Operating Manual

GEDA® MULTILIFT P18

Construction hoist

For transporting material and persons

Original Operating Manual

EU Declaration of Conformity

The manufacturer:

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

hereby declares that the machine

Designation:	Construction hoist for transporting material and persons (for temporary use in non-public areas by authorised persons)		
Type:	GEDAMULTILIFT P18	Serial number:	67000
		starting from:	00402
Manufacturing number:	M180...		
Year of construction:	Refer to name plate on the machine		

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

Directives:		Conformity evaluation procedures applied:
2006/42/EU	Machinery Directive	Appendix IX
2014/35/EU	Low Voltage Directive	Appendix IV
2014/30/EU	EMC Directive	Appendix II
2000/14/EU	Noise Emissions Directive	Appendix V

Applied (harmonised) standards:
EN ISO 12100:2010, EN 60204-1/32:2008, EN 12159:2012

EC Type test certification procedure:		
Type test certification		[EC Machinery Directive] EG-MRL 350
European notified test site	0036	TÜV SÜD Industrie Service GmbH Westendstrasse 199 80686 Munich

This EU conformity declaration becomes null and void if any changes are made to the aforementioned machine that have not been authorised by the manufacturer.

The authorised representative for technical documentation is the signatory. For address refer to manufacturer.

Asbach-Bäumenheim
Date 12/12/2019

Johann Sailer
CEO GEDA-Dechentreiter GmbH & Co. KG

Table of contents

Table of figures

1 General information

1.1 Information on the operating manual

This operating manual is an essential aid to operating the machine **successfully and hazard-free** (refer to chapter 2.1 Residual risks).

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.:

- operation, fault elimination during work, disposal of operating materials and auxiliary supplies,
- assembly, maintenance (servicing, general maintenance, repair) and/or transport.

Assembly is described in the Assembly Manual for the machine.

The Assembly Manual also contains

- information on transport and storage
- information on the foundation and bearing load
- assembly plan
- anchoring geometry and anchoring forces

The inspection and maintenance work is described in the Maintenance Manual for the machine!

The Maintenance Manual also contains

- the maintenance schedule (wear checks)
- details for static tests, dynamic tests and the drop test (test weights, evaluation criteria)

You will come across a series of illustrations and symbols while reading this manual. These are intended to help you navigate and understand this manual. The different meanings are explained below.

Text format	Meaning
Bold type	Emphasises particularly important words/sections
• List	Identifies lists level 1
– List	Identifies lists level 2
(brackets)	Item numbers
➢ Task instruction	Task instructions for personnel. Always given in chronological order

Images

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

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

⚠ DANGER

Type and source of the hazard: Danger to life
Consequence: Death/serious injury
Probability: imminent
➢ Measure for preventing the hazard

⚠ WARNING

Type and source: Risk of injury
Consequence: Serious injury
Probability: possible
➢ Measure for avoiding

⚠ CAUTION

Type and source: Risk of injury
Consequence: Minor injury
Probability: possible
➢ Measure for avoiding

ATTENTION

Type and source: Damage to the machine
Consequence: Property damage
Probability: possible
➢ Measure for preventing the damage

Safe working

Type and source: Failure to comply with health and safety regulations
Consequence: Risk for life and limb
Probability: possible
➢ Observe these instructions and proceed with caution.

Indicates information on using the machine economically or instructions for correct working procedures.

1.2 Abbreviations

The following abbreviations may be used in the manual.

Abbreviation:		Abbreviation:	
Max.	maximum	Fig.	figure
min.	minimum	Nm	Newton metre
Min.	minutes	km/h	kilometres per hour
etc.	et cetera	mph	miles per hour
		incl.	including
e.g.	for example		
ml	Millilitre	i.e.	that is
mm	Millimetre		
°C	degrees Celsius	RH	relative humidity
°F	degrees Fahrenheit	approx.	approximately
ft.	feet	Ø	diameter
ft/m	feet per minute	®	registered trademark
m/min	metres per minute	©	copyright
		TM	trademark
		%	per cent
lbs.	pounds	‰	per mil
lbf.-ft	pounds per feet	L_{PA}	sound pressure level
kg	kilogramme	L_{WA}	noise capacity level
L	litre	>	greater than
gal.	gallons	<	less than
kip.	kilopound	±	plus/minus

1.3 Identification data

Machine type:	**GEDA MULTILIFT P18**
Factory number:	M180...
Year of manufacture:	refer to name plate
Documentation version:	2019-11

1.4 Manufacturer's name and address

GEDA-Dechentreiter GmbH & Co. KG
Mertinger Strasse 60
86663 Asbach-Bäumenheim
Tel.: +49 (0)9 06 / 98 09-0
Fax: +49 (0)9 06 / 98 09-50
E-Mail: info@geda.de
Web: www.geda.de

Representatives of the manufacturer

Bergkamen subsidiary	**Gera subsidiary**
GEDA-Dechentreiter GmbH & Co. KG Northwest Subsidiary Marie-Curie-Strasse 11 59192 Bergkamen-Rünthe Tel. +49(0)2389 9874-32 Fax. +49(0)2389 9874-33	GEDA-Dechentreiter GmbH & Co. KG Eastern Subsidiary Ernst-M.-Jahr Strasse 5 07552 Gera Tel. +49(0)365 55280-0 Fax. +49(0)365 55280-29
U.S. subsidiary	**Russia subsidiary**
GEDA USA, LLC 1151 Butler Road League City (Houston), TX 77573 Tel. +1(713) 621 7272 Fax. +1(713) 621 7279 Web: www.gedausa.com	GEDA RUS, LLC Tsentralnaya str., build. 3/1, office H-208 141031 Nagornoye, Moscow region Russian Federation Tel. +7(495) 150-42-67 Fax. +7(495) 150-43-67 Web: www.geda-ru.com
Turkey Subsidiary	**Korea Subsidiary**
GEDA MAJOR IS VE INSAAT MAKINALARI SAN. TIC. LTD. STI. Semsettin Günaltay Cad. No:224 A Blok K:2 D:5 Tüccarbasi/Erenköy TR-34734 Istanbul/Türkiye Tel.: +90 (216) 478 2108 Fax: +90 (216) 467 3564 Web: www.geda.com.tr	GEDA KOREA 1708, (MetroDioVill Bldg., Singongdeok-dong) 199, Baekbeom-ro, Mapo-gu, Seoul 04195 Korea Tel.: +82 2 6383-7001 Fax: +82 2 6383-7009 Web: www.gedakorea.com

1.5 Information about the author and industrial property rights

All documents are protected within the terms of the copyright law. Dissemination and reproduction of documents (including parts thereof), as well as reuse or disclosure of their contents, are prohibited unless expressly permitted in writing.

The copyright and conditions of use of any software/user documentation from other manufacturers that may be included within the scope of delivery must be observed.

Violations are an offence and incur an obligation to pay compensation. All rights to exercise industrial property rights are reserved by GEDA.

1.6 Patents

Some components in our machines are protected by patent rights. To find out how to request information about these, refer to http://www.geda.de/.

1.7 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 mandatory **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 safe and competent working must also be observed.

The operating company must ensure that operating personnel wear **personal protective equipment** appropriate to the local conditions.

First aid equipment (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 devices as well as welding on load-bearing components.

Any **replacement and wearing 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/installation/maintenance.

The operating company is obliged to instruct all people authorised to use the machine in the correct way to handle the machine based on their respective range of activities and responsibilities using practical exercises, before they use it for the first time.

This **training** must be documented and **repeated at regular intervals**.

The legally permissible minimum age must be observed!

1.8 Intended use

The MULTILIFT P18 is a rack and pinion hoist for temporary use on construction sites

- that may only be operated by instructed and authorised site personnel
- that is designed for the transport of material and persons who can exit the car at installed and secured exit points (landing level safety gates)
- which may only be operated at a wind speed of up to 72 km/h (20 m/sec.; wind force 7-8 on the Beaufort scale)
  - at higher wind speeds, the car must be parked on the ground and shut down

The instructions in chapter 3 Technical data must be observed and adhered to.

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 this. This applies equally to any unauthorised changes to the machine.

Intended use includes

- Compliance with the operation and maintenance instructions (operating manual) provided by the manufacturer
- Consideration of foreseeable misconduct of other persons
- Compliance with the corresponding national regulations

1.8.1 Assembly, service/maintenance specialist

A person who, due to qualified professional education, training and experience, is able to recognise risks and potential hazards during assembly/maintenance/repair work on the machine and subcomponents and can rectify these by introducing appropriate measures.

1.8.2 Operating personnel

The machine may only be operated by persons who, based on their training, knowledge and practical experience, can ensure 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 operating manual
- observe national regulations.

1.8.3 Improper use

The MULTILIFT P18

- is not designed for permanent installation
- must not be set up to be free-standing (without anchoring)
- must not be operated by persons without instruction on the machine or by children The persons must be familiar with the operating manual.

Consequences of improper use of the machine

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

2 General safety information

The machine has been designed and built according to the state of the art and recognised safety 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 not used for the intended purpose,
- is assembled, operated and serviced inappropriately.

Attached notices and warning signs must be observed!

Consequences of failure to comply with safety instructions

Failure to comply with safety instructions can result in hazards for personnel as well as for the environment and the machine. Failure to comply can lead to any claims for damages becoming invalid.

2.1 Residual risks

Residual risks remain from handling the machinery even when all safety conditions are complied with.

Anyone 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.

- Do not remove any safety labels; replace any safety instructions that have become illegible.
- Danger when entering and leaving the car.
- Hazard from damage to the mast sections, anchors or base unit.
- Hazard when working on the electrical system.
- Hazards from a malfunction in the control system.
- Hazards from uncoordinated working practices.
- Hazard from operating a machine that has not been maintained correctly.
- Hazard from high wind speeds > 72 km/h.

2.2 Safety instructions for operating personnel

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

The machine may only be used in a technically flawless condition, **in accordance with the intended use, in a safety conscious manner, with awareness for the hazards** and in compliance with this operating manual! In particular, faults that could impair safety must be eliminated immediately!

In addition, the machine may only be operated when all **safety devices are installed and functioning**!

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

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

The hoist operator is obligated to wear **personal protective equipment** appropriate to the local conditions.

Switch-on and shut-down procedures, including emergency shut-down, 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 devices.

2.3 Safety instructions for transport

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

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

Never walk below suspended loads!

Only use **appropriate, standardised and tested lifting devices** (forklifts, cranes) and load attachment gear (lifting beam, round slings, lifting straps, rope slings, chains) for transport at the assembly site.

When selecting lifting and slinging equipment, always take into account the **maximum suspended loads!**

Dimensions and weights can be found in chapter 3 Technical data.

Only load and transport **the carefully dismantled, packed and lashed machine**.

Always ensure that the machine is transported **without being knocked or jolted**. Ensure that the machine is stable during transport. Support the platform before strapping it down for transport.

Observe the **symbols on the packaging**.

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

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

The machine must only be transported/installed on foundations with sufficient load capacity.

Ensure that stable balance is maintained when transporting with forklift trucks.

2.4 Safety instructions for operation

Only operate the machine in accordance with the operating manual, **when it is in full working order, and in a safety and hazard-conscious manner**.

If **work is interrupted, switch the machine off at the main switch** and secure it with a padlock against being switched on again.

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.

No persons are permitted to remain within the base enclosure. It is also not permitted to store any objects or materials there.

The machine must not be used as steps or a climbing aid. Only use tested and stable steps/climbing aids. Keep steps/climbing aids free of dirt and soiling.

Protection to prevent persons from falling must be provided at loading heights above 2.0 m. (Install landing level safety gates.)

Move load platform down and shut down machine at wind speeds of >72 km/h. (Wind force 7-8, wind breaks branches off trees, makes walking very difficult)

Any accompanying persons must comply with the **instructions given by the operator** and they must not step over material that is also being transported.

2.5 Safety instructions for maintenance and troubleshooting

Operating personnel must be **informed** about how to carry out special work and repair work before starting.

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

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

Before carrying out any maintenance work on the machine, always

- unload it,
- switch it off at the main switch.

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

For further instructions on maintenance, maintenance intervals and servicing, refer to the maintenance manual.

If the machine has been completely shut down for these tasks, it must be secured against being switched on unintentionally:

- Actuate 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 absolutely necessary for carrying out **maintenance and inspection work**. When carrying out maintenance tasks at greater heights, a fall protection system must be worn! Keep all handles, railings and the platform free from dirt and contamination.

When working underneath the car, it must be secured against lowering with the setting mechanism.

Before starting service/repair tasks, **clean** any oil, operating fluids, contamination and maintenance products from the machine, paying special attention to connections and threaded connections. Do not use abrasive cleaning materials. **Screw connections that were released** during maintenance and inspection work must always be tightened again using the necessary **torques**!

Do not change, remove, bypass or bridge safety devices.

If it is necessary to dismantle safety devices during maintenance and repair work, the safety devices must be installed and checked immediately after completion of the maintenance 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 information and warning signs, as well as safety labels.

Ensure that operating and auxiliary materials, as well as replaced parts, are disposed of safely and in an environmentally friendly manner (see also 6 Disposal).

The aforementioned safety measures also apply to troubleshooting.

