

# Operating Instructions K-POWERgrip EWL 4941.



Always on the safe site.



KaVo. Dental Excellence.

**KaVo Elektrotechnisches Werk GmbH**  
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# K-POWERgrip EWL 4941.


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# K-POWERgrip EWL 4941.


## A 1 User information


### A 1.1 Meaning of the pictograms


 *Situations where failure to follow the instructions may lead to danger, damage to material or operating faults.*

 *Important information for operator and engineer.*


 Automatic mode  
Automatic sequence


 Close, screw in,  
fasten, etc.


 Open, release, loosen

 more, higher


 less, lower

 Continuous operation

 Time, time sequence

 Disconnect mains plug

### A 1.2 Important information

 *The instructions for use should be read by the user before starting up the unit for the first time, in order to avoid incorrect operation and other damage. If other language versions are required, please request these from your responsible KaVo agent. Duplication and distribution of the instructions for use (IU) require KaVo's prior consent.*

All technical data, information and properties of the product described in the IU correspond to the state on going to press.

Modifications and improvements to the product as a result of new technical developments are possible.

This does not imply any right to retrofitting of existing units.

KaVo assumes no responsibility for damage arising through:

- external influences (poor quality of the media or inadequate installation)
- use of incorrect information
- improper use
- improperly performed repairs.

Repair and maintenance work - apart from the activities described in these instructions for use - may be performed only by qualified technical personnel.

In the event of modifications by third parties, the approvals become null and void. KaVo recommends using only original spare parts for operation and for repair.

### A 1.3 Precautions

Safe operation and protection of the unit are ensured only through proper use in accordance with the instructions for use and using the tools approved for the purpose. The following should also be observed:

- the tool manufacturer's instructions,
- the work safety regulations,
- the accident prevention regulations.



■ *Each time before switching on, check the set speed.*

■ *Observe the permissible maximum speed and maximum pressure of the tools (according to tool manufacturer's instructions).*

■ *Use safety screens when working with rotating tools.*

■ *To avoid danger through accidental switching on, place the handpiece on a suitable shelf or tool support.*

In the event of an unsatisfactory condition of the unit or improper use, e.g.:

- unsuitable tools
- tool shafts not manufactured according to DIN-ISO
- improper use or use not in accordance with the purpose
- unapproved speeds for tools used
- incorrect clamping of the tools in the chuck
- insufficient retaining force of the chuck (wear, soiling, failure to follow the product care instructions for the chuck system, etc.)
- different sizes of tool shaft and chuck
- lack of regular cleaning of the chuck
- failure to follow the maintenance instructions
- failure to comply with the accident prevention regulations (e.g. failure to use safety screens, safety devices, handpiece supports, etc.)
- failure to take into account signs of wear and damage
- tool shafts which have slipped out (potential danger = bending of the tool shafts)

there is a danger of injury and damage to material and unit, e.g. due to:

- Bending of the tool shafts
- Accidental withdrawal of the tools from the chuck
- Breaking or splintering of the tool.

# K-POWERgrip EWL 4941.

## A 1.4 Purpose and applications

K-POWERgrip EWL 4941 handpieces are versatile and very particularly suitable for working on crowns and bridges.

## A 1.5 Technical data

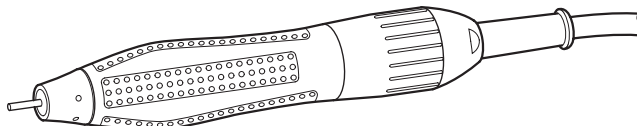
K-POWERgrip	type EWL 4941
Length:	165 mm
Handpiece part:	max. Ø 29 mm
Motor part:	max. Ø 28 mm
Weight:	approx. 250 g
with connecting cable	approx. 355 g
Output power	max. 150 watt max. 7 Ncm
Speed range	1,000-50,000 min <sup>-1</sup>
Pollution level:	2
Overvoltage category:	II

### Ambient conditions:

Permitted in interior rooms

Permissible ambient  
temperature range of 5° C - 40° C

Permitted to max. relative humidity 80%



We reserve the right to make technical  
modifications.

# K-POWERgrip EWL 4941.

## A 2 Scope of delivery - accessory

### A 2.1 Scope of delivery

K-POWERgrip EWL 4941	
with chuck	Ø 2.35 mm
Care set	0.411.3180
Instructions for use	1.002.3824

### A 2.2 Accessory

Available on request:	
Handpiece support 4850	0.642.0352

Chuck, Ø 3.0 mm	0.674.4881
Chuck, Ø 3.175 mm	0.674.4891
(Recommended for work at high speeds and with large-diameter instruments.)	

