

# IKA

designed for scientists








**ELVAS-1**  
**(Extremely low viscosity adapter spindle set for**  
**IKA Rotavisc)**



ENGLISH



Fig. 1

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Source language: German

## Explication of warning symbols

### /// Warning symbols



#### **Danger!**

Indicates an (extremely) 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.

## /// General Symbols

-  Position number  
Indicates device components relevant to actions.
-  Correct / result  
Indicates the correct execution or the result of an action step.
-  Wrong  
Indicates the incorrect execution of an action step.
-  Note  
Indicates steps of actions that require particular attention.



## Safety instructions

### /// General information

- › **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.

#### **Notice!**

- › Pay attention to the marked sites in Fig. 1.
- › Read the operating instructions of the IKA Rotavisc and the IKA Rotastand before starting.



## Intended use

### /// Use

- › IKA ELVAS-1 spindle set measures very low viscosities, which are not measured by the standard spindle. A double jacket to quickly heat up or cool down the sample as well as a coaxial cylinder system for the analysis of the sample at a specific shear rate is included.

### /// 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 is modified by the third parties.

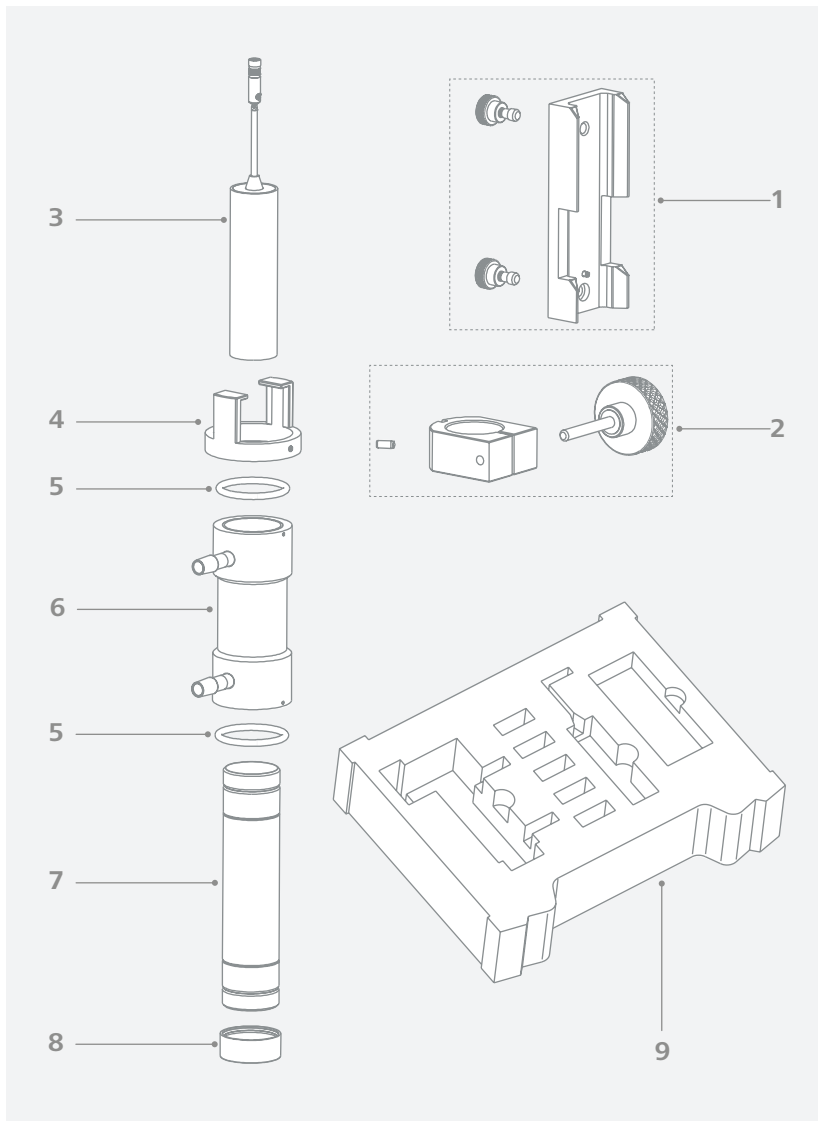


## Unpacking

### /// Unpacking

- › Unpack the device carefully. Any damage should immediately be reported to the carrier (mail, rail or freight forwarding company).

