



en Translation of the
original instructions
MOTOR ME II



0697-351 ME II - 10/2020



Please read this manual before starting up.

To be retained for future reference.

EAC  IP 54 

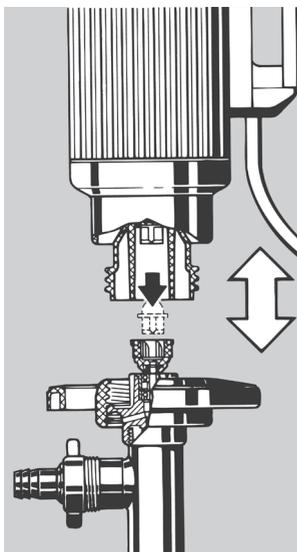


Fig. 1

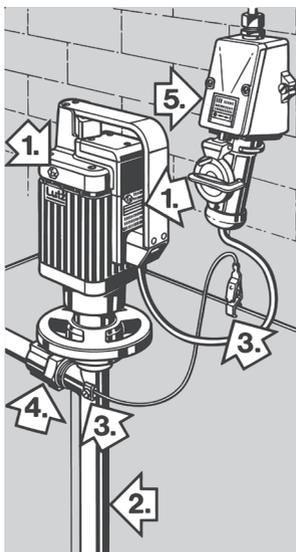


Fig. 2

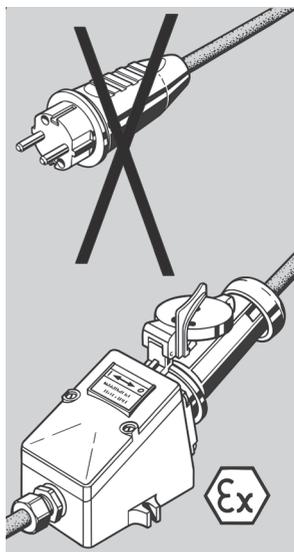


Fig. 3

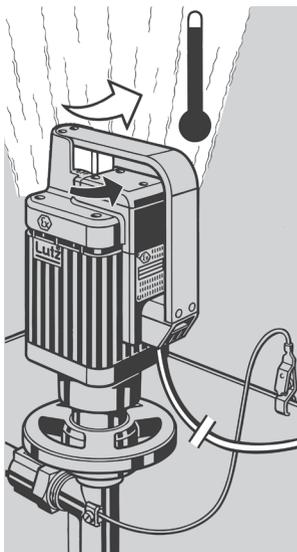


Fig. 4

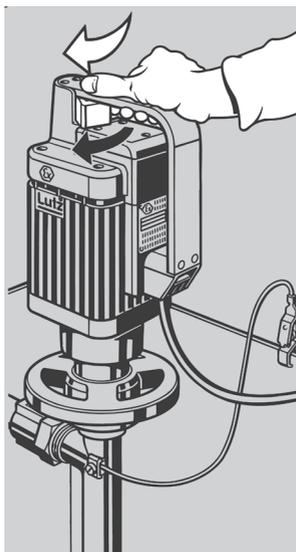


Fig. 5

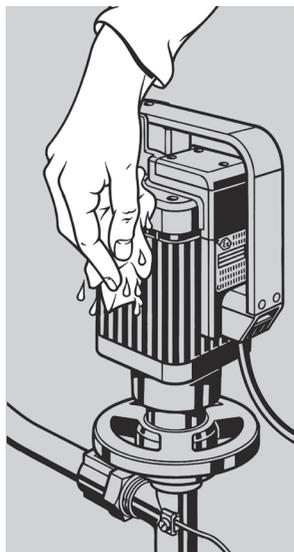


Fig. 6

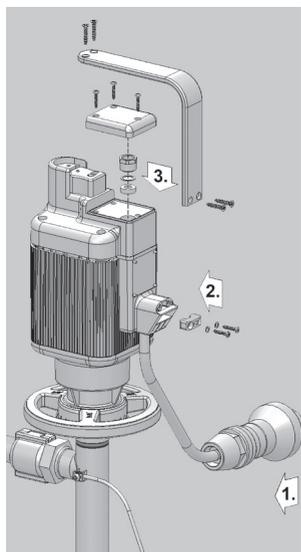


Fig. 7

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1. Concerning this manual

This manual

- is part of this product
- is valid for all mentioned series
- describes the safe and proper use in all operating stages

1.1 Terms

User: Single person or organisation who is using the products e.g. customer, user, assistant

Children: Young persons up to and including the age of 14 years.

