Assembly and Operating Manual

GEDA® 500 Z/ZP

Construction Hoist / Transport Platform

For persons and loads

GEDA® ORIGINAL

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EC Declaration of Conformity

CE

The manufacturer

GEDA-Dechentreiter GmbH & Co. KG
Mertinger Str. 60
DE-86663 Asbach-Bäumenheim

hereby declares that the machine

Designation:	**Construction hoist / Transport platform** (for temporary, non-public use by authorised persons)
Type:	**GEDA® 500 Z/ZP**
Year of manufacture:	see type plate of the machine
Serial No.:	21500

is in compliance with all pertinent provisions of the following directives at the time of being put on the market.

Directives:		Applied conformity evaluation procedure:
2006/42/EC	Machinery Directive	Appendix VIII
2006/95/EC	Low Voltage Directive	Appendix IV
2004/108/EC	EMC Directive	Appendix II
2000/14/EC	Noise Emissions Directive	Appendix V

Applied (harmonised) norms:

EN ISO 12100:2010
EN 60204-1/32

EC type testing procedure:

Type testing certification		EG-MRL 032/1
European notified body	0036	TÜV SÜD Industrie Service GmbH Westendstraße 199 80686 München

This EC conformity declaration becomes null and void if any changes are made to the aforementioned machine that have not been authorised by the manufacturer.
Authorised representative for technical documentation is the signatory.

Asbach-Bäumenheim 2011-03-31

Johann Sailer
(Managing Director
GEDA-Dechentreiter GmbH & Co. KG)

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1 General information

1.1 Information about the instruction manual

This operating manual is an essential aid to **operating** the machine **successfully and hazard-free**.

This operating manual contains important instructions on how to operate the machine **safely, correctly and efficiently**. Compliance with these instructions helps to avoid hazards and increases the reliability and service life of the machine.

The operating manual must be **available at the machine at all times** and must be read and applied by every person commissioned to work on/with the machine, e.g.:

- Operating, fault rectification during work, disposal of operating materials and auxiliary supplies,
- assembly, maintenance (servicing, general maintenance, repairs) and/or transport.

You will see a series of illustrations and symbols whilst reading this manual which are intended to help you navigate through and understand this manual. The different meanings are explained below.

Text display	Meaning
Bold type	Emphasises particularly important words/passages
• List 1	Denotes lists
– List 2	Denotes lists
(brackets)	Item numbers
➢ Instruction	Instruction to personnel. Always given in chronological order

Images

The images used refer to a specific machine type. They may only constitute a schematic representation with other machine types. The fundamental function and operation is not affected by this.

The **structural elements** in this operating manual appear as follows and have the following meaning:

Health and safety symbol
This symbol is found next to all safety instructions where there is a risk of injury or a fatality. Observe these instructions and be very cautious!

Warning level		Consequence	Probability
⚠	**DANGER**	Death / serious injury	is imminent
⚠	**WARNING**	serious injury	possible
⚠	**CAUTION**	minor injury	possible
	CAUTION	material damage	possible

Attention note
This is found at points where special information or rules and prohibitions regarding damage prevention are given in order to prevent damage to the machine.

Note
This is found at points where information is given about using the machine economically or instructions are given regarding correct working procedures.

1.2 *Abbreviations*

The following abbreviations may be used in the manual.

max.	maximum	Nm	Newton metre
min.	minimum	km/h	kilometres per hour
mins.	minutes	mph	miles per hour
etc.	et cetera	inc.	including
poss.	possible/possibly	if nec.	if necessary
e.g	for example	i.e.	id est (that is)
ml	millilitre	reg.	regarding
mm	millimetre	RH	relative humidity
°C	degrees Celsius	approx.	approximately
°F	degrees Fahrenheit	Ø	diameter
ft.	feet	®	registered trademark
ft/m	feet per minute		
m/min	metres per minute	©	copyright
in.	inch	TM	trademark (trade name)
etc.	et cetera		
lbs.	pounds	%	per cent
lbf.-ft	pounds per feet	‰	per thousand
kg	kilogram	dB (A)	sound pressure level
l	litre		
gal.	gallons	LWA	sound power level
kip	kilopound	>	greater than
		<	less than
		±	plus or minus

1.3 Information about the machine

Machine model	**GEDA 500 Z/ZP**
Year of manufacture:	Refer to nameplate
Works number:	**21500**
Documentation version:	03/2011

1.4 Name and address of the manufacturer

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1.5 Notes about the author and industrial property rights

1.6 Instructions for the operating company

This operating manual is an essential component of the machine. The operating company must ensure that operating personnel are **informed** about these guidelines.

The operating company must supplement the operating manual with **operating instructions** based on existing **national regulations for accident prevention** and for the **protection of the environment**, including information regarding supervisory and reporting duties that take account of company-related specifics, e.g. with reference to work organisation, work procedures and the personnel employed.

In addition to the obligatory **regulations for accident prevention and industrial safety** that apply both in the country of use and at the place of use, accepted professional rules for working safely and competently must also be observed.

The operating company must make sure that operating personnel wear **personal protective gear** as appropriate to the local conditions.

First aid facilities (first aid kit, etc.) must be kept within reach!

The operating company/user of the machine **must not make any changes, additions or modifications** to the machine that could impair safety without permission from the manufacturer! This also applies to installing and adjusting safety equipment, as well as welding onto load-bearing components.

Any **replacement and wear parts** that are used must correspond to the technical requirements stipulated by **GEDA**. This is ensured with **original replacement parts**.

Only employ **qualified and/or trained personnel** for the tasks described in this manual.
The operating company clearly defines the responsibilities of the personnel for operation/assembly/maintenance. The operating company is obliged to train all persons authorised to use the machine in the correct handling of the machine before using it for the first time, according to the respective area of activity and responsibility of the authorised individual and using practical exercises.
These instructions must be documented and repeated at regular intervals.
The legally permissible minimum age must be observed!

1.7 Proper use

The **GEDA 500 Z/ZP** is a construction material hoist as well as a transport platform that is temporarily erected and

- which may only be operated after the landing level safety doors are installed at each transfer point to the building or scaffolding.
- which may only be operated at wind speeds of up to 72 km/s (20 m/sec. ≈ wind force 7-8 according to the Beaufort scale).
- which must have its platform parked on the ground and taken out of operation at higher wind speeds.

as construction material hoist

- which is intended exclusively for putting up scaffolding and for transporting items and materials during construction work.
- which may only be operated from outside the cordoned-off and signposted hazard area using the ground control and/or operated from the electric modules on the landing level control above the 2 m safety height.

as transport platform and carrying persons

- Determined for the transport of material and a max. of 5 persons who can exit the platform at installed and secured exit points.
- It must only be used by trained personnel (platform operator) on construction sites.
- The equipment can only be operated from the platform in dead man's control. (Operation is not possible from other control locations.)
- There is the option to stop at any position (e.g. to unload bulky components over the base enclosure).

as a mast climbing platform

- Determined for the transport of material and a max. of 5 persons who can carry out tasks from the platform.
- The equipment can only be operated from the platform in dead man's control. (Operation is not possible from other control locations.)

Observe and comply with the instructions in section 3.4, "Technical specifications".

Any other use or any use going beyond this is not considered proper use.
The operating company/user of the machine is solely liable for any damage resulting from such action. This applies equally to any arbitrary changes to the machine.

Intended use includes:

- That the assembly, operation and maintenance provisions (assembly and operating manual) provided by the manufacturer are complied with.
- That the foreseeable misconduct of other persons is taken into consideration.
- That the corresponding national regulations are complied with.

☞ **The GEDA 500 Z/ZP is suitable for temporary use on construction sites. Any other locations or intended uses require written approval from the manufacturer.**

1.7.1 Requirements of assembly personnel

The machine must only be assembled, operated and maintained by competent persons who, based on their training, knowledge and practical experience, can ensure correct handling of the machine and who are aware of the risks associated with the transport platform. These persons must be appointed to the tasks of installation, dismantling and maintenance by the operating company.

1.7.2 Operating personnel

The machine may be operated only by persons who, based on their training, knowledge and practical experience, can guarantee proper handling.
These persons must

- have been appointed by the operating company,
- have been appropriately instructed and informed about the risks,
- be familiar with the assembly and operating manual,
- observe national regulations.

1.7.3 Improper use

- The **GEDA 500 Z/ZP** is not designed for permanent installation.
- The **GEDA 500 Z/ZP** must not be assembled to be free-standing (without anchors).
- Persons who have not been instructed about the machine and who are not acquainted with the operating manual, or children, may not operate the **GEDA 500 Z/ZP**.

Consequences of non-intended use of the machine

- Danger to life and limb of the user or a third party.
- Damage to the machine and other tangible assets.

2 General safety information

The machine has been designed and built according to the latest standards of technology and recognised safety-related rules.
Nevertheless, hazards for personnel or third parties and/or damage to machinery and other tangible assets can occur during use, e.g. if the machine:

- is operated by untrained or uninstructed personnel,
- is used improperly,
- is assembled, operated and serviced inappropriately.

Attached notices and warning signs must be observed!

Consequences of not complying with safety instructions
Non-compliance with safety instructions can result in danger both for personnel as well as for the environment and the machine. Non-compliance can lead to the forfeiture of any damage compensation claims.

2.1.1 Residual risks

There are still residual risks remaining from working with the machinery even when all safety conditions are complied with.

Everyone who works on and with the machine must be aware of these hazards and follow instructions that prevent these residual risks leading to accidents or damage.

Caution

- Do not remove safety stickers; replace any safety instructions that have become illegible.
- Hazards due to toppling of an improperly secured load.
- Hazards due to high wind speeds (> 72 km/h)
- Hazards when accessing and exiting the platform.
- Hazard of damage to the mast sections, anchors or base unit.
- Hazards when working on the electrical system.
- Hazards from a malfunction in the control system.
- Injuries due to uncoordinated work methods.

2.1.2 Safety instructions for operating personnel

The operating manual must be within reach at all times **at the location where the machine is used**.

The machine may only be used in a technically fault-free condition, as well as **in accordance with the intended use, in a safety conscious manner aware of the hazards**, and while observing the operating manual! In particular rectify faults immediately that could impair safety!

In addition to this, the machine may only be operated when all **safety features are present and functioning**!

Check the machine **at least once each working day** for externally identifiable damage and defects! Immediately report any changes (including changes to the operating behaviour) to the office/person in charge. If necessary, shutdown and secure the machine immediately! The **responsibilities** for different jobs within the context of operation, servicing and maintenance of the machine must be clearly stipulated and adhered to. This is the only way to avoid mistakes especially in hazardous situations.

The pertinent **rules for prevention of accidents** as well as the other, generally recognised, safety-related and industrial health related rules must be adhered to.

The operator is obliged to wear **personal protective equipment** as appropriate to the local conditions.

Switch-on and shutdown procedures, including emergency shutdown, must be observed in accordance with the operating manual for all work that affects operation, and for conversions and adjustments to the machine and its safety features.

2.1.3 Safety instructions for transport

Immediately report **transport damage** and/or **missing parts** to the supplier.

During transport work, wear a **safety helmet, safety shoes** and **safety gloves!**

Never step **under suspended loads**!

Only use **appropriate, standardised and tested lifting gear**, forklifts, cranes) and sling gear (round slings, lifting straps, sling ropes, chains) for transport at the assembly site.

When selecting hoisting equipment, always take into account the **maximum suspended loads!**

Please refer to the **dimensions and weights** in the technical specifications section (3.4).

Only load and transport **equipment** that has been **carefully dismantled, packed and securely lashed down**.

Always ensure that the machine is transported **without being knocked or jolted**.

Observe the **pictograms on the packaging**.

Only attach gear to the **designated sling points**.

Always **secure** transported loads **against falling or tipping over!**

2.1.4 Safety instructions for operation

Only **operate** the machine, under consideration of the operating manual, **when it is fully serviceable and in a safety and hazard conscious manner**.

If **work is interrupted**, switch off the machine at the **main switch** and secure it with a padlock against switching on.
Fundamentally, the machine must be **secured against unauthorised use** (disconnect from power)!

In situations that present a **risk to the operating personnel** or the machine, shut down the machine by pressing the **EMERGENCY-STOP** button.

Shut down and lower the machine when wind speeds are > 72 km/h. (Wind force 7-8, wind breaks branches off trees, makes walking very difficult!)

No one is allowed to stand under the machine. Ensure that the danger zone is suitably cordoned off at the customer's site.
Protection to prevent persons from falling must be provided at loading heights above 2.0 m. (Install landing level safety doors.)

Accompanying persons must comply with the **instructions of the platform operator**. Above all, they must not lean out over the sides of the platform or step across material being carried.

2.1.5 Safety instructions for servicing, maintenance and troubleshooting

Operating personnel must be **informed** about how to carry out special work and maintenance work before they start.

Deadlines/intervals that are stipulated or stated in the operating manual for recurring **tests/inspections** must be adhered to.

The **maintenance area** must be **cordoned off** as extensively as required!

Fundamentally, before any maintenance work on the machine
- Unload,
- Switch off at the master switch.

All **servicing and maintenance tasks** are only permitted with the **master switch turned off** or with the **mains plug disconnected**. Manual intervention while the machine is running can lead to serious injury and is therefore prohibited. If it is necessary to **turn the machine on during** such work, then this must only be done while complying with **special safety measures**.

☞ **You will find further instructions on servicing/servicing intervals/maintenance in sections 8 and 9.**

If the machine has been completely shut down for these tasks, it must be secured against switching on unintentionally:
- Operate the **emergency STOP** button,
- **Lock** the **main switch** using a shackle lock **and**
- **Attach a warning notice** to the switch box (main switch).

Any faults that could impair safety must be rectified immediately.

Workshop equipment that is suitable for the specific work is imperative for carrying out **servicing and maintenance tasks**. When carrying out maintenance work at greater height, a fall-protection device must be worn! Keep all handles, railings and the platform free from dirt and contamination.
When working under the platform, secure it using appropriate means (e.g. bolts, mast clamps, etc.)

Before starting servicing/repair tasks **clean** the machine, in particular connections and screw connections, from oil, operating fluids, contamination and maintenance products. Abrasive cleaning agents must not be used. During servicing and maintenance work, **loosened screw connections** must always be **tightened** using the necessary **torques**!

Do not change, remove, bypass or bridge safety devices.
If it is necessary to **remove safety devices** during servicing and repairs, the safety devices must be installed and **checked** immediately after completion of servicing and repair tasks!

Do not make any changes, additions or modifications to the machine. This also applies to the installation and adjustment of safety devices such as limit switches.

Immediately replace damaged or detached notices and warning signs, as well as safety labels.

Ensure that auxiliary supplies, as well as replaced parts, are disposed of safely and in an eco-friendly manner (see also section 10)

☞ **The aforementioned safety measures apply equally for work in the context of eliminating faults.**

2.1.6 Safety whilst working on the electrics

If there are **faults in the electrical system** of the machine, it must be **shut down** immediately using the **master switch** and secured with a lock or the mains plug must be removed!

Work on the electrical equipment of the machine must only be carried out by **qualified electricians** working in accordance to electrical engineering regulations! Only professional electricians may access the machine's electrics and carry out work on it. **Always keep the switch boxes closed** as soon as they are left unattended.

Never work on live parts! System parts on which inspection, maintenance or repair work is to be carried out must be **disconnected from the mains**. Operating fluids that have been disconnected must be secured against being switched back on unintentionally or automatically (lock away fuses, block isolating switches, etc.). The disconnected, electrical components must first be tested to ensure they are voltage-free, then earthed, short-circuited and isolated from neighbouring live components.

If **tasks must be carried out on live components** (only in exceptional circumstances) an **additional person** must be present to operate the **EMERGENCY STOP** button or main switch in the event of an emergency. Only use insulated tools!

During repairs, make sure that **design features** are not **modified** so that they have a negative influence on safety. (e.g. creeping distances, clearances and distances must not be made smaller by insulation.)

Fault-free **earthing** of the electrical system must be ensured by a **protective earth system**.

3 Technical description

3.1 Description of function

The **GEDA 500 Z/ZP** is a rack-and-pinion hoist constructed vertically that, on the one hand, is used as a construction hoist for exclusive use to transport construction material, on the other hand, used as a transport platform for the transport of material and up to a max. of 5 persons. The platform can be entered and exited at secure exit points installed (ground base enclosure and landing level safety doors). These operating modes are selected using a key switch on the platform control. The base unit can be extended by up to a construction height of 100 m.

- The machine is equipped with an overload device that switches off travel in both directions if the load capacity is exceeded; a red overload warning lamp lights up on the platform switch box.
- The lower most 2 m must in particular be secured and cordoned.
  - The lifting speed of the hoist is only approx. 12 m/min.
  - Travel is only possible using dead man's control.
  - When the platform is descending and before starting in this range, a signal is sounded for approx. 3 seconds.
  - Within this range, the hoist can only be operated from the landing level control.
- The platform openings (barrier, doors/ramps, assembly guard, assembly frame) are electrically monitored and interrupts the safety circuit on opening so that the platform immediately stops or does not move off.
  - The access at the ground station can only be opened when the platform is actually at the ground station.
- The downward travel path of the platform is limited by a **DOWN** limit switch and the upward travel path is limited by an **UP** limit switch. If there is movement beyond the limit switch, the **EMERGENCY** limit switch interrupts the **EMERGENCY STOP** safety circuit. The landing-level limit switch permits further travel in both directions.
- Installation of the hoist includes safety equipment for the loading and unloading points (see section 5.5).

3.1.1 Use as a material hoist

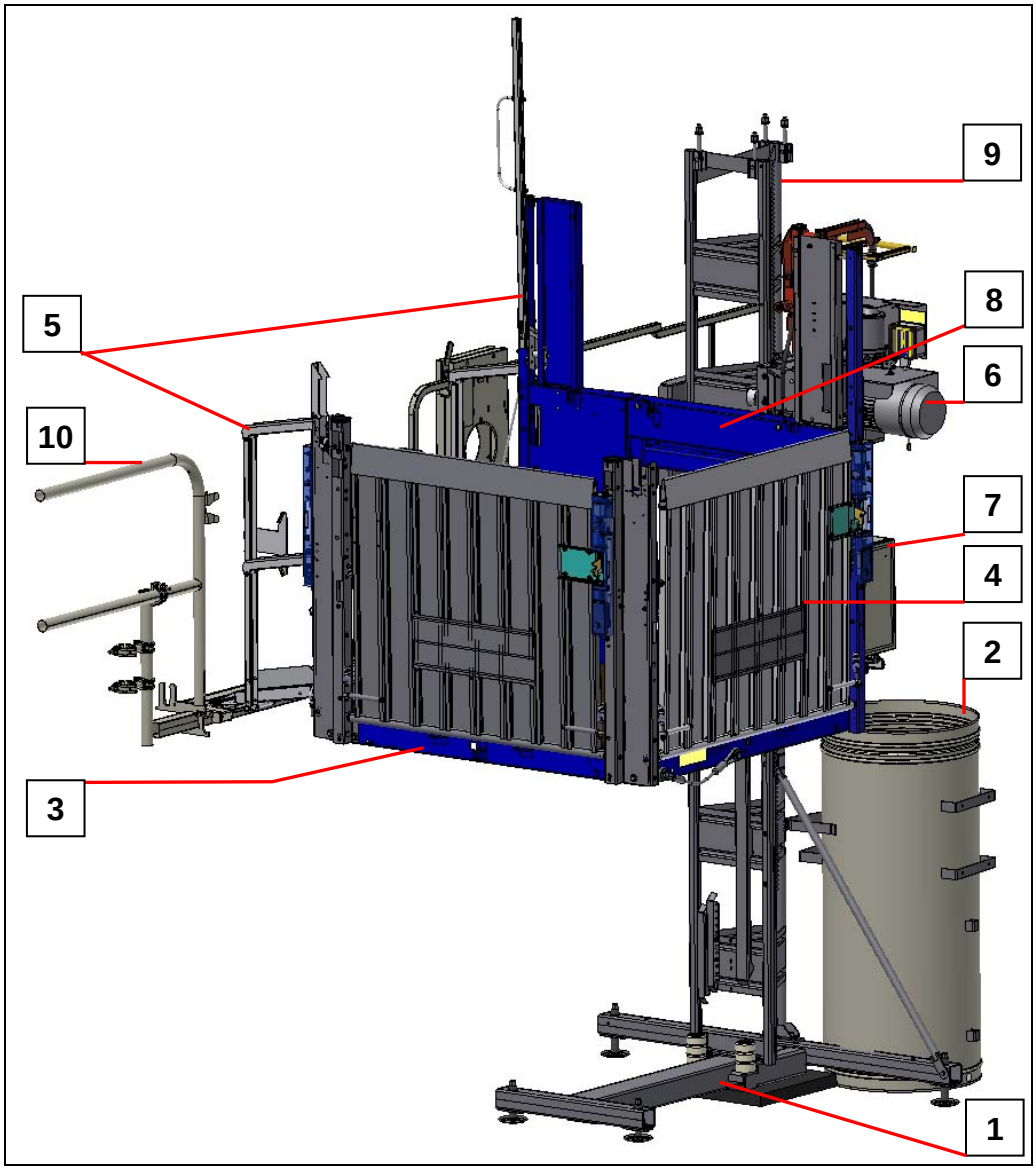
- Switching to material hoist is carried out at the key switch of the platform control (key removed). The folding plate (cover above the platform control) must be folded down and secured with a lock, so that only control from outside is possible.
- Operation is carried out using the ground control (manual control) outside the danger zone - or from the electric modules of the landing level control when above the 2 m safety height.
- Automatic operation is possible above the 2 m safety height (see section 6.3).

