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CE-Declaration of conformity

We declare under our sole responsibility that this product is in compliance with the regulations 2006/95/EG and 2004/108/EG and conforms to the standards or standardized documents DIN EN IEC 61010-1, -2-051 und DIN EN IEC 61326-1.

Explication of warning symbols



General hazard



This symbol identifies information **that is of absolute importance to ensure health and safety**. Failure to observe this information may be detrimental to health or may result in injuries.



This symbol indicates information **which is important for ensuring that the appliance functions without any technical problems**. Failure to observe this information could damage the appliance.



This symbol indicates information **which is important for proper use of the appliance and/or ensuring that the appliance functions correctly**. Failure to observe this information can lead to inaccurate results.



Attention - Risk of damage due to magnetism.

Safety instructions



For your protection

- Read the operating instructions in full before starting up and follow the safety instructions.
- Keep the operating instructions in a place where they can be accessed by everyone.
- Ensure that only trained staff work with the appliance.
- Follow the safety instructions, guidelines, occupational health and safety and accident prevention regulations.
- Caution - Magnetism! Effects of the magnetic field have to be taken into account (e.g. data storage media, cardiac pacemakers ...).
- Wear your personal protective equipment in accordance with the hazard category of the media to be processed. Otherwise there is a risk from:
 - splashing and evaporation of liquids
 - ejection of parts
 - release of toxic or combustible gases.
- Set up the appliance in a spacious area on an even, stable, clean, non-slip, dry and fireproof surface.
- The feet of the appliance must be clean and undamaged.
- Check the appliance and accessories beforehand for damage each time you use them. Do not use damaged components.
- Reduce the speed if
 - the medium splashes out of the vessel because the speed is too high
 - the appliance is not running smoothly
 - the container moves on the base plate.
- Beware of hazards due to:
 - flammable materials
 - combustible media with a low boiling temperature
 - incorrect container size
 - overfilling of media
 - unsafe condition of container.
- The appliance may heat up when in use.
- The base plate can heat up due to the action of the drive magnets at high motor speeds, even if the heater is not operational.
- Process pathogenic materials only in closed vessels under a suitable extractor hood. Please contact **IKA** if you have any questions.
- Do not operate the appliance in explosive atmospheres, with hazardous substances or under water.



- Only process media that will not react dangerously to the extra energy produced through processing. This also applies to any extra energy produced in other ways, e.g. through light irradiation.
- Please observe the operating instructions for any accessories used.
- Safe operation is only guaranteed with the accessories described in the "Accessories" chapter.
- The centre of gravity of the assembly must lie within the surface on which it is set up.
- The appliance can only be disconnected from the mains supply by pulling out the mains plug or the connector plug.
- The socket for the mains cord must be easily accessible.
- The device will automatically restart following any interruption to the power supply.
- It may be possible for wear debris from rotating accessory parts to reach the material being processed.
- When using PTFE-coated magnetic bars, the following have to be noted: Chemical reactions of PTFE occur in contact with molten or solute alkali metals and alkaline earth metals, as well as with fine powders of metals in groups 2 and 3 of the periodic system at temperatures above 300 °C - 400 °C. Only elementary fluorine, chlorotrifluoride and alkali metals attack it; halogenated hydrocarbons have a reversible swelling effect.
(Source: Römpps Chemie-Lexikon and "Ulmann", Volume 19)

For protection of the equipment

- The socket used must be earthed (fitted with earth contact)
- The appliance may only be opened by experts.
- The voltage stated on the type plate must correspond to the mains voltage.
- Do not cover the device, even partially e.g. with metallic plates or film. This results in overheating.
- Protect the appliance and accessories from bumps and impacts.
- Ensure that the base plate is kept clean.

Unpacking

- **Unpacking**
 - Please unpack the device carefully
 - In the case of any damage a detailed report must be set immediately (post, rail or forwarder)
- **Delivery scope**
 - IKAMAG® Midi MR 1 digital**
 - Magnetic stirrer
 - Mains cable
 - Operating instructions

Correct use

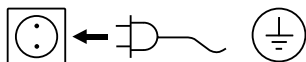
- **Use**
 - for stirring and mixing liquids
- **Range of use**
 - Laboratories - Schools
 - Pharmacies - Universities

The safety of the user cannot be guaranteed if the appliance is operated with accessories that are not supplied or recommended by the manufacturer or if the appliance is operated improperly contrary to the manufacturer's specifications or if the appliance or the printed circuit board are modified by third parties.

