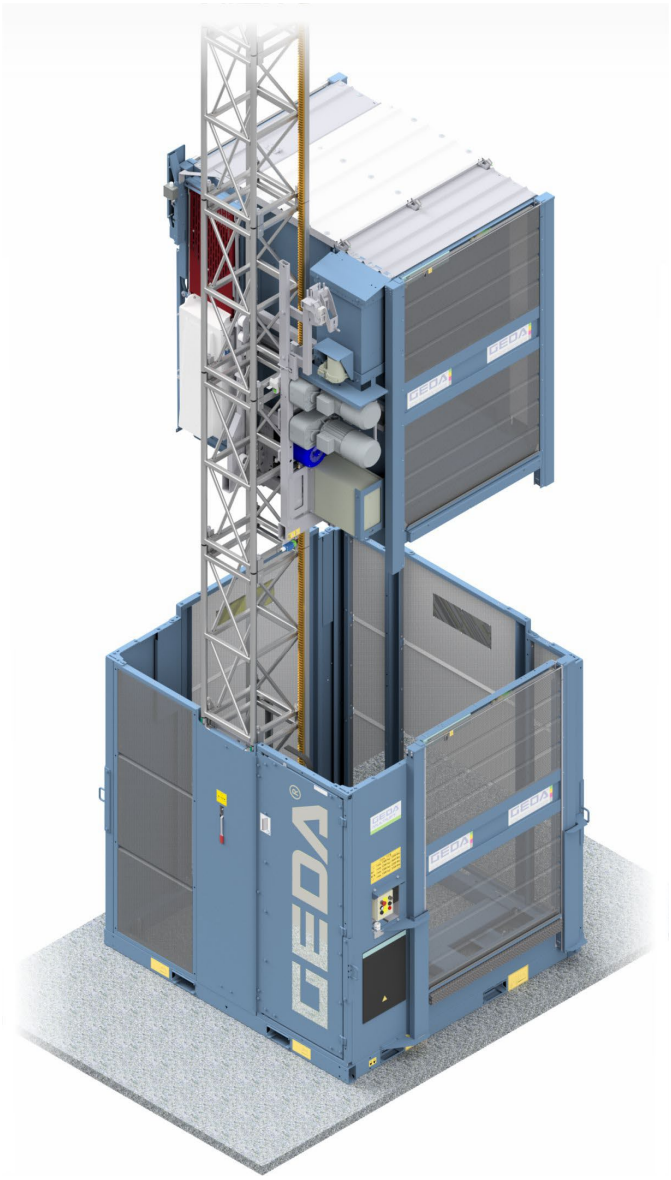
Operating Manual



GEDA®

MULTILIFT P12

Construction hoist

For transporting materials and persons

Original Operating Manual

EU Declaration of Conformity

The manufacturer:
GEDA GmbH
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:	MULTILIFT P12	Serial number:	21M... / 23M... / 000405...
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, prEN 12159:2020, parts of: EN81-20:2020, EN81-50:2020

EC Type test certification procedure:

Type test certification		EC-MRL 351
European notified test site	0036	TÜV SÜD Industrie Service GmbH Westendstraße 199, 80686 Munich

This declaration of conformity is valid for machines manufactured from the date of the type test certificate.
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 26/03/2021

Johann Sailer
CEO GEDA GmbH

(Date of the type test certificate)

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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, page 17).

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:

1	...	**5**	Chronological sequence of work steps in illustrations

⚠ 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
poss.	possible	incl.	including
e.g.	for example	if nec.	if. necessary
ml	Millilitre	i.e.	that is
mm	Millimetre	reg.	regarding
°C	degrees Celsius	RH	relative humidity
°F	degrees Fahrenheit	approx.	approximately
ft.	feet	Ø	diameter
ft/min.	feet per minute	®	registered trademark
m/min	metres per minute	©	copyright
in.	inch	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 P12
Serial number:	21M... / 23M... / 000405...
Year of construction:	Refer to name plate
Documentation version:	2023-04

1.4 Manufacturer's name and address

GEDA GmbH
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 GmbH Northwest Subsidiary Marie-Curie-Strasse 11 59192 Bergkamen-Rünthe Tel. +49(0)2389 9874-32 Fax. +49(0)2389 9874-33	GEDA GmbH Eastern Subsidiary Ernst-M.-Jahr Strasse 5 07552 Gera Tel. +49(0)365 55280-0 Fax. +49(0)365 55280-29
U.S. subsidiary	**Korea 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 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

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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 Information for the employer

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

The employer 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 employer must ensure that operating personnel wear **personal protective equipment** that is appropriate for the local conditions.

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

The employer or the 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 to 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 employer must clearly define the responsibilities of the personnel for operation/installation/maintenance.

The employer is obligated 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.

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

The legally permissible minimum age must be observed!

1.8 Intended use

The MULTILIFT P12 is a vertically installed 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 (refer to chapter 3 Technical data, page 24) must be observed and adhered to.

Any other use or any use going beyond this is not considered proper use.

The employer and the user accepts sole responsibility for any resulting damage to the machine. 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 rules and regulations.

1.8.3 Improper use

The MULTILIFT P12

- 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, (refer to chapter 3 Technical data, page 24).

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, (refer to chapter 6 Disposal, page 86).

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

Cold-resistant	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 in extreme weather conditions, even if the operating and ambient conditions are within the limits stated. For example, if heavy frost and a storm occur together. In these cases, the employer 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 Vibrations in the car

Determining the vibration value of the equipment

Symbols:

a = effective value of acceleration not evaluated

a_w = effective value of the frequency-weighted acceleration evaluated in accordance with ISO 2631-1:1997

a_{wx} = a_w in m/s² for x-direction with frequency weighting W_d

a_{wx} = a_w in m/s² for y-direction with frequency weighting W_d

a_{wx} = a_w in m/s² for z-direction with frequency weighting W_d

When evaluating whole-body vibrations, the highest acceleration value of the three measuring directions a_{wx}, a_{wy} and a_{wz} has to be used, taking into account the that horizontal axes (x-axis, y-axis) have to be multiplied with a correction factor of 1.4 beforehand.

horizontal direction x	direction of car door
horizontal direction y	transverse to the x-direction
vertical direction z	direction of travel

frequency-weighted vibration acceleration aw			
Operating status	a_{wx}	a_{wy}	a_{wz}
Travel upwards / downwards	0,03 -0,1 m/s²	0,03 -0,1 m/s²	0,15-0,5 m/s²

3.4 Speeds

Lifting speed

Operation	max. 40 m/min

Safety gear FV 38-38

Triggering speed	48 m/min
Gravitational acceleration in the car for **EMERGENCY OFF**	< 1 g

3.5 Heights

Access height (threshold level)	
With cable bin	0.45 m
With cable trolley	0.97 m
Installed height (H) with VARIO-Mast:	max. 130 m
Installed height (H) with SVARIO-Mast:	max. 200 m
Assembly site elevation: (metres above sea level)	max. 1000 m (3289')

