

IKA

designed for scientists

IKA Vortex 3



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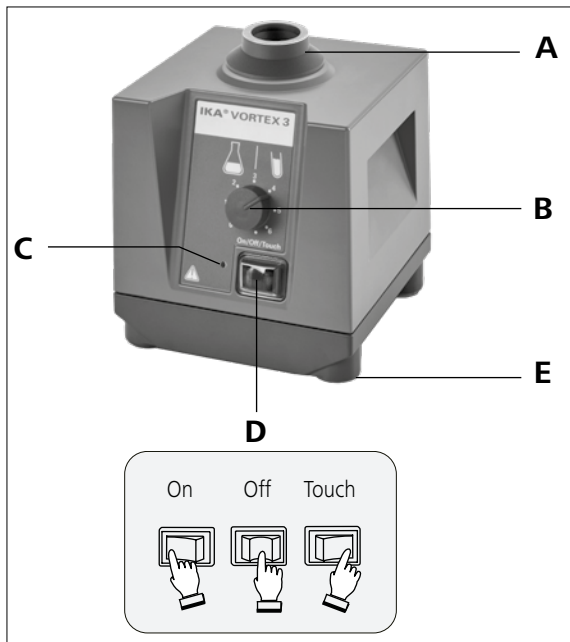


Fig. 1

DE	
A	Standardaufsatz V 3.1
B	Drehknopf
C	Kontrollleuchte
D	Geräteschalter
E	Gerätefuß

EN	
A	Standard attachment V 3.1
B	Rotating knob
C	Control light
D	Switch
E	Base

FR	
A	Support standard V 3.1
B	Bouton rotatif
C	Lumière cōntrol
D	Commutateur
E	Pied

ES	
A	Accesorio estándar V 3.1
B	Mando giratorio
C	Luz de control
D	Interruptor
E	Base

PT	
A	Adaptador padrão V 3.1
B	Botão giratório
C	Luz de controle
D	Interruptor
E	Base

ZH	
A	V 3.1 标准夹具
B	调速旋钮
C	控制指示灯
D	开关
E	底座

JA	
A	標準アタッチメント V 3.1
B	回転数調節ノブ
C	コントロールライト
D	スイッチ
E	ゴム足

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EU Declaration of conformity

We declare under our sole responsibility that this product corresponds to the directives 2014/35/EU, 2006/42/EC, 2014/30/EU and 2011/65/EU and conforms with the following standards or normative documents: EN 61010-1, EN 61010-2-051, EN 61326-1, EN 60529 and EN ISO 12100.

A copy of the complete EU Declaration of Conformity can be requested.

Explication of warning symbols

 DANGER	Indicates an (extreme) hazardous situation, which, if not avoided, will result in death, serious injury.
 WARNING	Indicates a hazardous situation, which, if not avoided, can result in death, serious injury.
 CAUTION	Indicates a potentially hazardous situation, which, if not avoided, can result in injury.
 NOTICE	Indicates practices which, if not avoided, can result in equipment damage.

Safety instructions

For your protection

- **Read the operating instructions in its entirety before using the device and follow the safety instructions.**
- Keep the operating instructions in a place where it can be accessed by everyone.
- Ensure that only trained staff work with the device.
- Follow the safety instructions, guidelines, occupational health and safety and accident prevention regulations.
- Electrical outlet must be grounded (protective ground contact).

 **CAUTION**

Wear your personal protective equipment in accordance with the hazard category of the media to be processed. There may be a risk from:

- **splashing liquids,**
- **ejection of parts,**
- **body parts, hair, clothing and jewellery getting caught.**

 **NOTICE**

Keep hand/arm vibration to a minimum (Directive 2002/44/EC) when operated manually:

- **Keep the sample container as vertical as possible.**
- **Only exert the minimum pressure necessary for the mixing process.**
- **Use attachments for multiple samples when there is a large number of samples.**

- Set up the device in a spacious area on an even, stable, clean, non-slip, dry and fireproof surface.
- The feet of the device must be clean and undamaged.
- Position the knob (B) at the left stop before starting up. Gradually increase the speed.
- If the shaking movement of the device increases (resonance), reduce the speed or pass through the critical phase as quickly as possible.

 **NOTICE**

Reduce the speed if:

- **medium splashes out of vessel because the speed is too high,**
- **device is not running smoothly,**
- **the device begins to move around because of dynamic forces.**

- Firmly secure the accessories and vessels in place, otherwise shaking vessels could be damaged or projected out.
- Check the device and accessories for damage before each use. Do not use damaged components.
- Position one single shaking vessel in the centre and several shaking vessels so that they are evenly spread out.
- The device is not suitable for hand-held operation.
- Sharp edged vessels cause wear debris on the attachments.

 **CAUTION**

Beware of the risk of:

- **flammable materials,**
- **glass breakage as a result of mechanical shaking power.**

- 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.
- Do not operate the device in explosive atmospheres, with hazardous substances or under water.
- Safe operation is guaranteed only with the use of original IKA accessories.
- Always disconnect the plug before attaching accessories.
- The device starts up again automatically following a cut in the power supply.
- The device may heat up when in use.

For protection of the equipment

- The voltage stated on the type plate must correspond to the mains voltage.
- Protect the device and accessories from bumps and impacts.
- The device may only be opened by qualified and IKA approved experts.

Intended use

Use

- For mixing liquids
 - Touch mode for single test tubes
 - Continuous mode for single or several vessels

Area of use

- Indoor environments similar to that a laboratory of research, teaching, trade or industry area.
- The safety of the user cannot be guaranteed:
 - if the device is operated with accessories that are not supplied or recommended by the manufacturer,
 - if the device is operated improperly or contrary to the manufacturer's specifications,
 - if the device or the printed circuit board are modified by third parties.