The **IKAMAG® Midi MR 1 digital** is a magnetic stirrer without heating and has a flat, sturdy stainless steel casing. The device is suitable for stirring and mixing liquid substances upto 50 liters. The built-in stirring drive permits the stirring of substances with the aid of a magnetic stirring bar in the vessel. The mixing intensity is dependent on the motor speed and on the size of the magnetic bar.

Commissioning

The unit is ready for service when the mains plug has been plugged in.



The appliance can be operated in two modes, "Continuous mode" or "Timer mode":

Continuous mode

- ☞ To switch the appliance on, turn the "Timer" rotating knob (B) clockwise to select the "1" symbol.
- ⇒ The appliance is now running in continuous mode.
- ☞ To switch the appliance off, turn the "Timer" rotating knob (B) to 0.

Timer mode

- ☞ To switch the appliance on, turn the "Timer" rotating knob (B) clockwise to select the "☉" symbol.
- ⇒ The running time can be adjusted to any value between 0 and 56 minutes.
- ⇒ After the selected time period has elapsed, the switch will automatically return to the "0" symbol and the device will remain switched off.
- ⇒ The time period selected can be adjusted at any time.

Setting the motor speed

- ☞ Set the motor speed by turning the "rpm" knob (C). The motor speed can be set to values between 0 and 1000 rpm. The motor speed selected will be shown on the display (D).

Correction of malfunctions

Follow the steps below if a fault occurs with the appliance:

- ☞ Switch off device using the rotating knob "Timer" (B)
- ☞ Carry out corrective measures
- ☞ Restart device

Malfunction	Cause	Correction
Appliance does not start up	Fuse faulty	<ul style="list-style-type: none"> - Unplug the appliance from the mains. - Open the fuse holder on the mains plug. - Replace the fuse. Please refer to the "Technical Data" section for the correct fuse value.

If the actions described fail to resolve the fault or another error code is displayed then take one of the following steps:

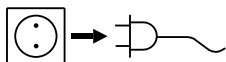
- Contact the service department,
- Send the device for repair, including a short description of the fault.

Maintenance and cleaning

The device is maintenance-free.

Cleaning

For cleaning disconnect the main plug.



Only use cleansing agents which have been recommended by **IKA**.

Use to remove:

Dyes	Isopropyl alcohol
Construction materials	Water containing surfactant, Isopropyl alcohol
Cosmetics	Water containing surfactant, Isopropyl alcohol
Foodstuffs	Water containing surfactant
Fuels	Water containing surfactant

- Do not allow moisture to get into the appliance when cleaning.
- Wear protective gloves when cleaning the devices.
- Please consult with **IKA** before using any cleaning or decontamination methods, other than those recommended here.

Ordering spare parts

When ordering spare parts, please give:

- Device type
- Manufacturing number, see type plate
- Item number and designation of the spare part, see www.ika.net.

Repair

The device must be clean and free from any materials which may constitute a health hazard when sent for repair.

Please return the appliance in its original packaging. Storage packaging is not sufficient for returns. Please also use suitable packaging for transportation.

Accessories

IKAFLON® Magnetic stirring bar
TRIKA® Magnetic stirring bar
RSE Stirring bar remover

Technical Data

Operating voltage range	Vac	230 115
Nominal voltage	Vac	230 50/60 Hz 115 50/60 Hz
Frequency	Hz	50/60
Motor input power	W	70
Motor output power	W	19
Stirred quantity max. (H ₂ O)	l	50
Speed range	rpm	0 bis 1000 infinitely adjustable
Timer	min	1 bis 56 or continuous mode
Display		digital
Permissible ambient temperature	°C	+ 5 bis + 40
Permissible relative humidity	%	80
Permissible duration of operation	%	100
Protection type acc. to DIN EN 60529		IP 21
Protection class		I
Overvoltage category		II
Contamination level		2
Fuse		230 V = 2 x 0,5A T 115 V = 2 x 1,0A T
Dimensions base plate (WxD)	mm	350x350
Dimensions (WxDxH)	mm	360x430x110
Weight	kg	10,7
Operation at a terrestrial altitude	m	max. 2000

Subject to technical changes!

Warranty

In accordance with **IKA** warranty conditions, the warranty period is 24 months. For claims under the warranty please contact your local dealer. You may also send the machine direct to our factory, enclosing the delivery invoice and giving reasons for the claim. You will be liable for freight costs.

The warranty does not cover worn out parts, nor does it apply to faults resulting from improper use, insufficient care or maintenance not carried out in accordance with the instructions in this operating manual.