3.1.2 Use as a transport platform / climbing platform

The platform is intended for provisional use on constructions sites for transporting persons and materials. It must only be used by trained personnel (platform operator) who receive the key to activate the platform control.
When the sliding plate (cover over the platform control) is pushed upwards and the key switch on the platform control is switched on by the platform operator, the machine is used as a transport platform or mast climbing platform.

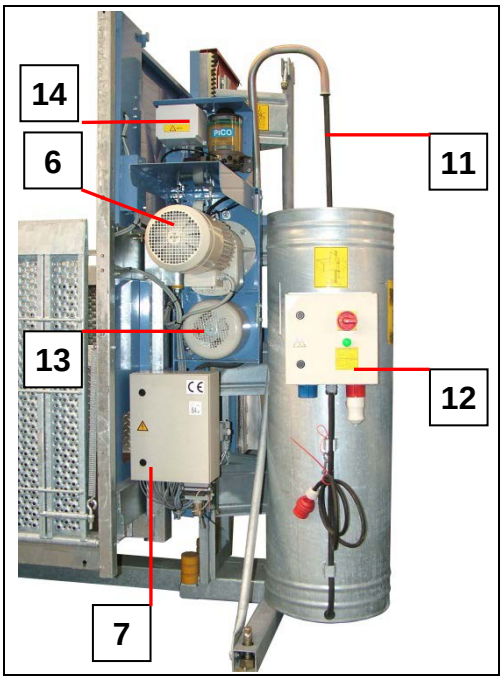
- The maximum number of persons on the platform is limited to 5 (inc. platform operator).
- Operation is only possible from the platform control in dead man's control, thus, other control locations are disabled.
- During descending, the platform stops approx. 2 m above the ground. Once the platform operator has ensured that it is clear to travel downwards, he must press and hold the **Down** button, a signal is then emitted, after approx. 3 seconds the platform moves and stops at the **DOWN** limit switch.
- It is possible to stop at any position (e.g. to carry out tasks from the platform or unload bulky components over the base enclosure).

3.2 Machine equipment



1 = Foot section with base mast
2 = Cable bin with switch box, ground station
3 = Platform
4 = Ramp (ground station)
5 = Barrier with loading door (landing level)
6 = Drive motor
7 = Switch box, platform
8 = Assembly guard
9 = Mast extension
10 = Landing level safety door

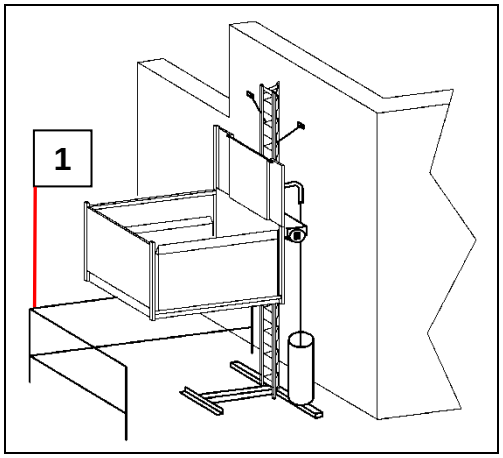
6 = Drive motor
7 = Switch box, platform
11 = Trailing cable
12 = Switch box Ground station
13 = Safety gear
14 = Automatic lubrication device



Securing the lowest stop

The lowest stop must be secured and indicated to prevent unauthorized access.
The **GEDA 500 Z/ZP** must not be operated without such a cordoned-off area.

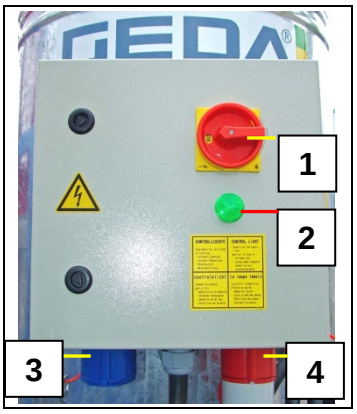
The distance of the cordoned-off area to moving hoist parts must be a minimum of 50 cm.



DANGER

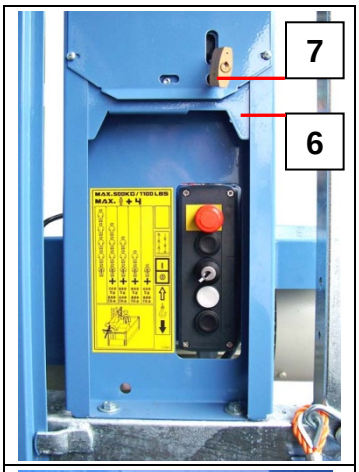
Danger to life
By crushing.
Never remain inside the cordoned-off area during operation.
Turn off the main switch and secure it from being switched back on while working inside the cordoned-off area.

3.2.1 Ground station switch box

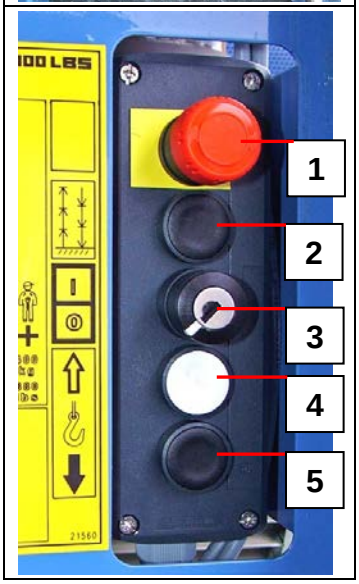


1 = Main switch
2 = Ready for service control light
3 = Socket (blue) for ground control
(Manual control)
4 = Socket (red) for electric module for the landing level doors (or dummy plug during assembly)

3.2.2 Platform control

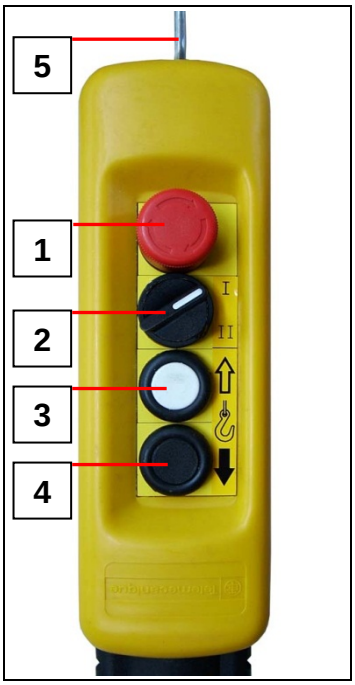


6 = Sliding plate (cover for the platform control)
➔ top operating mode transport platform
➔ bottom operating mode construction hoist
7 = Lock for latching the cover



1 = **EMERGENCY-STOP** button
2 = **LEVEL STOP** button
3 = key switch
➔ Position down (**0**)
Manual control or landing level control is active.
➔ Position up (**1**)
Platform control is active
4 = **UP** button
5 = **DOWN** button

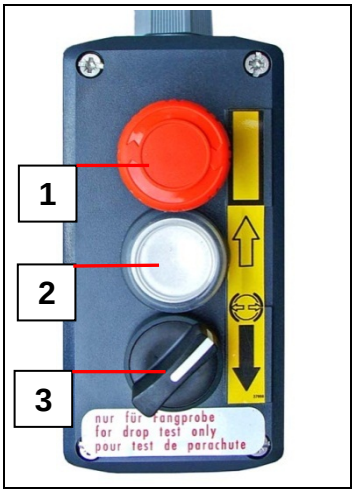
3.2.3 Ground control (manual control)



1 = **EMERGENCY-STOP** button
2 = **Selector switch** MANUAL (I) - AUTOMATIC (II)
3 = **UP** button
4 = **DOWN** button
5 = Hanging bracket

3.2.4 Drop-test control

(For exclusive use by authorised personnel).

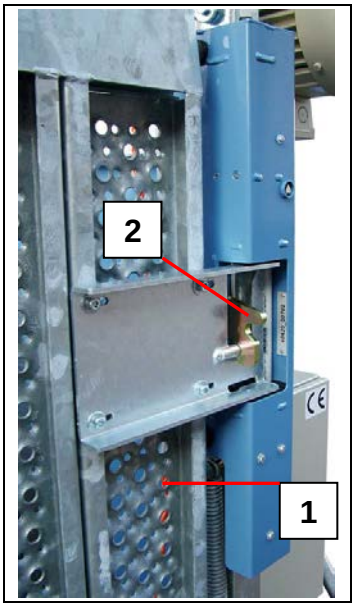


The drop test control is used exclusively to carry out a drop test or to raise, if the platform has moved too far down.

1 = **EMERGENCY-STOP** button
2 = **UP** button
3 = Rotary button **Release brake**

3.2.5 Platform access, ground station

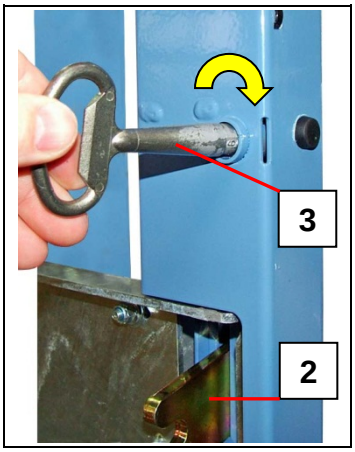
The ramp / loading door (1) can only be opened if the platform is stationary on the ground (stopped by the down limit switch).



Emergency release

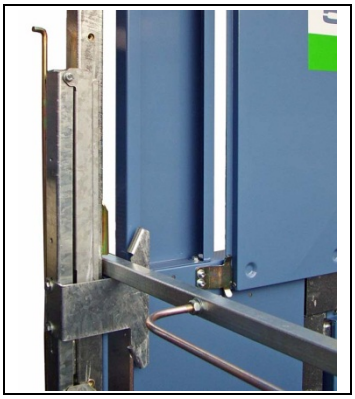
In case of a power failure, the platform access can be manually unlocked at the ground station.

- Insert the triangular key (3) into the lock.
- Turn the key and lift/lower the locking bar (2).
- Carefully lower the ramp.
- Remove the key (3).



3.2.6 Platform access, building

The building car access (barrier), building can only be opened when the platform is actually at the landing level.



3.3 Equipment as accessories

3.3.1 Assembly bridge

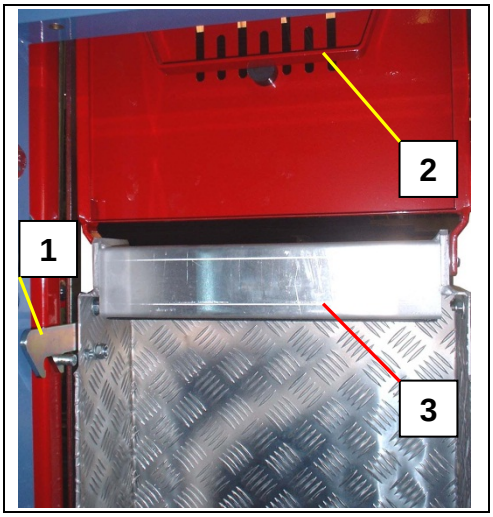
The assembly bridge is a small, fold-out platform, which aids anchoring the mast sections from the platform (can also be used in front of a facade without frontal scaffolding).

☞ **The assembly bridge must only be used during assembly and dismantling.**

Run the platform up high enough so that the anchoring can be set at a height that facilitates convenient assembly.

Unfolding the assembly bridge:

- With your right hand in the handle grip (3) of the assembly bridge, pull the assembly bridge towards yourself and open the locking latch (1) with your left hand.
- Slowly push the handle grip (3) outwards and grip the pulling bar (2) with the other hand.



- Release the handle grip (3) and completely lower the bridge using the pulling bar (2).

- As soon as the base pan is horizontal it can be stepped on, in order to press the end wall out.

The assembly bridge is now ready for operation.

☞ **When the assembly bridge is unfolded, the control function is interrupted by a limit switch, making travel impossible.**

☞ **The assembly bridge cannot be folded if the fixing tube is mounted at a height lower than 1.6 m above the floor of the platform. The platform must then be slightly lowered by carefully releasing the drive brake.**

Folding up the assembly bridge:

- Step on the platform side and grip the pulling bar (2) to fold up the assembly bridge.
- Pull the end wall towards yourself using the pulling bar (2) until the base pan of the bridge moves with it.
- Use the handle grip (3) to pull the bridge towards yourself to facilitate the remaining movement, until the locking latch (1) engages with the second tooth.

⚠ **Prior to beginning travel, check to ensure that the latching hook (1) is properly locked.**

3.3.2 Electric module for landing level equipment

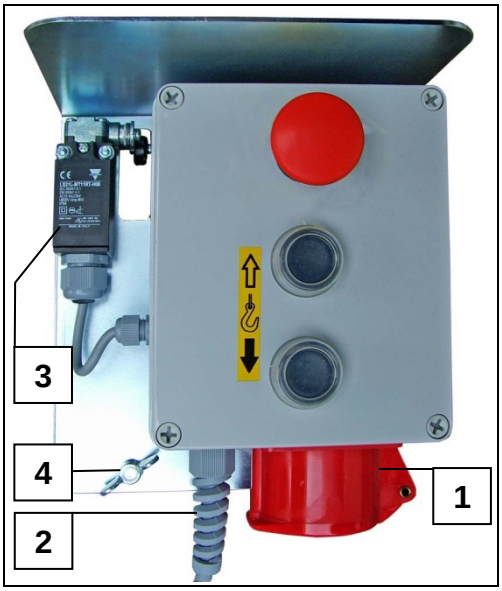
The electric module must be installed on the landing level equipment when local regulations specify electrical monitoring of the landing level sliding door or control of an upper stop is required.

☞ **Control from the stop is only possible in operating mode "construction hoist" and only above the initial 2 m safety height.**

Additional equipment:
Extension cable 20 m

Assembly

☞ **Comprehensive instructions for assembly are only described in the assembly manual of the landing level equipment.**



- Install the electric module on the sliding door mounting of the landing level equipment and attach with the wing nut (4).

- The supply line (2) [7-pole plug, red] from the first electric module is connected to the ground station at the switch box.
  If there are several levels with electric modules, the supply line (2) [7-pole plug, red] from the second level is connected to the socket (1) of the electric module below.

☞ **The dummy plug is always changed over from the switch box of the ground station to the top electric module.**

3.3.3 Roof

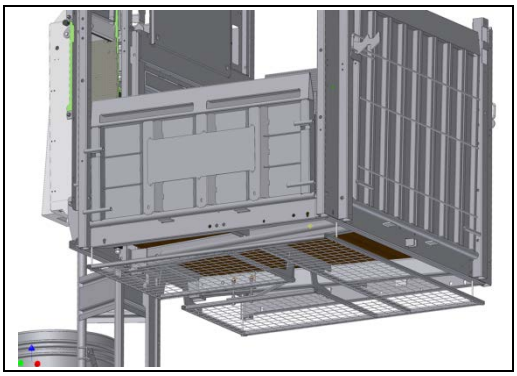
Function:
For protection from direct sunlight/rain, and for protection from small falling parts.

☞ **The roof hatch (1) must be opened to assemble the mast sections.**

3.3.4 Underride protection

Function:
To protect the hoist against damage resulting from driving into obstacles.

To protect people anomalously standing beneath the platform from crushing when the platform moves downwards.



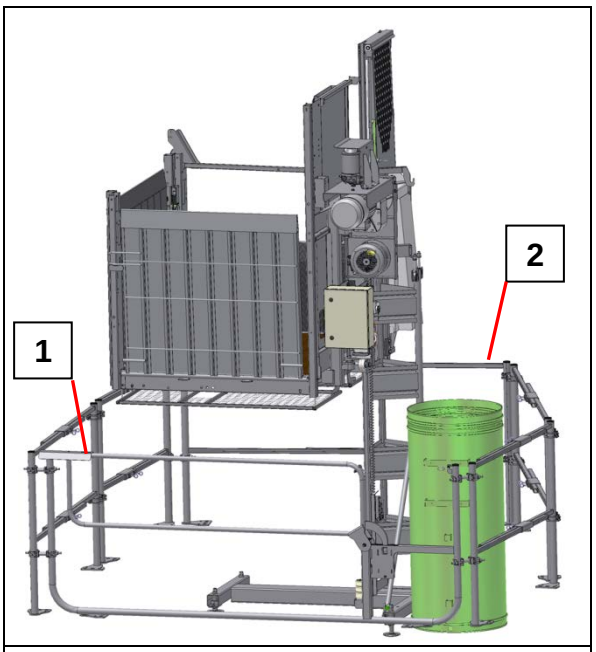
☞ **When the underride protection is active, control is interrupted by a limit switch which makes travel impossible.**

3.3.5 Ground base enclosure with barriers

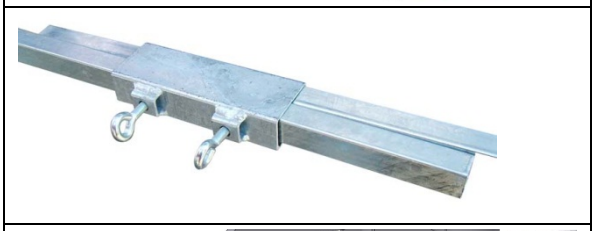
The four-sided ground base enclosure consists of five extendable elements (2) and one element with barrier (1).

Assembly

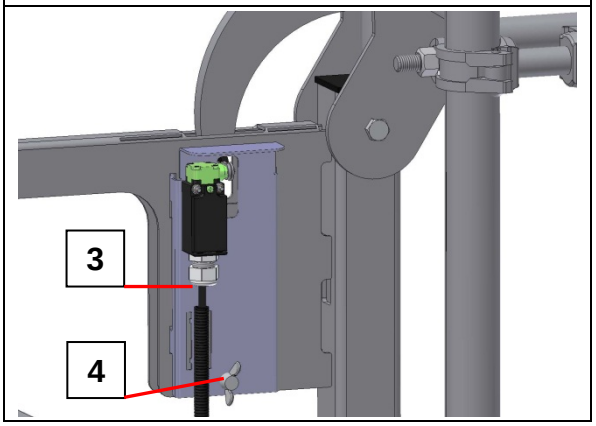
- Position the base enclosure elements around the base unit and bolt together at the ends using scaffolding couplings.
- The length of the base enclose elements can be adapted to the shape of the platform.



- The component with the barrier (1) is installed on the access side. The barrier can optionally be installed attached on the left or on the right.



Height = 1.1 m
Distance to moving hoist parts = 0.5 m

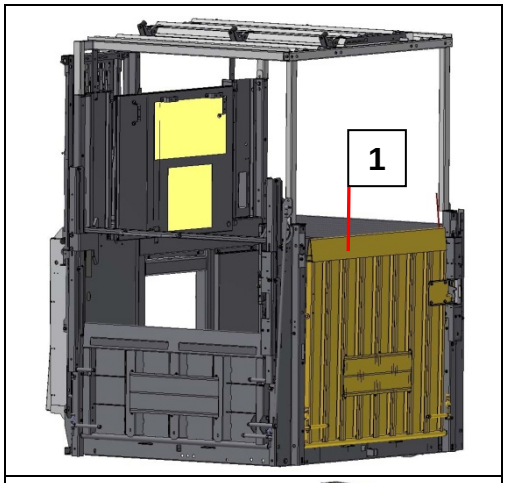


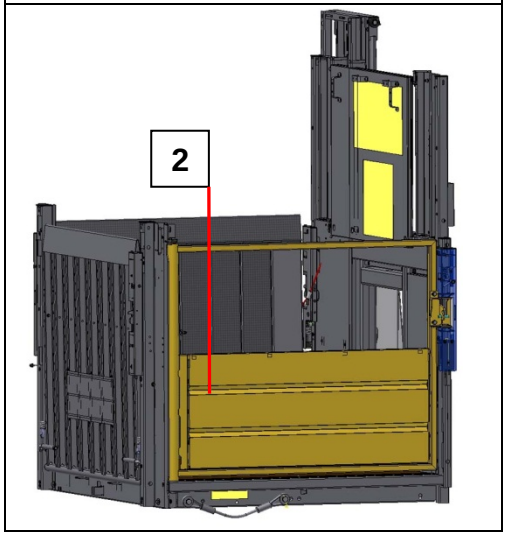
- Insert limit switch with retaining plate (3) on the hinge of the barrier.
- Push retaining plate (3) up and tighten with the wing bolt (4).
- Connect the plug (7-pole red) of the limit switch at the ground-station switch box.
- The supply cable of the first electric module for the landing gate or dummy plug is plugged into the coupling (7-pole red).

