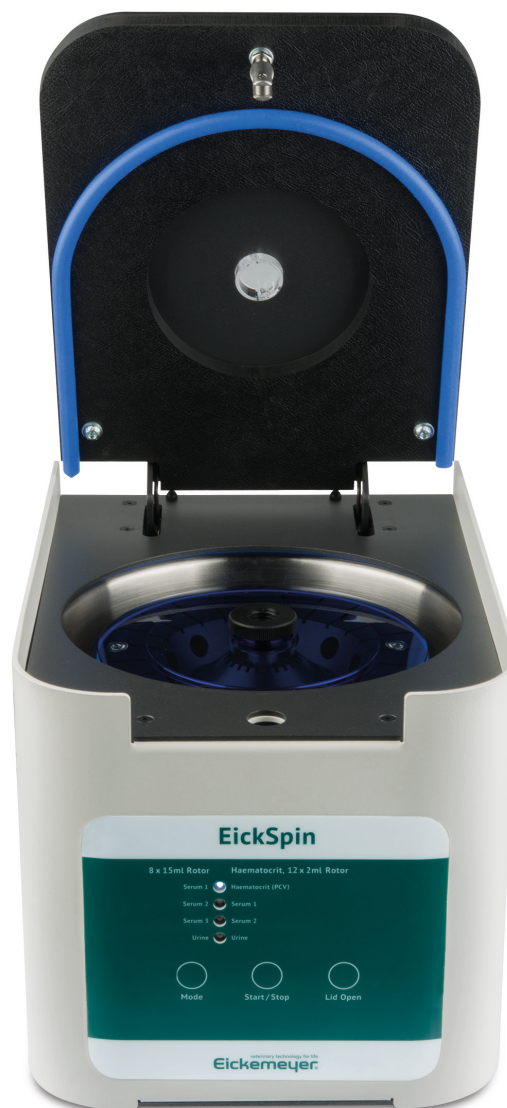


EICKSPIN LABORATORY CENTRIFUGE

USER MANUAL



Item no. 718380
V.2

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1. PREFACE

Before starting to use the centrifuge, read through this instruction manual carefully and follow the instructions.

The information contained in this instruction manual is the property of the manufacturer. It is forbidden to copy or pass on this information without explicit approval.

Failure to follow the instructions and safety information in this instruction manual will result in the expiration of the seller's warranty.

Items Supplied

Item	Quantity
EickSpin Centrifuge	1
Power Supply Cable	1
Instruction Manual	1
Rotor haematocrit and 12 x 2 ml	1
Rotor 8 x 15 ml	1
Rotor Fixings and any tools	1

If any parts are missing please contact EICKEMEYER®.

Intended Use

This centrifuge is a laboratory product used to separate substance mixtures of different densities. This centrifuge can become an In-vitro-diagnostics device (Directive 98/79/EC), if used together with the haematocrit rotor and his accessories.

Precautions

Observe the safety instructions. Not following these instructions can cause damage.

The centrifuge is to be used for its intended use only. Improper use can cause damages, contamination, and injuries with fatal consequences.

In order to ensure safe operation of the centrifuge, general safety regulations must be followed: Mind the regulations in your country.

Set Up Conditions

- Plug the centrifuge only into sockets which have been properly grounded.
- Turn on the centrifuge at the main switch. The mains plug must be freely accessible at all times.
- Press the STOP key to shut the centrifuge down.
- Pull out the power supply plug or disconnect the power supply in an emergency.
- Do not place any dangerous substances within the security zone.
- Set up in a well-ventilated environment, set-up on a level and rigid surface with adequate load-bearing capacity.

