



Magnetrührer Magnetic stirrers

Betriebsanleitung
User Manual



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1. Delivery scope

- Magnetic stirrer drive
 - Manual controller
 - Plug-in power supply
 - Operating instructions
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2. Safety instructions

Read the operating instructions in full before starting up and follow the safety instructions!

- Ensure that only trained staff work with the appliance.
- **Caution- Magnetism!** Effects of the magnetic field on magnetic parts have to be taken into account (e.g. data storage media, cardiac pacemakers, watches) Keep them away from the magnetic stirrer and magnetic bars.
- 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 gases.
- If the rotation number of the magnetic bar is too high, it can cause the destruction of the sample vessel. Wear protective glasses to protect from flying pieces of glass! The magnetic bar has to rotate uninterrupted in the middle of the sample vessel without reaching the vortex to avoid that the bar will be thrown out.
- Put the gadget on a plane, stable, clean, dry and fireproof surface.

- Check the gadget and its attachments for damage before application.
- Reduce the speed, if
 - medium splashes out of the vessel
 - the appliance is not running smoothly
 - the container moves on the base plate.
- Note a risk of
 - flammable materials
 - combustible media with low boiling temperature
 - incorrect container size
 - overfilling of media
 - unsafe condition of container.
- The appliance may heat up when in use.
- Do not operate the appliance in explosive atmospheres or with hazardous substances.
- Only the stirrer drives of industry and pharmaceutical standard are made for the use inside water bath. Do not contact the controller with 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. light irradiation.
- Do not put hot mixing vessels on the magnetic stirrer.
Maximum temperature is 60°C
- The centre of gravity of the assembly must lie within the surface on which it is set up.
- Use only the supplied AC adapter. The socket for the power supply unit must be easily reachable and accessible.
- The appliance must only be disconnected from the mains supply by pulling out the plug-in power supply unit.
- Abrasion of the dispersion equipment or the rotating accessories can get into the medium you are working on.
- Caution! Equipment may not be poured over with aggressive media! Never set controller under water!
- The voltage stated on the name plate must correspond to the mains voltage.
- Do not cover the device, even partially e.g. with metallic plates or film. This results an overheating.
- Protect the appliance and accessories from bumps and impacts.
- Ensure that the base is kept clean.
- A damaged power cord or plug may only be replaced by an original part of the manufacturer or representative. Return the damaged power adapter to the appropriate service center for repair.

3. Correct Usage

Intended use:

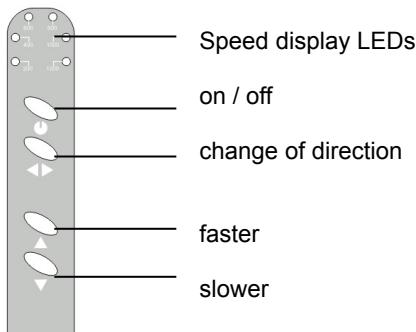
- For stirring and mixing liquids.
- Used for chemical, microbiological, biotechnical, pharmaceutical and medical applications
 - Incubation of microorganism
 - Dissolve nutrients and solids
 - Prevention of settling of suspended solids
 - Titration tasks
- Range of use: laboratories, pharmacies and schools

Incorrect use:

- The appliance must not be operated in hazardous areas.
- Do not use flammable liquids with a low boiling point.
- Only partially suitable for use in an incubator

4. Starting up

- Operating symbols:



- The rotation speed is shown by speed display LEDs
- If the rotation speed is 0 rpm all lights are flashing 1/s.
- The stirrer can work with single direction rotation or in automatic reversion of rotation direction (so called "shaker" mode). In shaker **mode** the stirrer is changing the rotation direction automatically (20 s running, stop, changing the direction).
- **To switch to shaker mode push the button "change of direction" and keep it pushed for 2 s. All LEDs are lighting up two times as confirmation.**
Now you are in shaker mode.
- **To switch to single direction mode, push the button another 1 s, the flashing lights confirm the direct mode**
- **To change direction permanently, press the button another 2 s, (LEDs lighting up), release the button and press another 1 s, then the new rotation direction will continue.**

5. Maintenance and Cleaning

- The device is maintenance-free.
- Cleaning:
 - Only use from manufacturer recommended cleaning agents.
 - The magnetic stirrer must not be immersed in water or detergent.
 - Make sure that Moisture can not enter into the device.
 - Clean surface of the unit periodically with a dry cloth.
 - Turn off the magnetic stirrer before cleaning and unplug the AC adapter from the device.
- Recommended cleaning agent:
 - Water with detergent
 - Isopropanol

6. Technical data

LABOMAG	1 x 1	1 x 5	2 x 5	2 x 6	2 x 8	3 x 3	4 x 4	4 x 8
No. of stirring places	1	5	10	12	16	9	16	32
Max. rot. speed	150 – 1350 rpm							
Material of housing	• Laboratory standard • Industry standard • Pharmac. standard							
	Stainless steel powder coated Stainless steel grinded Stainless steel electro polished							
Distance of stirring places	65 mm							
Power supply voltage	100..230 V (ac adaptor), 12/24V DC: drive							
Protection class	• Drive • controller							
	IP 68 IP 20							
Interface	USB 2.0							