3.6 Load capacity, dimensions and weights

Car dimensions

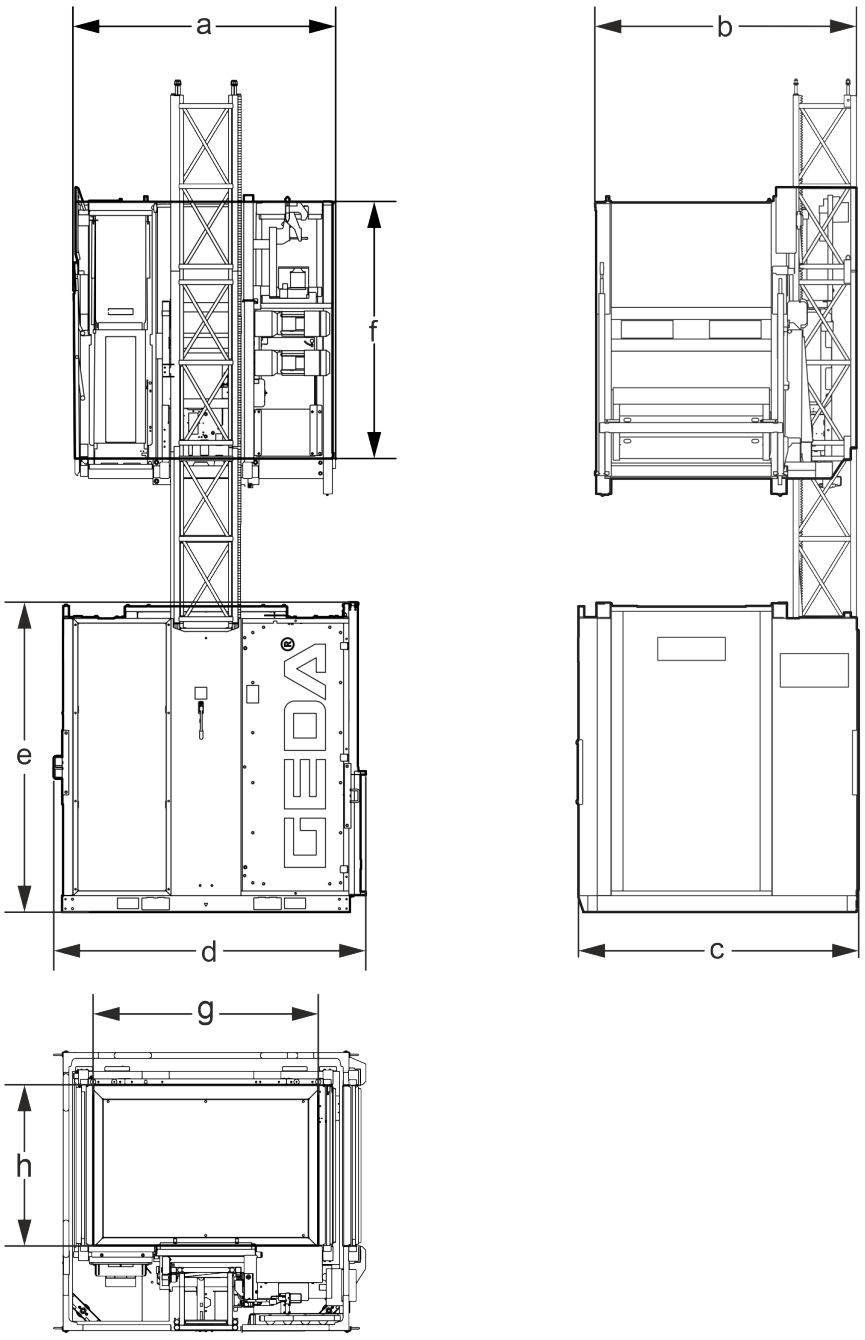

Fig. 1: Dimensions of car

MULTILIFT P12	External dimensions (VARIO-Mast)					Internal dimensions		
(dimensions in m)	a	b*)	c*)	d	e	f	g	h
Car A	2.23	2.22	2.40	2.66	2.76	2.19	2.00	1.35
Car B	2.81	2.22	2.40	3.24	2.76	2.19	2.58	1.35
Car C	3.39	2.22	2.40	3.82	2.76	2.19	3.16	1.35
Car D	3.39	2.22	2.40	3.82	2.76	2.19	3.16	1.35
*) Dimensions with SVARIO-Mast: **b** = 2.29 m, **c** = 2.45 m								

Weights: base unit with car and cable box (30 m flat cable)

Weights:	with enclosure
Car A	2186 kg
Car B	2378 kg
Car C	2535 kg
Car D	2335 kg

Flat cable

Length	Weight
25 m	12.2 kg

Assembly plank

Load capacity	100 kg
Weight	approx. 40 kg

Mast assembly aid

Load capacity	120 kg
Weight	approx. 27 kg

Lifting beam

Load capacity	3000 kg
Weight	approx. 30 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.

3.6.1 Car A

Load capacity

Operation	max. 1500 kg /	12 passengers
	1420 kg	+ 1
	1340 kg	+ 2
	1260 kg	+ 3
	1180 kg	+ 4
	1100 kg	+ 5
	1020 kg	+ 6
	940 kg	+ 7
	860 kg	+ 8
	780 kg	+ 9
	700 kg	+ 10
	620 kg	+ 11
	540 kg	+ 12
Installation	600 kg	

3.6.2 Car B

Load capacity

Operation	max. 1200 kg /	12 passengers
	1120 kg	+ 1
	1040 kg	+ 2
	960 kg	+ 3
	880 kg	+ 4
	800 kg	+ 5
	720 kg	+ 6
	640 kg	+ 7
	560 kg	+ 8
	480 kg	+ 9
	400 kg	+ 10
	320 kg	+ 11
	240 kg	+ 12
Installation	600 kg	

3.6.3 Car C

Load capacity

Operation	max. 1000 kg /	12 persons
	920 kg	+ 1
	840 kg	+ 2
	760 kg	+ 3
	680 kg	+ 4
	600 kg	+ 5
	520 kg	+ 6
	440 kg	+ 7
	360 kg	+ 8
	280 kg	+ 9
	200 kg	+ 10
	120 kg	+ 11
	40 kg	+ 12
Assembly	600 kg /	

3.6.4 Car D

Restrictions

The MULTILIFT P12 with car **"D"**

- is available only with the dimensions 3.2 m x 1.4 m.
- **cannot** be converted to another platform type
- **cannot** be equipped with a sliding door on the C-side
- **cannot** be equipped with a D-door

Load capacity

Operation	max. 1500 kg /	12 persons
	1420 kg	+ 1
	1340 kg	+ 2
	1260 kg	+ 3
	1180 kg	+ 4
	1100 kg	+ 5
	1020 kg	+ 6
	940 kg	+ 7
	860 kg	+ 8
	780 kg	+ 9
	700 kg	+ 10
	620 kg	+ 11
	540 kg	+ 12
Assembly	600 kg	

4 Operation

Operating personnel (refer to chapter 1.8.2 Operating personnel, page 16)

4.1 Safety during operation

⚠ DANGER

Danger to life

➢ Do not use in case of fire!

Safety instructions (refer to chapter 2 General safety information, page 17) 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.

- 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 12 (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 car 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).

4.1.1 Supplementary safety instructions for operation without enclosure

Do not install or operate the hoist without the enclosure.

- Do not stand or work under the car.
- Do not store any objects in the cordoned-off area or underneath the car.

⚠ WARNING

Risk of injury

➢ The distance of the cordon to moving hoist parts must be min. 0.5 m and max. 2.0 m.

4.2 Commissioning

➢ Turn the main switch (1) to the **"I" [ON]** position.

Fig. 2: Startup

➢ Turn the key switch on the ground control to position 1.
➢ Turn the key switch on the car control to operation.

The sliding door(s) of the enclosure and the car must be closed.

4.2.1 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 Securing loading and unloading points, page 43) and (refer to chapter 4.3.3 Car access points, page 39)

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

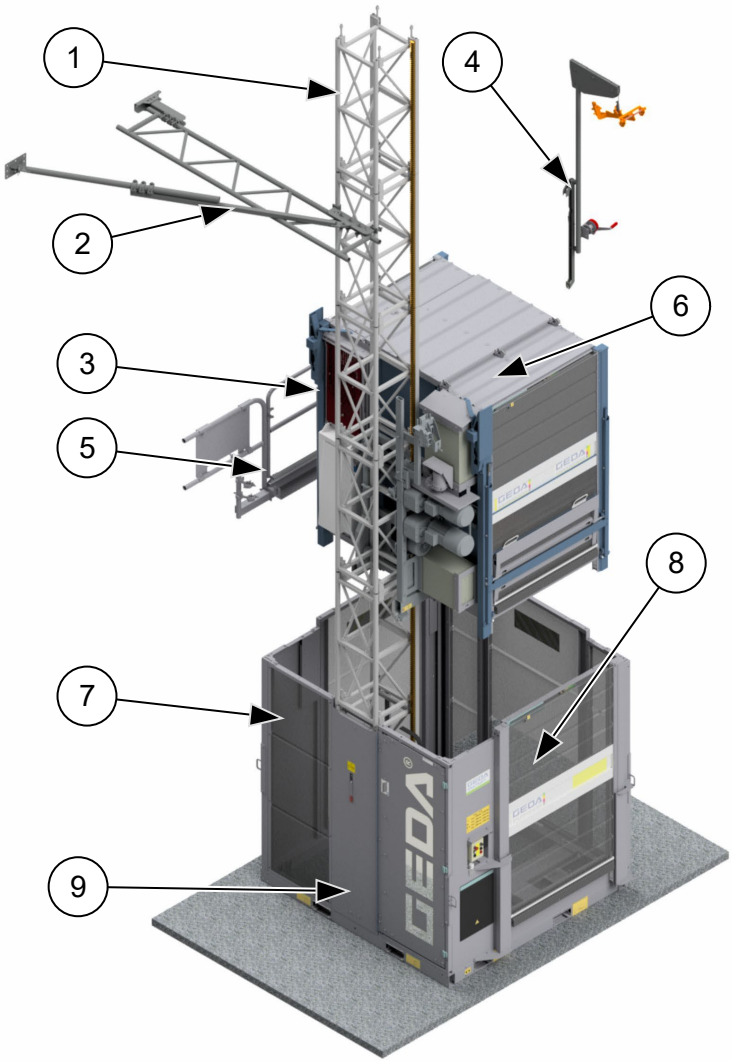

Fig. 3: Overview Multilift P12

1	Mast section	6	Car
2	Mast tie	7	Base enclosure
3	Assembly plank	8	Door on the base enclosure
4	Assembly crane	9	Cable bin
5	Landing level safety gate (option)		

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** 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 130 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 P12 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. 4: Base enclosure

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.

