

Paraskop M

Precision milling unit

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Dear customer,

You have made a good decision in buying this unit. It will certainly support you in your work for many years, particularly in light of the fact that it meets BEGO's high standards of quality and was developed and built according to recognised engineering principles and the state of the art.

Nevertheless, improper handling as well as use of the unit for purposes other than that for which it was designed may cause danger and damage. We therefore request that you read and follow these operating instructions carefully.



1. Scope of delivery and wearing parts

Scope of delivery

Paraskop M - precision milling unit _____ Order No. 26060

- with:
- milling spindle with collet chuck Ø 2.35 mm (with bit stop),
 - quill,
 - model table,
 - halogen lamp,
 - foot switch with connecting cable,
 - mains cable,
 - collet chuck wrench and cleaning brush.

Special accessories

Wax blocking-out set _____ Order No. 26065
for hot blocking-out of models, especially in partial dentures and for scraping
and forming wax, with 5 heatable instruments
(Ø 1.3 mm, Ø 2.0 mm, inclinations 2°/4°/6°)

Milling set _____ Order No. 43439

Collet chuck 3 mm with bit stop _____ Order No. 31721

Plastering table, complete _____ Order No. 32748

Dust protection bonnet _____ Order No. 32746

2. Description of the unit

Paraskop M is a precision milling unit for drilling and milling, measuring models and modelling wax as well as setting attachments in the field of dental technology.

The milling unit offers the following advantages:

- The extremely rigidly designed milling arm is easy to position thanks to a refined bearing system and it can be **magnetically** locked.
- The working range is very large: the milling arm can be swivelled 235° and vertically adjusted up to 125 mm. With the vertical carriage the clamped tool can be moved vertically another 39 mm.
- The controls are arranged such that their function and operation are obvious (elements for adjustment and loosening/locking are positioned opposite each other). All operating states are displayed by means of LEDs.
- The model table with the clamped model can be quickly and precisely locked on the milling unit by means of an electromagnet.
- The model table is equipped with a ball joint. The horizontal position snaps into place.

3. Technical data

Height	_____	480 570 mm
Width	_____	290 mm
Depth	_____	310 mm
Rated voltage	_____	200 240 V, 50/60 Hz
Special voltages	_____	100 120 V, 50/60 Hz
Rated power of milling spindle	_____	120 W
Speed	_____	approx. 500 30,000 RPM
Weight	_____	8.9 kg

4. Safety instructions



1. Paraskop M is designed for drilling and milling, measuring models and modelling wax as well as setting attachments in the dental technology field. Any other use is considered to be improper. We shall not assume liability for damage resulting from improper use.
2. Paraskop M may only be operated by staff members who are familiar with the contents of these operating instructions.
3. Modifications of Paraskop M may only be carried out after prior consultation with us. We shall not assume liability for damage resulting from unauthorised modifications or conversion.
4. The national accident prevention regulations must be observed in addition to these operating instructions.
5. Signs and stickers must always be kept in easy-to-read condition. They may not be removed.
6. The unit must never be operated if it has defects which may endanger employees or third parties.
7. Switch off the unit and pull out the mains plug prior to care and maintenance! Otherwise there is a danger of injury due to unintentionally actuated motor or - if the unit is open - due to electric shock.
8. **Caution: Danger of injury!**
 - Always wear safety glasses when drilling and milling!
Otherwise danger of injury due to tools breaking off.
 - Keep long hair, loose clothing and the like away from the rotating milling spindle!
 - Protect foot switch against unintentional actuation.
Otherwise danger of injury due to actuated milling spindle.