3.3.6 Front platform access points

Ramp / loading door (1.4 m) for front loading
(Series for platforms "B" and "C")
An additional ramp (1) or loading door (2) can be installed on the front of the platform.

Function, refer to section 3.2.5

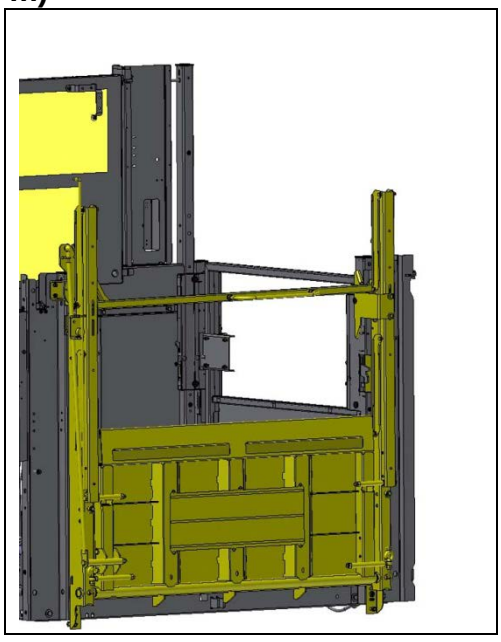




☞ **Instead of the ramp, a loading door (double door) can be installed on the front or side of the platform.**

Ramp with scissor-type railing (1.4 m)
A ramp with scissor-type railing can also be installed on the front of the platform.

Function, refer to section 3.2.6



Mounting
Installation of a front ramp is described in a separate manual.

3.3.7 Holder for individual support frames

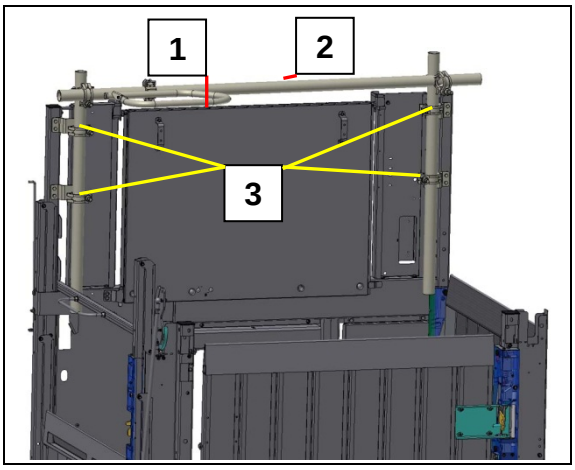
Loads that are taller than the platform (e.g. scaffolding tubes) can be transported securely without falling using this holder (1).

☞ **The tubes and scaffolding couplings are not included in the scope of delivery.**

Suggestion for a contact frame

Material required: 2 tubes 1.5“ length = approx. 1 m,
1 tube 1.5“ length = approx. 1.8 m and
2 scaffolding couplings

- Bolt the vertical tubes to the platform struts using the special couplings (3).
- Fit a crosspiece (2) at an easily reachable height (approximately 2 m) using scaffold couplers.



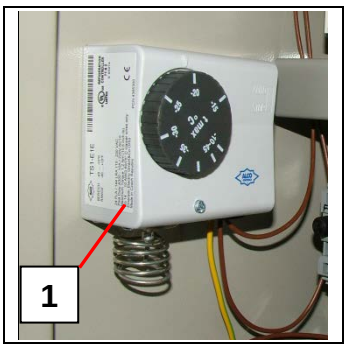
- Clamp the scaffold parts holder (1) to the crosspiece.

Tools required: Ring or open spanner SW 22 and SW 13

3.3.8 Cold package

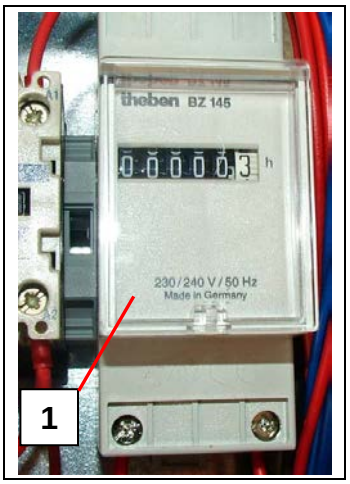
The **GEDA 500 Z/ZP** can be used up to -20 °C. In countries where work is carried out at lower temperatures, it is recommended to install a cold package.

A thermostat (1) in the switch box, switches off upward travel at temperatures of less than -20 °C.



3.3.9 Operating time indicator

An operating hours counter (1) can be installed in the switch box of the sliding carriage to record the operating hours (motor operating time).



☞ **The switch box must be opened to read the counter**

3.3.10 Single axle trailer

A special single axle trailer is available for road transport.

This single axle trailer can be fitted with a trailer coupling ring for **cars** or alternatively with a trailer coupling ring for **lorries**.

☞ **Transportation using a single-axle trailer is described in the separate operating instructions supplied for this trailer.**

3.4 Technical data

3.4.1 Operating and environmental conditions

The machine must only be operated when the following operating and environmental conditions are satisfied:

Operating temperature range:	minimum	-20 °C
	maximum	+40 °C
Wind speed:		
Operation/maintenance/servicing	maximum	72 km/h
Installation	maximum	45 km/h

Weather conditions:
No storms with risk of lightning.

It may be necessary to cease/prohibit operation of the machine under extreme weather conditions, even if the operating and environmental conditions are within the conditions stated. For example, due to extreme frost and storm occurring concurrently. Here, the operating company must provide appropriate regulations.

Atmosphere:
Transporting persons:
The atmospheric composition must be appropriate for persons in this area. In particular, reduction in the oxygen concentration as a result of displacement or consumption must be prevented. The legal limit values for pollutant concentrations/aerosols and dust in the workplace must not be exceeded.

Transporting material:
When transporting material, no concentration of abrasive/corrosive substances and of explosive fine particulate matter must occur. If this cannot be safely excluded, then the corrosion protection and/or the functional reliability of the electrical components must be inspected at regular intervals and, if necessary, replaced. Fine particulate matter must be removed.

3.4.2 Speeds

Lifting speed

construction hoist (Outside control)	24 m / min.
Assembly (Platform control)	12 m / min.
In the lower safety area (0 – 2 m)	12 m / min.

Safety gear (FV18)

Triggering speed	30 m / min.

3.4.3 Electrics

Base unit

Operating voltage	400 V / 50 Hz / 3 x 16 A / 3 Ph
Protection class	IP 54 (NEMA 3)

Drive
400 V / 50 Hz

Power	3 / 6.1 kW
Power consumption	7.5 / 13.8 A
Start-up current (max.)	approx. 60 A
Switch-on period (ED)	S3 (60%) /.

3.4.4 Assembly height

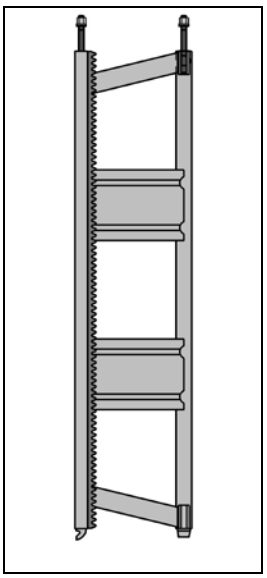
max. 100 m

3.4.5 Emissions

Sound level < 78 L_{PA}

3.4.6 Mast

Length	1.5 m
Weight	44.4 kg
Tightening torque (connecting bolts)	150 Nm



First mast tie	≤ 4 m
Vertical distance mast ties	≤ 6 m
Vertical distance travelling cable guide	≤ 6 m
Max. protruding mast length:	
Operation	3 m
Assembly	5.5 m

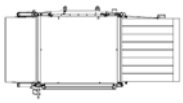
3.4.7 Load capacity, dimensions and weights

☞ **The installation of optional equipment (such as e.g. roof, assembly bridge, etc.) increases the tare weight. The load-bearing capacity decreases accordingly.**

Platform "A"

Load capacity (max.)

Construction hoist	850 kg	
Transport platform	500 kg (max. 5 persons)	400 kg + 1 person 300 kg + 2 persons 200 kg + 3 persons 100 kg + 4 persons ---- 5 persons
Assembly (up to second mast tie)	250 kg	
Assembly (from the second mast tie)	500 kg	

Spatial requirements  approx. 2.5 m x 3.5 m x 2.3 m/ (2.5 m with assembly bridge)

Weight (incl. base unit)	807 kg
cable bin 25 m	+ 50 kg
Line per 25 m	+ 15 kg
Assembly bridge	+ 40 kg
Roof	+ 30 kg

Platform "B"

Load capacity (max.)

Construction hoist	850 kg	
Transport platform	500 kg (max. 5 persons)	400 kg + 1 person 300 kg + 2 persons 200 kg + 3 persons 100 kg + 4 persons ---- 5 persons
Assembly (up to second mast tie)	250 kg	
Assembly (from the second mast tie)	500 kg	

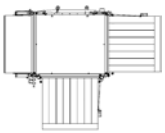
Spatial requirements  approx. 3.6 m x 2.4 m x 2.3 m/ (2.5 m with assembly bridge)

Weight (incl. base unit)	807 kg
cable bin 25 m	+ 50 kg
Line per 25 m	+ 15 kg
Assembly bridge	+ 40 kg
Roof	+ 30 kg

Platform "C"

Load capacity (max.)

Construction hoist	790 kg	
Transport platform	500 kg (max. 5 persons)	400 kg + 1 person 300 kg + 2 persons 200 kg + 3 persons 100 kg + 4 persons ---- 5 persons
Assembly (up to second mast tie)	250 kg	
Assembly (from the second mast tie)	500 kg	

Spatial requirements  approx. 3.6 m x 3.5 m x 2.3 m/ (2.5 m with assembly bridge)

Weight (incl. base unit)	864 kg
cable bin 25 m	+ 50 kg
Line per 25 m	+ 15 kg
Assembly bridge	+ 40 kg
Roof	+ 30 kg

Roof

Weight	30 kg

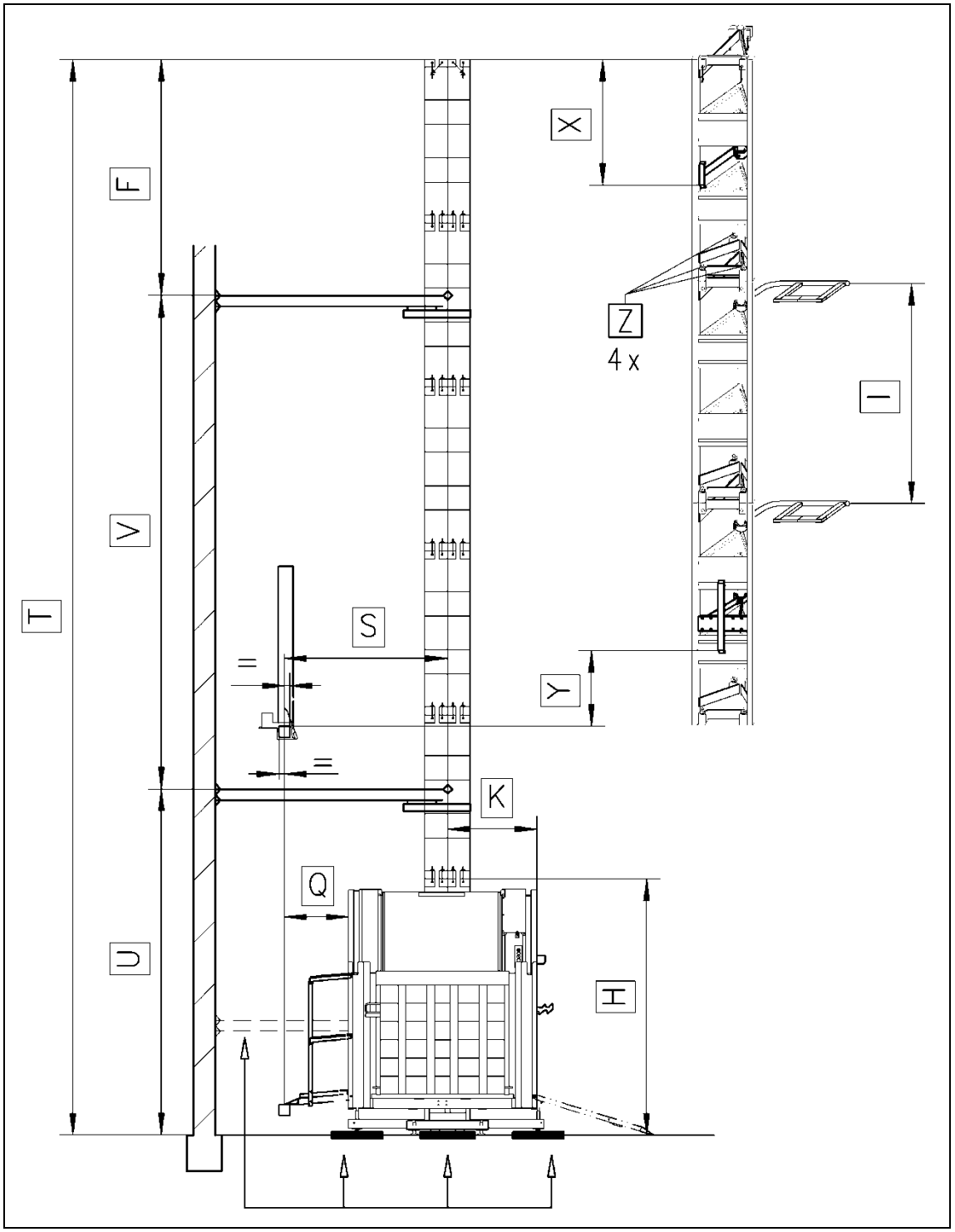
Assembly bridge

Load capacity	100 kg
Weight	40 kg

Crossbeam with lifting eye

Load capacity	1500 kg

3.5 Assembly geometry



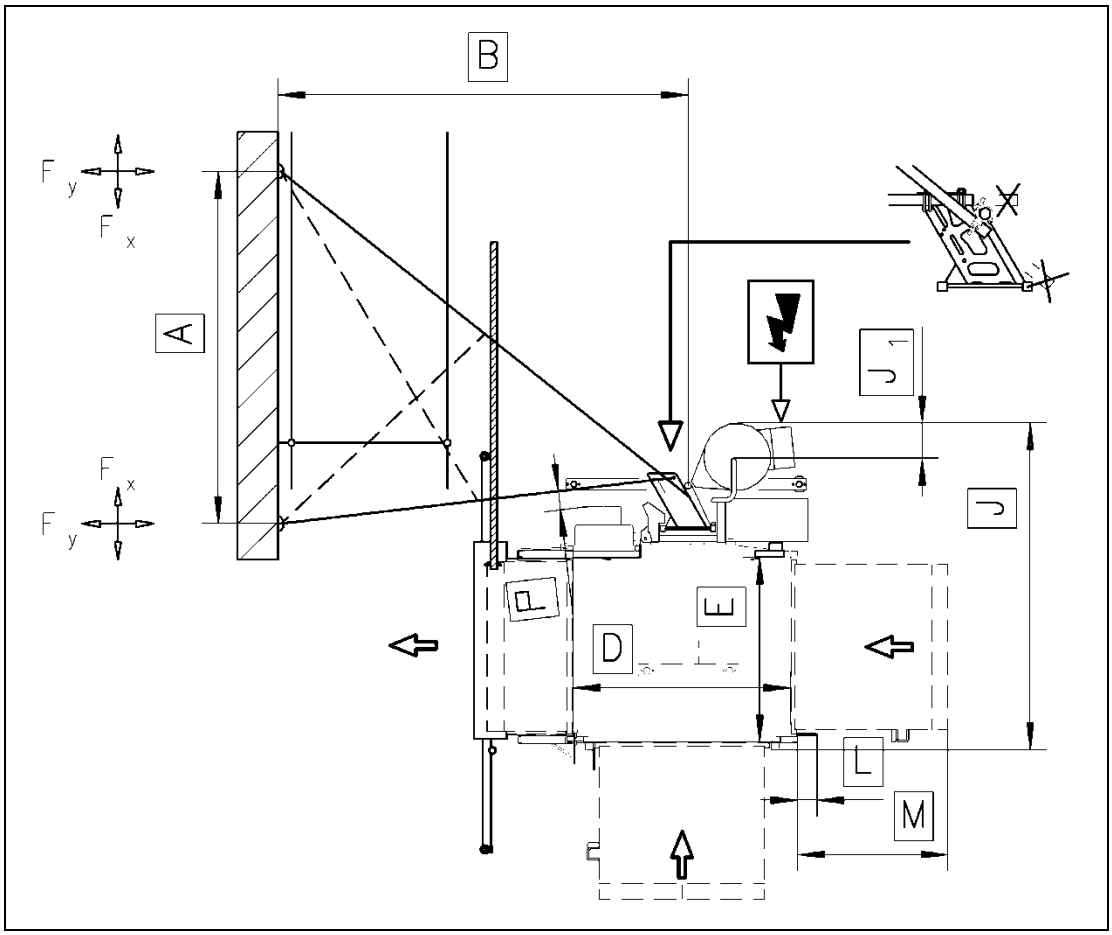
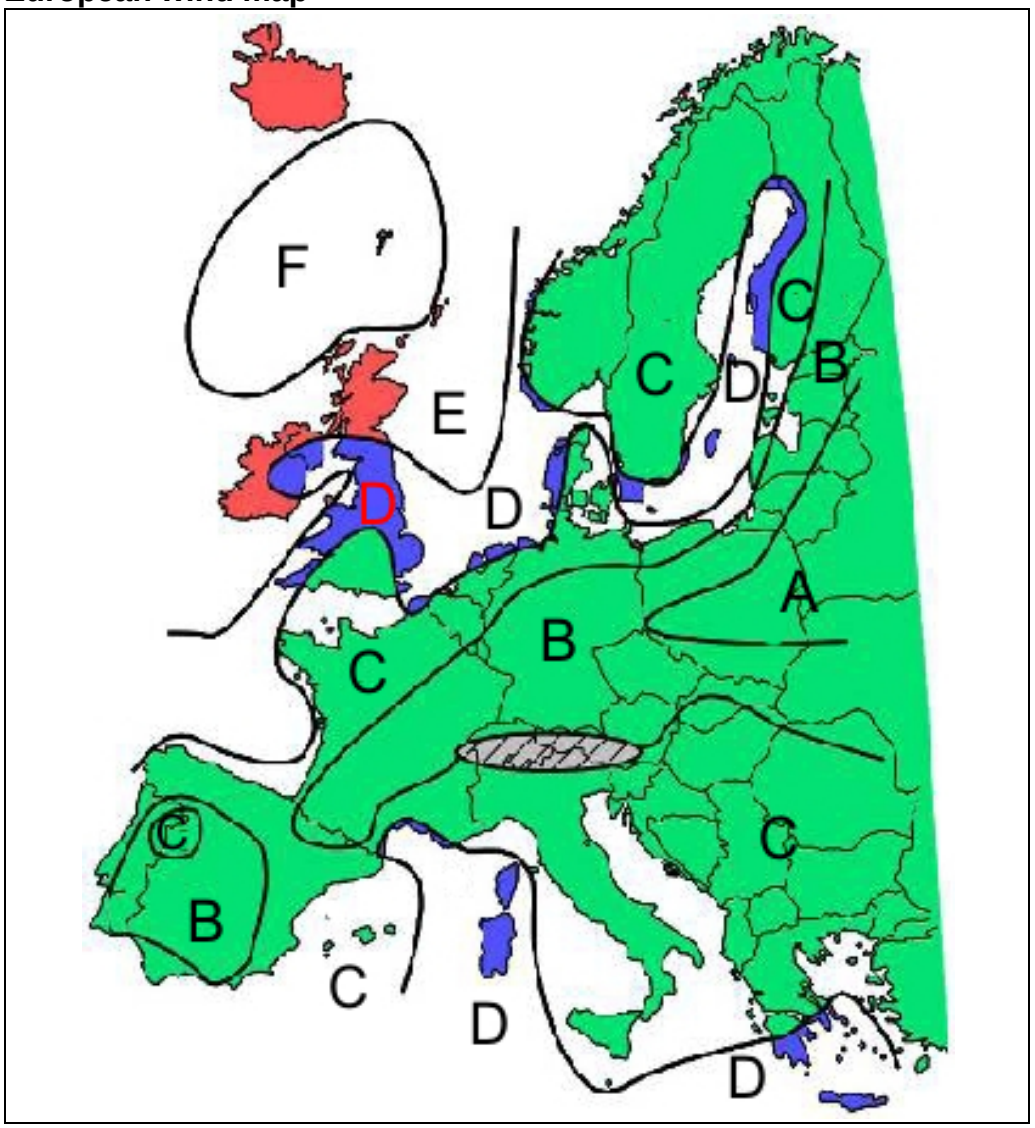