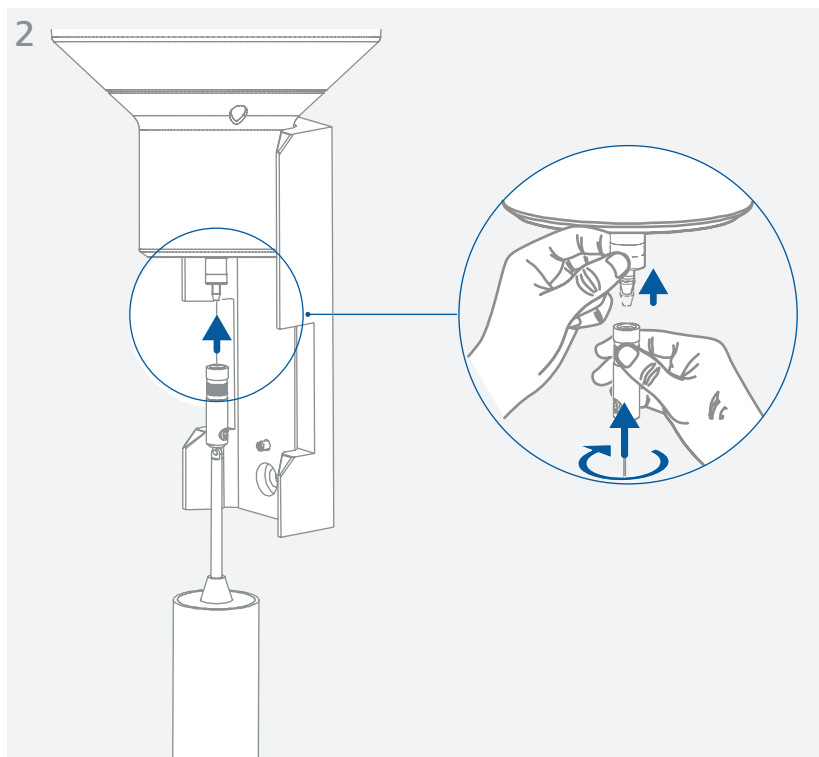
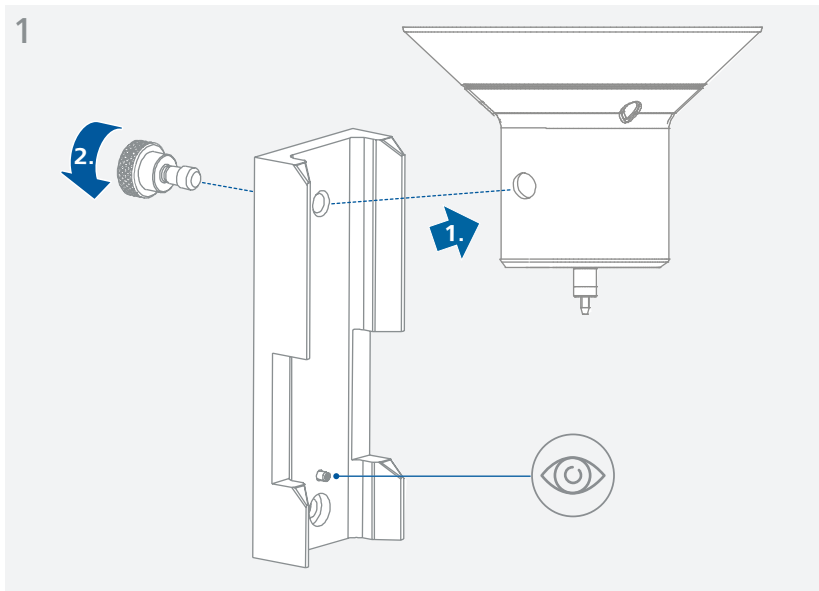
### /// Scope of delivery



