
en Translation of the
original instructions
HORIZONTAL PUMP TUBE
for container (IBC)

Type

B200, SS 41-R MS
B200, PVDF 41-R MS
B200 PURE, SS 41-R MS
B200 Ex PURE, SS 41-R MS



Read this operating instructions before start up!

To be retained for future reference.

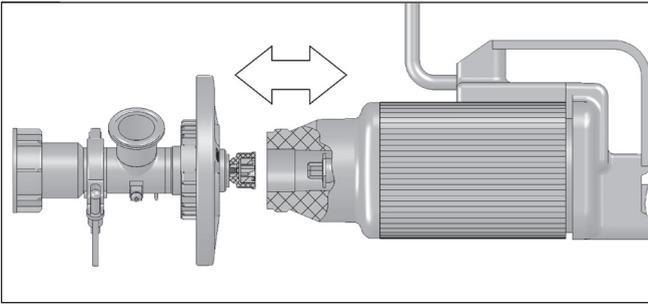


Fig. 2

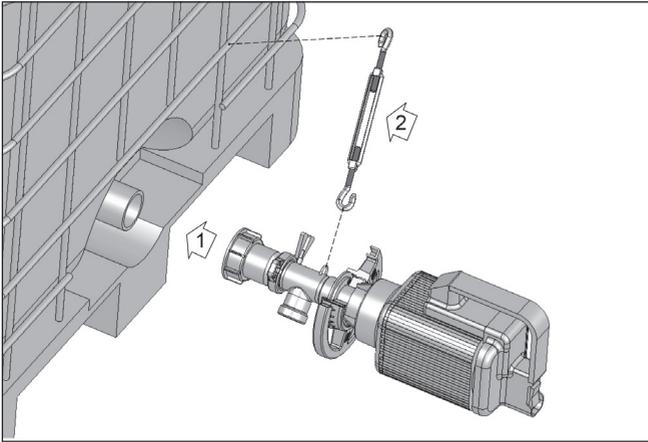


Fig. 3

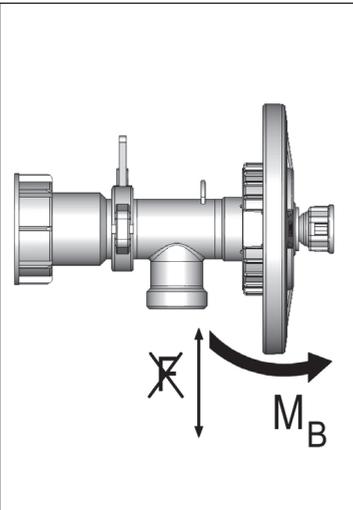


Fig. 4



Fig. 5

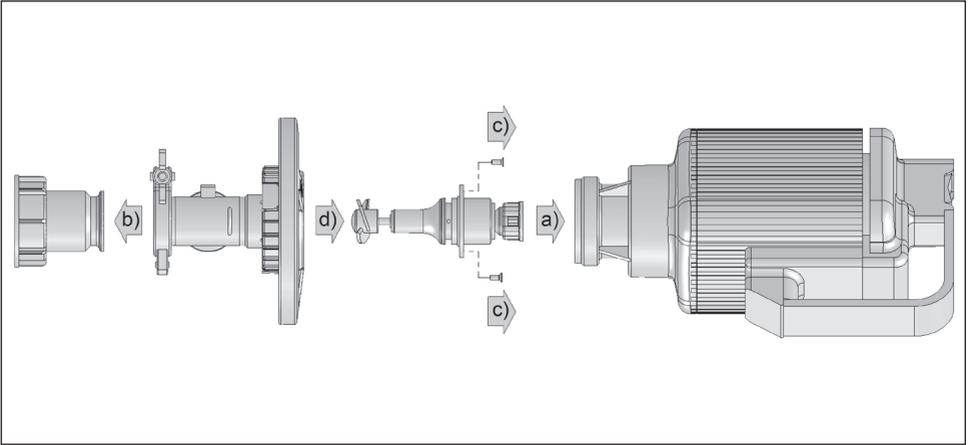


Fig. 6

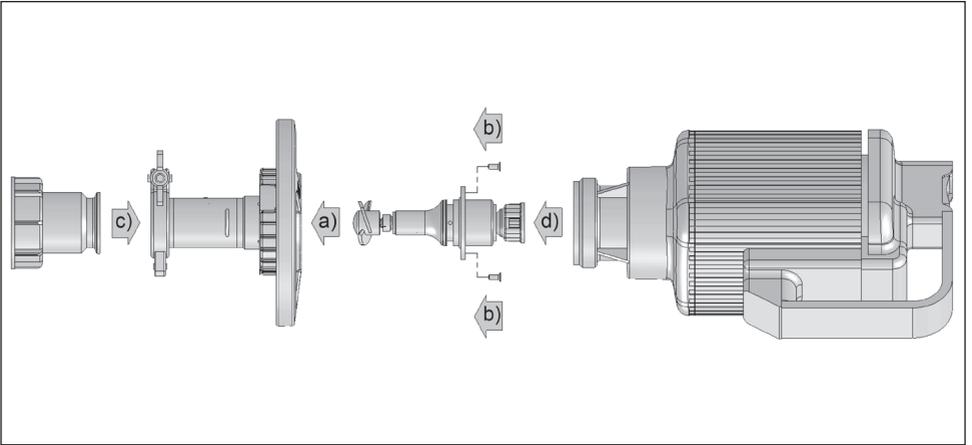


Fig. 7

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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

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 motor	Safe and proper use of the motor.
Operating instructions container	Safe and proper use of the container.
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 prevent 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 pump 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 pump and other material assets. Therefore:

- Operate the pump 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 the case of a safety-relevant malfunction, stop the pump 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 pump 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

- Ensure that personnel tasked with work on the pump 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 pump under the supervision of technical personnel.

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

2.2 Proper use

- The pump may only be installed horizontally.
- Only operate the pump outside the container.
- The pump may only be used to pump the agreed liquids (→ contract data sheet, → Appendix, table 1 - table of materials).
- Ambient temperature -20°C up to 40°C
- Dry running must be avoided.
 - Ensure that the pump is commissioned only with liquid and is never operated without pump medium.
- Pump tubes delivered without a motor require completion to a pump unit in accordance with the specifications of the machinery directive 2006/42/EC.

