LUDGER GLAAP &
FRITZ BRINKMANN
Machines GmbH & Co.KG

Original - Operation instructions MOBILEMAN D5

MOBILEMAN

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1.1 Preface

In this manual, you will learn how to operate the machine properly and to implement its intended use specifications.

This manual contains immensely important information to ensure proper operation. With regard to dangers, the manual serves as preventative reading.

To avoid long downtime, increase reliability and durability, always follow the operating instructions.

The manual must always accompany the machine.
In case of changes to national regulations in the field of accident prevention and environmental protection, the manual must be supplemented immediately.

The operator of the machine must provide unrestricted access to this manual to any person working with or on the machine.
The manual is to be read by every person who works on and around the machine.

In addition to the manual, country-specific safety regulations must be complied with.

If you have any questions or remarks, always provide the following information.

- Machine type
- Chassis number
- Year of manufacture
- Type of use

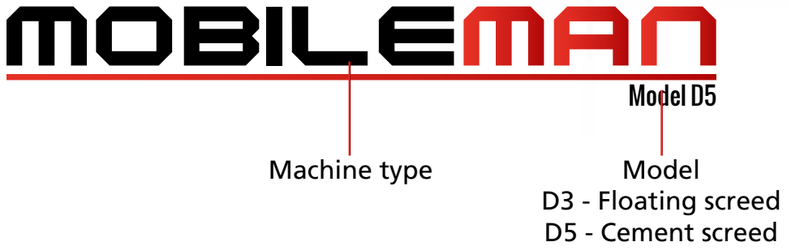
Please contact the company Ludger Glaap & Fritz Brinkmann Machines GmbH & Co.KG at Schloß Holte.

Phone: +49 (0)5207 92473-0

1.2 Technical data and explanations

This chapter deals with general explanations of the MOBILEMAN components. Note that optional components are also mentioned.

1.2.1 General Description and Designation



1.2.2 Technical Data and Overview MOBILEMAN D5

MOBILEMAN D5	
Model	Semitrailer
Type	Compressed air conveyor
Motor / Compressor	4-cylinder Hatz / Atlas Copco
Mixing container	200l volume in the mixing mechanism
Aggregate chamber	Volume approx. 21m³
Binder chamber	Volume ca. 6 -15 m³
Tank volume	110 litres
Chassis	3 airsprung axes
Weight	approx. 10t depending on the model
Measurement	10,600 x 2,520 x 3,250

1.3 Functional description

The MOBILEMAN D5 is a variable and configurable logistics system developed by GB Machines from Schloß Holte. The comprehensive modular design of the tipper configuration makes it possible to adapt the structure exactly to the needs of the customer.
The total volume is 25, 30 or 50 m^3. The binder chamber has a volume of 6 to 15 m^3 and is also divisible in itself, so that a three-chamber system is created and thus highest flexibility is ensured. In order to be able to refill the respective materials on site, injection systems for binders and aggregates are available.

1.3.1 Mixing

To mix the material, the mixture is mixed together in the mixing mechanism. By tilting the machine the additive and binder slide down and are transported into the mixing and weighing container.
Everything is mixed with the addition of dosed water. Through the controls all components can be dosed in exact ratio to each other.

After the mixing time, the material is discharged into the delivery tank and is conveyed to the destination by plug-flow-conveying.

1.3.2 Conveying

After mixing, the material enters the conveying container by opening the mixer flaps.
By means of a paddle screw installed in the conveying container, the already mixed material is kept in the optimum consistency. This ensures that no segregation of the material takes place, even during interruptions.

The screw pump pumps the material through the conveying hoses to the destination.

The screw pumps used consist of a rotor and a stator and work according to the displacement principle.

1.3.3 Diesel motor - hydraulics

The built-in Hatz motor operates the hydraulic system of the MOBILEMAN. Due to the diesel motor, the hydraulic system is in operation. All machine parts are hydraulically driven.

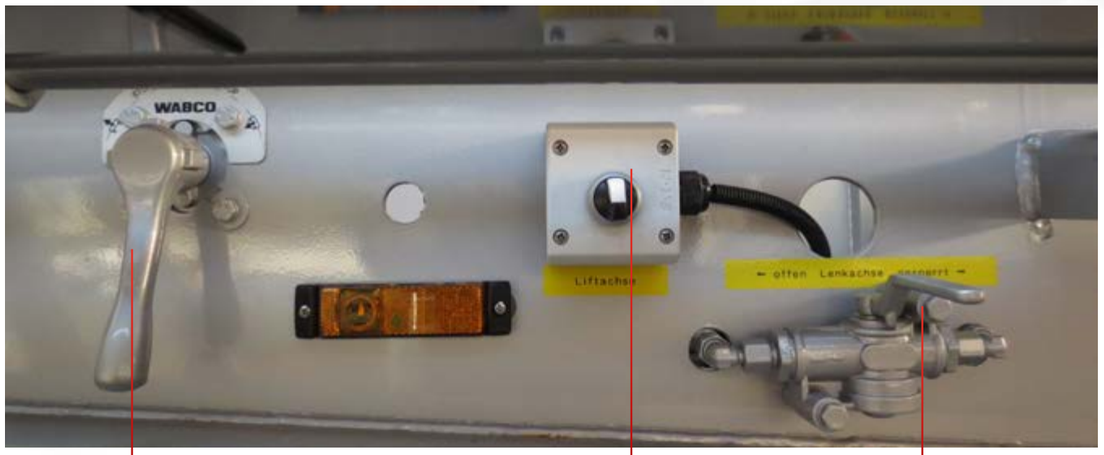
1.4 Allocation Overview

- (1) Hopper
- (2) Top- and bottom air
- (3) Weighing-mixing container
- (4) Control unit
- (5) Spool of fiber

1.5 Controls

Here you will find all the controls on the MOBILEMAN.

1.5.1 Control elements axle

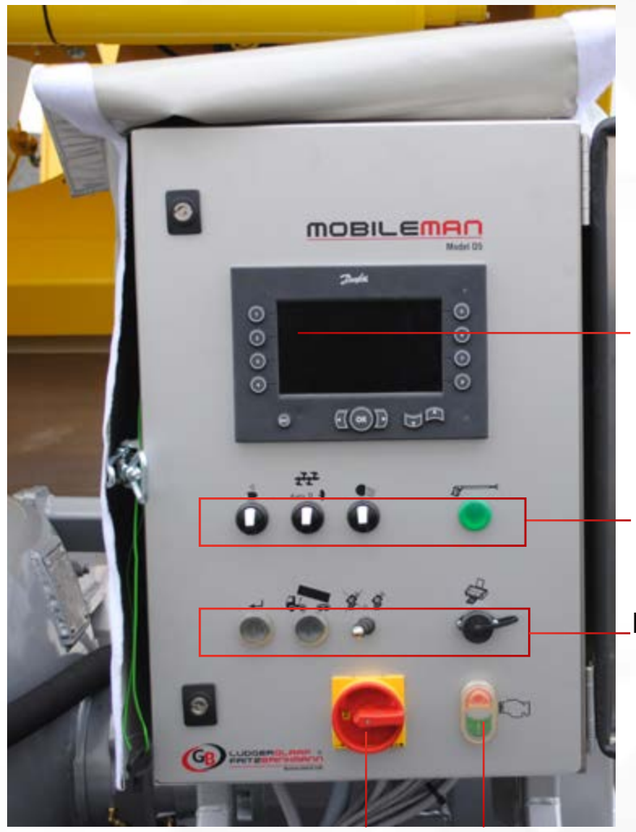


- » (1) Adjustment of air suspension
- » (2) Lifting and lowering lift axle
- » (3) Lock steering axle

1.5.2 Control elements Powerpack

- » (1) Emergency stop Powerpack

1.5.3 Control elements Controls

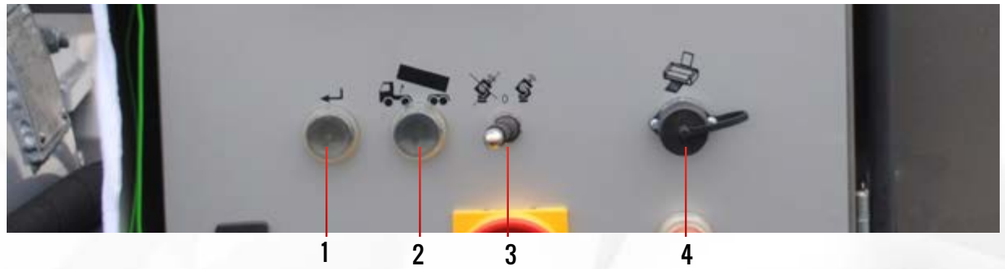


- » (1) Main switch
- » (2) Motor On/Off
- » (3) Control computer
- » (A) First row
- » (B) Second row

1.5.4 Control elements Controls

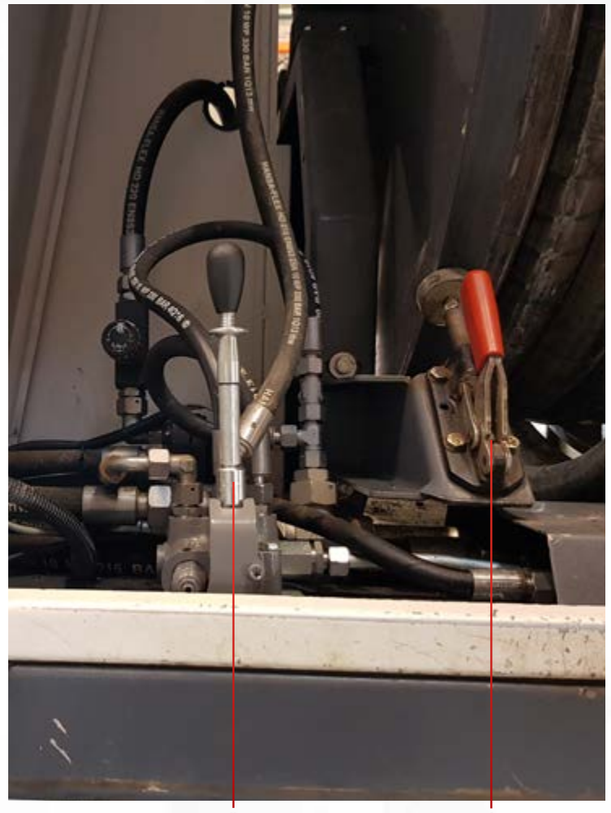
» (1) Pause
» (2) Mixing mechanism an
» (3) Light
» (4) High pressure cleaner

1.5.5 Control elements Controls II



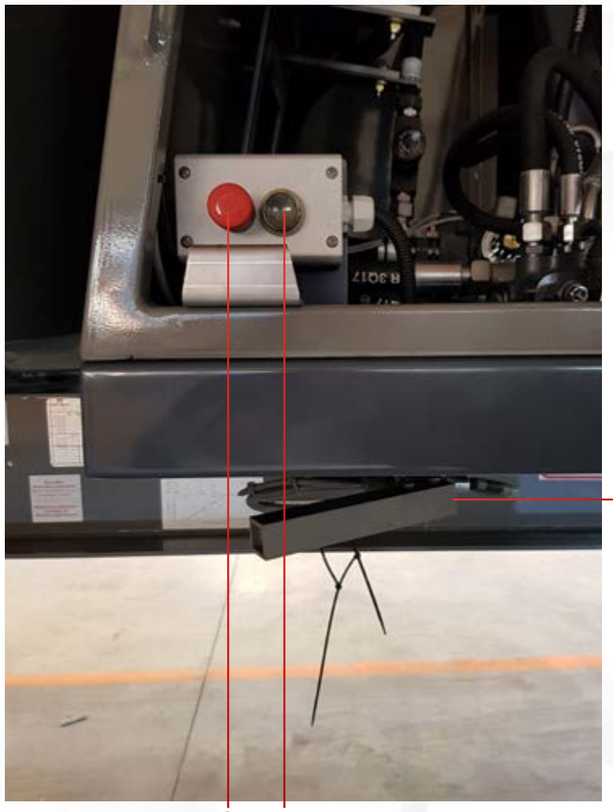
» (1) Confirmation
» (2) Folding MOBILEMAN Tipper
» (3) Remote - manual operation switching
» (4) Connection output device

1.5.6 Control elements Hose reel



» (1) Lock for hose reel - brake
» (2) Locking lever for winding and unwinding the conveying hose

1.5.7 Control elements Tipper lowering



- » (1) Lever for draining the tipper
- » (2) Emergency stop
- » (3) Button that ensures double-hand operation - The tipper is lowered only when the button is pressed and the lever is pressed simultaneously

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Introduction

1.5.8 Control elements Roof

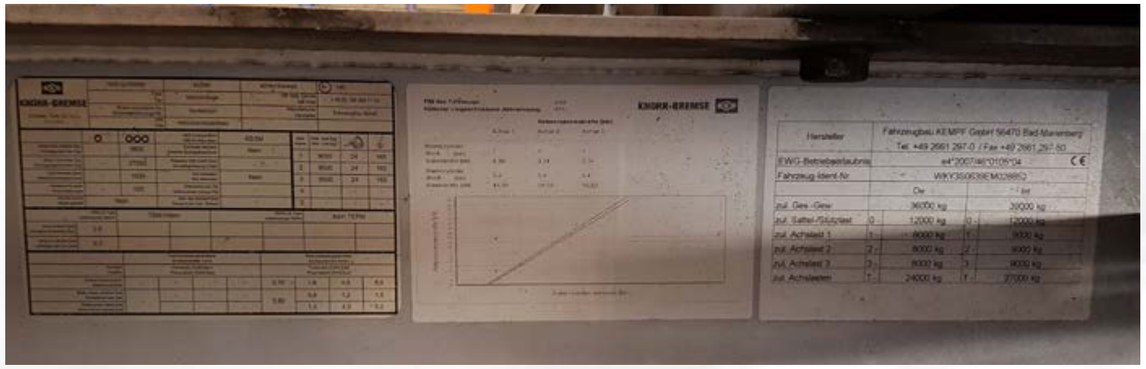
- » (1) Switch for opening the automatic cover flap
- » (2) Emergency stop

1.6 Operating materials

Here you will find an overview of the operating materials of the MOBILEMAN.

	MOBILEMAN D5
Operating material	
Motor oil	BP Vanellus E6 15W-40 / 6.5l
Gear oil	Texaco Meropa 680/ 3l
Compressor oil	BP Energol HLP - HM 46 / 6.5l
Fuel	Brand diesel fuel / 59l
Hydraulic oil	HLP / 12l

1.7 Type plate



Information to be found

- » Designation of machine type
- » Year of manufacture
- » Max. delivery pressure
- » Max. hydraulic pressure
- » Chassis number
- » Permissible total weight
- » Permissible axle load
- » Permissible support load

1.8 Standard equipment

The MOBILEMAN is equipped as standard with

- » protective cover shut-off
- » EMERGENCY STOP switch
- » Right / left rotation of the conveyor augers
- » Stepless mixer speed
- » Flow control via remote control

1.9 Scope of delivery for machine output*

- » Operating manual
- » Tool package
- » 2 batteries, charger, remote control

*For special modifications, the scope of delivery may differ.

1.10 Optional modifications or upgrades

Learn more about product upgrades or modification kits.
Ask your local GB Machines representative or an authorised GB Machines dealer.

More information at: www.gb-machines.de

1.11 Keys / Symbols

Hazard
Potential hazard. Hazard warning to prevent accidents.
This block is always framed.

Suspended load
Warning of loads that may fall down.
This block is always framed.

Risk of crushing
Possibility of injury through crushing.
This block is always framed.

High voltage current
Danger of electric shock.
This block is always framed.

Note
Note or tips for use.
This block is always framed.

Environment
Pay attention to environmental protection here.
This block is always framed.

General safety instructions

This chapter deals with essential safety instructions.
It is essential that every employee is familiar with this chapter and its content.
Note see 2.1.

Safety regulations, which are based on special work, can be found under the point Operation.
You can find individual country-specific safety regulations or environmental protection guidelines in the country-specific manual.
Applicable safety standards:
Machine Directive 98/37/EC
Pr EN 12001, conveying, spraying and distributing machines for concrete and mortar

2.1 Special safety symbols

Safety helmet
Head protection against falling loads

Safety gloves
Protect your hands from corrosive substances

Respiratory face protection
Protects you against face injuries and against inhaling of building material particles

Safety shoes
Protects you from crushing by falling loads

Safety glasses
Protect your eyes

Ear protection
Protects you against noise from the environment surrounding the machine

Fall protection
Protects you from falling from great heights

2.1.1 Basics of safe use

The machine may only be used in technically flawless condition. All instructions from the operating manual must be observed and followed.

In case of impairments of the machine, these must be resolved beforehand by specialist personnel.

The machine must be checked for safety before being operated. Should deficiencies or impairments be identified, these must be reported to the supervisor immediately.

In case of serious safety malfunctions, use must be stopped immediately.
Always ensure that the safety-relevant parts are arranged correctly.

The safety equipment must not be disassembled or otherwise impaired.

All safety elements must be re-installed after repairs in accordance with the regulations.

Use only fully intact delivery hoses which are intended for this purpose. The same is to be observed with couplings, etc.
Conveying hoses are wear parts, the service life of which is dependent on use and therefore they have a variable durability.

Delivery hoses must be checked for weaknesses before use.

The machine must be operated in accordance with operational safety regulations.

Note
Observe the safety regulations. This is for your benefit and that of your employees.

2.2 Resale

Provide all accompanying documents (operating and maintenance instructions, plans, machine maps, test certificates, etc.) that you have received yourself with your machine to the new operator. If necessary, you must order the papers from us, quoting the machine number.
The machine may under no circumstances be resold without the accompanying documents.

If lost, please contact GB Machines. Only a message to GB Machines will ensure that you will be informed about information, updates, and safety deficiencies.

2.3 Proper use

The MOBILEMAN is built according to the state-of-the-art technology and safety regulations.

The operating manual must always be observed and followed. When using the machine, danger to life and limb can nevertheless arise.

Maintenance and inspection intervals must be observed and maintenance carried out by authorised personnel only. Please contact the appropriate advisor or your local GB Machines dealer.

The machine must be inspected annually (German Industrial Safety Regulation §10). This inspection is to be arranged by the operator.
These inspections and maintenance works must be carried out by the operator.

Any modifications to the machine must only be carried out in agreement with the manufacturer. All protective and safety devices must be installed and activated during operation. The machine may only be operated if all protective and safety devices work properly.

The machine is to be used for mixing and conveying anhydrite, magnesite or cement based screeds as well as lightweight concrete with a grain size up to 8 mm or 12 mm. Other materials may only be processed in consultation with GB Machines, as they may require modifications to the machine.

Note
Always adhere to the correct use of the machine. Failure to do so may affect the warranty.

2.3.1 Improper use

Alternative uses or uses which go beyond this are considered improper.

Damage caused by improper use is not included in the warranty.

The risk for such uses lies with the operator/user.

The following are examples of improper use:

- Any tool drive with the compressed air
- The compressed air must not be used for non-commercial purposes, e.g. the cleaning of driveways or the filling of oxygen bottles etc.

Note
The operator is liable for improper use.

General safety instructions

2.3.2 Modifications of the machine

The operator/user is not allowed to make modifications or conversions which would present a protective or safety risk.

