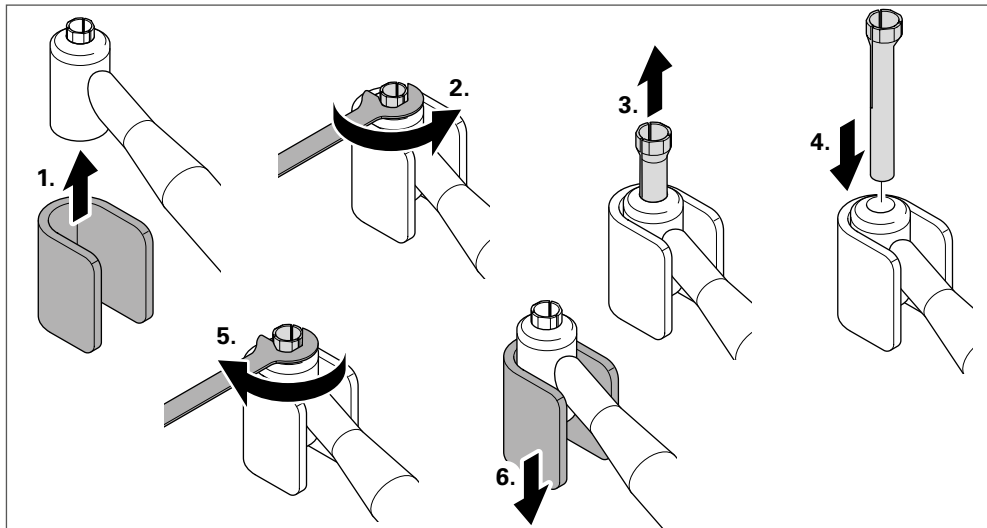


Fig. 36

8.11 JMFC 300 S / 300 M

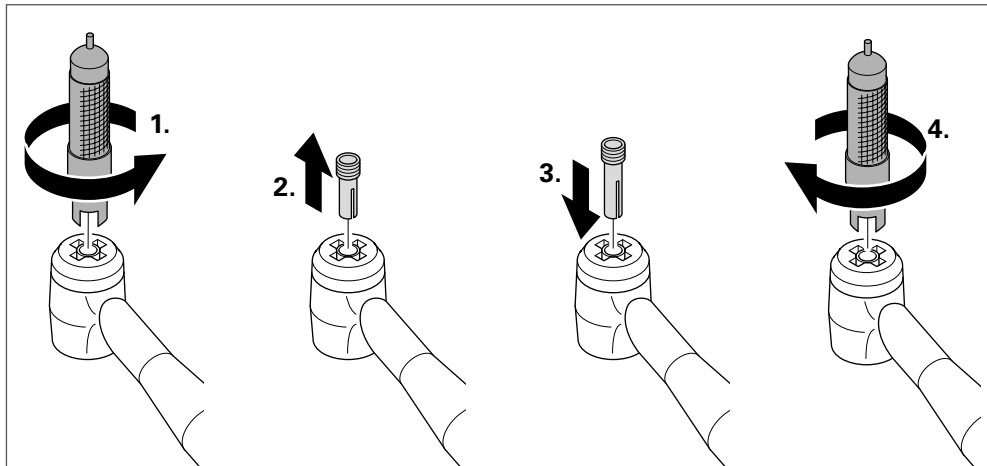


Fig. 37

9 Charge the battery

The battery pack of the unit can be removed and charged separately to allow longer working time with the unit. We therefore recommended working with an additional battery pack.