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)

- Observe and comply with the operating limits of the pump in terms of temperature, pressure, delivery rate (→ Appendix, table 2; contract data).
- The power consumption of the pump increases with increasing density or viscosity of the liquid. To prevent an overload of the pump, coupling and motor, comply with the permissible viscosity and density (→ Appendix, table 3, table 4). A lower density and viscosity is allowed.
- When pumping fluids containing solids, maintain the limit values for solid contents and grain size (→ Contract data sheet, technical description).
- Possible chemical reactions of fluids and resulting health hazards and material damage must be considered.
- Motors may only be operated mounted to the pump tube (→ operating instructions motor).
- Pump with universal motor must not be exposed to weather or be splashed with liquid.
- Use hoses only in perfect and tested condition (→ operating instructions hose lines).
- For pump tubes made of PVDF following applies:
 - Do not operate in explosion hazard area.
 - Do not pump flammable liquids.

2.3 Specific danger

2.3.1 Explosion hazard area or pumping flammable liquids

→ Chapter 10: Instructions for the explosion protection

- Only use pump tubes made of stainless steel (SS 1.4571 with ATEX-Identification II 2 G Ex h IIB T4 Gb).
- Only use explosion-proof drive motors.
- Only operate the pump in filled condition.

2.3.2 Dangerous media

- When pumping dangerous media (e.g. hot, flammable, explosive, poisonous, dangerous to health) observe safety provisions for handling hazardous substances.
- Consider the safety data sheet of the product.
- Always wear protective equipment when working on the pump.

2.3.3 Mechanical hazards

- Pump protrudes from the container and must be protected against mechanical influences.
- The pump must not be transported together with the container.