1.2 Target groups

Target group	Task
User	<ul style="list-style-type: none"> ▶ Retain these operating instructions at the product's place of use for future reference. ▶ Demand the staff to read and observe these instructions and the additional valid documents, in particular the safety information and warnings. ▶ Observe additional regulations and instructions concerning the plant.
Qualified personnel, installer	<ul style="list-style-type: none"> ▶ Read, observe and follow these instructions and the additional valid documents, in particular the safety information and warnings.

Tab. 1: Target groups and their tasks

1.3 Associated applicable documents

Document	Purpose
Operating instructions pump tube	Safe and proper use of the pump tube.
Supplementary operating instructions	for additional delivered components

Tab. 2: Associated applicable documents and purpose

1.4 Warnings and symbols

Warning	Level of risk	Consequences in case of non-compliance
DANGER	direct danger	death or serious injury
WARNING	possible direct danger	death or serious injury
CAUTION	possible dangerous situation	light injury
NOTICE	possible dangerous situation	damage of property

Tab. 3: Warnings and consequences in case of non-compliance

Symbol	Meaning
	Safety information ▶ Comply with all measures that are marked with a safety sign to avoid injuries or death.
	Information / Recommendation
	What to do
	Cross reference
	Requirement

Tab. 4: Symbols and meaning

1.5 Latest state

Please find the latest state of this operating instruction under www.lutz-pumpen.de.

1.6 Copyright

The content of this operating instruction and the images contained in them are subject to the copyright protection of Lutz Pumpen GmbH.

2. Safety

The manufacturer will not be held responsible for any damages resulting from non-compliance of the overall documentation, in particular for damages in case of non-compliance of the operating instructions.

2.1 General safety information

Observe following regulations before accomplishing all activities.

Product safety

The motor is constructed in conformity with the state of the art and approved safety-related standards. Danger however can occur during use for life and health of the user or third parties or damage of the motor and other material assets. Therefore:

- Operate the motor only in a technically sound state, for its proper use, and conscious of safety and hazards taking into account these instructions.
- Ensure that these instructions and all associated applicable documents are complete, legible, and stored in a place that personnel can access at all times.
- Refrain from any manner of working that endangers personnel or uninvolved third parties.
- In case of a safety-relevant malfunction, stop the motor immediately and enlist a responsible person to rectify the malfunction.
- In addition to the overall documentation, observe the statutory or other safety and accident prevention regulations, as well as the valid standards and guidelines of the respective operating country.

Modifications

Unless the manufacturer has provided its consent in writing, the manufacturer is not liable for interventions performed by the user (modifications) on the product, such as conversion, alteration, new design, etc. Modifications not agreed with the manufacturer may have the following effects, among others:

- Functional impairments on the appliance or plant
- Damage to the appliance and other property damage
- Environmental damage
- Personal injuries right through to death

Duties of the operator

Safety-conscious working

- Operate the motor only in a technically sound state, for its proper use, and conscious of safety and hazards taking into account these instructions.
- Ensure observance and monitoring of:
 - Proper use
 - Statutory or other safety and accident prevention regulations
 - Safety provisions in handling hazardous substances
 - Valid standards and guidelines in the respective country of operation
- Provide protective equipment.

Personnel qualification

- This device must not be used by children. It may be used by persons of reduced physical, sensory or mental capacity or by persons lacking in experience or knowledge provided that they are supervised or have been instructed in the safe use of the device and understand the associated hazards. Cleaning or user maintenance must not be performed by children.
- Ensure that personnel tasked with work on the motor have read and understood these instructions and all associated applicable documents, particularly safety, maintenance and servicing information, before they start work.
- Clarify responsibilities, competencies and monitoring of the personnel.
- Ensure that all work is carried out by technical qualified personnel only:
 - Assembly, servicing, maintenance work
 - Work on the electrics
- Personnel to be trained must only work on the motor under the supervision of technical personnel.
- Personnel holding the motor in their hands during operation will be subjected to vibrations. The upper limbs are exposed to an acceleration of less than 2.5 m/s².

Statutory warranty

- During the guarantee period, obtain the manufacturer's permission for modifications, maintenance work or alterations.
- Use only original parts.

Duties of the personnel

- Observe the notices on the motor and maintain them in a legible state.
- Use protective equipment where necessary.
- Only perform work on the motor during downtime.
- Ensure that the device is disconnected from power supply before you carry out assembly and maintenance work.
- After completing all the work on the device, remount the safety devices in accordance with specifications.

2.2 Proper use

- The motor may only be installed in an upright position.
- Observe operating limits.
- Motor may only be operated with pump tube.