2.6 Safety when working on the electric system

If there are **faults on the electrical system** of the machine, it must be **shut down immediately using the main switch** and secured with a padlock or the mains plug must be disconnected!

Work on the electrical equipment of the machine must only be carried out by **qualified electricians** working in accordance with electrical engineering regulations! Only professional electricians may access the electrical system of the machine and carry out work on them. **Always keep the switch boxes closed** whenever 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 power**.
Operating equipment that has 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 have to 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. Use only insulated tools!

During repairs, ensure 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 reduced by insulation).

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

Changes to the control program can impair safe operation. All program changes require the manufacturer's approval.

3 Technical data

3.1 Operating and environmental conditions

The machine may only be operated when the following operating and environmental conditions are adhered to:

- Storage in dry rooms, in order to prevent corrosion.
- No jolts or vibrations.
- No abrasive, corrosive substances.
- The machine must be protected against pest damage (insects, rodents, etc.).
- Before transport/storage, the machine must be cleaned and checked for signs of damage.

Temperature range:	minimum	- 20 °C
	maximum	+40 °C
Humidity (relative):		80 % RH
with special equipment	minimum	-30 °C
Wind speed:		
Operation/maintenance/repair	maximum	72 km/h
Assembly:	maximum	45 km/h

It may be necessary to cease or prohibit operation of the machine under extreme weather conditions, even if the operating and environmental conditions fall within the bounds of those stated. For example, if heavy frost and a storm occur together. In these cases, the operating company must provide appropriate regulations.

Do not use during storms (lightning)!

Atmosphere at the location of use during material transport

When transporting material, this must not lead to a concentration of abrasive/corrosive substances and of explosive fine dusts. If this cannot be safely excluded, the corrosion protection and/or the functional reliability of the electrical components must be checked at regular intervals and they should, if necessary, be replaced. Fine particulate matter must be removed.

Atmosphere at the location of use during passenger transport

The atmospheric composition on-site must be suitable for people to remain for longer periods in the area. In particular, a 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.

3.2 Emissions

Sound pressure level: < 78 L_{PA}

3.3 Tightening torques

Special mechanical screw connections with torque control

Mast - elements to one another		
Tightening torque		
150 Nm	110 lbf ft	
Width across flats (AF) 24 mm		

Couplings		
Tightening torque		
50 Nm	37 lbf ft	Couplings 1 ½"
100 Nm	74 lbf ft	Couplings 2 "

Flange connection trolley/floor assembly platform		
Tightening torque		
700 Nm	516 lbf ft	Cheese-head screw M24
Width across flats (AF) 36 mm		

General mechanical fittings without torque control

Tightening torques (All details refer to screws with strength class 8.8)					
M8	25 Nm	18 lbf ft	M18	300 Nm	221 lbf ft
M10	49 Nm	36 lbf ft	M20	425 Nm	313 lbf ft
M12	86 Nm	63 lbf ft	M22	575 Nm	524 lbf ft
M14	135 Nm	100 lbf ft	M24	710 Nm	524 lbf ft
M16	210 Nm	159 lbf ft	M30	1445 Nm	1066 lbf ft

Electrical screw connections

Tightening torques					
M4	1.2 Nm	0.88 lbf ft	M12	15.5 Nm	11 lbf ft
M5	2 Nm	1.47 lbf ft	M16	30 Nm	22 lbf ft
M6	3 Nm	2.21 lbf ft	M20	52 Nm	38 lbf ft
M8	6 Nm	4.42 lbf ft	M24	80 Nm	59 lbf ft
M10	10 Nm	7.37 lbf ft	M30	150 Nm	110 lbf ft

3.4 Electrical connected loads

A construction site distribution cabinet (in accordance with IEC 60439-4:2005) with a

- min. 3 x 63 A fuse protection of the supply point and a
- residual current device (RCD) are required

Base unit

Mains connection	380 - 480 V / 50 - 60 Hz / 3 Ph/PE
Fuse protection by customer	3 x 63 A slow-blow fuse
Protection rating	IP 54 (NEMA 3)

Drives 380 V / 65 Hz

Capacity	11.3 / 22.6 kW
Current consumption	23.5 / 47 A
cos φ	0.83
Duty cycle	S1 (100%)
Motor brake	105 V DC, 0.72 A
Working socket (in the car)	230 V / 50 Hz, 6 A

3.5 Speeds

Lifting speed

Operation	max. 40 m/min.
Assembly	max. 30m/min.

Premium Package option

Operation with 32 A mains connection	max. 28 m/min.
Assembly	max. 20 m/min.

Safety gear FV45

Triggering speed	max. 55 m/min.
Gravitational acceleration in the car for **EMERGENCY OFF**	< 1 g

3.6 Heights

Access height (threshold level)	
With cable bin	0.45 m
With cable trolley	0.75 m
Installed height (H):	max. 150 m
Assembly site elevation: (metres above sea level)	max. 1000 m (3289')

3.7 Mast

UNI-X-MAST

Only original GEDA mast sections may be used!

UNI-X-MAST
(item no. 03350)

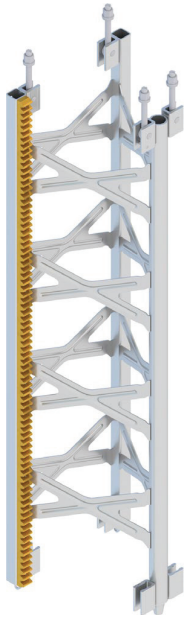


Fig. 1: UNI-X-MAST

Uni-Mast
(item no. 01150)

Fig. 2: UNI-Mast

If UNI-X-Mast parts UNI-Mast parts are installed together, only the anchoring spacings and anchoring forces for the Uni-Mast apply!

Length	1.5 m
Weight	40 kg
Tightening torque (connecting bolts)	150 Nm
Vertical distance trailing cable guide	≤ 4.5 m

⚠ DANGER

Danger to life

Limited overrun at the last mast bracket.
Dimension **W** is the top mast bracket to the top track rollers (approx. 0.5 m below the mast end).

W = Projecting mast length [during operation and assembly]

Z = max. loading height above last anchoring

H = Installed height

G = Vertical distance of the mast ties

E = Vertical distance to first mast tie

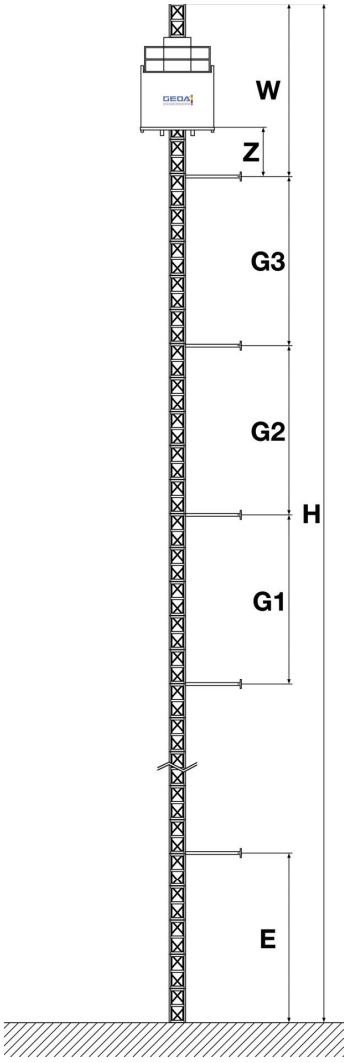


Fig. 3: Anchoring diagram

		Max.	Min.
W =	**Operation:**		
	Car D (3.2 m)	8.0 m	-
	Car E (3.7 m)	6.0 m	-
	Assembly:	11.5 m	-
Z =		W - 1.5 m	-
H =		150 m	-
G =		12 m	4 m
E =		8 m	4 m

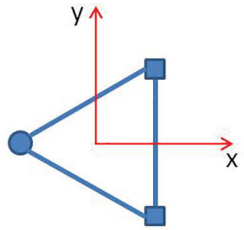
Recommendation:

Even vertical spacing between the mast brackets should be ensured!

Inclination of mast
for vertical installation

max. **installation height (H)**
500

in X and Y direction



Example 1

Installed height = 50 m

$\frac{50\ m}{500} = 0.1\ m$

Example 2

Installed height = 100 m

$\frac{100\ m}{500} = 0.2\ m$

Check inclination during and following assembly using appropriate means.

During assembly, the maximum permitted distance between the car door and the landing level safety gate (see Assembly Manual) must be ensured.

3.8 Load capacity, dimensions and weights

Assembly plank

Load capacity	200 kg

Lifting beam

Load capacity	4000 kg
Weight	approx. 37 kg

Floor coverings (option)

Floor covering made of aluminium	
Weight	35 kg
Floor covering made of steel	
Weight	115 kg

Installing additional equipment (e.g. additional floor covering made of steel/aluminium) increases the tare weight. This reduces the load capacity of the car accordingly.

3.8.1 Car D

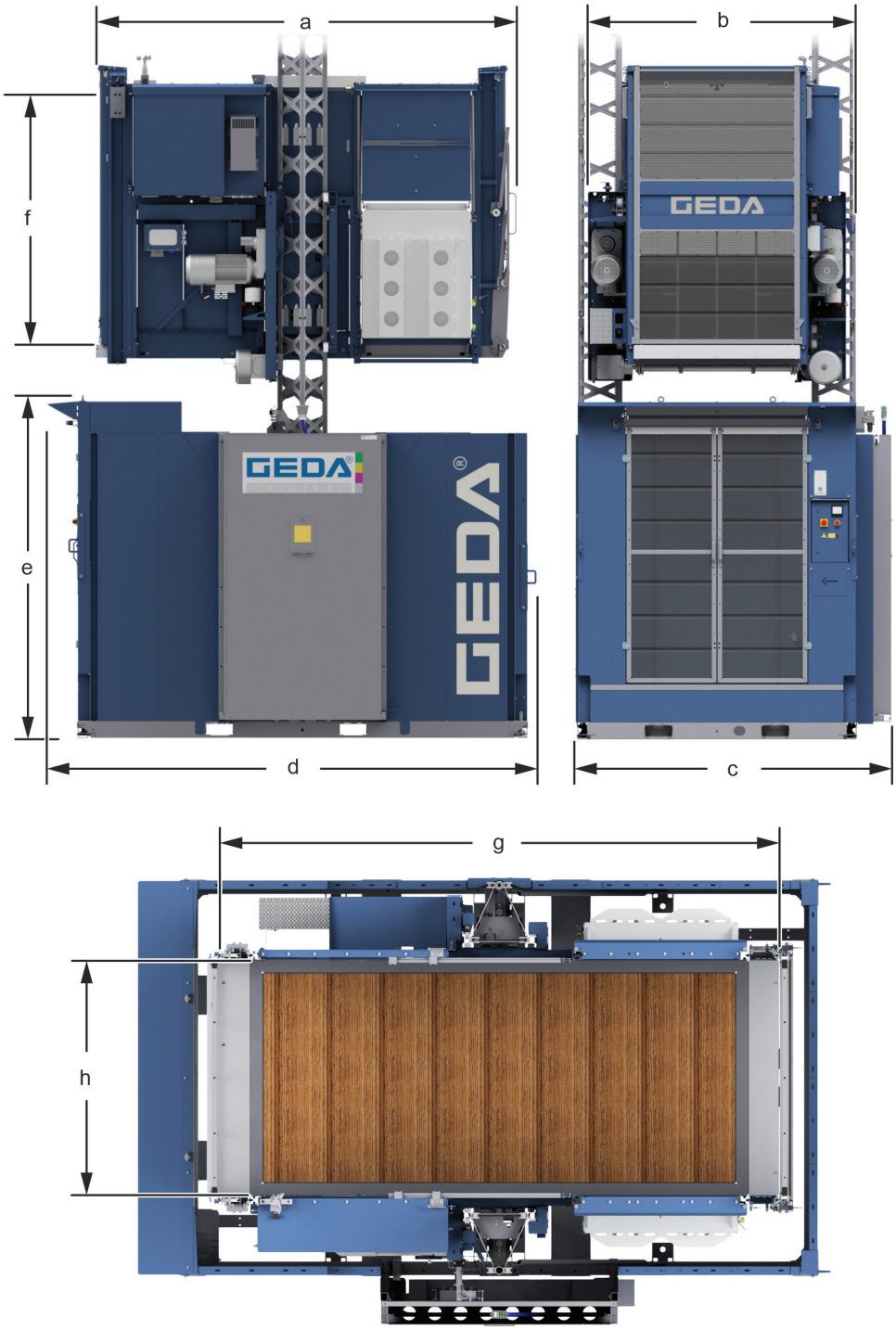


Fig. 4: Dimensions for platform D

MULTILIFT P18	a	b	c	d	e	f	g	h
Without cable trolley	3.46	2.36	2.48	4.03	2.82	2.10	3.27	1.37
With cable trolley	3.46	2.36	2.48	4.03	3.12	2.10	3.27	1.37

Dimensions in m

Weight

Base unit with platform	2845 kg

Load capacity

Operation	max. 2200 kg/	21 persons
	2120 kg	+ 1
	2040 kg	+ 2
	1960 kg	+ 3
	1880 kg	+ 4
	1800 kg	+ 5
	1720 kg	+ 6
	1640 kg	+ 7
	1560 kg	+ 8
	1480 kg	+ 9
	1400 kg	+ 10
	1320 kg	+ 11
	1240 kg	+ 12
	1160 kg	+ 13
	1080 kg	+ 14
	1000 kg	+ 15
	920 kg	+ 16
	840 kg	+ 17
	760 kg	+ 18
	680 kg	+ 19
	600 kg	+ 20
	520 kg	+ 21
Assembly	1000 kg	

3.8.2 Car E

Fig. 5: Dimensions for platform E

MULTILIFT P18	a	b	c	d	e	f	g	h
Without cable trolley	3.96	2.36	2.48	4.53	2.82	2.10	3.77	1.37
With cable trolley	3.96	2.36	2.48	4.53	3.12	2.10	3.77	1.37

Dimensions in m

Weight

Base unit with platform	3165 kg

Load capacity

Operation	max. 2000 kg/	25 persons
	1920 kg	+ 1
	1840 kg	+ 2
	1760 kg	+ 3
	1680 kg	+ 4
	1600 kg	+ 5
	1520 kg	+ 6
	1440 kg	+ 7
	1360 kg	+ 8
	1280 kg	+ 9
	1200 kg	+ 10
	1120 kg	+ 11
	1040 kg	+ 12
	960 kg	+ 13
	880 kg	+ 14
	800 kg	+ 15
	720 kg	+ 16
	640 kg	+ 17
	560 kg	+ 18
	480 kg	+ 19
	400 kg	+ 20
	320 kg	+ 21
	240 kg	+ 22
	160 kg	+ 23
	80 kg	+ 24
	0 kg	25
Assembly	1000 kg	

4 Operation

Operating personnel – see chapter “Operating personnel”

4.1 Safety during operation

Safety instructions in chapter 2 General safety information also have to be observed.

