IKA® Vibrax VXR basic

CE

Reg.-No. 4343-01

Contens

Safety instructions

When adjusting the speed, pay careful attention to the containers fastened onto the agitation table to prevent the medium to be shaken from possibly splashing out. If the target value of the speed is changed too rapidly, the machine will turn itself off automatically. Please observe the relevant safety information and guidlines as well as work protection and accident prevention requirements for use in the laboratory. Avoid allowing objects to push or strike the agitation table. Even small undetectable damage may result in serious damage to the motor bearing. Careful handling will guarantee safe work and a long service life of the machine.
If you notice that the device is not running smoothly, the speed must always be reduced until no more unevenness occurs in the operation. Please make certain that individual agitation containers are placed in the middle of the agitation table and that if several containers are placed on the agitation table together, they are evenly distributed and well secured.

Because of improper loading and the position of the center of gravity, dynamic forces may arise during the agitation process that cause the shaker to move about on the table. In this case, reduce the speed immediately.

Additional risk may be present for the user if flammable materials are used during the agitation process or if mechanical agitation energy is transferred to glass equipment that is being used, causing it to break.

The holder and attachment used for the agitation process must be fastened securely on the agitation table. Tighten all three clamping screws are firmly in place from time to time, since they could come loose during operation. Also make certain that the agitation vessels used during the agitation process are securely in place on their respective agitation attachment.

Before placing the device in service, please ensure that the turn dial for adjusting the speed is against the left stop, since the device will begin to run at the last speed that was set.
After an interruption in the power supply during an agitation procedure, the device will start running again by itself.

Only a specialist may open the device.

ATTENTION! Covers or parts that can be removed from the device must be put in place on the device in order tro ensure safe operation.

The IKA Vibrax VXR was not constructed for operation in dangerous atmospheres, for mixing dangerous substances or for operation under water.

The instrument may not be operated in rooms with explosion hazards. Furthermore, it has to be placed upon a fire-proof and/or not burnable surface.

Use only original IKA accessories.

Proper use

The IKA Vibrax VXR is suitable for mixing liquids in bottles, flasks, test tubes and bowls with a maximum supported weight of 2 kg (including the attachment).
It is designed for use in laboratories. The motion of the agitation table or of the containers placed on it is approximately circular.

For usage in accordance with requirements, the machine must be standing on a stable, even surface that is as slip-free as passible. In addition, care must be taken that qbjects in the vicinty are a sufficient distance away from the agitator and that they will not come too close to the agitator while it is in operation.
Make certain that the unit is standing clear on the spring loaded feed and that it is not pushing against anything anywhwere.

Unpacking

Please unpack the equipment carefully and check for any damages. It is important that any damages which may have arisen during transport are ascertained when unpacking. If applicable a fact report must be set immediately (post, rail or forwarder).

The delivery scope covers:
A IKA Vibrax VXR and operating instructions.

Useful facts

With the purchase of this device, you have acquired a high-quality product. The design of the unit and its special shape ensure ease of handing and problem-free work.

The speed-controlled external rotor asynchronous motor allows for infinitie speed adjustment in the range from 0 to 2000 rpm. Electronic motor control holds the set speed constant even if the weight of the material on the surface increases. The heat given off by the motor can be used to heat up the holding surface for the agitation containers.

The motion of the agitation table with the mass to be agitated exerts a reactive force on the drive. This force is comparable to an imbalance. As a result, there is an imbalance mass on the motor that compensates for a part of the imbalance forces. Because of the different mass of each agitation material, there is a residual imbalance. This imbalance has the tendency to move the unit back and forth and to move it around on the adapter surface. This is largely prevented by the spring-loaded feet. The vibration energy is stored in the springs and directed back into the machine. If the spring system, the overall mass of the device and the speed that is set form a system capable of oscillating, the oscillating motion of the device may result in resonance. Do not operate the device at a “critical speed” such as this. Either reduce the speed and agitate at a lesser intensity or pass through the critical as possible if you would like to work at a higher speed or greater agitation intensity.

Commissioning

Check whether the voltage specified on the type plate matches the mains voltage available.
Place the selected attachment on the agitation table and tighten it securely with the three clamping screws. Make certain the agitation material is securely in place.
Before tuning on the machine, adjust the turn dial for controlling the spped so that it is against the left stop.

If these conditions are met, the device is ready to operate after plugging in the mains plug. If these procedures are not followed, safe operation cannot be guaranteed and/or the equipment may be damaged.
Please note the ambient conditions indicated in the Technical details (temperature, and relative humidity).
After the device has been turned on, the control light comes on three times.