If the product and supplied accessories are used for other purposes than the intended purpose, it is the responsibility of the user to check the suitability and admissibility. Product use not confirmed in writing by the manufacturer absolves the manufacturer of any liability.

The manufacturer is not liable for consequences of incorrect treatment, use, maintenance, servicing and operation of the appliance, as well as normal wear and tear. The same applies if faults arise from intervention or configurations on the part of the user not confirmed by the manufacturer.

Prevention of obvious misapplication (examples)

- Do not use the motor in or on swimming pools, garden ponds or similar locations.
- Use the motor outside mobile containers and do not immerse it in the pumped liquid.

2.3 Specific danger

Explosion hazard area

→ Chapter 8: Instructions for the explosion protection

- Only use an explosion-proof pump tube.
- Within the explosion-proof area only use Ex-plugs.
- Clean the motor only with a damp cloth.

3. Configuration and function

3.1 Identification

Rating plate



Rating plate motor ME II (example)

- 1 ATEX-Identification
- 2 Technical data
- 3 Serial number
- 4 Type
- 5 Year of construction (last two digits of the serial number e.g. -13 for 2013)

3.2 Configuration

The ME II motor is a single-phase series-wound motor with design variants in the following areas (→ Table 5):

- operating voltage
- power output
- frequency

Electrical designs

- double pole on/off switch
- overcurrent release
- low voltage release (optional)
- motors with rated voltage 100-230 V according to protection class I
- motors type ME II 5-24 and ME II 5-42:
 - operation with safety extra-low voltage
 - protection class III

3.3 Function

The ME II motor forms a drum and container pump with an appropriate pump tube.

The use in hazardous areas or for pumping flammable liquids is only permitted with a pump tube of category II 1/2 G, e.g:

- Lutz pump tube made of stainless steel (SS 1.4571)
- Lutz pump tube made of Hastelloy C (HC)

4. Transport and storage

4.1 Transport

Unpacking and checking condition of delivery

- ▶ Unpack the motor on receipt and check for transport damages.
- ▶ Report transport damages to the manufacturer immediately.
- ▶ Check that the consignment is complete as ordered.

4.2 Storage

NOTICE

Damage of property as a result of incorrect storage!

- ▶ Store the motor properly.
-
- ▶ Store the motor protected from weather influences and UV rays.

5. Installation/Assembly and connection

5.1 Assembly of pump tube and motor

- ✓ Motor is switched off
- ▶ Connect the motor with the pump tube.
- ▶ Turn the motor slightly to ensure that the driver engages in the coupling.
- ▶ Firmly connect the motor and pump tube by means of the handwheel (right-hand thread) (→ Fig. 1).

5.2 Check Ex-protection

- ▶ The following points must be checked before pumping flammable liquids and before starting up the pump in explosion hazard areas (→ Fig. 2):
 - Pump motor explosion-proof? (Item 1)
 - Pump tube explosion-proof? (Item 2)
 - Equipotential bonding connected? (Item 3)
 - Conductive hoses and hose connections used? (Item 4)
 - Explosion-proof plugs and sockets used? (Item 5)

5.3 Use a suitable mains plug

NOTICE

Since a variety of plug systems are used in practice, the ME II motors are routinely supplied with a non-explosion-proof plug connector.

The plug supplied as standard is only approved for connection outside the explosion hazard area.

- ▶ When using the motor in explosion hazard areas, use explosion-proof mains plug (→ Fig. 3).
- ▶ When using the motor outside the explosion hazard area, remove the protective cap from the mains plug.

5.4 Connect motor electrically

DANGER

Danger of death by electric shock!

- ▶ Have work on the electrical system carried out by a qualified electrician only.

- ✓ Motor is switched off
- ▶ Make sure that the voltage indicated on the rating plate corresponds to the mains/battery voltage.
 - The mains voltage may vary up to $\pm 5\%$, the mains frequency up to $\pm 2\%$ according to the range A and according to IEC 34-1.
- ▶ Connect motor to power supply.
 - Motor types ME II 5-24 and ME II 5-42: Only operate with safety extra-low voltage.

6. Operation

- ✓ All connections and fittings are properly tightened.

6.1 Operation of the motor with overcurrent release

The integrated overcurrent release switches off the motor if overloaded.

- ▶ Let the motor cool down.
- ▶ To restart the motor, press the on/off switch (→ Fig. 4).

6.2 Operation of the motor with low voltage release

Type ME II motors are equipped with low voltage release and do not restart automatically after a voltage interruption. On networks with large voltage fluctuations, the low voltage release can prevent the motor from being switched on.