The Construction hoist is equipped with an overload detection device that switches off travel movement in both directions when the load capacity is exceeded and a status message is shown on the touch display.

- Observe the load capacity of the car.
  - The load must be evenly distributed across the car.
  - The car must always be loaded in such a way that the access points for loading and unloading and the control point are kept clear.
  - Position the load securely on the car. Any material that could slip or fall must be secured.
  - The maximum number of persons in the car is limited to 25 (incl. car operator). The proportion of material that can be transported is reduced according to the number of persons.
- Fall protection must be provided at loading heights above 2.0 m to prevent persons from falling. (Install landing level safety gates.)
- Fundamentally, secure the machine against unauthorised use! - At the end or work or during breaks, switch off the main switch and secure it with a padlock.
- If the loaded car stops during operation due to a malfunction, the operator has to recover the load. - Never leave a loaded platform unattended!
- The unit is operated from outside of the hazard area or from the car control.
  - Comply with the instructions of the operator.
  - Do not step over material that is being transported.

- Operation must cease under the following conditions:
  - at temperatures below -20°C and above +40 °C.
  - in case of damage or other malfunctions.
  - A recurring inspection/intermediate inspection has been missed (refer to the maintenance manual).

⚠ DANGER	
	**Danger to life** ➢ Do not use in case of fire!

4.2 Commissioning

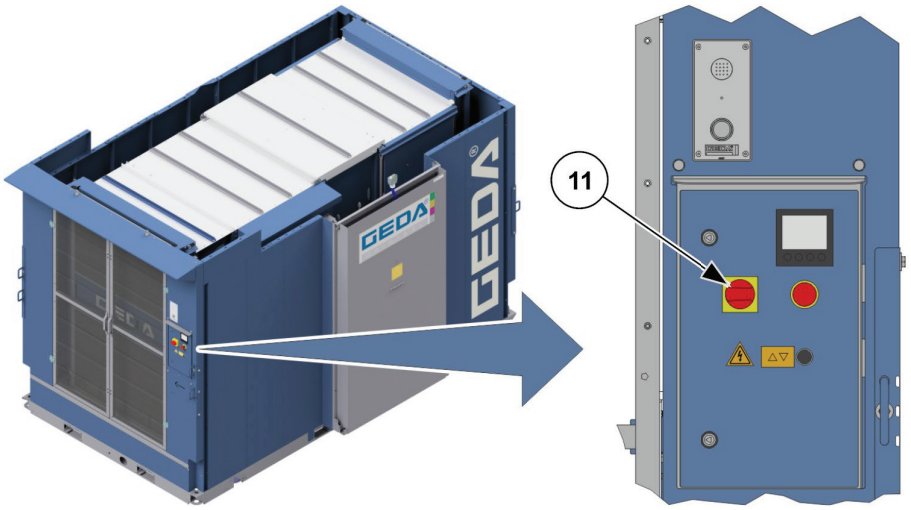


Fig. 6: Startup

➢ Turn the main switch(11) to the **“I” [ON]** position.

The double doors on the enclosure and the sliding door on the car have to be closed.

4.2.1 Finger scanner (optional)

The car operator has to activate the control in the car using their fingerprint.

Fingerprint scanning is described in a separate operating manual for the finger scanner.

A request to activate the control using the finger scanner is shown on the car control touch display.

Fig. 7: Touch display finger scanner

➢ Place your finger on the sensor surface (8A) for 2 s.
→ The green LED (8B) lights up as confirmation.
✓ The car control is enabled.

.

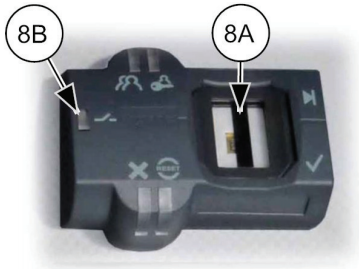


Fig. 8: Touch display finger scanner

The car control has to be activated every time the car doors are opened!

4.2.2 Safety check before starting work

Carry out a test run with an **empty** car and check to see whether

- the complete travel path is clear
- the door locks function correctly (refer to chapter 4.3.4 and 4.3.3)

The car must be immediately stopped if

- an **EMERGENCY STOP** button is pressed
- the **UP-END** stop bar has been reached or the trolley has reached the mast end
- the **DOWN-END** stop bar has been reached

The car must not start if

- the sliding door on the car is open
- the double doors of the base enclosure are open
- a landing level safety gate is open
- an **EMERGENCY STOP** button was pressed

4.3 Operation/function

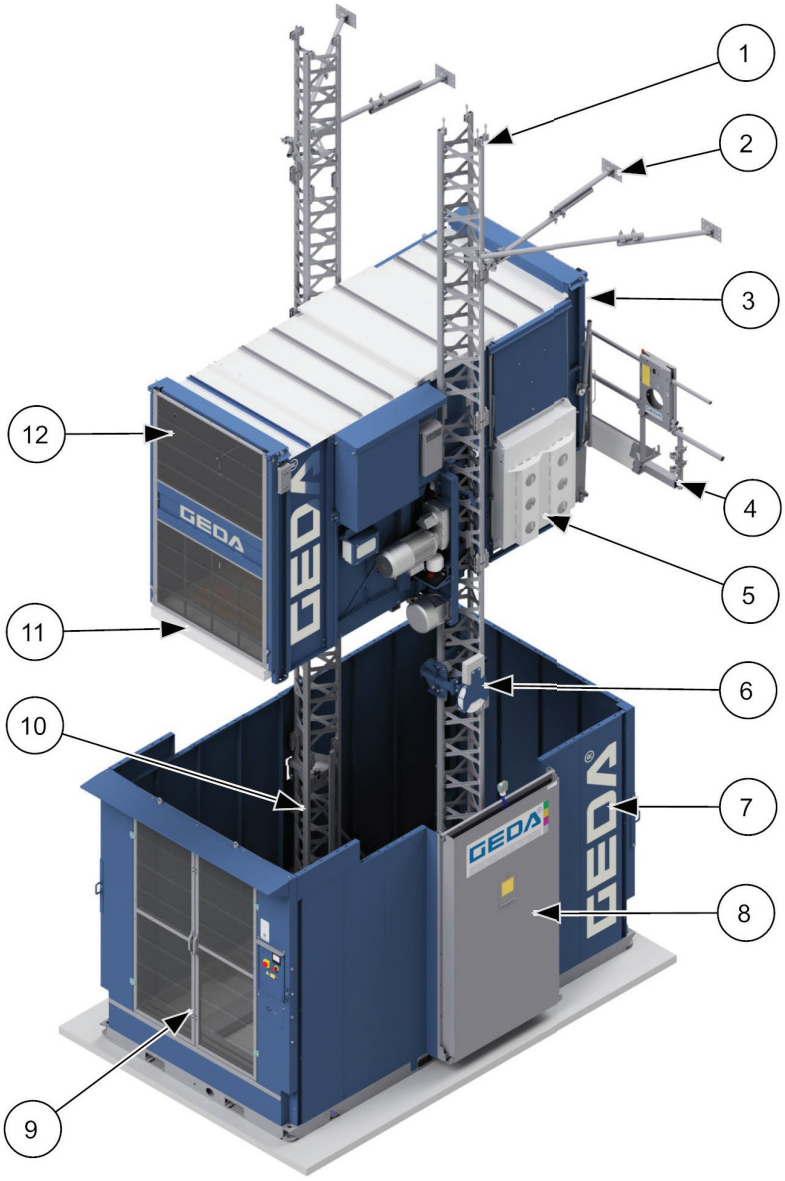


Fig. 9: Multilift P18 overview

1	Mast section	7	Base enclosure
2	Mast tie	8	Cable bin
3	Sliding door with ramp (option)	9	Double doors on base enclosure
4	Landing level safety gate (option)	10	Foot section with base mast
5	Assembly plank	11	Car
6	Cable trolley (option)	12	Sliding door without ramp

4.3.1 Functional description

- The car can only be started if the enclosure door, car doors and all landing level safety gates are closed.
- The car doors are locked. To enter the car, the enclosure door, the landing level safety gate and the car door must be opened individually. A car door can only be opened when the car is stationary in front of an enclosure door or landing level safety gate.
- Each stop position above has a landing level safety gate with manually operated sliding doors and double access doors which are locked. The landing level safety gates can only be opened when the car is stationary at this stop position.
- The downward travel path of the car is limited by a **DOWN** limit switch and the upward travel path is limited by an **UP** limit switch. If this limit switch is overrun due to a fault, the **EMERGENCY LIMIT** limit switch interrupts the **EMERGENCY STOP** safety circuit.
- Contact with the ground station is possible through the intercom in the car.
- The base unit can be extended with 1.5 m long mast sections up to a max. installation height of 150 m.

The control can be operated from the car, ground station or landing levels.

Exceptions:

During assembly, only the assembly control is active, all other control points are disabled, only the **EMERGENCY STOP** buttons remain functional.

For the drop test, only the drop test control is active, all other control points are disabled, only the **EMERGENCY STOP** buttons remain functional.

The MULTILIFT P18 can be assembled with or without clearance to the wall, depending on which design of sliding door (with or without ramp) is installed on the landing level side of the car. This car door also dictates which landing level safety gate (low [1.1 m] or high [approx. 2.0 m]) has to be used.

4.3.2 Base enclosure

The bottom stop position (ground station) is fitted with a 2.50 m high base enclosure. This base enclosure (1) protects against entry into the lower hazard area.

⚠ DANGER	
	**Danger to life from lowering car** ➢ Never remain inside the cordoned area/base enclosure during operation. ➢ Whilst working inside the base enclosure, switch off the main switch and secure it against being switched on. If necessary, activate the setting mechanism so the car can't travel downwards.

Fig. 10: Base enclosure

Opening/closing the double doors

The double doors of the base enclosure and the sliding door on the car must be opened individually to enter the car.

The enclosure double doors can only be opened when the car is at the ground station.

The double doors (1) are unlocked electromechanically if the car is stopped at the ground station by the **DOWN** limit switch.

Opening

➢ Push/pull hard on both handles (1A) at the same time to open the double doors.

Closing

➢ Push/pull hard on both handles (1A) at the same time to close the double doors.

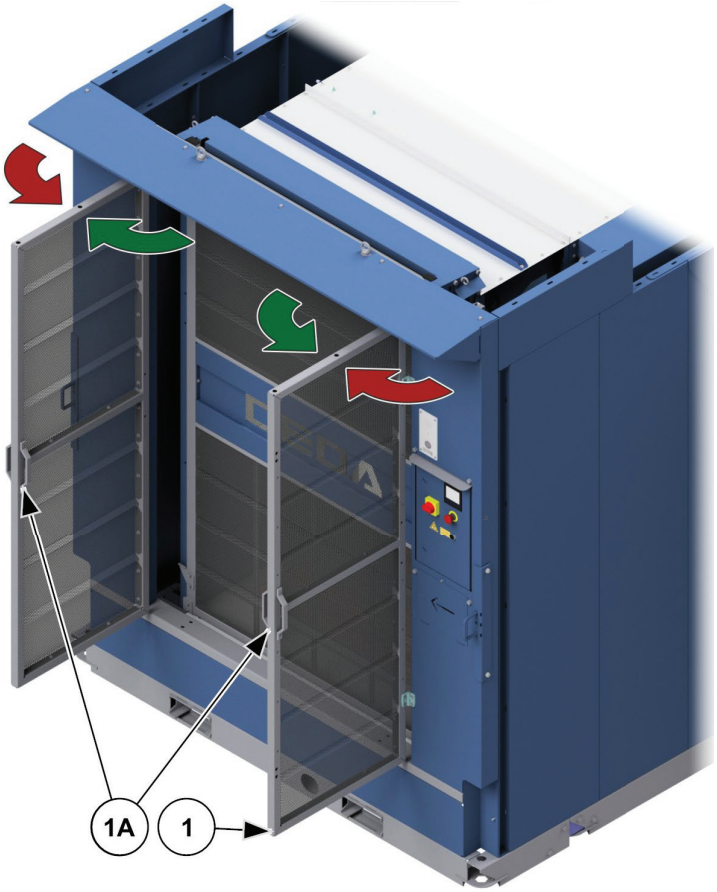


Fig. 11: Double doors on the base enclosure

Emergency release

The emergency release for the base enclosure double doors (1) can only be operated from the outside.