1	Locating channel assembly ELVAS 1.1	6	Water jacket ELVAS 1.2
2	Clamping collar ELVAS 1.12 (with thumb-wheel)	7	Sample chamber ELVAS-C
3	Spindle ELVAS-SP (with spindle coupling)	8	Chamber cap ELVAS-CC-1 (6 x)
4	Bracket	9	Carrying case
5	O-ring (32 x 3.5 mm, 2x)		



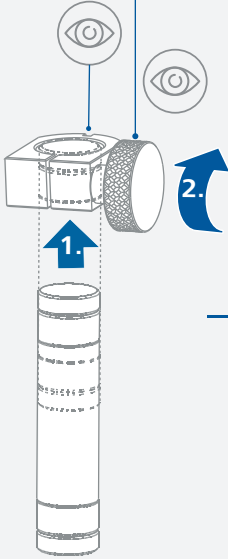
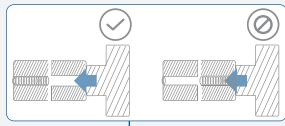
# Assembly



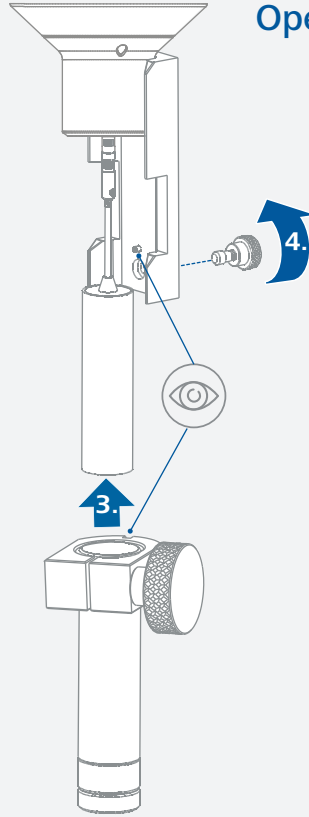


3

Open tube

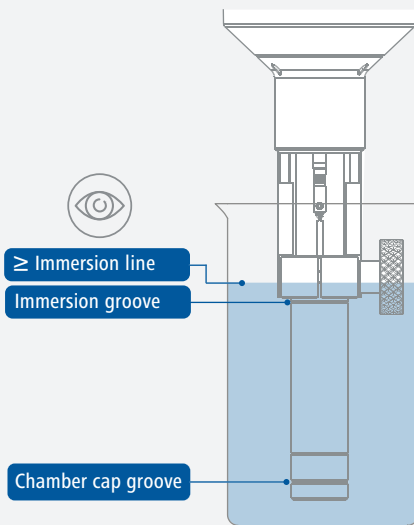


2.