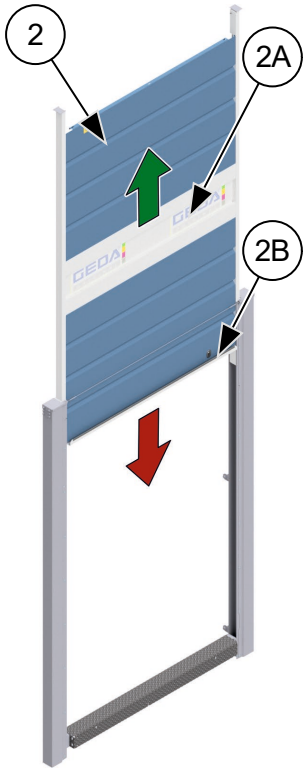

Fig. 5: Vertical sliding door

The emergency release for the enclosure door can be used only from the outside. (refer to chapter 4.3.3.3 Car door emergency release, page 42)

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.

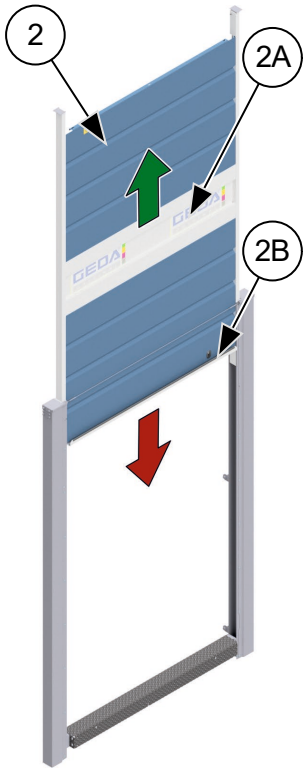

Fig. 6: Vertical sliding door

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. 7: 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).

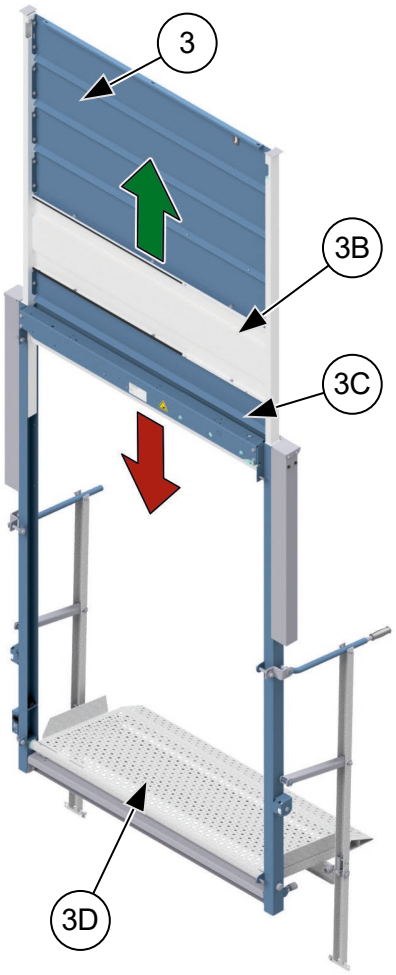

Fig. 8: Vertical sliding door from inside

4.3.3.3 Car door emergency release

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

- ➢ For emergency release, insert the triangular wrench through the hole on the outside of the sliding door into the lock.
- ➢ Turn the key to the right (clockwise).

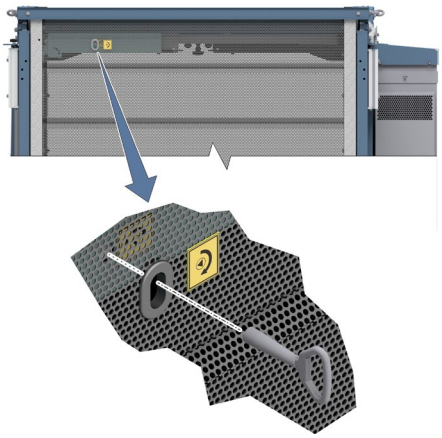

Fig. 9: Car door emergency release

- ➢ opening the car sliding door.
- ➢ Once the interlock release has been actuated, turn the wrench back and remove it.

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

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. 10: 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. 11: “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. 12: “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.

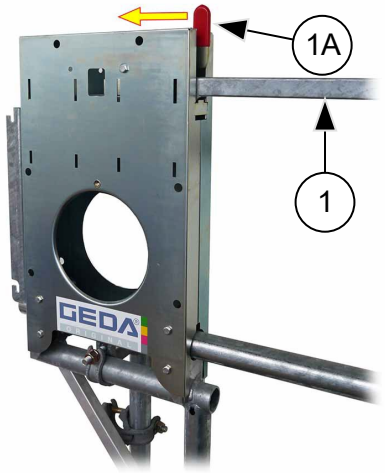

Fig. 13: Opening/closing the “Standard” landing level safety gate

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. 14: "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. 15: "Comfort" landing level safety gate closed (tarpaulin)

“Comfort” landing level safety gate closed (filler plate)
(Option as per EN 16719)

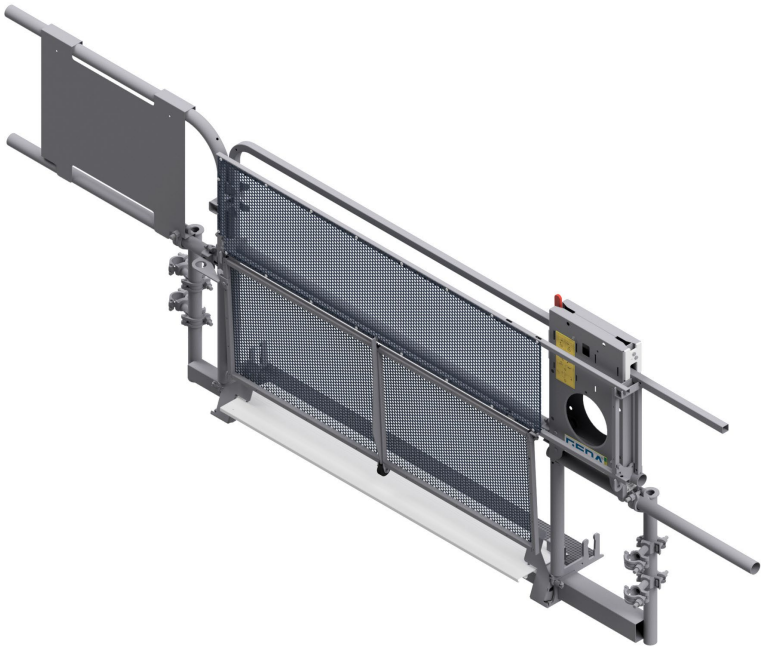

Fig. 16: “Comfort” landing level safety gate closed (filler plate)

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.

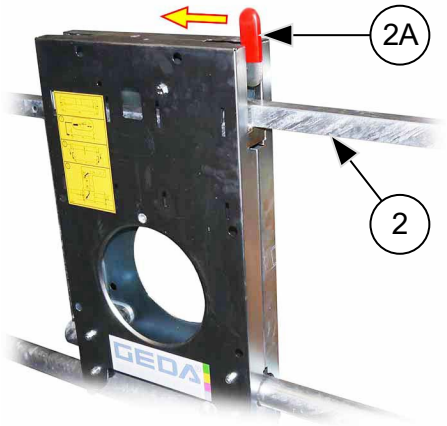

Fig. 17: Opening/closing the “Comfort” landing level safety gate

4.3.4.3 “Premium” landing level safety gate

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.

Landing level safety gate in accordance with EN 16719

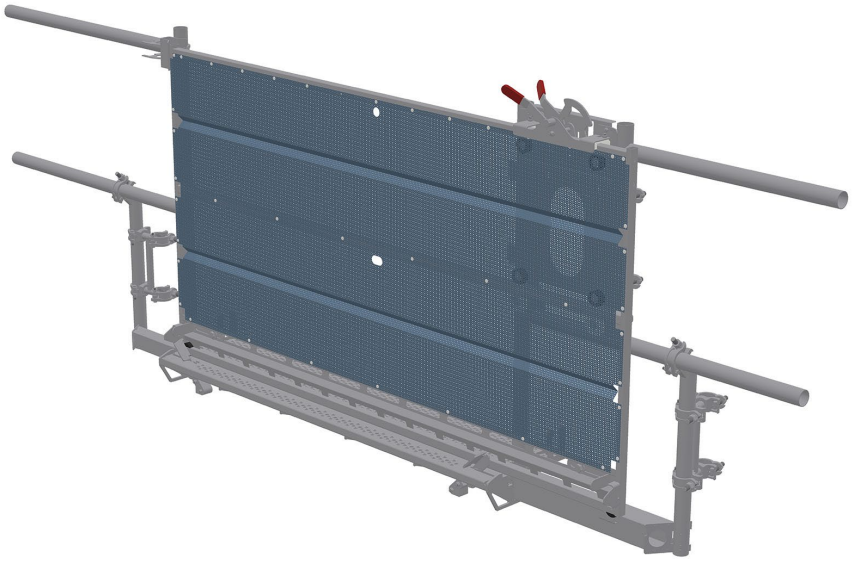

Fig. 18: “Premium” landing level safety gate no. 68040

Opening

➢ Press the lever (5l) in the direction of the arrow and push open the sliding door (5).