Modifications are to be carried out exclusively by qualified personnel.

Note
Note that only trained personnel may perform repairs or modifications.

2.4 Liability and disclaimer

The generally applicable safety and accident prevention regulations of the following institutions must be observed:

- PA (Professional Association)
- The applicable laws of the respective country of operation
- Company liability

Accidents or incidents resulting from non-observance of the operating manual and/or deviations from applicable safety and accident prevention regulations will be considered by the law to be the responsibility of the operation supervisory staff.

The company Ludger Glaap & Fritz Brinkmann GmbH & Co.KG is not liable for damage caused by improper use.

Negligent or grossly negligent acts also result in a loss of warranty.

Exceeding the maintenance and inspection time frames also results in a loss of warranty.

2.5 Safety when handling compressed air tanks

Compressed air tanks are subject to chronological test cycles. The operator is obliged to carry out these periodic inspections in due time and to document them accordingly.

The commissioning of compressed air tanks is reserved for expert organizations.

In Germany, these are carried out by the TÜV, Dekra etc.

The MOBILEMAN is accompanied by a separate service booklet, in which you will find all the relevant inspection deadlines.

These deadlines are based on the Pressure Equipment Directive 97/23/EC and the hazard analysis according to AD2000.

These deadlines are set by the operator in accordance with the Industrial Safety Ordinance.

The following required tests have already been completed by the company Ludger Glaap and Fritz Brinkmann Machines GmbH & Co.KG:

- Pressure and acceptance test
- Commissioning

You will receive all documentation upon delivery of the machine.

Note
The operator is responsible for carrying all papers.

General safety instructions

2.5.1 Workplace and work area

The work area is defined by the length of the conveyor line. It contains all conveying hoses as well as the area around thee discharge stand.

The area around the discharge stand is attributed to the screed layer. The place of the operator or the operating person is next to the machine at the control box.

The operator is responsible for the area around the machine. He must ensure that nobody is endangered by the machine and prohibit unauthorised persons from accessing the machine.

2.5.2 Working on hydraulics / pneumatics

All work in this area may only be carried out by qualified personnel. Sufficient protective clothing must be worn.

There is a risk of scalding by hot hydraulic oil leaking out.
Eye protection, face protection and gloves must be worn.

Safety gloves
Protect your hands from corrosive substances

Respiratory face protection
Protects you against face injuries and against inhaling of building material particles

Safety glasses
Protect your eyes

Note
Only trained technicians may work on electric or hydraulic machines.

2.5.3 Hydraulic piping

All hydraulic lines must be inspected before start-up.
If no visible deformations can be found, hydraulic lines have a maximum service life of 6 years.

What is decisive here is the date of manufacture of the hoses.

2.5.4 Environmental / Noise protection

Ensure that no operating materials or other lubricants are leaking.
These substances can enter the groundwater directly and cause considerable damage.

If this occurs and you notice a fuel or oil leak, inform the competent authorities immediately.

The machine causes a level of noise in the immediate vicinity. This can lead to permanent hearing damage.

Always wear ear protection when working with the machine.

Environment
Do not allow any hazardous substances to escape.

Ear protection
Protect yourself, especially when close to the machine.

General safety instructions

2.5.5 Spare parts

The replacement parts must comply with the manufacturer's technical guidelines. This quality standard is only guaranteed in any case for genuine spare parts.

2.5.6 Hot machine parts

The replacement parts must comply with the manufacturer's technical guidelines. This quality standard is only guaranteed in any case for genuine spare parts.

2.5.7 Conveying hoses and hose couplings

Do not disconnect conveying hoses that are under pressure. Check the system to be depressurized.

The conveying hoses and their hose couplings are designed for a maximum pressure of 40 bar. The maximum pressure of 40 bar must not be exceeded!

Transported material spurting out from ripped conveying hoses or hose couplings can cause serious injuries, especially to the eyes!

2.5.8 Mixing container

In the mixing container, the material is processed, secure it against foreign bodies entering.
Never reach into the mixing container during operation.

This can result in the most serious injuries with fatal consequences.

2.5.9 Conveying container

There is a mixing mechanism in the mixing container. Never open the conveying container during operation.
Never reach into the conveying container during operation.

2.6 Persons and qualifications

Only persons of legal age are allowed to work independently on the machine. These must be healthy and fit and must not be under the influence of narcotics.

These must be in full possession of physical and mental fitness.

2.6.1 Electrical work

These may only be carried out by an electronic specialist.

2.6.2 Hydraulic works

These may only be carried out by a hydraulics specialist.

2.6.3 Workspace

The work area is the area where work is done with and on the machine, including the conveying line. The work area can become a danger zone, depending on the activity performed.

The work area must be secured while working against unauthorized entry. If necessary, put up warning signs or barriers.
The operator is responsible for safety in the work area during operation.

General safety instructions

2.6.4 Risks of injuries

The machine has been manufactured according to the state of the art, but risks of injury may arise here.

If the machine is not used correctly, the following injuries may occur:

- Risk of accident due to the towing vehicle and the coupled semitrailer.
- Risk of crushing and impact when raising the tipper.
- Risk of injury from toppling semitrailers, especially in unfavorable wind conditions.
- Risk of injury from falling loads.
- Risk of injury due to movement, missing wheel chocks or incorrectly unfolded supports.
- Eye and skin injuries (risk of etching) from concrete spatter, water glass or other chemical substances.
- Injuries, especially of the eyes, by opening/uncoupling a pressurized conveying hose.
- Hearing damage in the absence of ear protection.
- Electrical contact (life-threatening electric shocks possible!).
- Risk of burns from hot machine parts.
- Danger of scalding from hot motor oil or hydraulic oil.
- Injuries due to unauthorized/accidental starting or operation of the machine.
- Injuries due to gripping/winding/pulling in of various moving parts.
- Injury due to overload.
- Injuries due to improper machine control, including in traffic.

2.6.5 Inspection

Check all lines, screws and fittings for leaks before each use. As part of the inspection of the machine, all leaks must be stopped immediately.
Never repair hydraulic lines, but replace them!

The change interval for hydraulic lines is 6 years, even if they are not damaged visibly.

3. Transport and assembly

This chapter deals with the transport of the machine. Observe the following safety-relevant points when handling the machine.

- » No overload
- » Symmetrical distribution of mixture
- » No people in the tipping area
- » Driving only when the tipper is folded down
- » Only tilt if tractor and MOBILEMAN are aligned

3.1 Before transport

Check list before moving in road traffic:

- » Tire pressure test
- » Handbrake released
- » Tractor coupled correctly
- » Check of the lighting
- » Check of the brake system and the outlet device
- » The roof of the cargo compartment is closed
- » Brake shoes are in the devices
- » Brake blocks / wheel chocks have been removed
- » The worklight has been switched off
- » Mixing and conveying containers are emptied and cleaned
- » All systems are switched off

Note
Always work this list down, only then is safe transport possible.

Transport and assembly

3.1.1 General transport

The machine comes with a general operating licence. You will receive these at the time of delivery.
The official papers must always be carried along during transport.

The machine is subject to road traffic regulations while it is in road traffic. These also determine the maximum speed.

The machine must not be used to transport loads. Always observe the permissible maximum weight and the rules for trailer operation.

The mixture conveying tank must be completely emptied, there must be no residual material left in it. The trailer may not be used for the transport of materials, this is to be used only after its destination.

Outside of Germany, depending on the country, an additional acceptance of the state authorities must take place.

In Germany there is an obligation to maintain a registration number for the machine. This also includes an obligation to carry out the TÜV examination every 24 months.

You will receive the registration number from your official registration office by submitting the official papers.

Please note that there are different regulations for general driving in other countries.

Note
Always observe the relevant national regulations.

3.1.2 Coupling up

The following works are essential for the transport of the semitrailer and are described in the following chapters:

- Lower the tipper and bring it into driving position (see chapter Transport and assembly)
- Empty and clean mixing and conveying unit (see chapter Cleaning)
- Retract all supports
- Couple up only with braked semitrailers, using the brake shoes
- Couple the tractor and follow the instructions of the tractor
- The roof of the cargo compartment is closed
- Brake shoes are in the devices
- Brake blocks/wheel chocks have been removed
- The worklight has been switched off
- Mixing and conveying containers are emptied and cleaned
- All systems are switched off

3.1.3 After coupling up

It is absolutely necessary to observe the operating instructions for the tractor:

- Connect air and electrical supply
- Remove brake shoes
- Retract support winch
- Unlock steering axle
- Lower lifting axle
- Release brake
- Move the air suspension to the driving position

Suspended load
Be careful when loading with a crane. There is a risk of falling.

3.1.4 Connection of air and electricity supply

The correct connection of the semitrailer to the tractor is absolutely necessary to participate safely in the traffic.

- (1) Air connection “red” supply
- (2) Air connection “yellow” controls

- (1) ABS socket
- (2) Socket for normal and secondary consumers 15-pin

3.2 Opening and closing the cargo compartment roof

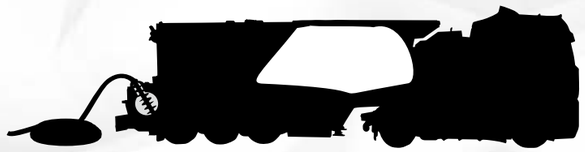
The cargo compartment roof is controlled by a switch on the chassis.

» (1) Switch for opening the cover
» (2) Switch emergency stop with unlocking

3.3 Load distribution during loading

Always pay attention to correct load distribution while driving. It is also important to pay attention to a proper load distribution in the vertical

Correct



Wrong

Hazard
The cargo compartment roof must be closed while driving.

Hazard
The load must always be properly distributed, there is a risk of tipping.

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Transport and assembly

3.4 Chassis semitrailer

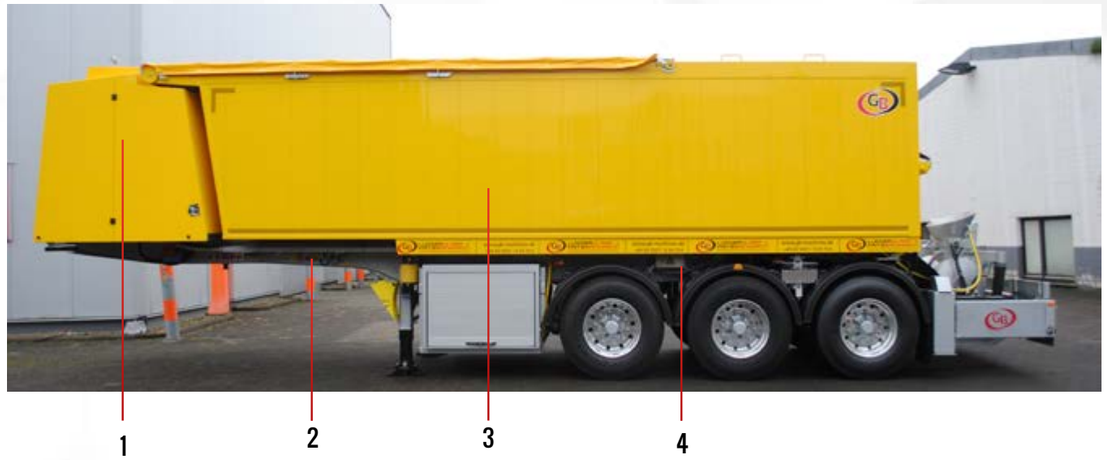
The chassis of the MOBILEMAN has various adjustment options, which can be controlled with the control lever.

» (1) Hydraulic supports - to be operated with remote control
» (2) Passively steering running axle
» (3) Air-suspended lift axle
» (4) Support winch

Note
Only drive with the supports folded and the tractor connected.

3.4.1 Chassis semitrailer

The chassis of the MOBILEMAN has various adjustment options, which can be controlled with the control lever.



» (1) Powerpack with motor and hose reel
» (2) Control lever - Brake - Air suspension - Steering axle
» (3) Tipper
» (4) Controls Lift axle

Hazard
Always ensure that the machine is correctly connected and disconnected. Accident risk!

3.5 Brakes of the semitrailer releasing - locking

If you should park the vehicle, you have the following setting options of the parking brake:

» (1) Parking brake of the semitrailer with coupled and uncoupled towing vehicle
» (2) Release valve with uncoupled vehicle

3.5.1 Locking the brakes of the semi-trailer

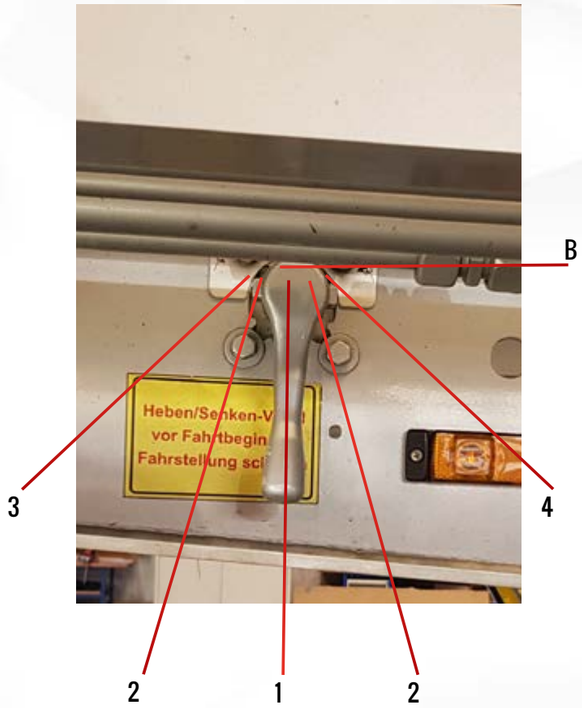
» Pull the knob - The brake of the semitrailer is tightened.

3.5.2 Releasing the brakes of the semitrailer

» Push the knob - The brake is released.

Note
In road traffic always keep the air suspension in the driving position. For all air-suspended axles, always turn the lever to the driving position.

3.6 Drive position of the lever - air suspension



» (1) Pos. 1 = driving position - Set lever to pos. 1. The air suspension of the axles is active.

» (2) Pos. 4 = Lift semitrailer - Set lever to pos. 4. The semitrailer is lifted. To stop the lifting process, set lever to pos. 2.

» (3) Pos. 3 = Lower semitrailer - Set lever (B) to pos. 3, the semitrailer is lowered. To stop the lowering process, set lever to pos. 2.

» (4) Pos. 2 / 2 = Stop - Set lever (B) to pos. 2, to stop the lifting / lowering of the semitrailer. The air-suspended axles hold the set height as long as the lever is in position 2. The air suspension of the axles is switched off.

Note
In road traffic always keep the air suspension in the driving position. For all air-suspended axles, always turn the lever to the driving position.

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Transport and assembly

3.7 Steering axle locking and unlocking

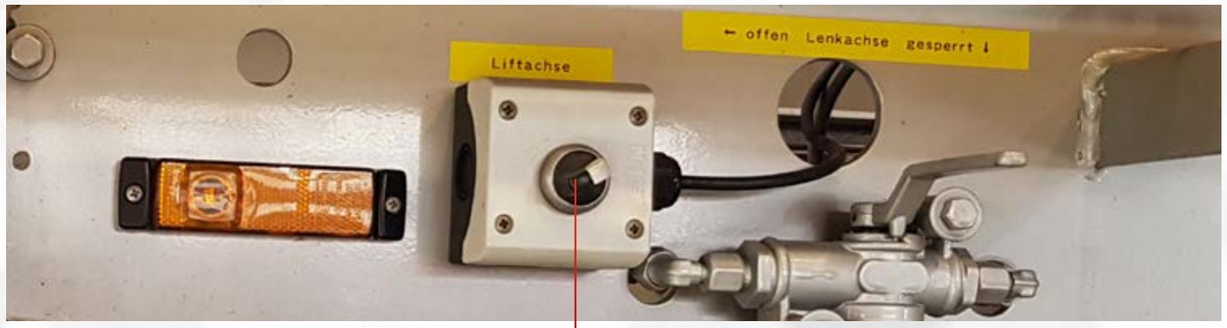
If you should park the vehicle, you can lock/unlock the steering axle as follows

» (1) Position 1 - Unlock steering function - The axle is passively steering

» (2) Position 2 - Lock steering function - The axle stays rigid

3.8 Lift axle lowering - raising

The raised position is only to be selected if the semitrailer is used in traffic and is unloaded.



» (1) Switch in upward position - the axle moves up

» (2) Switch in downward position - the axle moves down

3.9 Operation of the supports

The rear hydraulic supports should ensure a horizontal position and be extended before starting work. Slight slopes can thus be compensated by precisely balancing the MOBILEMAN. While driving, all supports must be retracted. Make sure that all supports are secured and locked by means of spring catches.

The MOBILEMAN has two pairs of supports, the support winch being useful only when no tractor is hitched.

3.9.1 Supports in working position

In the coupled state, the rear supports are extended taking into account the following points.

The following steps haven to be carried out:

Extend supports

- » Position packing plates on the underground
- » Apply parking brake
- » Brake shoes under the wheels
- » Extend supports

Retract supports

- » Lift air suspension
- » Unlock spring catch
- » Retract supports and secure them

Note
During transport, the drawbar must be parallel to the ground. (Be folded up!)

Transport and assembly

3.9.2 Folding out the supports - detail

To operate the hydraulic supports it is necessary that the power pack and the motor are switched on.

The following steps haven to be carried out:

Extend supports

- » Position packing plates on the underground
- » Apply parking brake
- » Brake shoes under the wheels
- » Extend supports

- » (1) Rotary knob - Turn to extend the supports
- » (2) Rotary knob to retract the supports
- » (3) Button for two-handed operation - must be pressed to move supports

Note
Make sure nobody is in the danger zone.

3.9.3 Support winch at the front

The front support serves only to fix the semitrailer without towing vehicle.
Since the load capacity is insufficient, the tipper can not be folded in the working position.

» (1) For easy operation, pull the crank completely clockwise = extend
» (2) When fully operated, push in the crank counterclockwise = retract

Note
Secure the crank after use. The tipper is in working position - do not tipping up.

4. Installation and start-up

This chapter will give you the basics for setting up and start-up of the machine. You will learn to find the right location and which criteria need to be met.

4.1 Setup of the machine

The installation site must be selected in such a way that the machine can not sag under any circumstances.
Ensure an appropriate soil texture.

The operator is responsible for the correct positioning of the machine.

4.1.1 Site of the machine

The location should meet the following requirements:

» Large work surface with enough space for the machine
» Accessibility must be possible from all sides
» The conveyor pipe should be kept at minimum length
» A horizontal and stable surface
» Keep distance from walls or masonry
» Do not place machine below hanging loads
» Short conveying lines to the construction site are available
» Do not place hoses on top of each other

Suspended load
Never place the machine below suspended loads.

Hazard
Incorrectly selected locations pose an accident risk. The operator is responsible for the safety of the location

Hazard
Engine exhaust emissions are life-threatening, always choose well-ventilated locations.

4.1.2 Tilting angle

The most optimal orientation of the machine is to position it as horizontally as possible.
This is achieved by setting the most possible horizontal position using the support wheel.

4.1.3 Aligning

Before the tipper can be erected, you must pay attention to the following points: The conveying container should always be emptied completely, otherwise the screws could run dry and be damaged. The vehicle should be set up such that it can not slip away, there is a risk of accident.