- ➢ For emergency release, insert the triangular key through the hole on the outside of the base enclosure.
- ➢ Turn it to the left (anticlockwise) until the double doors can be opened.

Fig. 12: Emergency release for the double doors

- ➢ Turn the key back after the lock has been released.

The triangular key is located in the document and tool box.

4.3.3 Car access points

Car doors protect people in the car from falling out of the car during transport.

4.3.3.1 Vertical sliding door

Car access at ground station/option for building car access

Opening

- Use the handle bar (2A) to push the sliding door (2) up to the stop

Closing

- Use the door frame (2B) to pull down the sliding door (2) until it is fully closed.

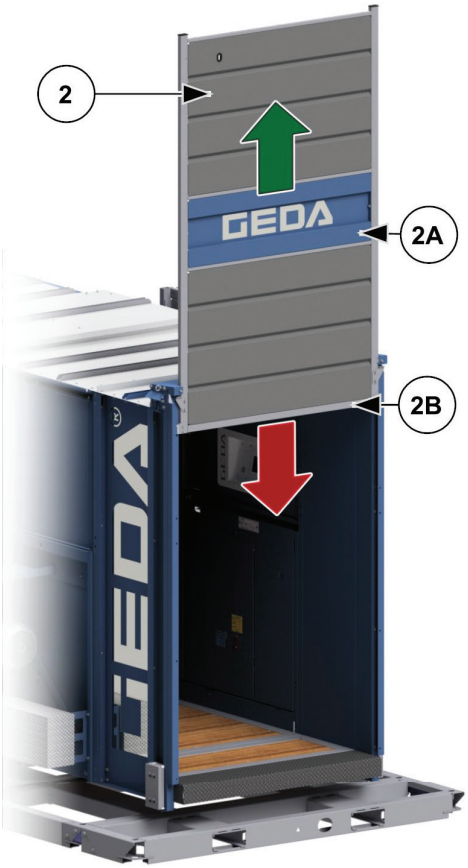


Fig. 13: Vertical sliding door

4.3.3.2 Vertical sliding door with ramp

Option for building car access

Opening from the outside

➢ Pull hard on the grab bar (3A) until the ramp (3D) is fully open.
  ✓ The sliding door (3) is automatically pushed up.

Closing from the outside

➢ Push the grab bar (3B) hard against the car until the ramp (3D) is fully closed.
  ✓ The sliding door (3) is automatically pulled down.

Fig. 14: Vertical sliding door from outside

Opening from the inside

➢ Use the handle bar (3B) to push the sliding door (3) up to the stop.
  ✓ The ramp (3D) lowers automatically with the sliding door (3).

Closing from the inside

➢ Use the door frame (3C) to pull down the sliding door (3) until it is fully closed.
  ✓ The ramp (3D) lifts automatically with the sliding door (3).

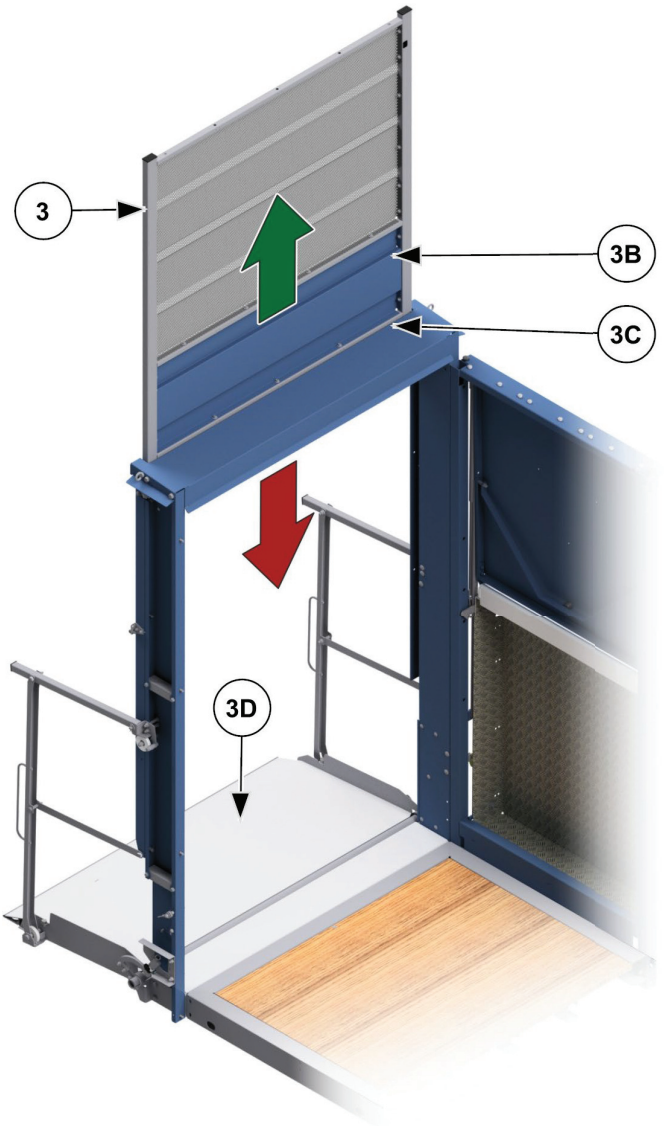


Fig. 15: Vertical sliding door from inside

4.3.3.3 Car door emergency release

The emergency release for the sliding doors can only be operated from the inside and outside.

In the car

- For the emergency release, insert the triangular key (3) into the door lock.
- Turn it to the right (clockwise) until the sliding doors can be opened.
- Turn back the triangular key (3) after unlocking.

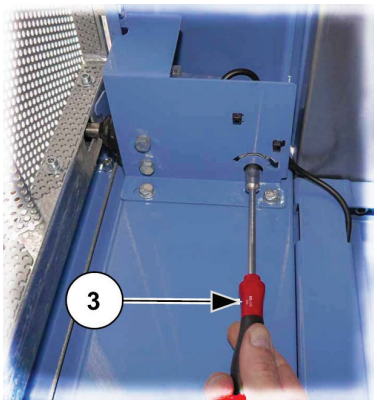


Fig. 16: Emergency release in the car

The triangular key is located in the document and tool box.

In front of the car

The car doors can be unlocked from the outside through an opening in the car doors.

- Insert a pen, screwdriver, Allen key, etc. (max. 6 mm diameter) through the opening in the car door.
- Push in the bolts for the door lock until the sliding door can be opened.

Fig. 17: Emergency release in front of the car

4.3.4 Securing loading and unloading points

To prevent persons falling, fall protection must be installed at **all** loading and unloading points where there is a risk of falling from a height of more than 2 m.

Landing level safety gates protect persons from falling at the stop position when the car is not at the stop position.

Landing level safety gates must ensure a safe transfer to from the car to the building.

Assembly is described in the respective assembly manual for the landing level safety gate.

4.3.4.1 "Standard/Standard Basic" landing level safety gate

Used for vertical sliding door **with** ramp

These landing level safety gates can only be opened once the loading ramp has been completely opened.

Fig. 18: Standard landing level safety gate no. 01217/01268

The “Standard Basic” landing level safety gate is delivered without railing tubes.

“Standard" landing level safety gate closed (tarpaulin)

(Option as per EN 16719)

The retrofit kit article no. 1130276 can be used to retrofit the “Standard” landing level safety gate with a tarpaulin.

These landing level safety gates can only be opened once the loading ramp has been completely opened.

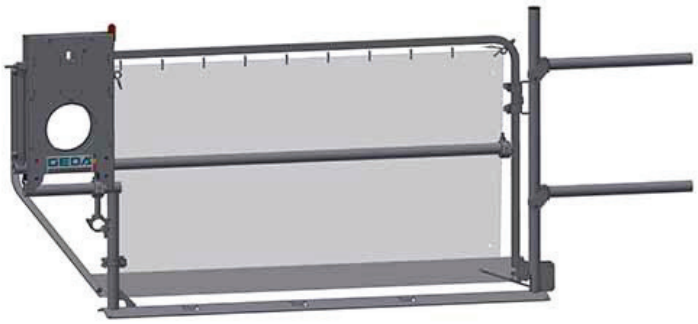


Fig. 19: “Standard" landing level safety gate closed (tarpaulin)

“Standard" landing level safety gate closed (filler plate)

(Option as per EN 16719)

These landing level safety gates can only be opened once the loading ramp has been completely opened.

Fig. 20: “Standard" landing level safety gate closed (filler plate)

Opening

➢ Press the lever (1A) in the direction of the arrow and push open the sliding door (1).

Closing

➢ Close the sliding door (1) until the lever (1A) engages downwards.

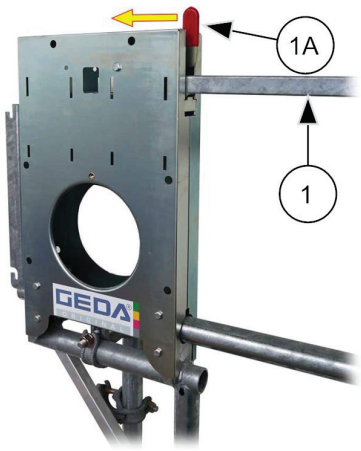


Fig. 21: Opening/closing the “Standard” landing level safety gate

4.3.4.2 "Comfort" landing level safety gate

Used for vertical sliding door **with** ramp

It is only possible to open this landing level safety gate when the unfolded unloading ramp is in contact with the sill of the landing level safety gate.

Fig. 22: "Comfort" landing level safety gate no. 01212

"Comfort" landing level safety gate closed (tarpaulin)

(Option as per EN 16719)

The retrofit kit article no. 1130296 can be used to retrofit the "Comfort" landing level safety gate with a tarpaulin.

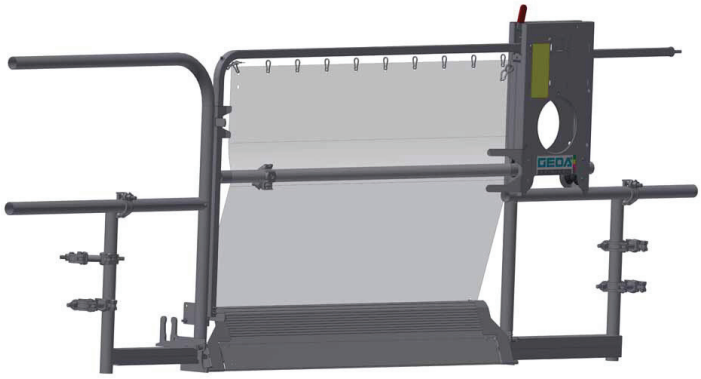


Fig. 23: "Comfort" landing level safety gate closed (tarpaulin)

“Comfort” landing level safety gate closed (filler plate)

(Option as per EN 16719)

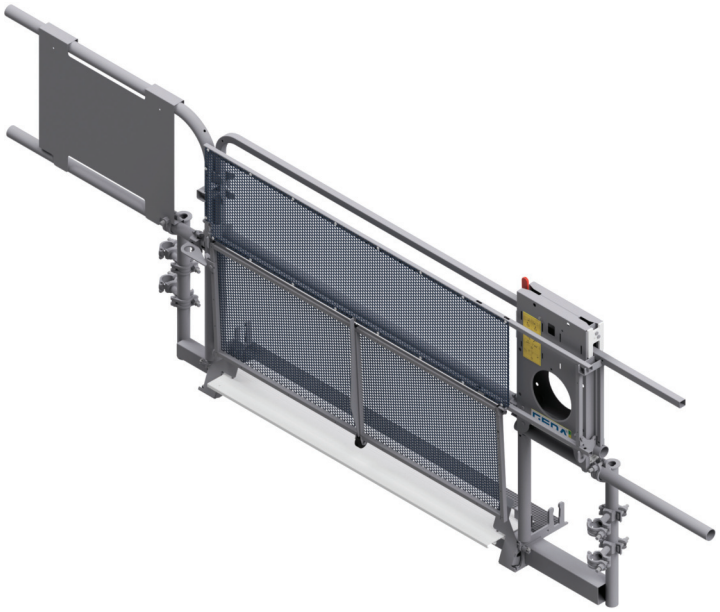


Fig. 24: “Comfort” landing level safety gate closed (filler plate)

Opening

➢ Press the lever (2A) in the direction of the arrow and push open the sliding door (2).

Closing

➢ Close the sliding door (2) until the lever (2A) engages downwards.