Table for the drawings

A	Distance between wall fixtures		**M**	Projection of the open loading flap	1,11 m
B	Distance from the centre of the circular mast tube to the wall		**P**	Minimum distance between closed assembly bridge and fixing tube	> 0.1 m
D	Usable platform width	1,6 m	**Q**	Platform corner crossbar to the centre of the landing-level gate crossbar tube	0,55 m
E	Usable platform depth	1,4 m	**S**	Distance between the centre of the circular mast tube to the centre of the landing level gate crossbar	1,45 m
F	Max. projecting mast	3 m	**T**	Max. assembly height	≤ 100 m
H	Height of base unit	2,3 m	**U**	Height of 1st mast bracket	≤ 4 m
I	Max. distance of cable guides	6 m	**V**	Vertical distance to remaining mast brackets	≤ 6 m
J	Depth of base unit (without front end ramp)	2,60 m	**X**	Distance from emergency limit switch bar to mast end	> 1.26 m
J_1	Distance of cable bin to trailing cable	0,254 m	**Y**	Distance from landing level floor to landing level limit switch bar	0,38 m
K	Distance from centre of mast's circular tube to the corner crossbar on the loading ramp	0,81 m	**Z**	Tightening torque of the mast connection bolts	150 Nm
L	Projecting end of interlock hooks	0,15 m			

3.6 Anchoring forces

European wind map



The operating company is responsible for applying the correct wind region. Local conditions such as:

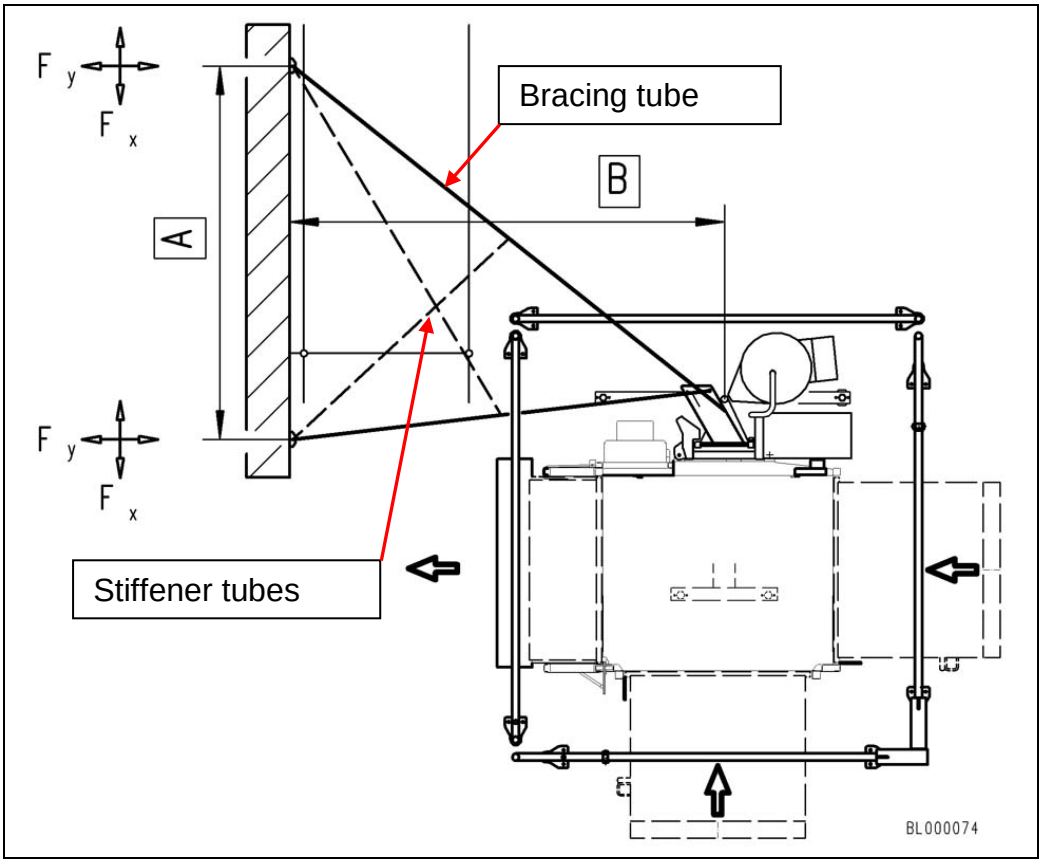
- mountains, bays, valleys,
- house gullies, thoroughfares, buildings, etc.

can create wind turbulences and make it necessary to apply another wind region.

Assembly height H [m]	Wind forces for geographical regions [N/m²]			
	A/B	**C**	**D**	**E**
0<H≤10	544	741	968	1225
10<H≤20	627	853	1114	1410
20<H≤50	757	1031	1347	1704
50<H≤100	879	1196	1562	1977
100<H≤150	960	1306	1706	2159

The anchoring forces can be found in the following tables, depending on the respective location (see wind map), assembly height and assembly situation. Details are given of the peak forces occurring for the assembly geometry shown; they do not include any safety factors.

The appropriate anchoring forces must be requested if the assembly geometry shown is changed.



3.6.1 Platform with load capacity up to 850 kg

Assembly in front of a wall

Anchoring distance = 6 m
Load capacity = max. 850 kg

A = 1.2 m
B = 1.6 m

	Top anchor point Mast protrusion 3 m		**Other anchor points** or uppermost anchoring **without** mast protrusion	
Wind region	**F_x**	**F_y**	**F_x**	**F_y**
A / B / C	6.6 kN	9.0 kN	4.1 kN	5.5 kN
D	6.8 kN	9.1 kN	4.2 kN	5.6 kN
E	8.6 kN	11.5 kN	5.3 kN	7.0 kN

The table values apply for each anchoring tube.

Assembly in front of scaffolding

Anchoring distance = 6 m
Load capacity = max. 850 kg

A = 2.5 m
B = 2.5 m

	Top anchor point Mast protrusion 3 m		**Other anchor points** or uppermost anchoring **without** mast protrusion	
Wind region	**F_x**	**F_y**	**F_x**	**F_y**
A / B / C	6.6 kN	6.9 kN	4.1 kN	4.2 kN
D	6.8 kN	6.9 kN	4.2 kN	4.2 kN
E	8.6 kN	8.6 kN	5.3 kN	5.3 kN

The table values apply for each anchoring tube.

3.6.2 Stiffener tubes

For certain assembly situations (very large distances to fixing points) it may be necessary to protect the anchoring tubes with additional reinforcing tubes to prevent them from buckling.

The table applies for smooth, one-part steel tubes without joint.
∅ 48.3 x 3.25 – St 37-2 DIN 2448 or DIN 2458
The table only applies to the materials and tube dimensions stated.

The actual pressure forces in the tube are to be calculated using the anchor forces stated in the tables.

Buckling length	Permissible pressure force
100 cm	52640 N
150 cm	38960 N
200 cm	26720 N
250 cm	18660 N
300 cm	13580 N
350 cm	10280 N
400 cm	8030 N
450 cm	6460 N
500 cm	5290 N
550 cm	4410 N
600 cm	3730 N
650 cm	3200 N
700 cm	2770 N
750 cm	2420 N
800 cm	2140 N
850 cm	1900 N

If the pressure forces stated at the given buckling length are exceeded, then additional measures must be applied to prevent buckling.

3.7 Requirements of the installation site

3.7.1 Foundation

The foundation must safely transfer any existing loads into the subsoil. Therefore, determine the following points before beginning installation work.

- Proof of the load capacity of the foundation
- Proof of the load-bearing capacity of the subsoil

Since the load-bearing capacity of the subsoil is often very difficult to estimate, a specialist subsoil investigator should be called on if there is even the slightest doubt, in particular for high/complicated superstructures.

The following points must be taken into account when assessing the subsoil:

- Maximum permissible soil pressure
- Predicted settlement
- Predicted groundwater levels
- Predicted thawing and frost processes
- Construction activities expected in direct proximity to the installation site

Depending on the assembly height, wooden planks, steel sheeting or concrete, for example, can be used as load distributing base supports. The foundation must be horizontal.

3.7.2 Soil pressure

The total weight (see table) of the transport platform and mast sections is transferred through the foot section support under the mast in the foundation.

Mass per mast section (fully assembled):	48 kg
Length per mast:	1.5 m
Height of base unit:	2.3 m
Empty weight of the machine cmpl. (max.):	930 kg
Base area without base support: (0.5 m x 0.5 m)	0.25 m²

Load capacity = 850 kg

Assembly height in m	**10**	**20**	**30**	**40**	**50**	**60**	**70**	**80**	**90**	**100**
Total weight (kg)	2500	2820	3200	3570	3890	4270	4640	4970	5340	5710
Ground pressure (kN/m2)	**100**	**113**	**129**	**143**	**156**	**171**	**186**	**199**	**214**	**229**

3.7.3 Mains connection

A site distribution cabinet (in accordance with IEC 60439-4:2004) with fuse protection of the supply point

min. 16 A slow-blow and a
Residual current circuit breaker (RCD) with a rated current of **max. 0.03 A** is required

400 V- drive

- Supply point: 400 V/50 Hz
- Fuse protection: 3 x 16 A slow-to-blow

- Connect mains supply line (3 m) for the hoist to the building site main cabinet (plug CEE 5x16 A, 6h, red with phase inverter).
- A rubber hose line measuring a minimum of **5 x 2.5 mm²** is required for extending the mains supply line (see accessories) to avoid voltage drop and therefore any loss in motor performance.

☞ **The green control light on the switch cabinet with main switch lights up when the main switch is set to position "ON" and the phase position is correct.**

4 Transport

Have the hoist transported by experienced and qualified persons.

- During transportation, the platform must be empty.
- Only load and transport **equipment** that has been carefully **dismantled, packed and securely lashed down**.

☞ **Observe the national requirements for securing loads**

- Always ensure that the machine is transported **without being knocked or jolted**. Make sure that the machine is firm during transportation. Prop the platform before lashing down for transportation.
- Always secure transported loads **against falling or tipping over!**

4.1 Checks upon receipt of the transport platform

- Check the shipment for transport damage and for completeness according to the purchase order.
- Dispose of packaging / protective coverings according to legal requirements or keep them for later transport.
- Immediately notify the freight carrier (haulage company) and dealer of any transport damage.

4.2 Loading and unloading the machine

The machine sections/components are loaded and unloaded using a forklift truck or a crane.

- Wear a **protective helmet, safety shoes** and **safety gloves** during loading!
- Only use **appropriate, standardised and tested lifting gear**, forklifts, cranes) and sling gear (round slings, lifting straps, sling ropes, chains) for transportation at the assembly site.
- When selecting hoisting equipment, always take into account the **maximum suspended loads!**

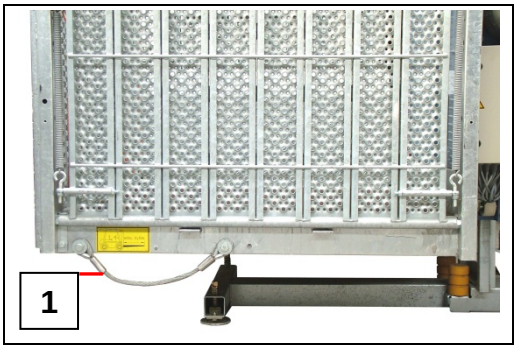
Only lift the base unit when the platform is empty.

- For the dimensions **and weights**, refer to the section Technical Data (3.4).

Weight of the heaviest base unit (Platform C) approx. 854 kg

4.2.1 Lifting with a forklift truck

➢ Forklift take-up point (1) is located under the bearing profile of the platform.



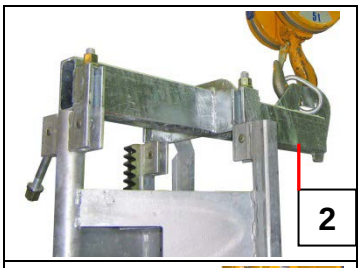
Forklift tines must be a minimum of 0.8 m long.

WARNING

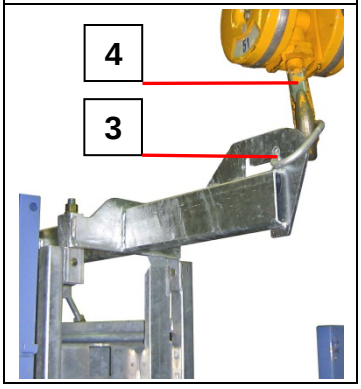
Danger to life
Raised load.
Do not stand under suspended loads.
Do not stand on suspended loads.
Only lift loads at the suspension points.
Only use suitable lifting gear.

4.2.2 Lifting with a crane

➢ Attach the lifting eyes (2) to the base mast.



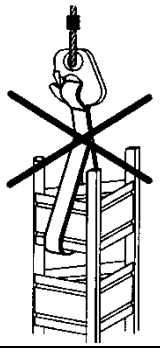
➢ Guide crane hook (4) through the crane lug (3) and lift.



After lifting with the crane is complete, remove the crossbeam (2) from the base mast.

Caution

Damage to the base mast.
Never attach load carrying devices directly to the base mast.
Always use the crossbeam and lifting eyes.



5 Installation

The transport platform must be installed according to the assembly and operating manual under the supervision of a competent person, specifically appointed by the operating company!

Assembly personnel, see section 1.7.1

5.1 Safety during installation

- Precautionary measures stipulated by the company for avoiding fires, explosions, dust, gas, steam and smoke (during welding, burning and grinding work) must be observed.
- Also observe the safety notes in section 2.
- Cordon off/mark out the assembly/hazard area.
- No one is allowed to stand under the platform.
- The wind speed during installation must not exceed 45 km/h (= wind force 5 - 6 in accordance with the Beaufort scale).
- The torques specified must be adhered to. Use a calibrated torque wrench.
- Appropriate lifting gear must be used when working with heavy parts.
- Adhere to the minimum requirements for thoroughfares, paths and emergency exits.
- Provide sufficient space to open doors and covers.
- Observe the reduced load-bearing capacity of the platform during assembly.

Limiting the load capacity during assembly
- up to the 2nd mast tie max. 250 kg
- from the 2nd mast tie max. 500 kg

- During mast assembly, the projected mast may be extended out to a max. of 5.5 m over the last mast bracket! (Upper edge of the trolley to the mast attachment point).
- Observe the clearances for the mast ties and trailing-cable guides.
- During assembly, never do the following from the platform:
    - reach or lean into the travel path during travel
    - allow parts to project into the travel path during ascent/descent.
    - stand on the load.
    - Exit the platform to climb on to the mast or the building.

- Protection to prevent persons from falling must be provided at loading heights above 2.0 m (use only original GEDA landing level safety doors).
- Make sure that the masonry is capable of absorbing the anchoring forces. A construction expert must check to ensure the house front is suitable for anchoring forces of this kind. The inspection results will determine whether plugs/dowels or through bolts must be used.

5.2 Assembly procedure

Fundamentally, assembly is carried out in accordance with the following procedure.

Assembly procedure
1. Erecting the base unit
Align Attach foot section Install cable bin Cordon off / indicate the hazard area Connect to the mains electric supply of the operating company
2nd Assembly / anchoring the mast
Bolt together the mast sections Install the anchor points Align the mast Install the trailing cable guides.
3. Install the EMERGENCY limit switch approach bar
4. Secure the loading positions with the landing level safety doors Position the limit-switch approach bar, landing level. Assembly of the electric modules
5. Check after assembly and before each operation Check the machine before initial operation Check the machine each time before operation
6. Instruct authorized personnel to use

5.3 Assembling the base unit

- The machine must be installed and deployed only vertically! The base unit must be aligned at right-angles to the building or the scaffolding.

WARNING

Hazard to life through the base unit slipping or tilting.
The support plates must not carry any load, they serve the sole purpose of adjusting the base unit.
Secure at least two support plates with screws against dislocating. Should this not be possible, the first mast tie must be mounted at a height of one meter.
Once the base unit has been assembled you should check whether it stands securely and can be used by personnel to assemble the mast.

➢ Set the base unit at the support points (spindle support plates and especially on the foot section support beneath the mast) onto load distributing, even base supports and align (see section 3.7).
Observe load bearing capacity of the foundation!

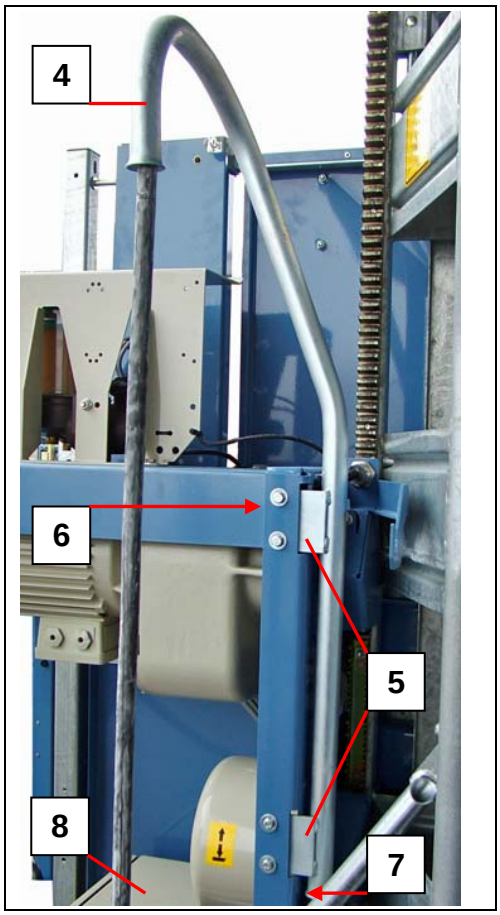
☞ **The basic unit should be aligned so that the front of the unloading ramp is centred on the threshold, resting on the landing level safety equipment.**

The foot section must be underpinned beneath the mast over an area measuring 0.4 m x 0.6 m (0.24 m2), the spindles are only used for adjustment, not for transferring forces from the mast sections.

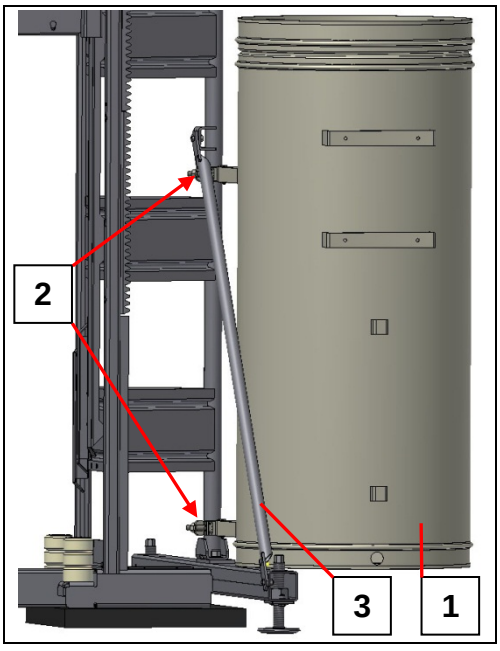
- Vertically align the base mast from the start using a spirit level. Check vertical alignment when attaching each mast bracket as well.
- Adhere to the minimum safety distance of 50 cm to moving parts of the machine.

5.3.1 Install cable bin

- Depending on the assembly height, deploy a cable bin with 25 m, 50 m, 75 m or 100 m of trailing cable.



➢ Remove the compensating plate (yellow) from the trolley (only if the cable bin is not installed for transport reasons).
➢ Install the travelling cable holder (4) to the attachment straps (5) on the trolley.
➢ Assemble the cable clamp (7) to the tension release.
➢ Insert the plug into the receptacle below the platform switch box (8) and secure with a mounting clip.