The following steps haven to be carried out:

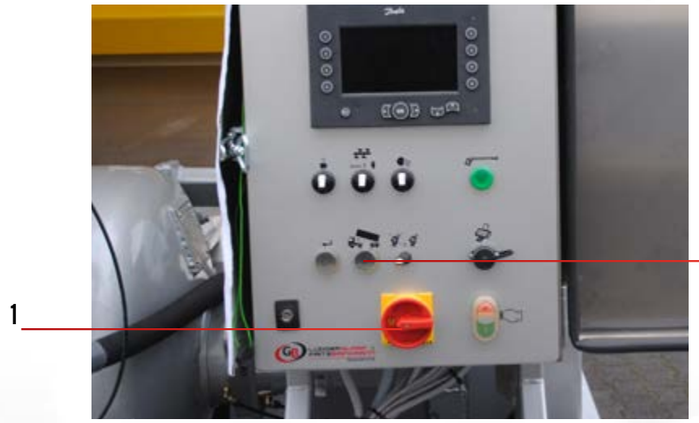
» (1) The parking brake must be applied
» (2) For fixation, brake shoes must be attached to the wheels
» (3) Align the semitrailer horizontally with the aid of packing plates.

Note
The semitrailer must be coupled or stand securely on the supports.

4.2 Tilting up/down tipper

The location should meet the following requirements:

» Semitrailer stands on firm terrain
» Machine is standing stable on supports and is coupled
» Mixing container is swung down
» Work area is secured, no persons may stay in the danger area .....
.
» Wind speed is not stronger than 20-28 km/h



» (1) Motor switch must be switched on
» (2) Press and hold the button Lift tipper

Suspended load
Never place the machine below suspended loads.

Hazard
By tilting the center of gravity shifts and it can lead to irregularities. Ensure a firm stand.

Hazard
Never place the machine under overhead power lines, keep it at least 5 meters distance.

4.2.1 Snap-in contact on the tipper

The tipper is secured with two electronic contacts, only when fully loaded or fully discharged can the MOBILEMAN be operated.
This element is for your safety and ensures a fully functioning MOBILEMAN.

» (1) Contact which must be completely closed at startup.
» (2) Contact which must be closed when shutting down.

Installation and start-up

4.3 Laying out the conveying hoses

Conveying lines must only be used with an discharge stand!
For a safe operation of the machine, it is essential that the conveying lines have been laid correctly.

Lay rising risers always in such a way that all occurring forces are absorbed by the fixing.
GB Machines hose clamps made of textile or leather are particularly suitable for transferring the occurring forces.

Always lay the cables in such a way that they are not affected by their own weight or that of the conveyor material.

Hazard
Be careful with conveying lines, these may be knocked out. Danger to life.

Hazard
Check whether a discharge stand has been connected. The machine may only be operated with a connected discharge stand.

4.3.1 Hose couplings

Depending on the material to be conveyed, the nominal diameter of the conveying line changes.

It should be noted that a changing nominal diameter also influences the selection of the hose couplings.

We always recommend coupling conveying lines of the same nominal diameter.
Otherwise, tapers form very quickly and malfunctions occur more quickly.

4.3.2 Tips for laying conveying hoses

Conveying lines should be kept as short as possible.
Only use conveying hoses that are in an absolutely perfect shape and that correspond to the conveying pressure.

Always try to create large radii in curves, thus avoiding any tampers.
For optimum horizontal transportation of the mixture we recommend the use of support trestles.

Place a support trestle every 20 m.

Hazard
Always lay the conveying lines in such a way that the occurring forces can be absorbed by buildings.

4.3.3 Connecting a discharge stand

It is obligatory to connect a discharge stand at the end of the conveying line. Discharge stands are available for different nominal widths.

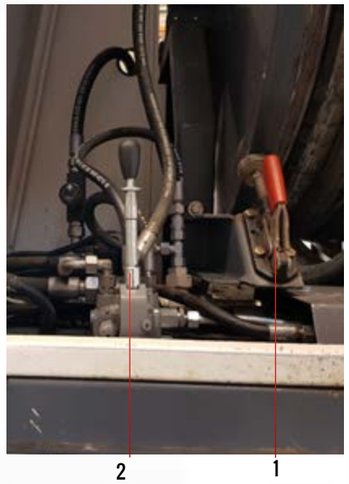
Please ask your GB Machines Partner for the specifications of the respective discharge stands.

All variants and materials types are available from GB Machines.

Hazard
Never work without a discharge stand! Risk of death.

4.4 Hose reel

The conveying hose reel is placed behind the power pack and facilitates the uncomplicated transport of a conveying hose.
The hose is suspended and rolled up automatically by means of a hydraulic motor. It is imperative that the motor is started, otherwise the hydraulics will be stopped.



» (1) Lock for hose reel - brake
» (2) Locking lever for winding and unwinding the conveying hose

4.4.1 Winding up the conveying hose

The following steps haven to be carried out:

» Pull the locking lever
» Hook the conveying hose end into the coupling
» Press the lever to wind up the hose
» Hang loose end of hose on the hose reel. Lock for the transport.
» Secure locking lever, secure for transport

4.4.2 Unwind conveying hose

The following steps haven to be carried out:

» Loosen the locking lever
» Disconnect the end of the hose from the lock
» Disconnect the hose securing device from the hose reel
» Pull out the lever and unlock the hydraulics, then pull out the hose

4.4.3 Connection at the discharge cone

The manometer with connection adapter must be connected to the appropriate hose connection piece.

On the manometer read off the conveying pressure in the conveying hoses. This should be done regularly to prevent any problems.

- (1) Discharge for mixture
- (2) Manometer - Here you can read the respective pressure in the conveying hoses
- (3) Connection adapter with manometer, here the suitable hose piece must be mounted
- (4) Water connection
- (5) Top and bottom air

Installation and start-up

4.5 Start-up of the machine

This chapter is dedicated to commissioning the machine. Here's how the routine check of the machine is carried out.

4.5.1 Preparation

Check the safe state of the machine and the selected location.

Perform a visual inspection. Especially to be checked are delivery lines, v-belts and mixing mechanism. Furthermore, all lubrication points must be checked whether they are sufficiently lubricated.
Also check the filling of the central lubrication system inside the machine. There must always be enough fat in the container.
Check that all safety devices are fitted and activated and check the main wearing parts (v-belts, etc.).

Check all conveyor lines of the machine for cracks or other weak points.

4.5.2 Check oil level and air filter

Check the operating material levels. Check engine oil level and hydraulic oil level.

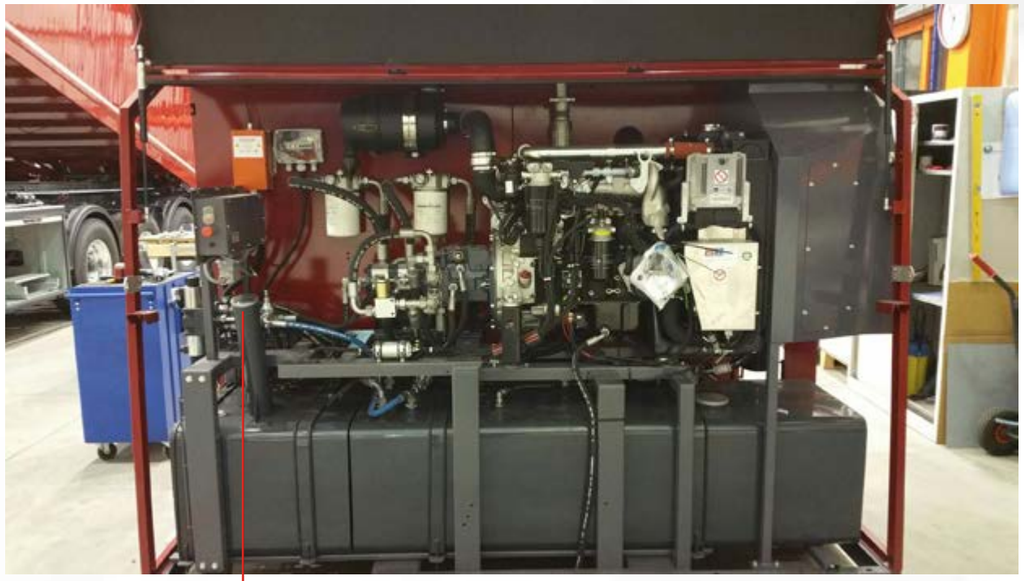
Always make sure that there is no oil level below the min. mark. This can lead to considerable damage.

Check the air filter for dirt. Depending on the degree of soiling, clean or replace it.

Hazard
The operating materials may be harmful to health under certain circumstances.
Never open the filler neck of the compressor while the compressed air tank is under pressure.

4.5.3 Refueling the machine

Refuel the machine exclusively with commercially available brand diesel fuel.
You will find the filler neck under the cover.



» (1) Filler neck - Diesel fuel

Environment
Refuel only at the designated places. Do not let diesel fuel escape.

Note
Never run the motor dry. Always refuel in time.

Hazard
Smoking is prohibited during refueling.

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Installation and start-up

4.5.4 Test run

After you have completed all the tests, you can now start the machine for a test run and perform the last tests.

Check the following functions / applications:

» Emergency stop switch
» Location chosen correctly
» All machinists were instructed
» Safety devices correctly installed

4.5.5 Function check emergency stop

As a safety-related feature, the emergency stop buttons should both be tried.

Go through the following steps

» Starting the machine
» Press emergency stop on control
» All machine functions must switch off immediately

Hazard
Never reach into the conveying container unless it is stopped and the power supply is interrupted.

Hazard
Should deficiencies occur during an inspection, they must be remedied immediately.

Hazard
All safety devices must be activated and functioning.

4.6 Location of the emergency stop buttons

There are two emergency stop buttons on the MOBILEMAN, you will find a button on the control at the rear of the machine. The second button is located directly on the motor in the power pack.

Both buttons must cause an immediate work stop of all machine parts.

» (1) Emergency stop button - In the event of danger, immediately set the switch to “OFF”.

Hazard
All safety devices must be activated and functioning.

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Installation and start-up

4.6.1 Shutting down the machine

Shutting down the machine works as follows:

» Turn off motor via the Motor Off button
» Switch off controls by pressing the main switch
» Close and secure the protective flap of the controller
» Close and secure the Powerpack

» (1) Emergency stop button - In case of danger, press the button.

Hazard
All safety devices must be activated and functioning.

4.7 Winter operation

In winter, the cold temperatures cause a special procedure on the machine.
On the recommendation of GB Machines this time is to be used for maintenance and repairs.
Due to frost, the machine is not perfect to use.

The following points should be followed:

- » Remove battery and store in a warm place
- » Check battery for acid level
- » Risk of frost, remove the stagnant water from the pipes after cleaning
- » Do not use frozen mixture

4.7.1 Winter operation

If all tests are successful, a test run in a performance environment is recommended.
The following things should be checked while the motor is running

The following points should be followed:

- » All protective covers installed correctly?
- » All emergency stop switches are functional

Hazard
Battery may leak. There is a risk of contact with eyes and skin.

4.8 Shutting down the machine at the controls

Shutting down the machine works as follows:

- » Turn off motor via the Motor Off button
- » Switch off controls by pressing the main switch
- » Close and secure the protective flap of the controller

» (1) Emergency stop button - In the event of danger, im mediately set the switch to “OFF”.

5. Operational safety

The machine has been built according to the state-of-the-art technology, but danger to life and limb can nevertheless arise.

If misuse occurs during operation, the following hazards may occur:

- Risk of scalding from leaking oils
- Risk of injury from tripping hazards (hoses etc.)
- Risk of injury due to misuse
- Hearing damage caused by exposure to noise
- Electrical shock
- Inhalation of dust particles
- Risk of burns from hot machine parts
- Risk of crushing and collision
- Eye and skin injuries

Safety gloves
Protect your hands from corrosive substances

Respiratory face protection
Protects you against face injuries and against inhaling of building material particles

Safety shoes
Protects you from crushing by falling loads

Safety glasses
Protect your eyes

Ear protection
Protects you against noise from the environment surrounding the machine

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5.1 Action in case of emergency

If an incident occurs, the following steps should be taken immediately:

- Immediately press the emergency stop switch
- Begin first aid measures
- Report the fault immediately and follow the necessary guidelines
- Troubleshooting on the machine. Observe the safety regulations

- (1) Emergency stop button Controls - In the event of danger, immediately set the switch to “OFF”.
- (2) Emergency stop button Power Pack - Press immediately in case of danger

Hazard
The delivery hoses are not automatically vented during emergency stop.

Note
Familiarize yourself with the location of the emergency stop button in a way, that a short response time is ensured.

5.1.1 Work stoppages

During long work stoppages, the conveyed goods may harden. To prevent this, empty the mixing container and the conveying hoses.

Depending on the used mixture, the curing time can vary greatly.

5.1.2 Checks before starting

Before you start the machine, carry out the in chap. 4 mentioned tests.

Start the machine like this:

- » Are all hoses properly arranged
- » Have all parts been secured
- » Have all lubrication points been lubricated

The recurrence lock of the motor ON switch is switched in the 30 s interval.

5.1.3 Behaviour in an accident

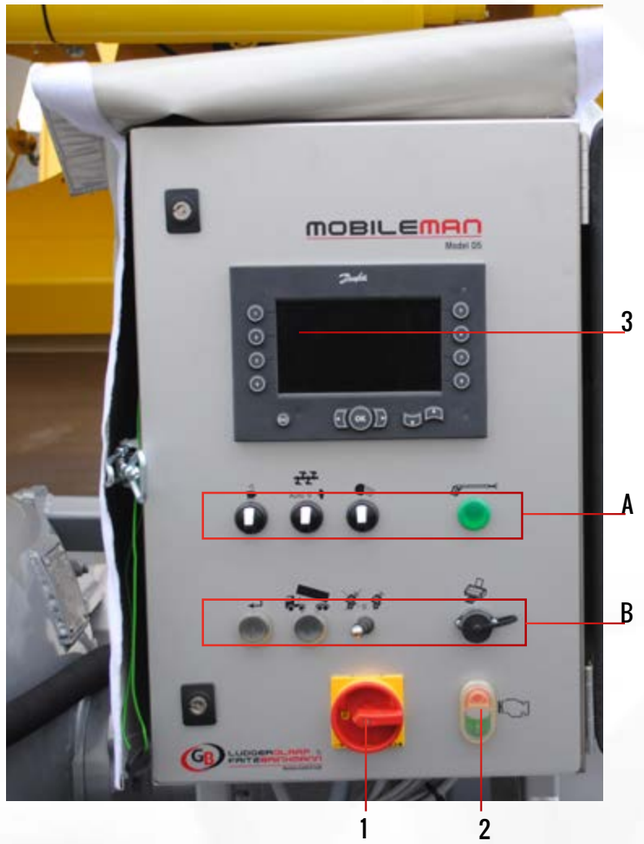
Switch off the machine via the emergency stop

For injuries with binder in the eyes, proceed as follows:

- » Flush eyes
- » DO NOT rub
- » Seek medical attention

Note
Conveying lines can still be under pressure after emergency stop. Observe the manometer and reduce the feed pressure.

5.2 Central control unit / control cabinet



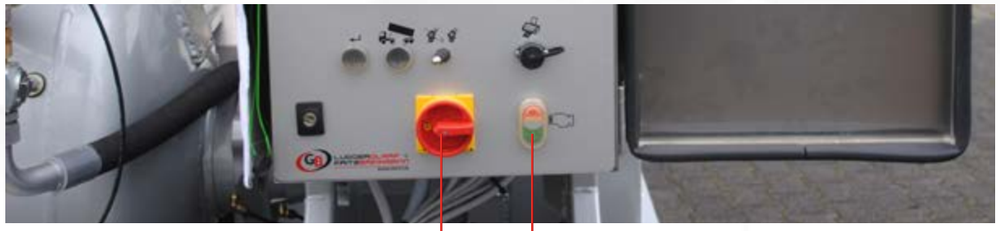
- » (1) Main switch
- » (2) Motor On/Off
- » (3) Control computer
- » (A) First row
- » (B) Second row

5.2.1 Control unit monitor

The control computer is the central administration of your MOBILEMAN. Here you can use the automatisms to edit your pre-set programs or to select other mixing ratios. All options can be easily selected via the display with the function arrow keys and changed manually.

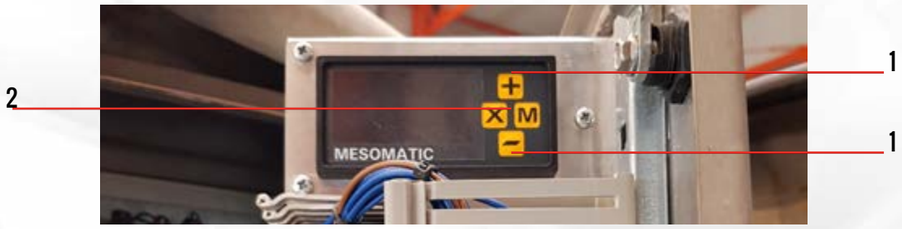
- » (1) Function key for direct selection - e.g. Mix programs
- » (2) Function key for direct selection - e.g. Mix programs
- » (3) Function key for direct selection - e.g. Mix programs
- » (4) Function key for direct selection - e.g. Mix programs
- » (5) Function key for direct selection - e.g. Mix programs
- » (6) Function key for direct selection - e.g. Mix programs
- » (7) Function key for direct selection - e.g. Mix programs
- » (8) Function key for direct selection - e.g. Mix programs
- » (9) Escape key - In most programs, also back key
- » (10) Arrow keys for cursor movement within the menus
- » (11) OK - Confirmation key to advance to the next level

5.2.2 Control unit bottom row



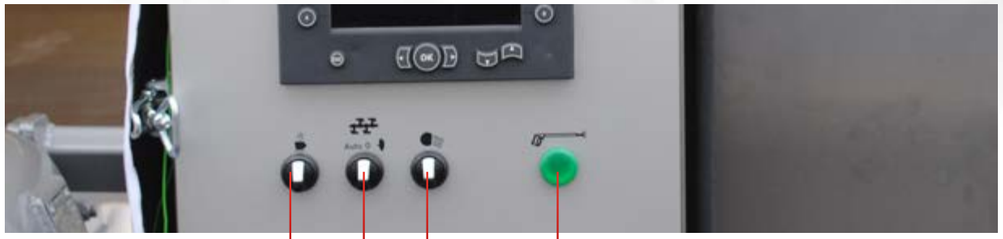
- » (1) Main switch Controls - Serves to switch on the control as well as serving as emer gency stop for the machine.
- » (2) Button for switching the motor on/off. To turn it on, press and hold the button until the motor ignites. - When switching off, press only once.