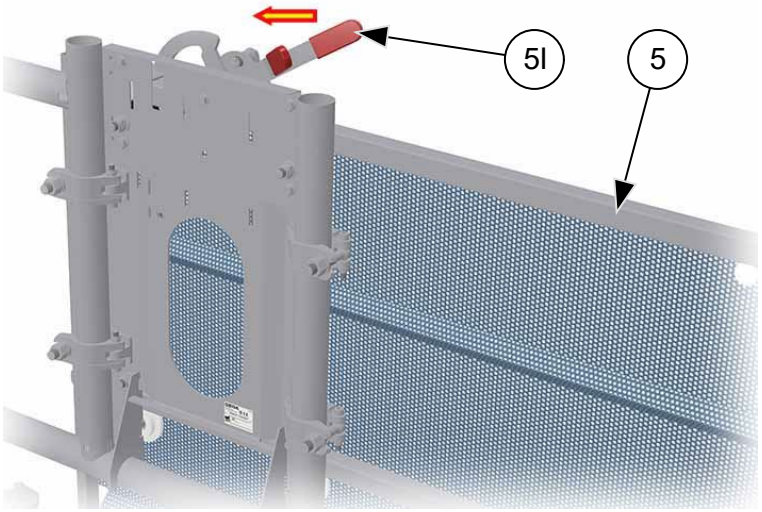

Fig. 19: Opening/closing the landing level safety gate

Closing

➢ Close the sliding door (5) until the lever (5l) engages downwards.

4.3.4.4 “FLEXY” landing level safety gate

Landing level safety gate in accordance with EN 16719

It must be impossible to open the landing level safety gate unless the ramp lock was actuated by the loading ramp of the platform/hoist.

Opening the complete gate

1. Pull the lever (1) upwards.
2. To open the gate (4), swivel it up.

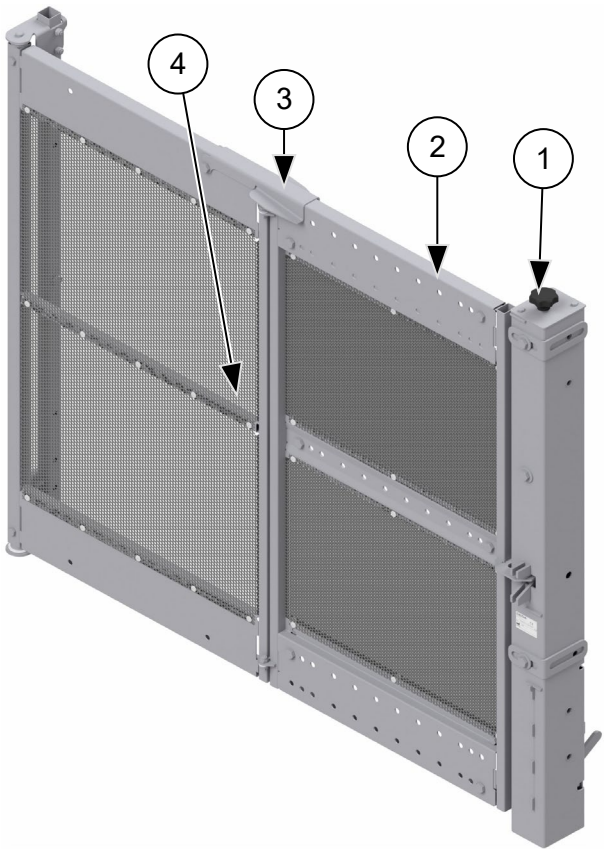

Fig. 20: Opening/closing the landing level safety gate

Opening the half gate

1. Pull the lever (1) upwards.
2. Pull the latch (3) upwards.
3. To open the half gate, swivel it open on the variable gate segment (2).

Closing

➢ To close the gate (4), swivel it up until the lever (1) engages.

4.3.4.5 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.

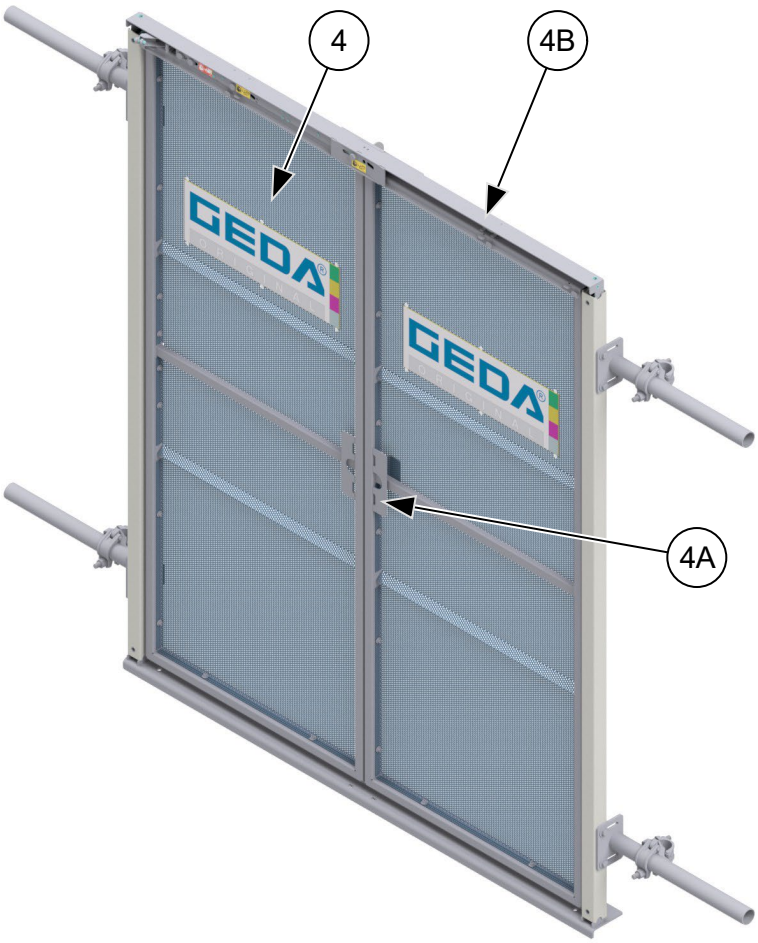

Fig. 21: Landing level double doors

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.
- Turn the key to the right (clockwise).
- Open the double doors with some force.
- Remove the key.

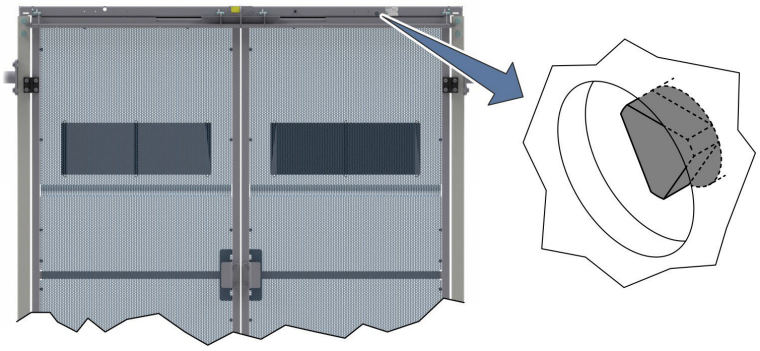

Fig. 22: Emergency release on the landing level double doors

4.3.5 Ground control

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

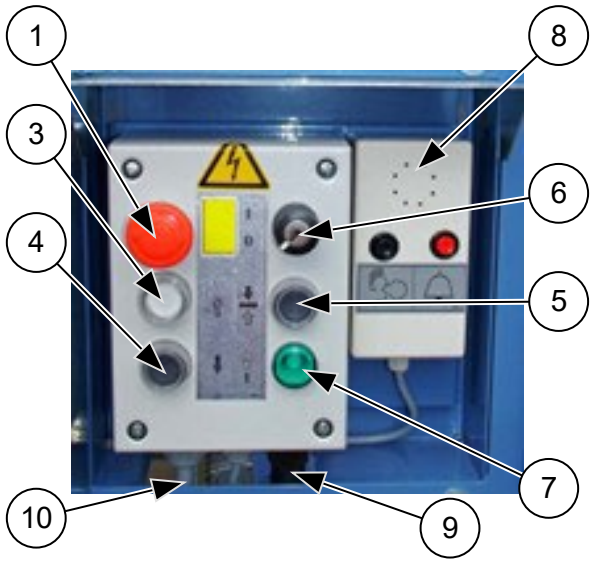

Fig. 23: Ground control

1 **EMERGENCY STOP** button

3 **UP** button

4 **DOWN** button

5 **Landing stop button**
Car stops at the next landing level

6 Key switch for hoist **ON/OFF**

7 Control light “ready” (lights up only when the key switch is on (6))

8 Intercom module

9 Socket (black / 7-pin) for monitoring the enclosure sliding door

10 Supply line with connector (16-pole) to the ground station switch box

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 Landing level modules

4.3.6.1 Landing level module with stop

The **UP** or **DOWN** direction can be selected from the electric modules.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)

