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1. Notes

1.1 Warranty / Liability

The warranty and liability for defects shall be governed by the General Terms and Conditions of MIKRONA GROUP AG as of January 2016 (GTC). The GTC can be downloaded on the website of MIKRONA GROUP AG (www.mikrona.com).



It is essential that this instruction manual has been read by every user / operator before initially operating the device in order to prevent faulty operation and other damages.

The warranty claims are governed by the GTC. Furthermore, it is recommended to pay attention to the advices and warnings within the operating and maintenance instructions.

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1.2 Conformity assessment



The product Migma 200 has undergone a conformity assessment in accordance with the directives 2006/42/EC, 2014/30/EU and 2014/35/EU of the European Union and meets the essential requirements of these directives. The assessment procedure to which this statement refers complies with the standards or normative documents EN 61 010-1.

The device of the company MIKRONA GROUP AG is subject to continuous technical enhancement. Technical properties are therefore subject to change and may not correspond with the instruction manual.

1.3 General information

This instruction manual is an integral part of the device. Always keep it easily accessible in close range of the device. Compliance with the operating instructions is condition to intended use and correct operation of the device. Instruct new employees appropriately and forward the instruction manual to successors.



User / operator safety and failure-free operation of the device is only provided when using original components. Only use accessories that are listed in the instruction manual or authorized by MIKRONA GROUP AG for this particular purpose. The company MIKRONA GROUP AG does not warrant secure operation and function if other accessories are used. Related damages may not be claimed under this warranty.



In terms of safety, reliability and function of this product, the company MIKRONA GROUP AG is only liable if mounting, readjustment and repairs are performed by MIKRONA GROUP AG or an entity authorized for this purpose by MIKRONA GROUP AG and if the product is used in accordance with the instruction manual.

If return delivery is required during the warranty period, MIKRONA GROUP AG does not assume liability for transport damages caused by faulty packaging!

You may not reprint the instruction manual, even in extracts, without written permission and prior agreement of MIKRONA GROUP AG.

1.4 General safety instructions

The product has been developed and constructed by the company MIKRONA GROUP AG in a way that danger is eliminated to the greatest possible extent if used for its intended purpose. Nevertheless, you should take the following safety measures to eliminate remaining danger.

Mikrona's products are constructed in compliance with the corresponding safety-related regulations and meet the legal stipulations. EMC protection requirements have been verified and are met.

Applicable laws and regulations at the site of use are to be observed! You may not adapt, adjust or alter the device. For product safety reasons, you may only update the device with adaptable original components. The user bears the risk when using unapproved components.

Components influencing device safety may be replaced by original components only when failing. In the interest of safe use and operation of the device, the operator as well as the user are responsible for adherence to laws and regulations.

The company MIKRONA GROUP AG assumes no liability for any adaptation or adjustment to, or alteration of this device.

Before each use the operator / user must ensure function safety and proper order and condition of the device.

The operator / user must be familiarized with the operation of the device.

1.5 Rating plate



The rating plate of the table-top model Migma 200 is placed on the back of the device.

You may always state the device number when reporting defects or complaints.

1.6 Labeling of warning and risk phrases

In order to ensure correct, safe and professional operation of the device it is necessary to know and follow the relevant safety regulations and advices. It is imperative to observe the following warnings and advices.

Important information in the instruction manual concerning the safety of individuals and the device are highlighted with the following terms and symbols:



The symbol "warning" labels information and sections which you must imperatively follow to prevent danger for device and/or user. It marks information and/or requirements and interdictions which prevent personal injury and extensive property damages.



The symbol "information" labels information and sections which are highly important in order to prevent defects of operating procedures.



The symbol "special attention" labels information and sections which require special attention in order to improve operating procedures.



The symbol "high voltage" labels information and sections referring to danger to the life and health of the user or other individuals.



The symbol "maintenance" labels information and sections referring to repair work which is beyond normal maintenance and is to be carried out by qualified specialists or by Mikrona's customer service.

1.7 Notes on the instruction manual

Read through the instruction manual and maintenance recommendations before using the device. All safety advices should be observed. These instructions contain important information for the operation of the device. They help to prevent risks and minimize costs of repair and downtime. The reliability of operation and durability of the device is therefore improved.