5.2.3 Internal balance



- » (1) Keys for operating the balance - setting for the balanced weight
- » (2) Enter and Memory key - Tare function and save

5.2.4 Controls row A



» (1) Pause switch - 2 positions possible. When set to Pause on, the last mix is still
» completed, because after the MOBILEMAN goes into pause mode.
» (2) Mixing mechanism switch - Auto position: Mixing mechanism starts automatical ly (operating position)
Position 0: The mixing mechanism is switched off.
Position 1: Manual switch of the mixing mechanism, switch must be kept in position. E.g. for Cleanings.
» (3) Light - 2 switch positions for working light on and off.
» (4) High pressure cleaner - when connected - press button

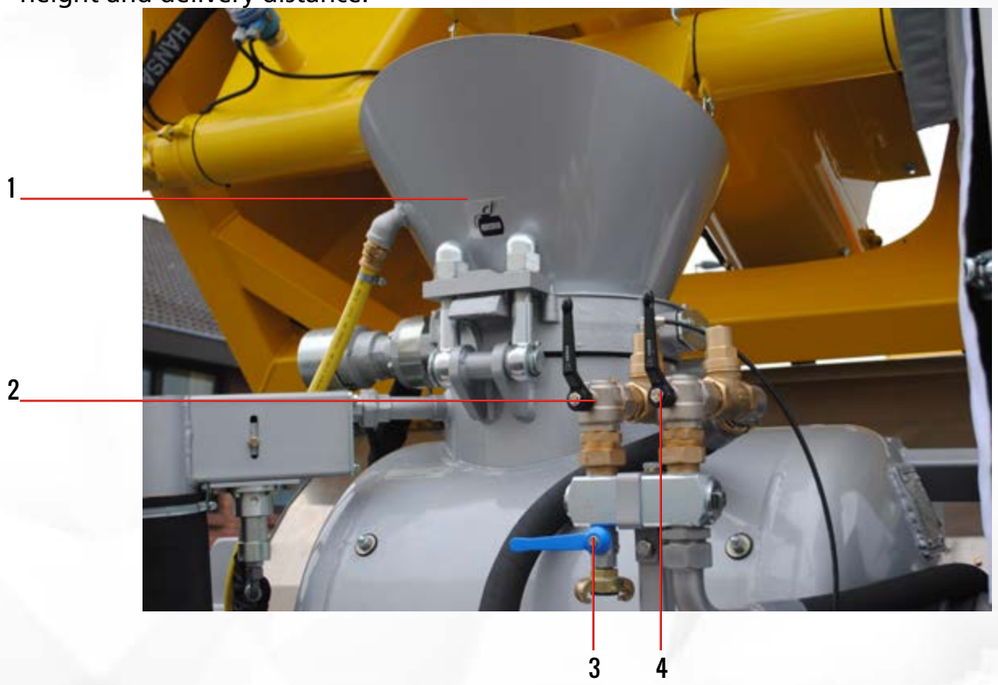
5.2.5 Controls row B

» (1) Acknowledgment button - When the tipper has moved to the appropriate position, the electronic snap-in contacts indicate this position. This position must be confirmed by means of the acknowledgment key, only then can work be started.
» (2) Raise / Lower tipper
» (3) Switching between manual and remote operation
» (4) Printer connection - Here, data can be printed out directly, provided that a corresponding device is connected. Printer must be connected when booting the controls .

Hazard
The increased performance can make the hoses move with more force. There is a risk of collision with the hoses.

5.3 Mixing vessel unit

The mixing vessel unit at the rear of the machine together with the controls make up the main working environment for the operator. In addition to the automatic filling of the mixture, the settings for the top and bottom air are made here. When the levers are in the vertical position, they are open, in the horizontal position they are closed. By adjusting the top and bottom air, they can regulate the pressure in the hoses. This depends on the delivery height and delivery distance.



- » (1) Hopper
- » (2) Upper air tap - open
- » (3) Air extraction tap with air extraction coupling
- » (4) Lower air tap - open

Hazard
Note that there are no persons behind or under the MOBILEMAN. Accident risk.

5.4 Wireless remote control

The remote control fulfills almost all functions which can also be performed on the controls. The buttons have the same symbols as those on the rear.
If there is a remote contact break due to peripheral environmental phenomena, the MOBILEMAN should continued to be operated from the rear.

The following safety instructions must be observed when handling the remote control:

- » Repairs to the remote control may only be carried out by qualified personnel. Original parts are to be used.
- » Use caution, especially for beginners.
- » Never leave the transmitter without supervision.
- » Only use original accessories and batteries.
- » Only authorized and trained persons may use the remote control.
- » The operator must ensure that nobody is endangered.
- » In case of problems, the wireless transmitter should be switched off immediately to prevent a malfunction.
- » Choose a clear location from which you can view the whole machine .
- » Be sure to turn off the transmitter during breaks and protect it from misuse.
- » Do not carry out any technical modifications to the radio system.
- » Storage and charging of the batteries always according to regulations, observe the operating voltage.
- » Protect the remote system against improper use.

Hazard
Always keep an eye on the entire workspace.

Hazard
Incorrect use increases the risk of accidents. Beware of accidental interference due to unwanted contact.

5.4.1 Wireless remote control receiver

The receiver is placed in the motor compartment and receives the control signals of the wireless remote control. These are only available in combination. If the transmitter or receiver is defective, replace both parts.

At the receiver are installed no LEDs, so that no optical connection can be recognized.

Note
Please check if there is a connection between the receiver and the transmitter, otherwise the remote control will have no function.

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Operation

5.4.2 Wireless remote control transmitter

The remote control has the same functions as the buttons on the control cabinet.

- » (1) Mixing mechanism button - Whole mixture
- » (2) Mixing mechanism button - Half mixture
- » (3) Water button- Increase water supply
- » (4) Water button- Decrease water supply
- » (5) Conveyor button - increase conveying rate
- » (6) Conveyor button - decrease conveying rate
- » (7) Unassigned key
- » (8) Pause button - transportation stops
- » (9) Emergency stop - Press to switch off the machine

Note
The remote control may only be used by authorized persons.

5.4.3 Charger and battery

The MOBILEMAN comes with charger and batteries. You can easily charge the charger with a car cigarette lighter or respective adapter. Use only the supplied batteries and only charge them when the batteries are really empty.
The charging time is about 2 hours and can also be charged in the car.

A replacement battery is included in the scope of delivery.

» (1) Battery - Insert the battery into the device
» (2) Charger connector - Adapter for connecting to a 12V car cigarette lighter socket
» (3) Charger - charger base station

Note
Only charge the battery when it is completely discharged. This serves the service life of the battery.

5.4.4 Switching manual- remote control

At the rear of the MOBILEMAN is the switching from manual to remote mode. Flip the switch and use the remote control.

» (1) Switching manual- remote operation

Note
Never position several transceivers of the same type next to each other. There is a risk of interference, which can cause malfunctions.

5.5. Starting the machine

After checking for operational safety you can start the machine. Also make sure that the working environment is fully secured. Only start the machine when the powerpack is closed. The motor start button has a recurrence lock to prevent a restart. After starting, the monitor should start on the controls and show a picture. Further explanations of the monitor control can be found in the following chapters. Note that the snap-in contacts must have electronic contact.

Perform the following steps:

» Open the control cabinet
» Acknowledge that the tipper is raised or lowered
» Turn the main switch to “On”
» Press the engine start button and keep it pressed briefly.

» (1) Main switch
» (2) Button for switching the motor on/off. To turn it on, press and hold the button until the motor ignites. - When switching off, press only once.
» (3) Key to acknowledge the tipper that has been raised or lowered completely.

Note
Make sure that the machine is in a suitable place.

Hazard
Make sure that no moving parts can get into the motor. The workspace must be secured.

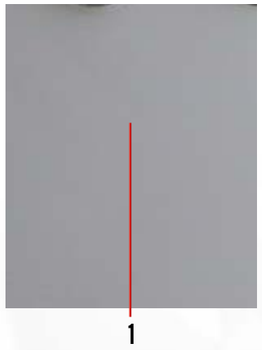
5.6 Switching off the machine

The machine can be switched off via the remote control or the rear controls. All emergency stop buttons may only be operated in emergencies.

Like the motor start button, the power off function also has a recurrence lock. Press it briefly, then the button is blocked for about 30 seconds and thus out of service.

Perform the following steps:

» Open the control cabinet
» Press and hold the motor stop button briefly



» (1) Motor stop button

Note
Please always switch off the motor with this button, unless it is an emergency.

5.7 Control computer

The control computer is the central unit of the MOBILEMAN, where all data and recipes are stored.
Here you can also read out all relevant data about maintenance intervals etc. Please set the mixing mechanism button to “Auto” and operate the MOBILEMAN by using the arrow keys.

Perform the following steps:

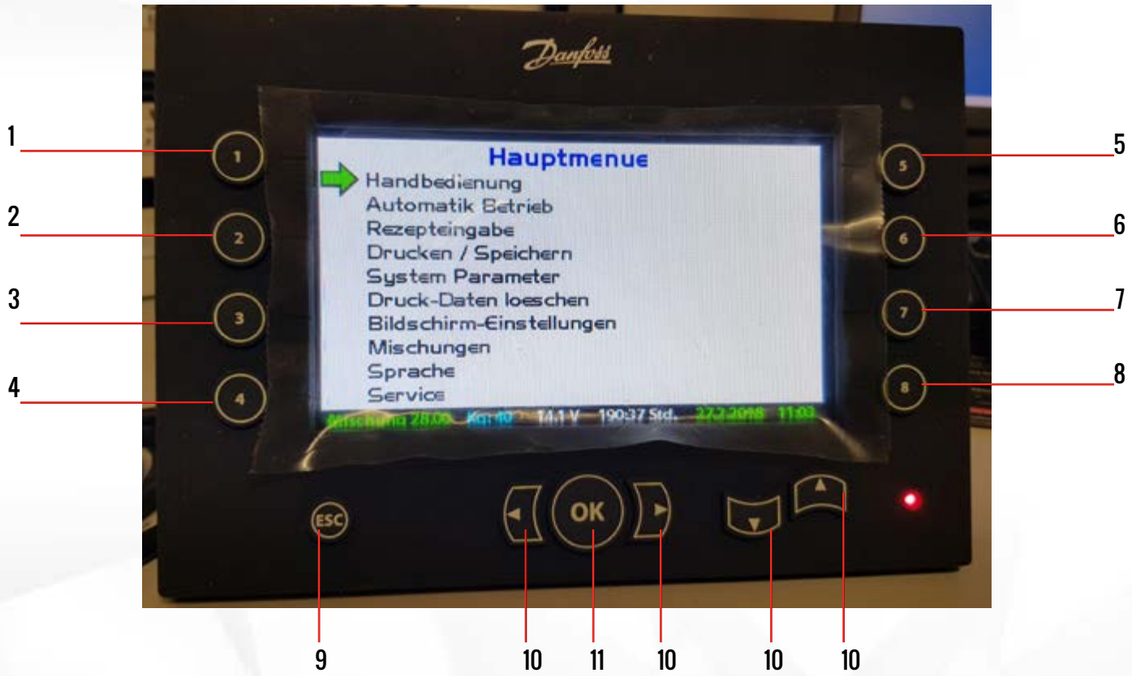
- » Activate main switch
- » Set the mixing mechanism switch to “Auto” - Row A | Switch 2
- » Press the "OK" button to enter the menu levels

The control computer starts with the following screen.

- » (1) “OK” button on the control.

5.7.1 Main menu

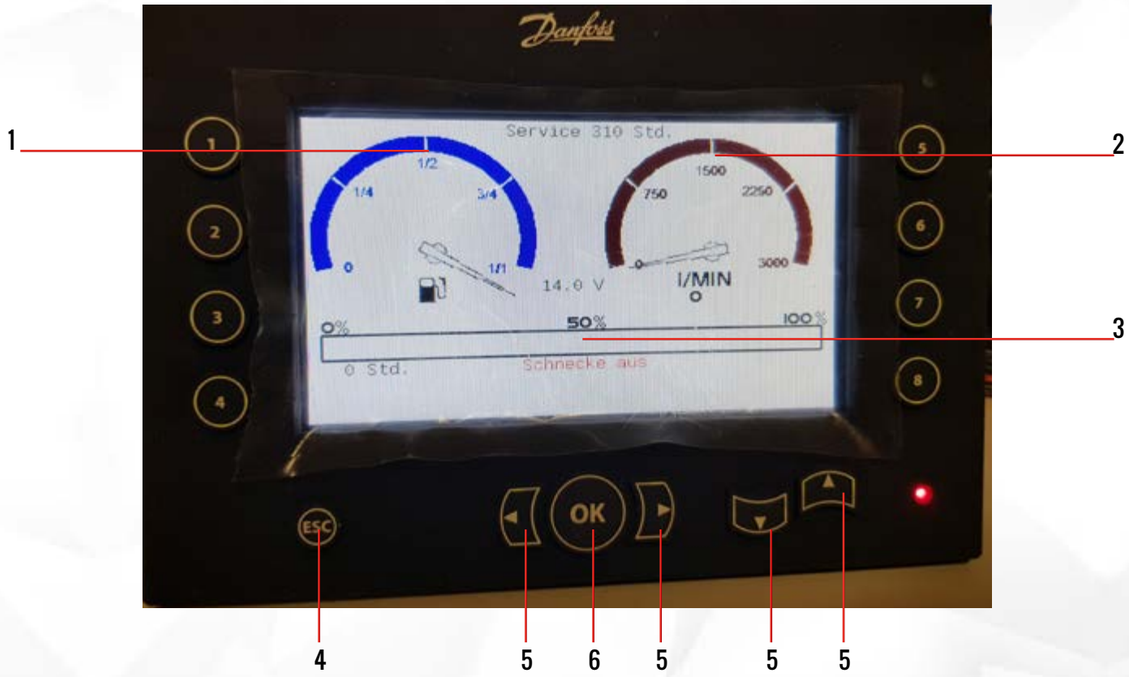
The main menu in the MOBILEMAN control, from here you get to all relevant menu items.



- » (1) Function key for direct selection - e.g. Mix programs
- » (2) Function key for direct selection - e.g. Mix programs
- » (3) Function key for direct selection - e.g. Mix programs
- » (4) Function key for direct selection - e.g. Mix programs
- » (5) Function key for direct selection - e.g. Mix programs
- » (6) Function key for direct selection - e.g. Mix programs
- » (7) Function key for direct selection - e.g. Mix programs
- » (8) Function key for direct selection - e.g. Mix programs
- » (9) Escape key - In most programs, also back key
- » (10) Arrow keys for cursor movement within the menus
- » (11) OK - Confirmation key to advance to the next level

5.7.1.1 Main menu - Input screen

After starting the motor, the overview of the fuel gauge and engines speed display appears automatically.



- » (1) Fuel gauge
- » (2) Engine's revolutions per minute
- » (3) Screw fill rate in %
- » (4) Escape key - In most programs, also back key
- » (5) Arrow keys for cursor movement within the menus
- » (6) OK - Confirmation key to advance to the next level.

Note
This display appears only shortly after starting the machine.

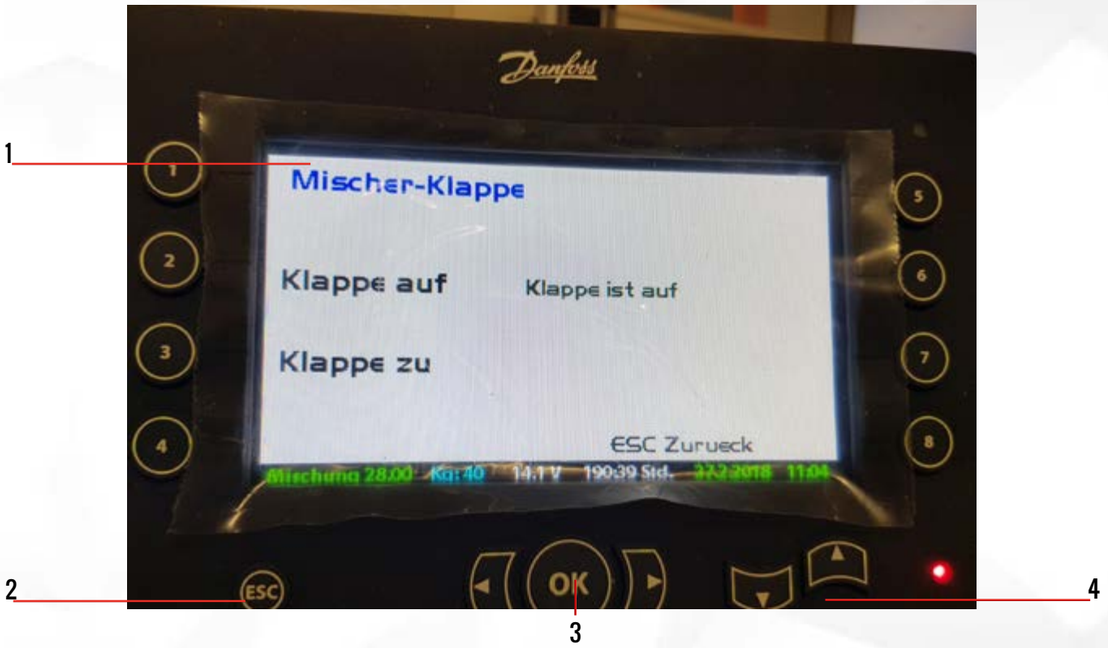
5.7.2 Main menu - manual operation

In the sub-item “manual operation” the MOBILEMAN can be controlled manually.

- » (1) Monitor for displaying the navigation
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)
- » Mixer flaps - Sub-item Mixer flap (OK)
- » Water manual - Sub-item Water Manual (OK)
- » Binder manual - Sub-item Binder manual
- » Fly ash manual - Sub-item fly ash
- » High pressure cleaner - Sub-item high pressure cleaner
- » Fill binder - Sub-item Fill binder
- » Additive manual 1+2 - Sub-item Fill additive
- » Additive manual 3+4 - Sub-item Fill additive
- » Matching help - Sub-item matching help
- » Lubrication system - Sub-item Start lubrication system

5.7.2.1 Main menu - manual operation - mixer flap

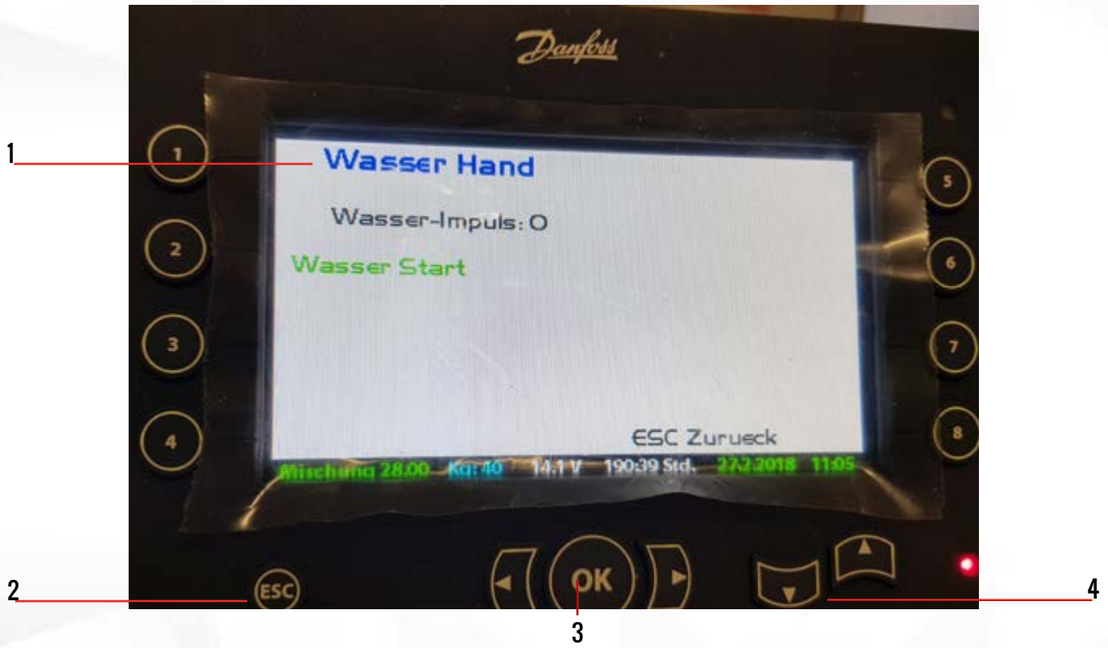
In the sub-item “manual operation - mixer flap” the mixer flap can be controlled manually.