Tools for changing the ball bearing:

<b>D</b> Key	0.411.3962
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<b>E</b> Socket wrench	0.411.2310
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### A 3 Description

① Cover (3 covers as spare parts included  
in care set)

② Straight pin

③ Grip tip

④ K-POWERgrip handpiece part

⑤ K-POWERgrip motor part

⑥ Chuck

⑦ Connecting cable

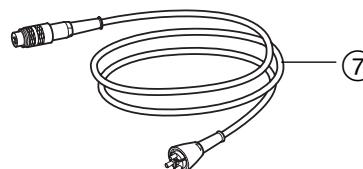
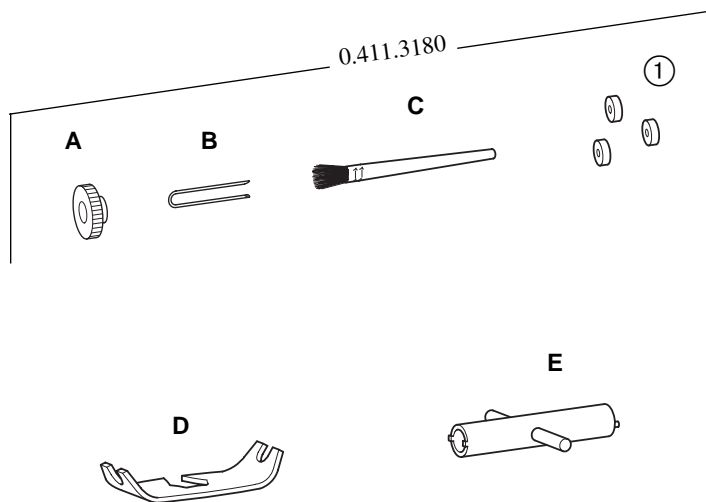
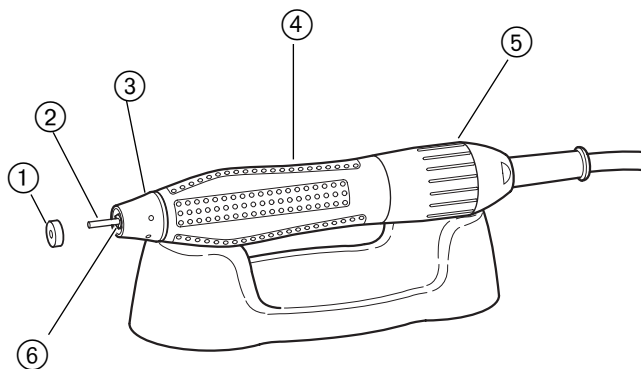
**A** Chuck key

**B** Clip

**C** Cleaning brush

**D** Key

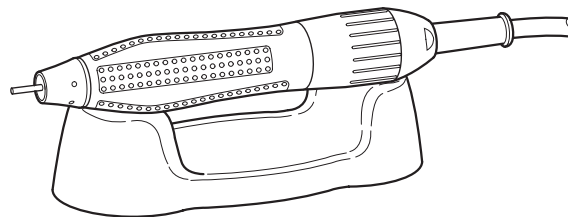
**E** Socket wrench



# K-POWERgrip EWL 4941.

## A 4 Preparations for commencing operation

**⚠** Do not operate or lay down your K-POWERgrip handpiece EWL 4941, unless an instrument or the test pin is clamped in the chuck. When the chuck is open, the K-POWERgrip handpiece, is locked, and inadvertent use will cause the K-Control control unit to switch to malfunction. Malfunction indicator lights up or begins to flash.



### A 4.1 Commencing operation

The K-POWERgrip handpiece EWL 4941 can be operated with the K-Controll unit:

Knee-operated control unit	EWL 4960
benchtop-control unit	EWL 4965
Foot-control unit	EWL 4970