➢ Set the cable bin (1) on the foot section and bolt onto the round mast tubes with both scaffold couplings (2).
➢ Turn the cable bin into the strut (3) on the foot section and then fully tighten both scaffold couplings (2).

- After switching on the main switch, a green control light must illuminate at the switch box of the ground station, indicating that it is ready for operation.
  - If the control light does not illuminate, see section 9.

5.4 Assembly / anchoring the mast

Assembly and anchoring of the mast is fundamentally carried out from the platform and scaffolding. If assembling without scaffolding, anchoring to the building is carried out from the assembly bridge.

If the equipment is erected in front of scaffolding it must be anchored to the building.

☞ **It can also be anchored directly to the scaffolding if the scaffolding has been designed for the additional load (see anchoring forces).**

WARNING

Danger to life

Life-threatening hazard through fracture of the mast and falling platform.

Limiting the load capacity during assembly

- up to the 2nd mast tie max. 250 kg
- from the 2nd mast tie max. 500 kg

Vertical distances of the mast ties

- **First mast tie** at a height of 4 m.
- Subsequent mast ties **every 6 metres**.

After assembly of a mast tie, the mast must be correctly aligned using a spirit level.

☞ **The assembly engineers ascend in the platform. Operation may only be carried out using the platform control!**

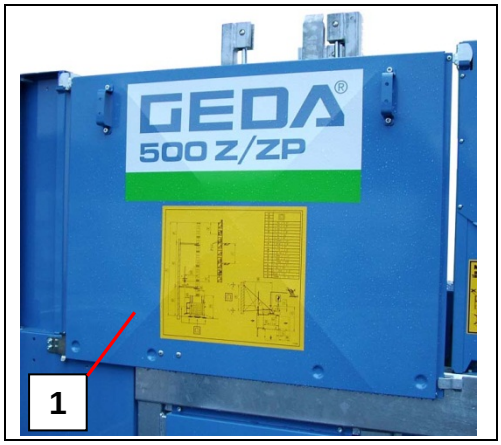
To start with, the platform is on the ground:

- Open the platform access, ground station.
- Load the platform with mast sections, parts for mast tie and tools.
- Close the platform access, ground station from the inside.
- Push down the sliding plate over the platform control.
- Put the key in the platform-control key switch and rotate to the right to "ON" (position **1**).

☞ **Before operation, close all open barriers, ramps/doors or lowered assembly guards, these will interrupt the control.**

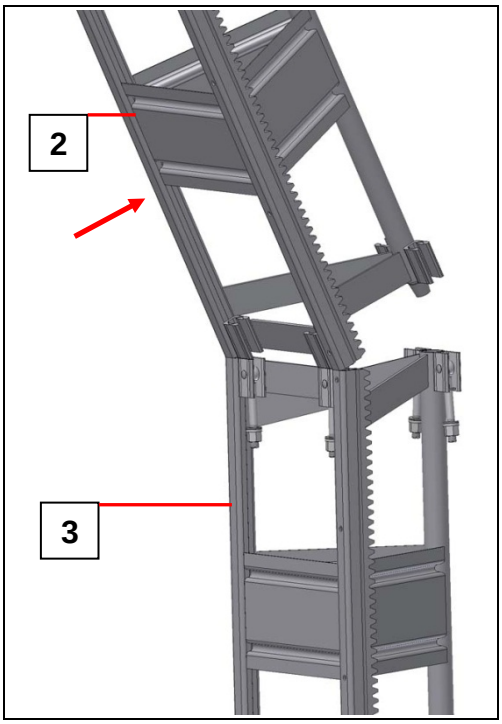
- Press the UP button (on the platform control).
  Platform stops at the top of the mast.

- Slightly raise the assembly guard (1), pull forwards and lower.



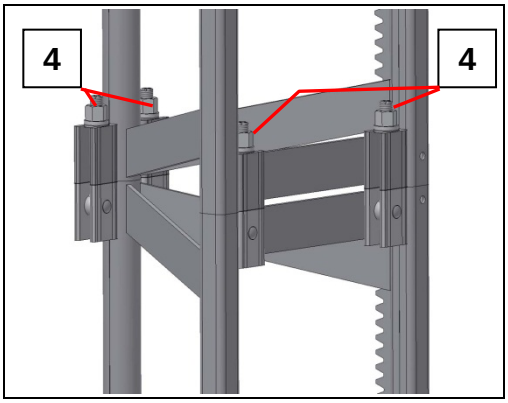
- Place the 1.5 m mast section (2) with the eye bolts up onto the base mast (3).

☞ **The guide sections on the rectangular tubes of the mast are designed in such a way that the mast to be attached can be suspended and tipped up by both assembly engineers until it slips into the guides.**



- Lift and fully tighten four eye bolts (4).

Tightening torque **150 Nm**,
width across flats 24 mm



- Slide up and hook the assembly guard plate into place.

DANGER

Danger to life
Crushing or amputation of limbs.
Never reach into the travel path of the machine during operation.

- Press the **UP** button (platform control) to assemble further mast sections.
- Press the **DOWN** button (platform control) to collect further mast parts from the ground.

Check length of the travelling cable!

Assemble the transport platform until the desired height is reached (max. 100 m).

The gear rack must be manually lubricated before initial operation with new mast sections (also if there is an automatic lubrication device)!

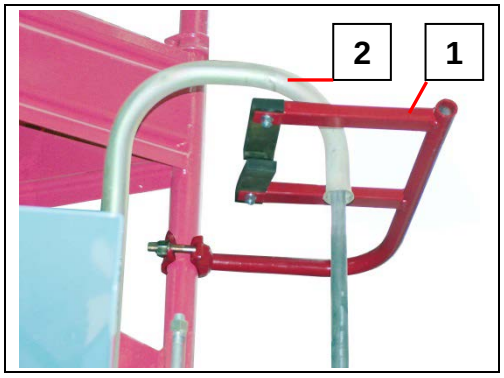
5.4.1 Trailing cable guide

Trailing cable guides must be installed to ensure that the trailing cable runs freely into the cable bin. The more sensitive the hoist location is to wind forces, the shorter the distances should be between trailing cable guides.
Recommended distance to each other: max. 6 m

Attach the first travelling cable guide (1) at a distance of approx. 1 m from the upper edge of the cable bin.

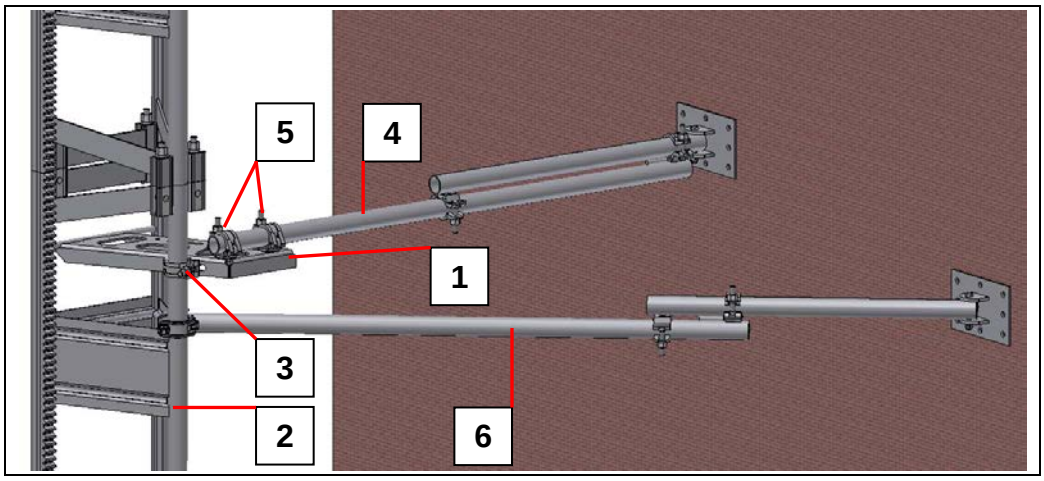
Assembly

- Assemble the travelling cable guide (1) on the mast tube so that the guide tube (2) is located central in the travelling cable guide.



5.4.2 Assembling mast bracket / mast tie

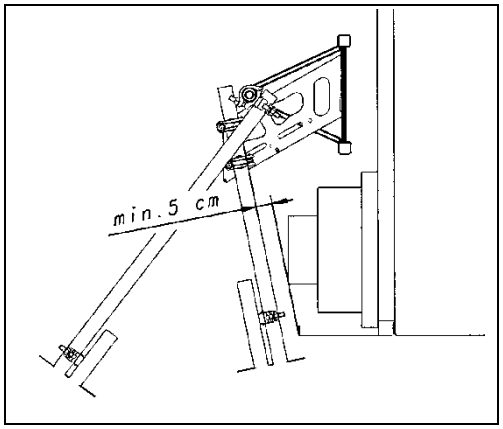
In order to assemble the mast bracket, ascend as far as necessary for these to be assembled easily.



☞ **In order to minimize wear on the gear racks, we recommend lubricating the gear racks each time a mast bracket is fitted.**

- Insert the mast bracket (1) from the front into the mast (2) and secure the scaffold coupling (3) to the circular mast tube (tightening torque **50 Nm**).
- Open scaffold clamps (5) and insert the telescopic tube (4). Close the clamps, screw them together so that the tube can still be adjusted.
- To adjust the angle, loosen the nuts below the tube clamps (5) and slide the one tube clamp into the elongated hole.
- Fully tighten all nuts.

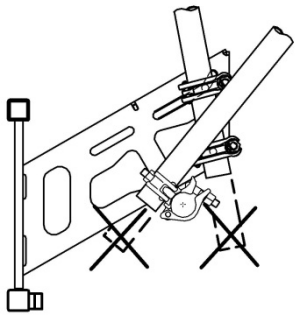
The minimum distance to the assembly bridge is 5 cm.



- Attach the attachment plate to the wall using dowels or through bolts. (See also the anchoring forces table.)

☞ **For greater distances to the building (e.g. frontal scaffolding) use extension tubes (see section 3.6).**

- Secure telescopic tube (6) with a rigid scaffold coupling to the circular mast tube (tightening torque **50 Nm**), extend towards the wall and anchor at that point. Select the furthest possible horizontal distance between the two anchoring tubes against the wall. (The minimum distance between the two attachment plates is dependent upon the distance between the mast and building, for greater distances use extension tubes).

	WARNING	
	**Danger of collision** The free end of the tubes must not protrude over the cross-section of the mast / travel path of the platform.	

☞ **The vertical and rectangular alignment of the mast must be checked and, if necessary, corrected.**

- The mast is vertically aligned by shifting the anchoring tubes in the mast bracket or scaffold coupling.
- Rectangular alignment of the mast is carried out using both scaffold couplings (5).

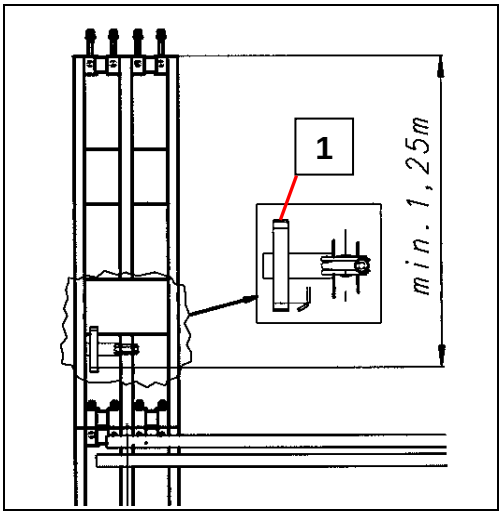
5.4.3 EMERGENCY limit switch approach bar

An **EMERGENCY** limit switch approach bar (1) must be installed as top stop point, before the drive pinion leaves the gear rack.
Adhere to a minimum distance to the top of the mast end of 1.25 m.

Assembly

- Put the **EMERGENCY** limit switch approach bar (1) into the mast section.

➢ Attach the approach bar (1) to the coupling welded on the rear, round mast tube.



☞ **The hoist is stopped at this approach bar by the UP operating limit switch or, in the event of a malfunction, by the EMERGENCY limit switch.**

	**DANGER** **Danger to life** Limited overrun at the last mast bracket. (Mast bracket to the upper edge of trolley). Base unit with **load capacity up to 850 kg → 3 m**. Accordingly, the limit switch bar of the EMERGENCY limit switch must be set low.

5.5 Securing loading and unloading points

Protection to prevent persons from falling is to be provided at **all** loading and unloading points at heights above 2 m.
Only landing level doors, in combination with a platform, that ensure safe transfer to the building are permitted for the tested and approved GEDA hoists.

GEDA landing gates, Item No. 01212, 01217 and 01268 have been tested and approved in Europe together with the **GEDA 500 Z/ZP** and fulfil these requirements.

☞ **Assembly is described in separate assembly instructions for the landing level safety doors.**

5.5.1 LANDING LEVEL limit switch, approach bar

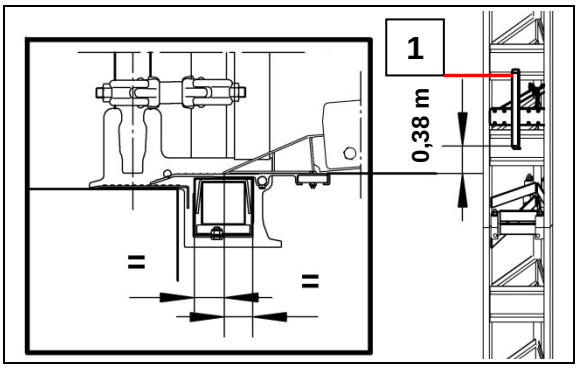
A limit switch approach bar for a LANDING LEVEL can be installed at each stop position, so that the platform stops at the same level as the landing level safety door.

Assembly

- Place the **LANDING LEVEL** limit switch, approach bar central in the mast section.

➢ Insert the limit switch approach bar from the load platform between the two rectangular mast tubes and secure it to the rear, circular mast end using the welded-on coupling.

➢ Adjust the height to 0.38 m from the landing level floor to the approach plate on the bar.



5.5.2 Assembly of the electric modules

When used as a construction hoist

- Disconnect the dummy plug from the switch box of the ground station.
- Connect the cable with plug of the first electric module at the switch box of the ground station.

If there are multiple electric modules, the cable with pplug is always connected at the electric module below.

- Connect the blind plug at the top electric module.

☞ **If there are multiple landing level safety doors, the dummy plug will always migrate to the electric module.**

Landing level safety door without electric module
(**Attention!** Observe national regulations)

The dummy plug remains in the red plug connector of the switch box of the ground station, thus, operation of the machine is only possible from the ground control.

Using as a transport platform
When using the equipment as a transport platform, operation is exclusively from the platform control.

5.6 Check after assembly and before each operation

- Check to ensure that
  - the gear rack is adequately greased.
  - the specified maintenance work and inspection procedures have been carried out.
  - there is no oil leaking on the gear motor.
  - the supply cable has an adequate cross section.
  - the direction of rotation of the motor agrees with the **UP** and **DOWN** buttons and the **EMERGENCY STOP** buttons interrupt travel.
  - the trailing cable length of the cable bin is sufficient for the assembly height.
  - the danger zone at the lower loading point is cordoned off and indicated.
  - the ramp / loading door can only be opened when the platform is stationary on the ground (stopped by the **DOWN** limit switch).
  - a landing level safety door can only be opened when the platform has been unlocked by the open barrier with unloading ramp.
- Check to make sure that the platform control, ground control (manual) and (if present) electric module on the landing level equipment function correctly.
- There must be no sign of damage to the travelling cable, mains supply line and control lines.
- Test the function of the safety gear by means of a drop test with an empty platform. (See Chapter 8.5.1).
- Instruct the platform operator, give the handover report and documentation to an authorised person (platform operator), (record name and obtain signature of the trained platform operator in the handover report).
- Give the platform control key to the authorised and trained platform operator.

☞ **Check the GEDA 500 Z/ZP in accordance with national regulations after assembly and before initial commissioning, as well as after each assembly at a new site.**

6 Operation

The GEDA 500 Z/ZP must only be operated by a competent person, specifically appointed by the operating company. This person must be familiar with the operating manual, have sufficient experience and be informed about the risks involved in working with the hoisting equipment.

Operating personnel see Chapter 1.7.2

6.1 Safety during operation

- Also observe the safety instructions in Chapter 2.
- Load the platform as centrally as possible, observe the load capacity of the equipment.
  - The platform must always be loaded in such a manner that the loading and unloading access points and the control point remain accessible.
  - Position the load carefully on the platform; material that might tend to slip or is higher than the platform, or which could fall over, must be secured (consider the possibility of sudden winds).
  - Do not transport bulky parts that project over the side of the platform.
- Do not stand or work under the platform!
- Do not place objects underneath the platform.
  - Store material at a safety distance of min. 50 cm from moving parts of the machine.
- The landing level safety doors can only be opened once the loading ramp has been completely opened.
- If the loaded platform stops during operation due to a malfunction, then it is the responsibility of the operator to recover the load. - Never leave a loaded platform unattended!
- Operation of the transport platform must cease under the following conditions:
  - Temperatures of less than -20 °C and more than +40 °C.
  - there is damage or other malfunctions.
  - If a recurring inspection has been missed (see section 8.2).

6.1.1 Special safety instructions for operation as a material hoist

- Transporting persons is prohibited!
  - Switch to transport platform to carry out assembly and maintenance tasks.
- Operation of the material hoist must take place outside the danger zone.
- The operator must always be able to observe the platform.

6.1.2 Special safety instructions for operation as a transport platform

- Operation of the transport platform must be carried out exclusively from the platform control.
- Particular care is required near ground level.
- A max. of 5 person (including the platform operator) may be transported, whereby the corresponding proportion of transported materials must be reduced.
- Comply with the instructions of the platform operator.
- Do not reach or lean out over the platform sides.
- Do not step over material that is being transported.

The brake release lever must never be used to lower the platform during operation. It is intended only for use in emergencies (see section 9.3.2).

6.1.3 Safety check before starting work

Perform a test run with an **empty** platform and check that the entire travel path of the platform is clear.

The platform must immediately stop when
- an **EMERGENCY-STOP** button is pressed
- the **UP** limit switch is triggered
- the **DOWN** limit switch is triggered
- the **EMERGENCY** limit switch is triggered.
- when the carriage has reached the mast end (only during assembly).

The platform must not start if
- it is overloaded (red warning light is on).
- the barrier with unloading ramp is open.
- The ramp / loading door is open. (Must only be opened at the ground station.)
- the assembly guard is lowered
- the assembly bridge is open (option).
- the safety gear has triggered.
- the landing gate is open (only when using the electric module).

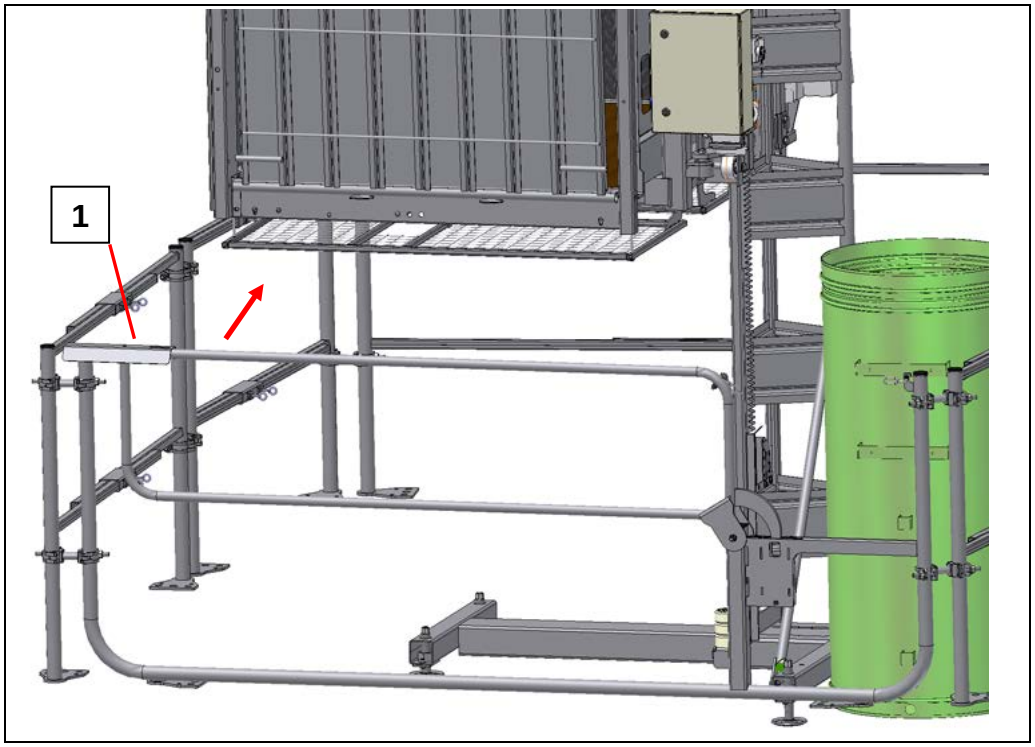
Alarm signal function test
- When approaching from above, the platform must stop approx. 2 m above the ground and a warning tone must sound for approx. 3 seconds. (During this time the control function is blocked.) Likewise, the warning tone must sound each time downwards travel below 2 m is initiated.