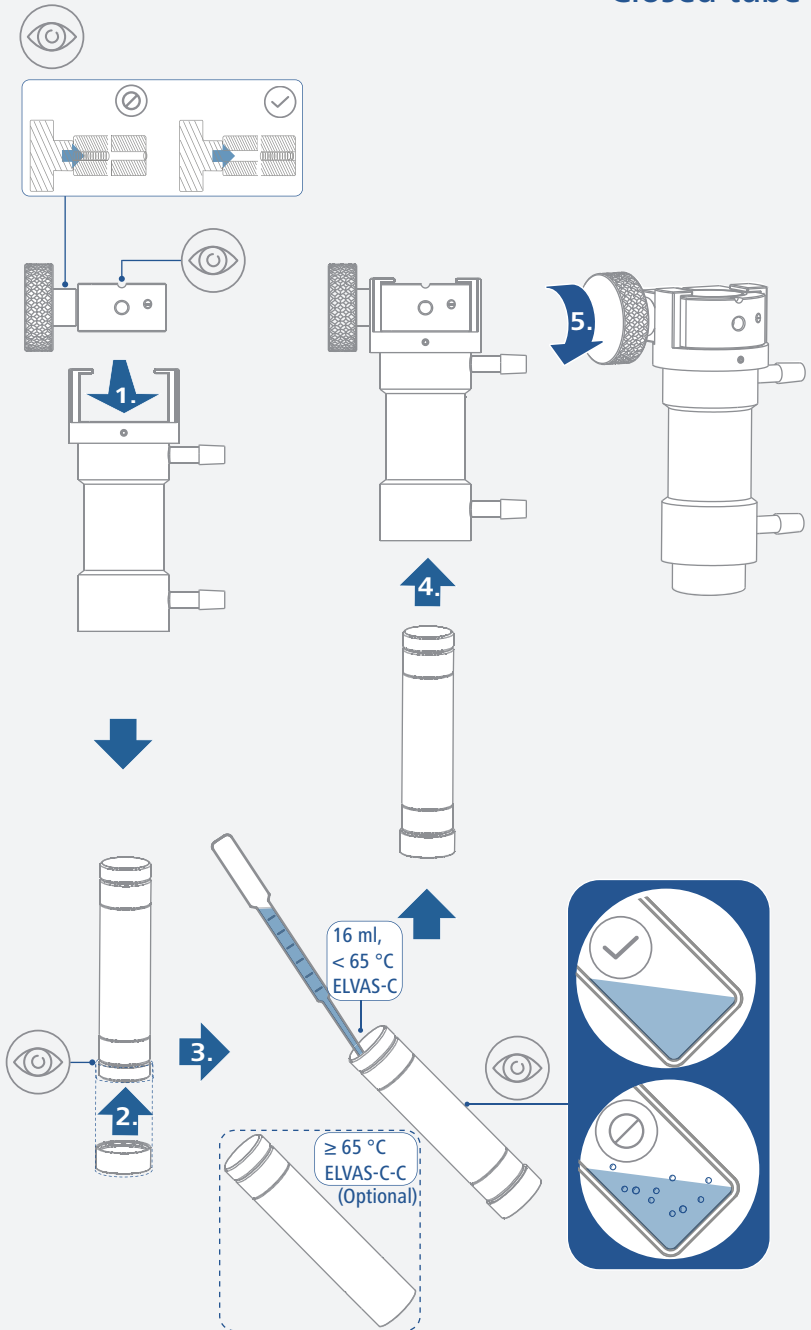
4

Open tube

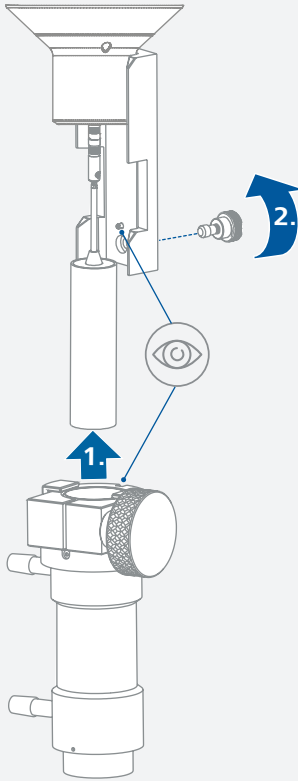


5

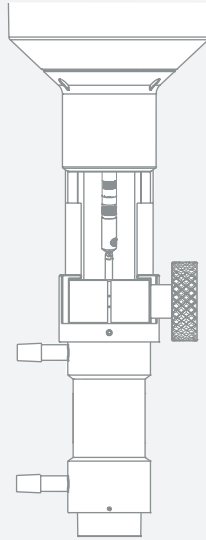
# Closed tube



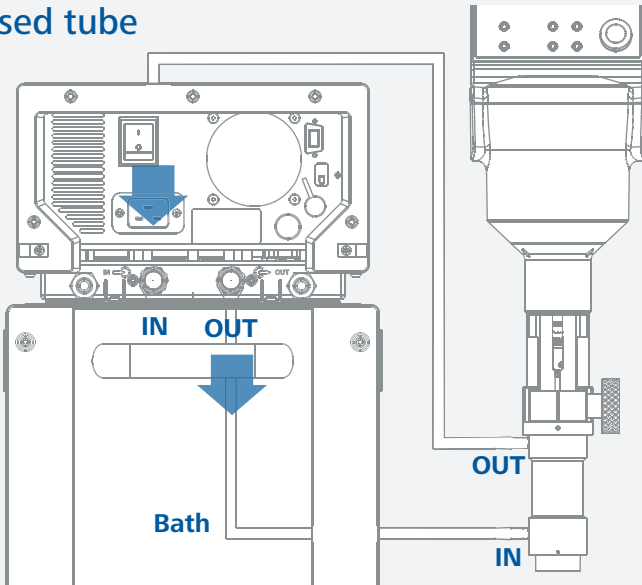