1.8 Technical customer service

Technical support for the device is provided by qualified service entities / specialized dealers. Service technicians instructed by Mikrona are continuously trained for new service functions.

Please direct any inquiries to:

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2. Product information

2.1 Intended use

The device is intended for homogenous, bubble-free mixing of alginate and other low viscosity impression compounds in orthodontic / dental practices. Any use beyond this is considered unintended. Intended use also includes adherence to the operating instructions.

2.2 Unintended use

The device and its accessories are planned for the mixing of impression compounds. Another use beyond that is considered unintended. MIKRONA GROUP AG assumes no liability for damages caused by unintended use. The operator himself bears the risk.

2.3 Safety advice

If there are any indications that a risk for the user / operator could arise from abrasion of components or from a technical error, the device is to be inspected immediately by an authorized customer service or Mikrona's customer service and/or the fault is to be cleared.



The maximal filling quantity of the large mixing bowl (430.2010.11) is **95 g** and must not be exceeded. Never insert and operate the filled large mixing bowl without closing the lid.



The maximal filling quantity of the small mixing bowl (430.2001.01) depends on the viscosity of the mixture.

Low viscosity:	max. 25 g
High viscosity:	max. 40 g



Do not mix alginate and/or powdery mixtures in the small mixing bowl. Never insert and operate the small mixing bowl without adapter for small mixing bowls.



The maximum filling quantity must not be exceeded even in the case of customary cups and is the responsibility of the user. Do not mix alginate and/or powdered material and never insert and operate the device without the cup insert and mixing bowl.

2.4 Disposal

Adhering to national regulations, accruing waste can be recycled or disposed without risk to health and environment. In order to prevent environmental or personal damage you are requested to contact Mikrona when definitively disposing the device after decommission.

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3. Package contents

3.1 Summary Migma 200



These operating instructions describe the device and its operation with the maximum of accessories possible. Any particular delivery of the device does not necessarily come with the maximal equipment possible. It depends on the package you specified.

Migma 200 ensures homogenous, bubble-free impression compounds and thus provides the basis for precise impressions and perfect prosthetic performance. Migma 200 mixes alginate and other impression compounds within seconds. Migma 200 is a compact and comfortable mixing device for alginate, silicon and polyether impression compounds as well as for adhesives.

All functions are easily operated and quality material distinguish Migma 200, thus creating a low-maintenance and durable device. Its fine surfaces are easy to clean. In order to save space, Migma 200 can also be integrated into furnishing as built-in model.

Electrical connection Migma 200

The device is equipped with a universal adaptor for a operating voltage of 100 VAC to 230 VAC.

Colors

Cover and casing top RAL 9006

Casing RAL 9003

3.2 Standard accessories



- 2 mixing bowls large with lid
- 1 spatula
- 1 water flask

3.3 Optional accessories



Additional mixing bowls and adapters are available for the mixing of silicon and polyether impression compounds and adhesives (see chapter 11. Accessories).

4 Technical data

1. Manufacturer	MIKRONA GROUP AG CH-8952 Schlieren
2. Distribution	Specialized dealers
3. Product name	MIGMA 200
4. Table-top model	Yes (430.6501.xx)
Dimensions	(w/h/d) 305 x 203 x 270 mm
Weight net	17.3kg
5. Power requirements	100 VAC – 230 VAC
Power consumption	250 W
Fuse protection	2 x 4 AT
Frequency	50 / 60 Hz
On-time	15%
Revolutions	2800 min ⁻¹
6. Optional equipment	Insert for mixing bowl small Mixing bowl small Stirring rod

5. Installation at customer

5.1 Dispatch and packaging for carriage



For each transport (by rail, road, air etc.) the device may be attached to the base plate with the safety screws for carriage. This serves to protect the device from sudden jerky impacts.



For each transport (by rail, road, air etc.) the cardboard tube may be inserted into the bowl holder.



Do not dispose of original packaging! The device is to be shipped in original packaging only.

5.2 Initial operation



Remove the safety screws from the base plate before operating the device.

Remove the safety screws, turn the device back to its rubber feet, open the cover and remove the cardboard tube (see instructions "Installation/Packaging for carriage" which is enclosed with the device).