The platform must not continue to operate automatically when used as a material hoist, if
- the selector switch on the ground control is set to "**I**".
- the platform is located at ground proximity (approx. 2 m) independent of the selector switch position.

☞ **When operated as a material hoist and at ground proximity (approx. 2 m), the GEDA 500 Z/ZP must not be able to be operated from the landing level safety door.**

6.2 Operation of the platform access points and the landing level safety doors

6.2.1 Base enclosure barrier (option)



Open

➢ Raise the barrier (1) up.

Close

➢ Lower the barrier (1) until it lies on the enclosure posts.

6.2.2 Ramp / loading door

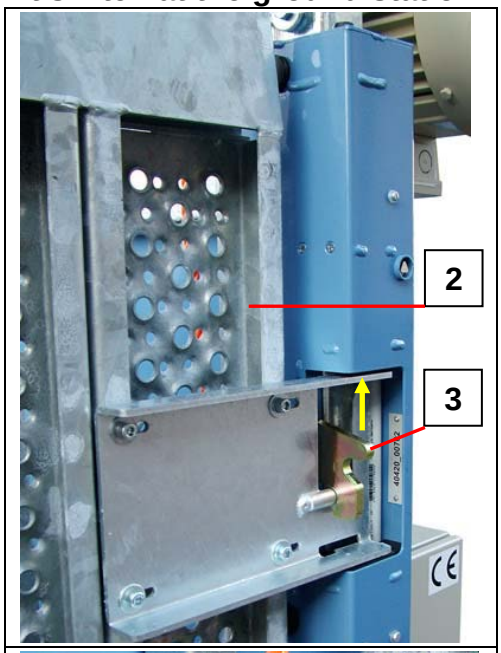
☞ **This access point to the platform can only be opened if the platform is stopped by the down limit switch at the ground station.**

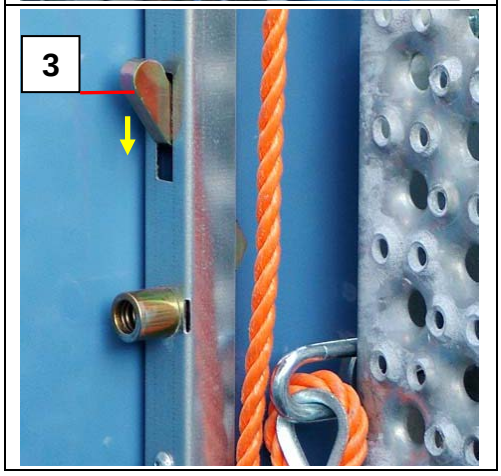
Open

- Push/pull the ramp/loading door (2) inwards with one hand.
- Lift/lower the locking hook (3).
- Carefully lower the ramp (2) or open the loading door.

Close

- Carefully lift the ramp (2) and push/pull inwards, until the locking hook (3) engages, or close the loading door.





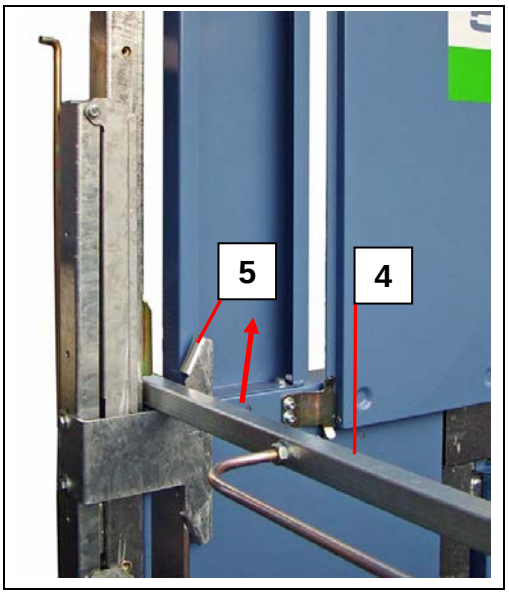
6.2.3 Barrier with loading door

☞ **This access must only be opened when the car is located at the landing level in front of a landing level safety door.**

Open

- Push / pull the barrier (4) towards the platform and swing it up.

The loading door opens automatically and presses downwards the brim plate of the landing level equipment.



Close

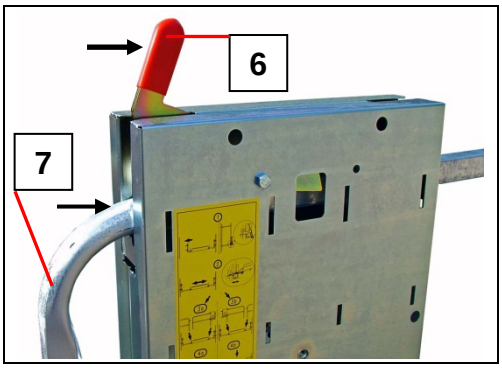
- Carefully lower the barrier (2) until it engages in the lock (5).

The loading door closes automatically.

6.2.4 Landing door

Open

- Press the lever (6) in the direction of the arrow and push open the sliding door (7).



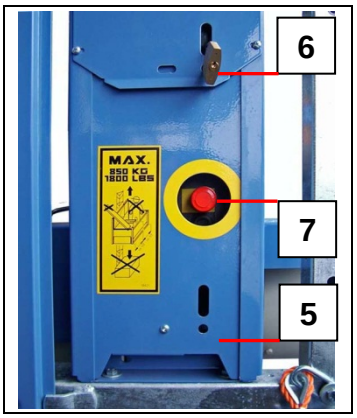
Close

- Close the sliding door (7), until the lever (6) engages downwards.

6.3 *Operating as a material hoist*

The loading door / ramp, barriers with unloading ramp and assembly bridge must be closed and engaged. The assembly guard must be properly hung up.

- ➢ On the switch box of the ground station, switch on the main switch (Position "**I**" (ON).
- ➢ Turn the key in the key switch on the platform control to the left (position **0**) and remove the key.
- ➢ Push down the sliding plate over the platform control.
- ➢ Secure the hinged plate with a lock (6).



7 = **EMERGENCY STOP** button

☞ **The ground control and electric modules of the landing level safety doors are active.**

The machine can now be used as a material hoist.

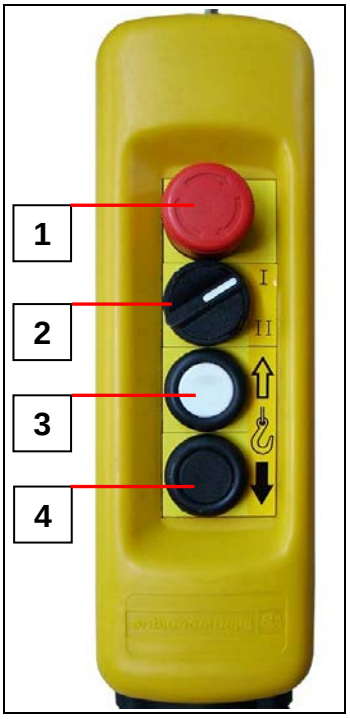
The platform speed is approx. 24 m/min. (12 m/min. in lower safety range).

Dead man's control

- **Selector switch** (2) to position "**I**"

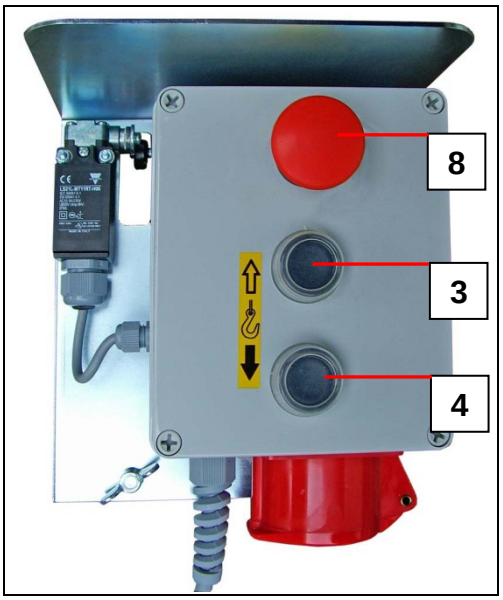
- ➢ The platform moves only as long as the UP (3) or DOWN (4) buttons are pressed.

The platform **overruns** the landing level limit switch approach bar and is stopped by the **UP** limit switch.



1 = **EMERGENCY STOP** button

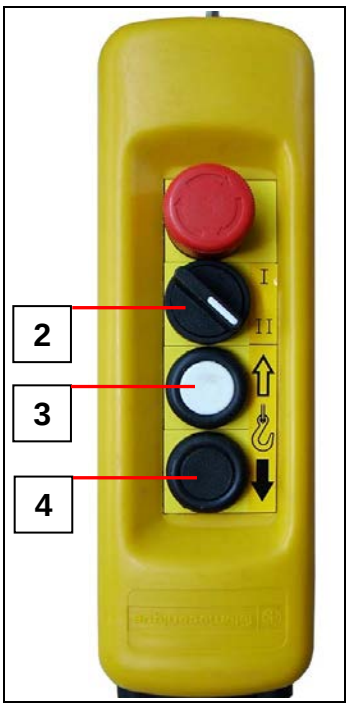
☞ **The platform can be only be operated above the initial 2 m safety height with the "UP" (3) or "DOWN" (4) buttons using the electric module.**



8 = **STOP** button (does not engage)

Automatic travel to a landing level

- **Selector switch** (2) to position "**II**"



Ascent

➢ The platform travels within the lower 2.0 m from the ground (safety height) only as long as the **UP** pushbutton (3) is pressed. After passing this safety height, the **UP** button (3) must be released and the platform will travel automatically to the next landing level and stop there.

➢ For continuous through-travel to the "second landing level", hold the **UP** button (3) pressed until the limit switch approach bar for the first landing level is overrun.

Descent

➢ Press and release **DOWN** button (4). - The platform travels down and stops in front of the 2.0 m safety area. An alarm signal sounds for approx. 3 seconds.

➢ The remaining 2.0 m can only be traversed with the ground control and with the **DOWN** button (4) held pressed (dead man's control).

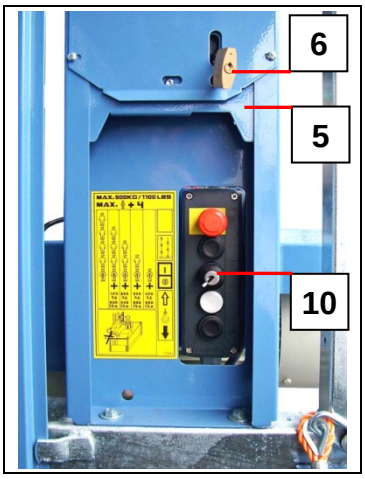
6.4 *Operating as transport platform*

The transport platform can be operated from the platform only in dead man's control. The platform only operates for as long as the operating button is pushed.

The platform may be accessed and exited only at the installed landing level safety doors above 2 m.

The ramp, barrier with unloading ramp and assembly bridge must be closed and engaged. The assembly guard must be properly hung up.

- Turn the main switch (on the switch cabinet of the ground station) to "**I**" position (ON).
- Remove the lock that secures the cover.
- Push up the sliding plate (5) over the platform control and secure with the lock (6).
- Insert the key (10) into the key switch and turn to the right (position **1**) to activate the platform control.



☞ **Only the platform control is active.**

The machine can now be used as a transport platform or for assembly.

The speed of the transport platform is approx. 12 m/min.

Ascent

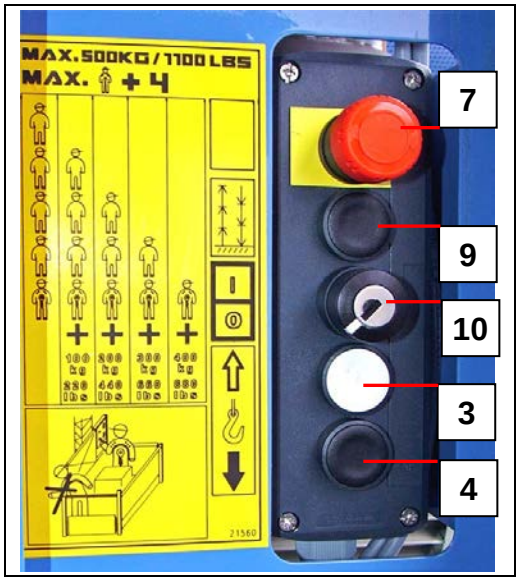
- To move the platform upwards, press and hold the **UP** button (3).

Stopping the platform in its ascent:

- Release the **UP** button (3).

Platform reaches the upper limit switch approach bar and automatically stops (the **UP** limit switch switches off).

7 = **EMERGENCY STOP** button



If the platform is to be excited at a transfer point (landing level equipment) for loading and unloading, the platform must be stopped so that it is level with the landing level safety door.

- If a landing bar is set (see section 5.5.1), the platform can also be stopped with the **LANDING LEVEL STOP** button (9), which is pressed in addition to the **UP** buttons before reaching the landing level safety gate.
- First release the direction button (3) and then the **LANDING LEVEL STOP** button (9) (or both simultaneously).

☞ **Always approach landing-level limit-switch approach bars from below.**

Descent

- To move the platform downwards, press and hold the **DOWN** button (4).

Stopping the platform during descent:

- Release the **DOWN** button (4).

The platform descend and stops automatically approx. 2 m above the ground.

⚠ **The platform operator may continue the descent only after it has been ensured that the travel path below is clear.**

- Again press and hold the **Down** button (4), this will release a warning tone, after 3 seconds the platform will move and stops at the **DOWN** limit switch.

6.5 *Emergency shutdown*

In situations that present a risk to operating personnel or the transport platform, the platform can be shut down by pressing an **EMERGENCY-STOP** button.

There is an **EMERGENCY-STOP** button on the
- platform control,
- Ground control
- drop-test control.

☞ **EMERGENCY STOP buttons are equipped with a latching mechanism and remain active until they are manually released (turn the red button to the right and pull back).**

☞ **A stop button is located on the electric modules of the landing level safety doors and is used to stop travel from each storey. This stop button does not engage which means that further travel is immediately possible after the stop command.**

6.6 *Interrupting work – end of work*

➢ Move the platform downwards until the **DOWN** limit switch stops it at the ground.

If there is a risk of frost, move the platform up a little, so that the down limit switch is clear.

➢ Unload the platform.
➢ Remove the key from the key switch of the platform control.
➢ Lower the sliding plate on the platform control and secure with a lock.
➢ Turn off the main switch (Position "**0**" [**OFF**]) and secure with a padlock.
➢ Disconnect the mains plug.

7 Dismantling (disassembly)

The rack and pinion hoist must be disassembly according to the assembly and operating manual under supervision by a qualified person, specifically appointed by the operating company!

Assembly personnel, see section 1.7.1

☞ **For disassembly, the same regulations and safety instructions are applicable as described in section 5.**

Disassembly is generally carried out in reverse order to installation; the following should also be noted:

- Disassemble the landing safety doors first.
- Before removing the mast brackets, check whether all mast connection bolts are engaged.
- The platform must be stopped in such a way that the mast joint of the mast being removed is located over the upper edge of the sliding carriage.
- Only loosen the mast ties if there are no longer any mast sections above the anchor point.
- In the interim, always unload the platform (the platform cannot be moved if overloaded).

8 Maintenance - Checking - Cleaning

Maintenance work must only be carried out by competent persons.

Immediately report any changes or malfunctions to the company management or their authorised representative. If necessary, immediately shut down and secure the **GEDA 500 Z/ZP**.

	WARNING
	Read the complete manual before all service/repair tasks. Work is prohibited if the type and scope of the tasks are unclear, or the resulting hazards and actions to be initiated to avert said hazards are unclear. All unclear issues must be resolved before starting work. All safety instructions must be complied with.

8.1 *Service plan*

Tasks to be carried out	Weekly	Monthly	Quarterly	Annually
Check the braking distance	X[1]			
Check the gear rack and drive pinion for lubrication and wear	X[1]			
Check the trailing cable, mains supply cable and control lines for damage.	X[1]			
Visual inspection of all defect devices and limit switches	X			
Check the rack and drive pinion for wear		X		
Check that the mast connecting bolts, EMERGENCY limit switch approach bar and mast ties/bolts are securely fastened to the mast and the building and tighten if necessary.		X		
Apply lubricant to the trailing cable		X		
Check quantity of grease in the lubricating device and replenish if necessary		X[1]		
Notices present and easily legible			X	
Functional check of the control points [manual control, electric module (where present), platform control]				X
Function check of the collision grille (optional)				X
Check gear oil on the drives				X
Check the gear rack is positioned securely				X
Check motor brakes (air gap and pad thickness)				X
Check the rescue equipment				X
Test overload setting				X
Function check of the drop-test control unit				X
Test the safety gear				X
Check track rollers on the trolley				X
Safety earth conductor test in accordance with EN 60204, Part 1				X²
Insulation check in accordance with EN 60204, Part 1				X²

[1] For increased use or in multi-shift operation, accordingly more frequent.

² Maximum check intervals can be significantly shorter, depending on location of use and national regulations.

8.2 Tests

The **GEDA 500 Z/ZP** is a machine in compliance with the EC machinery directive 2006/42/EC. A copy of the conformity declaration is reproduced in this operating manual.

During the checks, using appropriate procedures all safety-related characteristics of the machine are checked for condition, presence and function. Appropriate procedures are:

- Visual inspections
- function and efficacy checks
- checks using measuring and testing equipment

For each test, the scope of the test, type of test and the execution of the test by competent persons must be defined by the operating company.

Test schedule		
↓	↓	↓
Checked by Instructed persons	Checked by a competent person	Check by an accredited inspection body (recurring inspection)
Simple visual and functional checks with just a few test steps and simple evaluation	↓	For systems that are subject to scheduled monitoring. Inspection according to national regulations
Checked by a competent person		
↓		↓
Check due to specific incidents/damaging influences, such as e.g.		Checks according to maintenance schedule
Natural phenomena: • Lightning • Storm • Flooding • Cold > -20 °C		See chapter Maintenance
Accidents: • Collision • Overturning • Crash		
Changes/modifications: • Drive replacement • Safety gear replacement • Changes to the control electronics • Replacement of control and safety equipment • Replacement of electrical power cables		
Assembly: • For first start-up • At a new location		
Exposure to harmful substances • Corrosive media • Contaminations of unknown origin		

8.2.1 Documenting the results

The operating company must document the results of the checks. The documentation must be kept for a reasonable period of time – however at least for the entire lifetime of the machine. Proof of performance of the last inspection must be attached to the machine.

- The results of the recurring check can be recorded in writing in the appendix of this instruction manual.
- Verification of the execution of the last check must be attached to the machine.

☞ **Inspections prior to commissioning, recurring inspections and intermediate inspections must be carried out according to national regulations.**

8.2.2 Checks before initial commissioning

Checks at the factory

The following tests have already been carried out at the factory:

- Dynamic test with x1.25 the safe working load
- Electrical tests according to EN 60204
- Function checks.

8.2.3 After assembly / daily before starting operation

To ensure safety when handling the machine, the custodian / person determined by the operating company must carry out a daily check of certain areas of the machine / parts.

Any defects identified must be immediately reported to the supervisor and rectified. Defects may only be rectified by trained personnel responsible for maintenance and servicing.

Always carry out visual inspections before function checks. Operation is prohibited until the defects are rectified.

The following points must be checked daily.

- Visual inspections before start of work → refer to section 6.1.3
- Clean grease and swarf from the proximity switches (on the gearbox case of the drive).
- Clear out the cable bin (keep free from snow and ice in winter).
- Keep the work area around the **GEDA 500 Z/ZP** clear and clean.