Preparation

- It is the general obligation of the operator to make sure, that the proper protective clothing is used. Mind the “Laboratory Biosafety Manual” of the World Health Organization (WHO) and the regulations in your country.
- Do not touch the mechanical components of the rotor and do not make any changes to the mechanical components.
- Do not touch the electronic components of the centrifuge or alter any electronic or mechanical components.
- Use only with rotors which have been properly installed.
- Do not use rotors which show any signs of corrosion and/or cracks. Contact the EICKEMEYER® customer service, if the centrifuge and the rotors are in any conspicuous condition, e.g. showing signs of corrosion and/or cracks.
- Use only with rotors which have been loaded properly.
- Never overload the rotor.
- Always balance the samples.
- Use only rotors and accessories for this centrifuge which have been approved by EICKEMEYER®.
- Exceptions to this rule are commercially available glass or plastic centrifuge tubes, provided they have been approved for the speed or the RCF value of the rotor.
- Make sure the rotor is locked properly into place before operating the centrifuge.
- Implement of special measures which ensure that no one can approach the centrifuge for longer than absolutely necessary while it is running.
- If used for foodstuffs machinery, for cosmetics or pharmaceutical products, only use closed or aerosol-tight containers for centrifugation.

Hazardous Substances:

- Especially when working with corrosive samples (salt solutions, acids, bases), the accessory parts and vessel have to be cleaned carefully.
- Do not centrifuge explosive or flammable materials or substances which could react violently with one another.
- The centrifuge is neither inert nor protected against explosion. Never use the centrifuge in an explosion-prone environment.
- Do not centrifuge inflammable substances.
- Do not centrifuge toxic or radioactive materials or any pathogenic micro-organisms without suitable safety precautions.
- If centrifuging any hazardous materials mind the “Laboratory Biosafety Manual” of the World Health Organization (WHO).
- When centrifuging microbiological samples from the Risk Group II, according to the “Laboratory Biosafety Manual” of the World Health Organization (WHO), aerosol-tight biological seals have to be used. Look on the internet page of the World Health Organization: <http://www.who.int/en> for the “Laboratory Biosafety Manual”.
- For materials in a higher risk group, extra safety measures have to be taken.
- If toxins or pathogenic substances have gotten into the centrifuge or its parts, appropriate disinfection measures have to be taken (see page 12 “Cleaning, Disinfecting and Maintenance”).
- Highly corrosive substances which can cause material damage and impair the mechanical stability of the rotor should only be centrifuged in corresponding protective tubes.
- If a hazardous situation occurs, turn off the power supply to the centrifuge and leave the area immediately.

Operating

- Never use the centrifuge if parts of its cover panels are damaged or missing.
- Never start the centrifuge when the door is open.
- Do not move the centrifuge while it is running.
- Do not lean on the centrifuge.
- Do not place anything on top of the centrifuge during a run. This applies also for the rotor landing pad.
- Never open the door until the rotor has come to a complete stop and this has been confirmed in the display.
- The emergency door release may be used in emergencies only to recover the samples from the centrifuge, e.g. during a power failure (see page 12 “Emergency Lid Release”).
- Do not open the centrifuge, while it is running.

In any case of mechanical breakdown rotor failure, like burst of the rotor, breaking bottles or shaft crack, the centrifuge is not aerosol-tight.

In case of rotor failure the centrifuge can be damaged. Inform the EICKEMEYER® customer service.

Maintenance

The centrifuge housing is not to be opened from the operator.

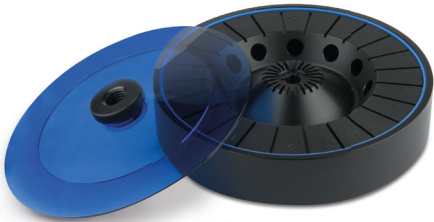
2. TECHNICAL SPECIFICATIONS

Rcf. max.	13.500 G
Dimensions (in mm)	L 350 x W 235 x H 235
Weight	12,8 kg (without rotor)
Power	125 Watt
Memory	4 programs
Accel rates	depending on the rotor
Decel rates	depending on the rotor

User features	Advantages
Rotor-recognition for included rotors	Automatic speed control
Standards	Advantages
Extra thick stainless steel bowl	Easy to clean and rust free
Alloy and steel frame with composite's	Strong, light and quiet
World leading industrial grade inverter	Reliability and strength
Best quality European brushless motor	Quiet, cool and reliable
High technology airflow	Cooler running
Safety features	Advantages
Multi point lid locking	Safety and easy to use
Emergency lid release	Power failure release
Lid lock detection	To run lid must be shut
Imbalance detection	Easy "eye" volume loading
Inverter values	Electronic safety of speed
Barrier ring	Extra metal protection of chamber
Motor overheat sensor	Safe motor protection

The EickSpin Centrifuge complies to all relevant EU-Standards for Quality and medical Devices IEC 61010 and CE conformity (emission standards).