5.3 Power connection



Connect the device to the local power supply using the provided connection cable. Do avoid extension cables to reach the plug terminals. This may lead to an overcharge and/or fire hazard.

Power requirements: 100 VAC – 230 VAC
 Feed line: 3 x 1.5 mm²
 Power consumption: 250 W
 Frequency: 50 / 60 Hz
 Fuse protection: 2 x 4 AT

5.4 Device fuse



The device is protected by two fuses of 4 AT for phase and neutral conductor. Before checking or replacing any fuses, make sure that the device is disconnected from the local power supply.

6. Operation

For safety reasons the device can only be started when the lid is closed and locked. Unintended starting of the device with open lid is therefore not possible. Close the lid and turn off the device when it is not in use.

6.1 Main switch



There is a main switch on the back of the device to interrupt the voltage.

○ = On
 – = Off

6.2 Stand-by signal



The operational readiness of the device is indicated by a shining LED light on the start button.

When turning on the mixing device with closed lid, the LED light keeps flashing until the lid is opened and the lid circuit is activated (safety test of the locking mechanism).

The lid must be opened after each mixing in order to activate any further mixing process.

6.3 Mixing alginate



Set the desired mixing time from the scale of 4-28 seconds. Alginates are usually mixed during 10-12 seconds.



Mixing time, water amount and water temperature have influence on the segregation time.



Dose the alginate as suggested by the manufacturer and fill it into the mixing bowl. Slight fluffing (aeration) of the alginate before use leads to better mixture quality.



Dose the correct amount of water with the measuring cup and fill it into the mixing bowl. Mechanic mixing requires some ml less water than manual mixing. Mechanical mixing considerably shortens processing and segregation time compared to manual mixing.



Close the lid of the mixing bowl and secure it with a twist.

Make sure it fits and is firmly closed.



Shake the bowl up and down, closing the drill hole with your thumb.



Insert the mixing bowl into the device and close its cover.

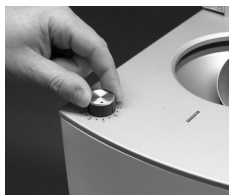


Press START. The device automatically stops after the mixing procedure.



Remove the mixing bowl from the device and open the lid with a slight twist. Use the spatula to remove the alginate from the mixing bowl.

6.4 Mixing polyether or silicon impression compounds



Set the desired mixing time from the scale of 4-28 seconds. Polyether and silicon impression compounds are usually mixed during 20-28 seconds.



Mixing time depends on the viscosity of the mixture.



Put the mixing bowl on the precision scale and set the tare to zero.



Recommended mixing bowls:

- Mixing material up to 25 g: Mixing bowl small or customary cup
- Mixing material > 25 g: Mixing bowl large



Dose the base paste (follow manufacturer's instructions for mixing ratio) and fill it into mixing the bowl.



Make sure that no residues of the impression compound touch the edge of the bowl.



Add the corresponding amount of catalyst paste (follow manufacturer's instructions for mixing ratio).



Make sure that no residues of the impression compound touch the edge of the bowl.



Mix compound slightly with the stirring rod.



Again, make sure that the impression compound does not touch the edge of the bowl.



Insert the mixing bowl into the device and close its cover.



Mixing cup small:

Insert the insert for mixing bowl small into the device beforehand.

Customary cup:

Insert mixing bowl large with insert for customary cup into the unit.



Press START. The device automatically stops after the mixing procedure.



Remove the mixing bowl from the device. Remove the mixture and process it.

6.5 Mixing other material

The mixing device MIGMA 200 can also be used to mix other materials (low viscosity), such as

- resin
- glue
- etc.

Follow the manufacturer's processing instructions. Identify mixing time, mixing ratio and mixing amount for ideal results.

You must always use a bowl with lid to process powdery mixtures. Also consider maximal amounts for each mixing bowl.

When processing epoxy resins or curing agents always follow the specified safety measures. Please follow the manufacturer's specific instructions.



7. Mixing bowl systems

Different mixing bowl systems are available for mixing with MIGMA 200 depending on material and amount.

7.1 Large mixing bowl



The large mixing bowl is inserted directly into the device's bowl holder. Always close lid when processing powdery mixtures.



Maximal filling capacity is 95 g.