6



Closed tube



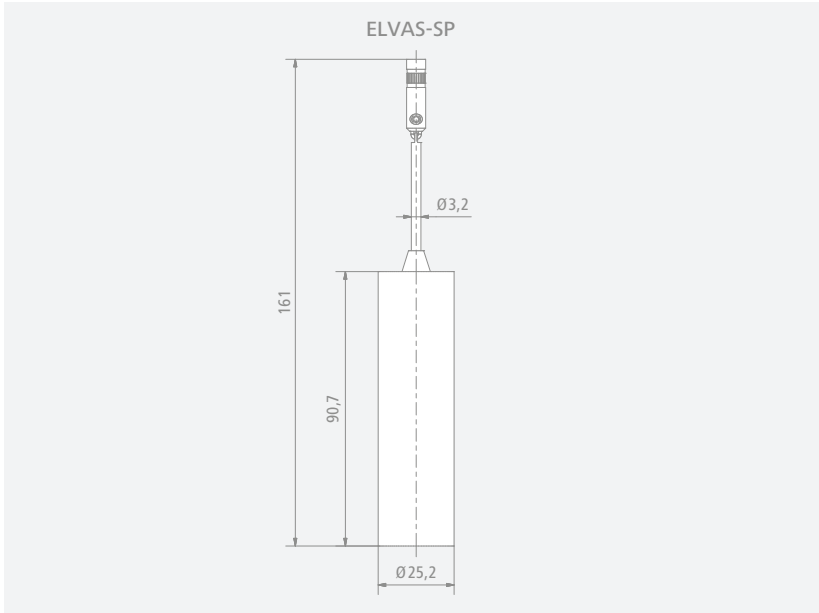
7 Closed tube



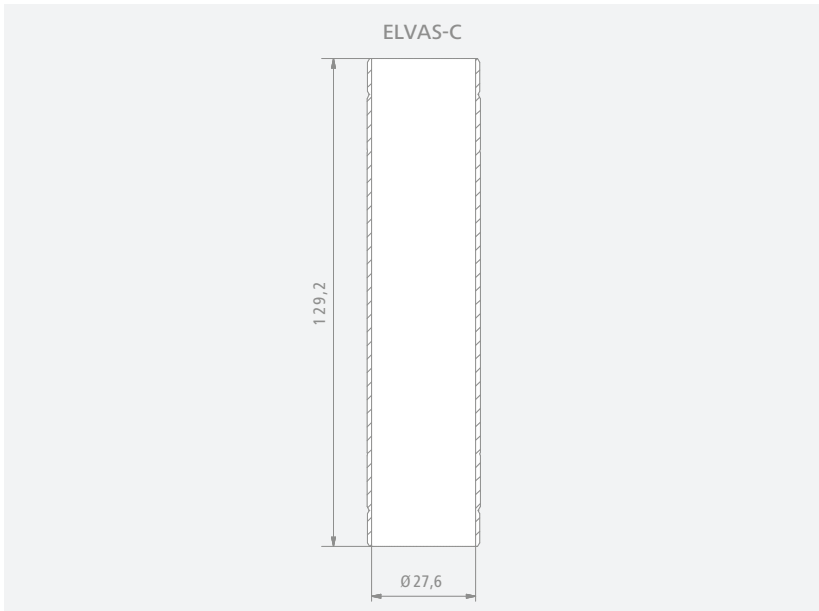


## Spindle information

/// Spindle dimensions (mm)



