Instructions for use
MULTIflex LED coupling 460 LED - REF 1.007.3201

KaVo. Dental Excellence.

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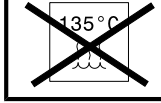
Contents

1 User instructions

Dear User
Congratulations on purchasing this KaVo quality product. By following the instructions below you will be able to work smoothly, economically and safely.

Symbols

	Refer to the chapter on Safety/Warning symbol
	Important information for users and service technicians
▶	Action request
	Non-sterilisable

Target group

This document is intended for dentists and their assistants. The section on starting up is also intended for service technicians.

2 Safety

2.1 Description of safety instructions

	Warning symbol

Structure

DANGER

The introduction describes the type and source of the hazard.
This section describes the potential consequences of non-observance.

- ▶ The optional step includes necessary measures for hazard prevention.

Description of hazard levels

The safety instructions listed here, together with the three levels of danger will help avert property damage and injury.

⚠ CAUTION

CAUTION
indicates a hazardous situation that can cause damage to property or mild to moderate injuries.

WARNING

WARNING
indicates a hazardous situation that can cause death or serious injury.

DANGER

DANGER
indicates a hazardous situation that can directly cause death or serious injury.

2.2 Safety instructions

WARNING

Electricity

Electrical shock from incorrectly connecting a non-KaVo system to the product.

- When installing and operating the product with treatment equipment and devices from other manufacturers, observe the provisions in "Protection against electrical shock," "Leakage cur-

rent," and "Non-grounding the application part" in accordance with DIN EN IEC 60601-1.

- The medical device may only be combined with a treatment unit released by KaVo.

⚠ WARNING

Hazard from direct exposure to radiation.
Blinding.

- Do not look directly into the lamp.

⚠ CAUTION

Blue light is a retinal hazard.
Can be hazardous to the eyes.

- ▶ Do not look into the lamp for any extended period of time when it is in operation.

⚠ CAUTION

Premature wear and malfunctioning from improper storage during long periods of nonuse.
Reduced production time.

- ▶ The product must be cleaned and stored dry if it has not been used for a long period.

Note

Any waste which is generated must be recycled or disposed of in a manner which is safe both for people and for the environment. This must be done in strict compliance with all applicable national regulations.
Questions on proper disposal of the KaVo product can be answered by the KaVo branch.

The following individuals are authorized to repair and service KaVo products:

- Technicians at KaVo branches throughout the world
- Technicians specially trained by KaVo

Service may only be provided by repair shops that have undergone training by KaVo and that use original KaVo replacement parts.

3 Product description

MULTIflex LED coupling 460 LED (Mat. no. 1.007.3201)

3.1 Purpose – Intended use

Purpose:

The MULTIflex (LUX) / MULTIflex LED coupling is an accessory of the medical device designed for coupling the supply hose to MULTIflex-compatible dental turbines. Any other type of use or alteration to the product is impermissible and can be hazardous.

Proper use:

According to these regulations, the MULTIflex (LUX) / MULTIflex LED coupling must be used for the above-mentioned application and by expert staff only. The following must be observed:

- the applicable health and safety regulations
- the applicable accident prevention regulations
- the present Instructions for Use

According to these regulations, it is the responsibility of the user to:

- only use equipment that is operating correctly,
- use the equipment for the proper purpose,
- protect him or herself, the patient and third parties from danger, and
- avoid contamination from the product.

3.2 Technical Specifications

Connection according to DIN EN ISO 9168 type 3.

With return suction stop.

Nominal voltage of the KaVo MULTI LED Lamp	3.4 V DC
Voltage range of the KaVo MULTI LED lamp	3.0 - 3.6 V DC
Maximum current	120 MA

All KaVo (LUX) handpieces with an original MULTIflex connection can be attached.

Note

Please comply with the Instructions for Use of the product to which the MULTIflex (LUX) / MULTIflex LED coupling is attached. Check the suitability of the product for use with the MULTIflex (LUX) / MULTIflex LED coupling.

Note

Operation on KaVo units:

- 1042: Set the cold light intensity on the unit to the lowest intensity level and increase the brightness to no more than intensity level 4.
- 1065 / 1060: If the MULTIflex (LUX) / MULTIflex LED coupling is to be used on these units, please contact a service technician and have him adjust the voltage.

- E80 / E70 / E50 / 1058 / 1080 / 1066 / 1062: The KaVo MULTIflex (LUX) / MULTIflex LED coupling can be used on these units without any further measures.

Note

Mixed mode: KaVo MULTI LED lamp/high-pressure lamp

Due to certain design features, mixed mode will not work with the following KaVo devices:

1065 / 1063 / 1060 / 1061 / 1059 / 1057

These devices can only be completely converted to the new LED. The cold light voltage must be adapted by a technician.