Insert the battery into the charger and snap it into place

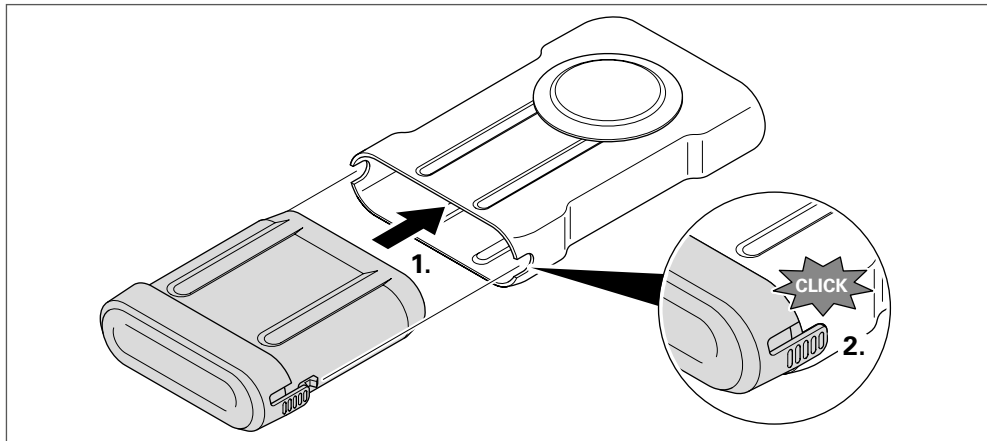


Fig. 38

Connect the power supply unit to the charger

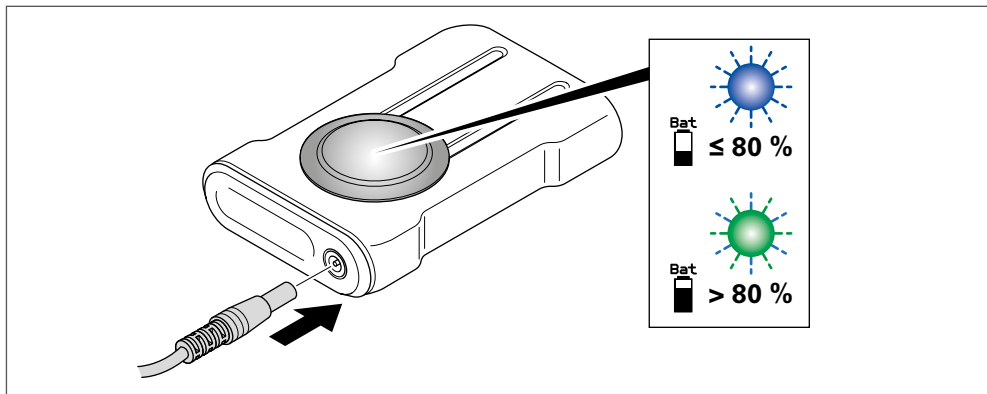


Fig. 39

The charging process is automatically monitored by the charger to prevent damage to the battery pack and to increase its service life.

The charging process takes place in three stages:

- Current-dependent charging up to approx. 80% of the maximum charge.
The status LED lights up blue.
- Voltage-dependent charging up to approx. 95% of the maximum charge.
The status LED flashes blue and green alternately.
- Trickle charge from 95% (end-of-charge voltage)
The status LED lights up green.

The battery pack can be used again from a charge of approx. 80%, after approx. 2.5 h charging time, and it can be removed from the charger as soon as the status LED flashes blue and green.

The following figure shows an example of a charging curve.

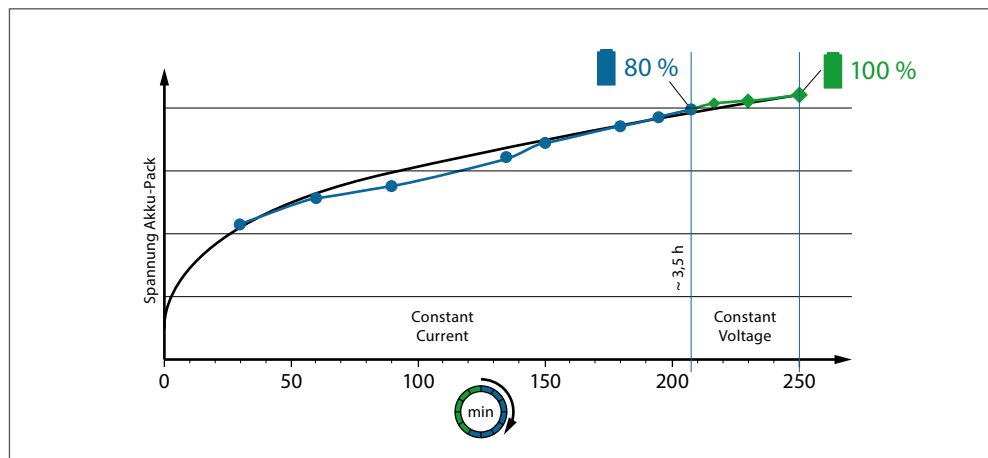


Fig. 40

In addition, error states in the charging process are signalled via the LED:

- If the status LED lights up red, the battery is not inserted correctly.
- If the status LED flashes steadily red, no charging voltage is detected.
Check the power supply unit of the charger and the connection between the power supply unit and the charger.
- If the status LED flashes green twice, the maximum charging time has been exceeded.
- If the status LED flashes red twice, there is a possible battery defect or other error.
- If the status LED lights up yellow, the charger has overheated during the charging process (> 75 °C).
Interrupt the charging process, allow the battery pack and charger to cool down and check. If no damage can be detected, the charging process can be continued in a cooler place after the charger has cooled down. Observe the permissible ambient conditions, for technical specifications see section 3.
- If the status LED flashes yellow steadily, the applied charging voltage is too low (< 18 V).
Check the power supply unit of the charger and the connection between the power supply unit and the charger.
- If the status LED flashes yellow in pulses, there is an overcurrent at the charger (> 1.6 A).
Stop charging, check the charger and battery pack.