Haematocrit and Microtube Rotor

Rotors	BRK5401	BRK5408
Figure		
Rotor (type)	24 x Capillary and 12 x 2 ml	8 x 15 ml Tube
Minimum speed [rpm]	500	500
Maximum speed [rpm]	12.000	6.000
Max. rcf [G]	13.500	3.500
Max. cms [cm]	8,5	8,5
Sample tube angle [°]	0 und 60	30
Acceleration time [sec.]	30	30
Deceleration time [sec.]	30	30
Autoclavable	121 °C (10 min.)	121 °C (20 min.)

Mains Supply

The following table contains an overview of the electrical connection data. This data is to be taken into consideration, when selecting the mains connection socket.

Mains Voltage	Frequency	Rated Current	Power Consumption	Equipment Fuse	Building Fuse
230 V	50/60 Hz	3,6 A	175 W	13 AT	13 AT

3. TRANSPORT AND SET UP

Before Setting Up

Check the order for completeness. If the order is incomplete, please contact the EICKEMEYER® customer service.

Location

The centrifuge should only be operated indoors. The set-up location must fulfil the following requirements:

- A safety zone of at least 30 cm must be maintained around the centrifuge.
- People and hazardous substances must be kept out of the safety zone while centrifuging.
- The supporting structure must be stable and free of resonance.
- The supporting structure must be suitable for horizontal setup of the centrifuge.
- The centrifuge should not be exposed to heat and strong sunlight.



Warning!

UV rays reduce the stability of plastics. Do not subject the centrifuge, rotors and plastic accessories to direct sunlight. The set-up location must be well-ventilated at all times.

Transporting the Centrifuge

- Remove rotor before transportation.
- Due to its weight, the centrifuge should be carried by several people.
- Always lift the centrifuge at both sides.
- Transport the centrifuge upright and if at all possible in its packaging.



Aligning the Centrifuge

The location must be suitable for the horizontal use of the centrifuge.



Caution!

If the centrifuge is not levelled, imbalances can occur and the centrifuge can be damaged. Do not place anything under the centrifuge feet to level the centrifuge.

Mains Connection

- Turn off the power supply switch located on the left side of the centrifuge (press "0").
- Plug the centrifuge into grounded electrical sockets only.
- Check whether the cable complies with the safety standards of your country.
- Make sure that the voltage and frequency correspond to the figures on the rating plate.
- Establish the connection to the power supply with the connecting cable.

Storage



Warning!

Before storing the centrifuge and the accessories it must be cleaned and if necessary disinfected and decontaminated. Store the centrifuge in a clean, dust-free location. Be sure to place the centrifuge on its feet. Avoid direct sunlight.

4. OPERATION

Programmes

Programme 12 x 2 ml, Haematocrit	Speed	Time
1. Haematocrit (PCV)	12.000 rpm	300 seconds
2. Serum 1	6.000 rpm	600 seconds
3. Serum 2	5.000 rpm	300 seconds
4. Urine	3.500 rpm	300 seconds

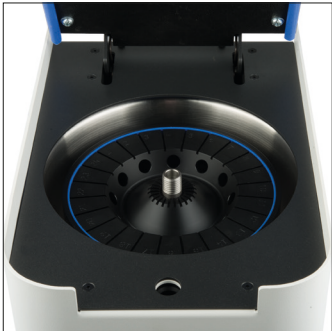
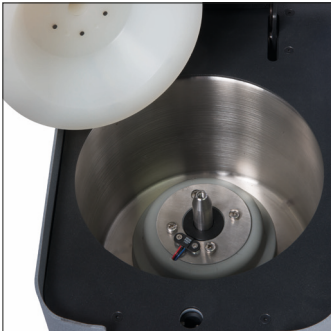
Programme 8 x 15 ml	Speed	Time
1. Haematocrit (PCV)	6.000 rpm	180 seconds
2. Serum 1	6.000 rpm	240 seconds
3. Serum 2	5.000 rpm	300 seconds
4. Urine	3.500 rpm	300 seconds

Rotor Change

1. Loosen the screw of the rotor with the enclosed tool, or a matching Allen key.
2. Fully remove the screw (including washer).