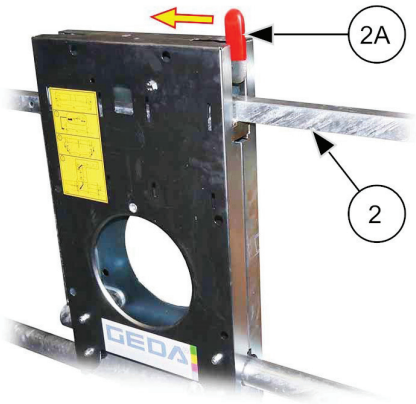


Fig. 25: Opening/closing the “Comfort” landing level safety gate

4.3.4.3 “VARIO" landing level safety gate

Used for vertical sliding door **with** ramp

(Option as per EN 16719)

This landing level safety gate can only be opened if the ramp interlock of the platform loading ramp or the car was actuated.

Fig. 26: "VARIO" landing level safety gate no. 68000

Opening

➢ Lift the ball handle (3A) for unlocking the door leaf and slide open the door leaf (3).

Closing

➢ Close the door leaf (3) until the ball handle (3A) engages downwards.

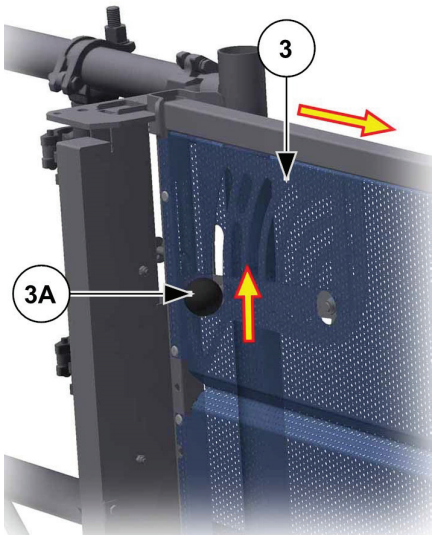


Fig. 27: Opening/closing the "VARIO" landing level safety gate

Emergency release

- Insert the triangular key (4) into the lock.
- Turn the key (4) to the right.
- Carefully open the door leaf (3).
- Remove the key (4).

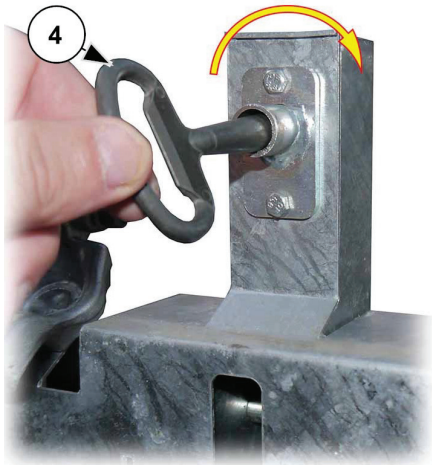


Fig. 28: Emergency unlocking of the landing level door

4.3.4.4 “VARIO LITE” landing level safety gate

Used for vertical sliding door **with** ramp

(Option as per EN 16719)

The **VARIO LITE** landing level safety gate is identical to the **VARIO** landing level safety gate with the exception of the door locking device.

Due to this locking device, the **VARIO LITE**

- cannot be expanded with a push-on frame
- is only suitable for platforms/cars with a ramp
- cannot be expanded with a key box

The “VARIO LITE” landing level safety gate can only be opened if the open ramp of the vertical sliding door rests on the interlock lever.

Fig. 29: “VARIO LITE” landing level safety gate

Operation and emergency release are identical to the “VARIO” landing level safety gate.

4.3.4.5 “VARIO +” landing level safety gate

Used for vertical sliding door **without** ramp

The **“VARIO”** landing level safety gate can be upgraded into the high **“VARIO +”** landing level safety gate by installing the push-on frame .

It is only possible to open this landing level safety gate when the interlock cam on the car releases the lock.

Fig. 30: “VARIO +” landing level safety gate

Operation and emergency release are identical to the “VARIO” landing level safety gate and described there.

4.3.4.6 Landing level double doors

It is only possible to open the landing level double doors when the interlock cam on the car releases the lock.

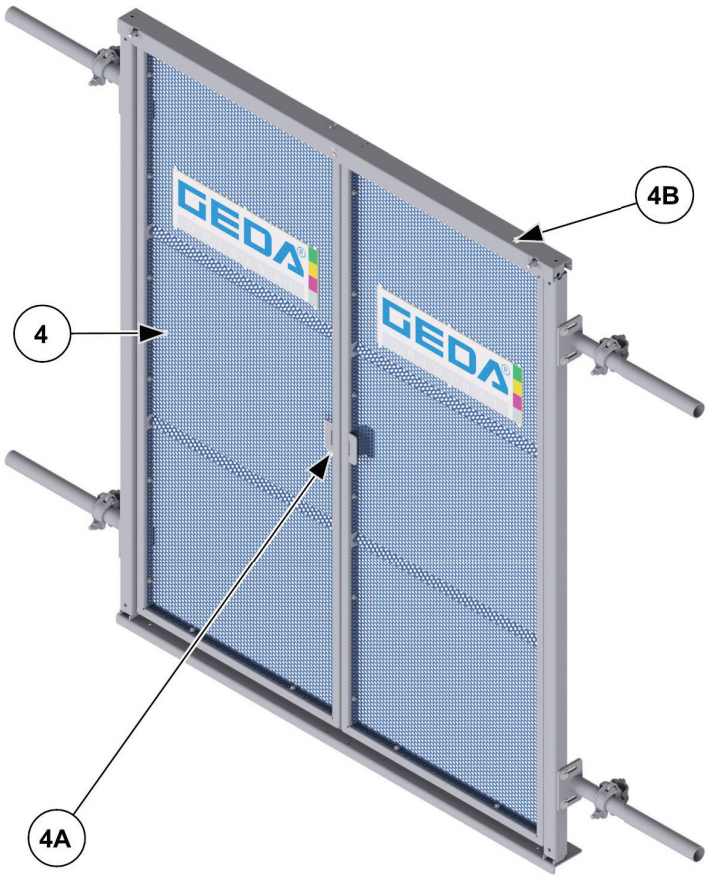


Fig. 31: Landing level double doors

Operation and emergency release are identical to the “VARIO” landing level safety gate.

Opening

➢ To open, pull hard on both handles (4A) or pull on them from the car and push both doors (4) towards the building/system.

Closing

➢ Use the handles (4A) on the doors (4) to close the doors towards the car until the lock (4B) engages.

Emergency release

The landing level double doors are also equipped with an emergency release for rescue and recovery.

- Insert the triangular key into the lock (5).
- Turn the key to the right (clockwise).
- Open the double doors (4) with some force.
- Remove the key.

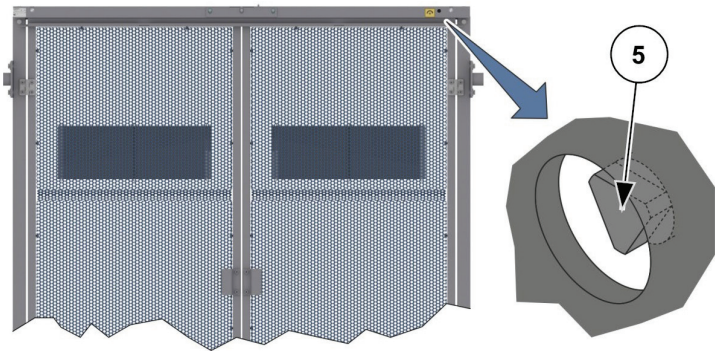


Fig. 32: Emergency release on the landing level double doors

4.3.5 Ground control

The car can be called from the ground control. The car stops exactly at the ground station.

1 **EMERGENCY stop** button
11 **Main switch**
3 **CALL** button
14 **Code** display

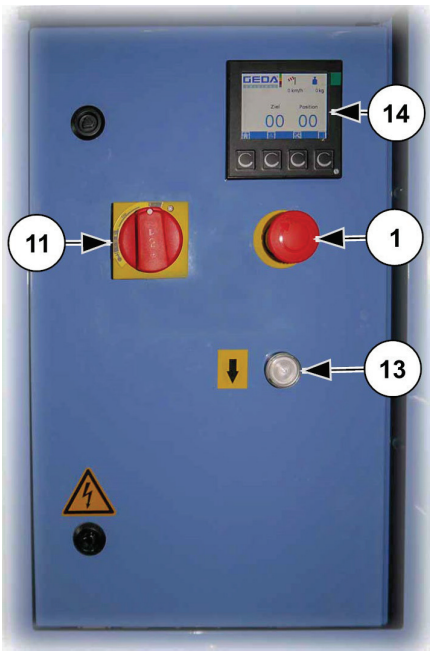


Fig. 33: Ground control

Calling the car

➢ Press the **Call** button (13).
  ✓ The button lights up to confirm the input until the car has arrived at the ground station.

Stopping the car

The car stops automatically at the ground station.
In an emergency, press the **EMERGENCY STOP** button.

The code display (14) shows the identical CODE numbers to the display on the car control.
(**CODE** table see operating manual for the BL174 touch display)

4.3.6 Landing level modules

4.3.6.1 Landing level module with stop

The **UP** or **DOWN** direction can be selected from the electric modules at the landing levels. The exact stop at the next landing level is activated by pressing the **LANDING LEVEL** button.

3 **UP** button
(move to the top landing level)

4 **DOWN** button
(move down to the ground station)

5 **STOP AT LANDING LEVEL** button
(car stops at the next landing level)

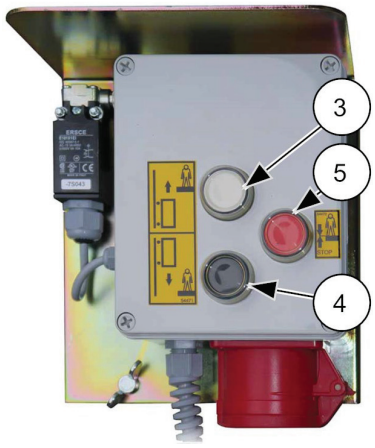


Fig. 34: Landing level module for stop at landing level

The car can be stopped at any time using the **STOP** button (1).

Ascending

➢ Press and release the **DOWN** button (3).
  ✓ The car moves directly to the top landing level and stops there.

Descending

➢ Press and release the **DOWN** button (4).
  ✓ The car moves from any landing level down to the ground station.

Stop at landing level

➢ Briefly press the **STOP AT LANDING LEVEL** button (5).
  ✓ The car stops at the next landing level in the direction of travel.

4.3.6.2 Landing level module with call control

The car can be called from the electric modules on the landing levels. The landing level stops at the landing level from which the car was called.

Calling the car

➢ Briefly press the **CALL** button (13) briefly.

→ The button lights up to confirm the input until the car has arrived at the stop position.

✓ As soon as it is ready, the car moves to the requested landing level.

Fig. 35: Landing level module for call control

Call button flashes **blue** – call control not active.
(e.g. car is near to the load limit or wind too strong)
Call button flashes **red** – malfunction (call control)

Programming the electric module for these landing level call controls is described in the Assembly Manual (ML050).

4.3.7 Car controls

4.3.7.1 G-SAC car control with rotary switch [Single Automatic Control]

The landing level can be directly pre-selected on the car control.

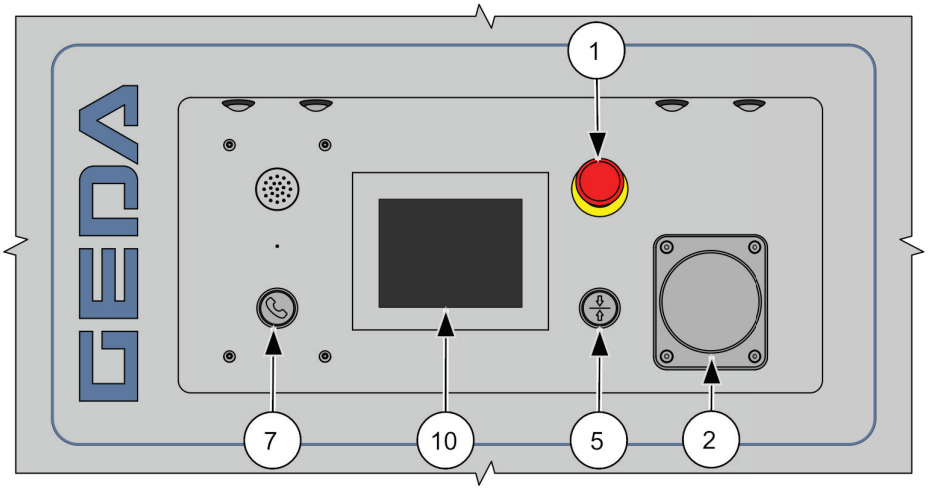


Fig. 36: Car control with rotary switch

1 **EMERGENCY stop** button

2 **LC 100** rotary switch

5 **STOP AT LANDING LEVEL** button
- car stops at the next landing level or
- recall function to the ground station

7 **TALK** button

10 **Display** for
- destination
- current position
- direction of travel
- payload
- status code

Moving to a landing level

- Turn the rotary switch (2) until the desired landing level has been set.
  - → While turning, the rotary switch (2) is backlit in blue.
  - ✓ The selected landing level is shown in the display (10).

After setting the required landing level

- Press the rotary switch (2).
  - → To confirm, the background light flashes twice.
  - ✓ The car travels directly to the selected landing level.