For checks after each installation → see section 5.6

8.2.4 Recurring checks

☞ **GEDA recommends that you carry out a recurring check on an annual basis. In the event of increased demand (e.g. multiple shift operation), carry out checks at shorter intervals.**

8.2.5 Extreme weather conditions

Condition(s)	Hazard / Measure
Temperature	**NOTE:** Hoists with a cold package disable upwards motion at < -20 °C. It is then only possible to travel downwards. **NOTE:** If frost is expected, all limit switches and moving parts should be treated with a lubricant which is suitable for the temperature range expected in order to prevent them from freezing up in the actuated position. This is particularly important in the case of the lower limit switches to prevent them from freezing up overnight, for example, at the end of the working day.
less than - 40 °C	**Special check at temperatures below -40 °C** **NOTE:** If it is unclear if the temperature fell below -40 °C, follow procedures as if this temperature had been reached when starting up the machine again. Before performing the special test, temperatures must be above -20 °C for a minimum of 3 hours. ➢ Clear ice and snow from the hoist. ➢ Switch on the master switch (green light comes on). ➢ Press all EMERGENCY-STOP buttons and then release then again. ➢ Check all doors/entrances/footbridges/flaps. ➢ Check all limit switches are moving freely. **DANGER:** Notify your superior immediately if any cracks or loose parts / loose screws are discernible. Clarify further procedure with your superior. In the test run, do not travel beyond the cracks or loose parts / loose screws. Move to ground station. Safety inspection of the hoist by a competent person. The safety inspection which checks for discernible cracks / loose parts / loose screws must also include inspection of the foundation and of the wall anchors. Operation is prohibited until safe conditions have successfully been restored. ➢ Check the ground station / landing level for obvious damage such as loose or deformed parts or parts which have fallen off and cracks in components and weld seams. ➢ Test run with unloaded platform as far as up limit switch: check that screw connections on the mast / ladder parts / anchors are securely fastened and check for cracks in components and weld seams. ➢ Check the overload protection, if present (see relevant section).

Condition(s)	Hazard / Measure
Ice/snow	• Injury to passengers/people at the ground station/landing levels as a result of snow breakage or icicles. • Falling on snow or ice. ➢ Remove ice/snow from the platform, from all access locations / from the mast anchors of the gear racks / cables / cable box. Do not use saline substances for this purpose. ➢ Ensure that no roof avalanches / icicles can fall from the building onto / into the platform or the access points. Remove hazards before start-up. Wear a helmet. ➢ Do not use open platform where there is a danger of roof avalanches / icicles. ➢ Ensure that all doors, hatches etc. are functional. ➢ At the end of the working day, move the platform 20 cm upwards in order to prevent the limit switches from freezing up. ➢ In the case of large amounts/depths of snow: prevent car from travelling as far as the layer of snow. Hoist could be damaged.
Storms/lightening/hail	• Injury to people as a result of lightening or hail • Damage to the hoist as a result of strong gusts of wind/bolts of lightening. ➢ Do not transport people. ➢ Bring the platform down to ground level.
Flooding	• Damage to the hoist as a result of running into a flooded pit. Loss of stability of the foundation due to flooding. ➢ Switch off the power. ➢ Pump the pit dry. ➢ Check foundation/buffer. ➢ Check enclosure.
Sandstorm	• Difficulty breathing / risk of suffocation in the event of long-term exposure, e.g. in the event of a defect in the hoist. Carry a dust mask. • Damage to the hoist as a result of clogged filter pads of the switch boxes. ➢ Clean the filter pads.
Fog	• Injury to people as a result of parts projecting into the travel path. Transportation of parts through the travel path of the hoist using a crane. ➢ Use organisational measures to ensure that no parts project into the travel path / that parts are not transported through the travel path of the hoist.

8.3 Replenishment tasks and checks

8.3.1 Lubrication of the gear rack / drive pinion

For initial lubrication or by extreme conditions, the gear rack must be manually lubricated.

Recommended lubricant:
- GEDA special spray - Item No. 02524
- Grease cartridge - Item No. 13893 for grease gun

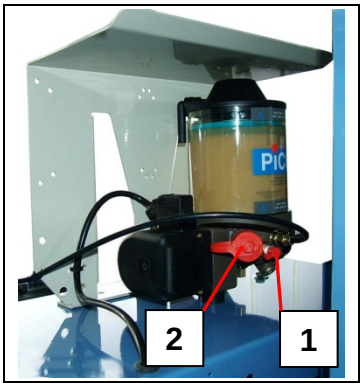
Automatic lubrication device
The volume of grease in the reservoir is sufficient for approx. 120 travel hours at normal operation.
The grease reservoir must be replenished before it is empty.
Filling capacity: 1.2 l

Caution

Do not use any grease with solid lubricants. The lubrication device can become damaged.

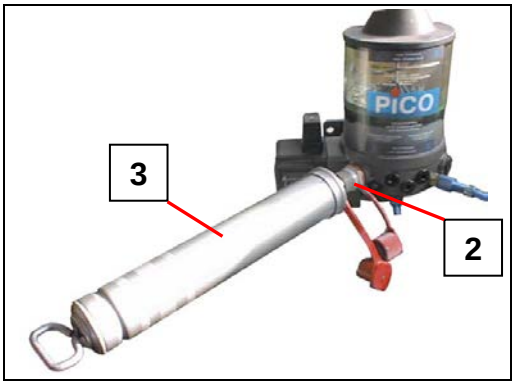
Recommended lubricant:
Multi-purpose grease/cartridge for grease gun, GEDA Item No. 16744.

- Attach manual lever grease gun to the filling nipple (1) (below the grease reservoir) and pump grease into the reservoir.
- Fill reservoir to the "MAX" mark.



Quick-filling with a filling gun

- In order to fill with the gun, unscrew the dust cap from the filling port (2) and insert the neck of the filling gun (3) all the way into the filling port (2).
- Inject grease until the "MAX" mark is reached.



☞ **The function of the lubrication device can be checked using the "Test button" (2S050 in the platform switch box).**

Bleed the lubrication device
If the limit switch is defective, the lubrication device will become completely empty and must be bled after the limit switch has been repaired/replaced.

- Put the grease gun on the nipple (1).
- Fill up to (4 cm) above the "MIN" mark.
- Remove the lubrication hose from the pump housing.
- Remove the pump element or locking screw (M20x1.5) and keep open until bubble-free grease is discharged.
- Install the pump element or locking screw.
- Trigger the lubricating pulse until lubricant runs out without air bubbles. (Test button **2S050** in the platform switch box)
- Again connect the lubrication hose.

8.3.2 Apply lubricant to the trailing cable

Recommended anti-friction lubricant:
- Interflon Fin Film WB

8.3.3 Check/replace gearbox oil

Check the gearbox oil, replenish as necessary. Observe the manufacturer's operating manual in the appendix.

Recommended gear oil
- Aral Degol BG 220
- ESSO Spartan EP 220
- BP Energol GR-XP 220

Quantity approx. 1.8 litres

8.3.4 Check the bolted connections

- Check the mast connecting bolts for security.
  Tightening torque = 150 Nm (width across flats 24 mm)

- Check the limit-switch approach bar for security.

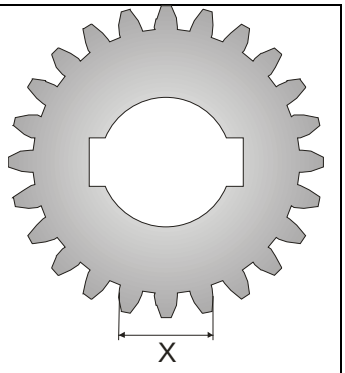
- Check the mast tie bolts on the mast and building for security.
  Tightening torque (scaffold couplings) = 50 Nm

8.4 Checking for wear

	**WARNING** **Danger of injury from components failing** Parts must be replaced immediately if the specified wear limits are exceeded. Machine operation is prohibited until the parts have been replaced. All parts must also be checked for damage (deformation, cracks, cavities, etc.).

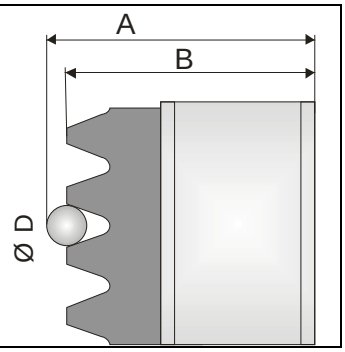
8.4.1 Drive pinion

Number of teeth = 21	
Module m = 6	
Wear limit	
Dimension X min.	**Dimension X setpoint**
27.6 mm	28.3 mm
At a position that is visible, measure dimension X across three teeth in a section that is worn (a minimum of three different locations).	



8.4.2 Rack

Module m = 6	
Wear limit	
(A) min.	**(A) Setpoint**
68.5 mm	69.6 mm
Measurement bolt: (D) = 12 mm (+0.0 / -0.11 mm)	
Auxiliary dimension (B) = 65.2 mm	

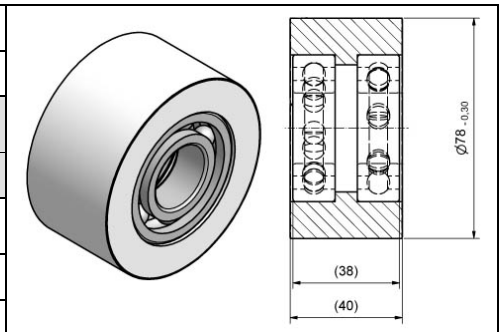


Check that all racks are secure. If necessary torque tighten racks to 60 Nm. (8 mm Allen key)

8.4.3 Tracks rollers

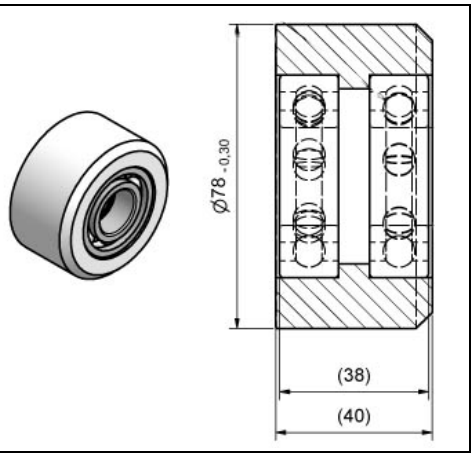
Track roller (white) Item No. 13060

Wear limit (diameter)	
Ø min.	**Ø normal**
77 mm	$78_{-0.30}$ mm
Also check the play and condition of the bearing. A circlip must be installed.	



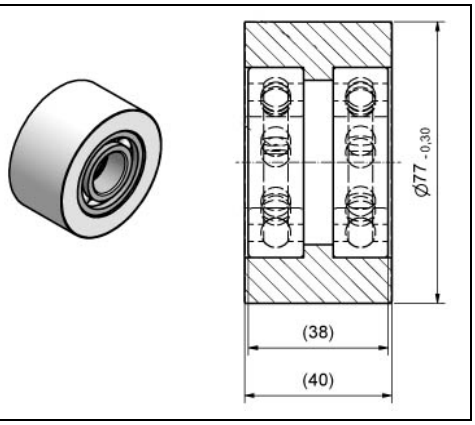
Track roller (white) Item No. 18013

Wear limit (diameter)	
Ø min.	**Ø normal**
77 mm	$78_{-0.30}$ mm
Also check the play and condition of the bearing. A circlip must be installed.	



Track roller (black) Item No. 19983

Wear limit (diameter)	
Ø min.	**Ø normal**
76 mm	$77_{-0.30}$ mm
Also check the play and condition of the bearing. A circlip must be installed.	



Replace the track roller

DANGER

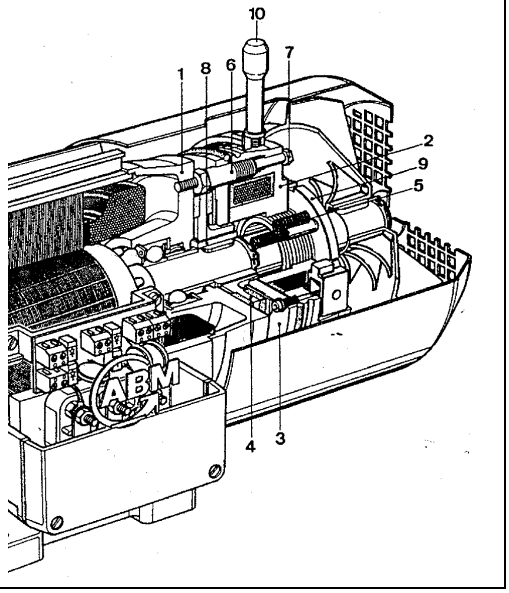
Danger to life
Falling tools/parts.
Secure tools/parts against falling.

8.4.4 Motor brake

- Test the braking distance:

➢ Stop the loaded platform (see load capacity) as it descends (e.g. 2 m safety range). Overrun of the motor brake must not exceed 100 mm.

Brake pad wear limits	
min. 11.5 mm	
Air gap wear limit	
max.	**Should be**
0.8 mm	0.3 mm
1 = Motor end plate 2 = Magnetic body 3 = Anchor plate 4 = Brake pad 5 = Compression springs	6 = Banjo bolts 7 = Hexagonal screws 8 = Carrier 9 = Adjusting ring 10 = Manual release



Air gap must be the same at each position. Always check the air gap at several positions.

In addition to this information, you must observe the information in the manufacturer's manual. Non-compliance releases GEDA from any liability.

➢ Switch off motor power supply.
➢ Unscrew manual release bolts.
➢ Loosen attachment bolt and remove the fan cover.
➢ Remove the cable.
➢ Pull dust protection ring out of the SLOT in the magnetic body and put over the bearing plate.
➢ Remove dust with compressed air.
➢ Loosen bolts and replace with new bolts.
➢ Screw banjo bolts into the magnetic body to achieve the specified distance.
➢ Tighten bolts with a torque of 25 Nm.
➢ Check the air gap with callipers.
➢ Check banjo bolts for secure seating.
➢ Assemble in reverse sequence.
➢ Carry out a function check.

8.5 Function checks

8.5.1 Test the safety gear

	**WARNING** **Danger of injury from components failing** The drop test must only be carried out by a qualified person, who has been specifically appointed by the operating company and who is able to evaluate the risks and assess the safe condition of the safety gear based on his or her training, knowledge and practical experience.

The drop test is permitted only

- When no other persons are on the platform or in the travel path.
- The platform is unloaded.
- When there are no objects in the travel path.
- when the drop test is activated from a safe distance

Execution

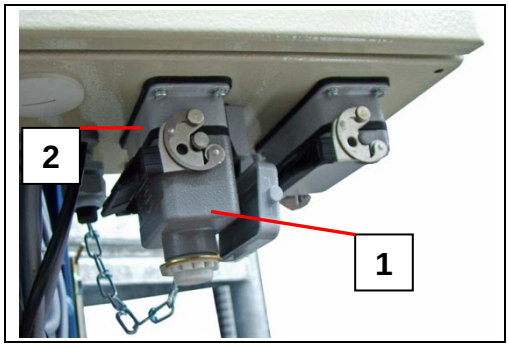
➢ Turn the main switch to the position **ON**.

➢ Turn the key switch on the platform control to the left (position **0**) and remove.

➢ Lower the sliding plate on the platform control and secure with a lock.

➢ Remove the dummy plug (1) at the connection (2), below the platform switch box.

➢ Connect the plug of the safety gear control to this connector.



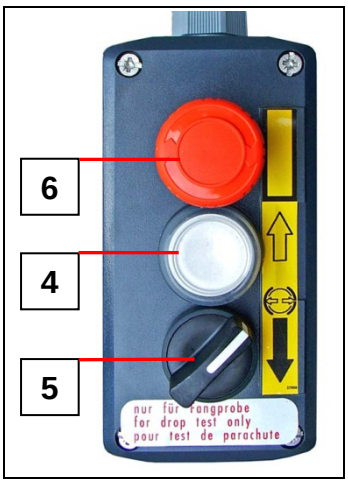
➢ Press the **UP** button (4) until the platform is at a height of approx. 6 m.

➢ Rotate clockwise the rotary switch for the drop test (5).

The brake opens, the platform moves downwards.
The safety gear must stop the platform after approx. 2 - 3 m

If the platform does not stop:

➢ Immediately release the rotary switch for the drop test (5).



6 = **EMERGENCY STOP** button

Safety gear passed

- Push the **UP** button (4).
  Platform moves out of the catch position.

- Momentarily rotate the rotary switch (5) (max. 1 sec.).
  The platform descends.
- Repeat the process until the platform has descended (above the stop buffer).

- Disconnect the drop-test control unit.
- Connect the dummy plug at the connection behind the platform switch box.

Continue with ➔ Check safety gear for damage.

8.5.2 Drop test not passed

	**WARNING** **Risk of injury** Immediately replace the safety gear. Operation of the machine is prohibited until then.

Safety gear activated too late

- Momentarily rotate the rotary switch (5) (max. 1 sec.).

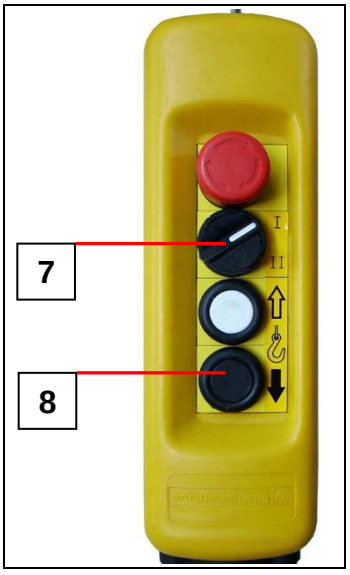
The platform descends.
Repeat the process until the platform has descended (above the stop buffer).

Safety gear has not activated

- Disconnect the drop-test control unit.
- Connect the dummy plug at the connection behind the platform switch box.

Move to the ground station using the ground control (manually).

- **Selector switch** (7) to position "**I**"
- Press the DOWN button (8) and lower the platform.



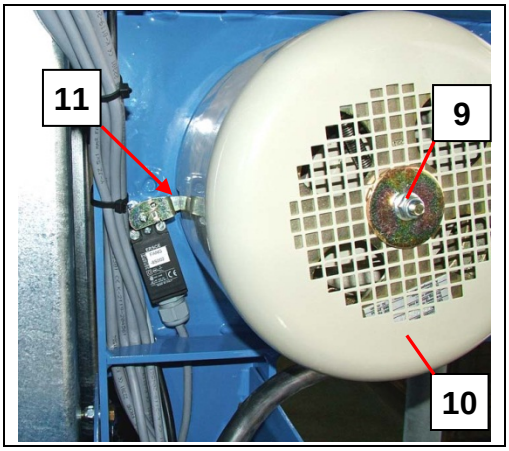
- Switch off the machine at the main switch and secure against switching on.
- Inform operating company, clarify further procedure.

8.5.3 Check safety gear for damage

If any damage is identified on the safety gear, it must be immediately replaced. Machine operation is prohibited until it is repaired.

	**WARNING** **Risk of injury** Repairs to the safety gear must only be carried out by the manufacturer.

- Turn the main switch to the OFF position.
- Secure against being switched on.
- Release the self-locking nut (9).
- Remove the protective cover (10).



Check

- Check the brake pads for damage.
- Check the flywheel for ease of movement.
- Condition of welded seams.
- Condition of springs.
- Corrosion / deformation.

- Install protective cover (10).

Install the protective cover (10) so that the switch tag of the limit switch (11) engages in the slot in the protective cover. (Alternatively, turn the protective cover anti-clockwise until the switch tag (11) engages in the slot on the protective cover.)

- Fully tighten the lock nut (9).

8.5.4 Safety gear replacement

	**WARNING** **Risk of injury** The safety gear must be inspected, or replaced, every 5 years by the manufacturer.

GEDA safety gear must be replaced with new GEDA safety gear (safety gear exchange units) **after 5 years** at the latest.
The obligation to replace safety gear applies to both material hoists and personnel hoists.

9 Faults – Diagnosis – Repair

WARNING

Only have troubleshooting and fault elimination carried out by authorised personnel trained especially for this kind of work.
Before troubleshooting, if possible, lower the platform and unload!
Immediately discontinue operation if faults occur that endanger operational safety!

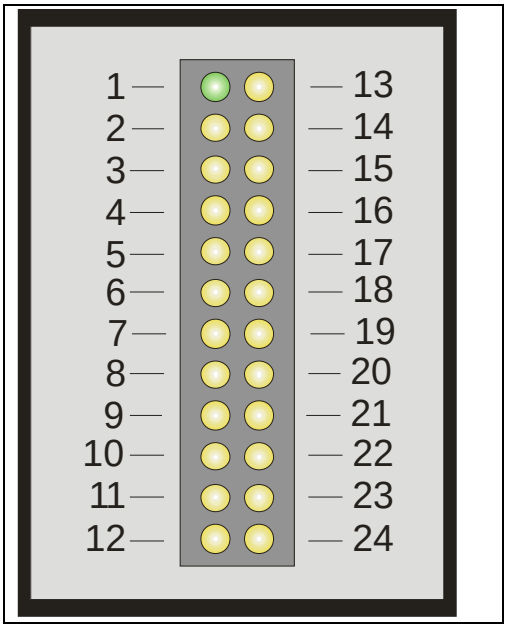
DANGER

Electric shock
Shut off and secure the main switch before working on the electrical system of the transport platform. Remove the mains plug for safety's sake.