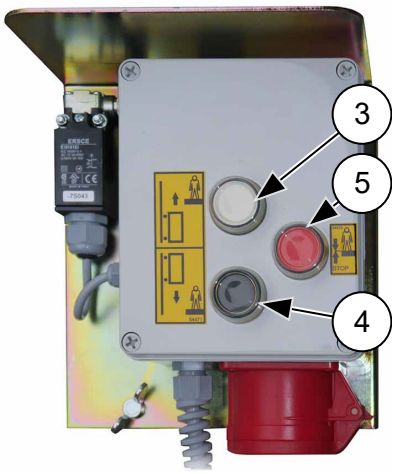

Fig. 24: Landing level module for stop at landing level

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.

4.3.7 Car controls

4.3.7.1 Control without landing level pre-selection

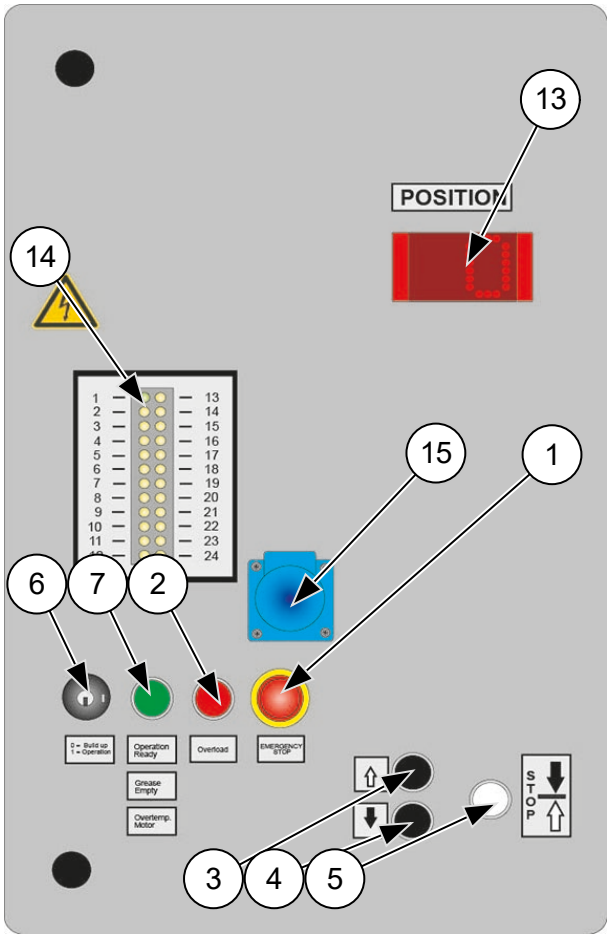

Fig. 25: Car control without stop at landing level

1 **EMERGENCY STOP** button

2 Overload control light

3 **UP** button

4 **DOWN** button

5 **Landing stop button** for car stop at the next landing level
Reset button for hoists with frequency converter

6 Key switch
Left position = assembly (only the car control is active)
Right position = operation (car, ground and landing level controls are active)

7 Control light “ready”
On = hoist ready for operation
Flashing slowly = lack of grease in the lubrication device
Flashing rapidly = overtemperature, motor, brake resistor

13 Indicates the direction of travel and, for stop at landing level, the current landing level

14 Indicator for diagnostic system

15 Working socket 230 V / 50 Hz

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.

The landing level indicator (13) shows the direction of travel and, for stop at landing level, the current landing level.

4.3.7.2 Control with landing level pre-selection

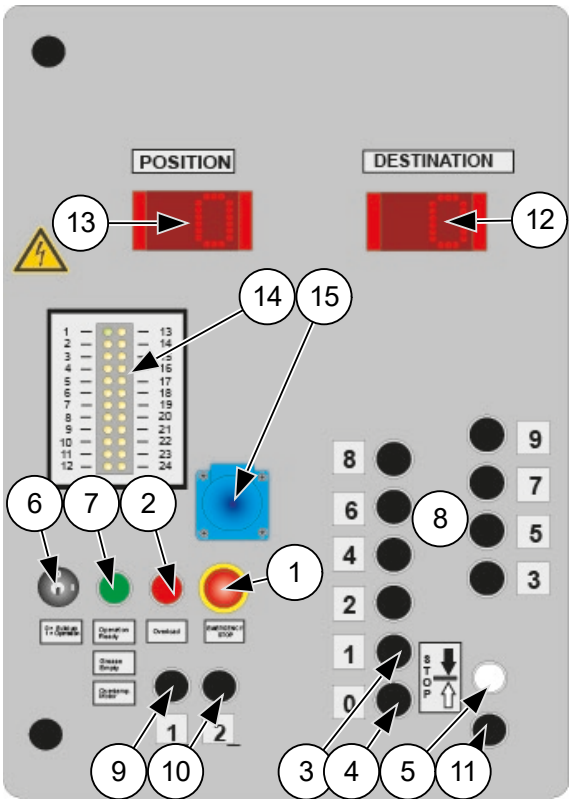

Fig. 26: Car control with landing level pre-selection

1 **EMERGENCY STOP** button

2 Overload control light

3 Landing level pre-selection button for landing level 1 / **UP** button for assembly

4 Landing level pre-selection for landing level 0 / **DOWN** button for assembly

5 **Landing stop button** for car stop at the next landing level
Reset button for hoists with frequency converter

6 Key switch
Left position = assembly (only the car control is active)
Right position = operation (car, ground and landing level controls are active)

7 Control light “ready”
On = hoist ready for operation
Flashing slowly = lack of grease in the lubrication device
Flashing rapidly = overtemperature, motor or brake resistor

8 Landing level pre-selection buttons for landing levels 2 to 9

9 Landing level pre-selection button for landing levels 10 to 19 (landing level 10 + landing levels 1 to 9)

10 Landing level pre-selection button for landing levels 20 to 29 (landing level 20 + landing levels 1 to 9)

11 Start button after landing level selection

12 Display for landing level selection

13 Indicates the direction of travel and, for stop at landing level, the current landing level

14 Indicator for diagnostic system

15 Working socket 230 V / 50 Hz

Ascending

For landing levels 1 to 9

- Preselect the required landing level by briefly pressing a destination button for landing level 1 to 9 (3/8).
- Press the start button (11).
  - ✓ The car moves to the selected landing level and stops there.

For landing levels 10 to 19

- Preselect the required landing level by pressing the button for landing level 10 to 19 (9) and the destination button for landing level 1 to 9 (3 / 8).
- Press the start button (11).
  - ✓ The car moves to the selected landing level and stops there.

For landing levels 20 to 29

- Preselect the required landing level by pressing the button for landing level 20 to 29 (10) and the destination button for landing level 1 to 9 (3 / 8).
- Press the start button (11).
  - ✓ The car moves to the selected landing level and stops there.

Travel to the ground station

- Preselect the ground station by pressing the destination button for landing level 0 (4).
- Press the start button (11).
  - ✓ The car moves to the ground station and stops there.

4.3.8 Controls for special operation

These control must be kept locked by the operating company!

Connect the drop test control in the car control switch box (refer to the maintenance manual).

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

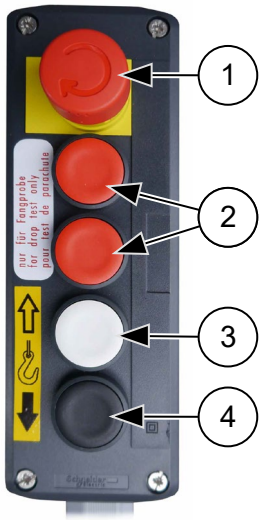

Fig. 27: Drop test control

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

4.3.9 Emergency shutdown

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

An **EMERGENCY STOP** button is located at

- the car control
- the ground control

Fig. 28: 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]**).