Stop at landing level (stop at the next landing level)

- Briefly press the **STOP AT LANDING LEVEL** button (5).
  - → The button (5) lights up as confirmation.
  - ✓ The car stops at the next landing level in the direction of travel.

Stopping the car

- In an emergency, press the **EMERGENCY STOP** button (1).

Recall function to the ground station

The second function of the **STOP AT LANDING LEVEL** button (5) is the recall function to the ground station.

This is described in the chapter “5.3.2.1 Recovery using the recall function“.

4.3.7.2 Car control G-SAC keypad [Single Automatic Control]

The landing level can be directly pre-selected on the car control.

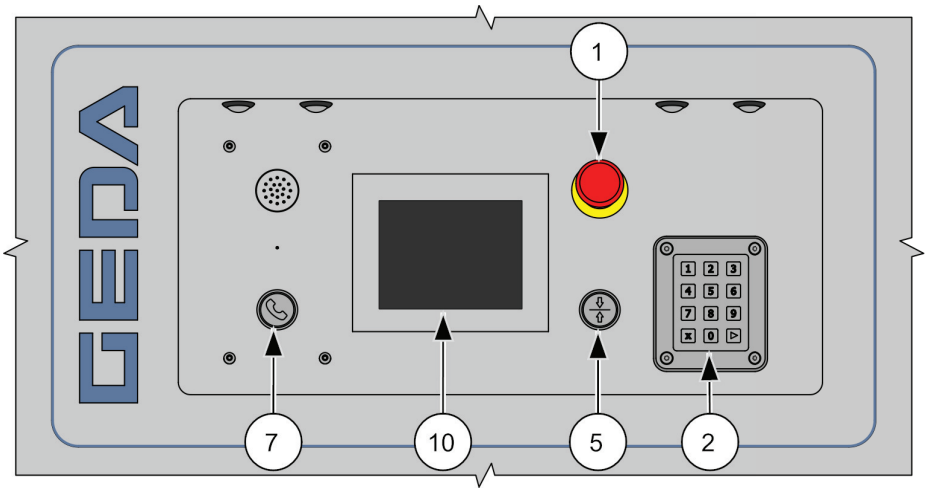


Fig. 37: Car control with keypad

1 **EMERGENCY stop** button

2 **Keypad**
0 - 9 = Landing level selection
► = START button
X = STOP button

5 **STOP AT LANDING LEVEL** button
- car stops at the next landing level or
- recall function to the ground station

7 **TALK** button

10 **Display** for
- destination
- current position
- direction of travel
- payload
- status code

Moving to a landing level

➢ Enter the desired landing level on the keypad (2)
→ The selected landing level is shown in the display (10).

For example:
0 → Ground floor
1 → Landing level 1
10 → Landing level 10

➢ Press the **START** button (►) to confirm the input.
→ The display (10) shows the respective position and direction of travel.
✓ The car moves directly to the selected landing level and stops there.

Stop at landing level (stop at the next landing level)

➢ Briefly press the **STOP AT LANDING LEVEL** button (5).
→ The button (5) lights up as confirmation.
✓ The car stops at the next landing level in the direction of travel.

Stopping the car

➢ In an emergency, press the **EMERGENCY STOP** button (1).

Recall function to the ground station

The second function of the **STOP AT LANDING LEVEL** button (5) is the recall function to the ground station.

This is described in the chapter “5.3.2.1 Recovery using the recall function“.

4.3.8 Control for special operation (assembly/drop test)

These controls must be kept locked by the operating company!

The cover plate (8) has to be removed for inserting the control for special operation from the car.

➢ Use the triangular key to open the triangular bolt (8A) and remove the cover plate (8).

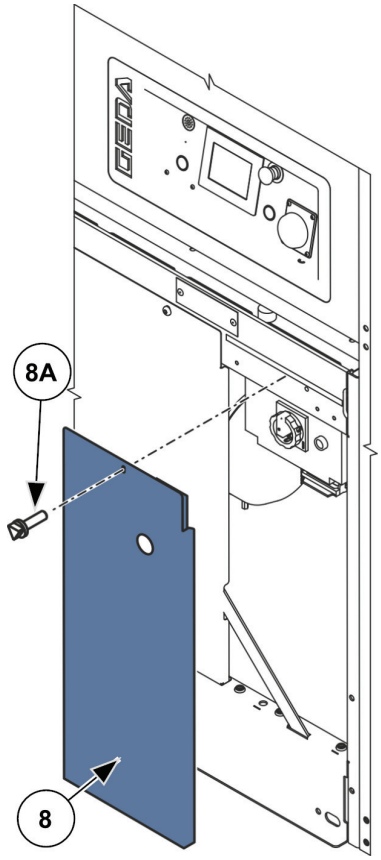


Fig. 38: Removing the cover plate

The drop test control and assembly control are connected at the plug connection on the outside of the car, below the car control switch box.

➢ Disconnect the dummy plug (7) and connect the appropriate control.

9 Socket 230 V/50 Hz for connecting tools

10 Maintenance switch for enabling the switch box in the car

15 **Alarm** button

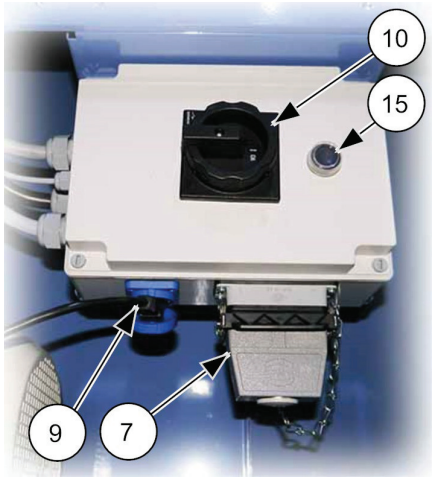


Fig. 39: Inserting control for special operation

4.3.8.1 Drop test control

The drop test control is used for checking the safety gear by means of a drop test.

The drop test control may only be operated by a technically competent person!

1 **EMERGENCY stop** button
2 **BRAKE RELEASE** buttons
3 **UP** button
4 **DOWN** button

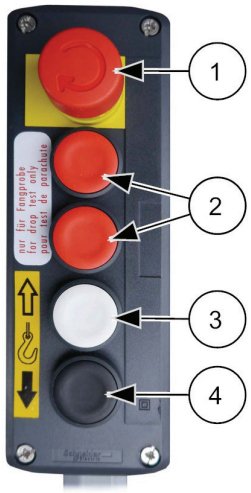


Fig. 40 Drop test control

Operation of the drop test control is described in the Maintenance Manual.

4.3.8.2 Assembly control

The assembly control is used for assembly of the hoist.

1 **EMERGENCY stop** button
3 **UP** button
4 **DOWN** button
5 **RELEASE** button
(Press and hold before the move command until ascent or descent are complete.)
6 **SPEED** selector switch
(normal/slow)

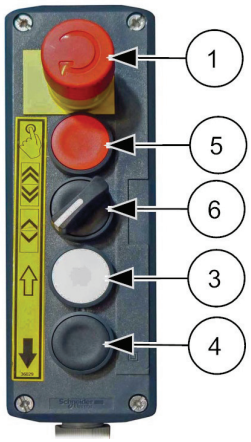


Fig. 41 Assembly control

Operation of the assembly control is described in the Assembly Manual.

4.3.9 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.

An **EMERGENCY STOP** button is located at

- the car control
- the ground control

Fig. 42: EMERGENCY STOP button

EMERGENCY STOP slam buttons are equipped with a latching mechanism and remain active until they are manually unlocked again (turn red button to the right and pull it out).

Depending on the control version, a stop button may be installed on landing level modules which can be used to stop travel from any landing level. This stop button does not engage which means that further travel is immediately possible after the stop command.

4.4 Interrupting work – end of work

Switch off and secure the hoist when interrupting work and at the end of work.

➢ Move the car down to the ground station until it stops automatically.

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

➢ Unload the car.

➢ Switch off the main switch (position **“0” [OFF]**).

Fig. 43 Main switch

➢ Lift the cover from the switch and attach a padlock.

➢ Close the padlock.

✓ This secures the hoist against activation.

Fig. 44 Securing the main switch

➢ Disconnect the mains plug.

4.5 Equipment

4.5.1 Emergency call system

The emergency intercom system consists of an intercom module at the ground control and one at the car control.

If persons are locked in the car, they can contact ground personnel using the intercom system.
The intercom system establishes contact with the ground station.

Each intercom module features a **TALK** button (7).

To establish a connection

➢ Press the **TALK** button (7).
  ✓ You can speak to the other party while the **TALK** button(7) is pressed.
  (Send message)

➢ After sending your message, release the **TALK** button (7).
  ✓ The message from the other party can be received.

Always speak into the speaker/microphone (7A)!

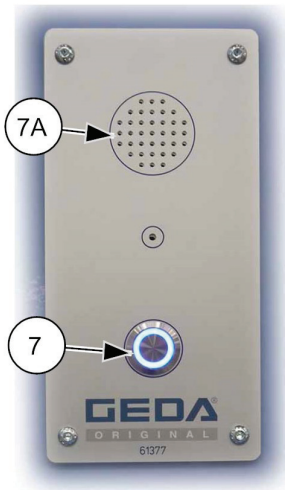


Fig. 45: Ground station emergency call

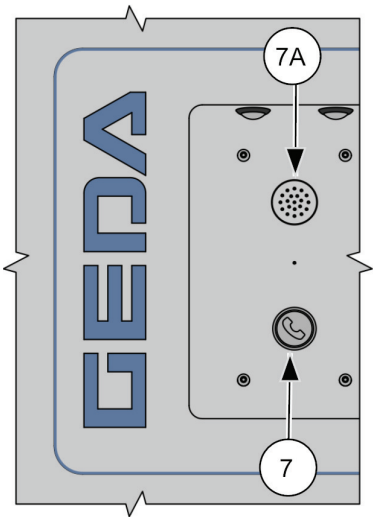


Fig. 46: Car emergency call

The emergency call device can also be used without power supply!

4.5.1.1 Alarm signal

If help is needed from outside, the **ALARM** (15) button can be used to trigger an acoustic signal.

➢ Press the **ALARM** button (15).
  ✓ While the **ALARM** button (15) is pressed, a signal tone will sound at the ground station.

15 **ALARM** button

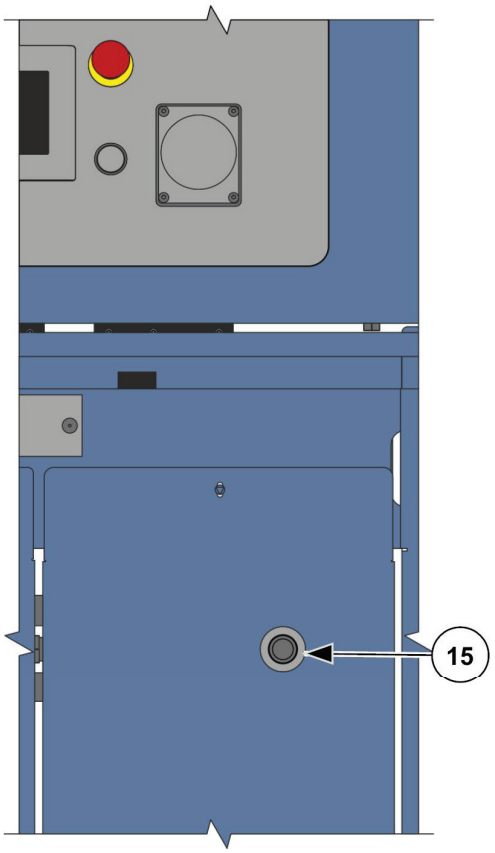


Fig. 47: Alarm button in the car

4.5.2 Assembly planks

An assembly plank is a folding platform which helps with anchoring the mast sections exclusively from the car (can also be used in front of a façade, without frontal scaffolding).

Assembly planks may only be used during assembly, maintenance or emergency rescue.

Fig. 48: Assembly plank, left

Fig. 49: Assembly plank, right

The left assembly plank is also intended for emergency rescue!
(Emergency release, refer to chapter “5.3.2.4 Exiting the car“)

4.5.3 Lighting

Car lighting

The car lighting is always on as long as the main switch is turned on.

Fig. 50: Car lighting

⚠ WARNING

Glare

➢ Do not look directly into the LED lighting for a prolonged period.

Car control lighting

The LED lights (9) illuminate while the main switch is turned on.

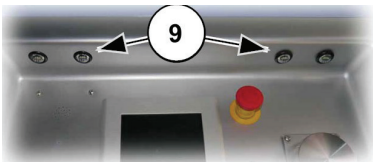


Fig. 51: Car control lighting

4.5.4 Document and tool box

The documents and tool box contains:

- 1 x triangular key
  - for unlocking the car sliding doors
  - for opening the left assembly plan
  - for opening the cover plate (insert assembly control or maintenance switch of the car control)
  - for opening the switch boxes

Fig. 52: Document box

The documents and tool box should contain:

- Operating Manual and Maintenance Manual for the machine
- Spare parts lists
- Circuit diagrams
- Operating instructions from the operating company
- Rescue plan of the operating company

4.5.5 Operating hours counter

An operating hours counter (1) is installed in the car switch box to record the operating hours (motor operating time).