/// Measuring chamber innerdiameters (mm)



///  
Full-scale range based on speed: 1... 200 rpm

Spindle	lo-vi		me-vi		hi-vi I		hi-vi II	
	M%		M%		M%		M%	
	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>	<i>100</i>
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
ELVAS-SP	10	600	32	2000	64	2000	256	2000
<i>rpm</i>	<i>60</i>	<i>1</i>	<i>200</i>	<i>1</i>	<i>200</i>	<i>1</i>	<i>200</i>	<i>1</i>

- › Maximum recommended viscosity for measurement with the extremely low viscosity adapter is 2000 mPa.s. If viscosity exceeds 2000 mPa.s, the material being measured may be too viscous to immerse the spindle into the sample chamber; damage to internal parts of the viscometer may occur, which is caused by spindle floated suspending.
- › Turbulent conditions may begin with ELVAS-SP in 0.85 mPas at 60 rpm, rpm/mPas = 70.6. If the rpm/mPas ratio exceeds 70.6, turbulent situation may occur.

///  
Measuring range base on speed: 0.1 ... 200 rpm

Spindle	lo-vi		me-vi		hi-vi I		hi-vi II	
	M%		M%		M%		M%	
	<i>10</i>	<i>100</i>	<i>10</i>	<i>100</i>	<i>10</i>	<i>100</i>	<i>10</i>	<i>100</i>
	Min.	Max.	Min.	Max.	Min.	Max.	Min.	Max.
ELVAS-SP	1	2000	3.2	2000	6.4	2000	26	2000
<i>rpm</i>	<i>60</i>	<i>0.1</i>	<i>200</i>	<i>0.1</i>	<i>200</i>	<i>0.1</i>	<i>200</i>	<i>0.1</i>

///  
Temperature-controlled tubing recommended:

Temperature	Recommended fluid	Recommended tubing
-10 °C ... 15 °C	50/50 Ethylene Glycol /Water	PVC Hose, IKA H.PVC.8 Tube
15 °C ... 65 °C	Water	Silicon Hose, IKA H.SI.8 Tube
65 °C ... 100 °C	Silicon oil	FKM Hose, IKA H.FKM.8 Tube or H.PUR.8.R

- › ID 8 mm tubing is recommended. You may order the clamps from IKA.
- › Use laboratory grade ethylene glycol only! Automobile anti-freeze fluid is not allowed for use as it may damage the device.  
IKA thermal fluids recommended: HF.Si.20.200.50 and UF.Si.N30.150.10LV.
- › Never use high-viscosity silicon oil.  
Viscosity recommended: ≤ 50 mPa.s

# Maintenance and cleaning

- › The device is maintenance-free.

## /// Cleaning

- › 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.
- › 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.

## /// Spare parts order

- › When ordering spare parts, please give:
  - device type.
  - serial number, see type plate.
  - position number and description of spare part, see [www.ika.com](http://www.ika.com).

## /// Repair

- › Please only send devices in for repair that have been cleaned and are free of materials which might present health hazards.
- › For repair, please request the “**Safety Declaration (Decontamination Certificate)**” from IKA or use the download printout of it from IKA website at [www.ika.com](http://www.ika.com).
- › If your appliance requires repair, return it in its original packaging. Storage packaging is not sufficient when sending the device - also use appropriate transport packaging.

# Technical data



Geometry		Cylinder
Connection		Thread M2.5 LH
Hook connector		yes
Diameter	<b>mm</b>	25.15
Spindle length	<b>mm</b>	161
Sample volume	<b>ml</b>	16
Flow jacket		yes
Mounting bracket		yes
Sample container		Specified chamber
Working temperature max.	<b>°C</b>	100
Viscosity accuracy	<b>%</b>	2
Viscosity repeatability	<b>%</b>	0.2
Dimensions (W x H x D)	<b>mm</b>	300 x 110 x 275
Weight	<b>kg</b>	1.753
Material in contact with sample		Stainless steel 1.4404 / LDPE

› *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.



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Technical specifications may be changed without prior notice.

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