- ✓ Supply voltage available
- ▶ To restart the motor, press the on/off switch (→ Fig. 5).
- ▶ If no low voltage release can be provided:
 - Arrange the drum pump in such a way that no friction and impact sparks are generated.
 - Ensure that the operating conditions guarantee safe operation.

7. Maintenance and servicing

DANGER

Danger of death by electric shock!

- ▶ Have work on the electrical system carried out by a qualified electrician only.
- ▶ Unplug the motor before carrying out repairs.

7.1 Maintenance

Cleaning the motor

- ▶ To avoid static charging, clean the motor only with a damp cloth (→ Fig. 6).

7.1 Change carbon brushes

After 500 hours of operation the carbon brushes must be inspected or changed by the manufacturer or an authorized repair shop.

7.2 Change power cable

- ▶ Disconnect the mains plug.
- ▶ Open the terminal compartment of the motor (→ Fig. 7).
- ▶ Replace the power cable by a cable of type H07 RN-F.

Tightening torques for screws (→ Fig. 7):

- Item 2: 1.2 Nm
- Item 3: 12.0 Nm

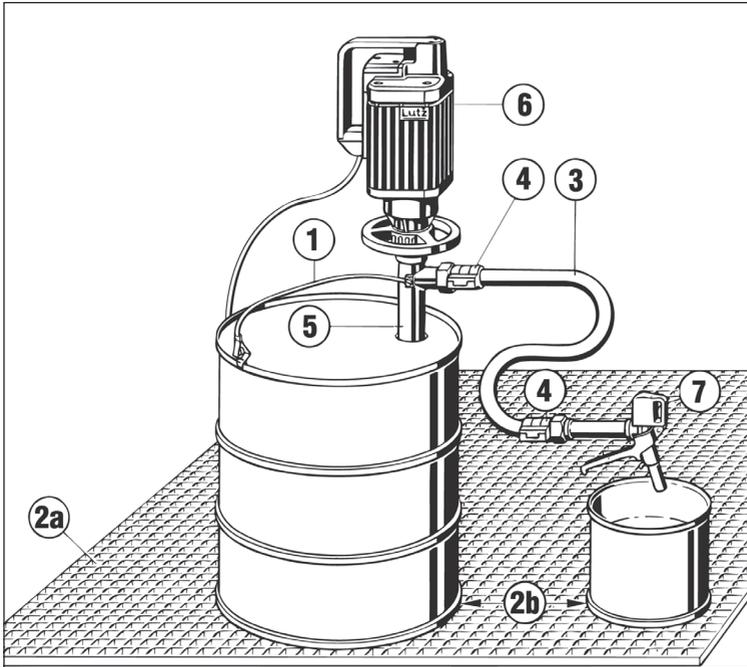
7.2. Repairs

- ▶ Repairs should be made by the manufacturer or authorized repair shops.
- ▶ Only use original Lutz Pumpen spare parts. If other spare parts are used, liability on the part of Lutz Pumpen is obsolete.

7.3 Disposal

- ▶ Dispose of the motor according to local regulations.

8. Instructions for the explosion protection



Legend:

(1) Equipotential bonding cable, (2) conductive substrate or connection of an equipotential bonding cable on both drums, (3) galvanic connection (low contact resistance to earth), (4) conductive connection of hose and hose connector, (5) pump tube for zone 0, (6) motor with non-touchable metal parts, (7) nozzle, (8) conductive hose, (9) ATEX identification motor

8.1 Equipotential bonding and earthing

- ▶ Before starting up, an equipotential bonding must be established between the pump, the container to be emptied and the container to be filled.
- ▶ Clamp the equipotential bonding cable (order no. 0204-994) to create an equipotential bonding between the pump and the container to be emptied. For better conductivity, remove the paint and dirt from the clamping points.
- ▶ Equipotential bond between the containers to be emptied and to be filled via a conductive substrate (e.g. a conductive grating).
- ▶ Ensure that a conductive transition between container and earthing potential is available.

8.2 Explosion protection regulations

- ▶ Following regulations have to be observed for the use of equipment in hazardous areas within the EU:
 - DIRECTIVE 1999/92/EC on minimum requirements for improving the safety and health protection of workers potentially at risk from explosive atmospheres
 - EN 60079-0 (IEC 60079-0): Electrical apparatus for potentially explosive atmospheres– general requirements
 - EN 60079-14 (IEC 60079-14): Electrical apparatus for explosive gas atmospheres– part 14: electrical installations in hazardous areas (other than mines)
 - EN 60079-10 (IEC 60079-10): Electrical apparatus for explosive gas atmospheres– part 10: classification of hazardous areas
 - Regulation (EC) 1272/2008 (CLP)
- ▶ National rules and regulations have to be observed.