3. Configuration and function

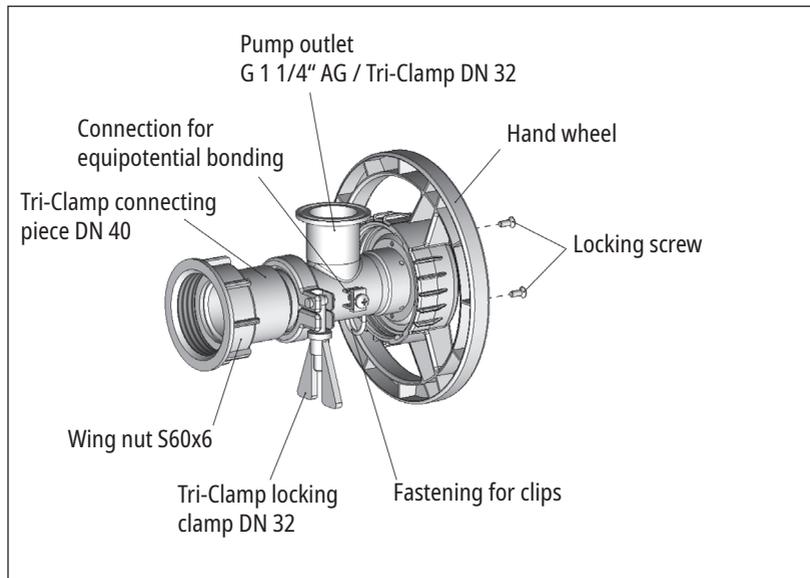


Fig. 1A

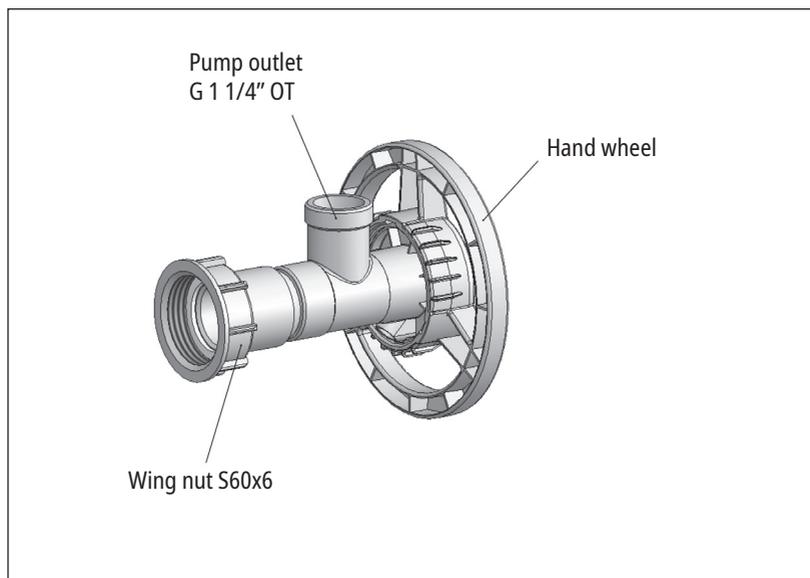
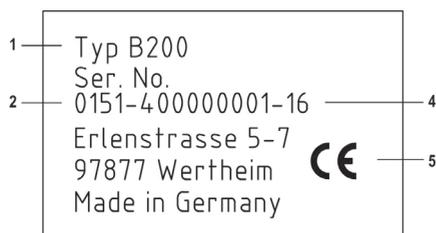


Fig. 1B

3.1 Identification



- 1 Pump type
- 2 Serial number of the pump
- 3 ATEX-Identification
- 4 Year of construction of the pump (last two digits of the serial number e.g. -16 for 2016)
- 5 CE-Identification

3.2 Configuration

A container pump comprises a drive motor and a pump tube. Following different versions are available:

- **Drive**
 - Universal motor
 - Compressed air motor
 - Explosion-proof motors
- **Pump tube**
 - **Material**
 - Stainless steel (SS 1.4571)
 - PVDF
 - **Sealing**
with mechanical seal (MS)
 - **Types of impeller**
axial impeller (R)

3.3 Function

A container pump is used for fast and safe emptying or transferring of all types of liquids from mobile containers. The motor can be removed from the pump tube. The pump is connected to the container via an adapter. The pump made of stainless steel can also be connected via the clamp socket with a hose line or pipe line.

4. Transport and storage

4.1 Transport

Unpacking and checking condition of delivery

- ▶ Unpack the pump tube 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

WARNING

Danger of injury and intoxication when handling hazardous liquids!

- ▶ Always wear protective equipment when working on the pump.

- ▶ Complete emptying of pump tube.
- ▶ Store the pump at a protected and easy accessible place.

5. Installation/Assembly and connection

DANGER

Danger of injury and intoxication when handling hazardous liquids!