## A 5 Operation

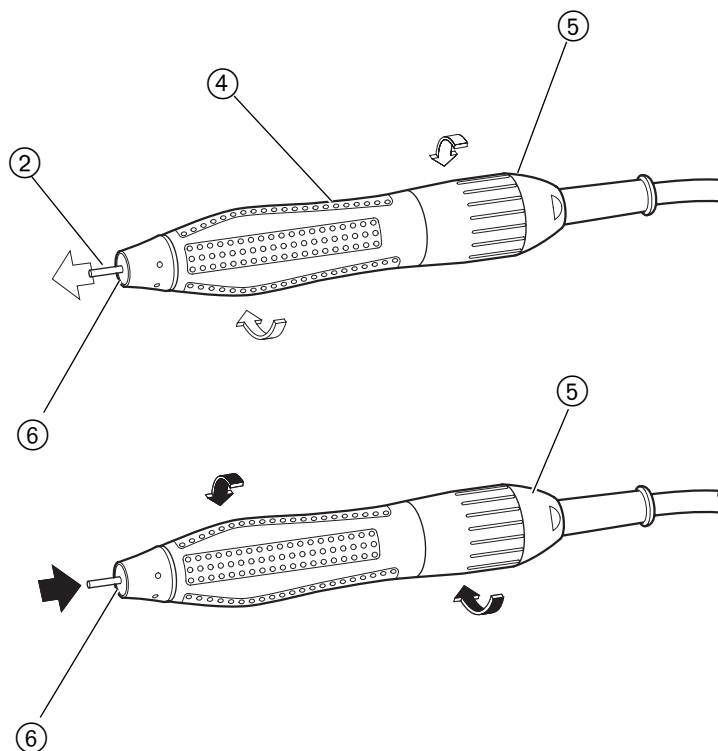
### A 5.1 Inserting / changing the tool

**⚠** During commissioning and each time when operating the K-POWERgrip handpiece EWL 4941, it is essential to observe the points mentioned in the section «A 1.3 Precautions“!

Hold handpiece element ④ tightly and turn motor element ⑤ in the direction of the arrow ↶ until the chuck ⑥ is completely open.

Remove instrument you were using or test pin ③ from the chuck ⑥ and insert a new tool into the chuck ⑥; press on instrument or pin until it catches.

Close the chuck ⑥ by turning the motor element ⑤ in the direction of the arrow ➡ until it catches. Opening the chuck



### A 5.2 Operation

**i** If the workplace is unsuitably illuminated, a stroboscopic effect may occur. This causes the tool to appear stationary at certain speeds. The situation can be remedied only by acquiring suitable lighting.

Each time before switching on, check the desired speed on the controller and if necessary adjust.

Put the K-POWERgrip handpiece EWL 4941 into operation according to the instructions for use of the up-circuit controller.

# K-POWERgrip EWL 4941.

## A 6 Maintenance

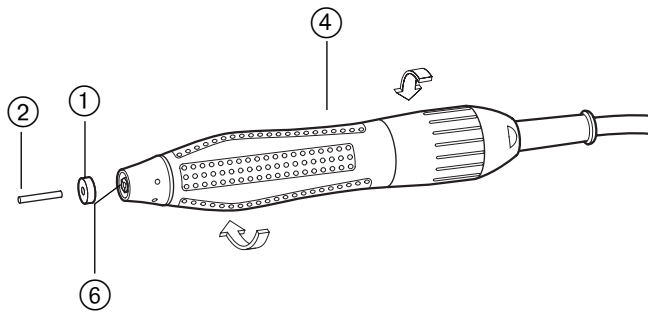
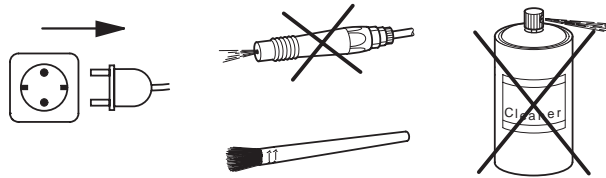


■ Repair and maintenance work on the electrical part of the unit may be performed only by qualified technical personnel or trained persons who have been made aware of the safety regulations. Before maintenance work, disconnect the mains plug or isolate the unit completely from the power supply so that there is no power to the unit.

■ On no account may the K-POWERgrip handpiece EWL 4941 be cleaned with compressed air; use the cleaning brush from the care set.

■ On no account should cleaning agents (such as spray cleaner, degreaser, etc.) be introduced into the interior of the handpiece.

■ using original chuck key A



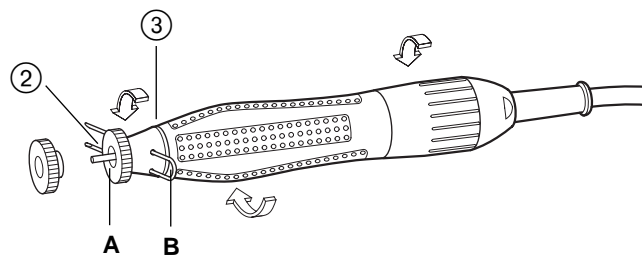
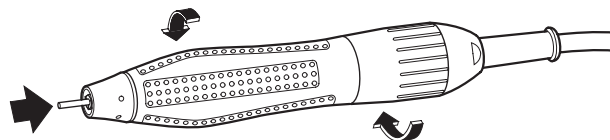
### A 6.1 Weekly cleaning of chuck and handpiece part

#### Removing the chuck

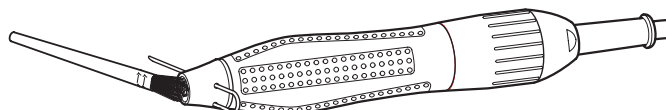
Remove previously used tool or straight pin from chuck and take off cover ① (3 covers as spare parts in care set).