3. Pull out the rotor (Caution: might be sluggish).
4. Insert the new rotor.



5. Fix the rotor using the previously released screw.



6. Place the cover disc on the rotor and screw it tight manually.



Filling and Loading the Sample Tubes

The centrifuge functions in the most efficient manner when unbalance of the rotor is minimized. This prevents undue vibration perturbing the separation zones of the substance being centrifuged. It is therefore important that unbalance due to loading unequal loading of the sample tubes is minimized as far as possible.

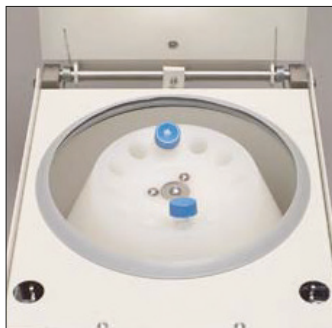
The maximum permissible imbalance of the rotor is 1 g.

Imbalance may be minimised by following a few simple and quick procedures as described in the following paragraphs:

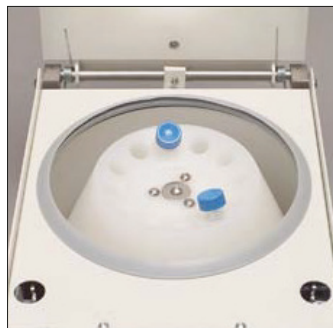
- The sample tubes should be filled as evenly as possible. Where practical, tubes containing the same substance should be placed opposite to each other.
- The rotor should be loaded symmetrically, this being best achieved by using all of the bores. When only partially loading the rotor it must be ensured that opposite bores always receive tubes of the same weight.

The following pictures provide examples of correct and incorrect loading of the rotor.

Correct



Incorrect



Emergency Lid Release in Case of Lid Lock Failure

In the unlikely event of the lid lock failing and the user being unable to remove the samples, an emergency lid release tool is provided.

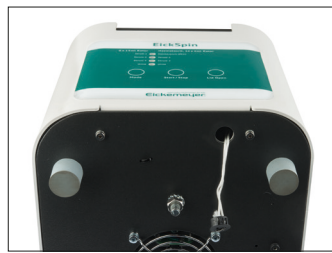


Warning!

Operation of the emergency lid release must only be undertaken by qualified and approved personnel!

Under no circumstances may the centrifuge be operated in this condition. Under no circumstances must the emergency lid release be used while the centrifuge is running!

Wait until the rotor has stopped turning (view through the lid port) and switch off the power to the centrifuge. Remove the black plastic seals to front underside of centrifuge and pull both cords down.



Cleaning, Disinfecting and Maintenance



Warning!

Isolate and disconnect the power supply before carrying out cleaning or maintenance.

Centrifuge Body

- Regularly wipe down the external surfaces with a mild detergent.
- Mop up any spillage with an absorbent cloth. Check to ensure that the liquid has not entered the main body of the centrifuge.



Warning!

If any liquid has entered the main body of the centrifuge it must not be used. Contact the EICKEMEYER® customer service for further information.

Rotor

- Remove the locking screw with the key provided.
- Remove the flat washer and pull the rotor off the shaft by applying equal force of both sides.