➢ Attach a padlock.

➢ Close the padlock.

✓ This secures the hoist against activation.

Fig. 29: Securing the main switch

➢ Disconnect the mains plug.

4.5 Equipment

4.5.1 Emergency call system

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

If the hoist is switched on, the intercom system uses the mains power supply. In the event of a power failure, an internal battery ensures operation readiness.

The intercom system is located in the car and in the switch box of the base enclosure. It is used for communication during an emergency.

Fig. 30: Intercom in the car

- ➢ Press the red button to send a call signal.
- ➢ Press the black button and hold pressed to speak to the other person.

Release the black button to hear the other person.

Fig. 31: Intercom at the ground station

4.5.2 Assembly planks

The assembly plank may only be used during assembly and for maintenance.

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

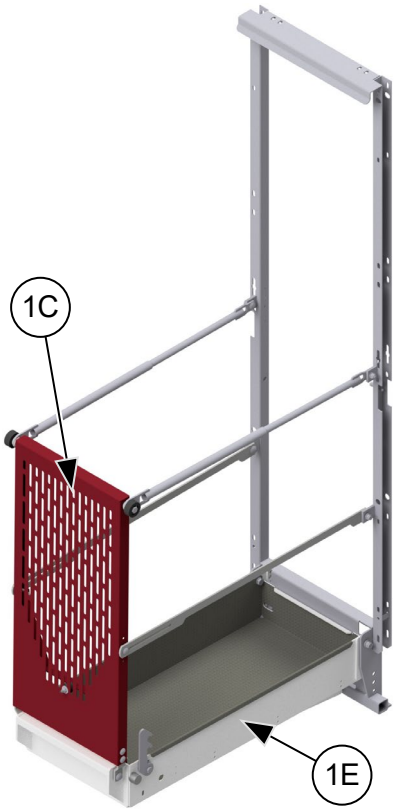

Fig. 32: Assembly plank

4.5.3 Lighting

Car lighting

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

Fig. 33: Car lighting

⚠ WARNING

Glare

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

4.5.4 Roof hatch

A hatch can be opened in the car roof to transport bulky materials.

- ➢ Release and remove the screw (2).
- ➢ Open the hatch (1) upwards.

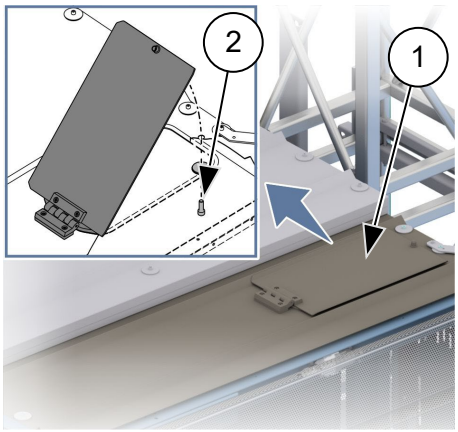

Fig. 34: Opening the roof hatch

Before operation, always check that no material is protruding sideways into the travel path.

4.5.5 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. 35: 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

4.5.6 Operating hours counter

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

Fig. 36: 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 Assembly crane

When assembling the mast, the assembly crane (1) can be used to lift the mast sections onto the already mounted mast.

Fig. 37: Assembly crane

When assembling the mast, the assembly crane can lift the mast sections with a weight of approx. 88 kg onto the assembled mast.

4.6.2 Cold package

The MULTILIFT P12 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. 38: Cold package

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 Diagnostic system

The diagnostic system allows quick and easy identification of the switching status of the limit switches and EMERGENCY STOP buttons.

After input of the travel command, only the green diode may light up.

If this is not the case, the corresponding function or corresponding limit switch must be checked.

Switching states

green LED = standard **ON**

yellow LED = standard **OFF**

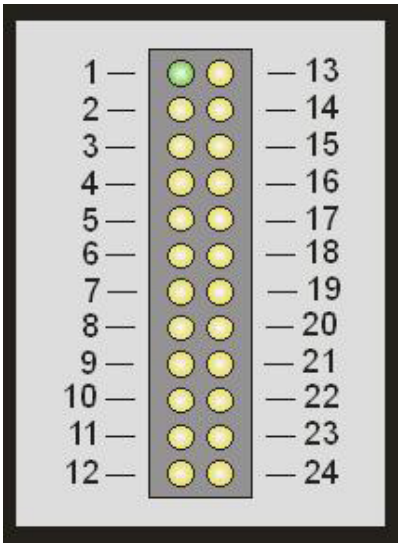

Fig. 39: Diagnostic system

LED no.	Meaning of the LED
1	Diagnostic system OK/READY/operation
2	Lights up when the **EMERGENCY STOP** button of the platform control is activated.
3	Lights up if the car door facing the building is not locked.
4	Lights up if the car door facing the enclosure is not locked.
5	Lights up when the **EMERGENCY STOP** button of the platform control is activated.

LED no.	Meaning of the LED
6	Lights up when the UPPER or LOWER **EMERGENCY LIMIT** switch is activated.
7	Lights up when the limit switch for the safety gear is activated.
8	Lights up when the limit switch for the assembly guard is activated.
9	Lights up when the limit switch of the **left** assembly plank is activated.
10	Lights up when the limit switch of the **right** assembly plank is activated.
11	Lights up if the safety interlock of the left-hand assembly plank is activated.
12	Illuminates when excessive tension is applied to the trailing cable holder. (Cable protection)
13	Lights up when the limit switch for the mast monitoring (drop-down flap) is actuated.
14	Lights up if the activation rail of the retiring cam is extended.
17	Lights up when the **UP** limit switch is actuated.
18	Lights up when the **DOWN** limit switch is actuated.
19 - 22	-
23	Lights up when the limit switch for the cable trolley is actuated.
24	-

5.2 Fault table

The following table lists potential malfunctions and the appropriate remedial action.

Malfunction	Cause	Remedial action
Green control light off		
	Mains plug disconnected	Connect the mains plug
	Mains switch off	Switch on the main switch
	Lamp defective	Replace lamp
	Phase failure	Measure the phases
	Incorrect phase sequence	Correct the phase sequence on the phase sequence monitor
	Travelling cable unplugged	Plug in the trailing cable
	Fuses in the ground station switch box not OK	Check/correction
	Ground control switched off at the key switch	Switch on the ground control.
Green control light in the car illuminates, hoist does not move		
	EMERGENCY STOP button (at a control point) pressed	Unlock the EMERGENCY STOP button
	Car door is open	Close car door

Green control light in the car illuminates, hoist does not move		
	Enclosure door is open	Close enclosure door
	Landing level safety gate is open	Close landing level safety gate
	EMERGENCY limit switch activated	Refer to platform moved too high/too low
	Safety gear engaged	Release safety gear (refer maintenance manual)
	Assembly guard plate open	Attach the assembly guard plate at the top.
	Assembly plank (if fitted) open	Close the assembly plank and engage safety hook twice.
	Key switch on the car control switched to incorrect operating mode	Set the key switch to operation.
Green control light flashes slowly		
	Lubrication device empty	Fill up lubrication device
Green control light flashes quickly		
	Braking resistors/drive excess temperature	Hoist stops. EMERGENCY lowering car by using control.
Motor does not generate full power	Voltage drop of more than 10%	Select cable with larger cross-section.
Red control light lights up.		
	Overload protection was triggered	Reduce the load
Car only moves upwards		
	Is the **DOWN** limit switch functioning properly?	Check/replace the **DOWN** limit switch
	Lubrication device is empty	Refill lubrication device
Car only moves downwards		
	Is the **UP** limit switch functioning properly?	Check/replace the **UP** limit switch
	Clearance of the proximity switch for monitoring the gear rack is too large	Adjust the clearance to the gear rack (3 – 7 mm).
Car travels too high		
	Up-limit switch defective	Test/replace up-limit switch
	Fault in the electrical system	Check system

Car travels too low		
	Down-limit switch defective	Test/replace down-limit switch
	Air gap for the brake is too large	Adjust air gap
	Car is overloaded	Reduce the load
	Fault in the electrical system	Check system

Car does not recognise the selected landing level		
	Error detecting the landing level stop bar	Use a DOWN button to execute a reference run to the ground station.
	Faulty sensor or distance to the stop bar too large	Check/adjust the sensor and replace if necessary.

Car does not move		
	Do the control elements for the up and down limit switches function correctly?	Test and, if necessary, replace
	Frequency converter has switched off	Carry out a reset.
		Reset options:
	INFO: If a frequency converter malfunction cannot be eliminated in this way, contact the manufacturer.	**First option:** Set car control key switch to OFF and briefly press the "ground station" button, then set the key switch to ON.
		Second option: Switch off the machine at the main switch for 5 minutes.