- (1) Monitor for displaying the navigation
- (2) Escape key - Back to the previous menu
- (3) OK key - Confirmation continues in the next menu item
- (4) Arrow keys - Serve navigation in the menu (up and down)
- Function key (2) - Opens the mixer flap
- Function key (3) - Closes the mixer flap

5.7.2.2 Main menu - manual operation - Water manual

In the sub-item “manual operation - water manual”, can be added water pulses (0.5 l).



- (1) Monitor for displaying the navigation (The actuated water pulses are displayed)
- (2) Escape key - Back to the previous menu
- (3) OK key - Confirmation continues in the next menu item
- (4) Arrow keys - Serve navigation in the menu (up and down)
- Function key (2) - Starts the impulse addition of water
- Function key (3) - During operation, this stops the water supply

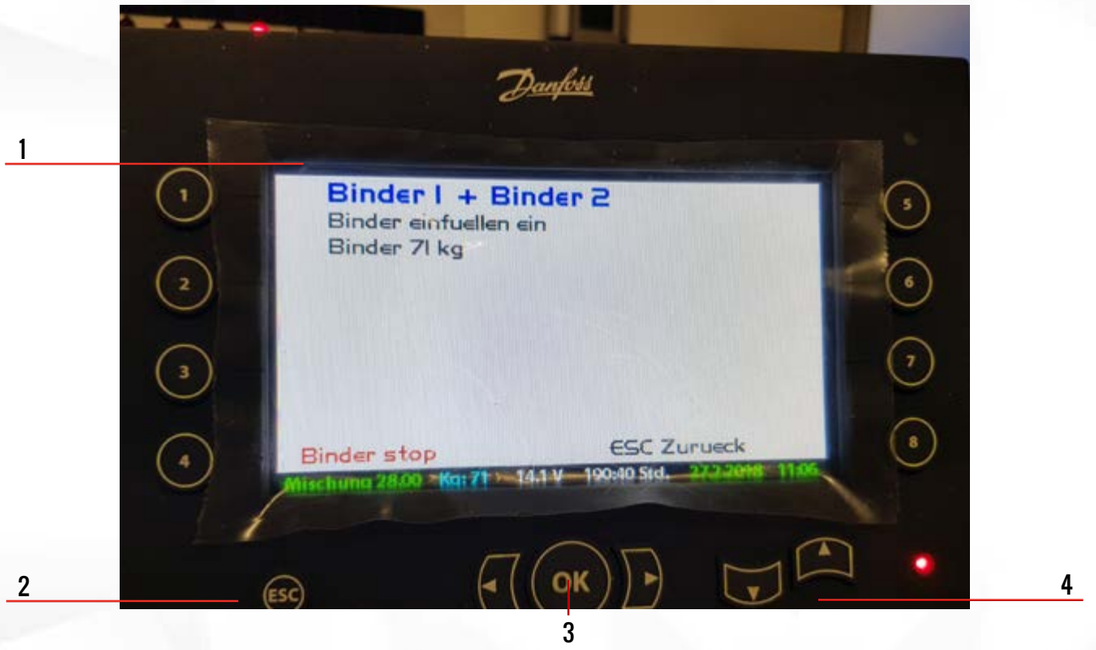
5.7.2.3 Main menu - manual operation - addition of sand

In the sub-item “manual operation - sand addition” sand can be added manually.

- » (1) Monitor for displaying the navigation (The quantity added is displayed)
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)
- » Function key (2) - Starts the addition of binder
- » Function key (4) - Stops the addition during operation

5.7.2.4 Main menu - manual operation - binder manual

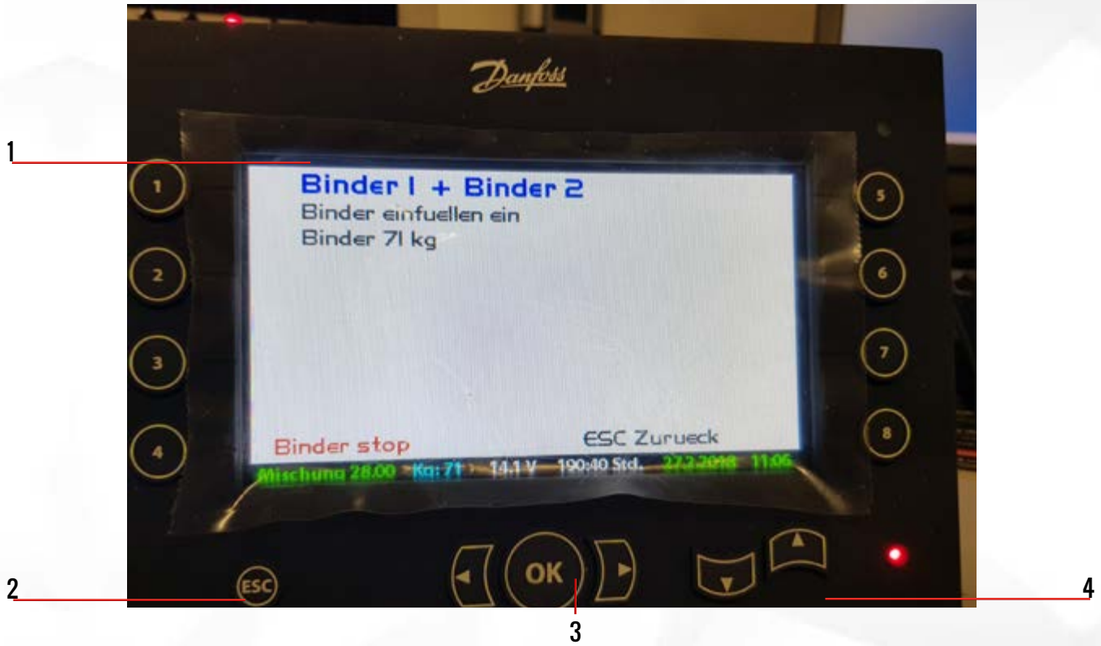
In the sub-item “manual operation - binder manual” binder can be added manually.



- » (1) Monitor for displaying the navigation (The quantity added is displayed)
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)
- » Function key (2) - Starts the addition of binder
- » Function key (4) - Stops the addition during operation

5.7.2.5 Main menu - manual operation - fly ash manual

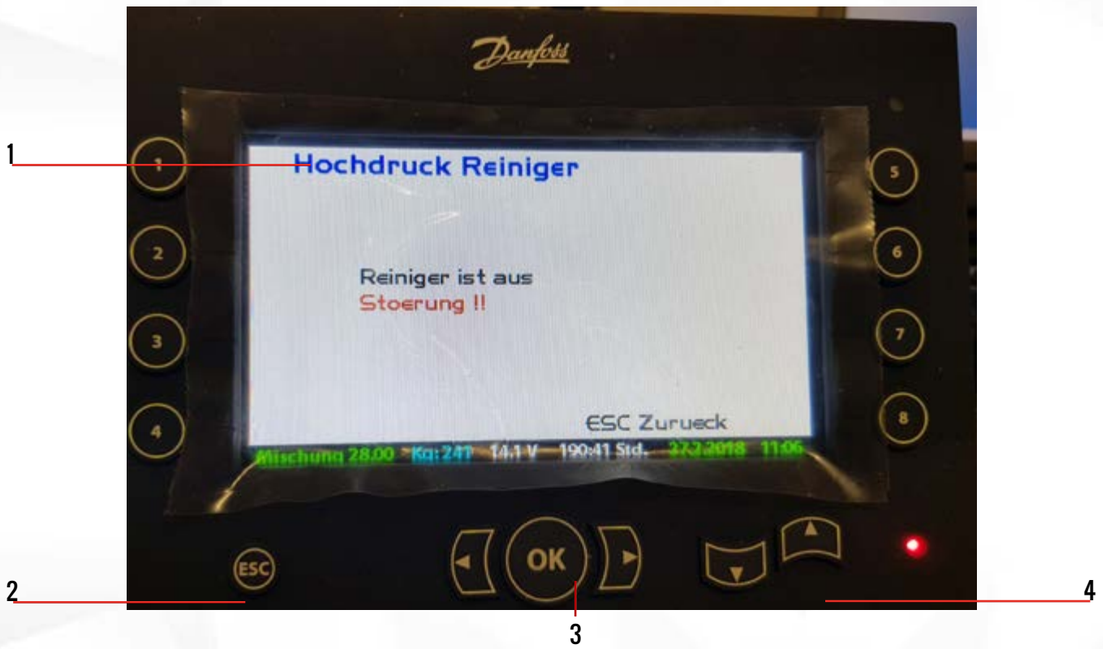
In the sub-item “manual operation - fly ash manual” fly ash can be added manually.



- (1) Monitor for displaying the navigation (The quantity added is displayed)
- (2) Escape key - Back to the previous menu
- (3) OK key - Confirmation continues in the next menu item
- (4) Arrow keys - Serve navigation in the menu (up and down)
- Function key (2) - Starts the addition of fly ash
- Function key (4) - Stops the addition during operation

5.7.2.6 Main menu - manual operation - High pressure cleaner

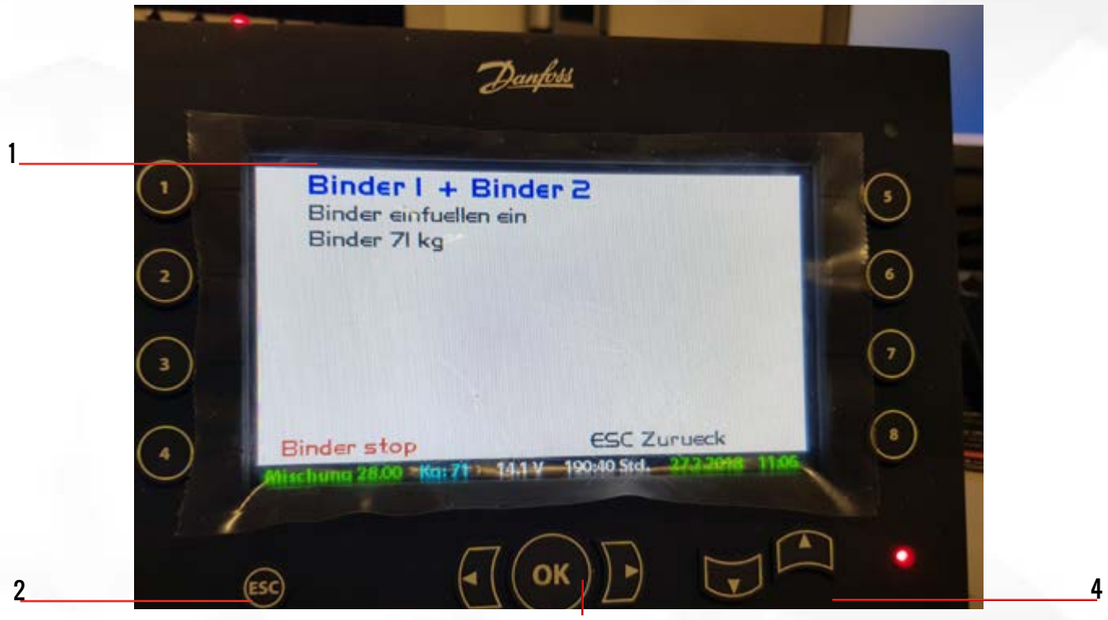
In the sub-item “manual operation - high pressure cleaner” - Here the HP device can be switched on and off.



- (1) Monitor for displaying the navigation (Can only be turned on when HP device is connected)
- (2) Escape key - Back to the previous menu
- (3) OK key - Confirmation continues in the next menu item
- (4) Arrow keys - Serve navigation in the menu (up and down)
- Function key (2) - Starts high pressure cleaner
- Function key (4) - Stops high pressure cleaner

5.7.2.7 Main menu - manual operation - Fill binder

In the sub-item “manual operation - filling binder” additional binder can be added.



- » (1) Monitor for displaying the navigation (The quantity added is displayed)
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)
- » Function key (2) - Starts the addition of binder
- » Function key (4) - Stops the addition during operation

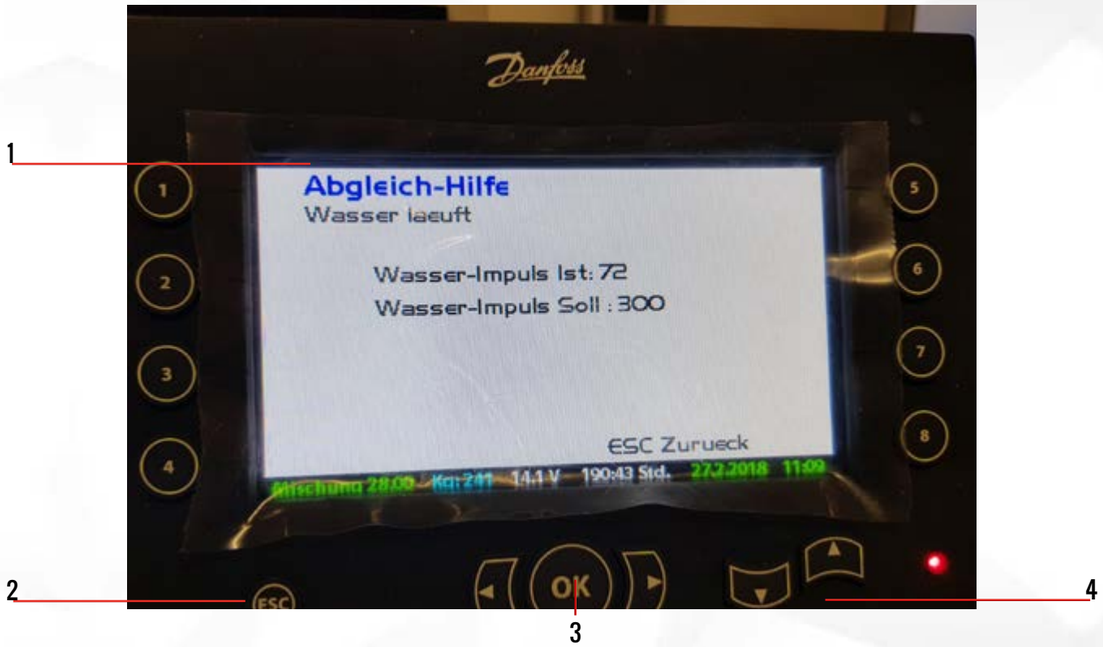
5.7.2.8 Main menu - manual operation - additive manual 1-2-3-4

In the sub-item “manual operation - admixture 1-2 + 3-4” is addressed here the respective dosage

- » (1) Monitor for displaying the navigation
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)
- » Function key (2) - Start
- » Function key (4) - Start - Stop elapsed time

5.7.2.9 Main menu - manual operation - matching help

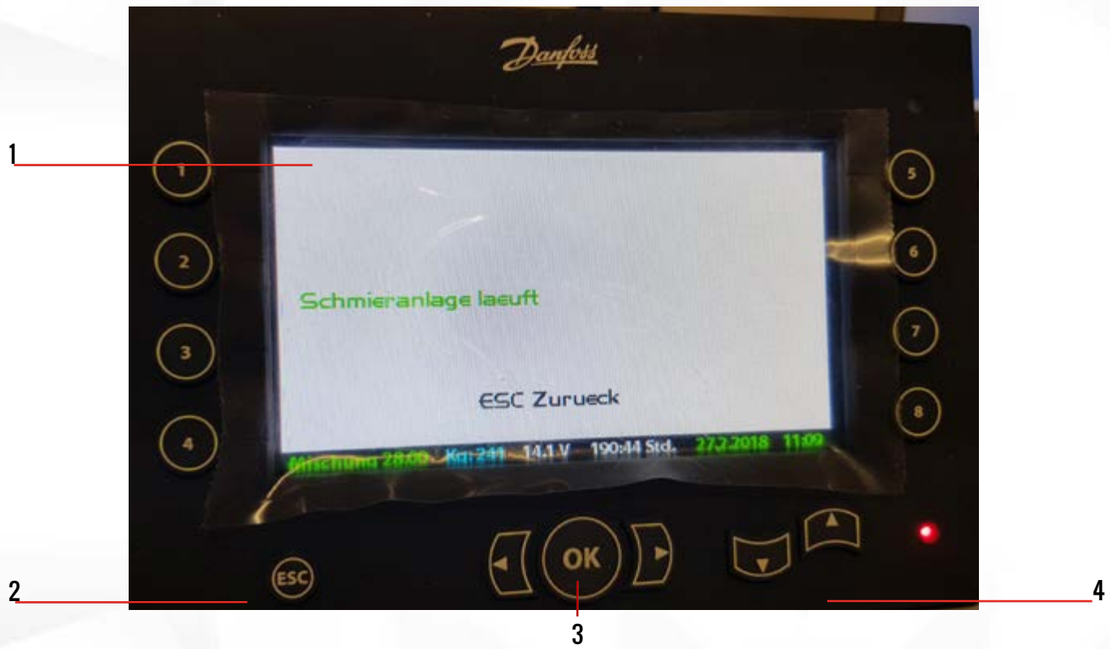
In the sub-item “manual operation - matching help” the balance is adjusted.



- (1) Monitor for displaying the navigation (The quantity added is displayed)
- (2) Escape key - Back to the previous menu
- (3) OK key - Confirmation continues in the next menu item
- (4) Arrow keys - Serve navigation in the menu (up and down)
- Function key (2) - Balance is readjusted

5.7.2.10 Main menu - manual operation - lubrication system

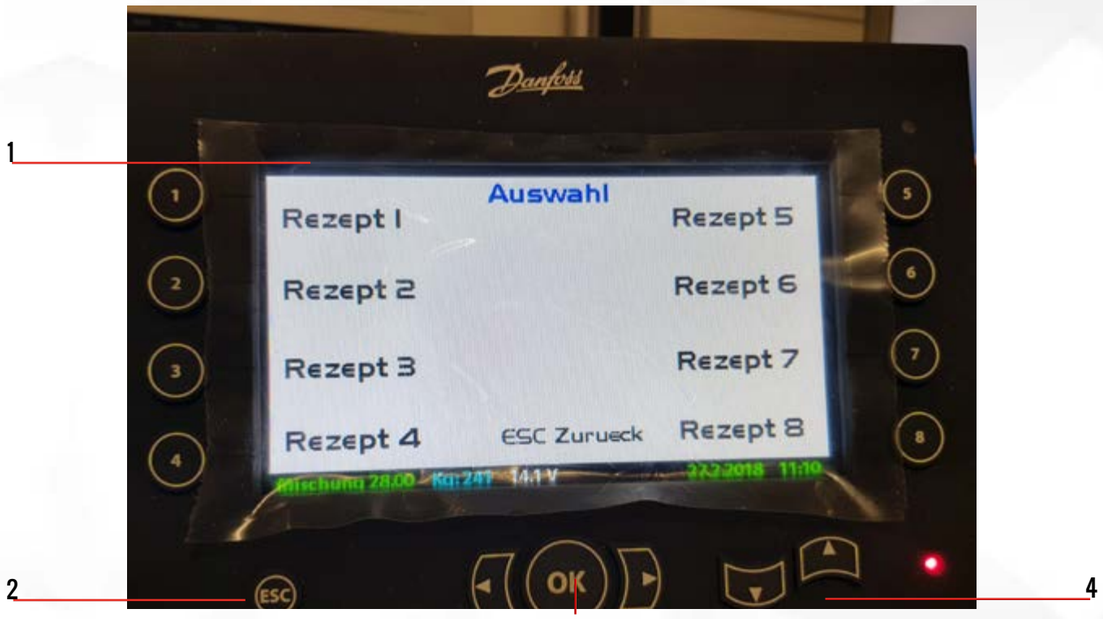
In the sub-item “manual operation - Lubrication system” here the central lubrication system is switched on for approx. 3 min.