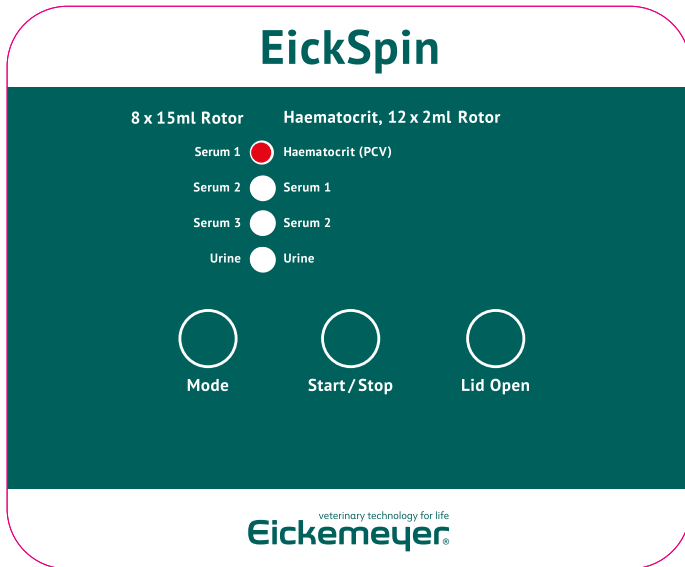
Note: If any stiffness or difficulty is experienced when attempting to remove the rotor this may be overcome by applying a sharp tap to the rotor shaft. A non-metallic object (e.g. plastic mallet) must be used to prevent damage to the shaft.

- Clean the rotor using a suitable detergent and hot water. Alternatively the rotor may be cleaned in an autoclave at a maximum temperature of 121 °C.
- Thoroughly rinse and dry the rotor.
- Inspect the rotor for any hairline cracks, damage or other defects. If any are found please contact the EICKEMEYER® customer service.

5. TROUBLESHOOTING

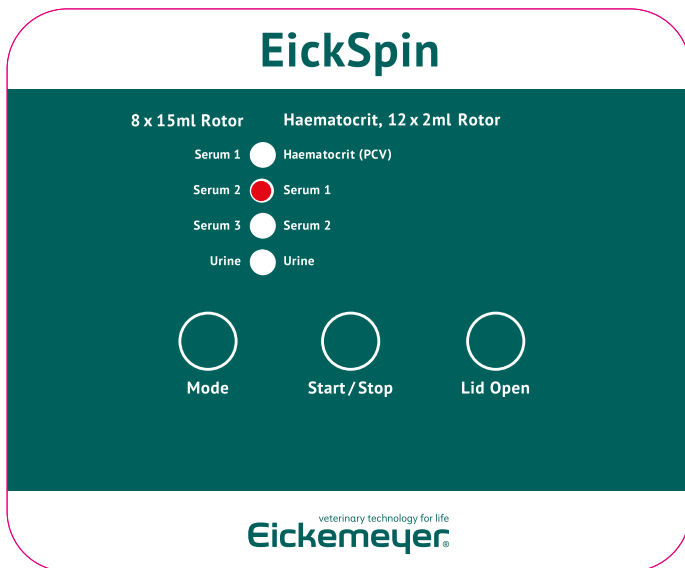
Error codes are displayed throughout the four LEDs on the display. If an error with the unit is detected, one of the four LEDs will flash.

LED1 – Lid Lock Sensor



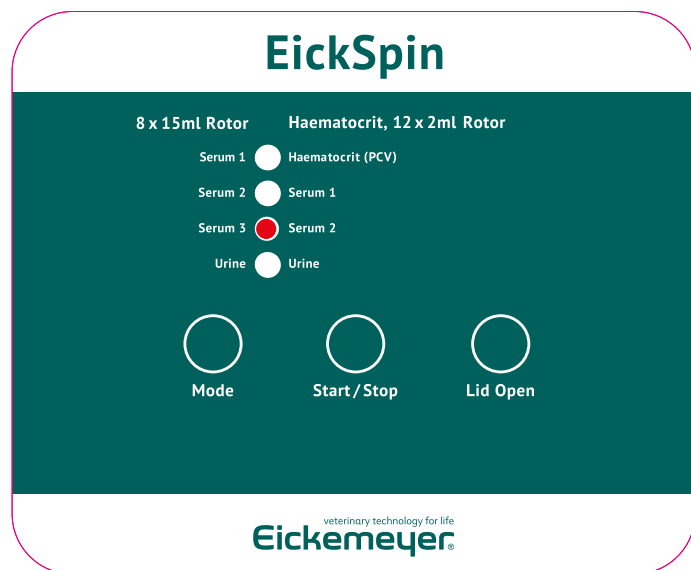
The lid is not correctly closed.
Close the lid and try again.