Unpacking

Unpacking

- Please unpack the device carefully.
- In the case of any damage a fact report must be sent immediately (post, rail or forwarder).

Scope of delivery

- Vortex 3
- Standard attachment V 3.1
- Operating instructions

Commissioning

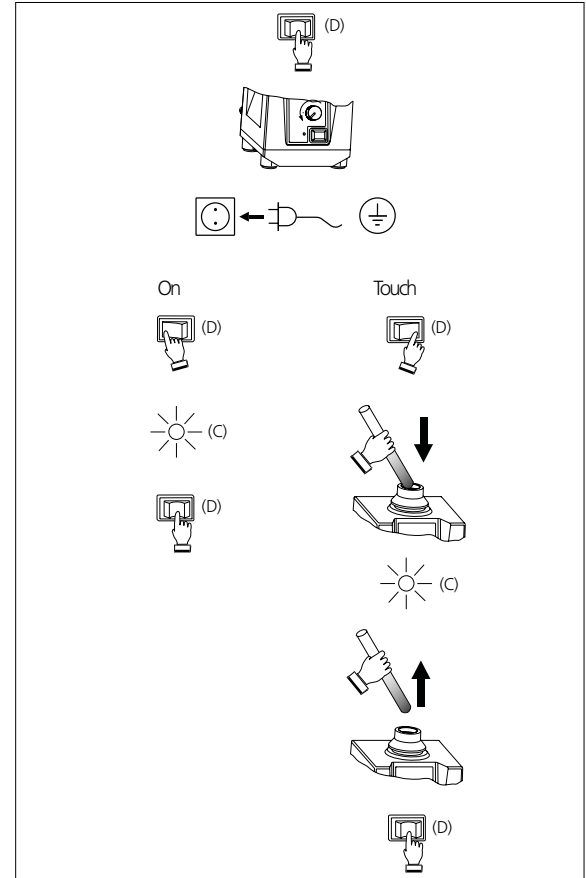

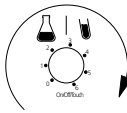

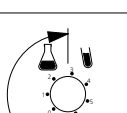




Fig. 2

Accessories

Possible uses and permitted speed ranges of attachments:

Designation	Description	Id.- No.	Touch Mode	Continuous Mode	Range of speed
 V 3.1 Standard attachment	For test tubes and small vessels upto diameter 30 mm	33 412 00	X	X	
 V 3.2 One- hand attachment	88 mm-plate attachment with rubber pad	33 423 00	X	X	
 V 3.3 Universal attachment	150 mm-plate attachment with rubber pad	33 424 00	-	X	

Changing attachments

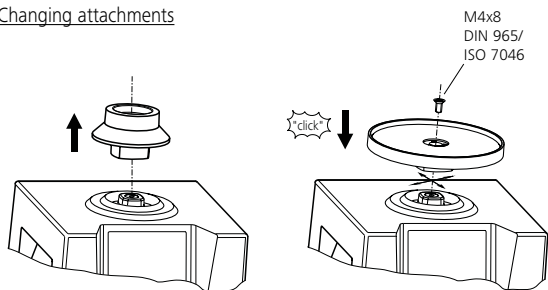


Fig. 3

Using inserts

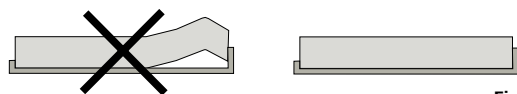


Fig. 4

Maintenance and cleaning

The device is maintenance-free. It is only subject to the natural wear and tear of components and their statistical failure rate.

Cleaning

- For cleaning disconnect the mains plug!
- Use only cleaning agents which have been approved by IKA to clean IKA devices.
These are water (with tenside) and isopropanol.
- Wear protective gloves during cleaning the devices.
- Electrical devices may not be placed in the cleansing agent for the purpose of cleaning.
- Do not allow moisture to get into the device when cleaning.
- Before using another than the recommended method for cleaning or decontamination, the user must ascertain with IKA that this method does not destroy the device.
- The rubber of the attachments' pads (V 3.2 and V 3.3) is a natural product, so talcum can discharge. Clean the rubber pad with glycerin.

Ordering spare parts

When ordering spare parts, please give:

- Machine type
- Manufacturing number, see type plate
- Item number and designation of the spare part.

Repair

Please send instrument in for repair only after it has been cleaned and is free from any materials which may constitute a health hazard.

For this you should request the “**Safety Declaration (Decontamination Certificate)**” from **IKA**, or use the download printout of it from the **IKA** website.

Return the instrument in its original packaging. Storage packaging is not sufficient. Also, please use suitable shipping package materials.

Technical data

Operating voltage	Vac	(220 ... 240) ± 10%
	Hz	50/ 60
Design frequency	Vac	115 ± 10%
	Hz	60
Input power	Vac	100 ± 10%
	Hz	50/ 60
Output power	W	60
	W	10

Speed	rpm	0/ 500 – 2500, infinitely adjustable
Speed adjustment		analog (infinitely) rotating knob
Speed display		Scale 0 – 6
Drive		Shaded pole motor
Agitation stroke	mm	4
Shaking motion		horizontal approximately-circular
Permissible duration of operation	%	100
Permissible ambient temperature	°C	+ 5 ... + 40
Permissible relative humidity	%	80
Protection type acc. DIN EN 60529		IP 21
Protection class		I
Overvoltage category		II
Contamination level		2
Operation at a terrestrial altitude	m	max. 2000
Dimensions (W x D x H)	mm	127 x 149 x 136
Weight without supported load	kg	4.5
Max. supported load incl. attachment	kg	0.4

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.