7.2 Small mixing bowl



First insert the adapter for small mixing bowls into the device's bowl holder. Place the small mixing bowl into the adapter. Make sure that the bowl's cams are locked in the adapter.



Maximal filling capacity is for

- fluid mixtures 25 g (light body)
- viscous mixtures 40 g (heavy body)



Do not mix any powdery mixtures in the small mixing bowl.

7.3 Customary Cup



In order to insert the customary cup into the device, the cup insert for the customary cup is put into a large mixing bowl. The customary cup is put into the bowl with the insert and put as a whole into the bowl-carrier of the device for mixing.



Maximal filling capacity is 25 g.

8. Safety shutdown

The safety shutdown is thought to protect individuals from injury and the device from damage.

Mixing procedures are immediately interrupted and stopped when tapping the start button.



Any forcible opening of the cover during mixing procedures leads to an immediate safety shutdown. Mixing procedures are interrupted and stopped. This process may lead to mechanical damage of the device and requires customer service support.

9. Maintenance

Operational safety and reliability of the device depend directly from its care and maintenance. If there are any indications that risk for the user / operator could arise from abrasion of components or from a technical error, the device is to be inspected immediately by an authorized customer service or Mikrona's customer service and/or the fault is to be cleared.

9.1 Cleaning of device



Following applies to all cleaning procedures: Never use scratching sponges, abrasives or abrasive cleaning agents as well as nitro or synthetic resin thinner.

The casing surface of the device is easy to clean. Clean dusty surfaces with a soft fabric or cloth, possibly adding warm water and a non-abrasive household cleaning agent or cleaning solution. Then wipe the casing surface with a soft fabric or cloth and clear, lukewarm water. Rub the device dry with a soft fabric or cloth. Avoid under any circumstances using unclean cloths for drying.



Never use solvent-containing products or cleaning agents (i.e. benzene, alcohol etc.).



Make sure that no fluids enter the inside of the device as this may lead to irreparable damage.

9.2 Disinfection

For disinfection use generally mild surface disinfectants without any alcohol or aldehyde added. Suitable and approved for MIGMA 200 are the following products:

FD 312	Dürr Dental, DE-Bietigheim
FD 366 sensitive	Dürr Dental, DE-Bietigheim

9.3 Cleaning of accessories

Accessories are made of plastic and are easy to clean. Residues of alginate, polyether and silicon can be removed and cleaned with a kitchen paper after hardening. Clean scaled accessories with a soft fabric or cloth, possibly adding warm water and a non-abrasive household cleaning agent or cleaning solution. Then wipe the accessories with a soft fabric or cloth and clear, lukewarm water. Avoid under any circumstances using unclean cloths for drying.

Heavy scaling may be cleaned with standard liquid cleanser. Never use solvent-containing products or cleaning agents (i.e. benzene, alcohol etc.). This may cause irreparable damage.

Accessories scaled with non-hardened glues, epoxy resins or curing agents may be cleaned with cleaning fuel.



Accessories are not approved for thermo disinfection.

9.4 Replacement of accessories

Plastic accessories are subject to a certain degree of wear and tear. We recommend to regularly check accessories for wear and tear and to replace them if necessary (see chapter 11. Accessories) as defective or damaged components may influence mixture quality.

10. Troubleshooting

10.1 Errors	Cause	Solution
Compound is too fluid after mixing	Too much water added	Dose water according to manufacturer's instruction with measuring cup or dosing bottle
Insufficient mixture quality, uncombined alginate	Not enough water	Dose water according to manufacturer's instruction with measuring cup or dosing bottle
	Short mixing time	Adjust mixing time
	Alginate not fluffed before processing	Shortly fluff (aeration) alginate before processing
	Too much compression of alginate in measuring cup	Dose and fill measuring cup according to manufacturer's instructions
	Expiry date of mixture passed	Observe expiry date
Uncombined powder after mixing	Humid powder	Store mixture according to manufacturer's instruction
Processing and segregation time too short	Alginate unsuitable for machine mixing	Contact your alginate contractor
	Water too warm	Use cold water
	Mixing time set too long	Shorten mixing time
Powder residues in bowl holder	Mixing bowl not closed properly	Close bowl properly
	Worn-out lid and/or mixing cup locking or loose lid (wear and tear)	Replace mixing bowl
Lid cannot be placed on mixing bowl	Defective or deformed mixing bowl	Replace mixing bowl
Mixing bowl cannot be inserted into bowl holder	Worn-out bowl	Replace mixing bowl
	Deformed or stretched mixing bowl	Replace mixing bowl
Mixing bowl cannot be lifted easily from the bowl holder	Powder residues in the bowl holder	Clean bowl holder, observe proper closing of mixing bowl
	Deformed mixing bowl	Replace mixing bowl
	Damaged bowl holder	Replace mixing bowl
Mixing bowl can only be opened with big effort	Deformed mixing bowl	Replace mixing bowl
	Damaged mixing bowl or lid	Replace mixing bowl
	Mixing bowl and lid scaled by alginate	Clean or replace mixing bowl and lid