LED2 – Imbalance detector



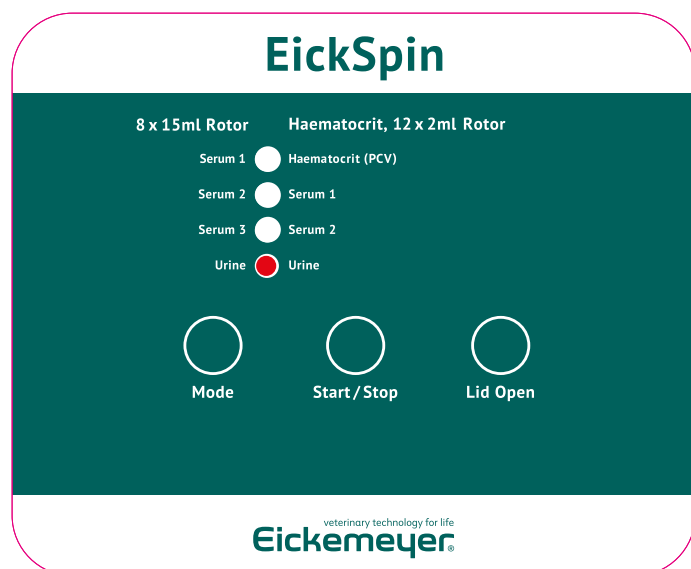
Balance your tubes and oppose them correctly.

LED3 – Tacho sensor



Check no tubes are fouling and rotor turns freely.

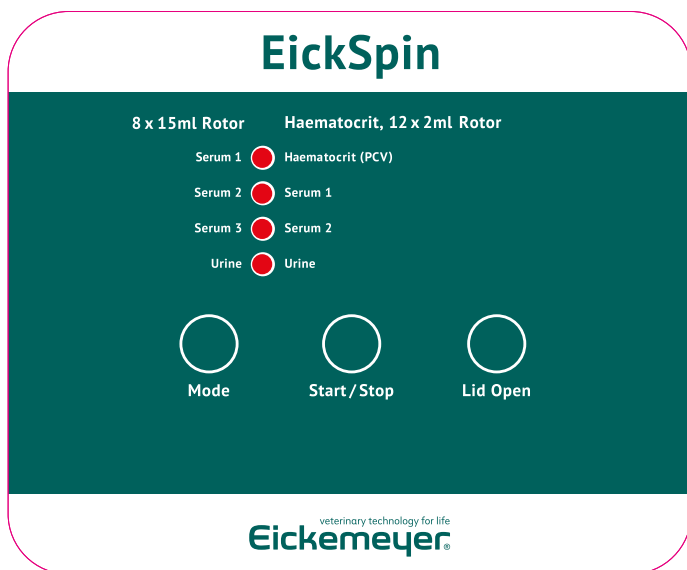
LED4 – Fault with the driver



The drive could not start.
Turn off the unit, wait 3 minutes and turn on again.

If the error occurs repeatedly please contact the
EICKEMEYER® customer service.

All four LEDs – Rotor recognition



Turn the unit off and try again.

Check the under section of the rotor

Make sure the magnets on the underside of the rotor are clean.

If the error occurs repeatedly please contact the EICKEMEYER® customer service.

6. RECOMMENDED ACCESSORIES

Art. No.	Description
718375	Microhaematocrit Capillary Tubes
718515	Centrifuge Tube, 15 ml - Round Bottom - For plasma and serum
718615	Centrifuge Tube, 15 ml - Pointed Bottom - For urinary sediment collection
719016	Disposable Centrifuge tube, 15 ml
714907	Microhaematocrit Capillary Tube Sealing Wax

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