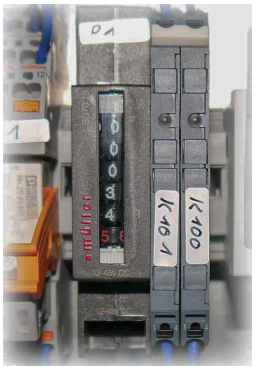


Fig. 53: Operating hours counter

The switch box must be opened to read the counter. The switch box may only be opened by a qualified electrician!

4.6 Accessories

4.6.1 Cold package

The MULTILIFT P18 can be used down to a temperature of -20 °C. In countries where work is also carried out at lower temperatures, installation of a cold package is recommended.

A thermostat in the switch box of the platform switches off upward travel at temperatures below -20 °C.

Fig. 54: Cold package

4.6.2 Wind sensor (option)

The wind sensor measures the wind speed while the hoist is in operation.

CODE 33 will be shown on the touch display for the car control at a wind speed greater than 72 km/h.

Operation of the hoist continues to remain unrestricted.

The image is an example

Fig. 55: Wind sensor

Automatic descent (option)

The car descends automatically to the ground station when the max. permissible wind speed is reached during operation (≥72 km/h).

The car executes the actual command. It then automatically returns down to the ground station.

CODE 33 is shown on the touch display for the car control.

4.6.3 Lifting beam

The lifting beam is used for lifting the base unit with a crane.

Fig. 56: Lifting beam

Load capacity = max. 4000 kg

5 Malfunctions – diagnosis – repair

⚠ WARNING

Risk of injury from incorrect troubleshooting and fault elimination

- ➢ Troubleshooting and fault elimination may only be carried out by persons specially trained and authorized for this purpose.
- ➢ Before troubleshooting, always move the car down and unload it if possible!
- ➢ Immediately discontinue operation if faults occur that endanger operational safety!

⚠ DANGER

Electric shock from live parts

- ➢ Before working on the electrical system, switch off and lock the main switch. For safety reasons, disconnect the mains plug.

5.1 Status display in the touch display (HMI)

The touch display shows the destination, position of the car and the direction of travel.

In addition, it is also used for quick and easy identification of the switching statuses for the limit switches and the status of the system.

1 Destination

2 Car position

3 Direction of travel indicator
The arrow indicating the direction of travel only flashes during UP and DOWN travel.

4 Load indicator

5 Wind force

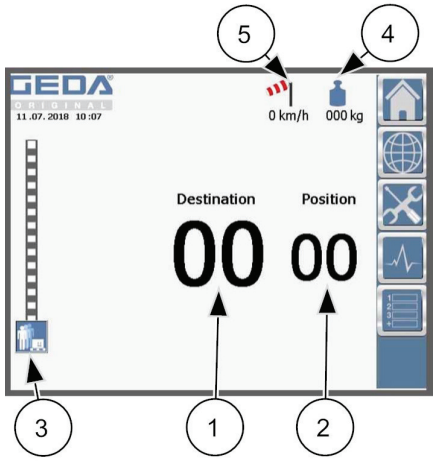


Fig. 57: Touch display (HMI)

Code messages with a yellow background indicate service or maintenance information.

6 CODE no.
7 Status symbol
8 Explanation

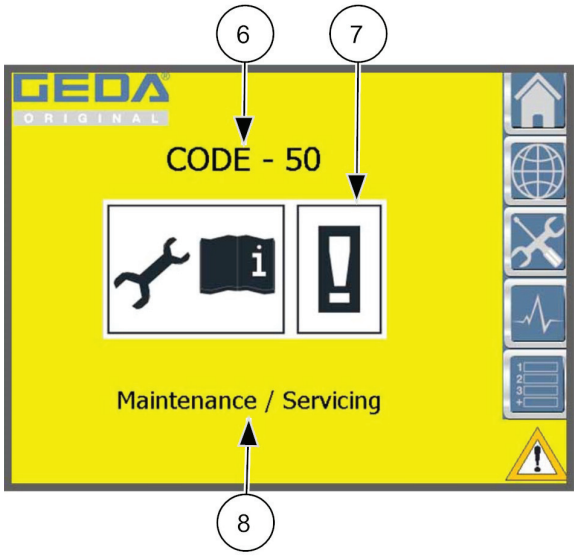


Fig. 58: Touch display – maintenance

Only the possible status messages and CODE numbers which are relevant for your machine are displayed!

Code messages with a red background indicate information about a malfunction.

The machine/hoist is not ready for operation!

6 CODE no.
7 Status symbol
8 Explanation

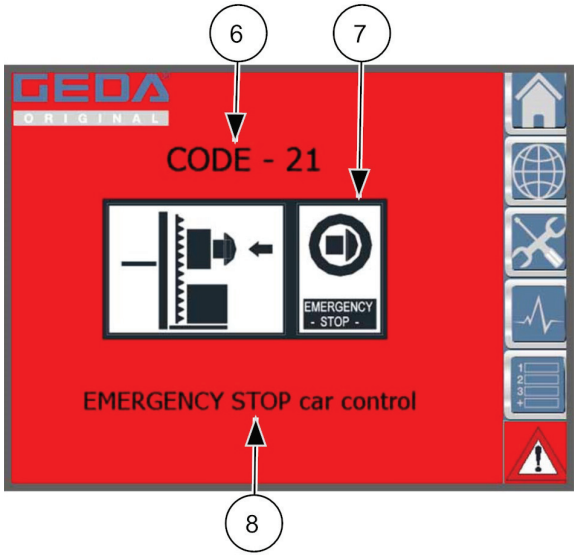


Fig. 59: Touch display – malfunction

If a CODE no. is displayed, the colour of the background lighting changes.

Actions for CODE display:

- Identify the **CODE** displayed and change/rectify the status.
- Wait until the control is automatically enabled.

The operation and description of the touch display are described in a separate operating manual. This manual is part of the machine documentation.

5.1.1 Malfunctions without status message

Car does not move		
	Mains plug disconnected	Connect the mains plug
	Mains fuses	Check mains fuse and replace/switch on if necessary
Car only moves upwards		
	Is the **DOWN** limit switch functioning properly	Check/replace the **DOWN** limit switch
Car only moves downwards		
	Is the **UP** limit switch functioning properly	Check/replace the **UP** limit switch
Drive motors are not providing full performance		
	Voltage drop of more than 10%	Refer to chapter 5.2.1
Enclosure double doors do not open		
	Car is not positioned exactly at the ground station	Move the car down to the **DOWN** limit switch

5.2 Rectify fault

5.2.1 Motor is not delivering full power

- Voltage drop of more than 10% of the rated voltage.
- Select cable with larger cross-section.
- If the motor is overloaded, the built-in thermal switch will switch off and the frequency converter goes into error mode. After a certain cooling period, the built-in thermal switch will switch back on.

⚠ CAUTION

Motor overload from overloading the machine

The motor heats up and the motor/brake service life is reduced.

5.2.2 Main switch/circuit breaker has tripped

Main switch/RCD/circuit breaker

If the circuit breaker has tripped, the main switch at the ground station switch box is in the **TRIP** position.

Fig. 60 Circuit breaker tripped

Resetting the main switch

➢ Turn the main switch to the **RESET** position and then to the **[ON]** setting.

✓ The circuit breaker is activated again.

Fig. 61 Resetting the circuit breaker

5.2.3 Car has moved too high

The car travels too high, i.e. the **EMERGENCY** limit switch reaches the **UP-END** stop bar.

Possible causes:

- the **UP** limit switch is defective
- there is a malfunction in the electrical system

Safe working

Free movement using the drop test control may only be carried out by a competent person specifically appointed by the operating company who, due to their training, knowledge and practical experience, are able to evaluate the risks.

The car has to be moved back down to the operating range of the mast using the drop test control.

Action:

➢ Connect the drop test control (refer to chapter 4.3.8 Control for special operation (assembly/drop test) or to the Maintenance Manual).

➢ Press the **DOWN** button (4) and lower the platform by approx. 1 m.
  ✓ The car will move out of the **UP-END** position.

➢ After the clearance run, disconnect the drop test control again and plug in the dummy plug.

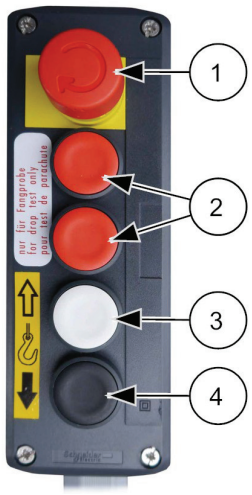


Fig. 62 Drop test control for clearance run

5.2.4 Car has moved too low

The car travels too low, i.e. the **EMERGENCY** limit switch reaches the **EMERGENCY-END** stop bar.

Possible causes:

- the brake clearance is too large
- the **DOWN** limit switch is defective
- there is a malfunction in the electrical system
- the car is overloaded
- the car was lowered with the manual brake release (emergency descent)

Safe working

Free movement using the drop test control may only be carried out by a competent person specifically appointed by the operating company who, due to their training, knowledge and practical experience, are able to evaluate the risks.

The car has to be moved back to the operating range of the mast with the drop test control (clearance run).

Action:

➢ Connect the drop test control (refer to chapter 4.3.8 Control for special operation (assembly/drop test) or to the Maintenance Manual).

➢ Press the **UP** button (3).
  ✓ The car will move out of the **DOWN-END** position.

➢ After the clearance run, disconnect the drop test control again and plug in the dummy plug.

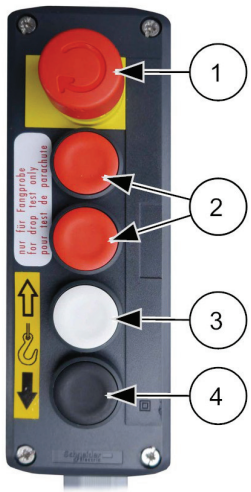


Fig. 63 Drop test control for clearance run

⚠ CAUTION	
	**Damage to the foot section and car** The **UP** button (3) must be pressed because this control bypasses the **EMERGENCY** limit switch. If the red drop test control buttons (2) are pressed inadvertently, the motor brake will release and the car can drop down hard onto the foot section.

If this effect occurs repeatedly despite the car not being overloaded, have the brake checked and adjusted by a qualified person.

5.2.5 Overload indication

The car is equipped with an overload warning device which prevents it from being moved if it is overloaded.
If the car is overloaded, **CODE 30** is displayed.

“CODE 30” display

➢ Reduce the load in the car until **CODE 30** is no longer shown.
  ✓ Only then is travel possible.

5.2.6 Safety gear has triggered

The hoist is equipped with safety gear that brakes if the speed of the car becomes excessive. If the safety gear was triggered, further travel is not possible.

CODE 14 is shown on the touch display for the car control.

⚠ WARNING

Risk of death from the safety gear being triggered

- All persons must exit the car.
- Determine why the safety gear has engaged, secure the car and repair damage before releasing the safety gear!
- The safety gear may only be released by a competent person who is specifically appointed by the operating company and who, due to their training, knowledge and practical experience, are able to evaluate the risks and assess the safe condition of the safety gear.

Triggering the safety gear is described in the maintenance manual.

5.3 Rescue after malfunction

Rescue may become necessary in the event that, e.g.

- there is no mains voltage.
- the electrical system malfunctions.
- the drive fails.
- the safety gear has triggered.

If the hoist supervisor does not feel confident or qualified to organise and carry out the rescue, please notify the relevant authorities. (fire brigade, technical support, works security).

5.3.1 Conduct in the event of a rescue/malfunction

- Obtain an overview of the situation.
- Remain calm and do not act in haste.
- Be cautious and thorough when assessing the situation!
  - Is anybody hurt?
- Keep unauthorised persons away.
- Contact any persons trapped in the car.
- Attempt to find the cause of the malfunction/defect on the system, e.g.
  - Power failure
  - Triggering of the safety gear
  - **CODE** shown in the touch display
- If necessary, inform the trapped persons about the planned procedure.
- Notify your supervisor of the malfunction.
- Notify any rescue services.

The sequence of measures can/must be amended by the attendant/rescue personnel depending on the specific situation.

5.3.2 Initial rescue measures

5.3.2.1 Recovery using the recall function

The recall function can be activated from the ground control or from the car control.

The recall function can only be executed with a functioning machine control!

Recall from the car control

➢ Press the **STOP AT LANDING LEVEL** button (5) and hold for approx. 30 s.

✓ The car slowly returns to the ground station and stops there.

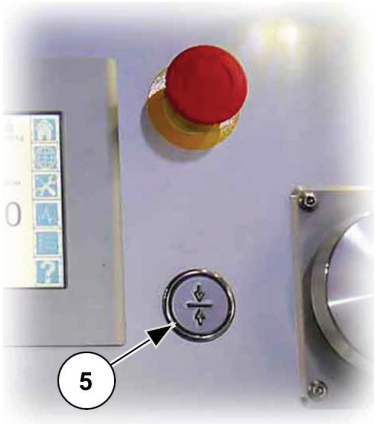


Fig. 64: Recall function, car control

Recall from the ground control

➢ Press the **CALL** button (13) and hold for approx. 30 s.

✓ The car slowly returns to the ground station and stops there.