10.2 Technical error



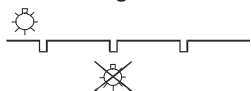
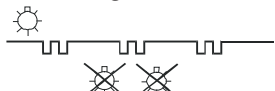

Errors are indicated by a flashing LED light on the start button. The error message can be reset by pressing the start button or by turning the device off and on. If the error continues the LED light will flash again. The device does only work after eliminating the error.



This part of the operating instructions is to provide assistance to technicians of specialized dealers in particular. If an error cannot be localized by troubleshooting, a technician authorized by Mikrona or Mikrona's customer service is to be commissioned for resolution.

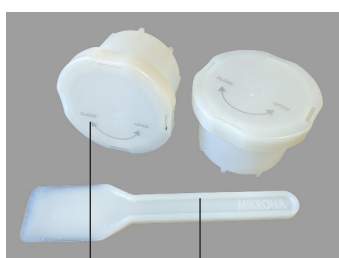


In order to identify and examine present errors, it is necessary to open the device in most of the cases. Before removing the casing, you must disconnect the device from power supply by pulling the power plug. MIKRONA GROUP AG does not assume liability for accidents related to open devices.

Error / LED signal	Cause	Solution
Device not running, no LED light	Defective fuse ON/OFF switch in off-state	Check fuse and replace it if necessary Activate ON/OFF switch
Flashing LED 	Lid has not been opened after switching on the device (with closed lid) Lid has not been opened before further mixing process Device cover not closed properly after pressing start button	Lid circuit not yet activated Open and close the lid Open and close the lid Close cover, press start button
Flash mode: ON 300ms / OFF 300ms → 1,6 Hz		
Rapidly flashing LED 	Device activated for more than recommended on-time Overheating	Let device cool down Let device cool down
Flash mode: ON 100ms / OFF 100ms → 5 Hz		
1 x flashing LED 	Defective locking Missing locking signal	Let lock be checked by service technician
Flash mode: ON 2000ms / OFF 300ms / ON 2000ms		
2 x flashing LED 	Defective incremental decoder	Request service technician
Flash mode: ON 2000ms / OFF 300ms / ON 300ms / OFF 300ms / ON 2000ms		
3 x flashing LED 	Defective motor control unit	Replace motor and control (service technician)
Flash mode: ON 2000ms / OFF 300ms / ON 300ms / OFF 300ms / ON 300ms / OFF 300ms / ON 2000ms		

11. Accessories

The device is available with a range of accessories which may be ordered optionally for upgrade and/or replacement. Please consider that user / operator safety and failure-free operation of the device is only provided when using original components. Only use accessories that are listed in the instruction manual or authorized by Mikrona for this particular purpose.



430.2110.02

430.2003.01

430.2010.02 Mixing bowl large with lid
(Set of 2)

430.2003.01 Spatula



430.2009.01

430.2009.01 Water flask 0.5 liter
with integrated dispenser for quantities 5 - 50 ml



430.2006.01*

430.2005.01*

430.2004.01

430.2002.01

430.2001.01

430.2002.01 Stirring rod
(Set of 5)

430.2001.01 Mixing bowl small
(Set of 5)

430.2004.01 Insert for mixing bowl small

430.2005.01 Customary cups (example):
Rapid applicator
430.2006.01 Cup insert for rapid applicator

* Example for customary cups