Note
When using with third-party units:
For use with units tested by KaVo, see www.kavo.com under “LED compatibility”.

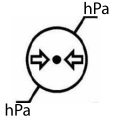
Note
The KaVo MULTI LED lamp may not exceed the indicated upper voltage limit of 3.6 V DC.

3.3 Transportation and storage conditions

⚠ CAUTION

It is hazardous to start up the product after it has been stored refrigerated.
This can cause the product to malfunction.

- ▶ Prior to start-up, very cold products must be heated to a temperature of 20°C to 25°C (68°F to 77°F).

	Temperature: -20°C to +70°C (-4°F to +158°F)
	Relative humidity: 5% RH to 95% RH absence of condensation
	Air pressure: 700 hPa to 1060 hPa (10 psi to 15 psi)
	Protect from moisture

4 First use

⚠ WARNING

Hazard from contaminated products.
Infection danger to the care provider and patient.

- ▶ Before first use and after each use, prepare the product.

⚠ CAUTION

Damage from soiled and moist cooling air.
Contaminated and moist cooling air can cause malfunctions.

- ▶ Make sure that the supply of cooling air is dry, clean and uncontaminated according to ISO 7494-2.

5 Operation

Note

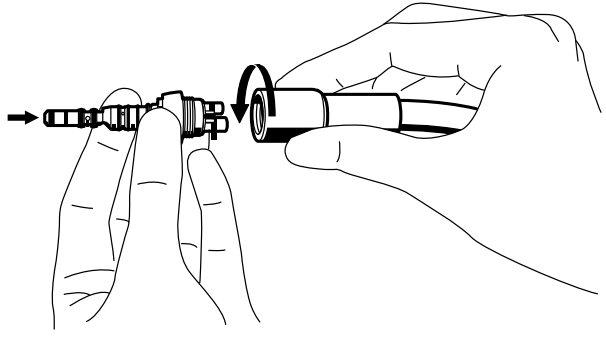
At the beginning of each workday, the water-conducting systems should be rinsed for at least 2 min. without the instrument being attached; if there is a risk of contamination from reflux or back suction, the system must be rinsed for 20-30 seconds.

5.1 Connect the MULTIflex LED coupling to the hose

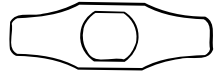
⚠ CAUTION

Malfunction from holding the regulating ring.
Defects in the product.

- ▶ Do not grip the regulating ring.



- Attach the **MULTIflex (LUX) / MULTIflex LED coupling** to the turbine hose and tighten it using the union nut of the hose.



- Re-tighten with the enclosed wrench.
- Spray a small amount of KaVo spray onto the O-rings.

Note

The coupling remains screwed onto the hose. Use the key if it is to be removed.

5.2 Changing (LUX) handpieces

⚠ WARNING

Detachment of the medical device during treatment.

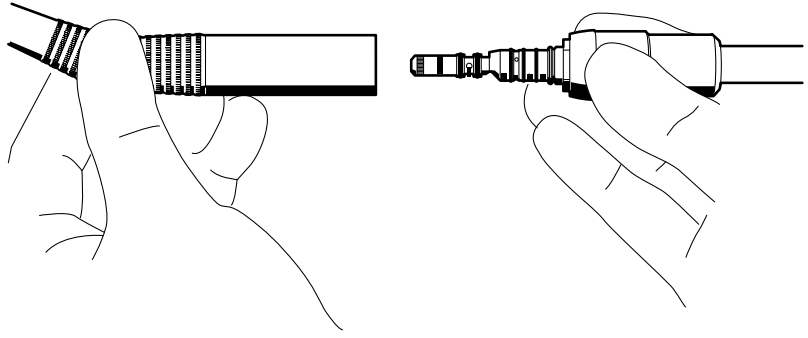
A medical device that is not properly locked in place can detach from the MULTIflex (LUX) / MULTIflex LED coupling during treatment.

- Before each use, check if the medical device is securely locked onto the MULTIflex (LUX) / MULTIflex LED coupling by pulling on it.

⚠ CAUTION

Inexact coupling.
Reduction of the service life of the lamp.

- Avoid inexact coupling.
- Check for secure attachment of the (LUX) handpieces on the coupling by pulling on it.



- ▸ Attach the MULTIflex (LUX) handpiece in exact orientation on the **MULTIflex (LUX) / MULTIflex LED coupling** and push backwards until the coupling is heard to snap in place in the medical device.
- ▸ Check for secure attachment of the MULTIflex (LUX) handpiece on the coupling by pulling on it.

6 Troubleshooting

6.1 Check for malfunctions before initial startup

⚠ CAUTION

Danger due to hot bulb.
Burning hazard.