Push tool or straight pin into chuck as far as it will go and close chuck.

Slowly turn the shaft ② until clip B can be inserted into grip tip ③ with little resistance.



Open the chuck. Unscrew the chuck using original chuck key A and inserted straight pin or tool ②.



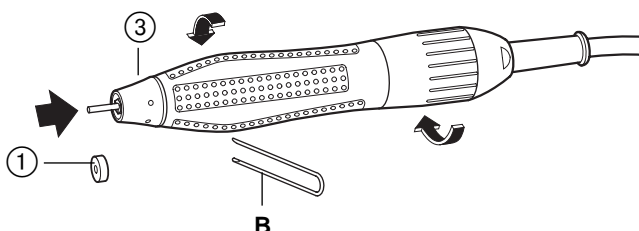
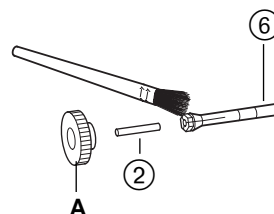
Clean the front opening of the K-POWERgrip handpiece EWL 4941 with a brush or with the cleaning brush supplied. Clean chuck thread, surface of the original chuck A and rotor cone and lightly grease.

#### Installing the chuck

Insert chuck incl. straight pin ② using original chuck key A and tighten.

Mount cover ① again.

Remove clip B from grip tip ③ and close chuck with inserted straight pin again.



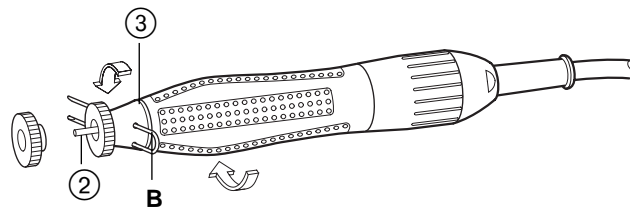


# K-POWERgrip EWL 4941.

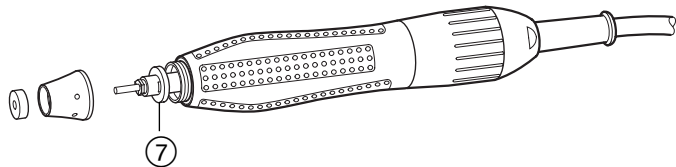
## A 6.2 Replacing the ball bearings

### Dismantling

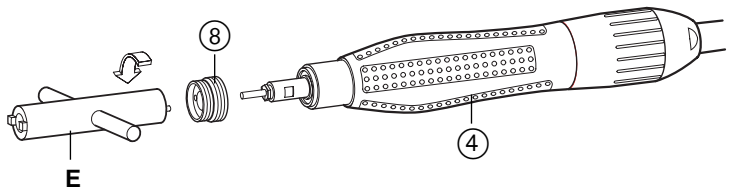
Slowly turn the shaft by the straight pin ② until clip **B** can be inserted into grip tip ③ with little resistance.



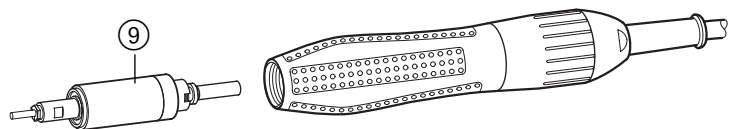
Loosen grip tip in direction of arrow ↶ and remove clip.



Completely unscrew grip tip and remove felt washer ⑦.

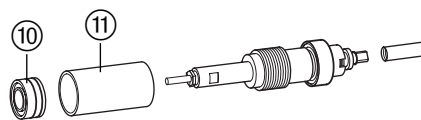


Grip handpiece part ④ and loosen threaded ring ⑧ with socket wrench **E** and unscrew.

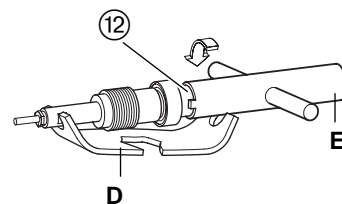


Remove complete shaft unit ⑨ from K-POWERgrip handpiece EWL 4941.

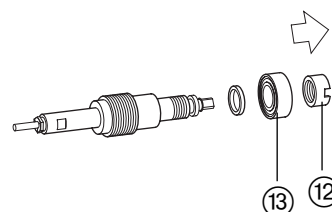
Remove ball bearing ⑩ and bush ⑪ from shaft.