Motor protection

If the motor is locked or if a load is placed on it resulting in a higher temperature than is permitted, the device is turned off automatically by the safety circuit and the control light flashes. To eliminate the error, the weight of the material must be reduced. Allow the device to cool off.
The device must be turned off and backon again.

Maintenance and cleaning

The IKA Vibrax VXR is maintenace-free. It is subject only to the natural wear and tear of components and their statistical failure rate.
When ordering spare parts, please give the manufacturing number shown on the type plate, the machine type and the name of the spare part.
If the three silicon hoses that protect the agitation table from rotating fail, they can easily be replaced using laboratory material. Use asilicon hose Ø8x12mm and cut it off to alenght of 28,5mm.
Please send in equipment for repair only after it has been cleaned and is free from any materials which may constitute a health hazard. Use only cleansing agents which have been approved by IKA to clean IKA devices. To remove use:

Dyes	isopropyl alcohol
Construction materials	water containing tenside / isopropyl alcohol
Cosmetics	water containing tenside / isopropyl alcohol
Foodstuffs	water containing tenside
Fuels	water containing tenside

For materials which are not listed, please request information from IKA. Wear the proper protective gloves during cleaning of the devices.
Electrical devices may not be placed in the cleansing agent for the purpose of cleaning.
Before using another than the recommended method for cleaning or decontamination, the user must ascertain with the manufacturer that this method does not destroy the instrument.

Accessories

Thanks to its extensive adjustable range of speeds, its control and feedback electronics and the exceptional durability of the device, the IKA Vibrax VXR basic offers a host of options fpr usage. The available attachments are described below. Please ask us if require special attachments. All attachment can simply be placed on the agitation table and fastened in place with the clamping screws.

VX 1 one-handed attachment
This rubber plate has a soft foam rubber attachment. Several test tubes can be taken in the hand and pressed onto the foam rubber attachment while the machine is running. It is also possible to agitate round flasks of up to 100ml. To do this, the round flask is also pressed onto the moving foam rubber attachment.
Of course it is also possible to place an Erlenmeyer flask or a Petri dish on the attachment and create a slow vibrating motion in the medium.

VX 2 Reagenzglasaufsatz
This attachment can be used to generate a powerful stirring current in as many as 36 test tubes with Ø16mm. In this case as well, you should pass through a critical speed quickly.

VX 2E Eppendorf attachment
This attachment can be used to receive 64 closed Eppendorf tubes with Ø 10,5mm.

VX 7 bowl attachment
This attachment is suitable for setting flasks, dishes and similar containers in place when they are **not** fastened. This attachment is therefore suitable for **slow** swiveling motions and is only used for a maximum of 700 rpms. The large holding surface of 200 x 400mm makes it possible to place several dishes on the attachment simultaneously.

VX 8 universal attachment
The universal attachment allows you to place Erlenmeyer flasks, standing reactors, flasks and roundn angled or other containers on the attachment. A fixed rubber-coated roller and a movable spring-loaded rubber roller are used to secure containers in place. If several Erlenmeyer flasks are clamped in place at the same time, for example, they must have the same Ø. Securing the three clamping screws very tightly makes it possible to work at very high agitation intensities with this attachment.

VX 10 retaining clamp attachment
This attachment is suitable for receiving 10 measuring flasks (25ml) or similar containers. The stops must be fastened in place on the measuring flasks.

Associated standards and regulations

Construction in accordance with the foolwing safety standards
IEC 61 010-1
UL 3101-1 CAN/CSA C22.2 (1010-1)

Construction in accordance with the foolwing EMC standards
IEC 61 326-1

Associated EU guidlines
EMC-guidlines: 89/336/EWG 93/31/EWG
Machine guidelines: 73/023/EWG

Technical data

design voltage:		**VAC**	230±10%
	or	**VAC**	115±10%
design frequency:		**Hz**	50/60
input power:		**W**	38
output power:		**W**	6,5
Speed range:		**rpm**	0 - 2000 (infinitely adjustable)
Speed setting:			Turn dial on front side)
Speed display:			Stepless scale
Drive:			Speed controlled asynchronous motor
Agitation stroke		**mm**	4 Ø
Shaking motion:			horizontal, circular
Perm. duration of operation:		**%**	100
Perm. ambient temperature:		**°C**	+5 to +40
Perm. relative humidity:		**%**	80
prozection class acc. DIN 40 050:			IP 21
protection class:			II
overvoltage category:			II
contamination level:			2
operation at a terrestrial altitude:		**m**	max. 2000 above sea level
max. load:		**kg**	2 (including attachment)
dimensions: (W x D x H)		**mm**	157x247x130 (without attachment)
weight:		**kg**	5,7