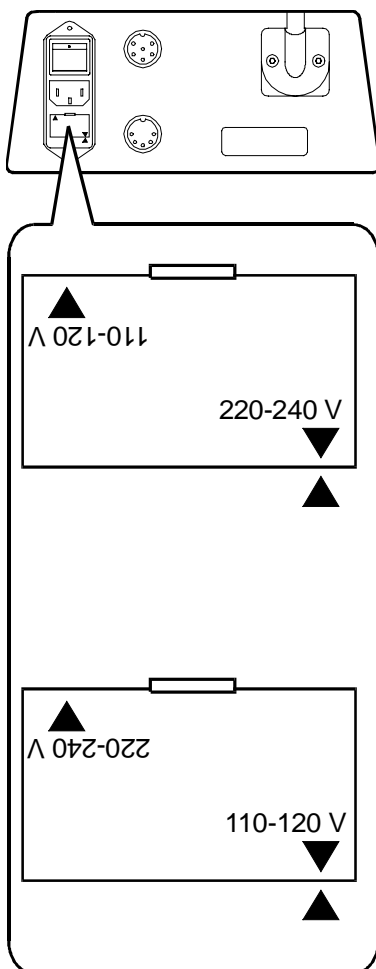
5. Startup



The unit is factory-set at 200 to 240 Volt.

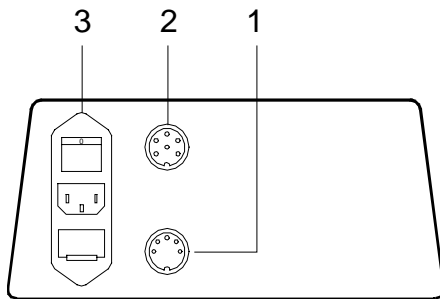
By connecting the unit to 100 to 120 Volt the fuse holder have to be turned!

(Notice: the tension rates are greater as indicated on the fuse holder.)



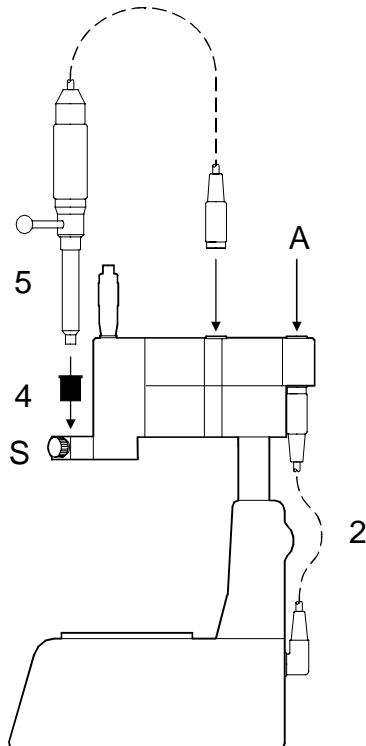
Setting 200-240 V

Setting 100-120 V



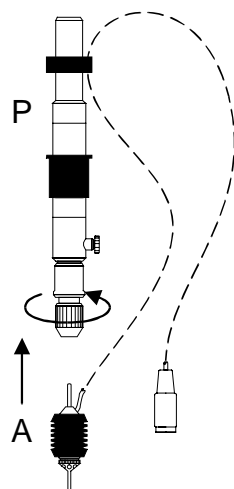
Switch off master power switch (3) before performing connection work!

- Set up unit.
- 1 Connect foot switch.
- 2 Connect articulated arm.
- 3 Connect unit to mains network.



Installing milling spindle

- 4 Slide in collar up to stop.
- 5 Insert milling spindle up to stop so that it snaps into the collar. Screw on milling spindle securely (S) and connect.



Installing quill (P)

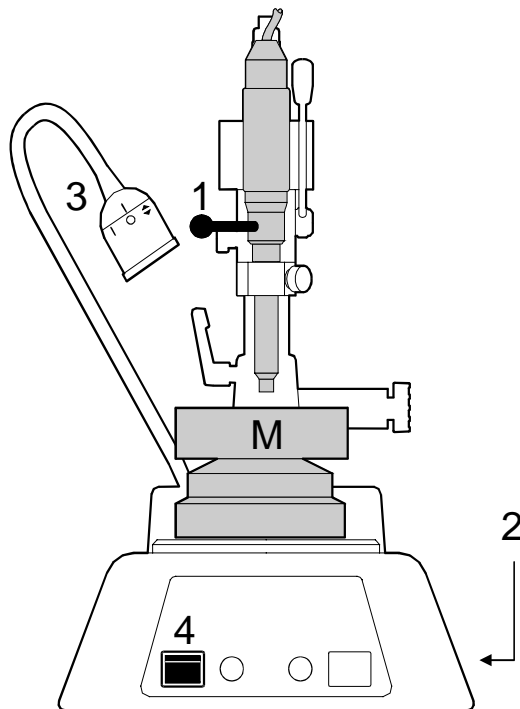
- Instead of the milling spindle, insert the quill with collar and screw on securely (S).