Hold shaft with key **D** and loosen nut ⑫ with socket wrench **E** - **Note left-handed thread.**



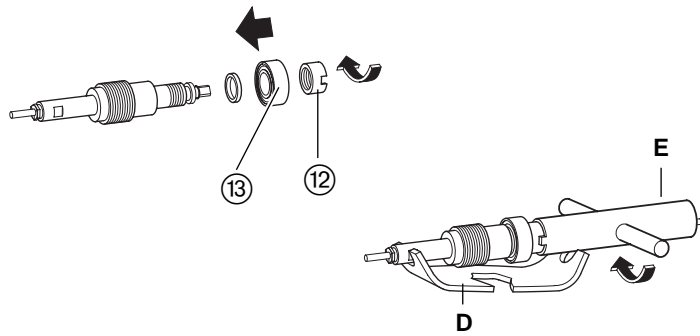
Remove nut ⑫ with ball bearing ⑬ from shaft.



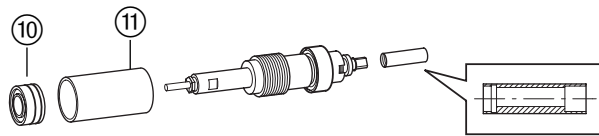
# K-POWERgrip EWL 4941.

## Assembly

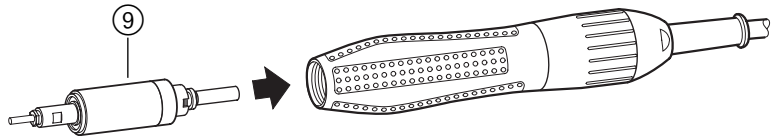
Push new ball bearing ⑬ onto shaft. Hold shaft with key **D** and screw on nut ⑫ again with socket wrench **E** - note the left-handed thread.



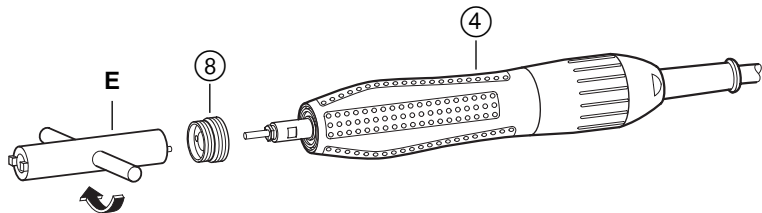
Push ball bearing ⑩ (with the two O-rings facing the inside of the handpiece) and bush ⑪ onto the shaft as far as it will go.



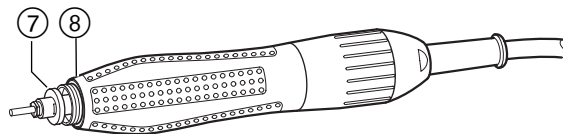
While rotating the shaft unit ⑨, insert it into the K-POWERgrip handpiece EWL 4941.



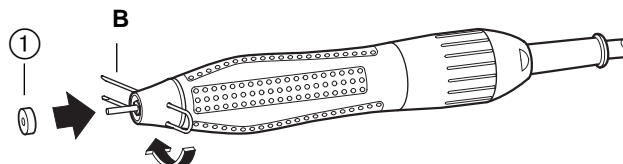
Grip handpiece part ④ and tighten the threaded ring ⑧ with socket wrench **E**.



Insert new felt washer ⑦ into threaded ring ⑧.



Hold K-POWERgrip handpiece EWL 4941, screw on grip tip by hand and tighten carefully with clip **B**. Insert cover ①.

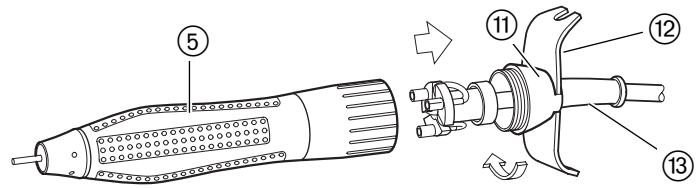


**i** To increase the life of the ball bearing, KaVo EWL recommends: After changing the ball bearing, allow the handpiece to run without an inserted instrument for about 60 minutes at 10,000 to 15,000 min<sup>-1</sup>.

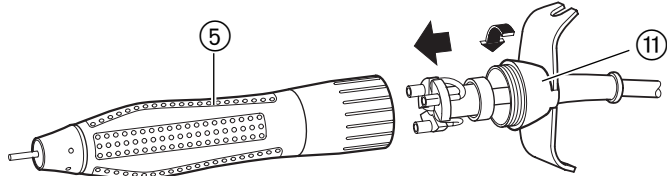
# K-POWERgrip EWL 4941.