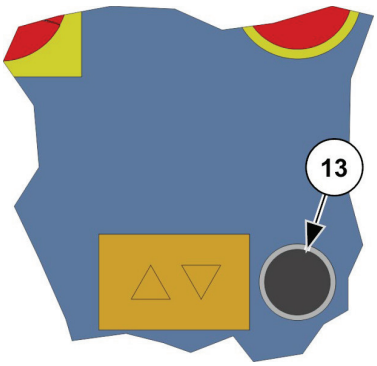


Fig. 65: Recall function, ground control

5.3.2.2 Rescue in the event of a status display

CODE messages indicate malfunctions in the hoist system or switching statuses of the limit switches.

- ➢ Identify the **CODE** message (refer to the touch display or the touch display manual).
- ➢ If possible, eliminate the displayed malfunction/switching status (refer to the **CODE** table in the instructions for the touch display).

6 CODE no.
7 Status symbol
8 Explanation

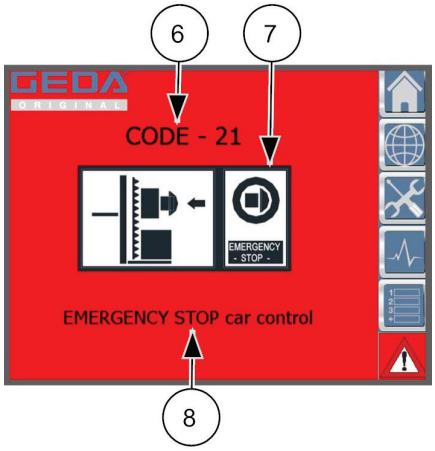


Fig. 66: Touch display, car

The CODE no. is also displayed on the ground control.

5.3.2.3 Self-rescue using EMERGENCY lowering device

In an emergency, the next lower landing level can be reached by releasing the motor brakes. Persons trapped may be able to evacuate in this way.

Moving the car downwards by releasing the motor brake is not possible if, e.g. the safety gear has been triggered (CODE 14).

Executing an EMERGENCY descent

ATTENTION

Descending too quickly will trigger the safety gear

This disables the car which will then initially need to be raised.

➢ Only lower the car very slowly!

Fig. 67: Overview of emergency descent

- Remove both levers (1) from the mount.

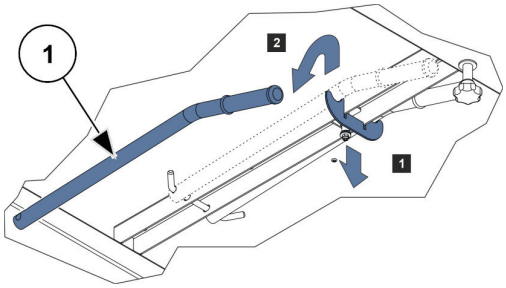


Fig. 68: Mount for brake release levers

- Release the triangular bolt (2A) on both sides.
- Move the cover plate (2) aside and attach.

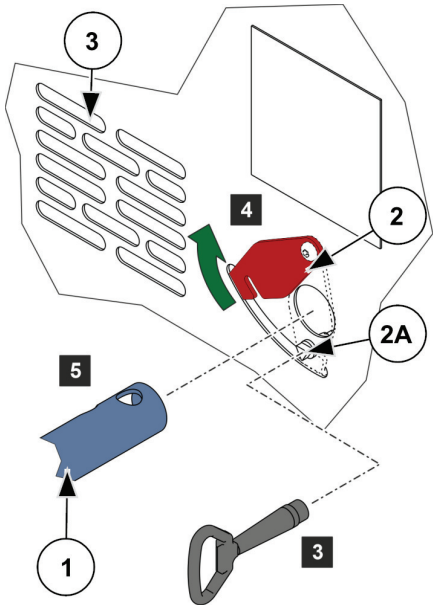


Fig. 69: Guiding the levers to the motor brake

- Push the lever (1) through the opening on the side cover and guide to the brake release levers (4) of the motor brake.

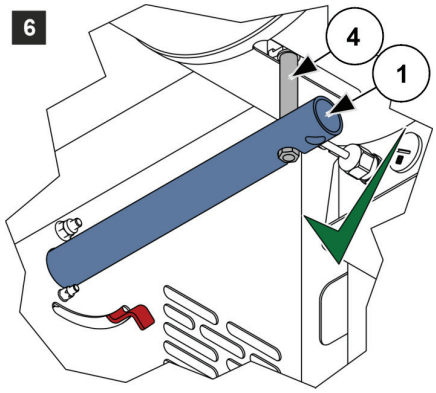


Fig. 70: Positioning the lever on the brake release lever

Check the position of the lever (1) through the viewing opening (3).

- Release the motor brake by carefully metered simultaneous pulling (towards the centre of the car) on both levers (1).
  - ✓ The car will glide downwards.

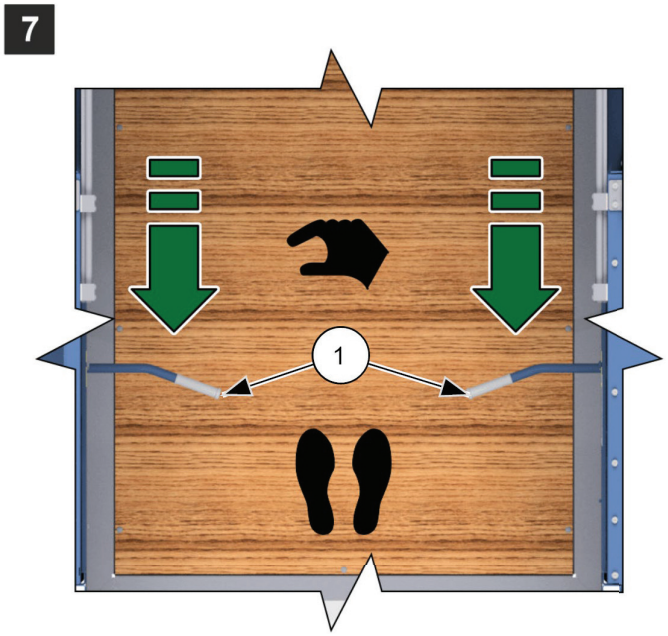


Fig. 71: Emergency release for the car

ATTENTION

The safety gear becomes very hot

Interrupt the descent every 1-2 m for 2 m in order to prevent overheating of the brake.
The length of a mast section can be used for orientation.

- When at the next landing level, release the lever (1).
- Stop so that the sills of the car door and landing level safety gate are at the same level.

If no fault is displayed on the car control, the passengers can exit the car as normal.

Otherwise the doors have to be unlocked.

Emergency release of the car door, refer to chapter 4.3.3.3

Emergency release of the landing level double doors, refer to chapter 4.3.4.6

After completing the rescue

- Remove the lever (1) and replace it in the mount on the car roof.
- Replace the cover plate (2) and secure again using the triangular bolt (2A).

5.3.2.4 Exiting the car

If the car is not stopped at a landing level and the motor brake cannot be released, any trapped passengers have to be evacuated across the left assembly plank.

⚠ WARNING

Risk of death from the safety gear being triggered

- All persons must exit the car.
- Determine why the safety gear has engaged, secure the car and repair damage before releasing the safety gear!
- The safety gear may only be released by a competent person who is specifically appointed by the operating company and who, due to their training, knowledge and practical experience, are able to evaluate the risks and assess the safe condition of the safety gear.

- Establish contact with the ground station via the intercom module and discuss how to proceed further.

Open the assembly plank from the inside

- Place the triangular key on the safety lock (1D) and turn to the right (clockwise).
- Use your right hand to pull the assembly plan towards you with the handle (1B) and open the interlock hook (1A) with your left hand.

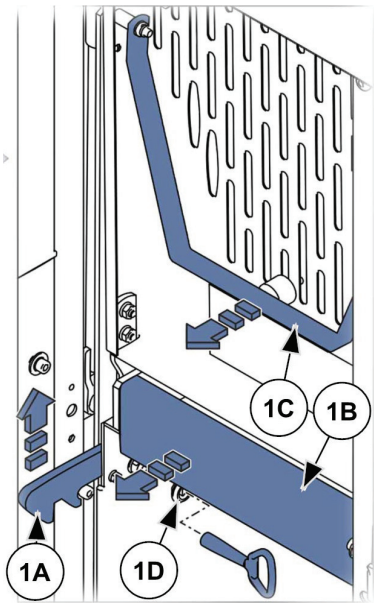


Fig. 72: Open the assembly plank from the inside

- Slowly push the handle (1B) outwards and grip the pulling bar (1C) with the other hand.
- Release the handle (1B) and completely lower the plank using the pulling bar (1C).

- As soon as the base pan is horizontal it can be stepped on in order to press the end wall outwards.
  - ✓ The assembly plank is ready for emergency rescue.

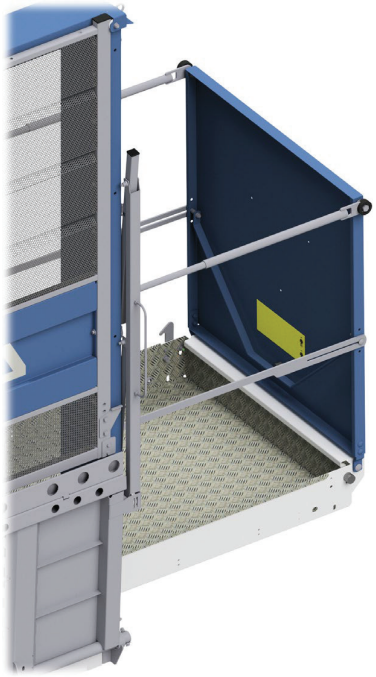


Fig. 73: Assembly plank open

When the safety lock (1D) is open and the assembly plank is folded out, the control is interrupted. To continue travel with the car, the assembly plank and the safety lock (1E) have to be closed again!

Closing the assembly plank

- Step on the plank and grip the pulling bar (1C) to fold up the assembly plank.
- Pull the end wall towards yourself using the pulling bar 1C) until the base pan of the plank moves with it.
- Use the handle (1B) to pull the plank towards yourself to facilitate the remaining movement, until the interlock hook (1A) engages with the second tooth.

ATTENTION

Damage to the assembly plank

- Prior to beginning travel, check to ensure that the interlock hook is properly locked in place.

Opening the assembly plank from the outside

For emergency recovery, the assembly plank can also be unlocked from outside.

➢ Turn the safety lock (1D) downwards anticlockwise.

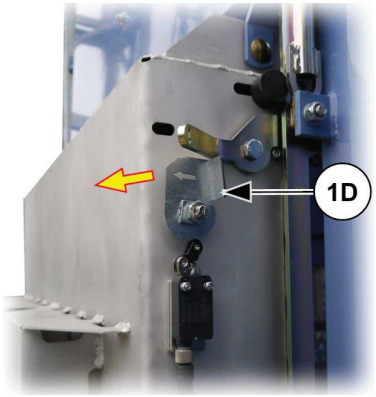


Fig. 74: Unlocking the assembly plank from outside

➢ Push the base pan (1E) inwards and press down the lever of the interlock hook (1A).

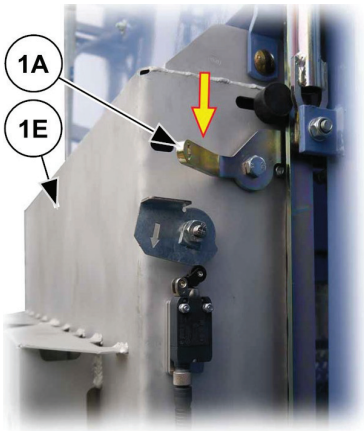


Fig. 75: Opening the assembly plank outside

People are evacuated from the assembly plank according to the emergency plan/rescue plan operating company!

5.3.2.5 Recovery in accordance with emergency plan

Evacuation is carried out in accordance with the emergency plan/operating company's rescue plan.

A rescue plan must be prepared by the operating company and kept in a clearly visible place on the hoist!

5.4 Repair

ATTENTION	
	**Maintenance work carried out by untrained personnel** ➢ Repair work may only be carried out by trained and competent persons because it requires special expert knowledge and skills. Neither is explained in this Operating Manual.

When ordering spare parts, please provide the following:

- Type
- Year of construction
- Factory no.
- Operating voltage
- Quantity required

The name plate is located on the trolley of the base unit.

Spare parts must conform to the manufacturer's technical specifications! 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 chapter 1.4 Manufacturer's name and address

6 Disposal

At the end of its useful life, the machine may need to be inspected for operational safety in accordance with national regulations, disassembled correctly and scrapped in an environmentally friendly way according to national provisions.

It is prohibited to use parts from a machine that is being scrapped in other machines or to assemble such parts to produce a new machine.

During disposal of the machine components, observe the following:

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

Recommendation:

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

6.1 Information about the service life for EAC

Operation of the assembly control is described in the Assembly Manual.

The machine has to be examined at the end of its service life or correctly disassembled and disposed of in an environmentally friendly manner according to national regulations.

Operating the machine after the end of its service life is not permitted!

GEDA-Dechentreiter GmbH & Co. KG
Mertinger Strasse 60
86663 Asbach-Bäumenheim
Tel.: +49 (0)9 06 / 98 09-0
Fax: +49 (0)9 06 / 98 09-50
E-Mail: info@geda.de
Web: www.geda.de

BL191 GB 2019-11