Installing blocking-out tool (A)

- Screw blocking-out tool securely in quill and connect.
Clamp cables.

6. Work

Milling and drilling

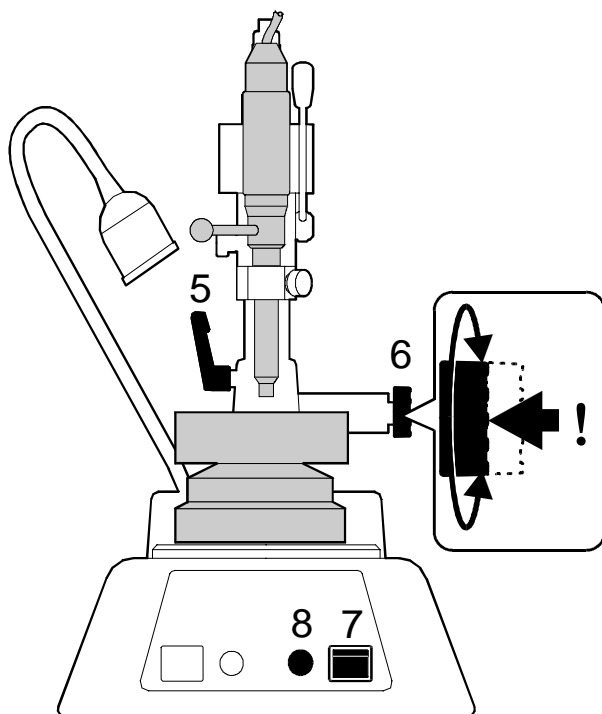


Comply with safety instructions, in particular:

- Wear safety glasses!
- Protect long hair and loose clothing from the milling spindle!
- Protect foot switch against unintentional actuation.

Important!

- Allow the milling spindle to rotate only when tool / pin is clamped, otherwise damage may occur to the spindle.
- Energized magnets heat. To avoid unnecessary heating, deenergize magnets as often as possible.



1 Clamp tool
(lever to the right: collet chuck open).

2 Switch on master power switch.

3 Switch on lamp: turn lamp head.

4 Lock model table (M): switch on magnet.

5 Loosen locking handle.

6 Adjust height.

Screw on locking handle 5 securely.
(If necessary, pull the locking handle and move to the desired position.)

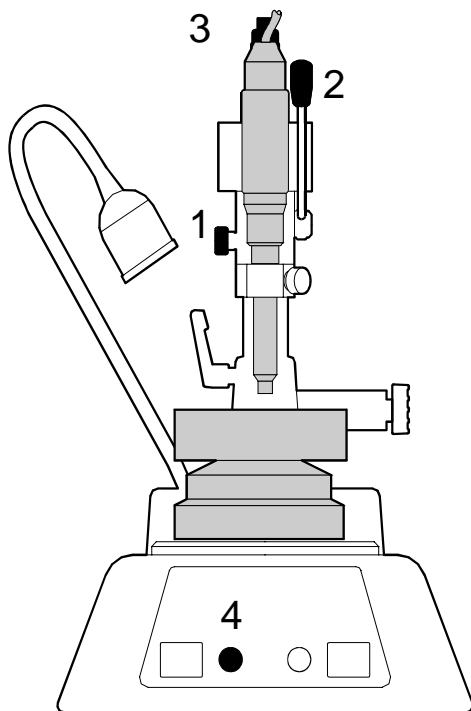
7 Set running direction
(antirotation / in same direction).

8 Set motor speed.


- Switch on milling spindle with foot switch.