- ▶ The valve spool on the container (IBC) may only be opened if it is ensured that pump, hose and shut-off valve are professionally mounted. When starting up, ensure leak tightness.
- ▶ During liquid removal, the container (IBC) must be adequately ventilated.
- ▶ In case of dangerous media, an outlet tank must absolutely be provided.
- ▶ Pump protrudes from the container and must be installed away from the traffic route.
- ▶ Install an EMERGENCY OFF device outside the hazardous area.

5.1 Assembly of pump tube and motor

- ✓ Motor is switched off
- ✓ Coupling to turn easily
- ▶ 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. 2).

5.2 Fasten the pump tube to the container (IBC)

- ✓ A shut-off device is available on the container.
 - ✓ A check valve is mounted on the pump outlet to prevent inadvertent emptying of the container.
 - ✓ When using nozzles, the container (IBC) must not be higher than the maximum operating pressure allows.
- ▶ Screw the pump with wing nut at the outlet of the container. The pump outlet of the pump tube must be levelled downwards. The pump is connected with the container via an adapter. Pump types made of stainless steel can also be connected via the clamp socket with a hose line or pipe line (→ Fig. 3, Item 1).
- ▶ Pump must be hung up with a clip → Fig. 3, item 2) in order to avoid overload at the container outlet. For stainless steel pumps, the clip is fixed on the lifting eye and for pumps made of PVDF on the hand wheel. Pump types made of stainless steel can also be firmly installed in a pipeline which is designed for the total weight of the pump (approx. 6 kg).

5.3 Safe use

Only put the pump into operation if:

- ✓ Motor fastened properly on pump tube
- ✓ Motor and pump tube not damaged
- ✓ Pump screwed tightly to container
- ✓ For pumps made of stainless steel, the fixing screws on the pump tube are tightened firmly (→ Fig. 1A)
- ✓ Suitable and tested pressure lines and connections are used
- ✓ Hose lines tightly and firmly connected to the pump

NOTICE

Damage of property as a result of dry running!

- ▶ Open the valve spool on the container (IBC).
 - ▶ Container (IBC) must not contain any deposits.
-
- ▶ Do not subject the outrun piece to tension or pressure (→ Fig. 4).
- ▶ Limit the bending moment M_b at the outrun piece to 30 Nm. Also observe the information for the container outlet.

6. Operation

- ✓ All connections and fittings are properly tightened
- ✓ Valve spool on the container (IBC) open.

WARNING

Danger of injury and intoxication when handling hazardous liquids!

- ▶ Always wear protective equipment when working on the pump.
- ▶ Observe the maximum operating pressure and operating temperature. At high operating pressure, containers or hoses can burst or become loose.
- ▶ Supervise the pump tube or monitor with a flow monitoring device.
- ▶ Fill at an appropriate speed to prevent splashing out of liquids.
- ▶ Allow nozzle or cable end to drain after filling. There may still be liquid which would otherwise flow out uncontrolled.

NOTICE

Damage of property as a result of dry running!

- ▶ Pump tube may never run dry.

6.1 Taking out of operation

WARNING

Danger of injury and intoxication when handling hazardous liquids!

- ▶ Disconnect the pump motor from the mains power supply.
- ▶ Always close the valve spool on the container (IBC) before working on the pump.
- ▶ Always wear protective equipment when working on the pump.
- ▶ Collect any residual liquid escaping from the pump and hose line safely and dispose of it in an environmentally friendly fashion.

- ▶ Loosen clip, if necessary or remove mounting bracket.
- ▶ Release wing nut on the container.
- ▶ Pull off pump.

CAUTION

After removing the pump from the container, fingers can be injured by rotating parts!

- ▶ Disconnect the pump motor from the mains power supply.
- ▶ Do not reach into the intake port of the pump.

7. Maintenance and servicing

WARNING

Danger of injury and intoxication when handling hazardous liquids!

- ▶ Always wear protective equipment when working on the pump.
- ▶ Empty the pump tube and, if necessary, the hose line and the nozzle completely.

7.1 Observance

- ▶ Only use a non-leaking pump tube:
The pump must be switched off and repaired immediately if liquid leaks out of the pump tube below the handwheel (→ Fig. 5).
- ▶ If necessary, use leakage monitoring.

7.2 Maintenance

- ▶ After pumping aggressive, tacky, crystallizing or contaminated liquids the pump tube must be flushed and cleaned with an appropriate detergent. Follow the safety instructions for the detergent.
- ▶ Only clean pump tube and motor outside the explosion hazard area.