5.3 Rectify fault

5.3.1 Phase sequence or phase failure

The phase sequence (direction of rotation) can be changed on the CEE mains plug using the phase inverter.

➢ Use a screwdriver and rotate the two contact pins (1) on the phase inverter by 180°.

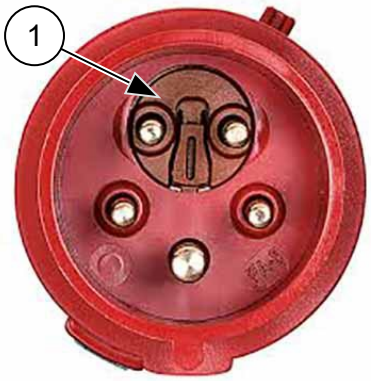

Fig. 40: Plug with phase inverter

The MULTILIFT P12 requires a right-rotating field!

5.3.2 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.

5.3.3 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 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.

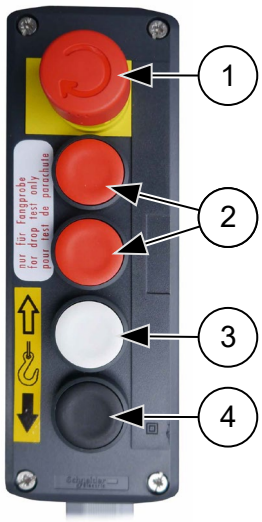

Fig. 41: Drop test control for clearance run

5.3.4 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 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.

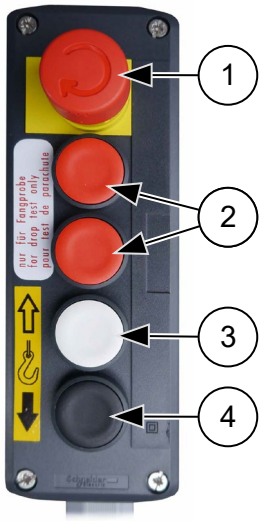

Fig. 42: Drop test control for clearance run

⚠ 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.

5.3.5 Frequency converter has switched off

Only on machines that are controlled with a frequency converter (option)

An initiated travel command is deleted by an open safety circuit (e.g. EMERGENCY STOP button).

The car will not restart after the EMERGENCY STOP button has been reset.

If a travel command is issued in spite of the frequency converter malfunctioning, the car will not start.

The travel command remains pending for 10 minutes and can be deleted by pressing the EMERGENCY STOP button.

⚠ CAUTION

Execute a reset on the frequency converter while a travel command is active.

The frequency converter executes the travel command and the car starts.

- ➢ Immediately press the EMERGENCY STOP button or use the main switch to switch the machine off and then on again.

- ➢ Remove the cover plate (1) below the switch box for the car control.
- ➢ Open the switch box behind the cover plate.

8 mm Allen key

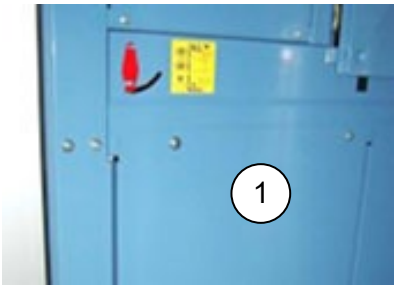

Fig. 43: Cover plate for the switch box in the car

If the red LED error signal (2) lights up on the frequency converter, this has switched off and has to be reset before operation can continue. (Also refer to the manufacturer's operating manual.)

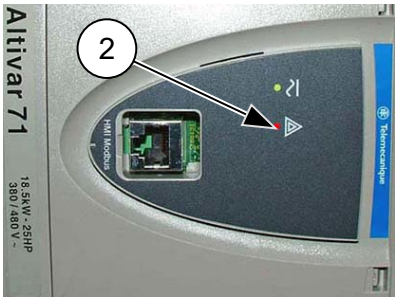

Fig. 44: Fault LED for frequency converter

5.3.6 Reset button for the frequency converter

The button (3) on the car control has a dual function.

- Landing level stop button when the car is moving
- Reset button for the frequency converter when the car is stationary

Resetting the frequency converter

➢ Briefly press the Reset button.

→ The red LED error signal (2) goes out.

✓ The frequency converter has been reset.

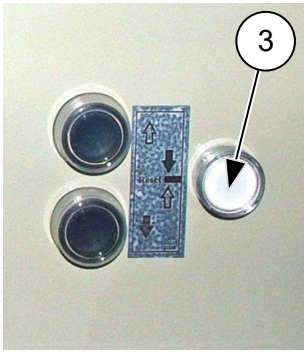

Fig. 45: Reset button for the frequency converter

The frequency converter can also be reset by switching off the mains power (approx. 5 minutes).

5.3.7 Car does not stop at the selected landing level

If the car moves past the selected landing level or stops at the wrong level, a reference run to the ground station has to be executed.

➢ Press and release the DOWN button (1) at a control point.

→ The car moves down and remains at the (incorrect) landing level 0.

The remaining travel path to the ground station has to be controlled manually.

Executing a reference run

➢ Press and hold the **stop at landing level** button (5).

→ After approx. 30 seconds, the car slowly moves down (12m/min.) to the ground station and stops there.

✓ After the reference run, the car can be operated again as normal.

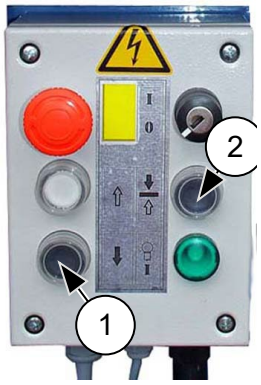

Fig. 46: Ground station control

Fig. 47: Landing level control

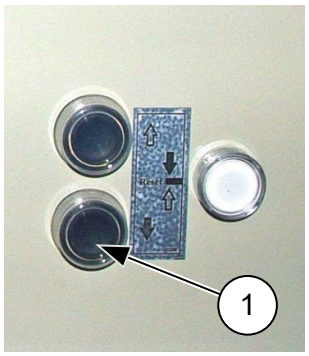

Fig. 48: Control in the car

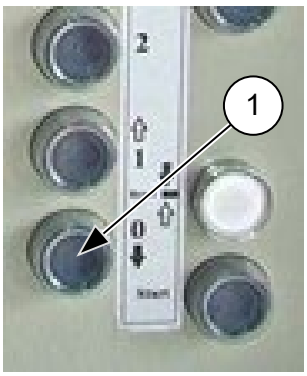

Fig. 49: Control with landing level pre-selection

5.3.8 Overload indication

The car is equipped with an overload detection device which prevents from being operated when it is overloaded.

If the car is overloaded, the red control light on the platform lights up.

➢ Reduce the load weight until the red control light on the car control (4) goes out. - Only then is travel possible.

Fig. 50: Overload indicator

5.3.9 Car door, enclosure door or landing level door cannot be opened

The car door or enclosure door / landing level door cannot be opened when the car is not stationary in front of the enclosure door or a landing level door, or the car is not supplied with power.

Possible cause:

- No mains or control voltage
- Car has moved too high or too low and (refer to chapter 5.3.3 Car has moved too high, page 71) and (refer to chapter 5.3.4 Car has moved too low, page 72)
- The retiring cam (1) of the car does not actuate the release bolt (2) of the landing level door.
- Defective lock of a landing level door

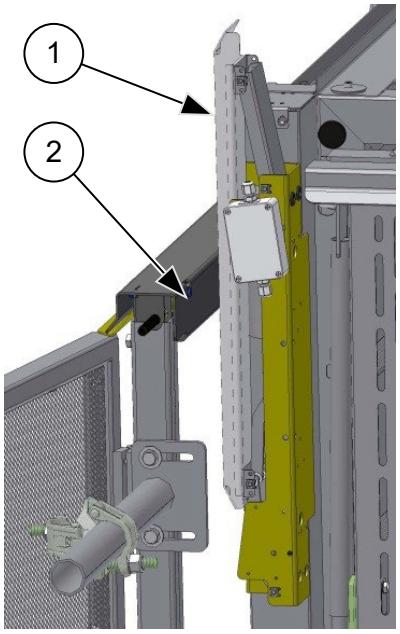

Fig. 51: Door interlock

5.3.10 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.

⚠ 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.

5.4 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).

5.4.1 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 present)
- 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.

5.4.2 Initial rescue measures

5.4.2.1 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 (3) and hold for approx. 30 s.
  - ✓ The car slowly returns to the ground station and stops there.