10 Carry out software update

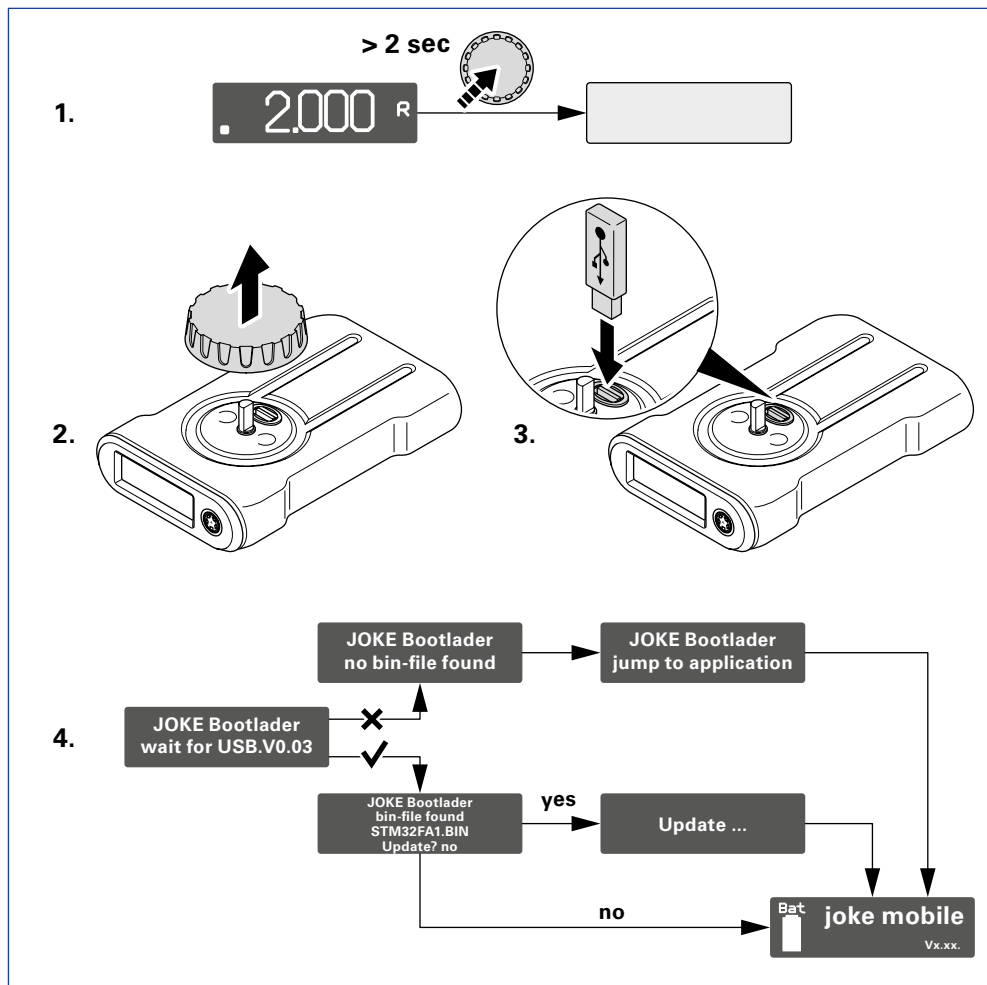


Fig. 41

11 Maintenance, care and disposal

The control unit should be serviced once a year by joke Service.

Clean and lightly oil collet chucks at least once a week.

Handpieces and brushless joke motors need no maintenance.

All components should only be cleaned with a dry, soft cloth.

Dispose of all components properly and do not put them into household waste under any circumstances.

12 Transport



Caution!

Risk of damage to the unit

Shocks can impair the function of the unit or trigger unintentional operations.

- Do not throw the unit.

The unit is intended for mobile use and can be carried in one hand.



Note

When carrying the unit or placing it in a pocket, be careful not to press the rotary knob unintentionally. The key lock will otherwise be cancelled, see section 6.3.

13 Troubleshooting

The unit is equipped with an overload switch. If the overload switch in the control unit has been triggered, it is very likely that the handpiece or micromotor has been continuously operated at maximum load. The motor then stops automatically and cannot be switched on again for a short time. In this case, wait 3–5 seconds and then continue working with less load on the unit.