For cleaning the pump made of stainless steel, the rotating pump part must also be removed from the outer tube (→ Fig. 6). Pump B200 PVDF cannot be disassembled for cleaning.

- Release the hand wheel (right-hand thread) and detach the motor from the pump tube.
- Unscrew the clamp connection and remove the container adapter.
- Release the locking screws.
- Press the rotating unit on the rotor side out of the outer tube.

- ▶ Check o-ring and mechanical seal for damage.

Installation (→ Fig.7)

- Press the rotary unit on the coupling side into the outer tube.
- Tighten locking screws.
- Insert container adapter and turn clamp connection.
- Firmly connect the motor and pump tube by means of the handwheel (right-hand thread).

8. Repairs

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

8.1 Sending the pump to the manufacturer

- ✓ Pump pressureless
 - ✓ Pump completely emptied
 - ✓ Electrical connections separated; motor secured against reactivation
 - ✓ Pump cooled down
- ▶ Only return the pump to the manufacturer with an accurately completed document of compliance.

9. Waste disposal

Plastic parts can become contaminated by poisonous or radioactive liquids to the extent to make cleaning insufficient.

WARNING

Danger of poisoning and environmental damage due to the liquid pumped!

- ▶ Always wear protective equipment when working on the pump.
 - ▶ Before disposing the pump:
 - Leaking liquid must be contained and separately disposed according to the locally applicable regulations.
 - Residues of liquid in the pump must be neutralized.
 - ▶ Remove the non-metallic parts and dispose them according to the locally applicable regulations.
-
- ▶ Dispose the pump according to the locally applicable regulations.

10. Instructions for the explosion protection

DANGER

Danger of explosion from use in an explosion hazard area!

- ▶ Only use an explosion-proof pump tube.
- ▶ Only use an explosion-proof motor.
- ▶ Only operate the pump in filled condition. Use the check valve supplied.

10.1 General

Pump is used to pump flammable liquids according to Regulation (EC) 1272/2008 (CLP) from mobile vessels, which belong to the explosion groups IIA and IIB and the temperature classes T1 to T4. The pump corresponds to category 2 when used as intended.

10.2 Identification

 II 2 G Ex h IIB T4 Gb

10.3 Special conditions

- ▶ Ensure that additional fitted components (e.g. coupling, gear, drive motor) are located outside of the mobile container.
- ▶ The requirements of unit group II (sub-class II B), category 2, temperature class T4 have to be met.
- ▶ Only use Lutz Pumpen explosion-proof drive motors.
- ▶ Do not use the drum pump for stationary operation.
- ▶ The operation of the pump has to be monitored during the pumping process in order to avoid dry running and empty running phases.

10.4 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.

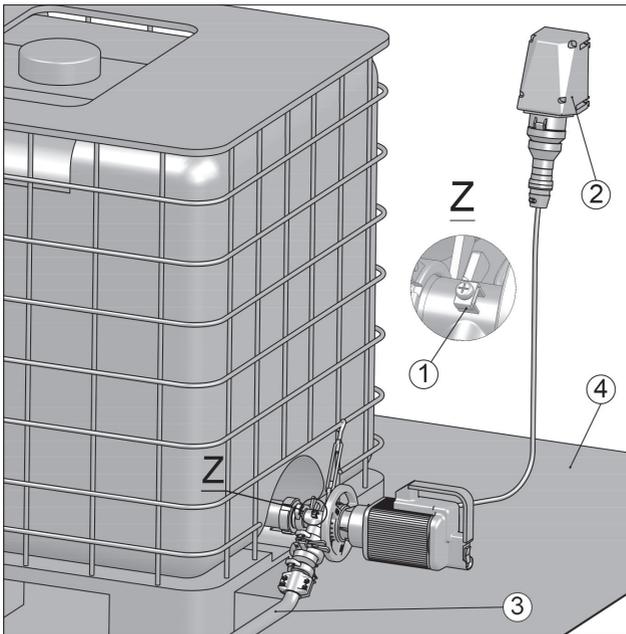


Fig. 8

- ① Connection for equipotential bonding cable
- ② Explosion-proof plug-and-socket device, explosion-proof terminal box or plug-and-socket device outside the explosion hazard area
- ③ Conductive hose line with conductive connector ($R < 1 \text{ M}\Omega$)
- ④ Conductive substrate or connection of an equipotential bonding cable