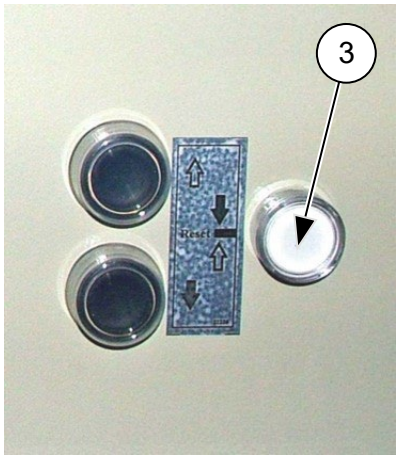

Fig. 52: Recall function, car control

Recall from the ground control

- Press the **CALL** button (2) and hold for approx. 30 s.
  - ✓ The car slowly returns to the ground station and stops there.

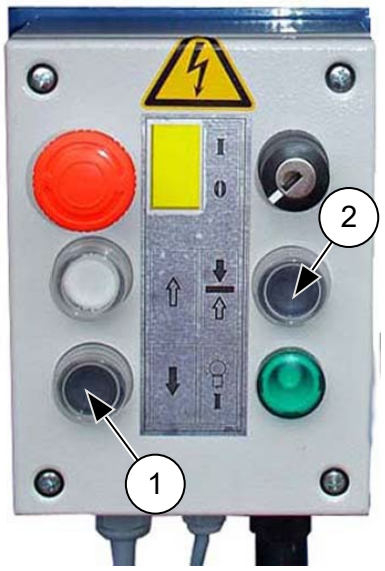

Fig. 53: Recall function, ground control

5.4.2.2 Self-rescue using EMERGENCY lowering device

In an emergency, the next lower landing level can be reached by releasing the motor brakes. This may enable trapped persons to evacuate independently.

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!

➢ Release the triangular bolt (2A).

➢ Move the cover plate (2) to the side and attach it.

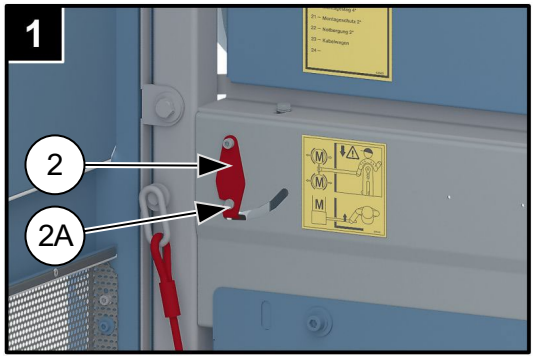

Fig. 54: Cover plate on the side panel

➢ Remove the lever (1) from the mount on the roof.

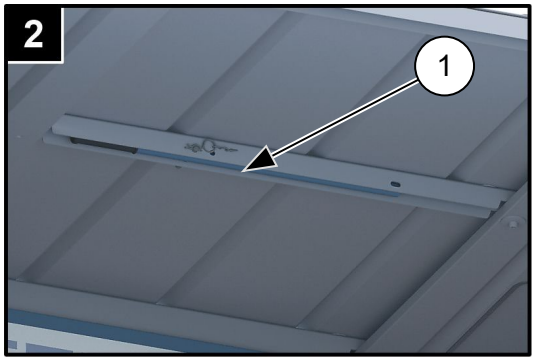

Fig. 55: Brake release lever in the mount

➢ Push the lever through the opening on the side panel and guide it to the connecting rod of the motor brake.

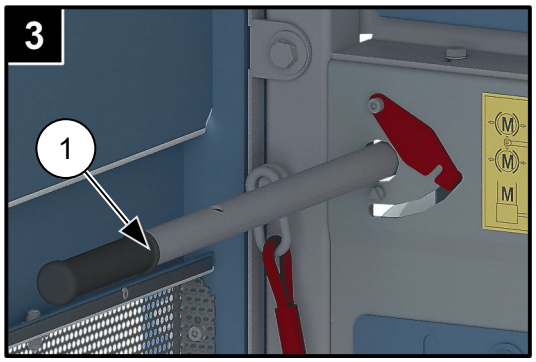

Fig. 56: Positioning the lever on the brake release lever

➢ Release the motor brake by carefully pulling (towards the centre of the car).
  ✓ The car will glide downwards.

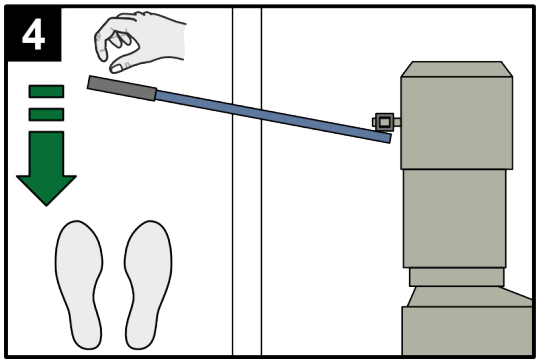

Fig. 57: Releasing the motor brake

The label [Brake Indicator]on the brake release levers will be damaged during emergency release and has to be replaced after checking the motor brake!

ATTENTION

Motor brakes become 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 Car door emergency release, page 42)

Emergency release of the landing level double doors, (refer to chapter 4.3.4.5 Landing level double doors, page 50)

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).

5.4.2.3 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 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.

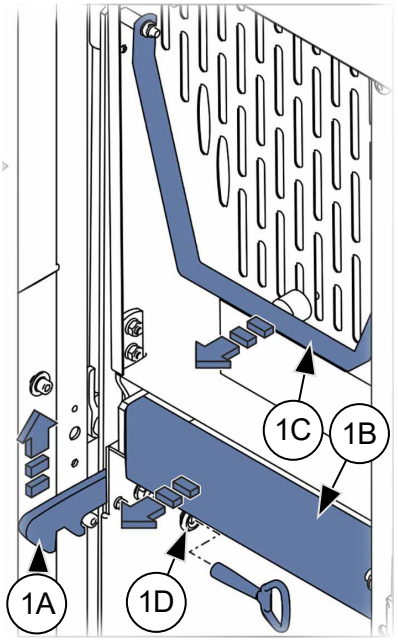

Fig. 58: Open the assembly plank from the inside

- 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.

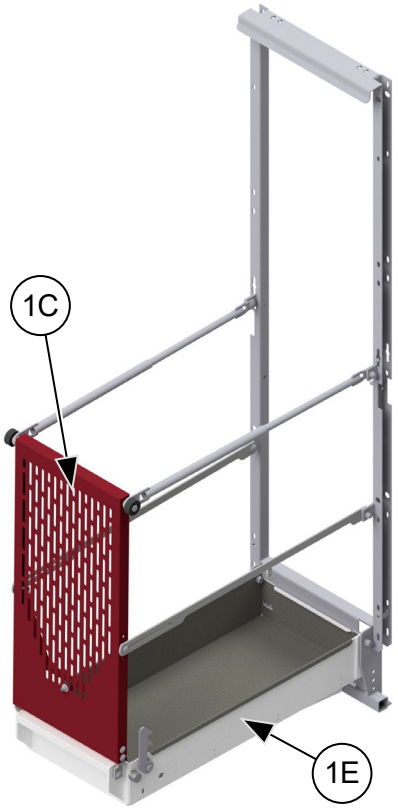

Fig. 59: Assembly plank open

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.

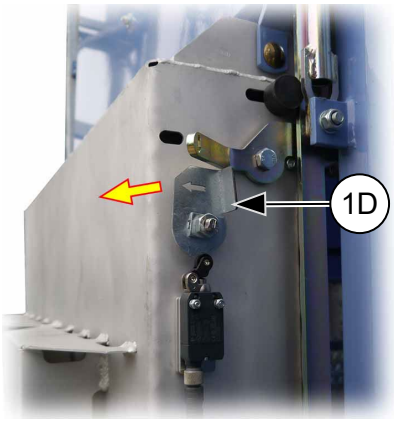

Fig. 60: Unlocking the assembly plank from outside

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

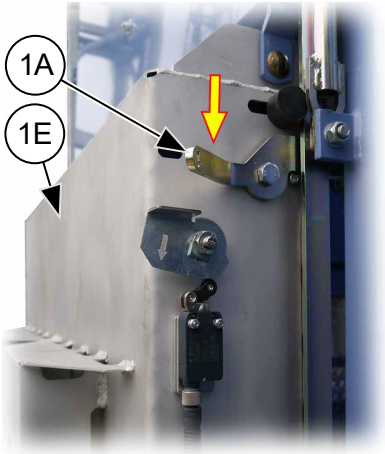

Fig. 61: Opening the assembly plank outside

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

5.4.2.4 Rescue in accordance with the employer's emergency plan

People are evacuated in accordance with the employer's emergency plan / rescue plan.

The employer must prepare an emergency plan and post it on the hoist in a location that is clearly visible for everyone!

5.5 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
- Serial number
- 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, (refer to chapter 1.4 Manufacturer's name and address, page 13)

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.

GEDA GmbH
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

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