## A 6.3 Changing connecting cable

Unscrew the connecting cap ⑪ from the K-POWERgrip-Motor element ⑤ and pull out the connection cable ⑬ in the direction of the arrow ⇐.




Insert new connecting cable ⑬ (3-pin) completely into motor part ⑤ and screw on connecting cap ⑪ again.

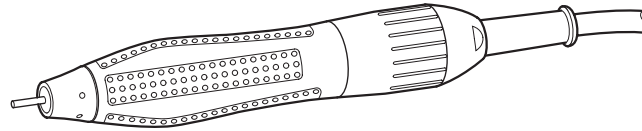


# K-POWERgrip EWL 4941.

## A 7 Malfunctions

 *Repair and maintenance work on the electrical part of the unit may be performed only by specialists or by persons who have been trained in the factory and have been made aware of the safety regulations. Before opening the housing parts, disconnect the mains plug or isolate the unit completely from the power supply so that there is no power to the unit.*

**F** • K-POWERgrip handpiece no longer rotates or stops from time to time.



**C** • K-POWERgrip handpiece EWL 4941 is blocked, possibly due to open chuck system.

**R** • Close chuck correctly with inserted tool (see **A 5.1**).

**C** • Break in connecting cable.

**R** • Check connecting cable incl. plug devices and if necessary replace (see **A 6.3**).

**C** • Fault in the electrical system of K-POWERgrip EWL 4941 controller.

**R** • Check controller or have repaired.

**F** • Tool is no longer adequately retained in the chuck.

**C** • Diameter of tool shaft does not agree with chuck.

**R** • Use chuck or tool with appropriate diameter.

**C** • Chuck has become loose.

**R** • Insert chuck correctly (see **A 6.1**).

**C** • Chuck is worn.

**R** • Replace chuck (see **A 6.1**).

**F** = Fault **C** = Cause **R** = Rectification

# K-POWERgrip EWL 4941.

**F** • Loud running noise or K-POWERgrip handpiece EWL 4941 heats up

**C** • Ball bearing faulty owing to wear or soiling.

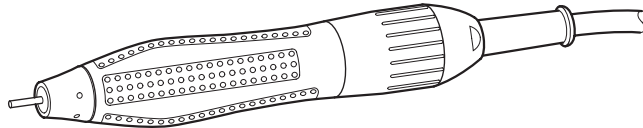
**R** • Check ball bearing and if necessary replace.(see **A 6.2**)

**C** • Prolonged operation under very high load.

**R** • Eliminate cause of high load, if necessary increase speed or use tools with smaller diameter.

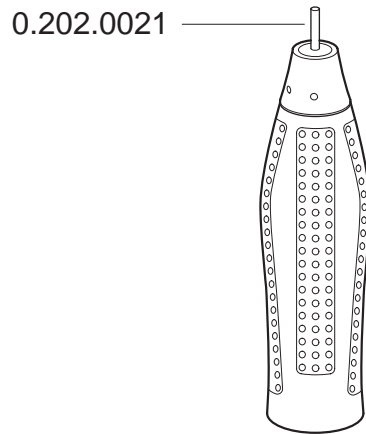
**C** • Electronics of controller faulty.