- ▶ Do not touch the bulb after it has been used. Let the lamp cool off.

⚠ CAUTION

Missing or damaged O-rings.
Malfunctions and premature failure.

- ▶ Make sure that all O-rings are on the coupling and undamaged.

Note
Stop working if the O-ring is missing or damaged.

▶ O-ring of motor coupling is missing:

- Replace O-rings.

▸ The KaVo MULTI LED lamp is faint:
- Increase cold light intensity on the unit.

▸ KaVo MULTI LED lamp is red or off:
- Re-insert the KaVo MULTI LED lamp after rotating it 180° about its own axis.

See also: 6 Troubleshooting: 6.2.1 Replacing the KaVo MULTI LED lamp, Page 42

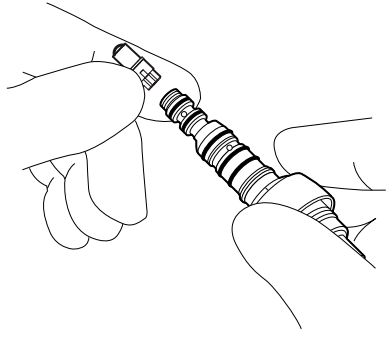
6.2.1 Troubleshooting: Replacing the KaVo MULTI LED lamp

⚠ CAUTION

Danger due to hot bulb.
Burning hazard.

- ▶ Do not touch the bulb after it has been used. Let the lamp cool off.

Note
Make sure that the contacts in the coupling are not damaged while you insert the lamp. Screw-on the screw cap.



▸ Unscrew the screw cap in counterclockwise direction.

- ▸ Remove the old KaVo MULTI LED lamp from the mount.
- ▸ Insert the new KaVo MULTI LED lamp in the recess and make sure that the contact surfaces of the lamp and of the mount are aligned.

Note
The KaVo MULTI LED bulb is a semiconductor element and may only be operated with direct current. To ensure proper function, the poles need to be inserted correctly.

Case 1: The KaVo MULTI LED lamp shines

Case 2: The KaVo MULTI LED lamp is dim

- Raise the cold light intensity of the unit to reach the desired illumination.

Case 3: The KaVo MULTI LED lamp does not shine or shines red
- Screw in the KaVo MULTI LED bulb 180° on its own axis.

▸ Unscrew the screw cap clockwise.

6.2.2 Troubleshooting: Replacing O-rings

⚠ CAUTION

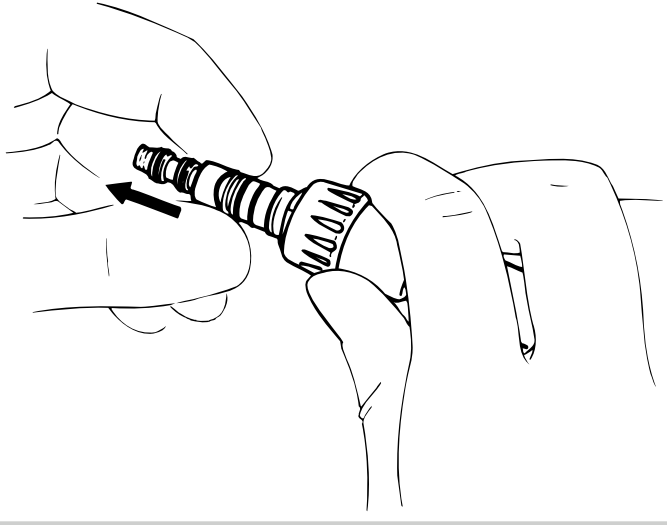
Hazard from improper care of the O-rings.
Malfunctions or complete failure of the product.

- ▶ Do not use Vaseline or other grease or oil.

Note
The O-ring on the coupling may only be lubricated with a cotton ball wet with KAVO spray.

If the coupling is not tight, change the O-rings.

- ▸ Press the O-ring between your fingers to form a loop.



- Shove the O-ring to the front, and remove it.
- Insert new O-rings into the grooves and spray with KaVo Spray.

7 Preparation methods according to ISO 17664

7.1 Preparations at the site of use

⚠ WARNING

Hazard from contaminated products.
An infection hazard exists from contaminated products.

- ▶ Observe suitable personal protective measures.

- Remove all residual cement, composite or blood without delay.
- The product should be reprocessed as soon as possible after treatment.
- The product must be dry when transporting it to the site of reprocessing.
- Do not place it in solutions or similar substances.