- (1) Monitor for displaying the navigation
- (2) Escape key - Back to the previous menu
- (3) OK key - Confirmation continues in the next menu item
- (4) Arrow keys - Serve navigation in the menu (up and down)
- The lubrication system is switched on automatically

5.7.3 Main menu - Automatic mode

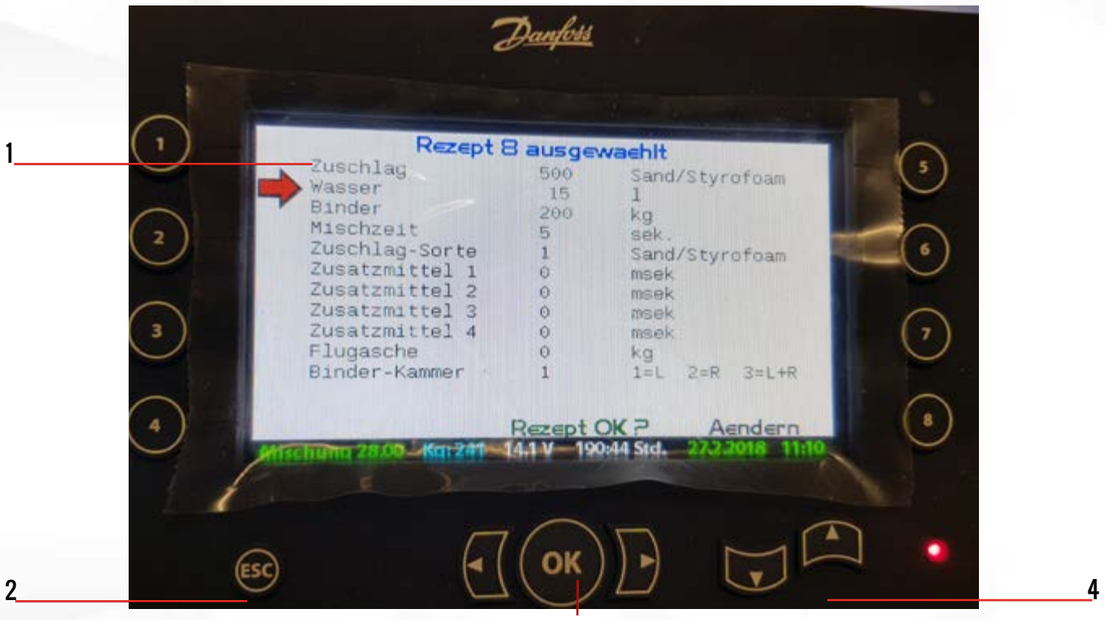
In the sub-item “Automatic mode” are selected different recipes



- » (1) Monitor for displaying the navigation (The quantity added is displayed)
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)
- » Function key (1) - Recipe 1
- » Function key (2) - Recipe 2
- » Function key (3) - Recipe 3
- » Function key (4) - Recipe 4
- » Function key (5) - Recipe 5
- » Function key (6) - Recipe 6
- » Function key (7) - Recipe 7
- » Function key (8) - Recipe 8

5.7.3.1 Main menu - Automatic mode - Recipe selection 1-8

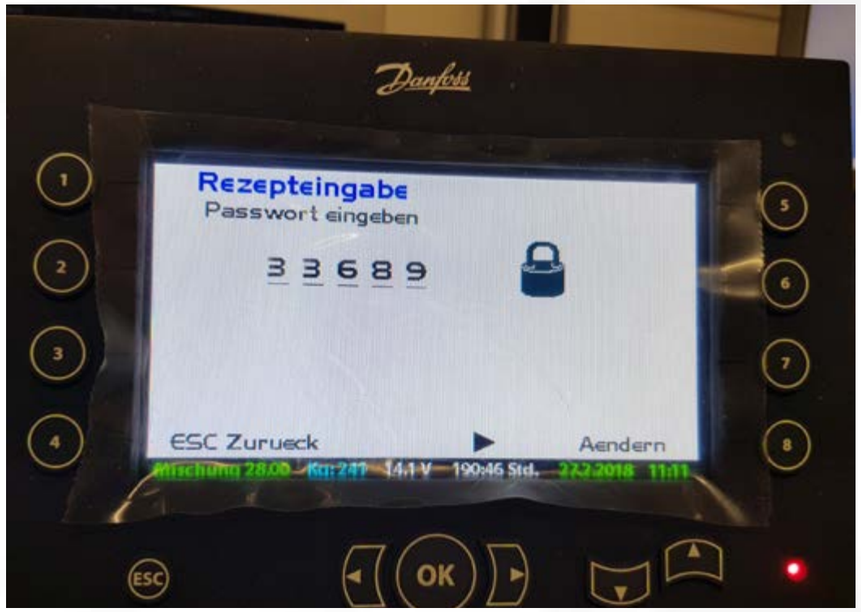
In the sub-item “Automatic mode - Recipe display” the composition of the selected recipe is displayed.



- » (1) Monitor for displaying the navigation
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)
- » In the recipe view, you can only set the water value. All other components remain unchanged. You can change the settings by means of the function key 8.

5.7.4 Main menu -Recipe input

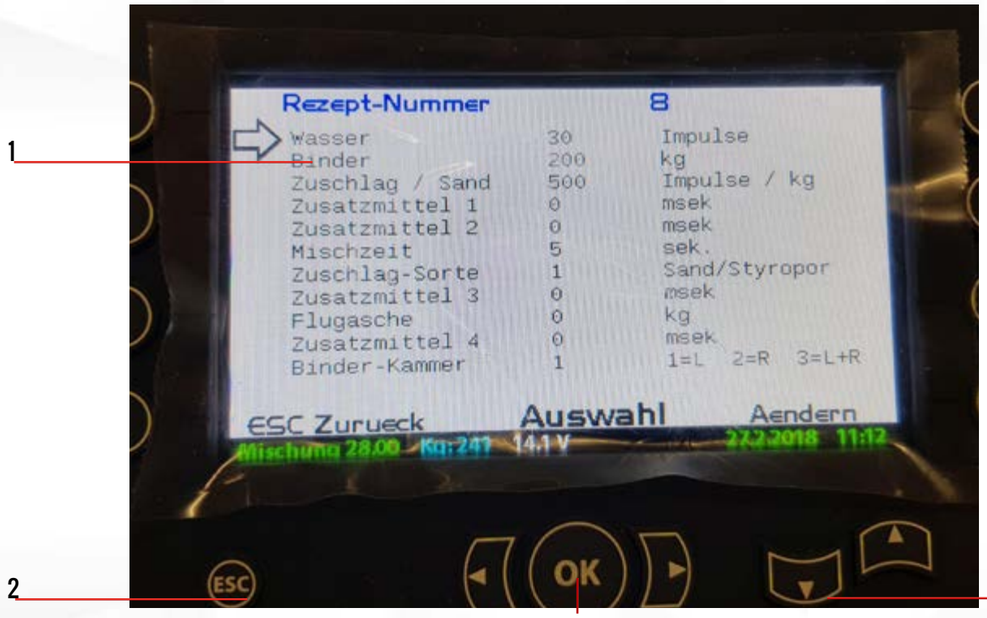
Subitem “Recipe input - Password query.”



» Password for changing the recipe : 33689

5.7.4.1 Main menu -Recipe input 1-8

Subitem “Recipe input - Define recipes.”



» (1) Monitor for displaying the navigation
» (2) Escape key - Back to the previous menu
» (3) OK key - Confirmation continues in the next menu item
» (4) Arrow keys - Serve navigation in the menu (up and down)
» With the help of navigation and setting options, each of the recipes can be adapted and edited here. The individual recipes can then be called up in automatic mode.
» As an example: Use the arrow keys to navigate to the item Water, press OK, then set the desired value and press OK again. The value has now been changed.

5.7.5 Main menu - print / save

In the sub-item “Print/Save” can be printed out the daily output, the number of mixtures, etc.

- » (1) Monitor for displaying the navigation
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)
- » Function key (2) - Print data is deleted
- » Function key (3) - Print data is still preserved (always from the point of the last deletion)

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5.7.6 Main menu - System parameters

In the sub-item “System parameters” all calculation bases of the MOBILEMAN can be set. GB Machines recommends that its customers do not make any changes in this menu item.

In this menu item the following system parameters can be changed:

- » Consumption calculation
- » Tolerances
- » Preliminary switching times
- » etc.

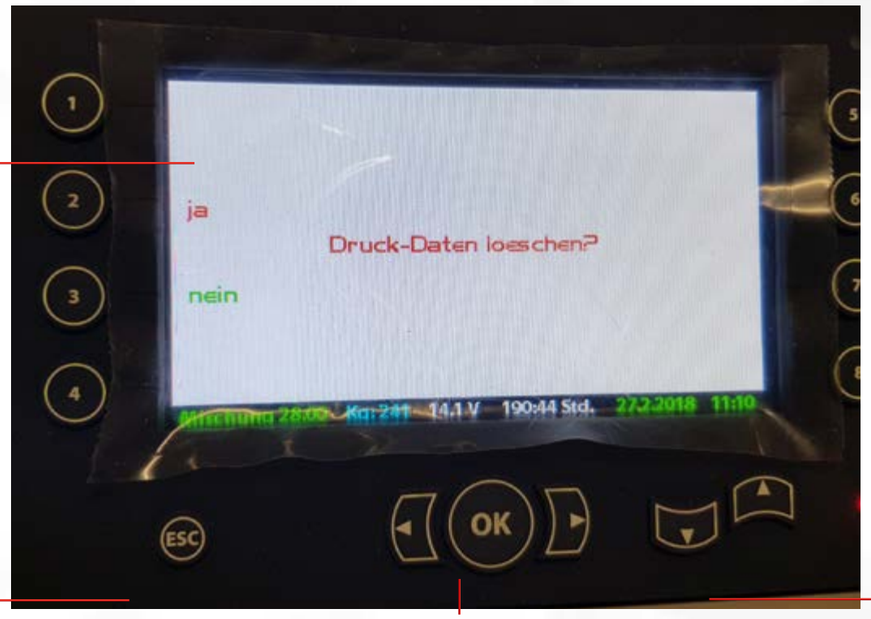
If you have any questions, please contact GB Machines directly.

Password: **05202**

Note
The system parameters can only be changed by qualified personnel.

5.7.7 Main menu - delete print data

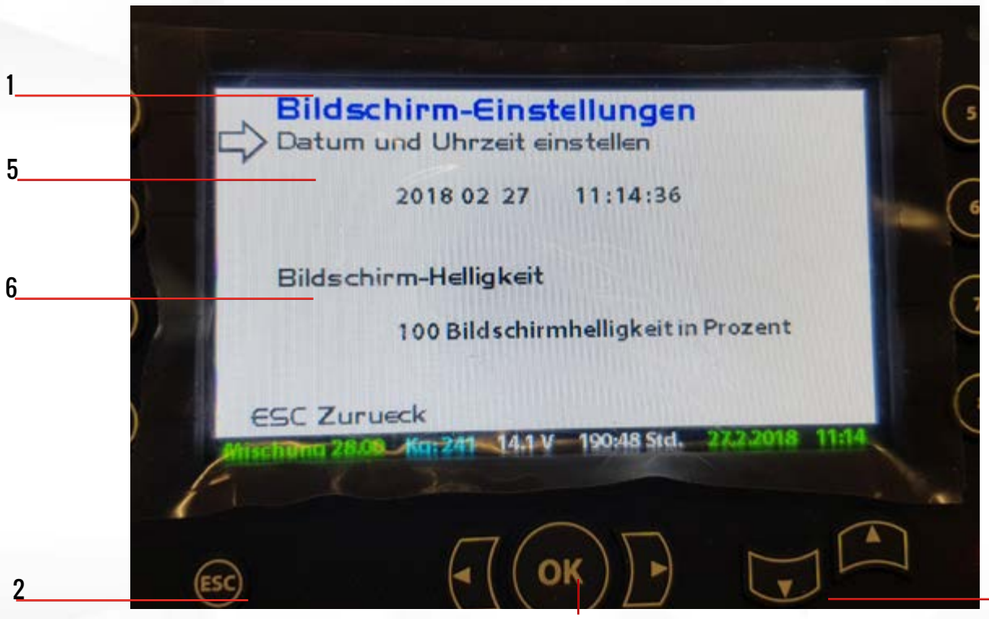
In the sub-item “Delete print data” the currently stored data can be deleted.



- » (1) Monitor for displaying the navigation
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)
- » Function key (2) - Print data is deleted
- » Function key (3) - Print data is still preserved (always from the point of the last deletion)

5.7.8 Main menu - screen settings

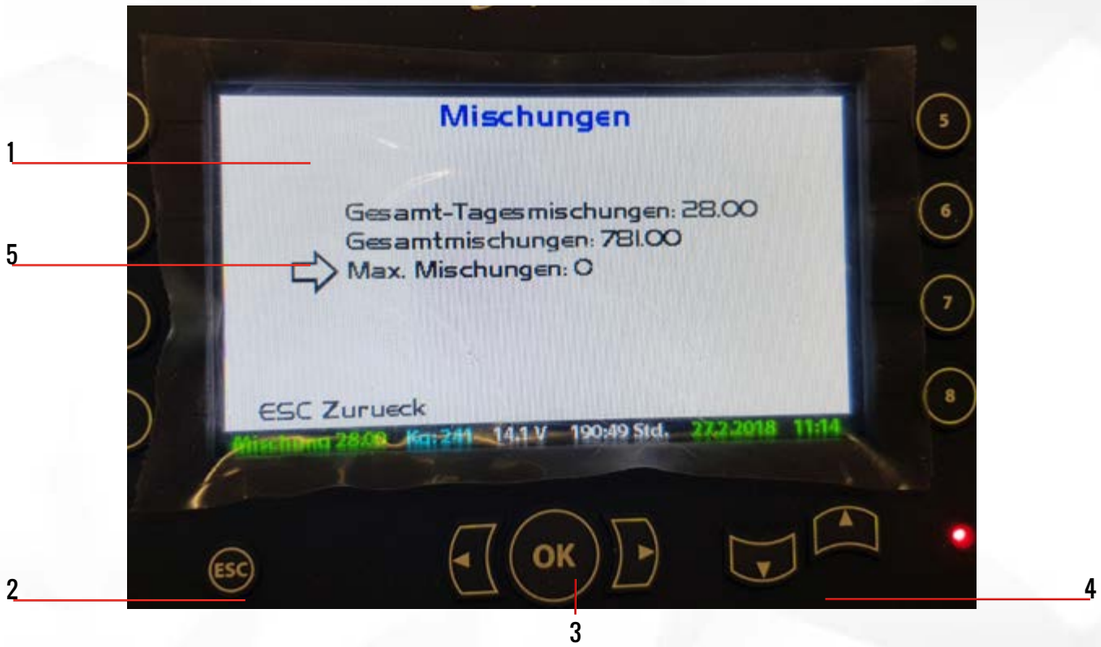
In the sub-item “screen settings” you can set the time and date as well as the monitor brightness.



- » (1) Monitor for displaying the navigation
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)
- » (5) Here you can set date and time.
- » (6) Adjust screen brightness.

5.7.9 Main menu - mixtures

In the sub-item “mixtures”, the total daily mixtures are displayed, as well as the total mixtures. Here can also be displayed the maximum number of daily mixtures.

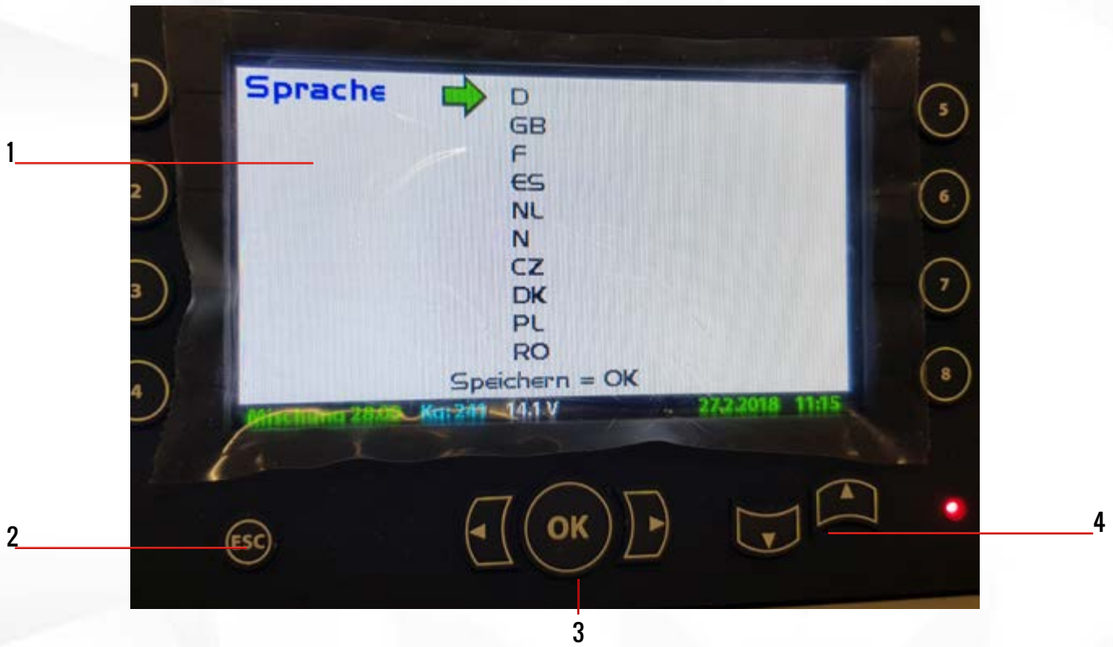


- » (1) Monitor for displaying the navigation
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)
- » (5) Menu item Max. mixtures can be selected to set the maximum number of mixtures

.

5.7.10 Main menu - language

In the sub-item “language” the respective national language can be selected.