**R** • Check controller or have repaired.



# K-POWERgrip EWL 4941.

A



0.202.0021

0.200.0836

0.200.0837

0.201.8083

0.674.4861

B

0.674.7942

0.222.4018

0.200.6095

0.220.0778

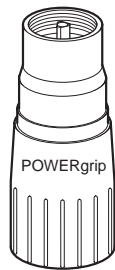
1.002.3648

0.220.0779

0.200.6093

0.200.6219

B



POWERgrip

C

0.223.0111

0.223.0396

0.674.7392

0.674.8472

1.001.6751

0.200.1045

0.223.0082

0.224.7048

0.070.3274  $\varnothing$  5 mm\*

1.002.3644

0.200.6320

0.674.4701

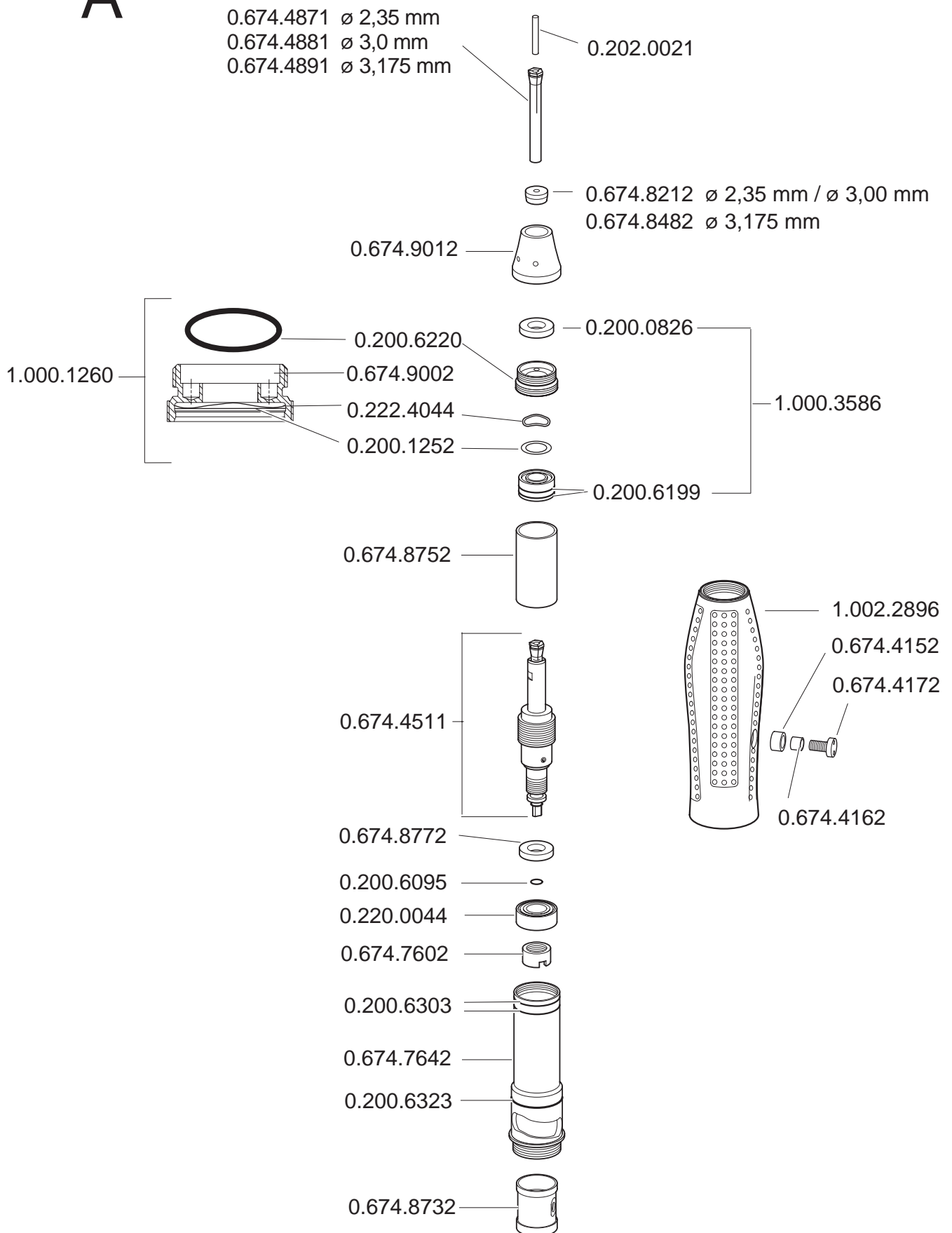
0.200.6155

0.674.8962

0.674.8982

# K-POWERgrip EWL 4941.

A



# K-POWERgrip EWL 4941.

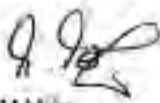
## **Guarantee conditions**

Under valid KaVo EWL delivery and payment conditions, KaVo EWL gives a guarantee of satisfactory function and freedom from faults in material and manufacture for the duration of 6 months from the date of sale certified by the vendor. After expiry of the warranty, KaVo gives a guarantee of another 6 months for damage attributable to deficiencies in the material or in manufacture.

In the case of justifiable complaints, KaVo EWL shall supply spare parts or carry out repairs free of charge. KaVo EWL accepts no liability for defects and their consequences which have arisen or could have arisen as a result of natural wear, improper handling, cleaning or maintenance, noncompliance with the maintenance, operating and connecting instructions, corrosion, impurities in the air supply or chemical or electrical influences which are unusual or not admissible in accordance with KaVo's instructions. The guarantee shall become null and void if defects or their consequences can be attributed to interventions in or modifications to the product. Guarantee claims can only be validated if they are notified immediately in writing to KaVo EWL.