8.3 Classification of zones for explosion hazard areas

Explosion hazard areas are defined as areas in which explosive atmospheres may occur in potentially dangerous volumes on account of local and operational conditions.

Areas in which explosions may occur on account of flammable gases, vapours or mists, following classification of zones is applied:

- Zone 0: Dangerous explosive atmosphere persists constantly or for a long time.
- Zone 1: Dangerous explosive atmosphere persists occasionally.
- Zone 2: Dangerous explosive atmosphere persists rarely and briefly.

Explanation of the zone classification when using drum pumps for flammable liquids

- Inside the drum or container: Zone 0
- Bung hole of the drum or the upper edge of the container: Boundary between zone 0 and zone 1
- Rooms in which media are transferred from one drum or container to another: Zone 1

The result for drum and container pumps is:

- ▶ Only pump tubes of unit group II, category 1/2 G may be used to pump flammable liquids.
- ▶ Do not use motors in zone 0, regardless of their protection class.
- ▶ Use motors of unit group II, category 2 G in zone 1.

8.4 Traceability

Products for potentially explosive atmospheres are identified by an individual serial number.

Lutz Pumpen ensures the traceability of this device up to the initial point of delivery according to ATEX Directive.

All persons who redeliver the device are obliged to guarantee its traceability to enable subsequent recall actions.

9. Annex

Type	Power	Frequency	Voltage	Sound pressure level ¹⁾	Weight	Order no. with low voltage release	Order no. without low voltage release
ME II 3	430-460 W	50 Hz	220-230 V	71 dB(A)	5.5 kg	0050-000	0050-016
ME II 3	380-440 W	50 Hz	100-110 V	71 dB(A)	5.5 kg	0050-003	—
ME II 3	400-460 W	60 Hz	110-120 V	71 dB(A)	5.5 kg	0050-006	0050-009
Ex-identification	II 2G Ex db eb IIC T6 Gb						
ME II 5	540-580 W	50 Hz	220-230 V	70 dB(A)	6.8 kg	0050-001	0050-017
Ex-identification	II 2G Ex db eb IIC T6 Gb						
ME II 5	475-515 W	60 Hz	220-230 V	70 dB(A)	6.8 kg	0050-034	0050-035
Ex-identification	II 2G Ex db eb IIC T5 Gb						
ME II 5	400 W	=	24 V	70 dB(A)	6.6 kg	0050-013	0050-015
Ex-identification	II 2G Ex db eb IIC T6 Gb						
ME II 7	750-795 W	50 Hz	220-230 V	69 dB(A)	8.0 kg	0050-002	0050-018
ME II 8	880-930 W	50 Hz	220-230 V	73 dB(A)	8.0 kg	0050-042	0050-041
Ex-identification	II 2G Ex db eb IIC T5 Gb						

¹⁾ The A-weighted emission sound pressure level at 10000 rpm, measured at a distance of 1 m

Tab. 5: Available motor versions

Translation of the original declaration of conformity

We herewith declare under the sole responsibility that the following product complies with the EU Directives listed.

Product: Universal motor for driving drum and container pumps

Types: **ME II 3-230, ME II 3-110, ME II 3-120, ME II 5-230 (50 Hz), ME II 5-24**

Marking:  II 2G Ex db eb IIC T6 Gb

ME II 5-230 (60 Hz), ME II 7-230, ME II 8-230

Marking:  II 2G Ex db eb IIC T5 Gb

Manufacturer: Lutz Pumpen GmbH
Erlenstraße 5-7
D-97877 Wertheim

Relevant European Directives:

ATEX	2014/34/EU
EMV	2014/30/EU
RoHS	2011/65/EU, 2015/863/EU

Applicable harmonized standards:

EN IEC 60079-0:2018	EN 55014-1:2017	EN IEC 61000-3-2:2019
EN 60079-1:2014	EN 55014-2:2015	EN 61000-3-3:2013
EN 60079-7:2015		

The notified body Physikalisch-Technische Bundesanstalt 0102, Bundesallee 100, 38116 Braunschweig, has tested for type examination and issued following certificate: PTB 00 ATEX 1117

The product universal motor ME II... complies with the requirements of the 2014/34/EC Directive. One or more of the standards named in the associated EC-type examination certificate PTB 00 ATEX 1117 has/have been already replaced with new editions. We declare also that the product complies with the requirements of the new standard editions, as the modified requirements of the new standard editions are not relevant for this product.

Wertheim, 06.04.2020



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