10.5 Conductive hoses / hose connections

- ▶ Use an electrically conductive hose.
- ▶ Ensure that the ohmic resistance between the fittings may not exceed the following limited values depending on the respective hose type.
 - Symbol M/T = Limit $\leq 10^2 \Omega$.
 - Symbol Ω /T or Ω -CL = Limit $\leq 10^6 \Omega$.
- ▶ Ensure that the nozzle is conductive.
- ▶ Ensure that the hose connection provides a highly conductive transition between hose and pump tube as well as the nozzle.
- ▶ With poorly conductive transitions: Earthing all conductive parts.
- ▶ Identify and examine hose lines and armatures according to DIN EN 12115.

10.6 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.

Annex

Wetted parts	SS (1.4571)	Hastelloy C	FPM	EPDM	Oxide ceramics	Carbon	ETFE	PVDF	PTFE	SiC
	Pump tube									
B200 Order No. 0151-400	●		●		●	●	●			
B200 PURE Order No. 0151-401	●		●		●	●	●			
B200 PURE Order No. 0151-402	●			●	●	●	●			
B200 Ex PURE Order No. 0151-403	●		●		●	●	●			
B200 Ex PURE Order No. 0151-404	●			●	●	●	●			
B200 PVDF Order No. 0123-420		●	●			●	●	●	●	●

Table 1 – Table of materials

Max. operating temp.*	°C	°F
Pump tube		
B200	100	212
B200 PURE	100	212
B200 Ex PURE	100	212
B200 PVDF	100	212
* When handling flammable liquids, note the flashpoint.		

Table 2, Max. operating temp.

Motor	MI 4	MA/ME II 3	MA/ME II 5	MA/ME II 7	ME II 8	MD1xL MD2xL
Pump tube						
B200	350	200	550	400	650	1000
B200 PURE	350	200	550	400	650	1000
B200 Ex PURE	350	200	550	400	650	1000
B200 PVDF	150	150	350	350	400	1000
	Statements in mPas					

Table 3, Max. viscosity

☞ The viscosity values specified in the table are reduced when pumping liquids with a density of more than 1 kg/dm³.

Motor	MI 4	MA/ME II 3	MA/ME II 5	MA/ME II 7	ME II 8	MD1xL MD2xL
Pump tube						
B200	1.1	1.2	1.3	1.4	1.4	2.8
B200 PURE	1.1	1.2	1.3	1.4	1.4	2.8
B200 Ex PURE	1.1	1.2	1.3	1.4	1.4	2.8
B200 PVDF	1.1	1.2	1.3	1.4	1.3	2.8
	Data in kg/dm ³ / Determined with 3 m hose 3/4" and opened nozzle 3/4".					

Table 4, Max. density

☞ The density values specified in the table are reduced when pumping liquids with a viscosity of more than 1 mPas.

Translation of the original declaration of conformity

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

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

Product: **Horizontal container pump (IBC)**

Types	ATEX registered number
B200 SS 41-R MS	None
B200, PVDF 41-R MS	None
B200 PURE, SS 41-R MS	None
B200 Ex PURE, SS 41-R MS	16 ATEX D117

Relevant European Directives:	ATEX	2014/34/EU
	Machinery Directive:	2006/42/EG

Applicable harmonized standards:	EN ISO 12100:2010	EN 1127-12011
	EN 809: 1998+A1:2009/AC:2010	EN ISO 80079-36:2016
		EN ISO 80079-37:2016

The notified body Physikalisch-Technische Bundesanstalt 0102, Bundesallee 100, 38116 Braunschweig, is keeping the technical documentation in accordance with ATEX-Directive, annex VIII, point 2 under the registration number 16 ATEX D117.

Marking:  **II 2 G Ex h IIB T4 Gb**

Person authorised to compile the technical file Lutz Pumpen GmbH, Erlenstraße 5-7, D-97877 Wertheim

Wertheim, 05.09.2019



Heinz Lutz, CEO



Lutz Pumpen GmbH

Erlenstraße 5-7

D-97877 Wertheim

Tel. (+49 93 42) 8 79-0

Fax (+49 93 42) 87 94 04

e-mail: info@lutz-pumpen.de

<http://www.lutz-pumpen.de>