7.2 Cleaning

⚠ CAUTION

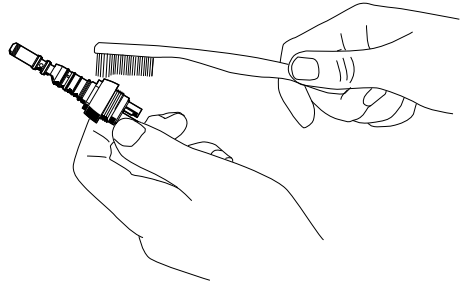
Malfunctions from cleaning in the ultrasonic unit.
Defects in the product.

- ► Only clean manually!

7.2.1 Cleaning: Manual cleaning - external

Accessories required:

- Tap water 30 °C ± 5 °C (86 °F ± 10 °F)
- Brush, e.g. medium-hard toothbrush

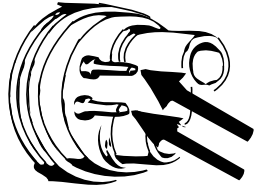


▸ Brush off under flowing tap water.

7.2.2 Cleaning: Automated external cleaning

Not applicable.

7.2.3 Cleaning: Manual cleaning of the inside



- ▸ Rinse the spray air and spray water tube with tap water.

7.2.4 Cleaning: Automated internal cleaning

Not applicable.

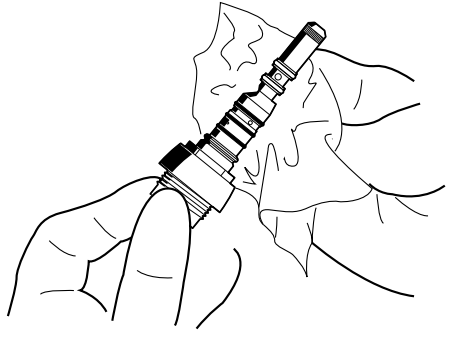
7.3 Disinfection

⚠ CAUTION

Malfunctioning from using a disinfectant bath or chlorine-containing disinfectant.
Defects in the product.

- ▶ Disinfect manually only!

7.3.1 Disinfection: Manual disinfection - external



KaVo recommends the following products based on material compatibility. The microbiological efficacy must be ensured by the disinfectant manufacturer.

- Mikrozid AF Liquid made by Schülke & Mayr
- FD 322 made by Dürr

- CaviCide made by Metrex

Required tools:

- Cloths for wiping off the product.

▸ Spray the disinfectant on a cloth then wipe the product and let it work according to the disinfectant manufacturer.

▸ Follow the instructions for use of the disinfectant.

7.3.2 Disinfection: Manual disinfection - internal

Not applicable.

7.3.3 Disinfection: Automated disinfection of the inside and outside

Not applicable.

7.4 Drying

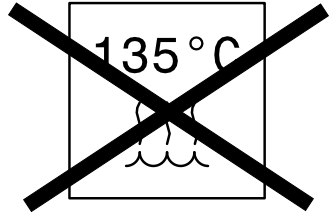
Manual Drying

- Blow off the outside and inside with compressed air until water drops are no longer visible.

Automatic Drying

Not applicable.

7.5 Sterilisation



Non-sterilisable.

7.6 Storage

- Reprocessed products should be stored protected from dust with minimum exposure to germs in a dry, dark and cool space.

8 Tools

Available from dental suppliers.

Material summary	Mat. no,
Wrench	0.411.1563
Replacement seal	0.553.5262
KaVo MULTI LED lamp	1.007.5372
O-ring 6.65 x 0.8	1.004.2776
O-ring 3.8 x 1.1	1.004.2775

9 Warranty terms and conditions

The following warranty conditions apply to this KaVo product:

KaVo provides the end customer with a warranty of proper function and guarantees zero defects in respect of material and processing for a period of 12 months from the date of the invoice, subject to the following conditions:
In case of justified complaints, KaVo will honour its warranty with a free replacement or repair. Other claims of any nature whatsoever, in particular with respect to compensation, are excluded. In the event of default, gross

negligence or intent, this shall only apply in the absence of mandatory legal regulations to the contrary.
KaVo shall not be liable for defects and their consequences that have arisen or may arise from natural wear, improper handling, cleaning or maintenance, non-compliance with operating, maintenance or connection instructions, calcination or corrosion, contaminated air or water supplies or chemical or electrical factors deemed abnormal or impermissible in accordance with KaVo's instructions for use or other manufacturer's instructions. The warranty granted does not usually extend to lamps, light conductors made of glass and glass fibres, glassware, rubber parts, and the colourfastness of plastic parts.

All liability is excluded if defects or their consequences originate from manipulations or changes to the product made by the customer or a third party that is not authorised by KaVo.
Warranty claims will only be accepted if the product is submitted along with proof of purchase in the form of a copy of the invoice or note of delivery. The dealer, purchase date, type, and serial number must be clearly evident from this document.

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