Problem / error code	Cause	Remedy
The display is not lit.	• The control unit is not switched on.	• Switch the control unit on.
	• Battery is not sufficiently charged	• Charge the battery with the charger. • Insert replacement battery
	• Battery not inserted correctly.	• Remove battery and reinsert so that the battery audibly clicks into place. • Clean the connections on the battery and on the control unit.
	• The fuse in the control unit is faulty.	• Send the unit to joke Service for inspection or repair.
	• Control unit, connections, contacts, battery or sockets are faulty.	• Send the unit and accessories to joke Service for inspection or repair.



Problem / error code	Cause	Remedy
The motor will not start. The tool does not turn.	<ul style="list-style-type: none"> The motor or handpiece have been overloaded. 	<ul style="list-style-type: none"> Stop using the unit and accessories, wait 3–5 seconds, then operate the unit and accessories at a lower load.
	<ul style="list-style-type: none"> The quick-release lever on the handpiece is open. 	<ul style="list-style-type: none"> Fit the tool correctly.
	<ul style="list-style-type: none"> The quick-release lever on the handpiece is not closed. 	<ul style="list-style-type: none"> Close the quick-release lever or quick-release chuck.
	<ul style="list-style-type: none"> The collet or tool is jammed. 	<ul style="list-style-type: none"> Adjust the collet. Fit the tool correctly.
	<ul style="list-style-type: none"> Contacts are faulty. 	<ul style="list-style-type: none"> Check the motor connections Check the connections between the motor and the accessories.
	<ul style="list-style-type: none"> The carbon brushes are worn out. 	<ul style="list-style-type: none"> Replace the carbon brushes.
ERR_TEMP_PLATINE	<ul style="list-style-type: none"> Temperature too high 	<ul style="list-style-type: none"> Let the unit cool down
	<ul style="list-style-type: none"> Motor is switched off and cannot be switched on again 	
ERR_UBAT_WARN, ERR_UBAT_KRIT	<ul style="list-style-type: none"> Battery voltage too high Motor is switched off and cannot be switched on again 	<ul style="list-style-type: none"> Check all components. Have faulty components repaired. Restart the control unit. Send the unit and accessories to joke Service for inspection or repair.
ERR_UBAT_DROP	<ul style="list-style-type: none"> Battery voltage too low Motor is switched off 	<ul style="list-style-type: none"> Replace battery pack Charge the battery pack
ERR_SPIN_Communication	<ul style="list-style-type: none"> Error in the connection between control unit and handpiece Motor cannot be switched on again 	<ul style="list-style-type: none"> Check and correct the connections between the motor and its accessories. Replace faulty cables.
ERR_BOOST_USPN	<ul style="list-style-type: none"> Motor cannot be switched on again 	
ERR_SPIN_SpeedFeedback, ERR_SPIN_OverCurrent, ERR_SPIN_STARTUP, ERR_SPIN_BEMF, ERR_SPIN_LF_TIMER	Commutation fault	<ul style="list-style-type: none"> Press rotary knob Restart motor Check and correct the connections between the motor and its accessories. Replace faulty cables.

14 Declaration of Conformity

in accordance with the Machinery Directive 2006/42/EC, Annex II 1A

We, joke Technology GmbH

Asselborner Weg 14-16
51429 Bergisch Gladbach
Germany

declare under our sole responsibility that the product

Designation: Unit for mobile grinding, milling, deburring and polishing

Type designation: ENESKAmobile

used as an independent machine exclusively in connection with the handpieces and motors approved by the manufacturer

complies with the provisions of the following directives:

- **Machinery Directive 2006/42/EC**
- **Electromagnetic Compatibility Directive 2014/30/EU**
- **Safety objectives of the Low Voltage Directive 2014/35/EU according to Annex I, No. 1.5.1 of the Machinery Directive.**

The following harmonised standards have been applied:

- **DIN EN 60745-2-3 (2015-04): Hand-held motor-operated electric tools – Safety – Part 2-3: Particular requirements for grinders, polishers and disk-type sanders**
- **DIN EN IEC 61000-6-2 (2019-11): Electromagnetic compatibility (EMC) – Part 6-2: Generic standards – Immunity standard for industrial environments**
- **DIN EN 61000-6-3 (2011-09) with DIN EN 61000-6-3 Corrigendum 1 (2012-11): Electromagnetic compatibility (EMC) – Part 6-3: Generic standards – Emission standard for residential, commercial and light-industrial environments**
- **DIN EN 61010-1 (2020-03): Safety requirements for electrical equipment for measurement, control, and laboratory use – Part 1: General requirements**

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Bergisch Gladbach, 3 February 2021

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