9.1 Diagnostic system (Option)

The diagnostic system provides quicker and easier identification of the switching status of the limit switches and **EMERGENCY STOP** buttons.

After input of the travel command, only the green diode must illuminate.
If this is not the case, the corresponding function or corresponding limit switch must be checked.



Switching status of the LED

- green LED = standard **ON**
- yellow LED = standard **OFF**

Troubleshooting using the Diagnostic system

LED No.	Significance of LED
1	Diagnostic system OK / READY
2	Illuminates when the **EMERGENCY STOP** button of the platform control is activated.
3	**-**
4	Illuminates when the limit switch of the safety gear is activated.
5	6 = Illuminates when the **EMERGENCY** limit switch TOP or BOTTOM is activated.
6	Illuminates when the platform access to the building (barrier with loading door) is not locked.
7	Illuminates when excessive tension is applied to the travelling cable holder. (Cable protection)
8	Illuminates when the platform access ground station (ramp/double door) is not locked.
9	Illuminates when the second (on the front) platform access ground station (ramp/double door) is not locked.
10	Illuminates when the limit switch of the assembly guard is activated.
11	Illuminates when the limit switch of the assembly bridge is activated.
12	-
13	Illuminates when the limit switch of the collision grille is activated.
14	-
15	17 = Illuminates when the **UP** limit switch is activated.
16	17 = Illuminates when the **DOWN** limit switch is activated.
17	-
18	-
19	-
20	-
21	-
22	-
23	-
24	-

9.2 Fault table

In the following table you will find potential faults and the appropriate remedial action.

Fault	Cause	Remedial action
Green control light off 	Mains plug disconnected	Connect mains plug
	Main switch off	Switch on main switch
	Illuminant defective	Replace illuminant
	Phase failure	Measure the phases
	Incorrect phase sequence	Correct the phase sequence on the phase sequence monitor
	Travelling cable connected	Plug in the travelling cable
	Fuses in the switch box ground station okay	Check / correction
Green indicator lamp illuminates, platform does not move	**EMERGENCY-STOP** button (at a control point) pressed	Release **EMERGENCY STOP** button
	Loading door / ramp open	Close loading door / ramp
	Barrier with loading door open	Close barrier with loading door
	Assembly guard plate open	Attach assembly guard plate at the top
	Assembly bridge open	Close the assembly bridge and engage safety hook twice
	EMERGENCY limit switch activated	Refer to Platform moved too high / too low
	Base enclosure barrier open (Option)	Close base enclosure barrier
	Safety gear engaged	Release safety gear (refer to section 8.5.3)
	Key switch on the platform control switched to incorrect operating mode	Activate control using key switch
Platform only moves upwards	Is the **DOWN** limit switch functional?	Check/replace **DOWN** limit switch
Platform only moves upwards	Is the **UP** limit switch functional?	Check/replace **UP** limit switch
	Excess distance of proximity switch for monitoring gear rack	Adjust the clearance to the gear rack (3-7 mm)

Fault	Cause	Remedial action
Red control light illuminates	Overload protection has triggered	Reduce the load
Motors do not generate full power	Voltage drop of more than 10%	Select a supply cable or extension cable with a greater cross section
Platform has ascended too high (Refer to section 9.2.2)	**UP** limit switch defective Fault in the electrical system	Check/replace **UP** limit switch Check system
Platform has run too low (Refer to section 9.2.3)	**DOWN** limit switch defective Fault in the electrical system Brake air gap is too large	Check/replace **UP** limit switch Check system Adjust air gap
The platform access door ground station does not open.	Platform is stationary at the ground station, not stopped by the **DOWN** limit switch Door lock defective No voltage	Move platform to the **DOWN** limit switch Door **EMERGENCY** unlock. Replace defective lock Connect power supply

9.2.1 Motor is not producing full output

- Voltage drop of more than 10% of the rated voltage.
- Select supply cable with a greater wire cross section.
- If overloaded, the integrated thermal switch turns off the control current. Work can continue after a certain cool-down period (possibly reduce load).

Refrain from repeated overheating/overloading. - Otherwise the service life of the motor/brakes will be shortened.

9.2.2 Platform has ascended too high

The platform emergency limit switch can reach the upper EMERGENCY limit switch bar if

- The up limit switch is defective,
- There is a malfunction in the electrical system.

Action:

- Operate motor brake using the manual release lever (see section 9.3)

9.2.3 Platform has run too low

Cause

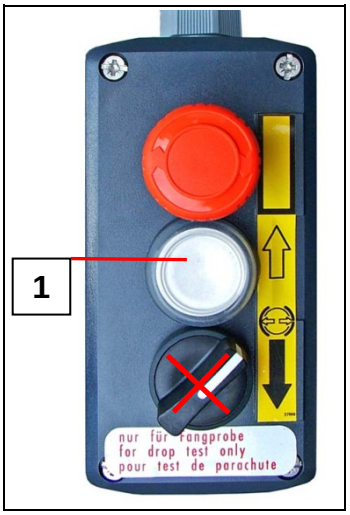
The emergency limit switch of the platform can reach the lower EMERGENCY limit switch bar if

- the brake air gap is too large,
- The DOWN limit switch is defective,
- There is a fault in the electrical system,
- the platform is overloaded,
- the platform was lowered with the manual brake release.

Actions:

➢ Connect the drop-test control (see section 8.5.1)

➢ From outside the platform, press the **UP** button (1).
Now the platform moves out of the END position.



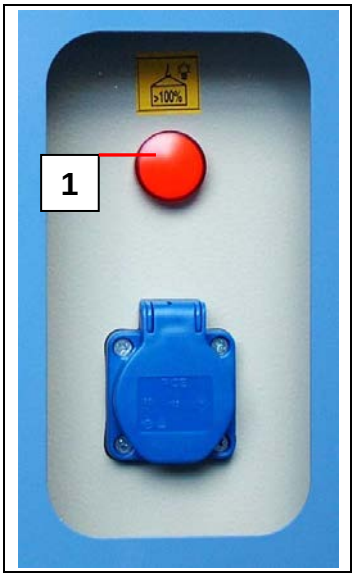
The "UP" button (1) must be pushed, because this control bridges the Emergency limit switch. If the rotary button is inadvertently activated, the motor brake releases and the motor can drop hard onto the foot section (risk of damage).

If this effect occurs repeatedly although the platform is not overloaded, have the brake checked or adjusted by a qualified person.

9.2.4 Overload warning device has triggered

The platform is equipped with an overload warning device which prevents the platform from being operated when it is overloaded. If the platform is overloaded, the red control light (1) on the platform switch box illuminates.

- Reduce the load weight on the platform until the red control light (1) goes out. - Only then is travel possible again.



9.3 Retrieving the platform

Rescue may become necessary if, e.g.

- there is no mains voltage.
- the electrical system has malfunctioned.
- the drive has failed.
- the safety gear has triggered.

WARNING

If the supervisor/platform operator does not feel confident or qualified to organise and carry out the rescue, notify the relevant authorities. (fire brigade, technical support, factory security office).

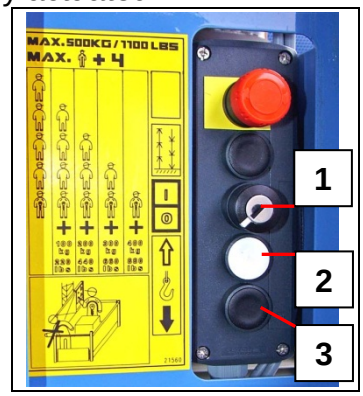
9.3.1 Basic conduct in the event of a rescue/malfunction

- Remain calm and do not act hastily.
- Get an overview of the situation.
- Keep unauthorised persons away.
- Contact any persons trapped in the car.
- Try to find out the cause of the malfunction/defect in the system, e.g.
  - Power failure
  - Trigger the safety gear
- As necessary, inform persons trapped in the car about the planned procedure.
- Inform your superior about the malfunction.
- Inform any rescue services.

☞ **The sequence of measures can / must be varied by the attendant / rescue personnel depending on the specific situation**

9.3.2 Rescue action plan

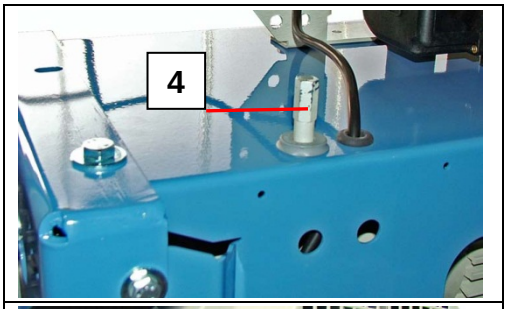
Action 1: Inspect the key switch.
This could have been inadvertently actuated.



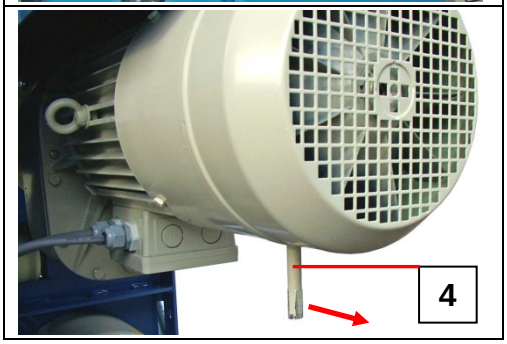
- Turn the key switch (1) to position **I**.
- Press the **UP** (2) or **DOWN** button (3) to continue travel.
  The platform moves.

Action 2: Self-rescue using **EMERGENCY descent**

The **EMERGENCY** descent function is used only in an emergency to reach the next lower landing. Hereby, persons trapped in the car can evacuate themselves



- Take the brake release lever (4) out of the bracket on the motor protective plate and install in the brake.



- Release motor brake by controlled pulling on the brake release lever (4). - The platform glides down.

Avoid overheating of the brake. Interrupt the lowering process for 2 minutes at the latest after every 1-2 meters. The length of a mast section can be used for orientation.

The manual release lever must be operated extremely carefully to prevent the safety gear from engaging. If the safety gear has engaged once, it will not be possible to progress any further without raising the platform.

Action 3: Carry out retrieval according to the emergency plan of the operating company.

9.4 Repair

Repair tasks must only be carried out by trained and competent persons because they require special expert knowledge and skills. Neither is communicated in this operating manual.

When ordering spare parts please provide the following:

- Type
- Year of manufacture
- Serial No.
- Operating voltage
- Quantity required

The rating plate is located on the sliding carriage of the base unit.

Spare parts must conform to the technical specifications of the manufacturer! Only use original spare parts from GEDA.

For service or repair work, please contact our customer service department:

For the sales and customer service address, see section 1.4

10 Disposal of the machine

Correctly disassemble the machine at the end of the service life and dispose of it in an environmentally friendly way in accordance with national provisions.

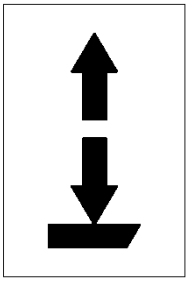
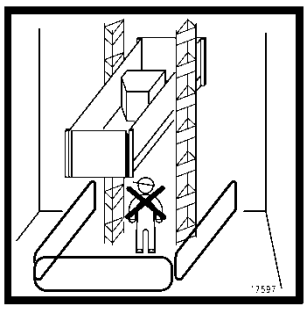
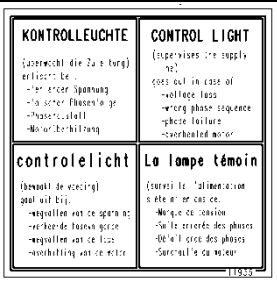
During disposal of the machine components, observe:

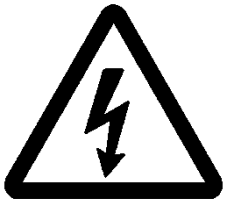
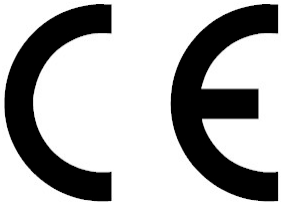
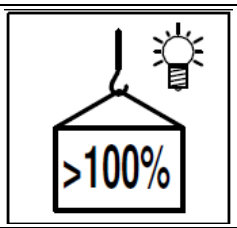
- Drain and dispose of oil/grease in an eco-friendly way.
- Recycle metal parts.
- Recycle plastic parts.

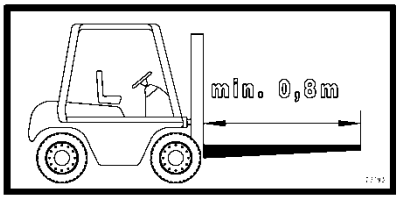
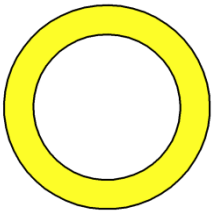
Recommendation:

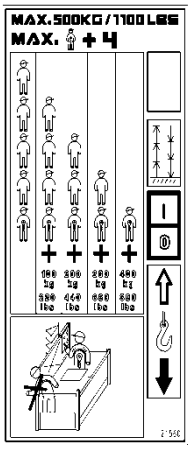
Contact the manufacturer or commission a specialist company to handle disposal requirements in accordance with regulations.

11 Summary of instruction plates

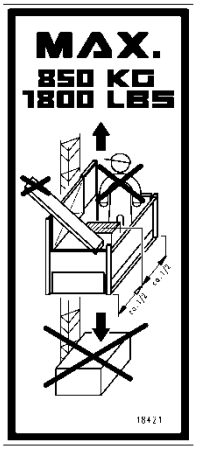
		
Item No. 15431 (safety gear)	Item No. 17597 (base mast)	Item No.11935 (switch box ground station)

		
Item No. 05242 (All switch boxes)	Item No. 14657 (Platform switch box)	Item No. 14523 (Platform switch box)

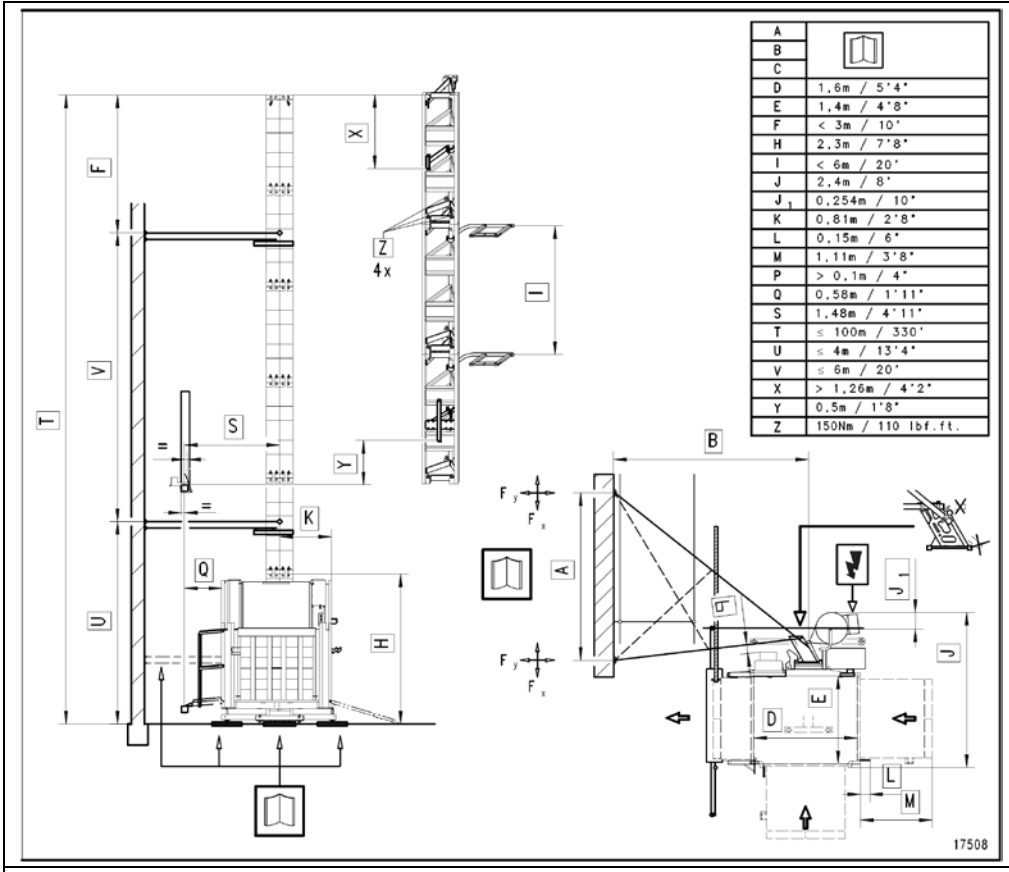
		
Item No. 23193 (platform)	Item No. 29906 (EMERGENCY-STOP platform control)	Item No. 16688 (Manual control)



Item No.: 21560 (Platform control)



Item No. 18421
(Sliding plate platform)



Item No. 17508 (Assembly guard)

12 Documenting the checks

Documentation for a ❒ regular check in accordance with the maintenance schedule ❒ unplanned check after unusual events	
Name:	Serial number:
Year of manufacture:	Works number:
The machine was checked on_____. As a result ❒ none ❒ the following defects were recorded:	

Scope of inspection:

Outstanding part checks:

Continued operation is: ❒ forbidden ❒ permitted	Follow up inspection is ❒ is required ❒ not required

Place, date

Signature
(Technical specialist/competent person*)

Stamp
Inspector

*Name of competent person
Operating company: Address:

Operating company:
Defects acknowledged:

Defects rectified:

Documentation for a ❒ regular check in accordance with the maintenance schedule ❒ unplanned check after unusual events
Name: Serial number: Year of manufacture: Works number:
The machine was checked on_____. As a result ❒ none ❒ the following defects were recorded:

Scope of inspection:

Outstanding part checks:

Continued operation is: ❒ forbidden ❒ permitted	Follow up inspection is ❒ is required ❒ not required

Place, date

Signature
(Technical specialist/competent person*)

Stamp
Inspector

*Name of competent person
Operating company: Address:

Operating company:
Defects acknowledged:

Defects rectified:

Documentation for a ❒ regular check in accordance with the maintenance schedule ❒ unplanned check after unusual events	
Name:	Serial number:
Year of manufacture:	Works number:
The machine was checked on_____. As a result ❒ none ❒ the following defects were recorded:	

Scope of inspection:

Outstanding part checks:

Continued operation is:	Follow up inspection is
❒ forbidden	❒ is required
❒ permitted	❒ not required

Place, date

Signature
(Technical specialist/competent person*)

Stamp
Inspector

*Name of competent person
Operating company: Address:

Operating company:
Defects acknowledged:

Defects rectified:

Documentation for a ❒ regular check in accordance with the maintenance schedule ❒ unplanned check after unusual events	
Name: Year of manufacture:	Serial number: Works number:
The machine was checked on_____. As a result ❒ none ❒ the following defects were recorded:	

Scope of inspection:

Outstanding part checks:

Continued operation is:	Follow up inspection is
❒ forbidden ❒ permitted	❒ is required ❒ not required

Place, date

Signature
(Technical specialist/competent person*)

Stamp
Inspector

*Name of competent person
Operating company: Address:

Operating company:
Defects acknowledged:

Defects rectified:

Documentation for a ❒ regular check in accordance with the maintenance schedule ❒ unplanned check after unusual events	
Name:	Serial number:
Year of manufacture:	Works number:
The machine was checked on_____. As a result ❒ none ❒ the following defects were recorded:	

Scope of inspection:

Outstanding part checks:

Continued operation is:	Follow up inspection is
❒ forbidden	❒ is required
❒ permitted	❒ not required

Place, date

Signature
(Technical specialist/competent person*)

Stamp
Inspector

*Name of competent person
Operating company: Address:

Operating company:
Defects acknowledged:

Defects rectified:

Documentation for a ❒ regular check in accordance with the maintenance schedule ❒ unplanned check after unusual events
Name: Serial number: Year of manufacture: Works number:
The machine was checked on_____. As a result ❒ none ❒ the following defects were recorded:

Scope of inspection:

Outstanding part checks:

Continued operation is: ❒ forbidden ❒ permitted	Follow up inspection is ❒ is required ❒ not required

Place, date

Signature
(Technical specialist/competent person*)

Stamp
Inspector

*Name of competent person
Operating company: Address:

Operating company:
Defects acknowledged:

Defects rectified:

Space for notices

Notice entered
Name: / Date
Position

Space for notices

Notice entered
Name: / Date
Position