- » (1) Monitor for displaying the navigation
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)

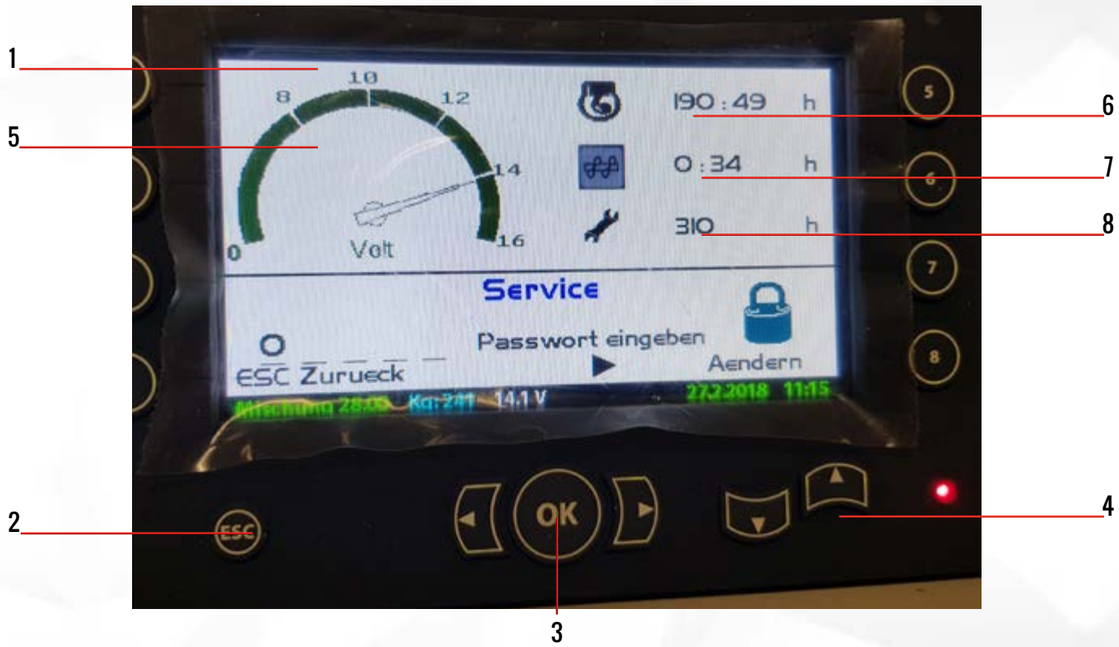
Select language and press OK

Note

The system parameters can only be changed by qualified personnel. A wrong language can cause irritation.

5.7.11 Main menu - service

In the sub-item Service you get an overview of all important system parameters of your MOBILEMAN.



- » (1) Monitor for displaying the navigation
- » (2) Escape key - Back to the previous menu
- » (3) OK key - Confirmation continues in the next menu item
- » (4) Arrow keys - Serve navigation in the menu (up and down)
- » (5) Operating voltage
- » (6) Operating hours
- » (7) Conveying duration from the start
- » (8) Maintenance service

5.8 Mixing stopping / pausing

To stop the mixing process or to set the pause, press the pause button from row A with switch 1.

The machine completes the last set mixture and then goes into pause mode.

» (1) to stop the program, turn on the button Pause

5.8.1 Continue mixing

To continue mixing process, press the pause switch.

» (1) To resume the program, turn off the button Pause.

Hazard
With too long interruptions, the conveyed material may harden out and threaten to block.

5.9 Switching on/off the mixing mechanism

By increasing/decreasing the rotation speed, you can vary the flow rate.

The setting for increasing/decreasing is carried out as follows:

» (1) Switch the mixing mechanism on and off - Choose between manual and automatic

5.10 Changing mixing mechanism

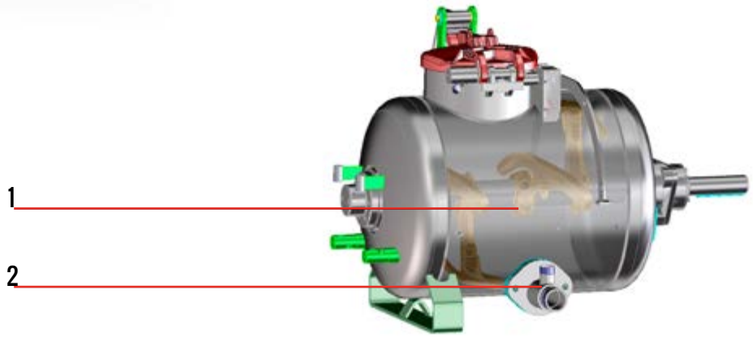
Change the mixing mechanism only in case of cracks or extreme wear. Shut down the machine and replace the mixing mechanism.
GB Machines always recommends to carry a spare screw auger in order to prevent long work stoppages.

Note
Look for a quality mixing mechanism.

Hazard
Never touch the conveying container during operation. RISK OF DEATH.

5.11 Mixing mechanism Operation

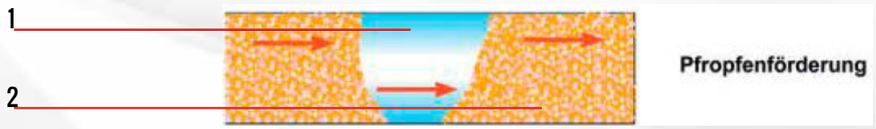
The MOBILEMAN D5 is a compressed air conveyor, which transports the mixture to its destination by means of a plug conveyor.



» (1) Mixing mechanism with drive
» (2) Tank outlet

5.11.1 Principle plug conveyor

The illustration below tries to explain the conveying principle.



» (1) Air
» (2) Material

Hazard
Never reach into the mixing container during operation or touch the mixing container. RISK OF DEATH.

5.12 Standstill of the transportation

There are various reasons for a stop of the conveying. The most common reason are tampers in the pipe. Here are tips for removing tampers.

Find the tamper and remove it. The conveying line up to the tamper can not be deformed and is hardened. Behind the tamper, the line is completely depressurized, so you can easily locate it.

The following steps are recommended:

» Put on protective clothing
» Stop the conveying
» Move hoses back and forth
» Pumping back
» Restart conveying

5.12.1 Persistent tampers

If you are facing major problems with tampers, you have to proceed differently. These tampers are a great danger to your staff.

» Put on protective clothing
» Stop the conveying
» Check for depressurization
» Carefully uncouple the conveying hose
» Clean hose with water
» Clean the hose couplings and reconnect the hose
» Clean the machine and the conveying container

Hazard
Never release pressurized hose couplings. Always check if they are under pressure. The conveyed material can escape and the hoses can beat.

5.12.2 Reasons and causes of tampers

There are several reasons for blockages, and depending on the conveyed material, these can occur in many different ways.

By too quickly set conveyed material the conveying lines are clogged or the conveyed material is too much time in the conveying container.

The following steps are recommended:

» Avoid too long breaks
» Clean conveying container and hoses

Defective conveyor couplings are also an indicator of tampers. Due to the defective seals on the couplings, the water is pressed out of the conveyed material and this then gains in strength and clogs the hose.

The following steps are recommended:

» Replacement of defective seals and couplings
» Only use tested and cleaned hose couplings

Defective conveying hoses can also cause tampers. The walls of the hoses are rough and thus conveyed material is deposited, which makes the passage difficult, therefore, the tubes narrow and it comes to problems

The following steps are recommended:

» Thorough cleaning
» Prevent the conveyed material from standing in the hoses
» Only use tested and suitable hoses

Hazard
Never release pressurised hose couplings. Always check if they are under pressure. The conveyed material can escape and the hoses can beat.

5.12.3 Open hose couplings

Disconnecting the hoses may cause hazards. Do not open the hose couplings during operation. The chapter on cleaning tells you how to proceed.

To uncouple the hoses on the discharge cone, proceed as follows:

- » End transportation
- » Wear protective clothing
- » Open the emergency ventilation
- » Check on the manometer whether there is still pressure in the pipes
- » Carefully loosen the couplings

Hazard
Always press the return pump button only briefly. Otherwise, the screw could be damaged.

Hazard
Never release pressurised hose couplings. Always check if they are under pressure. The conveyed material can escape and the hoses can beat.

5.12.4 Feed interruption

Feed interruptions should be avoided. However, you can interrupt a current conveying at short notice.

To interrupt the conveying, proceed as follows:

- » Set the Pause switch to "On"
- » To continue the conveying set the switch to "Off"

5.13 End transportation / End of work

At the end of the work assignment, you must empty and clean the conveying hoses, the mixing container and the conveying container. This is the only way to ensure the longevity of the machine.

At the end of the assignment, perform the following steps:

- » Thoroughly clean the machine, hoses and couplings
- » Maintain the mixing mechanism
- » Switch off the motor of the machine
- » Switch off the main switch
- » Lock the door to the control unit

Hazard
Make sure that the product does not remain in the hoses and in the conveying container for too long. It comes to hardenings and blockages.

The cleaning of the machine must always be carried out after the end of work or at major work interruptions.

Clean and empty the conveying hoses after work. Only these measures ensure a nearly smooth operation.

6 General cleaning procedures

The General Machine Cleaning shows you the care instructions to always operate a clean and orderly machine.

The following cleaning instructions should be followed:

- All openings of machine parts that should not come into contact with water should be closed or taped. Especially if you perform the cleaning with a high pressure cleaner or similar device.
- Never clean with corrosive substances
- After cleaning, use GB Machines Machine Care. This prevents corrosion and preserves the machine. Any soft parts such as rubber seals, will not be affected.
- After cleaning, all utensils for cleaning must be completely removed. Otherwise, the machine may be damaged.
- Avoid cleaning the paint with an HP device in the first 6 weeks.

Safety gloves
Protect your hands from corrosive substances

Note
Ask your GB Machines representative for the appropriate cleaning supplies.

6.1 General preparations

Position a sufficiently large collecting container so that you can properly catch all conveyor debris.

For general preparation, perform the following steps:

- Lower the tipper (note snap-in contacts)
- Switch off motor
- Put on protective clothing
- Position collecting container
- Empty air from mixing tank - open all air valves
- Uncouple conveying hose

Drain position of the outlet tap:
- (1) Top and bottom air tap
- (2) Air extraction tap (closed)

Hazard
Never release pressurised hose couplings. Always check if they are under pressure. The conveyed material can escape and the hoses can beat.

6.2 Cleaning the conveying hoses

Use a hose ball to get the residual contamination out of the conveying hose. Uncleaned delivery lines can become unusable due to hardened mortar residues.

Perform the cleaning as follows:

- » Insert a well-watered hose ball into the conveying line
- » Reconnect hose
- » Start the machine
- » Start the conveying and increase it slightly
- » Reconnect the hose coupling to the outlet cone
- » Clean the ball with water
- » If necessary, repeat for heavy soiling
- » Dismantle the hoses and clean the connections
- » Check the conveying lines for damage. If you find something, change it immediately

Note
Never release the hose couplings while the machine is still under pressure. The machine must be shut down and vented.

6.3 Clean mixing container, screw pump and conveying container

After each working end, the mixing and conveying container must be cleaned immediately and thoroughly. The conveyed material can quickly set and harden. Also thoroughly clean the conveying hoses.

For thorough cleaning, follow these steps:

- » Start the motor
- » Set the mixing mechanism switch to “0”
- » Empty the delivery container, open the drain tap and catch escaping conveyor residues
- » Open the mixing container flap (main menu - manual operation - open mixing container)
- » Rinse the open containers with water
- » Clean the ball with water
- » Set the mixing mechanism switch to “manual” mixing mechanism rotates
- » Set the conveyor switch to “manual” conveyor rotates
- » Rinse again
- » Both switch conveyor and mixing mechanism back to “0”
- » Close drain tap
- » Fill the delivery tank with water and add GB Machines Machine Care
- » Start the conveying and increase it. At the outlet of the mixing vessel, clean water should come out
- » Lubricate lubrication points sufficiently after completion

Hazard
Never reach into the mixing or conveying container while the machine is in operation. CAUTION DANGER TO LIFE:
Do not rely on automatic shutdowns, but check the shutdown.

6.4 Care of the screw pump

After cleaning the machine, you must spray the screw with a care product. If you do not maintain the screw, there is a risk that the rotor and stator will be inseparable and that you will be unable to work.
Screw maintenance is an essential part of finishing the work. Follow these steps for proper screw maintenance:

- Shut down the machine
- Open the protective grille and fill GB Machines Screw Care into the conveying container
- Close protective grille
- Starting the machine
- Set the conveying switch to "manual" for several seconds
- Repeat the process until the care product exits at the outlet

Hazard
The machine must be shut down. Never reach into mixing or conveying containers during operation. Danger to life.

Note
Only use certified machine care from GB Machines. Ask your representative.

6.5 Longer shutdowns

If you do not need the machine for a long time, the machine must be lubricated and stored. Do not shut down the machine for more than 3 months, if you have any questions, please contact your GB Machines Representative.

Perform the following steps:

- Empty machine and clean it thoroughly, then switch it off
- Lubricate the machine completely
- Allow the engine to warm up completely. Then shut down the machine
- Drain motor oil
- Empty the fuel tank and fill it with a mixture of diesel (90%) and anti-corrosion oil (10%). Start the engine and let it warm up
- Switch off the engine and stop the machine
- Close the intake and exhaust ports
- Remove v-belt and store it protected
- Remove battery
- Store the machine in a dry place and cover it
- Remove the mixing mechanism
- Preserve the machine with GB Machines anticorrosive agents

6.6 Decommissioning

Upon final decommissioning, the machine must be disassembled according to the instructions. When disassembling, please note that the parts have to be disposed of.

Note
Lubricate the machine sufficiently and conserve it only if you plan to stop using the machine for a long time.

Note
For dismantling and disposal, look for a qualified workshop or contact GB Machines.

7 Troubleshooting - FAQ

Here you can find a list of possible error causes and the available troubleshooting options. Please observe the general safety regulations (chapter 2) when handling and operating the machine.

Hazard
Never disconnect hose coupling unless the machine has been properly stopped. Furthermore, the vessel is to be vented. Even when the vessel is vented, there is the possibility that the conveying hoses are still under pressure and can lash out.

Hazard
Never reach into the mixing mechanism while it is still moving. This can cause very serious injuries.

Hazard
Hydraulic and electro-technical work must only be carried out by qualified personnel.

Safety gloves
Always wear safety gloves when working on the machine during troubleshooting.

Respiratory face protection
When the hose couplings are opened, splashes of mixed material can escape and damage your face. Therefore, always wear a face mask.

Safety glasses
Always wear protective goggles. Splashes of mixed material could get into your eyes. If this happens, rinse your eyes with clear water and see an ophthalmologist.

Note
If problems persist, contact GB Machines Customer Service.

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Troubleshooting - FAQ

7.1 General causes of errors of the machine

The starter does not turn the motor	
Possible cause	**Approach for solving the problem**
Low battery voltage	Check the battery fluids, replace the battery.
Emergency stop button is pressed	Check the emergency stop button and unlock it.
Restart protection is active	Wait about 30s before the next start
Magnetic switch from the starter defective	Replacement of the magnetic switch
Cover protective grille open	Close the grille and check the contacts
Motor key is defective	Check these and try the button in the motor compartment.

Charge control indicator light is on when motor is switched on	
Possible cause	**Approach for solving the problem**
V-belt got caught	Check v-belt and replace if necessary
Alternator is defective	Contact service centre and replace alternator

Compressor does not regulate	
Possible cause	**Approach for solving the problem**
Air losses in the control system	Have the dealer check it
Control valve defective	Visit the service center and replace the valve

Control cabinet is offline, monitor is off	
Possible cause	**Approach for solving the problem**
Motor control off (emergency stop)	Check all emergency stop buttons to see if they are unlocked and turn on the controls.
Control system is defective	Replace the controls, contact GB Machines
Fuse from control cabinet defective	Recharge the battery. Alternatively, use the replacement battery.
Main power switch is off	Switch on the main switch.

The machine controls do not work	
Possible cause	**Approach for solving the problem**
Emergency stop button has been pressed	Unlock the emergency stop Pull and Turn. Restart the machine.
Controls are defective	Replace the control, emergency shut-down is carried out. This causes the motor to stop
Main power switch is off	Turn on the main power switch and restart the machine
The control system fuse is defective	Replace the fuse. Use only material authorised by GB Machines.

No reaction from the starter motor when the motor button is pressed. (Start the motor)

Possible cause	Approach for solving the problem
Automatic restart protection	Restart protection was activated. Wait approx. 40 sec and restart the motor.
Emergency stop button has been pressed	Unlock the emergency stop Pull and Turn. Restart the machine
Motor button (switch on motor) defective	Check the button for functionality, if necessary, check the control and change the button
Battery too weak	Check battery voltage and charge / replace
Magnetic switch of the starter motor is defective	Replace magnetic switch
Protective grille control light flashes - The protective grille is open.	Close the protection grid. Check the wiring and connections for electrical problems. Replace if worn.

Mixing shaft stops!

Possible cause	Approach for solving the problem
Mixing vessel too full	Empty the mixing vessel and pay attention to the correct mixing ratio. Fill only up to the dome edge
Mixture blocked / too dry	Remove mixture, remove interfering objects

The motor control light does not light up briefly after the motor is started. The motor temperature and oil pressure sensor system is switched off (no protective shut-down)!

Possible cause	Approach for solving the problem
The sensor system is faulty / defective	Replace the relevant sensors
Wiring faulty	Check the wiring and replace it

Compressor overheated!

Possible cause	Approach for solving the problem
Compressor oil level too high	Drain off excess oil
Wrong oil	Oil change with suitable type
Air/oil separator element defective	Replacement
Return line clogged	Cleaning the affected lines

Charging indicator light does not light up briefly the motor is started. Motor can not be started.

Possible cause	Approach for solving the problem
Check the alternator, check the v-belt	Check v-belt and replace if necessary
Alternator is defective	Contact service centre and replace alternator
Check cable connections for contact and damage	Check the connections and replace if necessary
Battery too weak or defective	Check battery voltage and charge / replace
Battery connectors oxidised	Check and replace

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The motor starts, but shuts off after a short time.

Possible cause	Approach for solving the problem
Motor oil pressure or motor temperature problem	Check oil level, oil filter and oil lines. Remove obstructions and top up with lubricant. Check cooler and its function. Also clean the cooler and replace any defective parts.
Motor warning light flashes	The motor sensors deliver critical or unusual values. These values of oil pressure and temperature result in a safety shutdown.
Check cable connections for contact and damage	Check the connections and replace if necessary
Battery too weak or defective	Check battery voltage and charge / replace
Battery connectors oxidised	Check and replace

The machine does not respond to the transmitter of the radio remote control

Possible cause	Approach for solving the problem
No remote reception	The reception is severely affected by any source of interference. Check the antennas and replace them if necessary.
Stop button pressed	Release the stop button on the transmitter
Transmitter is assigned incorrectly	You are using the wrong transmitter of the MOBILEMAN. Each machine has only one transmitter, contact the service of GB Machines.
Battery empty or defective	Charge the battery and check if the antenna is defective
Contacts are defective or dirty	Check and clean contacts, use contact spray or use the replacement battery
Wrong transmitter	Transmitter and receiver are matched, make sure they match
Individual functions defective	Swap the transmitter and receiver, contact GB Machines
Remote control defective	Contact GB Machines Customer Service

Oil mist escapes from tap openings. High compressor oil consumption

Possible cause	Approach for solving the problem
Wrong oil	Only use the oil authorized by GB Machines
Defective air/oil separator element	Contact GB Machines Service
Defective suction control valve	Contact GB Machines Service
Compressor oil level above maximum	Drain the oil up to max. mark.
Defective oil line or check valve	Clean the oil lines and check the check valve, replace if defective.