Setting drilling depth

- 1 Loosen screw: the milling spindle is held in position through spring mounting.
- 2 The milling spindle can be lowered with the lever.
- 3 The drilling depth can be limited with the micrometer screw:
 - Lower the milling spindle as far as possible with lever 2.
 - Tighten micrometer screw 3 to reduce the drilling depth.

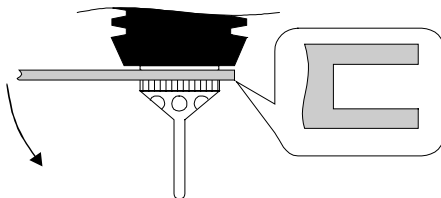


Locking articulated arm

- Lock articulated arm in the desired position with the foot switch (switch on magnet):
LED  lights up.

Changing tool with locked articulated arm

- Loosen screw 1: milling spindle is held in position through spring mounting.
- Lift milling spindle with lever 2 and change tool.



Blocking out

- Clamp and connect quill and blocking-out tool (see Startup).
- Press in desired insert. (To take off the old insert, use the tool provided - see figure.)
- Set temperature (4).

7. Care and maintenance

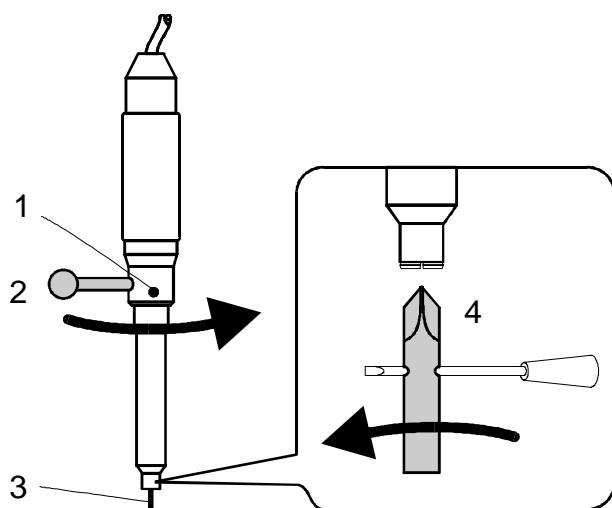


Before performing work related to care and maintenance, always switch off the unit and pull out the mains plug!

Otherwise there is a danger of injury due to unintentionally actuated motor or, if the unit is open, due to electric shock!

All joints and moving parts function maintenance-free and are extensively protected against dirt. Nevertheless, the unit should be protected against above-average accumulation of dust and, in particular, moisture.

The access to major internal components of the unit is sealed. No liability is assumed for damage incurred as a result of unauthorised manipulation.



Cleaning or replacing the collet chuck

- Remove milling spindle.
- 1** Remove the cap with a small lever (e.g. with a knife).
- 2** Open collet chuck (lever to the right).
- 3** Insert pin (scope of delivery) at **1**.
- 4** Press collet chuck wrench (scope of delivery) into collet chuck and unscrew it. Take care that pin **3** is kept in **1**.
- Clean collet chuck with brush (scope of delivery) or replace it.
- Install collet chuck in the reverse to the above mentioned points.

Guarantee

Paraskop M is guaranteed for a period of two years subject to the conditions specified on the guarantee card. Please inform your dental depot in the event of a claim.

Whether given verbally, in writing or by practical instructions, our recommendations for use are based upon our own experience and trials and can only be considered as standard values. Our products are subject to a constant further development. Therefore alterations in construction and composition are reserved.

Legend

- 1 Master power switch
Mains connection
Fuses
 - 2 Foot switch connection
 - 3 Articulated arm connection
 - 4 Control panel
 - a Lock model table
 - b Heat blocking-out tool
 - c Milling spindle speed
 - d Milling spindle running direction
 - e Unit On
 - f Articulated arm locked
(with foot switch)
 - 5 Model table
 - 6 Vertical adjustment of articulated arm
 - 7 Lock milling spindle
 - 8 Drilling stroke of milling spindle
 - 9 Milling spindle
 - 10 Articulated arm
 - 11 Micrometer (μm) screw
 - 12 Halogen lamp
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