LABOMAG	1 x 3	1 x 4	2 x 2	2 x 4
No. of stirring places	1	5	10	12
Max. rot. speed	150 – 1350 rpm			
Material of housing	• Laboratory standard • Industry standard • Pharmac. standard			
	Stainless steel powder coated Stainless steel grinded Stainless steel electro polished			
Distance of stirring places	65 mm			
Power supply voltage	100..230 V (ac adaptor), 12/24V DC: drive			
Protection class	• Drive • controller			
	IP 68 IP 20			
Interface	USB 2.0			

7. Warranty

In case of warranty please contact your specialist supplier or send the unit enclosing the delivery invoice and giving reasons for the claim directly to our factory. Freight costs are not covered. The warranty does not cover consumable parts and for errors that are due to improper handling and insufficient care and maintenance contrary to the instructions in the manual.

Anschrift/ Address:

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Konformitätserklärung / Conformity declaration

Wir, die SHP Steriltechnik AG,
We, SHP Steriltechnik AG,

erklären, dass die Be Nine Magnetrührer in Konzeption und Bauart sowie in der von uns in Verkehr gebrachten Ausführung den grundlegenden Anforderungen der zutreffenden, aufgeführten EU-Richtlinien entspricht. Bei einer mit uns nicht abgestimmten Änderung an dem Gerät verliert diese Erklärung ihre Gültigkeit.

hereby declare, that the Be Nine Magnetic Stirrer designates below is in compliance with the basic requirements of all applicable EC-directives stated below with regard to design, type of model sold and manufactured by us. This certificate will be invalid if the product ist modified without the prior written consent and agreement of the manufacturer.

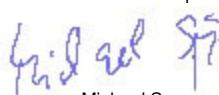
Das hier beschriebene Produkt ist konform mit folgenden Richtlinien:

- EN 61010-1:2010 (Sicherheitsbestimmungen für elektrische Mess-, Steuer-, Regel- und Laborgeräte – Teil 1: Allgemeine Anforderungen)
- EN 61010-2-051:2003 (Sicherheitsbestimmungen für elektrische Mess-, Steuer-, Regel- und Laborgeräte – Teil 2-051: Besondere Anforderungen an Laborgeräte zum Mischen und Rühren)
- EN 61326-1:2013 (Elektrische Mess-, Steuer-, Regel- und Laborgeräte – EMV-Anforderungen – Teil 1: Allgemeine Anforderungen)
- EN 61000-2-2:2002 (Elektromagnetische Verträglichkeit EMV – Teil 2-2: Umgebungsbedingungen, Verträglichkeitspegel für niederfrequente leitungsführte Störgrößen und Signalübertragung in öffentlichen Niederspannungsnetzen)
- EN 61000-3-2:2014 (Elektromagnetische Verträglichkeit EMV – Teil 3-2: Grenzwerte – Grenzwerte für Oberschwingungsströme, Geräte-Eingangsstrom ≤ 16 A je Leiter)
- EN 61000-3-3:2013 (Elektromagnetische Verträglichkeit EMV – Teil 3-3: Grenzwerte – Begrenzung von Spannungsänderungen, Spannungsschwankungen und Flicker in öffentlichen Niederspannungs-Versorgungsnetzen für Geräte mit einem Bemessungsstrom ≤ 16 A je Leiter, die keiner Sonderanschlussbedingung unterliegen)

The product described here is consistent with the following directives:

- EN 61010-1:2010 (Safety requirements for electrical equipment for measurement, control and laboratory use – Part 1: General requirements)
- EN 61010-2-051:2003 (Safety requirements for electrical equipment for measurement, control and laboratory use – Part 2-051: Particular requirements for laboratory equipment for mixing and stirring)
- EN 61326-1:2013 (Electrical equipment for measurement, control and laboratory use – EMC requirements - Part 1: General requirements)
- EN 61000-2-2:2002 (Electromagnetic compatibility (EMC) – Part 2-2: Environment, Compatibility levels for low-frequency conducted disturbances and signalling in public low-voltage power supply systems)
- EN 61000-3-2:2014 (Electromagnetic compatibility (EMC) – Part 3-2: Limits – Limits for harmonic current emissions – equipment input current ≤ 16 A per phase)
- EN 61000-3-3:2013 (Electromagnetic compatibility (EMC) – Part 3-3: Limits – Limitation of voltage changes, voltage fluctuations and flicker in public low-voltage supply systems for equipment with rated current ≤ 16 A per phase and not subject to conditional connection)

Detzel Schloss, 24.02.2015



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Vorstand Technik und Entwicklung/ Chairman of the board