Tampers / mixing vessel at over 6 bar. No transportation anymore

Possible cause	Approach for solving the problem
Complete delivery hoses are soft	The tamper is located at the vessel outlet. Be careful when correcting, it creates danger to life. Tamper imply an immense danger to the staff.
Delivery hoses are hard up to a certain point	Locate the tamper and remove it. Danger to life. Clean the hoses to continue working.

The motor does not deliver normal values	
Possible cause	**Approach for solving the problem**
Speed problem with the motor	Check the speed controller of the motor and let it adjust if necessary
Air filter is clogged	The motor sensors deliver critical or unusual values. These values of oil pressure and temperature result in a safety shutdown.
Blockage of oil separator element	Contact GB Machines Service
Air is released through blow-off valve	Contact GB Machines Service
Air consumption exceeds capacity	Check all systems after the compressor (air lines, mixing tank, boiler outlet, possible air consumers)

Oil exits in large quantities from the air filter (machine stands still)	
Possible cause	**Approach for solving the problem**
Wrong oil	Only use the oil authorized by GB Machines. (Foaming prevented)
Defective relief valve	Repair or replace the relief valve

No pressure build-up	
Possible cause	**Approach for solving the problem**
Mixing vessel leaking	Check and seal the vessel. Perform pressure test.
Compressor defective	Repair compressor

Mixing mechanism does not move - standstill	
Possible cause	**Approach for solving the problem**
Mixing mechanism blocked	Obstruction e.g. remove hard mixture
Pressure switch faulty	Replacement

Mixing vessel above 6 bar	
Possible cause	**Approach for solving the problem**
Blocked conveying hoses	Check the hoses for deposits

Machine does not transport	
Possible cause	**Approach for solving the problem**
Tampers in the conveyor system	Clean the hoses and the drain. Check the mixing vessel.

7.2 Error in the controls

Display mixing mechanism cover	
Possible cause	**Approach for solving the problem**
Cover is not correctly placed	Clean the coupling and lubricate it. If the problem persists, visit a specialist workshop.
Proximity switch defective	Replace switch

No binder	
Possible cause	**Approach for solving the problem**
Motor of conveyor augers defective	Change motor
Conveyor augers is stuck	Fix jamming
Binding chamber empty	Refill binder

Not enough binder	
Possible cause	**Approach for solving the problem**
Binder does not slip down	Refill binder or poke

Mixture impossible	
Possible cause	**Approach for solving the problem**
Emergency stop button pressed	Check and correct

Water tank not filled	
Possible cause	**Approach for solving the problem**
Water tank not sufficiently filled	Fill up with water
Max detector defective	Replace
Inlet valve defective/clogged	Replace or remove blockage

7.2 Error in the controls

No water impulses	
Possible cause	**Approach for solving the problem**
Water supply insufficient	Ensure the supply
Water meter is defective	Replace

No Addition Initial weights	
Possible cause	**Approach for solving the problem**
Motor of the conveyor belt defective	Change motor
Conveyor belt is stuck	Fix jamming
Aggregate chamber empty	Refill binder

Battery weak	
Possible cause	**Approach for solving the problem**
Discharge battery	Replacement

Not enough addition	
Possible cause	**Approach for solving the problem**
Additive is stuck	Fill the aggregate chamber or push it in

Too much binder	
Possible cause	**Approach for solving the problem**
Tolerance value too low	Change tolerance in the program point

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Mixing mechanism stands still - Hyd. Pressure high - dosing stopped	
Possible cause	**Approach for solving the problem**
Mixing mechanism is blocked	Ensure the supply
Pressure switch faulty	Check and replace

Input values high	
Possible cause	**Approach for solving the problem**
Input values too high	Check and correct values

Addition too much	
Possible cause	**Approach for solving the problem**
Tolerance value low	Increase tolerance value in the input value

8 Maintenance

This chapter is designed to show you the maintenance procedures of the MOBILEMAN. The maintenance intervals are very important for the functionality of the MOBILEMAN.
You will be told what you need to look out for and what urgently needs to be paid attention to.

The following applies to all work on the MOBILEMAN:
If no special tightening torques are specified for the screws, the values in the following tables apply:

Regular threads				
Dimensions [mm]		Tightening torque Ma (Nm)		
M	SW	8.8	10.9	12.9
M 4	7	3.0	4.4	5.1
M 5	8	5.9	8.7	10
M 6	10	10	15	18
M 8	13	25	36	43
M 10	17	49	72	84
M 12	19	85	125	145
M 14	22	135	200	235
M 16	24	210	310	365
M 18	27	300	430	500
M 20	30	425	610	710
M 22	32	580	820	960
M 24	36	730	1050	1220
M 27	41	1100	1550	1800
M 30	46	1450	2100	2450

Fine thread				
Dimensions [mm]		Tightening torque Ma (Nm)		
M	SW	8.8	10.9	12.9
M 8x1	13	27	39	46
M 10x1.25	17	52	76	90
M 12x1.25	19	93	135	160
M 12x1.5	19	89	130	155
M 14x1.5	22	145	215	255
M 16x1.5	24	225	330	390
M 18x1.5	27	340	485	570
M 20x1.5	30	475	680	790
M 22x1.5	32	630	900	1050
M 24x2	36	800	1150	1350
M 27x2	41	1150	1650	1950
M 30x2	46	1650	2350	2750

8.1 Daily maintenance

Correct any defects before driving / starting work.

- Visual inspection of the entire machine for defects
- Check the emergency stop switch and the protective grid latch for functionality
- Check the material hoses and couplings
- Check fuel quantity
- Check the control lights in the control unit for error messages
- Check air filter
- Check the lighting

8.2 Weekly maintenance

Correct any defects before driving / starting work.
(in addition to the shorter maintenance intervals)

- Check the hydraulic fluid level
- Check motor oil level
- Check air filter for contamination
- Check the tyre pressure
- Check the v-belt of the alternator
- Check brakes
- Check all lines for leaks
- Lubricate lubrication points

8.3 Half-yearly maintenance every 500 hours

Correct any defects before driving / starting work.
(in addition to the shorter maintenance intervals)

- Replace the v-belt of the alternator
- Replace the air filter
- Replace the fuel filter
- Have the driving equipment checked (specialist workshop)
- Check electrical wiring
- Change wearing parts in the conveying container
- Check engine according to manufacturer's instructions

8.4 Annual maintenance every 1,000 hours

Correct any defects before driving / starting work.
(in addition to the shorter maintenance intervals)

- Conduct occupational safety test (UVV)
- Replace the motor oil
- Replace the hydraulic oil
- Have the motor service carried out (specialist workshop)
- Have hydraulic checked

8.5 Maintenance at more than additional 1,000 hours

Correct any defects before driving / starting work.
(in addition to the shorter maintenance intervals)

- Every 2 years TÜV, DEKRA...
- Every 3 years toothed belt and manufacturer check for the motor
- Every 3 years check and adjust injection valves in a specialist workshop

8.6 Maintenance kits / parts

There are special maintenance kits for each interval

Maintenance Kit 500 hours consists of:

- Motor oil filter
- Fuel filter
- Fuel prefilter
- Copper ring
- Air filter
- Safety cartridge

Maintenance Kit 1000 hours consists of:

- Motor oil filter
- Fuel filter
- Fuel prefilter
- Copper ring
- Air filter
- Safety cartridge
- Oil filter
- V-belt
- Tooth v-belt
- Valve cover seal

8.7 Modifications of the machine / welding

The machine must not be modified by oneself. External welding work may only be carried out after consultation
with GB Machines.

If you use electrical welding methods, external voltages can damage electronic components.

Observe the following points when welding:

- Disconnect both cables from the battery
- Disconnect all connection plugs for motor control

Note
The following applies to all maintenance intervals:
Also observe the maintenance instructions of the manufacturers of the diesel motor and driving equipment as well as optional accessories.

Note
Always use genuine spare parts from GB Machines or those authorised by GB Machines.

Note
For normal use of the machine, it is recommended that the hydraulic hoses be replaced after a service life of max. six years (including two years of storage).

Hazard
Ensure that the tyres of the machine always have a sufficiently deep tyre tread.

Hazard
Hydraulic and electro-technical work must only be carried out by qualified personnel.

Note
If problems persist, contact GB Machines Customer Service.

8.8 Maintenance work chassis

For maintenance on the chassis

Chassis	
Activity	**Model**
After 50km and wheel change	Use a torque wrench
After 100-200 km	Have the brake system checked in a specialist workshop
Every 10,000-15,000 km	Have the brake system and its wear parts revised in a specialist workshop
Every 10,000-15,000 km	Check the parking brake for functionality in a specialist workshop

Note
The following applies to all maintenance intervals:
Also observe the maintenance instructions of the manufacturers of the diesel motor and driving equipment as well as optional accessories.

Note
For normal use of the machine, it is recommended that the hydraulic hoses be replaced after a service life of max. six years (including two years of storage).

9 Terms and conditions

Terms of sales and delivery
LUDGER GLAAP & FRITZ BRINKMANN Machines GmbH & Co. KG (as of 04/2019) "Supplier"

I. Scope of application
1. These conditions apply exclusively to entrepreneurs, legal entities under public law or special funds under public law within the meaning of § 310 paragraph 1 German Civil Code. We only accept conditions of the customer conflicting or deviating from our terms and conditions, if we expressly agree in writing to their validity.
2. These conditions of sale also apply to all future transactions with the customer, insofar as these are legal transactions of a related nature.

II. Pricing
1. Unless otherwise agreed in writing, our prices are ex works excluding packaging and plus value added tax in the respective valid amount. The costs of the packaging will be invoiced separately.
2. Payment of the purchase price has to be made to the named account. The deduction of cash discount is only permitted with a written special agreement.
3. Engineering services, where necessary or required, as well as installation costs and start-up, are charged separately, unless otherwise agreed in writing.
4. Unless a fixed price agreement has been made, reasonable price changes remain due to changes in labour, material and distribution costs for deliveries made 3 months or later after conclusion of the contract
.
5. If the supplier is willing to exchange or change the order at the request of the purchaser, the supplier is entitled to
a. charge the costs incurred until then, such as demonstrations, deliveries, insurance or other services as well as
b. to deduct the amount of the depreciation resulting from ageing and use plus additional
c. 20.0% of the price originally agreed for the delivery item
and demand the immediate payment, deviating from possible original individual agreements.

III. Conclusion of contract
1. The contract is concluded when we have confirmed the acceptance of the order in writing (letter, fax, mail) or have started the service.
2. Verbal agreements or changes to the contract require our written confirmation to be effective. This also applies to the change of this written form provision.
3. All documents relevant to the offer, of any kind, as well as all the technical data, are only approximate. They are only relevant if they have been expressly declared "binding". We reserve the proprietary rights and copyrights to cost estimates, 3D models, drawings, other samples and sample types and other similar documents, unless we expressly renounce them in writing. The documents must be treated confidentially and must, in particular, be protected against the inspection of third parties. On request, the documents are to be returned immediately, objections are excluded.

4. Only upon written request will deliveries to the customer be insured to the extent they desire. The purchaser bears the costs of the insurance.

IV. Delivery time, delayed acceptance, withdrawal, damage claims of the supplier

1. The delivery time and thus the period begins at the earliest with the conclusion of the contract (see III.1) and only when the supplier and the buyer have agreed on all details of the execution and all conditions of the transaction. Furthermore, the beginning of the period presupposes the timely and proper fulfilment of the obligations of the customer. The exception of the unfulfilled contract remains reserved.
2. The delivery time and deadline are met if shipping or readiness for shipment is communicated until the end of the deadline.
3. If the goods are shipped to him at the request of the purchaser, the risk of accidental loss or accidental deterioration of the goods is transferred to the purchaser upon dispatch to the purchaser, at the latest when leaving the factory. This applies regardless of whether the shipment of goods happen from the place of performance, or who bears the freight costs. We are not liable for the cheapest freight and the fastest transport time.
4. In the event of a delay in delivery caused by us, either deliberately or through gross negligence, we shall be liable for any completed week in the context of a lump-sum compensation for default amounting to 3% of the delivery value, but not exceeding 15% of the delivery value. Further statutory claims and rights of the customer due to a delay in delivery remain unaffected.
5. If the delay of the delivery, the dispatch or the receipt of the delivery item is to be accounted for by the purchaser, all dangers – including the risk of deterioration or loss of the delivery item, as well as of all dangers arising from himself – pass from the notification of readiness for dispatch or notification of the completion (in case of collection), to the purchaser.
6. If the purchaser is in default of acceptance or culpably violates other obligations to co-operate, he must also reimburse the proven damage (such as underwriting costs) including any additional expenses.
7. If the acceptance of the object of the contract is not carried out or if acceptance or collection is refused, we shall be entitled, after fruitless expiry of a reasonable period of grace, to withdraw from the contract and to claim damages. The same applies if the customer does not comply with the terms of payment. As compensation for damages, we can demand a flat rate of 25.0% of the purchase price for series products and 80.0% of the purchase price for individual production without proof. We reserve the right to prove and assert a higher amount of damage. The purchaser is permitted to prove that damage or depreciation have not occurred or to a significantly lesser extent than the lump sum.

V. Payment and delay

1. Unless otherwise agreed in writing, deliveries of machinery, spare parts and services are due within 7 calendar days of delivery.
2. Payments with change require a written agreement. Bills of exchange and cheques will only be accepted as settlement. The purchaser is responsible for collection and discount charges. Bills of exchange and overdue payments will not be discounted.
3. The purchaser's right of retention exists only if his counter claim is based on the same contractual relationship.
4. If the customer is in default of payment, we are entitled to interest at 9 percentage points above the

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base rate. Our claim for compensation for further damage remains unaffected.

VI. Complaint and warranty

1. Warranty rights of the purchaser presuppose that the purchaser has duly complied with his inspection and complaint obligations in accordance with the regulations, in particular that he inspects the delivery item for defects immediately upon receipt and informs us in writing.
2. Claims for defects become time-barred 12 months after dispatch or upon collection notification of readiness for dispatch. For damage claims in case of intent and gross negligence as well as injury to life, body and health, which are based on an intentional or negligent breach of duty on our part, the statutory limitation period applies.
3. If, despite all due care, the goods show a defect that was already present at the time of the transfer of risk, we will, subject to the timely notice of defects, repair or replace the goods at our discretion. We are always given the opportunity to remedy within a reasonable time. Prior to any return of the goods, our consent must be obtained. If the supplementary performance fails, the customer can - without prejudice to any claims for damages - withdraw from the contract or reduce the remuneration.
4. Claims for defects do not only exist with insignificant deviation from the agreed quality, with only insignificant impairment of the usability, with natural wear or tear as with damage, after the transfer of risk due to faulty or negligent treatment, excessive use, unsuitable equipment or due to particular external influences that are not required under the contract. If improper repairs or modifications are made by the purchaser or third parties, no defect claims can be made for these or for any damages resulting from these.
5. Unauthorised rectifications of the customer, by himself or by the purchaser commissioned third parties lead to the loss of all claims for defects result. We do not accept the costs of a rectification by the customer or third parties without our prior written consent.
6. For the sale of used machines, equipment or parts, we make no warranty for material defects and pledge no properties. For damage claims in the case of intent and gross negligence and in the case of injury to life, limb and health, which are based on an intentional or negligent breach of duty on our part, the statutory period of limitation applies.
7. Claims for recourse remain unaffected without limitation by the above regulation. They exist against us only to the extent that the purchaser has not made any agreements with his customer exceeding the legally binding warranty claims.

VII. Extended and expanded retention of title

1. The objects of the deliveries (reserved goods) shall remain our property until fulfilment of all claims against the purchaser arising from the business relationship. Insofar as the value of all security interests to which we are entitled exceeds the amount of all secured claims by more than 20%, we shall release a corresponding part of the security interests at the request of the ordering party. We are entitled to choose between different security interests.
2. The purchaser is obliged, as long as the property has not been transferred to him, to handle the purchased goods with care. In particular, he is obliged to adequately insure them at his own expense against theft, fire and water damage as replacement value. If maintenance and inspection work is to be carried out, the customer must execute it at his own expense in good time. Should the purchaser not be a specialist dealer and service workshop at the same time, the purchaser must inform us in writing about necessary maintenance and inspection work, which will then be carried out by us or on behalf of us by a third party. The purchaser bears the costs.
3. As long as the ownership has not been transferred, the purchaser must notify us immediately in writing if the delivered object is seized or subjected to other interventions by third parties. Insofar as the third party is not

in a position to reimburse us for the court and out-of-court costs of a lawsuit in accordance with § 771 Code of Civil Procedure, the customer is liable for the loss incurred by us.

4. The customer is entitled to resell the reserved goods in the normal course of business. The customer hereby assigns to us the claims against the buyer from the resale of the reserved goods in the amount of the final invoice amount agreed with us (including value added tax). The customer remains authorised to collect the claim, even after the assignment. Our power to collect the claim ourselves remains unaffected. However, we will not collect the claim as long as the purchaser fulfils his payment obligations from the proceeds received, is not in default of payment and, in particular, no application for the opening of insolvency proceedings has been filed or payment has ceased. Upon request, the customer has to disclose all business transactions for the resale of our goods.

5. If the retention of title, the seizing, or the surrender is not effective according to the respective law of a country in which the purchaser is located, then the legal regulation closest to the retention of title or assignment in this country shall be deemed to be agreed upon. The dispatch of the goods by the purchaser to a foreign country is only valid if the supplier has previously consented to the dispatch in writing.

VIII. Software

1. For the software included in the delivery, the purchaser is granted a non-exclusive right of use. This use only applies to the delivery item for which the software is intended. Multiple use, access by third parties, modification or extension of the software is prohibited. All rights to the software remain with the supplier, who alone is entitled to grant licenses or sublicenses.
2. The use of the software by the purchaser may only take place within the respective statutory provisions.

IX. Intellectual property rights for services according to the customer's specifications

1. If we have to perform according to the customer's specifications, according to his drawings, samples, models, etc., the customer assures us that no third-party property rights will be infringed.
2. The purchaser indemnifies us from any claims of third parties arising from the infringement of possible property rights and reimburses us for our expenses, the damages incurred, including lost profits and other costs attributable to us. Possible further statutory claims and rights of the supplier remain unaffected.

X. Place of fulfilment, jurisdiction

1. For all legal transactions between the supplier and the orderer, including the UN Sales Convention (CISG) for the future, only the realm of the Federal Republic of Germany under exclusion of the UN sales law (CISG) shall apply.
2. Place of performance and exclusive place of jurisdiction for all disputes arising from this contract is our registered office.

As of 03/2019

Terms and Conditions

MOBILEMAN
Model D5

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Notes

LUDGER GLAAP & FRITZ BRINKMANN
Machines GmbH & Co.KG

Notes

OPERATION INSTRUCTIONS. MOBILEMAN D5
CEMENT SCREED | TIPPING SYSTEM

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