# K-POWERgrip EWL 4941.

<b>Konformitätserklärung;</b> <b>Déclaration de conformité;</b> <b>CE-Dichiarazione di conformità;</b>	<b>Declaration of conformity;</b> <b>Declaración de conformidad;</b>	<b>KE 1</b>
<div style="display: flex; justify-content: space-between;"> <div>             Wir, We, Nous, Noi, Noi.               erklären, dass das Produkt              declare that the product              déclarons que le produit              dichiariamo che il prodotto           </div> <div> <b>KaVo ELEKTROTECHNISCHES WERK GmbH</b>              Wangener Str. 7H              D-88299 Leutkirch im Allgäu           </div> </div>		
<div style="display: flex; justify-content: space-between;"> <div>             erklären, dass das Produkt              declare that the product              déclarons que le produit              dichiariamo che il nostro prodotto           </div> <div>             Steuergeräte EWL 4960, EWL 4965, EWL 4970, EWL 4961, EWL 4966, EWL 4971              Controller EWL 4960, EWL 4965, EWL 4970, EWL 4961, EWL 4966, EWL 4971              Appareils de commande EWL 4960, EWL 4965, EWL 4970, EWL 4961, EWL 4966, EWL 4971              Unidades de control EWL 4960, EWL 4965, EWL 4970, EWL 4961, EWL 4966, EWL 4971              Alimentatore EWL 4960, EWL 4965, EWL 4970, EWL 4961, EWL 4966, EWL 4971           </div> </div>		
<p>             auf das sich diese Erklärung bezieht, mit den wesentlichen Schutzanforderungen gemäß den Bestimmungen der Richtlinie(n) übereinstimmt.              to which this declaration relates, conforms to the essential safety requirements according to the provisions of Directive(s)              auquel se réfère cette déclaration, est conforme aux exigences essentielles de protection conformément aux dispositions de la/ des Directive(s)              al la qual se refere esta declaración, coincide con las esenciales exigencias de protección según las determinaciones de la(s) norma(s)              a cui si fa riferimento in questa dichiarazione, è conforme alle minime di sicurezza secondo le direttive delle norme           </p>		
<div style="display: flex; justify-content: space-between;"> <div>             89/336/EWG              73/23/EWG           </div> <div>             (EMV-Richtlinie)              (Niederspannungsrichtlinien)           </div> </div>		
<p>             Zur Beurteilung des Erzeugnisses wurden folgende Normen oder normative Dokumente angewandt:              The following standards or normative documents were used for assessing the product:              Les normes ou autres documents normatifs suivants sont utilisés pour le jugement de ce produit :              Para la evaluación del producto se aplicaron las siguientes normas o documentos normativos:              Per la valutazione del prodotto sono state applicate le seguenti normative o altri documenti normativi:           </p>		
<div style="display: flex; justify-content: space-between;"> <div>             EN 61010              EN 61326-1           </div> <div>             Sicherheitsbestimmungen für Laborgeräte              EMV-Anforderungen für Laborgeräte           </div> </div>		
<p>             In Verbindung mit K9 EWL 4961, EWL 4966, EWL 4971 können folgende Handstücke betrieben werden:              The following handpieces may be operated in combination with K9 control units of types EWL 4961, EWL 4966 and EWL 4971:              Les pièces à main suivantes peuvent être actionnées en connexion avec les boîtiers de commande K9 des modèles EWL 4961, 4966 et 4971:              En combinación con aparatos de control K9 de los tipos EWL 4961, EWL 4966 y EWL 4971 se pueden utilizar la siguientes piezas de mano:              Sugli alimentatori K9 Tipo EWL 4961, EWL 4966 e EWL 4971 possono essere fatti funzionare i seguenti manipoli:           </p>		
<p>K9 type EWL 950/955, K9 type 4930, K9 type EWL 960</p>		
<p>             In Verbindung mit K-Control EWL 4960, EWL 4965, EWL 4970 können folgende Handstücke betrieben werden:              The following handpieces may be operated in combination with K-Control control units of types EWL 4960, EWL 4965 and EWL 4970:              Les pièces à main suivantes peuvent être actionnées en connexion avec les boîtiers de commande Control K des modèles EWL 4960, 4965 et 4970:              En combinación con aparatos de control K-Control de los tipos EWL 4960, EWL 4965 y EWL 4970 se pueden utilizar la siguientes piezas de mano:              Sugli alimentatori K-Control Tipo EWL 4960, EWL 4965 e EWL 4970 possono essere fatti funzionare i seguenti manipoli:           </p>		
<p>             K5 type 4910, K5plus type 4911, K9 type EWL 950/955, K9 type 4930, K9 type EWL 960, K9 type EWL 970,              K11 type EWL 4990, K12 type EWL 4940, K-POWERgrip type EWL 4941.           </p>		
<div style="display: flex; justify-content: space-between;"> <div>             Leutkirch, 05.05.2003           </div> <div style="text-align: center;">   <b>M. Müller</b>              Managing Director           </div> </div>		



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